

INTRODUCTION

How to Use This Manual

This supplement contains information for HONDA ACCORD. Refer to following shop manuals for service procedures and data not included in this supplement.

Description	Code No.
HONDA ACCORD MAINTENANCE, REPAIR AND CONSTRUCTION 93	62SN700
HONDA ACCORD SUPPLEMENT 93	62SN720
HONDA ACCORD SUPPLEMENT 94	62SN721
HONDA ACCORD SUPPLEMENT 95	62SN722

The first page of each section is marked with a black tab that lines up with one of the thumb index tabs on this page. You can quickly find the first page of each section without looking through a full table of contents. The symbols printed at the top corner of each page can also be used as a quick reference system.

Special Information


⚠ WARNING Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.

CAUTION: Indicates a possibility of personal injury or equipment damage if instructions are not followed.

NOTE: Gives helpful information.

CAUTION: Detailed descriptions of *standard workshop* procedures, safety principles and service operations are not included. Please note that this manual contains warnings and cautions against some specific service methods which could cause **PERSONAL INJURY**, damage a vehicle or make it unsafe. Please understand that these warnings cannot cover all conceivable ways in which service, whether or not recommended by HONDA MOTOR might be done, or of the possible hazardous consequences of every conceivable way, nor could HONDA MOTOR investigate all such ways. Anyone using service procedures or tools, whether or not recommended by HONDA MOTOR, *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized.

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 marked sections are not included in this manual.

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HONDA MOTOR CO., LTD.
Service Publication Office

General Info



Special Tools



Specifications

specs

Maintenance



Engine



Cooling



Fuel and Emissions



Transaxle



*Steering



Suspension



Brakes
(Including **ABS**)



*Body



*Heater and
Air Conditioning



*Electrical
(Including **SRS**)



As sections with * include SRS components; special precautions are required when servicing.

Outline of Model Changes

ITEM	DESCRIPTION	CODE NO.				REFERENCE SECTION
		62SN720	62SN721	62SN722	62SN723	
General	2.3 ℓ model added	○				—
	2.0 ℓ KS model added	○				—
	1.8 ℓ model added			○		—
	2.2 ℓ model added				○	1, 3
	Maintenance schedule changed				○	4
Engine	H23A3 engine type added	○				—
	F20Z1, F20Z2 engines valve clearance modified					—
	Rear mount bracket Changed		○			—
	Changed <ul style="list-style-type: none"> • Torque value of radiator fan self locking nut • Connecting pipe (H23A3 engine) • Water pump 		○			—
	F18A3 engine added			○		—
	F22Z2 (SOHC VTEC) engine added				○	5, 6, 7, 8, 9, 10
	Cylinder head cover installation procedures changed				○	6
PGM-FI	Changed for 2.3 ℓ model addition <ul style="list-style-type: none"> • Vacuum connections • Electrical connections • Heated oxygen sensor (HO2S) • TDC/CKP/CYP sensor • Starting air valve • Fast idle thermo valve • Throttle body • Intake air bypass (IAB) control system • Intake air control system 	○				—
	Main wire harness changed		○			—
	F18A3 engine added			○		—
	F22Z2 engine added					—
	Adopted <ul style="list-style-type: none"> • Immobilizer system • Fuel tube/quick connect fittings Changed <ul style="list-style-type: none"> • Fuel filter • Vacuum connections • Maintenance schedule of air clear element 				○	11
Manual Transmission	Countershaft 2nd gear synchro system changed		○			—
	Changed <ul style="list-style-type: none"> • Countershaft clearance inspection • Reverse idle gear shaft torque 			○		—
	Manual transmission fluid designation changed				○	13

ITEM	DESCRIPTION	CODE NUMBER				REFERENCE SECTION
		62SN720	62SN721	62SN722	62SN723	
Automatic Transmission	Changed for 2.3 ℓ model addition <ul style="list-style-type: none"> • Road test shift schedule • Stall speed RPM • Pressure testing fluid pressure • 1st/2nd clutch assembly 	○				—
	Circuit diagram modified Changed <ul style="list-style-type: none"> • Reverse idler gear shift and holder • Main valve body assembly • Secondary shaft assembly • Clutch discs and pistons • Throttle control cable inspection and adjustment Discontinued <ul style="list-style-type: none"> • Right side cover protector • Magnet on ATF strainer 		○			—
	Changed <ul style="list-style-type: none"> • 1st-hold clutch plates • Secondary shaft axial clearance specification • Torque value of the transmission housing bolts Added <ul style="list-style-type: none"> • 1st clutch discs 			○		—
	Changed <ul style="list-style-type: none"> • Hydraulic circuit • Electronic A/T control system • Self-diagnosis indicator light • Shift schedule • Automatic transmission fluid designation • Gear shift selector 				○	14
Steering	Power steering system changed				○	17
Brake	Application of brake pads changed due to 2.3 ℓ model addition	○				—
	Changed <ul style="list-style-type: none"> • Torque value of rear brake caliper bracket mounting bolt for conventional brakes • Anti-lock Brake System (ABS) 		○			—
	Possible to replace the reservoir and the accumulator of the modulator unit			○		—
	Changed <ul style="list-style-type: none"> • Replacement parts of front and rear brake caliper • Master cylinder • Brake booster inspection procedures • ABS system 				○	19
Body	Added <ul style="list-style-type: none"> • Front spoiler for 2.3 ℓ model • Trunk spoiler for 2.3 ℓ model 	○				—
	Some protectors of doors added		○			—
	Changed <ul style="list-style-type: none"> • Front bumper, front grille, sunroof and emblem Adopted <ul style="list-style-type: none"> • 8-way power adjustable driver's seat • High mount brake light 				○	20

Outline of Model Changes

ITEM	DESCRIPTION	CODE NUMBER				REFERENCE SECTION
		62SN720	62SN721	62SN722	62SN723	
Electrical	Changed <ul style="list-style-type: none"> • Ignition system (2.3 l model) • Power supply circuit • Starter mounting bolt torque value changed (M/T) Keyless entry system added (KE)	○				—
	Added <ul style="list-style-type: none"> • Cruise control system (KE model) • Supplemental Restraint System (SRS) Type III Changed <ul style="list-style-type: none"> • Power supply circuit • AT gear position indicator circuit • Trunk light • Location of head light washer switch (KE model) • Horn system • Supplemental Restraint System (SRS) Type II 		○			—
	Changed <ul style="list-style-type: none"> • Keyless entry and Security alarm system 			○		—
	F22Z2 engine added Adopted <ul style="list-style-type: none"> • 8-way power adjustable driver's seat • Immobilizer system Changed <ul style="list-style-type: none"> • SRS-type III • Fuse amperage, wire colors and fuse No. and ground No. 				○	23



General Information

Chassis and Engine Numbers	1-2
Identification Number Locations	1-4
SRS Warning/Caution Label	
Locations	1-5
Caution/Information Label	
Locations	1-6
Abbreviations	1-7

Chassis and Engine Numbers

Vehicle Identification Number (VIN)

SHH CE7 5 1 0 0 U 0 00001

Manufacturer, Make and Type of Vehicle

SHH: HONDA OF THE U.K.MFG., LTD. U.K.
HONDA Passenger car

Line, Body and Engine Type

CE7: ACCORD SEDAN/F18A3
CE8: ACCORD SEDAN/F20Z1
CE9: ACCORD SEDAN/F22Z2

Body and Transmission Type

5: 4-door Sedan/5-speed Manual
6: 4-door Sedan/4-speed Automatic

Vehicle Grade (Series)

1: 1.8i
2: 1.8iS
3: 1.8iLS
4: 1.8i (CE7), 2.0i (CE8)
5: 1.8iS (CE7), 2.0iS (CE8)
6: 1.8iLS (CE7), 2.0iLS (CE8), 2.2iVTEC (CE9)
7: 1.8iES (CE7), 2.0iES (CE8), 2.2iVTEC (CE9)
8: 2.0iES (CE8), 2.2iVTEC (CE9)

Fixed Code

Auxiliary Number

Factory Code

U: Honda of the U.K. Manufacturing in U.K.

Model Year

0: 1996

Serial Number

Engine Number

F18A3 - E300001

Engine Type

F18A3: 1.8 l SOHC 16-valves
Sequential Multiport
Fuel-injected 115 PS engine
Unleaded gasoline with CATA
F20Z1: 2.0 l SOHC 16-valves
Sequential Multiport
Fuel-injected 131 PS engine
Unleaded gasoline with CATA
F22Z2: 2.2 l SOHC 16-valves VTEC
Sequential Multiport
Fuel-injected 150 PS engine
Unleaded gasoline with CATA

Serial Number

Transmission Number

M47A - 1000001

Transmission Type

M47A: Automatic
N2C4: Manual for F20Z1 engine
N2D4: Manual for F22Z2 engine
N2E5: Manual for F18A3 engine
N2S4: Manual for F18A3 engine

Serial Number

Automatic: 1000001~
Manual: Except N2E5: 3000001 ~
N2E5: 1000001~

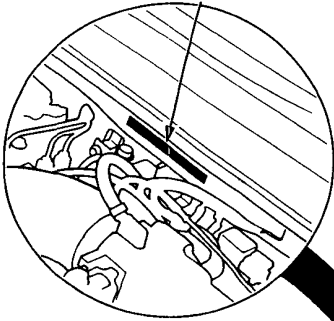


Applicable Area Code/VIN/Engine Number/Transmission Number

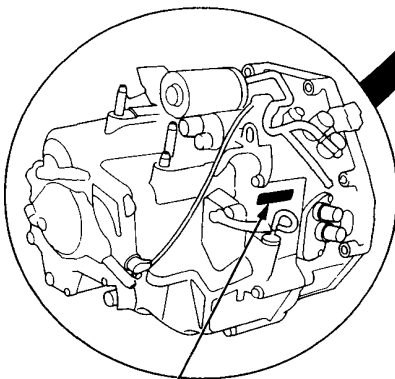
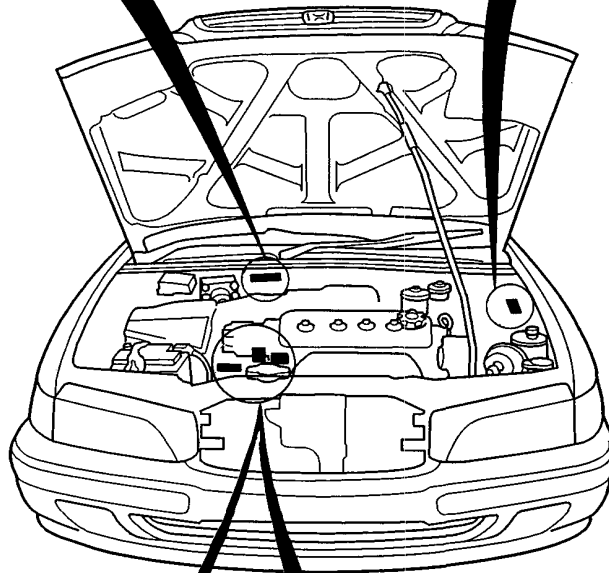
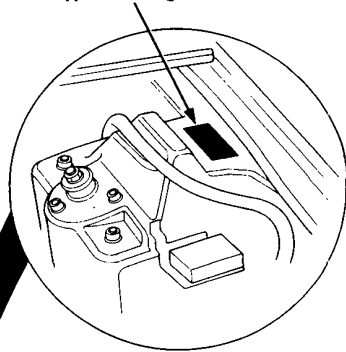
MODEL	APPLICABLE AREA CODE	GRADE NAME	TRANSMISSION TYPE	VEHICLE IDENTIFICATION NUMBER	ENGINE NUMBER	TRANSMISSION NUMBER
ACCORD	KG	1.8i	5MT	SHHCE75100U000001~	F18A3-E300001~	N2E5-1000001~
			5MT	SHHCE75400U000001~	F18A3-E300001~	N2S4-3000001~
		1.8iS	5MT	SHHCE75200U000001~	F18A3-E300001~	N2E5-1000001~
			4AT	SHHCE76500U000001~	F18A3-E300001~	M47A-1000001~
		1.8iLS	5MT	SHHCE75300U000001~	F18A3-E300001~	N2E5-1000001~
			5MT	SHHCE75600U000001~	F18A3-E300001~	N2S4-3000001~
			4AT	SHHCE76600U000001~	F18A3-E300001~	M47A-1000001~
		1.8iES	5MT	SHHCE75700U000001~	F18A3-E300001~	N2S4-3000001~
		2.0iLS	5MT	SHHCE85600U000001~	F20Z1-E300001~	N2C4-3000001~
			4AT	SHHCE86600U000001~	F20Z1-E300001~	M47A-1000001~
		2.0iES	5MT	SHHCE85700U000001~	F20Z1-E300001~	N2C4-3000001~
			4AT	SHHCE86700U000001~	F20Z1-E300001~	M47A-1000001~
			5MT	SHHCE85800U000001~	F20Z1-E300001~	N2C4-3000001~
			4AT	SHHCE86800U000001~	F20Z1-E300001~	M47A-1000001~
		2.2i VTEC	5MT	SHHCE95700U000001~	F22Z2-E300001~	N2D4-3000001~
			5MT	SHHCE95800U000001~	F22Z2-E300001~	N2D4-3000001~
			4AT	SHHCE96800U000001~	F22Z2-E300001~	M47A-1000001~
	KS	2.0iS	5MT	SHHCE85500U000001~	F20Z1-E300001~	N2C4-3000001~
		2.0iLS	5MT	SHHCE85600U000001~	F20Z1-E300001~	N2C4-3000001~
			4AT	SHHCE95600U000001~	F22Z2-E300001~	N2D4-3000001~
		2.2i VTEC	5MT	SHHCE96600U000001~	F22Z2-E300001~	M47A-1000001~
			4AT	SHHCE96600U000001~	F22Z2-E300001~	M47A-1000001~
	KE	1.8i	5MT	SHHCE75400U000001~	F18A3-E300001~	N2S4-3000001~
		1.8iS	5MT	SHHCE75500U000001~	F18A3-E300001~	N2S4-3000001~
		1.8iLS	5MT	SHHCE75600U000001~	F18A3-E300001~	N2S4-3000001~
			4AT	SHHCE76600U000001~	F18A3-E300001~	M47A-1000001~
		2.0i	5MT	SHHCE85400U000001~	F20Z1-E300001~	N2C4-3000001~
		2.0iS	5MT	SHHCE85500U000001~	F20Z1-E300001~	N2C4-3000001~
			4AT	SHHCE86500U000001~	F20Z1-E300001~	M47A-1000001~
		2.0iLS	5MT	SHHCE85600U000001~	F20Z1-E300001~	N2C4-3000001~
			4AT	SHHCE86600U000001~	F20Z1-E300001~	M47A-1000001~
		2.0iES	5MT	SHHCE85700U000001~	F20Z1-E300001~	N2C4-3000001~
			4AT	SHHCE86700U000001~	F20Z1-E300001~	M47A-1000001~
		2.2i VTEC	5MT	SHHCE95800U000001~	F22Z2-E300001~	N2D4-3000001~
			4AT	SHHCE96800U000001~	F22Z2-E300001~	M47A-1000001~

Identification Number Locations

Vehicle Identification Number (VIN)

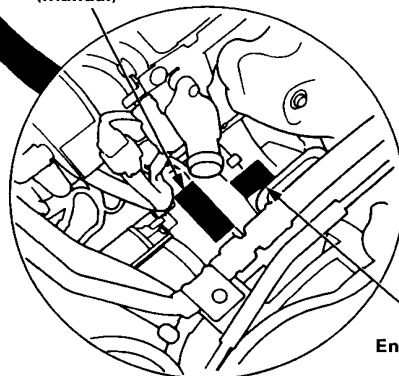


Vehicle Type and Engine Number



Transmission Number
(Automatic)

Transmission Number
(Manual)

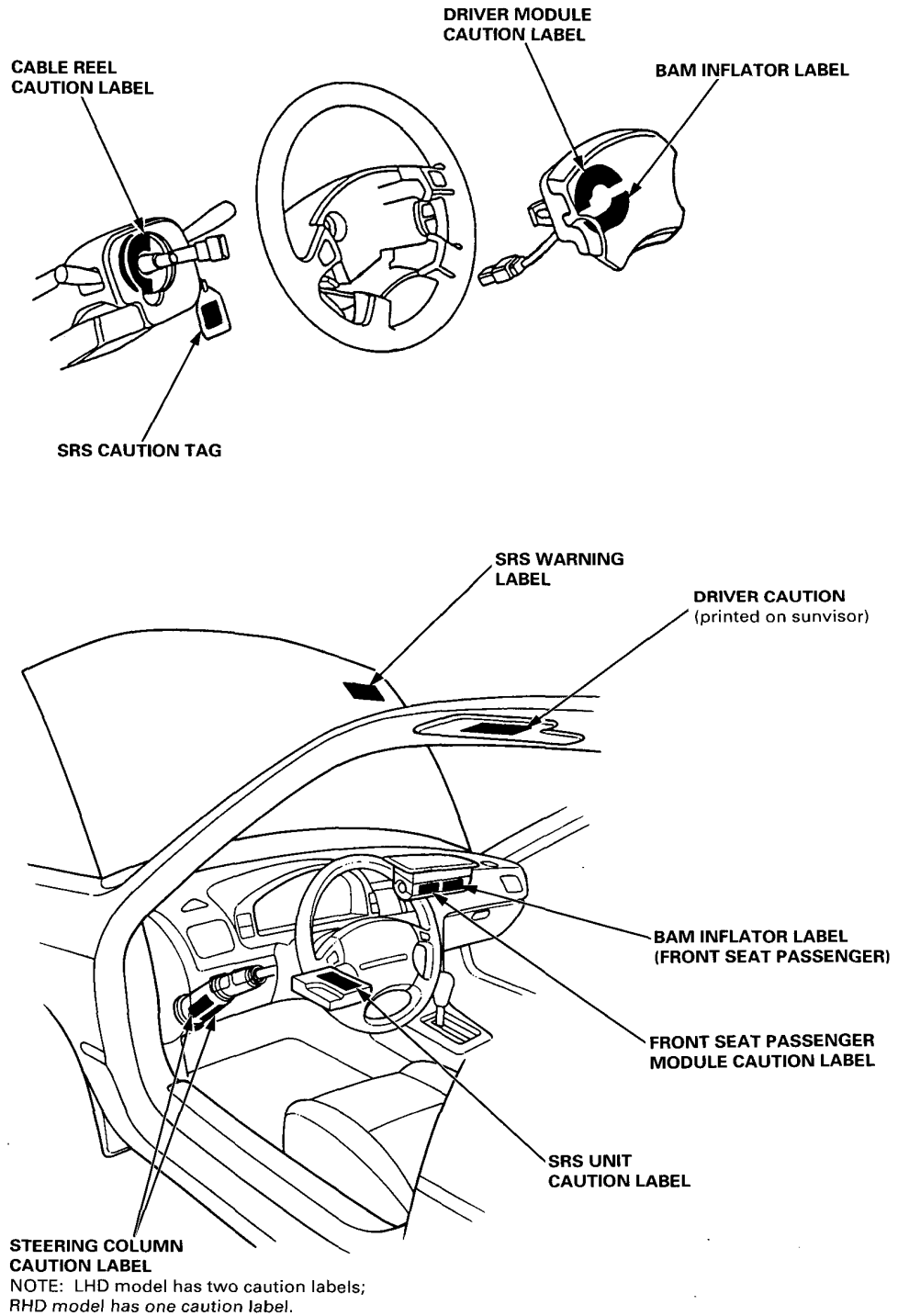


Engine Number

SRS Warning/Caution Label Locations



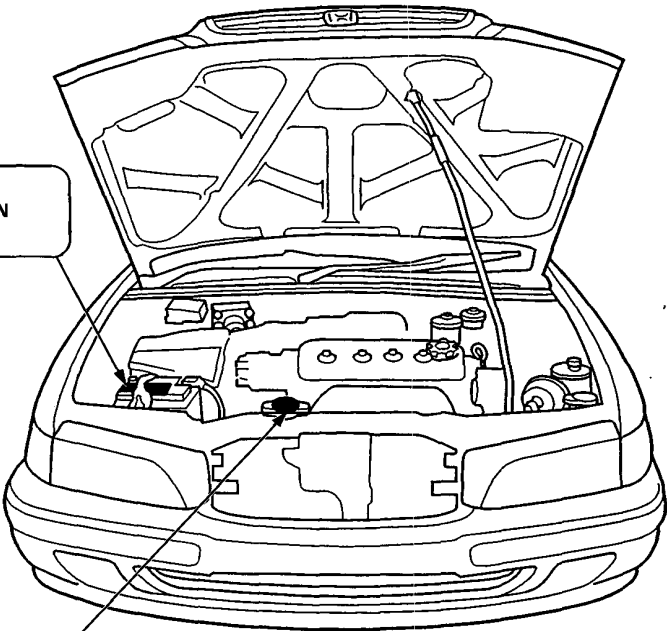
NOTE: LHD model is shown; RHD model is similar.



Caution/Information Label Locations

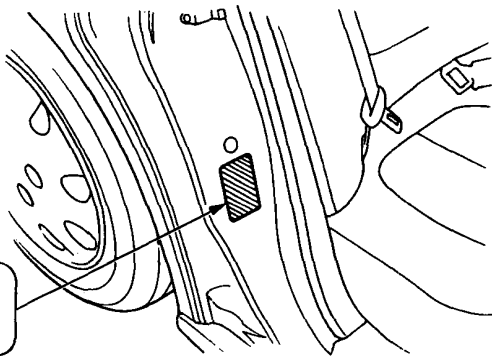
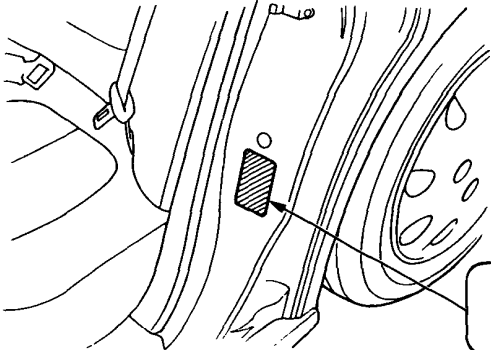
BATTERY CAUTION

RADIATOR CAP
CAUTION



LHD

RHD



TYRE INFORMATION

Abbreviations



List of automotive abbreviations which may be used in shop manual.

A/C	Air Conditioning, Air Conditioner	F	Front
ALT	Alternator	FP	Fuel Pump
ABS	Anti-lock Brake System	FWD	Front Wheel Drive
A/T	Automatic Transmission	FR	Front Right
ATF	Automatic Transmission Fluid	FL	Front Left
A/F	Air Fuel Ratio	FSR	Fail Safe Relay
AMP	Ampere (s)	FIA	Fuel Injection Air
ANT	Antenna		
ASSY	Assembly	GAL	Gallon
AUX	Auxiliary	GND	Ground
APPROX.	Approximately		
ATDC	After Top Dead Center	H/B	Hatchback
AUTO	Automatic	HO2S	Heated Oxygen Sensor
ATT	Attachment	HC	Hydrocarbons
ACL	Air Cleaner		
API	American Petroleum Institute	IAB	Intake Air Bypass
		IAC	Idle Air Control
BARO	Barometric	IAR	Intake Air Resonator
BAT	Battery	ICM	Ignition Control Module
BTDC	Before Top Dead Center	IAT	Intake Air Temperature
BDC	Bottom Dead Center	IMA	Idle Mixture Adjustment
		IN	Intake
CKP	Crankshaft Position	IG or IGN	Ignition
CYP	Cylinder Position	ID	Identification
CAT	Catalytic Converter	ID or I.D.	Inside Diameter
or CATA		INJ	Injection
CO	Carbon Monoxide	INT	Intermittent
CYL	Cylinder		
CPC	Clutch Pressure Control	KS	Knock Sensor
CARB	Carburetor		
COMP	Complete	L	Left
CPU	Central Processing Unit	LH	Left Handle
CHG	Charge	LHD	Left Hand Drive
		L/C	Lock-up Clutch
DI	Distributor Ignition	LSD	Limited Slip Differential
DLC	Data Link Connector	LF	Left Front
DTC	Diagnostic Trouble Code	LR	Left Rear
DIFF	Differential	L-4	In-line Four Cylinder (engine)
DOHC	Double Overhead Camshaft	LED	Light Emitting Diode
DPI	Dual Point Injection		
EVAP	Evaporative		
EGR	Exhaust Gas Recirculation		
ECM	Engine Control Module		
ECT	Engine Coolant Temperature		
EX	Exhaust		
ELD	Electrical Load Detector		
EFI	Electronic Fuel Injection		
EPS	Electrical Power Steering		

(cont'd)

Abbreviations

(cont'd)

M/S	Manual Steering	SCS	Service Check Signal	
MAP	Manifold Absolute Pressure	SEC	Second	
MIL	Malfunction Indicator Light		Secondary	
M/T	Manual Transmission			
MCK	Motor Check	T	Torque	
MAX.	Maximum	TCM	Transmission Control Module	
MIN.	Minimum	TWC	Three Way Catalytic Converter	
MPI	Multi Point Injection	TDC	Top Dead Center	
		TB	Throttle Body	
N	Neutral	TP	Throttle Position	
NOx	Nitrogen, Oxides of	TC	Torque Converter	
		T/B	Timing Belt	
O2S	Oxygen Sensor	T/N	Tool Number	
OBD	On-board Diagnostic	TCS	Traction Control System	
OD or O.D.	Outside Diameter			
		VSS	Vehicle Speed Sensor	
P	Park	VTEC	Variable Valve Timing & Valve Lift	
PAIR	Pulsed Secondary Air Injection		Electronic Control	
PSP	Power Steering Pressure	VC	Viscous Coupling	
PCV	Positive Crankcase Ventilation	VIN	Vehicle Identification Number	
	Proportioning Control Valve	VVIS	Variable Volume Intake System	
P/S	Power Steering			
PGM-FI	Programmed-fuel Injection	W	With	
PGM-IG	Programmed Ignition	W/O	Without	
PRI	Primary	WOT	Wide Open Throttle	
P/N	Part Number			
PL	Pilot Light	2WD	Two Wheel Drive	
PMR	Pump Motor Relay	4WD	Four Wheel Drive	
PSW	Pressure Switch	2WS	Two Wheel Steering	
PSF	Power Steering Fluid	4WS	Four Wheel Steering	
		4AT	4-speed Automatic Transmission	
Qty	Quantity	5MT	5-speed Manual Transmission	
		<table><tr><td>P</td></tr></table>	P	Park
P				
R	Right	<table><tr><td>R</td></tr></table>	R	Reverse
R				
RR	Rear Right	<table><tr><td>N</td></tr></table>	N	Neutral
N				
RHD	Right Handle Drive	<table><tr><td>D₄</td></tr></table>	D ₄	Drive (1st through 4th gear)
D ₄				
REF	Reference	<table><tr><td>D₃</td></tr></table>	D ₃	Drive (1st through 3rd gear)
D ₃				
RL	Rear Left	<table><tr><td>2</td></tr></table>	2	Second
2				
RON	Research Octane Number	<table><tr><td>1</td></tr></table>	1	First
1				
		1ST	Low (gear)	
SAE	Society of Automotive Engineers	2ND	Second (gear)	
SOHC	Single Overhead Camshaft	3RD	Third (gear)	
SOL	Solenoid	4TH	Fourth (gear)	
SPEC	Specification	5TH	Fifth (gear)	
S/R	Sun Roof			
SRS	Supplemental Restraint System			
STD	Standard			
SW	Switch			



Special Tools

Individual tool lists are located at the front of each section.

Specifications

Standards and Service Limits	3-2
Design Specifications	3-12
Body Specifications	3-16

Standards and Service Limits

Cylinder Head/Valve Train — Section 6

	MEASUREMENT			STANDARD (NEW)	SERVICE LIMIT
Compression	250 min ⁻¹ (rpm) and wide open throttle kPa (kg/cm ² , psi)	Nominal Minimum Maximum variation		1,250 (12.5, 178) 950 (9.5, 135) 200 (2.0, 28)	
Cylinder head	Warpage Height			99.95 – 100.05 (3.935 – 3.939)	0.05 (0.002)
Camshaft	End play			0.05 – 0.15 (0.002 – 0.006)	0.5 (0.02)
	Camshaft-to-holder oil clearance			0.050 – 0.089 (0.0020 – 0.0035)	0.15 (0.006)
	Total runout			0.03 (0.001) max.	0.04 (0.002)
	Cam lobe height	F18A3 engine	IN	38.095 (1.4998)	_____
			EX	38.387 (1.5113)	_____
		F20Z1 engine	IN	38.741 (1.5252)	_____
			EX	38.972 (1.5343)	_____
		F22Z2 engine	IN	37.775 (1.4872)	_____
			Primary	39.725 (1.5640)	_____
			Mid	34.481 (1.3575)	_____
			Secondary	38.366 (1.5105)	_____
Valve	Valve clearance		IN	0.24 – 0.28 (0.009 – 0.011)	_____
			EX	0.28 – 0.32 (0.011 – 0.013)	_____
	Valve stem O.D.		IN	5.485 – 5.495 (0.2159 – 0.2163)	5.455 (0.2148)
			EX	5.450 – 5.460 (0.2146 – 0.2150)	5.420 (0.2134)
	Stem-to-guide clearance		IN	0.020 – 0.045 (0.0008 – 0.0018)	0.08 (0.003)
			EX	0.055 – 0.080 (0.0022 – 0.0031)	0.12 (0.005)
Valve seat	Width		IN	1.25 – 1.55 (0.049 – 0.061)	2.0 (0.08)
			EX	1.25 – 1.55 (0.049 – 0.061)	2.0 (0.08)
	Stem installed height	F22Z2 engine	IN	46.75 – 47.55 (1.841 – 1.872)	47.80 (1.882)
			EX	46.68 – 47.48 (1.838 – 1.869)	47.73 (1.879)
		Except F22Z2 engine	IN	48.245 – 48.715 (1.8994 – 1.9179)	48.915 (1.9258)
			EX	50.315 – 50.785 (1.9809 – 1.9994)	51.035 (2.0092)
Valve spring	Free length	F22Z2 engine	IN	51.08 (2.011)	_____
			EX	55.58 (2.188)	_____
		Except F22Z2 engine	IN	53.42 (2.1031)	_____
			EX	54.66 (2.1520)	_____
Valve guide	I.D.		IN	5.515 – 5.530 (0.2171 – 0.2177)	5.53 (0.218)
			EX	5.515 – 5.530 (0.2171 – 0.2177)	5.53 (0.218)
	Installed height	F22Z2 engine	IN	21.20 – 22.20 (0.835 – 0.874)	_____
			EX	20.63 – 21.63 (0.812 – 0.852)	_____
		Except F22Z2 engine	IN	23.75 – 24.25 (0.935 – 0.955)	_____
			EX	15.05 – 15.55 (0.593 – 0.612)	_____
Rocker arm	Arm-to-shaft clearance	F22Z2 engine	IN	0.026 – 0.067 (0.0010 – 0.0026)	0.08 (0.003)
			EX	0.018 – 0.054 (0.0007 – 0.0021)	0.08 (0.003)
		Except F22Z2 engine	IN	0.017 – 0.050 (0.0007 – 0.0020)	0.08 (0.003)
			EX	0.018 – 0.054 (0.0007 – 0.0021)	0.08 (0.003)

Engine Block — Section 7

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface		0.07 (0.003) max.	0.10 (0.004)
	Bore diameter	A or I B or II	85.010 – 85.020 (3.3468 – 3.3472) 85.000 – 85.010 (3.3465 – 3.3468)	85.070 (3.3492) 85.070 (3.3492)
	Bore taper		—	0.05 (0.002)
	Reboring limit		—	0.5 (0.02)
Piston	Skirt O.D.	(at 21 mm (0.8 in) from bottom of skirt)	No Letter Letter B	84.980 – 84.990 (3.3457 – 3.3461) 84.970 – 84.980 (3.3453 – 3.3457)
	Clearance in cylinder			0.020 – 0.040 (0.0008 – 0.0016) 0.05 (0.002)
	Groove width (for ring)	Top Second Oil	1.220 – 1.230 (0.0480 – 0.0484) 1.220 – 1.230 (0.0480 – 0.0484) 2.805 – 2.825 (0.1104 – 0.1112)	1.25 (0.049) 1.25 (0.049) 2.85 (0.112)
Piston ring	Ring-to-groove clearance	Top Second	0.035 – 0.060 (0.0014 – 0.0024) 0.030 – 0.055 (0.0012 – 0.0022)	0.13 (0.005) 0.13 (0.005)
	Ring end gap	Top Second Oil	0.20 – 0.35 (0.008 – 0.014) 0.40 – 0.55 (0.016 – 0.022) 0.20 – 0.70 (0.008 – 0.028)	0.60 (0.024) 0.70 (0.028) 0.80 (0.031)
Piston Pin	O.D.		21.994 – 22.000 (0.8659 – 0.8661)	—
	Pin-to-piston clearance		0.010 – 0.022 (0.0004 – 0.0009)	—
Connecting rod	Pin-to-rod interference		0.013 – 0.032 (0.0005 – 0.0013)	—
	Small end bore diameter		21.968 – 21.981 (0.8649 – 0.8654)	—
	Large end bore diameter			—
	Nominal F22Z2 engine		51.0 (2.01)	—
	Except F22Z2 engine		48.0 (1.89)	—
	End play installed on crankshaft		0.15 – 0.30 (0.006 – 0.012)	0.40 (0.016)
Crankshaft	Main journal diameter	No. 2 journal No. 3 journal No. 1 and No. 4 journals No. 5 journal	49.976 – 50.000 (1.9676 – 1.9685) 49.972 – 49.996 (1.9674 – 1.9683) 49.984 – 50.008 (1.9679 – 1.9688) 49.988 – 50.012 (1.9680 – 1.9690)	— — — —
	Rod journal diameter	F22Z2 engine Except F22Z2 engine	47.976 – 48.000 (1.8888 – 1.8898) 44.976 – 45.000 (1.7707 – 1.7717)	— —
	Taper		0.005 (0.0002) max.	0.006 (0.0002)
	Out-of-round		0.005 (0.0002) max.	0.006 (0.0002)
	End play		0.10 – 0.35 (0.004 – 0.014)	0.45 (0.018)
	Total runout		0.03 (0.001)	0.04 (0.002)
Bearings	Main bearing-to-journal oil clearance	No. 2 journal No. 3 journal No. 1 and No. 4 journals No. 5 journal	0.021 – 0.045 (0.0008 – 0.0018) 0.025 – 0.049 (0.0010 – 0.0019) 0.013 – 0.037 (0.0005 – 0.0015) 0.009 – 0.033 (0.0004 – 0.0013)	0.050 (0.0020) 0.055 (0.0022) 0.050 (0.0020) 0.040 (0.0016)
	Rod bearing-to-journal oil clearance	F22Z2 engine Except F22Z2 engine	0.021 – 0.049 (0.0008 – 0.0019) 0.015 – 0.043 (0.0006 – 0.0017)	0.055 (0.0022) 0.050 (0.0020)
Balancer shaft	Journal diameter	No. 1 front journal No. 1 rear journal No. 2 front and rear journals No. 3 front and rear journals	42.722 – 42.734 (1.6820 – 1.6824) 20.938 – 20.950 (0.8243 – 0.8248) 38.712 – 38.724 (1.5241 – 1.5246) 34.722 – 34.734 (1.3670 – 1.3675)	42.71 (1.681) 20.92 (0.824) 38.70 (1.524) 34.71 (1.367)
	Journal taper		0.005 (0.0002)	—
	End play	Front Rear	0.10 – 0.40 (0.004 – 0.016) 0.04 – 0.15 (0.002 – 0.006)	— —
	Total runout		0.02 (0.001) max.	0.03 (0.001)
	Shaft-to-bearing oil clearance	No. 1 rear journal No. 1 front, No. 3 front and rear journals No. 2 front and rear journals	0.050 – 0.075 (0.0020 – 0.0030) 0.066 – 0.098 (0.0026 – 0.0039) 0.076 – 0.108 (0.0030 – 0.0043)	0.09 (0.004) 0.12 (0.005) 0.13 (0.005)
Balancer shaft bearing	I.D.	No. 1 front journal No. 1 rear journal No. 2 front and rear journals No. 3 front and rear journals	42.800 – 42.820 (1.6850 – 1.6858) 21.000 – 21.013 (0.8268 – 0.8273) 38.800 – 38.820 (1.5276 – 1.5283) 34.800 – 34.820 (1.3701 – 1.3709)	42.83 (1.686) 21.02 (0.828) 38.83 (1.529) 34.83 (1.371)

Standards and Service Limits

Engine Lubrication — Section 8

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (US qt, Imp qt) Except F22Z2 engine	4.9 (5.2, 4.3) for engine overhaul 3.8 (4.0, 3.3) for oil change, including filter	
	F22Z2 engine	3.5 (3.7, 3.1) for oil change, without filter 5.6 (5.9, 4.9) for engine overhaul 4.3 (4.5, 3.8) for oil change, including filter 4.0 (4.2, 3.5) for oil change, without filter	
Oil pump	Inner-to-outer rotor clearance	0.02 – 0.16 (0.001 – 0.006)	0.20 (0.008)
	Pump housing-to-outer rotor clearance	0.10 – 0.19 (0.004 – 0.007)	0.21 (0.008)
	Pump housing-to-rotor axial clearance	0.02 – 0.07 (0.001 – 0.003)	0.12 (0.005)
Relief valve	Pressure setting at engine oil temp. 80°C (176°F) kPa (kg/cm², psi) at idle at 3,000 min⁻¹ (rpm)	70 (0.7, 10) min. 350 (3.5, 50) min.	

Cooling — Section 10

	MEASUREMENT	STANDARD (NEW)
Radiator	Coolant capacity ℓ (US qt, Imp qt) Except F22Z2 engine (including engine, heater, cooling line and reservoir)	M/T: 6.3 (6.7, 5.5) for overhaul 2.7 (2.9, 2.4) for coolant change A/T: 6.2 (6.6, 5.5) for overhaul 2.6 (2.7, 2.3) for coolant change
	F22Z2 engine	M/T: 7.4 (7.8, 6.5) for overhaul 5.9 (6.2, 5.2) for coolant change A/T: 7.3 (7.7, 6.4) for overhaul 5.8 (6.1, 5.1) for coolant change
	Reservoir capacity ℓ (US qt, Imp qt)	0.6 (0.63, 0.53)
Radiator cap	Opening pressure kPa (kg/cm², psi)	95 – 125 (0.95 – 1.25, 14 – 18)
Thermostat	Start to open °C (°F)	76 – 80 (169 – 176)
	Fully open °C (°F)	90 (194)
	Valve lift at fully open	8.0 (0.31) min.
Cooling fan	Thermoswitch "ON" temperature °C (°F)	90 – 96 (194 – 205)
	Thermoswitch "OFF" temperature °C (°F)	Subtract 2 – 7 (4 – 13) from actual "ON" temperature
	Fan timer "ON" temperature °C (°F)	103 – 109 (217 – 228)
	Fan timer "OFF" temperature °C (°F)	Subtract 2 – 5 (4 – 9) from actual "ON" temperature

Fuel and Emissions — Section 11

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Fuel pressure regulator	Fuel pressure with regulator vacuum hose disconnected kPa (kg/cm², psi)	280 – 330 (2.8 – 3.3, 40 – 47)	
Fuel tank	Capacity ℓ (US gal, Imp gal)	65 (17.2, 14.3)	
Engine	Fast idle speed min⁻¹ (rpm)	1,400 ± 200	
	Idle speed min⁻¹ (rpm) (with headlights and cooling fan off)	770 ± 50 (M/T: neutral) 770 ± 50 (A/T: N or P position)	
	Idle CO %	0.1 % max.	

Unit of length: mm (in)

Clutch — Section 12

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Clutch pedal	Clutch pedal height to the floor	210 (8.27)	_____
	Stroke at pedal	142 (5.6)	_____
	Total clutch pedal free play	9 – 15 (0.4 – 0.6)	_____
	Disengagement height to the floor to the carpet	90 (3.5) min. 80 (3.1) min.	_____
Flywheel	Clutch surface runout	0.05 (0.002) max.	0.15 (0.006)
Clutch disc	Rivet head depth	1.4 (0.06) min.	0.2 (0.01)
	Surface runout	0.6 (0.02) max.	1.0 (0.04)
	Thickness	8.5 – 9.2 (0.33 – 0.36)	6.5 (0.26)
Pressure plate	Diaphragm spring finger alignment	0.6 (0.02) max.	0.8 (0.03)
	Warpage	0.03 (0.001) max.	0.15 (0.006)

Manual Transmission — Section 13

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (US qt, Imp qt)	1.9 (2.0, 1.7) for oil change 2.0 (2.1, 1.8) for overhaul	
Mainshaft	End play	0.10 – 0.16 (0.004 – 0.006)	Adjust with a shim.
	Diameter of ball bearing contact area C	27.977 – 27.990 (1.1015 – 1.1020)	27.93 (1.100)
	Diameter of needle bearing contact area B	37.984 – 38.000 (1.4954 – 1.4961)	37.93 (1.493)
	Diameter of ball bearing contact area A Runout	27.987 – 28.000 (1.1018 – 1.1024) 0.02 (0.001) max.	27.94 (1.100) 0.05 (0.002)
Mainshaft 3rd and 4th gears	I.D.	43.009 – 43.025 (1.6933 – 1.6939)	43.080 (1.6961)
	End play	0.06 – 0.21 (0.002 – 0.008)	0.30 (0.012)
	Thickness 3rd gear 4th gear	32.42 – 32.47 (1.276 – 1.278) 30.92 – 30.97 (1.217 – 1.219)	32.3 (1.27) 30.8 (1.21)
Mainshaft 5th gear	I.D.	43.009 – 43.025 (1.6933 – 1.6939)	43.080 (1.6961)
	End play	0.06 – 0.21 (0.002 – 0.008)	0.30 (0.012)
	Thickness	30.92 – 30.97 (1.217 – 1.219)	30.8 (1.21)
Countershaft	Diameter of needle bearing contact area A	38.000 – 38.015 (1.4961 – 1.4967)	37.95 (1.494)
	Diameter of ball bearing and needle bearing contact area C	24.987 – 25.000 (0.9837 – 0.9843)	24.94 (0.982)
	Diameter of 1st gear contact area B Runout	39.984 – 40.000 (1.5742 – 1.5748) 0.02 (0.001) max.	39.93 (1.572) 0.05 (0.002)
Countershaft 1st gear	I.D.	46.009 – 46.025 (1.8114 – 1.8120)	46.08 (1.814)
	End play	0.06 – 0.23 (0.002 – 0.009)	0.23 (0.009)
Countershaft 2nd gear	I.D.	47.009 – 47.025 (1.8507 – 1.8514)	47.08 (1.854)
	End play	0.10 – 0.15 (0.004 – 0.006)	0.18 (0.007)
	Thickness	28.92 – 28.94 (1.1386 – 1.1394)	_____
Spacer collar (Countershaft 2nd gear)	I.D.	36.48 – 36.49 (1.4362 – 1.4366)	36.50 (1.437)
	O.D.	41.989 – 42.000 (1.6531 – 1.6535)	41.94 (1.651)
	Length	29.07 – 29.09 (1.14 – 1.15)	_____
Spacer collar (Mainshaft 4th and 5th gears)	I.D.	31.002 – 31.012 (1.2205 – 1.2209)	31.06 (1.223)
	O.D.	37.989 – 38.000 (1.4956 – 1.4961)	37.94 (1.494)
	Length	56.45 – 56.55 (2.222 – 2.226)	_____
		26.03 – 26.08 (1.025 – 1.027)	26.01 (1.024)
Reverse idler gear	I.D.	20.016 – 20.043 (0.7880 – 0.7891)	20.09 (0.7909)
	Gear-to-reverse gear shaft clearance	0.036 – 0.084 (0.0014 – 0.0033)	0.160 (0.0063)
Synchro ring	Ring-to-gear clearance (ring pushed against gear)	0.85 – 1.10 (0.033 – 0.043)	0.40 (0.016)
Double cone synchro	Clearance (ring pushed against gear)		
	Outer synchro ring-to-synchro cone	0.5 (0.02) min.	0.3 (0.01)
	Synchro cone-to-gear	0.5 (0.02) min.	0.3 (0.01)
	Outer synchro ring-to-gear	0.95 – 1.68 (0.037 – 0.066)	0.6 (0.02)
Shift fork	Finger thickness	6.2 – 6.4 (0.24 – 0.25)	_____
	Fork-to-synchro sleeve clearance	0.35 – 0.65 (0.014 – 0.026)	1.0 (0.039)



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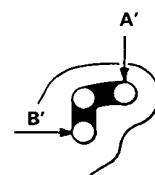
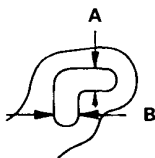
Standards and Service Limits

Manual Transmission — Section 13 (cont'd)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Reverse shift fork	Pawl groove width	13.0 – 13.3 (0.51 – 0.52)	—
	Fork-to-reverse idler gear clearance	0.5 – 1.1 (0.02 – 0.04)	1.8 (0.07)
	Groove width* ¹	7.05 – 7.25 (0.278 – 0.285)	—
	Fork-to-5th/reverse shift shaft clearance* ²	7.4 – 7.7 (0.29 – 0.30)	—
Shift arm	I.D.	0.05 – 0.35 (0.002 – 0.014)	0.5 (0.02)
	Shift arm-to-shaft clearance	0.4 – 0.8 (0.02 – 0.03)	1.0 (0.04)
	Shift fork diameter at contact area	15.973 – 16.000 (0.6289 – 0.6299)	—
	Shift-arm-to-shift fork shaft clearance	0.005 – 0.059 (0.0002 – 0.0023)	—
Select lever	Shaft outer diameter	12.9 – 13.0 (0.508 – 0.512)	—
	Shift arm cover clearance	0.2 – 0.5 (0.008 – 0.020)	0.6 (0.024)
Shift lever	O.D.	15.941 – 15.968 (0.6276 – 0.6287)	—
	Transmission housing clearance	0.032 – 0.102 (0.0013 – 0.0040)	—
Interlock	Bore diameter	15.941 – 15.968 (0.6276 – 0.6287)	—
	Shift arm clearance	0.021 – 0.041 (0.0008 – 0.0016)	—
	Bore diameter	16.00 – 16.05 (0.630 – 0.632)	—
	Shift arm clearance	0.032 – 0.109 (0.0013 – 0.0043)	—

*1: Measuring points

*2: Measuring points



Automatic Transmission — Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission fluid	Capacity ℓ (US qt, Imp qt)	6.0 (6.4, 5.3) for overhaul 2.4 (2.6, 2.1) for fluid change	
Hydraulic pressure kPa (kg/cm ² , psi)	Line pressure at 2,000 min ⁻¹ (rpm) (N or P position)	850 (8.5, 121) throttle fully-closed 900 (9.0, 128) throttle more than 2/8 open	800 (8.0, 114) throttle more than 2/8 open
	4th clutch pressure at 2,000 min ⁻¹ (rpm) (D ₄ position)	530 (5.3, 75) throttle fully-closed 900 (9.0, 128) throttle more than 2/8 open	470 (4.7, 67) throttle fully-closed 800 (8.0, 114) throttle more than 2/8 open
	3rd and 2nd clutch pressure at 2,000 min ⁻¹ (rpm) (D ₃ position)	500 (5.0, 71) throttle fully-closed 900 (9.0, 128) throttle more than 2/8 open	450 (4.5, 64) throttle fully-closed 800 (8.0, 114) throttle more than 2/8 open
	2nd clutch pressure at 2,000 min ⁻¹ (rpm) (2 position)	850 – 900 (8.5 – 9.0, 121 – 128)	800 (8.0, 114)
	1st and 1st-hold clutch pressure at 2,000 min ⁻¹ (rpm) (1 position)	850 – 900 (8.5 – 9.0, 121 – 128)	800 (8.0, 114)
	Throttle B pressure	0 (0, 0)	—
	Throttle fully closed Throttle fully open	850 – 900 (8.5 – 9.0, 121 – 128)	800 (8.0, 114)
Stall speed min ⁻¹ (rpm) (Check with car on level ground)		2650	2500 – 2800

Automatic Transmission — Section 14 (cont'd)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Clutch	Clutch initial clearance 1st-hold 1st, 2nd 3rd, 4th Clutch return spring free length 1st, 2nd, 3rd, 4th Clutch disc thickness Clutch plate thickness 1st, 1st-hold 2nd, 3rd, 4th	0.80 – 1.00 (0.031 – 0.039) 0.65 – 0.85 (0.026 – 0.033) 0.4 – 0.6 (0.016 – 0.024) 33.5 (1.32) 1.88 – 2.00 (0.074 – 0.079) 1.95 – 2.05 (0.077 – 0.081) 2.55 – 2.65 (0.100 – 0.104) 2.25 – 2.35 (0.089 – 0.093)	_____ _____ _____ 31.5 (1.24) Until grooves worn out. Discoloration Discoloration Discoloration
	Clutch end plate thickness Mark 1 Mark 2 Mark 3 Mark 4 Mark 5 Mark 6 Mark 7 Mark 8 Mark 9	2.05 – 2.10 (0.081 – 0.083) 2.15 – 2.20 (0.085 – 0.087) 2.25 – 2.30 (0.089 – 0.091) 2.35 – 2.40 (0.093 – 0.094) 2.45 – 2.50 (0.096 – 0.098) 2.55 – 2.60 (0.100 – 0.102) 2.65 – 2.70 (0.104 – 0.106) 2.75 – 2.80 (0.108 – 0.110) 2.85 – 2.90 (0.112 – 0.114)	Discoloration ↑ ↓ Discoloration
Valve body	Stator shaft needle bearing contact I.D. Torque converter side Oil pump side Oil pump gear side clearance Oil pump gear-to-body clearance Oil pump driven gear I.D. Oil pump shaft O.D.	27.000 – 27.021 (1.0630 – 1.0638) 29.000 – 29.013 (1.1417 – 1.1422) 0.03 – 0.05 (0.001 – 0.002) 0.210 – 0.265 (0.0083 – 0.0104) 0.070 – 0.125 (0.0028 – 0.0049) 14.016 – 14.034 (0.5518 – 0.5525) 13.980 – 13.990 (0.5504 – 0.5508)	Wear of damage _____ 0.07 (0.003) _____ Wear or damage Wear or damage
Shifting device, parking brake and throttle control system	Reverse shift fork finger thickness Parking brake ratchet pawl Parking brake gear Throttle cam stopper height	5.90 – 6.00 (0.232 – 0.236) _____ _____ 17.0 – 17.1 (0.669 – 0.673)	5.40 (0.213) Wear or other defect Wear or other defect _____
Servo body	Shift fork shaft bore I.D. Shift fork shaft valve bore I.D.	14.000 – 14.005 (0.5512 – 0.5514) 14.006 – 14.010 (0.5514 – 0.5516) 14.011 – 14.015 (0.5516 – 0.5518) 37.000 – 37.039 (1.4567 – 1.4582)	_____ _____ _____ 37.045 (1.4585)
Regulator valve body	Sealing ring contact I.D.	35.000 – 35.025 (1.3780 – 1.3789)	35.05 (1.3799)
Accumulator body	Sealing ring contact I.D.	32.000 – 32.025 (1.2598 – 1.2608)	32.050 (1.2618)
Stator shaft	Sealing ring contact I.D.	29.000 – 29.013 (1.1417 – 1.1422)	29.050 (1.1437)
Transmission	Diameter of needle bearing contact area On mainshaft of stator shaft On mainshaft of 3rd gear collar On mainshaft of 4th gear collar On countershaft of 1st gear collar On countershaft of 4th gear collar On countershaft of parking gear On countershaft of reverse gear On secondary shaft of 1st gear On secondary shaft of 2nd gear On reverse idler gear shaft Inside diameter Mainshaft 3rd gear Mainshaft 4th gear Countershaft 1st gear Countershaft 4th gear Countershaft reverse gear Countershaft idler gear Secondary shaft 1st gear Secondary shaft 2nd gear Reverse idler gear shaft holder	22.984 – 23.000 (0.9049 – 0.9055) 45.984 – 46.000 (1.8104 – 1.8110) 31.984 – 32.000 (1.2592 – 1.2598) 40.984 – 41.000 (1.6135 – 1.6142) 31.975 – 31.991 (1.2589 – 1.2595) 39.984 – 40.000 (1.5742 – 1.5748) 35.979 – 36.000 (1.4165 – 1.4173) 31.975 – 31.991 (1.2589 – 1.2595) 31.975 – 31.991 (1.2589 – 1.2595) 31.975 – 31.991 (1.2589 – 1.2595) 13.990 – 14.000 (0.5508 – 0.5512) 52.000 – 52.019 (2.0472 – 2.0480) 38.005 – 38.021 (1.4963 – 1.4969) 47.000 – 47.016 (1.8504 – 1.8510) 38.000 – 38.016 (1.4961 – 1.4967) 42.000 – 42.016 (1.6535 – 1.6542) 48.000 – 48.016 (1.8898 – 1.8904) 36.000 – 36.016 (1.4173 – 1.4179) 37.000 – 37.016 (1.4567 – 1.4573) 14.800 – 14.824 (0.5827 – 0.5836)	Wear or damage ↑ ↓ Wear or damage

(cont'd)

Standards and Service Limits

Automatic Transmission — Section 14 (cont'd)

	MEASUREMENT	STANDARD (NEW)				SERVICE LIMIT
		Wire Dia.	O.D.	Free Length	No. of Coils	
Transmission (cont'd)	Mainshaft 3rd gear collar length	19.50 – 19.55 (0.768 – 0.770)				Wear or damage
	Mainshaft 4th gear collar length	47.50 – 47.55 (1.870 – 1.872)				Wear or damage
	Countershaft 1st gear collar length	27.50 – 27.55 (1.083 – 1.085)				Wear or damage
	Thrust washer thickness					
	Countershaft 1st gear	1.45 – 1.50 (0.057 – 0.059)				Wear or damage
	Countershaft idler gear	3.45 – 3.55 (0.136 – 0.140)				Wear or damage
	Secondary shaft 2nd gear	4.35 – 4.45 (0.171 – 0.175)				Wear or damage
	Countershaft parking gear length	25.030 – 25.048 (0.9854 – 0.9861)				Wear or damage
	Secondary shaft 1st gear distance collar length	4.95 – 5.00 (0.195 – 0.197)				Wear or damage
	Secondary shaft 2nd gear spline washer thickness 35 x 53 mm	4.02 – 4.05 (0.158 – 0.159)				—
		4.07 – 4.10 (0.160 – 0.161)				—
		4.12 – 4.15 (0.162 – 0.163)				—
		4.17 – 4.20 (0.164 – 0.165)				—
		4.22 – 4.25 (0.166 – 0.167)				—
		4.27 – 4.30 (0.168 – 0.169)				—
		4.32 – 4.35 (0.170 – 0.171)				—
		4.37 – 4.40 (0.172 – 0.173)				—
		4.42 – 4.45 (0.174 – 0.175)				—
	MEASUREMENT	STANDARD (NEW)				
		Wire Dia.	O.D.	Free Length	No. of Coils	
Spring	Regulator valve spring A					
	F18A3 engine	1.8 (0.071)	14.7 (0.579)	85.4 (3.362)	16.5	
	F20Z1, F22Z2 engines	1.8 (0.071)	14.7 (0.579)	87.8 (3.457)	16.5	
	Regulator valve spring B					
	F18A3 engine	1.8 (0.071)	9.6 (0.378)	44.0 (1.732)	7.5	
	F20Z1, F22Z2 engines	1.8 (0.071)	9.6 (0.378)	44.0 (1.732)	12.7	
	Stator reaction spring					
	F18A3 engine	5.5 (0.217)	37.4 (1.472)	30.3 (1.193)	2.1	
	F20Z1, F22Z2 engines	4.5 (0.177)	35.4 (1.394)	30.3 (1.193)	1.92	
	Torque converter check valve spring	1.1 (0.043)	8.4 (0.331)	38.2 (1.504)	14.0	
	Relief valve spring	1.0 (0.039)	8.4 (0.331)	39.1 (1.539)	15.1	
	Cooler relief valve spring	1.0 (0.039)	8.4 (0.331)	46.8 (1.843)	17.0	
	2nd orifice control valve spring	0.6 (0.024)	6.6 (0.260)	66.4 (2.614)	25.0	
	Orifice control valve spring	0.7 (0.028)	6.6 (0.260)	52.5 (2.067)	18.4	
	4th exhaust valve spring	0.8 (0.031)	7.1 (0.280)	48.8 (1.921)	17.2	
	Throttle valve B adjusting spring	0.8 (0.031)	6.2 (0.244)	30.0 (1.181)	8.0	
	Throttle valve B spring	1.4 (0.055)	8.5 (0.335)	41.5 (1.634)	10.5	
		1.4 (0.055)	8.5 (0.335)	41.5 (1.634)	11.2	
		1.4 (0.055)	8.5 (0.335)	41.6 (1.638)	12.4	
	1-2 shift valve spring	0.9 (0.035)	8.6 (0.339)	40.4 (1.591)	14.5	
	2-3/3-4 shift valve spring	0.9 (0.035)	7.6 (0.299)	57.0 (2.244)	26.8	
	1st-hold accumulator spring	4.0 (0.157)	25.0 (0.984)	64.7 (2.547)	7.3	
	1st accumulator spring A	2.3 (0.091)	16.3 (0.642)	109.6 (4.315)	20.0	
	1st accumulator spring B	1.8 (0.071)	6.3 (0.248)	70.5 (2.776)	15.3	
	4th accumulator spring	2.9 (0.114)	22.0 (0.866)	90.1 (3.547)	10.9	
	2nd accumulator spring	3.5 (0.138)	22.0 (0.866)	91.0 (3.583)	10.8	
	3rd accumulator spring	2.9 (0.114)	17.5 (0.689)	99.6 (3.921)	16.1	
	Lock-up shift valve spring	0.9 (0.035)	7.6 (0.299)	73.7 (2.902)	32.0	
	Lock-up timing valve spring	0.8 (0.031)	6.6 (0.260)	51.1 (2.012)	14.7	
	Servo control valve spring	1.0 (0.039)	8.1 (0.319)	52.6 (2.071)	22.4	
	CPC valve spring	1.4 (0.055)	9.4 (0.370)	33.0 (1.299)	10.5	
	Modulator valve spring	1.4 (0.055)	9.4 (0.370)	33.0 (1.299)	10.5	
	Lock-up control valve spring	0.7 (0.028)	6.6 (0.260)	38.5 (1.516)	24.6	
		0.7 (0.028)	6.6 (0.260)	38.0 (1.496)	24.6	
		0.7 (0.028)	6.6 (0.260)	39.0 (1.535)	24.6	
	3rd kick-down valve spring	1.0 (0.039)	7.6 (0.299)	48.3 (1.902)	15.6	
	Main orifice control valve spring	1.1 (0.043)	7.1 (0.280)	49.1 (1.933)	22.7	

Unit of length: mm (in)

Differential (Manual transmission) — Section 15

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Differential carrier	Pinion shaft contact area I.D. Carrier-to-pinion shaft clearance Driveshaft contact area I.D. Carrier-to-driveshaft clearance	18.000 – 18.018 (0.7087 – 0.7094) 0.017 – 0.047 (0.0007 – 0.0019) 28.005 – 28.025 (1.1026 – 1.1033) 0.025 – 0.066 (0.0010 – 0.0026) 0.055 – 0.091 (0.0022 – 0.0036)	— 0.10 (0.004) — 0.12 (0.005) 0.15 (0.006)
Differential pinion gear	Backlash I.D. Pinion gear-to-pinion shaft clearance	0.05 – 0.15 (0.002 – 0.006) 18.042 – 18.066 (0.7103 – 0.7113) 0.055 – 0.095 (0.0022 – 0.0037)	Adjust with a shim — 0.15 (0.006)
Tapered roller bearing preload	Starting torque N·m (kg·cm, lb·in)	1.4 – 2.6 (14 – 26, 12 – 23)	Adjust with a shim

Differential (Automatic transmission) — Section 15

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Differential carrier	Pinion shaft contact area I.D. Carrier-to-pinion shaft clearance Driveshaft contact area I.D. Carrier-to-driveshaft clearance	18.000 – 18.018 (0.7087 – 0.7094) 0.017 – 0.047 (0.0007 – 0.0019) 28.005 – 28.025 (1.1026 – 1.1033) 0.025 – 0.066 (0.0010 – 0.0026)	— 0.10 (0.004) — 0.12 (0.005)
Differential pinion gear	Backlash I.D. Pinion gear-to-pinion shaft clearance	0.05 – 0.15 (0.002 – 0.006) 18.042 – 18.066 (0.7103 – 0.7113) 0.059 – 0.095 (0.0023 – 0.0037)	Adjust with a shim — 0.12 (0.005)
Tapered roller bearing preload	Starting torque N·m (kg·cm, lb·in) New bearing Reused bearing	2.8 – 4.0 (28 – 40, 24 – 35) 2.5 – 3.7 (25 – 37, 22 – 32)	Adjust with a shim

Steering — Section 17

	MEASUREMENT	STANDARD (NEW)
Steering wheel	Rotational play at steering wheel circumference	0 – 10 (0 – 0.4)
Gearbox	Angle of rack-guide-screw loosened from locked position	20° ^{±5°}
Pump	Pump pressure with shut-off valve closed kPa (kg/cm ² , psi)	7,200 – 8,000 (72 – 80, 1,024 – 1,138)
Power steering fluid	Recommended fluid Fluid capacity ℓ (US qt, Imp qt) System Reservoir	Honda power steering fluid-V 1.1 (1.16, 0.97) 0.53 (0.56, 0.47)
Power steering belt*	Deflection with 100 N (10 kg, 22 lbs) between pulleys Belt tension N (kg, lbs) Measured with belt tension gauge	13.0 – 16.0 (0.51 – 0.63) with used belt 11.0 – 12.0 (0.43 – 0.47) with new belt 400 – 550 (40 – 55, 88 – 121) with used belt 750 – 900 (75 – 90, 165 – 198) with new belt

* When using a new belt, adjust deflection or tension to new values. Run the engine for 5 minutes then turn it off. Readjust deflection or tension to used belt values.

Standards and Service Limits

Suspension — Section 18

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Wheel alignment	Camber	Front	$0^{\circ}00' \pm 1^{\circ}$	
		Rear	$-0^{\circ}30' \pm 30'$	
	Caster	Front	$3^{\circ}00' \pm 1^{\circ}$	
	Total toe	Front	$0 \pm 3.0 (0 \pm 0.12)$	
		Rear	$IN 2.0 \pm 2.0 (0.08 \pm 0.08)$	
	Front wheel turning angle	Inward wheel	$39^{\circ}00' \pm 2^{\circ}$	
		Outward wheel	$30^{\circ}00'$	
Wheel	Rim runout (Aluminum wheel)	Axial	$0 - 0.7 (0 - 0.03)$	2.0 (0.08)
		Radial	$0 - 0.7 (0 - 0.03)$	1.5 (0.06)
	Rim runout (Steel wheel)	Axial	$0 - 1.0 (0 - 0.04)$	2.0 (0.08)
		Radial	$0 - 1.0 (0 - 0.04)$	1.5 (0.06)
Wheel bearing	End play	Front	$0 - 0.05 (0 - 0.002)$	_____
		Rear	$0 - 0.05 (0 - 0.002)$	_____

Brakes — Section 19

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Parking brake lever	Play in stroke 200 N (20 kg, 44 lbs) lever force		To be locked when pulled 7 - 11 notches	_____
Foot brake pedal	Pedal height (with floor mat removed)	M/T	190 (7.5)	_____
		A/T	195 (7.7)	_____
	Free play		1 - 5 (1/16 - 13/64)	_____
Master cylinder	Piston-to-pushrod clearance		0 - 0.04 (0 - 0.016)	_____
Disc brake	Disc thickness	Front	23.0 (0.91)	21.0 (0.83)
		Rear	10.0 (0.39)	8.0 (0.31)
	Disc runout	Front	_____	0.10 (0.004)
		Rear	_____	0.10 (0.004)
	Disc parallelism	Front and rear	_____	0.015 (0.0006)
	Pad thickness	Front	12.5 (0.49)	1.6 (0.06)
		F20Z1 (A/T), F22Z2	11.0 (0.43)	1.6 (0.06)
		Rear	9.0 (0.35)	1.6 (0.06)
	Characteristics	Vacuum [mm (in) Hg]	Pedal Force kg (lbs)	Line Pressure kPa (kg/cm ² , psi)
	Without ABS	0 (0) 300 (11.8) 500 (19.7)	20 (44) 20 (44) 20 (44)	920 (9.4, 130) minimum 5,500 (56, 800) minimum 8,500 (87, 1,200) minimum
	With ABS	0 (0) 300 (11.8) 500 (19.7)	20 (44) 20 (44) 20 (44)	810 (8.3, 120) minimum 6,100 (62, 880) minimum 8,200 (83.2, 1,200) minimum

Air Conditioning — Section 22

	MEASUREMENT	STANDARD (NEW)
Air conditioning system	Lubricant type: ND-OIL8 P/N38899 – PR7 – 003 or 38899 – PR7 – A01 (For Refrigerant HFC-134a (R-134a))	
	Lubricant capacity mℓ (fl oz, Imp oz)	Condenser Evaporator Line or hose Receiver 10 – 20 (1/3 – 2/3, 0.4 – 0.7) 20 – 30 (2/3 – 1, 0.7 – 1.1) 10 (1/3, 0.4) 10 (1/3, 0.4)
Compressor	Lubricant type: ND-OIL8 P/N38899 – PR7 – 003 or 38899 – PR7 – A01 (For Refrigerant HFC-134a (R-134a))	
	Lubricant capacity mℓ (fl oz, Imp oz) Stator coil resistance at 20°C (68°F) Ω Pulley-to-pressure plate clearance	160 ⁺¹⁵ ₀ (5-1/3 ^{+1/2} ₀ , 5.6 ^{+0.5} ₀) 3.6 ± 0.2 0.5 ± 0.15 (0.020 ± 0.006)
Compressor belt*	Deflection with 100 N (10 kg, 22 lbs) between the pulleys	10.0 – 12.0 (0.39 – 0.47) with used belt 4.5 – 7.0 (0.18 – 0.28) with new belt
	Belt tension N (kg, lbs) Measured with belt tension gauge	450 – 600 (45 – 60, 99 – 132) with used belt 950 – 1,150 (95 – 115, 209 – 254) with new belt

Electrical — Section 23

	MEASUREMENT	STANDARD (NEW)	
Ignition coil	Rated voltage V	12	
	Primary winding resistance Ω at 20°C (68°F) Secondary winding resistance kΩ at 20°C (68°F)	0.6 – 0.8 13 – 19	
Spark Plug	Type	See section 23	
	Gap	1.1 ⁺⁰ _{-0.1} (0.043 ⁺⁰ _{-0.004})	
Ignition timing	At idle ° BTDC	15 ± 2 (Red)	
Alternator belt*	Without A/C	Deflection with 100 N (10 kg, 22 lbs) between pulleys	10 – 12 (0.39 – 0.47) with used belt 8.5 – 11 (0.33 – 0.43) with new belt
		Belt tension N (kg, lbs) Measured with belt tension gauge	300 – 450 (30 – 45, 66 – 99) with used belt 450 – 650 (45 – 65, 99 – 143) with new belt
	With A/C	Deflection with 100 N (10 kg, 22 lbs) between pulleys	10 – 12 (0.39 – 0.47) with used belt 4.5 – 7 (0.18 – 0.28) with new belt
		Belt tension N (kg, lbs) Measured with belt tension gauge	450 – 600 (45 – 60, 99 – 132) with used belt 950 – 1,150 (95 – 115, 209 – 254) with new belt
	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Alternator	Output 13.5 V at hot A	70	—
	Coil resistance (rotor) Ω	2.8 – 3.0	—
	Slip ring O.D.	14.4 (0.57)	14.0 (0.55)
	Brush length	10.5 (0.41)	5.5 (0.22)
	Brush spring tension g (oz)	300 – 360 (10.6 – 12.7)	—
Starter motor	Type	Spur gear reduction, permanent magnet	
	Mica depth	0.4 – 0.5 (0.016 – 0.020)	0.15 (0.006)
	Commutator runout	0 – 0.02 (0 – 0.0008)	0.05 (0.002)
	Commutator O.D.	28.0 – 28.1 (1.102 – 1.106)	27.5 (1.08)
	Brush length	15.8 – 16.2 (0.62 – 0.64)	10.0 (0.39)
	Brush spring tension (new) N (kg, lbs)	16 – 18 (1.6 – 1.8, 3.5 – 4.0)	—

* When using a new belt, adjust deflection or tension to new values. Run the engine for 5 minutes then turn it off. Readjust deflection or tension to used belt values.

Design Specifications

	ITEM	METRIC	ENGLISH	NOTES	
DIMENSIONS	Overall Length	4,685 mm	184.4 in		
	Overall Width	1,720 mm	67.7 in		
	Overall Height	1,380 mm	54.3 in		
	Wheelbase	2,720 mm	107.1 in		
	Track (Front/Rear)	1,475/1,480 mm	58.1/58.3 in		
	Ground Clearance	155 mm	6.1 in		
	Seating Capacity	Five			
WEIGHT	Curb Weight: KG model			DR SRS: Driver's Airbag DR/AS SRS: Driver's and Passenger's Airbags S/R: Sunroof A/C: Air Conditioner	
	1.8i	5MT DR SRS	1,260 kg		2,778 lbs
		5MT DR/AS SRS, ABS	1,280 kg		2,822 lbs
		5MT DR/AS SRS, ABS, S/R	1,293 kg		2,850 lbs
	1.8iS	5MT DR SRS, ABS	1,275 kg		2,811 lbs
		5MT DR/AS SRS, ABS, S/R	1,293 kg		2,850 lbs
		4AT DR SRS, ABS	1,320 kg		2,910 lbs
	1.8iLS	4AT DR/AS SRS, ABS, S/R	1,338 kg		2,950 lbs
		5MT DR SRS, ABS, A/C	1,297 kg		2,859 lbs
		5MT DR SRS, ABS	1,275 kg		2,811 lbs
	1.8iES	5MT DR/AS SRS, ABS, S/R	1,293 kg		2,850 lbs
		4AT DR/AS SRS, ABS, S/R	1,338 kg		2,950 lbs
		5MT DR/AS SRS, ABS, A/C	1,302 kg		2,870 lbs
	2.0iLS	5MT DR SRS, ABS	1,295 kg		2,855 lbs
		5MT DR/AS SRS, ABS	1,300 kg		2,866 lbs
		5MT DR/AS SRS, ABS, S/R	1,313 kg		2,895 lbs
	2.0iES	4AT DR/AS SRS, ABS	1,330 kg		2,932 lbs
		4AT DR/AS SRS, ABS, S/R	1,343 kg		2,961 lbs
		5MT DR/AS SRS, ABS, S/R, A/C	1,337 kg		2,948 lbs
	2.2iVTEC	4AT DR/AS SRS, ABS, S/R, A/C	1,367 kg		3,013 lbs
		5MT DR/AS SRS, ABS	1,320 kg		2,910 lbs
		5MT DR/AS SRS, ABS, S/R, A/C	1,355 kg		2,987 lbs
		4AT DR/AS SRS, ABS, S/R, A/C	1,385 kg		3,053 lbs
	Weight Distribution (Front/Rear): KG model				
	1.8i	5MT DR SRS	750/510 kg		1,654/1,124 lbs
		5MT DR/AS SRS, ABS	768/512 kg		1,693/1,129 lbs
		5MT DR/AS SRS, ABS, S/R	774/519 kg		1,706/1,144 lbs
	1.8iS	5MT DR SRS, ABS	764/511 kg		1,684/1,127 lbs
		5MT DR/AS SRS, ABS, S/R	774/519 kg		1,706/1,144 lbs
		4AT DR SRS, ABS	805/515 kg		1,775/1,135 lbs
	1.8iLS	4AT DR/AS SRS, ABS, S/R	815/523 kg		1,797/1,153 lbs
		5MT DR SRS, ABS, A/C	788/509 kg		1,737/1,122 lbs
		5MT DR SRS, ABS	764/511 kg		1,684/1,127 lbs
	1.8iES	5MT DR/AS SRS, ABS, S/R	774/519 kg		1,706/1,144 lbs
		4AT DR/AS SRS, ABS, S/R	815/523 kg		1,797/1,153 lbs
		5MT DR/AS SRS, ABS, A/C	792/510 kg		1,746/1,124 lbs
	2.0iLS	5MT DR SRS, ABS	774/521 kg		1,706/1,149 lbs
		5MT DR/AS SRS, ABS	778/522 kg		1,715/1,151 lbs
		5MT DR/AS SRS, ABS, S/R	784/529 kg		1,729/1,166 lbs
	2.0iES	4AT DR/AS SRS, ABS	810/520 kg		1,786/1,146 lbs
		4AT DR/AS SRS, ABS, S/R	816/527 kg		1,799/1,162 lbs
		5MT DR/AS SRS, ABS, S/R, A/C	810/527 kg		1,786/1,162 lbs
	2.2iVTEC	4AT DR/AS SRS, ABS, S/R, A/C	842/525 kg		1,856/1,157 lbs
		5MT DR/AS SRS, ABS	795/525 kg		1,753/1,157 lbs
		5MT DR/AS SRS, ABS, S/R, A/C	825/530 kg		1,819/1,168 lbs
		4AT DR/AS SRS, ABS, S/R, A/C	855/530 kg		1,885/1,168 lbs

	ITEM	METRIC	ENGLISH	NOTES
WEIGHT (cont'd)	Curb Weight: KS model 2.0iS 5MT DR SRS 2.0iLS 5MT DR/AS SRS, ABS 4AT DR/AS SRS, ABS 2.2iVTEC 5MT DR/AS SRS, ABS 4AT DR/AS SRS, ABS Weight Distribution (Front/Rear): KS model 2.0iS 5MT DR SRS 2.0iLS 5MT DR/AS SRS, ABS 4AT DR/AS SRS, ABS 2.2iVTEC 5MT DR/AS SRS, ABS 4AT DR/AS SRS, ABS	1,280 kg 1,300 kg 1,330 kg 1,320 kg 1,350 kg 760/520 kg 778/522 kg 810/520 kg 795/525 kg 825/525 kg	2,822 lbs 2,866 lbs 2,932 lbs 2,910 lbs 2,976 lbs 1,676/1,146 lbs 1,715/1,151 lbs 1,786/1,146 lbs 1,753/1,157 lbs 1,819/1,157 lbs	DR SRS: Driver's Airbag DR/AS SRS: Driver's and Passenger's Airbags S/R: Sunroof A/C: Air Conditioner
	Curb Weight: KE model 1.8i 5MT DR/AS SRS, S/R 1.8iS 5MT DR/AS SRS, ABS, S/R 1.8iLS 5MT DR/AS SRS, ABS, S/R 4AT DR/AS SRS, ABS, S/R 2.0i 5MT DR/AS SRS, S/R 2.0iS 5MT DR/AS SRS, ABS, S/R 4AT DR/AS SRS, ABS, S/R 2.0iLS 5MT DR/AS SRS, ABS, S/R 4AT DR/AS SRS, ABS, S/R 2.0iES 5MT DR/AS SRS, ABS, S/R, A/C 4AT DR/AS SRS, ABS, S/R, A/C 2.2iVTEC 5MT DR/AS SRS, ABS, S/R, A/C 4AT DR/AS SRS, ABS, S/R, A/C Weight Distribution (Front/Rear): KE model 1.8i 5MT DR/AS SRS, S/R 1.8iS 5MT DR/AS SRS, ABS, S/R 1.8iLS 5MT DR/AS SRS, ABS, S/R 4AT DR/AS SRS, ABS, S/R 2.0i 5MT DR/AS SRS, S/R 2.0iS 5MT DR/AS SRS, ABS, S/R 4AT DR/AS SRS, ABS, S/R 2.0iLS 5MT DR/AS SRS, ABS, S/R 4AT DR/AS SRS, ABS, S/R 2.0iES 5MT DR/AS SRS, ABS, S/R, A/C 4AT DR/AS SRS, ABS, S/R, A/C 2.2iVTEC 5MT DR/AS SRS, ABS, S/R, A/C 4AT DR/AS SRS, ABS, S/R, A/C Max. Permissible Weight (European) 1.8 l, 2.0 l M/T 2.0 l A/T 2.2 l	1,278 kg 1,293 kg 1,293 kg 1,338 kg 1,298 kg 1,313 kg 1,343 kg 1,313 kg 1,343 kg 1,337 kg 1,367 kg 1,355 kg 1,385 kg 760/518 kg 774/519 kg 774/519 kg 815/523 kg 770/528 kg 784/529 kg 816/527 kg 784/529 kg 816/527 kg 811/526 kg 843/524 kg 825/530 kg 855/530 kg 1,820 kg 1,880 kg 1,880 kg	2,818 lbs 2,850 lbs 2,850 lbs 2,950 lbs 2,862 lbs 2,895 lbs 2,961 lbs 2,895 lbs 2,961 lbs 2,948 lbs 3,014 lbs 2,987 lbs 3,053 lbs 1,676/1,142 lbs 1,706/1,144 lbs 1,706/1,144 lbs 1,797/1,153 lbs 1,698/1,164 lbs 1,729/1,166 lbs 1,799/1,162 lbs 1,729/1,166 lbs 1,799/1,162 lbs 1,788/1,160 lbs 1,859/1,155 lbs 1,819/1,168 lbs 1,885/1,168 lbs 4,012 lbs 4,145 lbs 4,145 lbs	DR SRS: Driver's Airbag DR/AS SRS: Driver's and Passenger's Airbags S/R: Sunroof A/C: Air Conditioner
ENGINE	Type F22Z2 engine Except F22Z2 engine Cylinder Arrangement Bore and Stroke F18A3 engine F20Z1 engine F22Z2 engine Displacement F18A3 engine F20Z1 engine F22Z2 engine Compression Ratio F18A3 engine F20Z1 engine F22Z2 engine Valve Train F22Z2 engine Except F22Z2 engine	Water-cooled, 4-stroke SOHC VTEC gasoline engine Water-cooled, 4-stroke SOHC gasoline engine 4-cylinders Inline, transverse 85.0 x 81.5 mm 85.0 x 88.0 mm 85.0 x 95.0 mm 1,850 cm³ (mℓ) 1,997 cm³ (mℓ) 2,156 cm³ (mℓ) 8.9 : 1 9.5 : 1 9.3 : 1 Belt driven, SOHC VTEC 4 valves per cylinder, Belt driven, SOHC 4 valves per cylinder		

Design Specifications

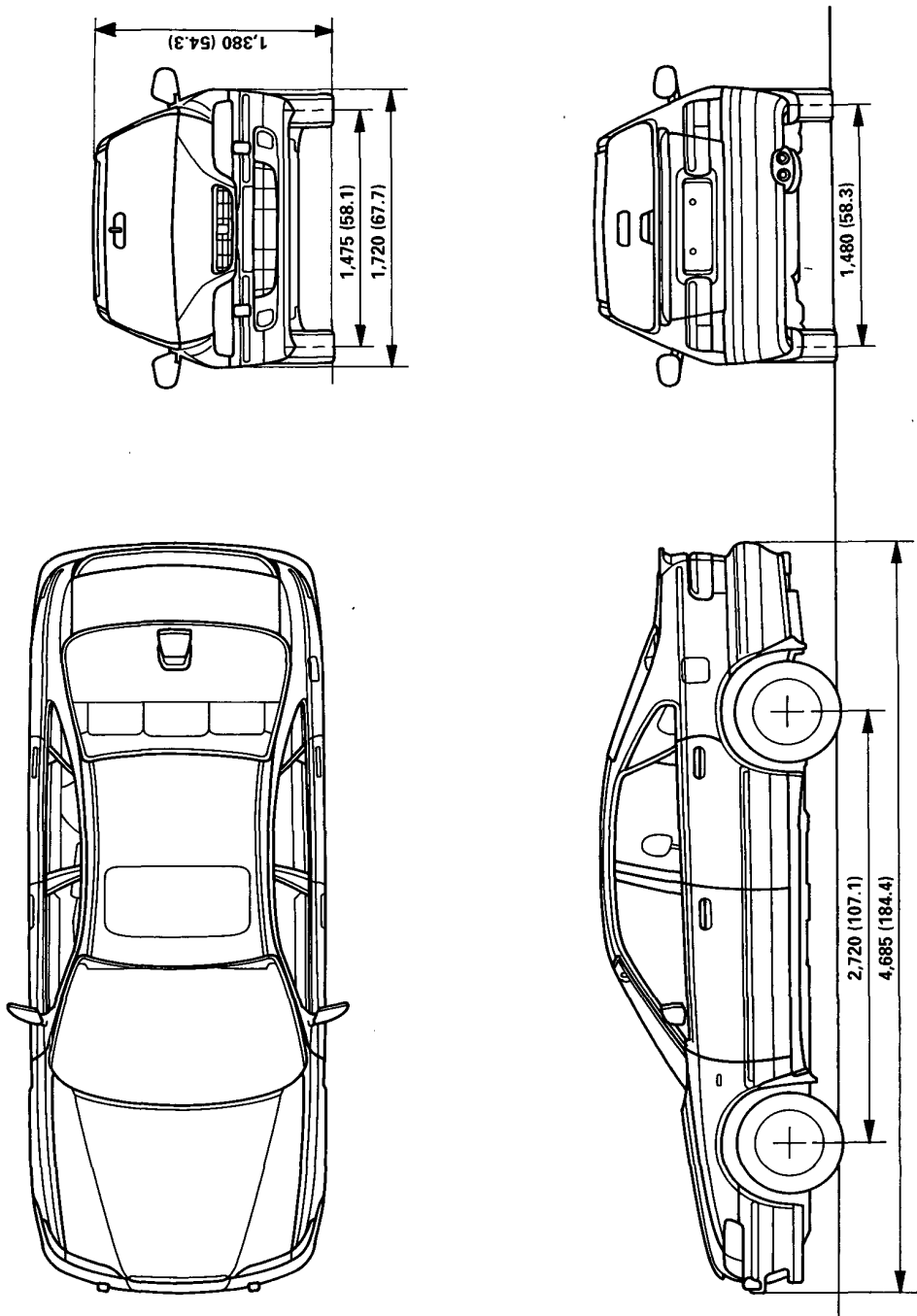
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	ITEM		METRIC		ENGLISH		NOTES
ENGINE (cont'd)	Lubrication System		Forced and wet sump, trochoid pump				
	Oil Pump Displacement [At oil temp. 36.5°C (98°F)] Fuel Required		73.5 ℓ/minute at 6,000 pump min ⁻¹ (rpm) Premium UNLEADED grade gasoline with 95 Research Octane Number or higher				
STARTER	Water Pump Displacement [At coolant temp. 40°C (104°F)]		160 ℓ/minute at 6,000 pump min ⁻¹ (rpm)				
	Type Normal Output Nominal Voltage Hour Rating Direction of Rotation Weight		Spur gear reduction, permanent magnet 1.4 kW, 1.6 kW 12 V 30 seconds Counterclockwise as viewed from gear end 3.5 kg 7.7 lbs				
CLUTCH	Clutch Type	M/T A/T	Single plate dry, diaphragm spring Torque converter				
	Clutch Facing Area	M/T	217 cm ² 33.6 sq-in				
TRANSMISSION	Transmission	M/T A/T	Synchronized 5-speed forward, 1 reverse Electronically controlled 4-speed forward automatic, 1 reverse Direct 1 : 1				
	Manual Transmission Type		N2E5	N2S4	N2C4	N2D4	
	Engine type		F18A3		F20Z1	F22Z2	
	Gear Ratio	1st	3.285	3.285	3.285	3.285	
		2nd	1.807	1.807	1.807	1.807	
		3rd	1.193	1.230	1.193	1.269	
		4th	0.870	0.933	0.903	0.966	
		5th	0.685	0.757	0.735	0.757	
		Reverse	3.000	3.000	3.000	3.000	
	Final Reduction	Gear type	Single helical gear				
		Gear ratio	4.062	4.266	4.266	4.266	
	Automatic Transmission		Engine type		F18A3, F20Z1	F22Z2	
	Gear Ratio	1st	2.736		2.736		
		2nd	1.333		1.486		
		3rd	1.026		1.026		
4th		0.731		0.731			
Reverse		2.047		2.047			
Final Reduction	Gear type	Single helical gear					
	Gear ratio	4.285		4.133			
AIR CONDITIONING	Cooling Capacity		4,100 Kcal/h		16,269 BTU/h		ND-OIL8
	Compressor	Type/Make	Swash-plate/NIPPONDENSO				
		No. of Cylinder	10				
		Capacity	178 cm ³ /rev		10.9 cu-in/rev		
		Max. Speed	8,800 min ⁻¹ (rpm)				
		Lubricant Capacity	160 mℓ		5-1/3 fl oz, 5.6 Imp oz		
	Condenser	Type	Corrugated fin				
	Evaporator	Type	Corrugated fin				
	Blower	Type	Sirocco fan				
		Motor Input	209 W max./12 V				
		Speed Control	5-speed				
		Max. Capacity		420 m ³ /h 14,834 cu-ft/h			
Temp. Control		Air-mix type					
Compressor Clutch	Type	Dry, single plate, poly-V-belt drive					
		Power Consumption 40 W max./12 V					
Refrigerant	Type	HFC-134a (R-134a)					
	Quantity	750 ⁰ ₋₅₀ g		26.5 ⁰ _{-1.80} oz			

	ITEM	METRIC	ENGLISH	NOTES
STEERING SYSTEM	Type Overall Ratio Turns, Lock-to-Lock Steering Wheel Diameter	Power assisted, rack and pinion 16.4 3.13 380 mm	15.0 in	
SUSPENSION	Type, Front Type, Rear Shock Absorber, Front and Rear	Independent double wishbone, coil spring with stabilizer Independent double wishbone, coil spring with stabilizer Telescopic, hydraulic nitrogen gas-filled		
WHEEL ALIGNMENT	Camber Caster Total Toe	Front Rear Front Rear 0 mm In 2.0 mm	0° 00' -0° 30' 3° 00' 0 in In 0.08 in	
BRAKE SYSTEM	Type: Front Rear Pad Surface Area: Front F18A3, F20Z1 (M/T) F20Z1 (A/T), F22Z2 Rear Parking Brake	Power-assisted self-adjusting ventilated disc Power-assisted self-adjusting solid disc 49.4 cm² x 2 58.0 cm² x 2 28.3 cm² x 2 Mechanical actuating, rear two wheel brakes	7.66 sq-in x 2 8.99 sq-in x 2 4.39 sq-in x 2	
TYRE	3Size and Pressure	See tyre information label (see page 1-12)		
ELECTRICAL	Battery Starter Alternator Fuses In the under-dash fuse/relay box In the under-hood fuse/relay box In the under-hood ABS fuse box Headlights Front Turn Signal Lights Front Parking Lights Side Turn Signal Lights Rear Turn Signal Lights Brake/Taillights High Mount Brake Light Back-up Lights Rear Fog Light License Plate Lights Ceiling (Interior) Lights Trunk (Boot) Lights Door Courtesy Lights Glove Box Light Gauge Lights Indicator Lights/Lamps Warning Lights Illumination and Pilot Lights Heater Illumination Lights	Front Rear	12 V - 57 AH/20 HR 12 V - 47 AH/20 HR 12 V - 1.4 kW, 1.6 kW 12 V - 70 A 7.5 A, 10 A, 15 A, 30 A 7.5 A, 10 A, 15 A, 20 A, 30 A, 40 A, 50 A, 80 A 20 A, 40 A 12 V - 55 W (H1) 12 V - 21 W (YELLOW) 12 V - 5 W 12 V - 5 W 12 V - 21 W 12 V - 21/5 W 12 V - 21 W 12 V - 21 W 12 V - 21 W 12 V - 5 W 12 V - 5 W 12 V - 3.4 W 12 V - 3.4 W 12 V - 3.4 W 12 V - 5 W 12 V - 1.4, 3 W 12 V - 0.84, 1.12, 1.4 W, LED 12 V - 1.4 12 V - 0.56, 0.84, 1.12, 1.4 W 12 V - 1.4 W	KS KG, KE

Body Specifications

Unit: mm (in)



Maintenance

Lubrication Points	4-2
Maintenance Schedule	4-4

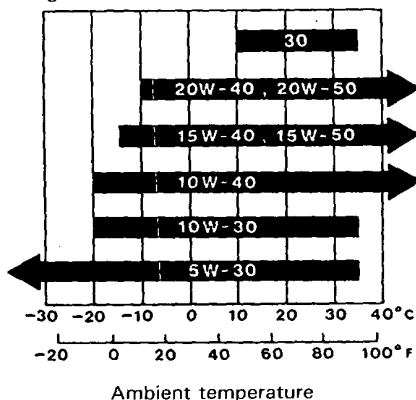


Lubrication Points

For the details of lubrication points and types of lubricants to be applied, refer to the illustrated index and various work procedure (such as Assembly/Reassembly, Replacement, Overhaul, Installation, etc.) contained in each section.

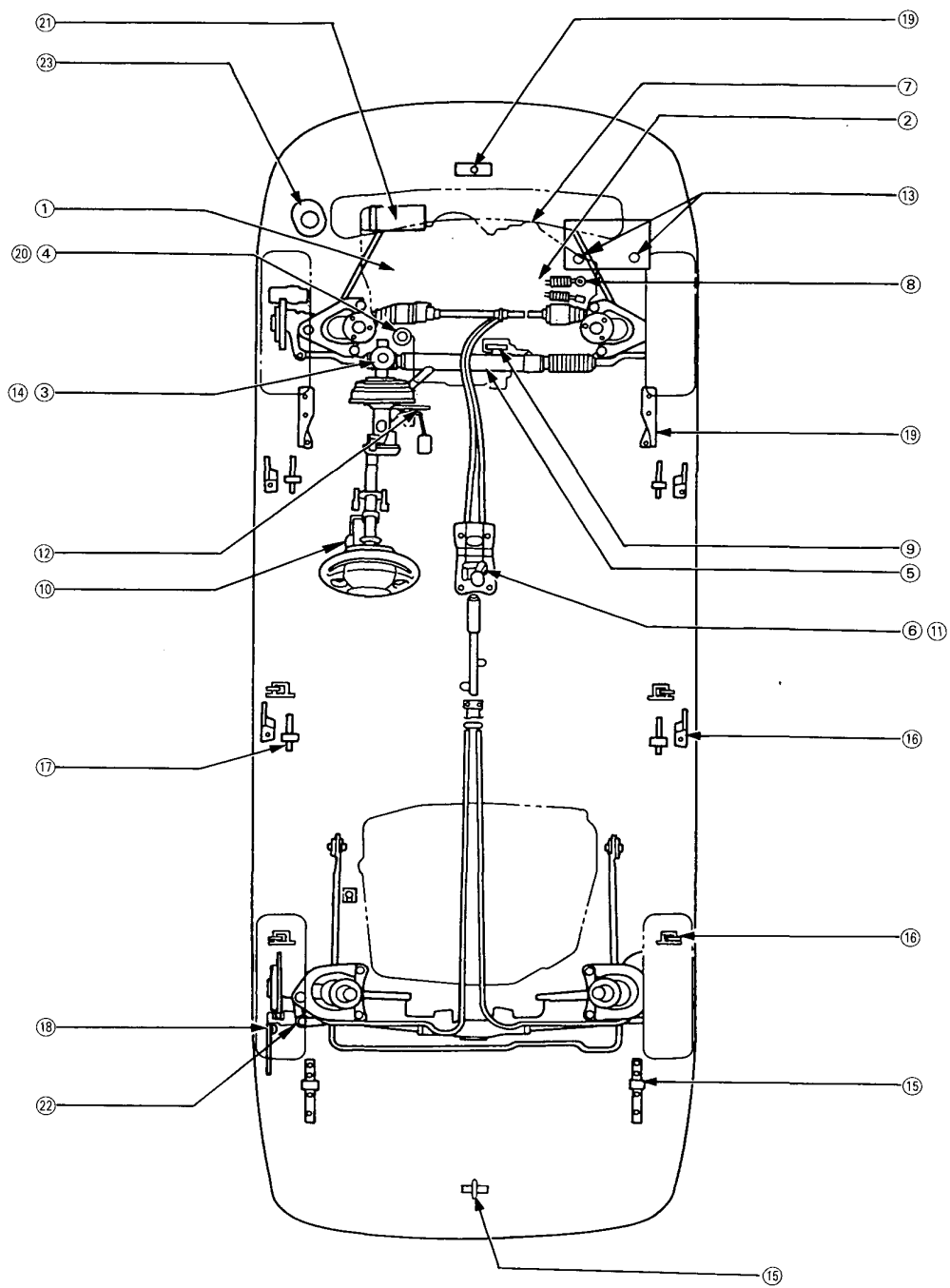
No.	LUBRICATION POINTS		LUBRICANT
1	Engine		Always use a fuel-efficient oil is that says “API Ser-vice SG or SH.” SAE Viscosity: See chart below.
2	Transmission	Manual	Honda Genuine MTF*1
		Automatic	Genuine Honda ATF PREMIUM (Automatic Trans-mission Fluid-PREMIUM) or DEXRON® II or III Automatic transmission fluid
3	Brake Line		Brake fluid DOT3 or DOT4
4	Clutch Line		Brake fluid DOT3 or DOT4
5	Power steering gearbox		Steering grease (P/N 08733—B070E)
6	Shift lever pivots (Manual Transmission)		Urea grease UM264 (P/N 41211—PY5—305)
7	Release fork (Manual Transmission)		
8	Shift and select cable ends		Silicone oil
9	Throttle cable end		Multi-purpose grease
10	Steering wheel (Except cars with SRS airbag)		
11	Select lever (Automatic Transmission)		
12	Pedal linkage		
13	Battery terminals		
14	Brake master cylinder pushrod		
15	Trunk hinges and latches		
16	Door hinges upper/lower and latches		
17	Door open detents		
18	Fuel fill lid		
19	Hood hinges and hood latch		
20	Clutch master cylinder pushrod		
21	A/C compressor		Compressor oil ND-OIL8 (P/N 38899—PR7—003 or 38899—PR7—A01)
22	Rear brake caliper parking lever pin		Rust-preventive agent
23	Power steering system		Honda power steering fluid-V

Select the oil for the car according to this chart:



CAUTION: Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

* 1: If Honda MTF is not available, you may use an API service SG or SH-rated motor oil with a viscosity of SAE 10W-30 or 10W-40 temporarily. Motor oil can cause increased transmission wear and higher shifting effort.



Maintenance Schedule

Normal Conditions:

Follow the Normal Conditions Maintenance Schedule if the severe driving conditions specified in the Severe Conditions Maintenance Schedule on page 4-5 do not apply.

Service at the indicated distance or time whichever comes first.	Every 10,000 km (6,000 miles) or 12 months															
	X 1,000 km				X 1,000 miles				X months							
	20	40	60	80	100	120	140	160	180	200	12	24	36	48	60	72
Replace engine oil	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Replace engine oil filter	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Replace air cleaner element		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Inspect valve clearance		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Replace fuel filter		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Replace spark plugs		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Replace timing belt, timing balancer belt, and inspect water pump					●	●	●	●	●	●	●	●	●	●	●	●
Inspect and adjust drive belts		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Inspect idle speed					●	●	●	●	●	●	●	●	●	●	●	●
Replace engine coolant					●	●	●	●	●	●	●	●	●	●	●	●
Replace transmission fluid (○: Inspect)		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Inspect front and rear brakes	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Replace brake fluid [including ABS]			●	●	●	●	●	●	●	●	●	●	●	●	●	●
Check parking brake adjustment	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Check lights alignment	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Test drive (noise, stability, dashboard operations)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Visually inspect the following items:																
Tie-rod ends, steering gear box, and boots																
Suspension components																
Driveshaft boots																
Brake hoses and lines [including ABS]	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Exhaust system																
Fuel lines and connections																
Tyre condition																
Inspect supplemental restraint system																
Inspect system 10 years after first registration																

*1: KS model only.



Severe Conditions:

Follow the Severe Conditions Maintenance Schedule if the car is driven MAINLY under one or more of the Severe Driving Conditions

Service at the indicated distance or time whichever comes first.	X 1,000 km	20	40	60	80	100	120	140	160	180	200
	X 1,000 miles	12	24	36	48	60	72	84	96	108	120
	X months	12	24	36	48	60	72	84	96	108	120
		Every 5,000 km (3,000 miles) or 6 months									
Replace engine oil and oil filter		●	●	●	●	●	●	●	●	●	●
Replace air cleaner element — Use normal schedule except in dusty conditions			●	●	●	●	●	●	●	●	●
Inspect valve clearance			●	●	●	●	●	●	●	●	●
Replace fuel filter			●	●	●	●	●	●	●	●	●
Replace spark plugs			●	●	●	●	●	●	●	●	●
		Every 45,000 km (28,000 miles) *1									
Replace timing belt, timing balancer belt, and inspect water pump			●	●	●	●	●	●	●	●	●
Inspect and adjust drive belts			●	●	●	●	●	●	●	●	●
Inspect idle speed						●					
Replace engine coolant					●	●	●	●	●	●	●
Replace transmission fluid			●	●	●	●	●	●	●	●	●
Inspect front and rear brakes		Every 10,000 km (6,000 miles) or 6 months									
Replace brake fluid [including ABS]			●	●	●	●	●	●	●	●	●
Check parking brake adjustment		●	●	●	●	●	●	●	●	●	●
Check lights alignment		●	●	●	●	●	●	●	●	●	●
Test drive (noise, stability, dashboard operations)		●	●	●	●	●	●	●	●	●	●
Visually inspect the following items:											
Tie-rod ends, steering gear box, and boots		Every 10,000 km (6,000 miles) or 6 months									
Suspension components			●	●	●	●	●	●	●	●	●
Driveshaft boots			●	●	●	●	●	●	●	●	●
Brake hoses and lines [including ABS]			●	●	●	●	●	●	●	●	●
Exhaust system			●	●	●	●	●	●	●	●	●
Fuel lines and connections		●	●	●	●	●	●	●	●	●	●
Tyre condition			●	●	●	●	●	●	●	●	●
Inspect supplemental restraint system		Inspect system 10 years after first registration									

*1: KS model only.

Severe Driving Conditions:

- Driving less than 8 km (5 miles) per trip or, in freezing temperatures, driving less than 16 km (10 miles) per trip.
- Driving in extremely hot (over 90°F (32°C)) conditions.
- Extensive idling or long periods of stop-and-go driving.
- Trailer towing, driving with a car-top carrier, or driving in mountainous conditions.
- Driving on muddy, dusty, or de-iced roads.

NOTE: If the car is driven OCCASIONALLY under a "severe" condition, you should follow the Normal Conditions Maintenance Schedule on pages 4-4.

Engine

Engine Removal/Installation	5-1
Cylinder Head/Valve Train	6-1
Engine Block	7-1
Engine Lubrication	8-1
Intake Manifold/Exhaust System	9-1
Cooling	10-1



Engine Removal/Installation

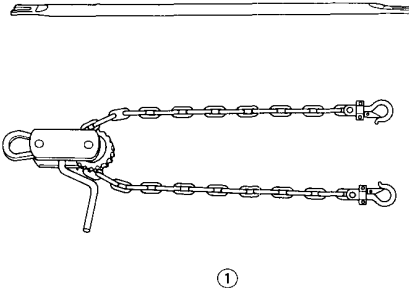
Special Tools	5-2
Engine Removal/Installation	5-3



Outline of Model Change

- F22Z2 engine has been adopted.

Special Tools

Ref. No.	Tool Number	Description	Qty	Page Reference
①	07KAK – SJ40101	Engine Tilt Hanger Set	1	5-9
<div></div>				

Engine Removal/Installation



⚠ WARNING

- Make sure jacks and safety stands are placed properly and hoist brackets are attached to the correct positions on the engine.
- Make sure the car will not roll off stands and fall while you are working under it.

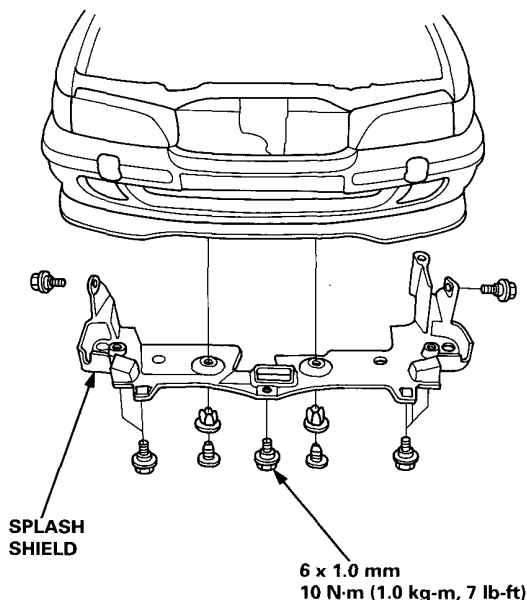
CAUTION:

- Use fender covers to avoid damaging painted surfaces.
- Unspecified items are common.
- Unplug the wiring connectors carefully while holding the connector portion to avoid damage.
- Mark all wiring and hoses to avoid misconnection. Also, be sure that they do not contact other wiring or hoses, or interfere with other parts.

1. Secure the hood as far open as possible.
2. Disconnect the battery negative terminal first, then the positive terminal.
3. Remove the radiator cap.

⚠ WARNING Use care when removing the radiator cap to avoid scalding by hot coolant or steam.

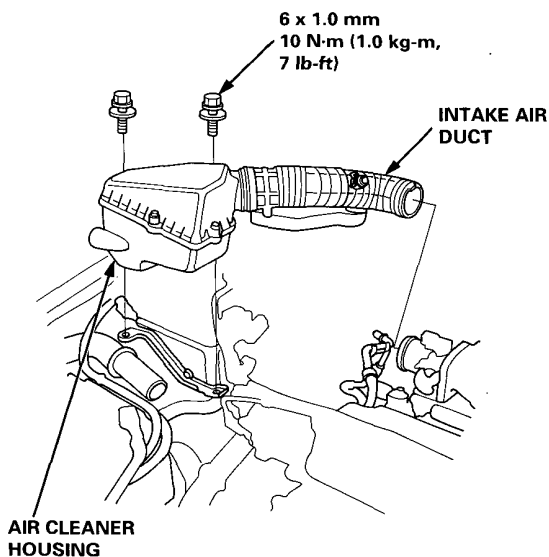
4. Raise the hoist to full height.
5. Remove the front wheels and the splash shield.



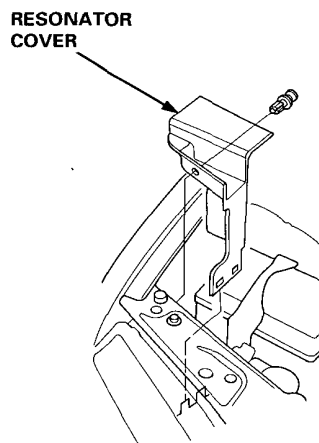
6. Loosen the drain plug from the radiator.
7. Drain the transmission oil or fluid. Reinstall the drain plug using a new washer.
8. Drain the engine oil. Reinstall the drain bolt using a new washer.

CAUTION: Do not overtighten the drain bolt.

9. Lower the hoist.
10. Remove the intake air duct and air cleaner housing.



11. Remove the resonator cover.

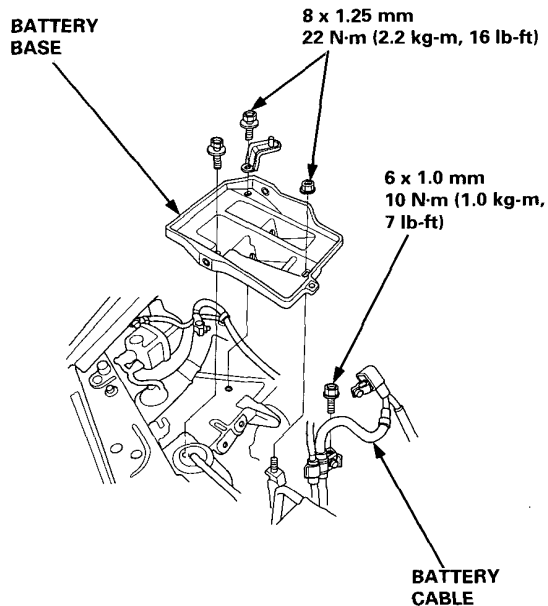


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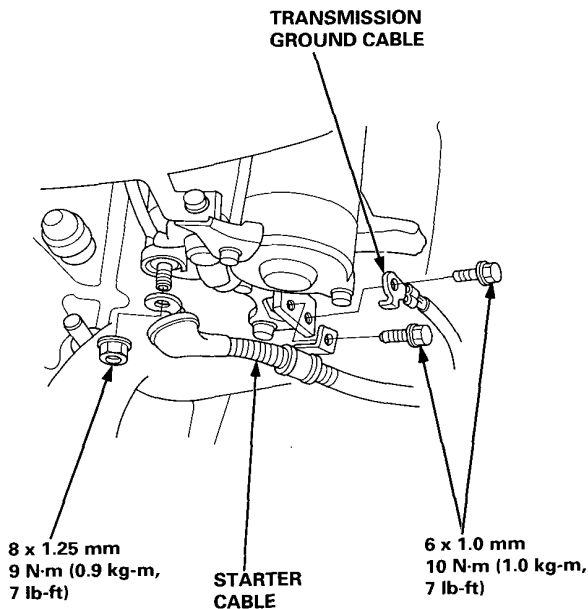
Engine Removal/Installation

(cont'd)

12. Remove the battery, battery cable and battery base.



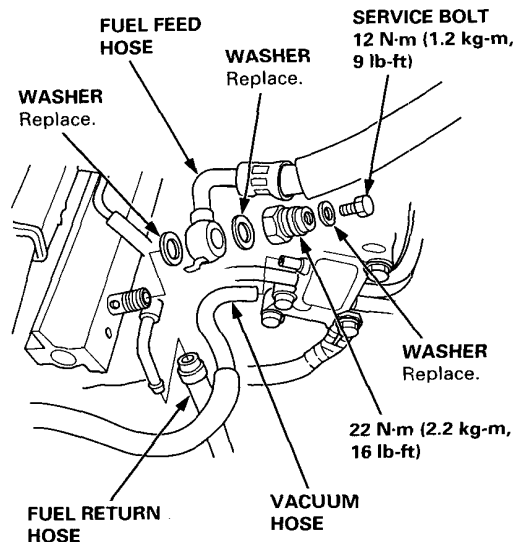
13. Remove the starter cable and transmission ground cable.



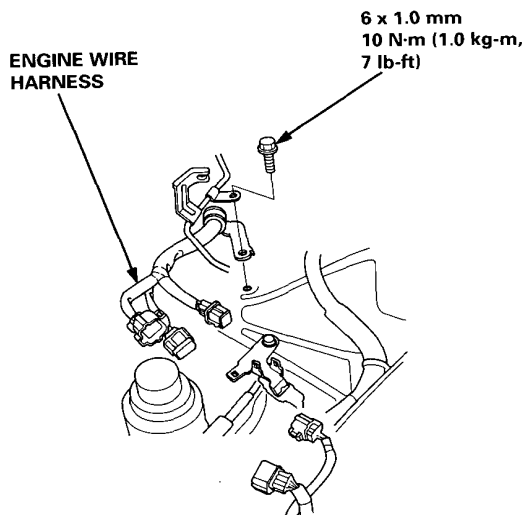
14. Relieve fuel pressure by slowly loosening the service bolt on the fuel rail about one turn.

⚠ WARNING Do not smoke while working on fuel system. Keep open flame or spark away from work area. Drain fuel only into an approved container.

15. Remove the fuel feed hose, fuel return hose and vacuum hose.



16. Disconnect the engine wire harness connectors on the left side of the engine compartment.

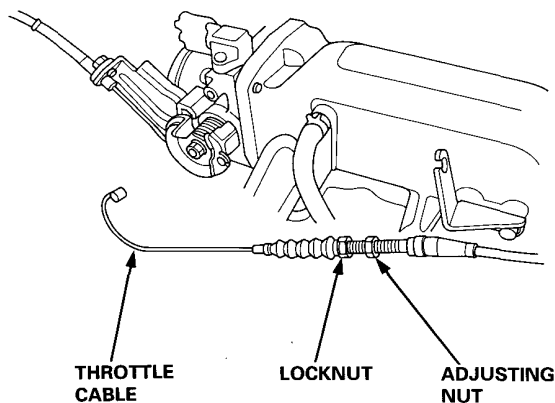




17. Remove the throttle cable by loosen the locknut, then slip the cable end out of the throttle linkage.

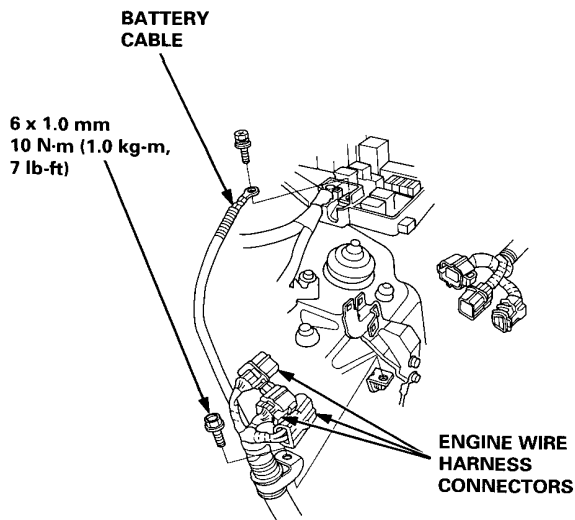
NOTE:

- Take care not to bend the cable when removing it. Always replace any kinked cable with a new one.
- Adjust the throttle cable when installing.

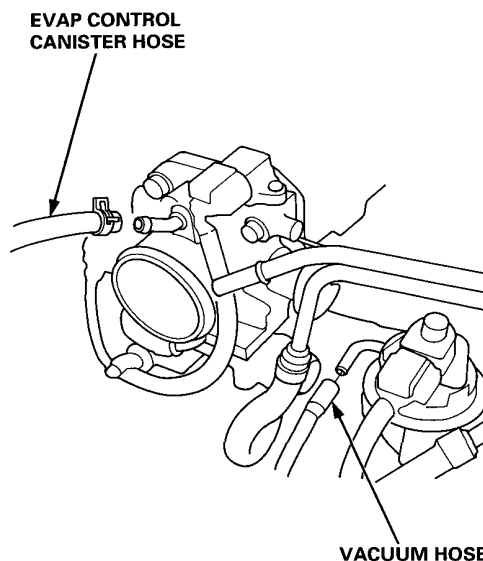


18. Disconnect the engine wire harness connectors on the right side of the engine compartment.

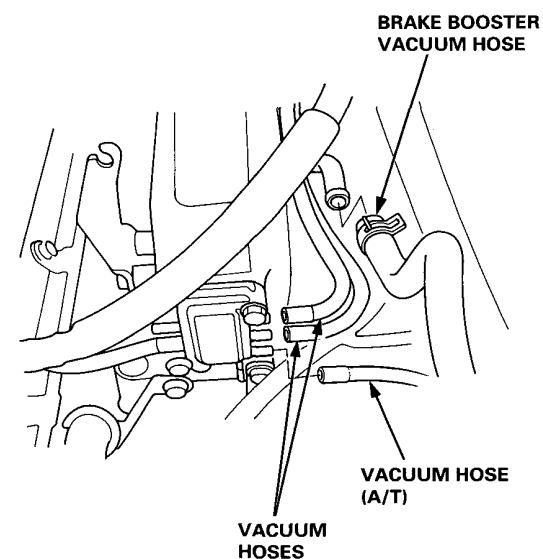
19. Remove the battery cable from the under-hood fuse/relay box.



20. Remove the evaporative emission (EVAP) control canister hose and vacuum hose.



21. Remove the brake booster vacuum hose and vacuum hoses.

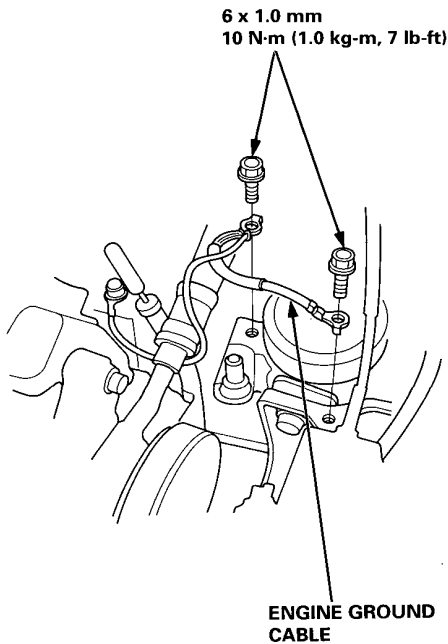


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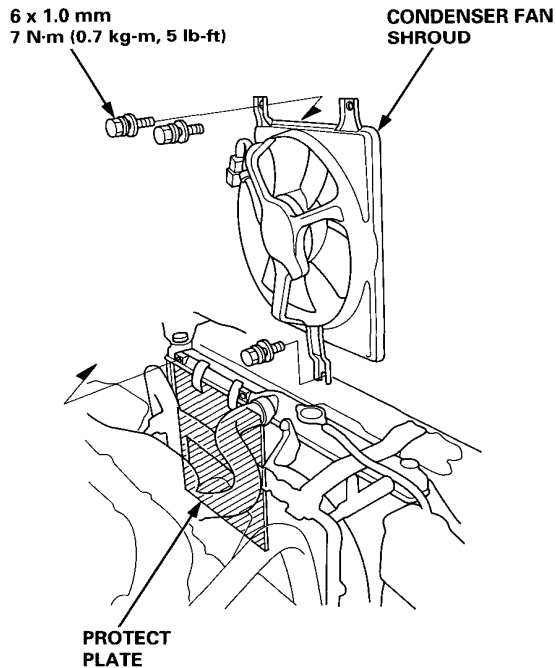
Engine Removal/Installation

(cont'd)

22. Remove the engine ground cable.

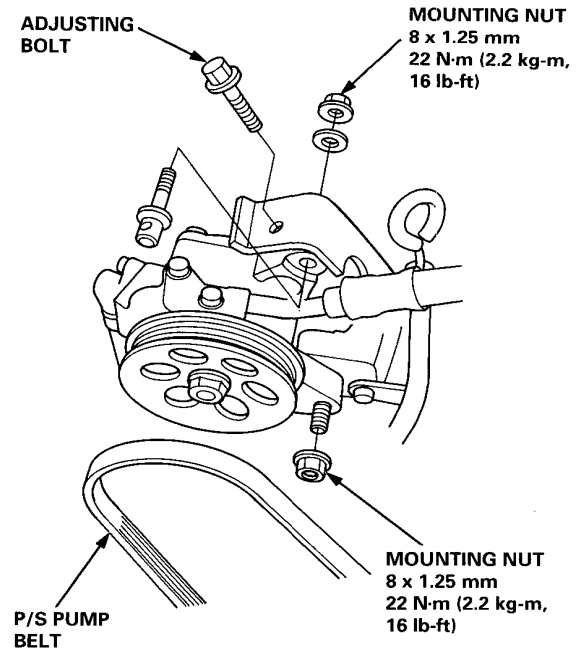


23. Remove the condenser fan shroud, then install a protect plate to the radiator.

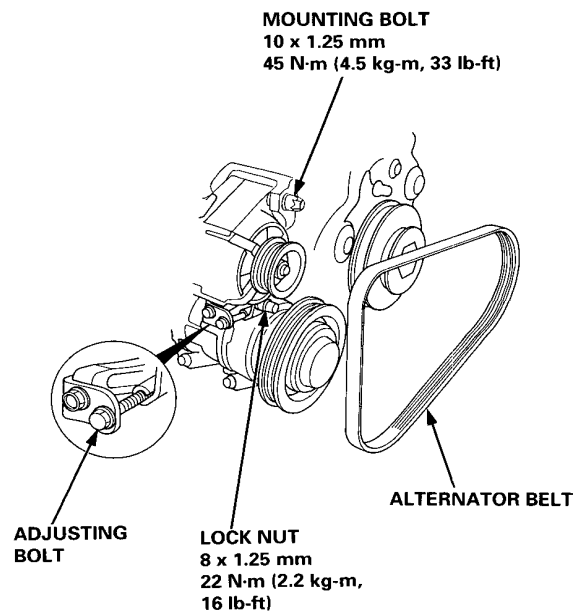


24. Remove the adjusting bolt and mounting nuts, then remove the power steering (P/S) pump belt and pump.

NOTE: Do not disconnect the P/S hoses.



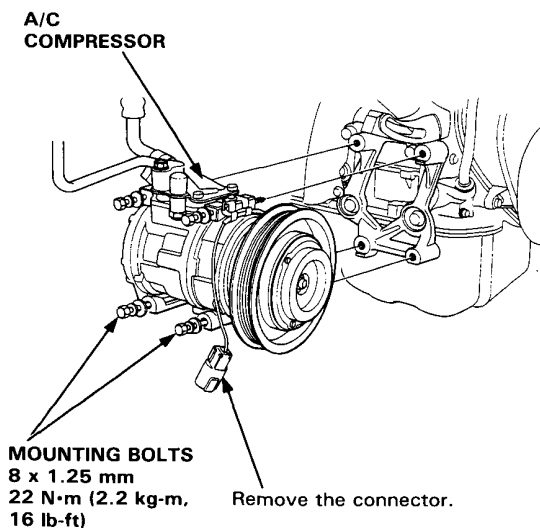
25. Loosen the adjusting bolt, locknut and mounting bolt, then remove the alternator belt.



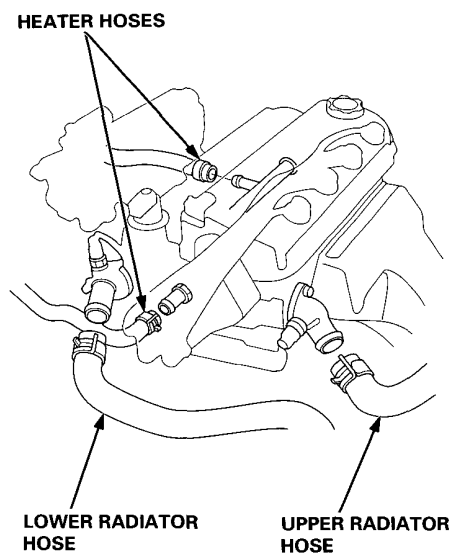


26. Remove the air conditioning (A/C) compressor.

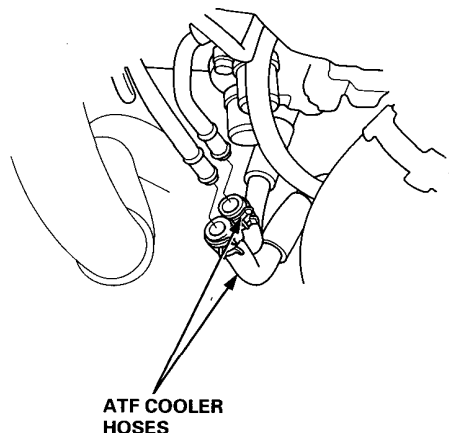
NOTE: Do not disconnect the A/C hoses.



27. Remove the upper and lower radiator hoses and heater hoses.

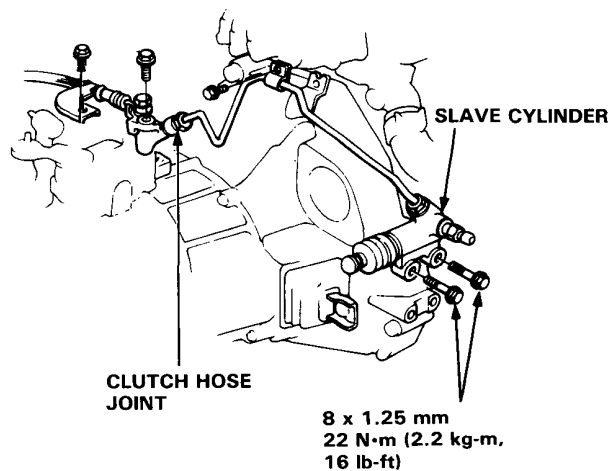


28. Remove the automatic transmission fluid (ATF) cooler hoses.



29. Remove the clutch damper assembly (M/T).

NOTE: Take care, not to bend the pipe.



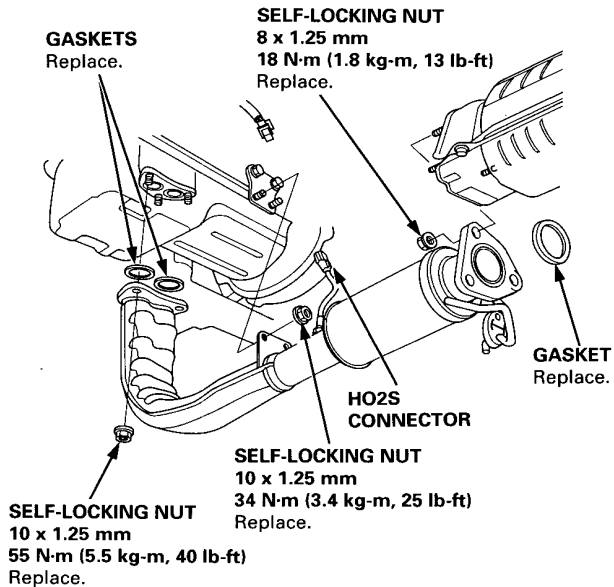
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Engine Removal/Installation

(cont'd)

30. Raise the hoist to full height.

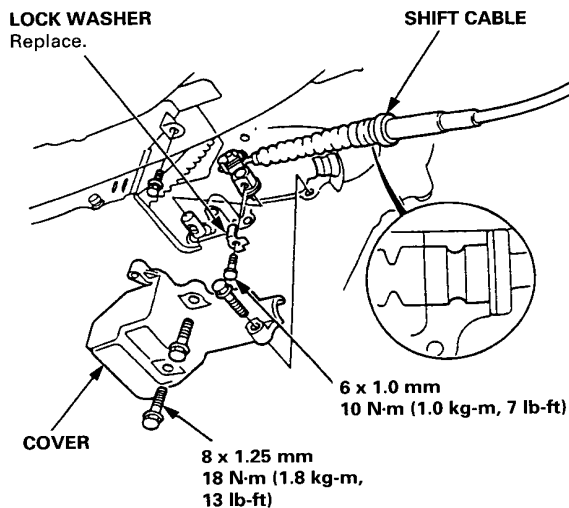
31. Disconnect the heated oxygen sensor (HO2S) connector, then remove exhaust pipe A.



32. Remove the shift cable (A/T).

NOTE:

- Take care not to bend the cable when removing it. Always replace any kinked cable with a new one.
- Adjust the shift cable when installing.



33. Remove the damper forks.

CAUTION: Replace the self-locking bolts if you can easily thread a non-self-locking nut past their nylon locking inserts (It should require 1 N·m (0.1 kg-m, 0.7 lb-ft) of torque to turn the nut on the bolt).

34. Disconnect the suspension lower arm ball joints.

35. Remove the driveshafts.

CAUTION: Take care not to damage the oil seal when removing the driveshaft.

36. Swing the driveshaft under the fender.

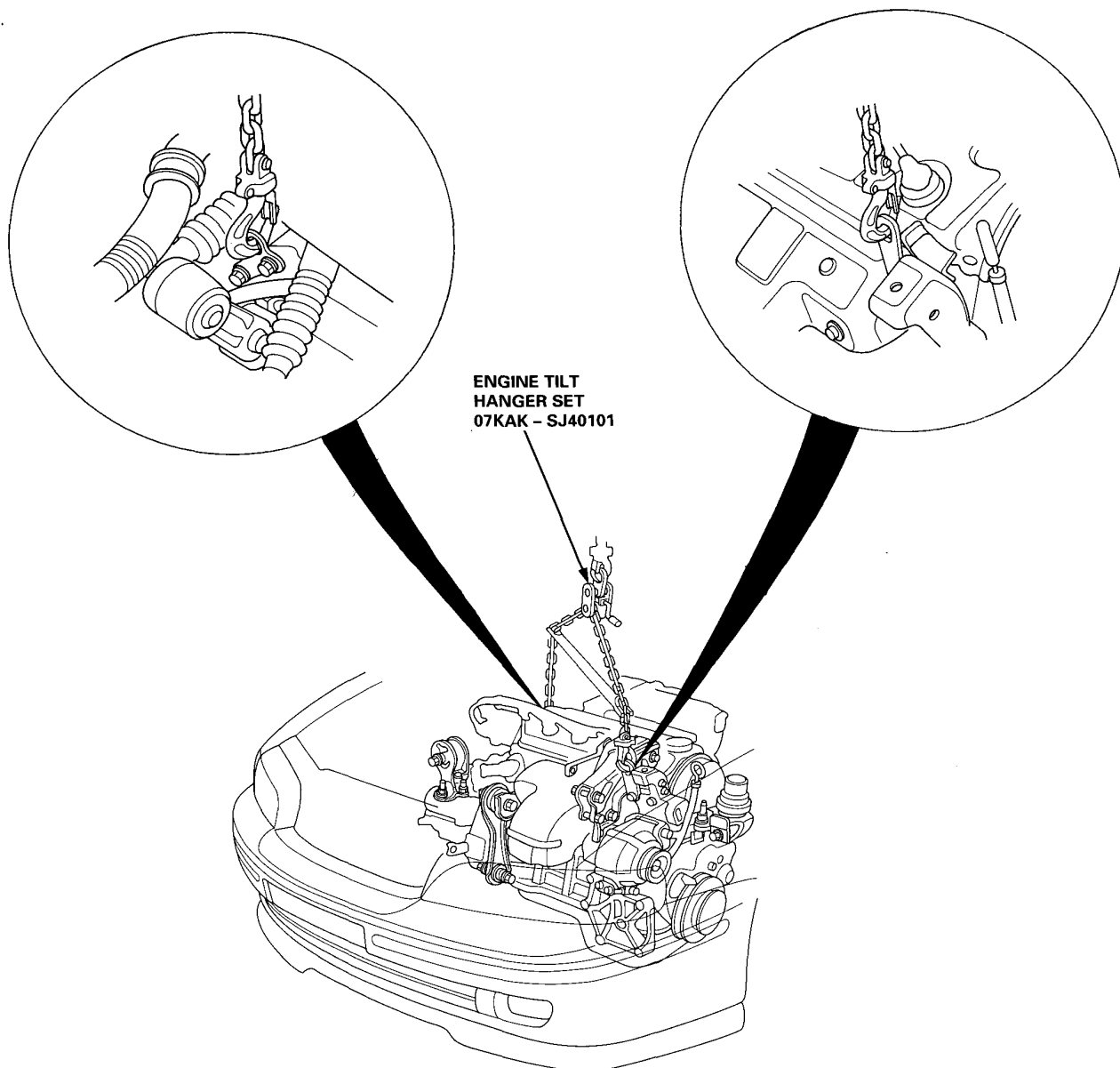
NOTE:

- Coat all precision-finished surface with clean engine oil.
- Tie plastic bags over the driveshaft ends.



37. Lower the hoist.

38. Attach the chain hoist to the engine.

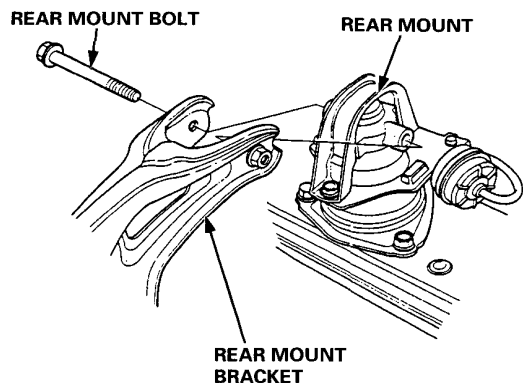


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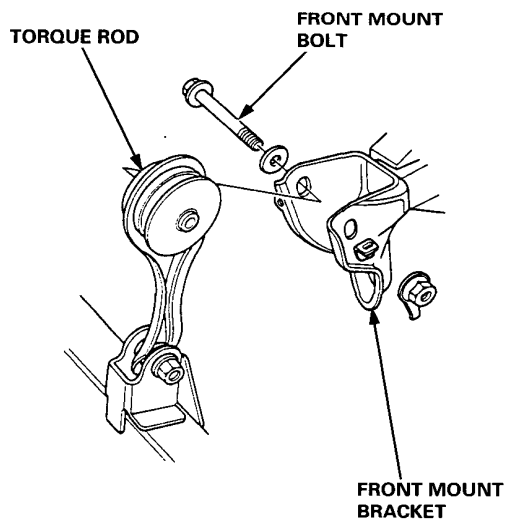
Engine Removal/Installation

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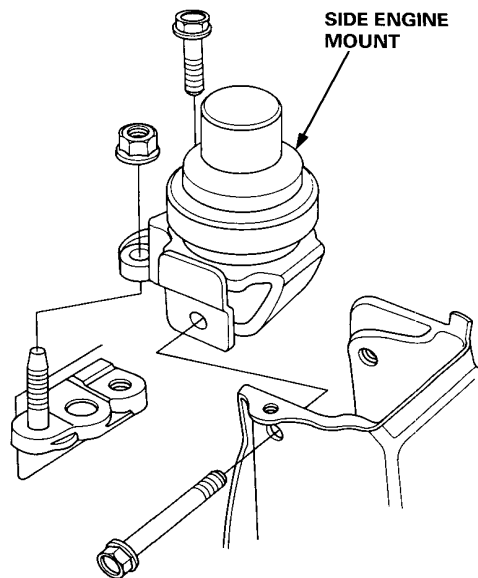
39. Remove the rear mount bolt.



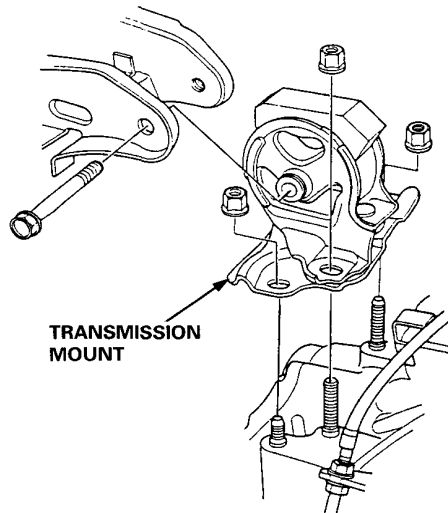
40. Remove the front mount bolt.



41. Remove the side engine mount.



42. Remove the transmission mount.

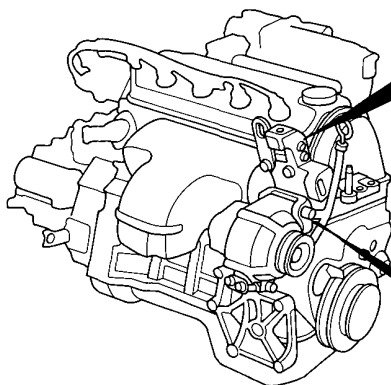
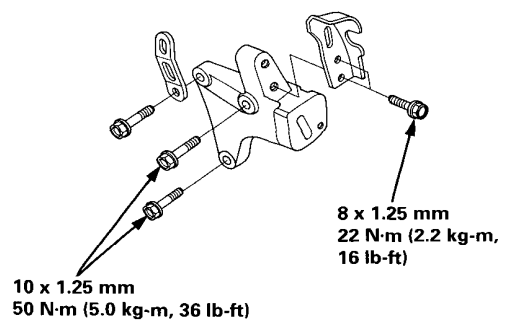


43. Raise the chain hoist to remove all slack from the chain.
44. Check that the engine is completely free of vacuum hoses, fuel and coolant hoses and electrical wiring.
45. Slowly raise the engine approximately 150 mm (6 in). Check once again that all hoses and wires have been disconnected from the engine.
46. Raise the engine all the way and remove it from the car.

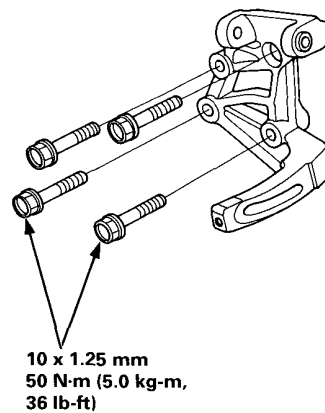


Bracket Bolts/Nuts Torque Value Specifications;

P/S PUMP BRACKET



ALTERNATOR BRACKET



Cylinder Head/Valve Train

Special Tools	6-2	Cylinder Head	
Variable Valve Timing and Valve Lift		Illustrated Index	6-20
Electronic Control (VTEC) Solenoid Valve		Removal	6-22
Troubleshooting Flowchart	6-3	Installation	6-29
Inspection	6-5	Rocker Arm Assembly	
VTEC Rocker Arms		Removal	6-25
Manual Inspection	6-6	Rocker Arms	
Inspection Using Special Tools	6-6	Overhaul	6-26
Valve Clearance		Inspection	6-27
Adjustment	6-9	Lost Motion Assemblies	
Crankshaft Pulley and Pulley Bolt		Inspection	6-27
Replacement	6-11	Camshaft/Rocker Arms and	
Timing Belt and Timing Balancer Belt		Camshaft Seal/Pulley	
Illustrated Index	6-12	Installation	6-28
Timing Belt Inspection	6-13	Cylinder Head Cover	
Timing Balancer Belt Inspection	6-13	Installation	6-31
Tension Adjustment	6-14		
Removal	6-15		
Installation	6-17		



Outline of Model Changes

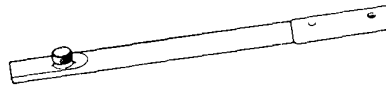
- F22Z2 engine has been adopted. Compare to F20Z1 engine main difference are:
 - VTEC control system.
 - Rocker arms.
- The procedure for installing the cylinder head cover has been changed.

Special Tools

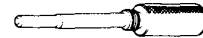
Ref. No.	Tool Number	Description	Qty	Page Reference
①	07JAA - 0010200	Socket Wrench, 19 mm	1	6-11
②	07JAB - 0010200	Handle	1	6-11
③	07LAG - PT20100	Balancer Shaft Lock Pin	1	6-18
④	07LAJ - PR30101	Valve Inspection Set	1	6-7
⑤	07LAJ - PR30201	Air Stopper	1	6-6, 7
⑥	07MAB - PY30100	Pulley Holder Attachment, HEX 50 mm	1	6-11
⑦	07NAJ - P070100	Oil Pressure Gauge Attachment	1	6-4
⑧	07406 - 0070001	Low Pressure Gauge	1	6-4



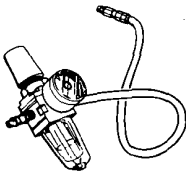
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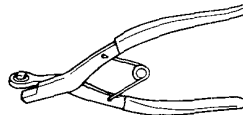
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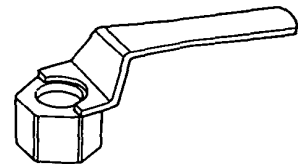
③



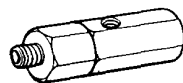
④



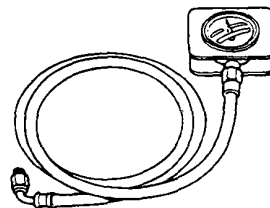
⑤



⑥



⑦



⑧

Variable Valve Timing and Valve Lift Electronic Control (VTEC) Solenoid Valve



Troubleshooting Flowchart



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 21: A problem in the VTEC Solenoid Valve circuit.

Refer to page 11-8 through 11-12 before troubleshooting.

- The MIL has been reported on.
- With the SCS short connector connected, code 21 is indicated.

Check the VTEC Control System:

1. Do the engine control module (ECM) Reset Procedure.
2. Start the engine.
3. Warm up engine to normal operating temperature (the radiator fan comes on).
4. Do the Road Test.*

* Road Test:

Accelerate in 1st gear to an engine speed over 4,000 min⁻¹ (rpm). Hold that engine speed for at least two seconds. If the MIL does not come on during the first road test, repeat this test two more times.

Is MIL on and does it indicate code 21?

NO

Intermittent failure, system is OK at this time.
Check for poor connections or loose wires at VTEC solenoid valve and ECM.

YES

Test the VTEC Solenoid Valve:

1. Turn the ignition switch OFF.
2. Disconnect the VTEC solenoid valve connector.
3. Check for continuity between VTEC solenoid valve connector terminal and body ground.

Is there 14 – 30 Ω?

NO

Replace the VTEC solenoid valve.

YES

Test the VTEC Solenoid Valve Wire:

Check for continuity between VTEC solenoid valve connector terminal and A15 terminal on the ECM connector.

Is there continuity?

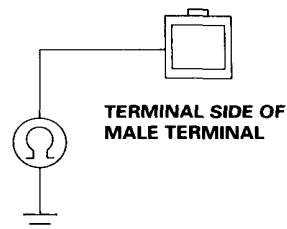
NO

Repair open in the GRN/YEL wire between the ECM (A15) and VTEC solenoid valve connector.

YES

(To page 6-4)

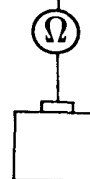
VTEC SOLENOID VALVE CONNECTOR



ECM CONNECTOR A (26P)

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	/	/	/	/	/	/	23	/	25	26

VTS (GRN/YEL)



VTEC SOLENOID VALVE CONNECTOR

WIRE SIDE OF FEMALE TERMINALS

(cont'd)

Variable Valve Timing and Valve Lift Electronic Control (VTEC) Solenoid Valve

Troubleshooting Flowchart (cont'd)

(From page 6-3)

Test the VTEC Solenoid Valve Wire:

Check for continuity between VTEC solenoid valve connector terminal and body ground.

Is there continuity?

YES

Repair short in the GRN/YEL wire between the ECM (A15) and VTEC solenoid valve connector.

NO

Test the VTEC Solenoid Valve:

1. Connect the VTEC solenoid valve connector.
2. Remove the 10 mm bolt, and install the special tools as shown, then reinstall the 10 mm bolt.
3. Connect a tachometer.
4. Start the engine.
5. Warm up engine to normal operating temperature (the radiator fan comes on).
6. Check oil pressure at engine speeds of 1,000, 2,000 and 4,000 min^{-1} (rpm).

NOTE: Keep measuring time as short as possible because engine is running with no load (less than one minute).

Is pressure below 50 kPa (0.5 kg/cm^2 , 7 psi)?

NO

Inspect the VTEC solenoid valve.

YES

Test the VTEC Solenoid Valve:

1. Turn the ignition switch OFF.
2. Disconnect the VTEC solenoid valve connector.
3. Attach the battery positive terminal to the GRN/YEL terminal.
4. Start the engine and check oil pressure at an engine speed of 3,000 min^{-1} (rpm).

Is pressure above 250 kPa (2.5 kg/cm^2 , 36 psi)?

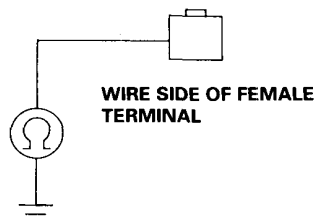
NO

Inspect the VTEC solenoid valve.

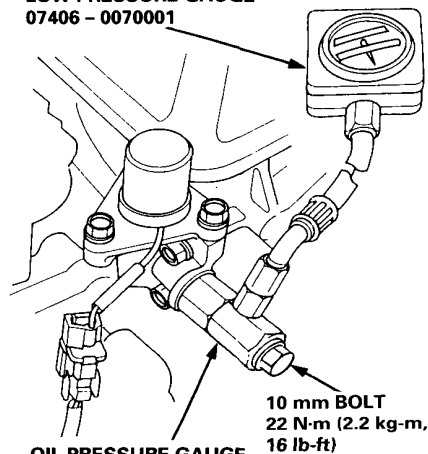
YES

Substitute a known-good ECM and recheck. If symptom/indication goes away, replace the original ECM.

VTEC SOLENOID VALVE CONNECTOR

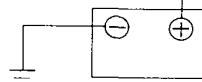
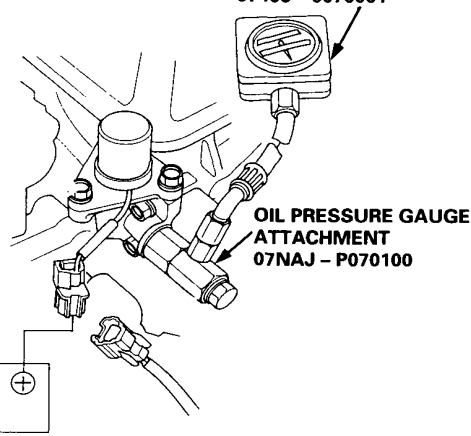


LOW PRESSURE GAUGE 07406 - 0070001



OIL PRESSURE GAUGE ATTACHMENT 07NAJ - P070100

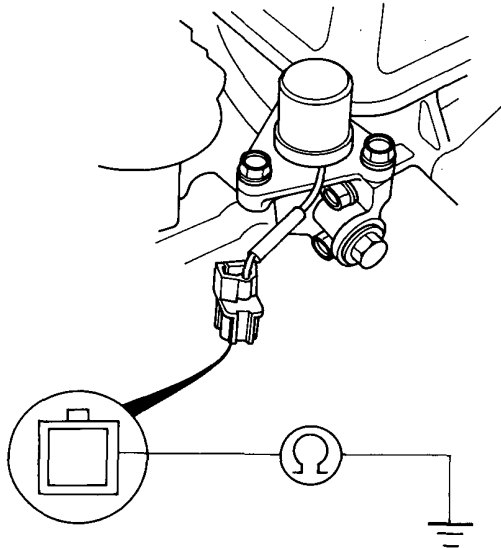
LOW PRESSURE GAUGE 07406 - 0070001



Inspection

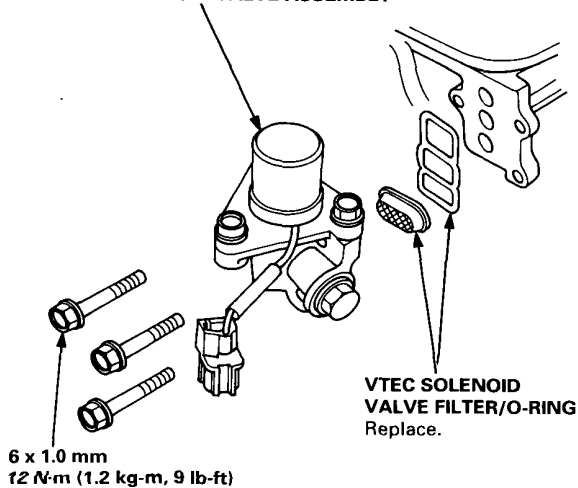
1. Disconnect the 1P connector from the VTEC solenoid valve.
2. Measure resistance between the terminal and body ground.

Resistance: 14 – 30 Ω

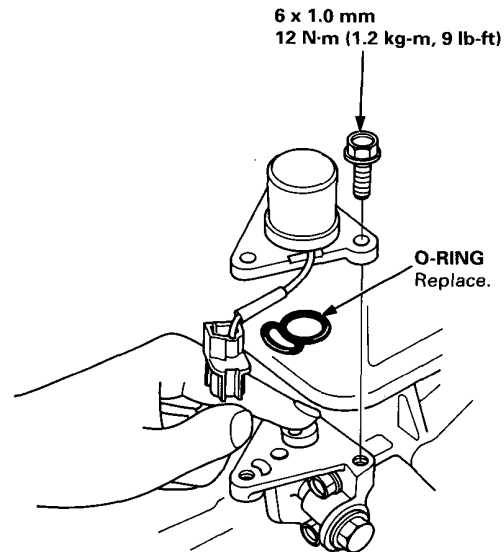


3. If the resistance is within specifications, remove the VTEC solenoid valve assembly from the cylinder head, and check the VTEC solenoid valve filter/O-ring for clogging.
 - If there is clogging, replace the engine oil filter and the engine oil.

VTEC SOLENOID VALVE ASSEMBLY



4. If the filter is not clogged, push the VTEC solenoid valve with your finger and check its movement.
 - If the VTEC solenoid valve is normal, check the engine oil pressure.

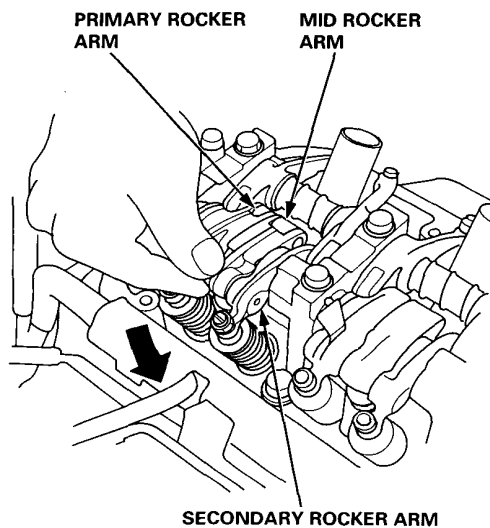


VTEC Rocker Arms

Manual Inspection

1. Set the No. 1 piston at TDC.
2. Remove the cylinder head cover.

NOTE: Refer to pages 6-31, 32 when installing cylinder head cover.
3. Push the intake mid rocker arm on the No. 1 cylinder manually.
4. Check that the intake mid rocker arm moves independently of the primary and secondary intake rocker arms.



5. Check the intake mid rocker arm of each cylinder at TDC.
 - If the intake mid rocker arm does not move, remove the mid, primary and secondary intake rocker arms as an assembly, and check that the pistons in the mid and primary rocker arms move smoothly.
 - If any rocker arm needs replacing, replace the primary, mid, and secondary rocker arms as an assembly.

Inspection Using Special Tools

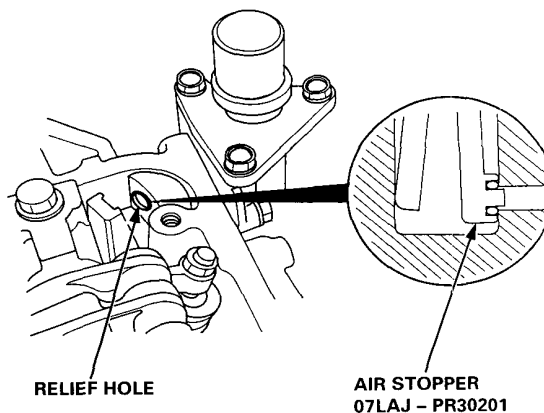
CAUTION:

- Before using the Valve Inspection Tool, make sure that the air pressure gauge on the air compressor indicates over 400 kPa (4 kg/cm², 57 psi).
- Inspect the valve clearance before rocker arm inspection.
- Cover the timing belt with a shop towel to protect the belt.
- Check the intake primary rocker arm of each cylinder at TDC.

1. Remove the cylinder head cover.

NOTE: Refer to pages 6-31, 32 when installing cylinder head cover.

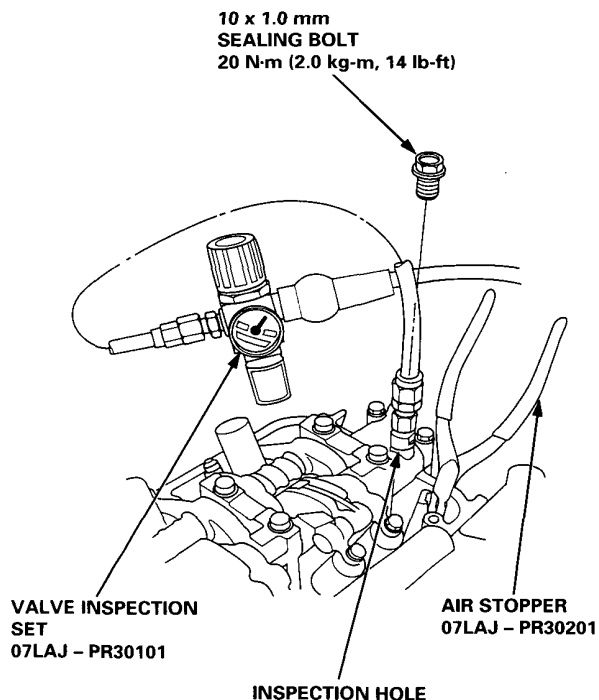
2. Plug the relief hole with the special tool.





3. Remove the sealing bolt from the inspection hole, and connect the special tool.

NOTE: Remove any oil the bolt threads and camshaft holder threads before retightening the sealing bolt.



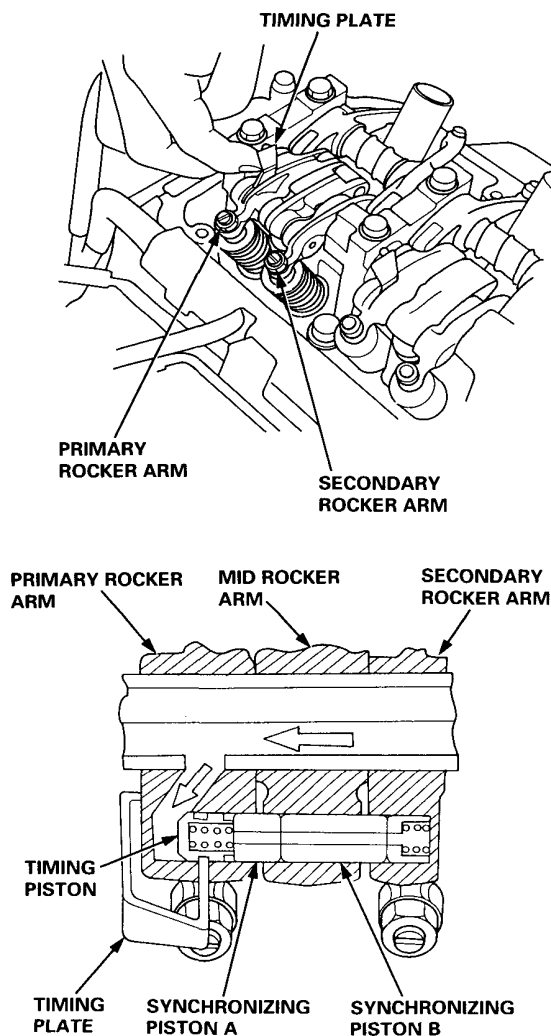
4. Loosen the regulator valve on the valve inspection set and apply the specified air pressure to the rocker arm synchronizing piston A/B.

Specified Air Pressure:
400 kPa (4 kg/cm², 57 psi)

5. With the specified air pressure applied, push up the timing plate 2 – 3 mm (0.08 – 0.12 in) at plate end; the synchronizing piston will pop out and engage the intake mid, primary and secondary rocker arms. Visually check the engagement of the synchronizing piston A/B.

NOTE:

- The synchronizing piston can be seen in the gap between the mid, secondary and primary rocker arms.
- With the timing plate engaged in the groove on the timing piston, the piston is locked in the pushed out position.
- Do not apply too much force when pushing up the timing plate.

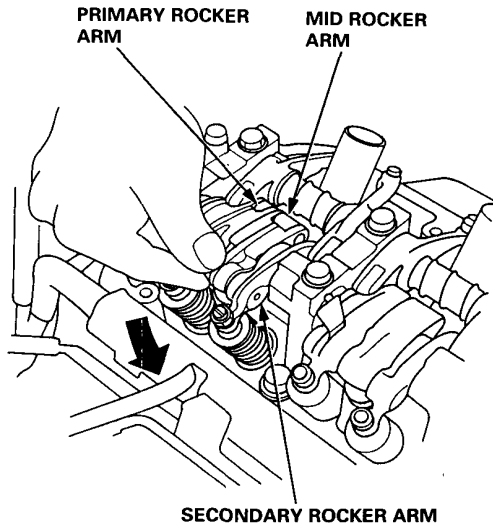


(cont'd)

VTEC Rocker Arms

Inspection Using Special Tools (cont'd)

6. Make sure that the intake primary and secondary rocker arms are mechanically connected by the piston and that the mid rocker arm does not move when pushed manually.

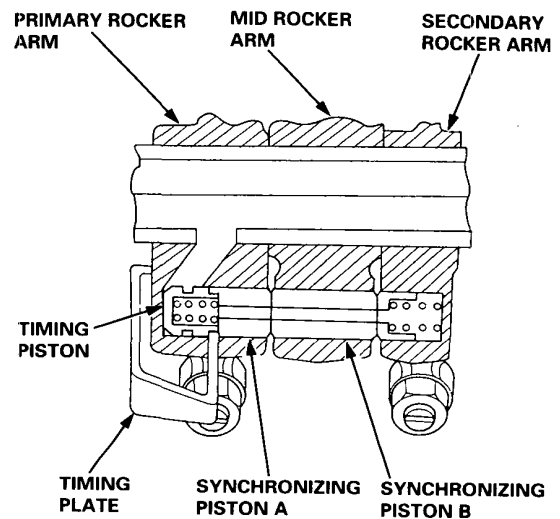


- If any intake mid rocker arm moves independently of the primary and secondary rocker arms, replace the rocker arms as a set.

7. Stop applying air pressure and push up the timing plate; the synchronizing pistons will snap back to its original position. Visually check the disengagement of the synchronizing pistons A/B.

NOTE:

- When the timing plate is pushed up, it releases the timing piston, letting the return spring move the synchronizing pistons to its original position.
- Replace the intake rocker arms as an assembly if either does not work correctly.



8. Remove the special tools.
9. Check for smooth operation of each lost motion assembly. It is compressed slightly when the intake mid rocker arm is lightly pushed and compressed deeply when the mid rocker arm is strongly pushed.
 - Replace the lost motion assembly if it does not move smoothly.
10. After inspection, check that the MIL does not come on.

Valve Clearance



Adjustment

NOTE:

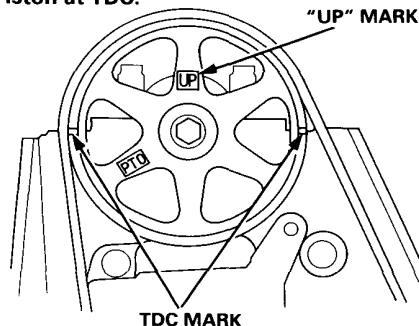
- Valves should be adjusted cold when the cylinder head temperature is less than 38°C (100°F).
- After adjusting, retorque the crankshaft pulley bolt to 250 N-m (25.0 kg-m, 181 lb-ft).

1. Remove the cylinder head cover.

NOTE: Refer to pages 6-31, 32 when installing cylinder head cover.

2. Set No. 1 piston at TDC. "UP" mark on the camshaft pulley should be at top, and TDC grooves on the camshaft pulley should align with back cover upper surface.

Number 1 Piston at TDC:

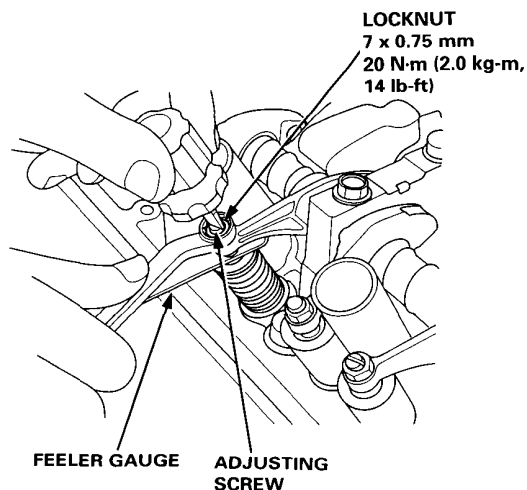


3. Adjust valves on No. 1 cylinder.

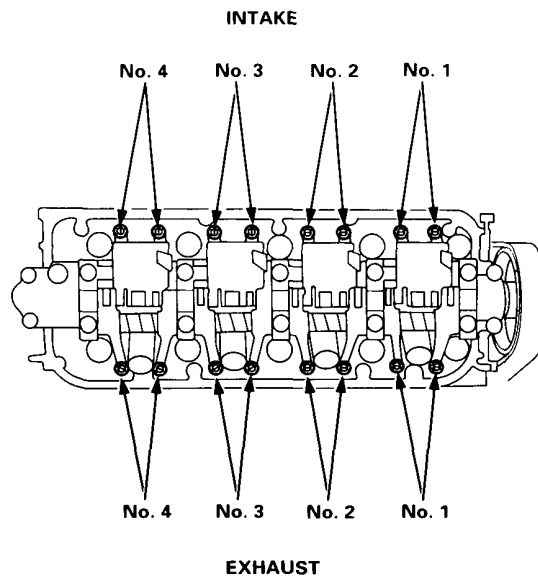
Intake: 0.26 mm (0.010 in) \pm 0.02 mm (0.0008 in)

Exhaust: 0.30 mm (0.012 in) \pm 0.02 mm (0.0008 in)

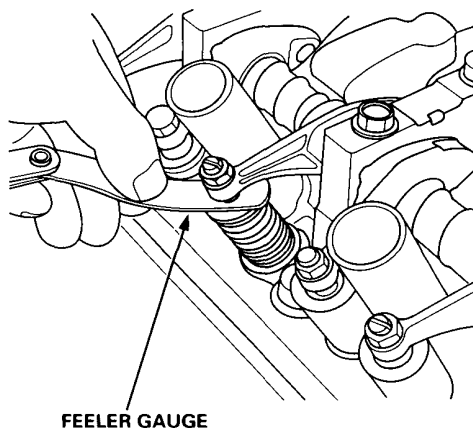
4. Loosen the locknut, and turn the adjusting screw until the feeler gauge slides back and forth with a slight amount of drag.



Adjusting screw location:



5. Tighten the locknut and check clearance again. Repeat adjustment if necessary.



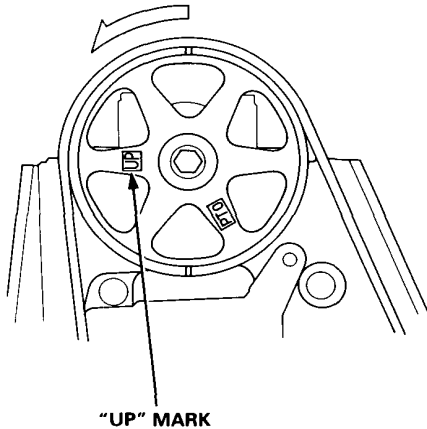
(cont'd)

Valve Clearance

Adjustment (cont'd)

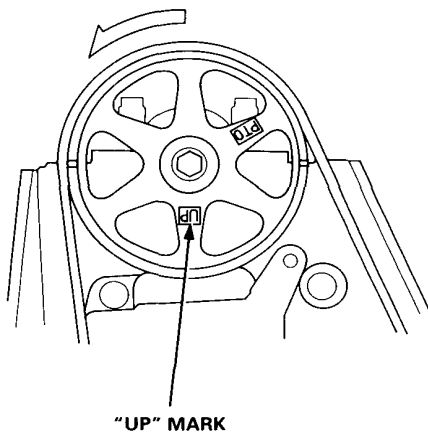
6. Rotate crankshaft 180° counterclockwise (Camshaft pulley turns 90°). The "UP" mark should be on the exhaust side. Adjust valves on No. 3 cylinder.

Number 3 Piston at TDC:



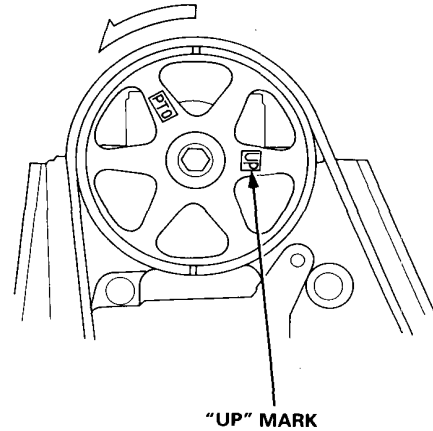
7. Rotate crankshaft 180° counterclockwise to bring No. 4 piston to TDC. Both TDC grooves are once again visible. Adjust valves on No. 4 cylinder.

Number 4 Piston at TDC:



8. Rotate crankshaft 180° counterclockwise to bring No. 2 piston to TDC. The "UP" mark should be on the intake side. Adjust valves on No. 2 cylinder.

Number 2 Piston at TDC:





Crankshaft Pulley and Pulley Bolt

Replacement

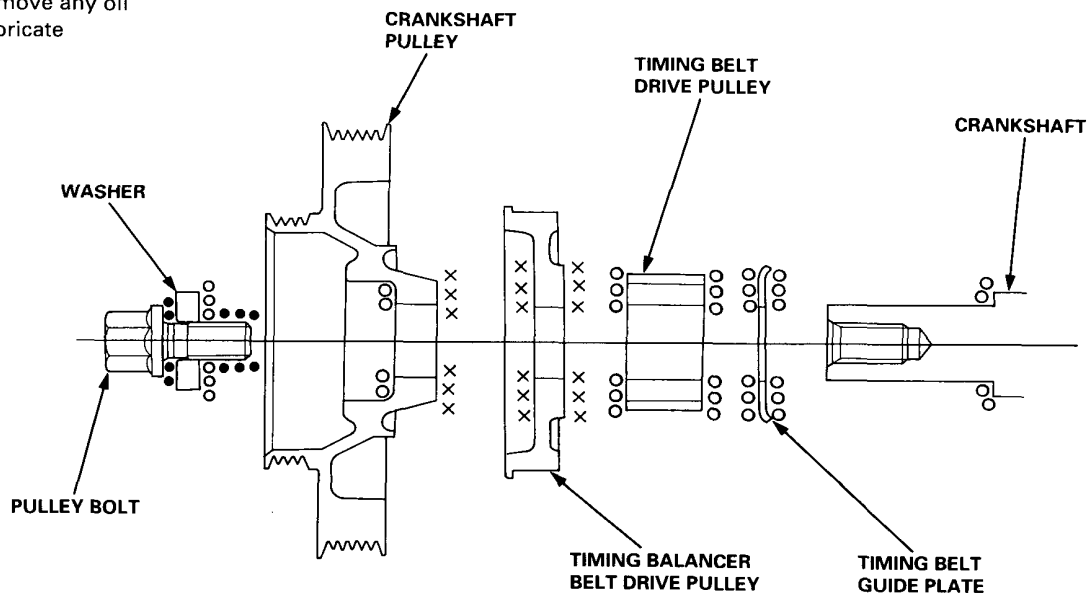
When installing and tightening the pulley, follow the procedure below.

Clean, remove any oil and lubricate points shown below.

○ : Clean

× : Remove any oil

● : Lubricate

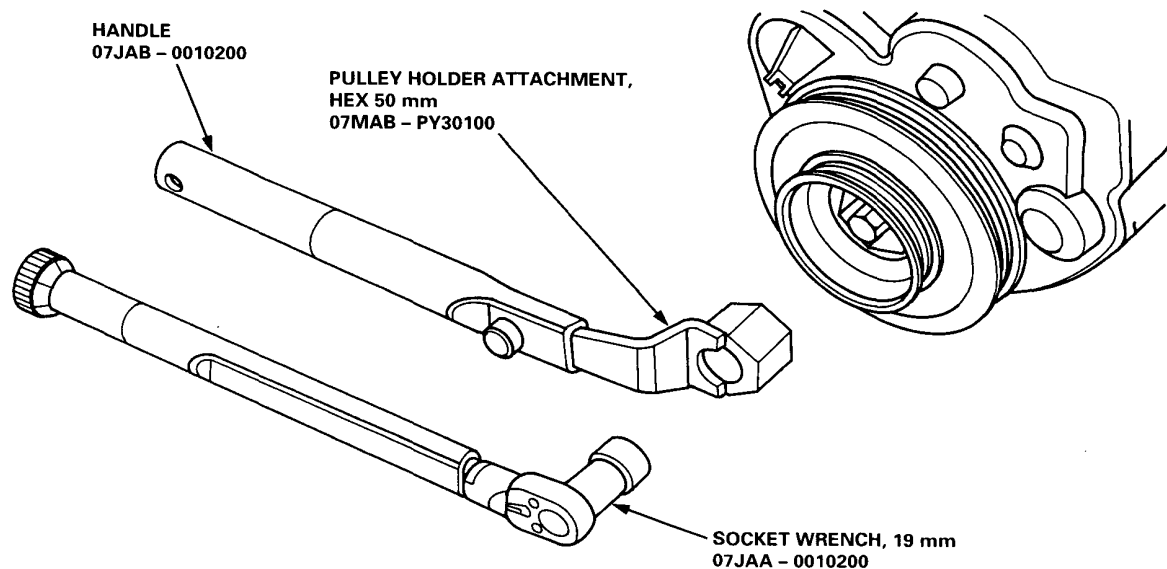


Crankshaft pulley bolt size and torque value:

16 x 1.5 mm

250 N·m (25.0 kg·m, 181 lb·ft)

NOTE: Do not use the impact wrench when installing.

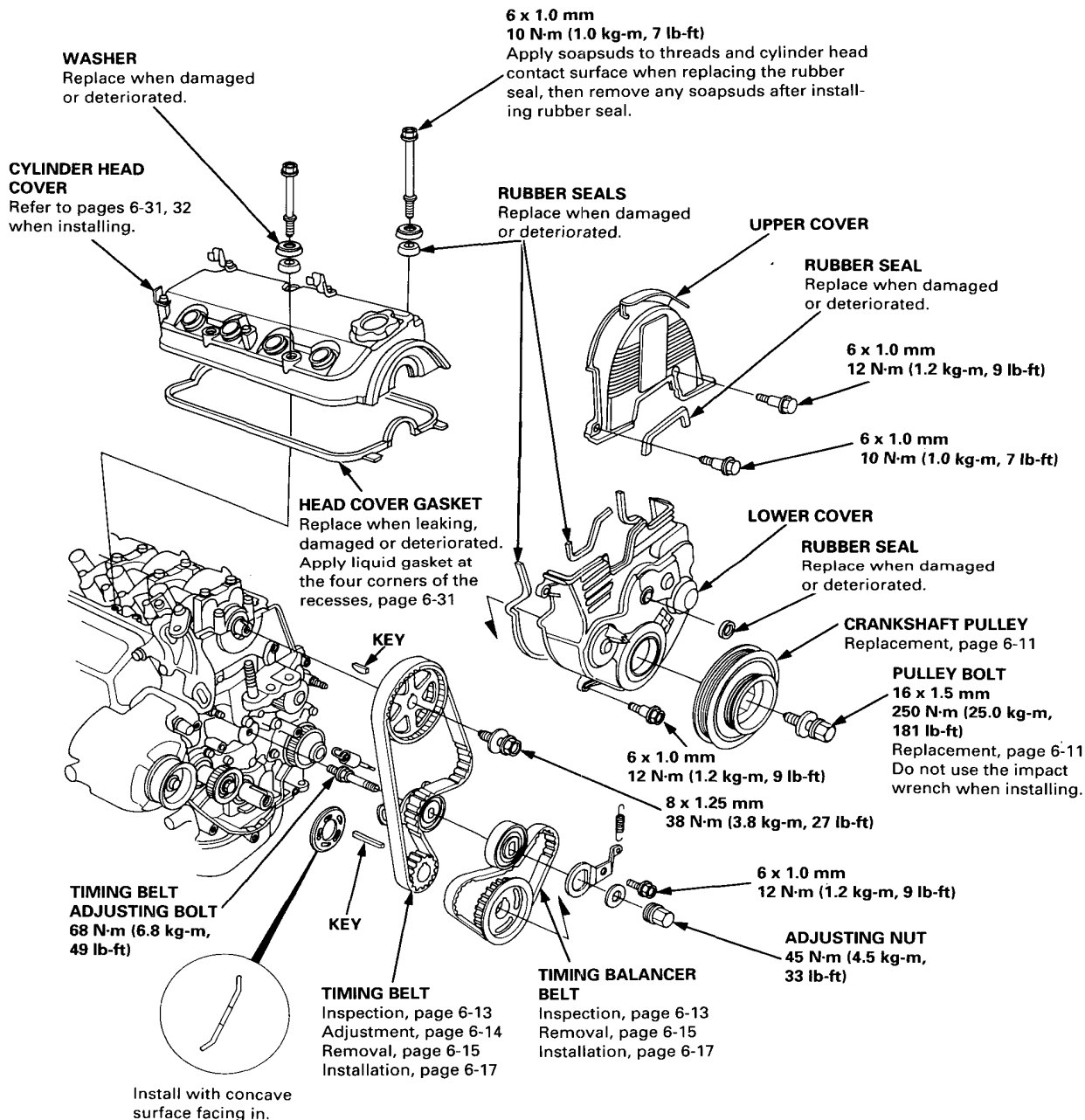


Timing Belt and Timing Balancer Belt

Illustrated Index

NOTE:

- Refer to page 6-17 for positioning crankshaft and pulley before installing the belt.
- Mark the direction of rotation on the belt before removing.
- Do not use the upper cover and lower cover for storing items disassembled.
- Clean the upper cover and lower cover before installing.
- Replace the camshaft seals and crankshaft seals if there is oil leakage.
- Refer to page 6-11 before installing timing belt and timing balancer belt.





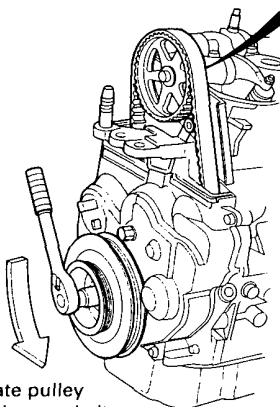
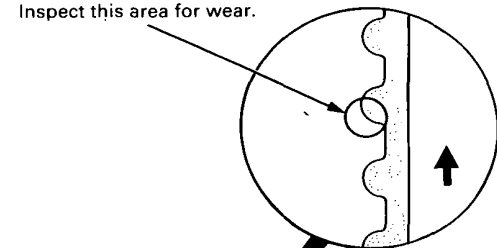
Timing Belt Inspection

1. Disconnect the battery negative terminal first, then the positive terminal.
2. Disconnect the alternator terminal and the connector, then remove the engine wire harness from the cylinder head cover.
3. Remove the cylinder head cover.
 - Refer to pages 6-31, 32 when installing.
4. Remove the upper cover.
5. Inspect the timing belt for cracks and oil or coolant soaking.

NOTE:

- Replace the belt if oil or coolant soaked.
- Remove any oil or solvent that gets on the belt.

Inspect this area for wear.



Rotate pulley and inspect belt.

6. After inspecting, retorque the crankshaft pulley bolt to 250 N·m (25.0 kg·m, 181 lb·ft).

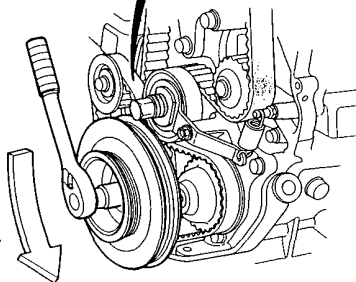
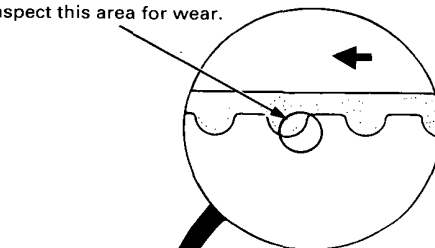
Timing Balancer Belt Inspection

1. Disconnect the battery negative terminal first, then the positive terminal.
2. Disconnect the alternator terminal and the connector, then remove the engine wire harness from the cylinder head cover.
3. Remove the cylinder head cover.
 - Refer to pages 6-31, 32 when installing.
4. Remove the upper cover.
5. Remove the crankshaft pulley.
6. Remove the lower cover.
7. Install the crankshaft pulley.
8. Inspect the timing balancer belt for cracks and oil or coolant soaking.

NOTE:

- Replace the belt if oil or coolant soaked.
- Remove any oil or solvent that gets on the belt.

Inspect this area for wear.



Rotate pulley and inspect belt.

9. After inspecting, retorque the crankshaft pulley bolt to 250 N·m (25.0 kg·m, 181 lb·ft).

Timing Belt and Timing Balancer Belt

Tension Adjustment

CAUTION: Always adjust timing belt tension with the engine cold.

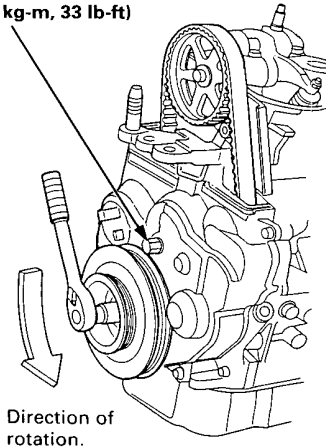
NOTE:

- The tensioner is spring-loaded to apply proper tension to the belt automatically after making the following adjustment.
- Always rotate the crankshaft counterclockwise when viewed from the pulley side. Rotating it clockwise may result in improper adjustment of the belt tension.
- Inspect the timing balancer belt before adjusting the belt tension.
- Do not loosen the adjusting nut more than one full turn.

1. Disconnect the battery negative terminal first, then the positive terminal.
2. Disconnect the alternator terminal and the connector, then remove the engine wire harness from the cylinder head cover.
3. Remove the cylinder head cover. (Refer to pages 6-31, 32 when installing.)
4. Set the No. 1 piston at TDC (see page 6-18).
5. Rotate the crankshaft five or six revolutions to set the belt.
6. Set the No. 1 piston at TDC.

7. Loosen the adjusting nut $2/3 - 1$ turn.

ADJUSTING NUT
45 N·m (4.5 kg-m, 33 lb-ft)



8. Rotate the crankshaft counterclockwise three teeth on the camshaft pulley.
9. Tighten the adjusting nut.
10. After adjusting, retorque the crankshaft pulley bolt to 250 N·m (25.0 kg-m, 181 lb-ft).

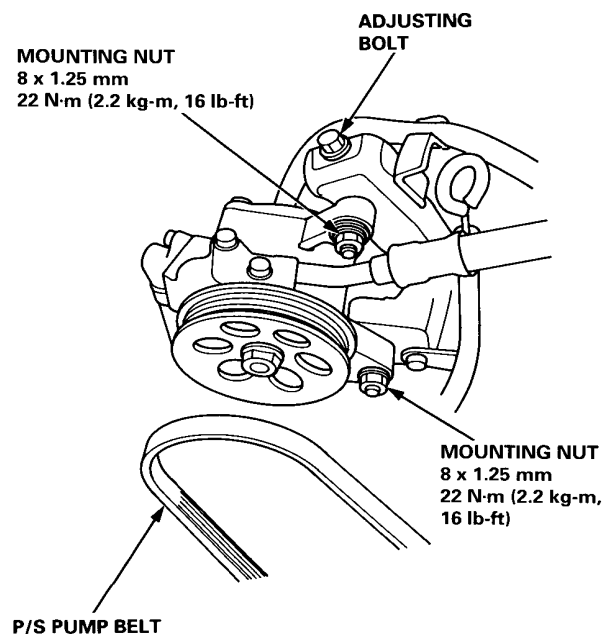


Removal

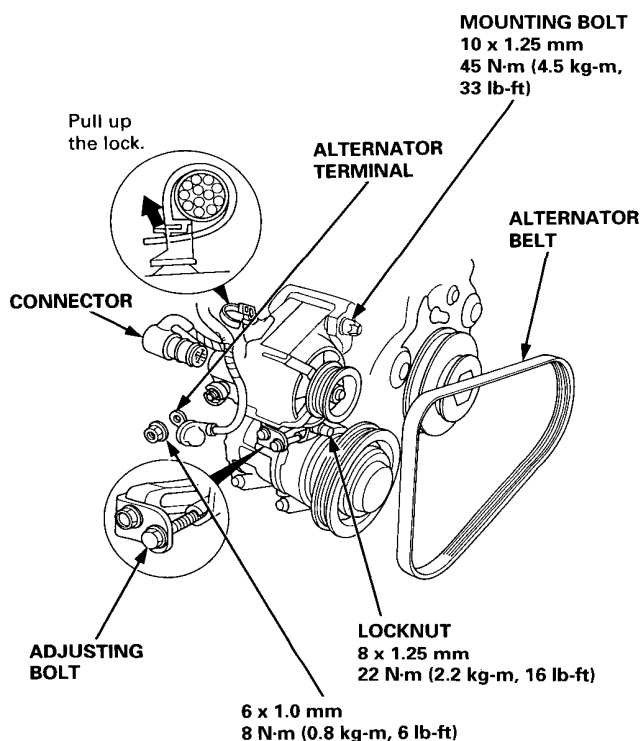
NOTE:

- Turn the crankshaft pulley so the No. 1 piston is at top dead center (TDC) before removing the belt (see page 6-18).
- Inspect the water pump.

1. Disconnect the battery negative terminal first, then the positive terminal.
2. Remove the wheelwell splash shield (see page 5-3).
3. Loosen the adjusting bolt and mounting nuts, then remove the power steering (P/S) pump belt.



4. Loosen the adjusting bolt, mounting bolt and lock-nut, then remove the alternator belt.



5. Remove the alternator terminal and connector.

(cont'd)

Timing Belt and Timing Balancer Belt

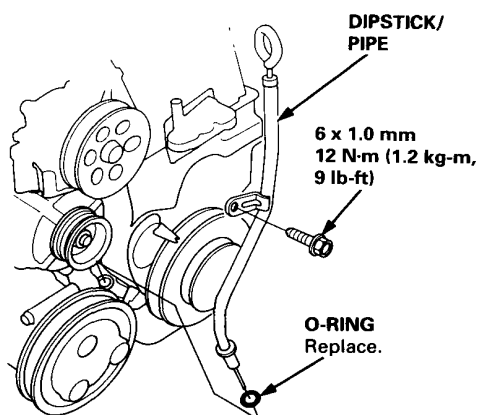
Removal (cont'd)

6. Remove the side engine mount (see page 5-10).

NOTE:

- Use the jack to support the engine before the side engine mount is removed.
- Make sure to place a cushion between the oil pan and the jack.

7. Remove the dipstick and the pipe.



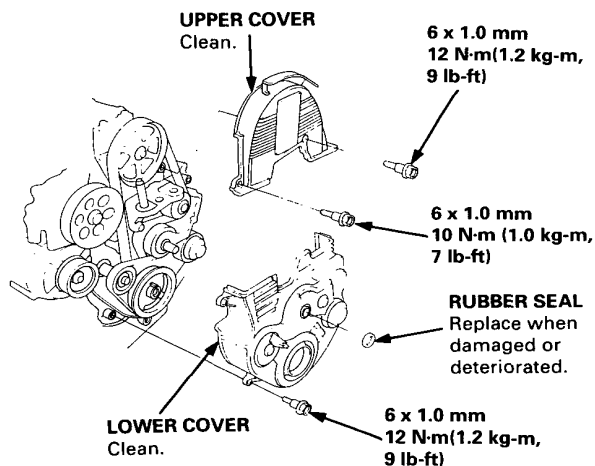
8. Remove the cylinder head cover.

- Refer to pages 6-31, 32 when installing.

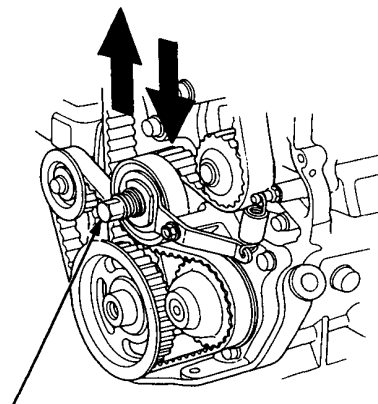
9. Remove the pulley bolt and crankshaft pulley (see page 6-11).

10. Remove the rubber seal from the adjusting nut, then remove the upper and lower covers.

NOTE: Do not use the upper and lower covers for storing items disassembled.



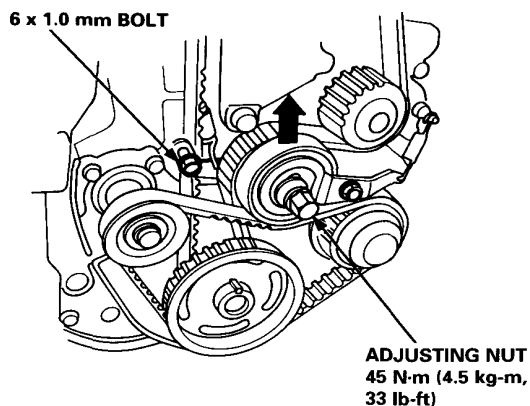
11. Loosen the adjusting nut 2/3 – 1 turn. Push the tensioner to remove tension from the timing belt and timing balancer belt, then retighten the adjusting nut.



ADJUSTING NUT
45 N·m (4.5 kg-m, 33 lb-ft)

NOTE: When removing the timing balancer belt only:

- Lock the timing belt adjuster arm in place by installing one of the 6 x 1.0 mm bolts.
- Loosen the adjusting nut 2/3 – 1 turn. Push the tensioner to remove tension from the timing balancer belt, then retighten the adjusting nut.



12. Remove the timing balancer belt and timing belt.



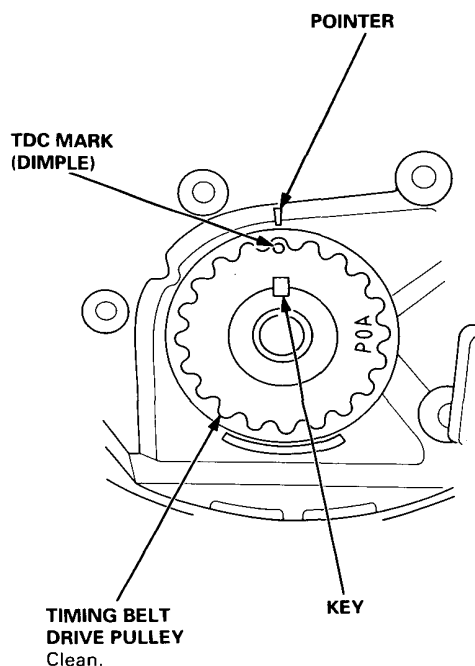
Installation

Install the timing belt and timing balancer belt in the reverse order of removal.
Only key points are described here.

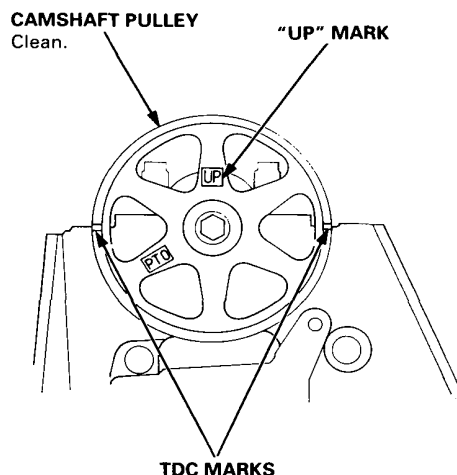
- When installing only the timing balancer belt, go to step 13.

NOTE: Clean the upper and lower covers before installation.

1. Remove the timing balancer belt drive pulley (see page 6-12).
2. Set the timing belt drive pulley so that the No. 1 piston is at top dead center (TDC). Align the dimple on the tooth of the timing belt drive pulley with the ∇ pointer on the oil pump.

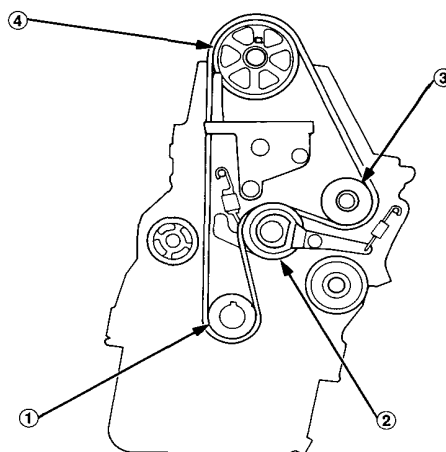


3. Set the camshaft pulley so that the No. 1 piston is at TDC.
Align the TDC mark on the camshaft pulley with the back cover upper surface.



4. Install the timing belt tightly in the sequence shown.
① Timing belt drive pulley (crankshaft) → ② Adjusting pulley → ③ Water pump pulley → ④ Camshaft pulley.

NOTE: Make sure the timing belt drive pulley and camshaft pulley are at TDC.

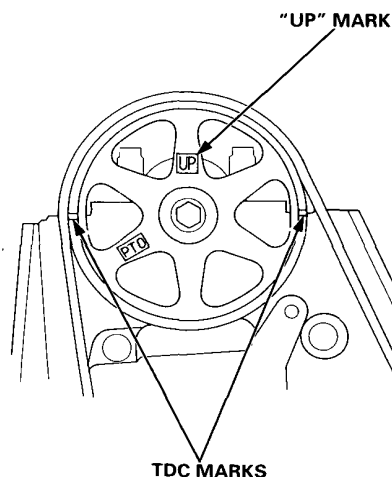
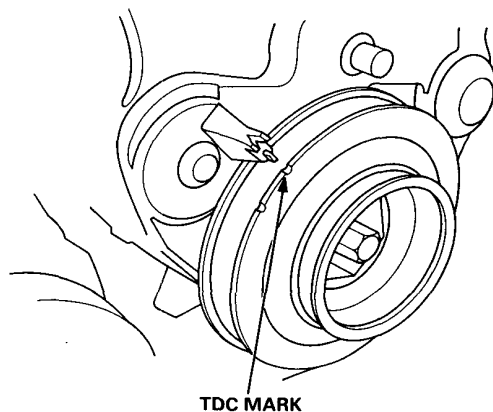


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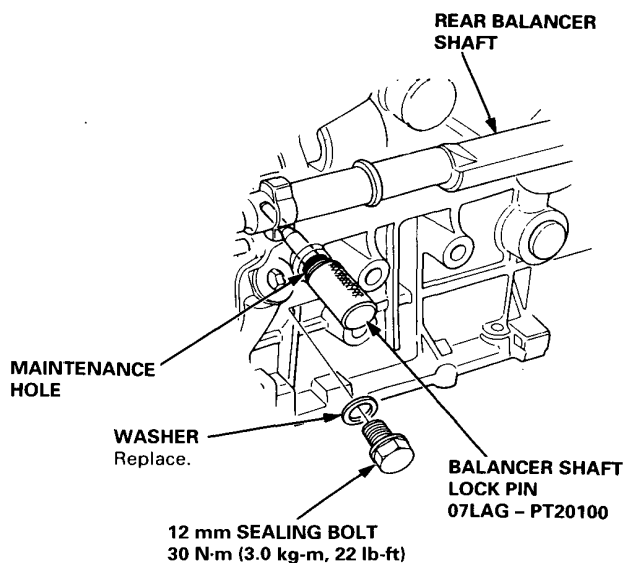
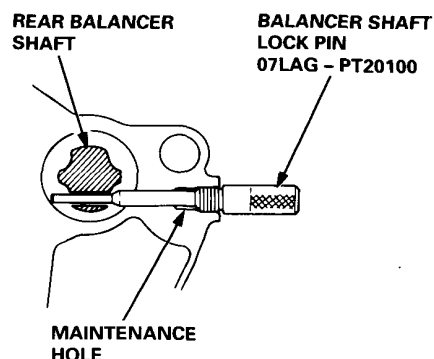
Timing Belt and Timing Balancer Belt

Installation (cont'd)

5. Loosen and retighten the adjusting nut to tension the timing belt.
6. Install the timing balancer belt drive pulley and lower cover.
7. Install the crankshaft pulley, then tighten the pulley bolt (see page 6-11).
8. Rotate the crankshaft pulley about five or six turns counterclockwise so that the timing belt positions on the pulleys.
9. Adjust the timing belt tension (see page 6-14).
10. Make sure the crankshaft pulley and camshaft pulley are at TDC.

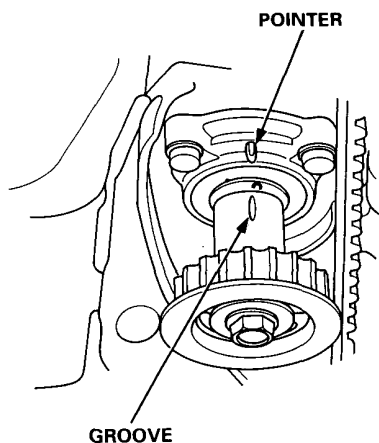
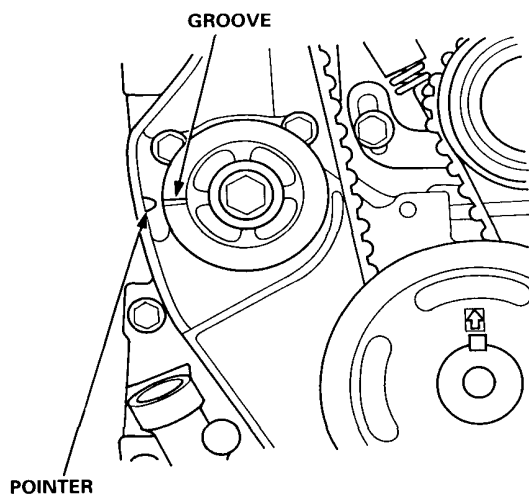


11. If the camshaft or crankshaft pulley is not positioned at TDC, remove the timing belt and adjust the positioning following the procedure on page 6-21, then reinstall the timing belt.
12. Remove the crankshaft pulley and lower cover.
13. Set the timing belt drive pulley so that the No.1 piston at TDC.
14. Lock the timing belt adjuster arm in place by installing one of the 6 x 1.0 mm bolts.
15. Loosen the adjusting nut 2/3 – 1 turn, and verify that the timing balancer belt adjuster moves freely.
16. Push the tensioner to remove tension from the timing balancer belt, then retighten the adjusting nut.
17. Align the rear balancer shaft pulley by using a special tool. Insert the special tool into the maintenance hole to fix the rear balancer shaft.





18. Align the groove on the front balancer shaft pulley with the pointer on the oil pump housing as shown.



19. Install the timing balancer belt. Loosen the adjusting nut $2/3 - 1$ turn to tension the timing balancer belt.
20. Remove the special tool, then install the 12 mm sealing bolt.
21. Install the crankshaft pulley, then tighten the pulley bolt (see page 6-11).
22. Turn the crankshaft pulley about one turn counter-clockwise, then tighten the adjusting nut.
23. Remove the 6 x 1.0 mm bolt from the timing belt adjuster arm.

24. Remove the crankshaft pulley, then install the lower cover.

25. Install the rubber seal around the adjusting nut.

NOTE: Do not loosen the adjusting nut.

26. Install the crankshaft pulley, then tighten the pulley bolt (see page 6-11).

27. After installation, adjust the tension of each belt.

Cylinder Head

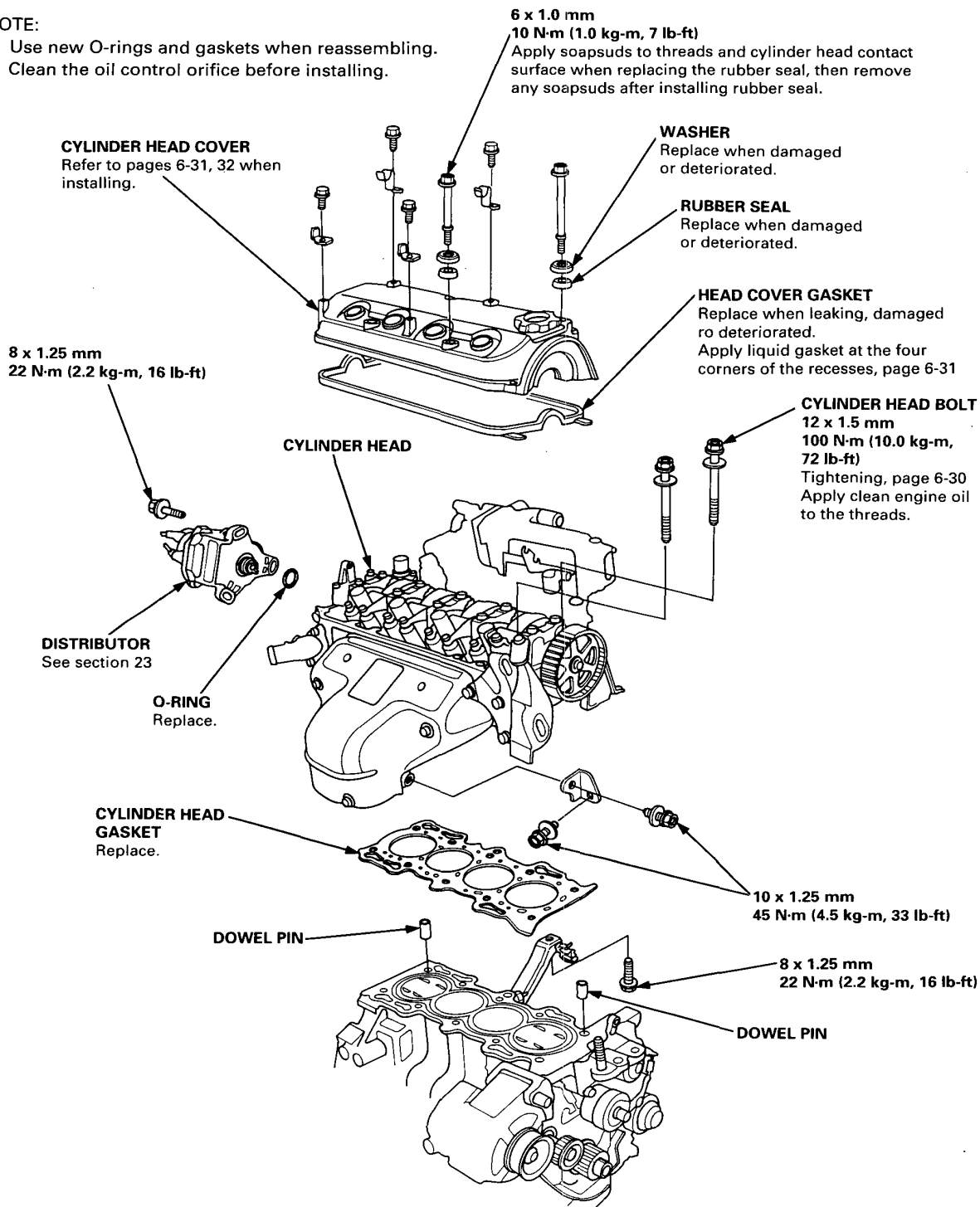
Illustrated Index

CAUTION:

- To avoid damaging the cylinder head, wait until the engine coolant temperature drops below 38°C (100°F) before removing it.
- In handling a metal gasket, take care not to fold it or damage the contact surface of the gasket.

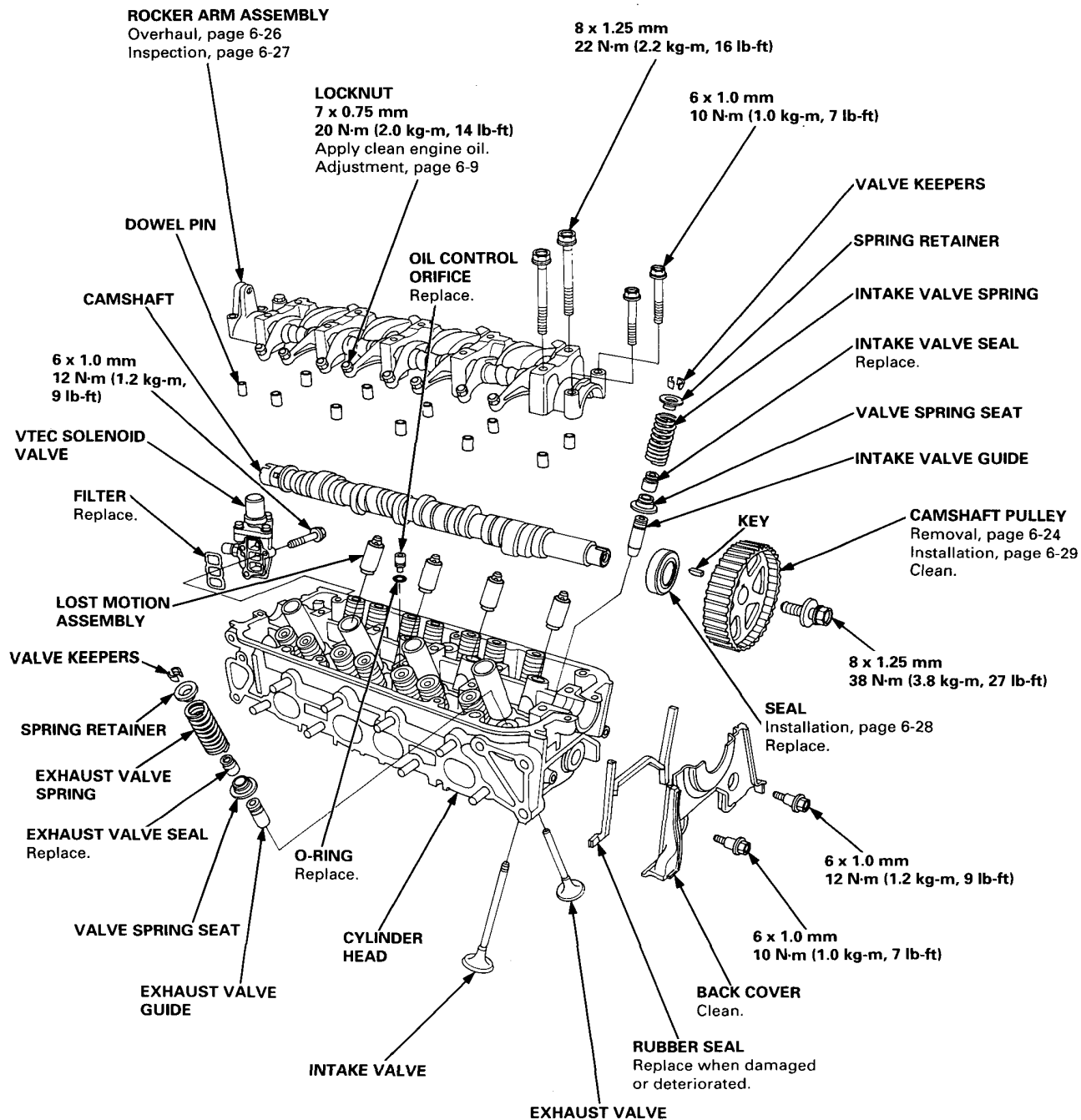
NOTE:

- Use new O-rings and gaskets when reassembling.
- Clean the oil control orifice before installing.





Prior to reassembling, clean all the parts in solvent, dry them and apply lubricant to any contact parts.



Cylinder Head

Removal

Engine removal is not required for this procedure.

⚠ WARNING Make sure jacks and safety stands are placed properly and hoist brackets are attached to correct position on the engine.

CAUTION:

- Use fender covers to avoid damaging painted surfaces.
- Unplug the wiring connectors carefully while holding the connector portion to avoid damage.
- To avoid damaging the cylinder head, wait until the engine coolant temperature drops below 38°C (100°F) before loosening the retaining bolts.

NOTE:

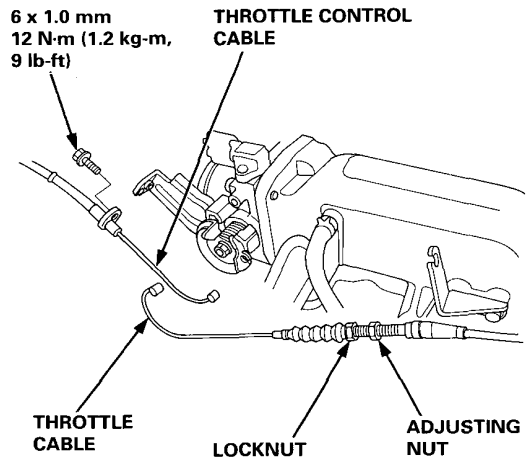
- Unspecified items are common between both engines.
- Mark all wiring and hoses to avoid misconnection. Also, be sure that they do not contact other wiring or hoses, or interfere with other parts.
- Inspect the timing belt before removing the cylinder head.
- Turn the crankshaft pulley so that the No. 1 piston is at top dead center (see page 6-18).

1. Disconnect the battery negative terminal first, then the positive terminal.
2. Drain the engine coolant.
 - Remove the radiator cap to speed draining.
3. Remove the intake air duct (see page 5-3).

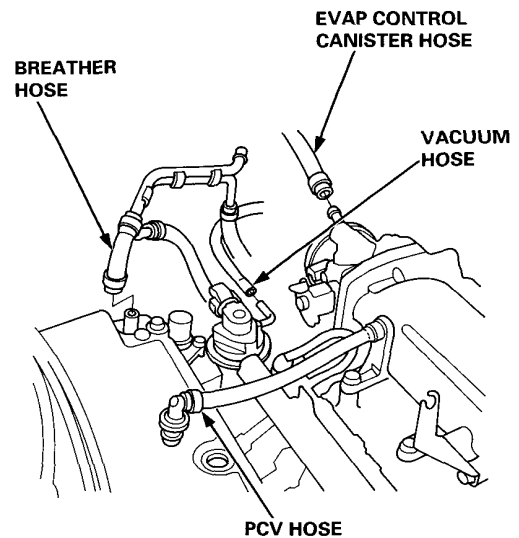
4. Remove the throttle cable and throttle control cable.

NOTE:

- Take care not to bend the cable when removing it. Always replace any kinked cable with a new one.
- Adjust the throttle cable and throttle control cable when installing.

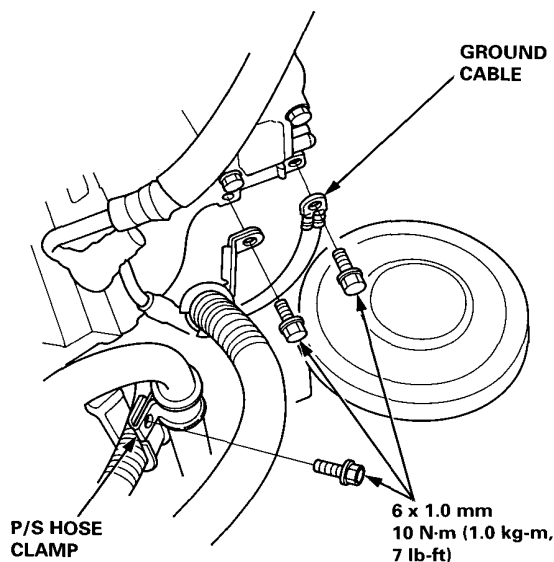


5. Remove the breather hose, positive crankcase ventilation (PCV) hose, evaporative emission (EVAP) control canister hose and vacuum hose.





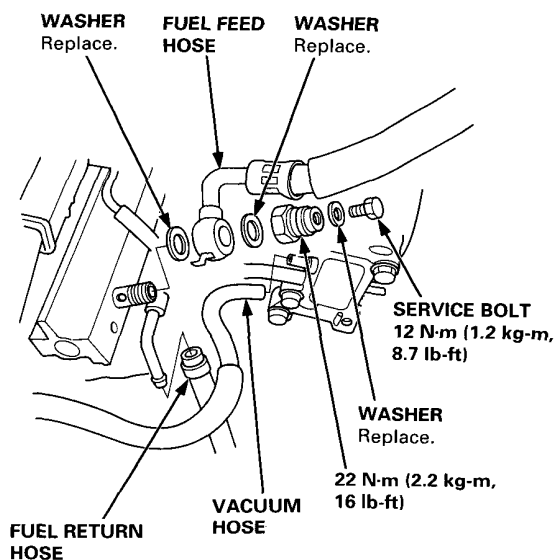
6. Remove the brake booster vacuum hose and vacuum hoses (see page 5-5).
7. Remove the power steering (P/S) hose clamp, wire harness clamp and engine ground cable.



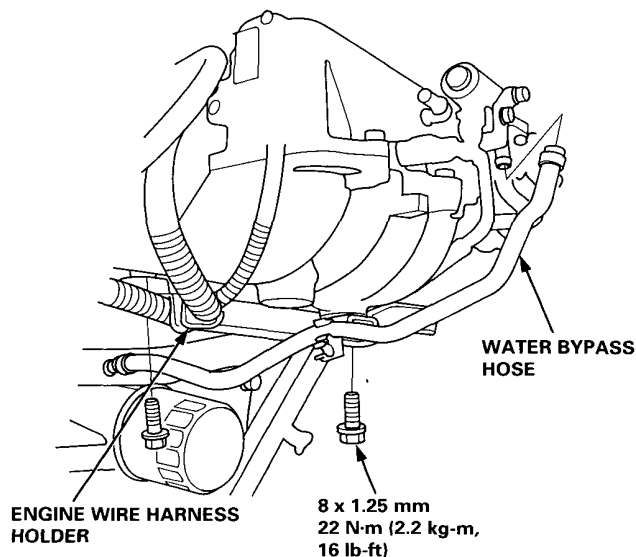
8. Relieve fuel pressure.

⚠ WARNING Do not smoke while working on fuel system, keep open flame or spark away from work area. Drain fuel only into an approved container.

9. Remove the fuel feed hose, fuel return hose and vacuum hose.



10. Remove the battery cable and alternator connector (see page 6-15).
11. Remove the P/S pump belt and P/S pump (see page 5-6).
12. Remove the alternator belt (see page 6-15).
13. Remove the engine wire harness holder and water bypass hose.



14. Remove the engine wire harness connectors and wire harness clamps from the cylinder head and intake manifold.

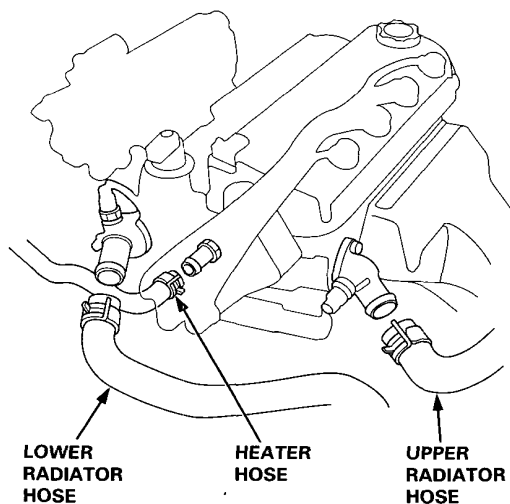
- Four injector connectors
- Intake air temperature (IAT) sensor connector
- Idle air control (IAC) valve connector
- Throttle position sensor connector
- Manifold absolute pressure (MAP) sensor connector
- Engine coolant temperature (ECT) sensor connector
- ECT switch connector
- ECT gauge sending unit connector
- VTEC solenoid valve connector
- Exhaust gas recirculation (EGR) valve lift sensor connector
- TDC/CKP/CYP sensor connector

(cont'd)

Cylinder Head

Removal (cont'd)

15. Remove the spark plug caps and distributor from the cylinder head.
16. Remove the upper and lower radiator hoses and heater hose.

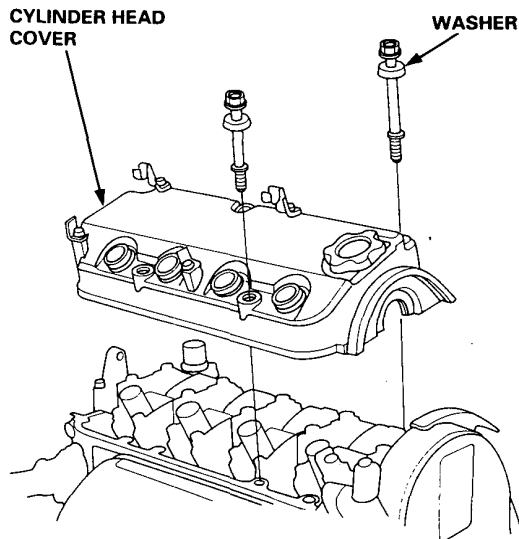


17. Remove the side engine mount (see page 5-10).

NOTE:

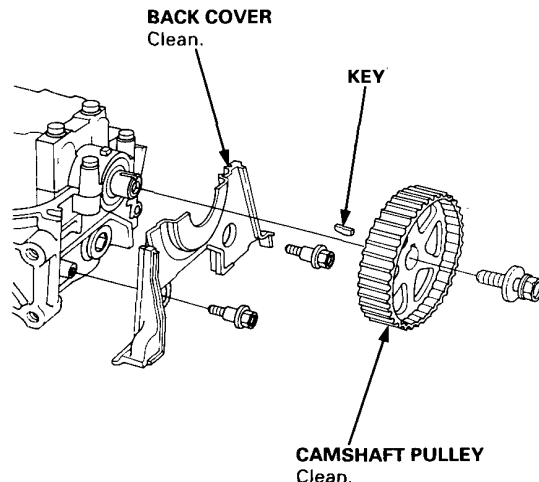
- Use the jack to support the engine before the side engine mount is removed.
- Make sure to place a cushion between the oil pan and the jack.

18. Remove the cylinder head cover.



19. Remove the timing belt (see page 6-15).

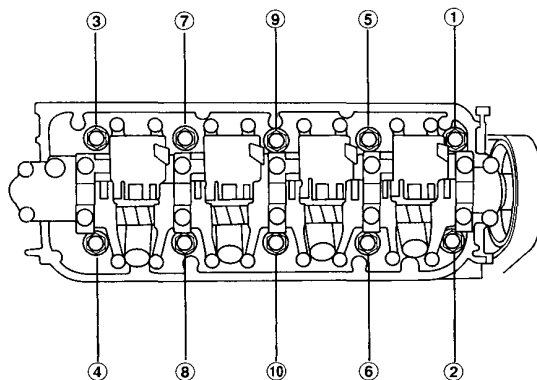
20. Remove the camshaft pulley and back cover.



21. Remove the splash shield (see page 5-3).
22. Remove the exhaust manifold bracket and self-locking nuts (see page 9-3).
23. Remove the intake manifold bracket (see page 9-2).
24. Remove the cylinder head bolts, then remove the cylinder head.

CAUTION: To prevent warpage, unscrew the bolts in sequence 1/3 turn at a time; repeat the sequence until all bolts are loosened.

CYLINDER HEAD BOLT LOOSENING SEQUENCE





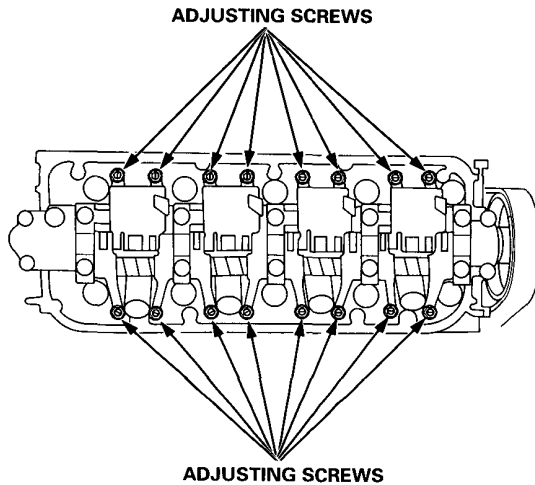
Rocker Arm Assembly

Removal

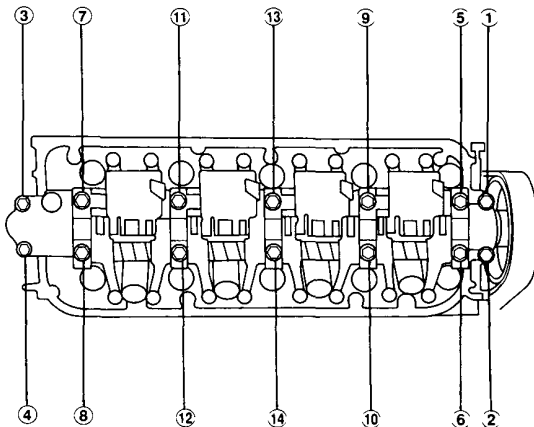
1. Loosen the adjusting screws, then remove the bolts and the rocker arm assembly.

NOTE:

- Unscrew the camshaft holder bolts two turns at a time, in a crisscross pattern to prevent damaging the valves or rocker arm assembly.
- When removing the rocker arm assembly, do not remove the camshaft holder bolts. The bolts will keep the camshaft holders, the springs and the rocker arms on the shafts.



CAMSHAFT HOLDER BOLT LOOSENING SEQUENCE:



Rocker Arms

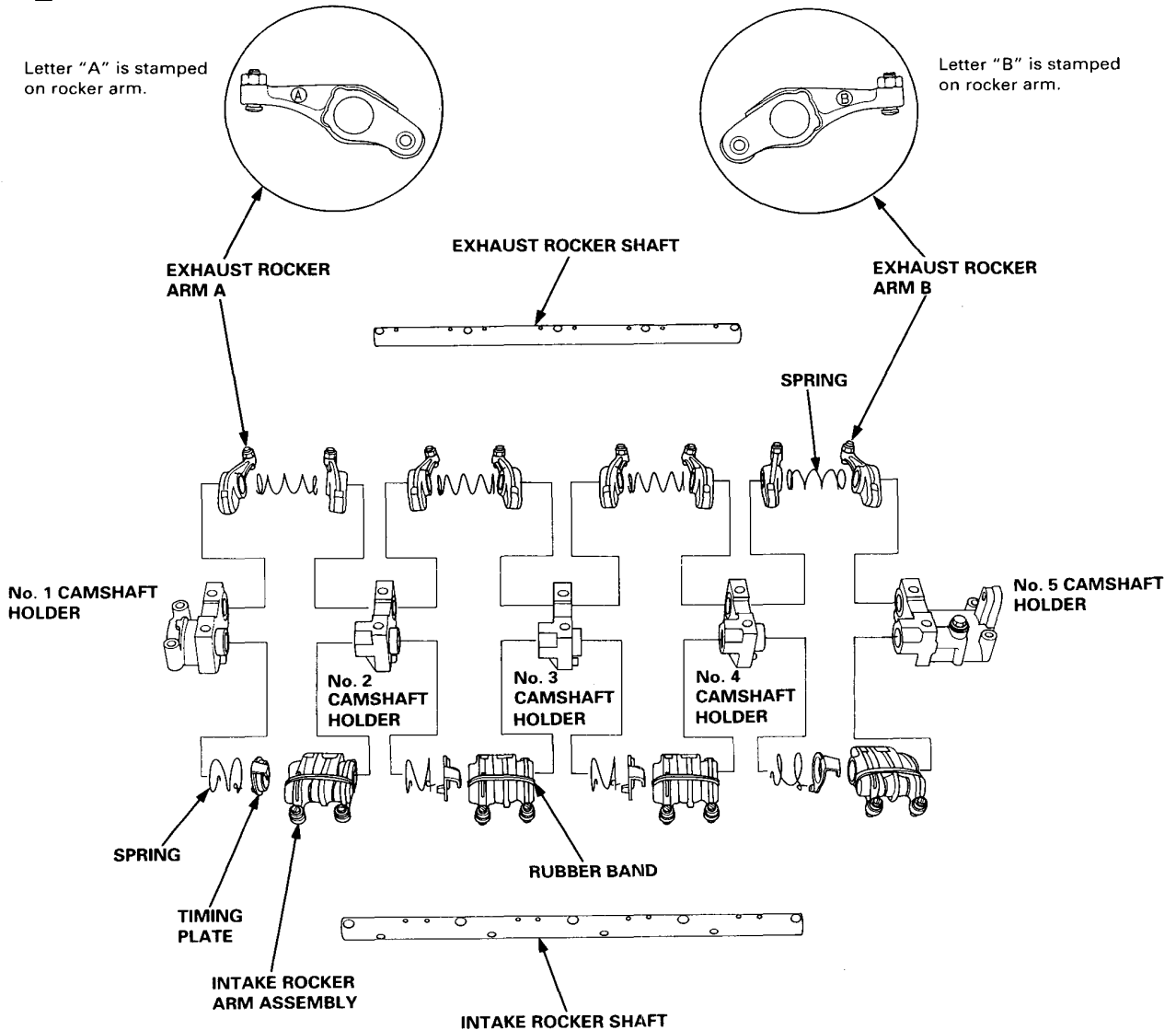
Overhaul

NOTE:

- Identify parts as they are removed to ensure reinstallation in original locations.
- Inspect rocker shafts and rocker arms (see page 6-27).
- Rocker arms must be installed in the same position if reused.
- When removing or installing rocker arm assembly, do not remove the camshaft holder bolts. The bolts will keep the holders, springs and rocker arms on the shaft.
- Bundle the rocker arms with a rubber band to keep them together as a set.



Prior to reassembling, clean all the parts in solvent, dry them, and apply lubricant to any contact parts.



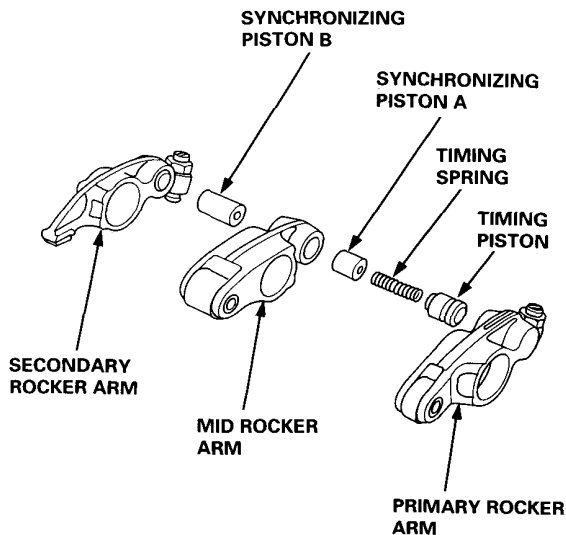
Lost Motion Assemblies



Inspection

NOTE: When reassembling the primary rocker arm, carefully apply air pressure to the oil passage of the rocker arm.

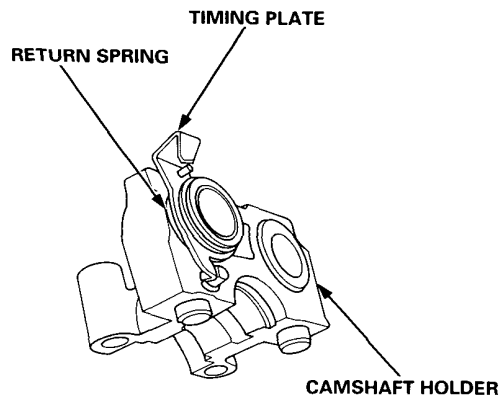
1. Inspect the rocker arm piston. Push it manually.
— If it does not move smoothly, replace the rocker arm assembly.



NOTE:

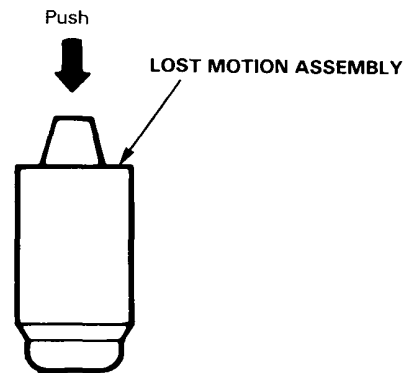
- Apply oil to the pistons when reassembling.
- Bundle the rocker arms with a rubber band to keep them together as a set.

NOTE: Set the timing plate and return spring as shown below.



Inspection

1. Remove the lost motion assembly from the cylinder head and inspect it. Pushing it gently with the finger will cause it to sink slightly. Increasing the force on it will cause it to sink deeper.
— If the lost motion assembly does not move smoothly, replace it.



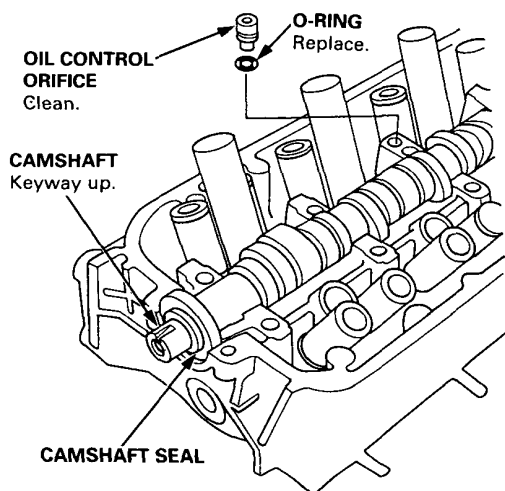
Camshaft/Rocker Arms and Camshaft Seal/Pulley

Installation

CAUTION:

- Make sure that all rockers are in alignment with valves when torquing rocker assembly bolts.
- Valve locknuts should be loosened and adjusting screws backed off before installation.
- To prevent rocker arm assembly from coming apart, leave camshaft holder bolts in the holes.

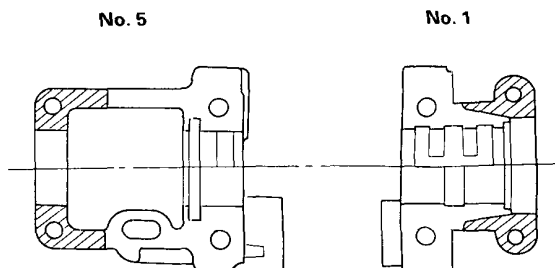
1. After wiping down the camshaft, camshaft seal and journals in the cylinder head, lubricate both surfaces and install the camshaft.
2. Clean and install the oil control orifice with a new O-ring.



Lubricate cam lobes after reassembly.

3. Turn the camshaft until its keyway is facing up. (No. 1 piston TDC).

4. Apply liquid gasket to the head mating surfaces of the No. 1 and No. 5 camshaft holders.
— Apply liquid gasket to the shaded areas.



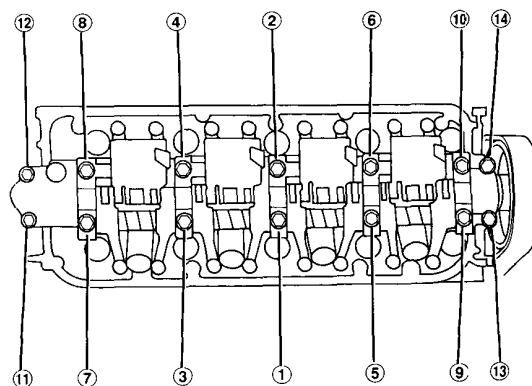
5. Set the rocker arm assembly in place and loosely install the bolts.
— Make sure that the rocker arms are properly positioned on the valve stems.
6. Tighten each bolt two turns at a time in the sequence shown below to ensure that the rockers do not bind on the valves.

Specified torque:

8 mm bolts: 22 N·m (2.2 kg-m, 16 lb-ft)

6 mm bolts: 10 N·m (1.0 kg-m, 7 lb-ft)

6 mm bolts: ⑪, ⑫, ⑬, ⑭

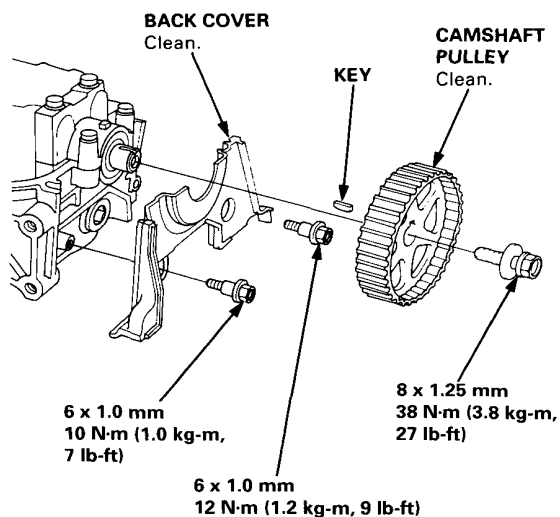




Cylinder Head

Installation

7. Install the back cover.
8. Install the key and the camshaft pulley onto the camshaft, then tighten the retaining bolt to the torque shown.

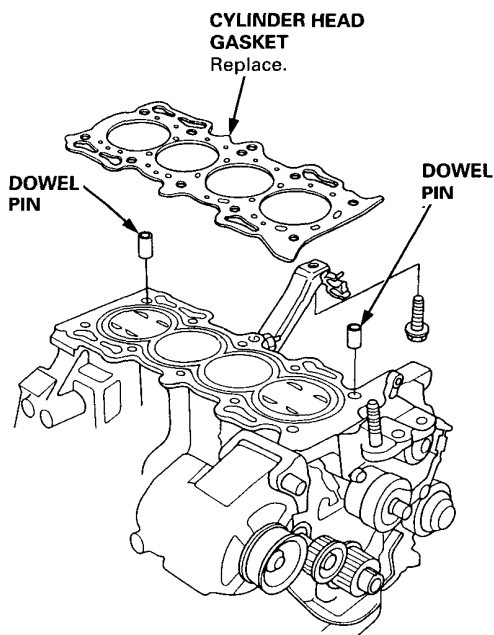


Install the cylinder head in the reverse order of removal:

NOTE:

- Always use a new head gasket.
- Cylinder head and cylinder block surface must be clean.
- "UP" mark on camshaft pulley should be at the top.
- Turn the crankshaft so the No. 1 piston is at TDC (see page 6-17).
- Clean the oil control orifice before installing.
- Do not use the upper cover and lower cover for storing items disassembled.
- Clean the upper cover and lower cover before installation.

1. Cylinder head dowel pins must be aligned.
2. Install a new cylinder head gasket.



(cont'd)

Cylinder Head

Installation (cont'd)

3. Position the camshaft correctly (see page 6-17).
4. Tighten the cylinder head bolts sequentially in three steps.

1st step torque: 40 N·m (4.0 kg-m, 29 lb-ft)

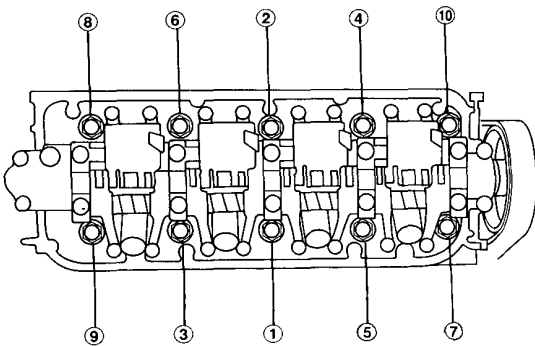
2nd step torque: 70 N·m (7.0 kg-m, 51 lb-ft)

3rd step torque: 100 N·m (10.0 kg-m, 72 lb-ft)

NOTE:

- We recommend using a beam-type torque wrench. When using a preset-type torque wrench, be sure to tighten slowly and not to overtighten.
- If a bolt makes any noise while you are torquing it, loosen the bolt, and retighten it from the 1st step.

CYLINDER HEAD BOLTS TORQUE SEQUENCE



5. Tighten the self-locking nuts, then install the exhaust manifold bracket (see page 9-3).
6. Install the intake manifold bracket (see page 9-2).
7. Install the timing belt (see page 6-17).
8. Adjust the valve clearance (see page 6-9).

Cylinder Head Cover

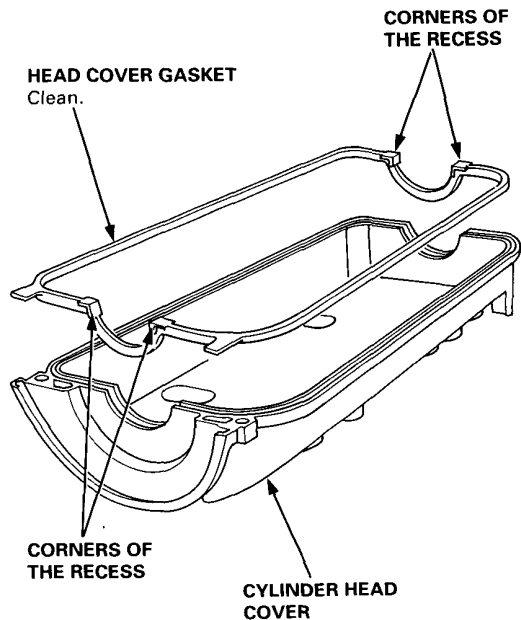


Installation

1. Install the head cover gasket in the groove of the cylinder head cover. Seat the recesses for the camshaft first, then work it into the groove around the outside edges.

NOTE:

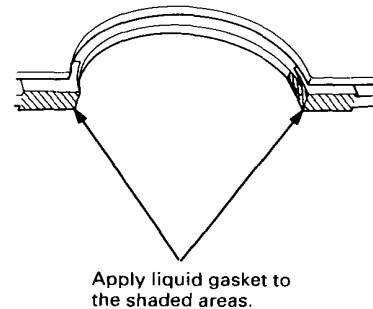
- Before installing the head cover gasket, thoroughly clean the seal and the groove.
- When installing, make sure the head cover gasket is seated securely in the corners of the recesses with no gap.



2. Apply liquid gasket to the head cover gasket at the four corners of the recesses.

NOTE:

- Use liquid gasket, Part No. 0Y740 – 99986.
- Check that the mating surfaces are clean and dry before applying liquid gasket.
- Do not install the parts if five minutes or more have elapsed since applying liquid gasket. Instead, reapply liquid gasket after removing old residue.
- After assembly, wait at least 20 minutes before filling the engine with oil.



(cont'd)

Cylinder Head Cover

Installation (cont'd)

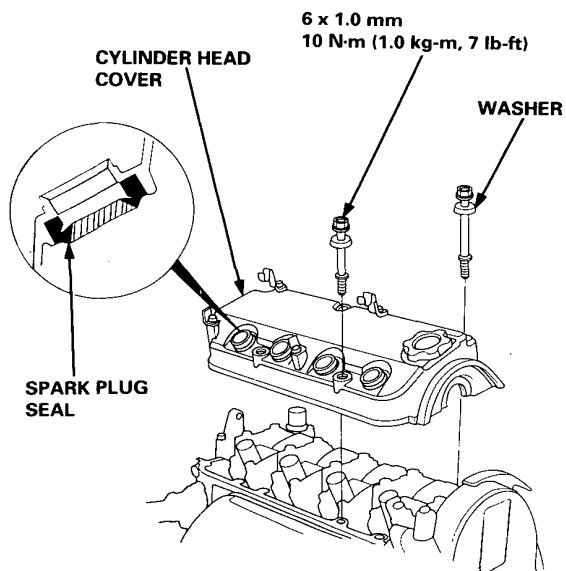
- When installing the cylinder head cover, hold the head cover gasket in the groove by placing your fingers on the camshaft contacting surfaces (top of the semicircles).

Set the spark plug seal on the spark plug pipe (F22Z2 engine only).

Once the cylinder head cover is on the cylinder head, slide the cover slightly back and forth to seat the head cover gasket.

NOTE:

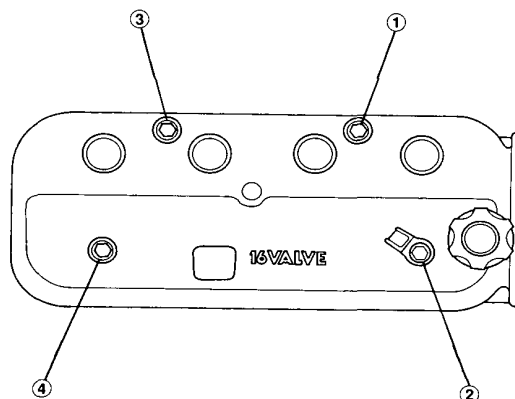
- Before installing the cylinder head cover, clean the cylinder head contacting surfaces with a shop towel.
- Do not touch the parts where liquid gasket was applied.
- Take care not to damage the spark plug seal when installing the cylinder head cover (F22Z2 engine only).
- Visually check the spark plug seal for damage (F22Z2 engine only)
- Replace the washer when damaged or deteriorated.



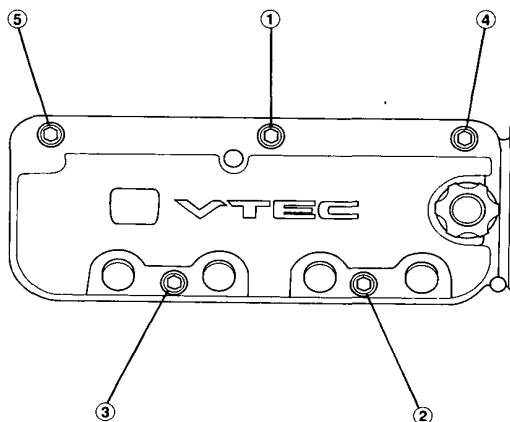
- Tighten the nuts in 2 or 3 steps. In the final step, tighten all nuts, in sequence, to 10 N-m (1.0 kg-m, 7 lb-ft).

NOTE: After assembly, wait at least 20 minutes before filling the engine with oil.

Except F22Z2 engine:



F22Z2 engine:



- After installation, check that all tubes, hoses and connectors are installed correctly.

Engine Block

Main Bearings

Selection 7-2

Connecting Rod Bearings

Clearance 7-3

Selection 7-4



Outline of Model Changes

- F22Z2 engine has been adopted. Compare to F20Z1 engine main difference are:
 - Crankshaft.
 - Connecting rods.

Main Bearings

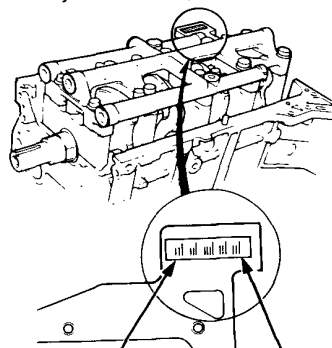
Selection

CAUTION: If the codes are indecipherable because of an accumulation of dirt and dust, do not scrub them with a wire brush or scraper. Clean them only with solvent or detergent.

Crankshaft Bore Code Location (Numbers, Letters or Bars)

Numbers or Letters or Bars have been stamped on the end of the block as a code for the size of each of the 5 main journal bores.

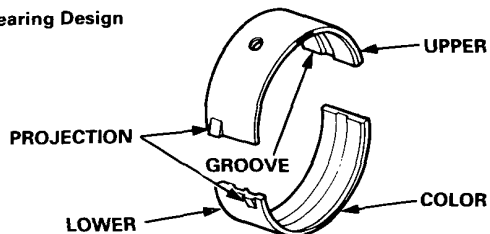
Use them, and the numbers stamped on the crankshaft (codes for main journal size), to choose the correct bearings.



No. 1 JOURNAL
(PULLEY END)

No. 5 JOURNAL
(FLYWHEEL END)

Bearing Design



Bearing Identification

Color code is on the edge of the bearing.

Larger crank bore			
1 or A or I	2 or B or II	3 or C or III	4 or D or IIII

Smaller bearing (Thicker)

Pink	Pink/ Yellow	Yellow	Yellow/ Green
Pink/ Yellow	Yellow	Yellow/ Green	Green
Yellow	Yellow/ Green	Green	Green/ Brown
Yellow/ Green	Green	Green/ Brown	Brown
Green	Green/ Brown	Brown	Brown/ Black
Green/ Brown	Brown	Brown/ Black	Black

NOTE: When using bearing halves of different colors, it does not matter which color is used in the top or bottom.

1 or I
2 or II
3 or III
4 or IIII
5 or IIIII
6 or IIIIII

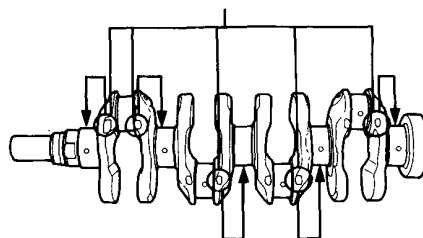
Smaller
main
journal

Smaller
bearing
(Thicker)

Main Journal Code Locations (Numbers or Bars)

Except F22Z2 engine:

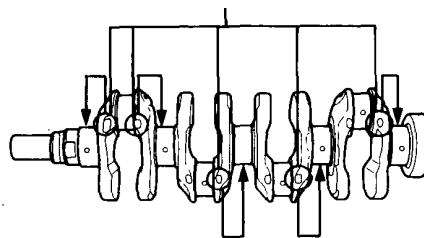
Main Journal Code Locations (Numbers or Bars)



F22Z2 engine:

The Main Journal Codes are stamped in one of the following locations.

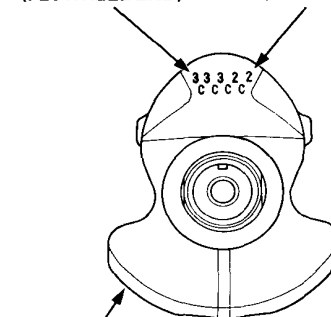
Main Journal Code Locations (Numbers or Bars)



Main Journal Code Locations (Numbers or Bars)

No. 5 JOURNAL
(FLYWHEEL END)

No. 1 JOURNAL
(PULLEY END)



No. 1 CRANK WEB

Connecting Rod Bearings



Clearance

1. Remove the connecting rod cap and bearing half.
2. Clean the crankshaft rod journal and bearing half with a clean shop towel.
3. Place plastigage across the rod journal.
4. Reinstall the bearing half and cap, and torque the nuts to: 47 N·m (4.7 kg-m, 34 lb-ft)

NOTE: Do not rotate the crankshaft during inspection.

5. Remove the rod cap and bearing half and measure the widest part of the plastigage.

Connecting Rod Bearing-to-Journal Oil Clearance:

Standard (New): 0.021 – 0.049 mm
(0.0008 – 0.0019 in)

Service Limit: 0.06 mm (0.002 in)

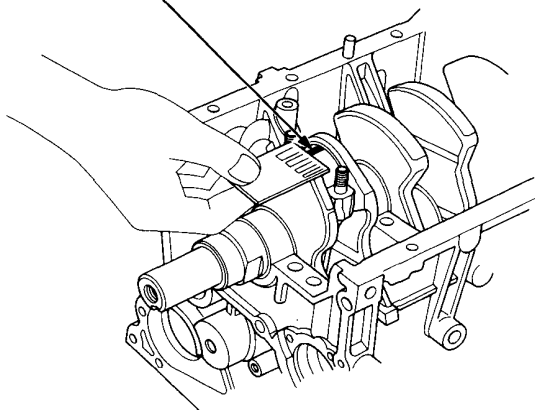
6. If the plastigage measures too wide or too narrow, remove the upper half of the bearing, install a new, complete bearing with the same color code (select the color as shown on the next page), and recheck the clearance.

CAUTION: Do not file, shim, or scrape the bearings or the caps to adjust clearance.

7. If the plastigage shows the clearance is still incorrect, try the next larger or smaller bearing (the color listed above or below that one), and check clearance again.

NOTE: If the proper clearance cannot be obtained by using the appropriate larger or smaller bearings, replace the crankshaft and start over.

PLASTIGAGE STRIP



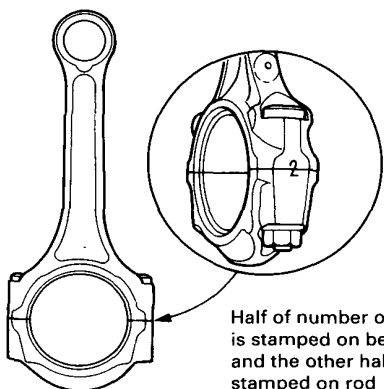
Connecting Rod Bearings

Selection

CAUTION: If the codes are indecipherable because of an accumulation of dirt and dust, do not scrub them with a wire brush or scraper. Clean them only with solvent or detergent.

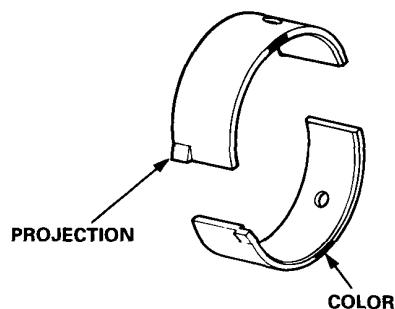
Connecting Rod Journal Code Locations (Numbers or Bars)

Numbers or Bars have been stamped on the side of each connecting rod as a code for the size of the big end. Use it, and the letters or bars stamped on the crank (codes for rod journal size), to choose the correct bearings.



Half of number or bar is stamped on bearing cap and the other half is stamped on rod

Bearing Design



Bearing Identification

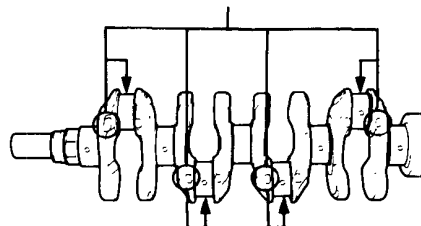
Color code is on the edge of the bearing.

		Larger big end bore			
		1 or I	2 or II	3 or III	4 or IIII
		Smaller bearing (Thicker)			
Smaller rod journal	A or I	Red	Pink	Yellow	Green
	B or II	Pink	Yellow	Green	Brown
	C or III	Yellow	Green	Brown	Black
	D or IIII	Green	Brown	Black	Blue
		Smaller bearing (Thicker)			

Connecting Rod Journal Code Locations (Letters or Bars)

Except F22Z2 engine:

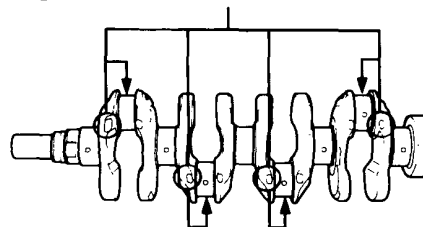
Connecting Rod Journal Code Locations (Letters or Bars)



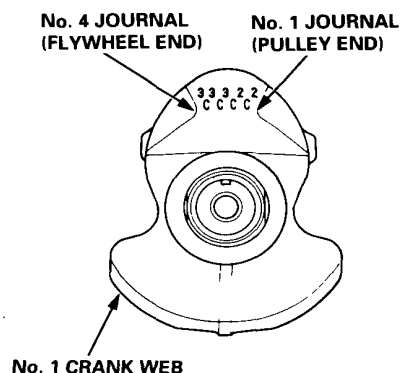
F22Z2 engine:

The Connecting Rod Journal Codes are stamped in one of the following locations.

Connecting Rod Journal Code Locations (Letters or Bars)



Connecting Rod Journal Code Locations (Letters or Bars)



No. 1 CRANK WEB

Engine Lubrication

Illustrated Index 8-2



Outline of Model Changes

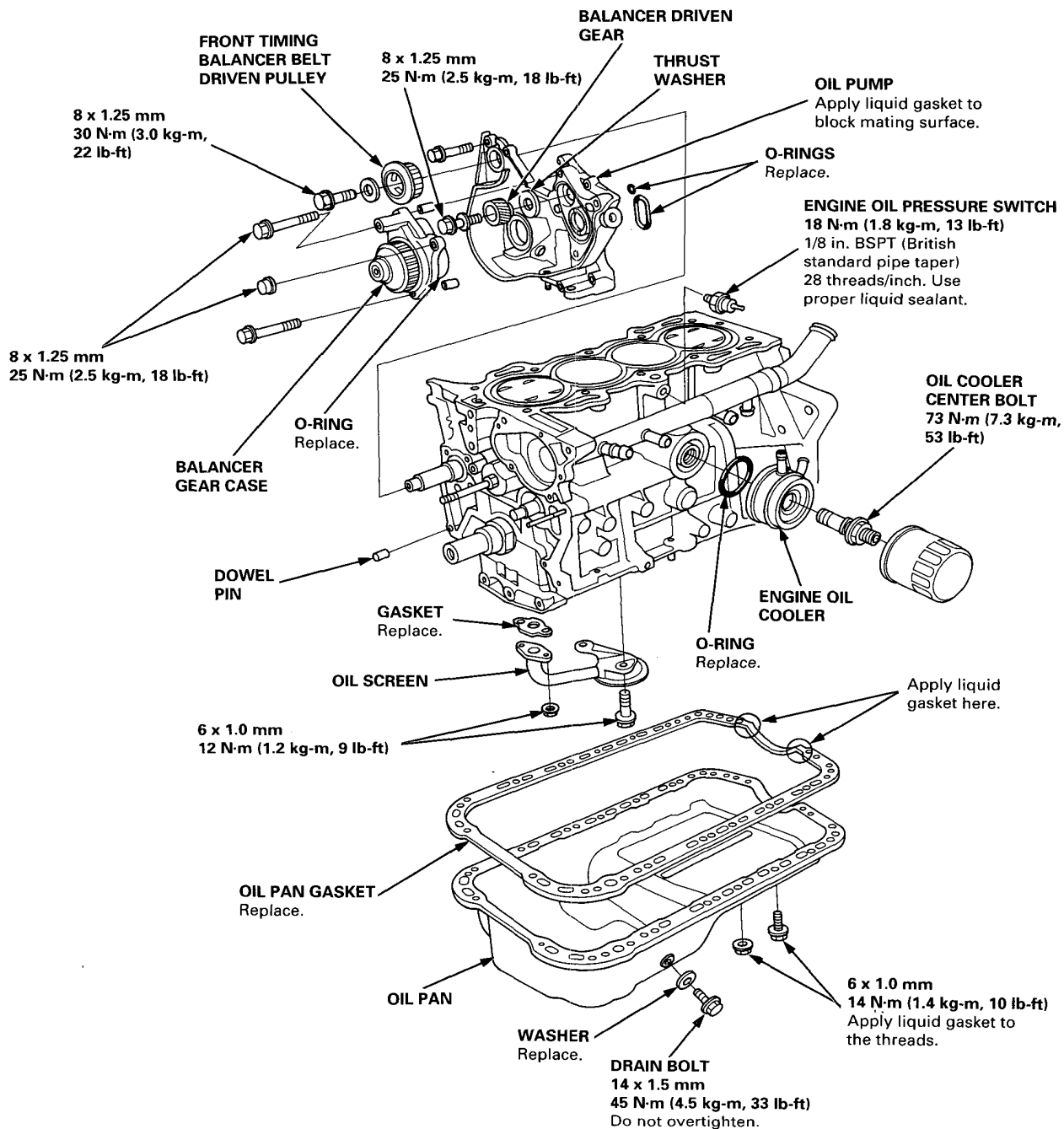
- F22Z2 engine has been adopted. Compare to F20Z1 engine main differences is engine oil cooler.
- Engine oil change interval has been changed. Change interval, refer to section of maintenance.

Illustrated Index

NOTE:

- Use new O-rings when reassembling.
- Apply oil to O-rings before installation.
- Use liquid gasket, Part No. 0Y740 – 99986.
- Clean the oil control orifice before installing.
- Clean the oil pan gasket mating surfaces before installing.
- Apply liquid gasket to the recesses of the oil pan gasket.

CAUTION: Do not overtighten the drain bolt.



Intake Manifold/Exhaust System

Intake Manifold	
Replacement	9-2
Exhaust Manifold	
Replacement	9-3
Exhaust Pipe and Muffler	
Replacement	9-4



Outline of Model Change

- F22Z2 engine has been adopted.

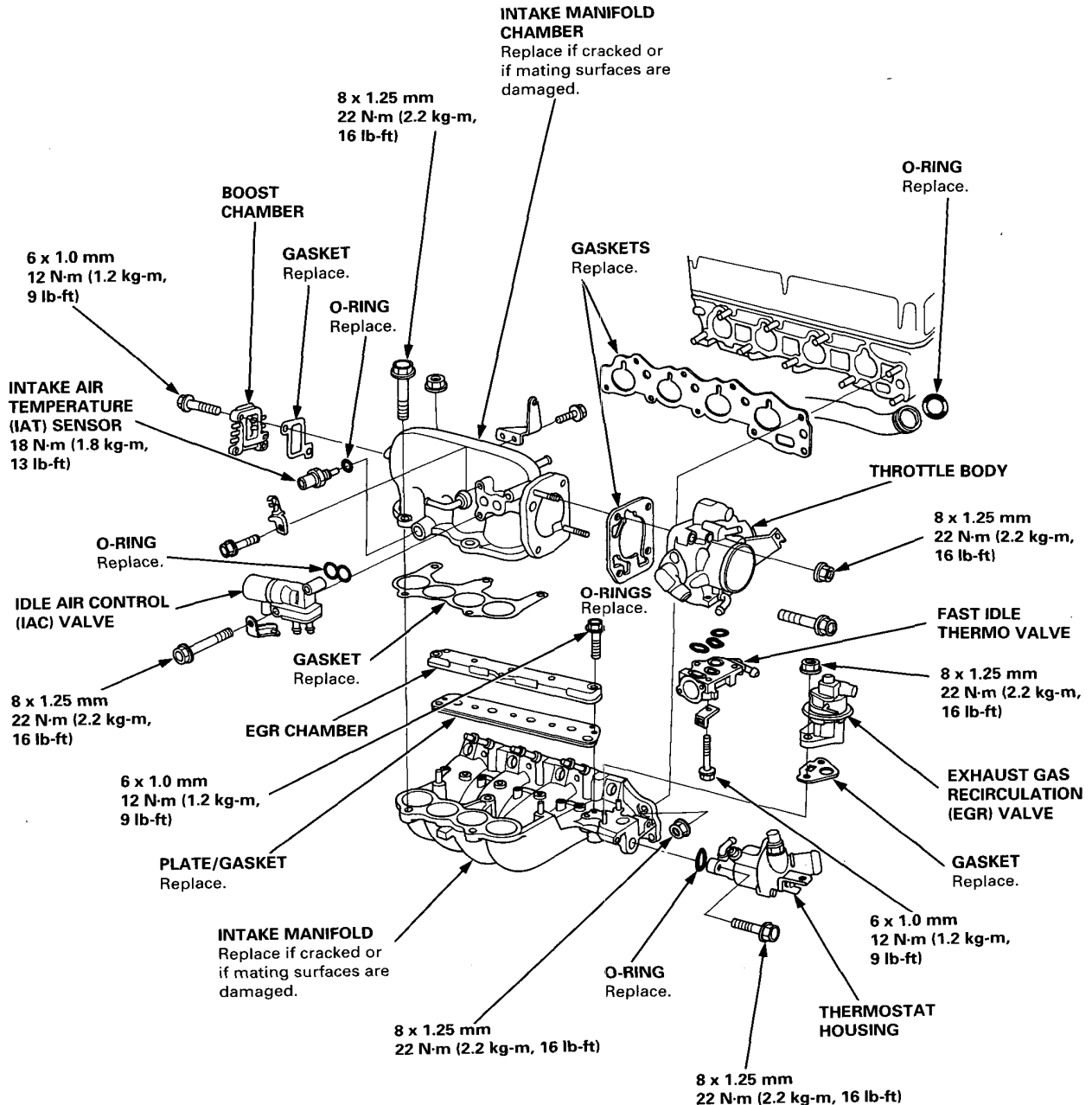
Intake Manifold

Replacement

NOTE: Use new O-rings and gaskets when reassembling.

CAUTION:

- Check for folds or scratches on the surface of the gasket.
- Replace with a new gasket if damaged.



Exhaust Manifold

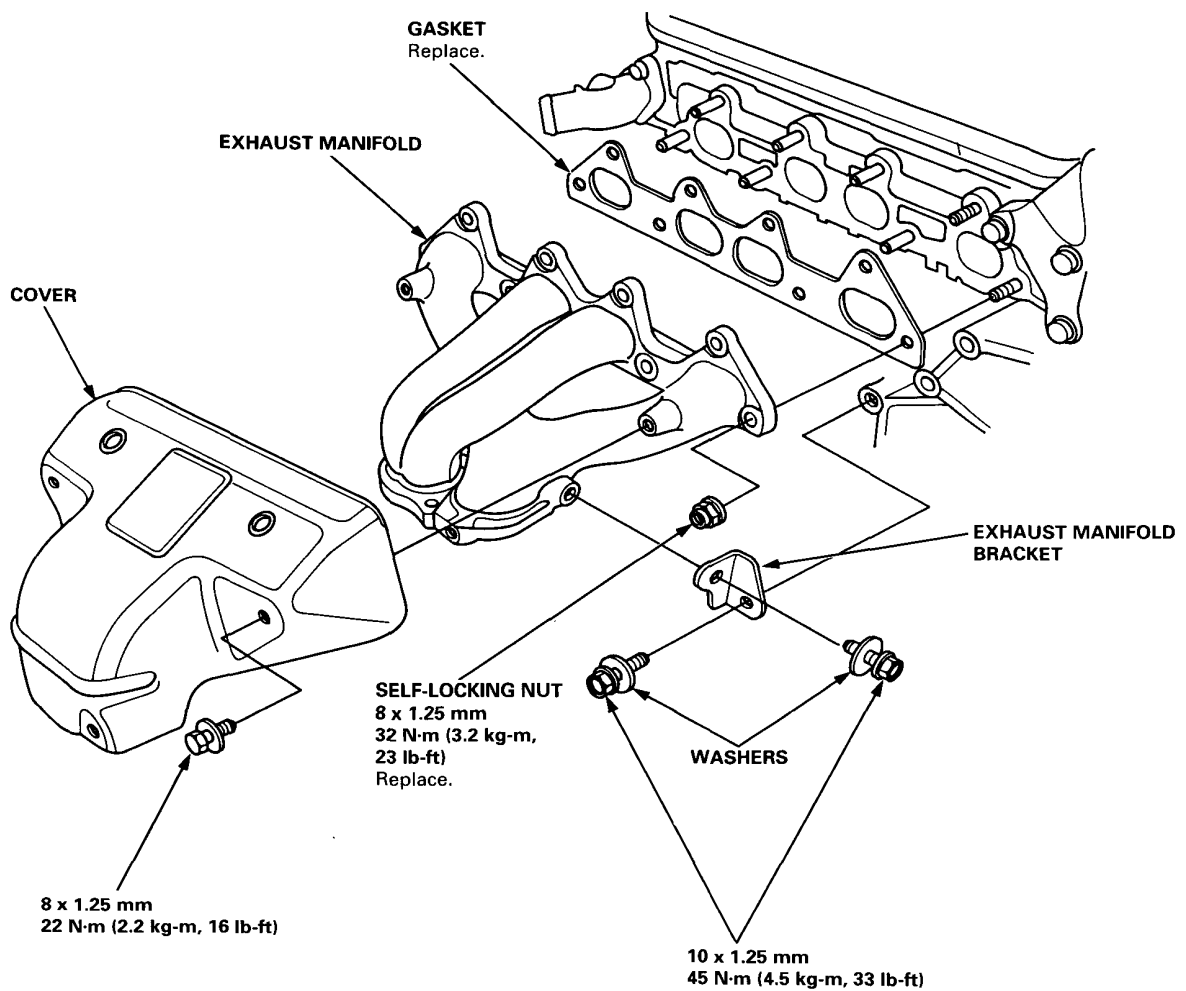


Replacement

NOTE: Use new gaskets and self-locking nuts when reassembling.

CAUTION:

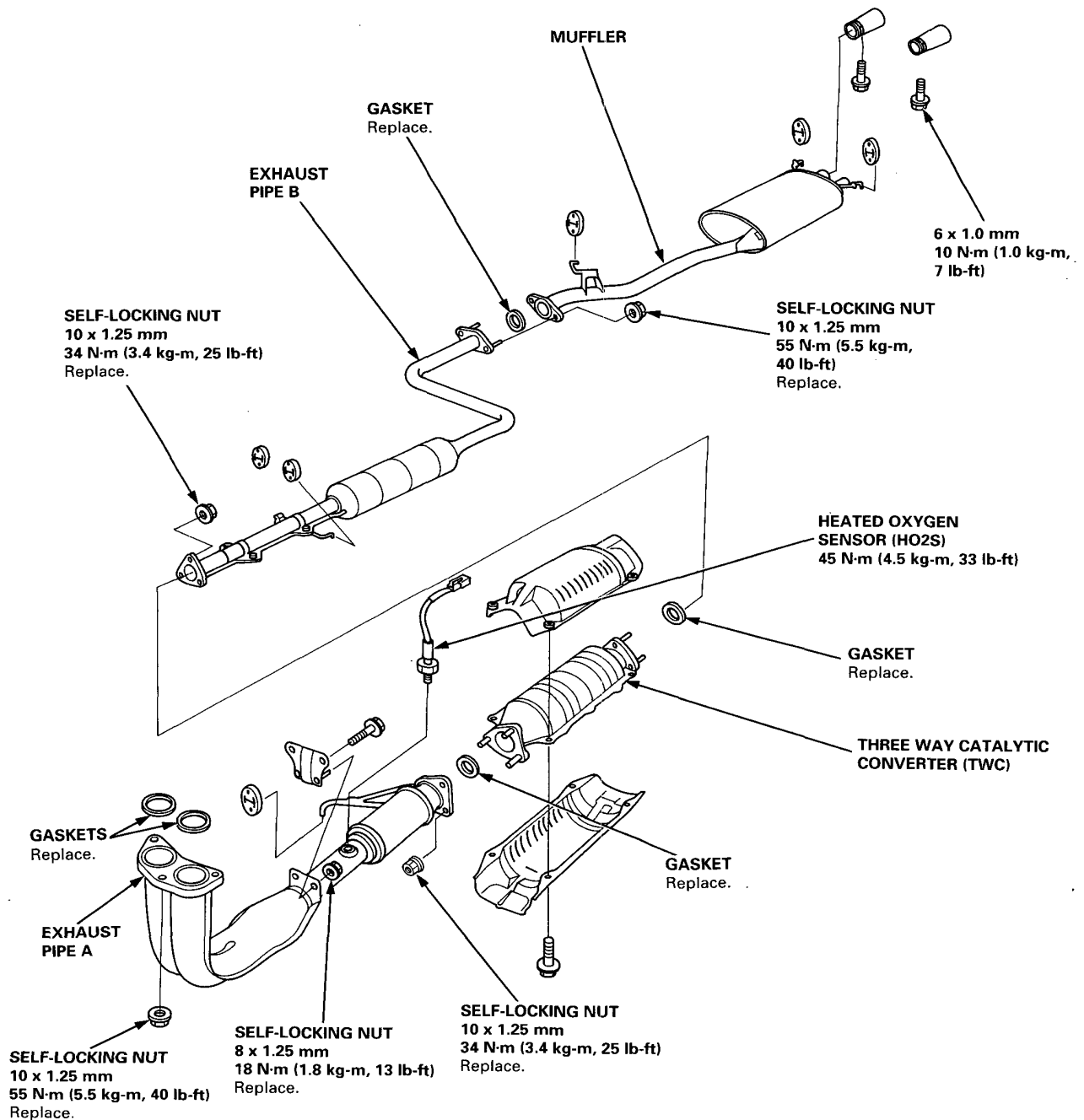
- Check for folds or scratches on the surface of the gasket.
- Replace with a new gasket if damaged.



Exhaust Pipe and Muffler

Replacement

NOTE: Use new gaskets and self-locking nuts when reassembling.



Cooling

Radiator

Illustrated Index 10-2

Water Pump

Illustrated Index 10-3



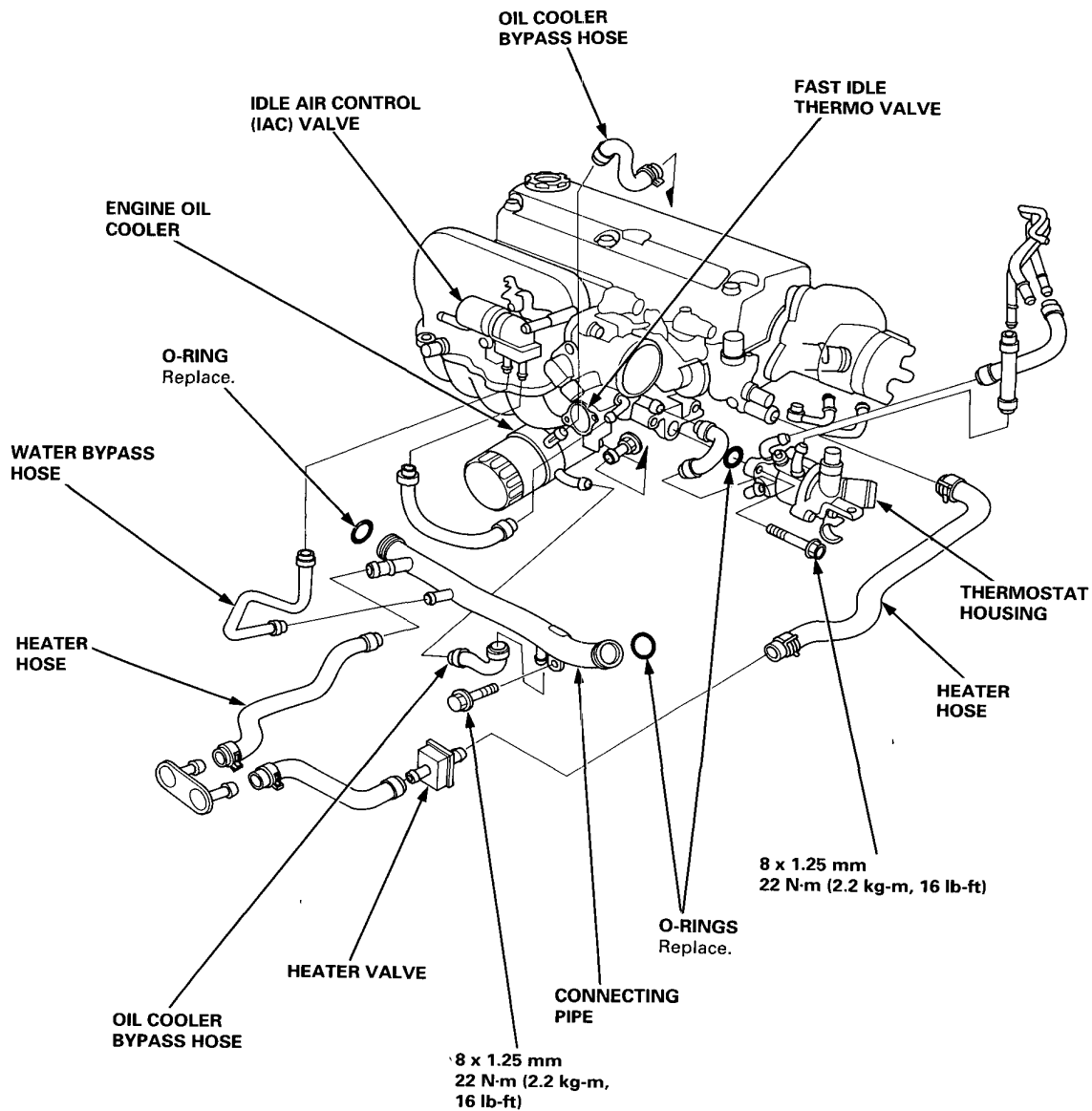
Outline of Model Change

- F22Z2 engine has been adopted. Compare to F20Z1 engine main differences is water bypass hose.

Radiator

Illustrated Index

Engine Hose Connections:

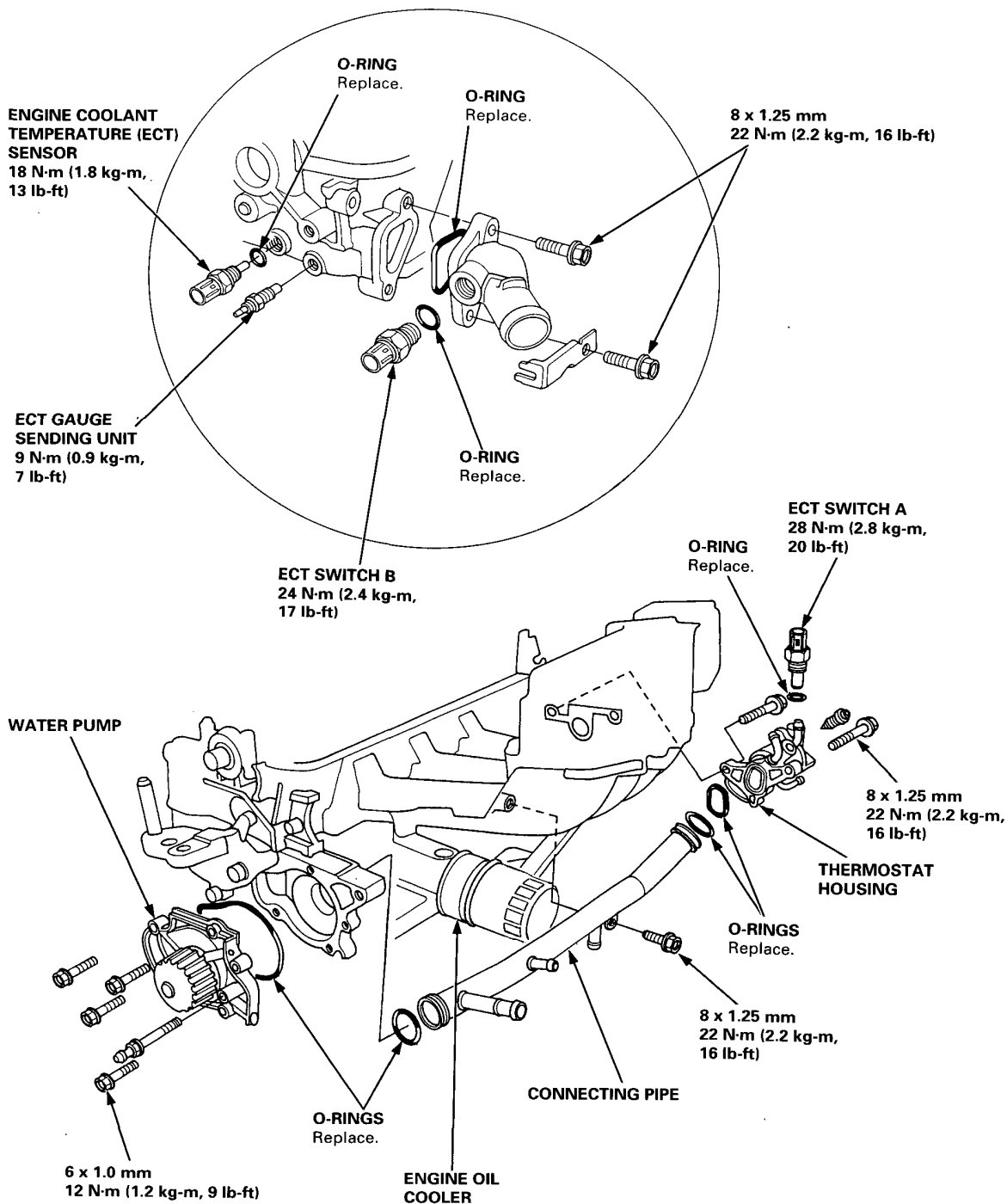


Water Pump

Illustrated Index



NOTE: Use new O-rings when reassembling.



Fuel and Emissions

Special Tools	11-2
Component Location	
Index	11-3
System Description	
Vacuum Connections	11-4
Electrical Connections	11-6
Troubleshooting	
Self-diagnostic Procedures	11-8
Engine Control Module	
Terminal Arrangement	11-10

PGM-FI System

Troubleshooting Flowcharts	
Engine Control Module	11-13
Heated Oxygen Sensor	11-17
Manifold Absolute Pressure	
Sensor	11-19
Top Dead Center/Crankshaft Position/	
Cylinder Position Sensor	11-24
Engine Coolant Temperature	
Sensor	11-26
Throttle Position Sensor	11-28
Intake Air Temperature Sensor	11-30
Barometric Pressure Sensor	11-32
Ignition Output Signal	11-33
Vehicle Speed Sensor	11-34
A/T FI Signal A/B	11-35
Heated Oxygen Sensor Heater	11-36

Idle Control System

Troubleshooting Flowcharts	
Idle Air Control Valve	11-39
Air Conditioning Signal	11-40
Alternator FR Signal	11-42
Automatic Transaxle (A/T) Gear	
Position Signal	11-43
Starter Switch Signal	11-45

Fuel Supply System

Fuel Lines	11-46
Fuel Tube/Quick-Connect Fittings	11-47
Fuel Injectors	11-50
Fuel Filter	11-51
PGM-FI Main Relay	11-52

Intake Air System

Air Cleaner	11-55
Intake Control System	11-56

Emission Control System

Exhaust Gas Recirculation System	11-58
Evaporative Emission Controls	11-62

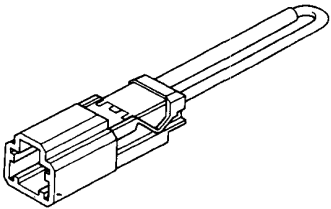


Outline of Model Changes

- F22Z2 engine has been added.
- The immobilizer system has been introduced.
- Fuel Filter has been modified.
- Fuel Tube/Quick-Connect Fittings have been introduced.
- Vacuum Connections has been changed.
- Maintenance Schedule of Air Cleaner element has been changed.

Special Tools

Ref. No.	Tool Number	Description	Qty	Remark
①	07PAZ – 0010100	SCS Short Connector	1	



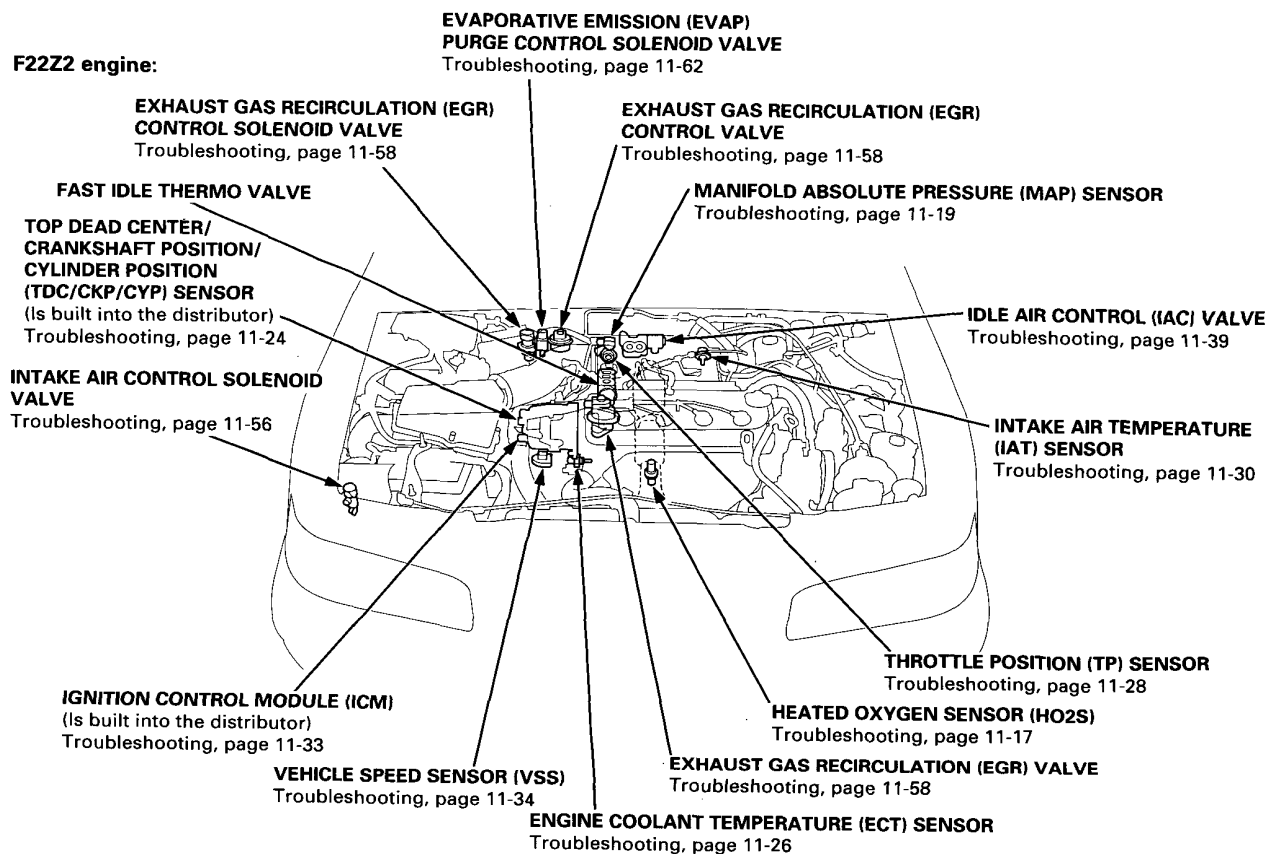
①

Component Location

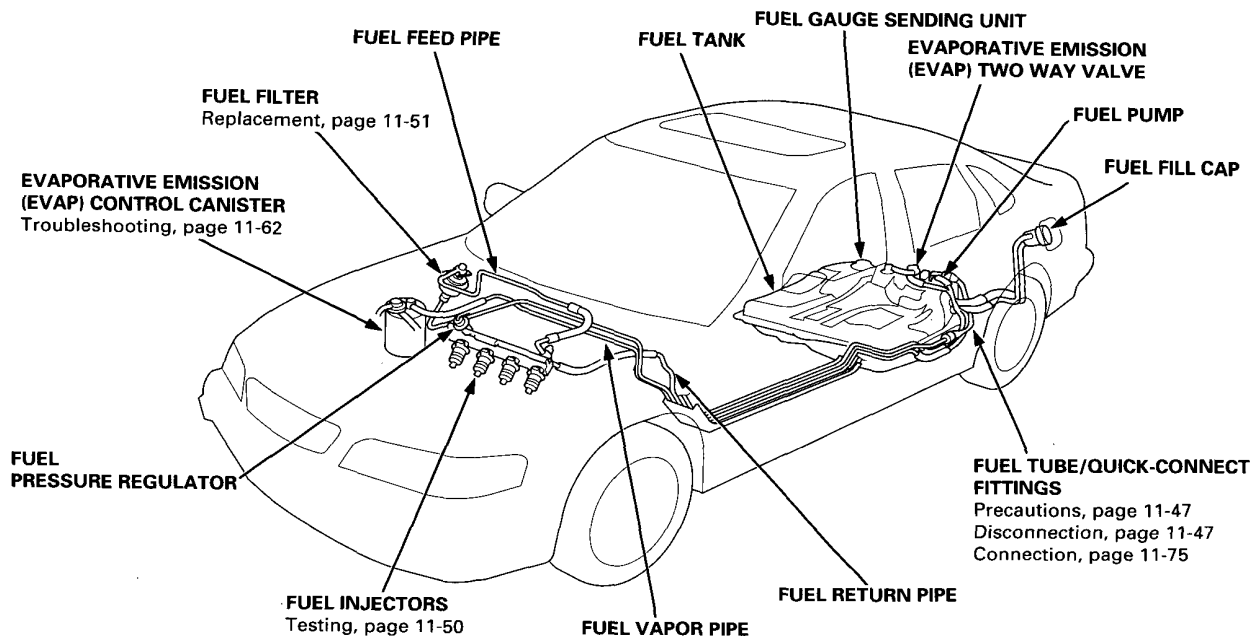
Index



F22Z2 engine:

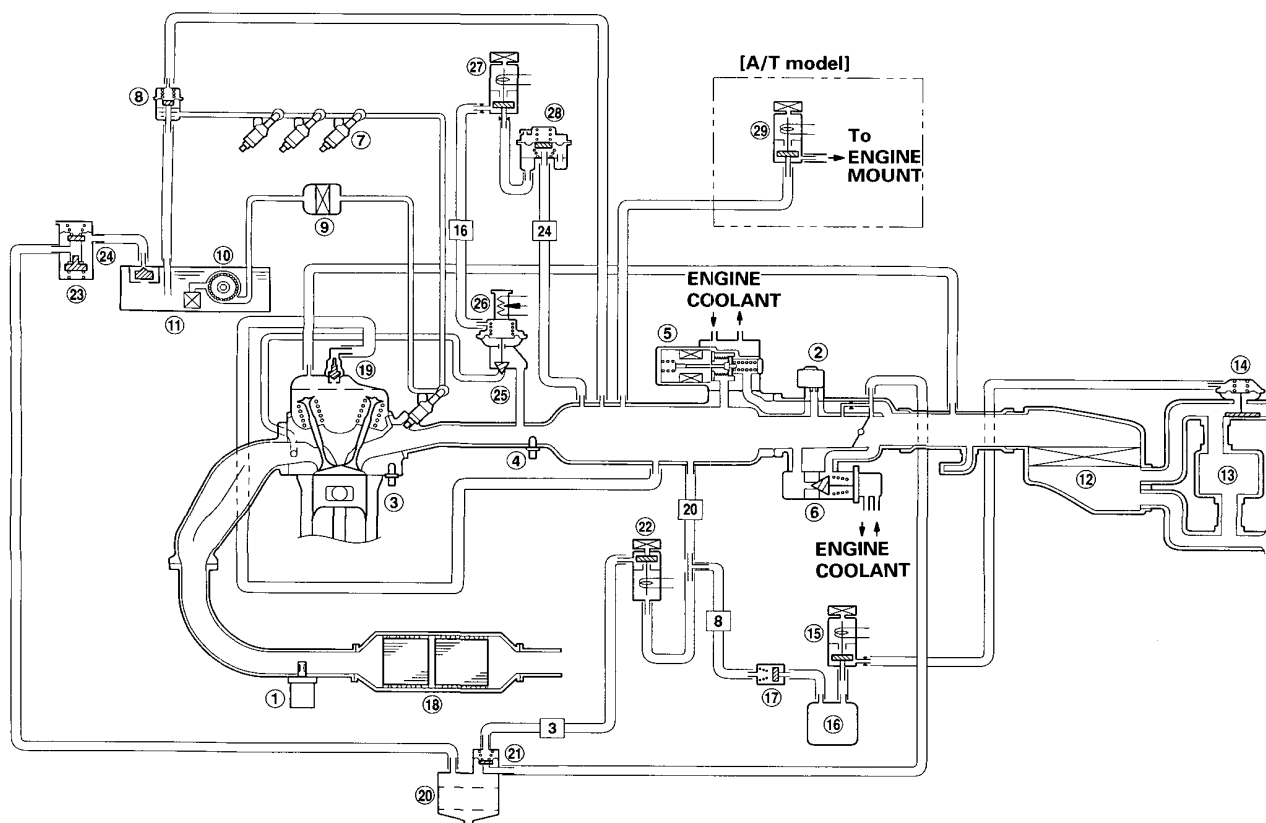


All models:



System Description

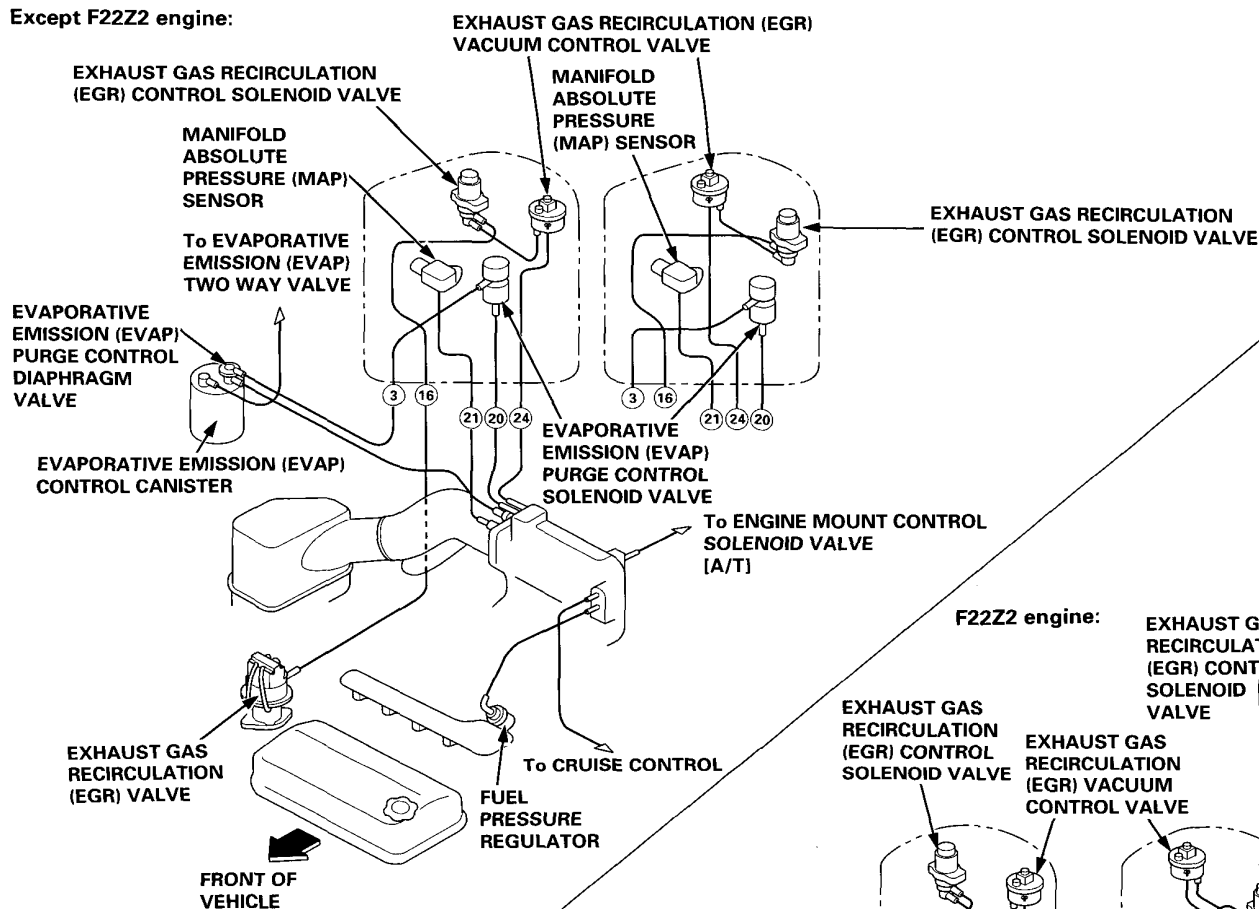
Vacuum Connections (F22Z2 engine)



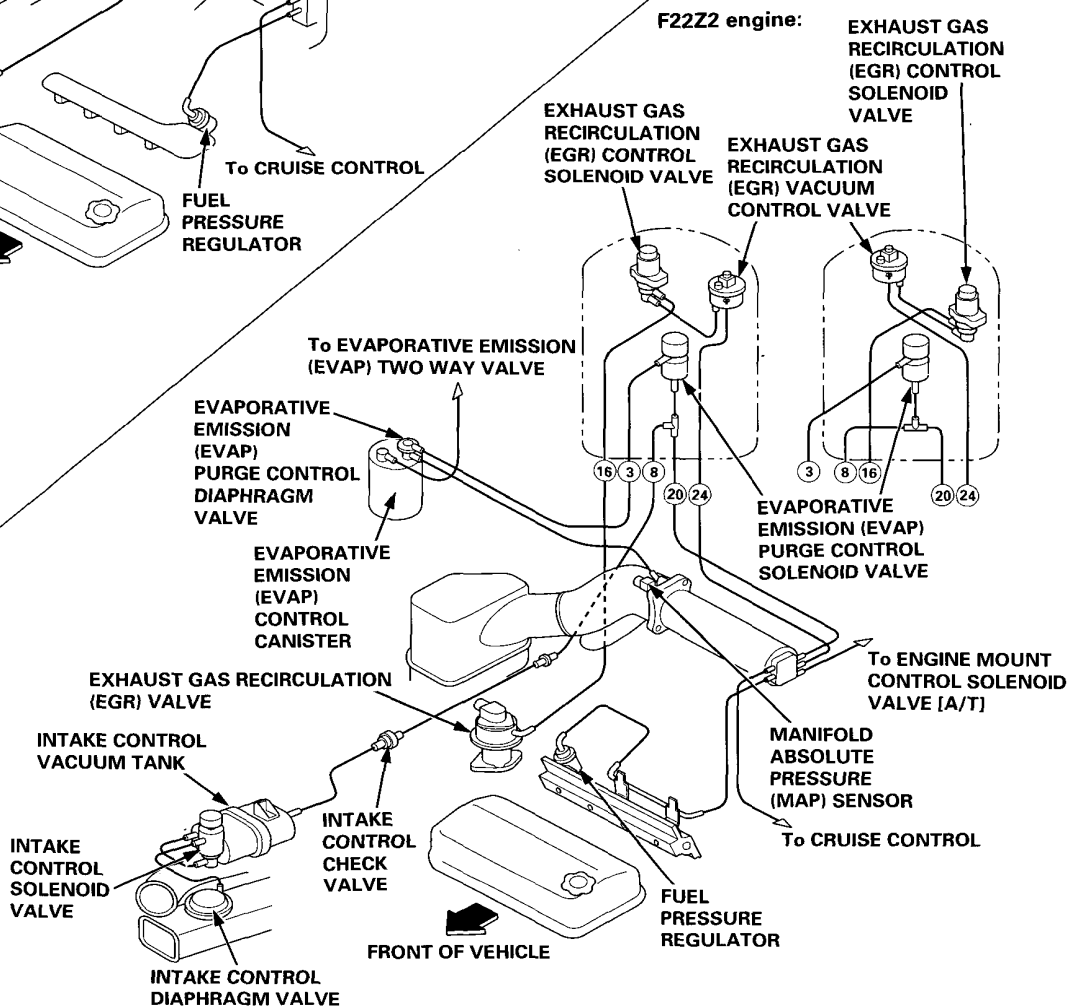
- | | |
|---|--|
| ① HEATED OXYGEN SENSOR (HO2S) | ⑲ POSITIVE CRANKCASE VENTILATION (PCV) VALVE |
| ② MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR | ⑳ EVAPORATIVE EMISSION (EVAP) CONTROL CANISTER |
| ③ ENGINE COOLANT TEMPERATURE (ECT) SENSOR | ㉑ EVAPORATIVE EMISSION (EVAP) |
| ④ INTAKE AIR TEMPERATURE (IAT) SENSOR | ㉒ PURGE CONTROL DIAPHRAGM VALVE |
| ⑤ IDLE AIR CONTROL (IAC) VALVE | ㉓ EVAPORATIVE EMISSION (EVAP) |
| ⑥ FAST IDLE THERMO VALVE | ㉔ PURGE CONTROL SOLENOID VALVE |
| ⑦ FUEL INJECTOR | ㉕ EVAPORATIVE EMISSION (EVAP) |
| ⑧ FUEL PRESSURE REGULATOR | ㉖ TWO WAY VALVE |
| ⑨ FUEL FILTER | ㉗ FUEL TANK EVAPORATIVE EMISSION (EVAP) VALVE |
| ⑩ FUEL PUMP (FP) | ㉘ EXHAUST GAS RECIRCULATION (EGR) VALVE |
| ⑪ FUEL TANK | ㉙ EXHAUST GAS RECIRCULATION (EGR) VALVE |
| ⑫ AIR CLEANER (ACL) | ㉚ LIFT SENSOR |
| ⑬ RESONATOR | ㉛ EXHAUST GAS RECIRCULATION (EGR) CONTROL |
| ⑭ INTAKE CONTROL DIAPHRAGM VALVE | ㉜ SOLENOID VALVE |
| ⑮ INTAKE CONTROL SOLENOID VALVE | ㉝ EXHAUST GAS RECIRCULATION (EGR) VACUUM CONTROL |
| ⑯ INTAKE CONTROL VACUUM TANK | ㉞ VALVE |
| ⑰ INTAKE CONTROL CHECK VALVE | ㉟ ENGINE MOUNT CONTROL SOLENOID VALVE |
| ⑱ THREE WAY CATALYTIC CONVERTER (TWC) | |



Except F22Z2 engine:

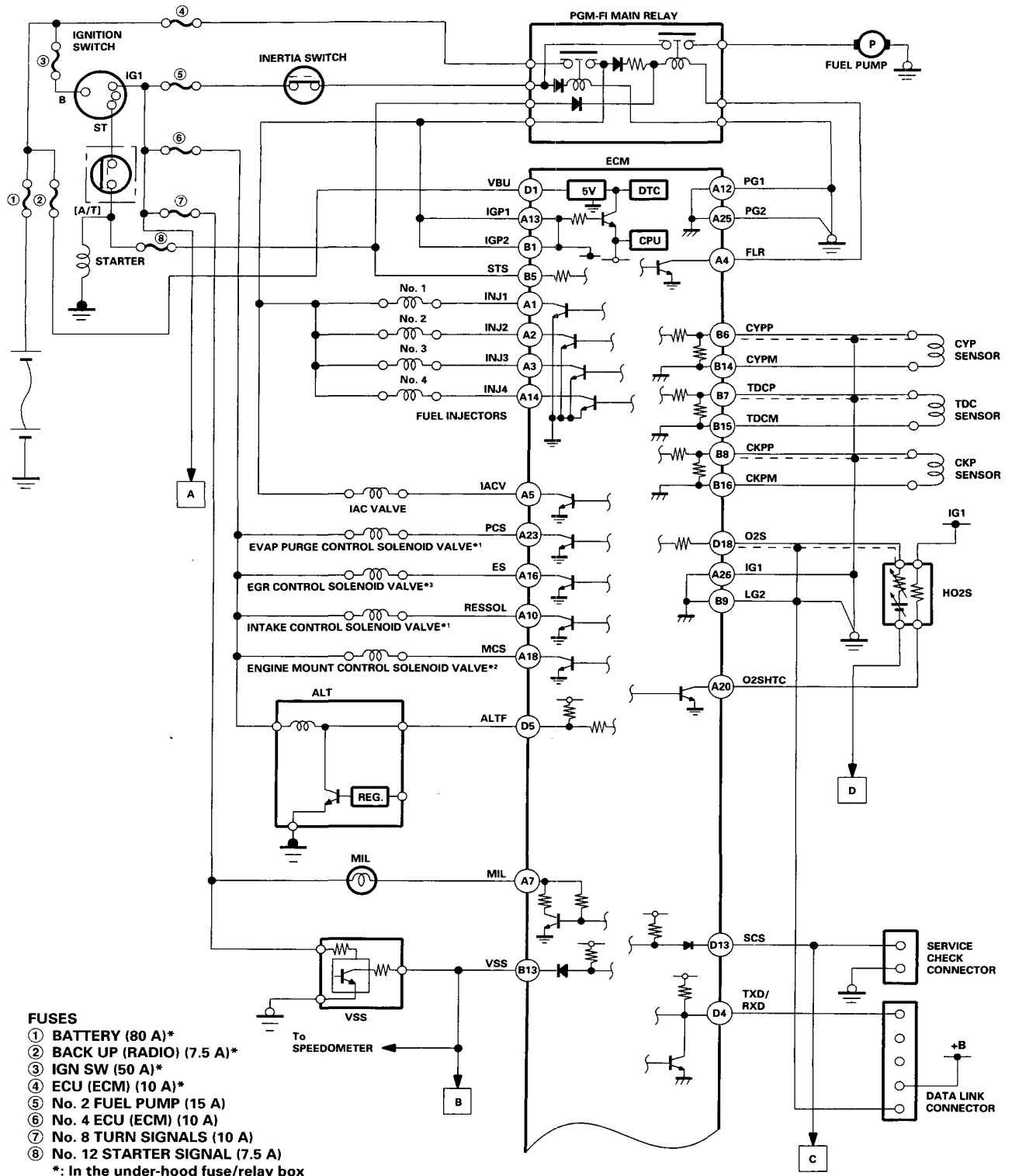


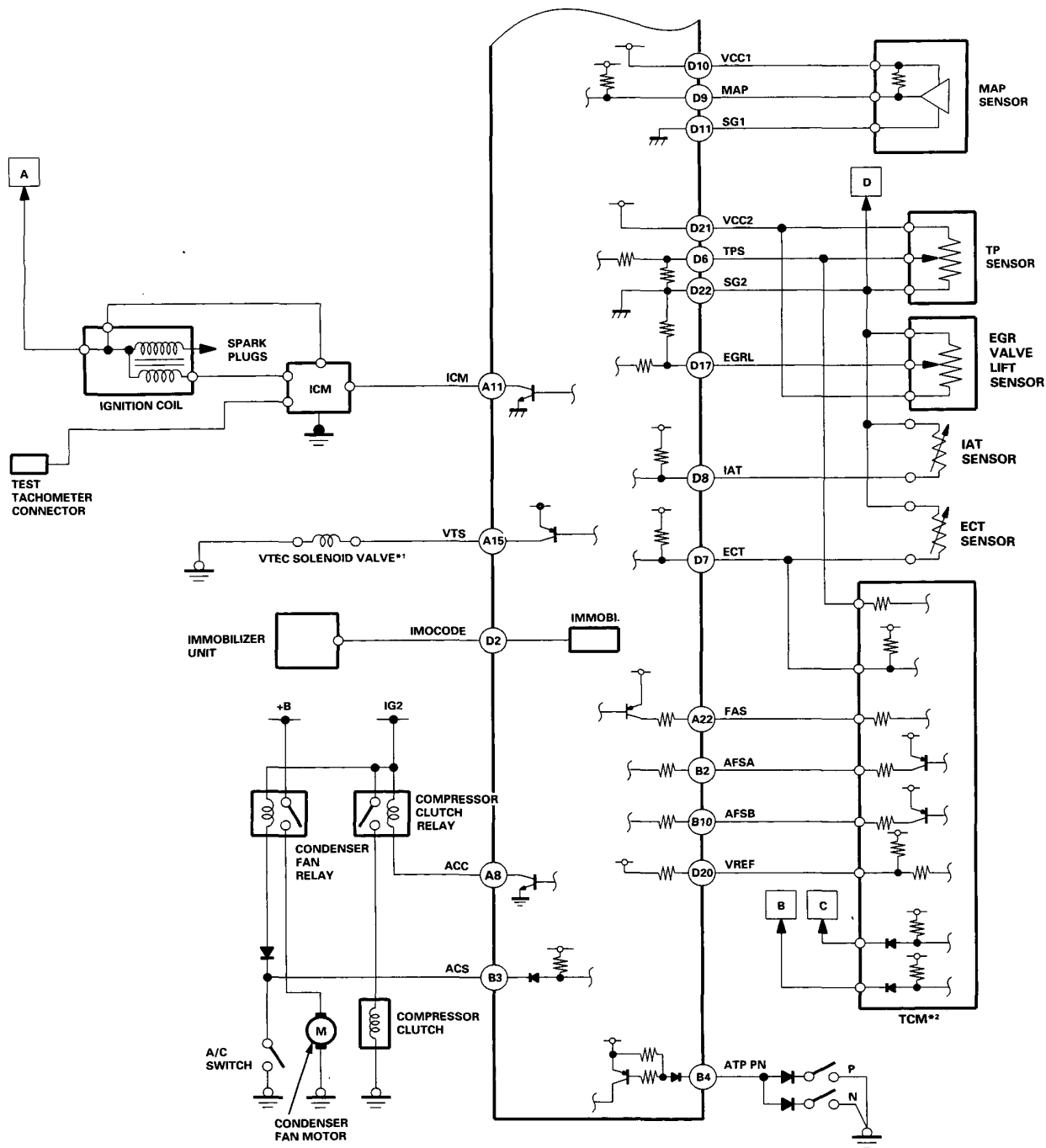
F22Z2 engine:



System Description

Electrical Connections





*1: F22Z2 engine
*2: A/T model

ECM-A

1	2	3	4	5	6	7	8	10	11	12	13
14	15	16	18	22	23	25	26				

ECM-B

1	2	3	4	5	6	7	8
9	10	13	14	15	16		

ECM-D

1	2	4	5	6	7	8	9	10	11
13	17	18	20	21	22				

TERMINAL LOCATIONS

Troubleshooting

Self-diagnostic Procedures

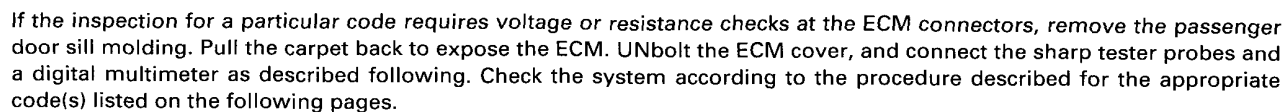
When the Malfunction Indicator Lamp (MIL) has been reported on, refer to base Shop Manual (P/N: 62SN700) and blink the code.

DIAGNOSTIC TROUBLE CODE (DTC)	SYSTEM INDICATED	Page
0	ENGINE CONTROL MODULE (ECM)	11-13
1	HEATED OXYGEN SENSOR (HO2S)	11-17
3	MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR	11-19
4	CRANKSHAFT POSITION (CKP) SENSOR	11-24
5	MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR	11-21, 23
6	ENGINE COOLANT TEMPERATURE (ECT) SENSOR	11-26
7	THROTTLE POSITION (TP) SENSOR	11-28
8	TOP DEAD CENTER POSITION (TDC) SENSOR	11-24
9	No. 1 CYLINDER POSITION (CYP) SENSOR	11-24
10	INTAKE AIR TEMPERATURE (IAT) SENSOR	11-30
12	EXHAUST GAS RECIRCULATION (EGR)	11-58
13	BAROMETRIC PRESSURE (BARO) SENSOR	11-32
14	IDLE AIR CONTROL (IAC) VALVE	11-39
15	IGNITION OUTPUT SIGNAL	11-33
17	VEHICLE SPEED SENSOR (VSS)	11-34
21* ¹	VARIABLE VALVE TIMING & VALVE LIFT ELECTRONIC CONTROL (VTEC) SOLENOID VALVE	6-3
30* ²	A/T FI SIGNAL A	11-35
31* ²	A/T FI SIGNAL B	11-35
41	HEATED OXYGEN SENSOR (HO2S) HEATER	11-36

*1: F22Z2 engine

*2: A/T model

- If codes other than those listed above are indicated, verify the code. If the code indicated is not listed above, replace the ECM.
- The MIL may come on, indicating a system problem when, in fact, there is a poor or intermittent electrical connection. First, check the electrical connections, clean or repair connections if necessary.



When checking the ECM connector terminals, gently slide the sharp tester probe from the wire side into the connector until it comes in contact with the terminal end of the wire.



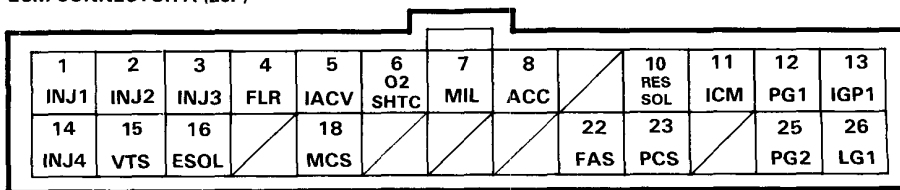
When substitute a known-good ECM and recheck.

The ECM has a Immobilizer System. The known-good ECM has a different code stored into it, the code must be rewritten with the Honda PGM Tester. Otherwise, the engine will not start.

Troubleshooting

Engine Control Module Terminal Arrangement

ECM CONNECTOR A (26P)



TERMINAL SIDE OF MALE TERMINALS

ECM CONNECTOR A (26P)

NOTE: Standard voltage is 12 V.

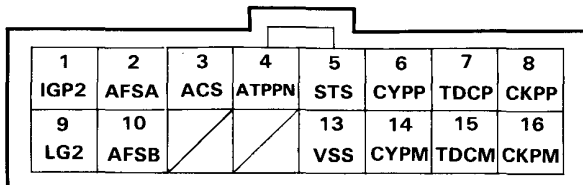
Terminal number	Wire color	Terminal name	Description	Signal
1	BRN	INJ1 (No. 1 FUEL INJECTOR)	Drives No. 1 fuel injector.	With engine running: about 10 V-battery voltage (depending on engine speed)
2	RED	INJ2 (No. 2 FUEL INJECTOR)	Drives No. 2 fuel injector.	
3	BLU	INJ3 (No. 3 FUEL INJECTOR)	Drives No. 3 fuel injector.	
4	GRN/BLK	FLR (FUEL PUMP RELAY)	Drives fuel pump relay.	0 V for two seconds after turning ignition switch ON (II), then battery voltage
5	BLK/BLU	IACV (INTAKE AIR CONTROL VALVE)	Drives IACV.	With engine running: about 6 V – 10 V (depending on engine speed)
6	BLK/WHT	O2SHTC (HEATED OXYGEN SENSOR HEATER CONTROL)	Drives heated oxygen sensor heater.	With ignition switch ON (III): battery voltage With fully warmed up engine running: 0 V
7	LT GRN/RED	MIL (MALFUNCTION INDICATOR LAMP)	Drives MIL.	With MIL turned ON: 0 V With MIL turned OFF: battery voltage
8	LT BLU	ACC (A/C CLUTCH RELAY)	Drives A/C clutch relay.	With compressor ON: 0 V With compressor OFF: battery voltage
10*1	WHT	RES SOL (INTAKE CONTROL SOLENOID VALVE)	Drives intake control solenoid valve.	With engine at low rpm: 0 V With engine at high rpm: battery voltage
11	YEL/GRN	ICM (IGNITION CONTROL MODULE)	Sends ignition pulse.	With ignition switch ON (III): battery voltage With engine running: about 10 V (depending on engine speed)
12	BLK	PG1 (POWER GROUND)	Ground for the ECM power circuit.	
13	YEL/BLK	IGP1 (POWER SOURCE)	Power source for the ECM control circuit.	With ignition switch ON (III): battery voltage With ignition switch OFF: 0 V
14	YEL	INJ4 (No. 4 FUEL INJECTOR)	Drives No. 4 fuel injector.	With engine running: about 10 V-battery voltage (depending on engine speed)
15	GRN/YEL	VTS (VTEC SOLENOID VALVE)	Drives VTEC solenoid valve.	With engine at low rpm: 0 V With engine at high rpm: battery voltage
16	RED	ESOL (EGR CONTROL SOLENOID VALVE)	Drives EGR control solenoid valve.	With EGR operating during driving with fully warmed up engine: duty controlled With EGR not operating: battery voltage
18	GRN/WHT	MCS (ENGINE MOUNT CONTROL SOLENOID VALVE)	Drives engine mount control solenoid valve.	During idling: 0 V Beyond idling: battery voltage
22	BRN/WHT	FAS (FEEDBACK AT SIGNAL)	Sends feedback signal for the TCM.	During idling: about 5 V During shifting: momentary change to 0 V
23	GRN	PCS (EVAP PURGE CONTROL SOLENOID VALVE)	Drives EVAP purge control solenoid valve.	With engine running engine coolant below 75°C (167°F): battery voltage With engine running, engine coolant above 75°C (167°F): 0 V
25	BLK	PG2 (POWER GROUND)	Ground for the ECM power circuit.	
26	BRN/BLK	LG1 (LOGIC GROUND)	Ground for the ECM control circuit.	

*1: F22Z2 engine

*2: A/T model



ECM CONNECTOR B (16P)



TERMINAL SIDE OF MALE TERMINALS

ECM CONNECTOR B (16P)

NOTE: Standard voltage is 12 V.

Terminal number	Wire color	Terminal name	Description	Signal
1	YEL/BLK	IGP2 (POWER SOURCE)	Power source for the ECM control circuit.	With ignition switch ON (II): battery voltage With ignition switch OFF: 0 V
2*2	WHT/RED	AFSA (A/T FI SIGNAL A)	Detects retard signal from the TCM.	During idling: about 5 V During shifting: momentary change to 0 V
3	RED/WHT	ACS (A/C SWITCH SIGNAL)	Detects A/C switch signal.	With A/C switch ON: 0 V With A/C switch OFF: battery voltage
4*2	RED/BLK	ATPPN (A/T GEAR POSITION SWITCH)	Detects A/T gear position switch signal.	In [N] or [P] position: 0 V In any other position: battery voltage
5	BLU/RED	STS (STARTER SWITCH SIGNAL)	Detects starter switch signal.	With starter switch ON: battery voltage With starter switch OFF: 0 V
6	YEL	CYPP (CYP SENSOR P SIDE)	Detects CYP sensor signal.	Pulses when engine is running
7	GRN	TDCP (TDC SENSOR P SIDE)	Detects TDC sensor signal.	Pulses when engine is running
8	BLU	CKPP (CKP SENSOR P SIDE)	Detects CKP sensor signal.	Pulses when engine is running
9	BRN/BLK	LG2 (LOGIC GROUND)	Ground for the ECM control circuit.	
10*2	LT GRN	AFSB (A/T FI SIGNAL B)	Detects retard signal from the TCM.	During idling: about 5 V During shifting: momentary change to 0 V
13	BLU/WHT	VSS (VEHICLE SPEED SENSOR)	Detects VSS signal.	With ignition switch ON (II) and front wheels turned: cycles 0 V- battery voltage
14	BLK	CYPM (CYP SENSOR M SIDE)	Detects CYP sensor signal.	Pulses when engine is running
15	RED	TDCM (TDC SENSOR M SIDE)	Detects TDC sensor signal.	Pulses when engine is running
16	WHT	CKPM (CKP SENSOR M SIDE)	Detects CKP sensor signal.	Pulses when engine is running

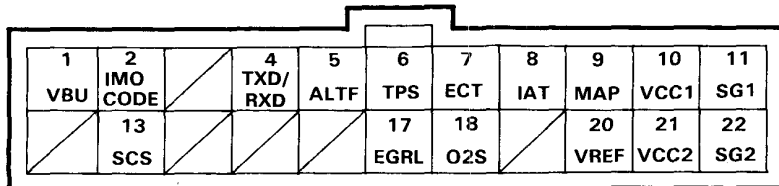
*1: F22Z2 engine
*2: A/T model

(cont'd)

Troubleshooting

Engine Control Module Terminal Arrangement (cont'd)

ECM CONNECTOR D (22P)



TERMINAL SIDE OF MALE TERMINALS

ECM CONNECTOR D (22P)

NOTE: Standard voltage is 12 V.

Terminal number	Wire color	Terminal name	Description	Signal
1	WHT/YEL	VBU (VOLTAGE BACK UP)	Power source for the ECM control circuit. Power source for the DTC memory	Battery voltage at all times
2	WHT	IMO CODE (IMMOBILIZER CODE)	Detects Immobilizer Signal.	
4	LT GRN/RED	RXD/TXD (DLC)	Sends or detects PGM tester signal.	With ignition switch ON (II): about 5 V
5	WHT/RED	ALTF (ALTERNATOR FR SIGNAL)	Detects alternator FR signal.	With fully warmed up engine running: 0 V – 5 V (depending on electrical load)
6	RED/BLK	TPS (THROTTLE POSITION SENSOR)	Detects TP sensor signal.	With throttle fully open: about 4.5 V With throttle fully closed: about 0.5 V
7	RED/WHT	ECT (ENGINE COOLANT TEMPERATURE SENSOR)	Detects ECT sensor signal.	With ignition switch ON (II): about 0.1 – 4.8 V (depending on engine coolant temperature)
8	RED/YEL	IAT (INTAKE AIR TEMPERATURE SENSOR)	Detects IAT sensor signal.	With ignition switch ON (II): about 0.1 – 4.8 V (depending on intake air temperature)
9	WHT/YEL	MAP (MANIFOLD ABSOLUTE PRESSURE SENSOR)	Detects MAP sensor signal.	With ignition switch ON (II): about 3 V During idling: about 1.5 V (depending on engine speed)
10	YEL/WHT	VCC1 (SENSOR VOLTAGE)	Power source for MAP sensor.	With ignition switch ON (II): about 5 V
11	GRN/WHT	SG1 (SENSOR GROUND)	Ground for MAP sensor.	
13	RED	SCS (SERVICE CHECK SIGNAL)	Detects service check connector signal (the signal causing a DTC indication)	With the connector connected: 0 V With the connector disconnected: about 5 V or battery voltage
17	WHT/BLK	EGRL (EGR VALVE LIFT SENSOR)	Detects EGR valve lift sensor signal.	During idling without vacuum: about 1.2 V With 27 kPa (200 mmHg, 8 in.Hg): about 4.3 V
18	WHT/RED	O2S (OXYGEN SENSOR)	Detects oxygen sensor signal.	With throttle fully opened during idling of fully warmed up engine: above 0.6 V With throttle quickly closed: below 0.4 V
20*2	LT GRN/BLK	VREF (REFERENCE VOLTAGE)	Provides reference voltage to TCM.	With ignition switch ON (II): about 5 V With ignition switch OFF: 0 V
21	YEL/BLU	VCC2 (SENSOR VOLTAGE)	Provides sensor voltage.	With ignition switch ON (II): about 5 V With ignition switch OFF: 0 V
22	GRN/BLU	SG2 (SENSOR GROUND)	Sensor ground.	

*1: F22Z2 engine

*2: A/T model

PGM-FI System



Engine Control Module (ECM)

The Malfunction Indicator Lamp (MIL) never comes on (even for two seconds) after ignition is turned on.

Check the fuse:
Turn the ignition switch ON (II).

Is the low oil pressure light on?

YES

Check the engine starting:
Try to start the engine.

Does the engine start?

YES

Check the MIL:

1. Turn the ignition switch OFF.
2. Connect the ECM connector terminal A7 to body ground.
3. Turn the ignition switch ON (II).

Is the MIL on?

YES

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

NOTE: If this symptom is intermittent, check for a loose No. 8 TURN SIGNALS (10 A) fuse in the under-dash fuse/relay box, a poor connection at ECM terminal A7, or an intermittent open in the LT GRN/RED wire between the ECM (A7) and the gauge assembly.

- Repair short in the wire between No. 8 TURN SIGNALS (10 A) fuse and gauge assembly.
- Replace No. 8 TURN SIGNALS (10 A) fuse.

Check for an open in the wires (PG1, PG2 lines):

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON (II).
3. Measure voltage between body ground and ECM connector terminals A12, A25.

Is there less than 1.0 V?

YES

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

- Replace the MIL bulb.
- Repair open wire between the ECM (A7) and the gauge assembly.

ECM CONNECTOR A (26P)

1	2	3	4	5	6	7	8	10	11	12	13
14	15	16	18	19	22	23	25	26			

WIRE SIDE OF FEMALE TERMINALS



Repair open in the wire(s) between ECM (A12, A25) and G101 (located at the left side of the intake manifold) that had more than 1.0 V.

ECM CONNECTOR A (26P)

1	2	3	4	5	6	7	8	10	11	12	13
14	15	16	18	19	22	23	25	26			

WIRE SIDE OF FEMALE TERMINALS

(cont'd)

PGM-FI System

Engine Control Module (ECM) (cont'd)

The Malfunction Indicator Lamp (MIL) stays on or comes on after two seconds.

Check the inertia switch:
Press the inertia switch button.

Does the MIL remain on?

NO

Intermittent failure, system is OK at this time.

YES

Disconnect the 3P connector from the inertia switch.

Connect the inertia switch 3P connector terminals No. 1 and No. 3

Does the MIL remain on?

NO

Replace the inertia switch.

YES

Check for a Diagnostic Trouble Code (DTC):
1. Connect the SCS short connector to the service check connector.
2. Turn the ignition switch ON (II).

Does the MIL indicate any DTC?

YES

Go to self-diagnostic procedures. (see page 11-8).

NO

Check the engine starting:
1. Remove the SCS short connector from the service check connector.
2. Try to start the engine.

Did the engine start?

YES

Check the ECM output voltage (SCS line):
1. Turn the ignition switch OFF.
2. Turn the ignition switch ON (II).
3. Measure voltage between ECM connector terminals D13 and body ground.

Is there approx. 5 V?

NO

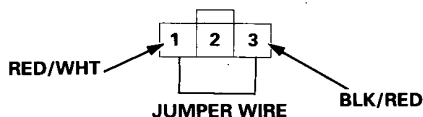
Repair short in the wire between the ECM (D13) and the service check connector.

Check the fuse:
Inspect ECU (ECM) (10 A) fuse in the under-hood fuse/relay box.



(To page 11-15)

INERTIA SWITCH 3P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

NOTE:

- When there is no code stored, the MIL will stay on if the service check connector is shorted and the ignition switch is ON (II).
- If this symptom is intermittent, check for:
 - A loose ECU (ECM) (10 A) fuse in the under-hood fuse/relay box.
 - A loose No. 2 FUEL PUMP (15 A) fuse in the under-dash fuse/relay box.
 - An intermittent short in the RED wire between the ECM (D13) and the service check connector.
 - An intermittent open in the GRN/BLK wire between the service check connector and ECM (D22).
 - An intermittent short in the LT GRN/RED wire between the ECM (A7) and the gauge assembly.
 - An intermittent short in the YEL/RED wire between the ECM (D10) and the MAP sensor.
 - An intermittent short in the YEL/BLU wire between the ECM (D21) and the TP sensor or EGR valve lift sensor.

ECM CONNECTOR D (22P)

1	2	3	4	5	6	7	8	9	10	11
13	14	15	16	17	18	19	20	21	22	

SCS (RED)



WIRE SIDE OF FEMALE TERMINALS

Check for an open in the wire (SCS line):

1. Connect the SCS short connector to service check connector.
2. Measure voltage between ECM connector terminals D13 and body ground.

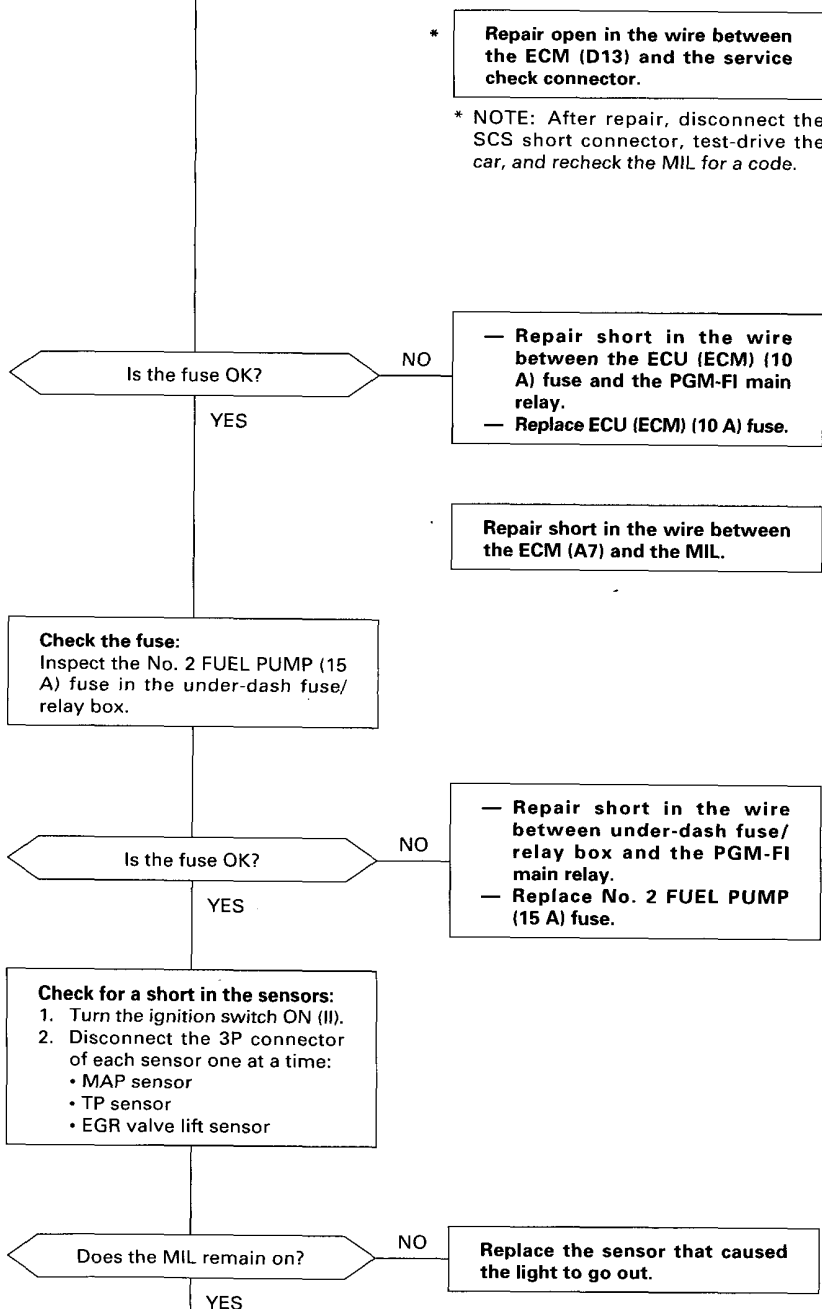


(To page 11-15)



(From page 11-14)

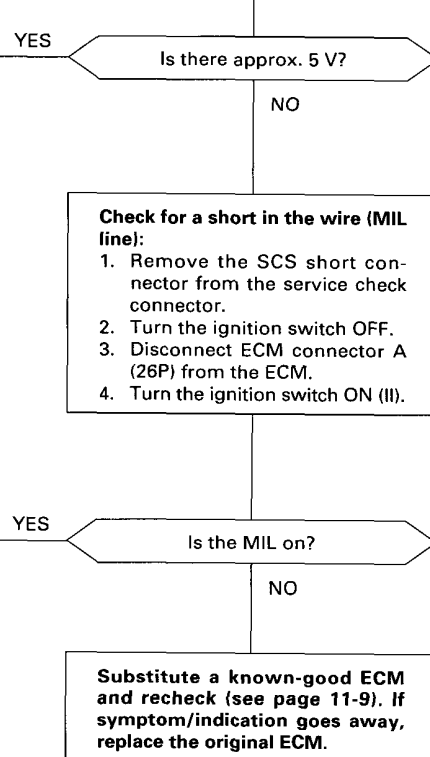
A



(To Page 11-16)

(From page 11-14)

B



(cont'd)

PGM-FI System

Engine Control Module (ECM) (cont'd)

(From page 11-15)

Check for a short in the wires (VCC1, VCC2 lines):

1. Turn the ignition switch OFF.
2. Disconnect ECM connector D (22P) from the ECM.
3. Check for continuity between body ground and ECM connector terminals D10 and D21 individually.

Is there continuity?

YES

- Repair short in the wire between the ECM (D10) and the MAP sensor.
- Repair short in the wire between the ECM (D21) and the TP sensor and/or the EGR valve lift sensor.

NO

Check for an open in the wires (IGP1, IGP2 lines):

1. Disconnect the fuel injector and IAC valve connectors.
2. Turn the ignition switch ON (II).
3. Measure voltage between body ground and ECM connector terminals A13, B1 individually.

Is there battery voltage?

NO

- Repair open in the wire(s) between ECM (A13, B1) and PGM-FI main relay.
- Check for poor connections or loose wires at the PGM-FI main relay.

YES

Check for an open in the wires (LG1, LG2 lines):

1. Reconnect all the sensor connectors.
2. Reconnect ECM connector D (22P) to the ECM.
3. Turn the ignition switch ON (II).
4. Measure voltage between body ground and ECM connector terminals A26, B9 individually.

Is there less than 1.0 V?

NO

Repair open in the wire(s) between the ECM (A26, B9) and G101.

YES

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

ECM CONNECTOR D (22P)

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22

VCC1
(YEL/RED)

VCC2
(YEL/BLU)

WIRE SIDE OF
FEMALE TERMINALS

ECM CONNECTORS

IGP 1
(YEL/BLK)

IGP 2
(YEL/BLK)

B (16P)

A (26P)

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

WIRE SIDE OF FEMALE TERMINALS

ECM CONNECTOR A (26P)

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26

WIRE SIDE OF FEMALE
TERMINALS

LG1
(BRN/BLK)

ECM CONNECTOR B (16P)

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

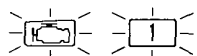
LG2
(BRN/BLK)

WIRE SIDE OF FEMALE
TERMINALS

PGM-FI System

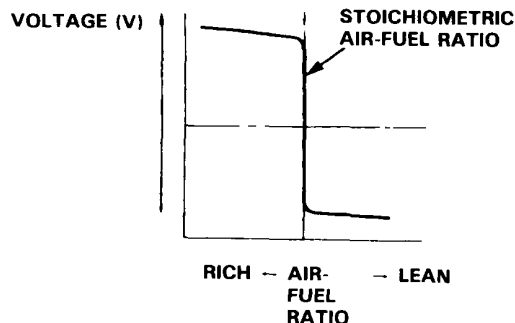
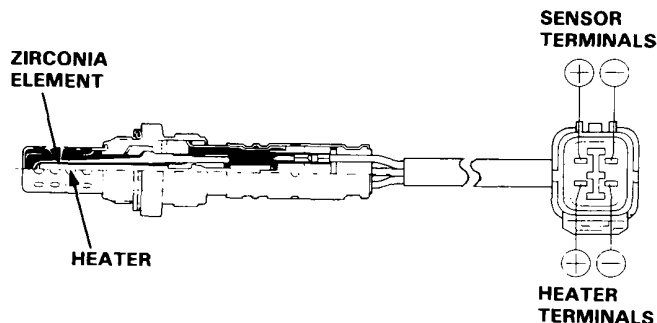


Heated Oxygen Sensor (HO2S)



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 1: A problem in the Heated Oxygen Sensor (HO2S) circuit.

The Heated Oxygen Sensor (HO2S) detects the oxygen content in the exhaust gas and signals the ECM. In operation, the ECM receives the signals from the sensor and varies the duration during which fuel is injected. To stabilize the sensor's output, the sensor has an internal heater. The HO2S is installed in the exhaust pipe A (F22Z2 engine), exhaust manifold (F20Z1, F18A3 engine).



- The MIL has been reported on.
- With the SCS short connector connected code 1 is indicated.

Problem verification:

1. Do the ECM Reset Procedure.
2. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (M/T in neutral, A/T in **N** or **P** position) until the radiator fan comes on, then let it idle for at least one minute before test-driving.
3. Connect the SCS short connector to the service check connector.
4. Test-drive M/T in 2nd gear, A/T in **2** position. Starting at 1,600 rpm (min^{-1}), accelerate using wide open throttle for at least 5 seconds. Then decelerate for at least 5 seconds with the throttle completely closed.

Does the MIL blink and does it indicate code 1?

NO

Intermittent failure, system is OK at this time. Check for poor connections or loose wires between the HO2S and the ECM.

YES

Check the fuel pressure:

1. Inspect fuel pressure.

Is it normal?

NO

Go to Fuel Supply System.

YES

(To page 11-18)

(cont'd)

PGM-FI System

Heated Oxygen Sensor (HO2S) (cont'd)

(From page 11-17)

Check the ECM input voltage:

1. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (M/T in 2nd gear, A/T in **N** or **P** position) until the radiator fan comes on, then let it idle for at least one minute before test-driving.
2. Measure voltage between ECM connector terminals D18 and A26.
3. Open the throttle wide open, then quickly release it.

ECM CONNECTORS

A (26P)

D (22P)

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22

WIRE SIDE OF
FEMALE TERMINALS

LG1
(BRN/BLK)



O2S
(WHT)

WIRE SIDE OF
FEMALE TERMINALS

Is the voltage above 0.6 V at wide open throttle to 4,500 rpm (min^{-1}) and below 0.4 V when the throttle is quickly released from 4,500 rpm (min^{-1})?

YES

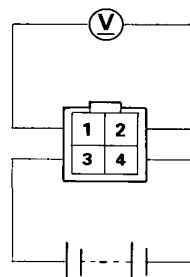
Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

NO

Check the HO2S:

1. Turn the ignition switch OFF.
2. Disconnect the 4P connector from the HO2S.
3. At the HO2S harness side, connect the battery positive terminal to terminal No. 3 and battery negative terminal to terminal No. 4.
4. Start the engine.
5. After two minutes, measure voltage between HO2S 4P connector terminals No. 1 and No. 2.

HO2S 4P CONNECTOR



TERMINAL SIDE OF
MALE TERMINALS

Is the voltage above 0.6 V at wide open throttle to 4,500 rpm (min^{-1}) and below 0.4 V when the throttle is quickly released from 4,500 rpm (min^{-1})?

NO

Replace the HO2S.

YES

Repair open or short in the wire ECM (D18) and the HO2S.



Manifold Absolute Pressure (MAP) Sensor



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 3: An electrical problem in the Manifold Absolute Pressure (MAP) Sensor circuit.

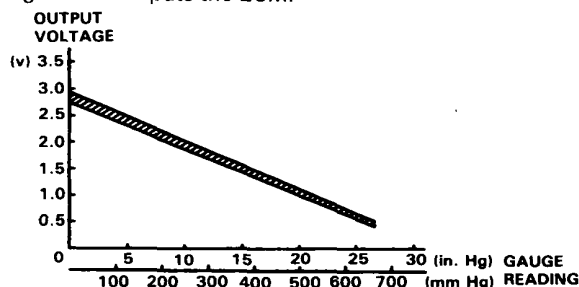
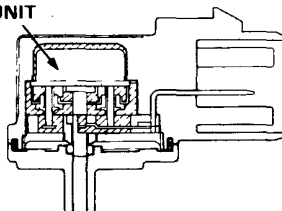
The MAP sensor converts manifold absolute pressure into electrical signals and inputs the ECM.

- The MIL has been reported on.
- With the SCS short connector connected, code 3 is indicated.

Problem verification:

1. Do the ECM Reset Procedure.
2. Start the engine and allow it to idle.

SENSOR UNIT



Is the MIL on and does it indicate code 3?

NO

Intermittent failure, system is OK at this time (test-drive may be necessary). Check for poor connections or loose wires between the MAP sensor and the ECM.

YES

Check the ECM output voltage (VCC1 line):

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON (II).
3. Measure voltage between ECM connector terminals D10 and D11.

Is there approx. 5 V?

NO

Check the ECM output voltage (VCC1 line):

1. Turn the ignition switch OFF.
2. Disconnect the 3P connector from the MAP sensor.
3. Turn the ignition switch ON (II).
4. Measure voltage between ECM connector terminals D10 and D11.

Is there approx. 5 V?

YES

Replace the MAP sensor.

NO

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

Check the ECM output voltage (MAP line):

Measure voltage between ECM connector terminals D9 and D11.

Is there approx. 3 V?

YES

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

NO

Is there approx. 5 V?

YES

Check for an open in the wire (SG1 line):

1. Turn the ignition switch OFF.
2. Disconnect 3P connector from the MAP sensor.
3. Turn the ignition switch ON (II). Measure voltage between MAP sensor 3P connector terminals No. 1 and No. 2.

Is there approx. 5 V?

NO

Repair open in the wire between the ECM (D11) and the MAP sensor.

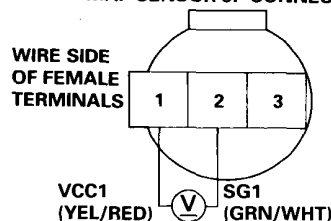
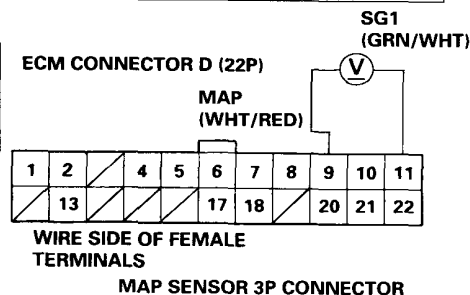
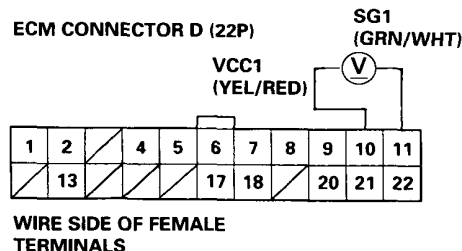
YES



(To page 11-20)



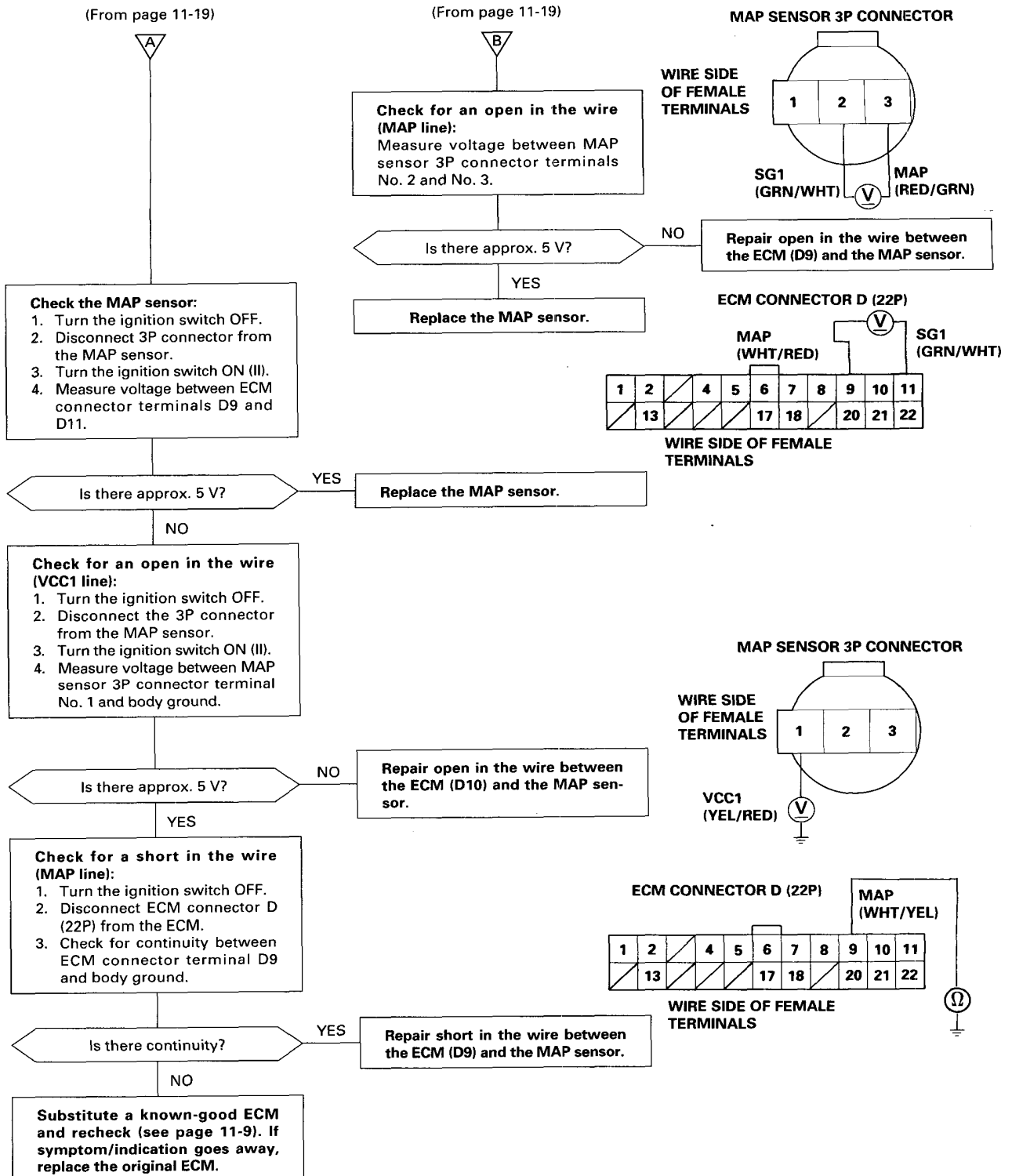
(To page 11-20)



(cont'd)

PGM-FI System

Manifold Absolute Pressure (MAP) Sensor (cont'd)



PGM-FI System

Manifold Absolute Pressure (MAP) Sensor (F18A3, F20Z1 engine) (cont'd)

(From page 11-21)

Check the ECM input voltage:
Start the engine and allow it to idle.

Is there approx. 1 V?

NO

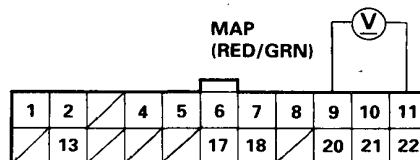
Replace the MAP sensor.

YES

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

ECM CONNECTOR D (22P)

SG1 (GRN/
WHT)



WIRE SIDE OF FEMALE TERMINALS

PGM-FI System



Manifold Absolute Pressure (MAP) Sensor (F22Z2 engine)



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 5: A mechanical problem (vacuum leak) in the Manifold Absolute Pressure (MAP) Sensor system.

- The MIL has been reported on.
- With the SCS short connector connected, code 5 is indicated.

Problem verification:

1. Do the ECM Reset Procedure.
2. Start the engine. Hold the engine at 2,000 rpm (min^{-1}) for one minute (M/T in neutral, A/T in **N** or **P** position).

Is the MIL on and does it indicate code 5?

NO

- Intermittent failure, system is OK at this time (test-drive may be necessary).
- Check vacuum connections.
- Make sure all connectors are secure.

YES

Check the MAP sensor:

1. Turn the ignition switch OFF.
2. Remove the MAP sensor from throttle body.
3. Connect a vacuum pump to the MAP sensor and apply vacuum.

Does it hold vacuum?

NO

Replace the MAP sensor.

YES

Check the throttle body:

1. Disconnect the vacuum pump from the MAP sensor.
2. Start the engine.
3. Put your finger over the MAP sensor port on the throttle body.

Is there manifold vacuum?

NO

Remove restriction from throttle body.

YES

Check the ECM input voltage:

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON (II).
3. Measure voltage between ECM connector terminals D9 and D11.

Is there approx. 3 V?

NO

Replace the MAP sensor.

YES

Check the ECM input voltage:

1. Install the MAP sensor.
2. Start the engine and allow it to idle.

Is there approx. 1 V?

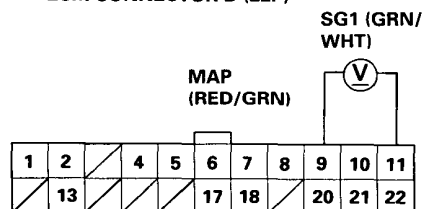
NO

Replace the MAP sensor.

YES

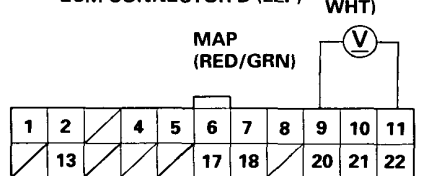
Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

ECM CONNECTOR D (22P)



WIRE SIDE OF FEMALE TERMINALS

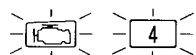
ECM CONNECTOR D (22P)



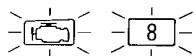
WIRE SIDE OF FEMALE TERMINALS

PGM-FI System

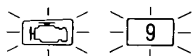
TDC/CKP/CYP Sensor



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 4: A problem in the Crankshaft Position (CKP) Sensor circuit.



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 8: A problem in the Top Dead Center (TDC) Sensor circuit.



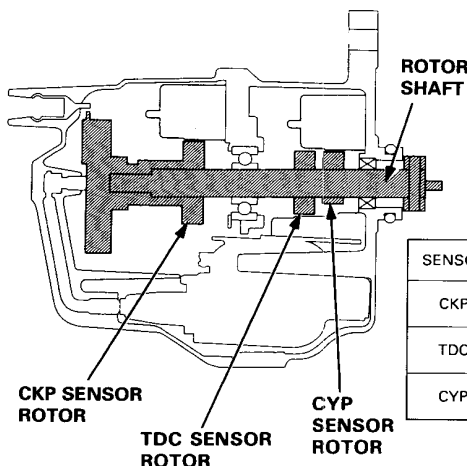
The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 9: A problem in the Cylinder Position (CYP) Sensor circuit.

The CKP Sensor determines timing for fuel injection and ignition of each cylinder and also detects engine speed. The TDC Sensor determines ignition timing at start-up (cranking) and when crank angle is abnormal. The CYP Sensor detects the position of No. 1 cylinder for sequential fuel injection to each cylinder. The TDC/CKP/CYP Sensor is built into the distributor.

- The MIL has been reported on.
- With the SCS short connector connected, code 4, 8, and/or 9 are indicated.

Problem verification:

1. Do the ECM Reset Procedure .
2. Start the engine.



SENSOR	DTC	SENSOR TERMINAL	ECM TERMINAL	WIRE COLOR
CKP	4	2	B8	BLU
		6	B16	WHT
TDC	8	3	B7	GRN
		7	B15	RED
CYP	9	4	B6	YEL
		8	B14	BLK

Is the MIL on and does it indicate code 4, 8 and/or 9?

NO

Intermittent failure, system is OK at this time (test-drive may be necessary).
Check for poor connections or loose wires between the TDC/CYP/CKP sensor and the ECM.

YES

Check the sensor resistance:

1. Turn the ignition switch OFF.
2. Disconnect the 8P connector from the distributor.
3. Measure resistance between terminals of the indicated sensor.

*see table

Is there 700 – 1,300 Ω ?

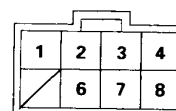
NO

Replace the distributor ignition housing.

YES

(To page 11-25)

DISTRIBUTOR 8P CONNECTOR



TERMINAL SIDE OF MALE TERMINALS



(From page 11-24)

Check the sensor for a short:

Check for continuity to body ground on both terminals of the indicated sensor.

Is there continuity?

YES

Replace the distributor ignition housing.

NO

Check for an open in the wire (TDC/CKP/CYP line):

1. Reconnect the 8P connector.
2. Disconnect ECM connector B (16P) from the ECM.
3. Measure resistance between ECM connector terminals of the indicated sensor.
*see table

Is there 700 – 1,300 Ω ?

NO

Repair open in the indicated sensor wires. *see table

YES

Check for a short in the wire (TDC/CKP/CYP line):

Check for continuity between body ground and ECM connector terminals B6, B7 and/or B8 individually.

Is there continuity?

YES

Repair short to body ground in the indicated sensor wires. *see table

NO

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

DISTRIBUTOR 8P CONNECTOR

1	2	3	4
5	6	7	8

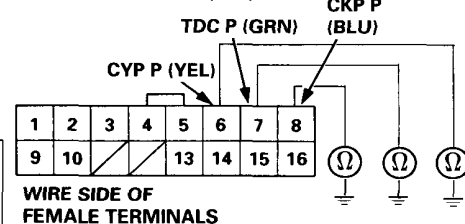
TERMINAL SIDE OF MALE TERMINALS

ECM CONNECTOR B (16P)

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

WIRE SIDE OF FEMALE TERMINALS

ECM CONNECTOR B (16P)



PGM-FI System

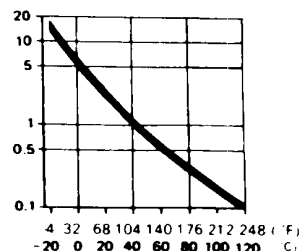
Engine Coolant Temperature (ECT) Sensor



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 6: A problem in the Engine Coolant Temperature (ECT) Sensor circuit.

The ECT sensor is a temperature dependent resistor (thermistor). The resistance of the thermistor decreases as the engine coolant temperature increases as shown below.

RESISTANCE
(k Ω)

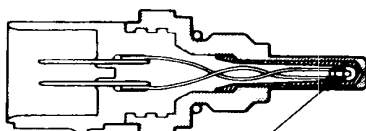


ENGINE COOLANT TEMPERATURE

- The MIL has been reported on.
- With the SCS short connector connected, code 6 is indicated.

Problem verification:

1. Do the ECM Reset Procedure.
2. Turn the ignition switch ON (II).



THERMISTOR

Intermittent failure, system is OK at this time (test-drive may be necessary). Check for poor connections or loose wires between the ECT sensor, the ECM and the TCM.

Is the MIL on and does it indicate code 6?

NO

YES

Check the sensor resistance:

1. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (M/T in neutral, A/T in **N** or **P** position) until the radiator fan comes on, then let it idle.
2. Turn the ignition switch OFF.
3. Disconnect the 2P connector from the ECT sensor.
4. Measure resistance between the 2 terminals on the ECT sensor.

Is there 200 – 400 Ω ?

NO

Replace the ECT sensor.

YES

Check the ECM output voltage (ECT line):

1. Turn the ignition switch ON (II).
2. At the engine harness side, measure voltage between the ECT sensor 2P connector terminal No. 2 and body ground.

Is there approx. 5 V?

YES

Check for an open in the wire (SG2 line): Measure voltage between the ECT sensor 2P connector terminals No. 1 and No. 2.

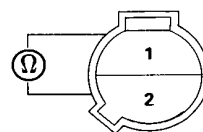
Is there approx. 5 V?

YES

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

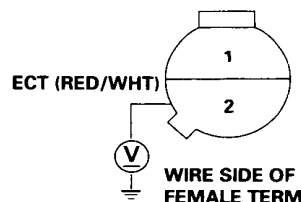
(To page 11-27)

ECT SENSOR 2P CONNECTOR



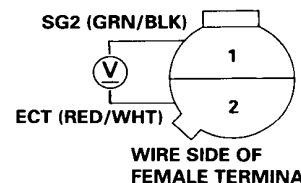
TERMINAL SIDE OF MALE TERMINALS

ECT SENSOR 2P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

ECT SENSOR 2P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

Repair open in the wire between the ECM (D22) and ECT sensor.



(From page 11-26)

(A/T model)

Check for TCM circuits:

1. Turn the ignition switch OFF.
2. Disconnect 22P connector from the Transmission Control Module (TCM).
3. Turn the ignition switch ON (II).
4. At the engine harness side, measure voltage between the ECT sensor 2P connector terminal No. 2 and body ground.

Is there approx. 5 V?

YES

Replace the TCM.

NO

Check for an open in the wire (ECT line):

Measure voltage between ECM connector terminal D7 and body ground.

Is there approx. 5 V?

YES

Repair open in the wire between the ECM (D7) and ECT sensor.

NO

Check for a short in the wire (ECT line):

1. Turn the ignition switch OFF.
2. Disconnect ECM connector D (22P) from the ECM.
3. Check the continuity between ECM connector terminal D7 and body ground.

Is there continuity?

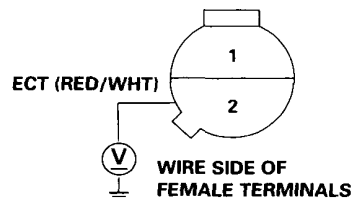
YES

Repair short in the wire between the ECM (D7) and ECT sensor.

NO

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

ECT SENSOR 2P CONNECTOR



ECM CONNECTOR D (22P)

ECT (RED/WHT)

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22

WIRE SIDE OF FEMALE TERMINALS



ECM CONNECTOR D (22P)

ECT (RED/WHT)

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22

WIRE SIDE OF FEMALE TERMINALS



PGM-FI System

Throttle Position (TP) Sensor



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 7: A problem in the Throttle Position (TP) Sensor circuit.

The TP sensor is a potentiometer. It is connected to the throttle valve shaft. As the throttle position changes, the throttle position sensor varies the voltage signal to the ECM.

- The MIL has been reported on.
- With the SCS short connector connected, code 7 is indicated.

Problem verification:

1. Do the ECM Reset Procedure.
2. Start the engine.

Is the MIL on and does it indicate code 7?

NO

Intermittent failure, system is OK at this time (test-drive may be necessary). Check for poor connections or loose wires between the TP sensor, the ECM and the TCM.

YES

Check the sensor output voltage:

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON (II).
3. Measure voltage between ECM connector terminals D6 and D22.

Is the voltage approx. 0.5 V at full close throttle, and approx. 4.5 V at full open throttle?
NOTE: There should be a smooth transition as the throttle is depressed.

YES

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

NO

Check the TP circuit:

1. Turn the ignition switch OFF.
2. Disconnect 3P connector from the TP sensor.
3. Turn the ignition switch ON (II).
4. At the engine harness side, measure voltage between the TP sensor 3P connector terminal No. 3 and body ground.

Is there approx. 5 V?

NO

Check for an open in the wire (VCC2 line):
Measure voltage between ECM connector terminal D21 and body ground.

Is there approx. 5 V?

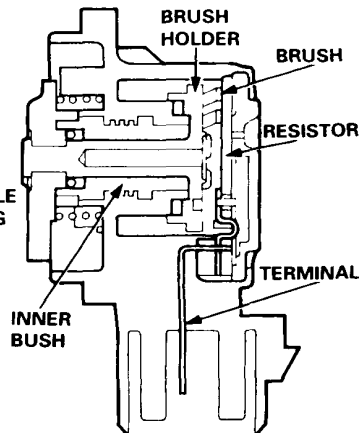
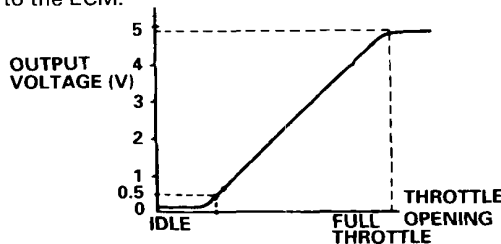
YES

Repair open in the wire between the ECM (D21) and TP sensor.

NO

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

(To page 11-29)



ECM CONNECTOR D (22P)

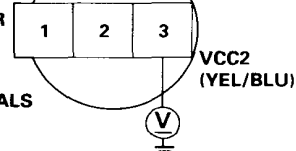
TPS (RED/BLK)

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22

SG2 (GRN/BLK)

WIRE SIDE OF FEMALE TERMINALS

TP SENSOR 3P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

ECM CONNECTOR D (22P)

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22

WIRE SIDE OF FEMALE TERMINALS

VCC2 (YEL/BLU)



(From page 11-28)

A

Check for an open in the wire (SG2 line):

At the engine harness side, measure voltage between the TP sensor 3P connector terminals No. 1 and No. 3.

Is there approx. 5 V?

NO

Repair open in the wire between the ECM (D22) and TP sensor.

YES

(A/T model)

Check the TCM:

1. Turn the ignition switch OFF.
2. Reconnect 3P connector to the TP sensor.
3. Disconnect 22P connector from the Transmission Control Module (TCM).
4. Turn the ignition switch ON (II).
5. Measure voltage between ECM connector terminals D6 and D22.

Is the voltage approx. 0.5 V at full close throttle, and approx. 4.5 V at full open throttle?

NOTE: There should be a smooth transition as the throttle is depressed.

YES

Substitute a known-good TCM and recheck. If symptom/indication goes away, replace the original TCM.

NO

Check for a short in the wire (TPS line):

1. Turn the ignition switch OFF.
2. Disconnect 3P connector from the TP sensor.
3. Disconnect ECM connector D (22P) from the ECM.
4. Check for continuity between ECM connector terminal D6 and body ground.

Is there continuity?

YES

Repair short in the wire between the ECM (D6) and TP sensor.

NO

Check for an open in the wire (TPS line):

Check for continuity between ECM connector terminal D6 and the TP sensor 3P connector terminal No. 2.

Is there continuity?

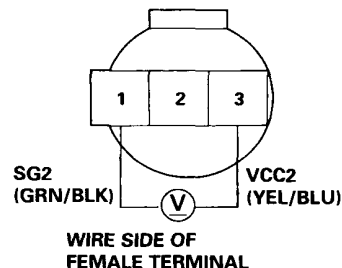
YES

Replace the throttle body.

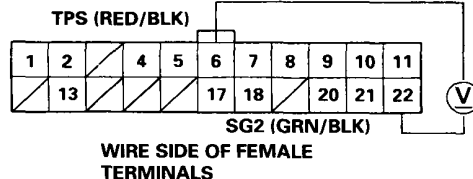
NO

Repair open in the wire between the ECM (D6) and TP sensor.

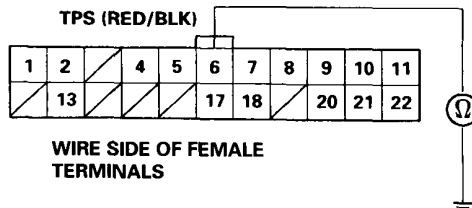
TP SENSOR 3P CONNECTOR



ECM CONNECTOR D (22P)

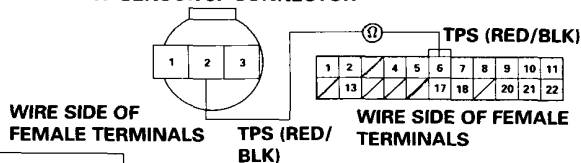


ECM CONNECTOR D (22P)



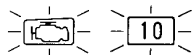
ECM CONNECTOR D (22P)

TP SENSOR 3P CONNECTOR



PGM-FI System

Intake Air Temperature (IAT) Sensor



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 10: A problem in the Intake Air Temperature (IAT) Sensor circuit.

The IAT sensor is a temperature dependant resistor (thermistor). The resistance of the thermistor decreases as the air temperature increases as shown below.

- The MIL has been reported on.
- With the SCS short connector connected, code 10 is indicated.

Problem verification:

1. Do the ECM Reset Procedure.
2. Turn the ignition switch ON (II).

Is the MIL on and does it indicate code 10?

NO

Intermittent failure, system is OK at this time (test-drive may be necessary). Check for poor connections or loose wires between the IAT sensor and the ECM.

YES

Check the sensor resistance:

1. Turn the ignition switch OFF.
2. Disconnect 2P connector from the IAT sensor.
3. Measure resistance between the 2 terminals on the IAT sensor.

NOTE: You may need to remove the IAT sensor to access the terminals

Is there 0.4 – 4.0 kΩ?

NO

Replace the IAT sensor.

YES

Check the ECM output voltage (IAT line):

1. Turn the ignition switch ON (III).
2. At the engine harness side, measure voltage between IAT sensor 2P connector terminal No. 2 and body ground.

Is there approx. 5 V?

YES

Check for an open in the wire (SG2 line):

Measure voltage between the IAT sensor 2P connector terminal No. 1 and No. 2.

NO

Check for an open in the wire (IAT line):

Measure voltage between ECM connector terminal D8 and body ground.

(To page 11-31)

Is there approx. 5 V?

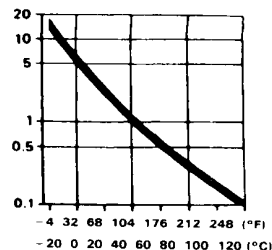
NO

Repair open in the wire between the ECM (D22) and IAT sensor.

YES

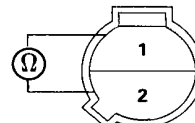
Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

RESISTANCE (kΩ)



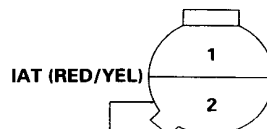
INTAKE AIR TEMPERATURE

IAT SENSOR 2P CONNECTOR



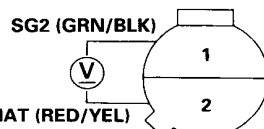
TERMINAL SIDE OF MALE TERMINALS

IAT SENSOR 2P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

IAT SENSOR 2P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

ECM CONNECTOR D (22P)

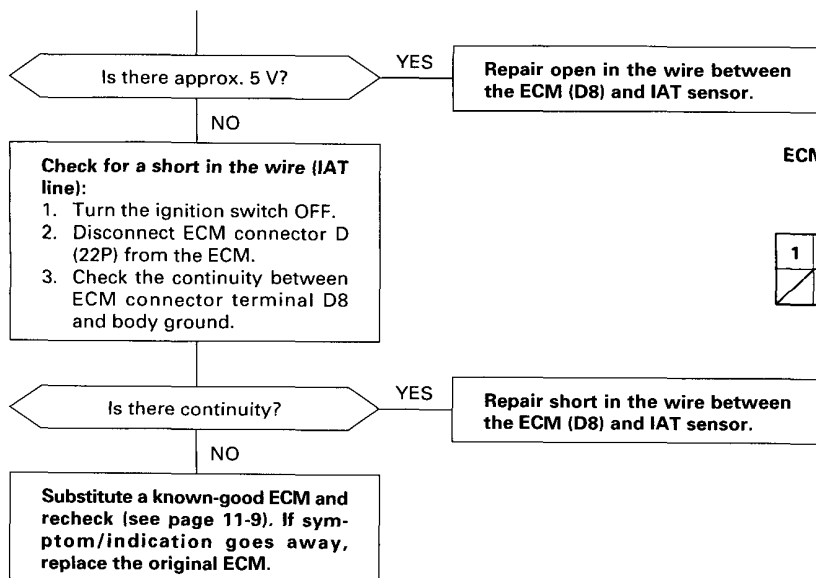
IAT (RED/YEL)

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22

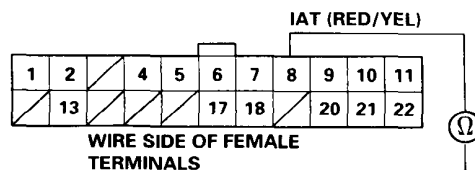
WIRE SIDE OF FEMALE TERMINALS



(From page 11-30)



ECM CONNECTOR D (22P)



PGM-FI System

Barometric Pressure (BARO) Sensor



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 13: A problem in the Barometric Pressure (BARO) Sensor.

The BARO Sensor is built into the ECM.

- The MIL has been reported on.
- With the SCS short connector connected, code 13 is indicated.

Problem verification:

1. Do the ECM Reset Procedure.
2. Turn the ignition switch ON (II).

Is the MIL on and does it indicate code 13?

NO

Intermittent failure, system is OK at this time (test-drive may be necessary).

YES

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

PGM-FI System



Ignition Output Signal



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 15: A problem in the Ignition Output Signal circuit.

- The MIL has been reported on.
- With the SCS short connector connected, code 15 is indicated.

Problem verification:

1. Do the ECM Reset Procedure.
2. Start the engine.

Is the MIL on and does it indicate code 15?

NO

Intermittent failure, system is OK at this time (test-drive may be necessary). Check for poor connections or loose wires between the distributor and the ECM.

YES

Check the ICM output voltage:

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON (II).
3. Measure voltage between ECM connector terminals A11 and A26.

Is there battery voltage?

YES

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

NO

Check the ICM input voltage:

1. Turn the ignition switch OFF.
2. Disconnect 2P connector from the distributor.
3. Turn the ignition switch ON (II).
4. Measure voltage between the distributor 2P connector terminal No. 2 and body ground.

Is there battery voltage?

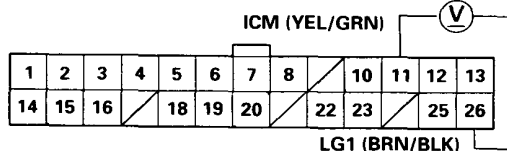
NO

Repair open in the wire between the distributor and the ignition switch.

YES

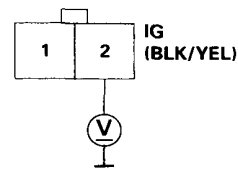
- Replace the ICM.
 - Repair open or short in the wire between the ICM and the ECM (A11).
- NOTE: If the YEL/GRN wire was shorted, the ICM may be damaged.

ECM CONNECTOR A (26P)



WIRE SIDE OF FEMALE TERMINALS

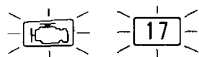
DISTRIBUTOR 2P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

PGM-FI System

Vehicle Speed Sensor (VSS)



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 17: A problem in the Vehicle Speed Sensor (VSS) circuit.

The VSS generates a pulsing signal when the front wheels turn.

- The MIL has been reported on.
- With the SCS short connector connected, code 17 is indicated.

Problem verification:

1. Do the ECM Reset Procedure.
2. Test-drive with A/T in [2] position, M/T in 2nd gear, accelerate to 4,000 rpm (min^{-1}), then decelerate to 1,500 rpm (min^{-1}) with throttle fully closed for at least 5 seconds.

Is the MIL on and does it indicate code 17?

NO

Intermittent failure, system is OK at this time. Check for poor connections or loose wires between the VSS, the ECM and the TCM.

YES

Check the ECM input voltage:

1. Turn the ignition switch OFF.
2. Block rear wheels and set the parking brake. Jack up the front of the car and support with safety stands.
3. Turn the ignition switch ON (II).
4. Block the right front wheel and slowly rotate left front wheel and measure voltage between ECM connector terminal B13 and A26.

Does voltage pulse 0 V and approx. 5 V?

YES

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

NO

Check the circuit (VSS line):

1. Turn the ignition switch OFF.
2. Disconnect ECM connector B (16P) from the ECM.
3. Turn the ignition switch ON (II).
4. Block the right front wheel and slowly rotate left front wheel and measure voltage between ECM connector terminals B13 and A26.

Does voltage pulse 0 V and approx. 5 V?

NO

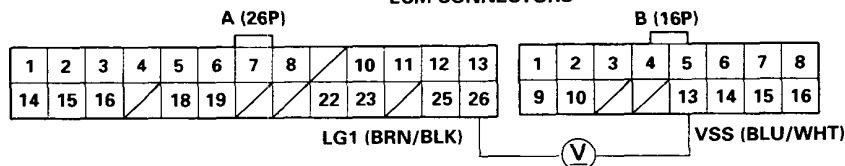
- Repair short in the wire between the ECM (B13) and the VSS or the TCM.
- Repair open in the wire between ECM (B13) and the VSS.
- If wire is OK, test the VSS.

YES

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

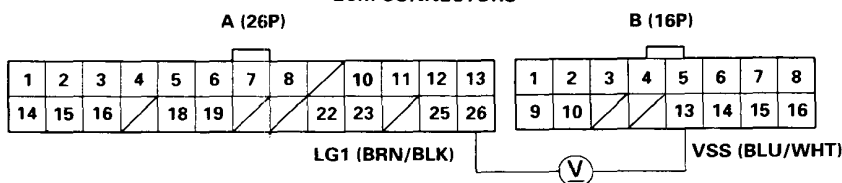
WARNING Block rear wheels before jacking up front of car.

ECM CONNECTORS



WIRE SIDE OF FEMALE TERMINALS

ECM CONNECTORS



WIRE SIDE OF FEMALE TERMINALS



A/T FI Signal A/B (A/T)

 The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 30: A problem in the A/T FI Signal A circuit between Transmission Control Module (TCM) and ECM.

 The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 31: A problem in the A/T FI Signal B circuit between Transmission Control Module (TCM) and ECM.

With the SCS short connector connected, code 30 and/or 31 are indicated.

Problem verification:

1. Do the ECM Reset Procedure.
2. Test-drive necessary. Drive the car for several miles so that the transmission upshifts and downshifts several times.

Does the MIL indicate code 30 and/or 31?

NO

Intermittent failure, system is OK at this time.
Check for poor connections or loose wires between the TCM and the ECM.

YES

Check for a short in the wires (AFSA, AFSB lines):

1. Turn the ignition switch OFF.
2. Disconnect ECM connector B (16P) from the ECM.
3. Disconnect 22P connector from the TCM.
4. Check for continuity between ECM connector terminals B2 and/or B10* and body ground.

Is there continuity?

NO

Check for an open in the wires (AFSA, AFSB lines):
Check for continuity wire between ECM connector terminals B2 and/or B10* and the TCM 22P connector terminals No. 7 and/or No. 6*.

YES

Repair short in the wire between the ECM (B2, B10) and the TCM.

Is there continuity?

NO

Repair open in the wire between the ECM (B2, B10) and the TCM.

YES

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

ECM CONNECTOR B (16P)

AFSA (WHT/RED)

1	2	3	4	5	6	7	8
9	10			13	14	15	16

AFSB (LT GRN)*

WIRE SIDE OF FEMALE TERMINALS

ECM CONNECTOR B (16P)

AFSA (WHT/RED)

1	2	3	4	5	6	7	8
9	10			13	14	15	16

AFSB (LT GRN)*

TCM 22P CONNECTOR

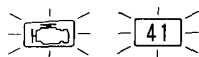
AFSA (WHT/RED)

		3	4	5	6	7	8	9	10
12		14			17		19	20	

WIRE SIDE OF FEMALE TERMINALS

PGM-FI System

Heated Oxygen Sensor Heater



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 41: A problem in the Heated Oxygen Sensor (HO2S) Heater circuit.

- The MIL has been reported on.
- With the SCS short connector connected, code 41 is indicated.

Problem verification:

1. Do the ECM Reset Procedure.
2. Start the engine.

Is the MIL on and does it indicate code 41?

NO

Intermittent failure, system is OK at this time. Check for poor connections or loose wires between the HO2S and the ECM.

YES

Check the ECM input voltage:

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON (II).
3. Measure voltage between ECM connector terminals A6 and A12.

Is there battery voltage?

NO

A (To page 11-37)

YES

Check the ECM input voltage:

With the voltmeter still connected between ECM connector terminals A6 and A12, start the engine.

Is there less than 0.1 V?

NO

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

YES

Check the ECM input current:

1. Turn the ignition switch OFF.
2. Disconnect ECM connector A (26P) from the ECM.
3. Connect an ammeter between ECM connector terminals A6 and A12.
4. Turn the ignition switch ON (II).

Is the current less than 0.1 A?*

YES

Replace the HO2S.

NO

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

ECM CONNECTOR A (26P)

O2SHTC (BLK/WHT)

PG1 (BLK)

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26

WIRE SIDE OF FEMALE TERMINALS

ECM CONNECTOR A (26P)

O2SHTC (BLK/WHT)

PG1 (BLK)

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26

WIRE SIDE OF FEMALE TERMINALS

ECM CONNECTOR A (26P)

O2SHTC (BLK/WHT)

PG1 (BLK)

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26

WIRE SIDE OF FEMALE TERMINALS

* Monitor over a 5 minute period unless the current drops below 0.1 A immediately.



(From page 11-36)



Check for an open in the wire (IGP line):

1. Turn the ignition switch OFF.
2. Disconnect the 4P connector from the HO2S.
3. Turn the ignition switch ON (II).
4. At the engine wire harness, measure voltage between HO2S connector terminal No. 3 and body ground.

Is there battery voltage?

NO

Repair open in the wire between the HO2S and the PGM-FI main relay.

YES

Check the HO2S resistance:

1. Turn the ignition switch OFF.
2. At the HO2S harness, measure resistance between No. 3 and No. 4 terminal.

Is there 10 – 40 Ω ?

NO

Replace the HO2S.

YES

Check for a shorted HO2S:

Check for continuity between body ground and terminals No. 3 and No. 4 individually.

Is there continuity?

YES

Replace the HO2S.

NO

Check for a shorted HO2S:

Check for continuity between terminal No. 4 and terminals No. 1 and No. 2 individually.

Is there continuity?

YES

Replace the HO2S.

NO

Check for an open in the wire (HO2SHTC line):

1. Disconnect ECM connector A (26P) from the ECM.
2. Check for continuity between ECM connector terminal A6 and HO2S connector terminal No. 4 on the engine wire harness side.

Is there continuity?

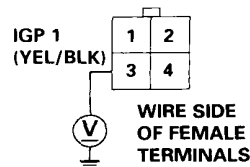
NO

Repair open in the wire between the HO2S and the ECM (A6).

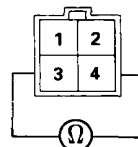
YES

(To page 11-38)

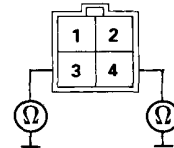
HO2S 4P CONNECTOR



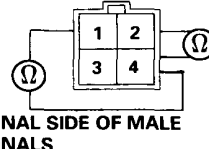
HO2S 4P CONNECTOR



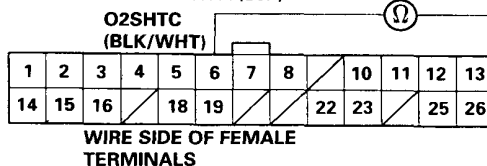
HO2S 4P CONNECTOR



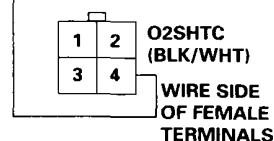
HO2S 4P CONNECTOR



ECM CONNECTOR A (26P)



HO2S 4P CONNECTOR



(cont'd)

PGM-FI System

Heated Oxygen Sensor Heater (cont'd)

(From page 11-37)

Check for a short in the wire (HO2SHTC line):
Check for continuity between ECM connector terminal A6 and body ground.

Is there continuity?

YES

Repair short in the wire between the HO2S and ECM (A6).

NO

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

ECM CONNECTOR A (26P)

O2SHTC
(ORN/BLK)

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26

WIRE SIDE OF FEMALE
TERMINALS



Idle Control System

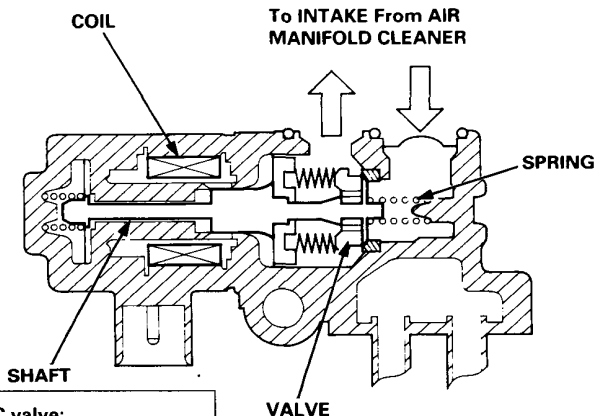


Idle Air Control (IAC) Valve



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 14: A problem in the Idle Air Control (IAC) Valve circuit.

The IAC Valve changes the amount of air bypassing the throttle body in response to a current signal from the ECM in order to maintain the proper idle speed.



- The MIL has been reported on.
- With the SCS short connector connected, code 14 is indicated.

Problem verification:

1. Do the ECM Reset Procedure.
2. Start the engine.

Is the MIL on and does it indicate code 14?

NO

YES

Check for an open in the wire (IGP line):

1. Disconnect the 2P connector from the IAC valve.
2. At the engine wire harness measure voltage between the IAC valve 2P connector terminal No. 2 and body ground.

Is there battery voltage?

NO

YES

Check the circuit:

1. Turn the ignition switch OFF and reconnect the 2P connector to the IAC valve.
2. Disconnect ECM connector A (26P) from the ECM.
3. Turn the ignition switch ON (II).
4. Momentarily connect ECM connector terminals A5 to A12 several times.

Does the IAC valve click?

YES

NO

Check for an open or short in the wire between the ECM (A5) and the IAC valve. If wire is OK, replace the IAC valve.

Check the IAC valve:

1. Hold the engine at 3,000 rpm (min^{-1}) with no load (M/T in neutral, A/T in **N** or **P** position) until the radiator fan comes on, then let it idle.
2. With the engine running and the accelerator pedal released, disconnect the 2P connector from the IAC valve.

Is there a reduction in engine rpm?

YES

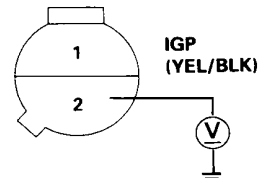
NO

Substitute a known-good IAC valve and retest. If symptom goes away, replace the original IAC valve.

Repair open in the wire between the IAC valve and the PGM-FI main relay.

Intermittent failure, system is OK at this time (test-drive may be necessary). Check for poor connections or loose wires between the IAC valve and the ECM.

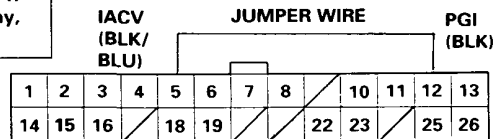
IAC VALVE 2P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

Substitute a known-good ECM and retest (see page 11-9). If symptom/indication goes away, replace the original ECM.

ECM CONNECTOR A (26P)



WIRE SIDE OF FEMALE TERMINALS

Idle Control System

Air Conditioning Signal

This signals the ECM when there is a demand for cooling from the air conditioning system.

Inspection of Air Conditioning Signal.

Check the ECM output voltage (ACS line):

1. Turn the ignition switch OFF.
2. Disconnect the A/C diode from the 2P connector.
3. Disconnect the 2P connector from the A/C pressure switch.
4. Turn the ignition switch ON (II).
5. Measure voltage between ECM connector terminals B3 and A26.

Is there approx. 5 V?

YES

NO

Check for a short in the wire (ACS line):

1. Turn the ignition switch OFF.
2. Disconnect ECM connector B (16P) from the ECM.
3. Check for continuity between ECM connector terminal B3 and body ground.

Is there continuity?

NO

YES

Repair short in the wire between the ECM (B3) and the A/C diode, A/C pressure switch.

Check the A/C compressor Clutch:

1. Turn the ignition switch OFF.
2. Reconnect the A/C diode to the 2P connector.
3. Reconnect the A/C pressure switch 2P connector to the A/C pressure switch.
4. Turn the ignition switch ON (II).
5. Momentarily connect ECM connector terminals A8 and A26 several times.

(To page 11-41)

ECM CONNECTORS

A (26P)

B (16P)

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26

LG1 (BRN/BLK)

WIRE SIDE OF FEMALE TERMINALS

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

ACS (RED/WHT)

ECM CONNECTOR B (16P)

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

WIRE SIDE OF FEMALE TERMINALS

ACS (RED/WHT)

ECM CONNECTOR A (26P)

ACC (LT BLU)

JUMPER WIRE

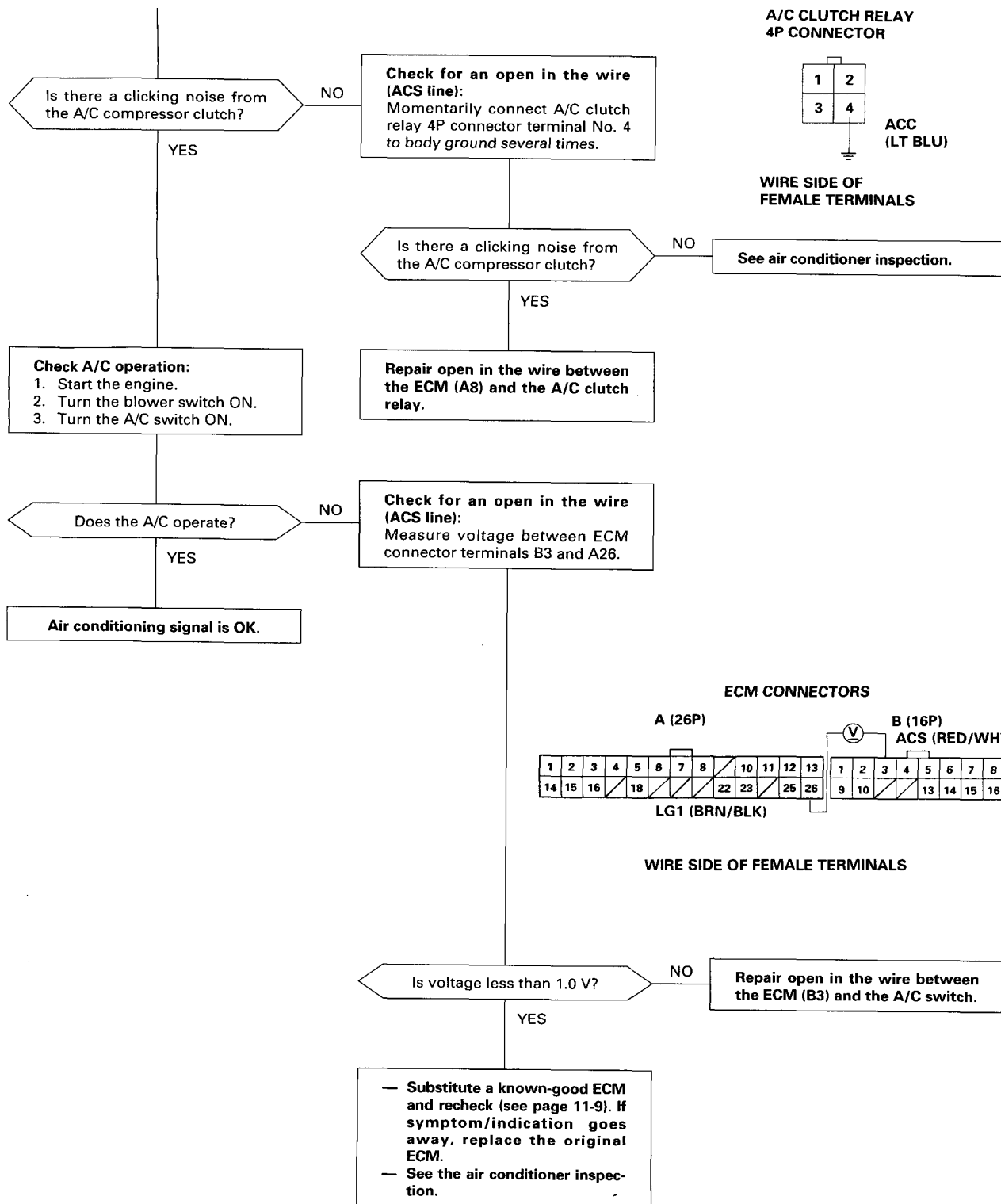
1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26

WIRE SIDE OF FEMALE TERMINALS

LG1 (BRN/BLK)



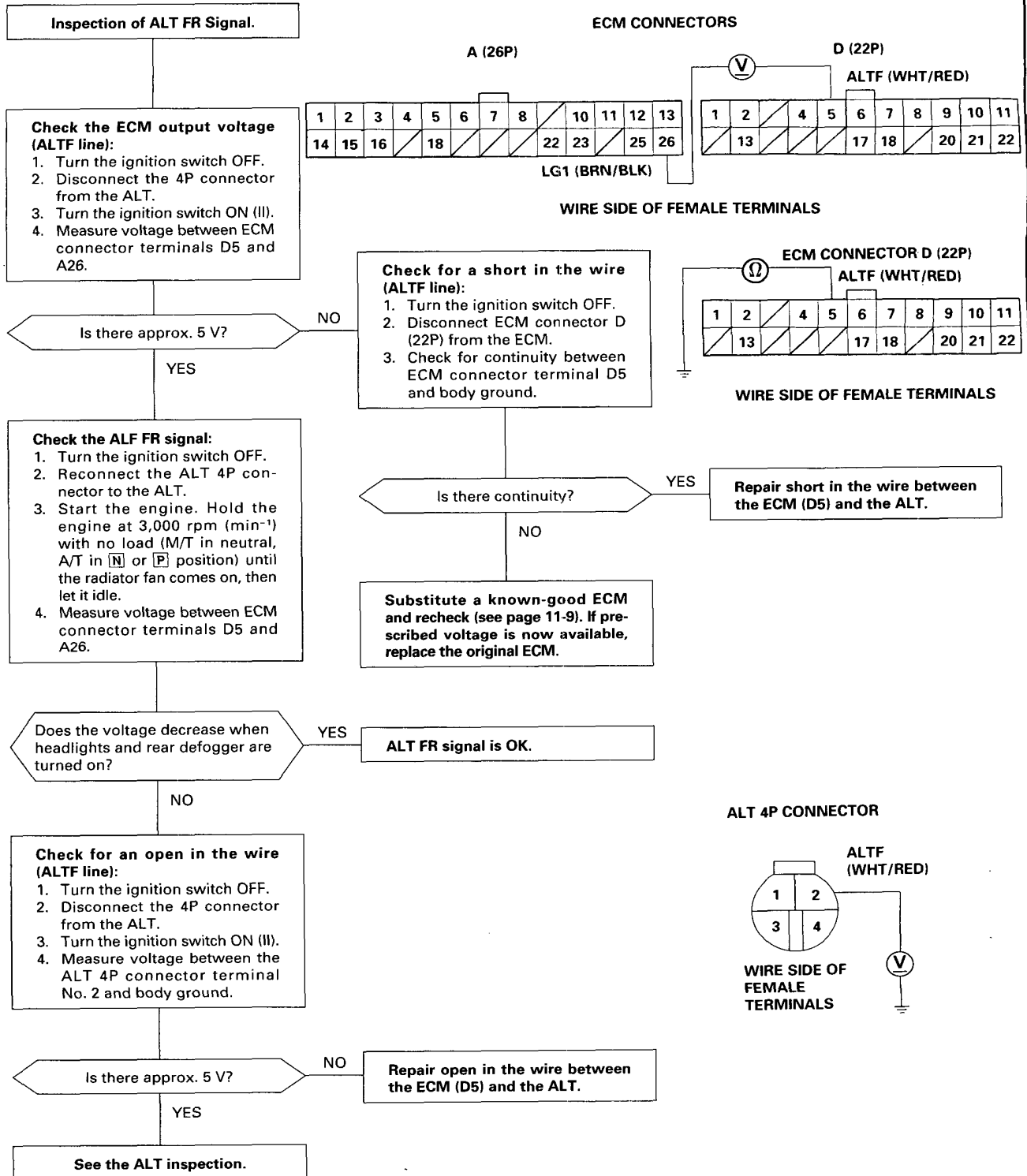
(From page 11-40)



Idle Control System

Alternator (ALT) FR Signal

This signals the ECM when the Alternator (ALT) is charging.





Automatic Transaxle (A/T) Gear Position Signal

This signals the ECM when the transmission is in **N** or **P** position.

Inspection of A/T Gear Position Signal.

Check the A/T shift position indicator:

1. Turn the ignition switch ON (II).
2. Observe the A/T shift position indicator and select each position separately.

Does the indicator light properly?

NO

See the A/T gear position indicator inspection.

YES

Check the ECM output voltage (ATP PN line):

1. Turn the ignition switch OFF.
2. Disconnect the 10P connector from the A/T gear position switch.
3. Disconnect the 26P connector from the TCM.
4. Turn the ignition switch ON (II).
5. Measure voltage between ECM connector terminals B4 and A26.

Is there approx. 5 V?

NO

Check for a short in the wire (ATP PN line):

1. Turn the ignition switch OFF.
2. Disconnect ECM connector B (16P) from the ECM.
3. Check for continuity between ECM connector terminals B4 and body ground.

Is there continuity?

YES

Repair short in the wire between the ECM (B4) and the gauge assembly.

NO

Substitute a known-good ECM and recheck (see page 11-9). If prescribed voltage is now available, replace the original ECM.

(To page 11-44)

ECM CONNECTORS

A (26P)

1	2	3	4	5	6	7	8	10	11	12	13
14	15	16	18					22	23	25	26

LG1 (BRN/BLK)

B (16P)

1	2	3	4	5	6	7	8
9	10			13	14	15	16

ATP PN (RED/BLK)

WIRE SIDE OF FEMALE TERMINALS

ECM CONNECTOR B (16P)

1	2	3	4	5	6	7	8
9	10			13	14	15	16

ATP PN (RED/BLK)

WIRE SIDE OF FEMALE TERMINALS

(cont'd)

Idle Control System

Automatic Transaxle (A/T) Gear Position Signal (cont'd)

(From page 11-43)

Check for an open in the wire (ATP PN line):

1. Turn the ignition switch OFF.
2. Reconnect the 10P connector to the A/T gear position switch.
3. Reconnect the 26P connector to the TCM.
4. Start the engine.
5. Measure voltage between ECM connector terminals B4 and A26 with transmission in **N** position.

Is there less than 1.0 V?

YES

NO

- Repair open in the wire between the ECM (B4) and the gauge assembly.
- Repair open in the wire between the gauge assembly and the A/T gear position switch.

ECM CONNECTORS

A (26P)

B (16P)

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26

LG1 (BRN/BLK)

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

ATP PN (RED/BLK)

WIRE SIDE OF FEMALE TERMINALS

Check for an open in the wire (ATP PN line):

Measure voltage between ECM connector terminals B4 and A26 with transmission in **P** position.

Is there less than 1.0 V?

YES

NO

Repair open in the wire between the gauge assembly and the A/T gear position switch.

ECM CONNECTORS

A (26P)

B (16P)

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26

LG1 (BRN/BLK)

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

ATP PN (RED/BLK)

WIRE SIDE OF FEMALE TERMINALS

Check for a short in the wire (ATP PN line):

Measure voltage between ECM connector terminals B4 and A26 with the transmission in gear.

Is there battery voltage?

YES

NO

Repair short in the wire between ECM (B4) and gauge assembly.

A/T gear position signal is OK.



Starter Switch Signal

This signals the ECM when the engine is cranking.

Inspection of Starter Switch Signal.

Check the ECM input voltage (STS line):

Measure voltage between ECM connector terminals B5 and A26 with the ignition switch in the START (III) position.

NOTE: M/T in neutral, A/T in **N** or **P** position.

Is there battery voltage?

YES

Starter switch signal is OK.

NO

Inspect the No. 12 STARTER SIGNAL (7.5 A) fuse in the under-dash fuse/relay box.

Is the fuse OK?

YES

Repair open in the wire between the ECM (B5) and the No. 12 STARTER SIGNAL (7.5 A) fuse.

ECM CONNECTORS

A (26P)

1	2	3	4	5	6	7	8		10	11	12	13	
14	15	16		18					22	23		25	26

LG1 (BRN/BLK)

B (16P)

⑤

STS (BLU/R)

1 2 3 4 5 6 7 8

9 10 13 14 15 16

STS (BLU/RED)

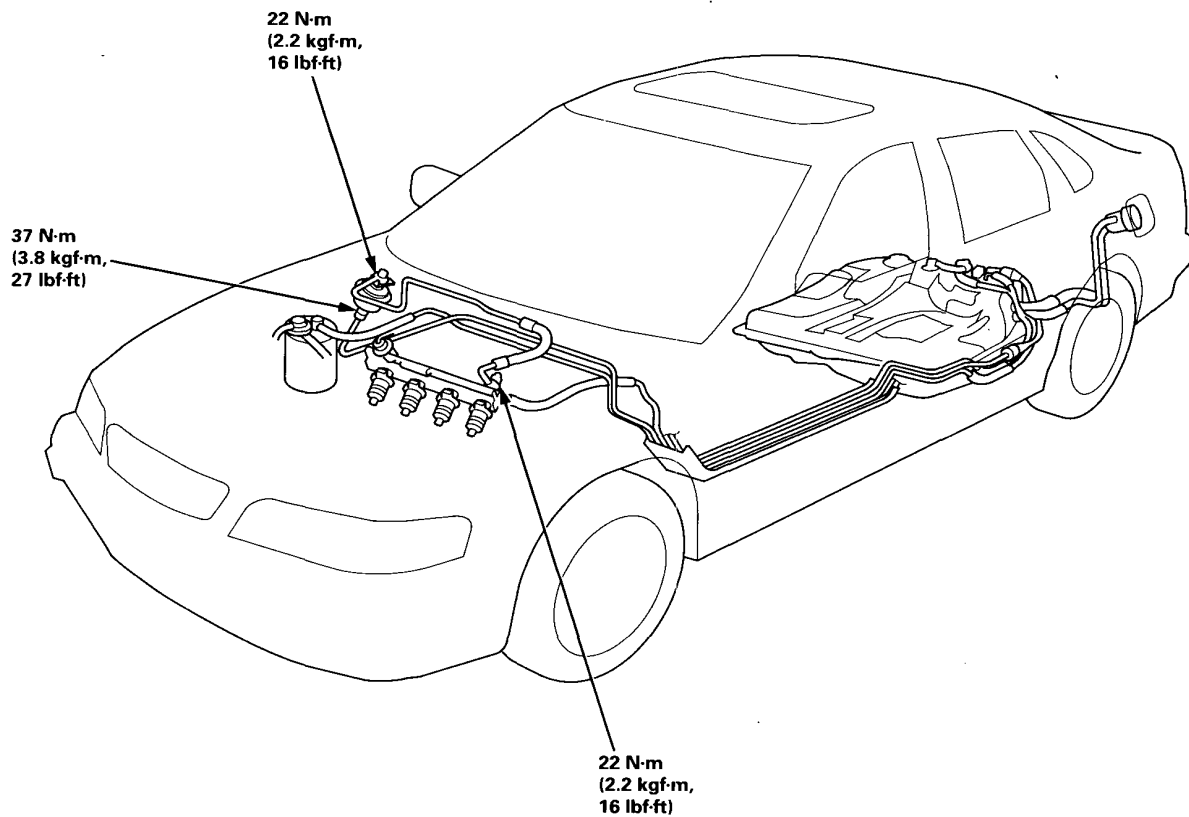
WIRE SIDE OF FEMALE TERMINALS

- Repair short in the wire between the ECM (B5) and the No. 12 STARTER SIGNAL (7.5 A) fuse or the PGM-FI main relay.
- Replace the No. 12 STARTER SIGNAL (7.5 A) fuse.

Fuel Supply System

Fuel Lines

NOTE: Check fuel system lines, hoses and fuel filter for damage, leaks or deterioration, and replace if necessary.





Fuel Tube/Quick-Connect Fittings

Precautions

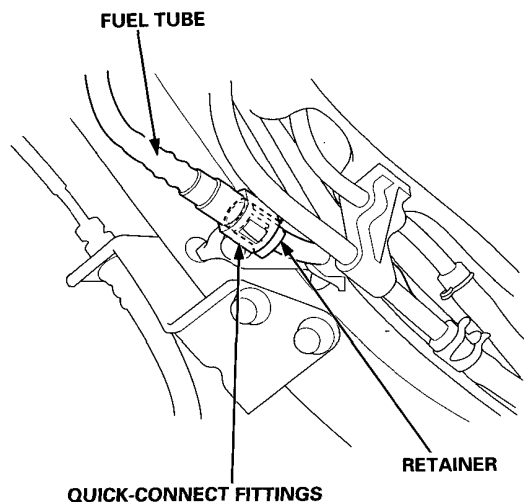
⚠ WARNING Do not smoke while working on the fuel system. Keep open flames away from your work area.

The fuel tube/quick-connect fittings assembly connects the in-tank fuel pump with the fuel feed pipe. For removing or installing the fuel pump and fuel tank, it is necessary to disconnect or connect the quick-connect fittings. Pay attention to following:

- The fuel tube/quick-connect fittings assembly is not heat-resistant; be careful not to damage it during welding or other heat-generating procedures.
- The fuel tube/quick-connect fittings assembly is not acid-proof; do not touch it with a shop towel which was used for wiping away battery fluid. Replace the fuel tube/quick-connect fittings assembly if it came into contact with battery fluid or similar.
- When connecting or disconnecting the fuel tube/quick-connect fittings assembly, be careful not to bend or twist it excessively. Replace it if damaged.

A disconnected quick-connect fittings can be reconnected, but the retainer on the mating pipe cannot be reused once it has been removed from the pipe. Replace the retainer when

- replacing the fuel pump.
- replacing the fuel feed pipe.
- it has been removed from the pipe.
- it is damaged.



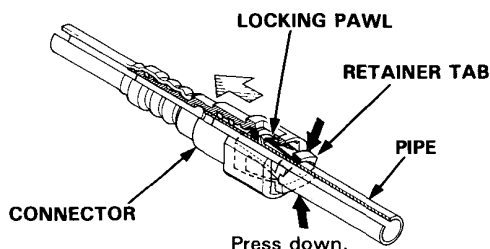
Disconnection

⚠ WARNING Do not smoke while working on the fuel system. Keep open flames away from your work area.

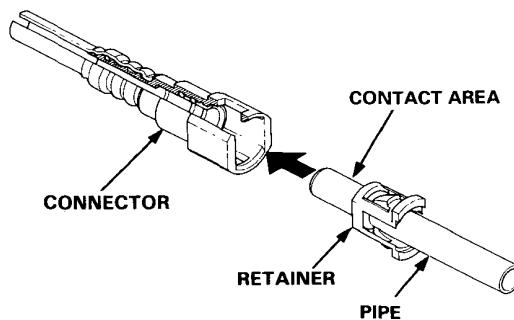
1. Disconnect the battery negative cable.
2. Remove the fuel fill cap, and relieve fuel pressure in the tank.
3. Relieve fuel pressure.
4. Check the fuel quick-connect fittings for dirt, and clean if necessary.
5. Hold the connector with one hand and press down the retainer tabs with the other hand then pull the connector off.

NOTE:

- Be careful not to damage the pipe or other parts. Do not use tools.
- If the connector does not move, keep the retainer tabs pressed down, and alternately pull and push the connector until it comes off easily.
- Do not remove the retainer from the pipe; once removed, the retainer must be replaced with a new one.



6. Check the contact area of the pipe for dirt and damage.
 - If the surface is dirty, clean it.
 - If the surface is rusty or damaged, replace the fuel pump or fuel feed pipe.

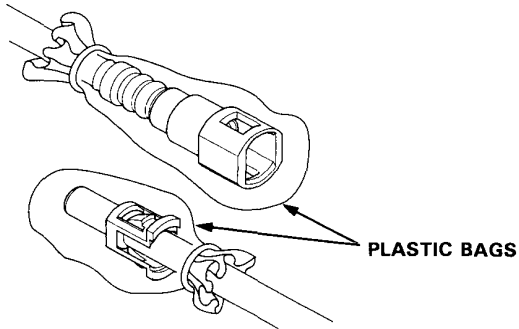


(cont'd)

Fuel Supply System

Fuel Tube/Quick-Connect Fittings (cont'd)

7. To prevent damage and keep out foreign matter, cover the disconnected connector and pipe end with plastic bags.



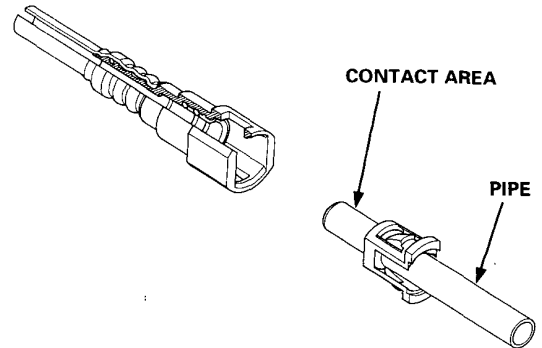
NOTE:

- The retainer cannot be reused once it has been removed from the pipe. Replace the retainer when
 - replacing the fuel pump.
 - replacing the fuel feed pipe.
 - it has been removed from the pipe.
 - it is damaged.

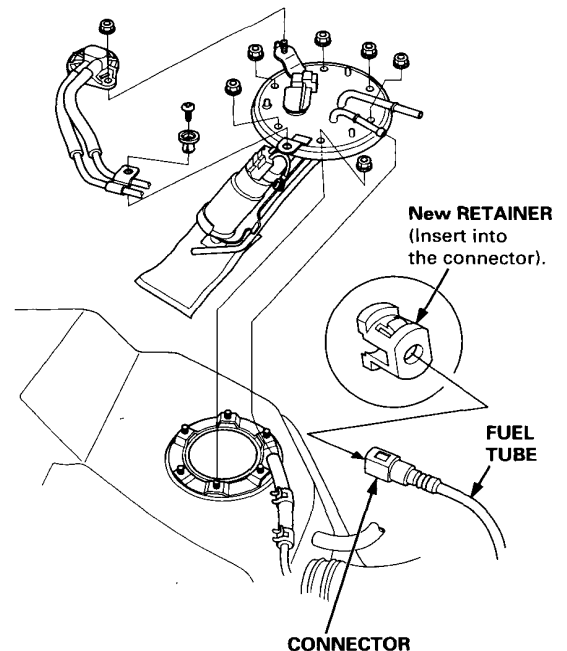
Connection

⚠ WARNING Do not smoke while working on the fuel system. Keep open flames away from your work area.

1. Check the pipe contact area for dirt and damage, and clean if necessary.

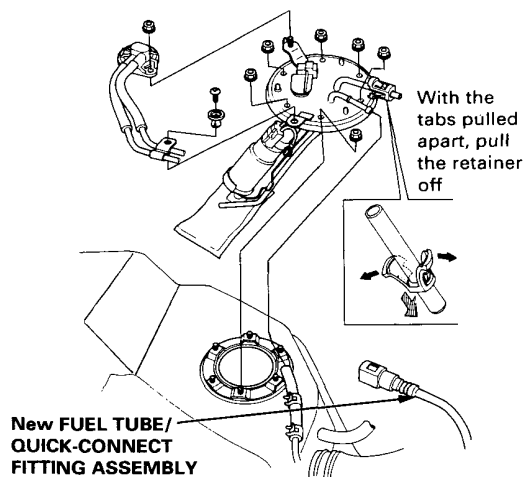


2. Insert a new retainer into the connector if the retainer is damaged, or after
 - replacing the fuel pump.
 - replacing the fuel feed pipe.
 - removing the retainer from the pipe.





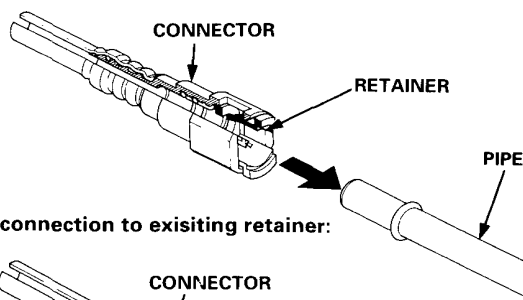
Before connecting a new fuel tube/quick-connect fitting assembly, remove the old retainer from the mating pipe.



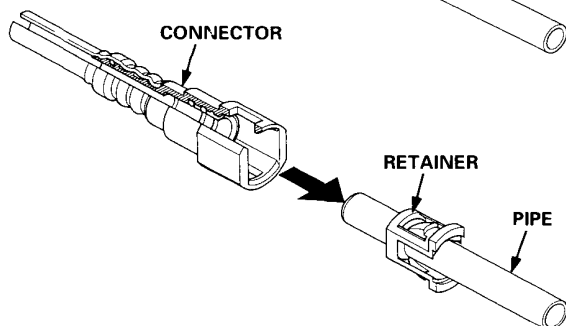
3. Align the quick-connect fittings with the pipe, and align the retainer locking pawls with the connector grooves. Then press the quick-connect fittings onto the pipe until both retainer pawls lock with a clicking sound.

NOTE: If it is hard to connect, put a small amount of new engine oil on the pipe end.

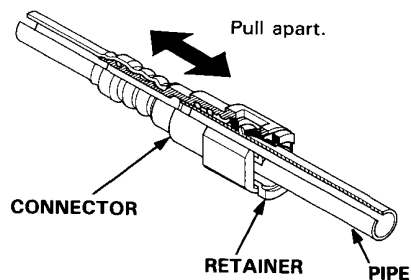
Connection with new retainer:



Reconnection to existing retainer:



4. Make sure the connection is secure and that the pawls are firmly locked into place. Check visually and by pulling the connector.



5. Reconnect the battery negative cable, and turn the ignition switch ON (II). The fuel pump will run for about two seconds, and fuel pressure will rise. Repeat two or three times, and check that there is no leakage in the fuel supply system.

Fuel Supply System

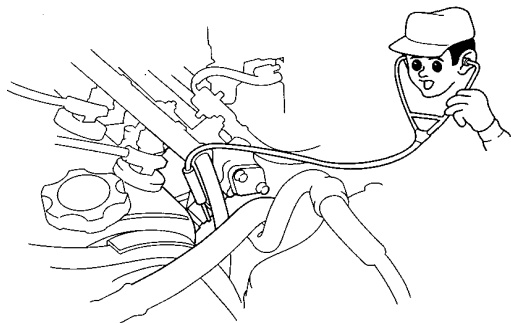
Fuel Injectors

Testing

NOTE: Check the following items before testing: idle speed, ignition timing and idle CO %

If the engine will run:

1. With the engine idling, disconnect each fuel injector connector individually and inspect the change in the idle speed.
 - If the idle speed drop is almost the same for each cylinder, the fuel injectors are normal.
 - If the idle speed or quality remains the same when you disconnect a particular fuel injector, replace the fuel injector and retest.
2. Check the clicking sound of each fuel injector by means of a stethoscope when the engine is idling.



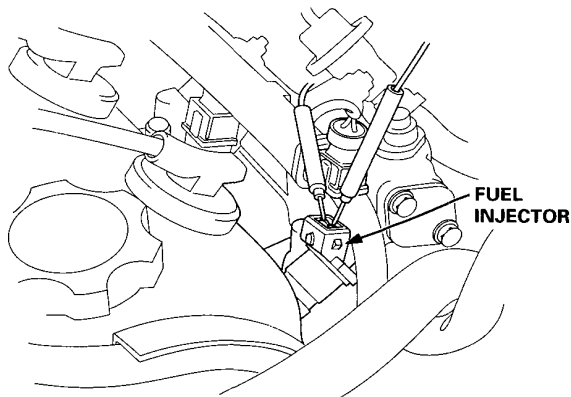
- If any fuel injector fails to make the typical clicking sound, check the sound again after replacing the fuel injector.
- If clicking sound is still absent, check the following.
- Whether there is any short-circuiting, wire breakage or poor connection in the YEL/BLK wire between the PGM-FI main relay and the fuel injector.
 - Whether there is any short-circuiting, wire breakage or poor connection in the wire between the fuel injector and the ECM.

If all is OK, check the ECM (see page 11-13) and PGM-FI main relay.

If the engine cannot be started:

1. Remove the connector of the fuel injector, and measure the resistance between the 2 terminals of the fuel injector.

Resistance should be: 10 – 13 Ω



- If the resistance is not as specified, replace the fuel injector.
 - If the resistance is as specified, check the fuel pressure.
- If the fuel pressure is as specified, check the following:
- Whether there is any short-circuiting, wire breakage or poor connection in the YEL/BLK wire between the PGM-FI main relay and the fuel injector.
 - Whether there is any short-circuiting, wire breakage or poor connection in the wire between the fuel injector and the ECM.

If all is OK, check the ECM (see page 11-13).



Fuel Filter

Replacement

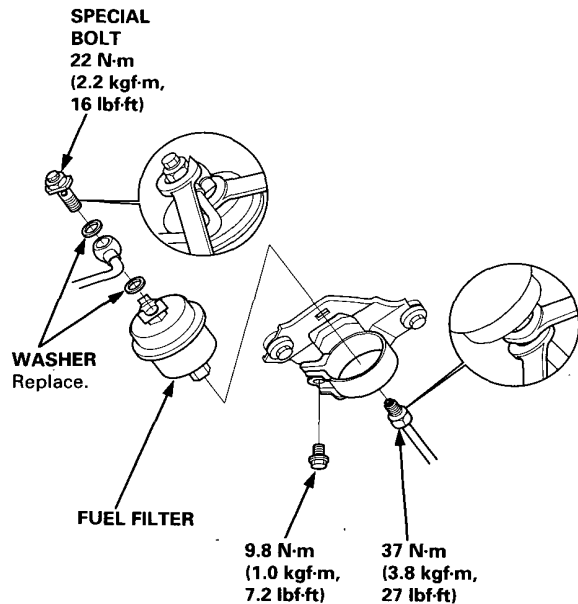
⚠ WARNING

- Do not smoke while working on fuel system. Keep open flame away from your work area.
- While replacing the fuel filter, be careful to keep a safe distance between battery terminals and any tools.

The filter should be replaced: every 2 years or 40,000 km (24,000 miles), whichever comes first or whenever the fuel pressure drops below the specified value (280 – 330 kPa, 2.8 – 3.3 kg/cm², 40 – 48 psi with the fuel pressure regulator vacuum hose disconnected and pinched) after making sure that the fuel pump and the fuel pressure regulator are OK.

1. Disconnect the battery negative cable from the battery negative terminal.
2. Place a shop towel under and around the fuel filter.
3. Relieve fuel pressure.
4. Remove the special bolt and the fuel feed pipe from the fuel filter, while supporting it with the another wrench, as shown.
5. Remove the fuel filter clamp and fuel filter.
6. When assembling, use new washers as shown.

NOTE: Clean the flared joint of high pressure hoses thoroughly before reconnecting them.



Fuel Supply System

PGM-FI Main Relay

Troubleshooting

- Engine will not start.
- Inspection of PGM-FI main relay and relay harness.

Check for an open in the wire (GND line):

1. Turn the ignition switch OFF.
2. Disconnect the 7P connector from the PGM-FI main relay.
3. Check for continuity between the PGM-FI main relay 7P connector terminal No. 3 and body ground.

Is there continuity?

NO

Repair open in the wire between the PGM-FI main relay and G101.

YES

Check for the circuit (BAT line):
Measure the voltage between the PGM-FI main relay 7P connector terminal No. 7 and body ground.

Is there battery voltage?

NO

- Repair open or short in the wire between the PGM-FI main relay and the ECU (ECM) (10 A) fuse.
- Replace the ECU (ECM) (10 A) fuse in the under-hood fuse/relay box.

YES

Check for the circuit (IG 1 line):
1. Turn the ignition switch ON (II).
2. Measure the voltage between the PGM-FI main relay 7P connector terminal No. 5 and body ground.

Is there battery voltage?

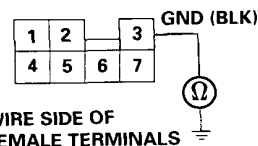
NO

- Repair open or short in the wire between the PGM-FI main relay and the No. 2 FUEL PUMP (15 A) fuse.
- Replace the No. 2 FUEL PUMP (15 A) fuse in the under-dash fuse/relay box.

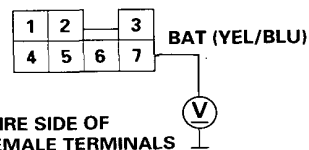
YES

(To page 11-53)

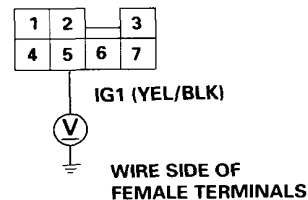
PGM-FI MAIN RELAY
7P CONNECTOR



PGM-FI MAIN RELAY
7P CONNECTOR



PGM-FI MAIN RELAY
7P CONNECTOR





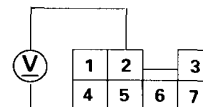
(From page 11-52)

Check the circuit (ST SW line):

1. Turn the ignition switch to the START (III) position.
NOTE:
Transmission in **N** or **P** position.
2. Measure the voltage between the PGM-FI main relay 7P connector terminal No. 2 and body ground.

**PGM-FI MAIN RELAY
7P CONNECTOR**

ST SW (BLU/RED)



WIRE SIDE OF
FEMALE TERMINAL

Is there battery voltage?

NO

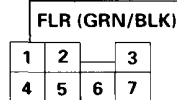
- Repair open or short in the wire between the PGM-FI main relay and the No. 12 STARTER SIGNAL (7.5 A) fuse.
- Replace the No. 12 STARTER SIGNAL (7.5 A) fuse in the under-dash fuse/relay box.

YES

Check for an open in the wire (FLR line):

1. Turn the ignition switch OFF.
2. Disconnect the ECM connector A (26P).
3. Check for continuity between the PGM-FI main relay 7P connector terminal No. 1 and the ECM connector terminal A4.

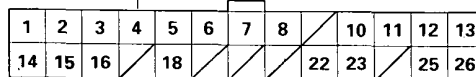
**PGM-FI MAIN RELAY
7P CONNECTOR**



WIRE SIDE OF
FEMALE
TERMINAL



ECM CONNECTOR A (26P)



WIRE SIDE OF
FEMALE TERMINALS

Is there continuity?

NO

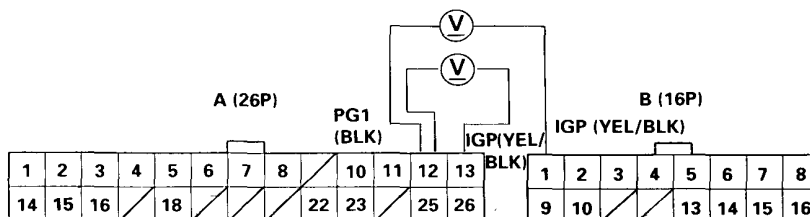
Repair open in the wire between the ECM (A4) and the PGM-FI main relay.

YES

Check for an open in the wire (IGP line):

1. Reconnect ECM connector A (26P) to the ECM.
2. Reconnect the PGM-FI main relay 7P connector to the PGM-FI main relay.
3. Turn the ignition switch ON (II).
4. Measure the voltage between the ECM connector terminal A12 and ECM connector terminals B1 and A13 individually.

ECM CONNECTORS



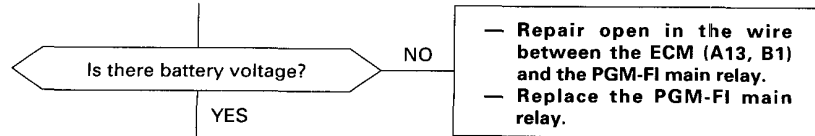
(To page 11-54)

(cont'd)

Fuel Supply System

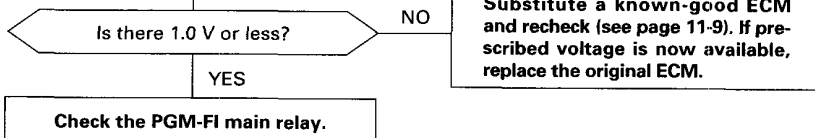
PGM-FI Main Relay (cont'd)

(From page 11-53)

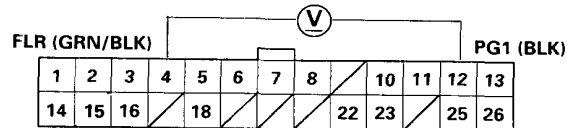


Check the ECM input voltage (FLR line):

1. Turn the ignition switch OFF.
2. Measure the voltage between ECM connector terminals A4 and A12 when the ignition switch is first turned ON (II) for two seconds.



ECM CONNECTOR A (26P)



WIRE SIDE OF FEMALE TERMINALS

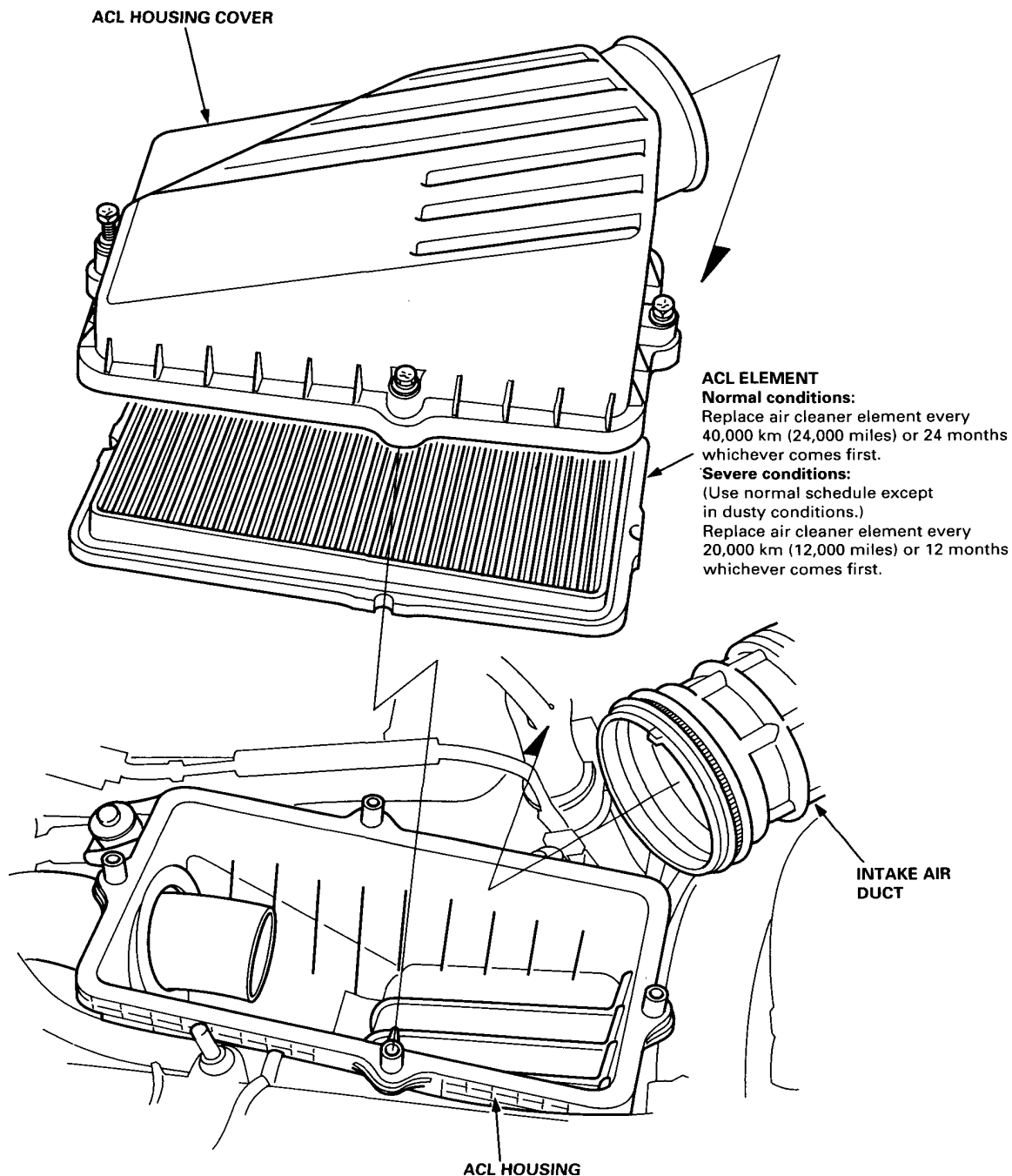
Intake Air System



Air Cleaner (ACL)

Air Cleaner (ACL) Element Replacement

NOTE: Do not blow the ACL element by compressed air.



Intake Air System

Intake Control System (F22Z2 engine)

Inspection of intake Control System.

Check for vacuum at idle:

1. Remove the upper vacuum hose from the intake control solenoid valve and connect a vacuum gauge to the hose.
2. Start the engine and allow it to idle.

Is there vacuum?

YES

(To page 11-57)

NO

Check for vacuum at intake control vacuum tank:

Remove the lower vacuum hose from the intake control solenoid valve, then check for vacuum.

Is there vacuum?

YES

Check for an open in the wire (RESSOL line):

1. Turn the ignition switch OFF.
2. Disconnect the intake control solenoid valve 2P connector.
3. Turn the ignition switch ON (II).
4. Measure voltage between the intake control solenoid valve 2P connector terminals No. 1 and No. 2.

Is there battery voltage?

NO

Check for an open in the wire (IG1 line):

Measure voltage between body ground and the intake control solenoid valve 2P connector terminal No. 2.

Is there battery voltage?

YES

Check for an open in the wire (RESSOL line):

1. Turn the ignition switch OFF.
2. Reconnect the intake solenoid valve 2P connector.
3. Turn the ignition switch ON (II).
4. Connect ECM connector terminals A10 and A25 with a jumper wire.

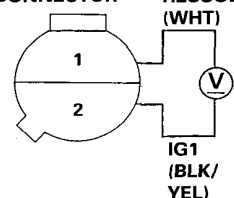
(To page 11-57)

INTAKE CONTROL SOLENOID VALVE

VACUUM PUMP/ GAUGE

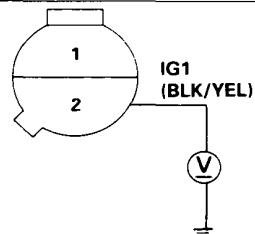
Repair the blockage or vacuum leak between the intake control vacuum tank and the intake manifold.

INTAKE CONTROL SOLENOID VALVE 2P CONNECTOR



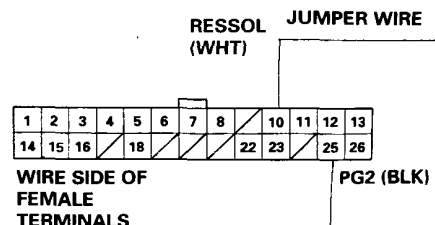
WIRE SIDE OF FEMALE TERMINALS

Replace the intake control solenoid valve.



Repair open in the wire between the intake control solenoid valve and No. 4 ECU (ECM) (10 A) fuse in the under-dash fuse/relay box.

ECM CONNECTOR A (26P)





(From page 11-56)



Check for vacuum at 4,000 rpm:
1. Raise engine speed to above 4,000 rpm.
2. Check for vacuum at the vacuum hose.

Is there vacuum?

YES

NO

Check for vacuum leakage:

1. Connect a vacuum pump to the vacuum hose.
2. Apply vacuum.

Does it hold vacuum?

NO

YES

Intake control system is OK.

(From page 11-56)



Does the solenoid valve click when the jumper wire is connected?

NO

Repair open in the wire between ECM (A10) and the intake control solenoid valve.

YES

Substitute a known-good ECM and recheck (see page 11-9). If symptom goes away, replace the original ECM.

Disconnect the intake control solenoid valve 2P connector.

Is there vacuum?

YES

NO

Replace the intake control solenoid valve.

Check for a short in the wire (RESSOL line):

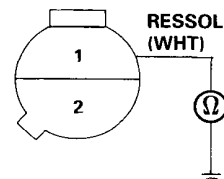
1. Turn the ignition switch OFF.
2. Disconnect the ECM connector A (32P).
3. Check for continuity between body ground and the intake control solenoid valve 2P connector terminal No. 1.

Is there continuity?

YES

NO

INTAKE CONTROL SOLENOID VALVE 2P CONNECTOR

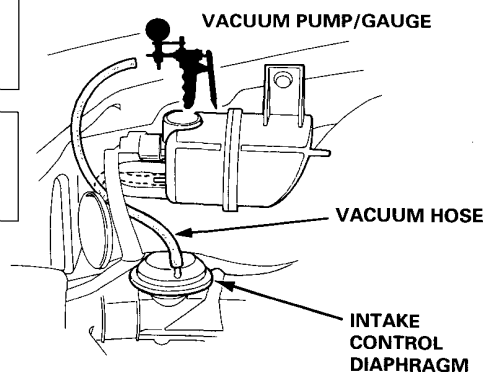


WIRE SIDE OF FEMALE TERMINALS

Repair short in the wire between ECM (A10) and the intake control solenoid valve.

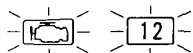
Substitute a known-good ECM and recheck (see page 11-9). If symptom goes away, replace the original ECM.

Check the vacuum line for proper connection or disconnected hose. If OK, replace the intake control diaphragm.



Emission Control System

Exhaust Gas Recirculation (EGR) System



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 12: A problem in the Exhaust Gas Recirculation (EGR) system.

- The MIL has been reported on.
- With the SCS short connector connected, code 12 is indicated.

Problem verification:

1. Do the ECM Reset Procedure.
2. Connect the SCS short connector to the service check connector.
3. Test-drive necessary: Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (M/T in neutral, A/T in **N** or **P** position) until the radiator fan comes on, then let it idle. Drive the car on the road for approx. 10 minutes. Try to keep the engine speed in the 1,700 – 2,500 rpm (min^{-1}) range.

Does the MIL blink and does it indicate code 12?

NO

YES

Check the vacuum:

With the engine at idle, disconnect the #16 hose from the EGR valve and connect a vacuum pump/gauge to the hose.

Is there any vacuum?

YES

NO

Intermittent failure, system is OK at this time. Check for poor connections or loose wires between the EGR valve lift sensor, the EGR control solenoid valve and the ECM.

Check the vacuum:

1. Disconnect the 4P connector from the control box.
2. Check the #16 hose for vacuum again.

Is there any vacuum?

YES

NO

Check vacuum hose routing of the entire EGR system. If hose routing is OK, replace EGR control solenoid valve.

Check for a short in the wire (E SOL line):

1. Turn the ignition switch OFF.
2. Disconnect ECM connector A (26P) from the ECM.
3. Check for continuity between the control box 4P connector terminal No. 2 and body ground.

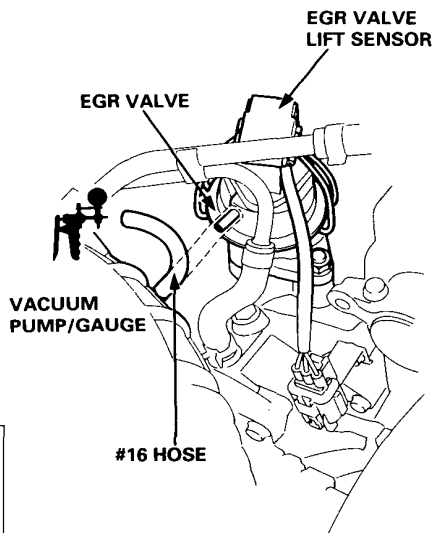
Is there continuity?

YES

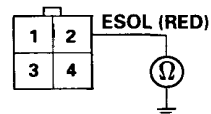
NO

Repair short in the wire between the ECM (A16) and the EGR control solenoid valve.

Substitute a known-good ECM and retest (see page 11-9). If symptom/indication goes away, replace the original ECM.



CONTROL BOX 4P CONNECTOR



(To page 11-59)



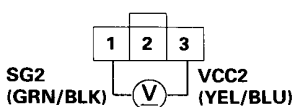
(From page 11-58)

Check the ECM output voltage (VCC2 line):

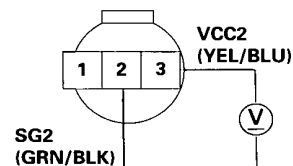
1. Turn the ignition switch OFF.
2. Disconnect the 3P connector from the EGR valve lift sensor.
3. Turn the ignition switch ON (II).
4. At the harness side, measure voltage between the EGR valve lift sensor 3P connector terminals No. 1 and No. 3 (F18A3, F20Z1 engine) No. 2 and No. 3 (F22Z2 engine).

**EGR VALVE LIFT SENSOR
3P CONNECTOR**

**F18A3, F20Z1
engine**



F22Z2 engine



**WIRE SIDE OF FEMALE
TERMINALS**

Is there approx. 5 V ?

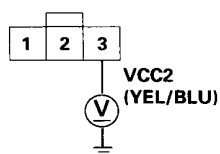
YES

NO

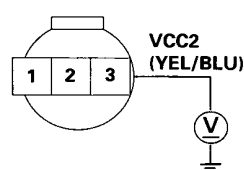
Check for an open in the wire (SG2 line):

Measure voltage between the EGR valve lift sensor 3P connector terminal No. 3 and body ground.

**F18A3, F20Z1
engine**



F22Z2 engine



Is there approx. 5 V ?

YES

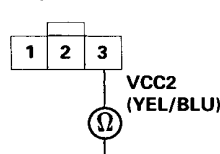
**Repair open in the wire between
the EGR valve lift sensor and the
ECM (D22).**

NO

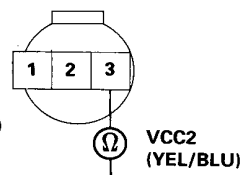
Check for an open in the wire (VCC2 line):

1. Turn the ignition switch OFF.
2. Disconnect ECM connector D (22P) from the ECM.
3. Check for continuity between ECM connector terminal D21 and the EGR valve lift sensor 3P connector terminal No. 3.

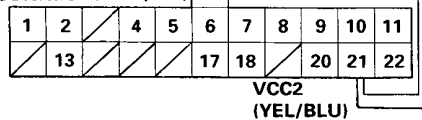
**F18A3, F20Z1
engine**



F22Z2 engine



**ECM
CONNECTOR D (22P)**



Is there continuity?

NO

**Repair open in the wire between
the EGR valve lift sensor and the
ECM (D21).**

YES

**Substitute a known-good ECM
and recheck (see page 11-9). If
symptom/indication goes away,
replace the original ECM.**

(To page 11-60)

(cont'd)

Emission Control System

Exhaust Gas Recirculation (EGR) System (cont'd)

(From page 11-59)

Check the EGR valve:

1. Move the vacuum pump/gauge to the EGR valve.
2. Start the engine.
3. With the engine at idle, apply 27 kPa (200 mmHg, 8 in.Hg) of vacuum to the EGR valve.

Does the engine stall or run rough and does the EGR valve hold vacuum?

NO

Replace the EGR valve.

YES

Check for an open in the wire (IG1 line):

1. Turn the ignition switch OFF.
2. Disconnect the 4P connector from the control box.
3. Turn the ignition switch ON (II).
4. At engine harness side, measure voltage between the control box 4P connector terminal No. 1 and body ground.

Is there battery voltage?

NO

Repair open in the wire between the EGR control solenoid valve and No. 2 F/PUMP (15 A) fuse in the under-dash fuse/relay box.

YES

Check the vacuum line:

1. Reconnect the vacuum pump/gauge to the #16 hose.
2. Start the engine and allow it to idle.
3. At the control box connector, connect the battery positive terminal to terminal No. 1 of the 4P connector. While watching the vacuum gauge, connect the battery negative terminal to terminal No. 2.

Is there approx. 27 kPa (200 mmHg, 8 in.Hg) within 1 second?

NO

Check the vacuum hoses:
Turn the ignition switch OFF and inspect the #16 and #24 hoses for leaks, restrictions, or misrouting.

Are the hoses OK?

NO

Correct as necessary.

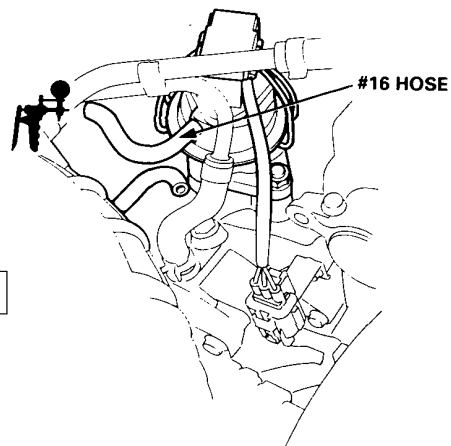
YES



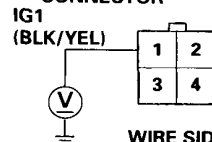
(To page 11-61)



(To page 11-61)



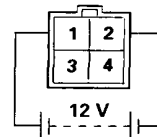
CONTROL BOX 4P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

CONTROL BOX 4P CONNECTOR

TERMINAL SIDE OF MALE TERMINALS





(From page 11-60)

A

Check the ECM input signal (EGR L line):

1. Turn the ignition switch OFF.
2. Reconnect the EGR valve lift sensor 3P connector to the EGR valve lift sensor.
3. Reconnect the vacuum pump/gauge to the EGR valve.
4. Turn the ignition switch ON (II).
5. Measure voltage between ECM connector terminals D17 and D22.

Is the voltage approx. 1.2 V with no vacuum applied and approx. 4.3 V with 27 kPa (200 mmHg, 8 in.Hg) of vacuum applied to the EGR valve?

NO

- Repair open or short in the wire between the EGR valve lift sensor and the ECM (D17).
- If wire is OK, replace the EGR valve.

YES

Does the voltage consistently increase/decrease as the vacuum increases/decreases?

NO

Replace the EGR valve.

YES

Check for an open in the wire (ESOL line):

1. Reconnect the #16 hose to the EGR valve.
2. Start the engine and allow it to idle.
3. Connect the ECM connector terminals A16 and A12.

Did the engine stall or run rough?

NO

Repair open in the wire between the EGR control solenoid valve and the ECM (A16).

YES

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

(From page 11-60)

B

Check the vacuum line:

1. Disconnect the lower hose on EGR control solenoid valve and connect a vacuum gauge to the hose.
2. Start the engine and allow it to idle.

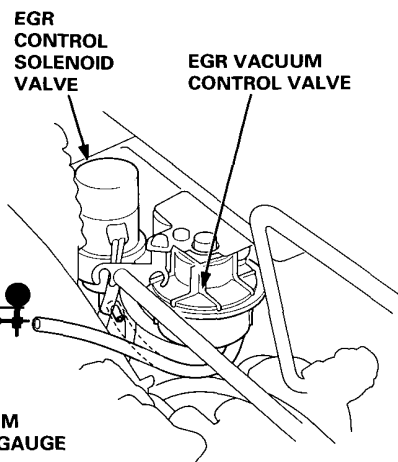
Is there 20 – 30 kPa (150 – 250 mmHg, 6 – 10 in.Hg) of vacuum?

NO

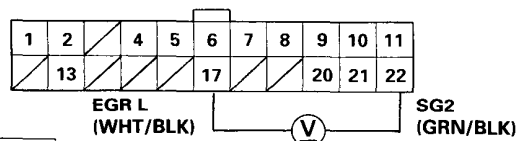
Replace the EGR vacuum control valve.

YES

Replace the EGR control solenoid valve.



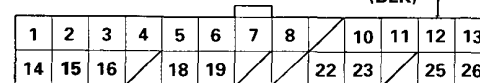
ECM D CONNECTOR (22P)



WIRE SIDE OF FEMALE TERMINALS

ECM CONNECTOR A (26P)

WIRE SIDE OF FEMALE TERMINALS



ESOL (RED)

PG1 (BLK)

JUMPER WIRE

Emission Control System

Evaporative Emission (EVAP) Control

Troubleshooting

Inspection of Evaporative Emission Controls

Check the vacuum when cold:

1. Disconnect the vacuum hose from the EVAP purge control canister and connect a vacuum gauge to the hose.
2. Start the engine and allow it to idle.
NOTE: Engine coolant temperature must be below 75°C (167°F).

Is there vacuum?

NO

YES

Check the EVAP purge control valve:

1. Turn the ignition switch OFF.
2. Disconnect the 4P connector from the control box.
3. Start the engine.
4. At the harness side, measure voltage between the control box 4P connector terminal No. 3 and No. 4.

Is there battery voltage?

NO

YES

Inspect vacuum hose routing. If OK, replace EVAP purge control solenoid valve.

Check for an open in the wire (IGP line):

At the harness side, measure voltage between the control box 4P connector terminal No. 4 and body ground.

Is there battery voltage?

YES

NO

Repair open in the wire between control box and the No. 2 F/PUMP (15A) fuse.

Check for an open in the wire (PCS line):

1. Turn the ignition switch OFF.
2. Reconnect the 4P connector to the control box.
3. Turn the ignition switch ON (II).
4. Measure voltage between ECM connector terminals A23 and A25.

Is there battery voltage?

YES

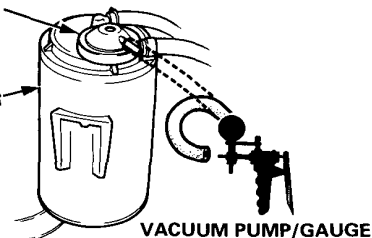
NO

Repair open in the wire between the control box and the ECM (A23).

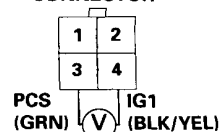
Substitute a known-good ECM and retest (see page 11-9). If symptom/indication goes away, replace the original ECM.

EVAP PURGE CONTROL DIAPHRAGM VALVE

EVAP CONTROL CANISTER

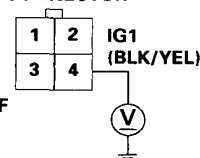


CONTROL BOX 4P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

CONTROL BOX 4P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

ECM CONNECTOR A (26P)

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26

WIRE SIDE OF FEMALE TERMINALS



(To page 11-63)



(From page 11-62)

Check the vacuum when hot:

1. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (M/T in neutral, A/T in **N** or **P** position) until the radiator fan comes on, then let it idle.
2. Check for vacuum at the vacuum hose after starting the engine.

Is there vacuum?

NO

Check the EVAP purge control solenoid valve:
Disconnect the 4P connector from the control box.

Is there vacuum?

YES

Inspect vacuum hose routing.
If OK, replace the EVAP purge control solenoid valve.

NO

Check for a short in the wire (PCS line):

1. Turn the ignition switch OFF.
2. Disconnect ECM connector A (26P).
3. Check for continuity between the control box 4P connector terminal No. 3 and body ground.

Is there continuity?

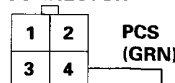
YES

Repair short in the wire between the control box and the ECM (A23).

NO

Substitute a known-good ECM and recheck (see page 11-9). If symptom/indication goes away, replace the original ECM.

CONTROL BOX 4P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

Check the EVAP control canister:

1. Reconnect the vacuum hose to the EVAP purge control solenoid valve.
2. Remove the fuel fill cap.
3. Connect a vacuum gauge to canister purge air hose.
4. Start the engine and raise speed to 3,500 rpm (min^{-1}).

Does vacuum appear on gauge within 1 minute?

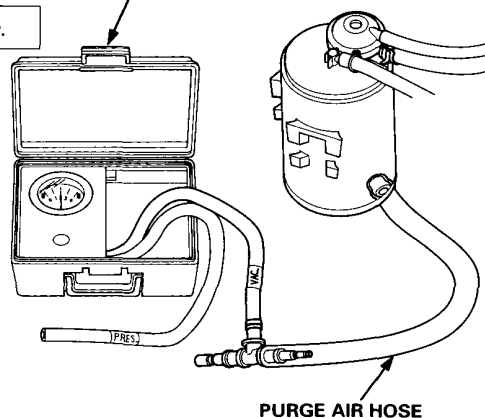
NO

Replace the EVAP control canister.

YES

See EVAP two way valve test to complete.
Evaporative emission controls are OK.

VACUUM/PRESSURE GAUGE 0 - 100 mmHg (0 - 4 in.Hg)



Transaxle

Manual Transmission 13-1

Automatic Transmission 14-1



Manual Transmission

Maintenance

Transmission Oil 13-2



Outline of Model Change

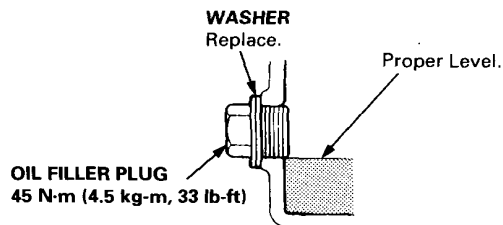
- Honda genuine manual transmission fluid (MTF) is now specified.

Maintenance

Transmission Oil

NOTE: Check the oil with engine OFF, and car on level ground.

1. Remove the oil filler plug, then check the level and condition of the oil.



2. The oil level must be up to the fill hole. If it is below the hole, add oil until it runs out, then reinstall the oil filler plug with a new washer.
3. If the transmission oil is dirty, remove the drain plug and drain the oil.
4. Reinstall the drain plug with a new washer, and refill the transmission oil to the proper level.

NOTE: The drain plug washer should be replaced at every oil change.

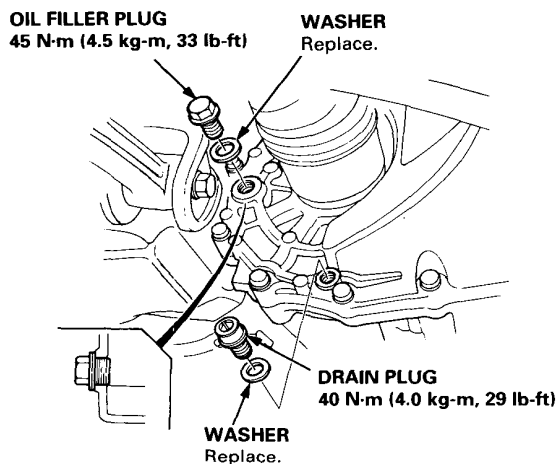
5. Reinstall the oil filler plug with a new washer.

Oil Capacity

1.9 l (2.0 US qt, 1.7 Imp qt) for oil change.

2.0 l (2.1 US qt, 1.8 Imp qt) for overhaul.

Always use genuine Honda manual transmission fluid (MTF). If it is not available, you may use an API service SG or SH grade motor oil with a viscosity of SAE 10W - 30 or 10W - 40 as a temporary replacement.



Automatic Transmission

Special Tools	14-2
Description	
Hydraulic Circuit	14-3
Circuit Diagram	14-4
Troubleshooting Procedures	14-6
Road Test	14-7
Fluid Level	
Checking/Changing	14-10
1st/2nd Accumulator Body	
Disassembly/Inspection/ Reassembly	14-11
Main Valve Body	
Disassembly/Inspection/ Reassembly	14-12
Clutch	
Illustrated Index	14-14
Gearshift Selector	14-16



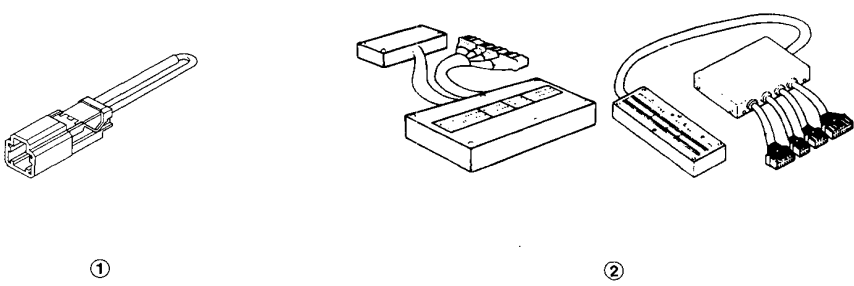
Outline of Model Changes

- Hydraulic circuit has been modified due to the main valve body modification.
- Circuit diagram of A/T control system has been modified due to the wire color and the self-diagnosis indicator light changing.
- Self-diagnosis indicator light has been changed, from **[S]** indicator light to **[D₄]** indicator light.
- S switch has been discontinued.
- Shift schedules have been changed.
- Automatic transmission fluid designation has been changed.
- 1st/2nd accumulator body has been modified.
- Main valve body has been modified.
- 1st, 2nd, 3rd and 4th clutch pistons have been modified.
- Gearshift selector has been changed.

NOTE: "Symptom-to-Component Chart Electrical System" and "Electrical Troubleshooting Flowcharts" have been modified due to the circuit diagram of the A/T control system modification and the self-diagnosis indicator light changing. However, the basic method of them remain the same in the base shop manual (62SN700). This supplement does not include "Symptom-to-Component Chart Electrical System" and "Electrical Troubleshooting Flowcharts." Refer to the base shop manual (62SN700) and the Circuit Diagram in this supplement (14-4 and 14-5). Exchange "**[S]** indicator light" to "**[D₄]** indicator light", and exchange the wire color of A/T control system when troubleshooting on the electrical troubleshooting.

Special Tools

Ref. No.	Tool Number	Description	Qty	Remark
①	07PAZ – 0010100	SCS Short Connector	1	
②	07LAJ – PT3010A or 07LAJ – PT30100	Test Harness	1	



The diagram illustrates two special tools. Tool ①, the SCS Short Connector, is a small, rectangular component with a single cable extending from one end. Tool ②, the Test Harness, consists of a rectangular base unit with multiple cables connected to it, each ending in a different type of connector.

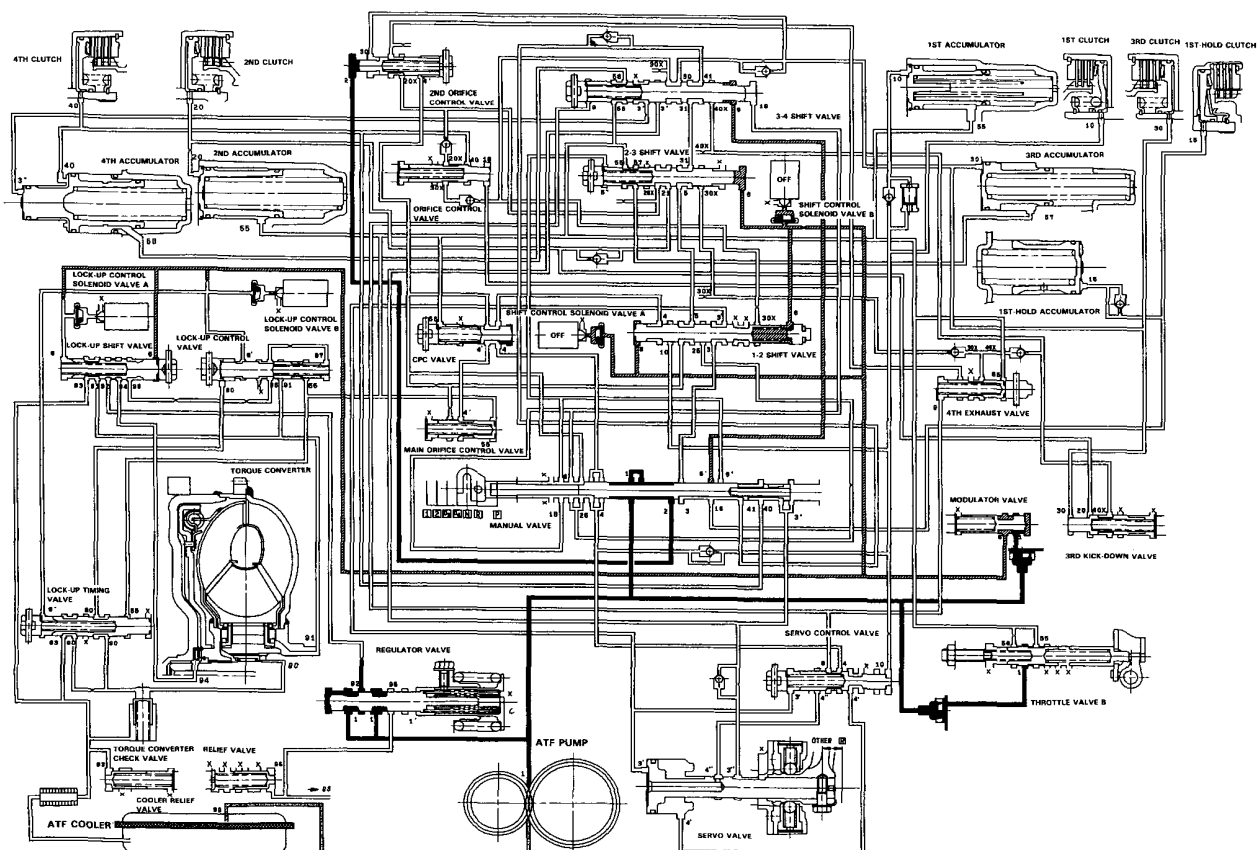


Description

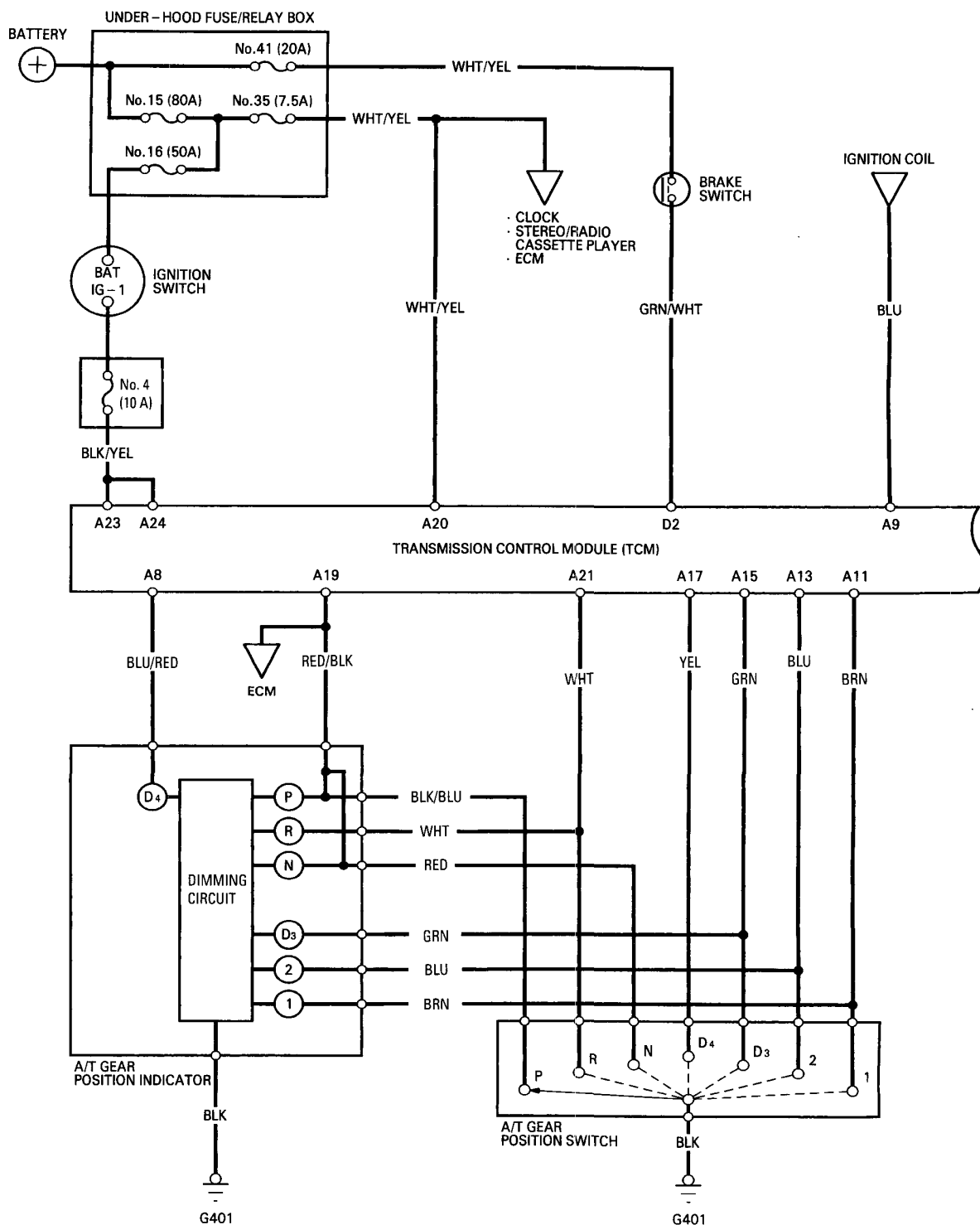
Hydraulic Circuit

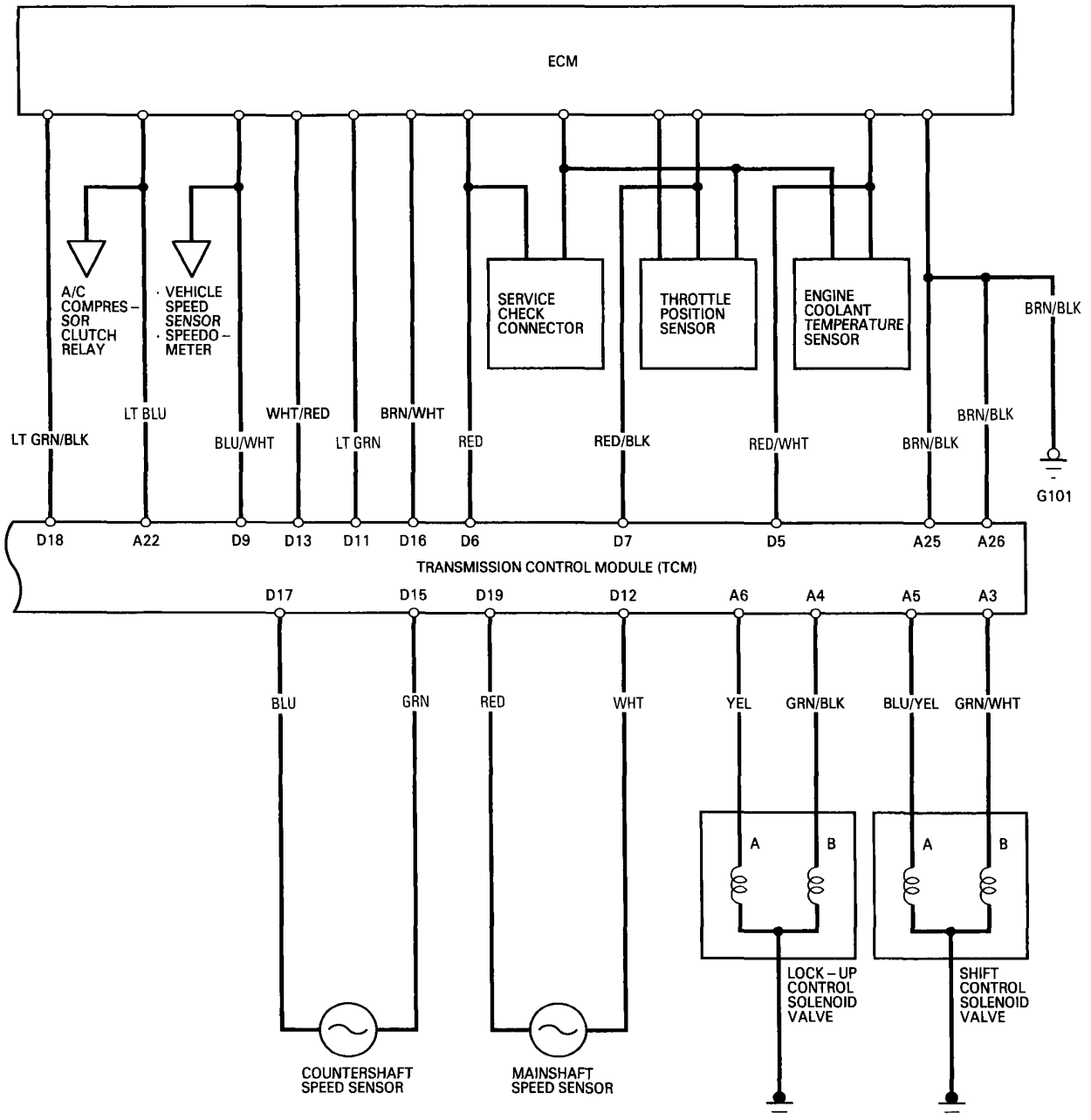
The hydraulic circuit has been modified due to the main valve body modification (The 3-2 kick-down valve was stopped adoption, and the main orifice control valve has been adopted on the main valve body).

NO.	DESCRIPTION OF PRESSURE	NO.	DESCRIPTION OF PRESSURE	NO.	DESCRIPTION OF PRESSURE
1	LINE	15	1ST-HOLD	58	THROTTLE B
2	LINE	16	1ST-HOLD	90	TORQUE CONVERTER
3	LINE	18	LINE	91	TORQUE CONVERTER
3'	LINE	20	2ND CLUTCH	92	TORQUE CONVERTER
3''	LINE	21	2ND CLUTCH	93	ATF COOLER
4	LINE	25	LINE	94	TORQUE CONVERTER
4'	LINE	30	3RD CLUTCH	95	LUBRICATION
5	LINE	31	3RD CLUTCH	96	TORQUE CONVERTER
6	MODULATE	40	4TH CLUTCH	97	TORQUE CONVERTER
6'	MODULATE (DUTY OPERATION)	41	4TH CLUTCH	99	SUCTION
6''	MODULATE	55	THROTTLE B	X	LEAK
9	LINE	56	THROTTLE B		
10	1ST CLUTCH	57	THROTTLE B		



Circuit Diagram





A3	A5	A9	A11	A13	A15	A17	A19	A21	A23	A25
A4	A6	A8					A20	A22	A24	A26

D5	D7	D9	D11	D13	D15	D17	D19
D2	D6		D12	D16	B18		

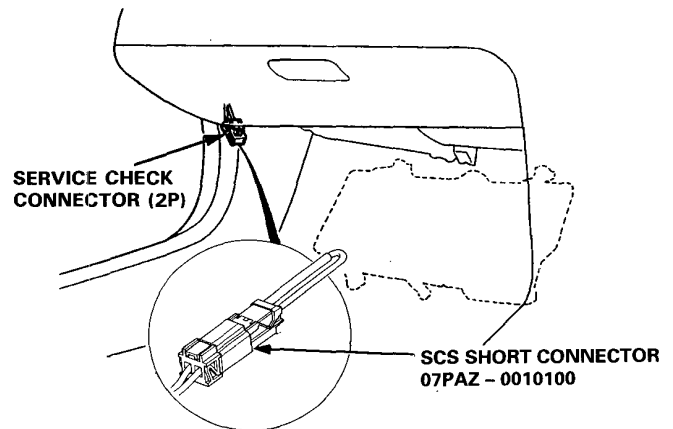
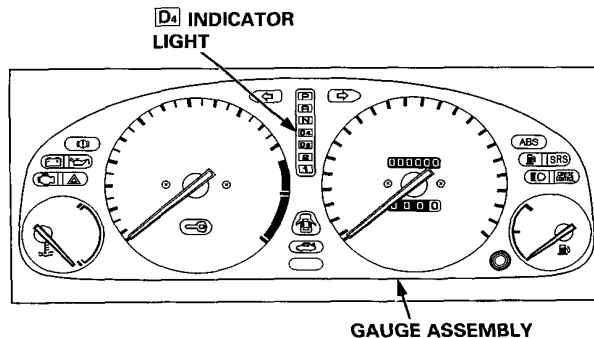
TCM Terminal Location

Troubleshooting Procedures

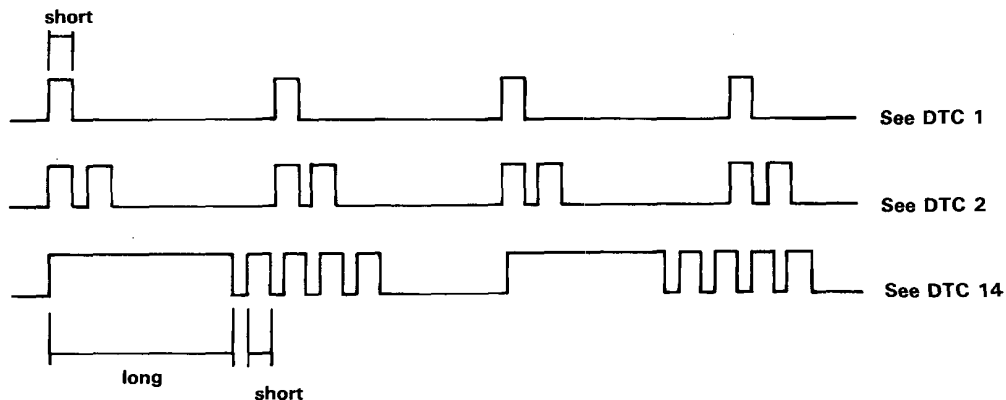
When the transmission control module (TCM) senses an abnormality in the input or output system, the **D₄** indicator light in the gauge assembly will blink. When the Service Check Connector (located under the dashboard on the *passenger's* side) is connected with the special tool as shown, the **D₄** indicator light will blink the Diagnostic Trouble Code (DTC) when the ignition switch is turned on (II).

When the **D₄** indicator light has been reported on, connect the Service Check Connector with the special tool. Then turn the ignition switch and observe the **D₄** indicator light.

RHD is shown; LHD is similar.



Codes 1 through 9 are indicated by individual short blinks, codes 10 through 15 are indicated by series of long and short blinks. One long blink equals 10 short blinks. Add the long and short blinks together to determine the code. After determining the code, refer to the electrical system Symptom-to-Component Chart on base shop manual (62SN700), section 14.



Some PGM-FI problems will also make the **D₄** indicator light come on. After the PGM-FI system, disconnect the BACK UP (RADIO) fuse (7.5 A) in the under-hood fuse/relay box for more than 10 seconds to reset the TCM memory.

NOTE:

- PGM-FI system
The PGM-FI system on this model is a sequential multiport fuel injection system.
- The **D₄** indicator light may come on, indicating a system problem, when, in fact, there is a poor or intermittent electrical connection. First, check the electrical connections, clean or repair if necessary.
- If the electrical readings are not as specified when using the test harness, check the test harness connection before proceeding.
- Disconnecting the BACK UP (RADIO) fuse (7.5 A) also cancels the radio preset stations and the clock setting. Make note of the radio presets before removing the fuse so you can reset them.



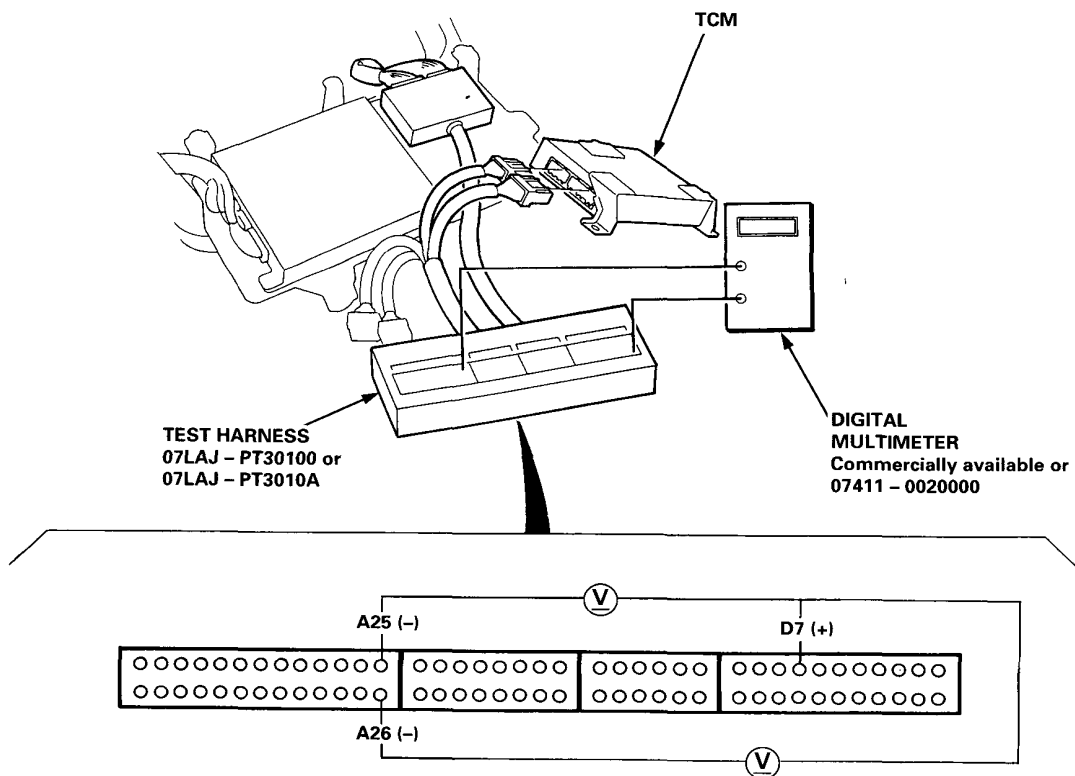
NOTE: Warm up the engine to normal operating temperature (the radiator fan comes on).

1. Apply parking brake and block the wheels. Start the engine, then move the selector lever to **D₄** position while depressing the brake pedal. Depress the accelerator pedal and release it suddenly. Engine should not stall.
2. Repeat same test in **D₃** position.
3. Shift the selector lever to **D₄** position and check that the shift points occur at approximate speeds shown. Also check for abnormal noise and clutch slippage.

NOTE: Throttle position sensor voltage represents the throttle opening.

- 1. Connect the Test Harness between the TCM and connector (refer to base shop manual (62SN700), section 14).
- 2. Set the digital multimeter to check voltage between D7 (+) terminal and A25 or A26 terminals for the throttle position sensor.

LHD is shown; RHD is similar.



(cont'd)

Road Test

(cont'd)

F18A3, F20Z1 engines: **D4** Position

• Upshift

		1st → 2nd	2nd → 3rd	3rd → 4th	Lock-up Clutch ON
Throttle position sensor voltage: 0.788 V (0.6/8 throttle) Coasting down-hill from a stop	km/h	14 – 16	28 – 31	43 – 48	———
	mph	9 – 10	17 – 19	27 – 30	———
Throttle position sensor voltage: 2.184 V (3.5/8 throttle) Acceleration from a stop	km/h	31 – 34	63 – 69	85 – 91	100 – 108
	mph	19 – 21	39 – 43	53 – 57	62 – 67
Full-throttle Acceleration from a stop	km/h	48 – 53	107 – 112	147 – 152	133 – 141
	mph	30 – 33	66 – 70	91 – 94	83 – 88

• Downshift

		Lock-up Clutch OFF	4th → 3rd	3rd → 2nd	2nd → 1st
Throttle position sensor voltage: 0.788 V (0.6/8 throttle) Coasting or braking to a stop	km/h	20 – 26	27 – 31	———	10 – 14
	mph	12 – 16	17 – 19	———	6 – 9
Throttle position sensor voltage: 2.184 V (3.5/8 throttle) When car is slowed by increased grade, wind, etc.	km/h	88 – 96	61 – 67	32 – 38	10 – 14
	mph	55 – 60	38 – 42	20 – 24	6 – 9
Full-throttle When car is slowed by increased grade, wind, etc.	km/h	128 – 136	131 – 137	88 – 94	42 – 48
	mph	80 – 85	81 – 85	55 – 58	26 – 30

F22Z2 engine: **D4** Position

• Upshift

		1st → 2nd	2nd → 3rd	3rd → 4th	Lock-up Clutch ON
Throttle position sensor voltage: 0.788 V (0.6/8 throttle) Coasting down-hill from a stop	km/h	14 – 16	28 – 31	43 – 48	———
	mph	9 – 10	17 – 19	27 – 30	———
Throttle position sensor voltage: 2.184 V (3.5/8 throttle) Acceleration from a stop	km/h	35 – 38	65 – 71	91 – 97	100 – 108
	mph	22 – 24	40 – 44	57 – 60	62 – 67
Full-throttle Acceleration from a stop	km/h	49 – 54	101 – 106	153 – 158	137 – 145
	mph	30 – 34	63 – 66	95 – 98	85 – 90

• Downshift

		Lock-up Clutch OFF	4th → 3rd	3rd → 2nd	2nd → 1st
Throttle position sensor voltage: 0.788 V (0.6/8 throttle) Coasting or braking to a stop	km/h	20 – 26	27 – 31	———	10 – 14
	mph	12 – 16	17 – 19	———	6 – 9
Throttle position sensor voltage: 2.184 V (3.5/8 throttle) When car is slowed by increased grade, wind, etc.	km/h	88 – 96	57 – 63	30 – 36	10 – 14
	mph	55 – 60	35 – 39	19 – 22	6 – 9
Full-throttle When car is slowed by increased grade, wind, etc.	km/h	132 – 140	131 – 137	88 – 94	42 – 48
	mph	82 – 87	81 – 85	55 – 58	26 – 30



4. Accelerate to about 35 mph (57 km/h) so the transmission is in 4th, then shift **D₄** to **2** position. The car should immediately begin slowing down from engine braking.

CAUTION: Do not shift from **D₄ or **D₃** position to **2** or **1** position at speeds over 62 mph (100 km/h); you may damage the transmission.**

5. Check for abnormal noise and clutch slippage in the following positions.

1 (1st Gear) Position

- 1. Accelerate from a stop at full throttle. Check that there is no abnormal noise or clutch slippage.
- 2. Upshifts should not occur with the selector in this position.

2 (2nd Gear) Position

- 1. Accelerate from a stop at full throttle. Check that there is no abnormal noise or clutch slippage.
- 2. Upshifts and downshifts should not occur with the selector in this position.

R (Reverse) position

Accelerate from a stop at full throttle, and check for abnormal noise and clutch slippage.

6. Test in **P** (Parking) Position

Park car on slope (approx. 16°), apply the parking brake, and shift into **P** position. Release the brake; the car should not move.

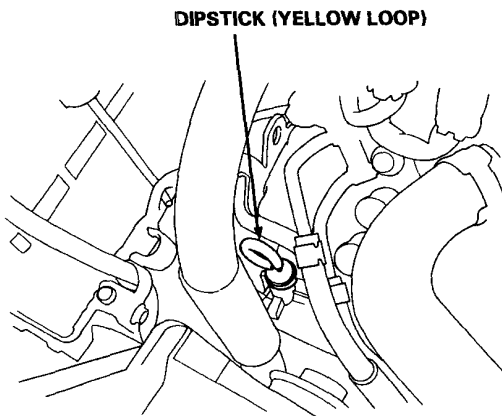
Fluid Level

Checking/Changing

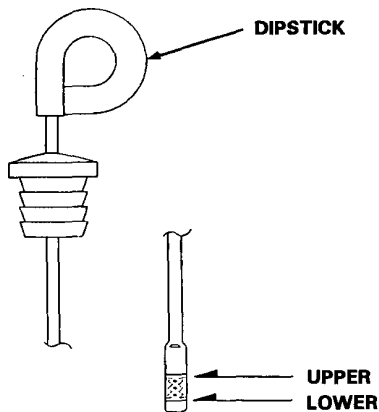
Checking

NOTE: Check the fluid level with the engine at normal operating temperature (the radiator fan comes on).

1. Park the car on level ground. Shut off the engine.
2. Remove the dipstick (yellow loop) from the transmission, and wipe it with a clean cloth.
3. Insert the dipstick into the transmission.



4. Remove the dipstick and check the fluid level. It should be between the upper and lower marks.

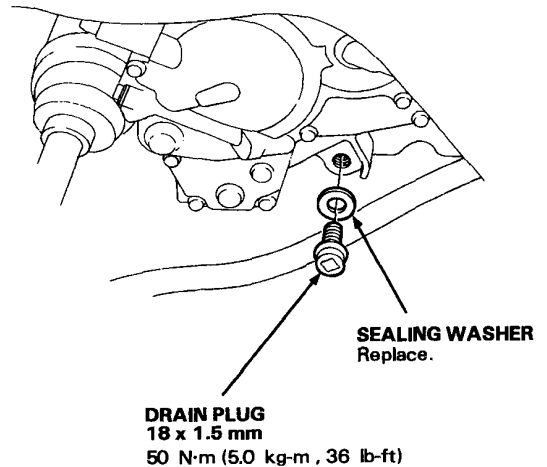


5. If the level is below the lower mark, add fluid into the filler hole to bring it to the upper mark. Use genuine Honda ATF PREMIUM (Automatic Transmission Fluid-PREMIUM). In an emergency, you may use a quality Dexron® II or III ATF as a temporary replacement.
6. Insert the dipstick back in the transmission.

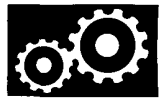
Changing

1. Bring the transmission up to normal operating temperature (the radiator fan comes on) by driving the car. Park the car on level ground, turn the engine off, and then remove the drain plug.
2. Reinstall the drain plug with a new sealing washer; then refill the transmission to the upper mark on the dipstick.

Automatic Transmission Fluid Capacity:
2.4 l (2.5 US qt, 2.1 Imp qt) at changing
6.0 l (6.3 US qt, 5.3 Imp qt) after overhaul



1st/2nd Accumulator Body

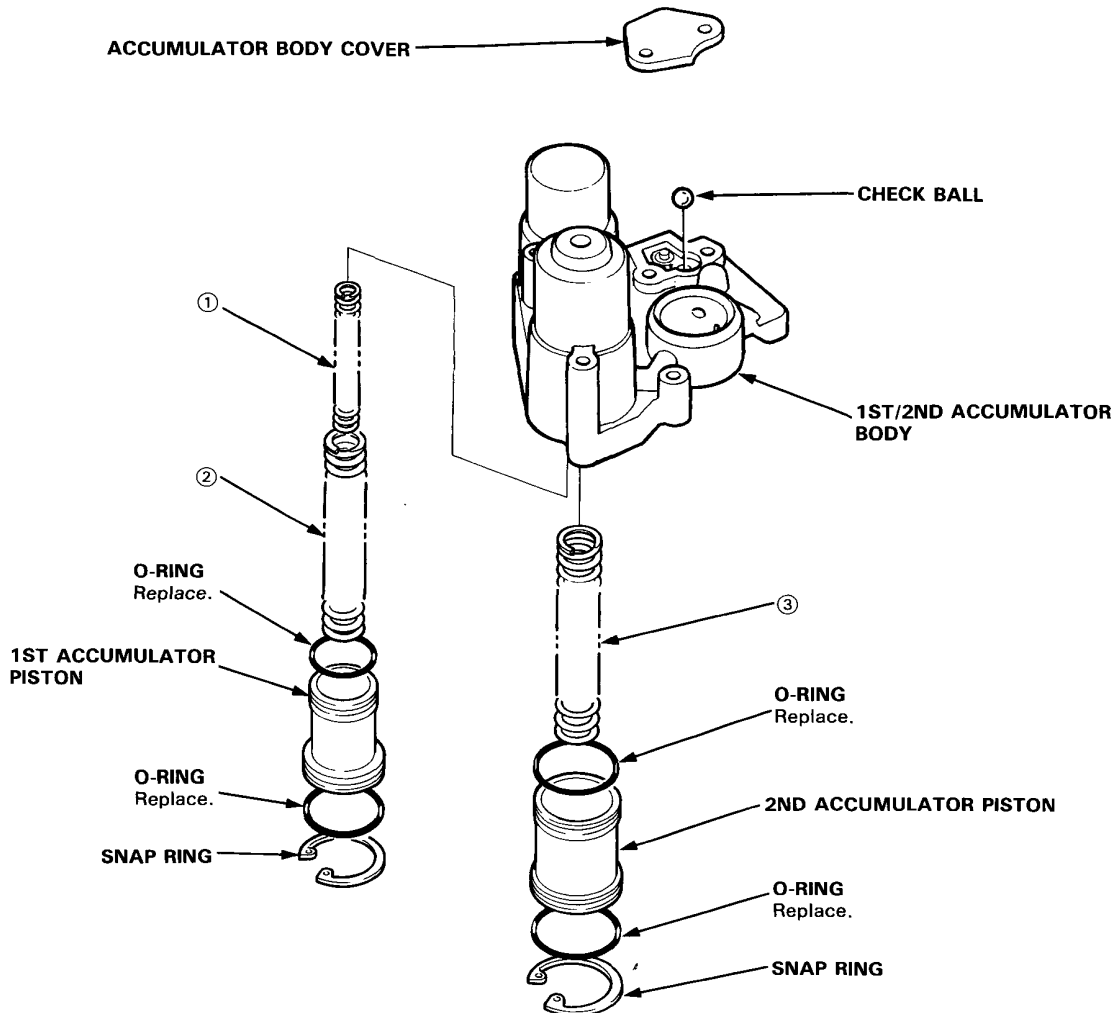


Disassembly/Inspection/Reassembly

NOTE:

- Clean all part thoroughly in solvent or carburetor cleaner, and dry them with compressed air. Blow out all passages.
- Coat all parts with ATF during assembly.

CAUTION: Do not use a magnet to remove the check ball; it may magnetize the ball.



SPRING SPECIFICATIONS

Unit: mm (in)

No.	Spring	Standard (New)			
		Wire Dia.	O.D.	Free Length	No. of Coils
①	1st accumulator spring B	1.8 (0.071)	6.3 (0.248)	70.5 (2.776)	15.3
②	1st accumulator spring A	2.3 (0.091)	16.3 (0.642)	109.6 (4.315)	20.0
③	2nd accumulator spring	3.5 (0.138)	22.0 (0.866)	91.0 (3.583)	10.8

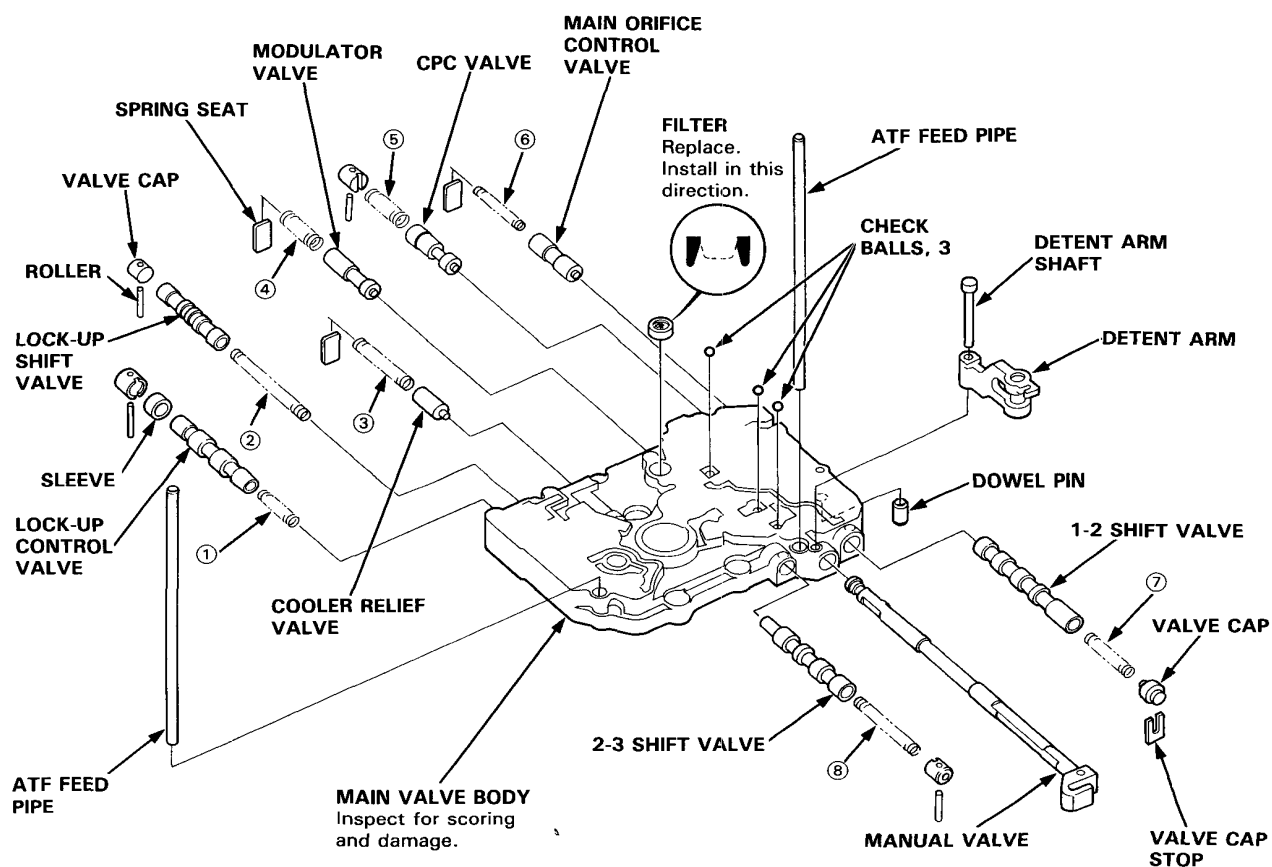
Main Valve Body

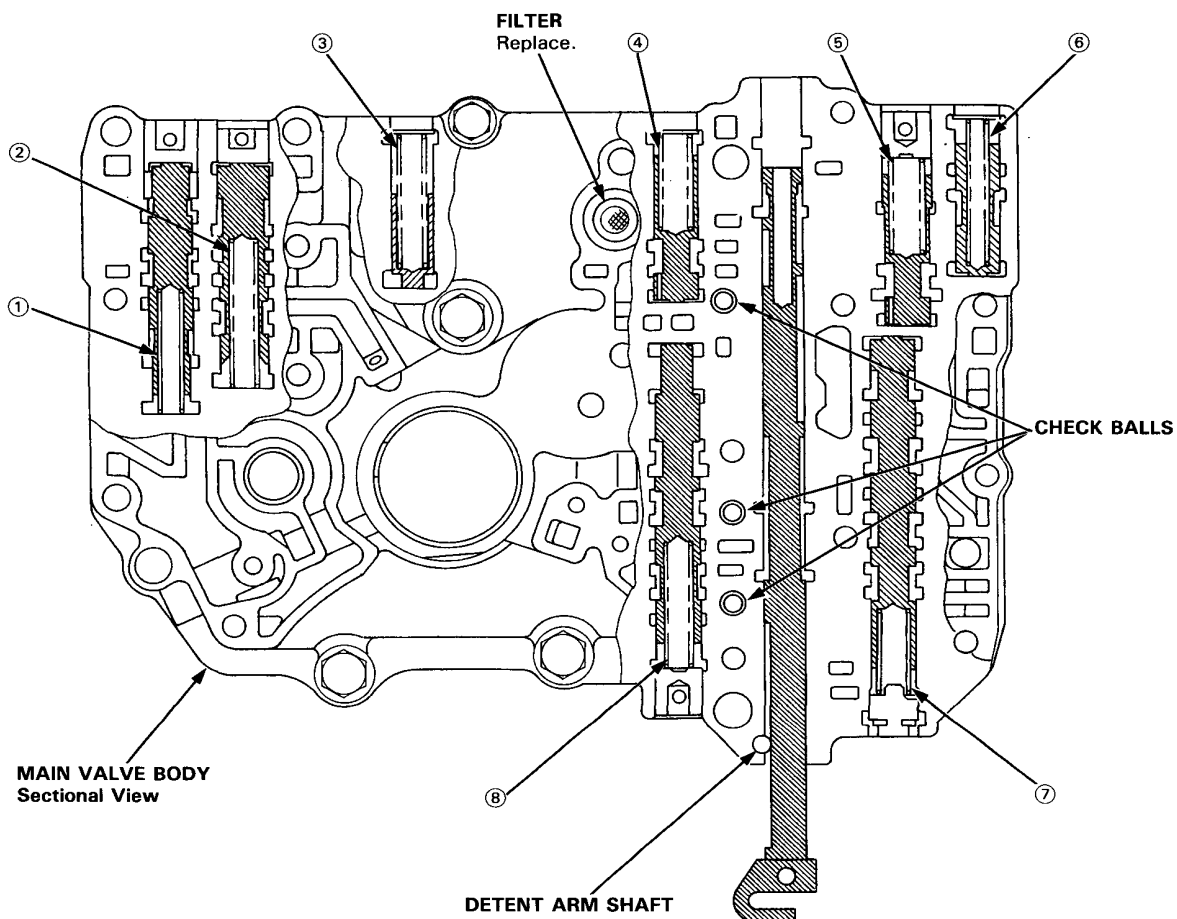
Disassembly/Inspection/Reassembly

NOTE:

- Clean all parts thoroughly in solvent or carburetor cleaner, and dry them with compressed air. Blow out all passages.
- Check all valves for free movement. If any fail to slide freely, see Valve Body Repair on base shop manual (62SN700).
- Replace the valve body as an assembly if any parts are worn or damaged.
- Coat all parts with ATF during assembly.

CAUTION: Do not use a magnet to remove the check balls; it may magnetize the balls.





SPRING SPECIFICATIONS

Unit: mm (in)

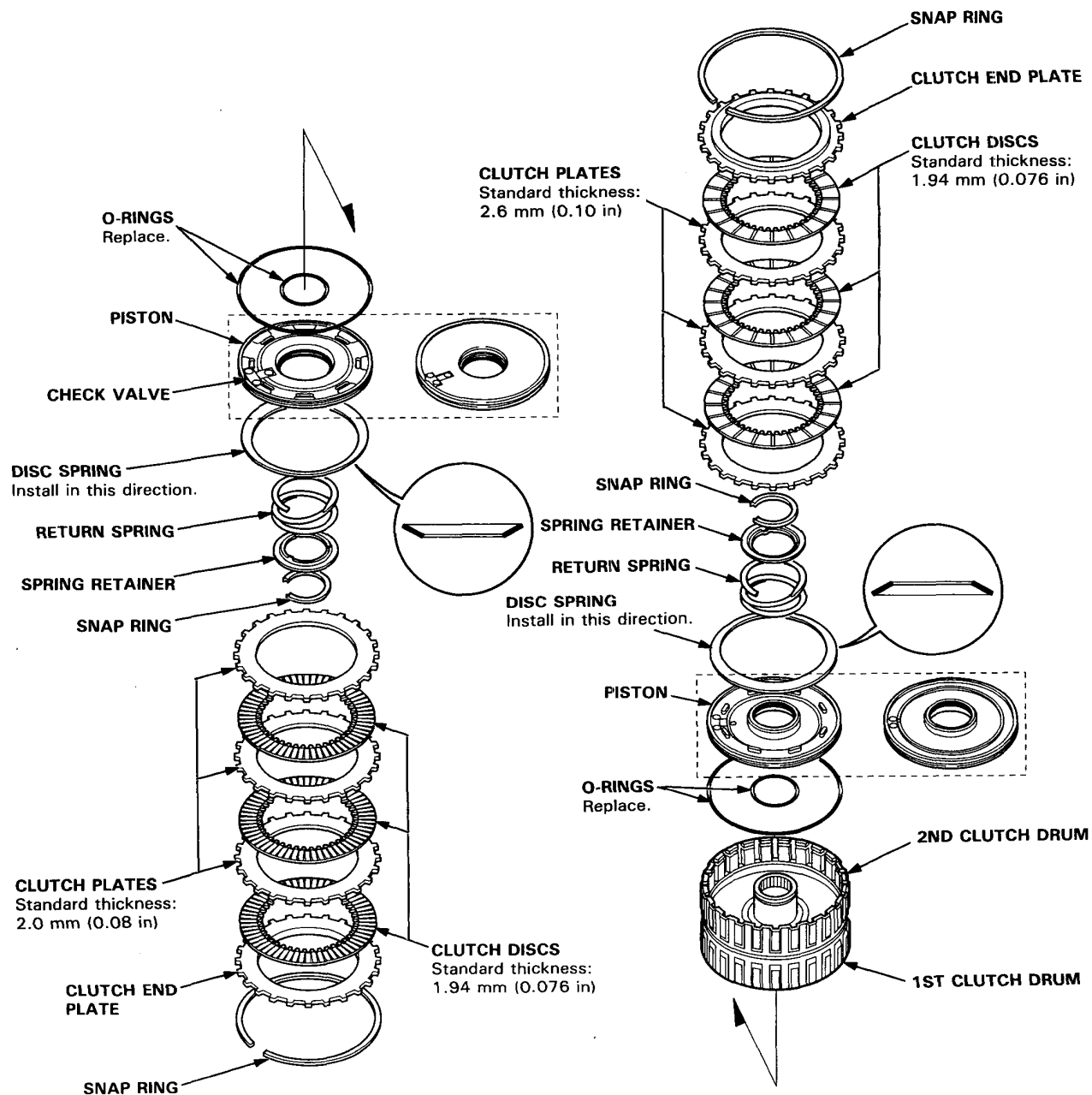
No.	Spring	Standard (New)			
		Wire Dia.	O.D.	Free Length	No. of Coils
①	Lock-up control valve spring	0.7 (0.028)	6.6 (0.260)	38.0 (1.496)	24.6
		0.7 (0.028)	6.6 (0.260)	38.5 (1.516)	24.6
		0.7 (0.028)	6.6 (0.260)	39.0 (1.535)	24.6
②	Lock-up shift valve spring	0.9 (0.035)	7.6 (0.299)	73.7 (2.902)	32.0
③	Cooler relief valve spring	1.0 (0.039)	8.4 (0.331)	46.8 (1.843)	17.0
④	Modulator valve spring	1.4 (0.055)	9.4 (0.370)	33.0 (1.299)	10.5
⑤	CPC valve spring	1.4 (0.055)	9.4 (0.370)	33.0 (1.299)	10.5
⑥	Main orifice control valve spring	1.1 (0.043)	7.1 (0.280)	49.1 (1.933)	22.7
⑦	1-2 shift valve spring	0.9 (0.035)	8.6 (0.339)	40.4 (1.591)	14.5
⑧	2-3 shift valve spring	0.9 (0.035)	7.6 (0.299)	57.0 (2.244)	26.8

Clutch

Illustrated Index

1ST/2ND CLUTCH ASSEMBLY

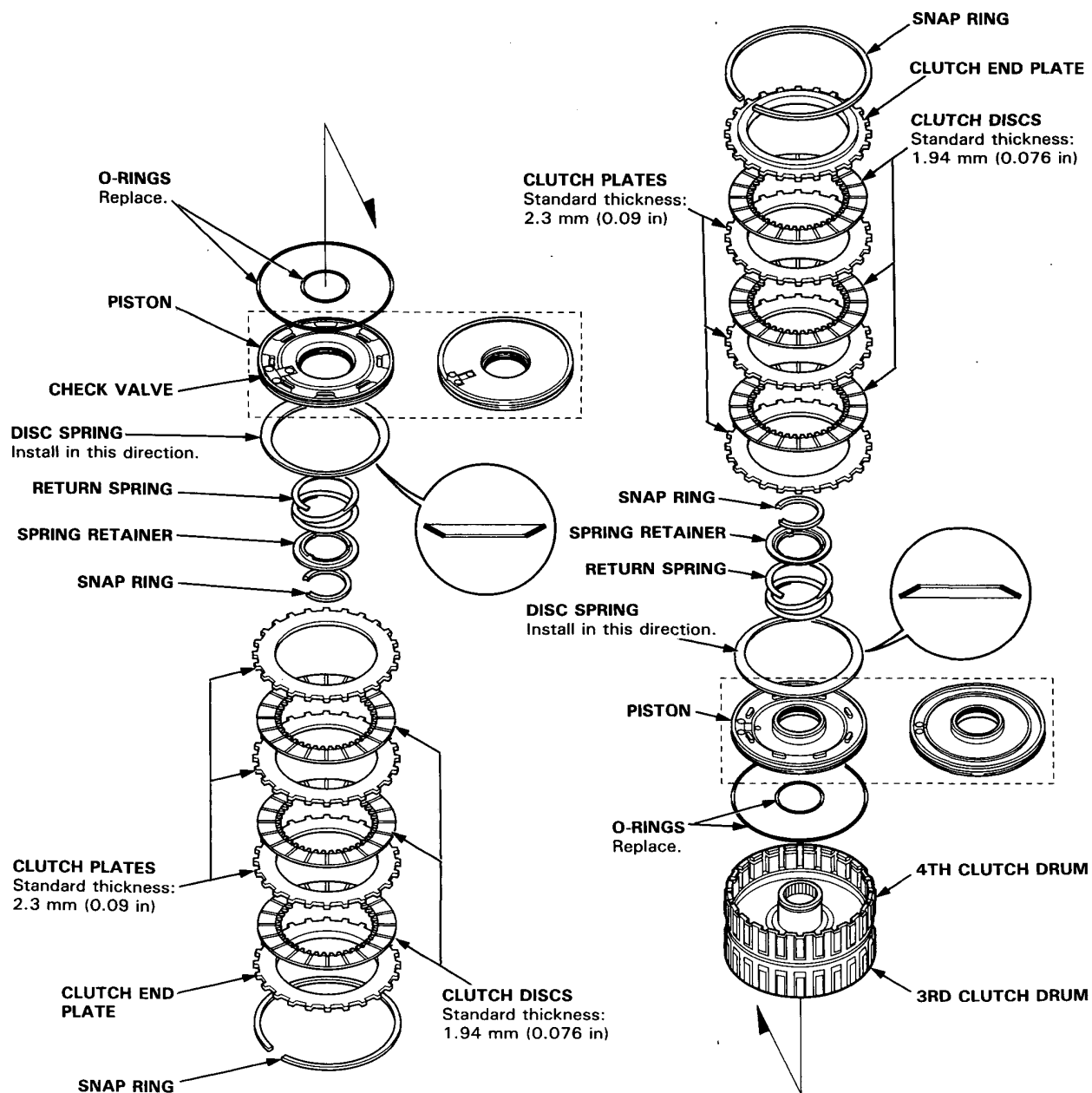
NOTE: There are two types of pistons, you may find either type in the clutch assembly.





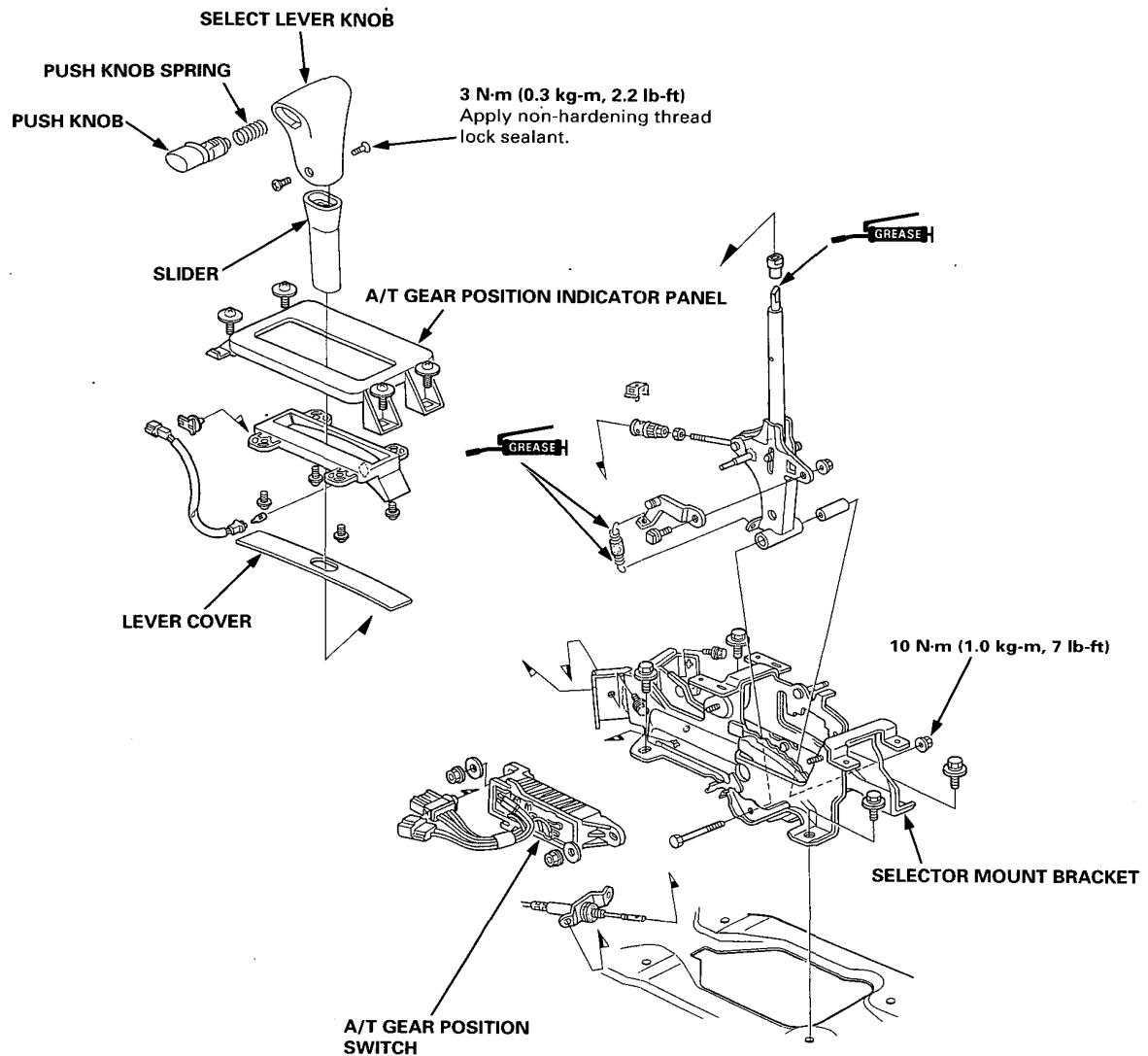
3RD/4TH CLUTCH ASSEMBLY

NOTE: There are two types of pistons, you may find either type in the clutch assembly.



Gearshift Selector

NOTE: LHD is shown; RHD is symmetrical.



Steering

Special Tools	17-2
Component Locations	
Index	17-3
Troubleshooting	
General Troubleshooting	17-4
Noise and Vibration	17-8
Fluid Leaks	17-10
Inspection and Adjustment	
Power Assist Check with Car Parked	17-12
Pump Belt	17-12
Rack Guide Adjustment	17-14
Fluid Replacement	17-14
Pump Pressure Check	17-15
Power Steering Hoses, Lines	
Fluid Leakage Inspection	17-16
Replacement	17-16
Power Steering Pump	
Removal/Installation	17-17
Steering Gearbox	
Removal	17-18
Installation	17-20

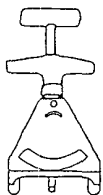


Outline of Model Change

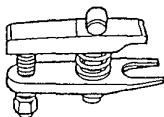
- The power steering system has been changed to suit the revised power steering gearbox and power steering pump.

Special Tools

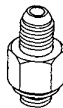
Ref. No	Tool Number	Description	Qty	Remarks
①	07JGG - 0010100	Belt Tension Gauge	1	
②	07MAC - SL00200	Ball Joint Remover, 28mm	1	
③	07PAK - ST50110	P/S Joint Adaptor (Pump)	1	
④	07PAK - ST50120	P/S Joint Adaptor (Hose)	1	
⑤-1	07406 - 0010200	P/S Pressure Gauge	1	
⑤-2	07406 - 0010300	Pressure Control Valve	1	
⑤-3	07406 - 0010400	Pressure Gauge	1	



①



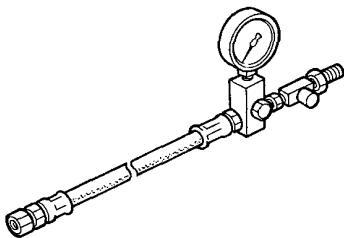
②



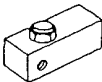
③



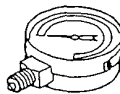
④



⑤-1



⑤-2



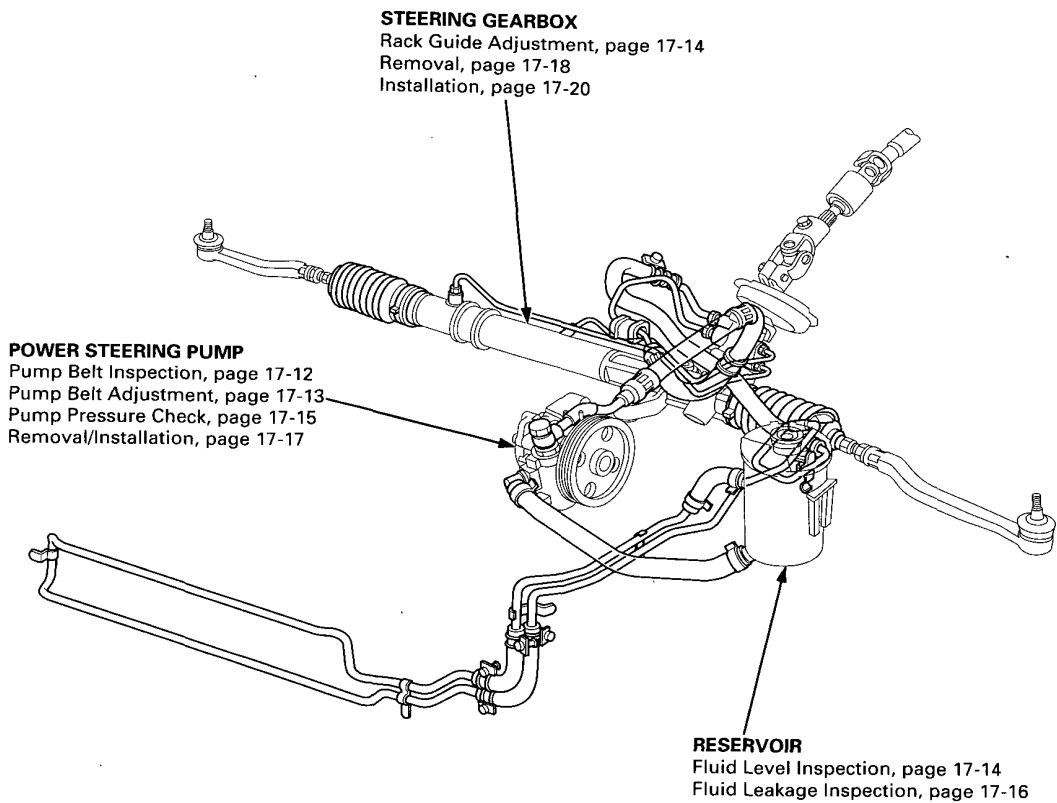
⑤-3



Index

NOTE:

- Before removing the gearbox, remove the driver's airbag assembly and steering wheel.
- After installing the gearbox, check the wheel alignment and adjust if necessary.
- Do not try to disassemble to steering gearbox and pump. If the gearbox or pump are faulty, replace the whole gearbox or whole pump as an assembly.
- LHD type is shown, RHD type is symmetrical.

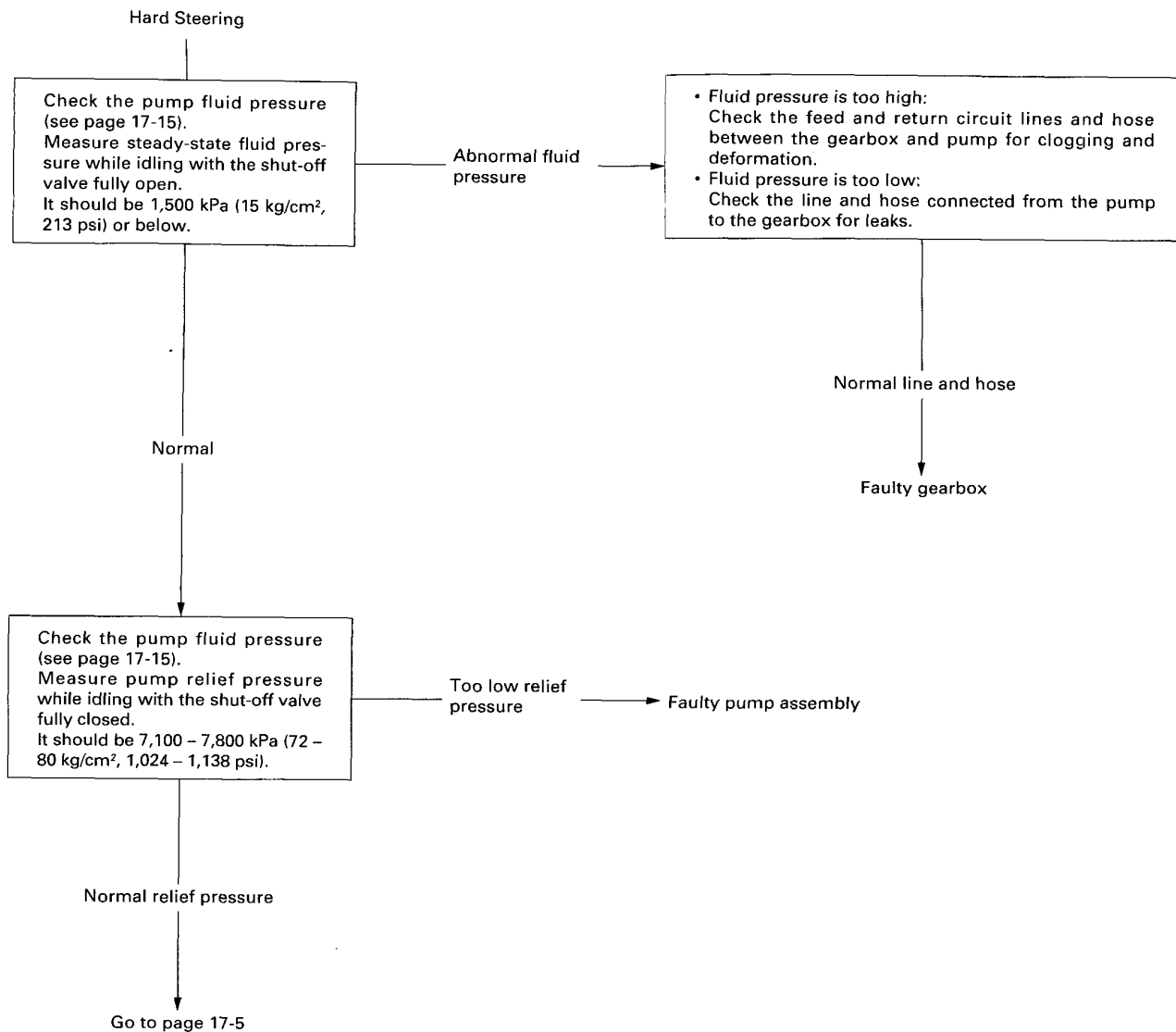


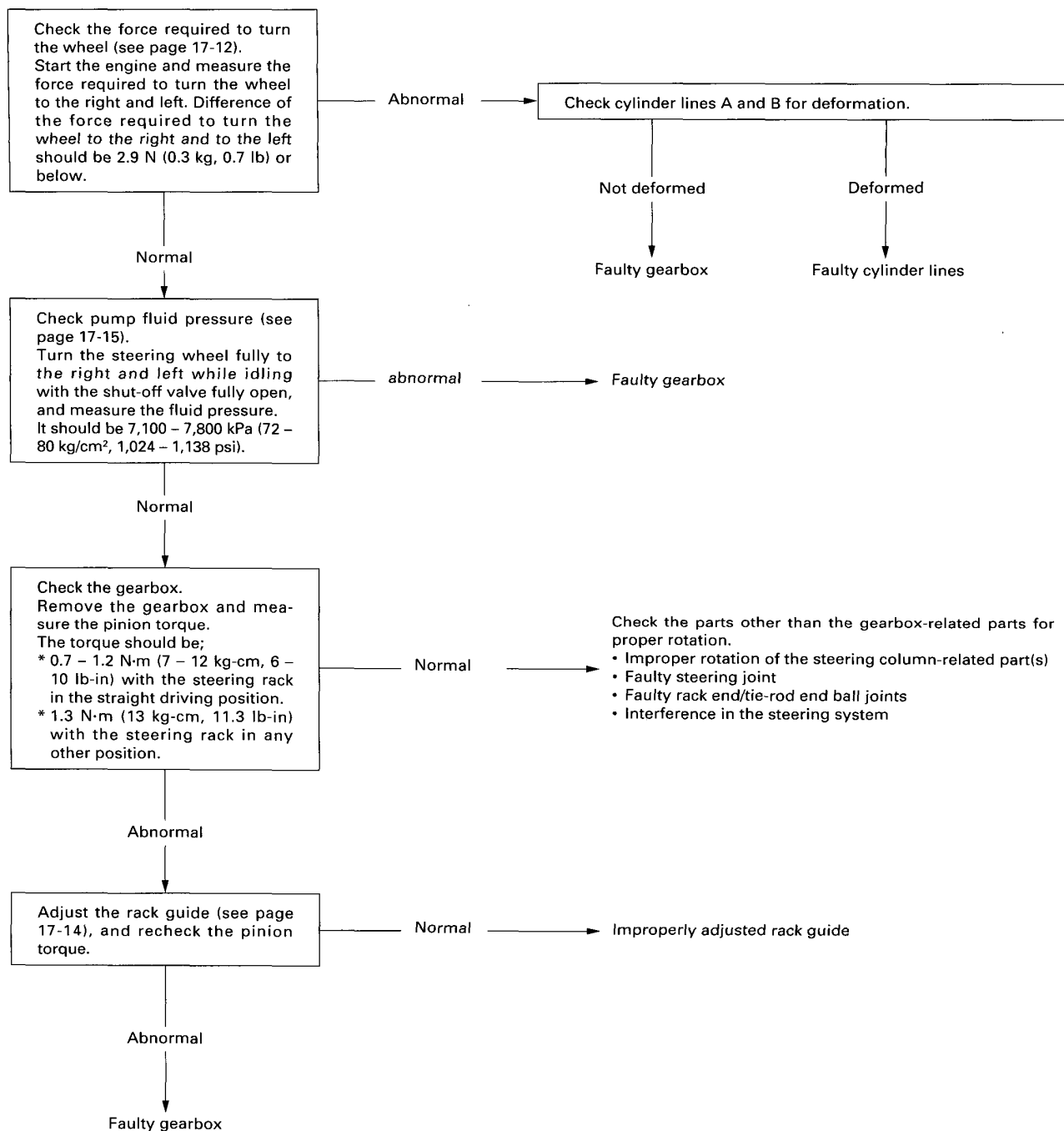
Troubleshooting

General Troubleshooting

Check the following before you begin:

- Has the suspension been modified in a way that would affect steering?
- Are tire sizes, tire variety and air pressure correct?
- Is the steering wheel original equipment or equivalent?
- Is the power steering pump belt properly adjusted?
- Is steering fluid reservoir filled to proper level?
- Is the engine idle speed correct and steady?





(cont'd)

Troubleshooting

General Troubleshooting (cont'd)

Assist (excessively light steering) at high speed.

Check the rack guide for proper adjustment (see page 17-14).

If the problem is not corrected by adjusting the rack guide, adjust the front wheel alignment (see section 18).

Shock or vibration when wheel is turned to full lock.

Check the rack guide for proper adjustment (see page 17-14).

Rack guide was backed off excessively.

Adjust the rack guide.

Rack guide is adjusted properly.

Check the belt for slip and adjust as necessary (see page 17-13).

If the problem is not corrected by adjusting the rack guide, replace the gearbox.

Steering wheel will not return smoothly.

Check cylinder lines A and B for deformation.

If either A or B cylinder line is deformed, replace the gearbox as an assembly.

If cylinder lines A and B are normal, remove the gearbox from the frame and measure the pinion torque on the gearbox.

- It should be 0.7 – 1.2 N·m (7 – 12 kg-cm, 6 – 10 lb-in) or below with the steering rack in the straight ahead driving position.
- 1.3 N·m (13 kg-cm, 11.3 lb-in) with the steering rack in any other position.

If the measurements are out of specifications, adjust the rack guide.

If the problem is not corrected by adjusting the rack guide, replace the gearbox.



Uneven or rough steering.

Improperly adjusted rack guide.

Adjust the rack guide (see page 17-14).

If the problem is not corrected by adjusting the rack guide, replace the gearbox.

Belt slipping on pulley.

Adjust the belt tension. Replace the belt, if necessary (see page 17-12).

Idle speed low or erratic.

If the engine stalls when the wheel is turned while car is stopped or moving at low speed, adjust the idle speed (see section 11).

Air in reservoir, or check power steering fluid level.

Check power steering fluid level. If the level is excessively low, check for leaks in the system. Add fluid to the specified level.

If fluid level is OK, check the seals on both ends of the pump inlet hose, and the oil pump housing mating surfaces for suction leaks. Replace parts as necessary.

Steering wheel kicks back during wide turns.

Pump belt slipping on pulley (pump stops momentarily).

Adjust the belt tension (see page 17-12) or replace belt.

Set the power steering pressure gauge. Close the shut-off valve fully and measure the pump pressure (see page 17-15).

Check if pump pressure is normal and the gauge needle travel is 500 kPa (5 kg/cm², 71 psi) or less. Replace the pump as an assembly if the needle travel exceeds 500 kPa (5 kg/cm², 71 psi).

Troubleshooting

Noise and Vibration

NOTE: Pump noise in first 2 – 3 minutes after starting in cold weather is normal.

Humming

Humming due to pulsation of fluid is normal, particularly when the wheel is turned with the car stopped.

If equipped with automatic transmission, the hum could be the torque converter or pump noise.

Confirm by temporarily removing the pump belt.

High pressure line touching the frame.

Reposition the line.

Rattle or chattering

Loose steering shaft connector, tie-rod, or ball joint.

Check and tighten, or replace parts as necessary.

Column shaft wobbling.

Check and tighten, or replace the column assembly.

Check the rack guide for proper adjustment (see page 17-14).

Adjust, if necessary.

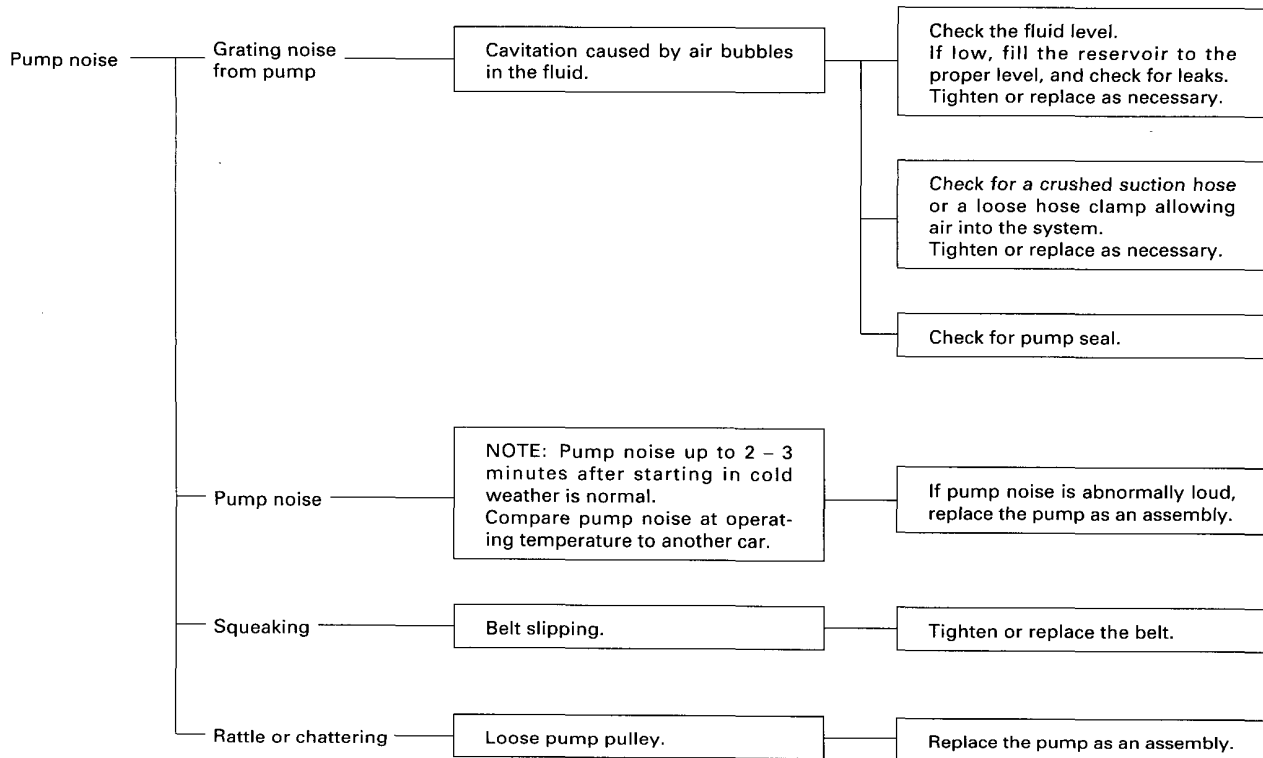
Rattling sound and feeling when turning the steering wheel right and left with the engine OFF is a sound when the valve body unit contacts the stop. This is normal.

Striking sound when turning the steering wheel fully right or left is a sound when the washer contacts the stop. This is normal.

Hissing

Pump noise, though not loud, from the valve body unit can be heard when turning the steering wheel right or left. This is normal.

CAUTION: When inspecting, do not holding the steering wheel all the way to right or left.



Troubleshooting

Fluid Leaks

- Check the gearbox assembly for oil leaks carefully. Oil can leak out of various points, depending on location of the faulty oil seals/seal rings. Check the following before removing the gearbox from the frame.

Steering Gearbox

Check the gearbox assembly for fluid leaks carefully. Fluid can leak out of various points, depending on location of the faulty oil seals/seal rings.

If leaking from the following sections on the steering gearbox, replace the whole gearbox as an assembly.

CAUTION: Do not try to disassemble to gearbox.

- Leaking from the oil seal on the top of the valve housing.
- Leaking from the cylinder end into left or right tie-rod boots.
- Leaking from the shaft upper end section or pin engagement section of the pinion shaft.
- Leaking from the mating surface of the valve body unit and gearbox.

Pipes

Leaking from cylinder line A or B connections (at flare nut).

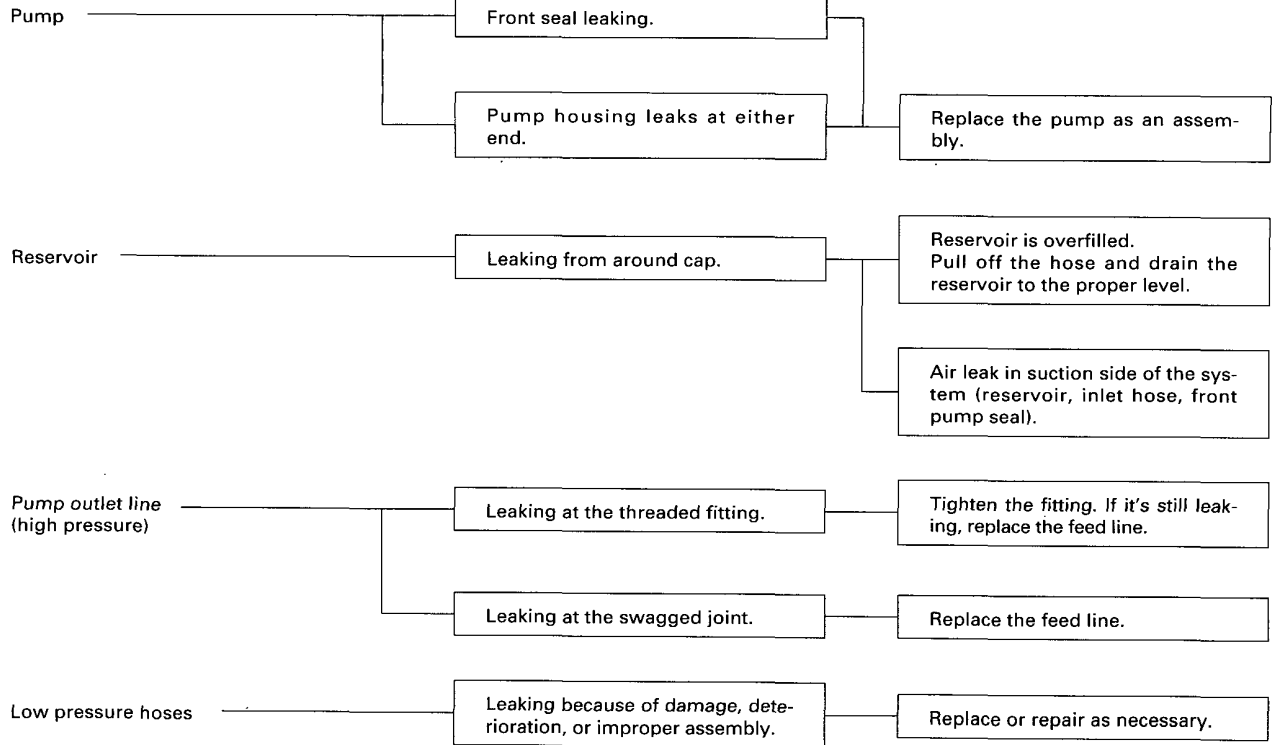
Tighten the connector. If it's still leaking, replace the gearbox as an assembly.

Leaking caused by a damaged cylinder line A or B.

Replace the gearbox as an assembly.

Leaking from feed line and return line joint fitting on the valve body unit (at flare nut).

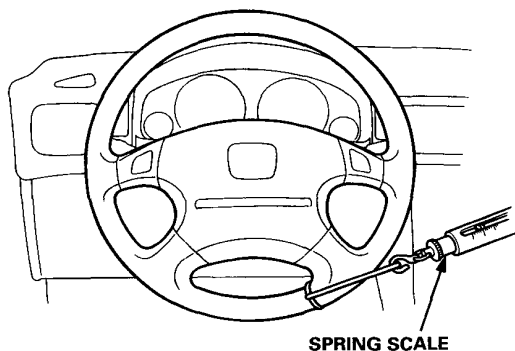
Tighten the connector. If still it's leaking, replace the line, joint fitting or gearbox.



Inspection and Adjustment

Power Assist Check with Car Parked

1. Check the power steering fluid level (see page 17-14) and pump belt tension (see page 17-12).
2. Start the engine, allow it to idle, and turn the steering wheel from lock-to-lock several times to warm up the fluid.
3. Attach a spring scale to the steering wheel. With the engine idling and the car on a clean, dry floor, pull the scale as shown and read it as soon as the tires begin to turn.



4. The scale should read no more than 34 N (3.5 kg, 7.7 lb). If it reads more, check the gearbox and pump.

Pump Belt

NOTE: When using a new belt, first adjust the deflection or tension to the values for the new belt, then readjust the deflection or tension to the values for the used belt after running engine for five minutes.

Inspection

Attach the belt tension gauge to the belt and measure the tension of the belt.

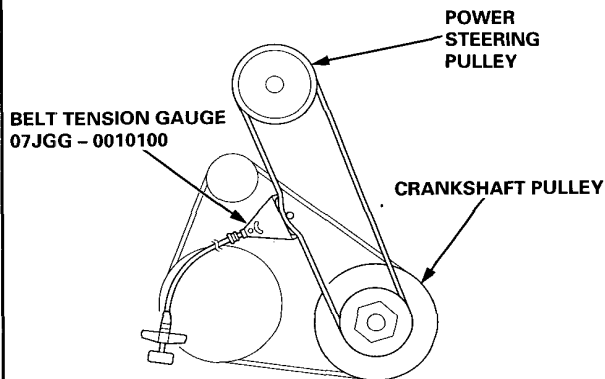
Tension:

Used Belt: 390 – 540 N (40 – 55 kg, 88 – 120 lb)

New Belt: 740 – 880 N (75 – 90 kg, 170 – 200 lb)

NOTE:

- If there are cracks or any damage evident on the belt, replace it with a new one.
- Follow the manufacturer's instructions for the tension gauge.



Inspect the pump belt for cracks or any damage. Replace the belt with a new one if necessary.

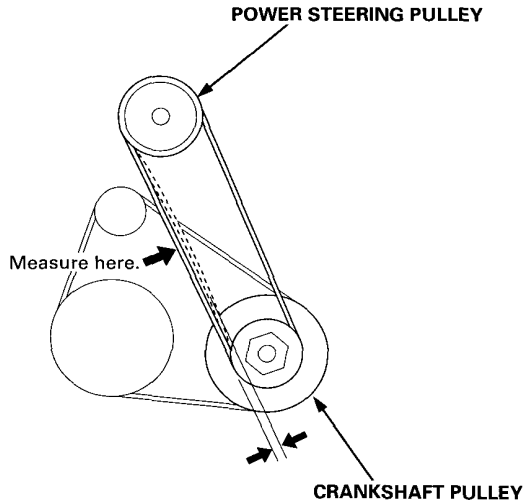
**Measurement without Belt Tension Gauge:**

Apply a force of 98 N (10 kg, 22 lb) and measure the deflection between the power steering pump and the crankshaft pulleys.

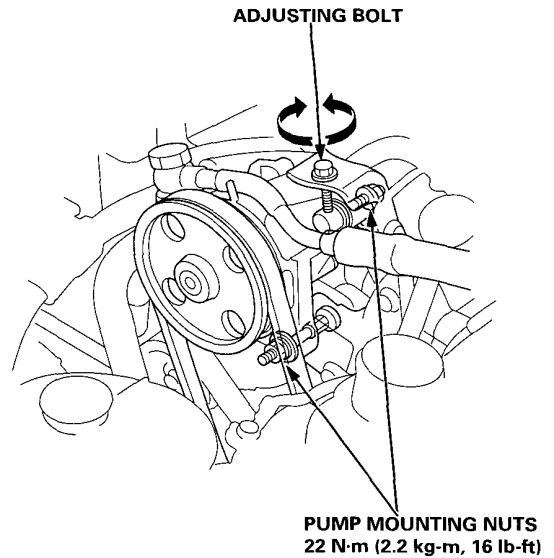
Deflection:

Used Belt: 13.0 – 16.0 mm (0.51 – 0.63 in)

New Belt: 11.0 – 12.5 mm (0.43 – 0.49 in)

**Adjustment**

1. Loosen the power steering pump mounting nuts.
2. Turn the adjusting bolt to get the proper belt tension, then retighten the nuts.
3. Start the engine and turn the steering wheel from lock-to-lock several times, then stop the engine and recheck the deflection of the belt.



Inspection and Adjustment

Rack Guide Adjustment

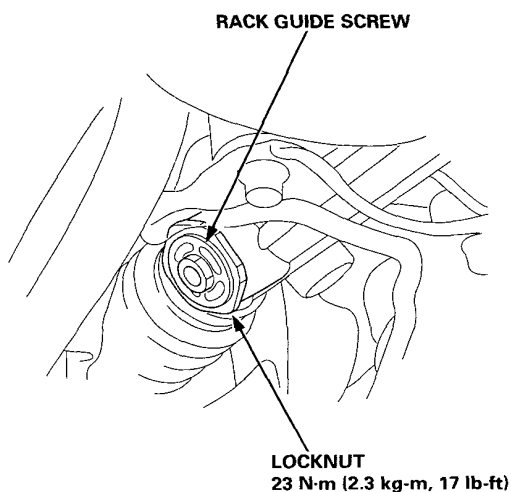
NOTE:

- Perform rack guide adjustment with the wheels in the straight ahead position.
- If the rack guide screw is loosened, be sure to apply the liquid gasket to threads of the rack guide screw.

1. Loosen the rack guide screw locknut, then loosen the rack guide screw.
2. Tighten the rack guide screw to 25 N·m (2.5 kg·m, 18 lb-ft), then loosen it.
3. Retighten the rack guide screw to 3.9 N·m (0.4 kg·m, 2.9 lb-ft), then back it off to specified angle.

Specified Return Angle: $20 \pm 5^\circ$

4. Tighten the locknut while holding the rack guide screw.



5. Check for tight or loose steering through the complete turning travel.
6. Perform following inspections:
 - Steering operation (refer to the 1993 Accord Shop Manual, P/N 62SN700).
 - Power assist with car parked (see page 17-12).

Fluid Replacement

Check the reservoir at regular intervals, and add fluid as necessary.

CAUTION: Use only Genuine Honda Power Steering Fluid-V. Using other fluids such as ATF or other manufacturer's power steering fluid will damage the system.

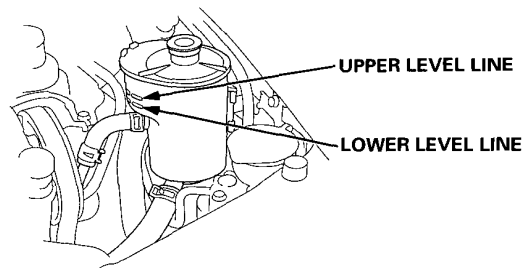
SYSTEM CAPACITY:

1.1 liter (1.16 US. qt, 0.97 Imp.qt)

at disassembly

RESERVOIR CAPACITY:

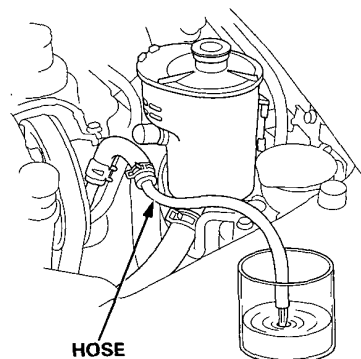
0.53 liter (0.56 US. qt, 0.47 Imp.qt)



1. Raise the reservoir, then disconnect the return hose that goes to the oil cooler.
2. Connect a hose of suitable diameter to the disconnected return hose, and put the hose end in a suitable container.

CAUTION: Take care not to spill the fluid on the body and parts. Wipe off the spilled fluid at once.

3. Start the engine, let it run at idle, and turn the steering wheel from lock-to-lock several times. When fluid stops running out of the hose, shut off the engine. Discard the fluid.



4. Refit the return hose on the reservoir.
5. Fill the reservoir to the upper level line.
6. Start the engine and run it at fast idle, then turn the steering from lock-to-lock several times to bleed air from the system.
7. Recheck the fluid level and add some if necessary.

CAUTION: Do not fill the reservoir beyond the upper level line.



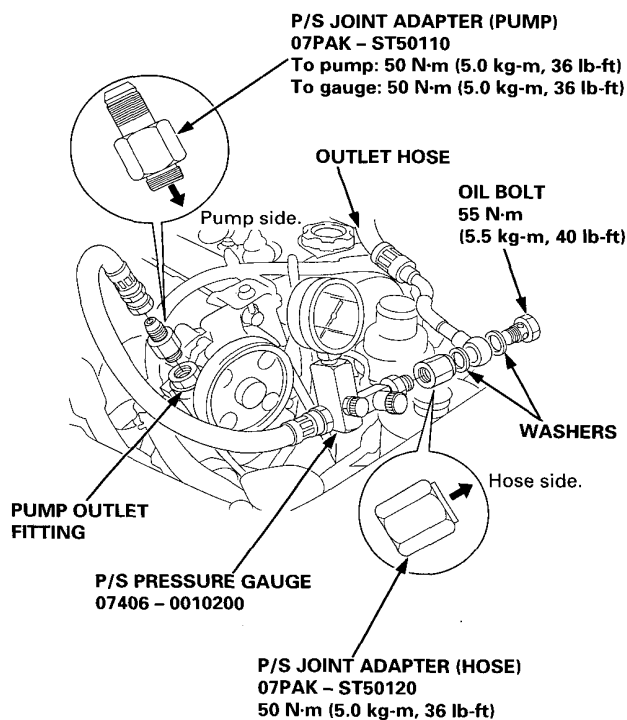
Pump Pressure Check

Check the fluid pressure as follows to determine whether the trouble is in the pump or gearbox.

NOTE: First check the power steering fluid level and pump belt tension.

CAUTION: Disconnect the high pressure hose with care so as not to spill the power steering fluid on the frame and other parts.

1. Disconnect the outlet hose from the pump outlet fitting, and install the P/S joint adapter (pump) on the pump outlet.
2. Connect the P/S joint adapter (hose) to the power steering pressure gauge, then connect the outlet hose to the adapter.
3. Install the P/S pressure gauge to the P/S joint adapter (pump) as shown.

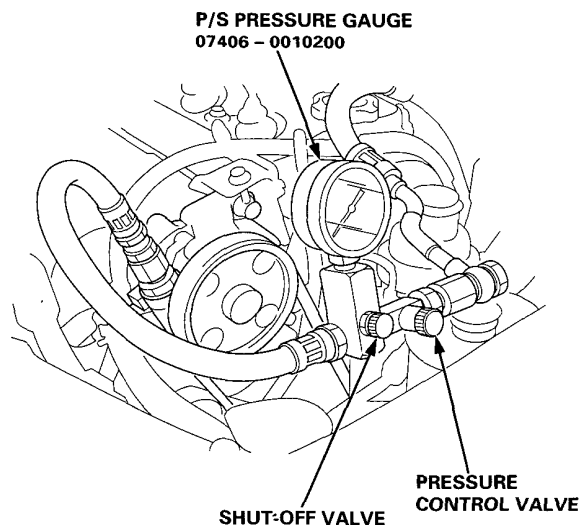


4. Open the shut-off valve fully.
5. Open the pressure control valve fully.

6. Start the engine and let it idle.
7. Turn the steering wheel from lock-to-lock several times to warm the fluid to operating temperature.
8. Measure steady-state fluid pressure while idling with the shut-off valve fully open. If the pump is in good condition, the gauge should read less than 1500 kPa (15 kg/cm², 213 psi). If it reads high, check the feed line or valve body unit (see General Troubleshooting 17-4).
9. Close the shut-off valve, then close the pressure control valve gradually until the pressure gauge needle is stable. Read the pressure.
10. Immediately open the shut-off valve fully.

CAUTION: Do not keep the shut-off valve closed more than 5 seconds or the pump could be damaged by over-heating.

If the pump is in good condition, the gauge should read at least 7,100 - 7,800 kPa (72 - 80 kg/cm², 1,024 - 1,138 psi). A low reading means pump output is too low for full assist. Repair or replace the pump.



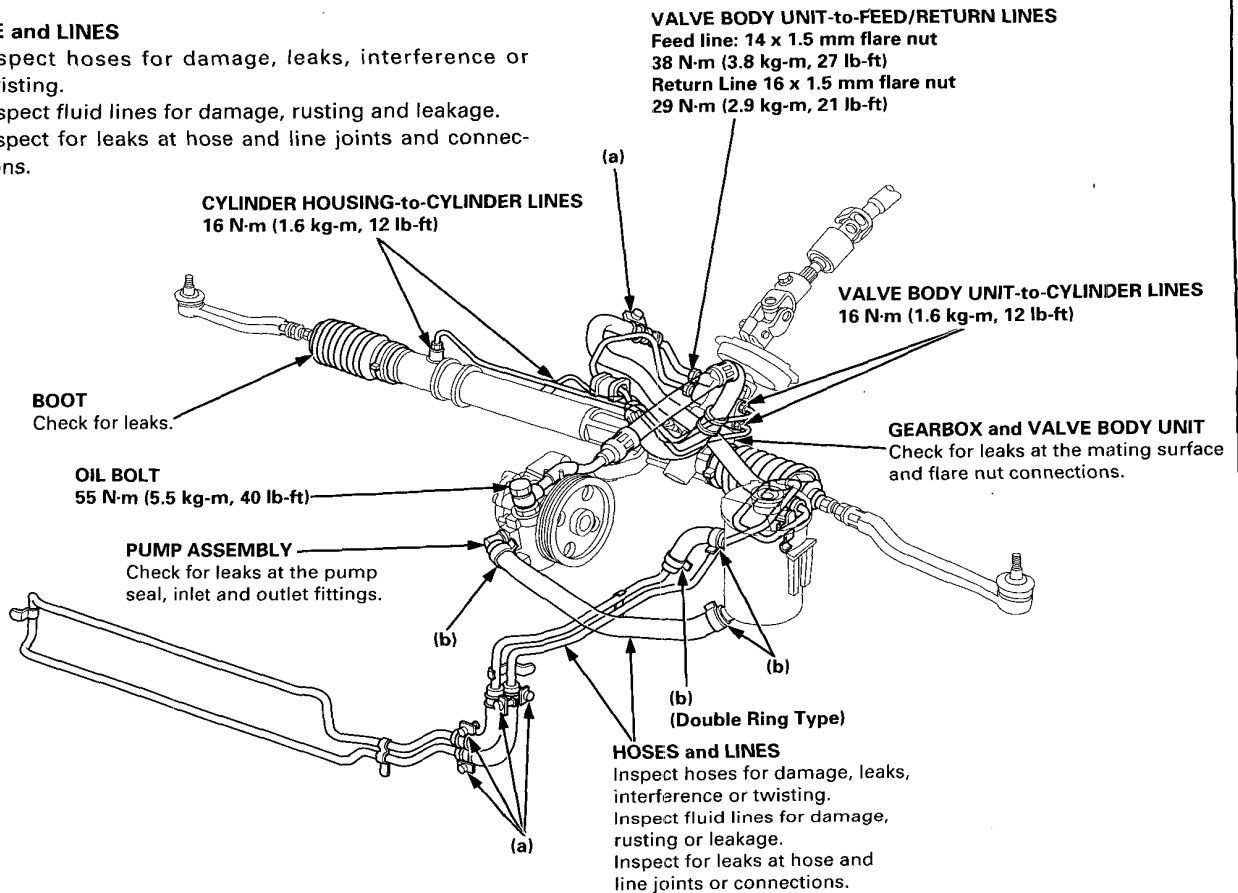
Power Steering Hoses, Lines

Fluid Leakage Inspection

NOTE: LHD type is shown, RHD type is symmetrical.

HOSE and LINES

- Inspect hoses for damage, leaks, interference or twisting.
- Inspect fluid lines for damage, rusting and leakage.
- Inspect for leaks at hose and line joints and connections.



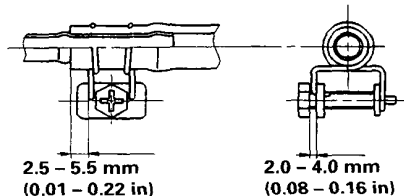
Replacement

NOTE:

- Connect each hose to the corresponding line securely until it contacts the stop on the line. Install the clamp or adjustable clamp at the specified distance from the hose end as shown.
- Add the power steering fluid to the specified level on the reservoir and check for leaks.

ADJUSTABLE HOSE CLAMP:

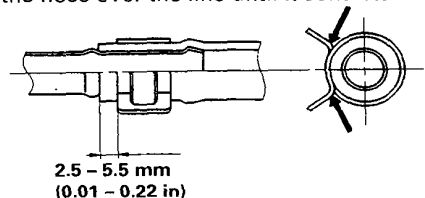
- Position the adjustable hose clamps at the points indicated (a) in the drawing above.
- Slide the hose over the line until it contacts the stop.



CAUTION: Check all clamps for deterioration or deformation; replace with the clamps new ones if necessary.

HOSE CLAMP:

- Position the hose clamps at the points indicated (b) in the drawing above.
- Slide the hose over the line until it contacts the stop.





Power Steering Pump

Removal/Installation

NOTE: Before disconnecting the hoses from the pump, place a suitable container under the car.

1. Drain the power steering fluid from the reservoir.
2. Remove the belt by loosening the pump mounting nuts and adjusting bolt.
3. Cover the A/C compressor with several shop towels to protect it from spilled power steering fluid. Disconnect the inlet and outlet hoses from the pump, and plug the hoses.

NOTE: Take care not to spill the fluid on the body or parts. Wipe off any spilled fluid at once.

4. Remove the pump mounting bolts, nuts and adjusting bolt, then remove the pump.

NOTE: Do not turn the steering wheel with the pump removed.

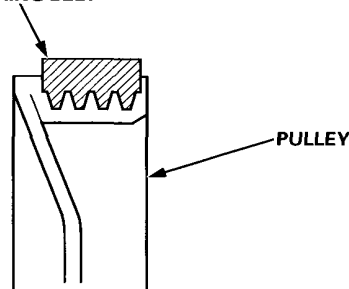
5. Wrap the opening of the pump with a piece of tape to prevent foreign material from entering the pump.

6. Connect the inlet and outlet hoses. Tighten the pump fittings securely.
7. Loosely install the pump in the pump bracket with mounting bolts, nuts and adjusting bolt.
8. Install the pump belt.

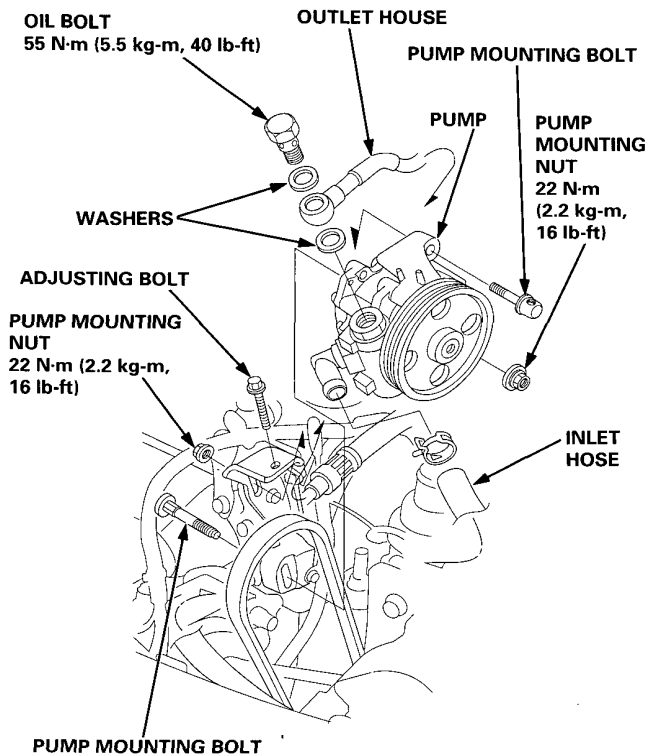
CAUTION:

- Make sure that the power steering belt is properly positioned on the pulleys.
- Do not get power steering fluid or grease in the power steering belt or pulley faces. Clean off any fluid or grease before installation.

POWER STEERING BELT



9. Adjust the pump belt (see page 17-12).
10. Fill the reservoir to the upper level line (see page 17-14).



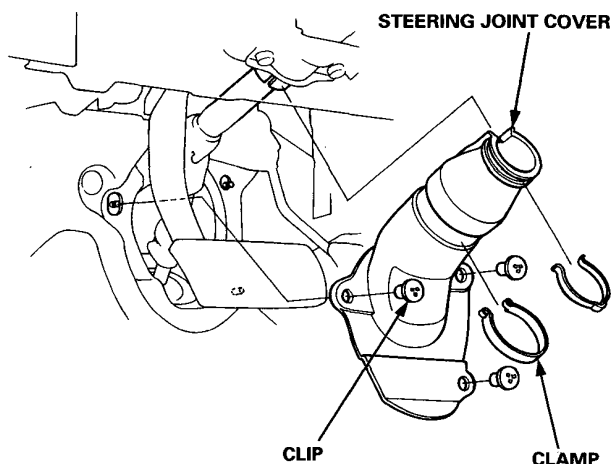
CAUTION: Do not try to disassemble the power steering pump. Replace the whole pump as an assembly with new one if necessary.

Steering Gearbox

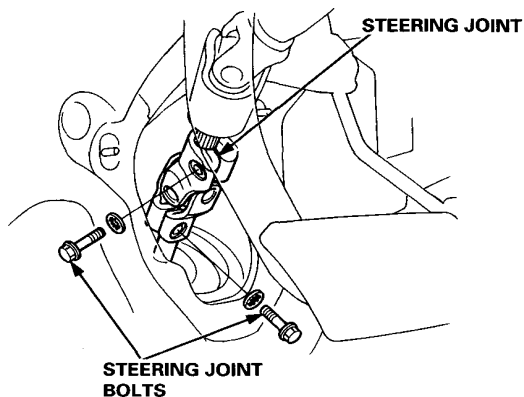
Removal

NOTE: Using solvent and a brush, wash any oil and dirt off the valve body unit its lines, and the end if the gear-box. Blow dry with compressed air.

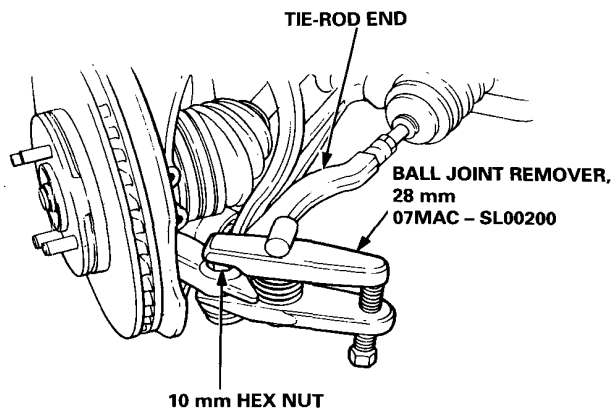
1. Drain the power steering fluid as described on page 17-14).
2. Raise the front of car and support on safety stands in the proper locations (see section 1).
3. Remove the front wheels.
4. Cars with SRS: Before disconnecting the steering joint, remove the driver's airbag assembly (see section 23), and steering wheel (refer to the 1995 Accord Shop Manual, P/N 62SN700).
5. Remove the steering joint cover.



6. Remove the steering joint bolts, and disconnect the steering joint by moving the joint toward the column.



7. Remove the cotter pin from the castle nut and remove the nut.



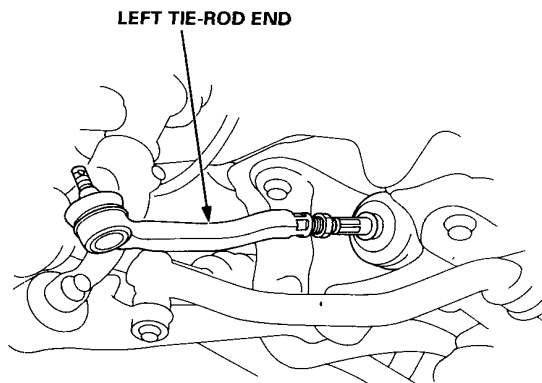
8. Install the 10 mm hex nut on the ball joint. Be sure that the 10 mm hex nut is flush with the ball joint pin end, or the threaded section of the ball joint pin might be damaged by the special tool.

NOTE: Remove the ball joint using the Ball joint Remover, 28 mm (07MAC - SL00200). Refer to the 1993 Accord Shop Manual, P/N 62SN700 section 18 for how to use the ball joint remover.

9. Separate the tie-rod ball joint and knuckle using the special tool.

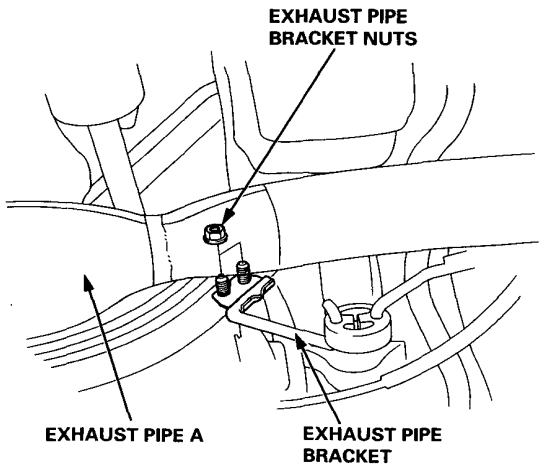
CAUTION: Avoid damaging the ball joint boot.

10. Remove the left tie-rod end (RHD: right tie-rod end), then slide the rack all the way to the right (RHD: left).



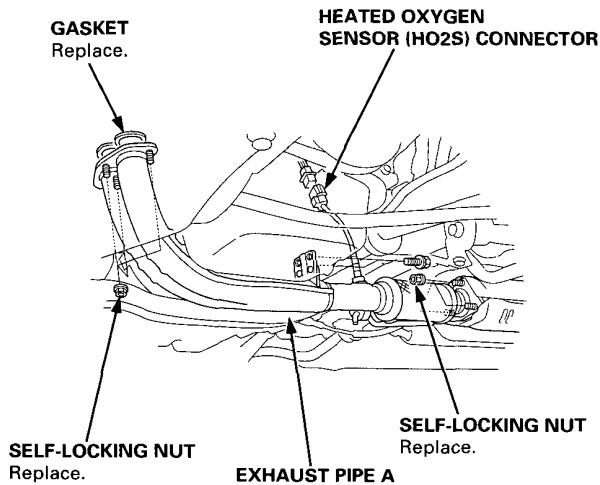


11. Remove the exhaust pipe bracket.



12. Remove the self-locking nuts that connect the exhaust pipe A to the three way catalytic converter, and the exhaust pipe A to the exhaust manifold.
13. Disconnect the heated oxygen sensor (HO2S) connector, and remove the exhaust pipe A.

CAUTION: Replace the exhaust gasket and self-locking nuts when you reinstall the exhaust pipe A.



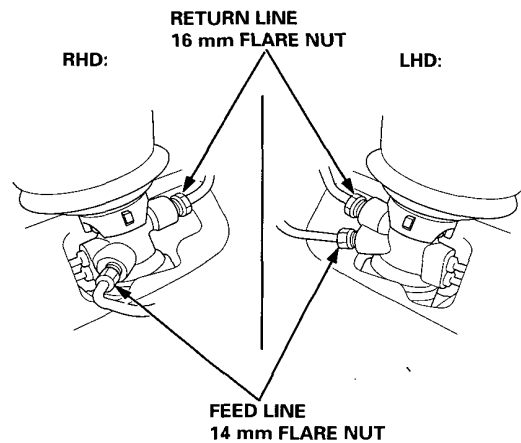
14. Disconnect the shift linkage (MT model: see section 13, AT model: see section 14).

15. Disconnect the two lines from the valve body unit on the steering gearbox.

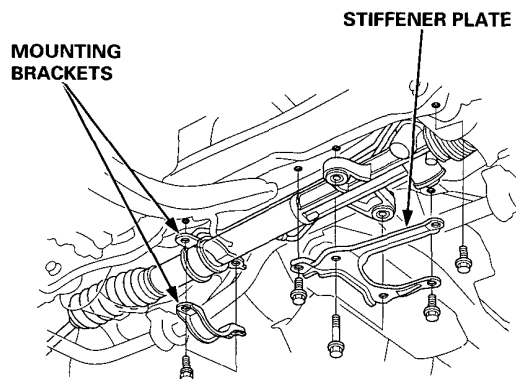
CAUTION: After disconnecting the lines, plug or seal the lines with a piece of tape or equivalent to prevent foreign materials from entering the valve body unit.

NOTE:

- Place the lines disconnected in the previous step at the rear side of the gearbox so that they do not hinder in the gearbox removal.
- Do not loosen the cylinder lines A and B between the valve body unit and cylinder.



16. Remove the stiffener plate first, then remove the mounting brackets.



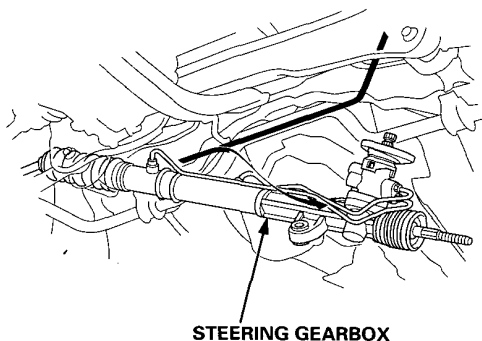
(cont'd)

Steering Gearbox

Removal (cont'd)

17. Pull the steering gearbox all the way down to clear the pinion shaft from the bulkhead.
18. Move the steering gearbox to the right so the left rack end clears the rear beam.
19. Hold the steering gearbox and slide the rack all the way to the left, then place the left rack end below the rear beam.
20. Move the steering gearbox to the left, and tilt the left side down to remove it from the car.

CAUTION: Be careful not to bend or damage the two power steering lines and cylinder lines when removing the gearbox.



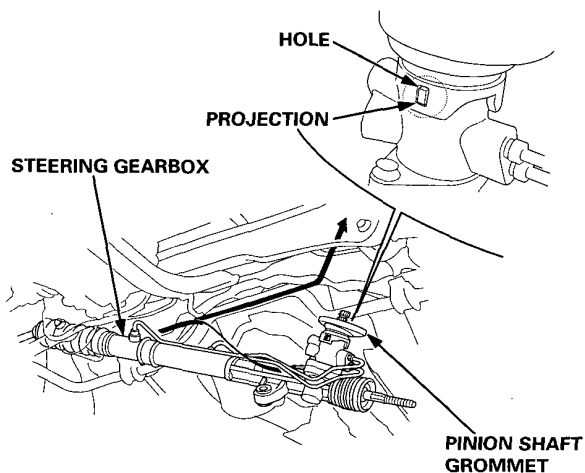
CAUTION: Do not try to disassemble the power steering gearbox. Replace the whole gearbox as an assembly with new one if necessary.

Installation

CAUTION: Be careful not to bend or damage the feed line and cylinder lines when installing the gearbox.

1. Before installing the gearbox, slide the rack all the way to right (RHD: slide the rack all the way to left).
2. Install the mounting cushion on the steering gearbox.
3. Install the pinion shaft grommet, and insert the pinion shaft up through the bulkhead.

NOTE: Align the hole in the pinion shaft grommet with the projection on the valve housing.





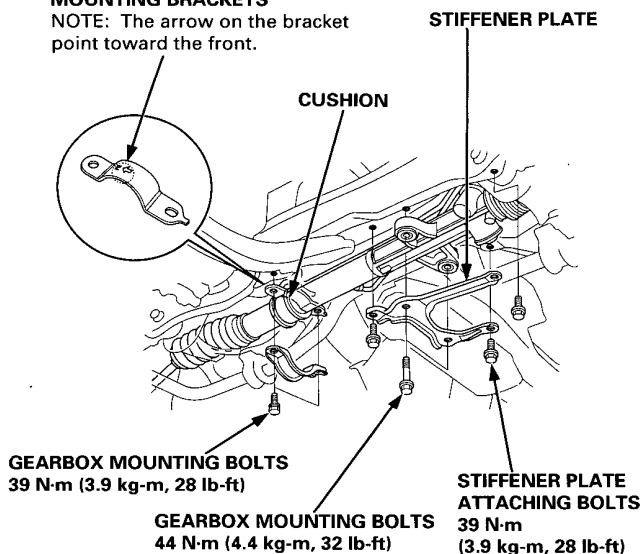
4. Install the mounting brackets with the two gearbox mounting bolts on the cushion.
5. Install the stiffener plate with the two gearbox mounting bolts and stiffener plate attaching bolts.

CAUTION: Be sure the air tube is not caught or pinched by stiffener plate.

NOTE: Install the bolts loosely first, then tighten them securely.

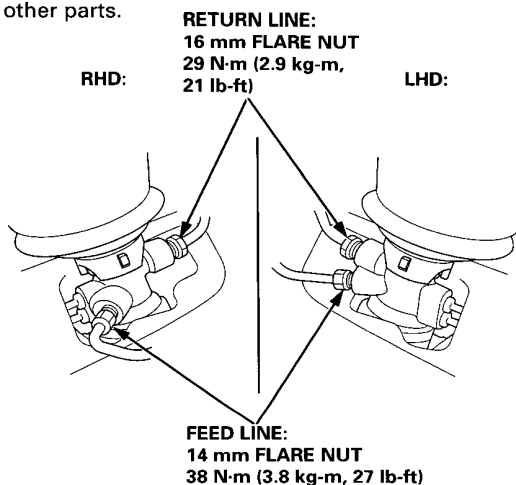
MOUNTING BRACKETS

NOTE: The arrow on the bracket point toward the front.

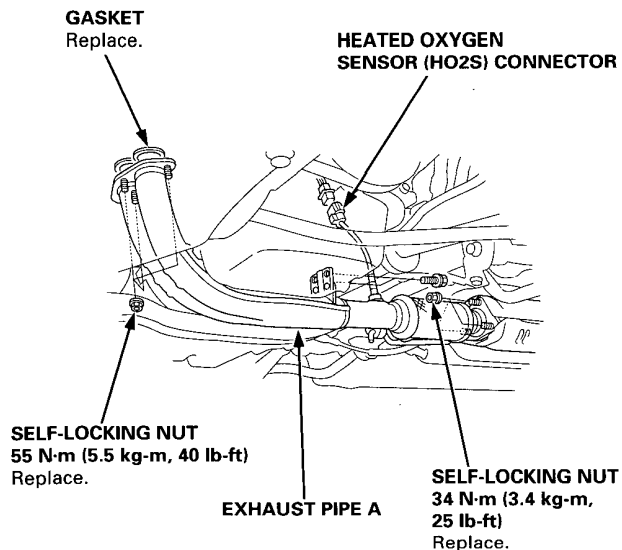


6. Connect the two lines to the valve body unit.

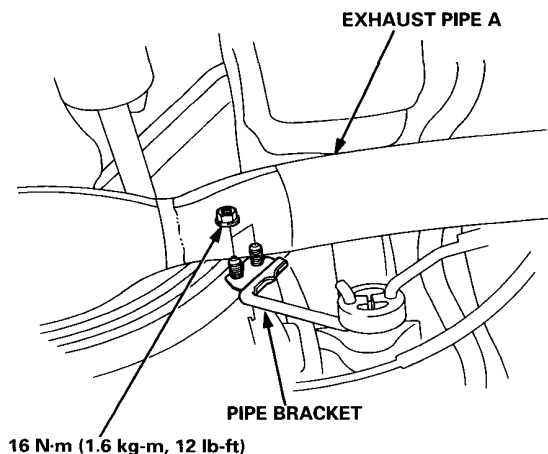
NOTE: After connecting the fluid lines, make sure that there is no interference between the lines and other parts.



7. Connect the shift linkage (M/T model: see section 13, A/T model: see section 14).
8. Install the exhaust pipe A with the new gaskets and new self-locking nuts, and connect the heated oxygen sensor (HO2S) connector.



9. Install the exhaust pipe bracket.



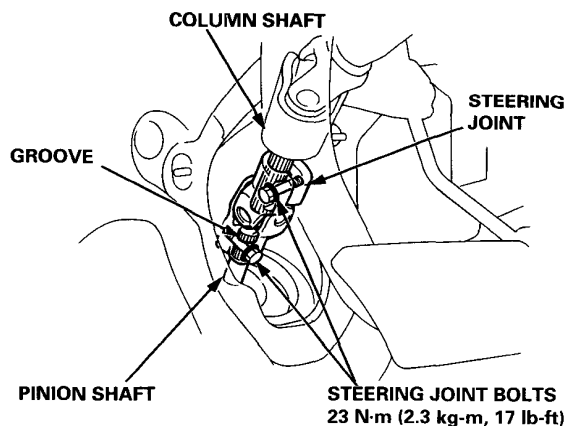
(cont'd)

Steering Gearbox

Installation (cont'd)

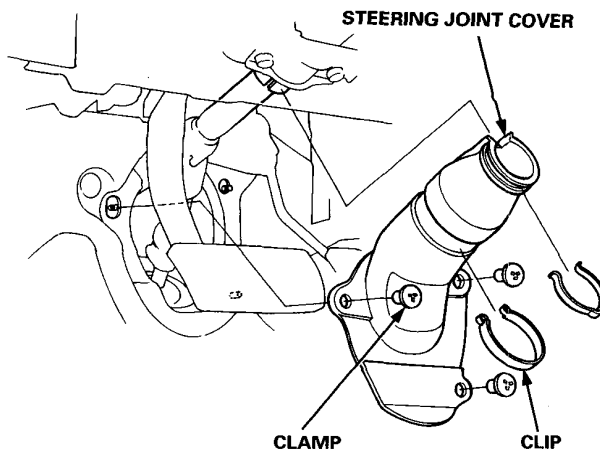
10. Center the steering rack within its stroke.
11. Without SRS (conventional steering wheel): Before connecting the steering joint, reposition the steering wheel in the straight ahead position by turning the steering wheel from lock-to-lock.
12. Install the steering joint between the steering shaft and pinion shaft.
 - a. Insert the upper end of the steering joint onto the steering shaft (line up the bolt hole with the flat on the shaft), then slip the lower end of the steering joint onto the pinion shaft.
 - b. Install the upper joint bolt, then install the lower joint bolt (line up the bolt hole with the groove around the shaft). Be sure that the joint lower bolt is securely in the groove in the pinion shaft.
 - c. Pull on the steering joint to make sure that the steering joint is fully seated.

NOTE: If the steering wheel and rack are not centered, reposition the serrations at lower end of the steering joint.

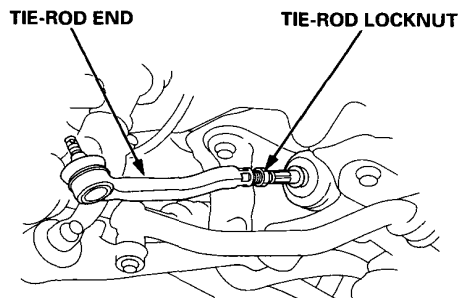


13. With SRS: Center the cable reel by first rotating it clockwise until it stops. Then rotate it counterclockwise (approximately two turns) until the arrow mark on the label points straight up. Reinstall the steering wheel (refer to the 1993 Accord Shop Manual, P/N 62SN700). Reinstall the driver's airbag assembly (see section 23).

14. Install the steering joint cover with the clamps and clips.



15. Thread the right and left tie-rod ends onto the rack an equal number of turns.

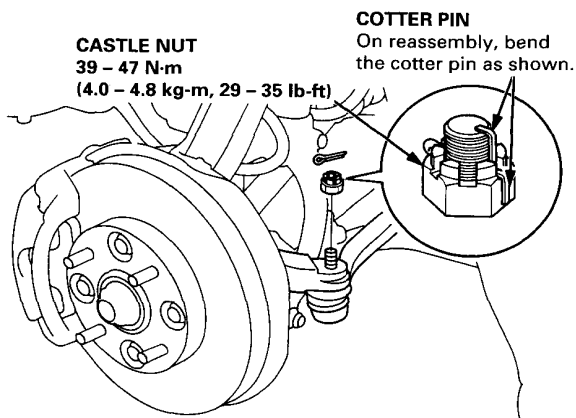




16. Reconnect the tie-rod ends to the steering knuckles, tighten the castle nut to the specified torque, and install new cotter pins.

NOTE: Before connecting the tie-rod ends, check the ball joint pin tapered section and threads section for grease contamination, and wipe it if necessary.

CAUTION: Torque the castle nut to the lower torque specification, then tighten it only far enough to align the slot with the pin hole. Do not align the nut by loosening.



17. Install the front wheels.
18. Fill the system with power steering fluid and bleed air from the system (see page 17-14).
19. After installation, perform the following checks.
 - Start the engine, allow it to idle, and turn the steering wheel from lock-to-lock several times to warm up the fluid. Check the gearbox for leaks (see page 17-14).
 - Adjust the front toe (see section 18).
 - Check the steering wheel spoke angle. Adjust by turning the right and left tie-rods, if necessary.

NOTE: Turn the right and left tie-rods equally.

Brakes

Conventional Brakes 19-1

Anti-lock Brake System (ABS) 19-7



Conventional Brakes

Inspection and Adjustment

Bleeding 19-2

Front Brake Caliper

Reassembly 19-3

Master Cylinder

Removal/Installation 19-4

Inspection/Disassembly 19-4

Brake Booster

Inspection 19-5

Rear Brake Caliper

Reassembly 19-6



Outline of Model Changes

- The parts replaced upon front/rear caliper disassembly were changed.
- Brake booster inspection procedure was changed.
- Master cylinder has been changed; related service information (bleeding) was entered.

Inspection and Adjustment

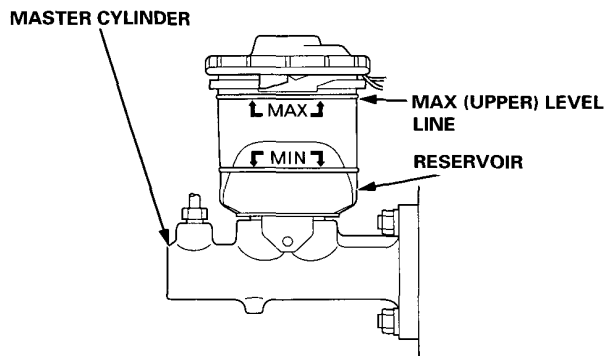
Bleeding

CAUTION:

- Do not fill the brake fluid above the MAX (upper) level mark on the reservoir.

If the brake fluid level is above the MAX (upper) level mark, drain the reservoir once and refill with the brake fluid to the correct level.

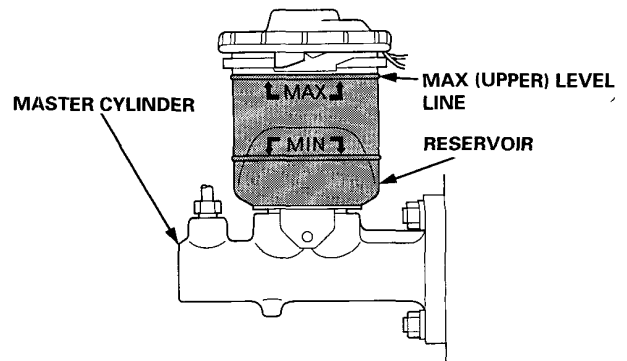
Note that the brake fluid level on the reservoir can exceed the MAX (upper) level mark after the disc pad replacement. Be sure to check brake fluid level whenever the disc pad is replaced, and drain the reservoir and refill to the MAX (upper) level mark if necessary.



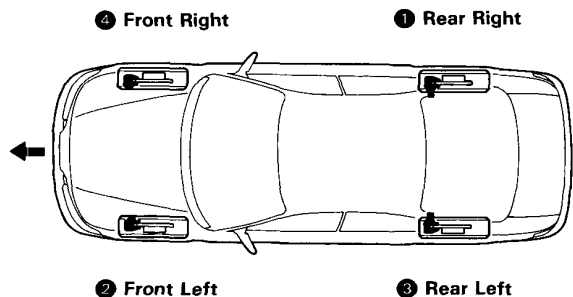
- Use only clean DOT 3 or DOT 4 brake fluid.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Do not spill brake fluid does contact the paint, wash it off immediately with water.

NOTE: The reservoir on the master cylinder must be at the MAX (upper) level mark at the start of bleeding procedure, and checked after bleeding each brake caliper.

1. Make sure the brake fluid level in the reservoir is at the MAX (upper) level line.



2. Have someone slowly pump the brake pedal several times, then apply steady pressure.
3. Loosen the brake bleed screw to allow air to escape from the system. Then tighten the bleed screw securely.
4. Repeat the procedure for each wheel in the sequence shown below, until air bubbles no longer appear in the fluid.
5. Refill the reservoir of master cylinder to the MAX (upper) level line.



Front Brake Caliper



Reassembly


⚠ WARNING

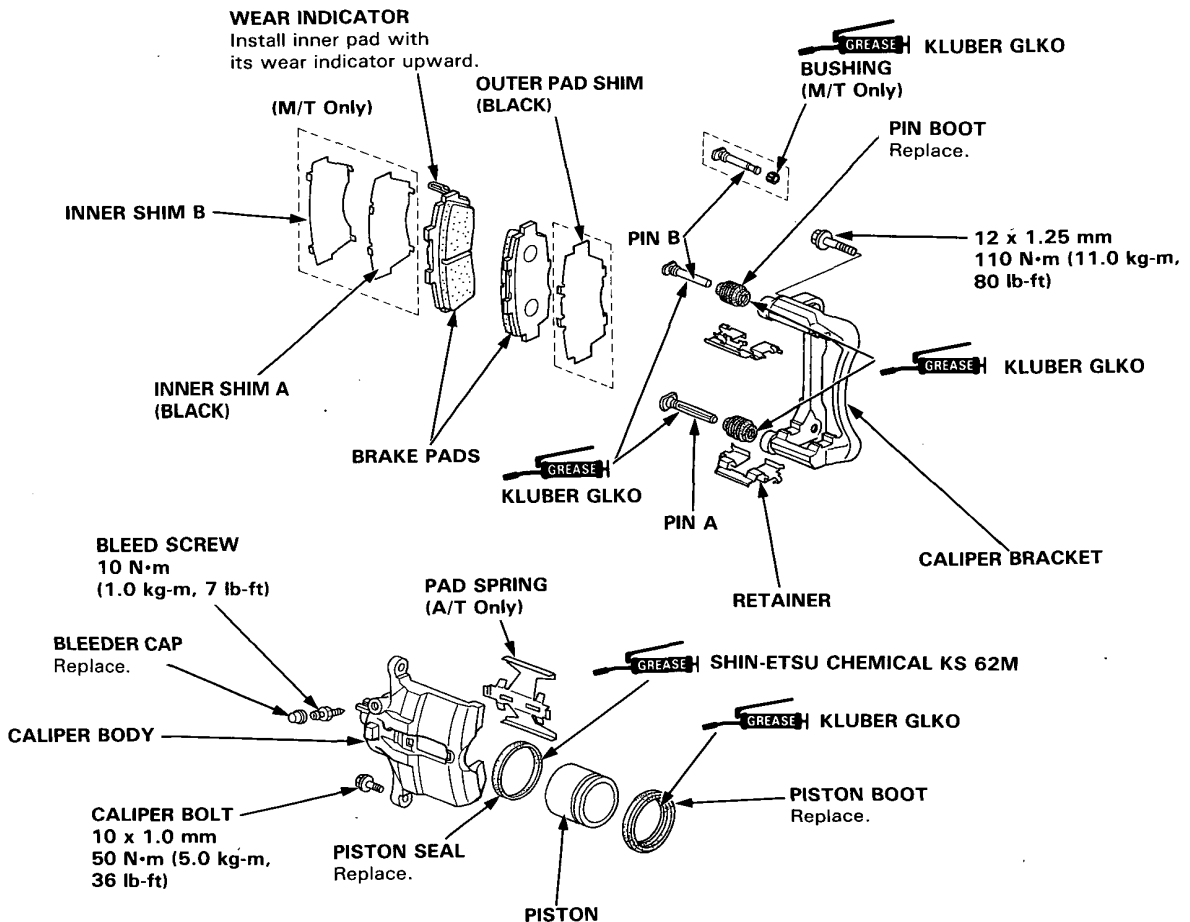
- Never use an air hose or dry brush to clean brake assemblies.
- Use a vacuum cleaner, to avoid breathing brake dust.
- Contaminated brake discs or pads reduce stopping ability.
- When reusing the pads, always reinstall the brake pads to their original positions to prevent loss of braking efficiency.

CAUTION:

- Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- To prevent spills, cover the hose joints with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Before reassembling, check that all parts are free of dust and other foreign particles.
- Replace parts with new ones whenever specified to do so.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Do not mix different brands of brake fluid as they may not be compatible.
- Do not reuse the drained fluid. Use only clean DOT 3 or 4 brake fluid.

NOTE:

- Coat piston, piston seal groove, and caliper bore with clean brake fluid.
- Replace all rubber parts with new ones whenever disassembled.
-  : Use recommended grease in the caliper seal set.
- Replace the front brake pad set (brake pads, inner shims, outer shim, pad spring, retainers and caliper bolts) as a set when you replace the brake pad with new one.



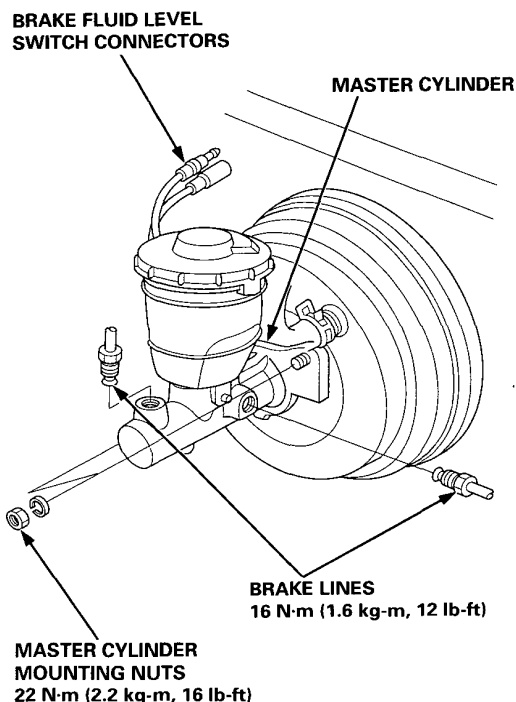
Master Cylinder

Removal/Installation

CAUTION:

- Be careful not to bend or damage the brake lines when removing the master cylinder.
- Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- To prevent spills, cover the hose joints with rags or shop towels.

1. Disconnect the brake fluid level switch connectors.
2. Remove the reservoir cap and strainer from the reservoir.
3. The brake fluid may be sucked out through the top of the reservoir with a syringe.
4. Disconnect the brake lines from the master cylinder.
5. Remove the master cylinder mounting nuts and washers.
6. Remove the master cylinder from the brake booster.



7. Install the master cylinder in the reverse order of removal.
8. Fill the master cylinder reservoir and bleed the brake system (see page 19-2).
9. After installation, perform the following inspections and adjust if necessary (refer to section 3 in this shop manual).
 - Brake pedal height
 - Brake pedal free play

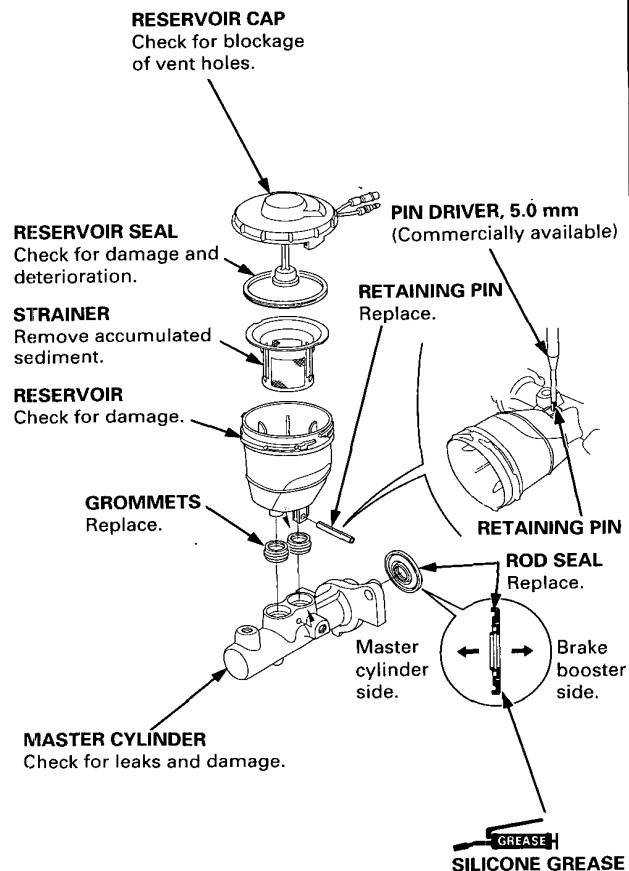
Inspection/Disassembly

NOTE:

- It is not necessary to adjust the push rod clearance which is required after replacement of the master cylinder assembly or the brake booster assembly.
- Do not try to disassemble the master cylinder assembly. Replace the master cylinder assembly with a new part if necessary.

CAUTION:

- Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- Before reassembling, check that all parts are free of dust and other foreign particles.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Be careful not to damage the master cylinder or reservoir with a pin driver.



Brake Booster



Inspection

Functional Test

1. With the engine stopped, depress the brake pedal several times to deplete the vacuum reservoir, then depress the pedal hard and hold it for 15 seconds. If the pedal sinks, either the master cylinder is bypassing internally, or the brake system (master cylinder, lines, modulator, or caliper) are leaking.
2. Start the engine with the pedal depressed. If the pedal sinks slightly, the vacuum booster is operating normally. If the pedal height does not vary, the booster or check valve is faulty.
3. With the engine running, depress the brake pedal lightly. Apply just enough pressure to hold back automatic transmission creep. If the brake pedal sinks more than 25 mm (1.0 in.) in three minutes, the master cylinder is faulty. A slight change in pedal height when the A/C compressor cycles on and off is normal. (The A/C compressor load changes the vacuum available to the booster.)

Leak Test

1. Depress the brake pedal with the engine running, then stop the engine. If the pedal height does not vary while depressed for 30 seconds, the vacuum booster is OK. If the pedal rises, the booster is faulty.
2. With the engine stopped, depress the brake pedal several times using normal pressure. When the pedal is first depressed, it should be low. On consecutive applications, the pedal height should gradually rise. If the pedal position does not vary, check the booster check valve.

Booster Check Valve Test

1. Disconnect the brake booster vacuum hose at the booster or at the booster side of the valve.
2. Start the engine and let it idle. There should be vacuum. If no vacuum is available, the check valve is not working properly. Replace the check valve and retest.

Rear Brake Caliper

Reassembly


⚠ WARNING

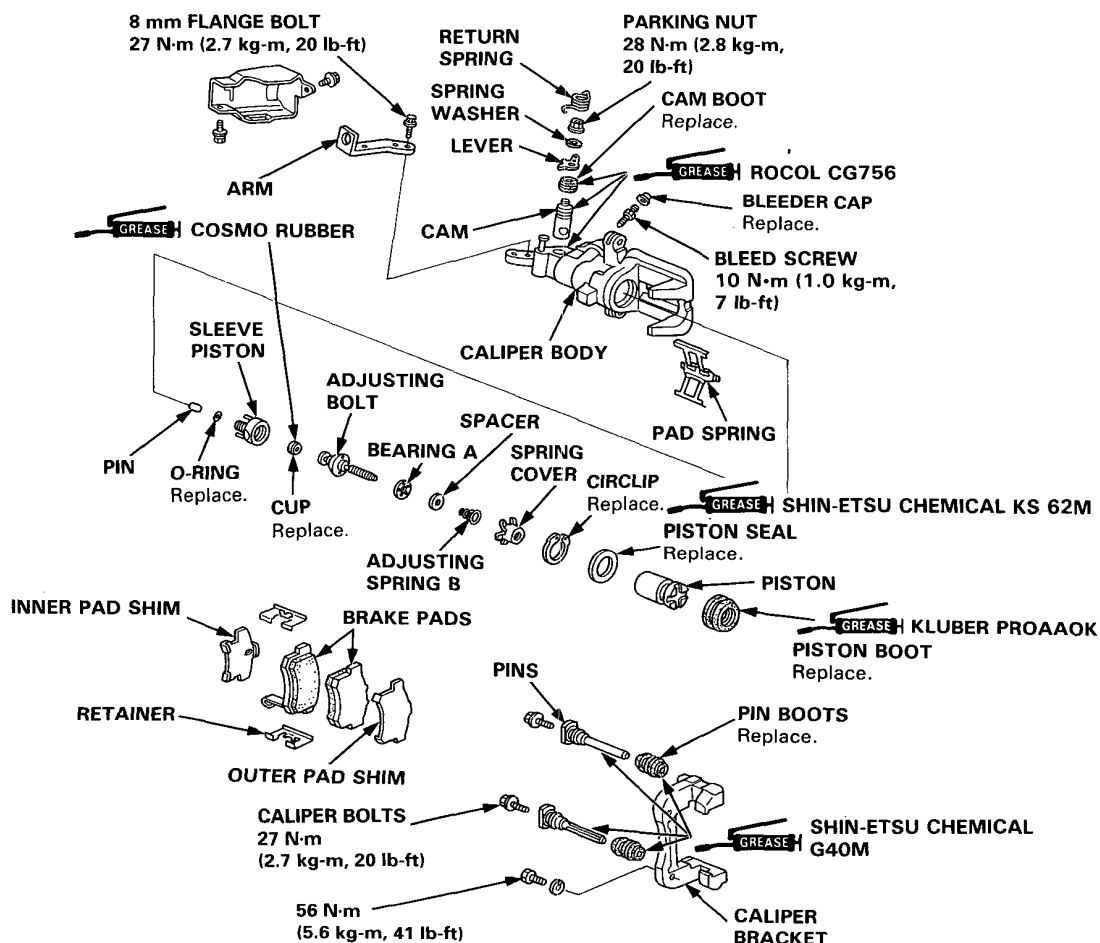
- Never use an air hose or dry brush to clean brake assemblies.
- Use a vacuum cleaner, to avoid breathing brake dust.
- Contaminated brake discs or pads reduce stopping ability.
- When reusing the pads, install them in their original positions to prevent loss of braking efficiency.

CAUTION:

- Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- To prevent spills, cover the hose joint with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passage with compressed air.
- Before reassembling, check that all parts are free of dust and other foreign particles.
- Replace parts with new ones whenever specified to do so.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Do not mix different brands of brake fluid as they may not be compatible.
- Do not reuse the drained fluid. Use only clean DOT 3 or 4 brake fluid.

NOTE:

- Coat piston, piston seal groove, and caliper bore with clean brake fluid.
- Replace all rubber parts with new ones whenever disassembled.
-  : Use recommended greases in the caliper seal set.
- Replace the rear brake pad set (brake pads, inner shim, outer shim, pad spring, retainers and caliper bolts) as a set when you replace the brake pad with new one.



Anti-lock Brake System (ABS)

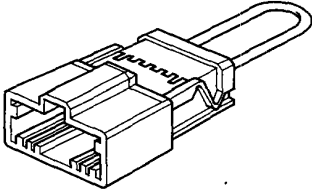
Special Tools	19-8	DTC: 11, 12, 13, 14, 15, 16, 17, 18, 21	19-22
Anti-lock Brake System (ABS)		DTC: 31, 32, 33, 34, 35, 36, 37, 38, 51, 61, 81	19-24
Features/Construction	19-9	DTC: 52, 53	19-25
Operation	19-9	DTC: 54	19-26
Component Locations	19-11	Modulator Assembly	
Circuit Diagram	19-12	Removal/Installation	19-27
Terminal Arrangement	19-14		
Troubleshooting Precautions	19-15		
Diagnostic Trouble Code (DTC)			
DTC Indication	19-17		
Symptom-to System Chart	19-18		
Troubleshooting			
ABS Indicator Light Does Not Come On	19-19		
ABS Indicator Light Does Not Go Off	19-21		



Outline of Model Change

- ABS has been changed; troubleshooting was entered.

Special Tools

Ref. No.	Tool Number	Description	Qty	Remark
①	07TAZ – ST30100	ABS Short Connector	1	
<div><p>①</p></div>				

Anti-lock Brake System (ABS)



Features/Construction

When the brake pedal is depressed during driving, the wheels can lock before the vehicle comes to a stop. In such a case, the maneuverability of the vehicle is reduced in the front wheels are locked, and the stability of the vehicle is reduced (tail slide) if the rear wheels are locked, creating an extremely unstable condition. The ABS precisely controls the slip rate of the wheels to ensure the grip force of the tires, and it thereby ensures the maneuverability and stability of the vehicle.

ABS Control Unit

Main Control

The ABS control unit detects the wheel speed based on the wheel sensor signal it received, then it calculates the vehicle speed based on the detected wheel speed. The control unit detects the vehicle speed at deceleration by slowing down from the vehicle speed before deceleration at a certain rate.

The ABS control unit calculates the slip rate of each wheel and it transmits the control signal to the modulator unit solenoid valve when the slip rate is high.

The pressure reduction circuit is the three control channels system of each front wheel and both rear wheels.

The pressure reduction control is in three modes system, that is pressure reduction, pressure retaining and pressure intensifying modes.

The wheel sensor signal is four channels system from each wheel.

Self-diagnosis Function

The ABS control unit equips the watch dog timer.

The ABS control unit equips the main CPU and sub CPU, and the CPUs check each other.

The CPUs check the circuit of the system.

On-board Diagnosis Function

The ABS control unit equips the data link connector.

The ABS system can be diagnosed with HONDA PGM TESTER.

ABS Modulator

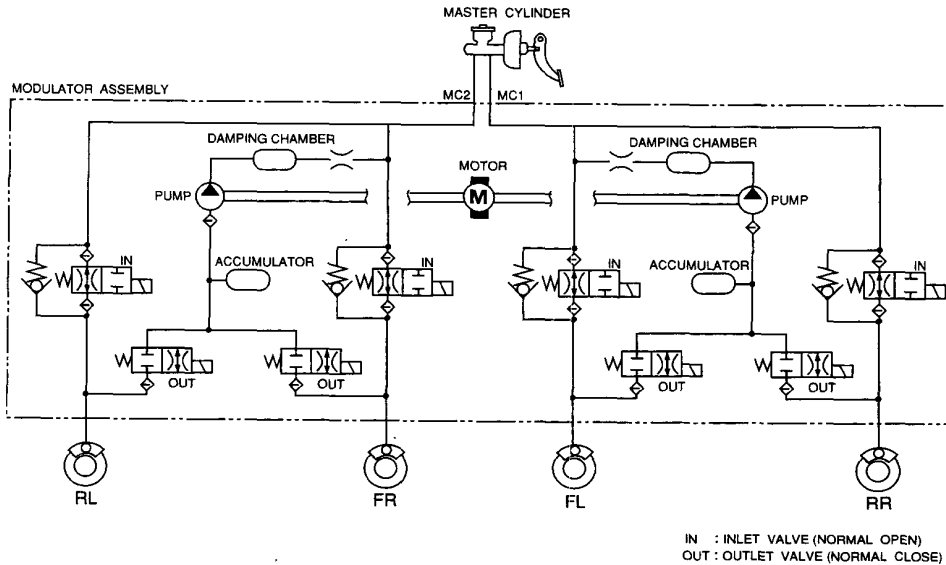
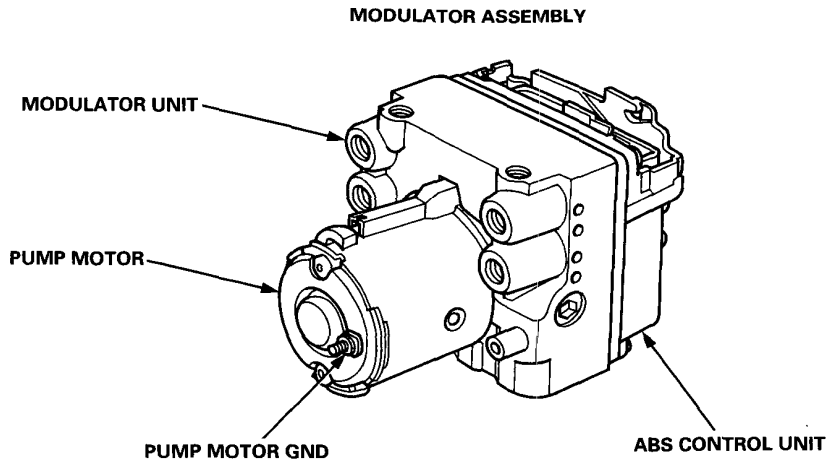
The ABS modulator consists of the inlet solenoid valve, outlet solenoid valve, reservoir, pump, pump motor and the damping chamber.

The direct pressure reducing control type that reduces the caliper fluid pressure directly is adopted for the modulator, which is also referred as the circulating type because the brake fluid circulates through the caliper, reservoir and the master cylinder.

The hydraulic control has the three modes of pressure reduction, pressure retaining and pressure intensifying modes.

The hydraulic circuit is the independent four channel from each wheel.

Anti-lock Brake System (ABS)



Wheel Sensor

The magnetic type wheel sensor is adopted on the car.

The wheel sensor generates the AC current according to the gear pulser teeth. The AC frequency changes in accordance with the wheel speed. The ABS control unit detects the wheel sensor signal frequency and thereby detects the wheel speed.

The wheel sensor is the four sensor type which is installed on each wheel.

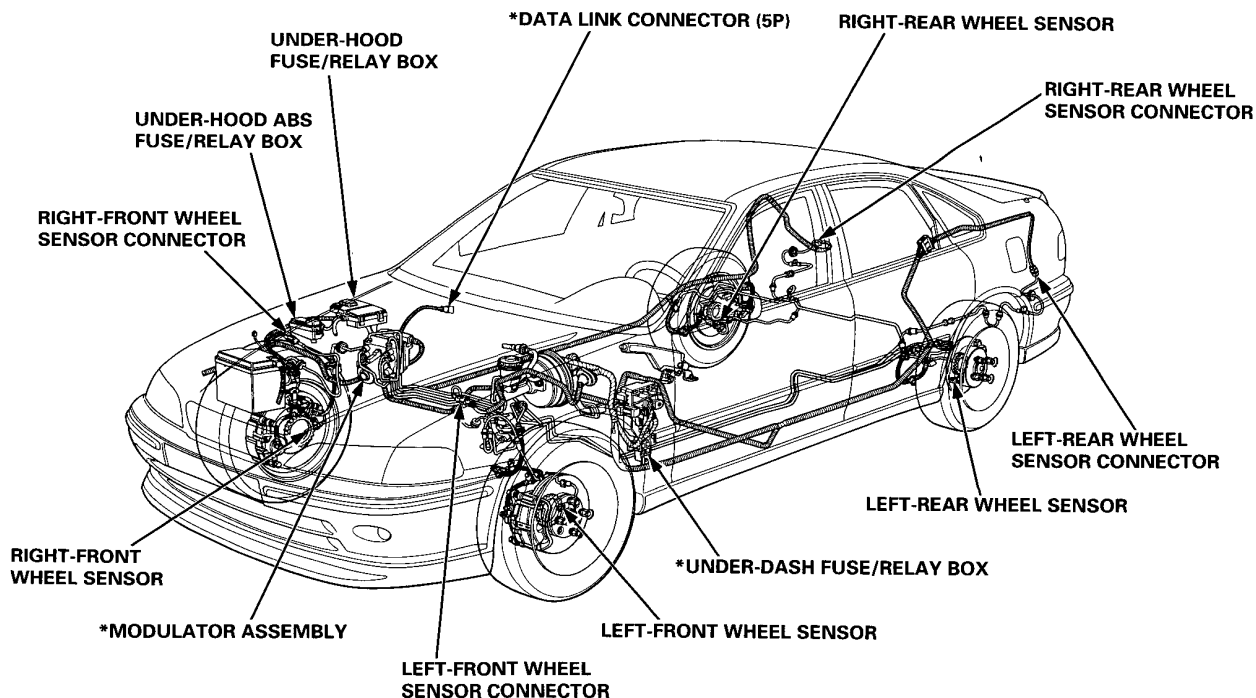
The gear pulser is the 50 teeth type.



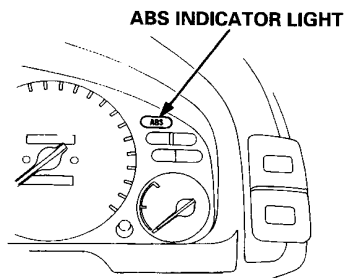
Component Locations



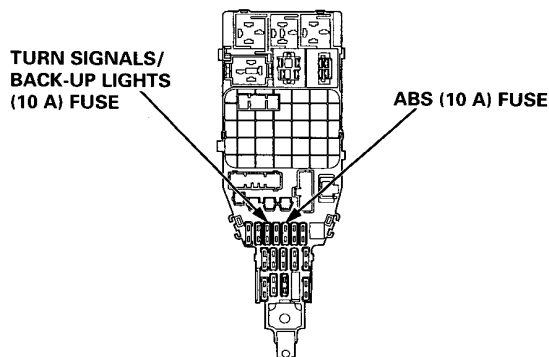
The parts with asterisk (*): LHD type is shown, RHD type is symmetrical.



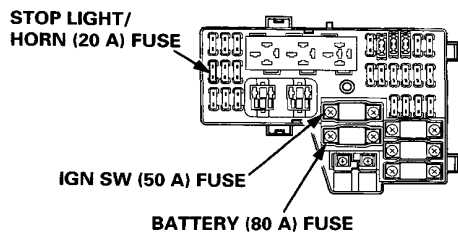
GAUGE ASSEMBLY



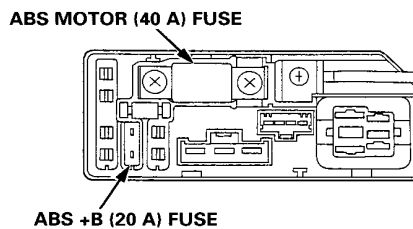
UNDER-DASH FUSE/RELAY BOX



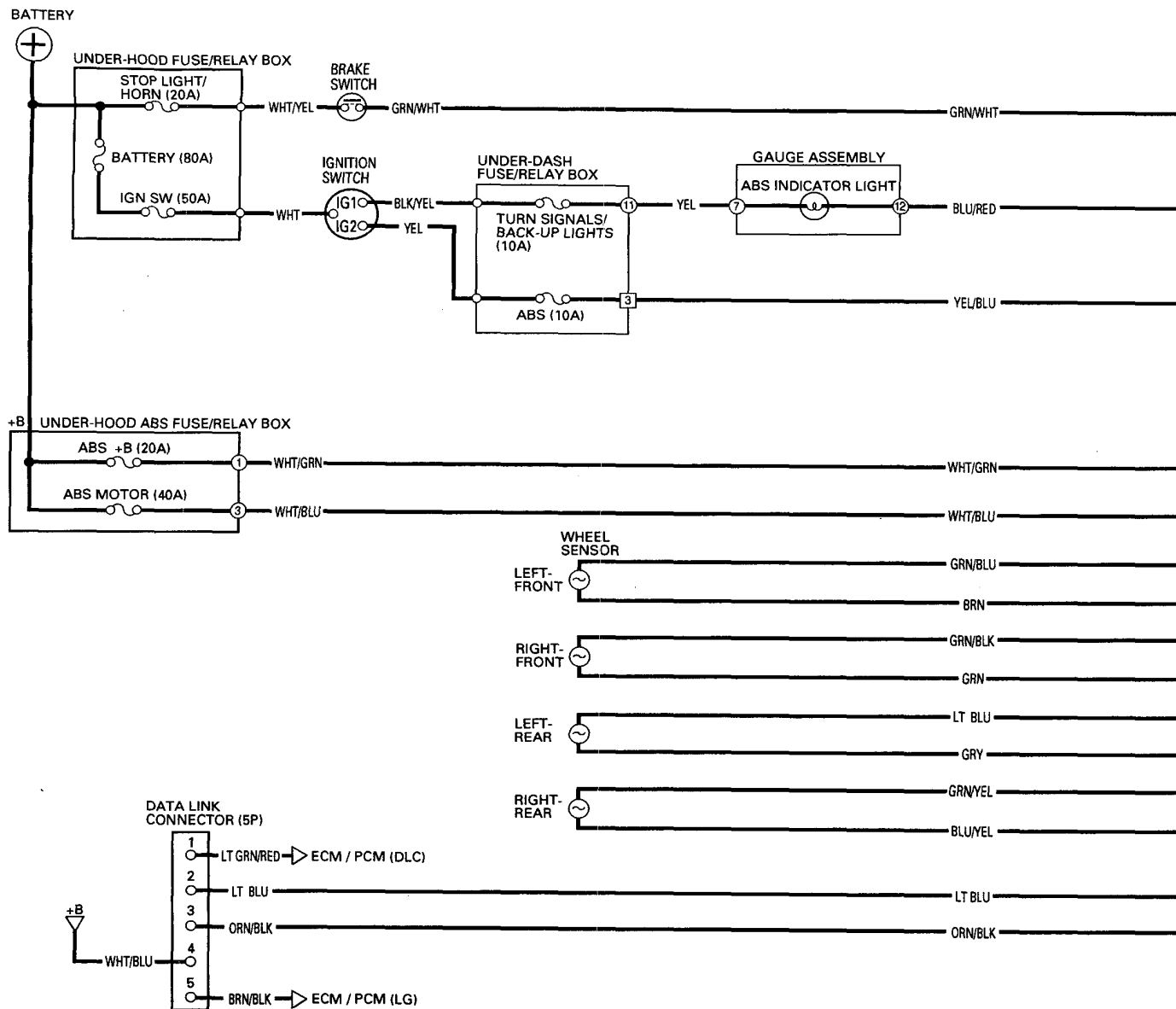
UNDER-HOOD FUSE/RELAY BOX



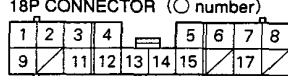
UNDER-HOOD ABS FUSE/RELAY BOX



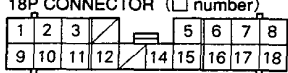
Circuit Diagram



UNDER-DASH FUSE/RELAY BOX



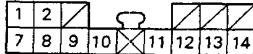
UNDER-DASH FUSE/RELAY BOX



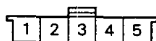
UNDER-HOOD ABS FUSE/RELAY BOX



GAUGE ASSEMBLY 14P CONNECTOR



DATA LINK CONNECTOR (5P)

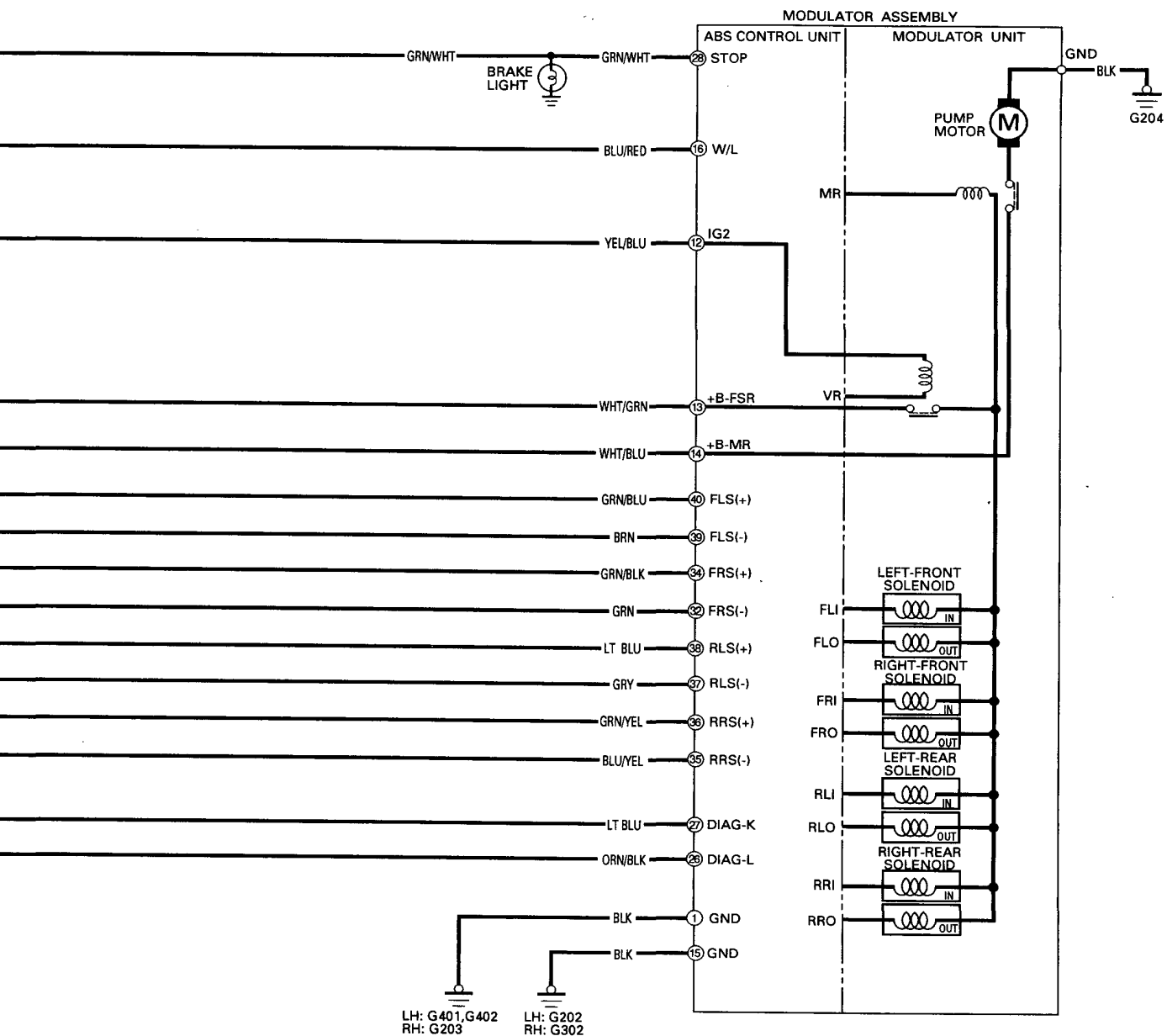


WHEEL SENSOR

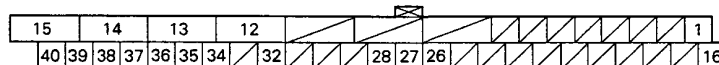


TERMINAL SIDE OF MALE TERMINALS

WIRE SIDE OF FEMALE TERMINALS



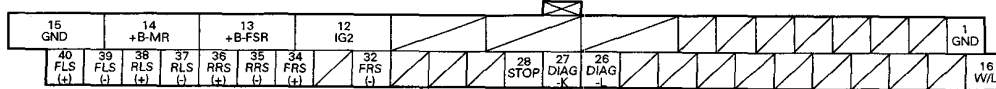
MODULATOR ASSEMBLY 40P CONNECTOR



TERMINAL SIDE OF FEMALE TERMINALS

Terminal Arrangement

MODULATOR ASSEMBLY 40P CONNECTOR



TERMINAL SIDE OF FEMALE TERMINALS

VB: Battery Voltage

Terminal number	Wire color	Terminal sign (Terminal name)	Description	Voltage		
				Measurement terminals	Conditions (Ignition Switch ON (II))	Output voltage
1	BLK	GND (Ground)	Ground for the modulator assembly.	1-GND		Below 0.3 V
12	YEL/BLU	IG2 (Ignition 2)	Detects ignition switch 2 signal. (System activate signal)	12-GND		VB
13	WHT/GRN	+B-FSR (+B fail-safe relay)	Power source for the solenoid valve and motor relay coil.	13-GND	Every time	VB
14	WHT/BLU	+B-MR (+B motor relay)	Power source for the motor.	14-GND	Every time	VB
15	BLK	GND (Ground)	Ground for the modulator assembly.	15-GND		Below 0.3 V
16	BLU/RED	W/L (Warning lamp)	Drives ABS indicator light. (The indicator light goes off when modulator assembly shuts down the current.)	16-GND	Indicator light ON	Approx. 0.7 V
					Indicator light OFF	VB
26	ORN/BLK	DIAG-L (Diagnosis L terminal)	Diagnostic trouble code indication.	26-GND	ABS short connector connected.	0 V
					ABS short connector disconnected.	Approx. 5 V
27	LT BLU	DIAG-K (Diagnosis K terminal)	Communicate with PGM tester.	—	—	—
28	GRN/WHT	STOP (Stop)	Detects brake switch signal.	28-GND	Brake pedal depressed. Brake pedal released.	VB 0 V
32	GRN	FRS (-) (Front-right signal negative)	Detects right-front wheel sensor signal.	32-34	Wheel	AC: 0.053 V or above (Reference) 0.15 Vp-p or above on oscilloscope
34	GRN/BLK	FRS (+) (Front-right signal positive)	Detects right-front wheel sensor signal.	34-32		
35	BLU/YEL	RRS (-) (Rear-right signal negative)	Detects right-rear wheel sensor signal.	35-36		
36	GRN/YEL	RRS (+) (Rear-right signal positive)	Detects right-rear wheel sensor signal.	36-35		
37	GRY	RLS (-) (Rear-left signal negative)	Detects left-rear wheel sensor signal.	37-38		
38	LT BLU	RLS (+) (Rear-left signal positive)	Detects left-rear wheel sensor signal.	38-37		
39	BRN	FLS (-) (Front-left signal negative)	Detects left-front wheel sensor signal.	39-40		
40	GRN/BLU	FLS (+) (Front-left signal positive)	Detects left-front wheel sensor signal.	40-39	Stops	Approx. 2.5 V

ABS Indicator Light

1. The ABS indicator light comes on when the ABS control unit detects a problem in the system. However, even though the system is normal, the ABS indicator light can come on, too, under the following conditions. To grasp the problem conditions securely, question about the problem by talking the following conditions into consideration.
 - Disturbance signal
 - Wheel spin
 - Only drive wheels rotate
 - Battery voltage fluctuates
 - Disconnected modulator assembly 40P connector
2. When a problem is detected and the ABS indicator light comes on, the indicator light can stay on until the ignition switch is turned off and it can automatically goes off depending on the mode.
 - Light stays on until the ignition switch is turned off: When the system is in the system down mode.
 - Light automatically goes off: When the system is in the control inhibition mode.
(refer to symptom-to-system chart)
3. In certain mode, the ABS indicator light stays on when the system is reactivated without erasing the DTC after correcting the problem, but it goes off after starting the car.

When the wheel sensor system is faulty and the ABS indicator light comes on, the algorithm of the system automatically turns off the ABS indicator light after the wheel speed signal returns to the normal speed. While, when the DTC is erased, the CPU is reset and the ABS indicator light goes off when the system checked out normal by the initial diagnosis. Therefore, test-drive the car after servicing the wheel sensor system and be sure that the ABS indicator light does not come on.
4. The drive circuit of the ABS indicator light is the self-bias type which activates the drive transistor with the electric current from the indicator light when the ignition switch is ON (II). The CPU becomes active when the self-diagnosis results are normal and it shuts off the bias circuit to turns off the ABS indicator light.

Therefore, the ABS indicator light can come on when the ignition switch signal is not sent to the CPU and the CPU is not active.

Diagnostic Trouble Code (DTC)

1. The diagnostic trouble code (DTC) is memorized when a problem is detected and the ABS indicator light does not go off or when the ABS indicator light comes on.

Therefore, the DTC can not be memorized when the ABS indicator light come on unless the CPU is activated.
2. The DTCs can be memorized until three DTC. However, when the same DTC is detected twice or more, the later one is written over the old one.

Therefore, when the same problem is detected repeatedly, it is recorded as the one DTC.
3. The DTCs are indicated from last memorized DTC.
4. The DTCs are memorized in the EEPROM (non-volatile memory).

Therefore, the memorized DTCs cannot be canceled with the battery. Perform the specified procedures to erase.

Self-diagnosis

The self-diagnosis can be classified into the four categories as listed below.

- Initial diagnosis: Performed right after the engine starts and until the ABS indicator light goes off.
- Except ABS control: Performed when the ABS is not functioning.
- During ABS control: Performed when the ABS is functioning.
- During warning: Performed when the ABS indicator light is ON.

Troubleshooting Precautions

Kickback

1. The motor operates when the ABS is functioning, and the fluid in the reservoir is forced out to the master cylinder causing kickback.
Therefore, the brake pedal must be kept depressed when the kickback occurs as it is performed during the ordinary brake operation.
2. The ABS control unit operates the solenoid valve when the brake pedal is released after the initial diagnosis. You can hear the faint solenoid valve operation sound this time, but it is normal.

Pump Motor

1. The pump motor operates when the ABS is functioning.
2. The ABS control unit checks the pump motor operation when starting the car at first time. You can hear the faint operation sound this time, but it is normal.

Brake Fluid Replacement/Air Bleeding

1. Brake fluid replacement and air bleeding procedure are same as conventional brakes.

Troubleshooting

1. The troubleshooting flow charts explain the procedures on the assumption that the cause of the problem lasts and the ABS indicator light does not go off or it stays on.
Note that the troubleshooting following the flow chart when the ABS indicator light does not come on can result in incorrect judgment.
2. Question the condition when the problem occurred and produce the same conditions as much as possible for troubleshooting.
Self-diagnosis is made at various times such as the initial diagnosis, except ABS control, during ABS control, during acceleration, during the specified vehicle speed, etc. Therefore, the symptom cannot be checked unless the check conditions match with the problem conditions.
3. When the ABS indicator light does not come on during the test-drive but the troubleshooting is performed with the DTC, check for the loose connector, poor contact of the terminal, etc. before troubleshooting.
4. After troubleshooting, test-drive the car and be sure that the ABS indicator light does not come on, then erase the DTC.
5. The connector symbol shown in the connector illustration represents the female connectors with the single frame and the male connectors with the double frame.
6. The connector terminal numbers of a female terminal are indicated by viewing from the wire side (modulator assembly 40P connector: viewing from the terminal side), and the numbers of a male terminal are indicated by viewing from the terminal side.

Diagnostic Trouble Code (DTC)



DTC Indication

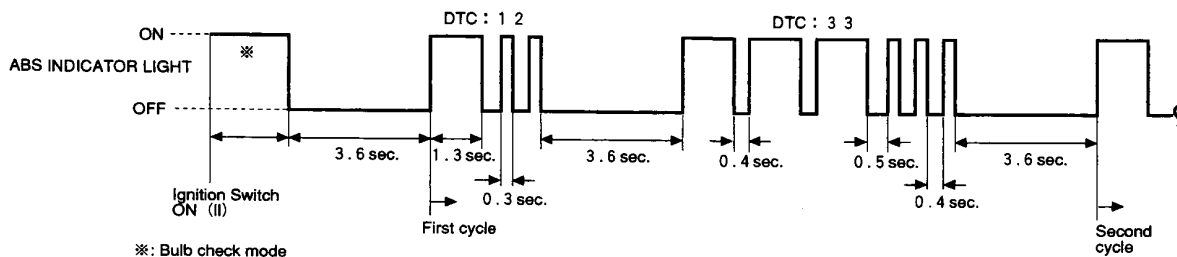
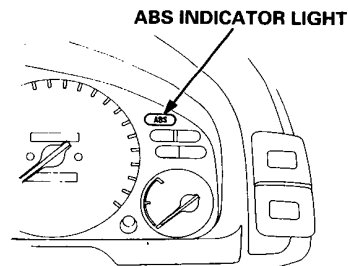
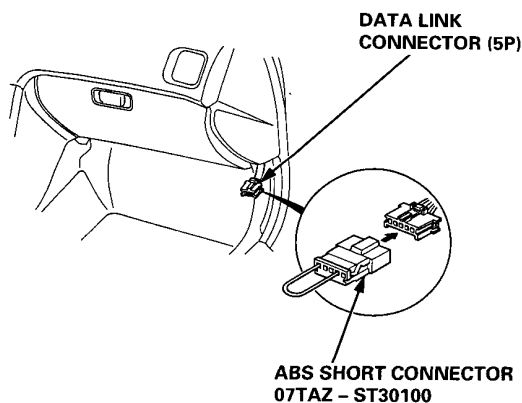
1. Connect the ABS short connector to the data link connector under dash of passenger's side.
2. Turn the ignition switch ON (II), but do not start the engine.
NOTE: Do not depress the brake pedal when turning the ignition switch.
3. Record the blinking frequency of the ABS indicator light. The blinking frequency indicates DTC.
4. Turn the ignition switch OFF, and remove the ABS short connector.
5. Erase the DTC by cycling the ignition switch at 20 times or more.

Condition for DTC indication

- The car is stopped.
- The ABS short connector is connected before the ignition switch is turned ON (II).
- The brake pedal is not depressed.
- The ABS short connector is not disconnected during this service.

The DTC indication is finished and ABS control unit execute the software function if at least one of the following conditions is satisfied.

- The car is not stopped.
- The SCS short connector is disconnected during this service.



- When ignition switch is turned ON (II), the ABS indicator light comes on to check the bulb. Do not count it as DTC.
- The modulator assembly indicates until three DTC from last memorized DTC.
- If the DTC is not memorized, the ABS indicator light continues ON.

Diagnostic Trouble Code (DTC)

Symptom – to – System Chart

DTC	ABS INDICATOR LIGHT	DIAGNOSIS/ SYMPTOM	PROBLEM LOCATION	PROBABLE CAUSE	Refer to page
NO DTC	OFF	ABS indicator light does not come on		<ul style="list-style-type: none"> • Open in the power source circuit for the ABS indicator light • Blown ABS indicator light bulb • Open in the W/L circuit • Faulty modulator assembly 	19-19
	ON	ABS indicator light does not go off		<ul style="list-style-type: none"> • Open in the IG2 circuit • Short to body ground in the W/L circuit • Faulty modulator assembly 	19-21
11	ON	Wheel sensor (open/short to power)	FR	<ul style="list-style-type: none"> • Open, short to power in the wheel sensor circuit • Open circuit in the wheel sensor • Faulty modulator assembly 	19-22
13			FL		
15			RR		
17			RL		
12	ON	Faulty wheel sensor pulse (noise)	FR	<ul style="list-style-type: none"> • Short to body ground in the wheel sensor circuit • Short to wheel sensor (+) circuit in the wheel sensor (-) circuit • Faulty wheel sensor installation • Detects disturbance signal • Faulty modulator assembly 	19-22
14			FL		
16			RR		
18			RL		
21	ON	Continuously operation (chipped pulser)		<ul style="list-style-type: none"> • Chipped pulser gear • Faulty wheel sensor installation 	19-22
31	ON	Solenoid (open/short to body ground/ short to power/ stuck)	FR-IN	• Faulty modulator assembly	19-24
32			FR-OUT		
33			FL-IN		
34			FL-OUT		
35			RR-IN		
36			RR-OUT		
37			RL-IN		
38			RL-OUT		
51	ON	Motor lock		• Faulty modulator assembly	19-24
52	ON	Motor stuck off		<ul style="list-style-type: none"> • Open and/or blown fuse in the +B MR circuit • Faulty modulator assembly 	19-25
53	ON	Motor stuck on		• Faulty modulator assembly	19-25
54	ON	Main relay stuck off		<ul style="list-style-type: none"> • Open and/or blown fuse in the +B FSR circuit • Faulty modulator assembly 	19-26
61	ON	Ignition voltage (low voltage)		<ul style="list-style-type: none"> • Faulty battery • Faulty charging system • Faulty modulator assembly 	19-24
81	ON	CPU		• Faulty modulator assembly	19-24

Troubleshooting



ABS Indicator Light Does Not Come On

The ABS indicator light does not come on when ignition switch is turned ON (II).

Check the TURN SIGNALS/BACK-UP LIGHTS (10 A) fuse in the under-dash fuse/relay box.

NOTE: All indicator lights except the charging system indicator light will not come on when the TURN SIGNALS/BACK-UP LIGHTS (10 A) fuse is blown.

Is the fuse OK?

NO

Replace the fuse and recheck.

YES

NOTE: Reinstall the fuse if it is OK.

Check for an open in the IG1 circuit:

1. Disconnect the gauge assembly 14P connector.
2. Turn the ignition switch ON (II).
3. Measure the voltage between the gauge assembly 14P connector terminal No. 7 and body ground.

Is there battery voltage?

NO

- Repair open in the wire between the TURN SIGNALS/BACK-UP LIGHTS (10 A) fuse and gauge assembly.
- Replace the under-dash fuse/relay box. (Open circuit inside the fuse/relay box).

YES

Check the ABS indicator light bulb in the gauge assembly.

Is the bulb OK?

NO

Replace the ABS indicator light bulb.

YES

Check the gauge assembly:

1. Connect the gauge assembly 14P connector.
2. Connect the gauge assembly 14P connector terminal No. 12 to body ground with a jumper wire.

Does the ABS indicator light come on?

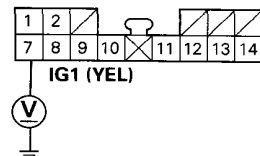
NO

Replace the printed circuit board in the gauge assembly.

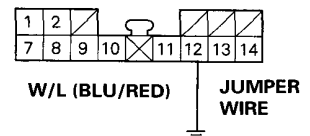
YES

(To page 19-20)

GAUGE ASSEMBLY 14P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS



(cont'd)

Troubleshooting

ABS indicator Light Does Not Come On (cont'd)

(From page 19-19)

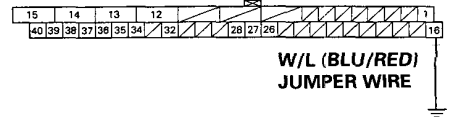
Check for an open in the W/L circuit:

1. Turn the ignition switch OFF.
2. Disconnect the modulator assembly 40P connector.
3. Turn the ignition switch ON (II).
- *4. Connect the modulator assembly 40P connector terminal No. 16 to body ground with a jumper wire.

* When the ABS indicator light comes on without connection of modulator assembly 40P connector terminal No. 16 and body ground, the ABS is OK at this time.

NOTE: The modulator assembly 40P connector has a switch which connect the terminal No. 1 and No. 16 when disconnect the 40P connector.

MODULATOR ASSEMBLY 40P CONNECTOR



W/L (BLU/RED)
JUMPER WIRE

TERMINAL SIDE OF FEMALE TERMINALS

Does the ABS indicator light come on?

NO

Repair open in the wire between the gauge assembly and modulator assembly.

YES

Check for an open in the GND circuit:

Connect the modulator assembly 40P connector terminals No. 16 and No. 1, or No. 16 and No. 15 with a jumper wire.

Does the ABS indicator light come on?

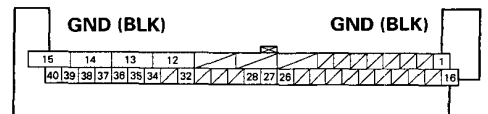
NO

- Repair open in the wire (s) between the modulator assembly and body ground.
- Repair poor ground (LHD: G401, G402, G202, RHD: G203, G302).

YES

Check for loose modulator assembly connector. If necessary, substitute a known-good modulator assembly and recheck.

JUMPER WIRE



JUMPER WIRE

W/L (BLU/RED)

ABS Indicator Light Does Not Go Off

— ABS indicator light is ON.
— No DTC is indicated.

Check the ABS (10 A) fuse in the under-dash fuse/relay box.

Is the fuse OK?

NO

Replace the fuse and recheck.

YES

NOTE: Reinstall the fuse if it is OK.

Check for an open in the IG2 circuit:

1. Turn the ignition switch ON (II).
2. Measure the voltage between the modulator assembly 40P connector terminal No. 12 and body ground.

Is there battery voltage?

NO

Repair open in the wire between the ABS (10 A) fuse and modulator assembly.

YES

Check for a short to body ground in the W/L circuit:

1. Turn the ignition switch OFF.
2. Disconnect modulator assembly 40P connector.
3. Turn the ignition switch ON (II).
4. Check the ABS indicator light while pushing the switch as shown.

Does the ABS indicator light come on?

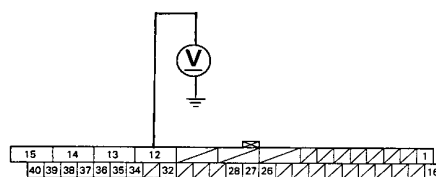
YES

Repair short to body ground in the wire between the ABS indicator light and modulator assembly.

NO

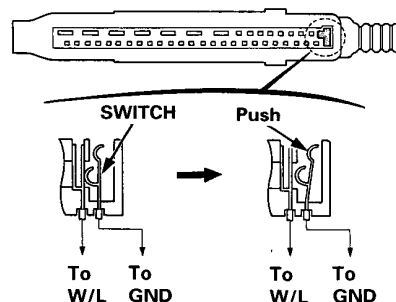
Check for loose modulator assembly connector. If necessary, substitute a known-good modulator assembly and recheck.

MODULATOR ASSEMBLY 40P CONNECTOR
IG2 (YEL/BLU)



TERMINAL SIDE OF FEMALE TERMINALS

MODULATOR ASSEMBLY 40P CONNECTOR



Troubleshooting

DTC: 11, 12, 13, 14, 15, 16, 17, 18, 21

NOTE: The ABS indicator light comes on when only drive wheel is turning, and detects disturbance signal, etc. Therefore, test-drive the car at speed of 31 mph (50 km/h) or more after turning the ignition switch OFF to ON (II) and if the ABS indicator light does not come on, the system is OK.

- ABS indicator light is ON.
- DTCs 11~21 are indicated.

Check the wheel sensor circuit:

1. Disconnect the modulator assembly 40P connector.
2. Check for continuity between the appropriate wheel sensor (+) and (-) circuit terminals*.

Is there continuity?
Front: 700 – 1,100 Ω /20°C
Rear: 550 – 850 Ω /20°C

NO

YES

Check for a short to body ground in the wheel sensor circuit:

Check for continuity between the modulator assembly 40P connector appropriate wheel sensor (+) circuit terminal* and body ground.

Is there continuity?

YES

NO

Check for a short to power in the wheel sensor circuit:

1. Start the engine.
2. Measure the voltage between the modulator assembly 40P connector appropriate wheel sensor (+) circuit terminal and body ground.

Is there battery voltage?

YES

NO

*

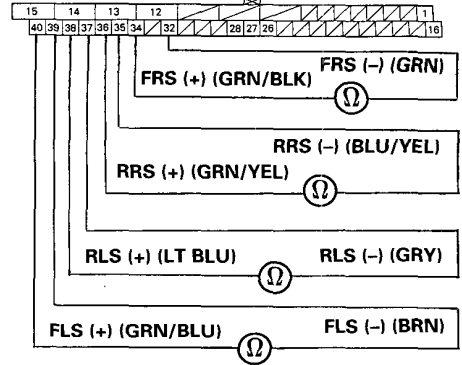
DTC	Appropriate Terminal	
	(+) SIDE	(-) SIDE
11, 12: FRS	No. 34	No. 32
13, 14: FLS	No. 40	No. 39
15, 16: RRS	No. 36	No. 35
17, 18: RLS	No. 38	No. 37

- Repair open in the (+) or (-) circuit wire, or short to the (+) circuit wire in the (-) circuit wire between the modulator assembly and appropriate wheel sensor.
- Replace the appropriate wheel sensor.

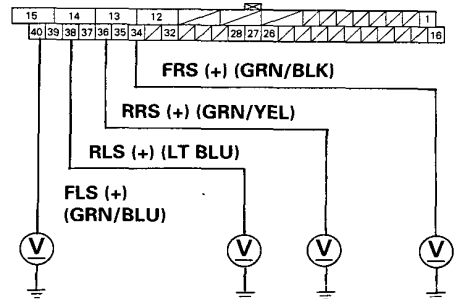
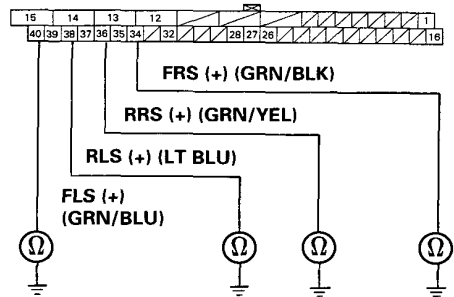
- Repair short to body ground in the (+) or (-) circuit wire between the modulator assembly and appropriate wheel sensor.
- Replace the appropriate wheel sensor.

- Repair short to power in the (+) or (-) circuit wire between the modulator assembly and appropriate wheel sensor.

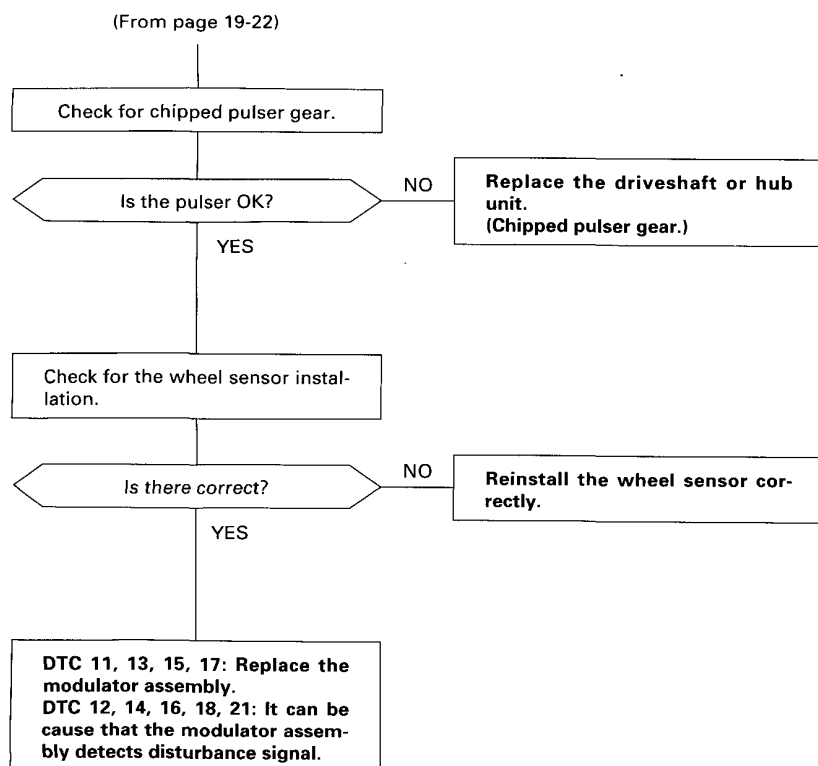
MODULATOR ASSEMBLY 40P CONNECTOR



TERMINAL SIDE OF FEMALE TERMINALS



(To page 19-23)



Troubleshooting

DTC: 31, 32, 33, 34, 35, 36, 37, 38, 51, 61, 81

DTC: 31, 32, 33, 34, 35, 36, 37, 38, 51, 81

- ABS indicator light is ON.
- DTCs 31~38, 51 and/or 81 are indicated.

Problem verification:

1. Erase the DTC.
2. Test-drive the car.
3. Make sure that the ABS indicator light comes on and DTCs 31~38, 51 and/or 81 are indicated.

Are DTCs indicated?

NO

The system is OK at this time.

YES

Replace the modulator assembly.

DTC: 61

- ABS indicator light is ON.
- DTC 61 is indicated.

Problem verification:

1. Erase the DTC.
2. Test-drive the car.
3. Make sure that the ABS indicator light comes on and DTC 61 is indicated.

Is DTC 61 indicated?

NO

The system is OK at this time.

YES

Check for an open in the IG2 circuit:

1. Turn the ignition switch ON (II).
2. Measure the voltage between the modulator assembly 40P connector terminal No. 12 and body ground.

Is there battery voltage?

NO

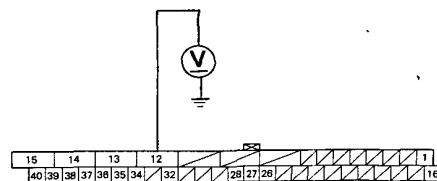
Repair open in the wire between the ABS (10 A) fuse and modulator assembly.

YES

Replace the modulator assembly.

MODULATOR ASSEMBLY 40P CONNECTOR

IG2 (YEL/BLU)



TERMINAL SIDE OF FEMALE TERMINALS

Troubleshooting

DTC: 54

— ABS indicator light is ON.
— DTC 54 is indicated.

Check the ABS +B (20 A) fuse.

Is the fuse OK?

NO

Replace the fuse and recheck.

YES
NOTE: Reinstall
the fuse if it is OK.

Check for an open in the +B-FSR circuit:

Measure the voltage between the modulator assembly 40P connector terminal No. 13 and body ground.

Is there battery voltage?

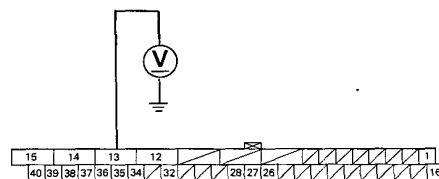
NO

Repair open in the wire between the modulator assembly and under-hood ABS fuse box.

YES

Replace the modulator assembly.

**MODULATOR ASSEMBLY 40P CONNECTOR
+B-FSR (WHT/GRN)**



TERMINAL SIDE OF FEMALE TERMINALS

Modulator Assembly



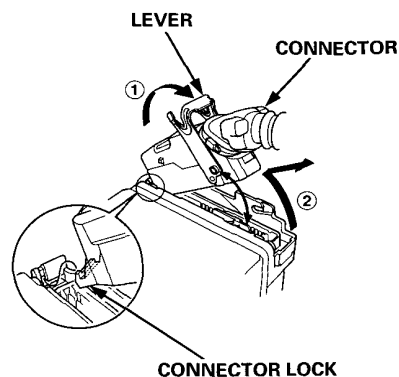
Removal/Installation

Removal

1. Remove the air scoop and dashboard upper lid (RHD only).
2. Disconnect the modulator assembly 40P connector as described below.
 - ① Pry up the lever.
 - ② Unlock the connector lock by leaning the connector to about 45 degrees, then disconnect the connector.
3. Disconnect the brake pipes, then remove the modulator assembly.

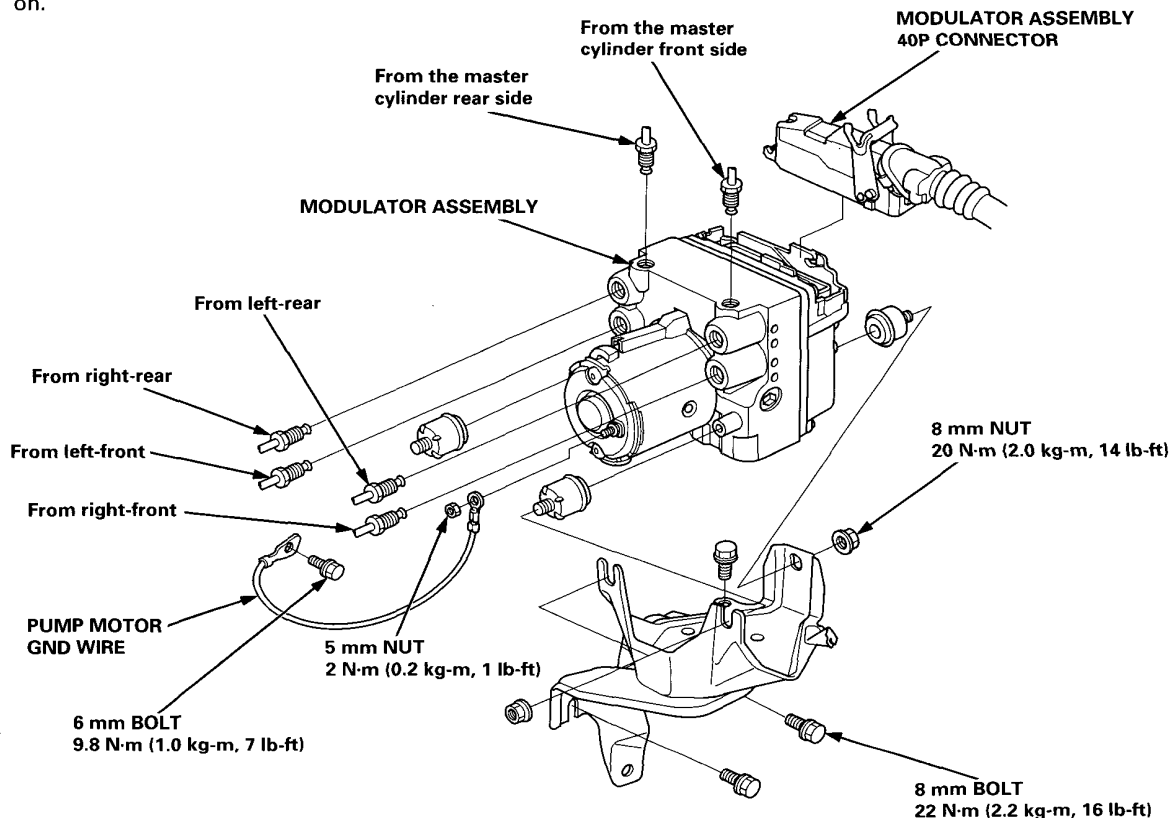
CAUTION:

- Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- Take care not to damage or deform the brake lines during removal and installation.
- To prevent the brake fluid from flowing, plug and cover the hose ends and joints with a shop towel or equivalent material.



Installation

1. Install the modulator assembly, then connect the brake pipes.
NOTE: Tighten the flare nuts to 16 N·m (1.6 kg-m, 12 lb-ft).
2. Connect the modulator assembly 40P connector in the reverse order of disconnection.
3. Install the dashboard upper lid and air scoop (RHD only).
4. Perform the air bleeding.
NOTE: The procedure is same as conventional brakes.
5. Start the engine, and check that the ABS indicator light goes off.
6. Test-drive the car, and check that the ABS indicator light does not come on.



Body

Bumper

Front Bumper Replacement 20-7

Front Grille

Replacement 20-8

Sunroof

Index 20-2

Rear Emblems

Installation 20-9

Seat

Front Seat Device Disassembly 20-6

Trunk Trim

Replacement 20-5

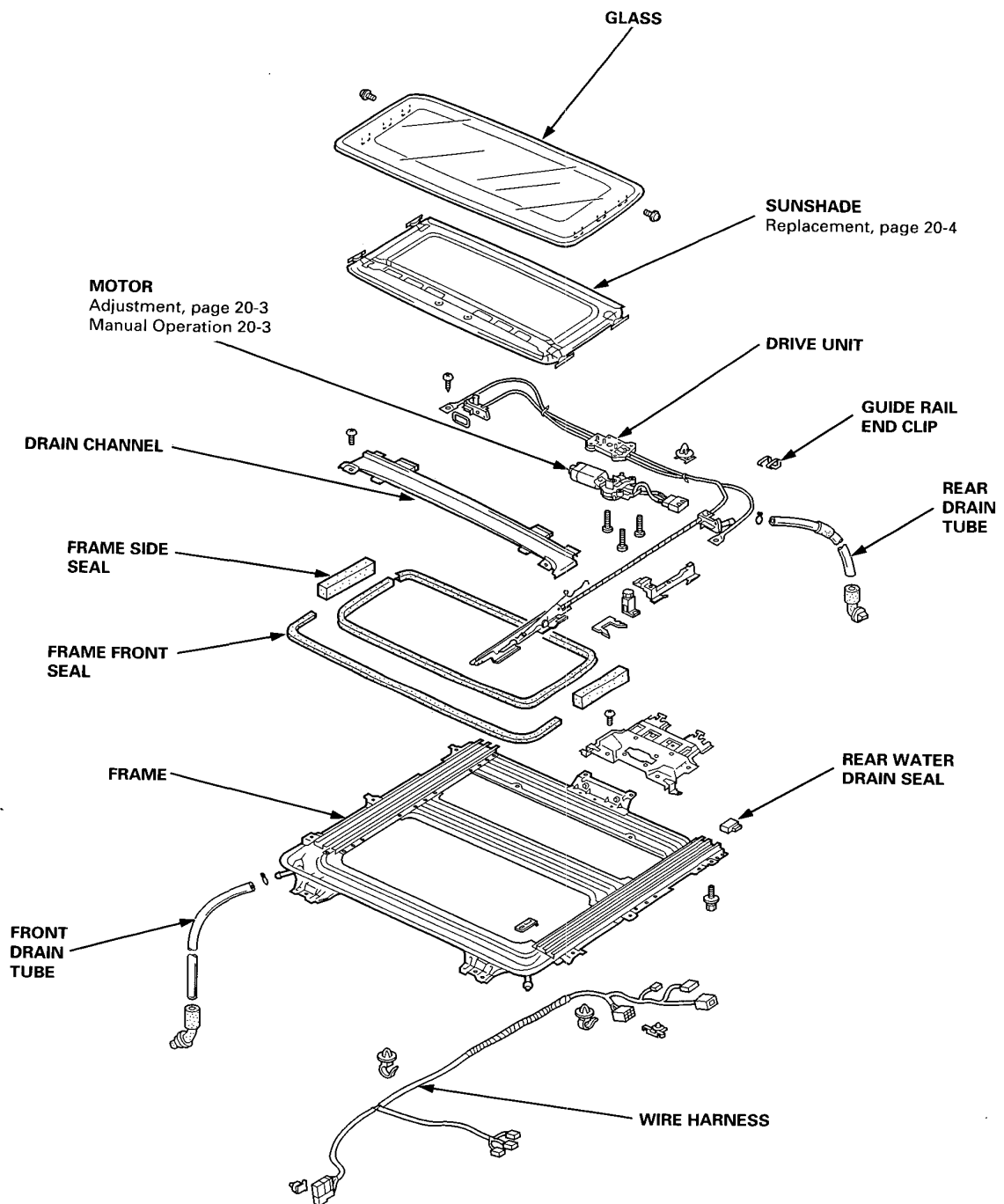
Outline of Model Changes

- The installation procedure for front bumper is different.
- The installation procedure for front Grille is different.
- The construction parts for sunroof is different.
- The attachment point for emblems is different.
- The 8-way power adjustable seat has been added. (For some types)
- The high mount brake light has been added.



Sunroof

Index

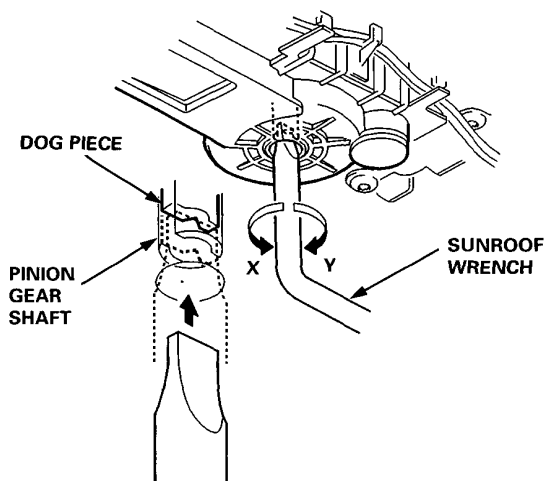


Motor



Manual Operation

1. Insert the sunroof wrench into the socket and push in the dog piece of the pinion gear shaft fully to unlock it. Operate the sunroof by turning the wrench in the X direction (counterclockwise) or Y direction (clockwise) as shown in the illustration.



2. When manual operation has been completed, push in the sunroof wrench lightly and turn it slowly in the X direction (counterclockwise) or Y direction (clockwise) until the dog piece returns to the locked position.
3. Remove the sunroof wrench and make sure the dog piece is in the locked position.

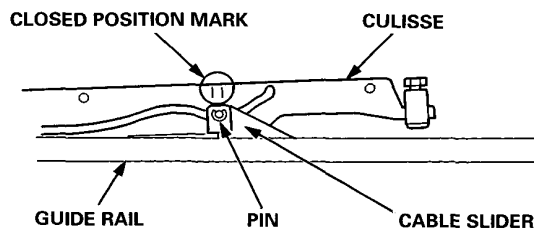
NOTE: The dog piece may be damaged when the sunroof is electrically operated if the dog piece is not in the locked position.

Adjustment

NOTE: If the sunroof motor is removed, it is necessary to align the "Fully closed position" of the sunroof glass and the "Electrically closed position" of the motor.

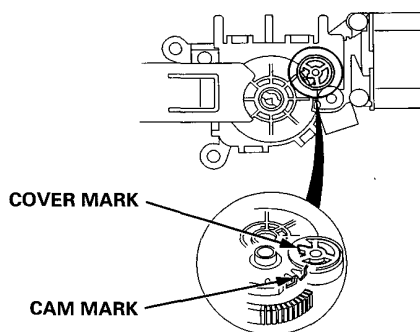
How to adjust the "Full closed position" of the sunroof glass:

1. With the sunroof motor installed, operate the sunroof manually to move the sunroof glass to the fully closed position.
2. Set the center of the pin on the cable slider to the center of the "Closed Position" mark on the culisse. If the glass surface does not align the roof surface, loosen the glass fastening bolt and adjust the position of the glass. Do not attempt to adjust the position by moving the cable slider.



How to adjust the "Electrically Closed Position" of the sunroof motor:

1. Connect a motor and two relays to the wire harness and operate the sunroof (OPEN→CLOSE) with the sunroof switch to stop the sunroof electrically.
2. When adjusting the position manually, turn the sunroof wrench counterclockwise to align the cover mark on the motor with the inside cam mark.

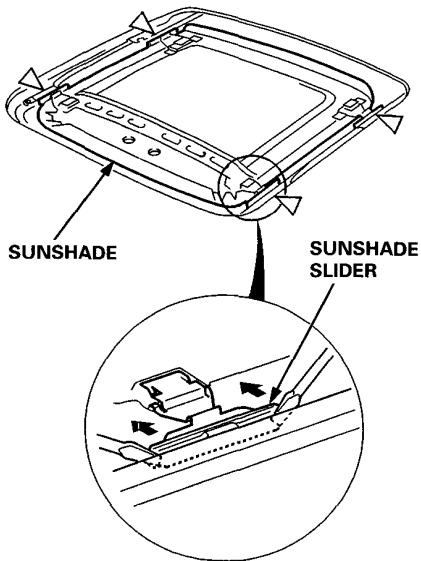


Sunshade

Replacement

1. Remove the sunroof glass and drain channel. Move the sunshade to the roof opening. Press the sunshade slider inward with a flat screw driver and remove the slider.

▷: Sunshade slider locations, 4



2. When reassembling, push the sunshade slider with your finger and reinstall it.

Trunk Trim

Disassembly



CAUTION: When prying with a flat tip screwdriver, wrap it with protective tape to prevent damage.

NOTE: Take care not to bend or scratch the trim and panels.

►: Clip locations
A ►, 14

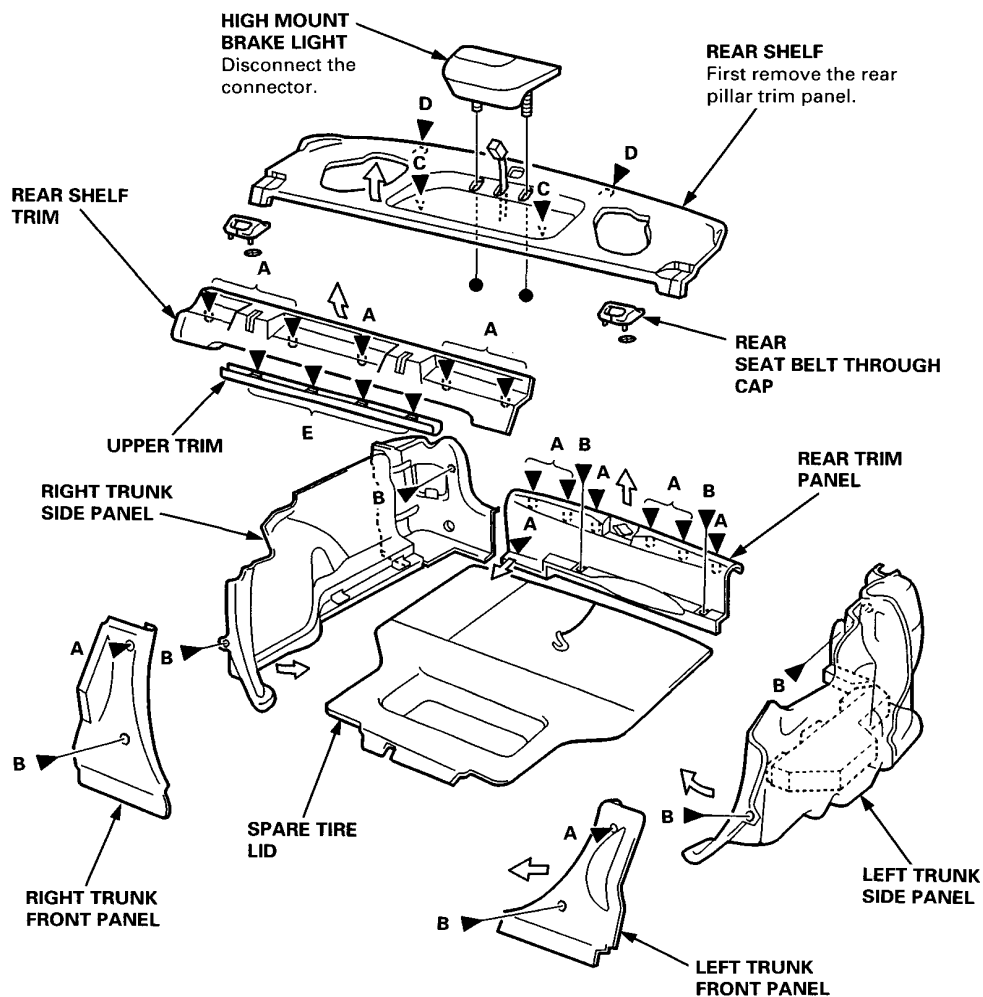
B ►, 8

C ►, 2

D ►, 2

E ►, 4

●: Nut locations, 2



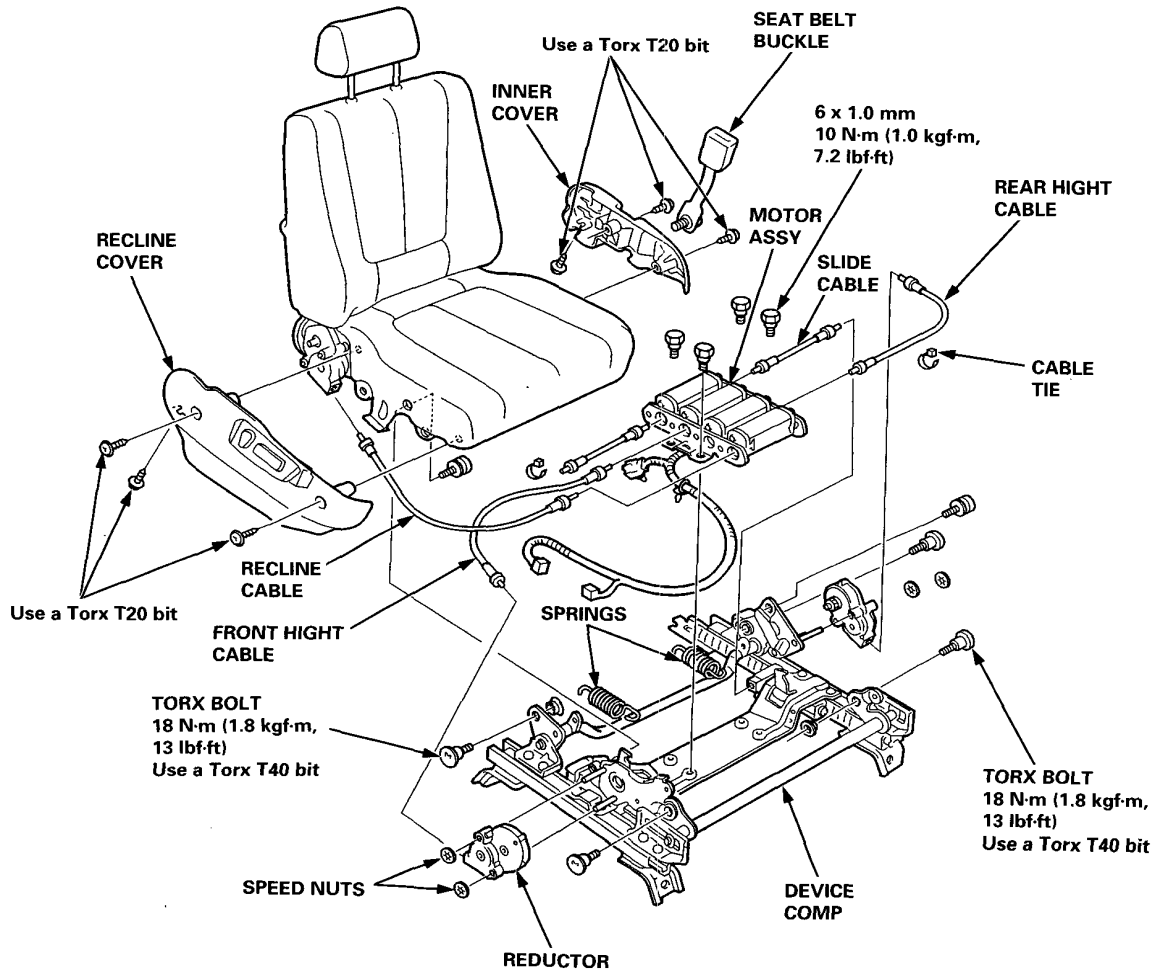
NOTE: If necessary, replace any damaged clips.

Seat

Front Seat Disassembly

8-way power adjustable:

NOTE: Take care not to bend the joint cable and make sure the cable connector is connected properly.



NOTE:

- Apply grease (aeroshell grease 6) to the moving surface.
- Check the slide, recline and height operations.



Bumpers

Front Bumper Disassembly

Disassemble the front bumper as shown.

NOTE:

- An assistant is helpful when removing the front bumper.
- Take care not to scratch the front bumper.
- Open the hood.

►: Bolt, screw locations

▷: Clip locations, 7

●: Nut locations, 2

A ► Bolt, 2



8 x 1.25 mm
22 N·m (2.2 kgf·m,
16 lbf·ft)

B ► Bolt, 2

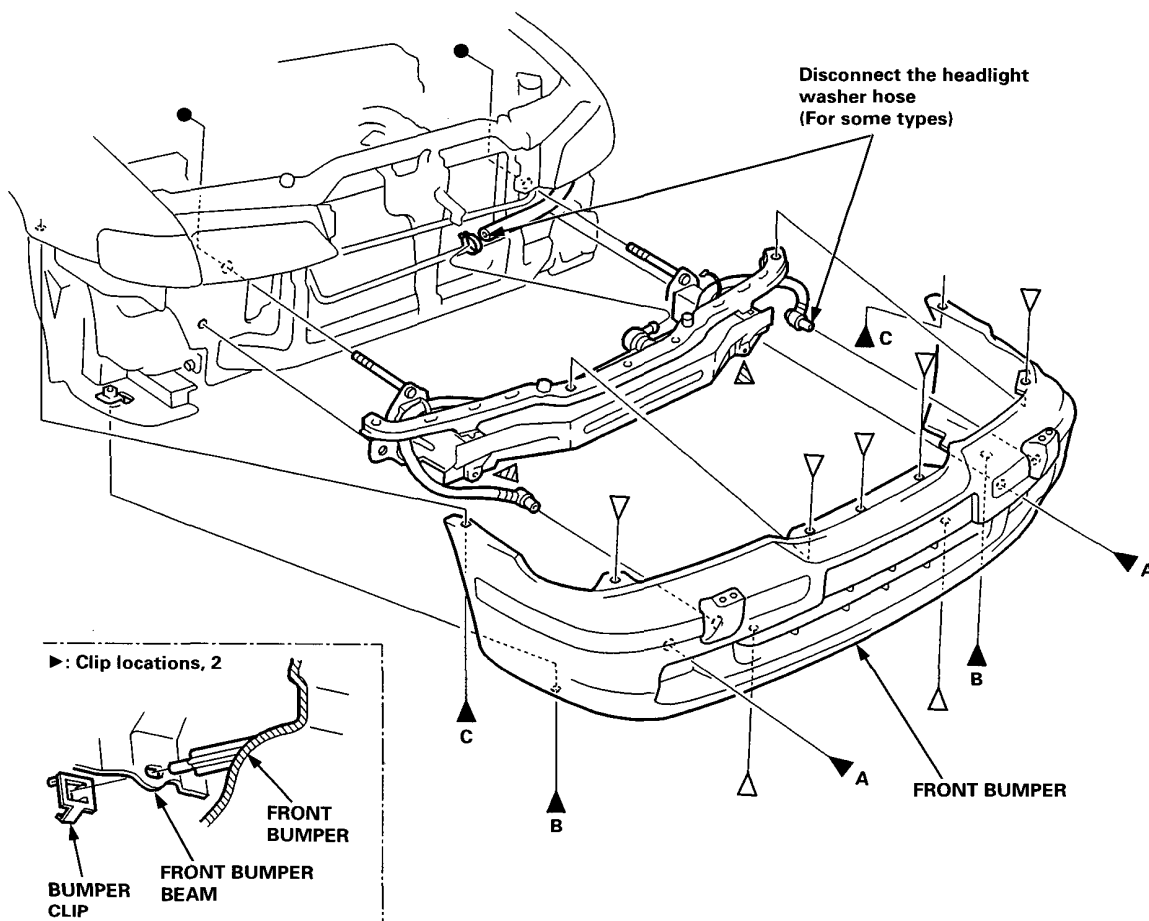


6 x 1.0 mm
10 N·m (1.0 kgf·m,
7.2 lbf·ft)

C ► Screw, 2



8 x 1.25 mm
22 N·m (2.2 kgf·m,
16 lbf·ft)



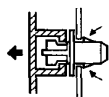
Front Grille

Disassembly

NOTE: Take care not to scratch the hood.

1. Open the hood, then remove the nuts.
2. Detach the clips, then remove the front grille.

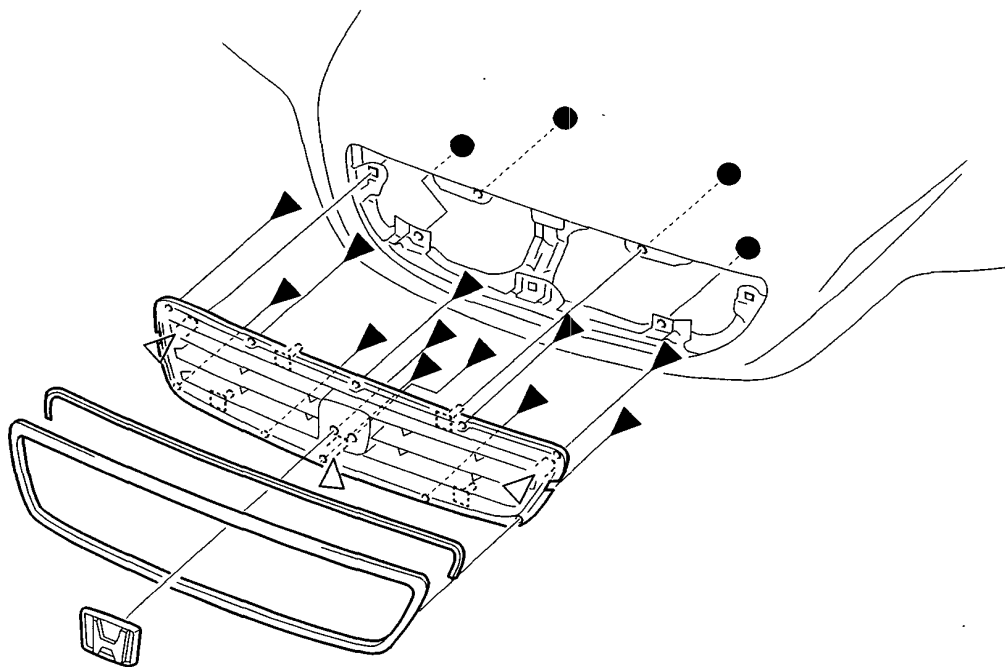
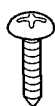
▷: Clip locations, 3



●: Nut locations, 4



►: Screw locations, 12



NOTE: If necessary, replace any damaged clips.

Emblems



Installation

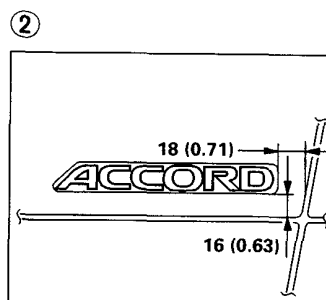
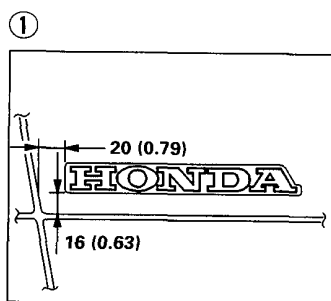
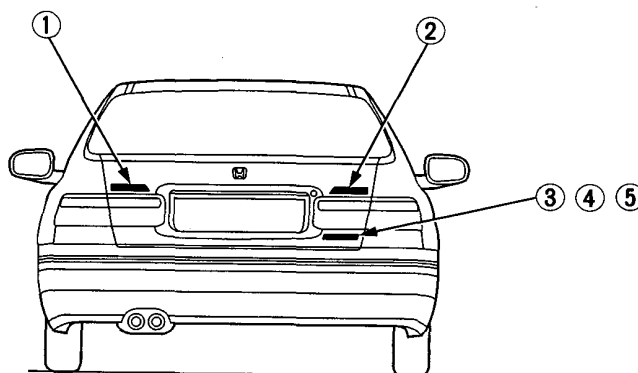
Apply the emblems where shown.

NOTE:

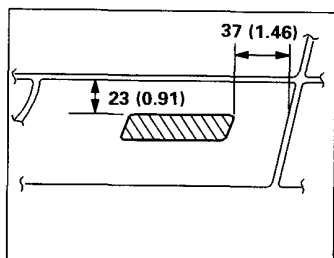
- Before applying, clean the trunk lid surface with a sponge dampened in alcohol.
- After cleaning, keep oil, grease and water from getting on the surface.

Attachment points (Reference):

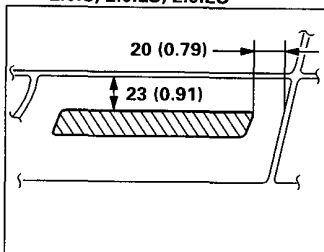
Unit: mm (in)



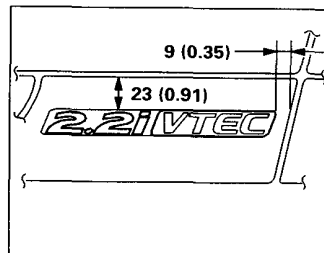
③ 1.8i, 2.0i



④ 1.8is, 1.8iLS, 1.8iES
2.0iS, 2.0iLS, 2.0iES



⑤ 2.2i VTEC



Read this before you do any electrical work on the car.

Some types of this ACCORD are equipped with an SRS (Type III). The ACCORD SRS (Type III) includes a driver's airbag, located in the steering wheel hub, and a passenger's airbag located in the dashboard above the glove box. The SRS of some models however, has only the driver's airbag.

Information necessary to safely service the SRS is included in this Shop Manual (62SN723).

Items marked with an asterisk (*) on the contents page include, or are located near, SRS components. Servicing, disassembling or replacing these items will require special precautions and tools, and should therefore be done by an authorized Honda dealer.

▲ WARNING

- **To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of severe frontal collision, all SRS service work must be performed by an authorized Honda dealer.**
- **Improper service procedures, including incorrect removal and installation of the SRS, could lead to personal injury caused by unintentional activation of the airbags.**
- **Do not bump the SRS unit. Otherwise, the system may fail in case of a collision, or the airbags may deploy when the ignition switch is in position II (ON).**
- **All SRS electrical wiring harnesses are covered with yellow insulation. Related components are located in the steering column, front console, dashboard, dashboard lower panel, and in the dashboard above the glove box. Do not use electrical test equipment on these circuits.**

Electrical

Relay and Control Unit Locations	
Engine Compartment	23A-2
Dashboard	23A-3
Wire Harness and Ground Locations	
Engine Compartment	23A-4
Dashboard	23A-5
Fuses	
Under-hood Fuse/Relay Box	23A-6
Under-dash Fuse/Relay Box	23A-8
Under-hood ABS Fuse Box	23A-10
Power Distribution	23A-11
Ground Distribution	23A-19
Starting System	
Circuit Diagram	23A-29
Starter Test	23A-30
Ignition System	
Circuit Diagram	23A-32
Ignition Timing Inspection and Setting (F22Z2 engine)	23A-33
Spark Plug Inspection (F22Z2 engine)	23A-34
Charging System	
Circuit Diagram	23A-35
Alternator Belt Inspection and Adjustment	23A-36
Gauge Assembly	
Bulb Locations	23A-38
Circuit Diagram	23A-39
*A/T Gear Position Indicator	
Circuit Diagram	23A-42
Indicator Input Test	23A-43
*Integrated Control Unit	
Circuit Diagram	23A-45
Input Test	23A-46
*Lighting System	
Circuit Diagram	23A-48
Combination Light Switch Test	23A-52
Rear Fog Light	
Control Unit Input Test	23A-54
Turn Signal/Hazard Flasher System	
Circuit Diagram	23A-55
Brake Lights	
Circuit Diagram	23A-56
Brake Switch Test	23A-57
High Mount Brake Light Replacement	23A-57
Dash Lights Brightness Controller	
Circuit Diagram	23A-58
Controller Input Test	23A-59
Stereo Sound System	
Circuit Diagram	23A-60
Stereo Radio/Cassette Player Terminals	23A-61
Cigarette Lighter	
Circuit Diagram	23A-61
*Horns	
Circuit Diagram (With SRS-Type III)	23A-62
Switch Test (With SRS-Type III)	23A-63
Driver's Power Seat (8-way Power Adjustable)	
Component Location Index	23A-64
Circuit Diagram	23A-65
Cruise Control	
Circuit Diagram	23A-68
Set/Resume Switch Test	23A-69
Keyless Entry and Security Alarm System	
Circuit Diagram	23A-70
Control Unit Input Test	23A-72
Immobilizer System	
Component Location Index	23A-74
Circuit Diagram	23A-78
Power Mirrors	
Mirror Actuator Replacement	23A-81
Supplemental Restraint System (SRS)	23B-1
Wiring Diagrams	

NOTE: "Immobi." in this manual means "Immobilizer (Immobiliser)".

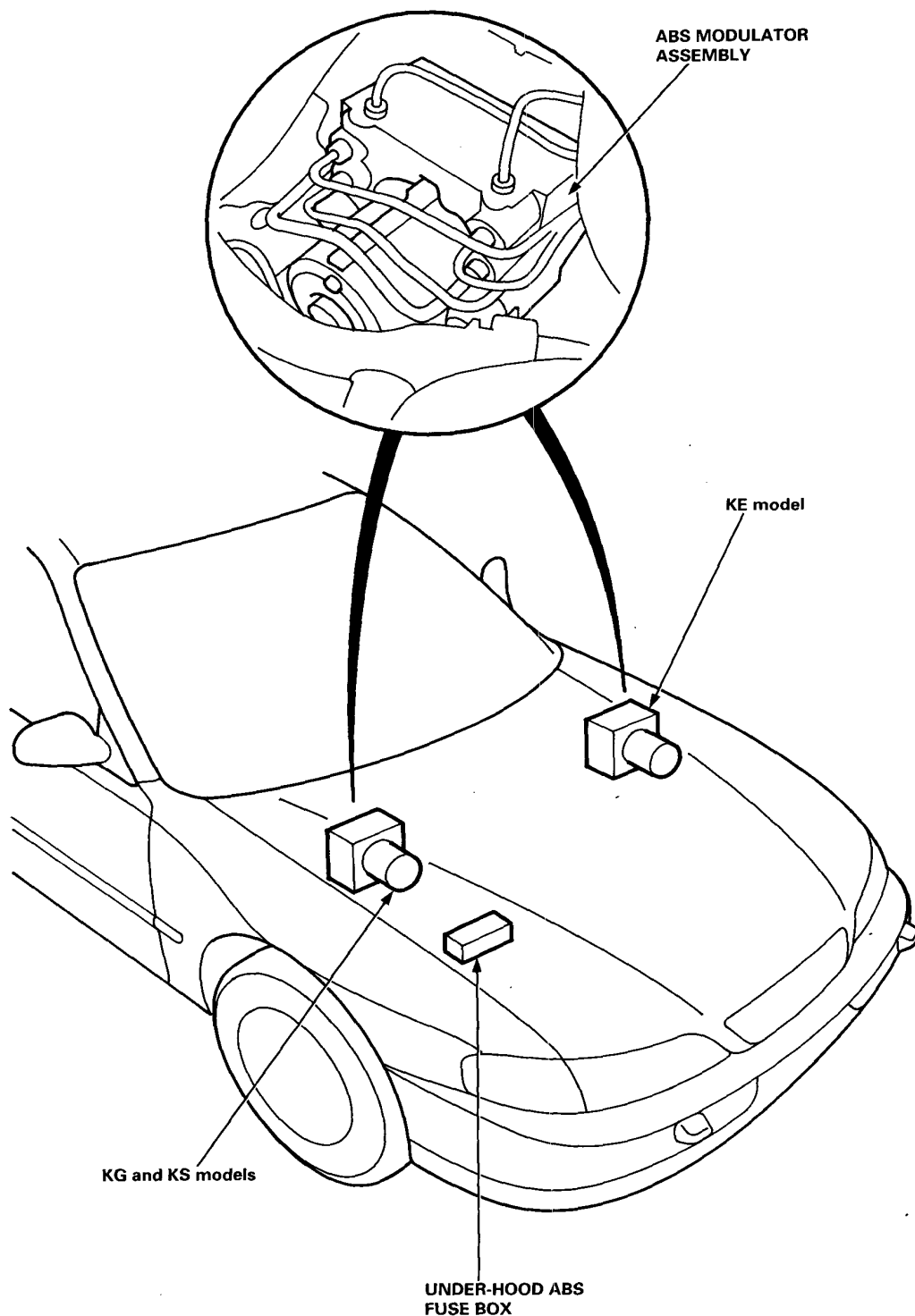
Outline of Model Changes

- F22Z2 engine has been adopted.
- The 8-way power adjustable driver's seat has been adopted.
- Immobilizer system has been adopted.
- SRS-Type III has been changed.
- The fuse No., fuse ampere, ground No., and wire colors have been changed.



Relay and Control Unit Locations

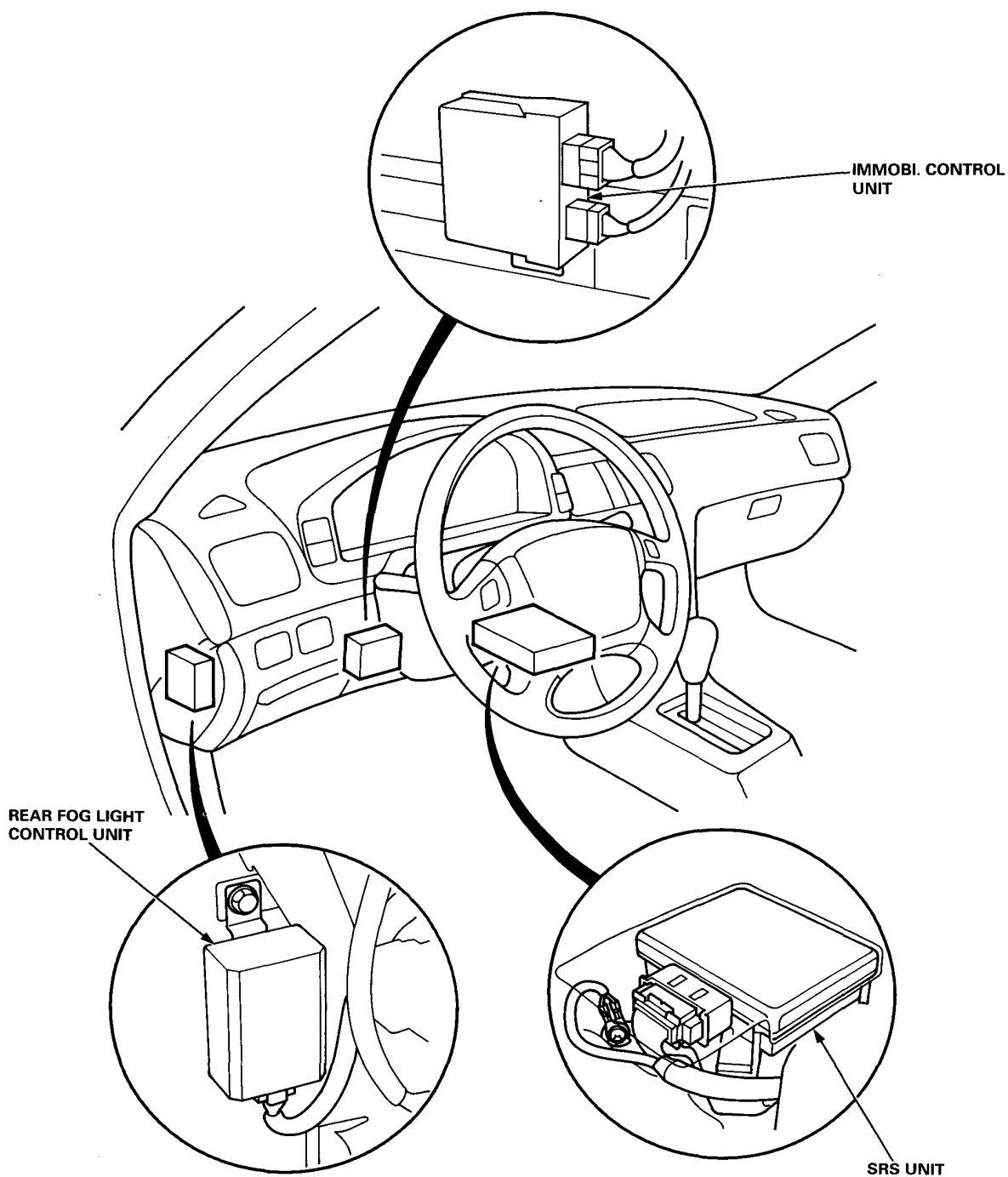
Engine Compartment





Dashboard

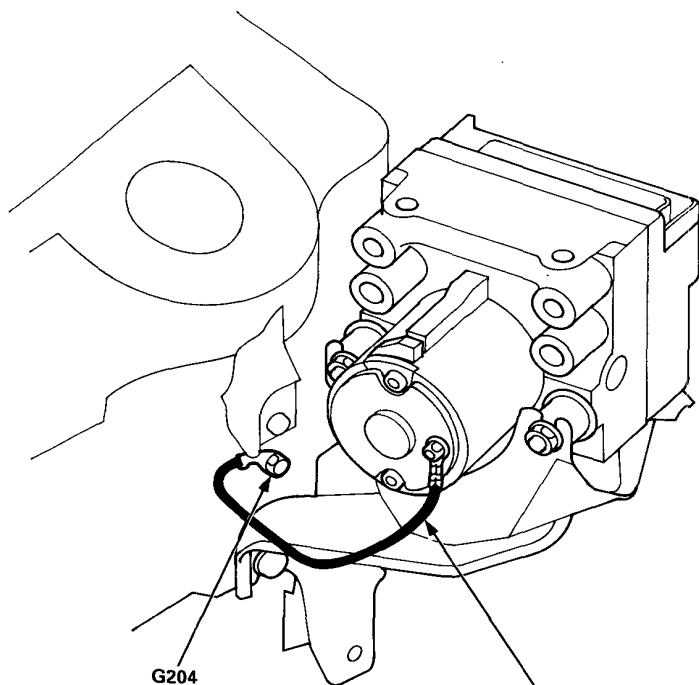
NOTE: KG and KS models are shown, KE model is symmetrical except SRS unit.



Wire Harness and Ground Locations

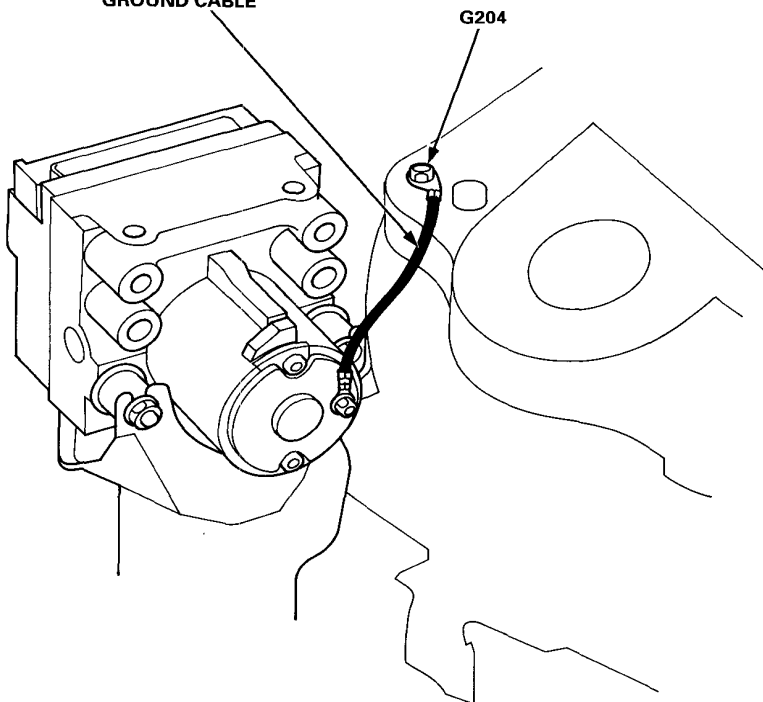
Engine Compartment

KG and KS models:



KE model:

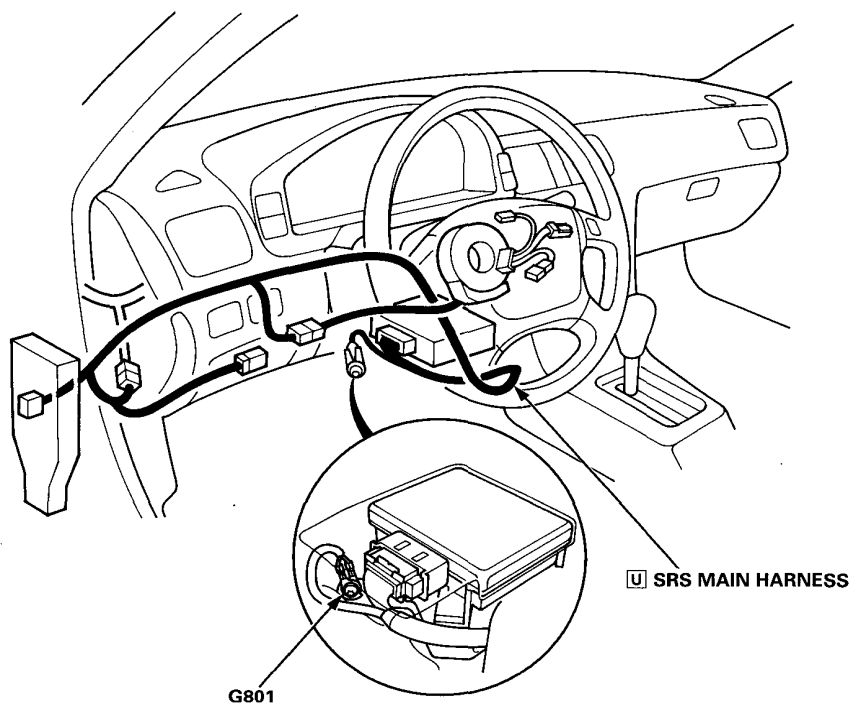
☒ ABS PUMP MOTOR
GROUND CABLE



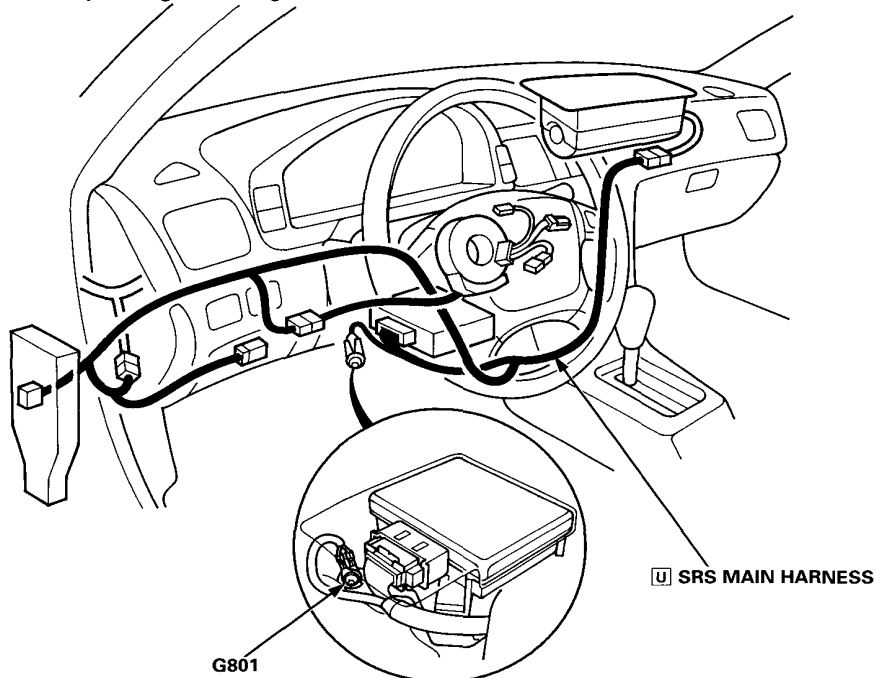


Dashboard

With driver's airbag:



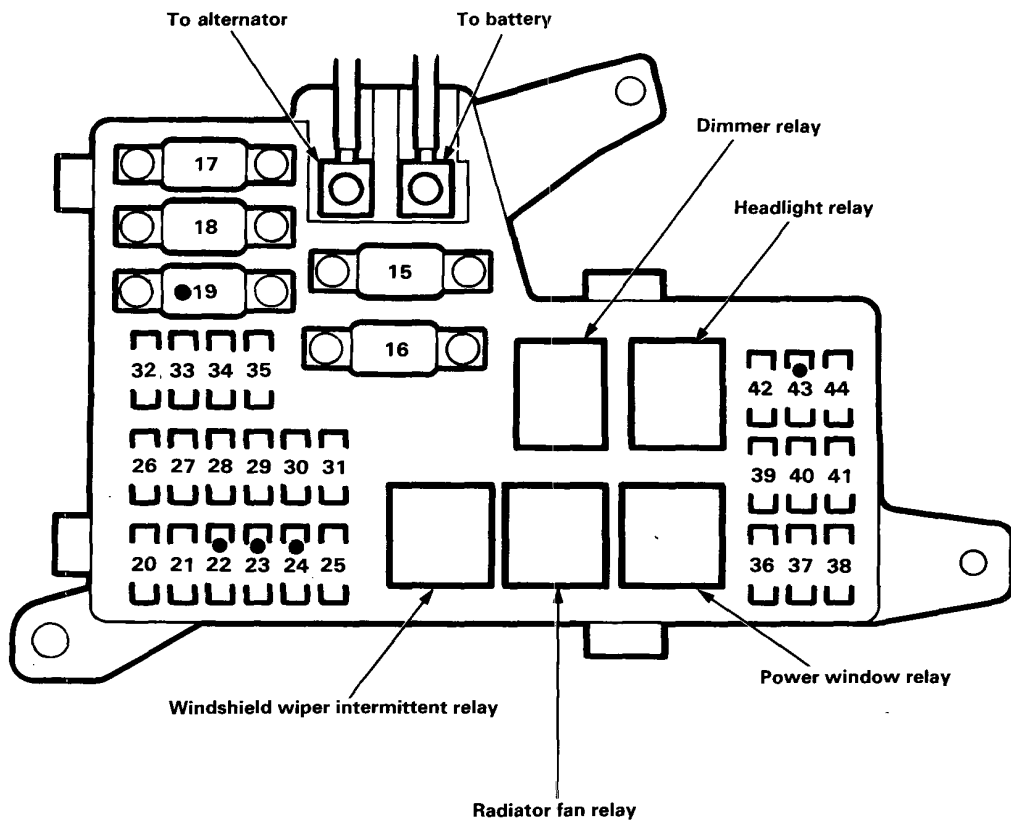
With driver's airbag and front passenger's airbag:



Fuses

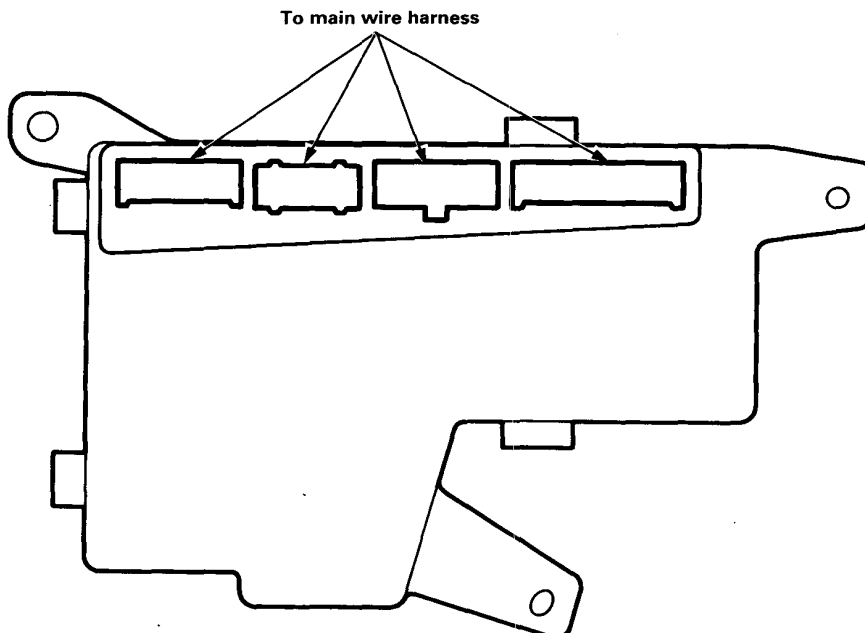
Under-hood Fuse/Relay Box

Front View:



●: Not used

Back View:





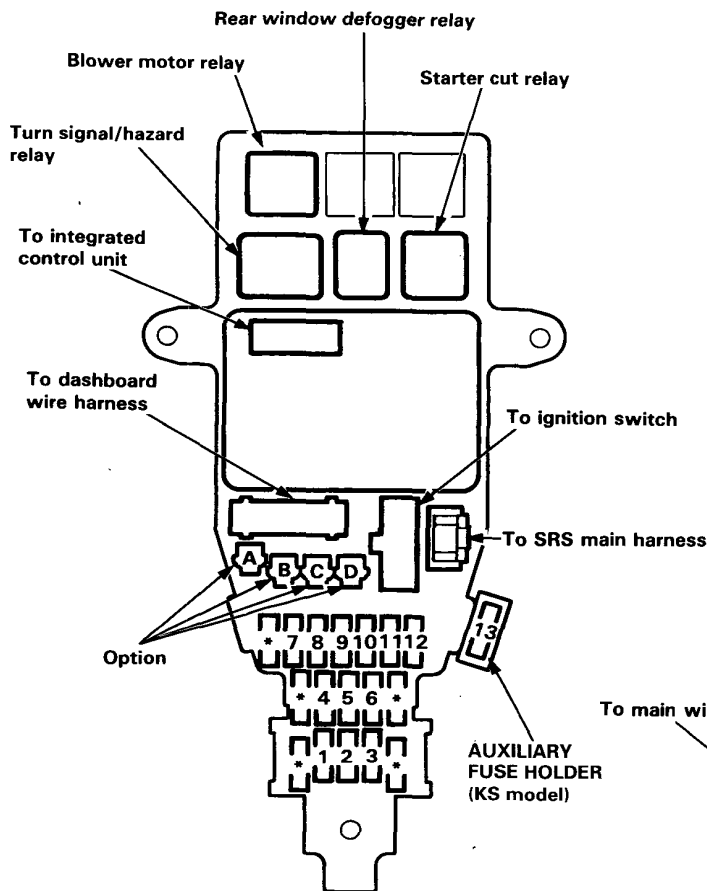
Fuse Number	Amps	Wire Color	Circuit(s) and Component(s) Protected
15	80 A	———	Main fuse (battery), power distribution
16	50 A	WHT	Main fuse (ignition switch)
17	40 A	BLK/GRN	Main fuse (rear window defogger relay)
18	30 A	WHT	Main fuse (blower motor relay)
19	———	———	Not used
20	10 A	RED/GRN	Lighting system (small lights)
21	20 A	WHT/BLU	Power door lock control unit, keyless entry and security alarm system, security horn
22	———	———	Not used
23	———	———	Not used
24	———	———	Not used
25	20 A	———	Radiator fan relay
26	30 A	GRN	Sunroof
27	10 A	BLU/RED	Lighting system
28	30 A	WHT/BLK	Headlight washer control unit
29	15 A	WHT/BLU	Ceiling (interior) lights, cigarette lighter, trunk light, data link connector
30	15 A	WHT	Condenser fan motor, radiator fan control module
31	10 A	YEL/BLU	PGM-FI main relay (+B)
32	20 A	WHT/GRN	Power seat front up-down motor and slide motor
33	15 A	WHT/BLK	Seat heater (KS model)
	———	WHT	Front fog light (option on KG and KE models)
34	20 A	WHT/RED	Power seat rear up-down motor and recline motor
	———	WHT	Front fog light (option on KS model)
35	7.5 A	WHT/YEL	Clock (+B), engine control module (ECM), transmission control module (TCM), stereo sound system
36	20 A	GRN/BLK	Left rear power window, key-off operation system
37	20 A	YEL/BLK	Right rear power window, key-off operation system
38	20 A	WHT/YEL	Left front power window, key-off operation system
		*BLU/BLK	
39	20 A	BLU/BLK	Right front power window, key-off operation system
		*WHT/YEL	
40	20 A	RED/GRN	Right headlight, high beam indicator
41	20 A	WHT/YEL	Horns, brake lights, brake light signal
42	20 A	RED/YEL	Left headlight
43	———	———	Not used
44	10 A	WHT/GRN	Hazard warning lights

*: KE model

Fuses

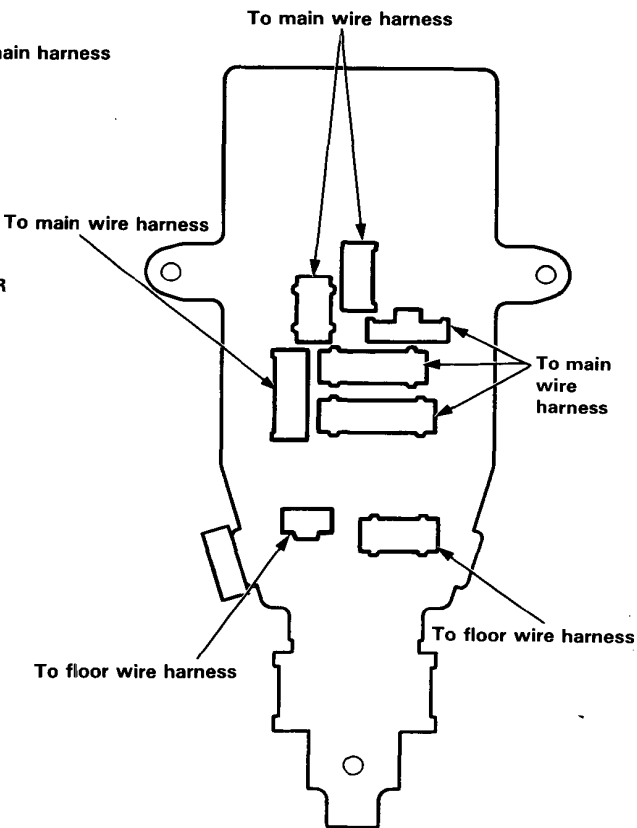
Under-dash Fuse/Relay Box

Front View:



* : Spare fuse

Back View:



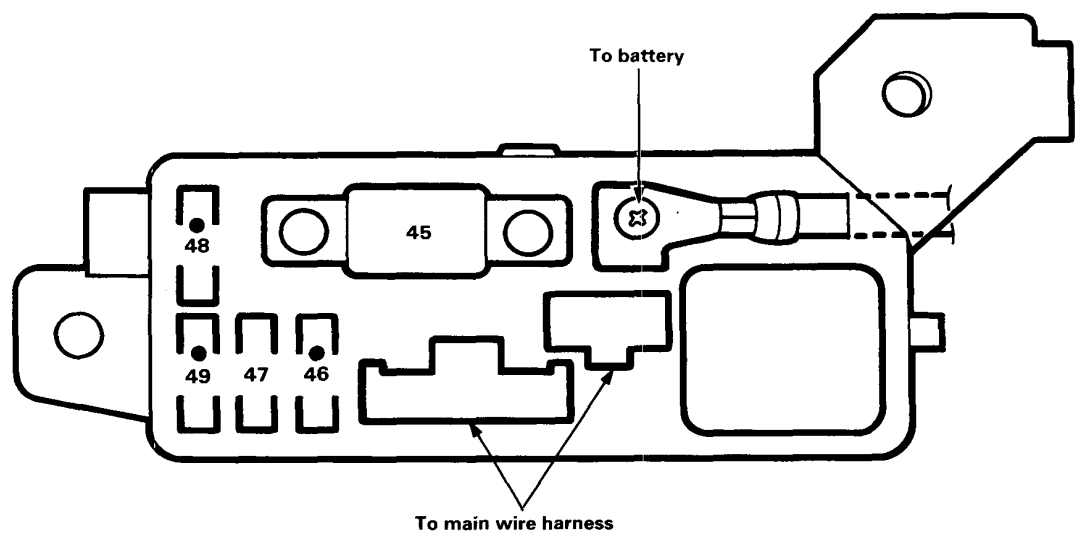


Fuse Number	Amps	Wire Color	Circuit(s) and Component(s) Protected
1	7.5 A	YEL/WHT	Keyless entry and security alarm system
2	15 A	RED/WHT	Fuel pump (via inertia switch and PGM-FI main relay)
		GRY (or RED)	SRS unit (VA)
3	10 A	GRY (or PNK)	SRS unit (VB)
4	10 A	BLK/YEL	Transmission control module (TCM), EGR control solenoid valve, EVAP purge control solenoid valve, engine mount control solenoid valve (A/T), immobi. control unit, radiator fan control module, heated oxygen sensor (HO2S)
5	7.5 A	YEL/GRN	Headlight adjuster unit, headlight washer control unit, power mirrors, sunroof, key-off operation system power window
6	30 A	GRN/BLK	Wiper/washer system
7	7.5 A	YEL/BLK	Heater control panel, radiator fan relay, radiator fan control module, rear window defogger relay
8	10 A	YEL	Back-up lights, clock, warning/indicator lights
9	7.5 A	BLK/YEL	A/C compressor clutch relay
10	10 A	YEL/BLU	ABS modulator assembly
11	15 A	YEL/RED	Stereo sound system (radio motor antenna), cigarette lighter
12	7.5 A	BLU/RED	Engine control module (ECM), PGM-FI main relay
*13	7.5 A	YEL/WHT	Daytime running lights (KS model)

*: Auxiliary fuse holder

Fuses

Under-hood ABS Fuse Box

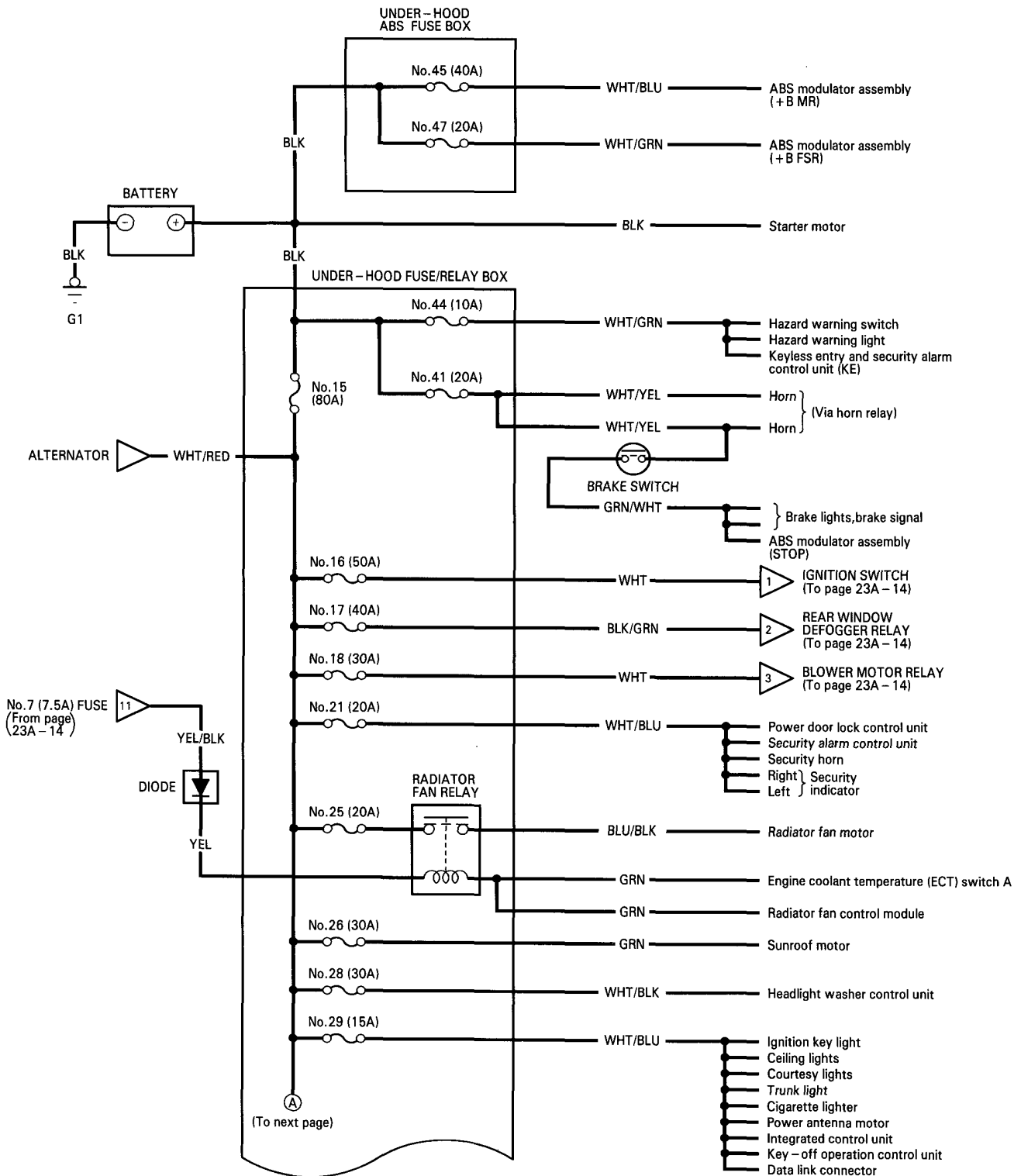


●: Not used

Fuse Number	Amps	Wire Color	Circuit(s) and Component(s) Protected
45	40 A	WHT/BLU	ABS modulator assembly (+B MR)
46	—	—	Not used
47	20 A	WHT/GRN	ABS modulator assembly (+B FSR)
48	—	—	Not used
49	—	—	Not used

Power Distribution

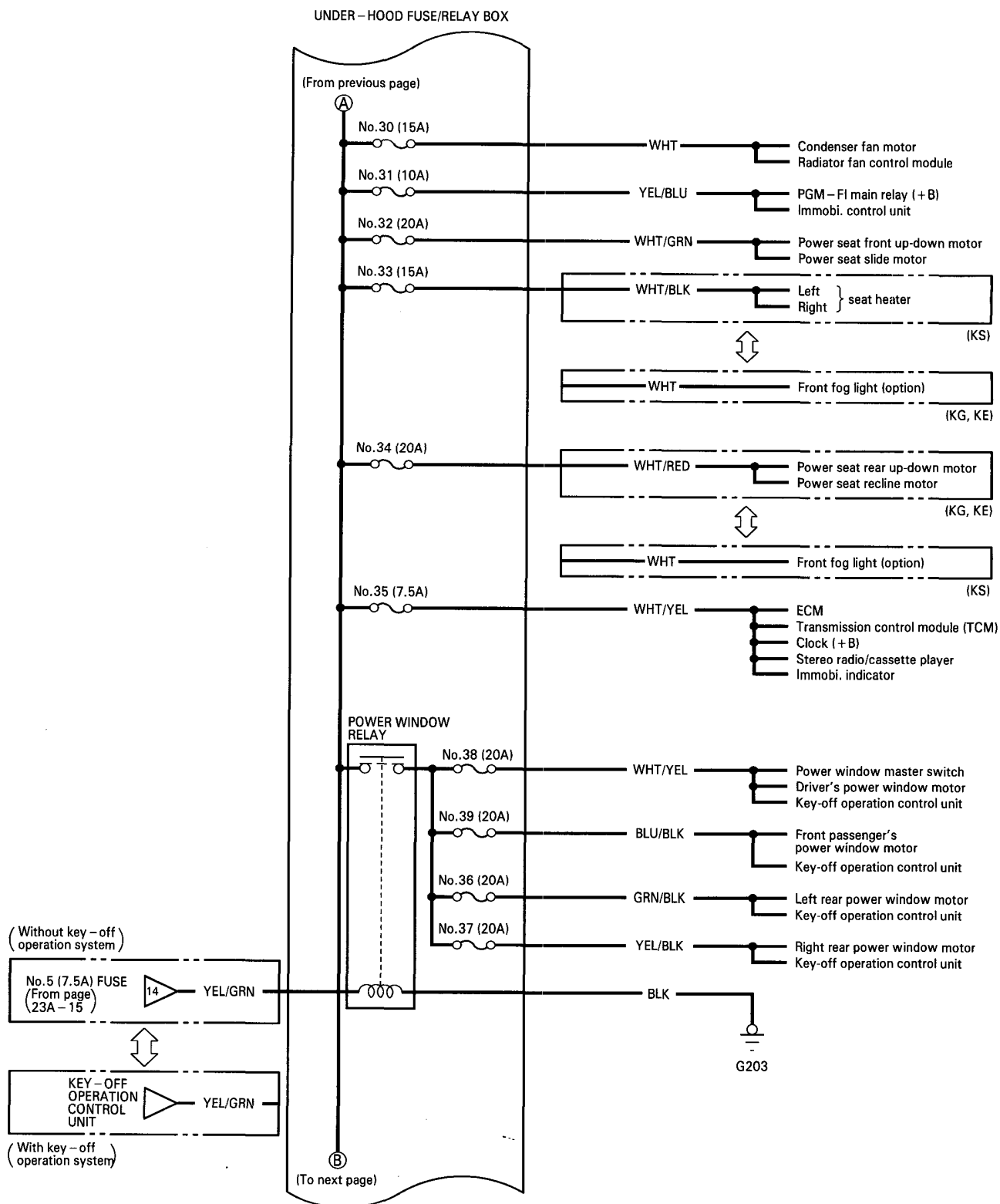
Circuit Diagram

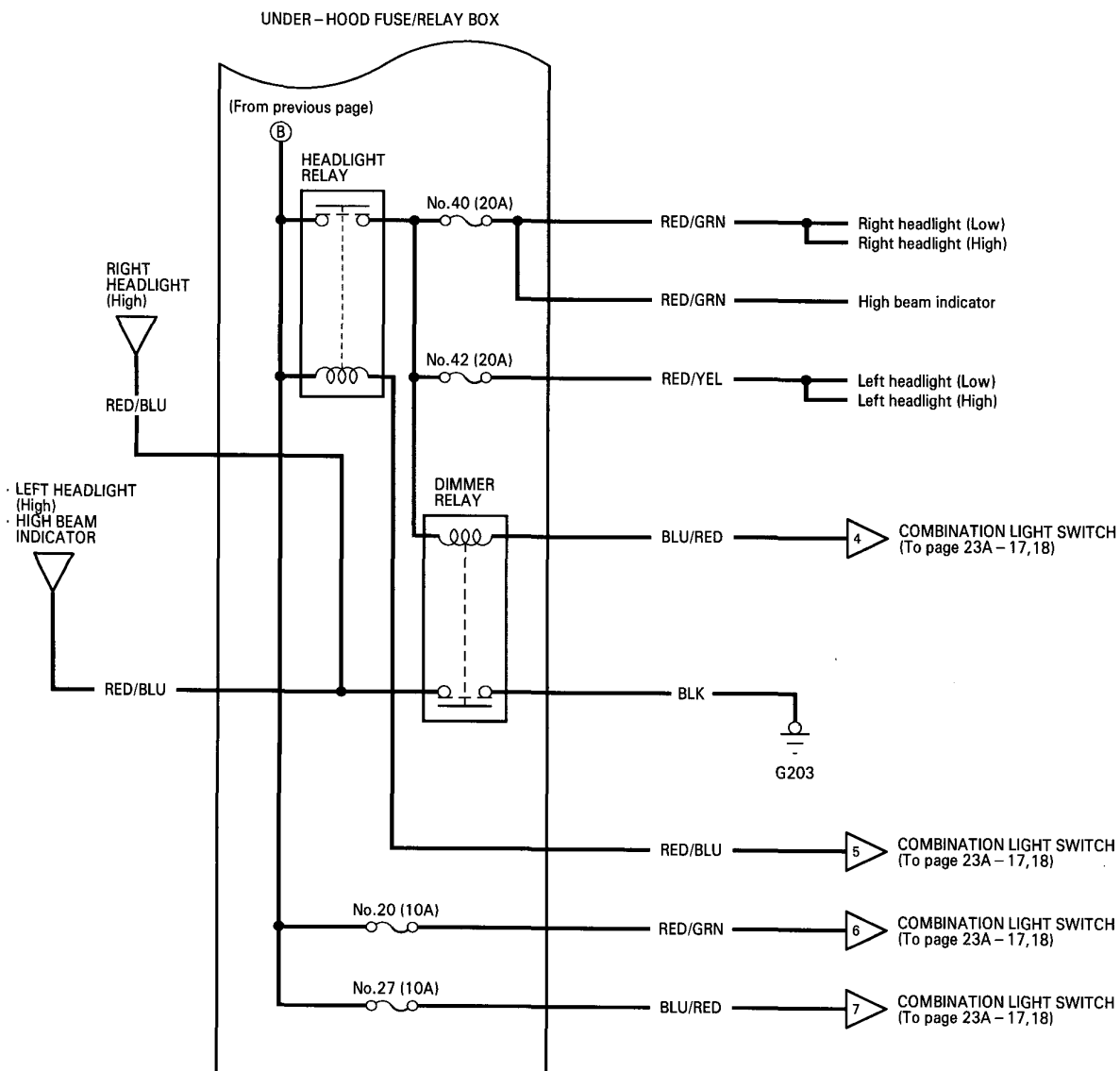


(cont'd)

Power Distribution

Circuit Identification (cont'd)

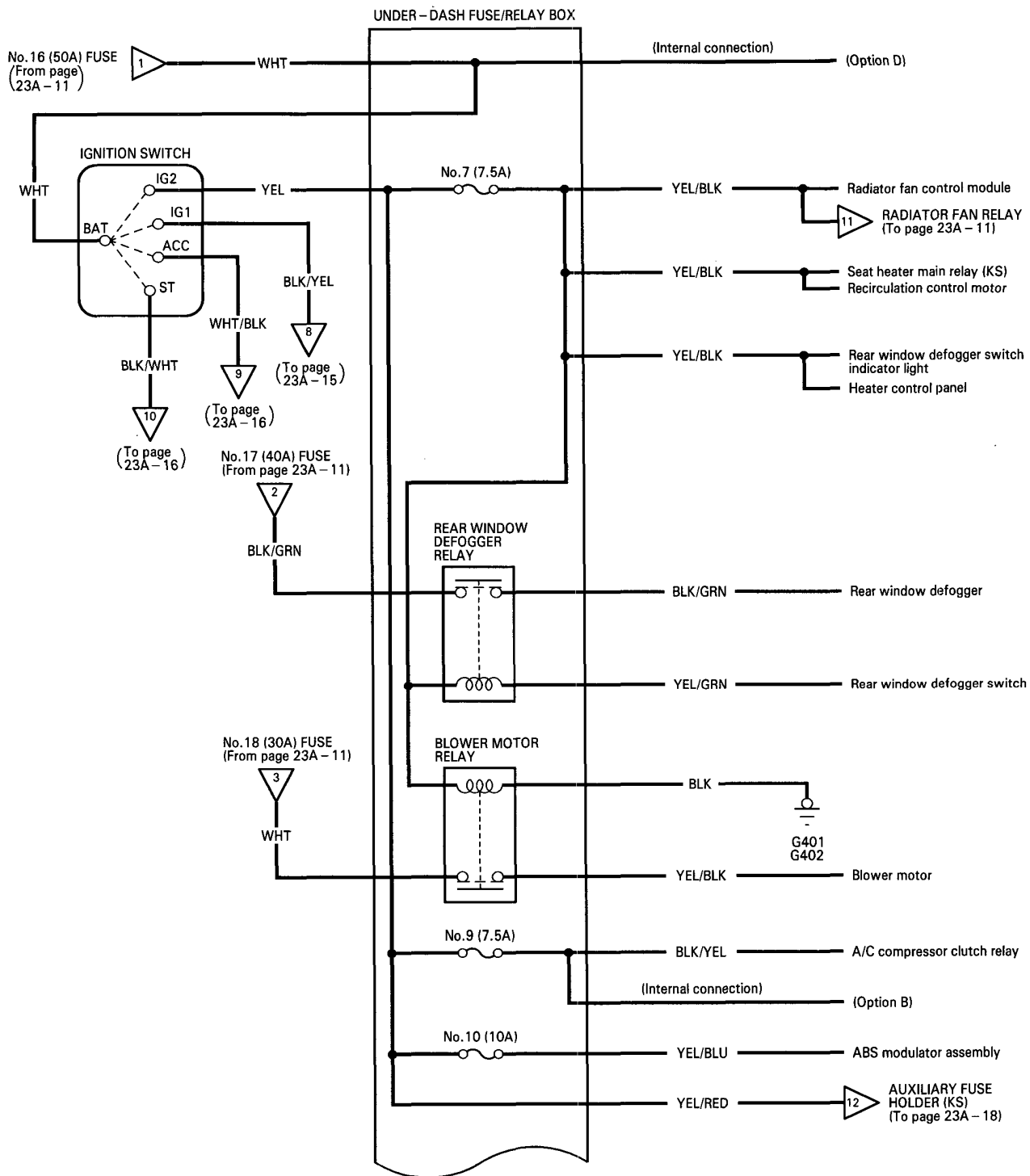


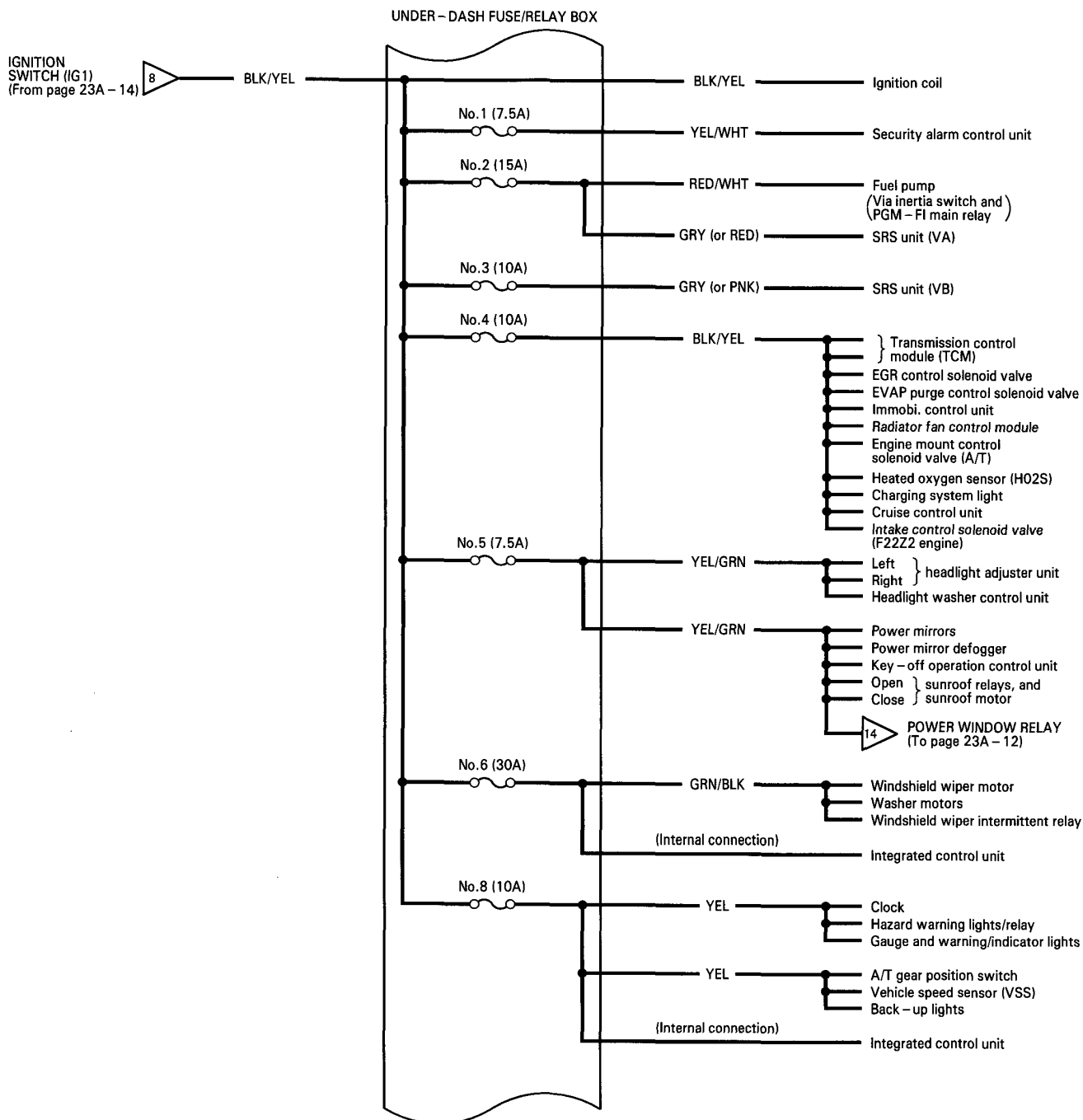


(cont'd)

Power Distribution

Circuit Identification (cont'd)



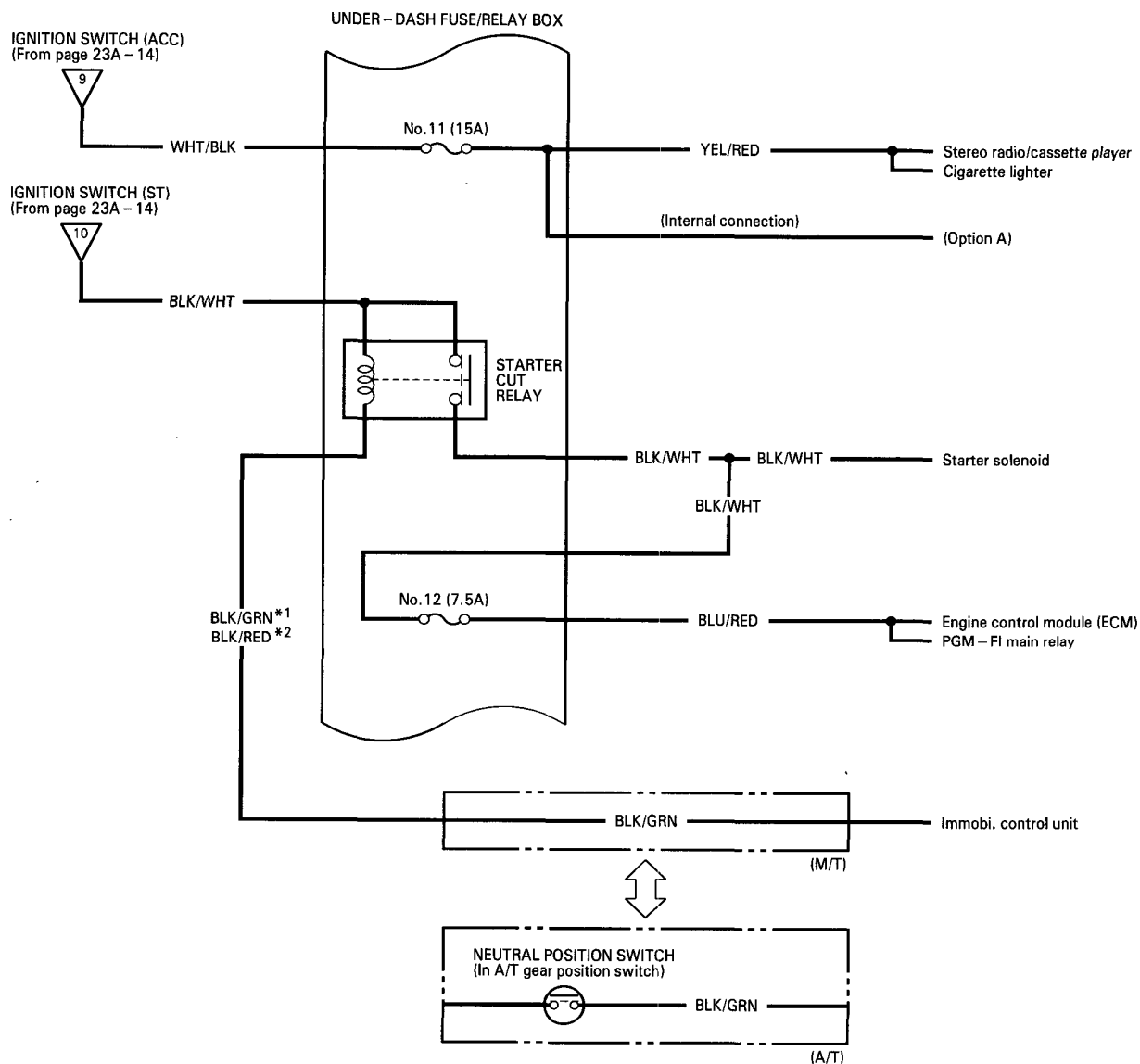


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Power Distribution

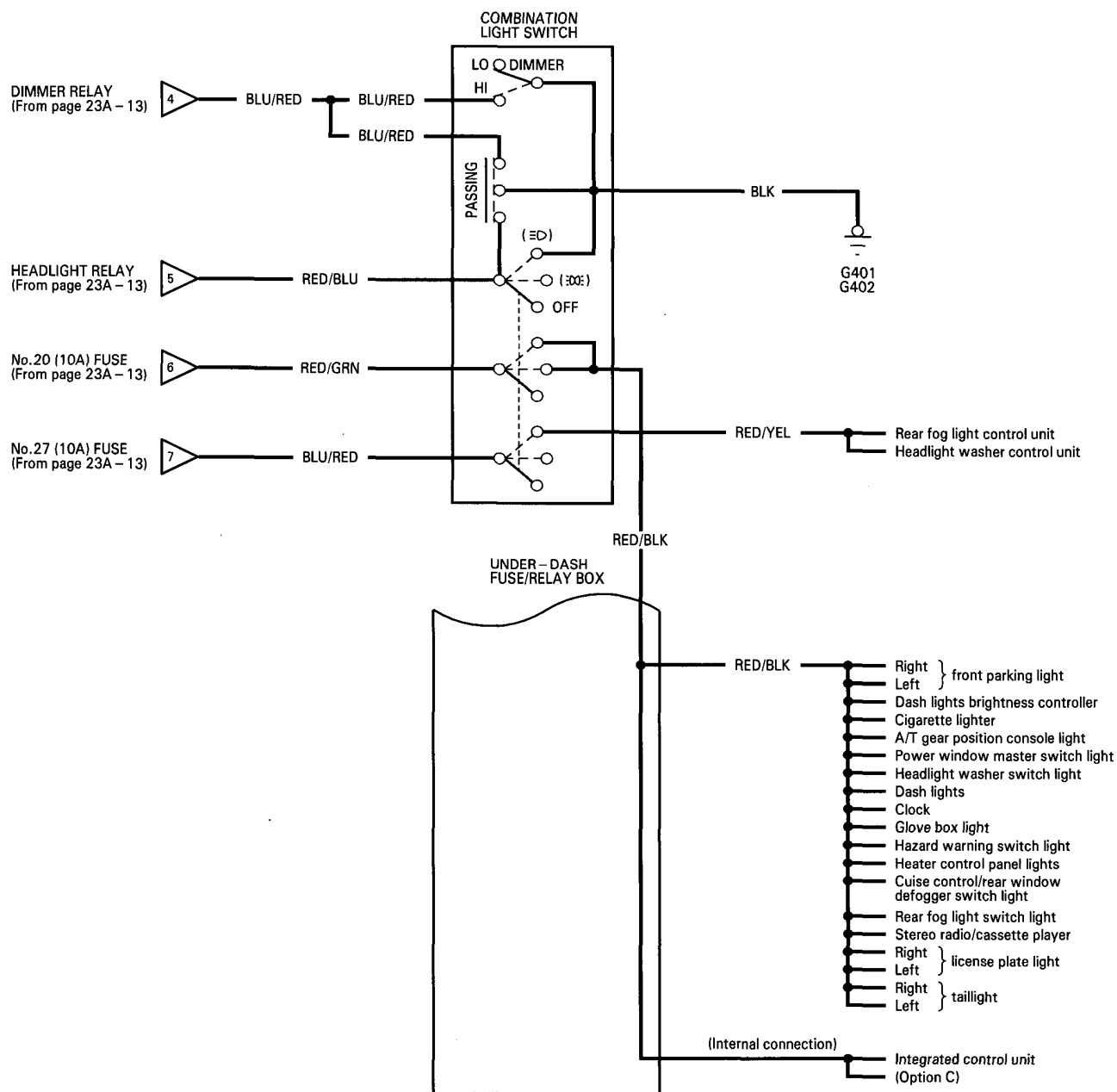
Circuit Identification (cont'd)

* 1 : KG, KS and KE (M/T)
* 2 : KE (A/T)





KG and KE models :

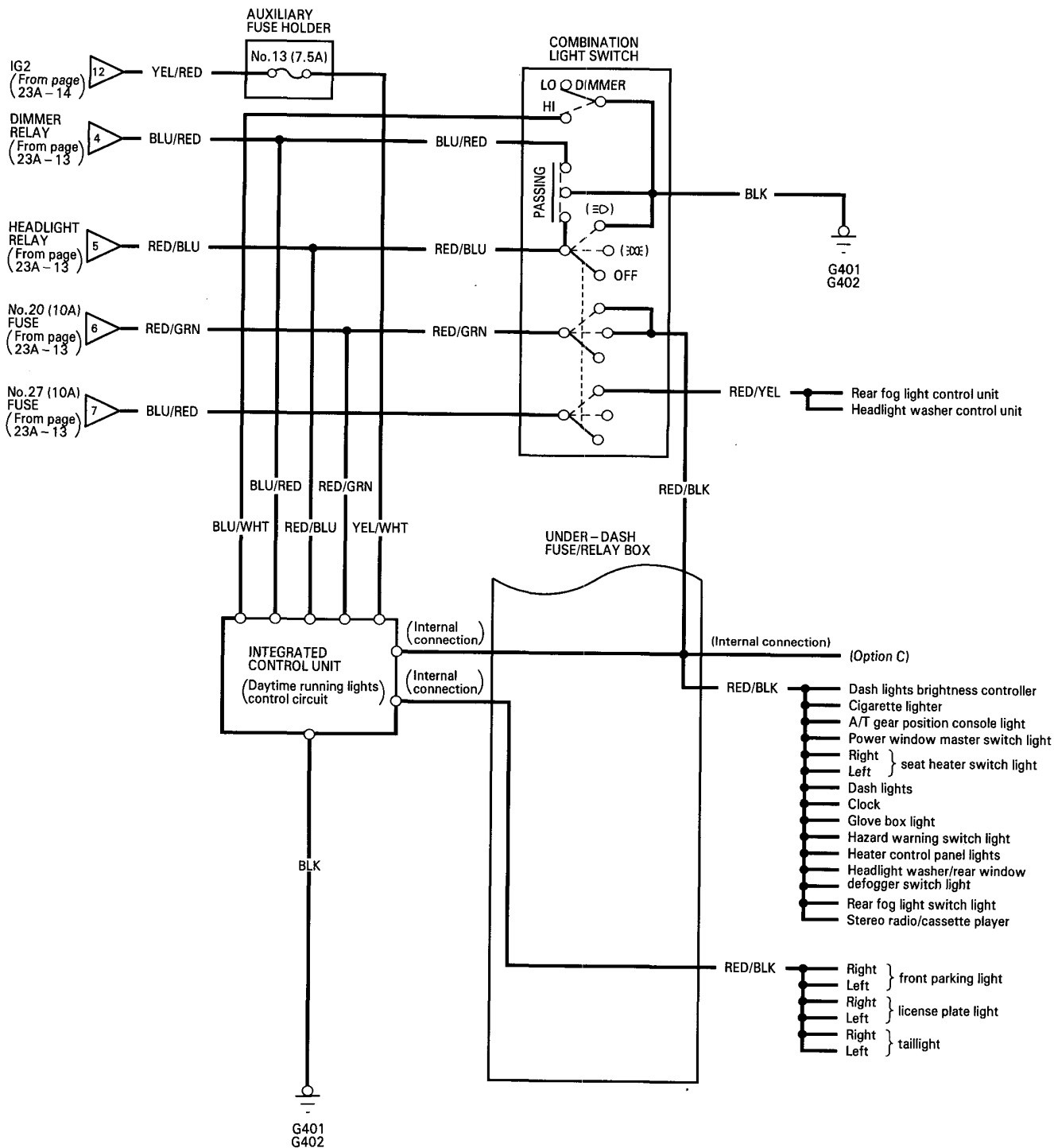


(cont'd)

Power Distribution

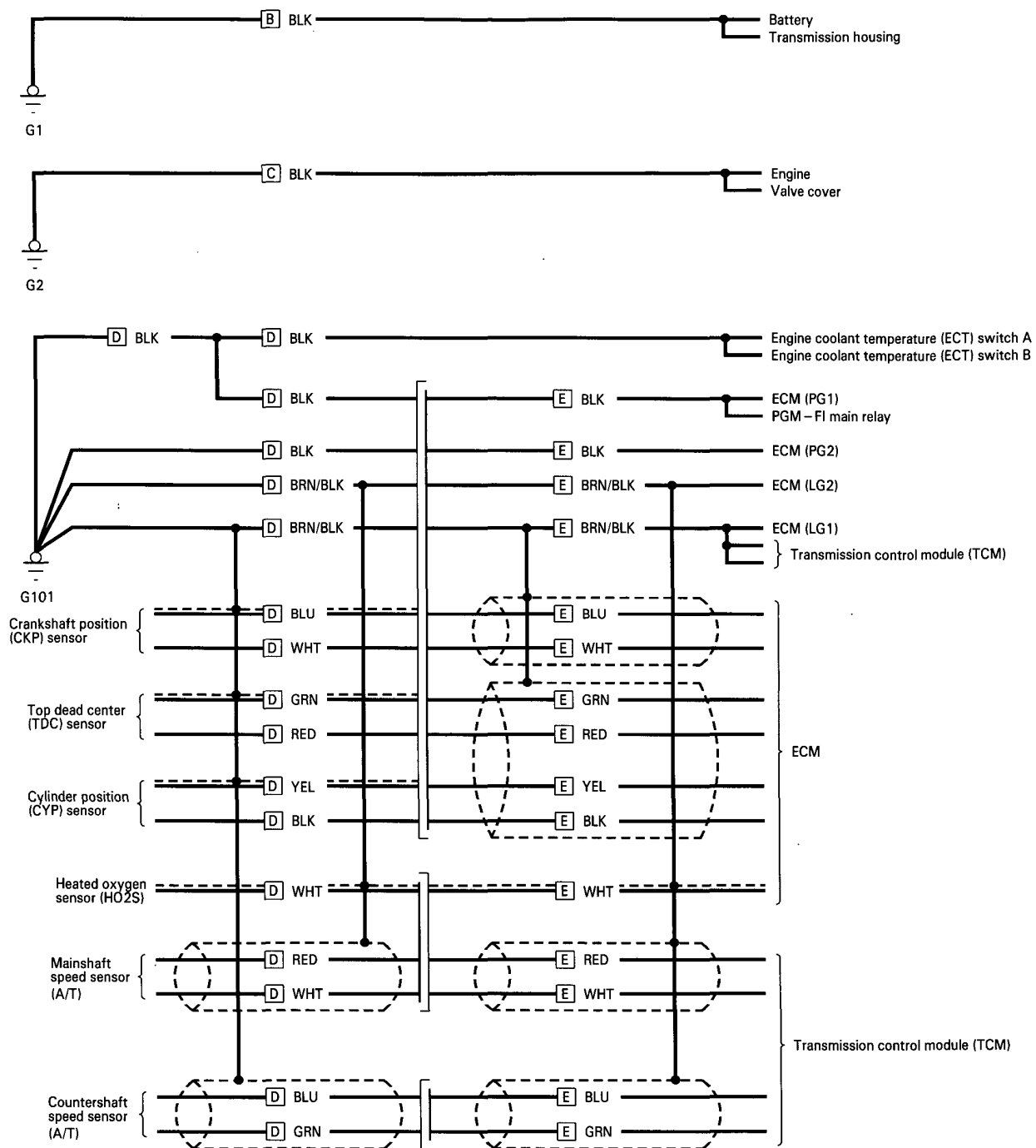
Circuit Identification (cont'd)

KS model :



Ground Distribution

Circuit Identification



[B] : Battery ground cables

[C] : Engine ground cables

[D] : Engine wire harness

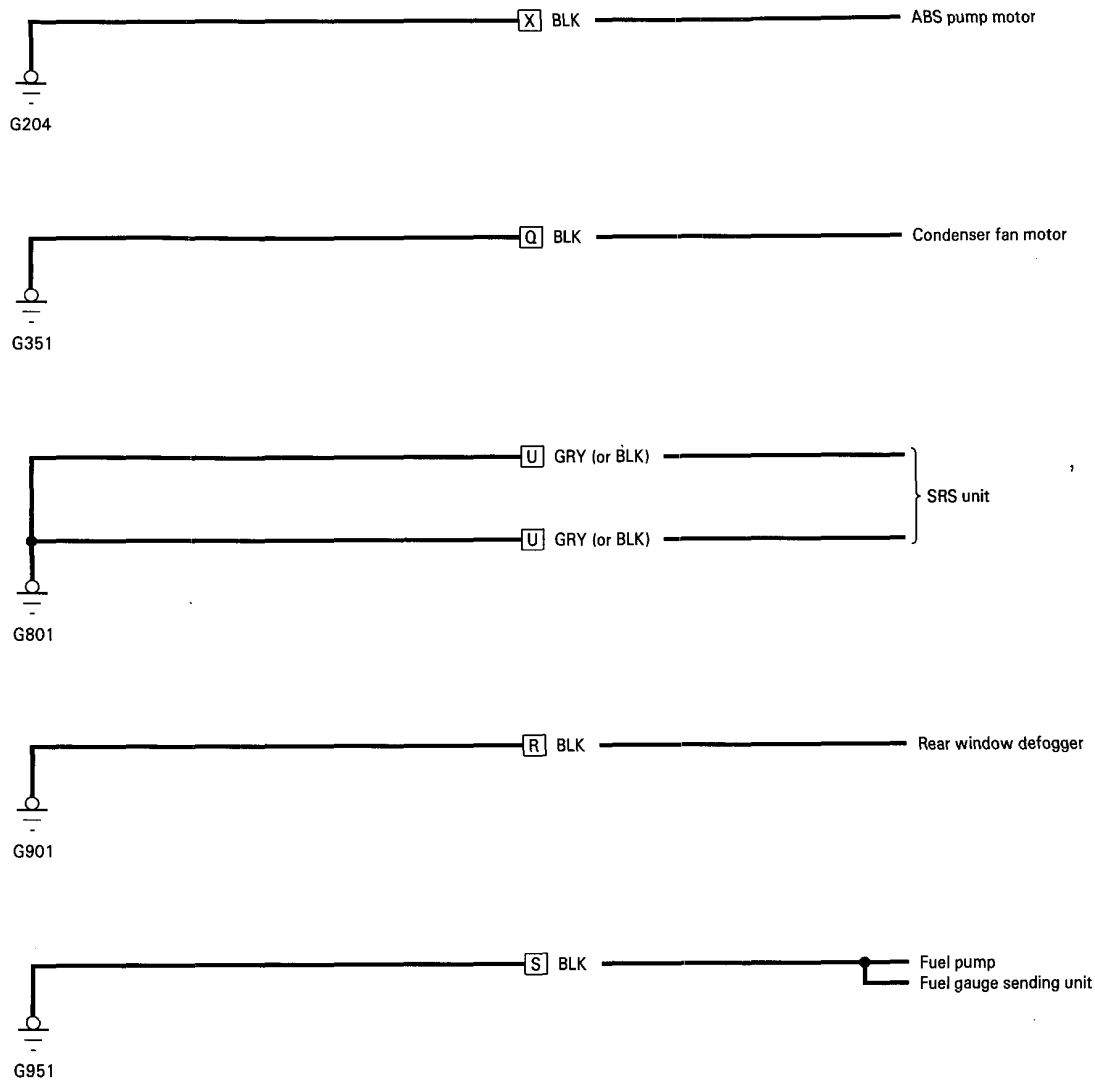
[E] : Main wire harness

----- : Shielding

(cont'd)

Ground Distribution

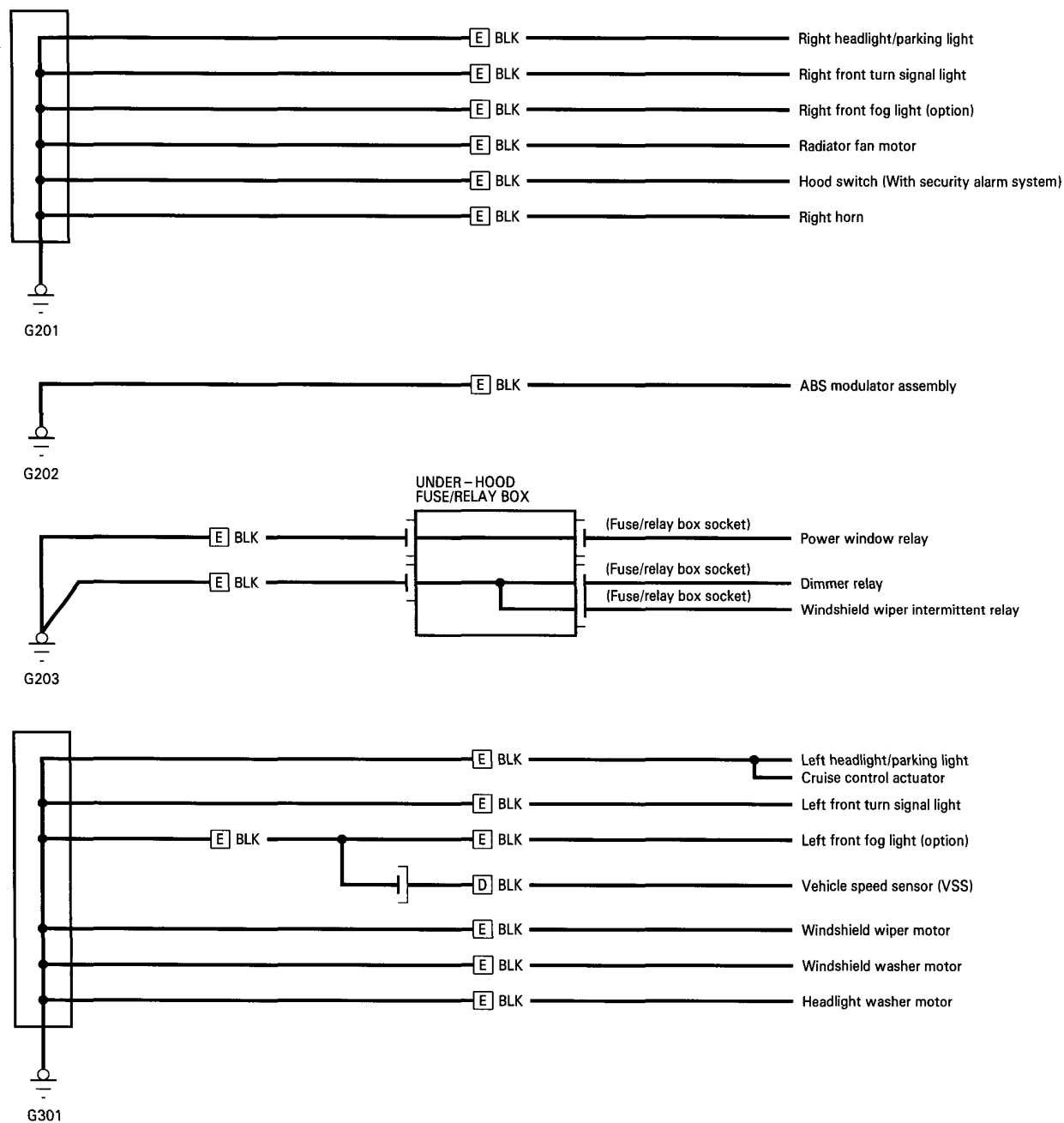
Circuit Identification (cont'd)



- | | | |
|---|-------------------------------------|--|
| [Q] : A/C wire harness | [S] : Fuel unit wire harness | [X] : ABS pump motor ground cable |
| [R] : Rear window defogger ground wire | [U] : SRS main harness | |



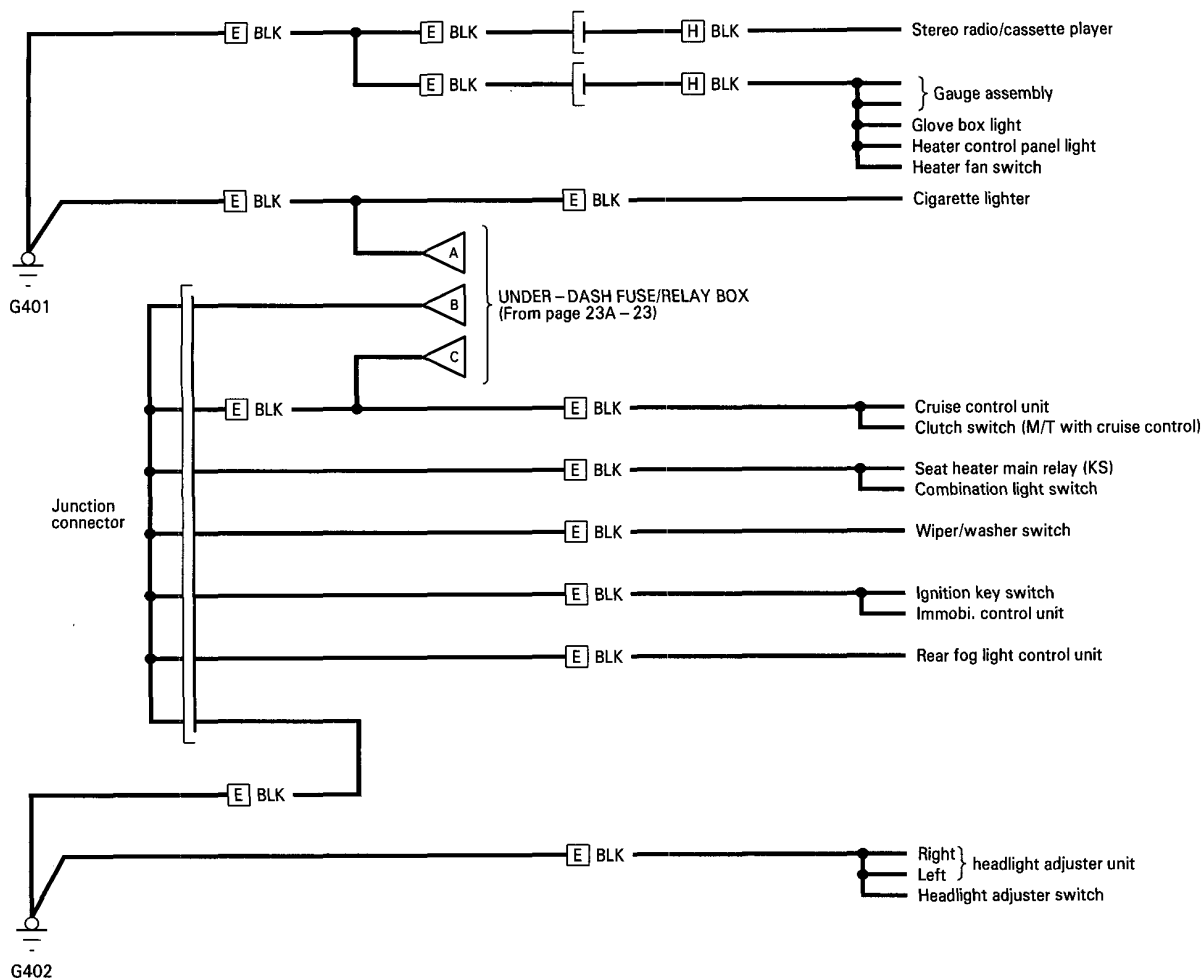
Circuit Identification (LHD)

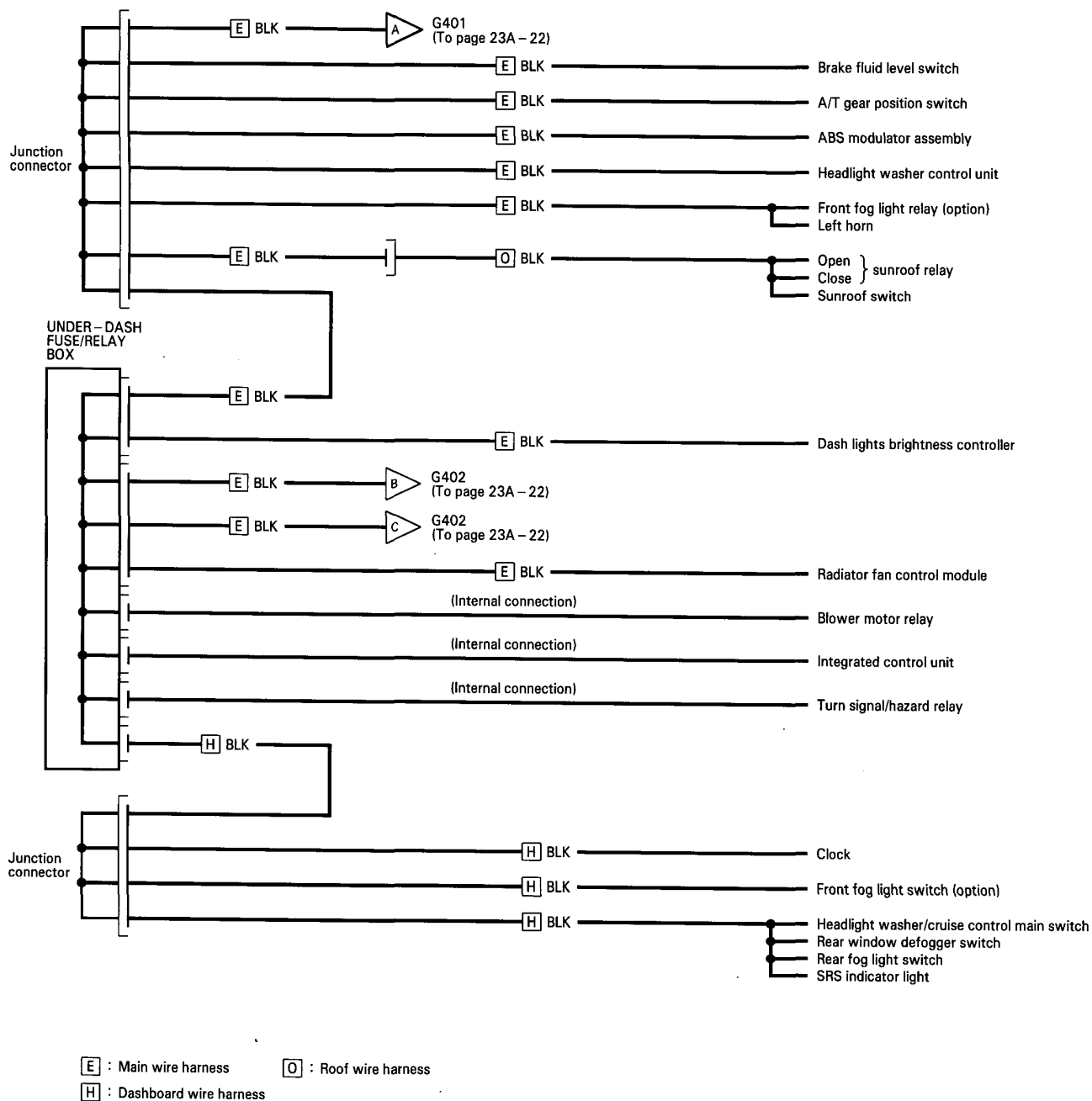


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Ground Distribution

Circuit Identification (LHD) (cont'd)

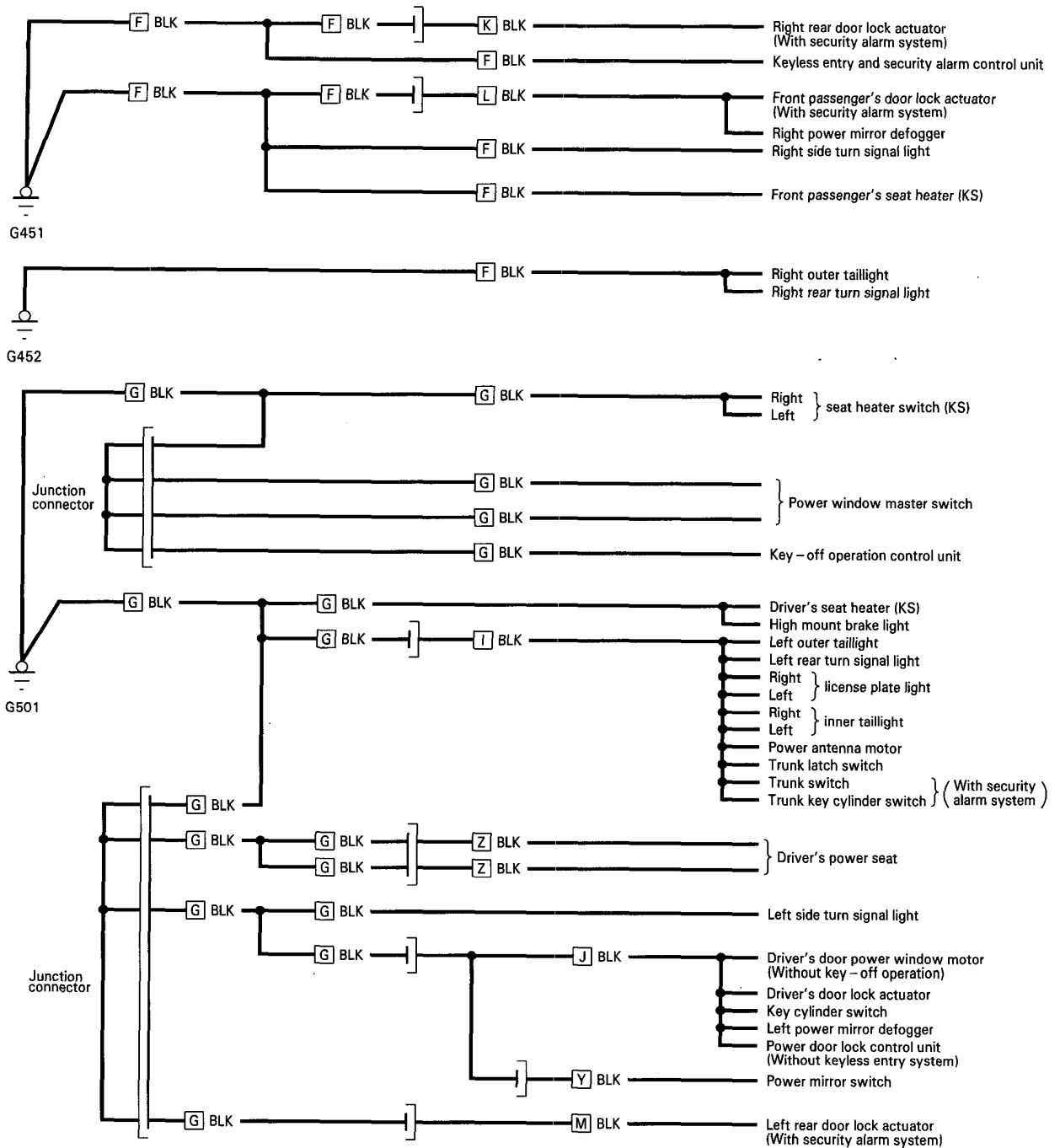




(cont'd)

Ground Distribution

Circuit Identification (LHD) (cont'd)



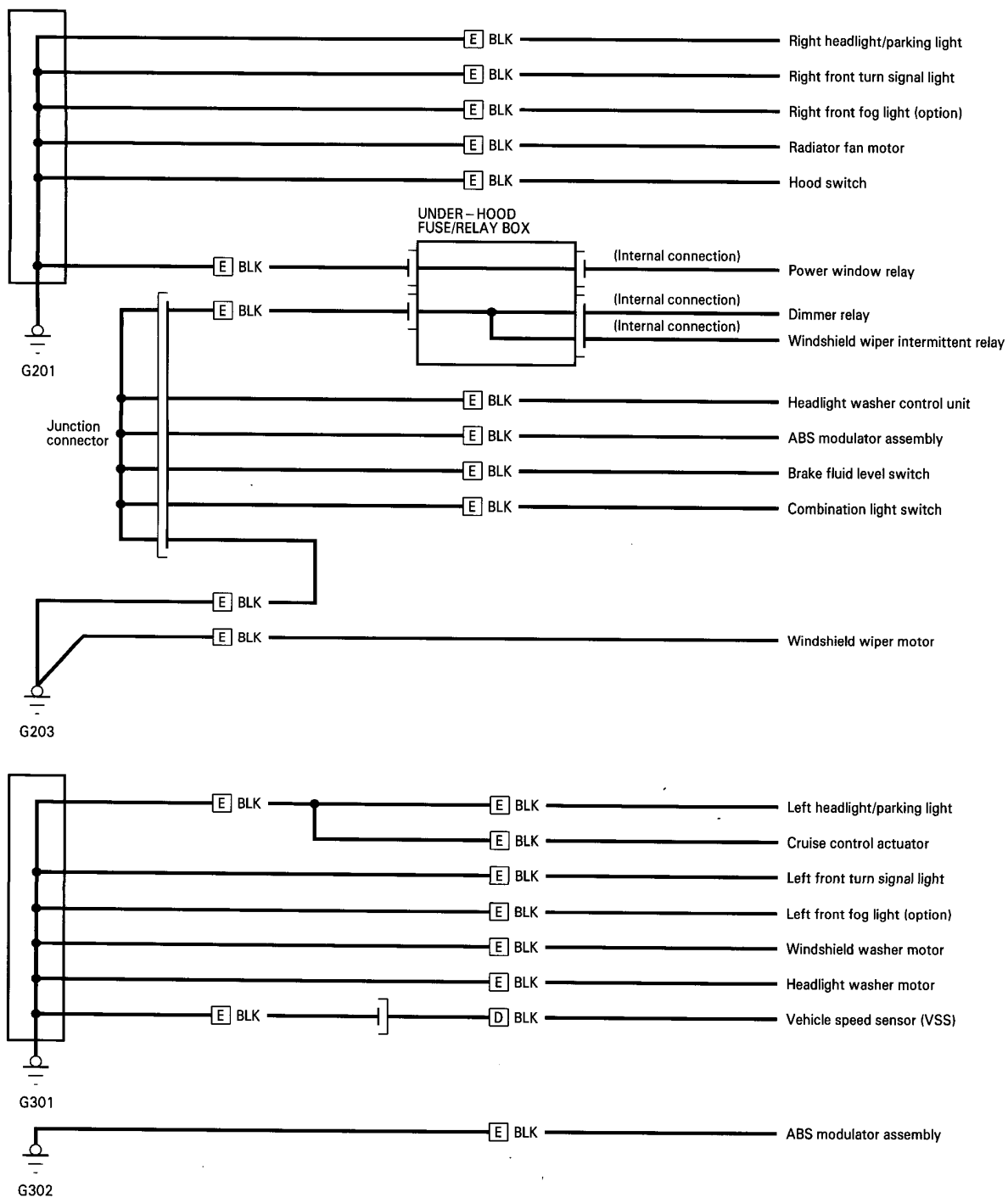
[F] : Side wire harness
[G] : Floor wire harness
[I] : Rear wire harness

[J] : Driver's door wire harness
[K] : Right rear door wire harness
[L] : Front passenger's door wire harness

[M] : Left rear door wire harness
[Y] : Power mirror switch sub-harness
[Z] : Power seat wire harness



Circuit Identification (KE model)



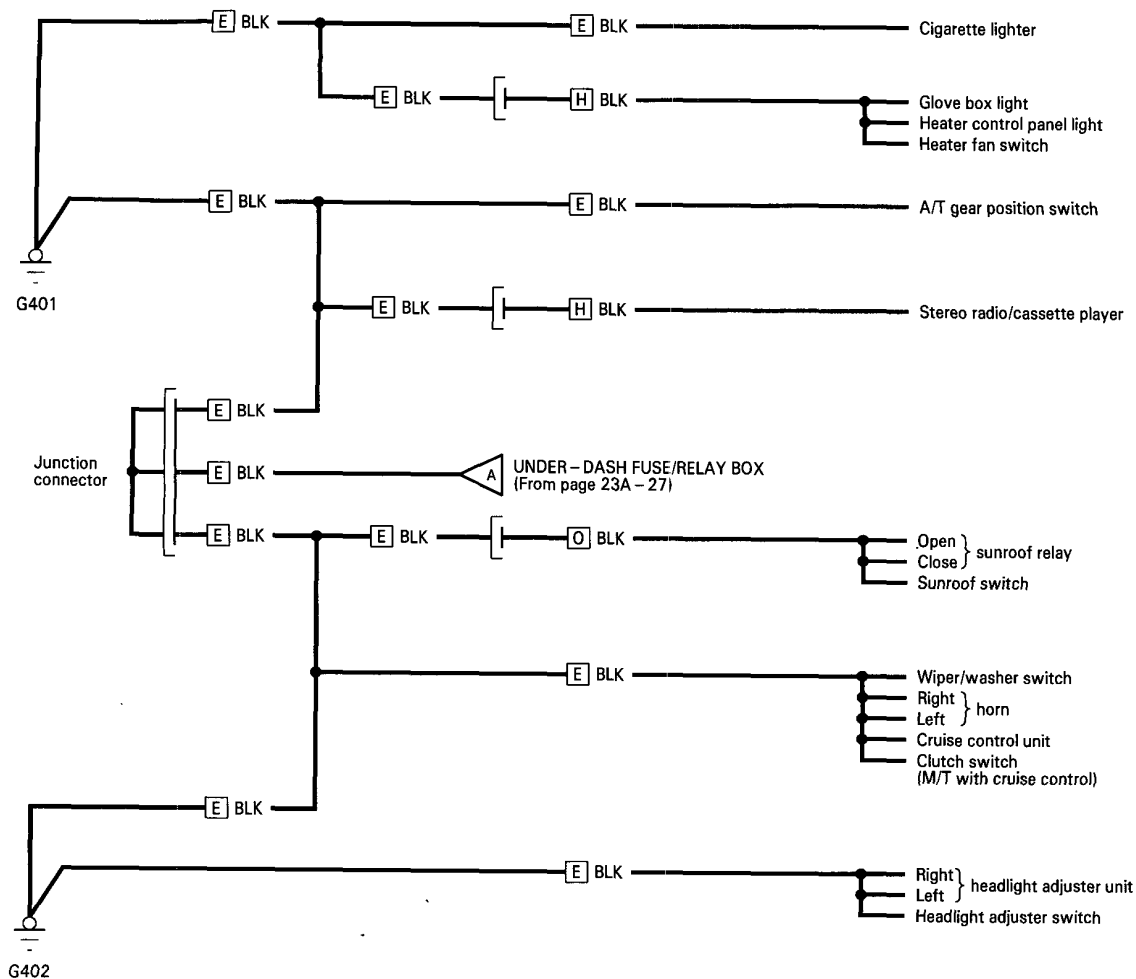
[D] : Engine wire harness

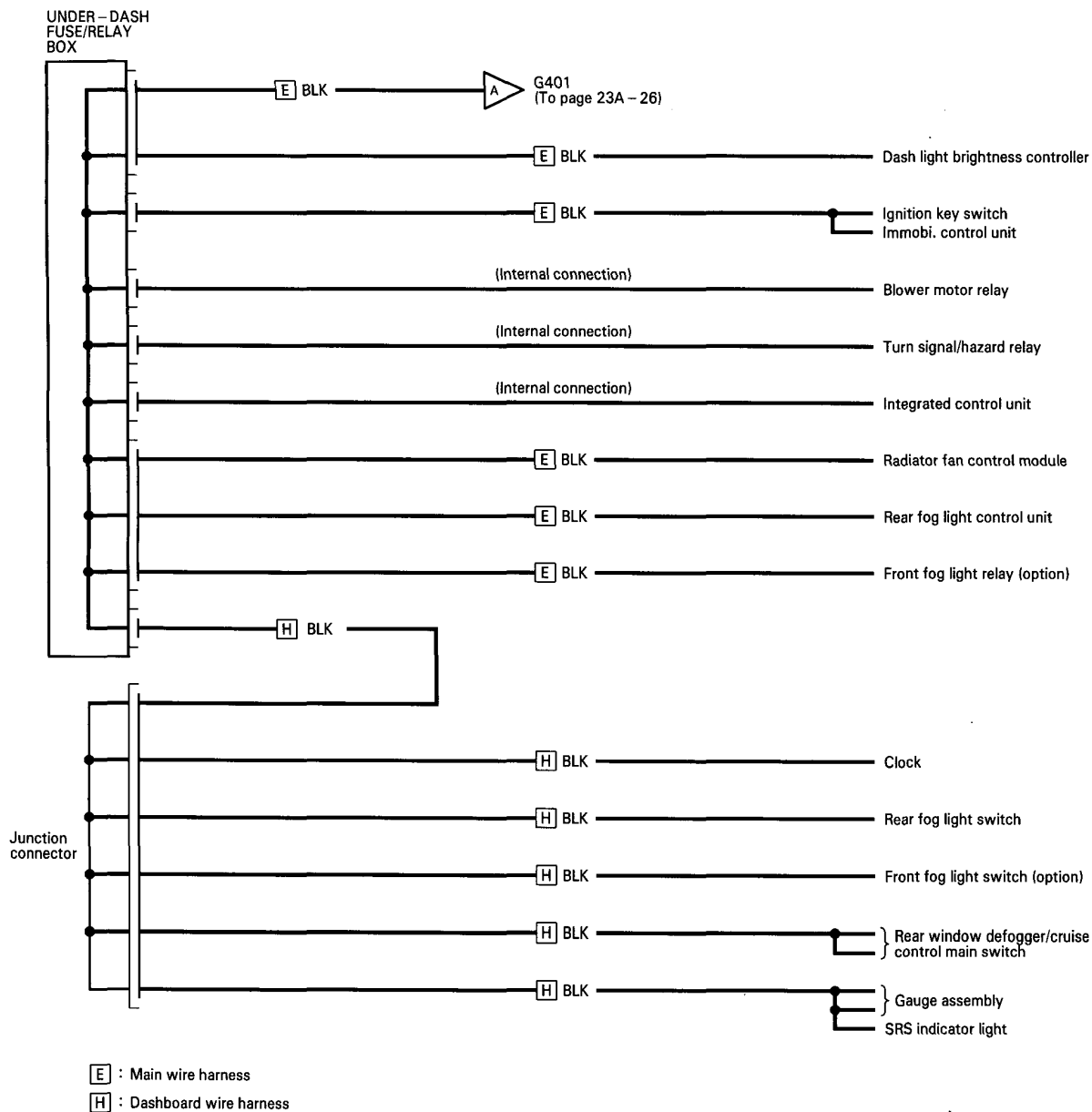
[E] : Main wire harness

(cont'd)

Ground Distribution

Circuit Identification (KE model) (cont'd)

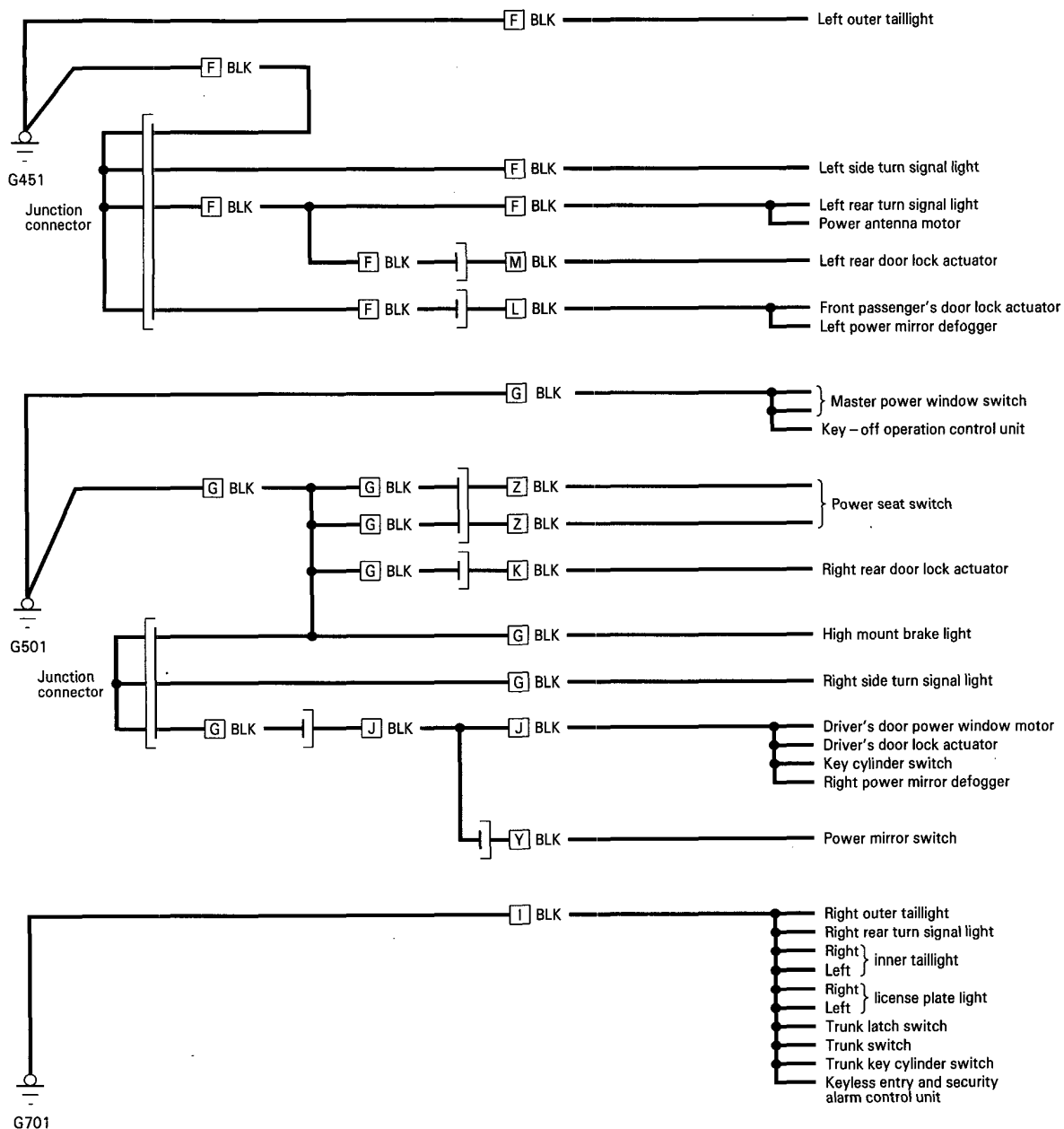




(cont'd)

Ground Distribution

Circuit Identification (KE model) (cont'd)



F : Side wire harness

G : Floor wire harness

I : Rear wire harness

J : Driver's door wire harness

K : Right rear door wire harness

L : Front passenger's door wire harness

M : Left rear door wire harness

Y : Power mirror switch sub-harness

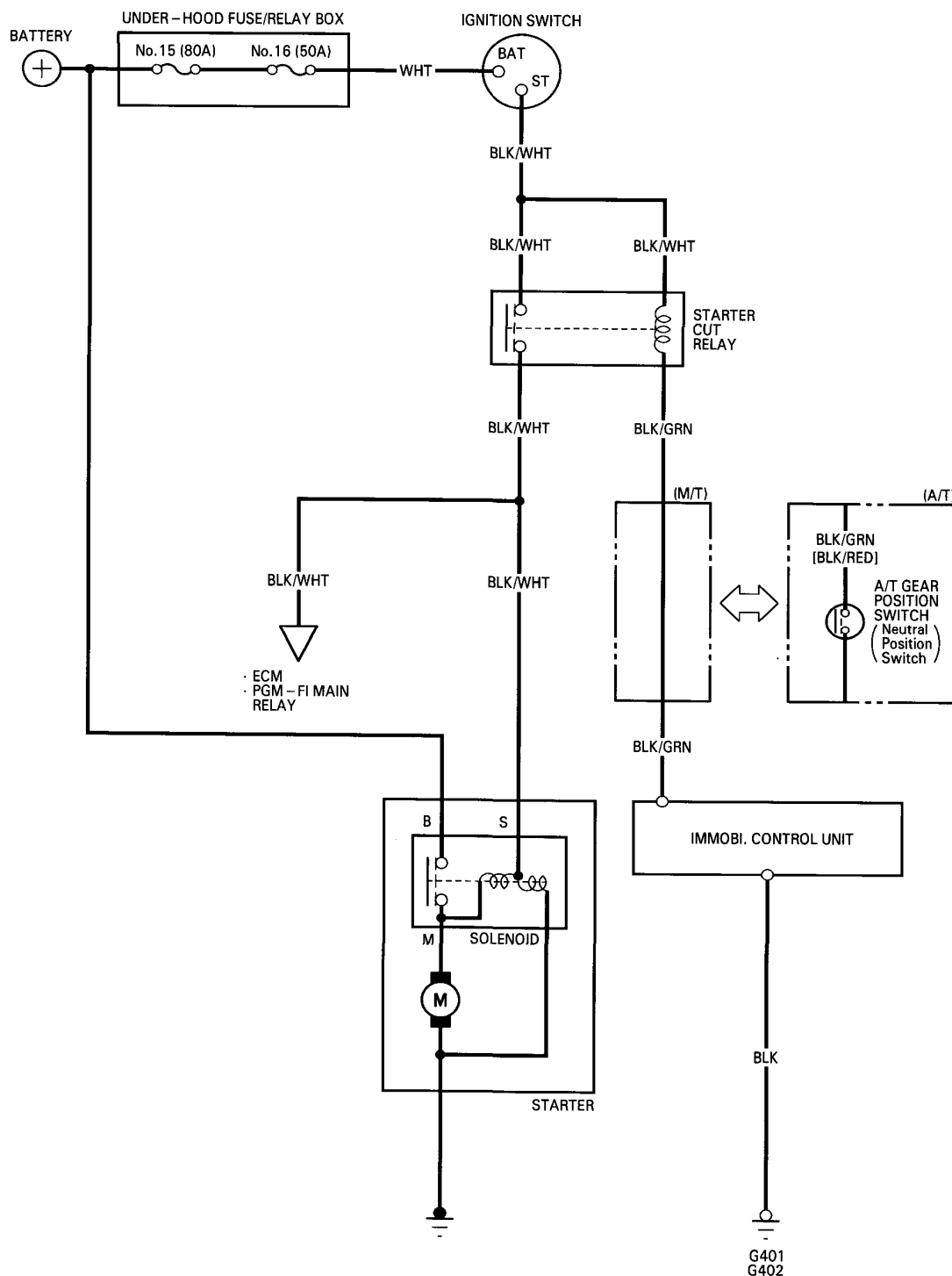
Z : Power seat wire harness



Starting System

Circuit Diagram

[]: KE



Starting System

Starter Test

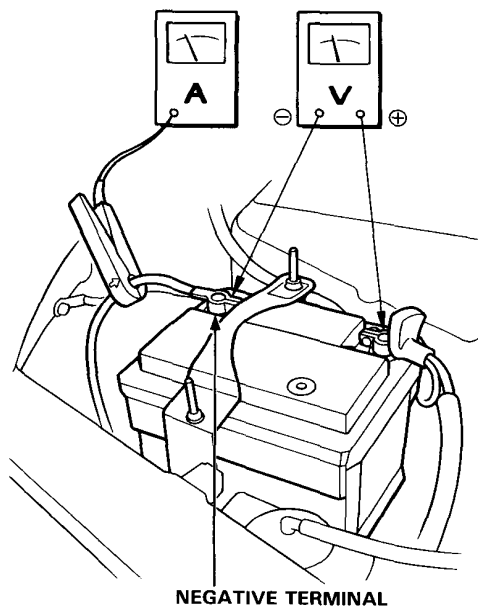
NOTE: The air temperature must be between 15 and 38°C (59 and 100°F) before testing.

Recommended Procedure:

- Use a starter system tester.
- Connect and operate the equipment in accordance with the manufacturer's instructions.
- Test and troubleshoot as described.

Alternate Procedure:

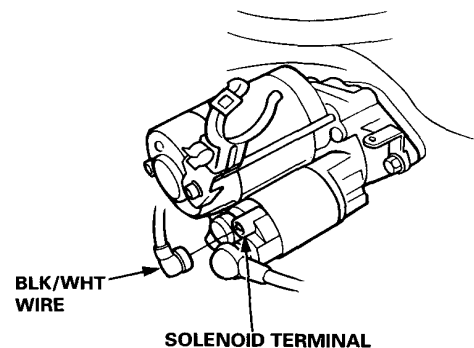
- Use following equipment:
 - Ammeter, 0 – 400 A
 - Voltmeter, 0 – 20 V (accurate within 0.1 volt)
 - Tachometer, 0 – 1,200 rpm (min^{-1})
- Hook up a voltmeter and ammeter as shown.



NOTE: After this test, or any subsequent repair, reset the engine control module (ECM) to clear any codes.

Check the Starter Engagement:

1. Remove the No. 31 (10 A) fuse from the under-hood fuse/relay box.
2. Turn the ignition switch to START (III) with the shift lever in **N** or **P** position (A/T) or neutral position (M/T). The starter should crank the engine.
 - If the starter does not crank the engine, go to step 3.
 - If it cranks the engine erratically or too slowly, go to "Check for Wear and Damage" on the next page.
3. Check the battery, battery positive cable, ground, starter cut relay, and the wire connections for looseness and corrosion. Test again. If the starter still does not crank the engine, go to step 4.
4. Unplug the connector (BLK/WHT wire and solenoid terminal) from the starter.
5. Connect a jumper wire from the battery positive (+) terminal to the solenoid terminal. The starter should crank the engine.



- If the starter still does not crank the engine, remove it, and diagnose its internal problem.
- If the starter cranks the engine, go to step 6.



6. Check the ignition switch.
7. Check the starter cut relay.
8. Check the A/T gear position switch.
9. Check for an open in the wire between the ignition switch and starter.
10. Check the immobilizer system (see page 23A-74).

Check for Wear and Damage

The starter should crank the engine smoothly and steadily. If the starter engages, but cranks the engine erratically, remove it, and inspect the starter drive gear and torque converter or flywheel ring gear for damage.

Check the drive gear overrunning clutch for binding or slipping when the armature is rotated with the drive gear held.

If damaged, replace the gears.

Check Cranking Voltage and Current Draw

Cranking voltage should be no less than 8.5 volts.

Current draw should be no more than 380 amperes.

If cranking voltage is too low, or current draw too high, check for:

- dead or low battery.
- open circuit in starter armature commutator segments.
- starter armature dragging.
- shorted armature winding.
- excessive drag in engine.

Check Cranking rpm

Engine speed during cranking should be above 100 rpm (min^{-1}).

If speed is too low, check for:

- loose battery or starter terminals.
- excessively worn starter brushes.
- open circuit in commutator segments.
- dirty or damaged helical spline or drive gear.
- defective drive gear overrunning clutch.

Check Starter Disengagement

With the shift lever in **N** or **P** position (A/T) or neutral position (M/T), turn the ignition switch to START (III), and release to ON (II).

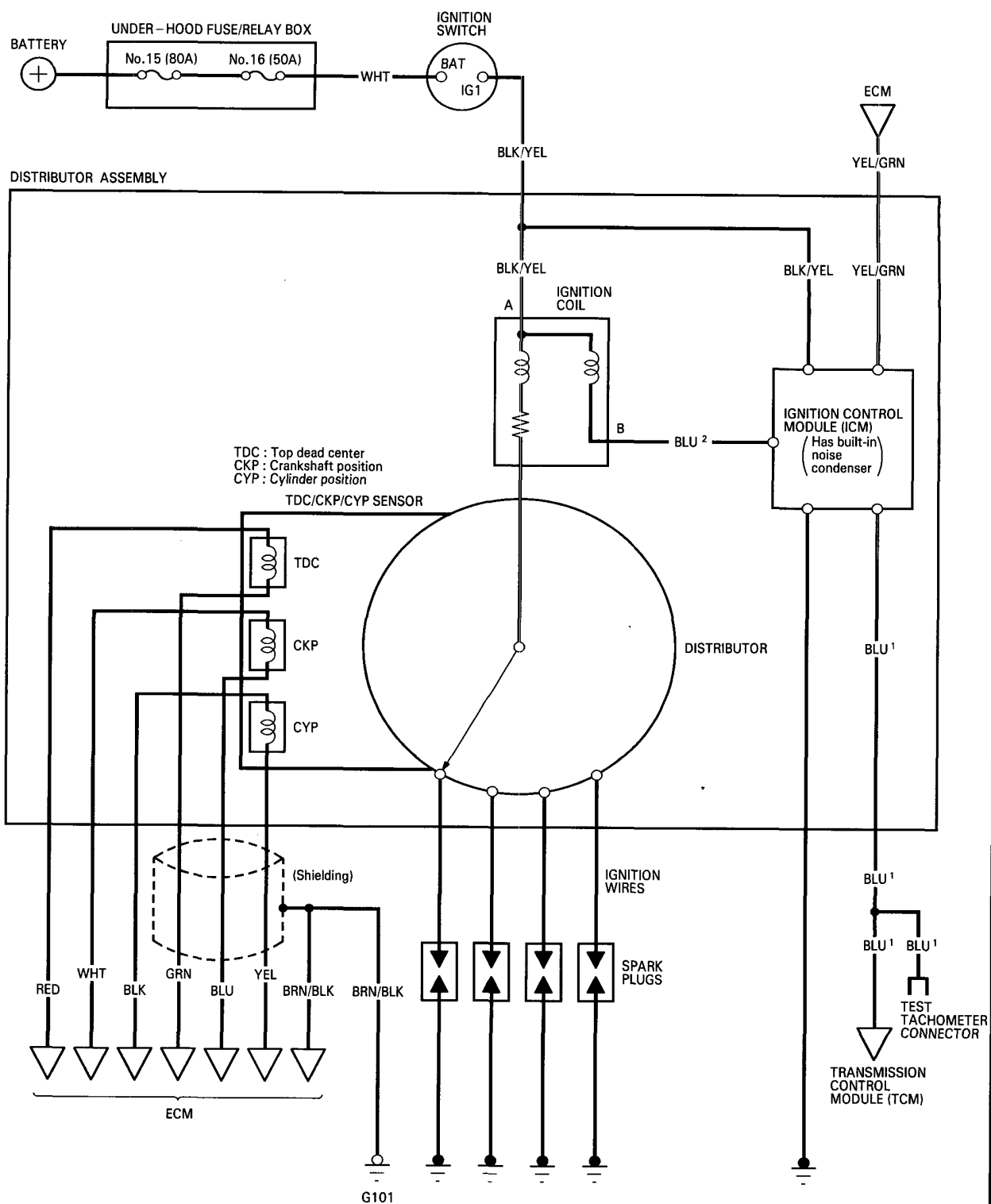
The starter drive gear should disengage from the torque converter or flywheel ring gear when you release the key.

If the drive gear hangs up on the torque converter or flywheel ring gear, check for:

- solenoid plunger and switch malfunction.
- dirty drive gear assembly or damaged overrunning clutch.

Ignition System

Circuit Diagram



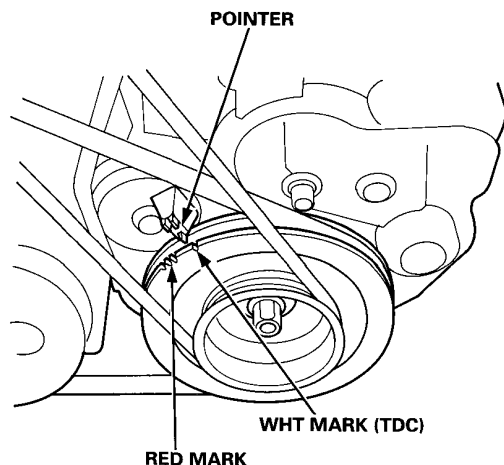


Ignition Timing Inspection and Setting (F22Z2 engine)

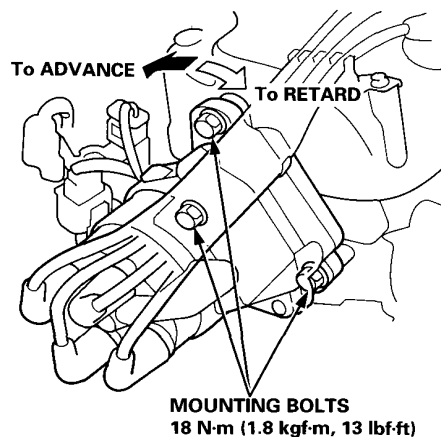
1. Check the idle speed, and adjust it if necessary.
2. Pull out the service check connector 2P (GRN/BLK and RED wires) from the connector holder located under the dash on the front passenger side, then connect the SCS short connector (P/N 07PAZ – 0010100) to it.
3. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (A/T in **N** or **P**, M/T in neutral) until the radiator fan comes on, then let it idle.
4. Connect the timing light to the No. 1 ignition wire, then point the light toward the pointer on the timing belt cover.
5. Check the ignition timing in no load conditions: headlights, blower fan, rear window defogger, and air conditioner are not operating.

Ignition Timing:

M/T	$15^\circ \pm 2^\circ$ BTDC (RED) during idling in neutral
A/T	$15^\circ \pm 2^\circ$ BTDC (RED) during idling in N or P



6. Adjust the ignition timing if necessary, as follows. Loosen the distributor mounting bolts, and turn the distributor ignition (DI) housing counterclockwise to advance the timing, or clockwise to retard the timing.

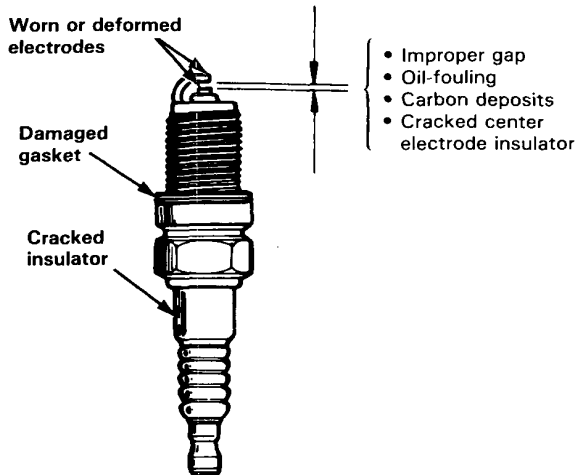


7. Tighten the distributor mounting bolts, and recheck the ignition timing.
8. Disconnect the SCS short connector from the service check connector.

Ignition System

Spark Plug Inspection (F22Z2 engine)

1. Inspect the electrodes and ceramic insulator for:



Burned or worn electrodes may be caused by:

- Advanced ignition timing
- Loose spark plug
- Plug heat range too low
- Insufficient cooling

Fouled plugs may be caused by:

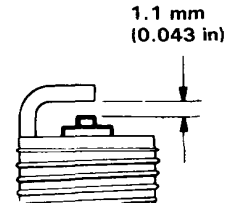
- Retarded ignition timing
- Oil in combustion chamber
- Incorrect spark plug gap
- Plug heat range too high
- Excessive idling/low speed running
- Clogged air cleaner element
- Deteriorated ignition coil or ignition wires

2. Check the electrode gap.

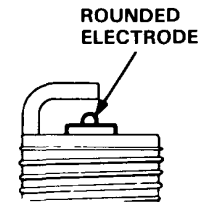
- Adjust the gap with a suitable gapping tool.

Electrode Gap:

Standard	1.1 $_{-0.1}^0$ mm (0.043 $_{-0.004}^0$ in)
----------	---



3. Replace the plug if the center electrode is rounded as shown below:



Spark Plugs

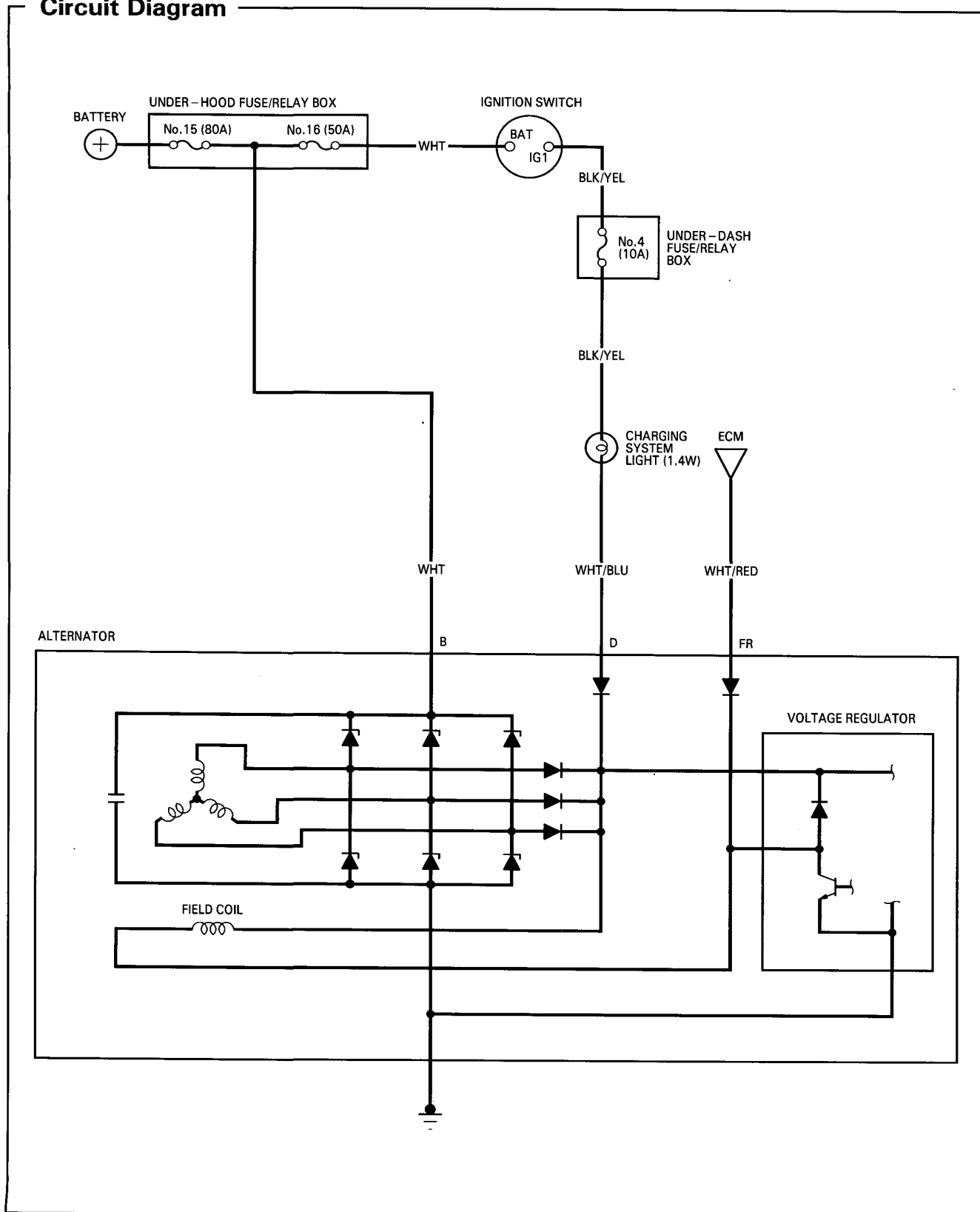
NGK	ZFR6F-11
Nippondenso	KJ20CR-L11

4. Apply a small quantity of anti-seize compound to the plug threads before installing the plugs.
5. Screw the plugs into the cylinder head finger-tight, then torque them to 18 N·m (1.8 kgf·m, 13 lbf·ft).

Charging System



Circuit Diagram



Charging System

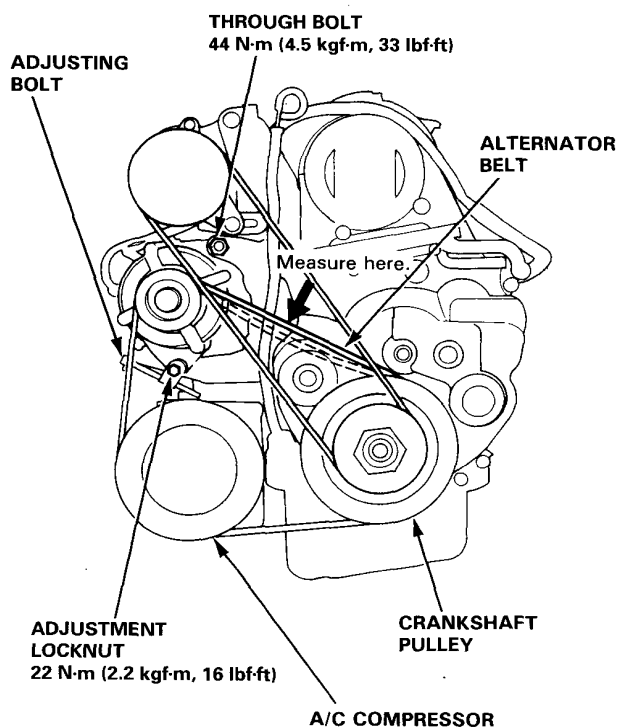
Alternator Belt Inspection and Adjustment (With A/C)

Deflection Method:

Apply a force of 98 N (10 kgf, 22 lbf), and measure the deflection between the alternator and the crankshaft pulley.

Deflection	10.0 – 12.0 mm (0.39 – 0.47 in)
------------	---------------------------------

NOTE: On a brand-new belt (one that has been run for less than five minutes), the deflection should be 4.5 – 7.0 mm (0.18 – 0.28 in) when first measured. If the belt is worn or damaged, replace it.



If adjustment is necessary:

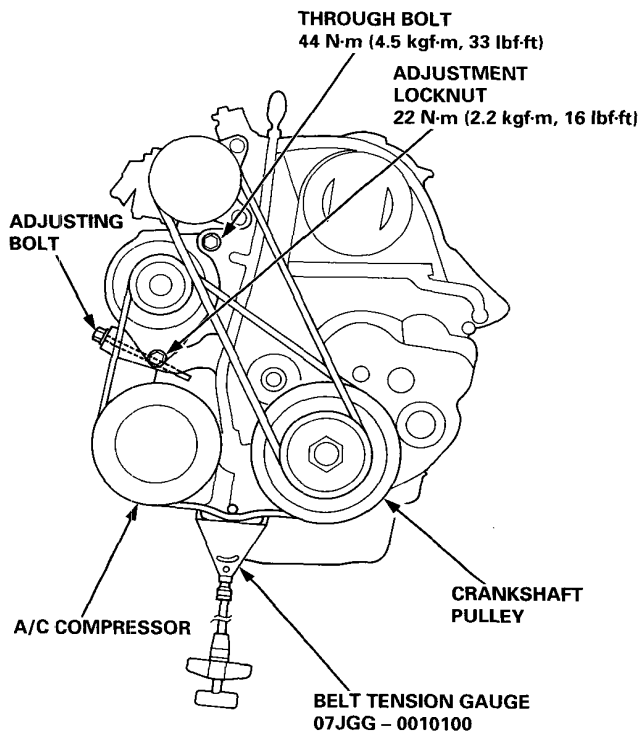
1. Loosen the lower mounting nut and the upper mounting bolt.
2. Move the alternator to obtain the proper belt tension, then retighten the upper mounting bolt and the lower mounting nut to the specified torques.
3. Recheck the deflection of the belt.

Belt Tension Gauge Method:

Following the gauge manufacture's instructions, attach the special tool to the belt, and measure the tension.

Tension	441 – 588 N (45 – 60 kgf, 99 – 132 lbf)
---------	---

NOTE: On a brand-new belt (one that has been run for less than five minutes), the tension should be 931 – 1127 N (95 – 115 kgf, 209 – 254 lbf) when first measured. If the belt is worn or damaged, replace it.



If adjustment is necessary:

1. Loosen the lower mounting nut and the upper mounting bolt.
2. Move the alternator to obtain the proper belt tension, then retighten the upper mounting bolt and the lower mounting nut to the specified torques.
3. Recheck the tension of the belt.



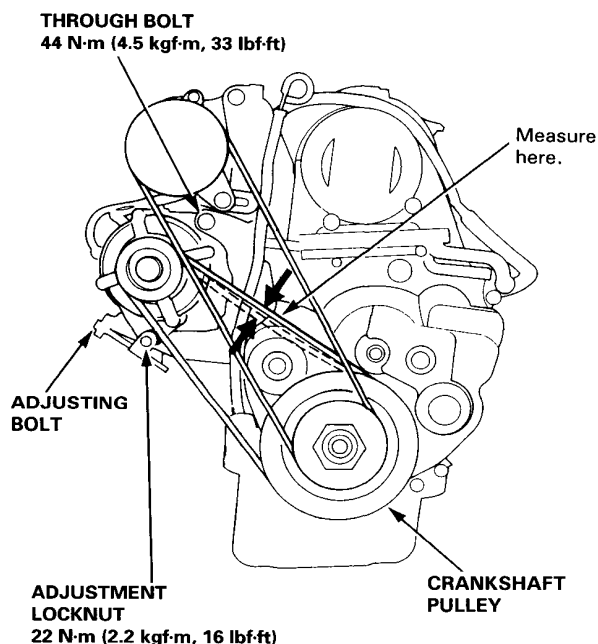
Alternator Belt Inspection and Adjustment (Without A/C)

Deflection Method:

Apply a force of 98 N (10 kgf, 22 lbf), and measure the deflection between the alternator and the crankshaft pulley.

Deflection	10.0 – 12.0 mm (0.39 – 0.47 in)
------------	---------------------------------

NOTE: On a brand-new belt (one that has been run for less than five minutes), the deflection should be 8.5 – 11.0 mm (0.33 – 0.43 in) when first measured. If the belt is worn or damaged, replace it.



If adjustment is necessary:

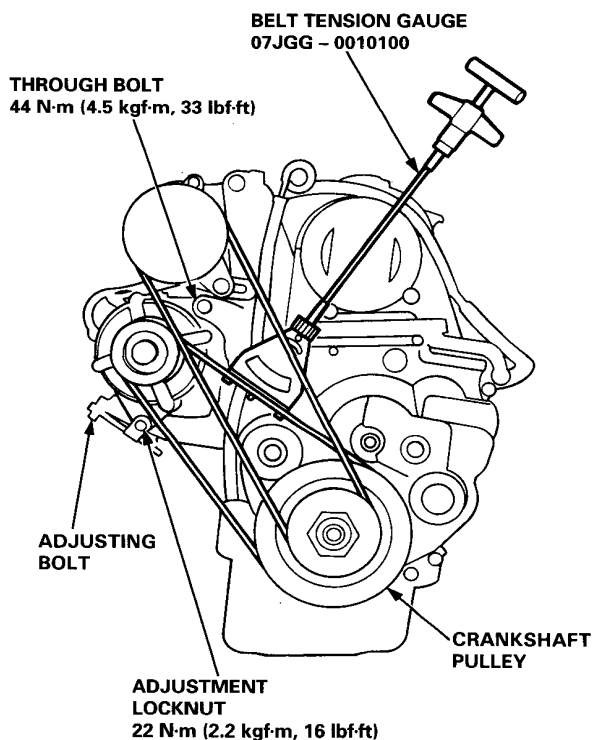
1. Loosen the lower mounting nut and the upper mounting bolt.
2. Move the alternator to obtain the proper belt tension, then retighten the upper mounting bolt and the lower mounting nut to the specified torques.
3. Recheck the deflection of the belt.

Belt Tension Gauge Method:

Following the gauge manufacturer's instructions, attach the special tool to the belt, and measure the tension.

Tension	294 – 441 N (30 – 45 kgf, 66 – 99 lbf)
---------	--

NOTE: On a brand-new belt (one that has been run for less than five minutes), the tension should be 441 – 637 N (45 – 65 kgf, 99 – 143 lbf) when first measured. If the belt is worn or damaged, replace it.

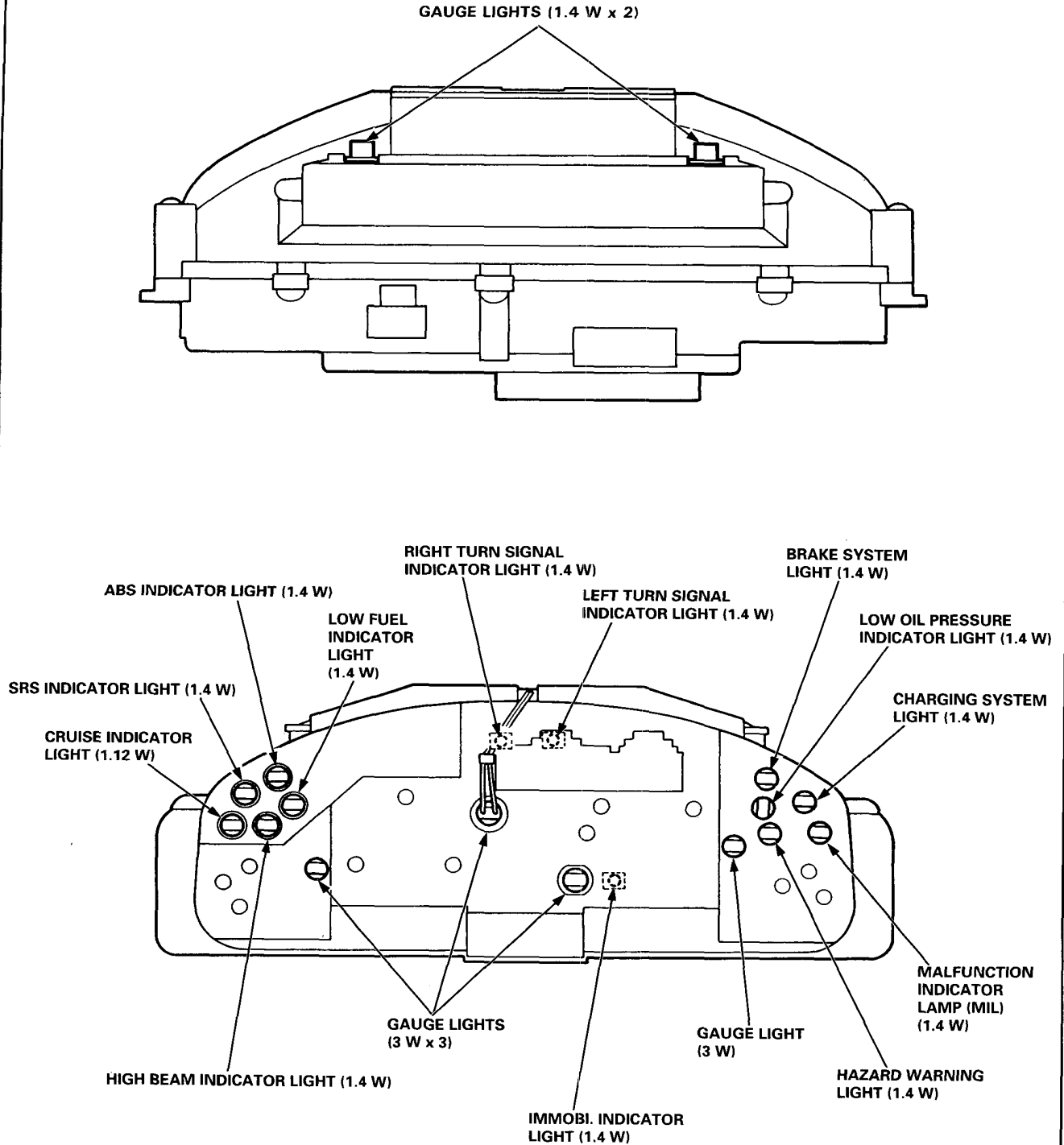


If adjustment is necessary:

1. Loosen the lower mounting nut and the upper mounting bolt.
2. Move the alternator to obtain the proper belt tension, then retighten the upper mounting bolt and the lower mounting nut to the specified torques.
3. Recheck the tension of the belt.

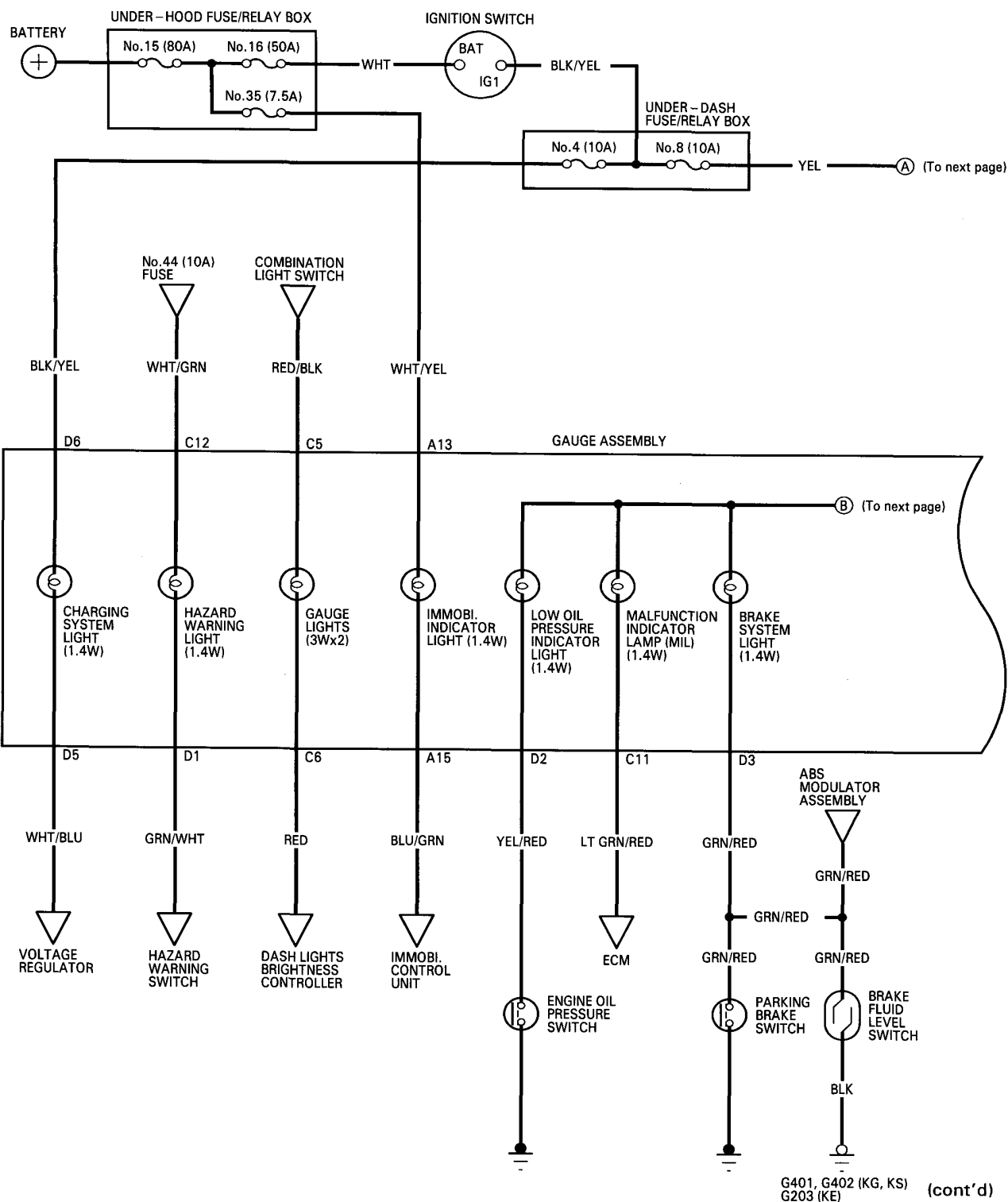
Gauge Assembly

Bulb Locations



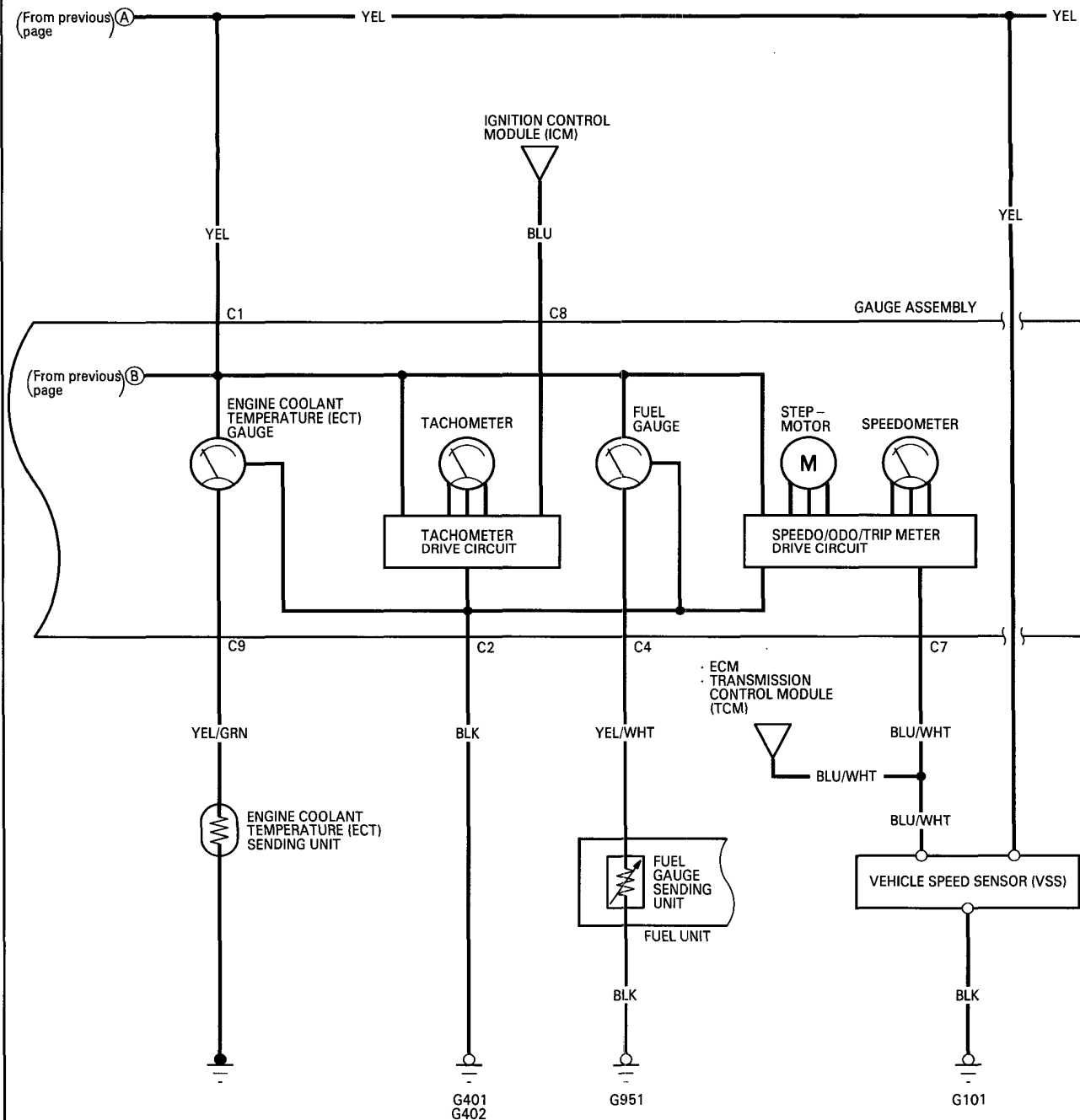


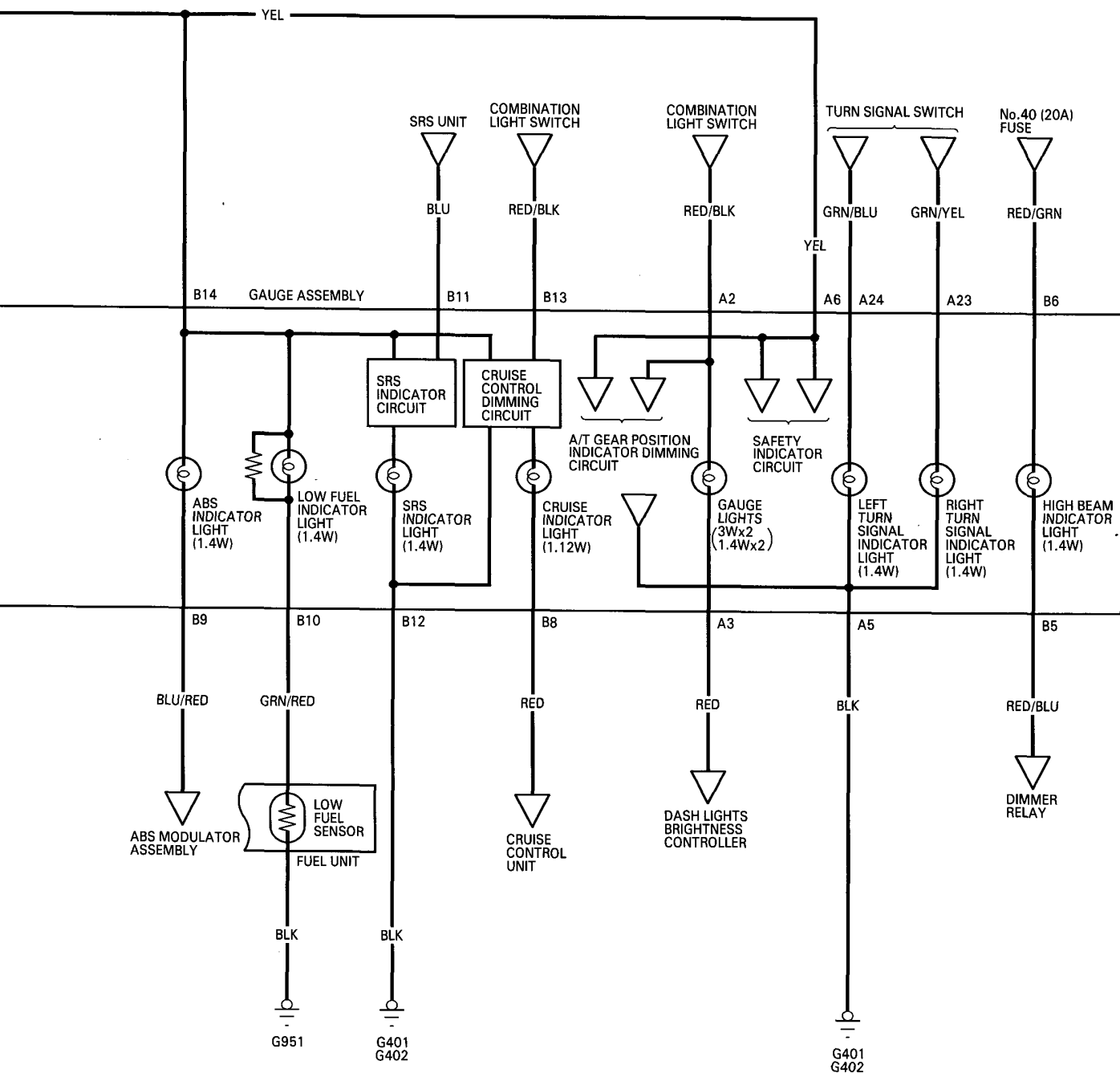
Circuit Diagram



Gauge Assembly

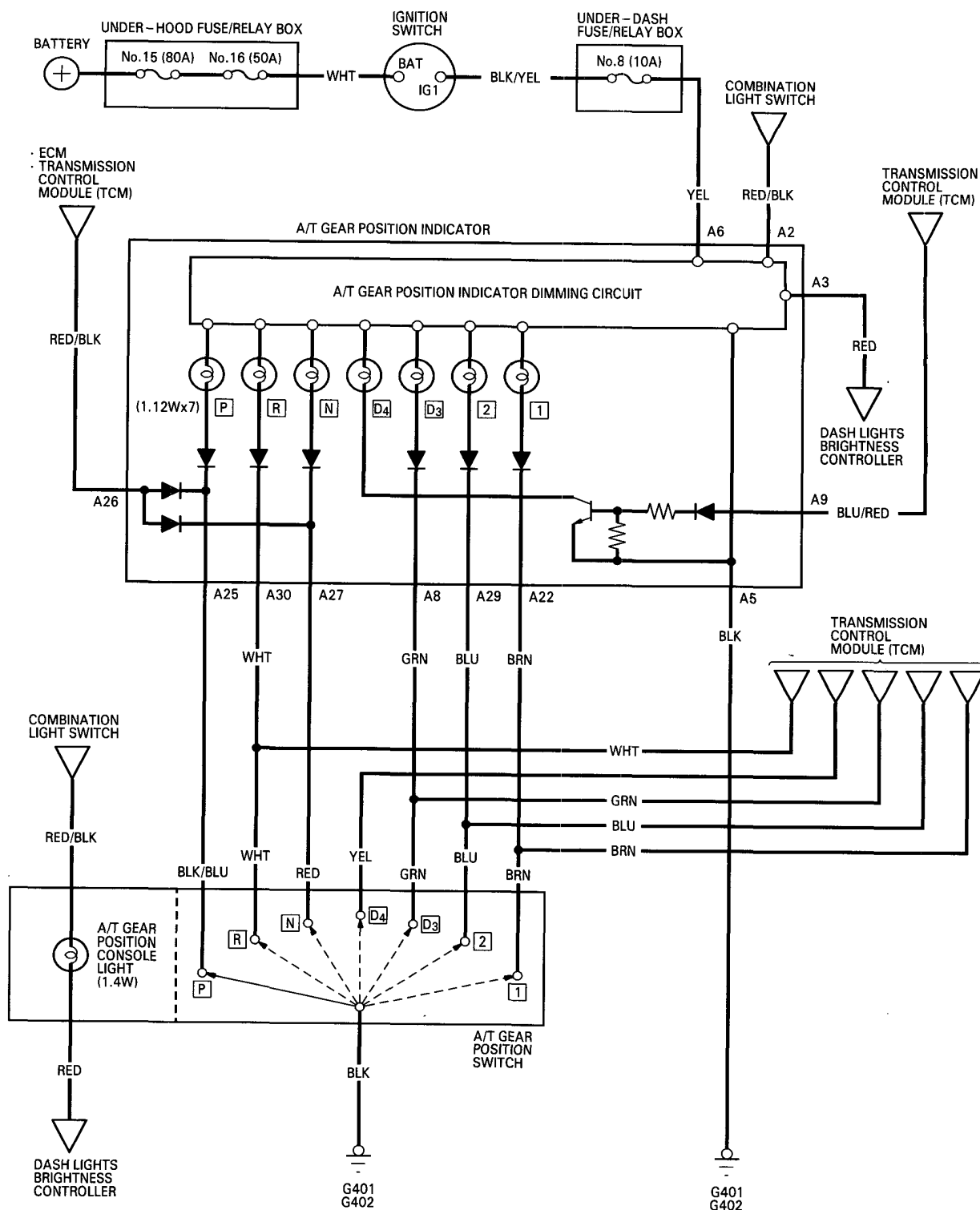
Circuit Diagram (cont'd)





A/T Gear Position Indicator

Circuit Diagram

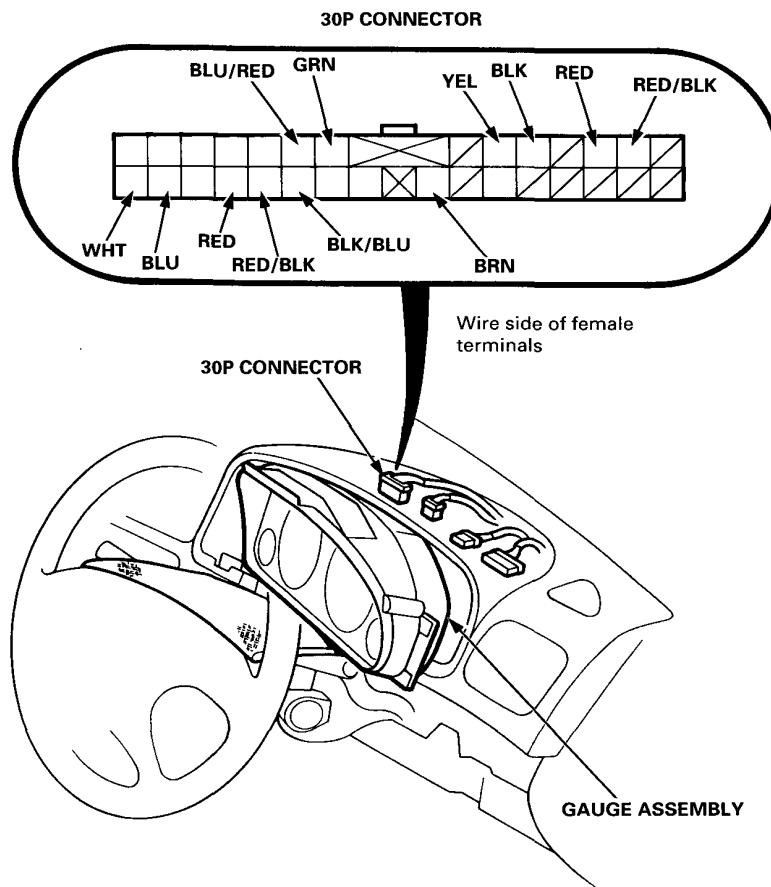




Indicator Input Test

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS sub-section (23B) before performing repairs or service.

1. Remove the gauge assembly, and disconnect all connectors from it.
2. Inspect the connector and socket terminals to be sure they are all making good contact.
 - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
 - If the terminals look OK, make the following input tests at the 30P connector.
 - If any test indicates a problem, find and correct the cause, then recheck the system.
 - If all the input tests prove OK, but the indicator is faulty, replace the main printed circuit board.



(cont'd)

A/T Gear Position Indicator

Indicator Input Test (cont'd)

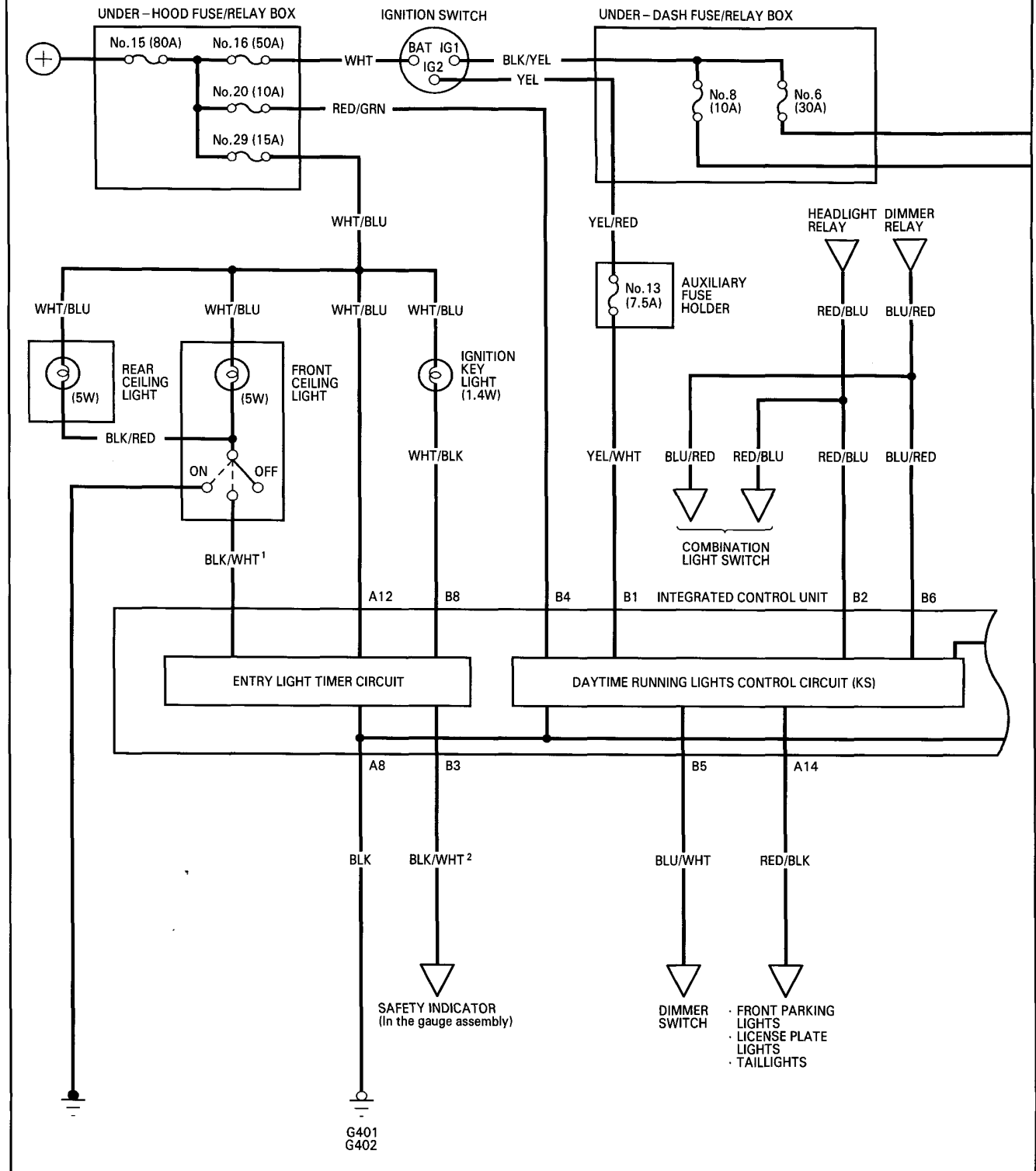
Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A26	RED/BLK	Ignition switch ON (II)	Check for voltage to ground: There should be about 5 V.	<ul style="list-style-type: none"> • ECM • Transmission control module (TCM) • An open in the wire
A5	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • Poor ground (G401, G402) • An open in the wire
A6	YEL	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> • Blown No. 8 (10 A) fuse in the under-dash fuse/relay box • An open in the wire
A3	RED	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • Poor ground (G401, G402) • An open in the wire
A2	RED/BLK	Ignition switch ON (II) Combination light switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> • Blown No. 20 (10 A) fuse in the under-hood fuse/relay box • Combination light switch • An open in the wire
A9	BLU/RED	Ignition switch ON (II) Shift lever in position D_s	Check for voltage to ground: There should be about 5 V.	<ul style="list-style-type: none"> • Transmission control module (TCM) • An open in the wire
A25	BLK/BLU	Shift lever in position P	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • A/T gear position switch • Poor ground (G401, G402) • An open in the wire
A30	WHT	Shift lever in position R		
A27	RED	Shift lever in position N		
A8	GRN	Shift lever in position D_s		
A29	BLU	Shift lever in position 2		
A22	BRN	Shift lever in position 1		

Integrated Control Unit



Circuit Diagram

This page corresponds to page 23-144 in Shop Manual (62SN700) and reflects the model changes.

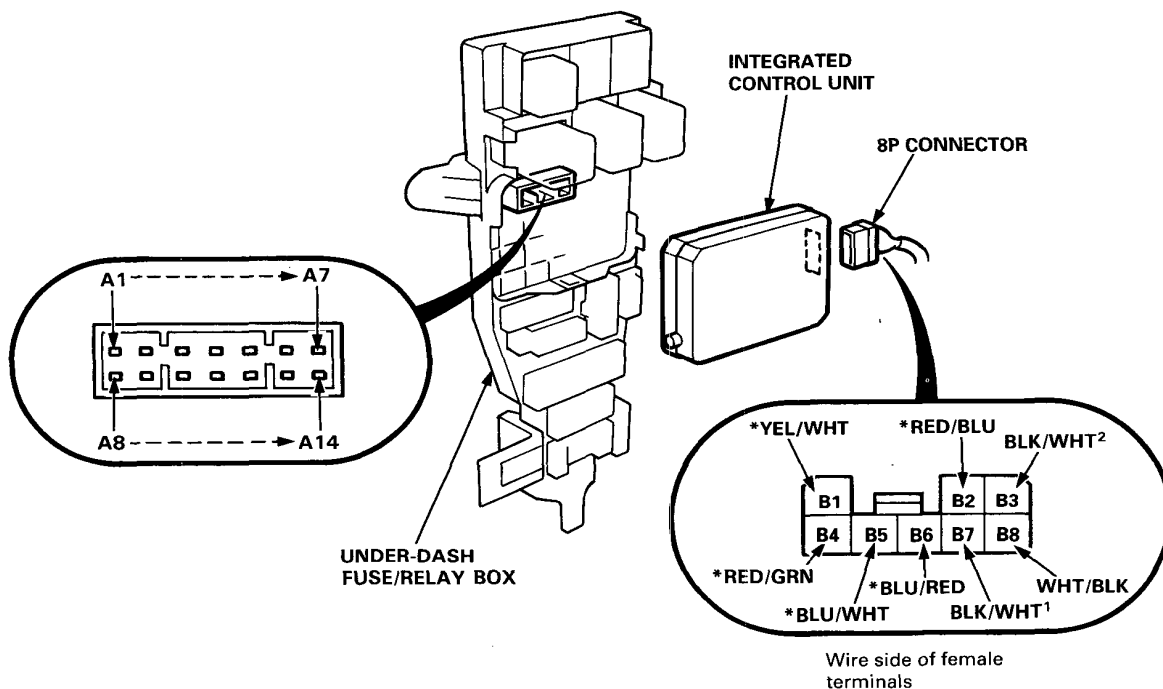


Integrated Control Unit

Input Test

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS sub-section (23B) before performing repairs or service.

1. Remove the driver's side kick panel, then disconnect the 8P connector from the integrated control unit.
2. Remove the integrated control unit from the under-dash fuse/relay box.
3. Inspect the connector and the socket terminals to be sure they are all making good contact.
 - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
 - If the terminals look OK, make the following input tests at the connector and the socket.
 - If any test indicates a problem, find and correct the cause, then recheck the system.
 - If all the input tests prove OK, the control unit must be faulty; replace it.



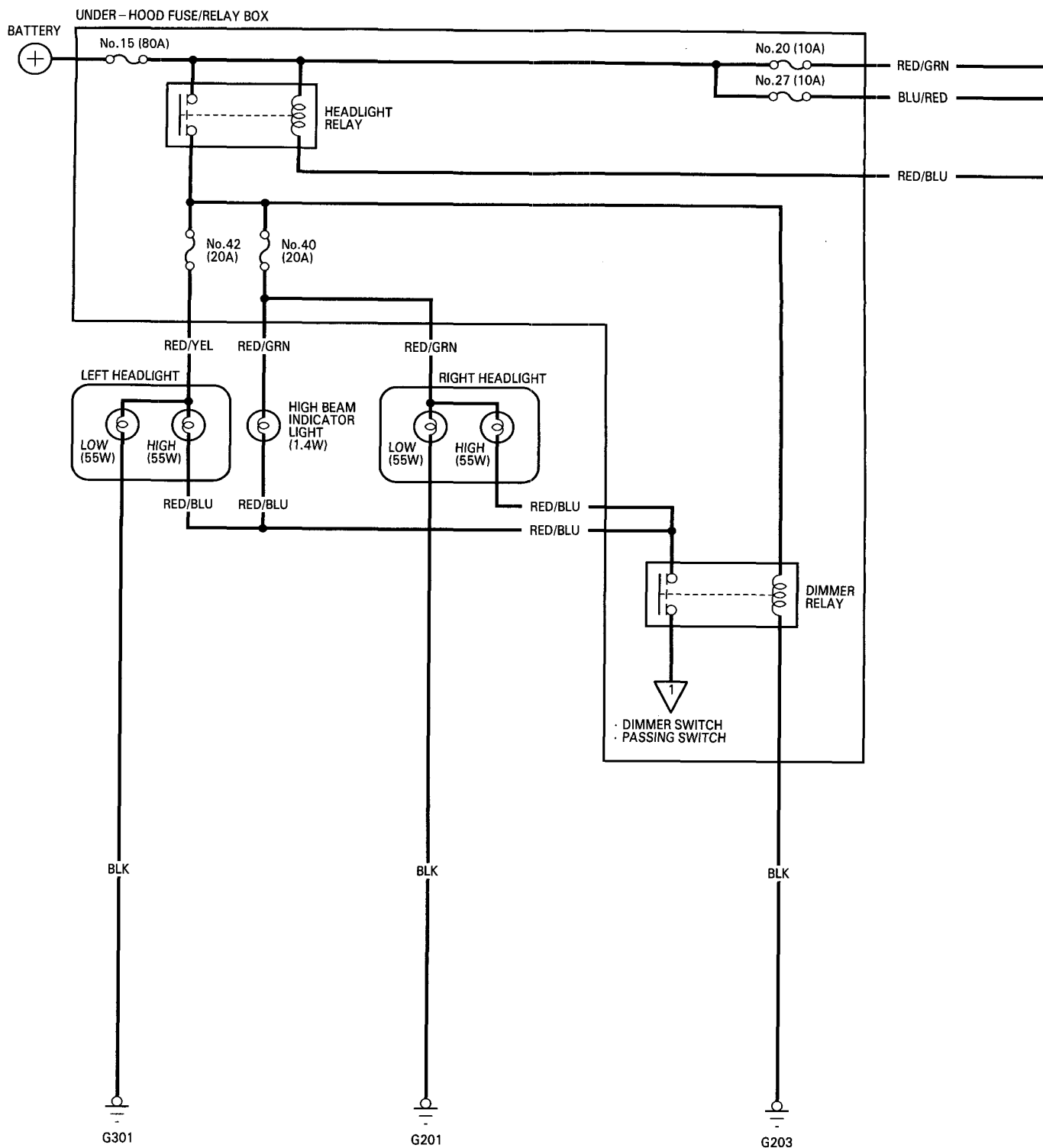
*: KS model

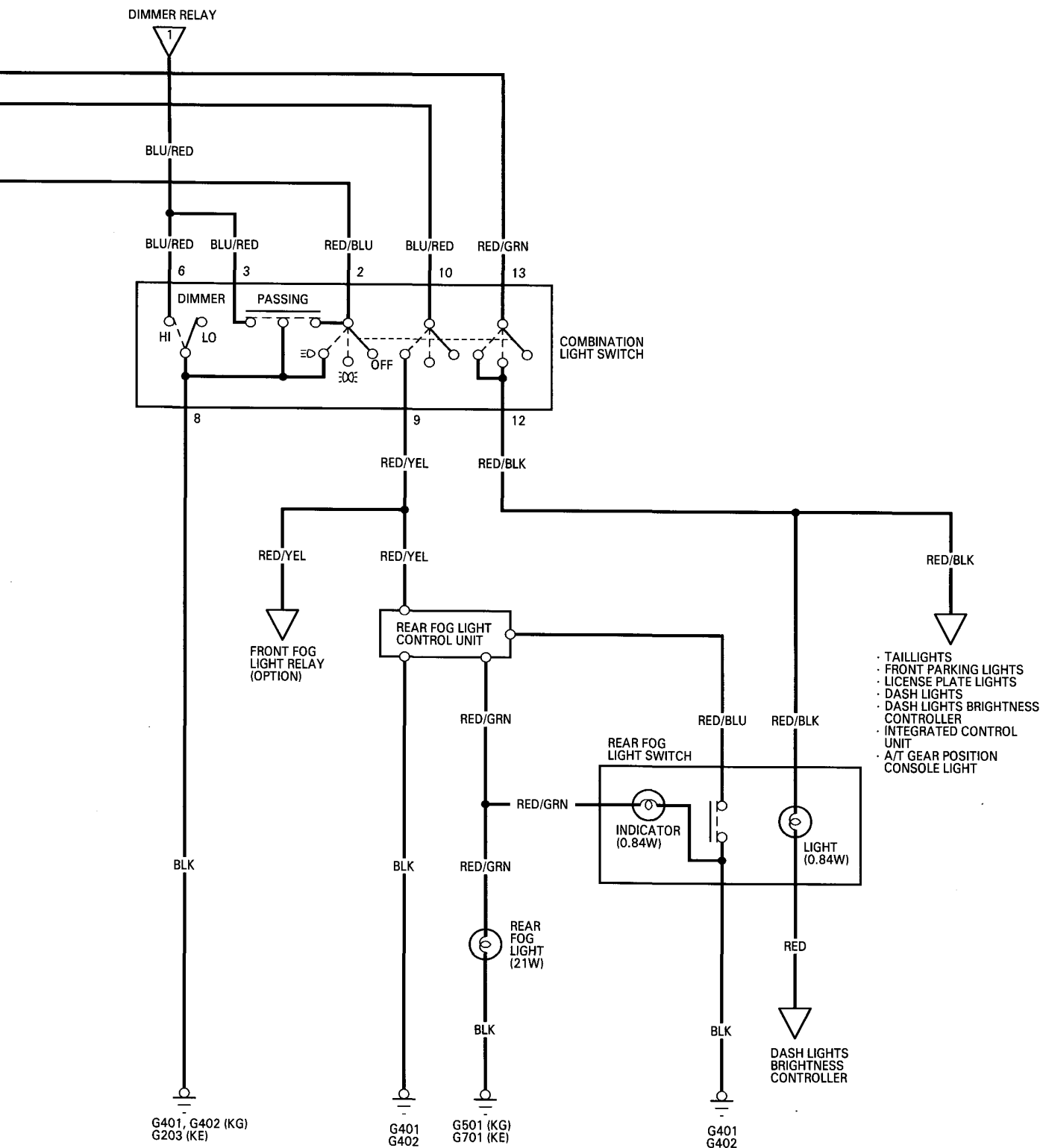
**Daytime Running Lights System (KS model):**

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A8	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none">• Poor ground (G401, G402)• An open in the wire
B4	RED/GRN	Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none">• Blown No. 20 (10 A) fuse in the under-hood fuse/relay box• An open in the wire
A13	RED/BLK	Headlight switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none">• Blown No. 20 (10 A) fuse in the under-hood fuse/relay box• Faulty combination light switch• An open in the wire
B2	RED/BLU	Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none">• Faulty combination light switch• Faulty headlight relay• An open in the wire
B6	BLU/RED	Passing switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none">• Faulty combination light switch• Faulty headlight relay• Faulty dimmer relay• An open in the wire
B1	YEL/WHT	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none">• Blown No. 13 (7.5 A) fuse in the auxiliary fuse holder• An open in the wire
A14	RED/BLK	Connect the RED/GRN terminal to the A14 terminal	Front parking lights, taillights and license plate lights should come on.	<ul style="list-style-type: none">• Blown bulbs• An open in the wire
B5	BLU/WHT	Dimmer switch in HI position	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none">• Faulty combination light switch• Poor ground (G401, G402)• An open in the wire

Lighting System

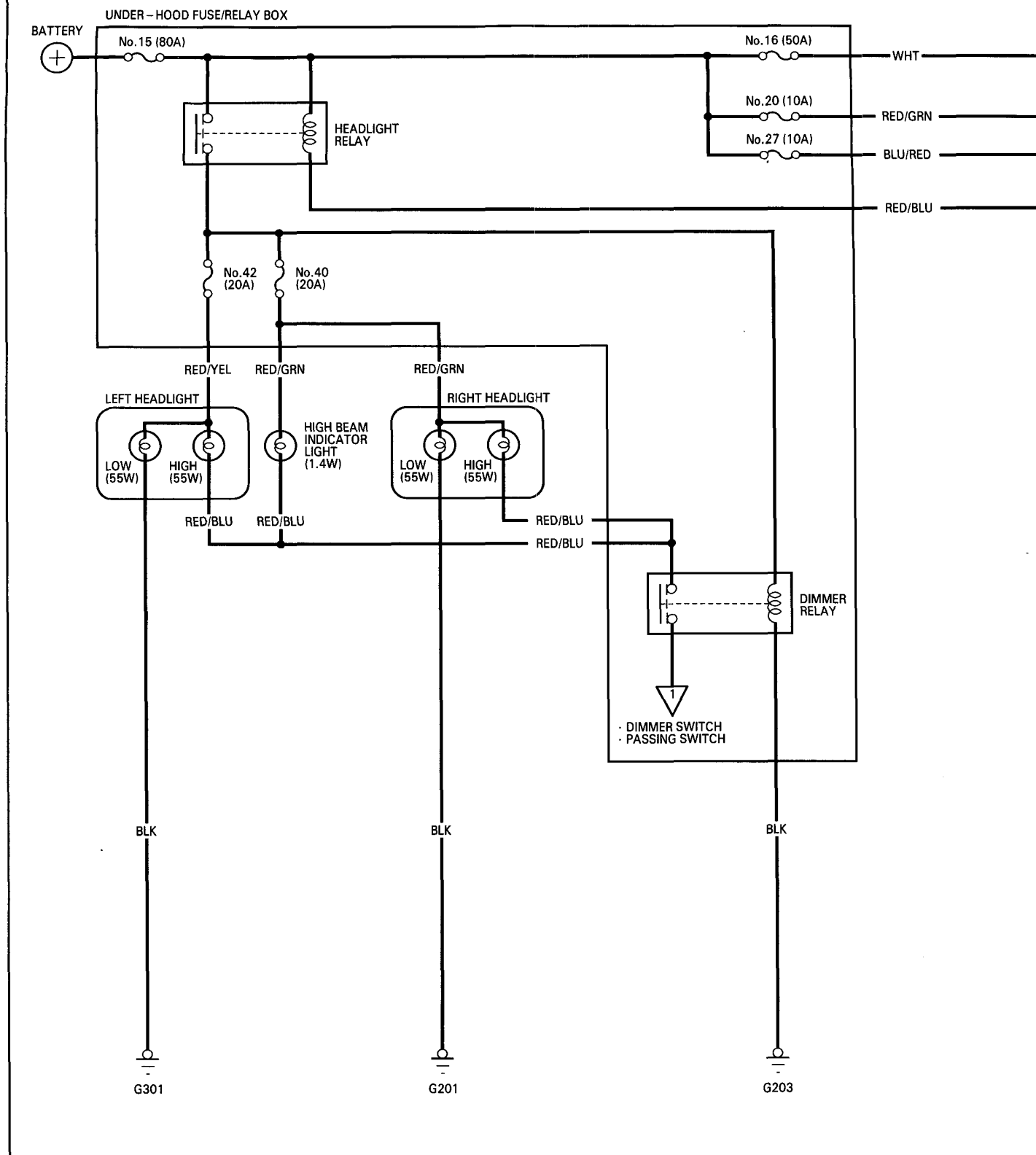
Circuit Diagram (KG and KE models)

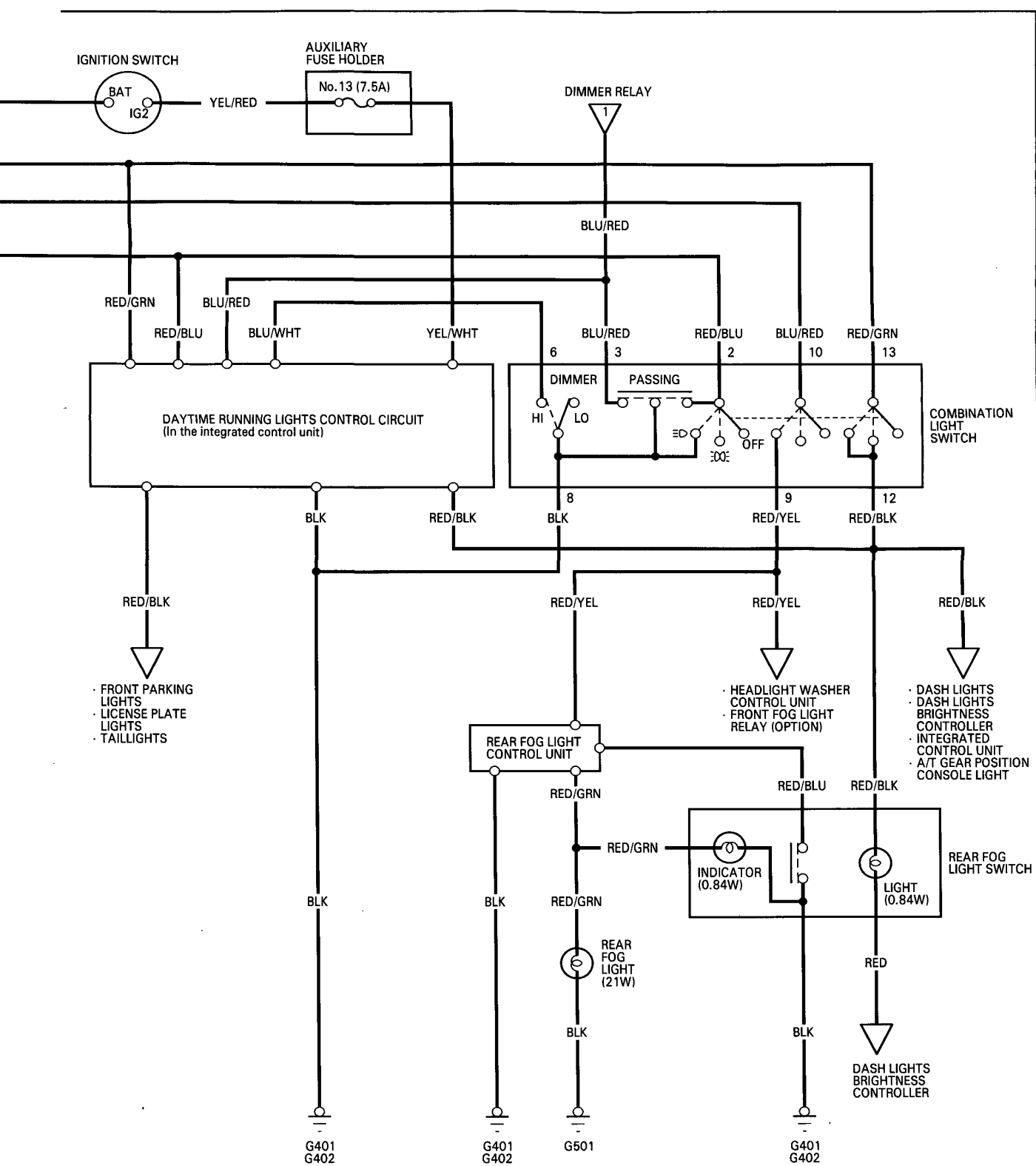




Lighting System

Circuit Diagram (KS model)



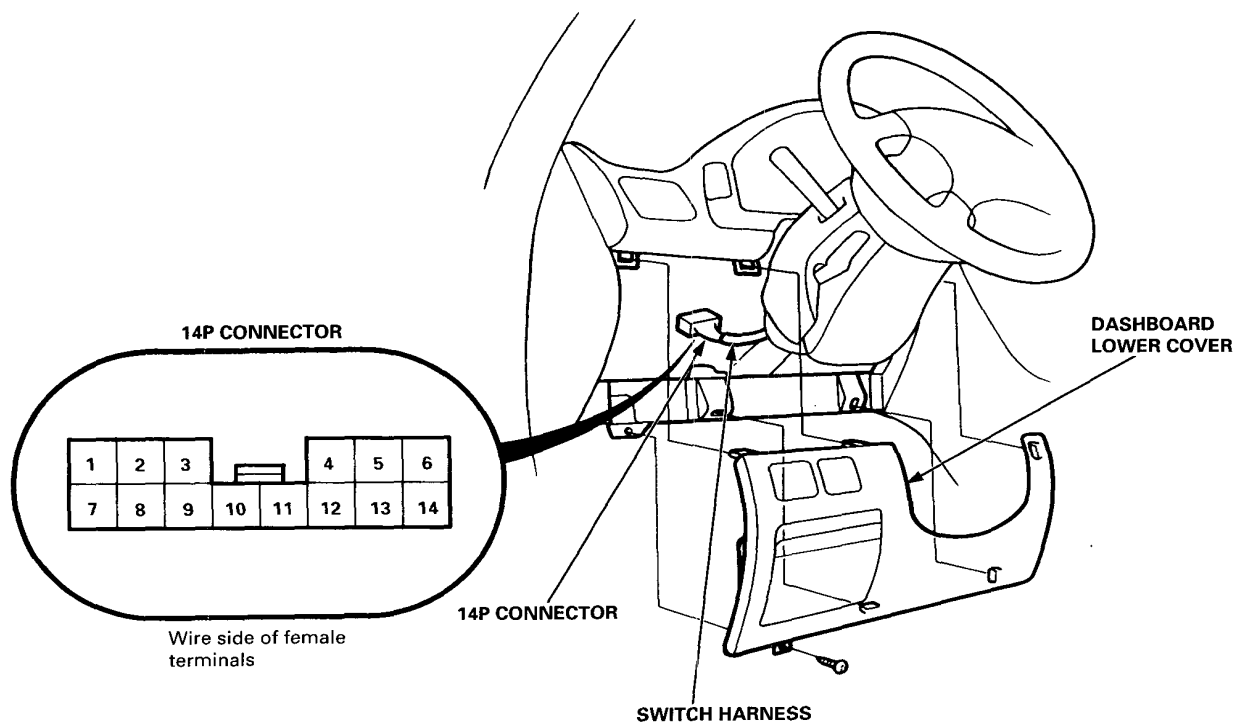


Lighting System

Combination Light Switch Test

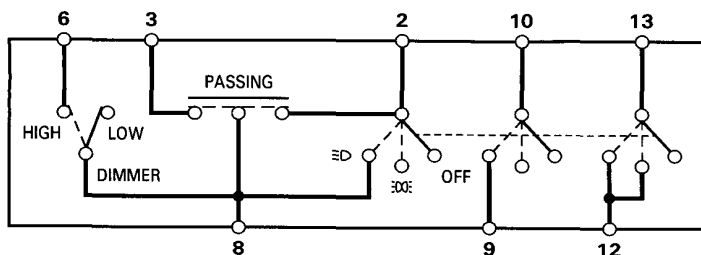
SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS sub-section (23B) before performing repairs or service.

1. Remove the dashboard lower cover.
2. Disconnect the 14P connector from the main wire harness.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
 - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
 - If the terminals look OK, check for continuity between them in each switch position according to the tables.
 - If there is no continuity between them, check for continuity in the switch harness.
 - If there is continuity in the harness, replace the combination light switch.



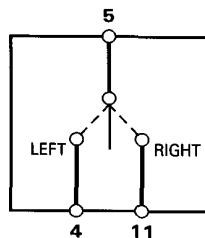


Headlight/Dimmer/Passing Switch:



Terminal			2	3	6	8	9	10	12	13
Position										
Headlight switch	OFF									
	⏏								○	○
	⊃	LOW	○			○	○	○	○	○
		HIGH	○		○	○	○	○	○	○
Passing switch (Headlight switch "OFF")		OFF								
		ON	○	○		○				
Passing switch (Headlight switch "⊃ ")		OFF	○			○	○	○	○	○
		ON	○	○		○	○	○	○	○
Dimmer switch		LOW								
		HIGH			○	○				

Turn Signal Switch:



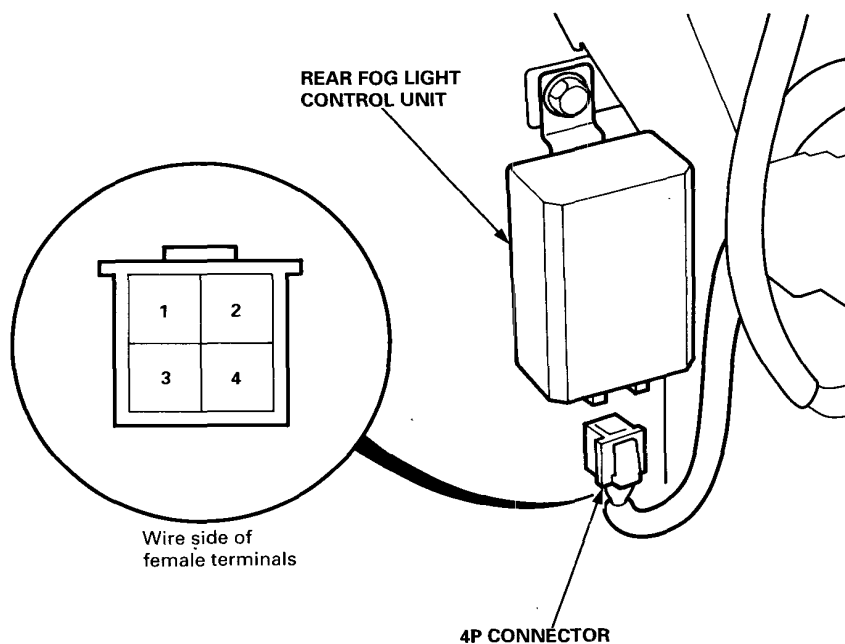
Terminal		4	5	11
Position				
RIGHT			○	○
(Neutral)				
LEFT		○	○	

Rear Fog Light

Control Unit Input Test

1. Remove the dashboard lower cover.
2. Disconnect the 4P connector from the rear fog light control unit.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
 - If the terminals are bent, loose, or corroded, repair them as necessary, and recheck the system.
 - If the terminals look OK, make the following input tests at the connector.
 - If any test indicates a problem, find and correct the cause, then recheck the system.
 - If all the input tests prove OK, the control unit must be faulty; replace it.

NOTE: KG and KS models are shown, KE model is symmetrical.



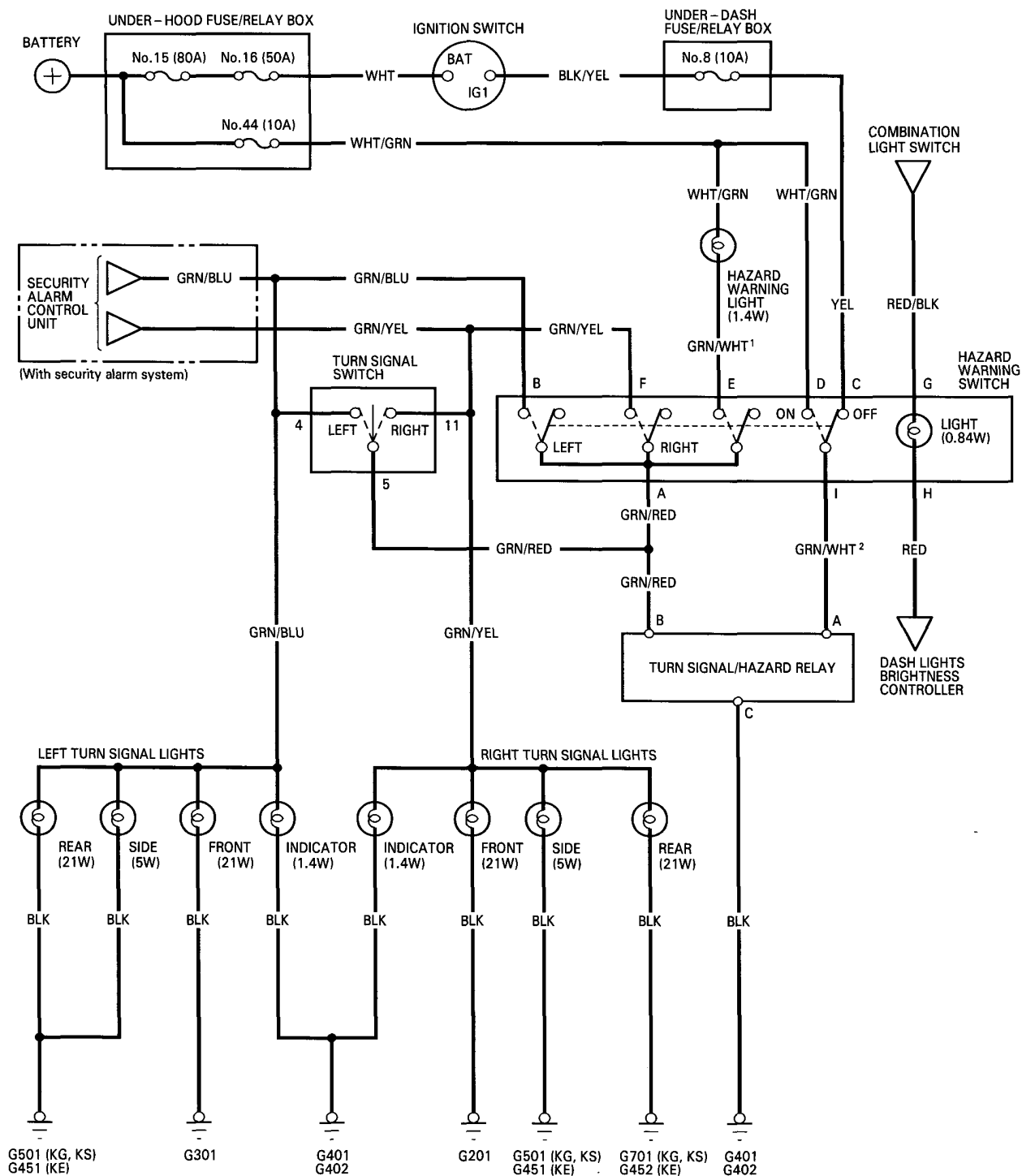
Cavity	Wire	Test condition	Test: Desires results	Possible cause if result is not obtained
1	RED/YEL	Combination light switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none">• Blown No. 27 (10 A) fuse in the under-hood fuse/relay box• Faulty combination light switch• An open in the wire
2	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none">• Poor ground (G401, G402)• An open in the wire
3	RED/GRN	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none">• Poor ground (G401, G402, G501)• Faulty rear fog light• Faulty rear fog light switch indicator light• An open in the wire
4	RED/BLU	Rear fog light switch ON	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none">• Poor ground (G401, G402)• Faulty rear fog light switch• An open in the wire



Turn Signal/Hazard Flasher System

Circuit Diagram

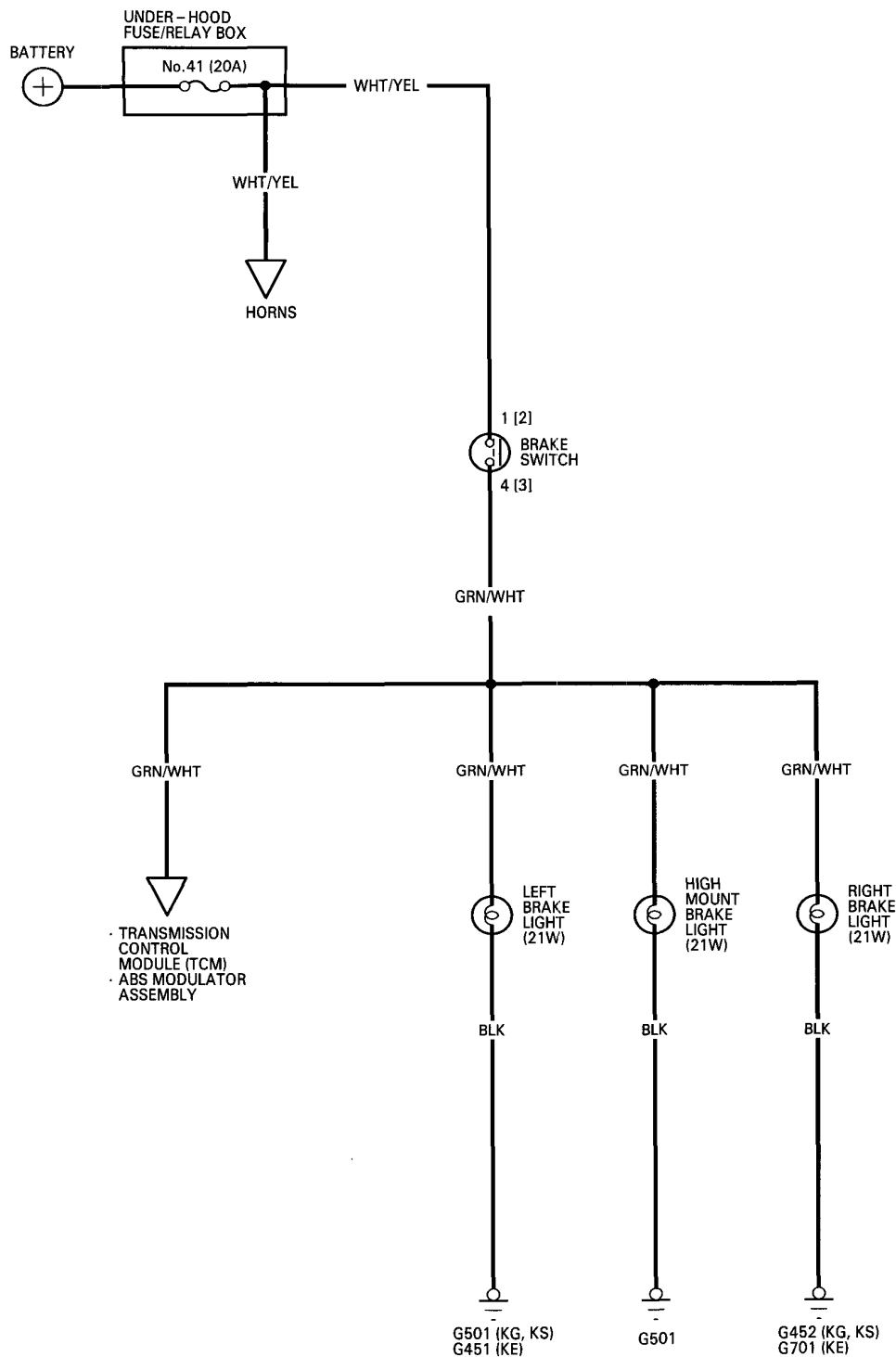
NOTE: For turn signal switch test, refer to page 23A-52 in this manual.



Brake Lights

Circuit Diagram

[] : With cruise control





Brake Switch Test

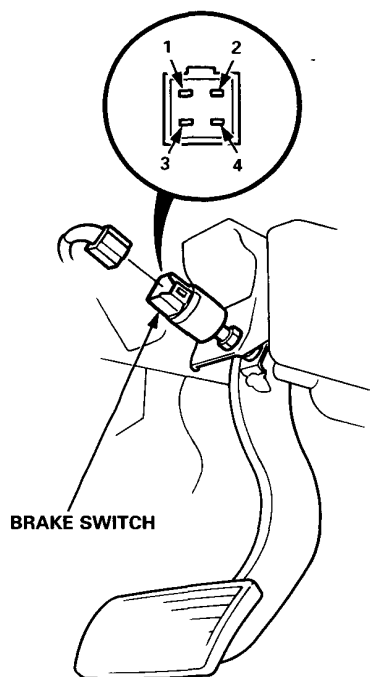
1. Disconnect the 4P connector from the switch.
2. Check for continuity between the terminals in each switch position according to the table.

With cruise control :

Terminal	1	2	3	4
Brake pedal				
DEPRESSED		○	○	
RELEASED	○			○

Without cruise control :

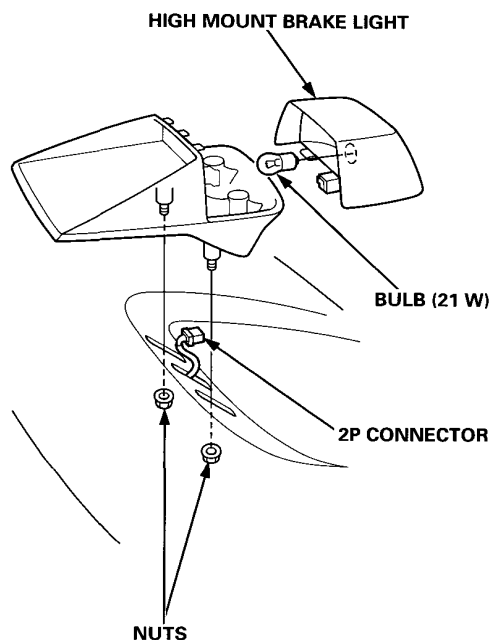
Terminal	1	2	3	4
Brake pedal				
DEPRESSED	○			○
RELEASED				



3. If necessary, adjust pedal height or replace the switch.

High Mount Brake Light Replacement

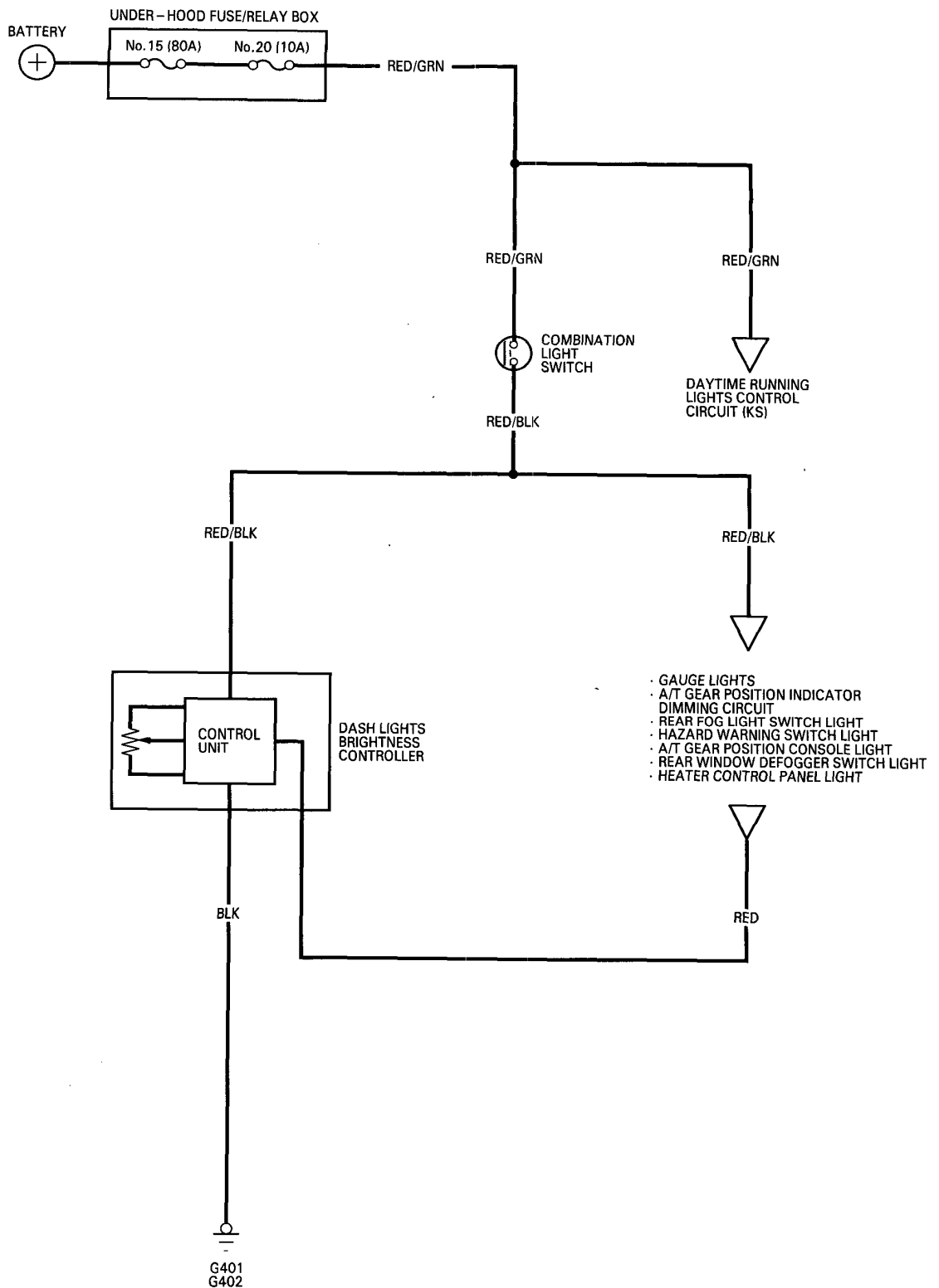
1. Open the trunk lid, and remove the two mounting nuts.
2. Disconnect the 2P connector from the high mount brake light.



3. Clean the rear window, then install the light in the reverse order of removal.

Dash Lights Brightness Controller

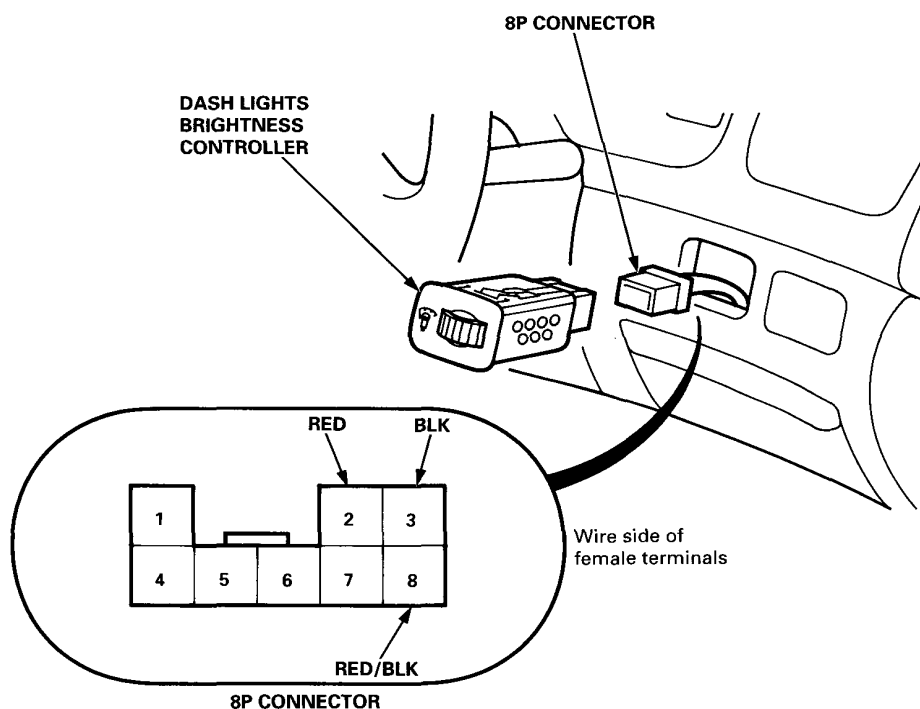
Circuit Diagram





Controller Input Test

1. Remove the dash lights brightness controller from the dashboard lower cover.
2. Disconnect the 8P connector from the controller.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
 - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
 - If the terminals look OK, make the following input tests at the connector.
 - If any test indicates a problem, find and correct the cause, then recheck the system.
 - If all input tests probe OK, the dash lights brightness controller must be faulty; replace it.

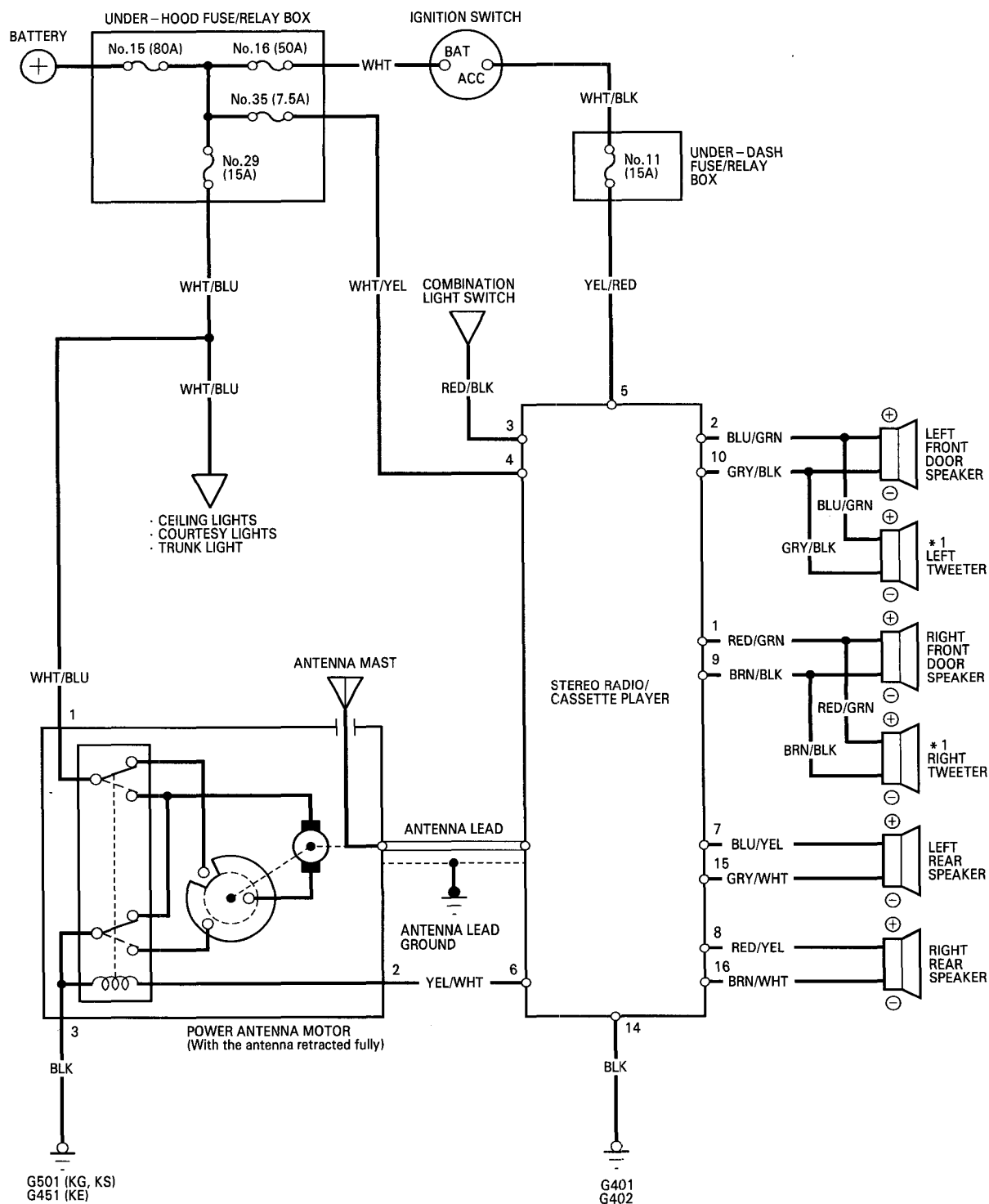


Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
8	RED/BLK	Combination light switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> • Blown No. 20 (10 A) fuse in the under-hood fuse/relay box • Faulty combination light switch • An open in the wire
2	RED	Combination light switch ON	Connect to ground: Dash lights should come on full bright.	<ul style="list-style-type: none"> • An open in the wire
3	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • Poor ground (G401, G402) • An open in the wire

Stereo Sound System

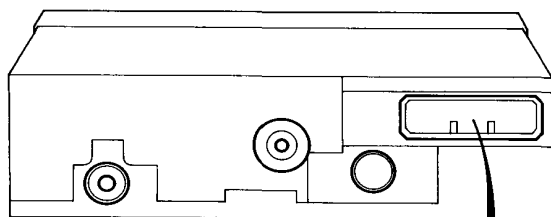
Circuit Diagram

* 1 : With six speakers

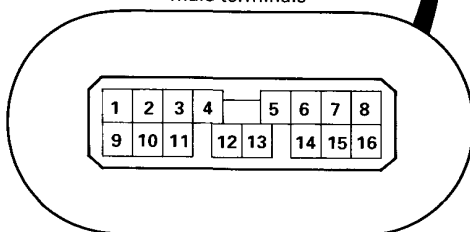


Stereo Sound System

Stereo Radio/Cassette Player Terminals



Terminal side of
male terminals

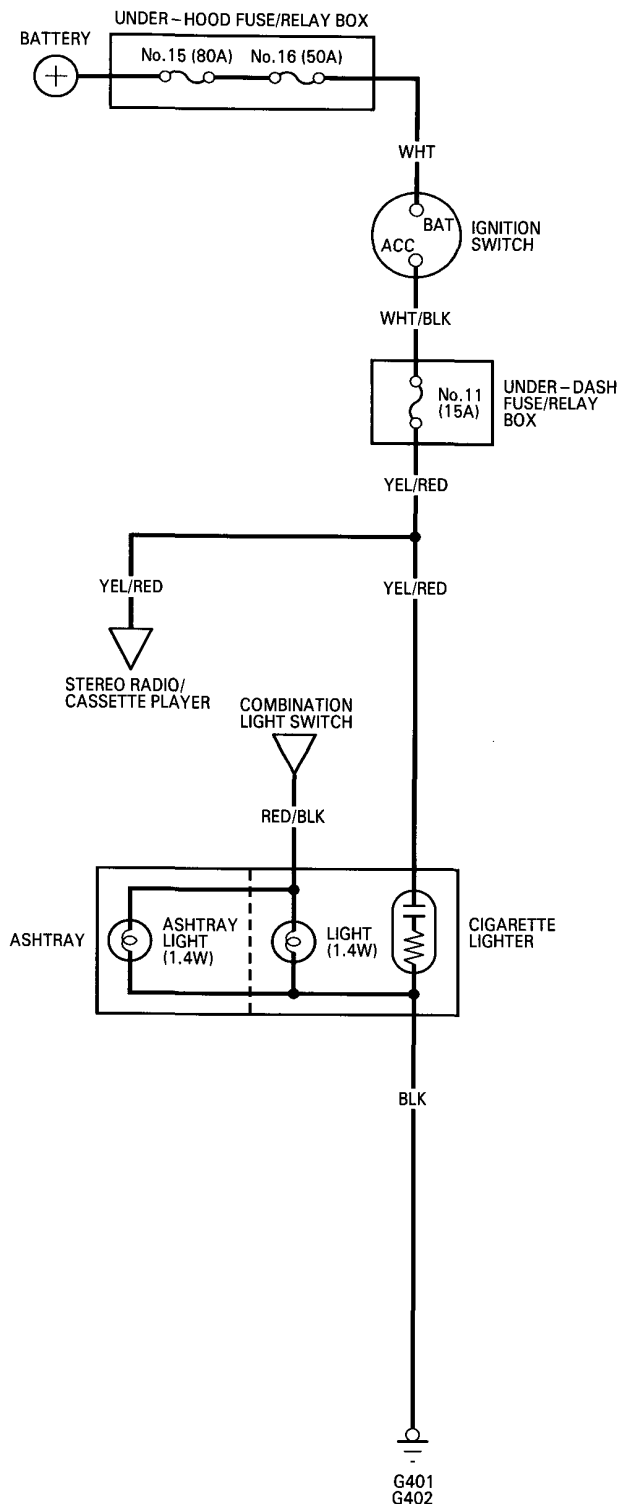


Cavity	Wire	Connects to
1	RED/GRN	Right front door speaker ⊕, right tweeter ⊕
2	BLU/GRN	Left front door speaker ⊕, left tweeter ⊕
3	RED/BLK	Lights-on signal
4	WHT/YEL	Constant power (tuning memory)
5	YEL/RED	ACC (main stereo power supply)
6	YEL/WHT	Radio-switched power
7	BLU/YEL	Left rear door speaker ⊕
8	RED/YEL	Right rear door speaker ⊕
9	BRN/BLK	Right front door speaker ⊖, right tweeter ⊖
10	GRY/BLK	Left front door speaker ⊖, left tweeter ⊖
14	BLK	Ground (G405)
15	GRY/WHT	Left rear door speaker ⊖
16	BRN/WHT	Right rear door speaker ⊖

Terminal No. 11, 12, and 13 are not used.

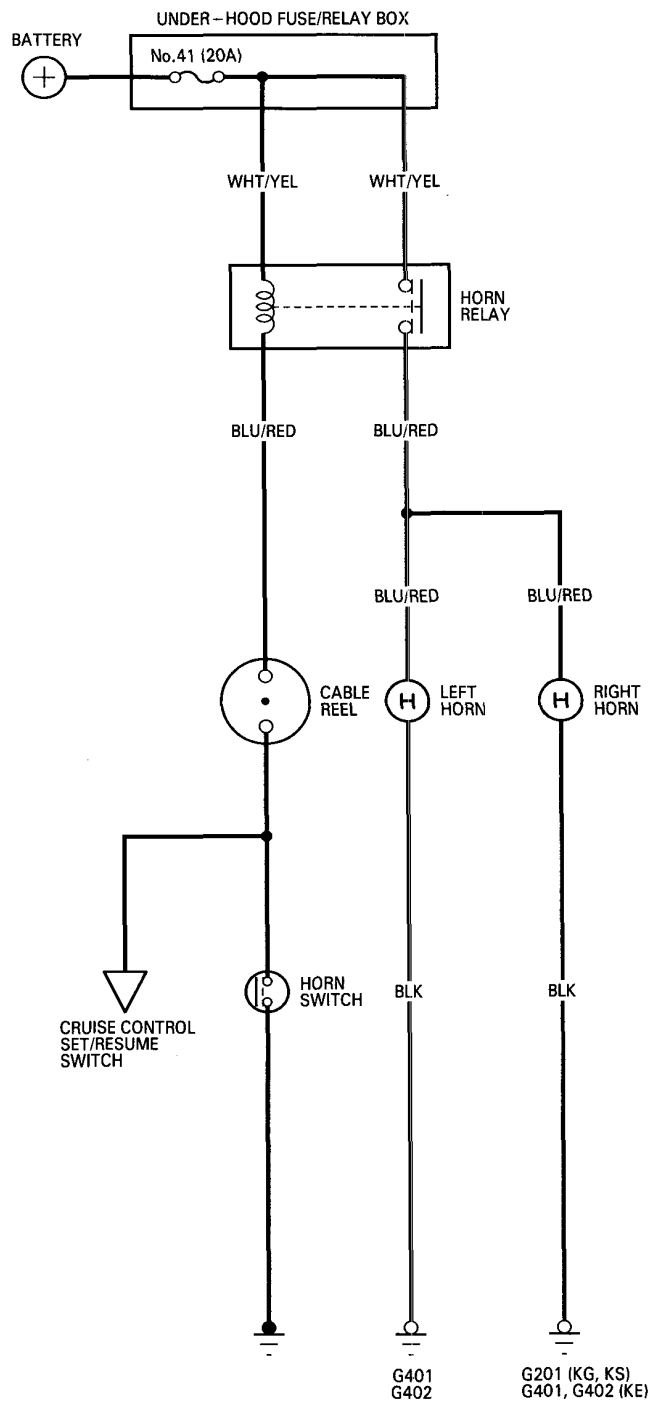
Cigarette Lighter

Circuit Diagram



Horns

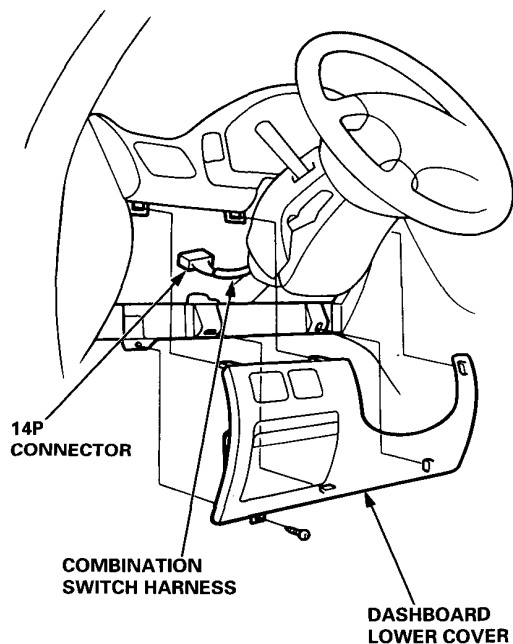
Circuit Diagram (With SRS-Type III)





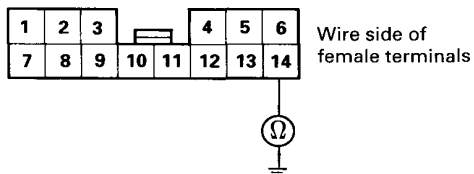
Switch Test (With SRS-Type III)

1. Disconnect the battery negative cable, then disconnect the positive cable, and wait at three minutes.
2. Disconnect the driver's airbag (and front passenger's airbag) connector(s) (see SRS sub-section 23B).
3. Remove the dashboard lower cover.
4. Disconnect the combination switch harness 14P connector from the main wire harness.



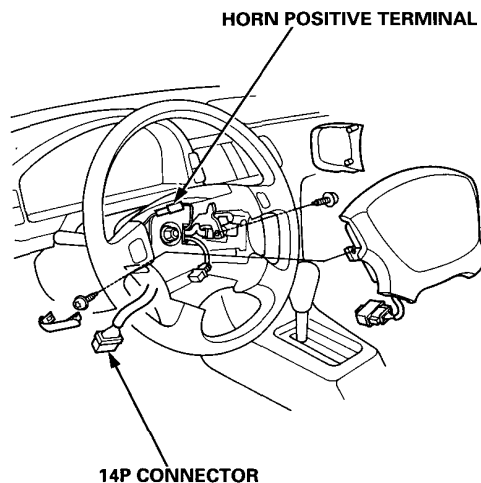
5. Check for continuity between the No. 14 terminal of the combination switch harness 14P connector and body ground with the horn switch pressed.

**COMBINATION SWITCH HARNESS
14P CONNECTOR**



- If there is continuity, the horn switch is OK.
- If there is no continuity, go to step 6.

6. Remove the driver's airbag assembly.
7. Check for continuity between the No. 14 terminal of the combination switch harness 14P connector and horn positive terminals.

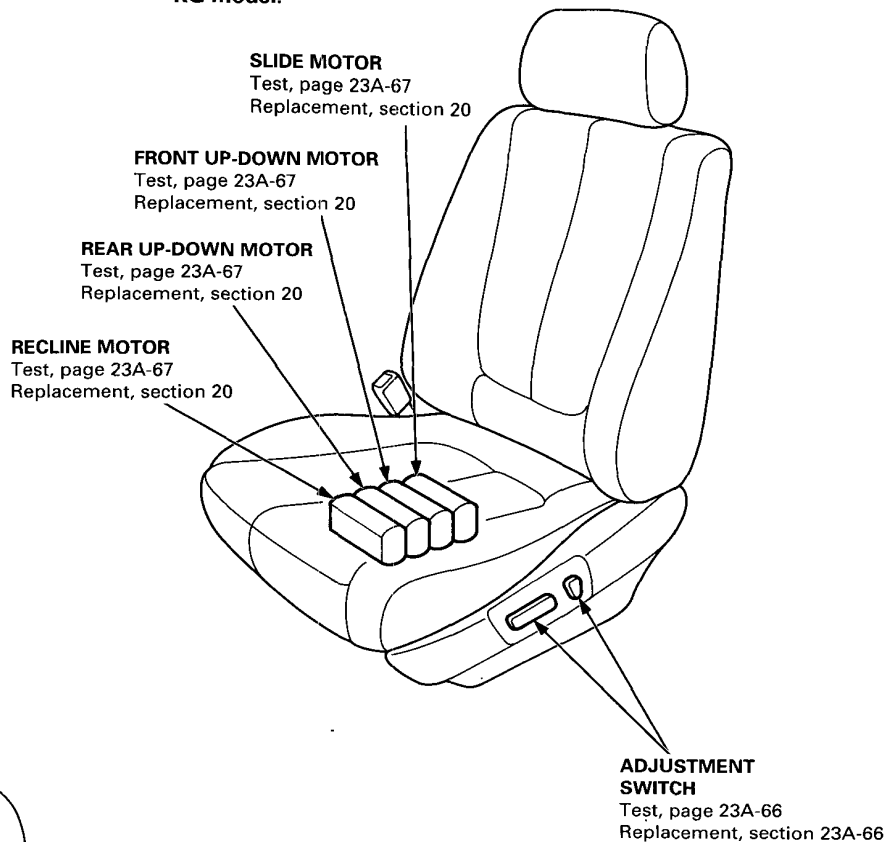


- If there is continuity, repair or replace the horn switch.
 - If there is no continuity, replace the cable reel (see SRS sub-section 23B).
8. If all tests prove OK, reinstall and reconnect the all removed parts, then reconnect the battery cables.
 9. After installing the airbag assembly, confirm proper system operation:
 - Turn the ignition switch ON (II), the instrument panel SRS indicator light should come on for about six seconds and then go off.
 - Make sure both horn buttons work.

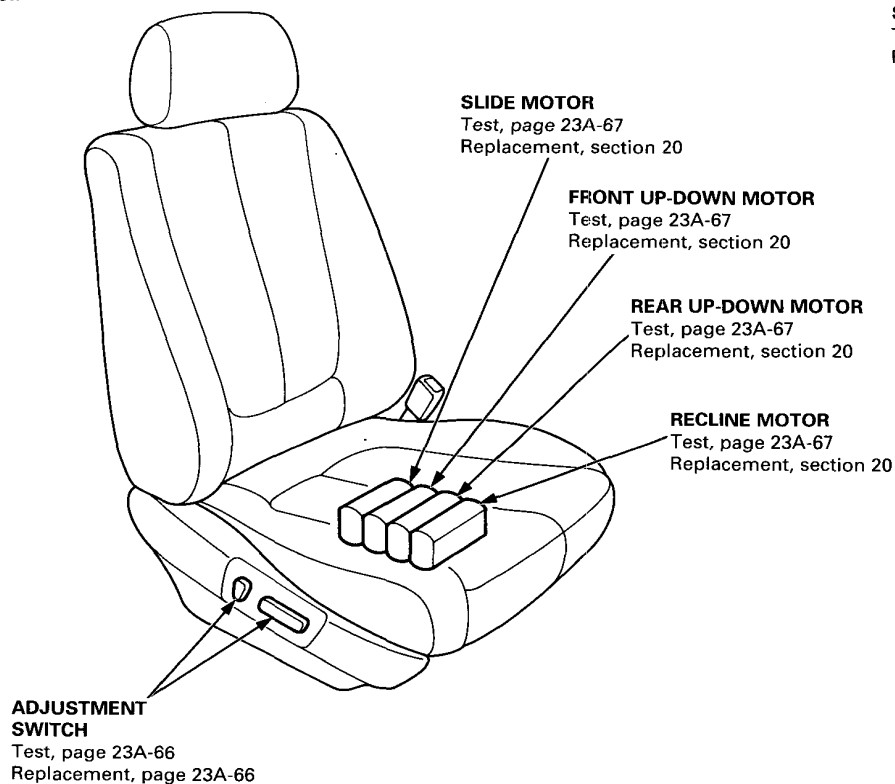
Driver's Power Seat

Component Location Index

KG model:



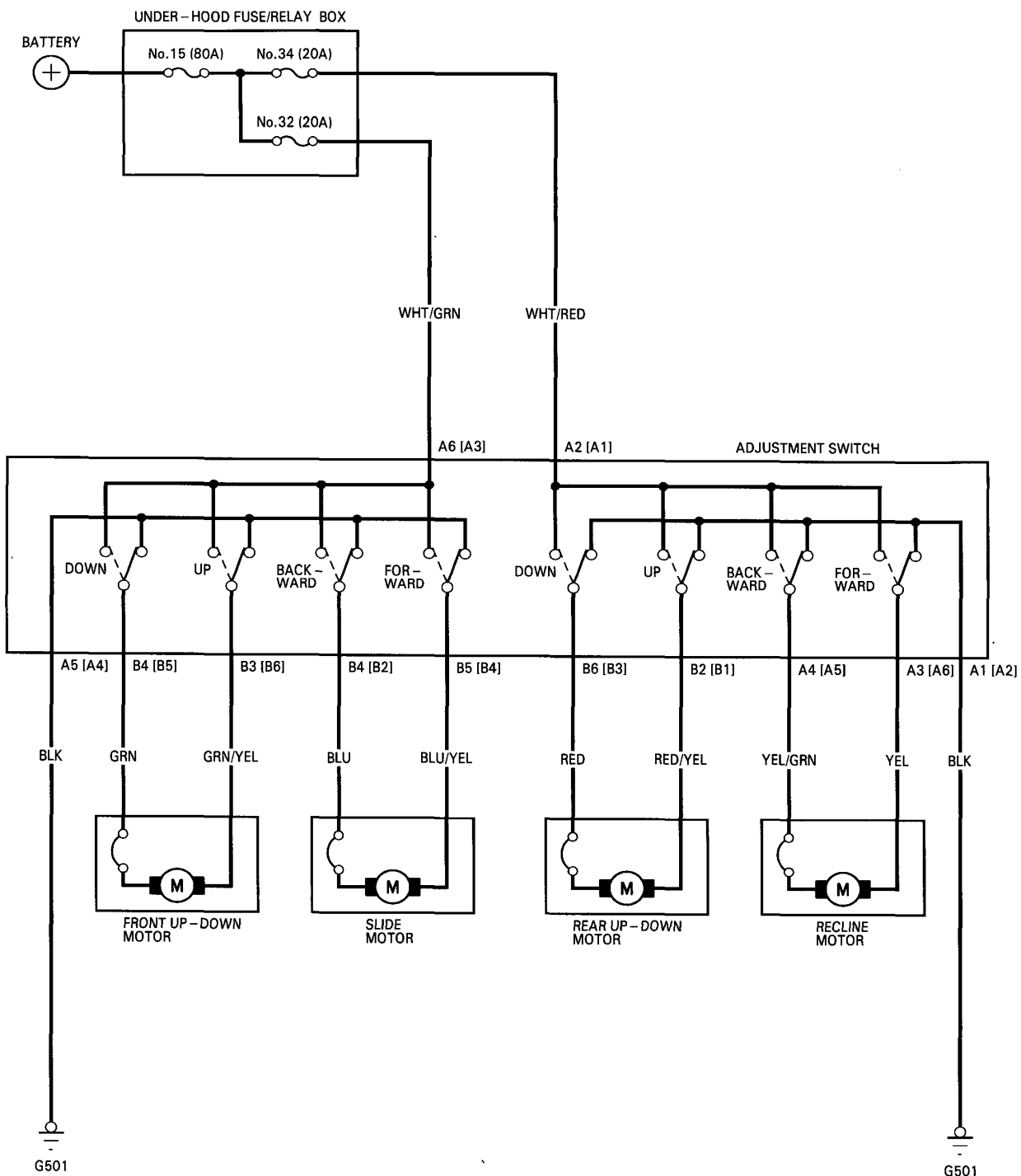
KE model:





Circuit Diagram (8-way Power Adjustable)

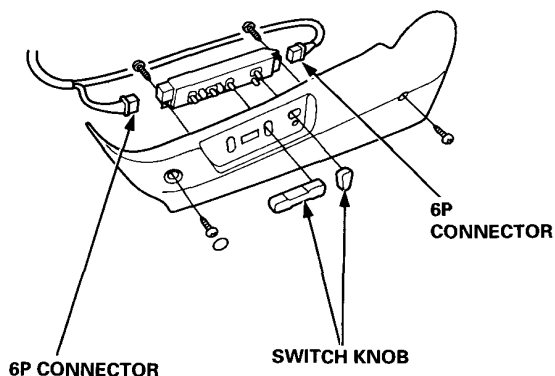
[]: KE



Driver's Power Seat

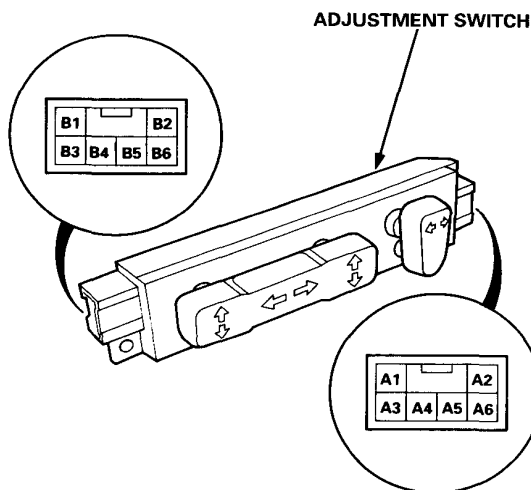
Switch Test/Replacement

1. Remove the adjustment switch cover from the driver's seat by removing the screws (see section 20), and pulling off the adjustment switch knobs.



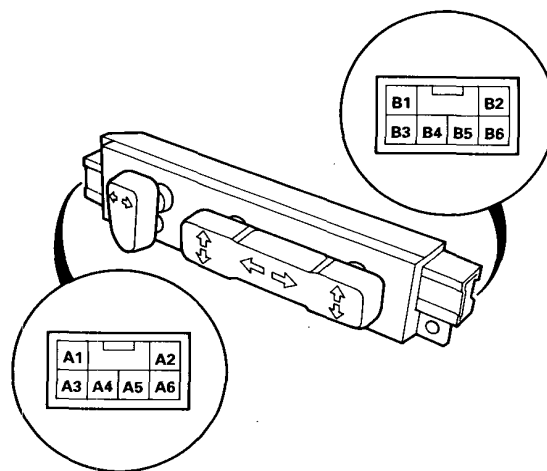
2. Disconnect the 6P connectors from the adjustment switch, then remove the switch from the cover by removing its two mounting screws.
3. Check for continuity between the terminals in each switch position according to the table.

KG model:



Terminal		A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	B6
Position													
SLIDE SWITCH	FORWARD												
	BACKWARD												
RECLINE SWITCH	FORWARD												
	BACKWARD												
FRONT UP-DOWN SWITCH	UP												
	DOWN												
REAR UP-DOWN SWITCH	UP												
	DOWN												

KE model:



Terminal		A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	B6
Position													
SLIDE SWITCH	FORWARD												
	BACKWARD												
RECLINE SWITCH	FORWARD												
	BACKWARD												
FRONT UP-DOWN SWITCH	UP												
	DOWN												
REAR UP-DOWN SWITCH	UP												
	DOWN												

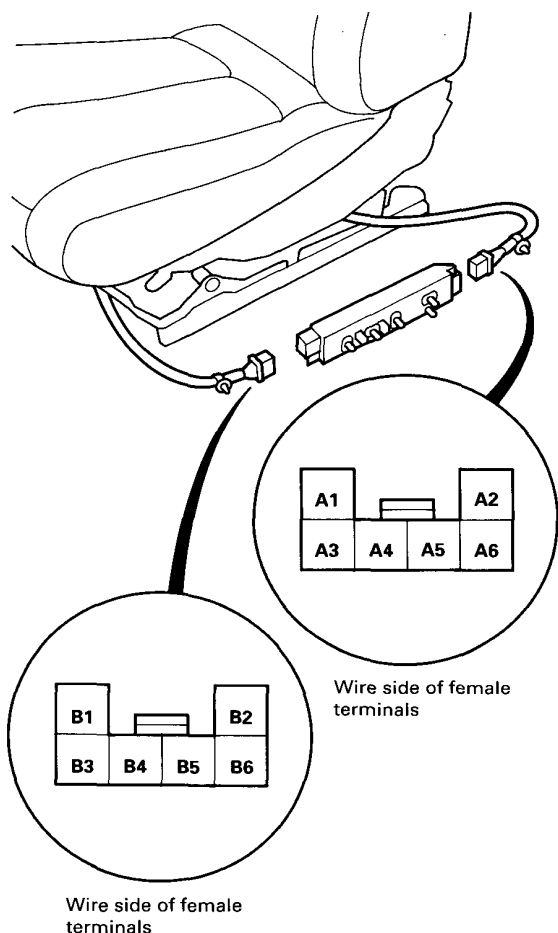


Motor Test

CAUTION: Be careful not to damage the seat, interior trim or body.

1. Remove the driver's seat (see section 20).
2. Disconnect the 6P connectors from the power seat switch.
3. Test the motors at the harness side of the 6P connectors by connecting power and ground as shown:

NOTE: KG model is shown, KE model is similar.



CAUTION: When a motor stops running, disconnect battery power immediately.

Recline motor:

Terminal		A4 [A5]	A3 [A6]
Position			
RECLINE MOTOR	FOR- WARD	⊖	⊕
	BACK- WARD	⊕	⊖

Slide motor:

Terminal		B1 [B2]	B5 [B4]
Position			
SLIDE MOTOR	FOR- WARD	⊖	⊕
	BACK- WARD	⊕	⊖

Front up-down motor:

Terminal		B4 [B5]	B3 [B6]
Position			
FRONT UP- DOWN MOTOR	UP	⊖	⊕
	DOWN	⊕	⊖

Rear up-down motor:

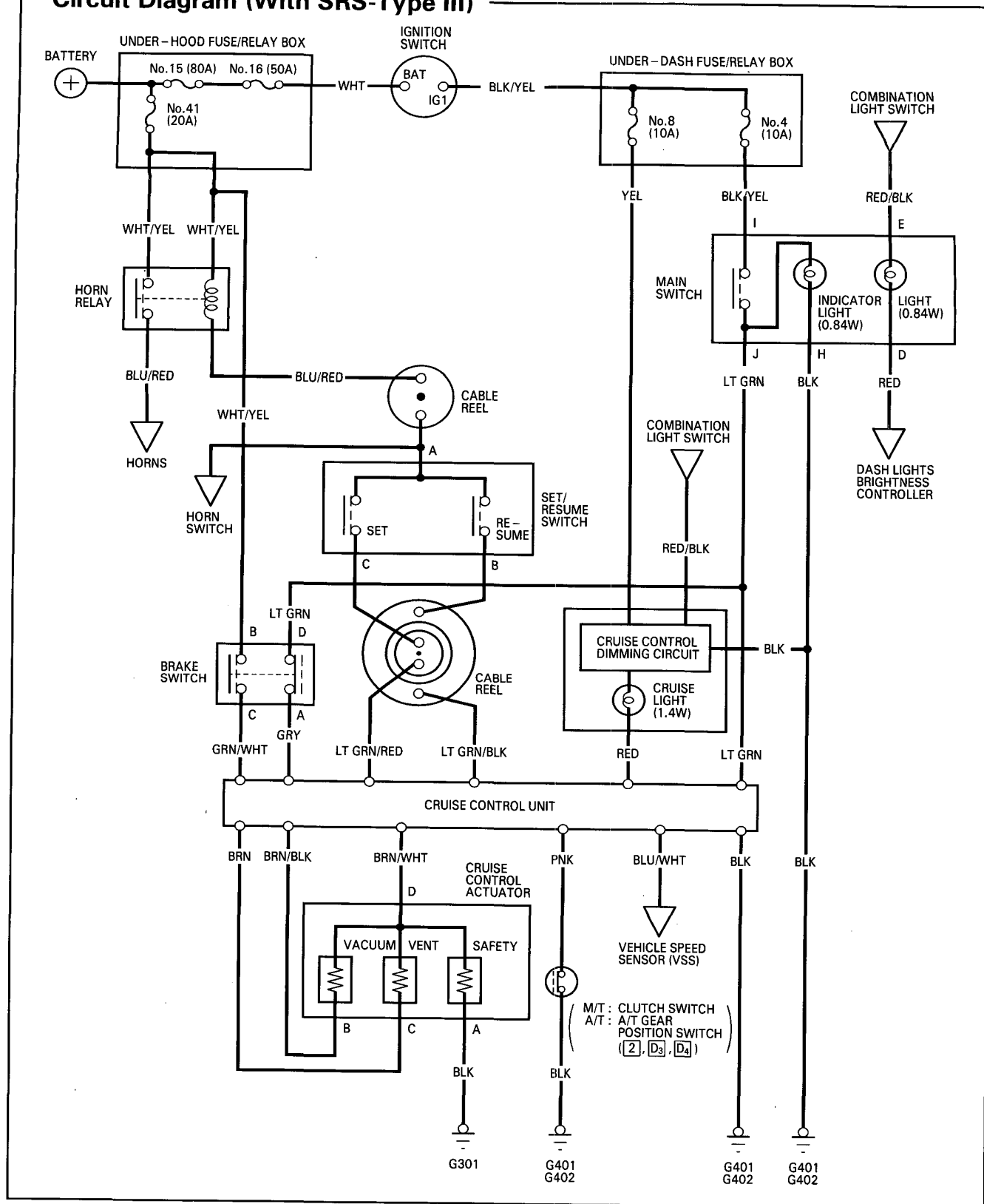
Terminal		B2 [B1]	B6 [B3]
Position			
REAR UP- DOWN MOTOR	UP	⊕	⊖
	DOWN	⊖	⊕

[]: KE model

4. If the motor does not run or fails to run smoothly, check for continuity of the power seat harness between the 6P connector and each motor. If there is continuity, replace the motor (see section 20).

Cruise Control

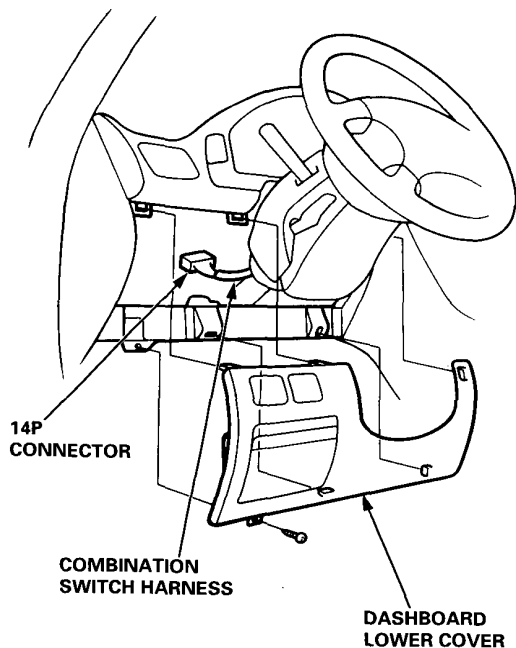
Circuit Diagram (With SRS-Type III)





Set/Resume Switch Test (With SRS-Type III)

1. Disconnect the battery negative cable, then disconnect the positive cable, and wait at three minutes.
2. Disconnect the driver's airbag (and front passenger's airbag) connector(s) (see SRS sub-section 23B).
3. Remove the dashboard lower cover.
4. Disconnect the combination switch harness 14P connector from the main wire harness.



5. Check for continuity between the No. 14 terminal of the combination switch harness 14P connector.

**COMBINATION SWITCH HARNESS
14P CONNECTOR**

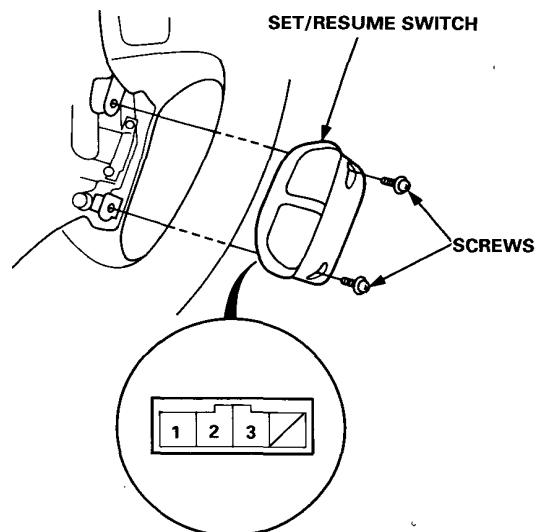
1	2	3			4	5	6
7	8	9	10	11	12	13	14

Wire side of female terminals

Terminal	1	7	14
Position			
SET (ON)		○	○
RESUME (ON)	○		○

- If there is continuity, and it matches the table, the switch is OK.
- If there is no continuity in one or both positions, go to step 6.

6. Remove the two screws, then remove the switch.



7. Check for continuity between the terminals in each switch position according to the table.

Terminal	1	2	3
Position			
SET (ON)	○		○
RESUME (ON)	○	○	

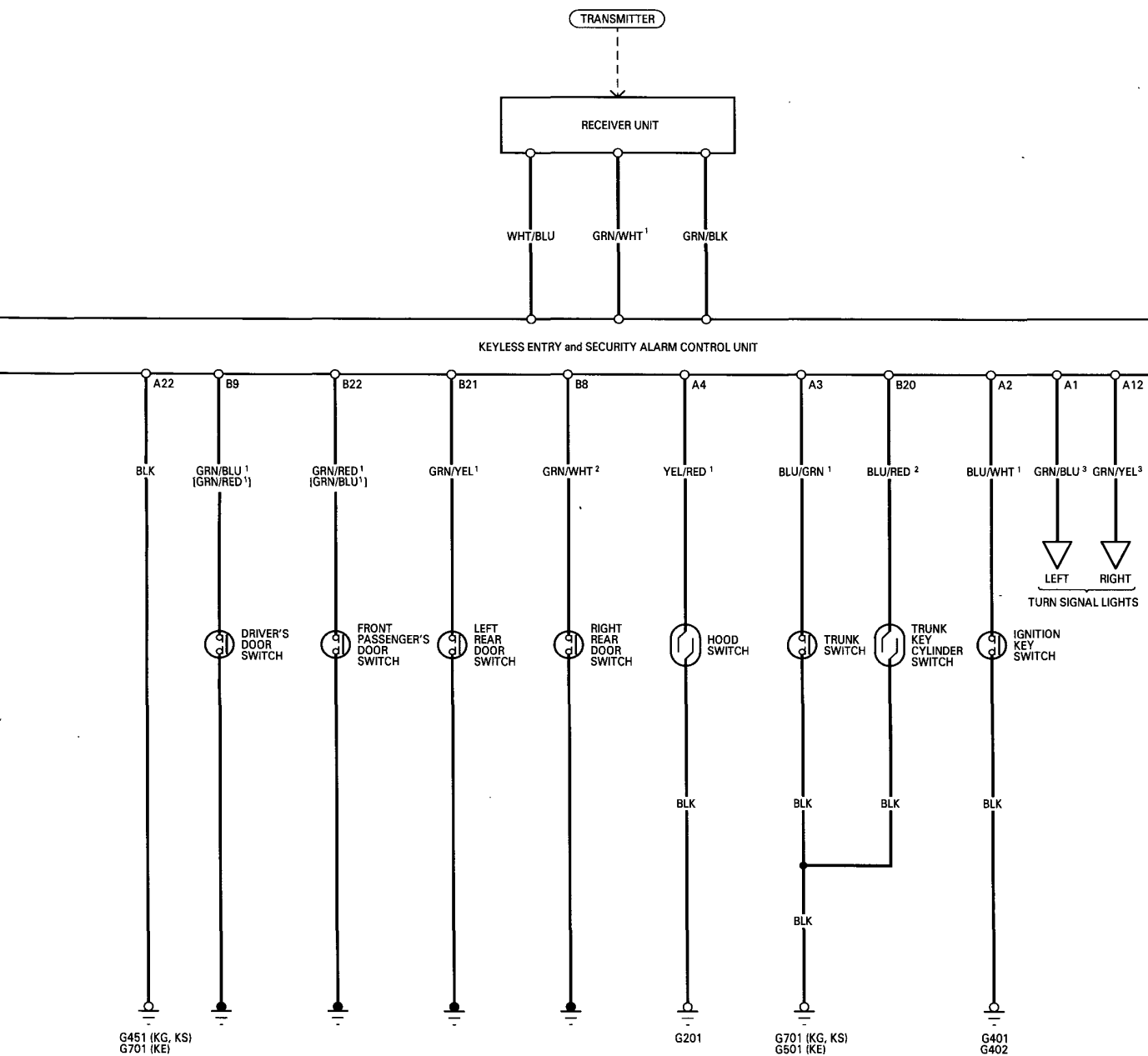
- If there is continuity, and it matches the table, replace the cable reel.
 - If there is no continuity in one or both positions, replace the switch.
8. If all tests prove OK, reinstall and reconnect the all removed parts, then reconnect the battery cables.
 9. After installing the airbag assembly, confirm proper system operation:
 - Turn the ignition switch ON (II), the instrument panel SRS indicator light should come on for about six seconds and then go off.
 - Make sure both horn buttons work.

Circuit Diagram





[]: KE

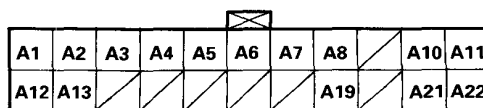


Keyless Entry and Security Alarm System

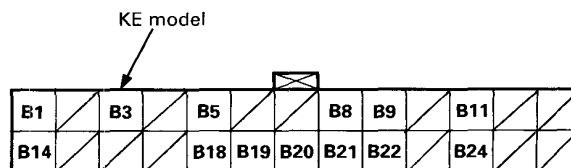
Control Unit Input Test

1. Remove the right trunk side trim panel, then disconnect the 26 P and 22 P connectors from the keyless entry and security alarm control unit.
2. Inspect the connector and the socket terminals to be sure they are all making good contact.
 - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
 - If the terminals look OK, make the following input tests at the connector.
 - If any test indicates a problem, find and correct the cause, the recheck the system.
 - If all the input test prove OK, the control unit must be faulty; replace it.

NOTE: Different wires with the same color have been given a number suffix to distinguish them (for example, GRN/BLU¹ and GRN/BLU² are not the same).



Wire side of female terminals



Wire side of female terminals

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A1	GRN/BLU ³	Connect battery power to the GRN/BLU ³ terminal.	Left turn signal light should come on as the battery is connected.	<ul style="list-style-type: none"> • Poor ground (G301, G401, G402, G451 or G501) • An open in the wire
A2	BLU/WHT ¹	Ignition key inserted into the ignition switch	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • Faulty ignition key switch • Poor ground (G401 [G501]) • An open in the wire
B20	BLU/RED ²	Trunk key cylinder switch in UNLOCK	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • Faulty trunk key cylinder switch • Faulty trunk switch • Poor ground (G701 [G501]) • An open in the wire
A3	BLU/GRN ¹	Trunk lid open	Check for continuity to ground: There should be continuity.	
A4	YEL/RED ¹	Hood open	Check for continuity to ground: There should be continuity.	
A5	BLK/BLU	Left rear door lock knob in UNLOCK	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • Faulty hood switch • Poor ground (G201) • An open in the wire
A6	BLK/GRN ²	Right rear door lock knob in UNLOCK	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • Left rear door lock knob switch (built into the actuator) • Poor ground (G501 [G451]) • An open in the wire
A7	BLU/GRN ²	Front passenger's door lock knob in UNLOCK	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • Right rear door lock knob switch (built into the actuator) • Poor ground (G451 [G501]) • An open in the wire
A19	BLU/WHT ²	Driver's door lock knob in LOCK	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • Front passenger's door lock knob switch (built into the actuator) • Poor ground (G451) • An open in the wire
A8	BLU/RED ³	Driver's door lock knob in UNLOCK		
A10	YEL/WHT	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> • Poor ground (G501) • An open in the wire
A11	WHT/BLU	Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> • Blown No. 1 (7.5 A) fuse in the under-dash fuse/relay box • An open in the wire



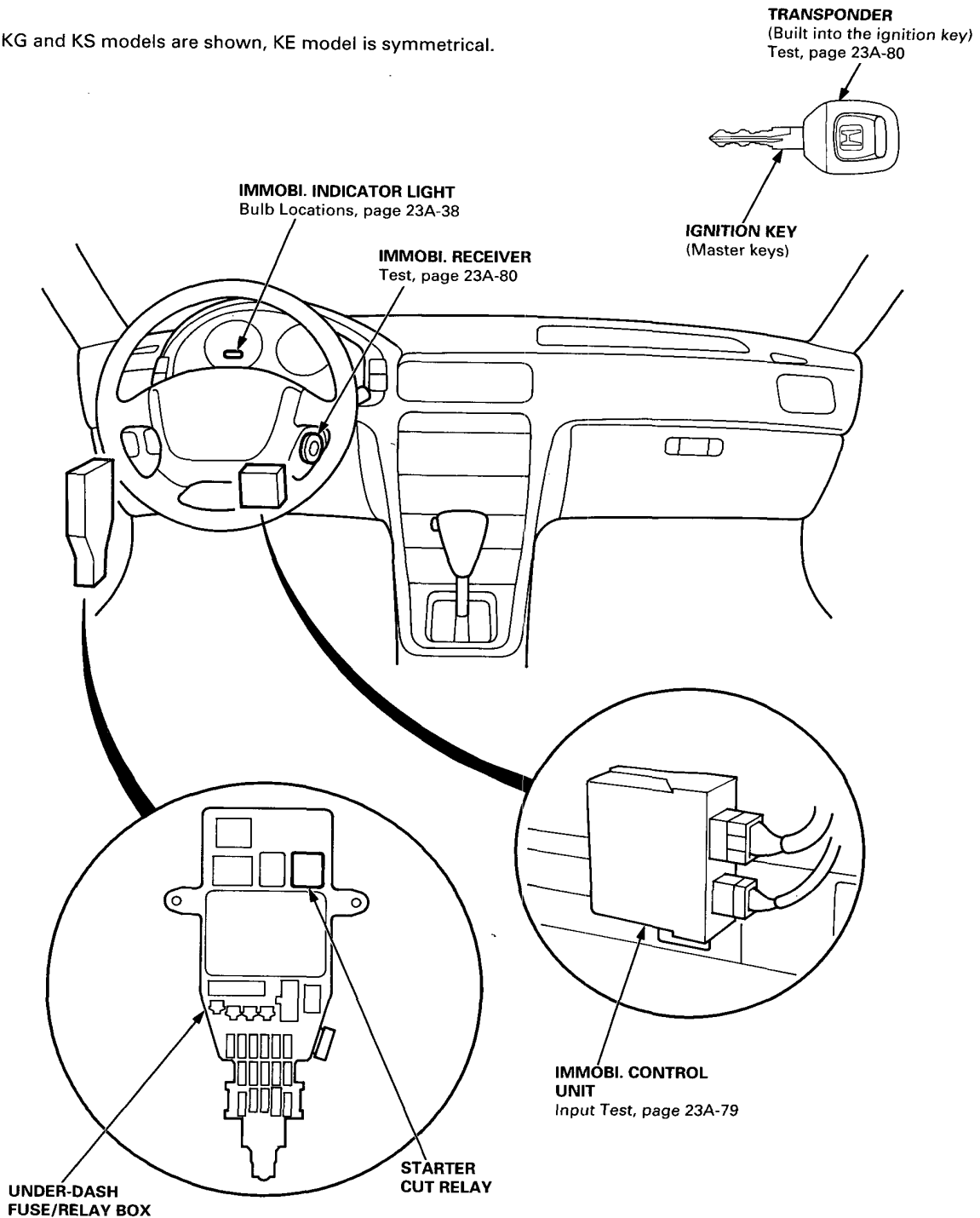
Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
A12	GRN/YEL ³	Connect battery power to the GRN/YEL ³ terminal.	Right turn signal lights should come on as the battery is connected.	<ul style="list-style-type: none"> • Poor ground (G201, G401, G402, G452 or G501) • An open in the wire
A13	GRN/RED ²	Under all conditions	Attach to ground: The security indicators should come on.	<ul style="list-style-type: none"> • Blown No. 21 (20 A) fuse in the under-hood fuse/relay box • Faulty security indicator • An open in the wire
A21	BLU/RED ¹	Under all conditions	Attach to ground: The security horn should sound.	<ul style="list-style-type: none"> • Blown No. 21 (20 A) fuse in the under-hood fuse/relay box • Faulty security horn • An open in the wire
A22	BLK ¹	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • Poor ground (G451 or [G701]) • An open in the wire
B14 B1	WHT/RED and YEL/RED ²	Connect the YEL/RED ² and WHT/BLU terminals, and the WHT/RED and BLK ¹ terminals momentarily.	Check the door lock actuators: All doors should unlock as the battery is connected momentarily.	<ul style="list-style-type: none"> • Faulty actuator • An open in the wire
		Connect the WHT/RED and WHT/BLU terminals, and the YEL/RED ² and BLK ¹ terminals momentarily.	Check the door lock actuators: All doors should lock as the battery is connected momentarily.	
B3	WHT/GRN	Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> • Blown No. 44 (10 A) fuse in the under-hood fuse/relay box • An open in the wire
B21	GRN/YEL ¹	Left rear door open	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • Faulty left or right rear door switches • Poor ground (G451, G501) • An open in the wire
B8	GRN/WHT ²	Right rear door open		
B9	GRN/BLU ¹ [GRN/RED ¹]	Driver's door open	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • Faulty driver's or front passenger's door switches • Poor ground (G451, G501) • An open in the wire
B22	GRN/RED ¹ [GRN/BLU ¹]	Front passenger's door open		
B11	GRN/RED ³	Driver's door key cylinder switch in UNLOCK	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • Faulty driver's door key cylinder switch • Poor ground (G501) • An open in the wire
B24	GRN/WHT ³	Driver's door key cylinder switch in LOCK		

[]: KE model

Immobilizer System

Component Location Index

NOTE: KG and KS models are shown, KE model is symmetrical.





Description

The car is equipped with an immobi. system that will disable the vehicle unless the proper ignition key is used. This system consists of a transponder located in the ignition key, a receiver, a control unit, an indicator light, and the ECM.

The car has three keys: two master keys and one learning key.

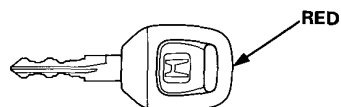
- The master key is for:

- ignition switch
- door locks
- trunk lock
- glove box

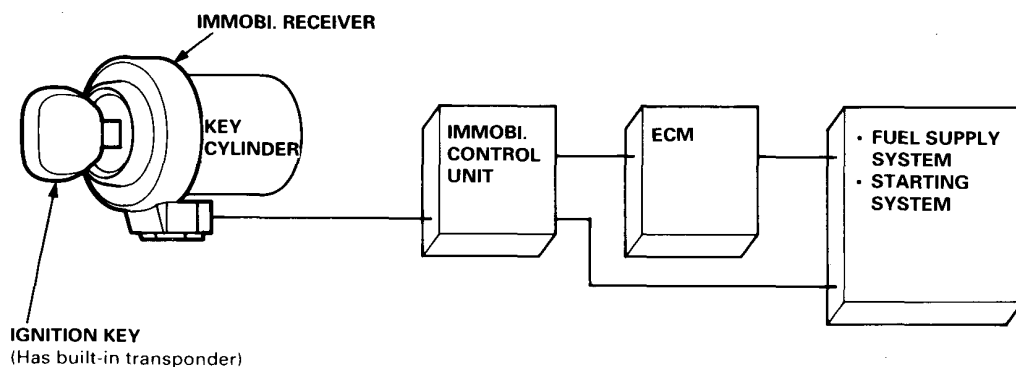


- The learning key is for rewriting the immobi. system.

NOTE: This key cannot start the engine; use it only for rewriting the system.



When the key is inserted into the ignition switch and turned to the (II) position, the immobi. control unit sends power to the transponder through the receiver. The transponder then sends a coded signal back through the receiver to the control unit. The control unit in turn signals the ECM, as well as the starter cut relay.



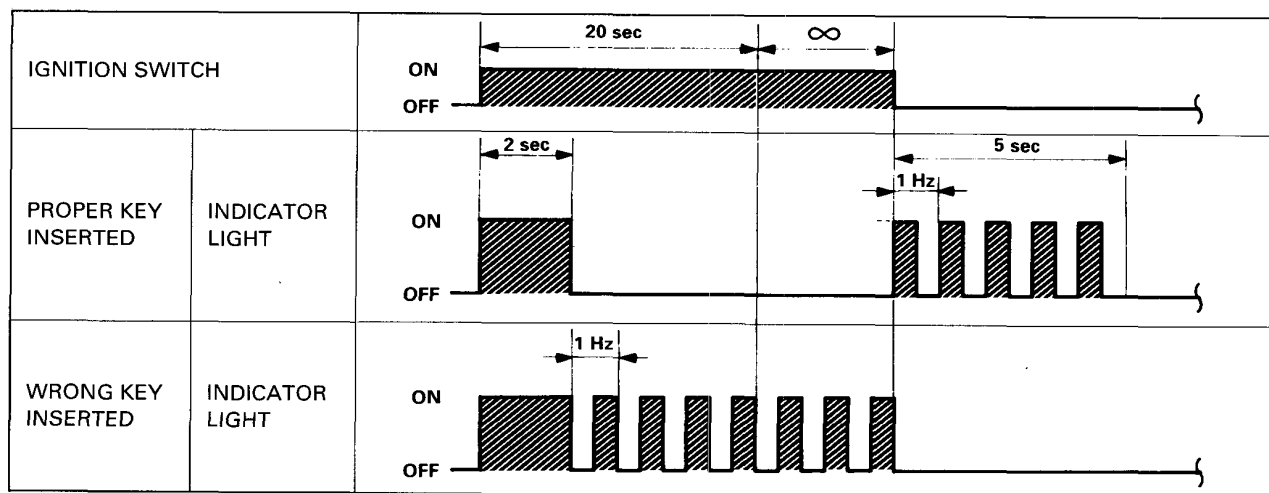
(cont'd)

Immobilizer System

Description (cont'd)

- If the proper key has been used, the starter cut relay will be energized, and the ECM will energize the fuel supply system. The immobi. indicator light in the gauge assembly will simultaneously come on for two seconds, then go off, thereby signaling that the immobi. unit has recognized the code sent by the transponder.
- If a key has been used whose code was not received or recognized by the unit, or which was not approved by Honda, the indicator light will come on for about two seconds, then it will blink continuously.
- If the ignition switch is turned OFF, the indicator will blink for about five seconds to signal that the unit has been set correctly, then the indicator will go off.

IMMOBI. INDICATOR LIGHT BLINKING PATTERN:



NOTE:

- The immobi. system can store up to five key codes.
- If it is necessary to rewrite, the dealer needs the customer's car, its master key, its learning key, and the Honda PGM Tester equipped with an immobi. program card.



Problems and Replacement Parts:

Problem	Parts set	PGM-Tester required?
① Master key has been lost or additional master key is required.	A	YES
② All master keys have been lost.	A x 2, and C	YES
③ Learning key has been lost.	C	YES
④ Immobi. receiver does not work.	B	NO
⑤ Immobi. control unit does not work.	C	YES
⑥ ECM does not work.	E	YES
⑦ Ignition switch does not work.	D	YES
⑧ Door key cylinder has been broken.	F (G)	NO (YES)

Parts Set:

A: Blank key

E: ECM

B: Immobi. receiver

F: Door key cylinders

Master keys for doors open or locked

C: Immobi. control unit

Master key

Learning key

G: Ignition switch with immobi. receiver

Immobi. control unit

Master key

Learning key

Door key cylinders

Trunk key cylinder

D: Ignition switch with immobi. receiver

Immobi. control unit

Master key

Learning key

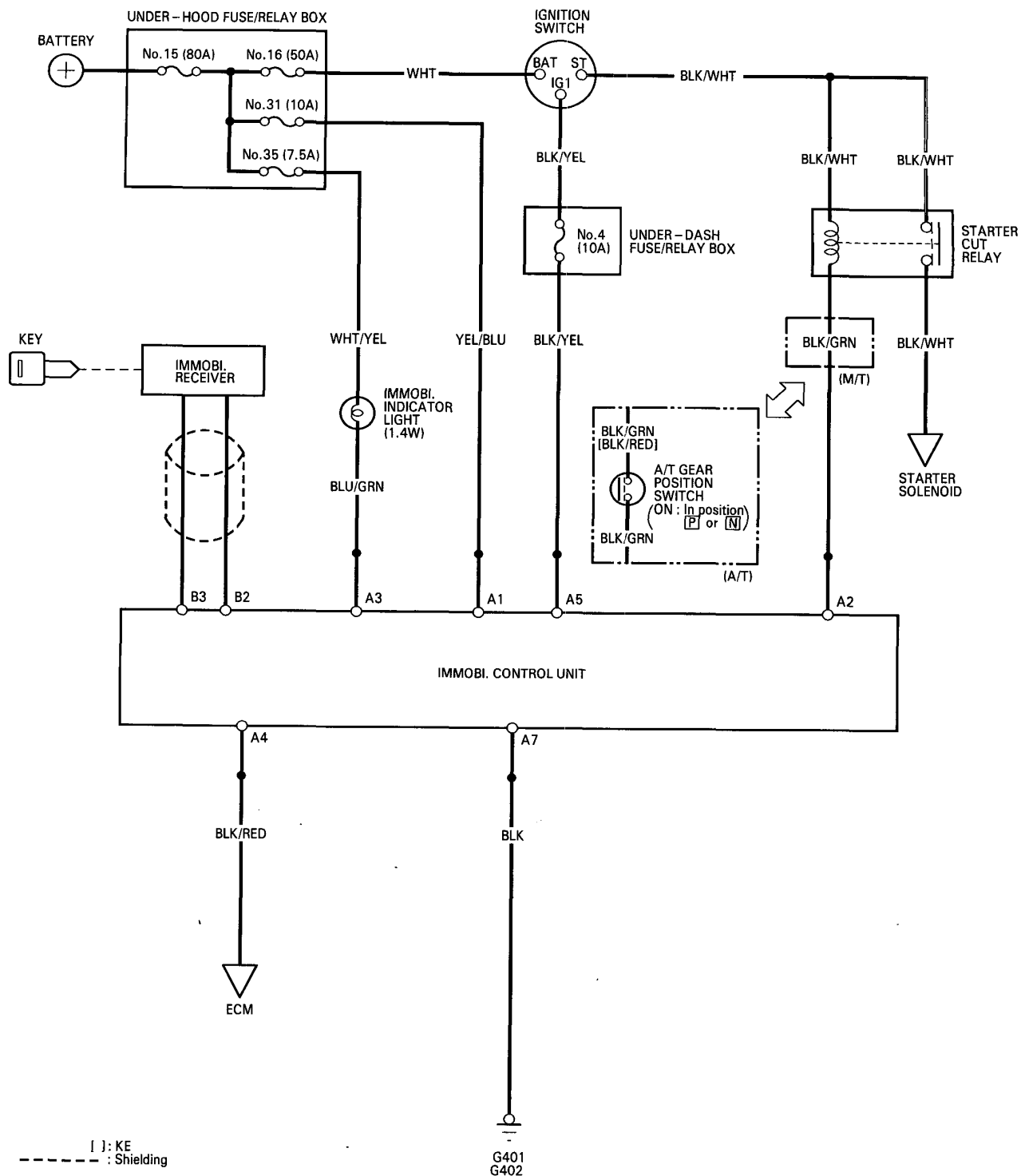
} Set D

Before Testing:

- Due to the action of the immobi. system, the engine takes more time to respond to starting than engines of cars without immobi. system.
- When the system is normal, and the proper key is inserted, the indicator light comes on for two seconds, then it will go off.
- If the indicator starts to blink after two seconds, or if the engine does not start, repeat the starting procedure.
 - If the engine still does not start, perform the immobi. control unit input test and transponder and immobi. receiver test.
- If all the input tests and the transponder and immobi. receiver test prove OK, check the ECM (see section 11).
 - If the ECM is OK, the immobi. control unit must be faulty; replace the immobi. control unit, master key and learning key together, and then rewrite the ECM with the Honda PGM Tester.
 - If the ECM is faulty, replace with a known-good ECM, and recheck. However, since the known-good ECM has a different code stored into it, it must be rewritten with the Honda PGM Tester. Otherwise, the engine will not start.

Immobilizer System

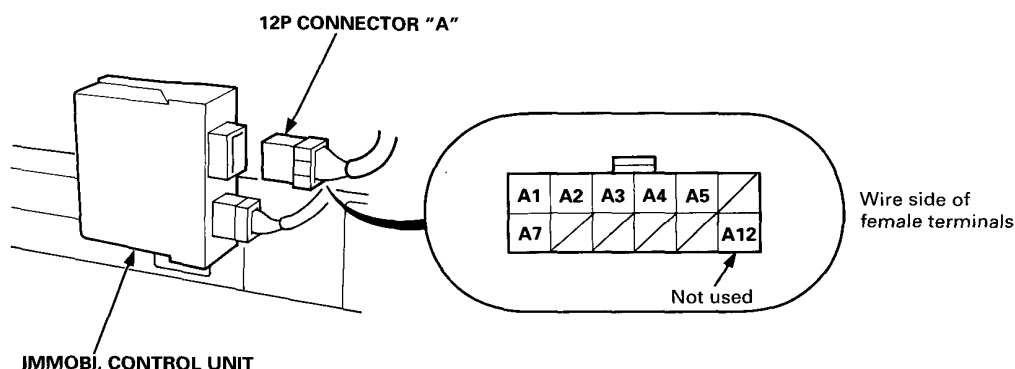
Circuit Diagram





Control Unit Input Test

1. Remove the dashboard lower cover.
2. Disconnect the connector "A" from the immobi. control unit.
3. Inspect the connector and socket terminals to be sure they are all making good contact.
 - If the terminals are bent, loose, or corroded, repair them as necessary, and recheck the system.
 - If the terminals look OK, make the following input tests at the connector.
 - If any test indicates a problem, find and correct the cause, then recheck the system.
 - If all the input tests prove OK, check the immobi. receiver and transponder.



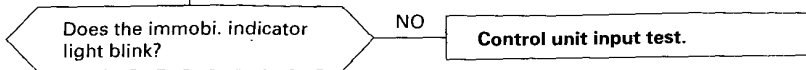
Cavity	Wire	Test condition	Test: Desired results	Possible cause if result is not obtained
A7	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> • Poor ground (G401, G402) • An open in the wire
A1	YEL/BLU	Under all conditions	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> • Blown No. 31 (10 A) fuse in the under-hood fuse/relay box • An open in the wire
A5	BLK/YEL	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> • Blown No. 4 (10 A) fuse in the under-dash fuse/relay box • An open in the wire
A2	BLK/GRN	M/T: Ignition switch to START (III) A/T: Ignition switch to START (III) with shift lever in P or N	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> • Faulty starter cut relay • Faulty A/T gear position switch • An open in the wire
A3	BLU/GRN	Under all conditions	Attach to ground: The immobi. indicator light should come on.	<ul style="list-style-type: none"> • Blown No. 35 (7.5 A) fuse in the under-hood fuse/relay box • Faulty gauge assembly • Blown bulb • An open in the wire
A4	BLK/RED	Under all conditions	Check for continuity between the A4 terminal and No. 2 terminal of the ECM 22P connector. There should be continuity.	<ul style="list-style-type: none"> • An open in the wire

A12 terminal is not used.

Immobilizer System

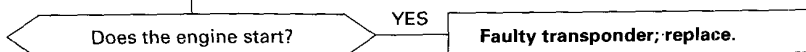
Immobi. Receiver and Transponder Test

1. Turn the ignition switch ON (II).
2. Check that the immobi. indicator light starts blinking after two seconds.



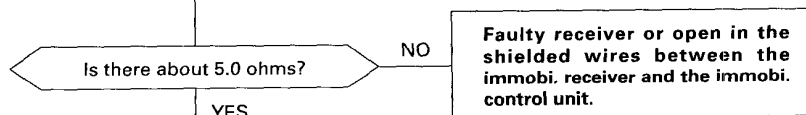
YES

- Try to start the engine with another master key.



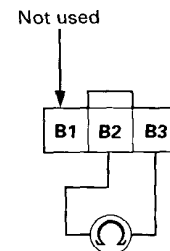
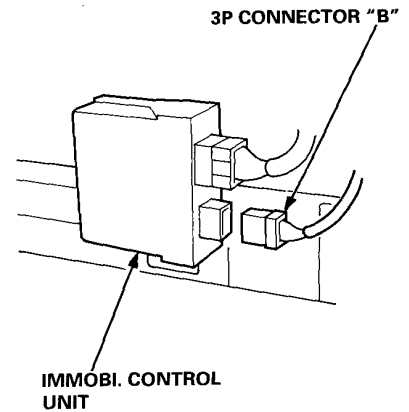
NO

1. Turn the ignition switch OFF.
2. Disconnect the 3P connector "B" from the immobi. control unit.
3. Measure resistance between the B2 and B3 terminals of the 3P connector.



YES

- Faulty immobi. control unit; replace.



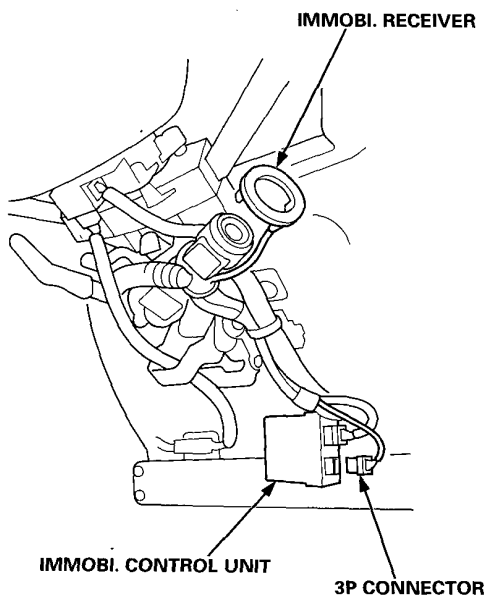


Power Mirrors

Immobi. Receiver Replacement

1. Remove the dashboard lower cover.
2. Remove the steering column covers.
3. Disconnect the 3P connector from the immobi. control unit.
4. Remove the receiver from the ignition key cylinder.

CAUTION: Be careful not to damage the key cylinder.



5. Install in the reverse order of removal.

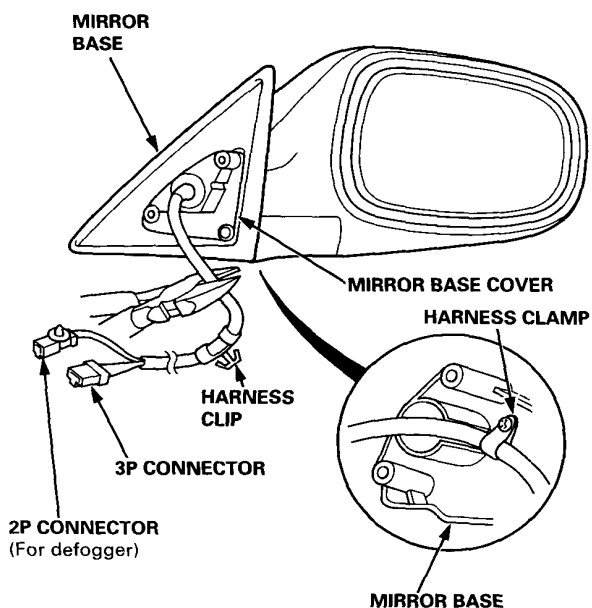
NOTE: As this harness serves as communication link, install it carefully.

6. After replacement, check the immobi. system.

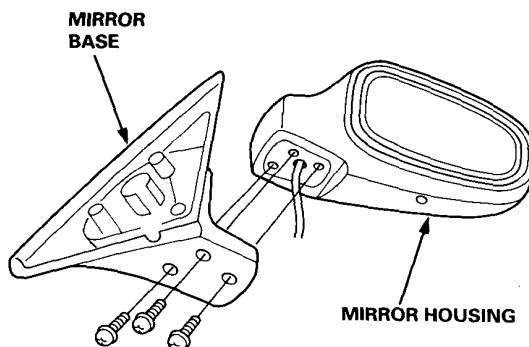
Mirror Actuator Replacement

NOTE: Only the mirror with defogger can be replaced the mirror actuator.

1. Remove the door mirror from the car, and disconnect the electrical connector(s).
2. Cut the wire harness with wire cutters, remove the mirror base cover, and remove the harness clamp from the mirror base.



3. Remove the three mounting screws, and separate the mirror base from the mirror housing.

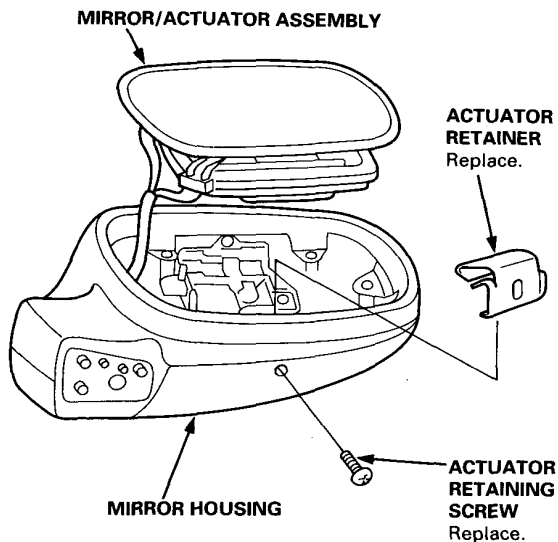


(cont'd)

Power Mirrors

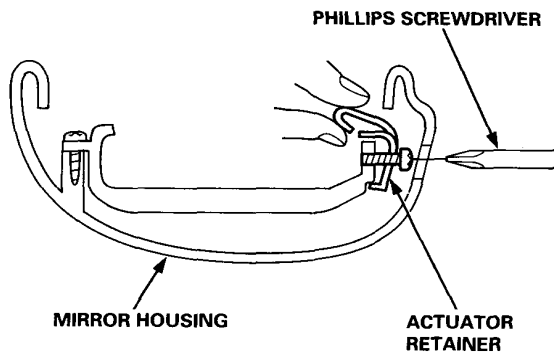
Mirror Actuator Replacement (cont'd)

4. Insert a screwdriver into the hole on the bottom of the mirror housing, and remove the actuator retaining screw. Then carefully press on the mirror to create a gap between mirror and mirror housing, insert a finger into the gap, and take out the mirror/actuator assembly.

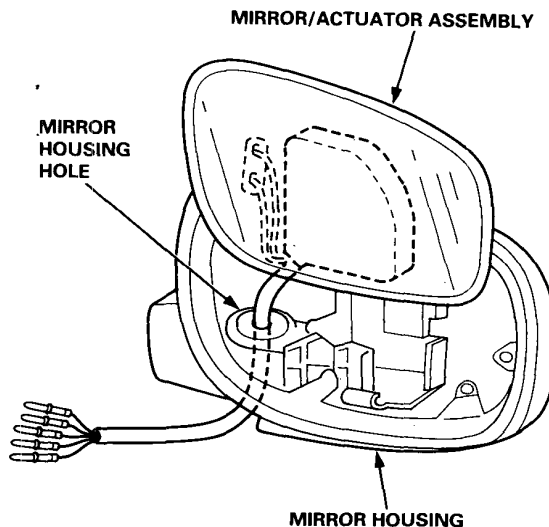


5. Loosely install a new actuator retainer on the frame in the mirror housing with a new retainer screw.

NOTE: If the retainer is not loose enough, it will impede the installation of the new mirror/actuator assembly.

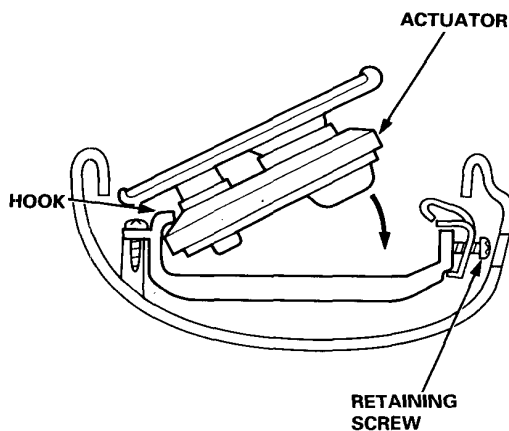


6. Route the wire harness of the new mirror/actuator assembly through the hole in the mirror housing.



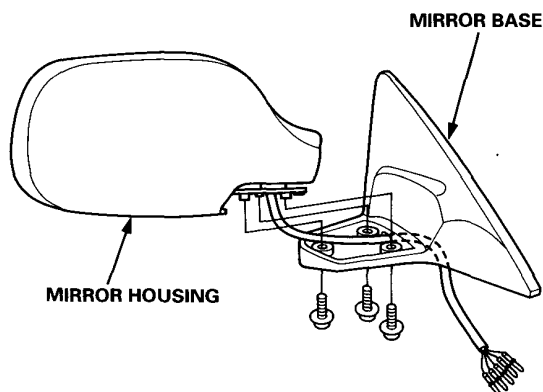
7. Position the upper edge of the actuator under the hooks of the frame, then insert the new mirror/actuator assembly into the housing, and tighten the retaining screw.

NOTE: Make sure the actuator is held securely by the hooks and the retainer.

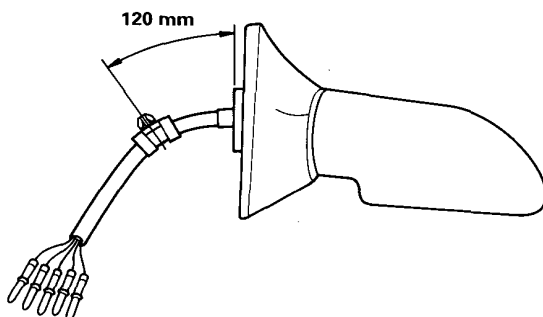




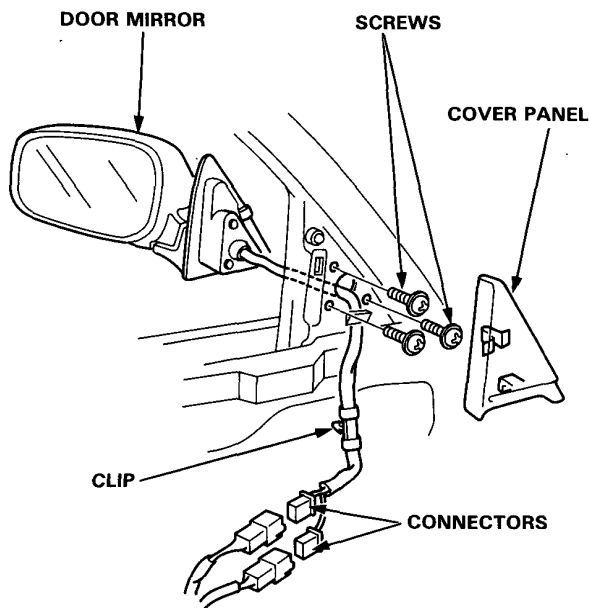
8. Route the harness through the hole in the mirror base, and reinstall the mirror housing on the mirror base.



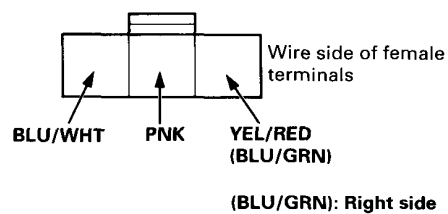
9. Reinstall the harness clamp and the mirror base cover removed in step 2, and tape the harness clip to the wire harness 120 mm (4.7 in) from the mirror base cover.



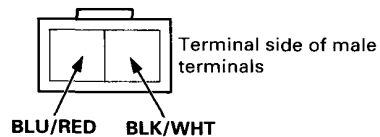
10. Insert the terminals into the connector(s) as shown below, then reconnect the connectors, and reinstall the mirror to the car.



3P CONNECTOR:



2P CONNECTOR:



11. Test the mirror for smooth movement in all directions.

Supplemental Restraint System (SRS-Type III)

Special Tools	23B-2	Troubleshooting	
Component/Wiring Locations		Self-diagnostic Procedures	23B-13
Index	23B-3	Erasing the DTC memory	23B-15
Description	23B-5	Diagnostic Trouble Code (DTC)	
Circuit Diagram	23B-6	Chart	23B-16
Precautions/Procedures		SRS Indicator Light Wire	
General Precautions	23B-7	Connections	23B-17
Airbag Handling and Storage	23B-7	Flowcharts	23B-18
SRS Unit Precautions	23B-8	Airbag Assembly	
Inspection After Deployment	23B-8	Replacement	23B-45
Wiring Precautions	23B-9	Cable Reel	
Backprobing Spring-loaded Lock		Replacement	23B-49
Connectors	23B-9	SRS Unit	
Spring-loaded Lock Connector	23B-10	Replacement	23B-53
Disconnecting the Airbag		Scrapping	23B-55
Connectors	23B-11		
Spring-loaded Lock Connector With			
Built-in Short Contact	23B-11		
Steering-related Precautions	23B-12		

Outline of Model Change

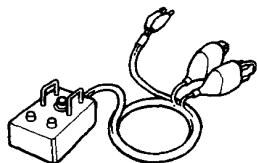
- The SRS unit and cable reel connectors have been changed; related information was entered.



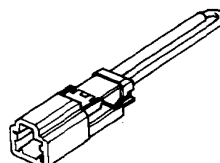
Special Tools (SRS-Type III)

Ref. No.	Tool Number	Description	Qty	Remark
①	07HAZ - SG00500	Deployment Tool	1	
②	07PAZ - 0010100	SCS Short Connector	1	
③	07SAZ - SW50200	SRS Service Connector	1	
④	07TAZ - SZ50200	SRS Service Connector (2 Ω)	1	
⑤*	07TAZ - 001020A	Backprobe Adapter, 17 mm	2	

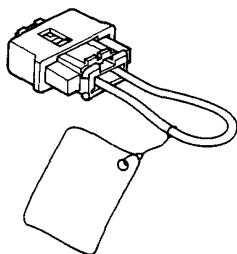
*: Use with the stacking patch cords from T/N 07SAZ - 001000A, Backprobe Set.



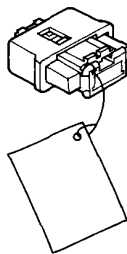
①



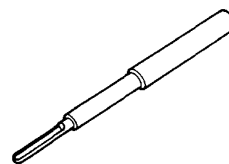
②



③



④



⑤

Component/Wiring Location Index (SRS-Type III)

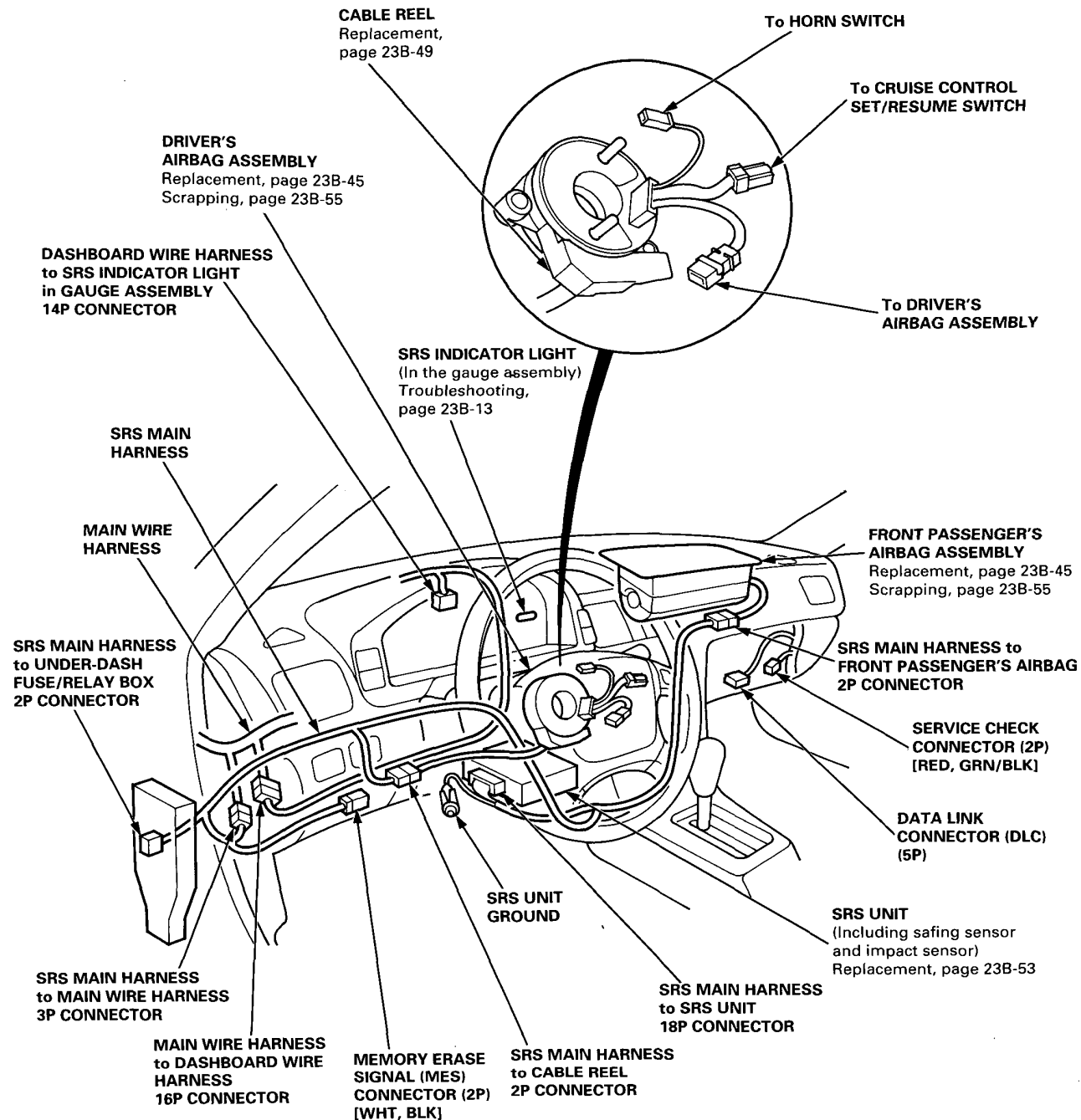


With Front Passenger's Airbag

CAUTION: Make sure all SRS ground locations are clean and grounds are securely attached.

NOTE:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- RHD type is symmetrical to LHD type.



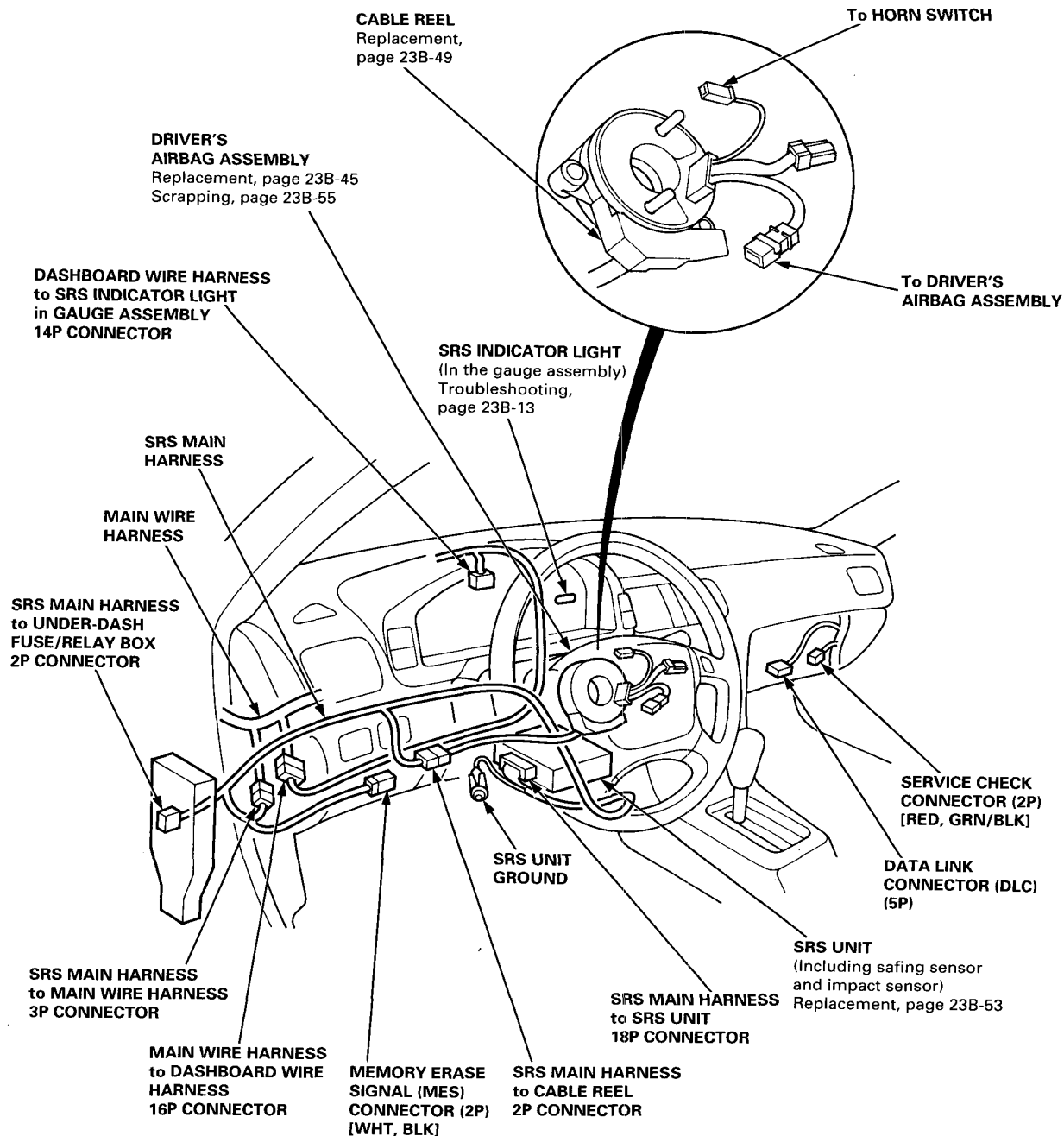
Component/Wiring Location Index (SRS-Type III)

Without Front Passenger's Airbag

CAUTION: Make sure all SRS ground locations are clean and grounds are securely attached.

NOTE:

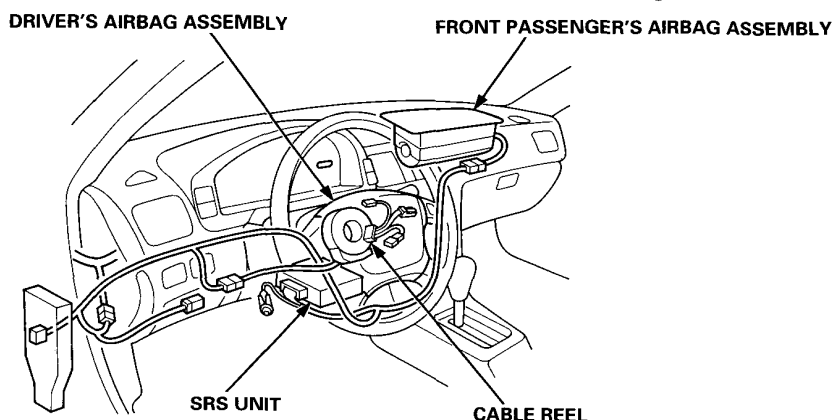
- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.



Description (SRS-Type III)

SRS

The SRS is a safety device which, when used in conjunction with the seat belt, is designed to help protect the driver (and front passenger) in a frontal impact exceeding a certain set limit. The system consists of the SRS unit (including safing sensor and impact sensor), the cable reel, the driver's airbag (and front passenger's airbag).

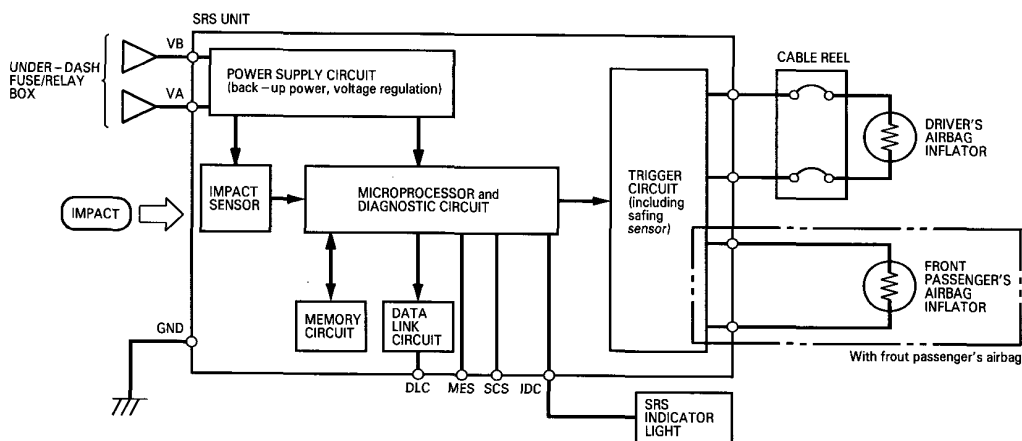


Operation

The main circuit in the SRS unit senses and judges the force of impact and, if necessary, ignites the inflator charge(s). If battery voltage is too low or power is disconnected due to the impact, the back-up power circuit will keep voltage at a constant level.

For the SRS to operate:

- (1) The impact sensor and safing sensor must activate and send electric signals to the microprocessor.
- (2) The microprocessor must compute the signals and send signals to the airbag inflator(s).
- (3) The inflator(s) must ignite and deploy the airbag(s).



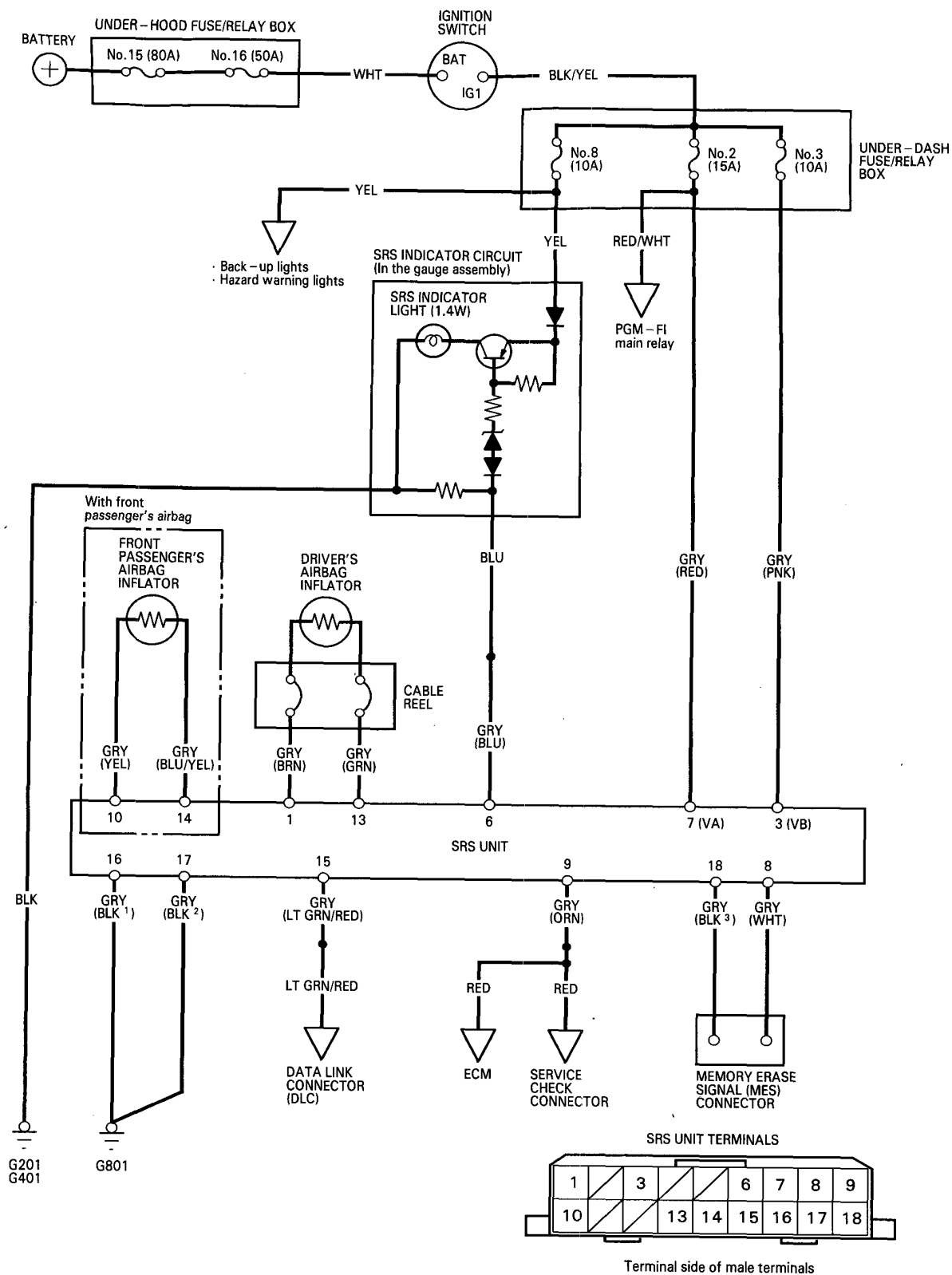
Self-diagnosis System

A self-diagnosis circuit is built into the SRS unit; when the ignition switch is turned ON (II), the SRS indicator light comes on and goes off after about six seconds if the system is operating normally.

If the light does not come on, or does not go off after six seconds, or if it comes on while driving, it indicates an abnormality in the system. The system must be inspected and repaired as soon as possible.

For better serviceability, the memory will store the cause of the malfunction, and the data link circuit passes on the information from the memory to the data link connector (DLC). This information can be read with the Honda PGM Tester connected to the DLC (5P).

Circuit Diagram (SRS-Type III)



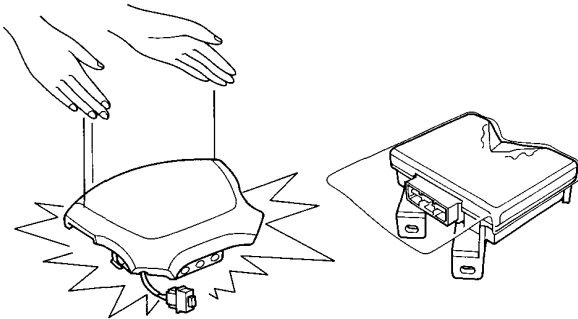
Precautions/Procedures (SRS-Type III)



General Precautions

- Carefully inspect any SRS part before you install it. Do not install any part that shows signs of being dropped or improperly handled, such as dents, cracks or deformation:

- Airbag assemblies
- Cable reel
- SRS unit



- Use only a digital multimeter to check the system. If it's not a Honda multimeter, make sure its output is 10 mA (0.01 A) or less when switched to the smallest value in the ohmmeter range. A tester with a higher output could damage the airbag circuit or cause accidental deployment and possible injury.
- Do not install used SRS parts from another car. When making SRS repairs, use only new parts.
- Except when performing electrical inspections, always disconnect both the negative cable and positive cable from the battery, and wait at least three minutes before beginning work.
- Replacement of the combination light and wiper/washer switches and cruise control switch can be done without removing the steering wheel:
 - Combination light and wiper/washer switch replacement.
 - Cruise control set/resume switch replacement.
- Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbags could accidentally deploy and cause damage or injuries.
- Whenever the airbag(s) has(have) been activated, replace the SRS unit.

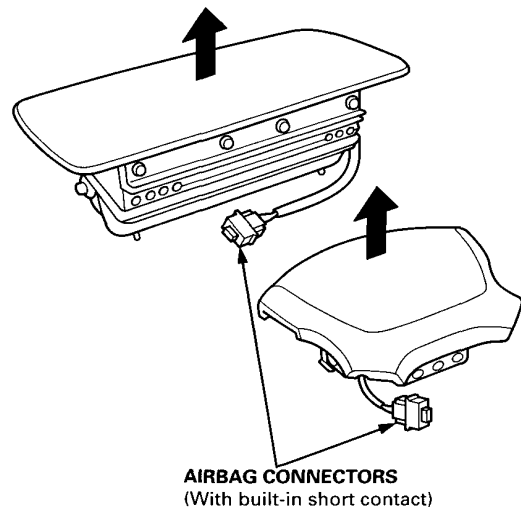
Airbag Handling and Storage

Do not try to disassemble the airbag assembly. It has no serviceable parts. Once an airbag has been operated (deployed), it cannot be repaired or reused.

For temporary storage of the airbag assembly during service, please observe the following precautions:

- Store the removed airbag assembly with the pad surface up. The driver's and front passenger's airbag connectors have a built-in short contact (see page 23B-11).

⚠ WARNING If the airbag is improperly stored face down, accidental deployment could propel the unit with enough force to cause serious injury.



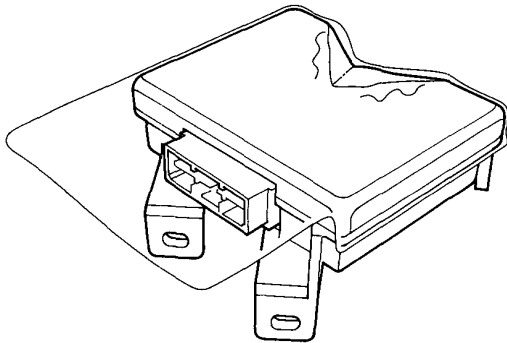
- Store the removed airbag assembly on a secure flat surface away from any high heat source (exceeding 100°C/212°F) and free of any oil, grease, detergent or water.

CAUTION: Improper handling or storage can internally damage the airbag assembly, making it inoperative. If you suspect the airbag assembly has been damaged, install a new unit and refer to the Deployment/Scrapping Procedures for disposing of the damaged airbag.

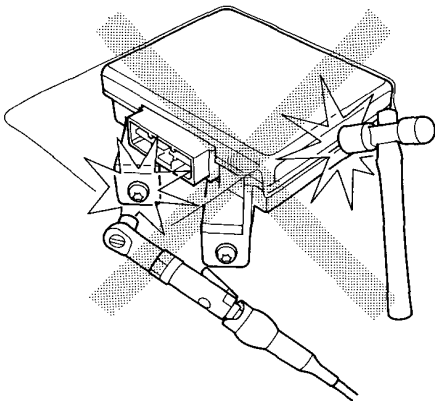
Precautions/Procedures (SRS-Type III)

SRS Unit Precautions

- Take extra care when painting or doing body work in the area below the dashboard. Avoid direct exposure of the SRS unit or wiring to heat guns, welding, or spraying equipment.
- Disconnect the driver's (and front passenger's) airbag connector(s) before working below the dashboard near the SRS unit.
- After any degree of frontal body damage, or after a collision without airbag deployment, inspect the SRS unit for physical damage. If it is dented, cracked, or deformed, replace it.



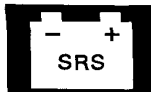
- Be sure the SRS unit is installed securely.
- Do not disassemble the SRS unit.
- Store the SRS unit in a cool (less than about 40°C/ 104°F) and dry (less than 80% humidity, no moisture) place. Do not spill water or oil on the SRS unit, and keep it away from dust.
- During installation or replacement, be careful not to bump (impact wrench, hammer, etc.) the area around the SRS unit. The airbags could accidentally deploy and cause damage or injuries.



Inspection After Deployment

After a collision in which the airbags were deployed, replace the SRS unit, and inspect the following:

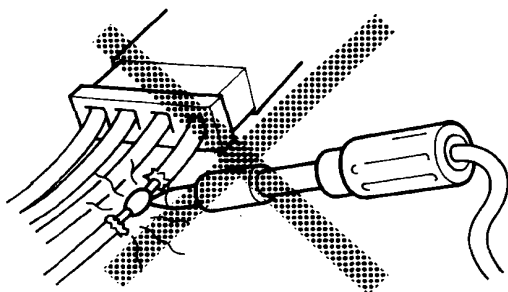
1. Inspect all the SRS wire harnesses. Replace, don't repair, any damaged harnesses.
2. Inspect the cable reel for heat damage. If there is any damage, replace the cable reel.
3. After the car is completely repaired, turn the ignition switch on. If the SRS indicator light comes on for about six seconds and then goes off, the SRS system is OK. If the indicator light does not function properly, go to SRS Troubleshooting.



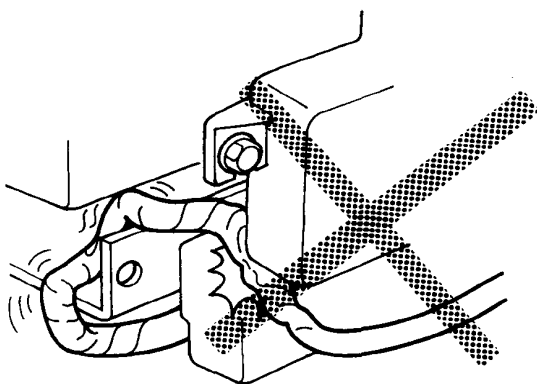
Wiring Precautions

- Never attempt to modify, splice or repair SRS wiring.

NOTE: SRS wiring can be identified by special yellow outer protective covering.



- Be sure to install the harness wires so that they are not pinched or interfering with other car parts.

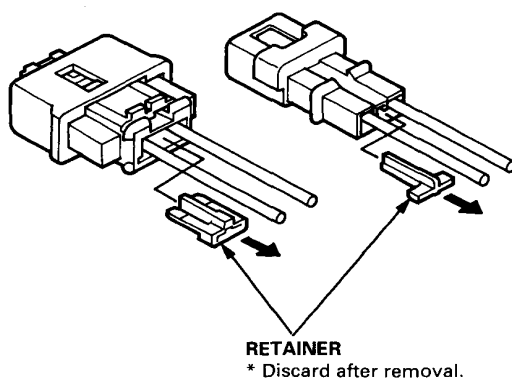


- Make sure all SRS ground locations are clean and grounds are securely fastened for optimum metal-to-metal contact. Poor grounding can cause intermittent problems that are difficult to diagnose.

Backprobing Spring-loaded Lock Connectors

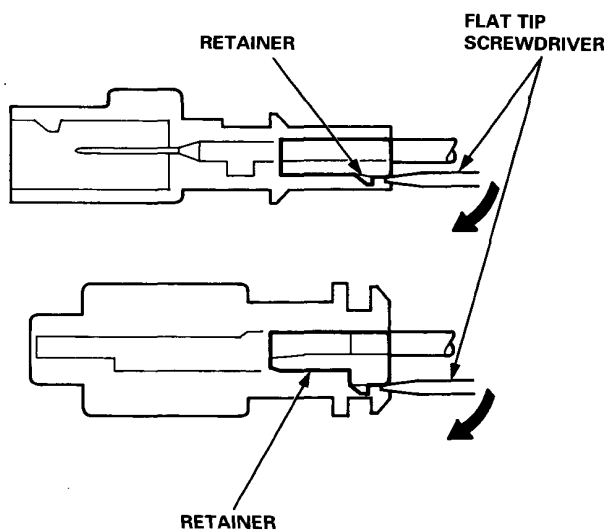
- When checking voltage or resistance on this type of connector the first time, it is necessary to remove the retainer to insert tester probes from the wire side.

NOTE: It is not necessary to reinstall the removed retainer; the terminals will stay locked in the connector housing.



- To remove the retainer, insert a flat tip screwdriver between connector body and retainer, and carefully pry out the retainer.

NOTE: Take care not to break the connector.



Precautions/Procedures (SRS-Type III)

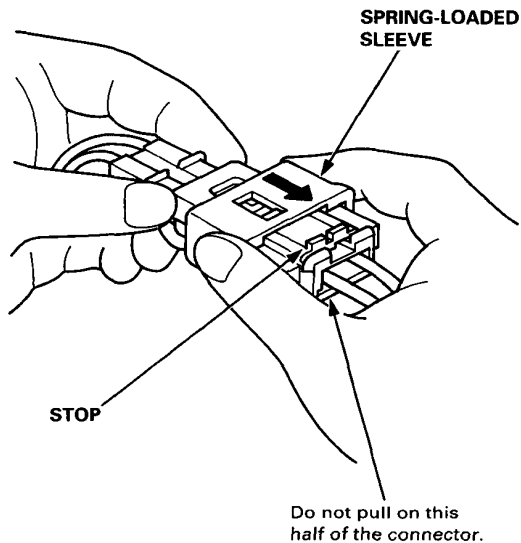
Spring-loaded Lock Connector

Some SRS system connectors have a spring-loaded lock.

Disconnecting

To release the lock, pull the spring-loaded sleeve toward the stop while holding the opposite half of the connector. Then pull the connector halves apart.

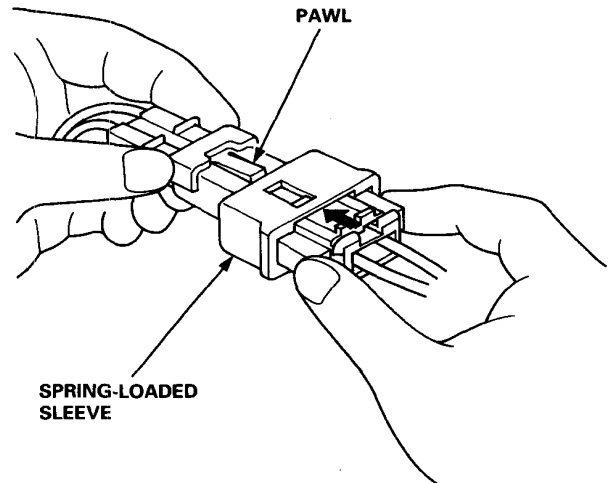
NOTE: Be sure to pull on the sleeve and not on the connector half itself.



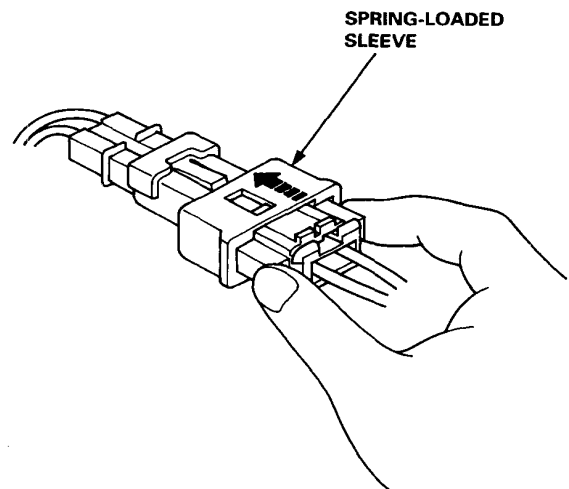
Connecting

1. Hold the pawl-side connector half, and press on the back of the sleeve-side connector half in the direction shown. As the two connector halves are pressed together, the sleeve is pushed back by the pawl.

NOTE: Do not touch the sleeve.



2. When the connector halves are completely connected, the pawl is released, and the spring-loaded sleeve locks the connector.



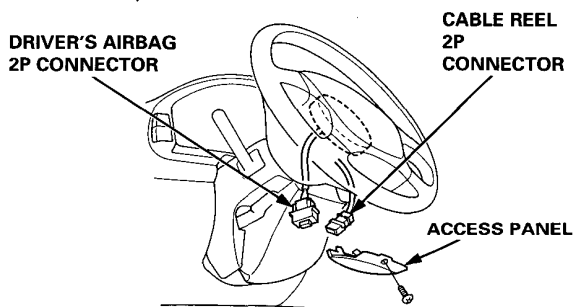
Disconnecting the Airbag Connector(s)

⚠ WARNING To avoid accidental deployment and possible injury, always disconnect the driver's (and front passenger's) airbag connector(s) (automatically shorted) before working near any SRS wiring.

1. Disconnect the battery negative cable, then disconnect the positive cable from the battery, and wait at least three minutes.
2. Disconnect the driver's airbag connector (and front passenger's airbag connector).
NOTE: For disconnecting the spring-loaded lock type connector, refer to page 23B-10.

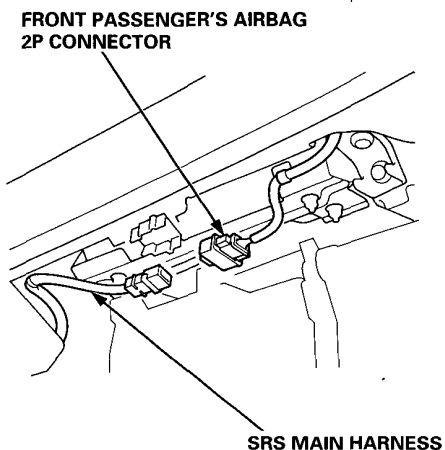
Driver's Side:

- Remove the access panel from the steering wheel, then disconnect the 2P connector between the driver's airbag and cable reel.
- NOTE: When disconnected, the airbag connector is automatically shorted.



Front Passenger's Side:

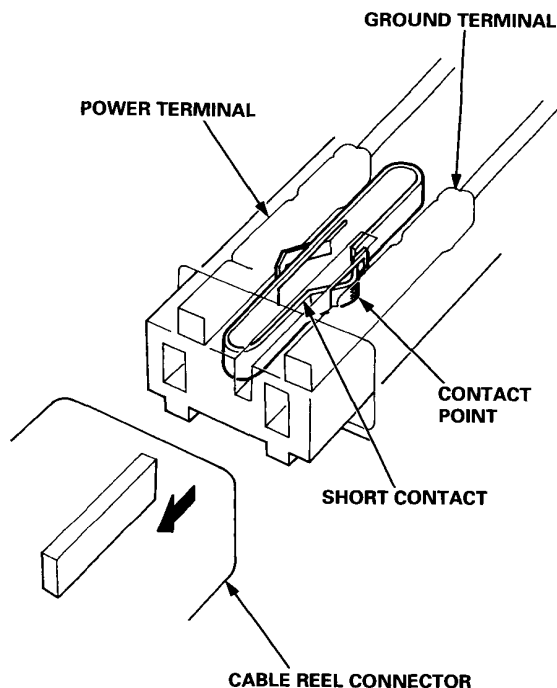
- Remove the glove box.
- Disconnect the 2P connector between the front passenger's airbag and SRS main harness.
- NOTE: When disconnected, the airbag connector is automatically shorted.



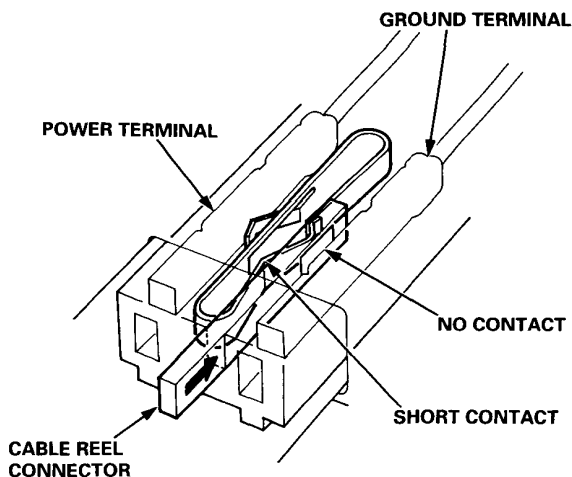
Spring-loaded Lock Connector with Built-in Short Contact

The driver's airbag (and front passenger's airbag) has (have) a spring-loaded lock connector with a built-in short contact. When this connector is disconnected, the power terminal and the ground terminal in the airbag connector are automatically shorted.

Connector halves disconnected:



Connector halves connected:

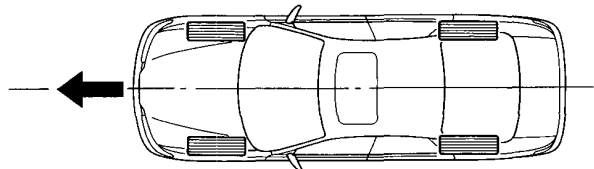


Precautions/Procedures (SRS-Type III)

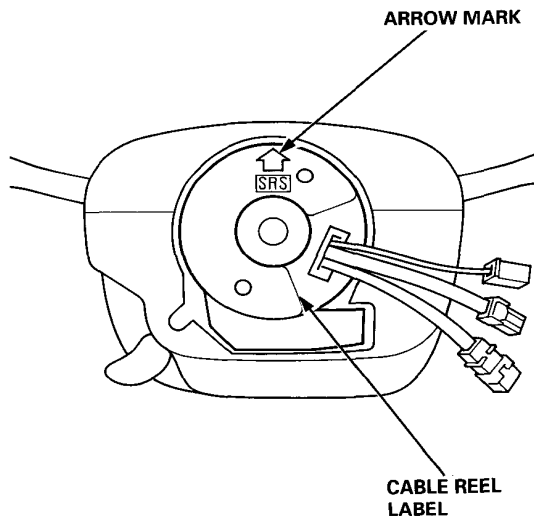
Steering-related Precautions

Steering Wheel and Cable Reel Alignment

NOTE: To avoid misalignment of the steering wheel or airbag on reassembly, make sure the wheels are turned straight ahead before removing the steering wheel.



Rotate the cable reel clockwise until it stops. Then rotate it counterclockwise (approximately two and a half turns) until the arrow mark on the cable reel label points straight up.



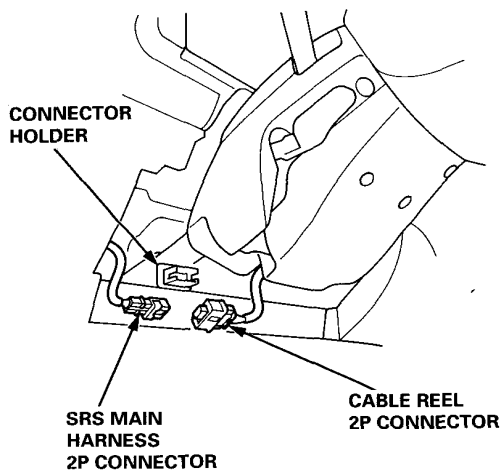
Steering Column Removal

CAUTION:

- Before removing the steering column, first disconnect the connector between the cable reel and the SRS main harness.
- If the steering column is going to be removed without dismounting the steering wheel, lock the steering by turning the ignition key to 0-LOCK position, or remove the key from the ignition so that the steering wheel will not turn.

NOTE:

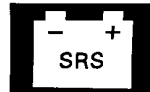
- When the airbag assembly and cable reel are disconnected, and the battery is reconnected and the ignition switch is turned ON (II), the SRS unit will store this as an open in the driver's airbag inflator, and the SRS indicator light will come on. In such a case, make sure to confirm the DTC, then clear the SRS unit memory.
- For disconnecting the spring-loaded lock type connector, refer to page 23B-10.



Do not replace the original steering wheel with any other design, since it will make it impossible to properly install the airbag (only use genuine Honda replacement parts).

After reassembly, confirm that the wheels are still turned straight ahead and that the steering wheel spoke angle is correct. If minor spoke angle adjustment is necessary, do so only by adjusting the tie-rods, not by removing and repositioning the steering wheel.

Troubleshooting (SRS-Type III)



Self-diagnostic Procedures

The self-diagnostic function of the SRS system allows it to locate the causes of system problems and to store this information in memory. For easier troubleshooting, this data can be retrieved via a data link circuit.

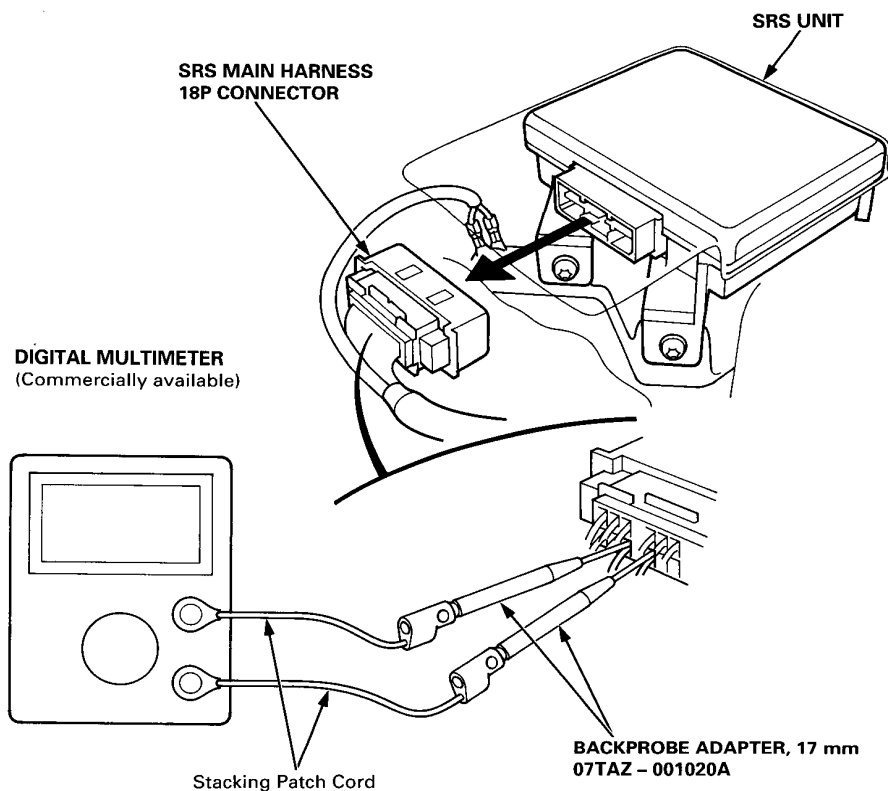
- When you turn the ignition switch ON (II), the SRS indicator will come on. If it goes off after six seconds, the system is normal.
- If there is an abnormality, the system locates and defines the problem, stores this information in memory, and turns the SRS indicator light on.

NOTE: The data will remain in the memory even when the ignition switch is turned off or if the battery is disconnected.

- When you connect the SCS short connector to the service check connector (2P), and turn the ignition switch ON (II), the SRS indicator light will indicate the diagnostic trouble code (DTC) by the number of blinks.
- After reading and recording the DTC, proceed with the troubleshooting for this code.

Precautions

- Use only a digital multimeter to check the system. If it's not a Honda multimeter, make sure its output is 10 mA (0.01 A) or less when switched to the smallest value in the ohmmeter range. A tester with a higher output could damage the airbag circuit or cause accidental airbag deployment and possible injury.
- Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbags could accidentally deploy and cause damage or injuries.
- Before you remove the SRS main harness, disconnect the driver's airbag connector (and front passenger's airbag connector).
- Make sure the battery is sufficiently charged. If the battery is dead or low, measuring values won't be correct.
- Do not touch a tester probe to the terminals in the SRS unit or harness connectors, and do not connect the terminals with a jumper wire. Use only the backprobe set and the SCS short connectors. For backprobing spring-loaded lock type connectors, refer to page 23B-10.



Troubleshooting (SRS-Type III)

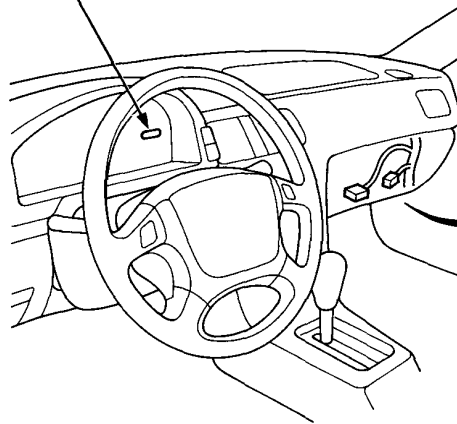
Diagnostic Trouble Code (DTC)

The SRS indicator light indicates the DTC by the number of blinks when the SCS short connector is connected to the service check connector.

1. Turn the ignition switch OFF, and wait for ten seconds. Then connect the SCS short connector to the service check connector.

NOTE: If you do not wait ten seconds, the SRS unit will not be completely reset and will not output DTCs.

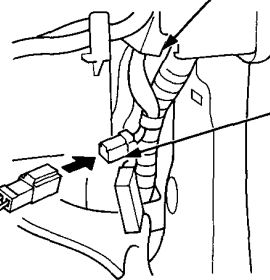
SRS INDICATOR LIGHT



DATA LINK CONNECTOR (DLC) (5P)

SERVICE CHECK CONNECTOR (2P)

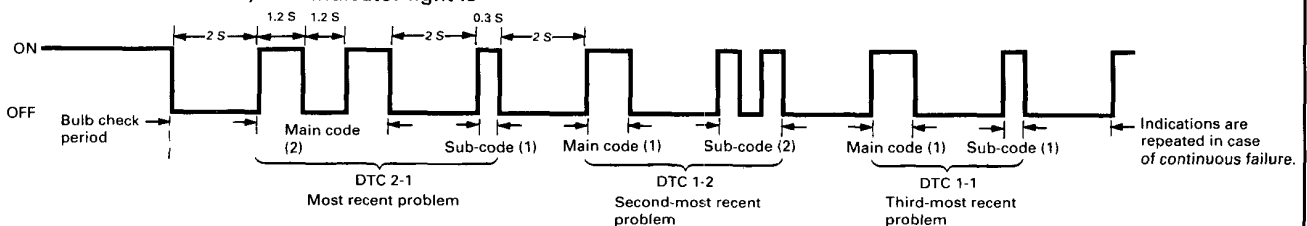
SCS SHORT CONNECTOR
07PAZ - 0010100



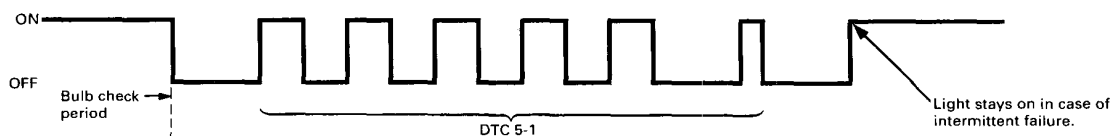
2. Turn the ignition switch ON (II). The SRS indicator light comes on for about six seconds and goes off. Then it will indicate the DTC:
 - The DTC consists of a main code and a sub-code.
 - Including the most recent problem, up to three different malfunctions can be indicated.
 - In case of a continuous failure, the DTC will be indicated repeatedly (see example 1 below).
 - In case of an intermittent failure, the SRS indicator light will indicate the DTC one time, then it will stay on (see example 2 below).
 - If both a continuous and an intermittent failure occur, only the DTC of the continuous failure will be indicated.
 - In case the system is normal (no DTC), the SRS indicator light will stay on (see example 3 below).

Examples of DTC Indications:

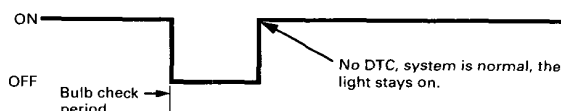
1. Continuous failure, SRS indicator light is



2. Intermittent failure, SRS indicator light is



3. Normal (no failure), SRS indicator light is

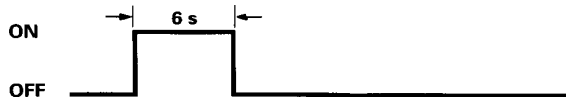


Troubleshooting of Intermittent Failures

If there was a malfunction, but it doesn't recur, it will be stored in the memory as an intermittent failure, and the SRS indicator light comes on.

After checking the DTC, troubleshoot as follows:

1. Record the DTC.
2. Remove the SCS short connector from the service check connector.
3. Erase the DTC memory (see "Erasing the DTC Memory").
4. With the shift lever in neutral, start the engine, and let it idle.
5. The SRS indicator light comes on for about six seconds and goes off.



6. Shake the wire harness and the connector, and/or take a test drive (quick acceleration, quick braking, cornering), and/or turn the steering wheel fully left and right, and hold it there for five to ten seconds to find the cause of the intermittent failure. If the problem recurs, the SRS indicator light will stay on.



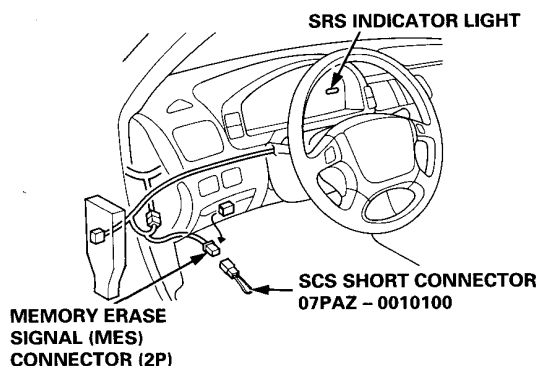
7. If you can't duplicate the intermittent failure, the system is OK at this time.

Erasing the DTC Memory

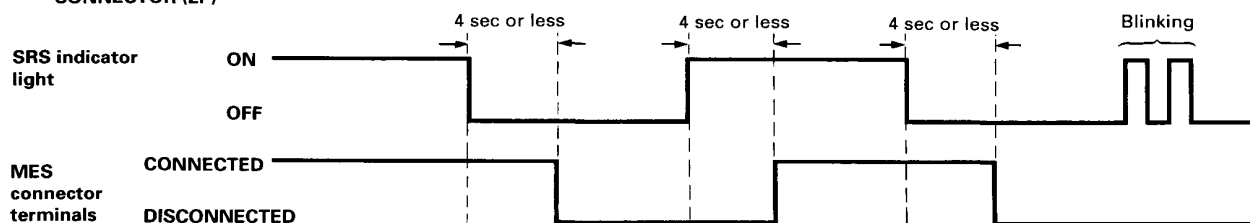
To erase the DTC(s) from the SRS unit, use a Honda PGM Tester (see the Honda PGM Tester SRS Vehicle System Supplement) or the following procedure.

NOTE:

- Use the SCS short connector instead of a jumper wire. Otherwise, you may not erase the memory, because it is awkward to connect and disconnect a jumper wire quickly enough.
- After turning the ignition switch OFF, wait for ten seconds. Only then connect the SCS short connector to the memory erase signal (MES) connector. If you do not wait ten seconds, the SRS unit will not be completely reset and will not erase the DTC memory.



1. Turn the ignition switch OFF, and wait for ten seconds. Then disconnect the SCS short connector from the service check connector.
2. Connect the SCS short connector to the MES connector.
3. Turn the ignition switch ON (II).
4. The SRS indicator light comes on for about six seconds and goes off. Remove the SCS short connector from the MES connector within four seconds after the SRS indicator light went off.
5. The SRS indicator light comes on again. Reconnect the SCS short connector to the MES connector within four seconds after the SRS indicator light comes on.
6. The SRS indicator light goes off. Remove the SCS short connector from the MES connector within four seconds.
7. The SRS indicator light indicates that the memory is erased by blinking two times.



Troubleshooting (SRS-Type III)

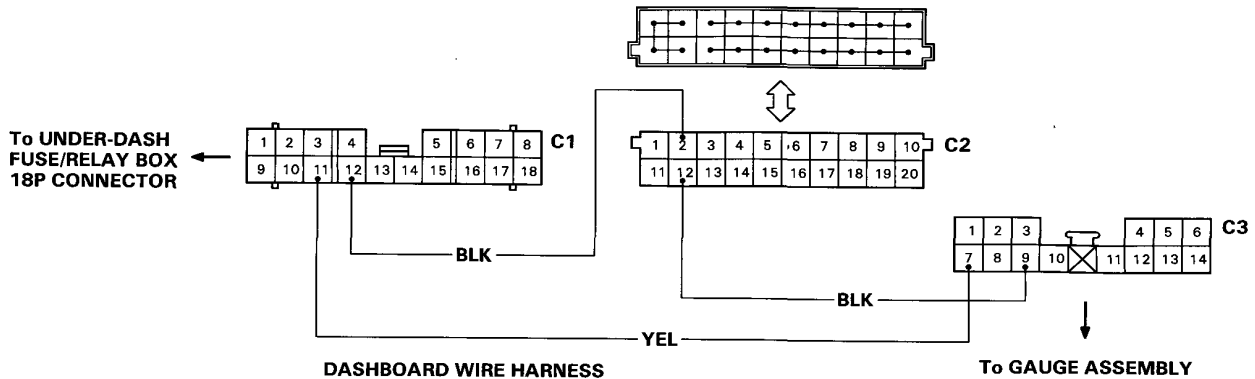
Diagnostic Trouble Code (DTC) Chart

SRS indicator light	DTC	Possible cause	Corrective action	See page
doesn't come on	none	Faulty SRS indicator light circuit	Troubleshooting	23B-18
comes on	1-1	Open or increased resistance in the driver's airbag inflator	Troubleshooting	23B-21
	1-3	Short to another wire in the driver's airbag inflator or decreased resistance		23B-23
	1-4	Short to power in the driver's airbag inflator		23B-25
	1-5	Short to ground in the driver's airbag inflator		23B-27
	2-1	Open or increased resistance in the passenger's airbag inflator	Troubleshooting	23B-29
	2-3	Short to another wire in the passenger's airbag inflator or decreased resistance		23B-31
	2-4	Short to power in the passenger's airbag inflator		23B-33
	2-5	Short to ground in the passenger's airbag inflator		23B-35
	5-1	Internal failure of the SRS unit	SRS unit replacement	23B-53
	5-3			
	5-4			
	6-3	Internal failure of the SRS unit	SRS unit replacement	23B-53
	6-4			
	7-1	Internal failure of the SRS unit	SRS unit replacement	23B-53
	7-2			
	7-3			
	8-1	Internal failure of the SRS unit	SRS unit replacement	23B-53
	8-2			
	8-6			
	9-1	Faulty SRS indicator circuit	Troubleshooting	23B-37
	9-2	Faulty SRS power supply (VB line)		23B-42
	10-1	SRS unit replacement code (SRS unit must not be used any longer)	SRS unit replacement	23B-53

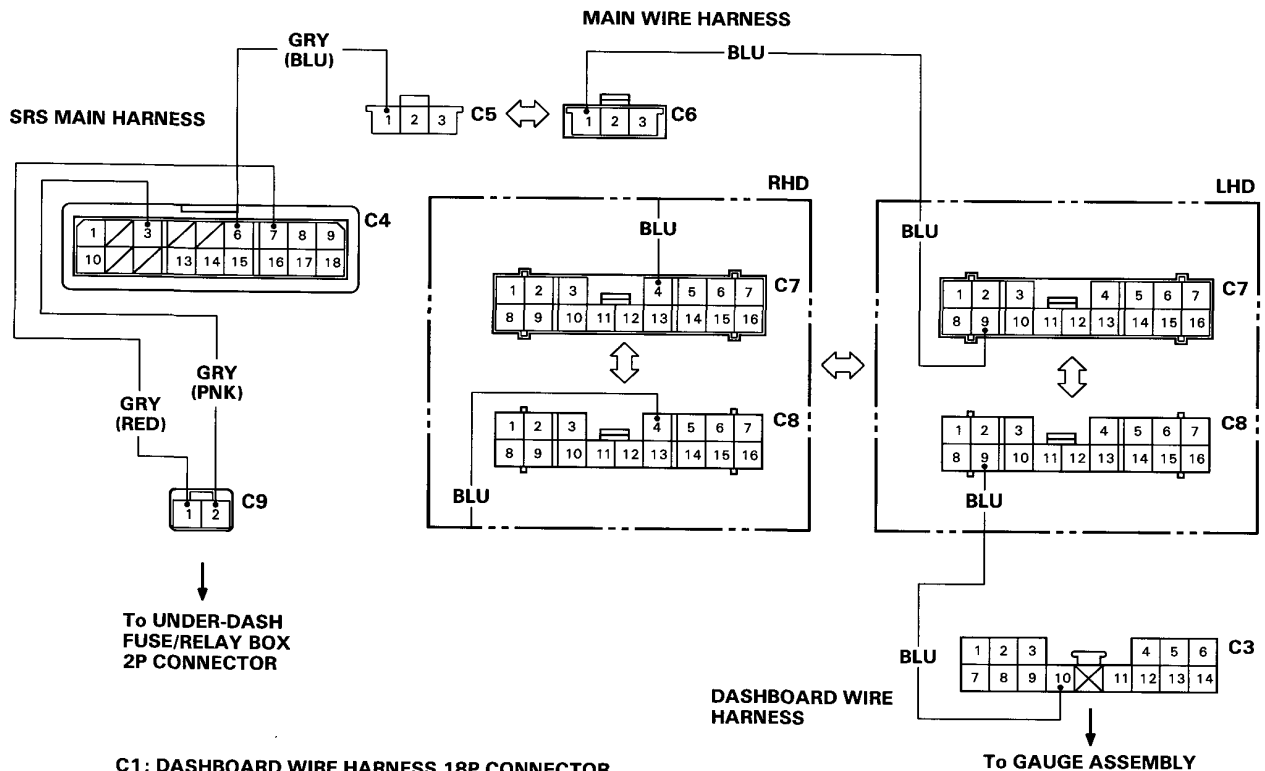
Troubleshooting (SRS-Type III)

SRS Indicator Light Wire Connections

SRS Indicator Light Power Circuit



SRS Indicator Light Control Circuit



- C1: DASHBOARD WIRE HARNESS 18P CONNECTOR
 C2: JOINT CONNECTOR
 C3: DASHBOARD WIRE HARNESS 14P CONNECTOR
 C4: SRS MAIN HARNESS 18P CONNECTOR
 C5: SRS MAIN HARNESS 3P CONNECTOR
 C6: MAIN WIRE HARNESS 3P CONNECTOR
 C7: MAIN WIRE HARNESS 16P CONNECTOR
 C8: DASHBOARD WIRE HARNESS 16P CONNECTOR
 C9: SRS MAIN HARNESS 2P CONNECTOR

Troubleshooting (SRS-Type III)

The SRS Indicator Light Doesn't Come On

CAUTION: Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbag(s) could accidentally deploy and cause damage or injuries.

Check the power supply (fuse):

Turn the ignition switch ON (II), and check whether the other indicator lights come on or not (brake system, etc.).

Do the other indicator lights come on?

YES

NO

Check the fuse:

Check the No. 8 (10 A) fuse in the under-dash fuse/relay box.

Is the fuse OK?

YES

NO

Check the bulb:

Replace the No. 8 (10 A) fuse, and check that the SRS indicator light comes on.

Does the SRS indicator light come on?

YES

NO

END

Check the wire harness between fuse and gauge assembly:

Check for an open in the wire harness between fuse No. 8 (10 A) and the gauge assembly, and repair. Check that the SRS indicator light comes on.

Does the SRS indicator light come on?

YES

NO

END

Check the SRS indicator light bulb:

1. Turn the ignition switch OFF.
2. Remove the gauge assembly.
3. Check for blown SRS indicator light bulb.

Is the SRS indicator light bulb OK?

YES

NO

Check the SRS indicator light circuit:

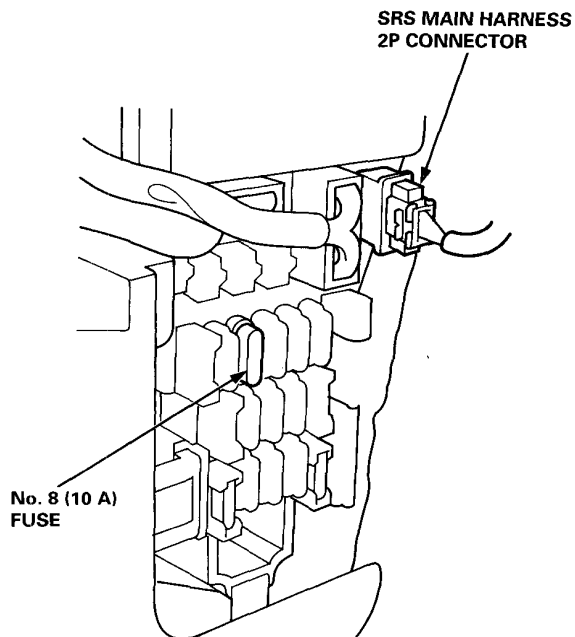
Replace the bulb, and reconnect the gauge assembly connectors. Then turn the ignition switch ON (II).

Does the SRS indicator light come on?

YES

NO

END



(A) To page 23B-19

(B) To page 23B-19

From page 23B-18

(A)

From page 23B-18

(B)

Check the SRS indicator light circuit:

1. Disconnect the dashboard wire harness 14P connector from the gauge assembly.
2. Connect a voltmeter between the No. 10 terminal (+) of the 14P connector and ground.
3. Turn the ignition switch ON (II), and measure voltage.

Is there 8.5 V or less for six seconds after the ignition switch has been turned ON (II)?

YES

NO

Faulty SRS indicator light circuit in the gauge assembly; replace the SRS printed circuit board in the gauge assembly.

Check the wire harness of the SRS indicator light circuit (1):

1. Turn the ignition switch OFF.
2. Disconnect the main wire harness 16P connector from the dashboard wire harness.
3. Connect a voltmeter between the No. 9 (LHD) or No. 4 (RHD) terminal (+) of the main wire harness 16P connector and ground.
4. Turn the ignition switch ON (II), and measure voltage.

Is there 8.5 V or less for six seconds after the ignition switch has been turned ON (II)?

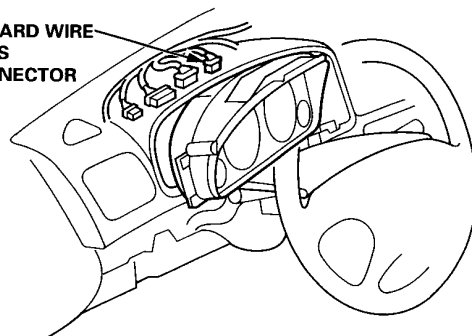
YES

NO

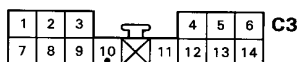
Short to power in the BLU wire of the dashboard wire harness; repair the harness.

To page 23B-20

DASHBOARD WIRE HARNESS 14P CONNECTOR



DASHBOARD WIRE HARNESS 14P CONNECTOR

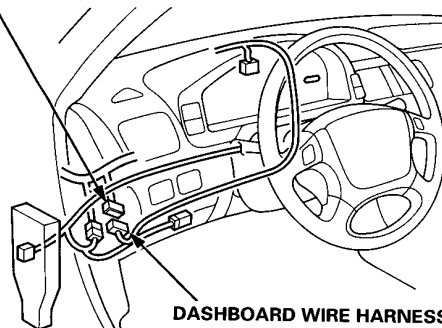


BLU (+)



Wire side of female terminals

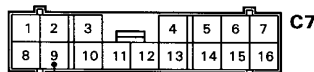
MAIN WIRE HARNESS 16P CONNECTOR



DASHBOARD WIRE HARNESS 16P CONNECTOR

MAIN WIRE HARNESS 16P CONNECTOR

LHD :

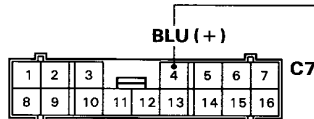


BLU (+)



Terminal side of male terminals

RHD :



BLU (+)

Terminal side of male terminals



(cont'd)

Troubleshooting (SRS-Type III)

The SRS Indicator Light Doesn't Come On (cont'd)

From page 23B-19

Check the wire harness of the SRS indicator light circuit (2):

1. Turn the ignition switch OFF.
2. Disconnect the SRS main harness 3P connector from the main wire harness.
3. Connect a voltmeter between the No. 1 terminal (+) of the SRS main harness 3P connector and ground.
4. Turn the ignition switch ON (II), and measure voltage.

Is there 8.5 V or less for six seconds after the ignition switch has been turned ON (II)?

YES

NO

Short to power in the BLU wire of the main wire harness; repair the harness.

Check the wire harness of the SRS indicator circuit (3):

1. Turn the ignition switch OFF.
2. Disconnect the battery negative cable, then the positive cable, and wait three minutes.
3. Disconnect the driver's (and front passenger's) airbag connector (see page 23B-11).
4. Disconnect the SRS main harness 18P connector from the SRS unit.
5. Connect a voltmeter between the No. 6 terminal (+) of the SRS main harness 18P connector and ground.
6. Turn the ignition switch ON (II), and measure voltage. There should be 0 ± 0.5 V.

Is voltage as specified?

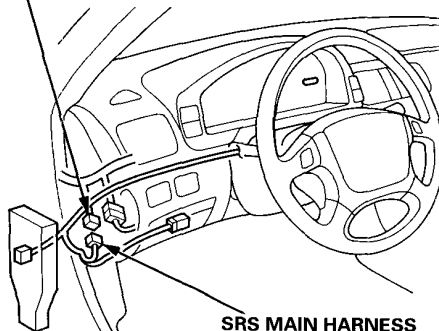
YES

NO

Faulty SRS unit; Replace the unit (see page 23B-53).

Short to power in the BLU wire of the SRS main harness; replace the harness.

MAIN WIRE HARNESS 3P CONNECTOR



C5

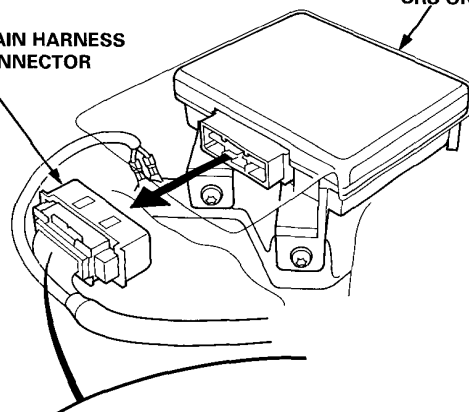
BLU (+)



Wire side of female terminals

SRS MAIN HARNESS 18P CONNECTOR

SRS UNIT



GRY (+)
(BLU)



C4

Wire side of female terminals

DTC 1-1

CAUTION: Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbag(s) could accidentally deploy and cause damage or injuries.

Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 23B-15).
2. Turn the ignition switch OFF, and wait for ten seconds.
3. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about six seconds and goes off.

Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting of intermittent Failure on page 23B-15.

Check for an open in the driver's airbag inflator:

1. Turn the ignition switch OFF.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the driver's airbag 2P connector from the cable reel 2P connector.
CAUTION: Do not disconnect the passenger's airbag connector.
4. Connect the SRS service connector (2 Ω) to the cable reel 2P connector.
5. Reconnect the battery positive cable, then reconnect the negative cable.
6. Erase the DTC memory (see page 23B-15).
7. Turn the ignition switch OFF, then disconnect the SCS short connector from the MES connector.
8. Connect the SCS short connector to the service check connector (see page 23B-14).
9. Turn the ignition switch ON (II), and record the most recent DTC.

Is DTC 1-1 indicated?

YES

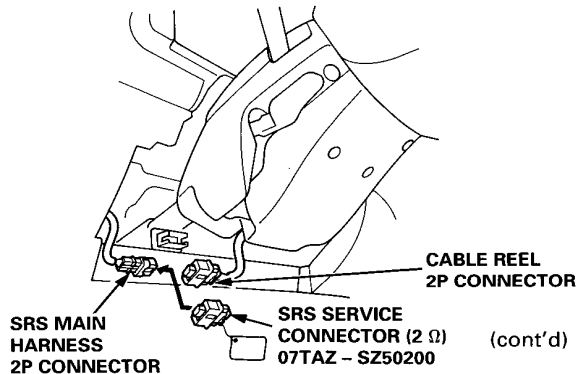
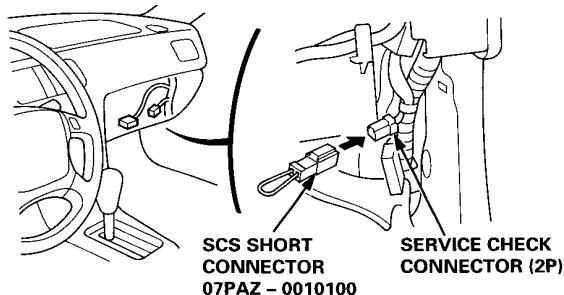
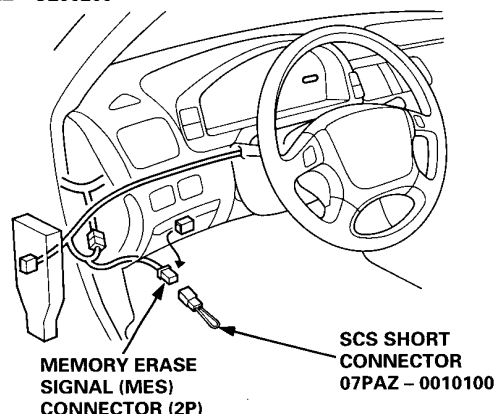
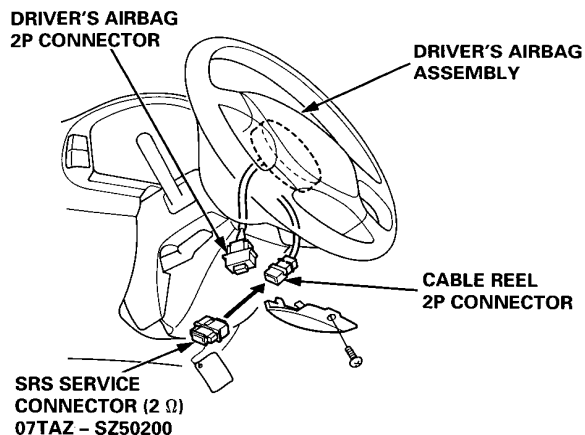
NO

Open or increased resistance in the driver's airbag inflator; replace the driver's airbag assembly (see page 23B-45).

Check for an open in the cable reel:

1. Turn the ignition switch OFF, and remove the SCS short connector.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the SRS service connector (2 Ω) from the cable reel 2P connector.
4. Remove the dashboard lower cover, and disconnect the cable reel 2P connector from the SRS main harness.
5. Connect the SRS service connector (2 Ω) to the SRS main harness 2P connector. (cont'd)

To page 23B-22



Troubleshooting (SRS-Type III)

DTC 1-1 (cont'd)

From page 23B-21

Check for an open in the cable reel (cont'd)

6. Reconnect the battery positive cable, then reconnect the negative cable.
7. Erase the DTC memory (see page 23B-15).
8. Turn the ignition switch OFF, then disconnect the SCS short connector from the MES connector.
9. Connect the SCS short connector to the service check connector (see page 23B-14).
10. Turn the ignition switch ON (II), and record the most recent DTC.

Is DTC 1-1

YES

NO

Open or increased resistance in the cable reel; replace the cable reel (see page 23B-49).

Check for an open in the SRS main harness:

1. Turn the ignition switch OFF, and remove the SCS short connector.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the front passenger's airbag connector from the SRS main harness (With front passenger's airbag) (see page 23B-11).
4. Remove the SRS service connector (2 Ω) from the SRS main harness 2P connector, and connect the SRS service connector to the SRS main harness 2P connector.
5. Disconnect the SRS main harness 18P connector from the SRS unit.
6. Check resistance between terminals No. 1 and No. 13 of SRS main harness 18P connector. There should be approx. 0 \pm 1.0 Ω .

Is the resistance as specified?

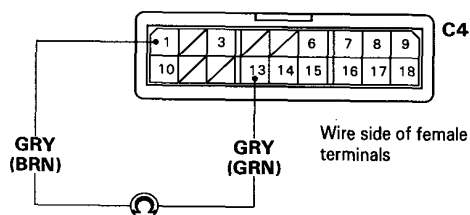
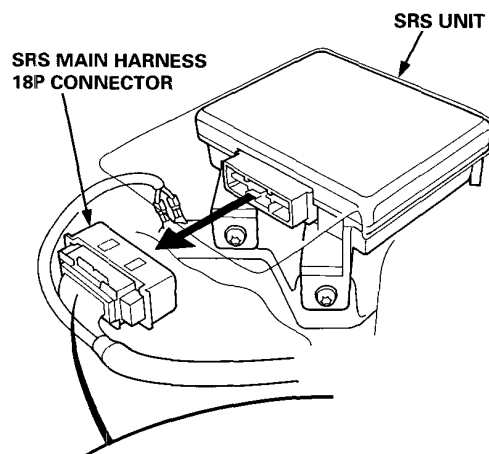
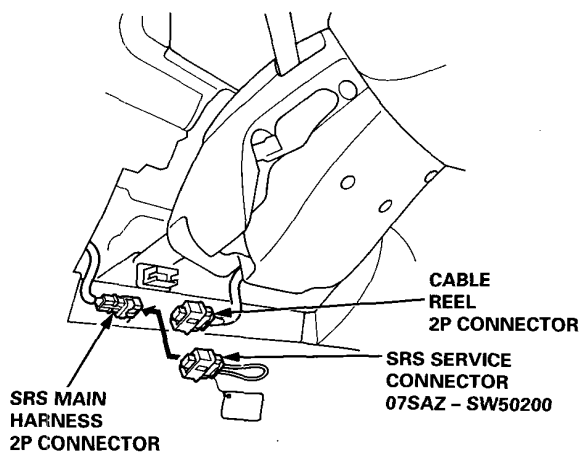
YES

NO

Poor contact at the SRS main harness 18P connector; check the connector.

- If the connector is OK, substitute a known-good SRS unit, and recheck.
- If the problem is still present, replace the SRS main harness.

Open or increased resistance in the SRS main harness; replace the harness.



DTC 1-3

CAUTION: Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbag(s) could accidentally deploy and cause damage or injuries.

Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 23B-15)
2. Turn the ignition switch OFF, and wait for ten seconds.
3. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about six seconds and goes off.

Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting of intermittent Failure on page 23B-15.

Check for a short to another wire in the driver's airbag inflator:

1. Turn the ignition switch OFF
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the driver's airbag 2P connector from the cable reel 2P connector.

CAUTION: Do not disconnect the passenger's airbag connector.

4. Connect the SRS service connector (2 Ω) to the cable reel 2P connector.
5. Reconnect the battery positive cable, then reconnect the negative cable.
6. Erase the DTC memory (see page 23B-15).
7. Turn the ignition switch OFF, then disconnect the SCS short connector from the MES connector.
8. Connect the SCS short connector to the service check connector.
9. Turn the ignition switch ON (II), and record the most recent DTC.

Is DTC 1-3 indicated?

YES

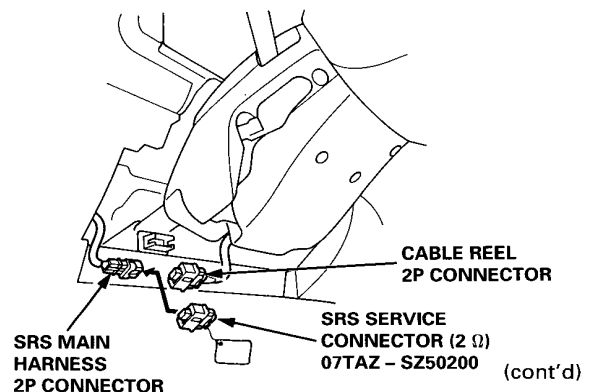
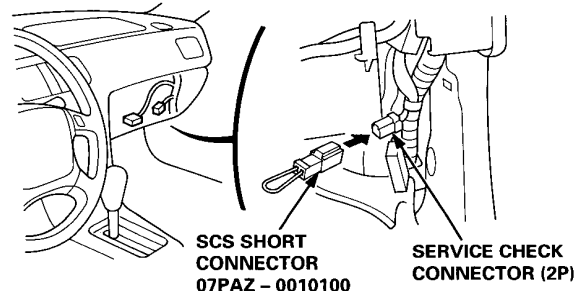
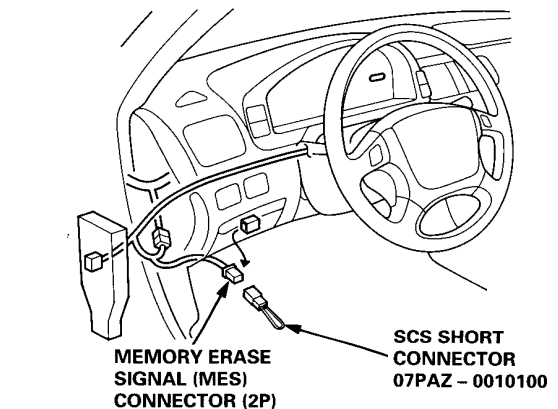
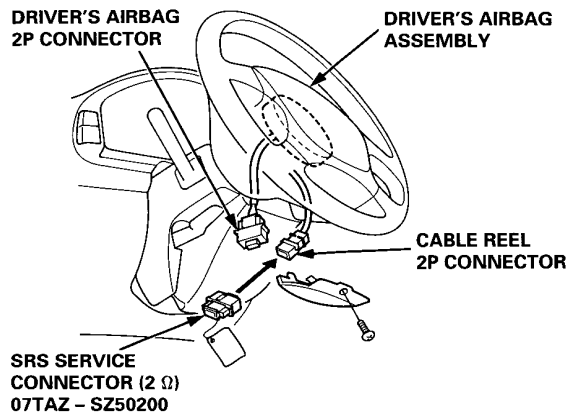
NO

Short in the driver's airbag inflator; replace the driver's airbag assembly (see page 23B-45).

Check for a short in the cable reel:

1. Turn the ignition switch OFF, and remove the SCS short connector.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the SRS service connector (2 Ω) from the cable reel 2P connector.
4. Remove the dashboard lower cover, and disconnect the cable reel 2P connector from the SRS main harness.
5. Connect the SRS service connector (2 Ω) to the SRS main harness 2P connector. (cont'd)

To page 23B-24



Troubleshooting (SRS-Type III)

DTC 1-3 (cont'd)

From page 23B-23

Check for a short in the cable reel (cont'd):

6. Reconnect the battery positive cable, then reconnect the negative cable.
7. Erase the DTC memory (see page 23B-15).
8. Turn the ignition switch OFF, then disconnect the SCS short connector from the MES connector.
9. Connect the SCS short connector to the service check connector (see page 23B-14).
10. Turn the ignition switch ON (II), and record the most recent DTC.

Is DTC 1-3 indicated?

YES

NO

Short in the cable reel; replace the cable reel (see page 23B-49).

Check for a short in the SRS main harness:

1. Turn the ignition switch OFF, and remove the SCS short connector.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the front passenger's airbag connector from the SRS main harness (with front passenger's airbag) (see page 23B-11).
4. Disconnect the SRS main harness 18P connector from the SRS unit.
NOTE: Do not disconnect the SRS service connector (2 Ω).
5. Check resistance between terminals No. 1 and No. 13 of SRS main harness 18P connector. There should be $2.0 \pm 0.1 \Omega$.

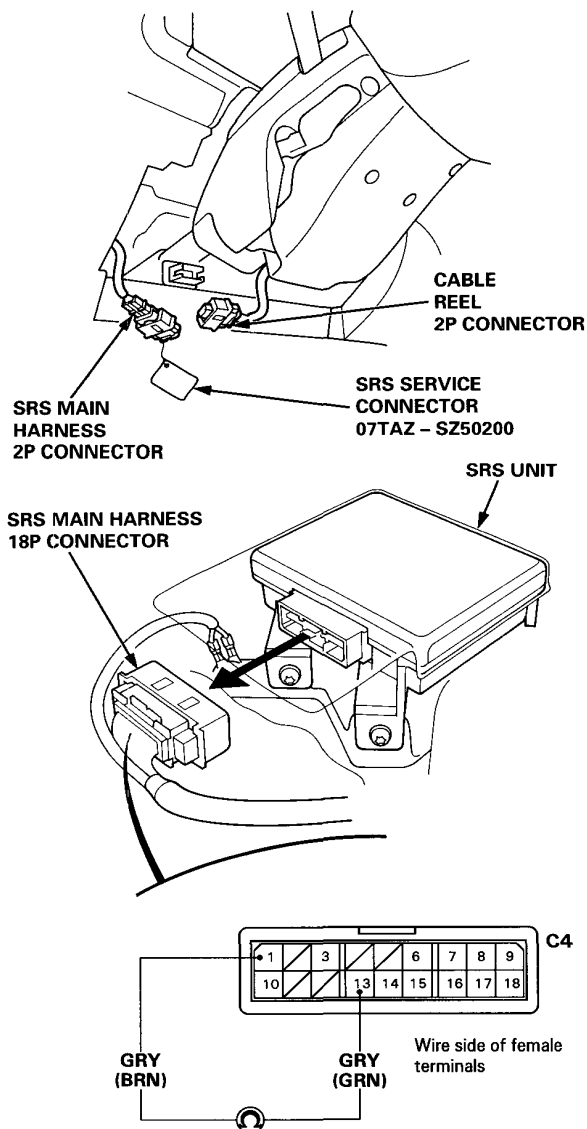
Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 23B-53).

Short in the SRS main harness; replace the SRS main harness.



DTC 1-4

CAUTION: Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbag(s) could accidentally deploy and cause damage or injuries.

Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 23B-15)
2. Turn the ignition switch OFF, and wait for ten seconds.
3. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about six seconds and goes off.

Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting of Intermittent Failure on page 23B-15.

Check for a short to power in the driver's airbag inflator:

1. Turn the ignition switch OFF.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the driver's airbag 2P connector from the cable reel 2P connector.

CAUTION: Do not disconnect the passenger's airbag connector.

4. Connect the SRS service connector (2 Ω) to the cable reel 2P connector.
5. Reconnect the battery positive cable, then reconnect the negative cable.
6. Erase the DTC memory (see page 23B-15).
7. Turn the ignition switch OFF, then disconnect the SCS short connector from the MES connector.
8. Connect the SCS short connector to the service check connector.
9. Turn the ignition switch ON (II), and record the most recent DTC.

Is DTC 1-4 indicated?

YES

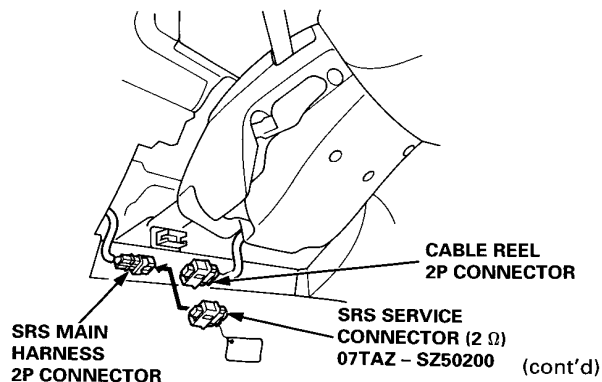
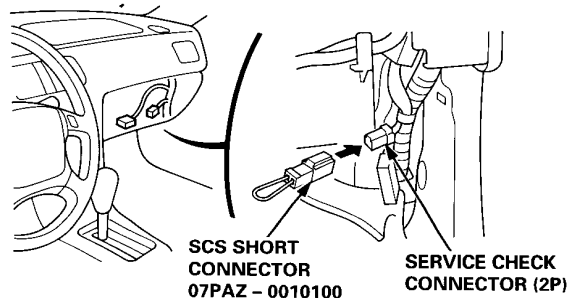
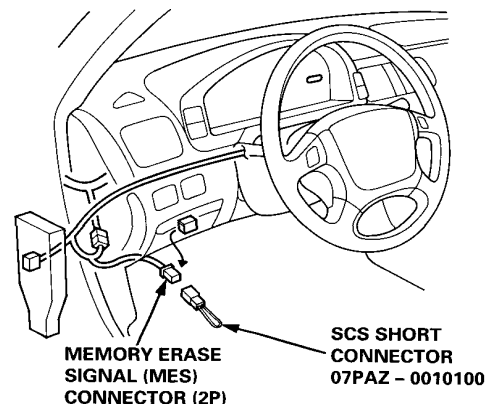
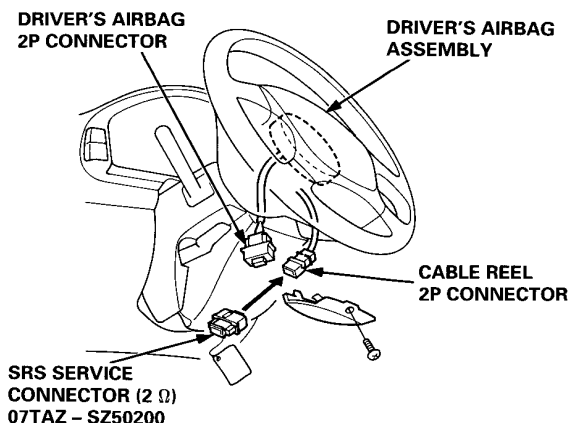
NO

Short to power in the driver's airbag inflator; replace the driver's airbag assembly (see page 23B-45).

Check for a short to power in the cable reel:

1. Turn the ignition switch OFF, and remove the SCS short connector.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the SRS service connector (2 Ω) from the cable reel 2P connector.
4. Remove the dashboard lower cover, and disconnect the cable reel 2P connector from the SRS main harness.
5. Connect the SRS service connector (2 Ω) to the SRS main harness 2P connector.

(cont'd)



To page 23B-26

Troubleshooting (SRS-Type III)

DTC 1-4 (cont'd)

From page 23B-25

Check for a short to power in the cable reel (cont'd):

6. Reconnect the battery positive cable, then reconnect the negative cable.
7. Erase the DTC memory (see page 23B-15).
8. Turn the ignition switch OFF, then disconnect the SCS short connector from the MES connector.
9. Connect the SCS short connector to the service check connector (see page 23B-14).
10. Turn the ignition switch ON (II), and record the most recent DTC.

Is DTC 1-4 indicated?

YES

NO

Short to power in the cable reel; replace the cable reel (see page 23B-49).

Check for a short to power in the SRS main harness:

1. Turn the ignition switch OFF, and remove the SCS short connector.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the front passenger's airbag connector from the SRS main harness (with front passenger's airbag) (see page 23B-11).
4. Remove the SRS service connector (2 Ω) from the SRS main harness 2P connector.
5. Disconnect the SRS main harness 18P connector from the SRS unit.
6. Connect a voltmeter between the No. 1 (+) terminal of SRS main harness 18P connector and body ground.
7. Turn the ignition switch ON (II), and measure voltage. There should be 0 \pm 0.5 V.
8. Turn the ignition switch OFF.
9. Connect a voltmeter between the No. 13 (+) terminal of SRS main harness 18P connector and body ground.
10. Turn the ignition switch ON (II), and measure voltage. There should be approx. 0 \pm 0.5 V.

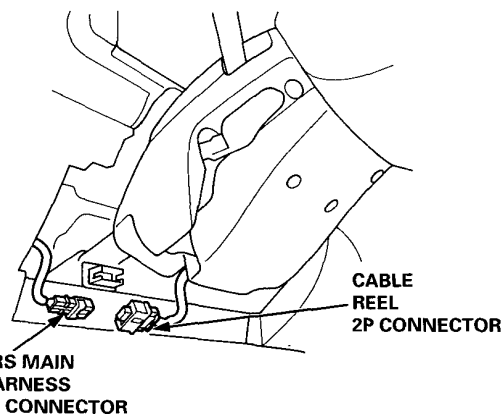
Are voltages as specified?

YES

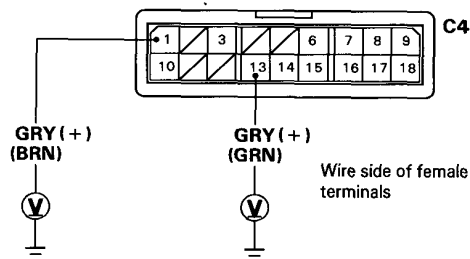
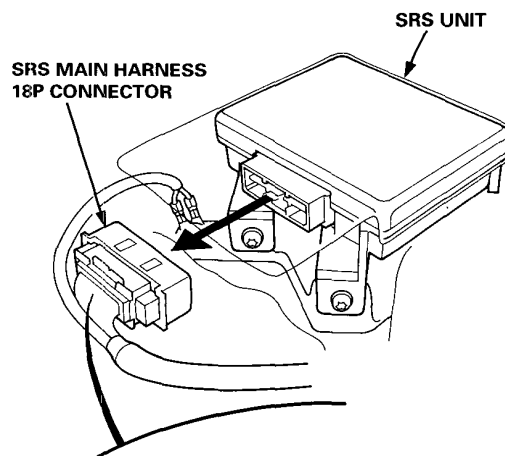
NO

Faulty SRS unit; replace the SRS unit (see page 23B-53).

Short to power in the SRS main harness; replace the SRS main harness.



NOTE: Do not connect the SRS service connector.



DTC 1-5

CAUTION: Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbag(s) could accidentally deploy and cause damage or injuries.

Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 23B-15).
2. Turn the ignition switch OFF, and wait for ten seconds.
3. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about six seconds and goes off.

Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting of intermittent Failure on page 23B-15.

Check for a short to ground in the driver's airbag inflator:

1. Turn the ignition switch OFF.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the driver's airbag 2P connector from the cable reel 2P connector.

CAUTION: Do not disconnect the passenger's airbag connector.

4. Connect the SRS short connector (2 Ω) to the cable reel 2P connector.
5. Reconnect the battery positive cable, then reconnect the negative cable.
6. Erase the DTC memory (see page 23B-15).
7. Turn the ignition switch OFF, then disconnect the SCS short connector from the MES connector.
8. Connect the SCS short connector to the service check connector.
9. Turn the ignition switch ON (II), and record the most recent DTC.

Is DTC 1-5 indicated?

YES

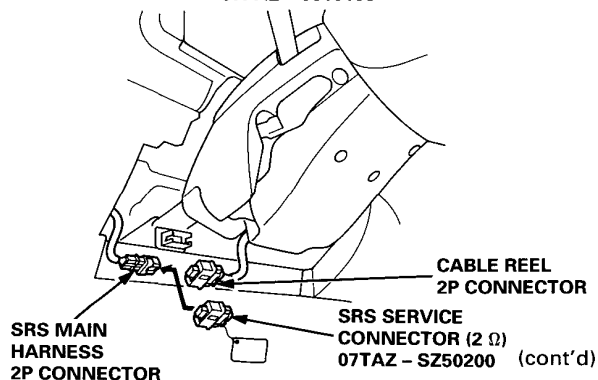
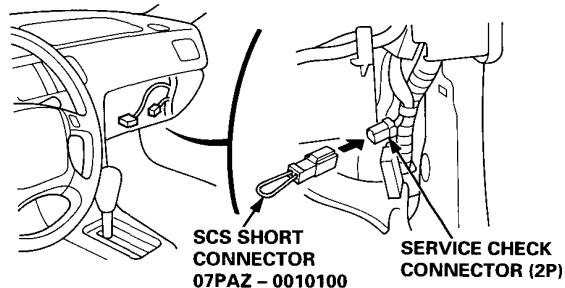
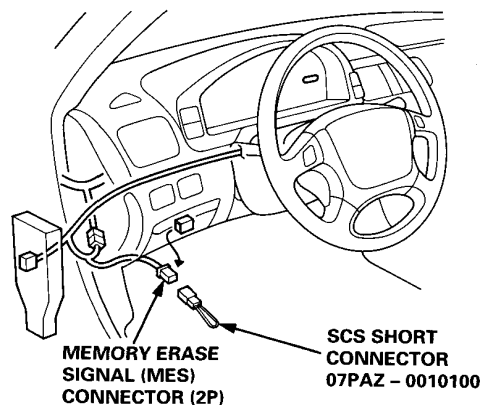
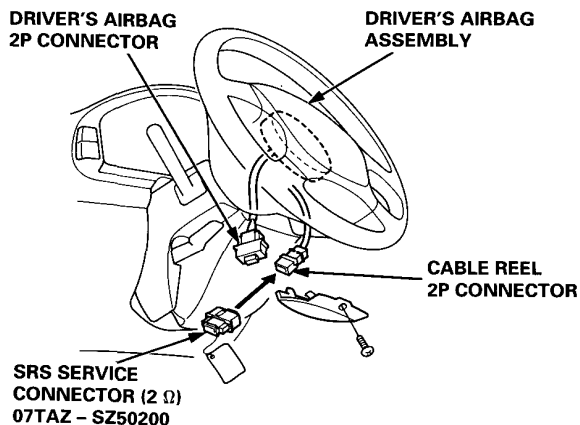
NO

Short to ground in the driver's airbag inflator; replace the driver's airbag assembly (see page 23B-45).

Check for a short to ground in the cable reel:

1. Turn the ignition switch OFF, and remove the SCS short connector.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the SRS service connector (2 Ω) from the cable reel 2P connector.
4. Remove the dashboard lower cover, and disconnect the cable reel 2P connector from the SRS main harness.
5. Connect the SRS service connector (2 Ω) to the cable reel 2P connector.

(cont'd)



To page 23B-28

DTC 1-5 (cont'd)

Check for a short to ground in the cable reel (cont'd):

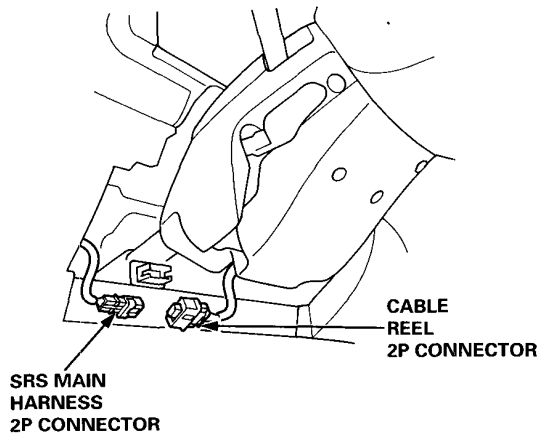
6. Reconnect the battery positive cable, then reconnect the negative cable.
7. Erase the DTC memory (see page 23B-15).
8. Turn the ignition switch OFF, then disconnect the SCS short connector from the MES connector.
9. Connect the SCS short connector to the service check connector (see page 23B-14).
10. Turn the ignition switch ON (II), and record the most recent DTC.

Is DTC 1-5 indicated?

YES

NO

Short to ground in the cable reel; replace the cable reel (see page 23B-49).



NOTE: Do not connect the SRS service connector.

Check for a short to ground in the SRS main harness:

1. Turn the ignition switch OFF, and remove the SCS short connector.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the front passenger's airbag 2P connector from the SRS main harness (with front passenger's airbag) (see page 23B-11).
4. Remove the SRS service connector (2 Ω) from the SRS main harness 2P connector.
5. Check resistance between the No. 1 terminal of SRS main harness 18P connector and ground, and between the No. 13 terminal of SRS main harness 18P connector and ground.
There should be 1 \pm 0 Ω .

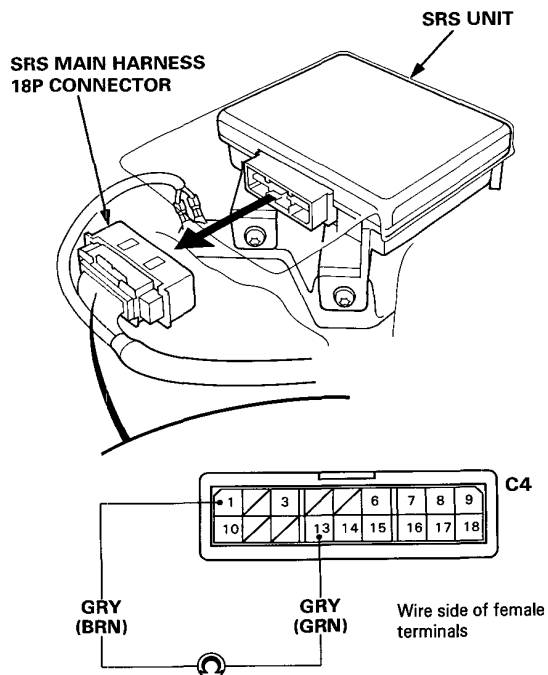
Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 23B-53).

Short to ground in the SRS main harness; replace the SRS main harness.



DTC 2-1

CAUTION: Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbag(s) could accidentally deploy and cause damage or injuries.

Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 23B-15).
2. Turn the ignition switch OFF, and wait for ten seconds.
3. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about six seconds and goes off.

Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting of intermittent Failure on page 23B-15.

Check for an open in the passenger's airbag inflator:

1. Turn the ignition switch OFF.
 2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
 3. Disconnect the front passenger's airbag connector from the SRS main harness (see page 23B-11).
 4. Connect the SRS service connector (2 Ω) to the SRS main harness 2P connector.
- CAUTION:** Do not disconnect the driver's airbag connector.
5. Reconnect the battery positive cable, then reconnect the negative cable.
 6. Erase the DTC memory (see page 23B-15).
 7. Turn the ignition switch OFF, then disconnect the SCS short connector from the MES connector.
 8. Connect the SCS short connector to the service check connector (see page 23B-14).
 9. Turn the ignition switch ON (II), and record the most recent DTC.

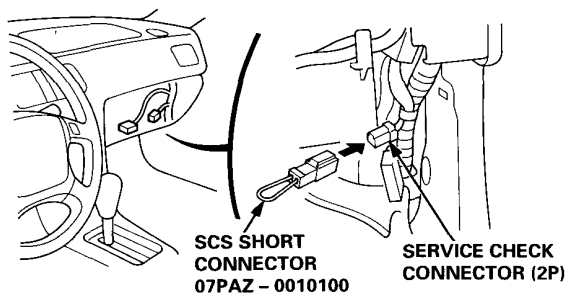
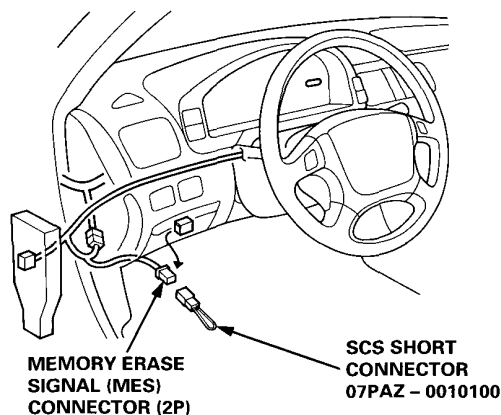
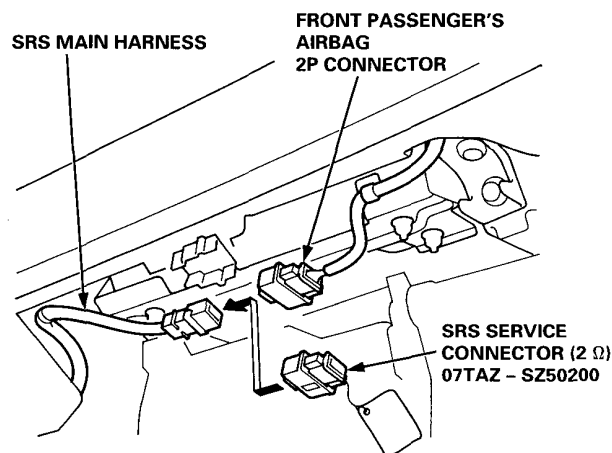
Is DTC 2-1 indicated?

YES

NO

Open or increased resistance in the passenger's airbag inflator; replace the passenger's airbag assembly (see page 23B-45).

To page 23B-30



Troubleshooting (SRS-Type III)

DTC 2-1 (cont'd)

From page 23B-29

Check for an open in the SRS main harness:

1. Turn the ignition switch OFF, then remove the SCS short connector.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the driver's airbag 2P connector from the cable reel 2P connector (see page 23B-11).
4. Remove the SRS service connector (2 Ω) from the SRS main harness 2P connector, then connect the SRS service connector to the SRS main harness 2P connector.
5. Disconnect the SRS main harness 18P connector from the SRS unit.
6. Check resistance between No. 10 terminal and No. 14 terminal of SRS main harness 18P connector. There should be 0 \pm 0.1 Ω .

Is the resistance as specified?

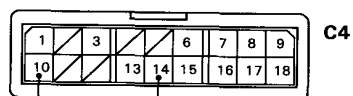
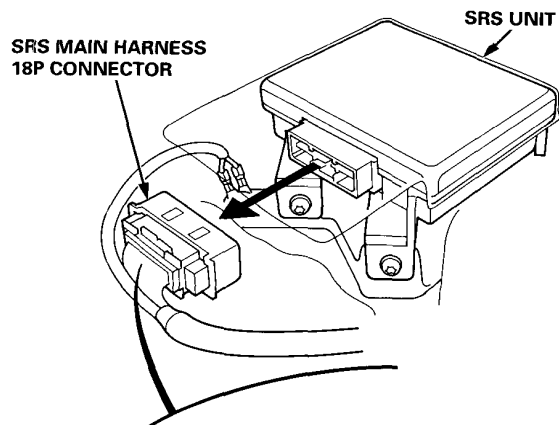
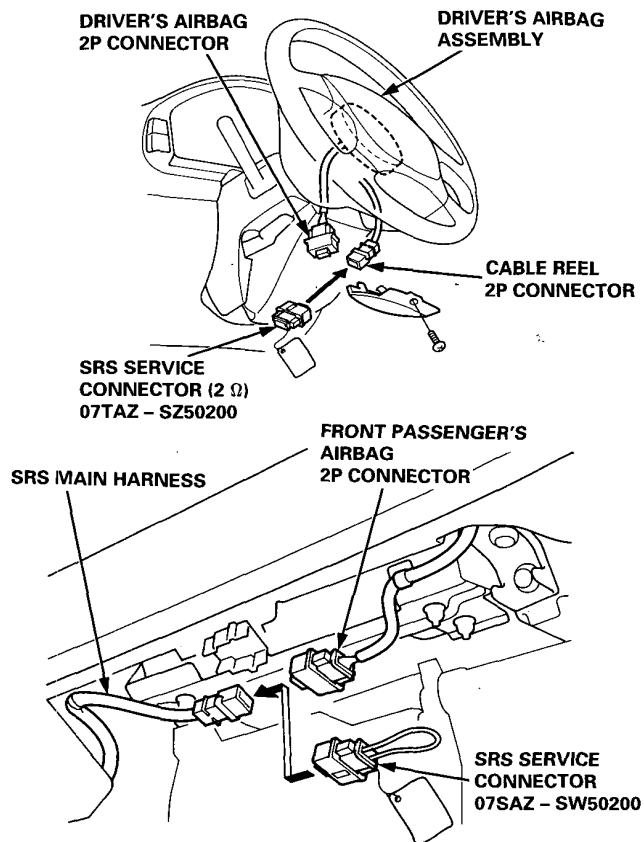
YES

NO

Poor contact at the SRS main harness 18P connector; check the connector.

- If the connector is OK, substitute a known-good SRS unit, and recheck.
- If the problem is still present, replace the SRS main harness.

Open or increased resistance in the SRS main harness; replace the harness.



GRY (YEL)

GRY (BLU/YEL)

Wire side of female terminals

DTC 2-3

CAUTION: Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbags could accidentally deploy and cause damage or injuries.

Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 23B-15).
2. Turn the ignition switch OFF, and wait for ten seconds.
3. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about six seconds and goes off.

Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting of intermittent Failure on page 23B-15.

Check for a short to another wire or decreased resistance in the passenger's airbag inflator:

1. Turn the ignition switch OFF.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the front passenger's airbag 2P connector from the SRS main harness (see page 23B-11).
4. Connect the SRS service connector (2 Ω) to the SRS main harness 2P connector.

CAUTION: Do not disconnect the driver's airbag connector.

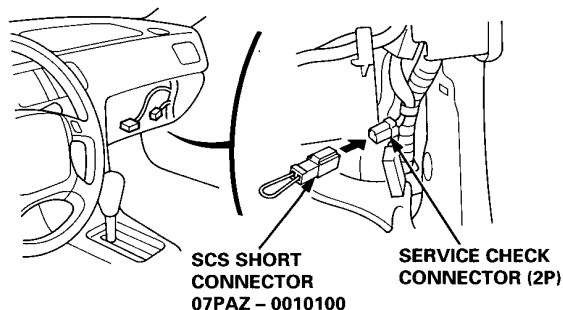
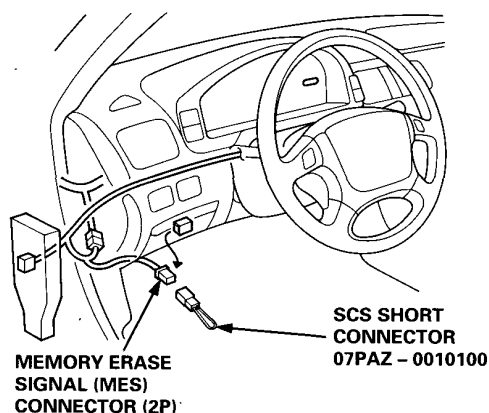
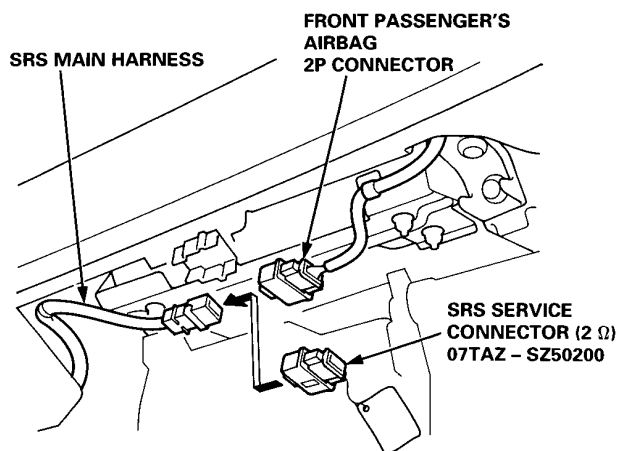
5. Reconnect the battery positive cable, then reconnect the negative cable.
6. Erase the DTC memory (see page 23B-15).
7. Turn the ignition switch OFF, then disconnect the SCS short connector from the MES connector.
8. Connect the SCS short connector to the service check connector (see page 23B-14).
9. Turn the ignition switch ON (II), and record the most recent DTC.

Is DTC 2-3 indicated?

YES

NO

Short to another wire or decreased resistance in the passenger's airbag inflator; replace the passenger's airbag assembly (see page 23-45).



To page 23B-32

(cont'd)

Troubleshooting (SRS-Type III)

DTC 2-3 (cont'd)

From page 23B-31

Check for a short to another wire or decreased resistance in the SRS main harness:

1. Turn the ignition switch OFF, then remove the SCS short connector.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the driver's airbag 2P connector from the cable reel 2P connector.
4. Disconnect the SRS main harness 18P connector from the SRS unit.

NOTE: Do not disconnect the SRS service connector (2 Ω).
5. Check resistance between No. 10 terminal and No. 14 terminal of SRS main harness 18P connector. There should be $2.0 \pm 1.0 \Omega$.

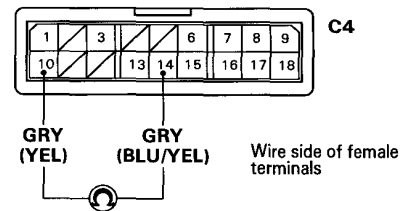
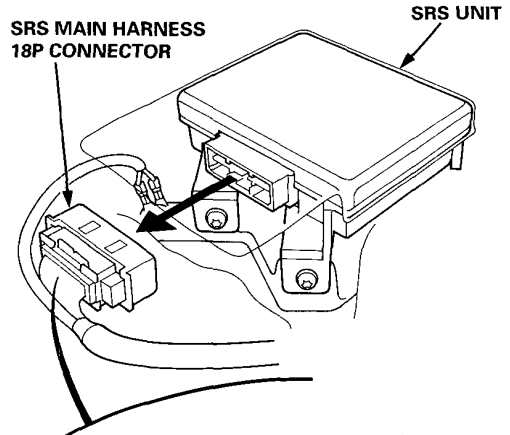
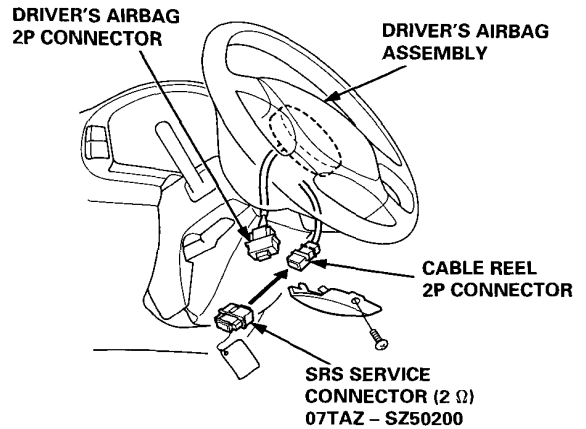
Is the resistance as specified?

YES

NO

Faulty SRS unit; replace the SRS unit (see page 23B-53).

Short to another wire or decreased resistance in the SRS main harness; replace the SRS main harness.



DTC 2-4

CAUTION: Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbags could accidentally deploy and cause damage or injuries.

Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 23B-15).
2. Turn the ignition switch OFF, and wait for ten seconds.
3. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about six seconds and goes off.

Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting of intermittent Failure on page 23B-15.

Check for a short to power in the passenger's airbag inflator:

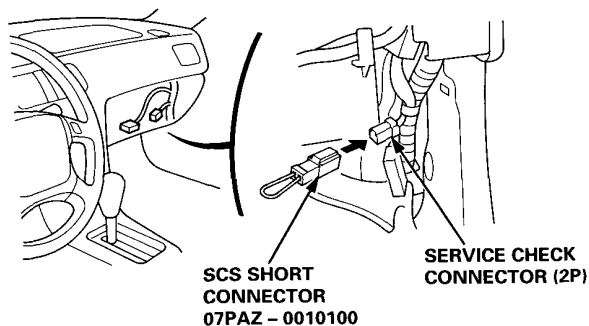
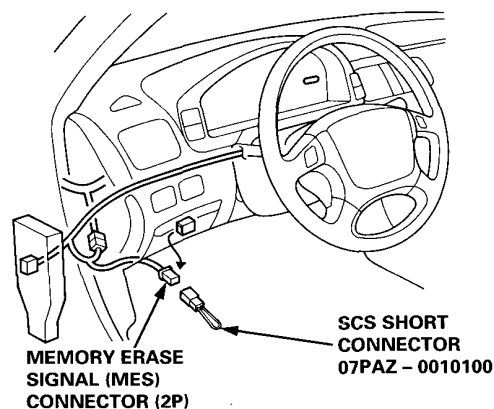
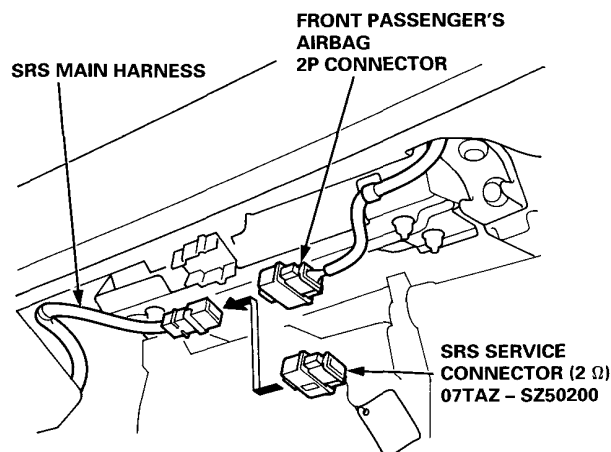
1. Turn the ignition switch OFF.
 2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
 3. Disconnect the front passenger's airbag 2P connector from the SRS main harness (see page 23B-11).
 4. Connect the SRS service connector (2 Ω) to the SRS main harness 2P connector.
- CAUTION:** Do not disconnect the driver's airbag connector.
5. Reconnect the battery positive cable, then reconnect the negative cable.
 6. Erase the DTC memory (see page 23B-15).
 7. Turn the ignition switch OFF, then disconnect the SCS short connector from the MES connector.
 8. Connect the SCS short connector to the service check connector (see page 23B-14).
 9. Turn the ignition switch ON (II), and record the most recent DTC.

Is DTC 2-4 indicated?

YES

NO

Short to power in the passenger's airbag inflator; replace the passenger's airbag assembly (see page 23-45).



To page 23B-34

(cont'd)

Troubleshooting (SRS-Type III)

DTC 2-4 (cont'd)

From page 23B-33

Check for a short to power in the SRS main harness:

1. Turn the ignition switch OFF, then remove the SCS short connector.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the driver's airbag 2P connector from the cable reel 2P connector.
4. Disconnect the SRS main harness 18P connector from the SRS unit.
5. Remove the SRS service connector (2 Ω) from the SRS main harness 2P connector.
6. Reconnect the battery positive cable, then reconnect the negative cable.
7. Connect a voltmeter between the No. 10 (+) terminal of SRS main harness 18P connector and ground.
8. Turn the ignition switch ON (II), and measure voltage. There should be 0 ± 0.5 V.
9. Connect a voltmeter between the No. 14 (+) terminal of SRS main harness 18P connector and ground, and measure voltage. There should be 0 ± 0.5 V.

Are voltage as specified?

YES

NO

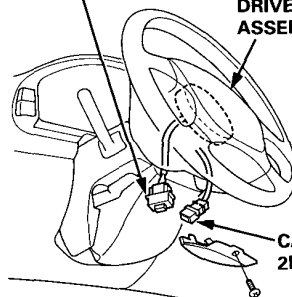
Faulty SRS unit; replace the SRS unit (see page 23B-53).

Short to power in the SRS main harness; replace the SRS main harness.

DRIVER'S AIRBAG
2P CONNECTOR

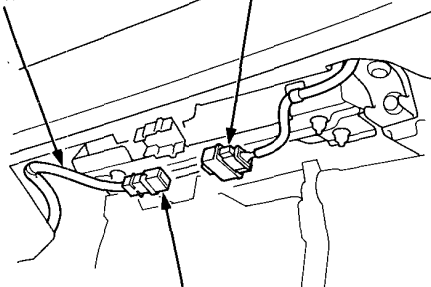
DRIVER'S AIRBAG
ASSEMBLY

CABLE REEL
2P CONNECTOR



FRONT PASSENGER'S
AIRBAG
2P CONNECTOR

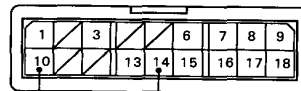
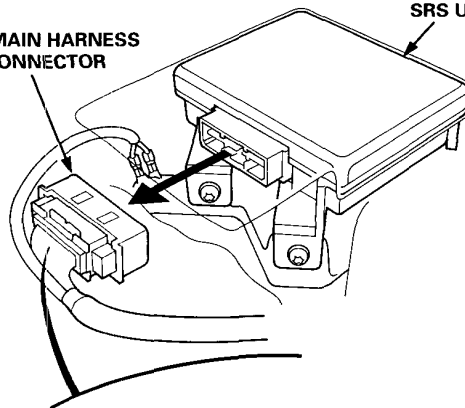
SRS MAIN HARNESS



NOTE: Do not connect the
SRS service connector (2 Ω).

SRS MAIN HARNESS
18P CONNECTOR

SRS UNIT



C4

GRY (+)
(YEL)

GRY (+)
(BLU/YEL)

Wire side of female
terminals



DTC 2-5

CAUTION: Whenever the ignition switch is ON (III), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbags could accidentally deploy and cause damage or injuries.

Try to reproduce the SRS indicator light:

1. Erase the DTC memory (see page 23B-15).
2. Turn the ignition switch OFF, and wait for ten seconds.
3. Turn the ignition switch ON (II), and check that the SRS indicator light comes on for about six seconds and goes off.

Does the SRS indicator light stay on?

YES

NO

Intermittent failure, system is OK at this time. See Troubleshooting of intermittent Failure on page 23B-15.

Check for a short to ground in the passenger's airbag inflator:

1. Turn the ignition switch OFF.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the front passenger's airbag 2P connector from the SRS main harness (see page 23B-11).
4. Connect the SRS service connector (2 Ω) to the SRS main harness 2P connector.

CAUTION: Do not disconnect the driver's airbag connector.

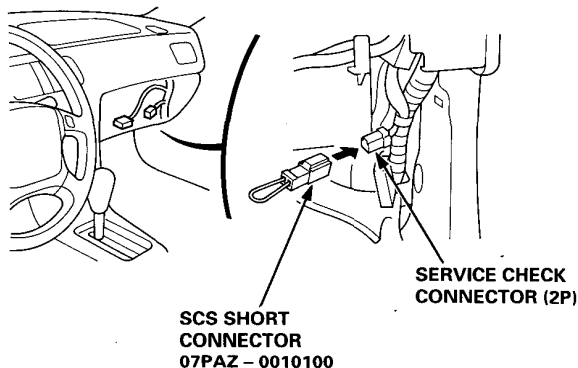
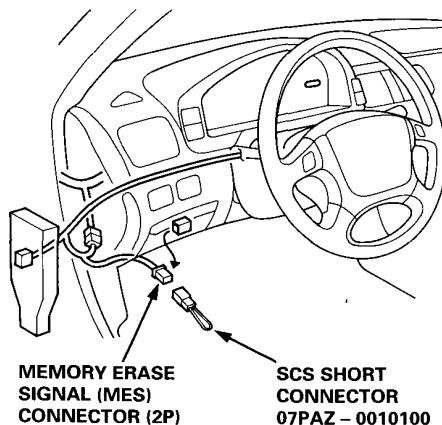
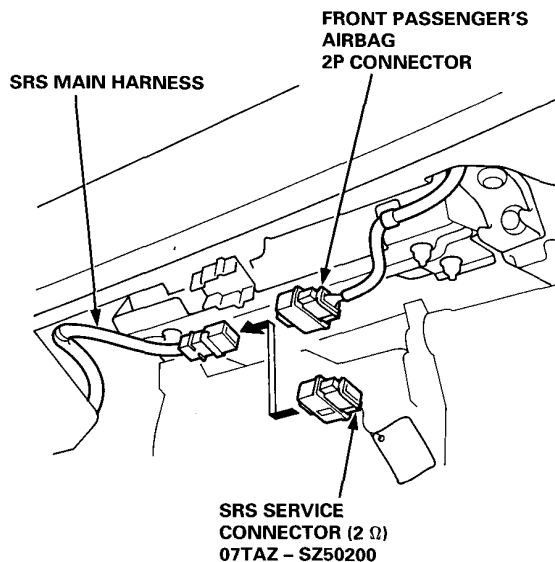
5. Reconnect the battery positive cable, then reconnect the negative cable.
6. Erase the DTC memory (see page 23B-15).
7. Turn the ignition switch OFF, then disconnect the SCS short connector from the MES connector.
8. Connect the SCS short connector to the service check connector (see page 23B-14).
9. Turn the ignition switch ON (II), and record the most recent DTC.

Is DTC 2-5 indicated?

YES

NO

Short to ground in the passenger's airbag inflator; replace the passenger's airbag assembly (see page 23B-45).



To page 23B-36

(cont'd)

Troubleshooting (SRS-Type III)

DTC 2-5 (cont'd)

From page 23B-35

Check for a short to ground in the SRS main harness:

1. Turn the ignition switch OFF, then remove the SCS short connector.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the driver's airbag 2P connector from the cable reel 2P connector.
4. Disconnect the SRS main harness 18P connector from the SRS unit.
5. Remove the SRS service connector (2 Ω) from the SRS main harness 2P connector.
6. Check for continuity between the No. 10 terminal of SRS main harness 18P connector and ground, and between the No. 14 terminal of SRS main harness 18P connector and ground. There should be 1 ∞ M Ω .

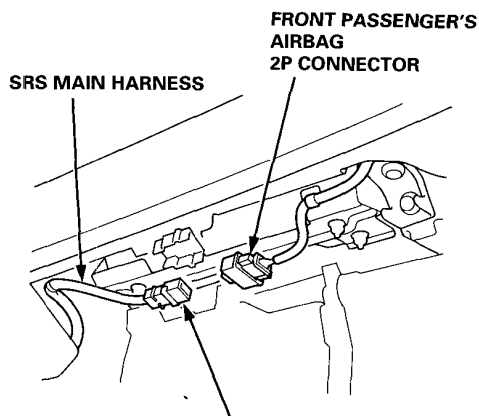
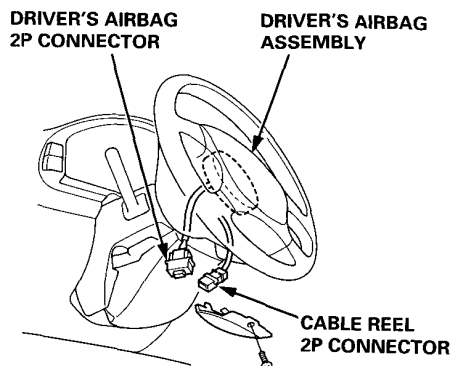
Is the resistance as specified?

YES

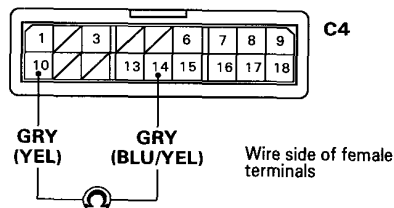
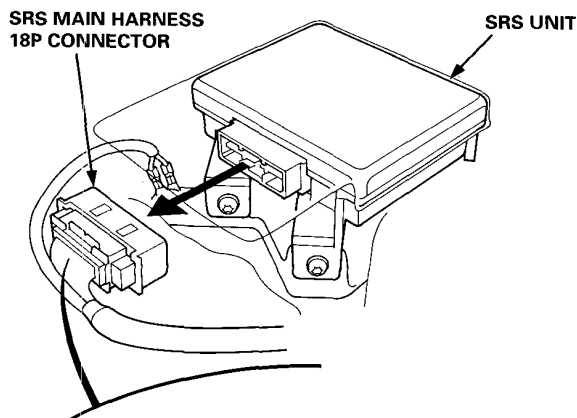
NO

Faulty SRS unit; replace the SRS unit (see page 23B-53).

Short to ground in the SRS main harness; replace the SRS main harness.



NOTE: Do not connect the SRS service connector (2 Ω).



DTC 9-1

CAUTION: Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbag(s) could accidentally deploy and cause damage or injuries.

Check the SRS unit (1):

1. Turn the ignition switch OFF.
2. Connect the SCS short connector to the MES connector.
3. Erase the DTC memory (see page 23B-15).
4. Turn the ignition switch OFF, then disconnect the SCS short connector from the MES connector.
5. Connect the SCS short connector to the service check connector (see page 23B-14).
6. Turn the ignition switch ON (II), and record the most recent DTC.

Is DTC 9-1 indicated?

YES

NO

(A)
To page 23B-38

Check the SRS unit (2):

1. Turn the ignition switch OFF.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the driver's (and front passenger's) airbag connector (see page 23B-11).
4. Disconnect the SRS main harness 18P connector from the SRS unit.
5. Reconnect the battery positive cable, then reconnect the negative cable.
6. Turn the ignition switch ON (II), then connect SRS main harness 18P connector terminals No. 6 and No. 7 with a jumper wire and backprobe adapters.

Does the SRS indicator light go off?

YES

NO

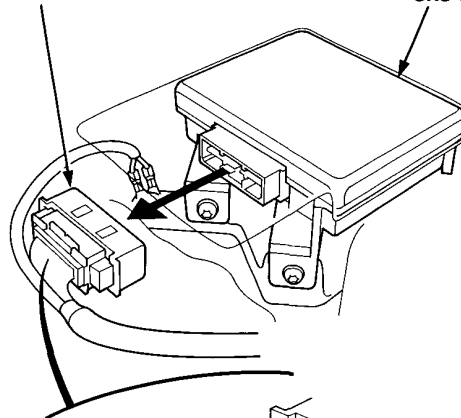
Poor contact at the SRS main harness 18P connector; check the connector.

- If the connector is OK, substitute a know-good SRS unit, and recheck.
- If the problem is still present, replace the SRS main harness.

(B)
To page 23B-39

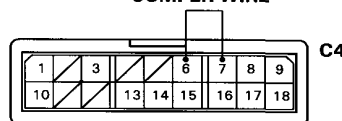
SRS MAIN HARNESS
18P CONNECTOR

SRS UNIT



BACKPROBE ADAPTER, 17 mm
07TAZ - 001020A

JUMPER WIRE



Wire side of female terminals

(cont'd)

Troubleshooting (SRS-Type III)

DTC 9-1 (cont'd)

From page 23B-37
(A)

Check the No. 2 (15 A) fuse:

1. Turn the ignition switch OFF.
2. Check for blown No. 2 (15 A) fuse in the under-dash fuse/relay box.

Is the fuse OK?

YES

NO

Replace the fuse, and erase the memory:

1. Replace the No. 2 (15 A) fuse.
2. Connect the SCS short connector to the MES connector.
3. Erase the DTC memory (see page 23B-15).
4. Turn the ignition switch OFF, then disconnect the SCS short connector from the MES connector.
5. Turn the ignition switch ON (II).

Does the SRS indicator light go off after six seconds?

YES

NO

END

Confirm the DTC, and continue troubleshooting.

Check for an open in the SRS main harness (VA line):

1. Turn the ignition switch OFF.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the driver's (and front passenger's) airbag connector(s) (see page 23B-11).
4. Disconnect the SRS main harness 18P connector from the SRS unit.
5. Reconnect the battery positive cable, then reconnect the negative cable.
6. Connect a voltmeter between the No. 7 terminal (+) of the SRS main harness 18P connector and ground.

Is there battery voltage?

YES

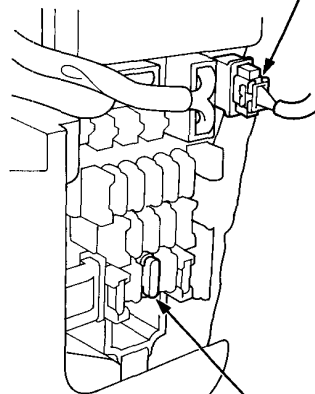
NO

Poor contact at the SRS main harness 18P connector; check the connector.

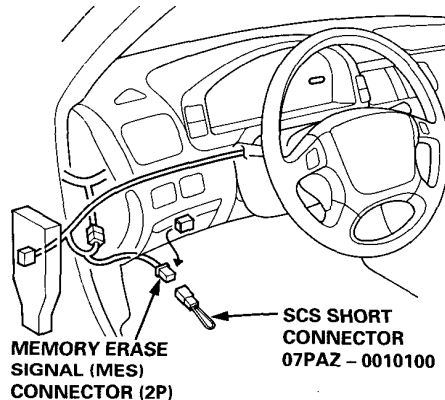
- If the connector is OK, substitute a known-good SRS unit, and recheck.
- If the problem is still present, replace the SRS main harness.

Open in the SRS main harness (VA line); replace the harness.

SRS MAIN HARNESS
2P CONNECTOR

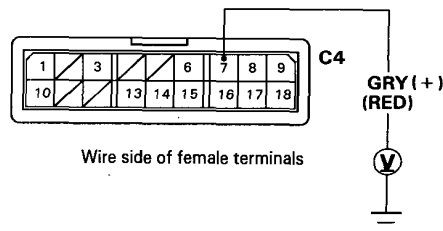
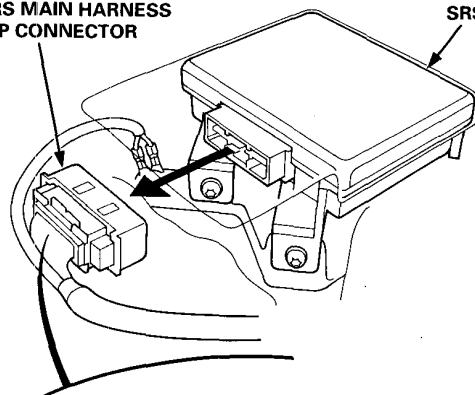


No. 2 (15 A) FUSE



SRS MAIN HARNESS
18P CONNECTOR

SRS UNIT



From page 23B-37
(B)

Check the SRS indicator circuit:

1. Turn the ignition switch OFF.
2. Remove the gauge assembly.
NOTE: Do not disconnect the dashboard wire harness 14P connector from the gauge assembly.
3. Turn the ignition switch ON (II).
4. Connect the dashboard wire harness 14P connector terminals No. 7 and No. 10 with a jumper wire.

Does the SRS indicator light go off?

YES

NO

Faulty the SRS indicator light circuit in the gauge assembly; replace the SRS printed circuit board in the gauge assembly.

Check for a short to ground in the SRS indicator light circuit:

1. Turn the ignition switch OFF.
2. Disconnect the dashboard wire harness 14P connector from the gauge assembly.
3. Check resistance between the No. 6 terminal of the SRS main harness 18P connector and ground. There should be $1 \frac{1}{2}$ M Ω .

Is the resistance as specified?

YES

NO

(C)

To page 23B-40

Check for an open in the SRS indicator light circuit:

1. Check resistance between the No. 6 terminal of SRS main harness 18P connector and No. 10 terminal of the dashboard wire harness 14P connector; There should be $0 \sim 1.0 \Omega$.

Is the resistance as specified?

YES

NO

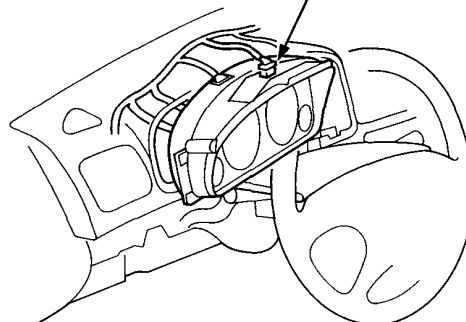
(D)

To page 23B-41

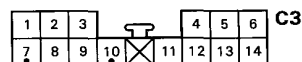
(E)

To page 23B-41

**DASHBOARD WIRE HARNESS
14P CONNECTOR**



**DASHBOARD WIRE HARNESS
14P CONNECTOR**



YEL

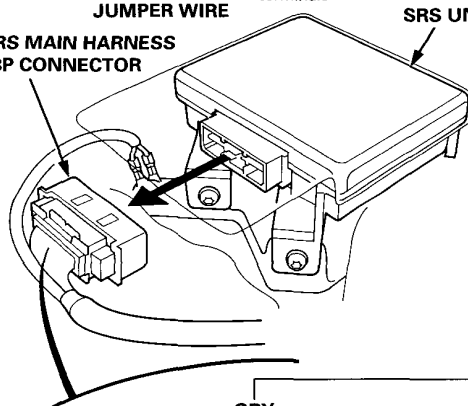
BLU

Wire side of female terminals

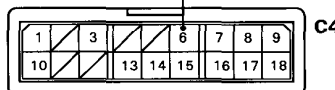
JUMPER WIRE

**SRS MAIN HARNESS
18P CONNECTOR**

SRS UNIT



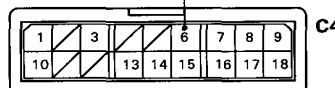
GRY
(BLU)



Wire side of female terminals

**SRS MAIN HARNESS
18P CONNECTOR**

GRY
(BLU)



**DASHBOARD WIRE HARNESS
14P CONNECTOR**



BLU

Wire side of female terminals

(cont'd)

Troubleshooting (SRS-Type III)

DTC 9-1 (cont'd)

From page 23B-38
(C)

Check for a short to ground in the main wire harness:

1. Disconnect the dashboard wire harness 16P connector from the main wire harness.
2. Check resistance between the No. 9 (LHD) or No. 4 (RHD) terminal of the main wire harness 16P connector and ground. There should be 1 ± 0.5 M Ω .

Is the resistance as specified?

YES

NO

Short to ground in the dashboard wire harness; repair the dashboard wire harness.

Check for a short to ground in the SRS main harness:

1. Disconnect the SRS main harness 3P connector from the main wire harness.
2. Check resistance between the No. 1 terminal of the SRS main harness 3P connector and ground. There should be 1 ± 0.5 M Ω .

Is the resistance as specified?

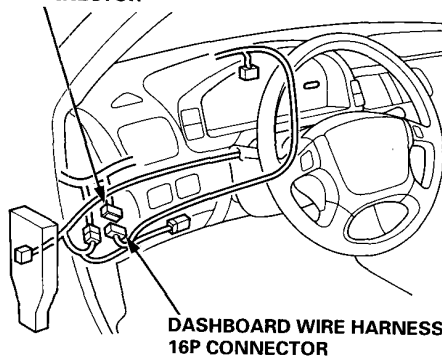
YES

NO

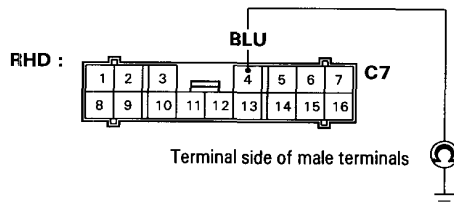
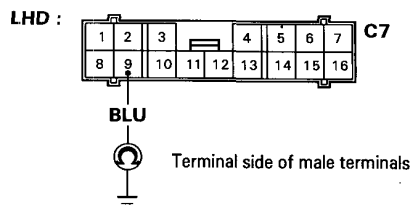
Short to ground in the main wire harness; repair the main wire harness.

Short to ground in the SRS main harness; replace the SRS main harness.

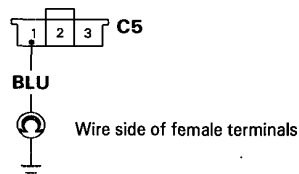
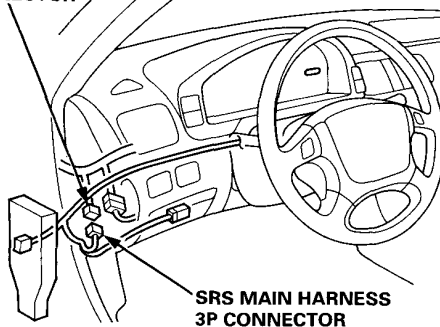
MAIN WIRE HARNESS
16P CONNECTOR



MAIN WIRE HARNESS
16P CONNECTOR



MAIN WIRE
HARNESS
3P CONNECTOR



From page 23B-40
(D)

Check the SRS indicator circuit input voltage:

1. Reconnect the SRS main harness 18P connector to the SRS unit.
2. Connect a voltmeter between the No. 10 terminal (+) of the dashboard 14P connector and ground.
3. Turn the ignition switch ON (II), and measure voltage.

Is there 8.5 V or more six seconds after the ignition switch has been turned ON (II)?

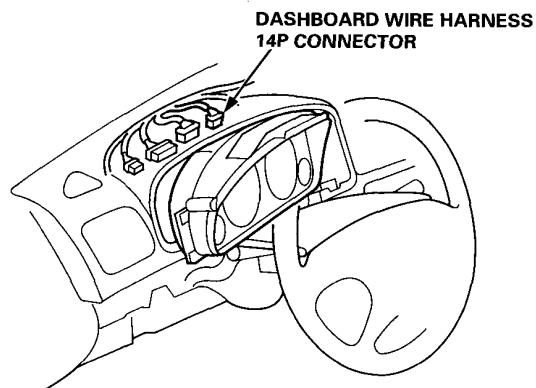
YES

NO

The problem has disappeared due to disconnecting and connecting the connectors. Be sure all terminals make good contact, and recheck the system (see Troubleshooting of Intermittent Failures on page 23B-15).

Poor contact at the SRS main harness 18P connector; check the connector.

- If the connector is OK, substitute a known-good SRS unit, and recheck.
- If the problem is still present, replace the SRS main harness.



DASHBOARD WIRE HARNESS 14P CONNECTOR



BLU (+)



Wire side of female terminals

From page 23B-40
(E)

Check for an open in the dashboard wire harness:

1. Disconnect the dashboard wire harness 16P connector from the main wire harness.
2. Check resistance between the No. 6 terminal of the SRS main harness 18P connector and No. 9 (LHD) or No. 4 (RHD) terminal of the main wire harness 16P connector; There should be $0 \pm 0.0 \Omega$.

Is the resistance as specified?

YES

NO

Open in the BLU wire of the dashboard wire harness; repair the dashboard wire harness.

Check for an open in the main wire harness:

1. Disconnect the SRS main harness 3P connector from the main wire harness.
2. Check resistance between the No. 6 terminal of the SRS main harness 18P connector and No. 1 terminal of the SRS main harness 3P connector; There should be $0 \pm 0.0 \Omega$.

Is the resistance as specified?

YES

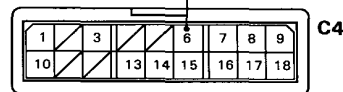
NO

Open in the BLU wire of the main wire harness; repair the main wire harness.

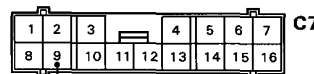
Open in the SRS main harness; replace the SRS main harness.

LHD :

SRS MAIN HARNESS 18P CONNECTOR GRY (BLU)



MAIN WIRE HARNESS 16P CONNECTOR

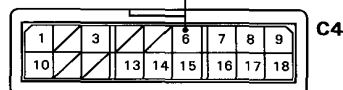


BLU

Wire side of female terminals

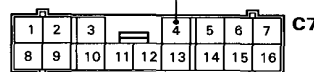
RHD :

SRS MAIN HARNESS 18P CONNECTOR GRY (BLU)



Wire side of female terminals

MAIN WIRE HARNESS 16P CONNECTOR



BLU

Troubleshooting (SRS-Type III)

DTC 9-2

CAUTION: Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbag(s) could accidentally deploy and cause damage or injuries.

Check the fuse:

1. Turn the ignition switch OFF.
2. Check for blown No. 3 (10 A) fuse in the under-dash fuse/relay box.

Is the fuse OK?

YES

NO

(F)

To page 23B-43

Replace the fuse. Turn the ignition switch ON (II), and check that the fuse doesn't blow.

Is the fuse OK?

YES

NO

The problem has disappeared. Test-drive the car and see Troubleshooting of Intermittent Failures on page 23B-15.

Check for short to ground between the under-dash fuse/relay box and the SRS unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the driver's (and front passenger's) airbag connector (see page 23B-11).
4. Disconnect the SRS main harness 18P connector from the SRS unit.
5. Check resistance between the No. 3 terminal of SRS main harness 18P connector and ground. There should be $1 \sim 10 \text{ M}\Omega$.

Is the resistance as specified?

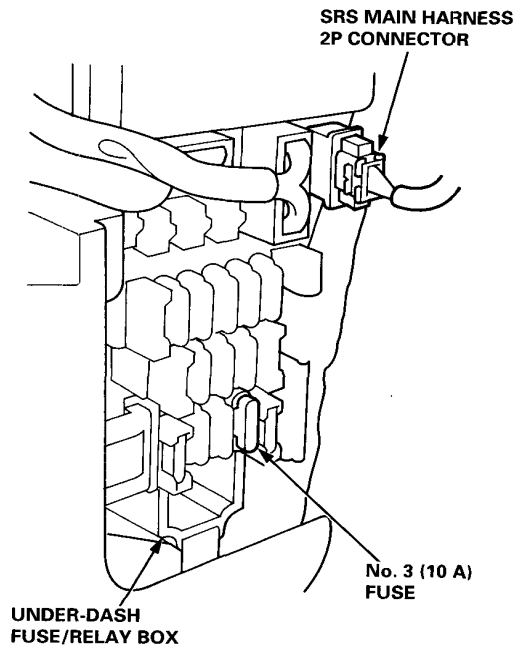
YES

NO

Faulty SRS unit; replace the SRS unit (see page 23B-53).

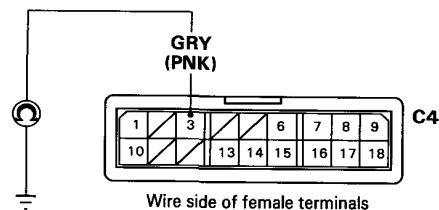
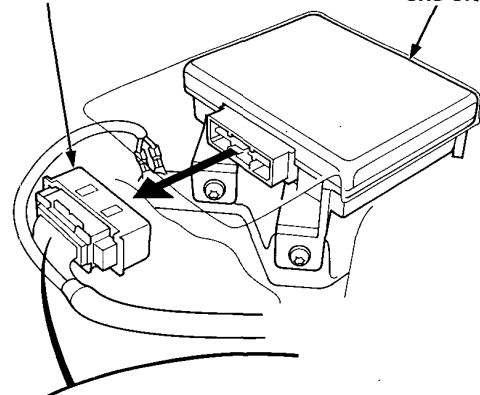
(G)

To page 23B-43



SRS MAIN HARNESS 18P CONNECTOR

SRS UNIT



From page 23B-42
(G)

Check for short to ground in the SRS main harness:

1. Disconnect the SRS main harness 2P connector from the under-dash fuse/relay box.
2. Check resistance between the No. 3 terminal of the SRS main harness 18P connector and ground. There should be 1 ± 0.5 M Ω .

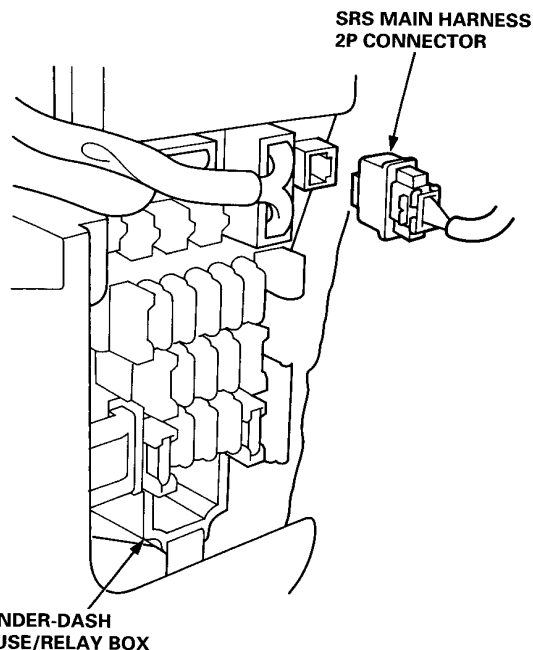
Is the resistance as specified?

YES

NO

Short to ground in the under-dash fuse/relay box; replace the under-dash fuse/relay box.

Short to ground in the SRS main harness; replace the SRS main harness.



From page 23B-42
(F)

Check for an open in the SRS main harness:

1. Turn the ignition switch OFF.
2. Disconnect the battery negative cable, then disconnect the positive cable, and wait for three minutes.
3. Disconnect the driver's (and front passenger's) airbag connector (see page 23B-11).
4. Disconnect the SRS main harness 18P connector from the SRS unit.
5. Reconnect the battery positive cable, then reconnect the negative cable.
6. Connect a voltmeter between the No. 3 terminal of the SRS main harness 18P connector and ground.
7. Turn the ignition switch ON (II), and measure voltage.

Is there battery voltage?

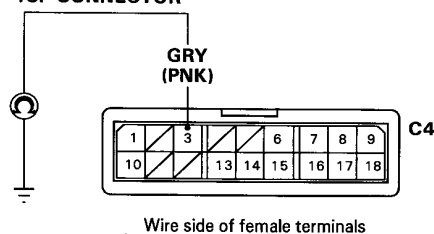
YES

NO

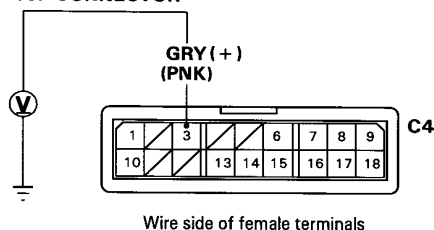
Poor contact at the SRS main harness 18P connector; check the connector.

- If the connector is OK, substitute a known-good SRS unit, and recheck.
- If the problem is still present, replace the SRS main harness.

SRS MAIN HARNESS 18P CONNECTOR



SRS MAIN HARNESS 18P CONNECTOR



(H)
To page 23B-44

(cont'd)

Troubleshooting (SRS-Type III)

DTC 9-2 (cont'd)

From page 23B-43
(H)

Check for an open in the SRS main harness:

1. Turn the ignition switch OFF.
2. Disconnect the SRS main harness 2P connector from the under-dash fuse/relay box.
3. Check resistance between the No. 2 terminal of the SRS main harness 2P connector and No. 6 terminal of SRS main harness 18P connector. There should be $0 \pm 1.0 \Omega$.

Is the resistance as specified?

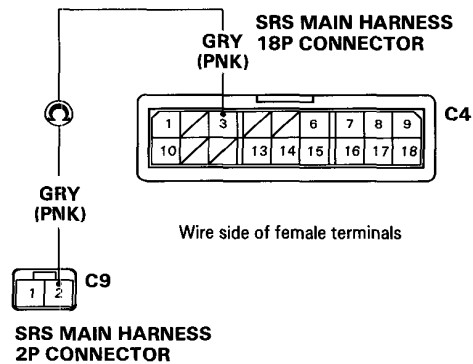
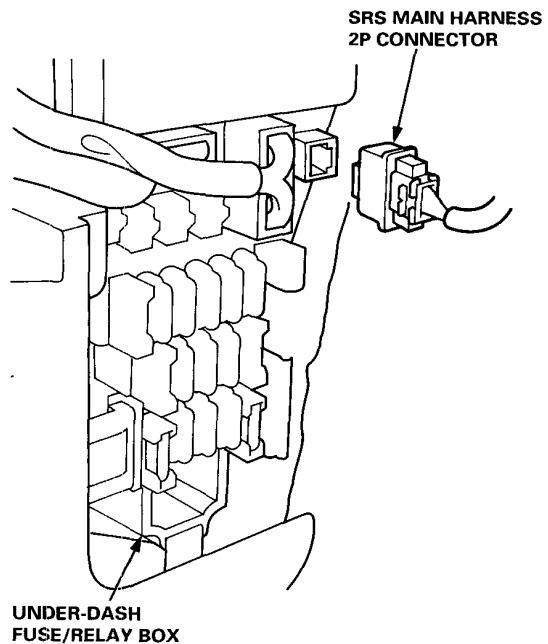
YES

NO

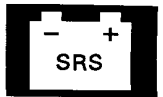
Poor contact at the SRS main harness 2P connector; check the connector.

- If the connector is OK, substitute a known-good under-dash fuse/relay box, and recheck.
- If the problem is still present, replace the SRS main harness.

Open in the SRS main harness; replace the SRS main harness.



Airbag Assembly (SRS-Type III)



Replacement

After a collision in which the airbags were deployed, the airbag assemblies and the SRS unit must be replaced.

⚠ WARNING Store a removed airbag assembly with the pad surface up. If the airbag is improperly stored face down, accidental deployment could propel the unit with enough force to cause serious injury.

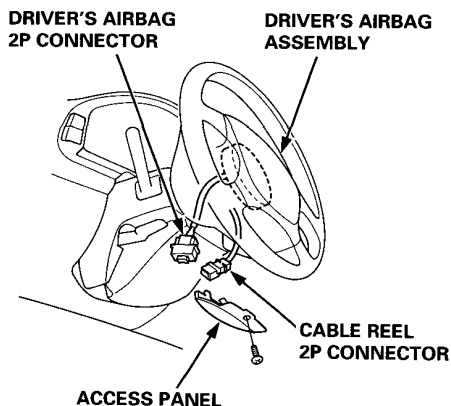
CAUTION:

- Do not install used SRS parts from another car. When repairing, use only new SRS parts.
- Carefully inspect the airbag assembly before you install it. Do not install an airbag assembly that shows signs of being dropped or improperly handled, such as dents, cracks or deformation.
- Always disconnect the airbag connector(s) when the harness is disconnected.
- Do not disassemble or tamper with the airbag assembly.

1. Disconnect the battery negative cable, then disconnect the positive cable from the battery, and wait at least three minutes.
2. Disconnecting the airbag connector(s):

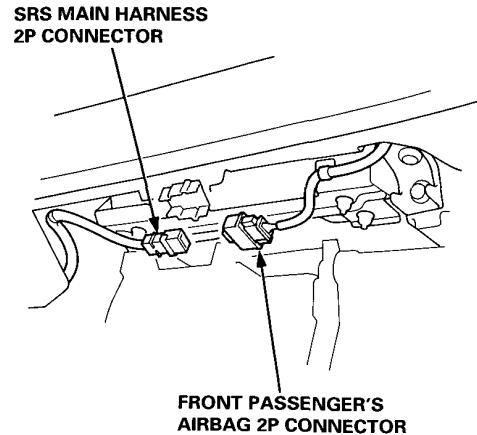
Driver's Side:

- Remove the access panel from the steering wheel, then disconnect the 2P connector between the driver's airbag and cable reel.
- NOTE: When disconnected, the airbag connector is automatically shorted.



Front Passenger's Side:

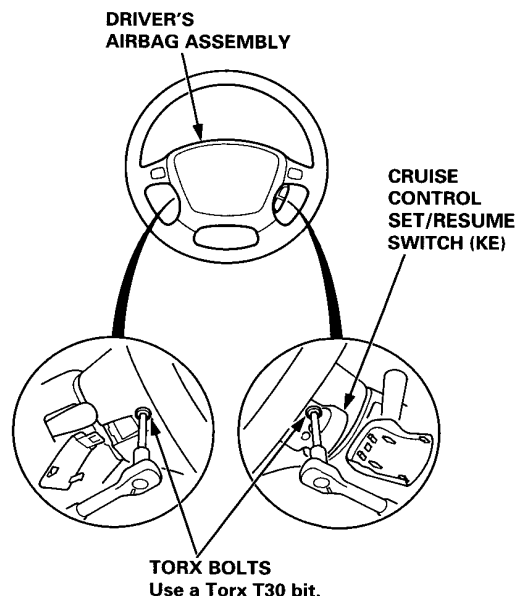
- Remove the glove box.
 - Disconnect the 2P connector between the front passenger's airbag and SRS main harness.
- NOTE: When disconnected, the airbag connector is automatically shorted.



3. Remove the airbag(s):

Driver's Side:

- Remove the two Torx bolts using a Torx T30 bit, then remove the driver's airbag assembly.



(cont'd)

Airbag Assembly (SRS-Type III)

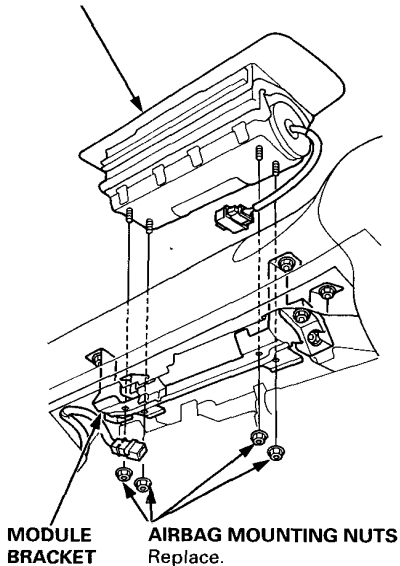
Replacement (cont'd)

Front Passenger's Side:

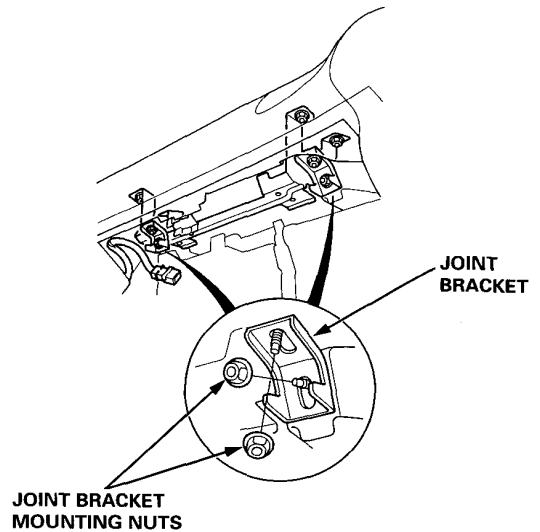
CAUTION: Both the airbag mounting nuts and the joint bracket mounting nuts are self-locking flange nuts, but their shapes and torques are different. Be careful not to confuse them. Also, use new nuts for reinstalling.

- Remove the four airbag mounting nuts from the bracket, then lift the front passenger's airbag out of the module bracket.

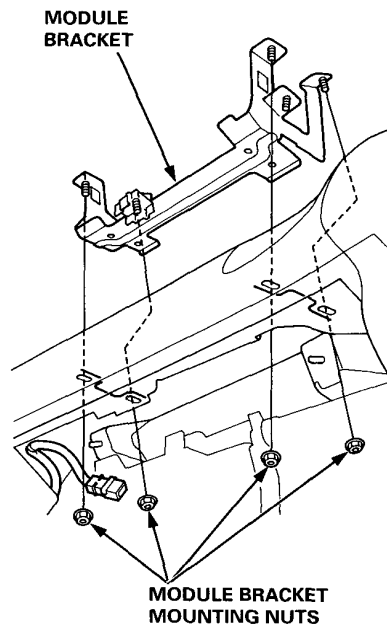
FRONT PASSENGER'S AIRBAG



- Remove the four mounting nuts from the joint brackets, then remove the joint brackets.



- Remove the four nuts, then remove the module bracket from the dashboard.

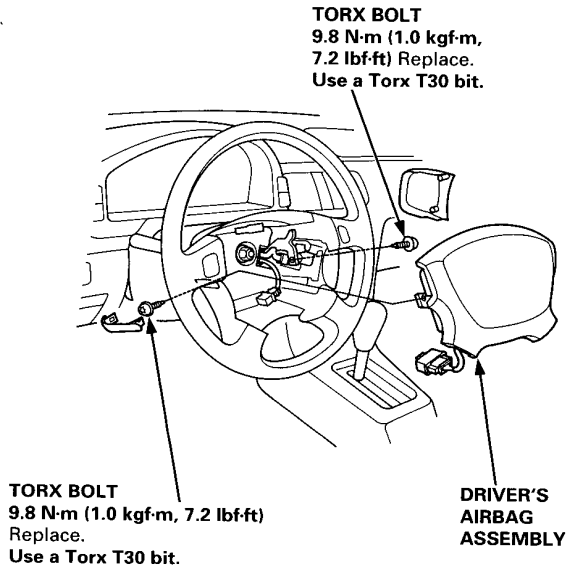


CAUTION: Be sure to install the SRS wiring so that it is not pinched or interfering with other car parts.

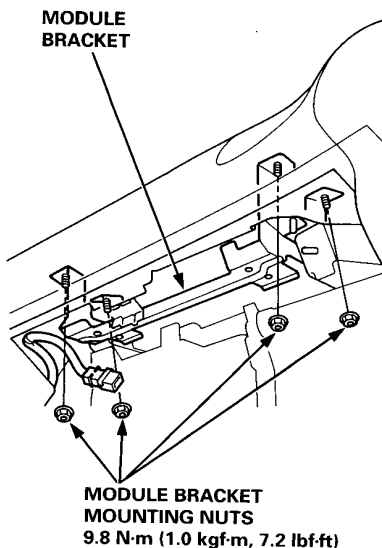
4. Install the new airbags.

Driver's Side:

- Place the driver's airbag assembly into the steering wheel, and secure it with new Torx bolts.

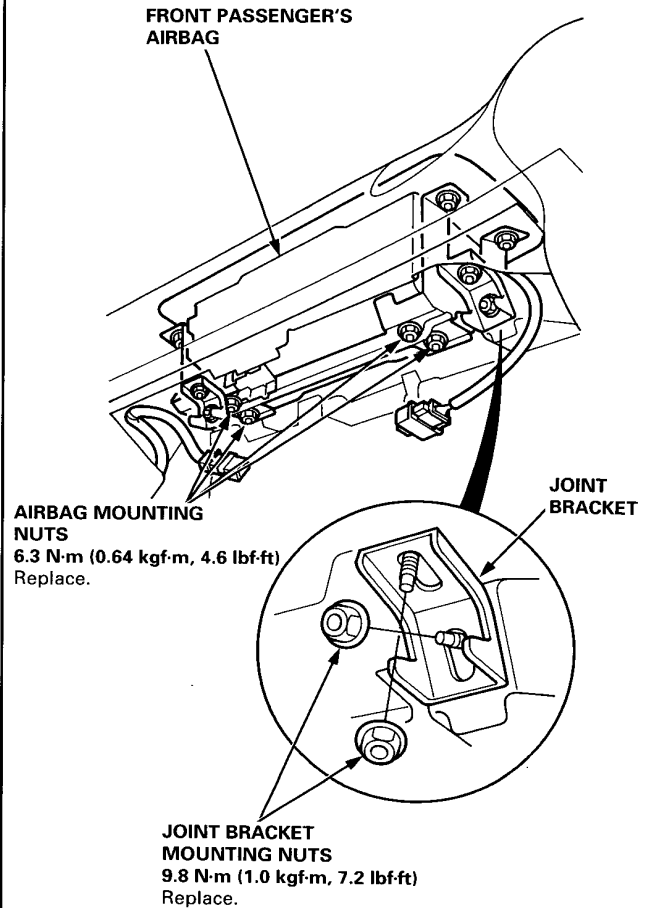


- Install the module bracket into the dashboard.



- Install the front passenger's airbag assembly on the module bracket, then install the joint brackets.

NOTE: If there remains some space between the airbag assembly lid and the dashboard after tightening the nuts, loosen the joint bracket mounting nuts, and lightly press down the airbag assembly. Then retighten the joint bracket mounting nuts.



(cont'd)

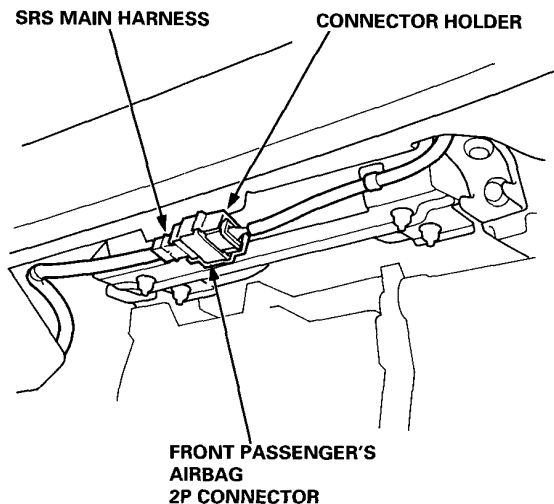
Airbag Assembly (SRS-Type III)

Replacement (cont'd)

5. Reconnect the airbag connector(s).

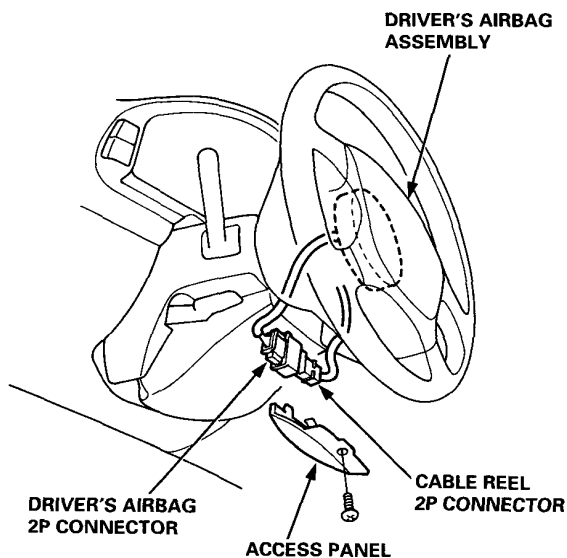
Front Passenger's Side:

- Attach the airbag connector to the connector holder, then reinstall the glove box.



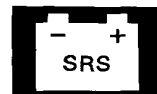
Driver's Side:

- Connect the driver's airbag 2P connector to the cable reel 2P connector, then install the access panel on the steering wheel.



6. Connect the battery positive cable, then connect the negative cable.
7. After installing the airbag assembly, confirm proper system operation:
 - Turn the ignition switch ON (II); the SRS indicator light should come on for about six seconds and then go off.
 - Make sure both horn buttons work.
 - Take a test drive, and make sure the cruise control switches work.

Cable Reel (SRS-Type III)



Replacement

⚠ WARNING Store a removed airbag assembly with the pad surface up. If the airbag is improperly stored face down, accidental deployment could propel the unit with enough force to cause serious injury.

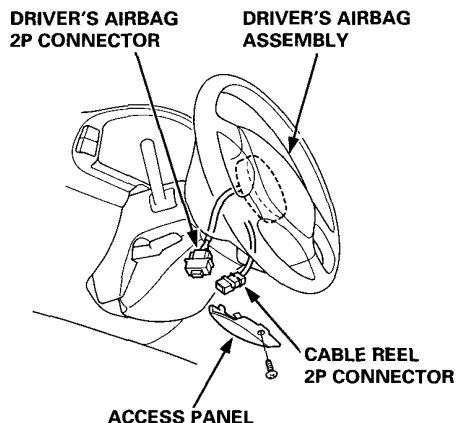
CAUTION:

- Carefully inspect the airbag assembly before installing it. Do not install an airbag assembly that shows signs of being dropped or improperly handled, such as dents, cracks or deformation.
- Always disconnect the airbag connector(s) when the harness is disconnected.
- Do not disassemble or tamper with the airbag assembly.

1. Disconnect the battery negative cable, then disconnect the positive cable from the battery, and wait at least three minutes.
2. Disconnect the airbag connector(s):

Driver's Side:

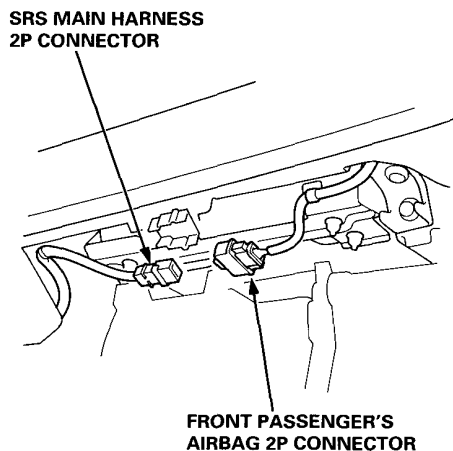
- Remove the access panel from the steering wheel, then disconnect the 2P connector between the driver's airbag and cable reel.
NOTE: When disconnected, the airbag connector is automatically shorted.



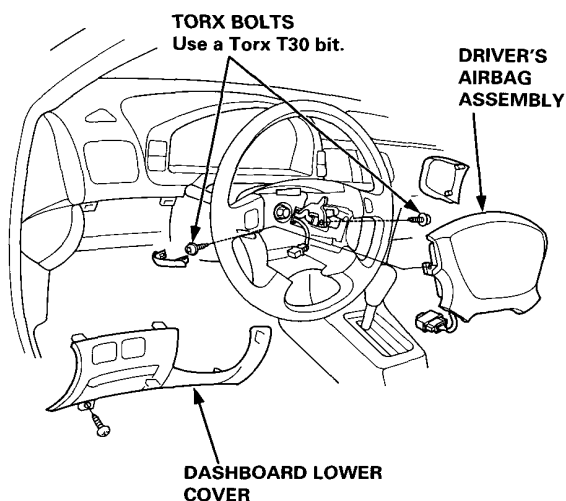
Front Passenger's Side:

- Remove the glove box, then disconnect the 2P connector between the front passenger's airbag and SRS main harness.

NOTE: When disconnected, the airbag connector is automatically shorted.



3. Make sure the wheels are aligned straight ahead.
4. Remove the dashboard lower cover.
5. Remove the two Torx bolts from the steering wheel, then remove the driver's airbag assembly.

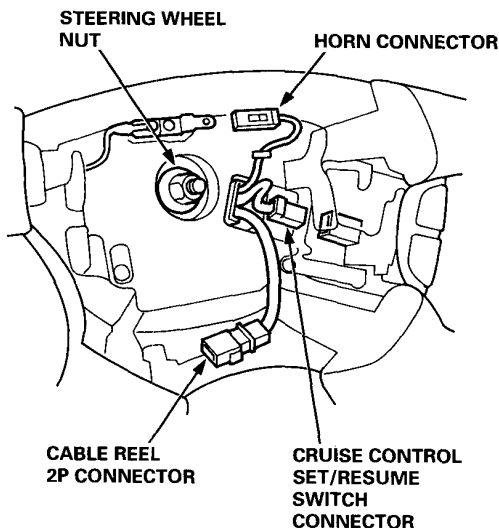


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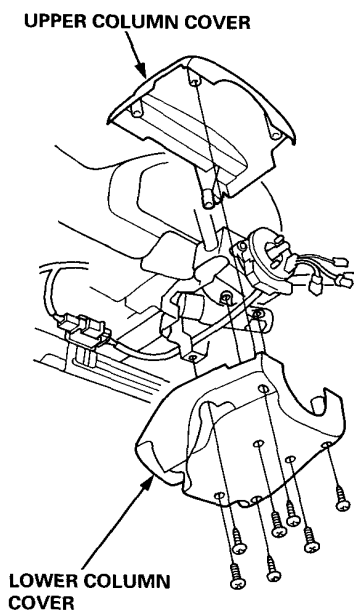
Cable Reel (SRS-Type III)

Replacement (cont'd)

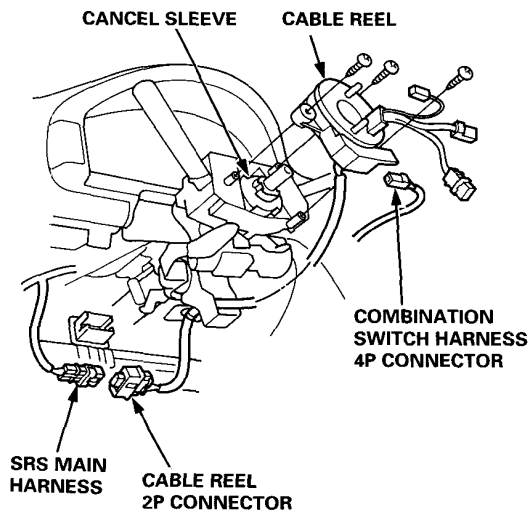
6. Disconnect the connector from the horn and cruise control set/resume switches, then remove the steering wheel nut.



7. Remove the steering wheel from the column.
8. Remove the steering column covers.



9. Disconnect the 4P connector between the cable reel and combination switch harness, and disconnect the 2P connector between the cable reel and SRS main harness.

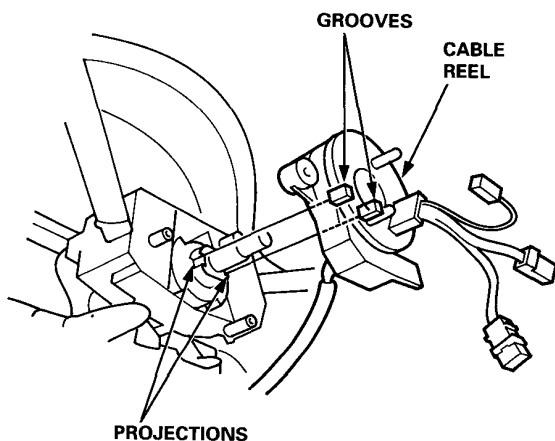


10. Remove the cable reel from the column.

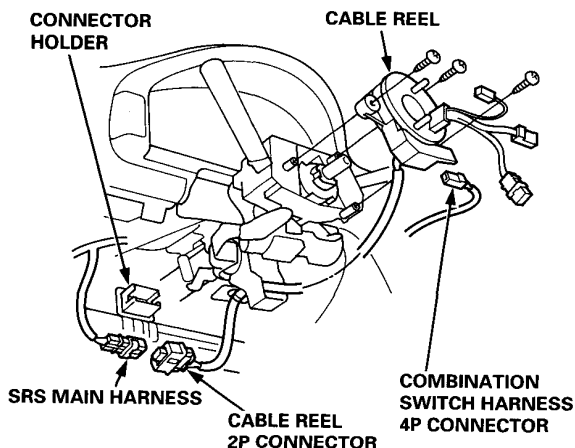
CAUTION:

- Before installing the steering wheel, the front wheels should be aligned straight ahead.
- Be sure to install the harness wires so that they are not pinched or interfering with other car parts.
- After reassembly, confirm that the wheels are still turned straight ahead and that the steering wheel spoke angle is correct (road test). If minor spoke angle adjustment is necessary, do so only by adjusting the tie-rods, not by removing and repositioning the steering wheel.

11. Align the cancel sleeve grooves with the cable reel projections.

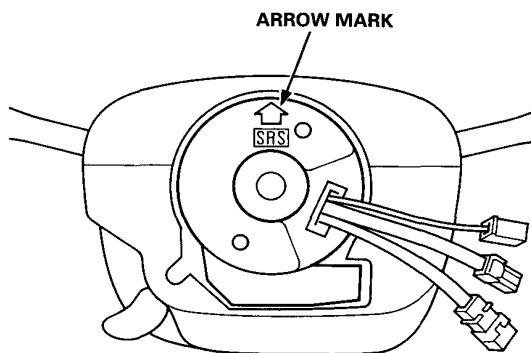


12. Carefully install the cable reel on the steering column shaft. Then connect the 4P connector to the cable reel, and connect the 2P connector to the SRS main harness.

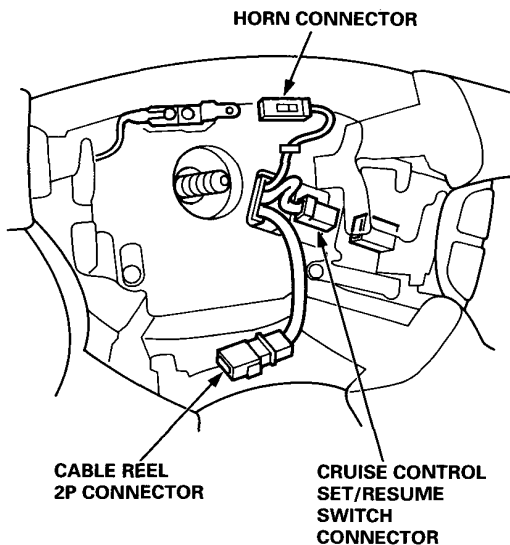


13. Install the steering column covers.

14. If necessary, center the cable reel. (New replacement cable reels come centered.) Do this by first rotating the cable reel clockwise until it stops. Then rotate it counterclockwise (approximately two and a half turns) until the arrow mark on the cable reel label points straight up.



15. Install the steering wheel, then connect the horn connector and cruise control set/resume switch connector.

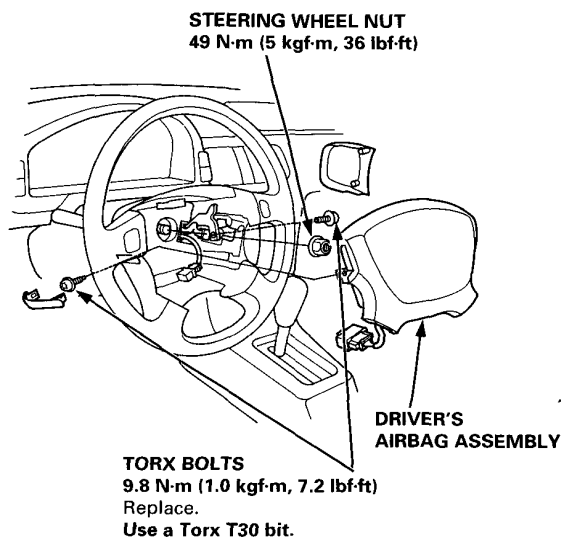


(cont'd)

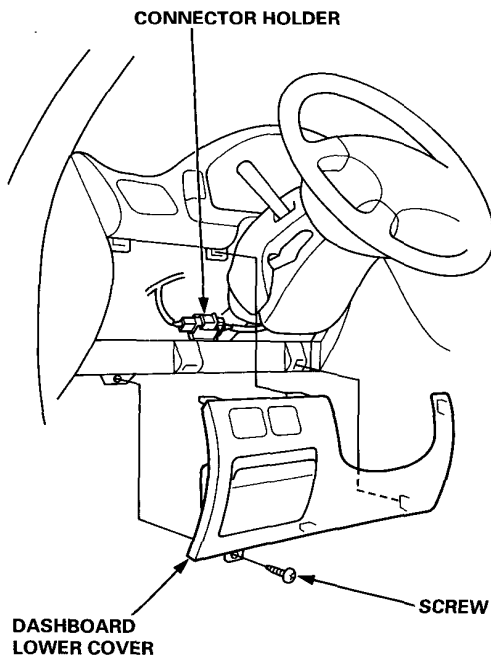
Cable Reel (SRS-Type III)

Replacement (cont'd)

16. Install the steering wheel nut, then install the driver's airbag assembly.



17. Attach the 2P connector to the connector holder, then install the dashboard lower cover.



18. Reconnect the driver's airbag 2P connector to the cable reel 2P connector, and reinstall the access panel on the steering wheel.

19. Reconnect the front passenger's airbag 2P connector to the SRS main harness.

20. Reconnect the battery positive cable, then the negative cable.

21. After installing the cable reel, confirm proper system operation:

- Turn the ignition switch ON (II); the SRS indicator light should come on for about six seconds and then go off.
- Make sure both horn buttons work.
- Make sure the headlight and wiper switches work.

SRS Unit (SRS-Type III)

SRS

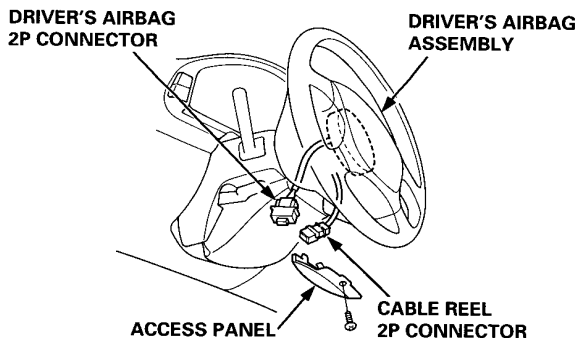
Replacement

CAUTION:

- Before disconnecting any part of the SRS wire harness, disconnect the airbag connector(s).
 - During installation or replacement, do not bump (impact wrench, hammer etc.) the area near the SRS unit.
 - Do not damage the SRS unit terminals or connectors.
 - Do not disassemble the SRS unit; it has no serviceable parts.
 - Store the SRS unit in a clean, dry area.
 - Do not use any SRS unit which has been subjected to water damage or shows signs of being dropped or improperly handled, such as dents, cracks or deformation.
1. Disconnect the battery negative cable, then disconnect the positive cable from the battery, and wait at least three minutes.
 2. Disconnect the airbag connectors:
NOTE: When disconnected, the airbag connector is automatically shorted.

Driver's Side:

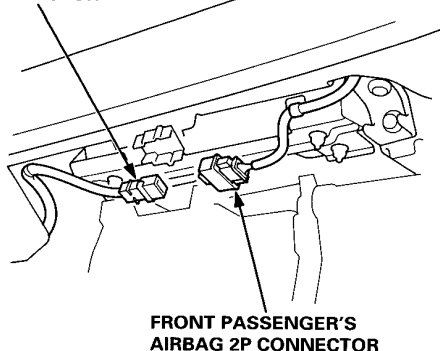
- Remove the access panel from the steering wheel, then disconnect the 2P connector between the driver's airbag and cable reel.



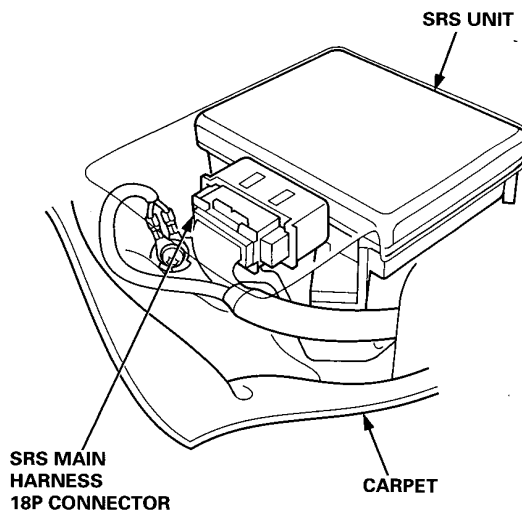
Front Passenger's Side:

- Disconnect the 2P connector between the front passenger's airbag and SRS main harness.

SRS MAIN HARNESS
2P CONNECTOR

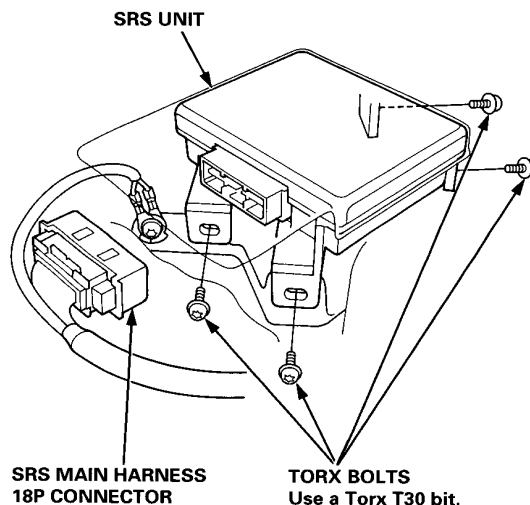


3. Pull down the carpeting from both sides of the heater unit and front console.



4. Disconnect the SRS main harness 18P connector from the SRS unit.

NOTE: For disconnecting the spring-loaded lock type connector, refer to page 23B-10.



5. Remove the four Torx bolts from the SRS unit, then pull out the SRS unit from the driver's side.

(cont'd)

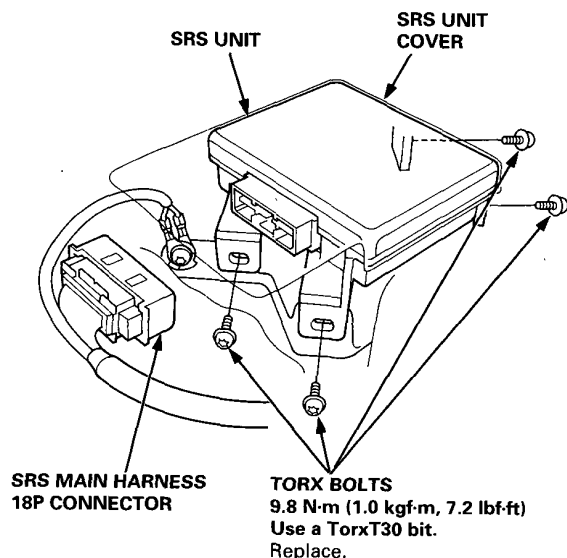
SRS Unit (SRS-Type III)

Replacement (cont'd)

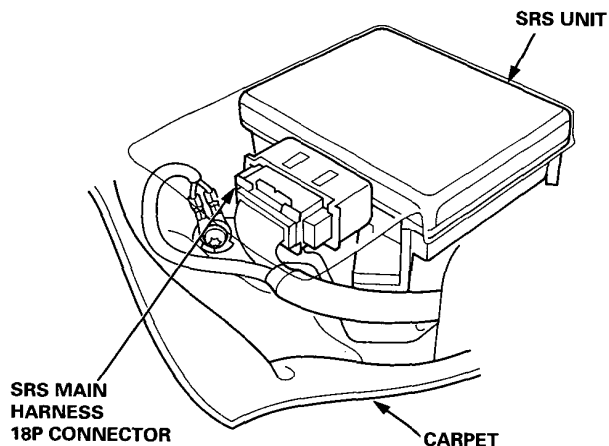
CAUTION:

- Be sure to install the SRS wiring so that it is not pinched or interfering with other car parts.
- When tightening the Torx bolts to the specified torque after replacement, be careful to turn them in so that their heads rest squarely on the brackets.

6. Stick the SRS unit cover onto the upper surface of the new SRS unit, and install the new SRS unit.



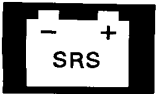
7. Connect the SRS main harness 18P connector to the SRS unit, then push it into position until it clicks.



8. Put the carpet back in place.

9. Reconnect the driver's airbag 2P connector to the cable reel 2P connector, then reinstall the access panel on the steering wheel.
10. Reconnect the front passenger's airbag 2P connector to the SRS main harness, then reinstall the glove box.
11. Reconnect the battery positive cable, then the negative cable.
12. After installing the SRS unit, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator light should come on for about six seconds and then go off.

Scrapping (SRS-Type III)



Procedure

Before scrapping any airbags (including those in a whole car to be scrapped), the airbags must be deployed. If the car is still within the warranty period, before you deploy the airbags, the local Honda Service Manager must give approval and/or special instructions. Only after the airbags have been deployed (as the result of vehicle collision, for example), can they be scrapped. If the airbags appear intact (not deployed) treat them with extreme caution.

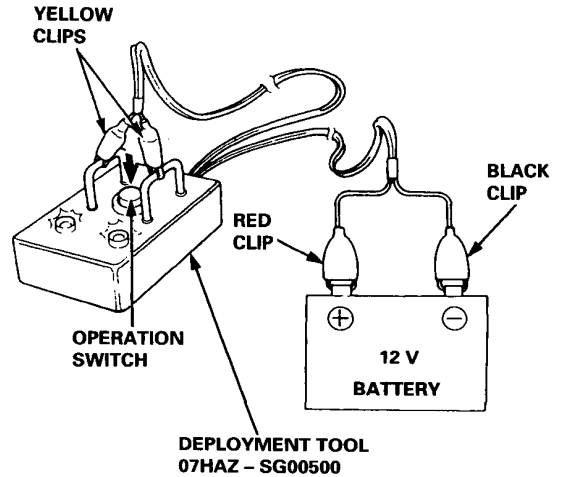
Follow this procedure:

1. Deployment Preparations (see pages 23B-56 through 61)
2. Deployment (see pages 23B-62 and 63)
3. Disposal (see page 23B-63)

⚠ WARNING If you scrap more than one airbag, first complete the deployment procedure for one airbag, and only then start with step 1 of Deployment Preparations for the next airbag. Otherwise, severe personal injury could result from deployment.

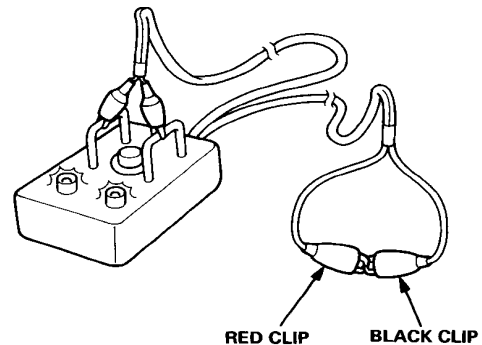
Deployment Tool Check

1. Connect the yellow clips to both switch protector handles on the tool, and connect the red (+) and black (-) clips to a 12 V battery.



2. Push the operation switch: green means the tool is OK; red means the tool is faulty.
3. After the check, disconnect the red and black clips from the battery, and connect them to each other.

⚠ WARNING Do not reconnect the red and black clips to the battery until all preparations for deployment are finished. Otherwise, severe personal injury could result from accidental deployment.



Scrapping (SRS-Type III)

In-car Deployment Preparations (With Deployment Tool)

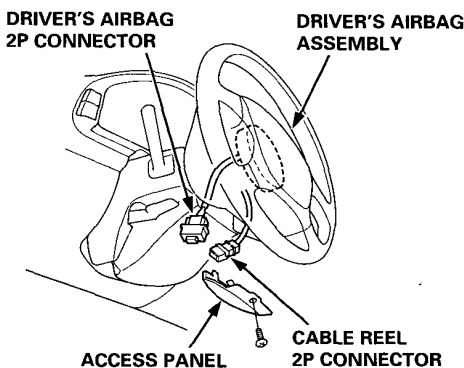
NOTE: If an SRS car is to be entirely scrapped, its airbags should be deployed while still in the car. The airbags should not be considered as salvageable parts and should never be installed in another car.

⚠ WARNING Confirm that the airbag assemblies are securely mounted; otherwise, severe personal injury could result from deployment.

1. Turn the ignition switch OFF, and disconnect the battery negative cable. Then disconnect the positive cable, and wait at least three minutes.
2. Confirm that the deployment tool is functioning properly by following the check procedure on the tool box label, or on page 23B-55.

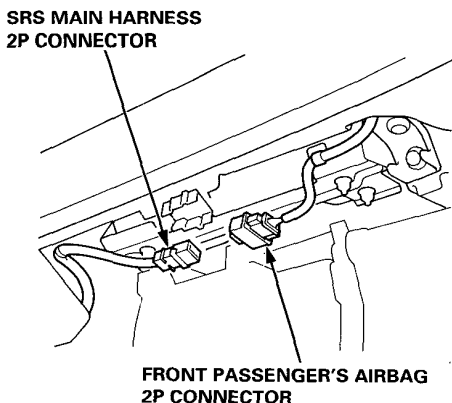
Driver's Airbag:

3. Remove the access panel, then disconnect the 2P connector between the driver's airbag and the cable reel.

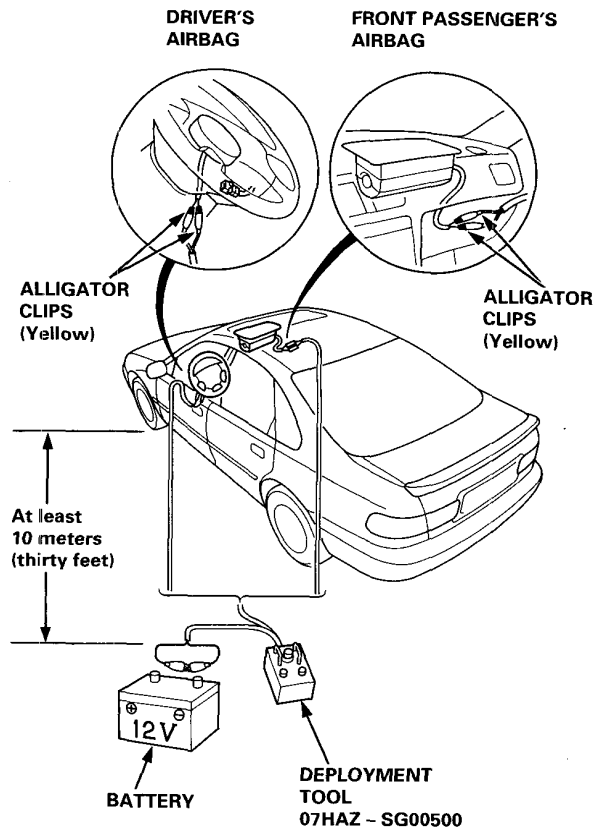


Front Passenger's Airbag:

4. Disconnect the 2P connector between the front passenger's airbag and SRS main harness.



5. Cut off the airbag connector, strip the ends of the airbag wires, and connect the deployment tool alligator clips to the airbag. Place the deployment tool at least 10 meters (thirty feet) away from the airbag.



6. Go to Deployment (With Deployment Tool) on page 23B-62.

Out-of-car Deployment Preparations (With Deployment Tool)

NOTE: If an intact airbag assembly has been removed from a scrapped car or has been found defective or damaged during transit, storage or service, it should be deployed as follows.

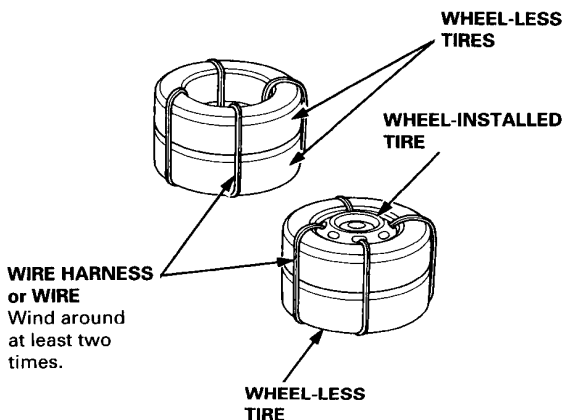
⚠ WARNING Position a removed airbag assembly always with the pad surface up. If the airbag is improperly positioned face down, accidental deployment could propel the unit with enough force to cause serious injury.

Necessary Equipment:

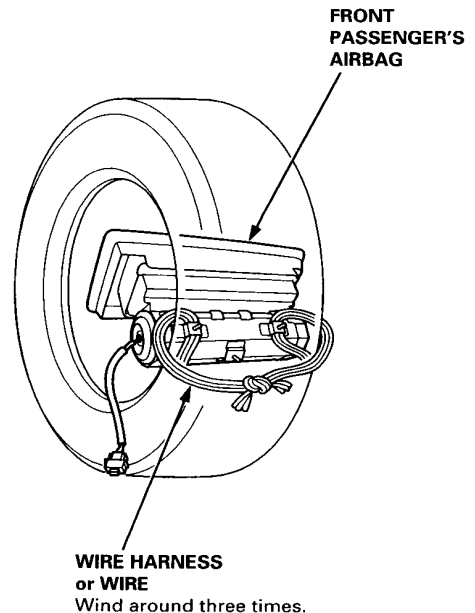
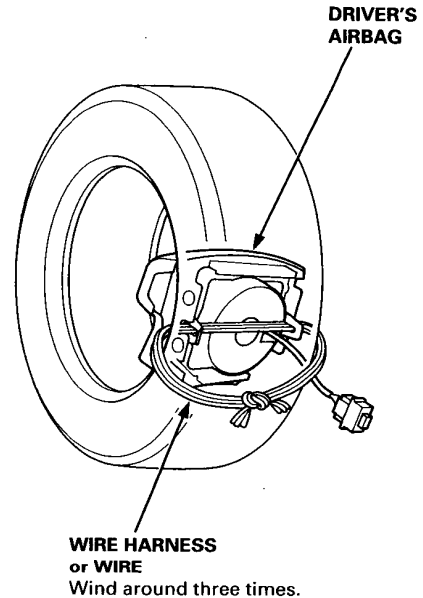
- Four tires for 15 inch wheels or bigger without wheel, and one tire of the same size with wheel

NOTE:

- Preferably take used tires.
 - Tires which were used for airbag deployment can be reused on cars after carefully cleaning their inner side with water.
- Car wire harness with a core wire cross sectional area of at least 1.25 mm² (0.002 in²) or iron wire with a diameter of more than 1.2 mm (0.05 in)
 - Deployment tool
1. Turn the ignition switch OFF, and disconnect the battery negative cable. Then disconnect the positive cable, and wait at least three minutes.
 2. Confirm that the deployment tool is functioning properly by following the check procedure on the tool box label, or on page 23B-55.
 3. Remove the access panel from the steering wheel, then disconnect the driver's airbag 2P connector from the cable reel.
 4. Disconnect the front passenger's airbag 2P connector from the SRS main harness.
 5. Remove the airbag assembly (see page 23B-45).
 6. With car wire harness or wire, tie two of the wheel-less tires together, then tie one wheel-less tire and the wheel-installed tire together. (Wind around at least two times.)



7. Tie the airbag assembly with car wire harness or wire to the remaining wheel-less tire as shown. (Wind around three times.)



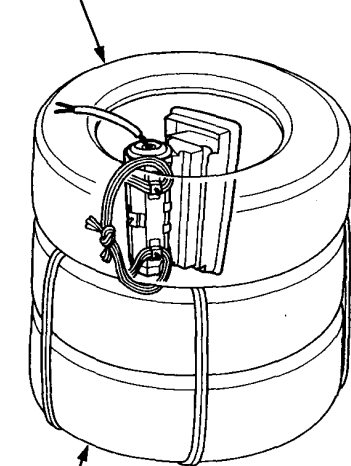
(cont'd)

Scrapping (SRS-Type III)

Out-of-car Deployment Preparations (With Deployment Tool) (cont'd)

8. Place the set of two wheel-less tires on flat ground, and place the tire with the airbag assembly on them.
9. Cut off the airbag connector, and strip the ends of the airbag wires. Go immediately to step 10.

TIRE with installed AIRBAG ASSEMBLY



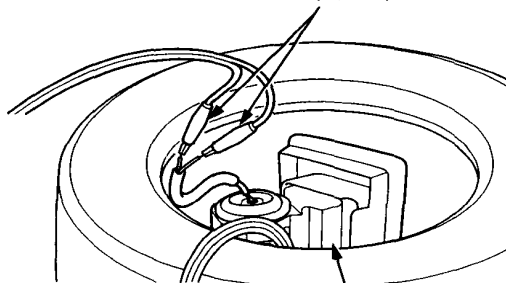
WHEEL-LESS TIRE SET

10. Connect the deployment tool alligator clips to the airbag wires.

CAUTION

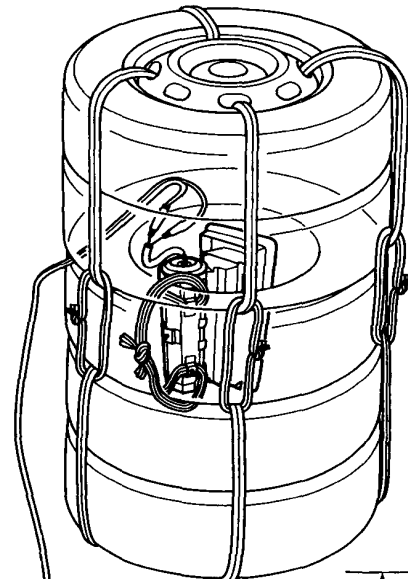
- Do not route the deployment tool wires nearby the pad surface of the airbag or the inflator body.
- Make sure the pad surface is turned to the center of the tire.

ALLIGATOR CLIPS (Yellow)

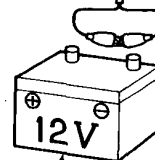


INFLATOR BODY

11. With the wheel-installed tire up, put the second pair of tires on top of the other three tires, and tie the upper and lower tire sets together. Place the deployment tool at least 10 meters (thirty feet) away from the tires.



At least
10 meters
(thirty feet)



BATTERY



DEPLOYMENT TOOL
07HAZ - SG00500

12. Go to Deployment (With Deployment Tool) on page 23B-62.

In-car Deployment Preparations (Without Deployment Tool)

NOTE: If an SRS car is to be entirely scrapped, its airbags should be deployed while still in the car. The airbags should not be considered as salvageable parts and should never be installed in another car.

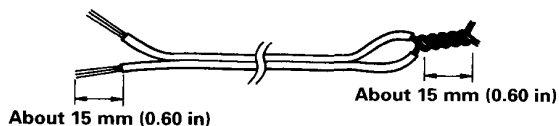
⚠ WARNING Confirm that the airbag assemblies are securely mounted; otherwise, severe personal injury could result from deployment.

Necessary Equipment:

- 12 to 15 m (40 to 50 ft) of vinyl double cable
- Fully charged 12 volt battery
- Insulation tape

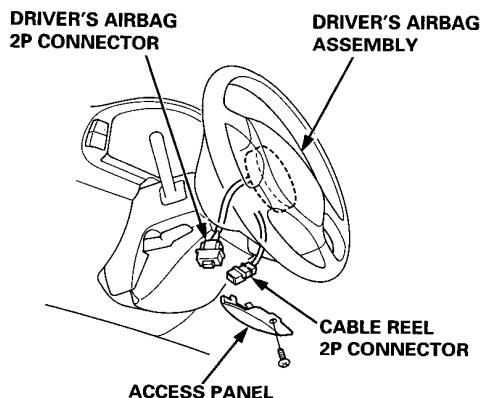
⚠ WARNING Follow the described procedure; otherwise, severe personal injury could result from deployment.

1. Turn the ignition switch OFF, and disconnect the battery negative cable. Then disconnect the positive cable, and wait at least three minutes.
2. Strip both ends of the vinyl double cable about 15 mm (0.60 in), and intertwine the wires on one end.



Driver's Airbag:

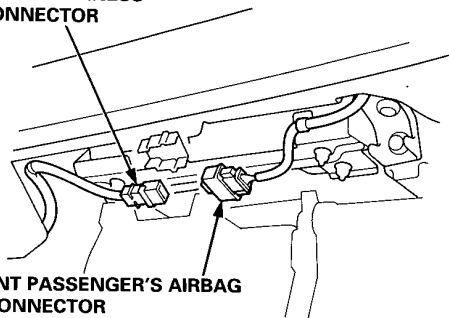
3. Remove the access panel, then disconnect the 2P connector between the driver's airbag and the cable reel.



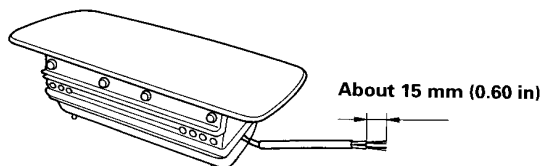
Front Passenger's Airbag:

4. Disconnect the 2P connector between the front passenger's airbag and the SRS main harness.

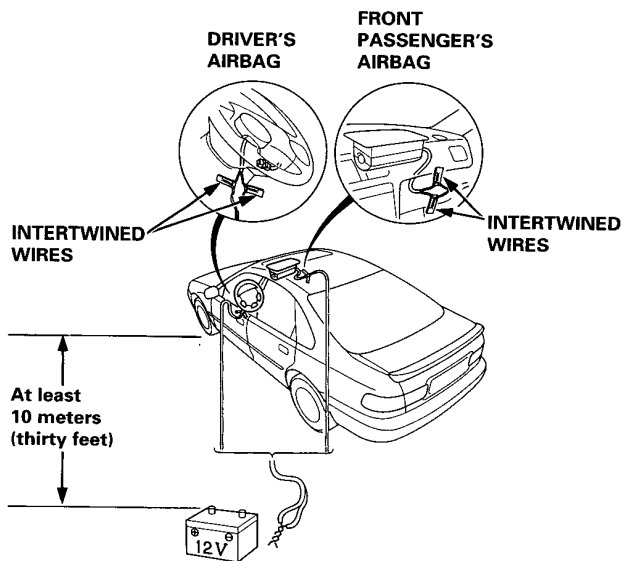
SRS MAIN HARNESS
2P CONNECTOR



5. Cut off the driver's or front passenger's airbag connector, and strip the ends of the airbag wires about 15 mm (0.60 in). Go immediately to step 6.



6. Connect the wires of the vinyl double cable which were not intertwined in step 2 to the airbag assembly wires as shown, and put insulation tape over the connections. Place the battery at least 10 meters (thirty feet) away from the car.



7. Go to In-car Deployment (Without Deployment Tool) on page 23B-62.

Scrapping (SRS-Type III)

Out-of-car Deployment Preparations (Without Deployment Tool)

NOTE: If an intact airbag assembly has been removed from a scrapped car or has been found defective or damaged during transit, storage or service, it should be deployed as follows.

⚠ WARNING Position a removed airbag assembly always with the pad surface up. If the airbag is improperly positioned face down, accidental deployment could propel the unit with enough force to cause serious injury.

Necessary Equipment:

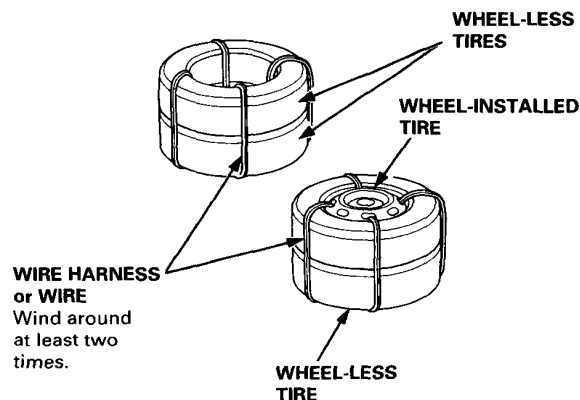
- 12 to 15 m (40 to 50 ft) of vinyl double cable
- Fully charged 12 volt battery
- Insulation tape
- Four tires for 15 inch wheels or bigger without wheel, and one tire of the same size with wheel

NOTE:

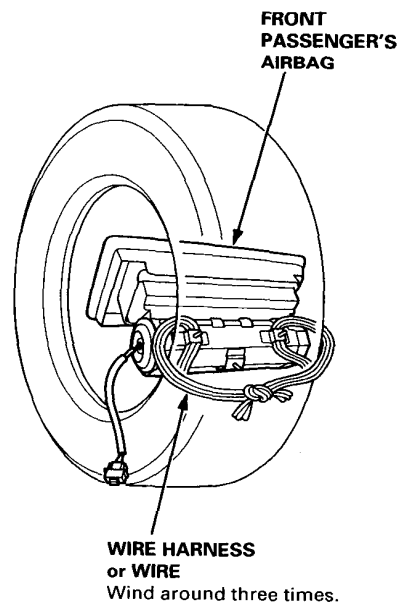
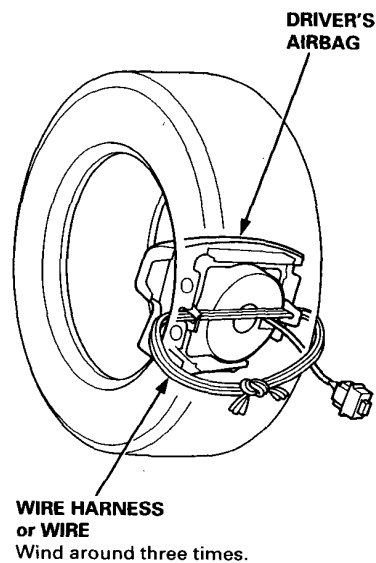
- Preferably take used tires.
 - Tires which were used for airbag deployment can be reused on cars after carefully cleaning their inner side with water.
- Car wire harness with a core wire cross sectional area of at least 1.25 mm² (0.002 in²) or iron wire with a diameter of more than 1.2 mm (0.05 in).

⚠ WARNING Follow the described procedure; otherwise, severe personal injury could result from deployment.

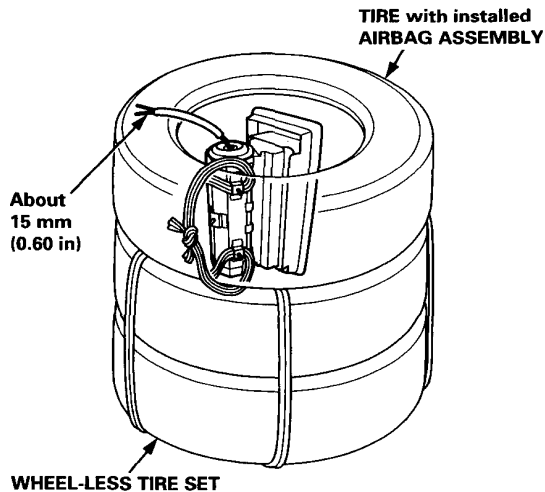
1. Turn the ignition switch OFF, and disconnect the battery negative cable. Then disconnect the positive cable, and wait at least three minutes.
2. Remove the access panel from the steering wheel, then disconnect the driver's airbag 2P connector from the cable reel.
3. Disconnect the front passenger's airbag 2P connector from the SRS main harness.
4. Remove the airbag assembly (see page 23B-45).
5. With car wire harness or wire, tie two of the wheel-less tires together, then tie one wheel-less tire and the wheel-installed tire together. (Wind around at least two times.)



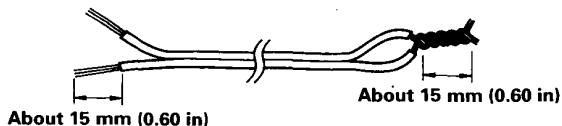
6. Tie the airbag assembly with car wire harness or wire to the remaining wheel-less tire as shown. (Wind around three times.)



7. Place the set of two wheel-less tires on flat ground, and place the tire with the airbag assembly on them.
8. Cut off the airbag connector, strip the ends of the airbag wires about 15 mm (0.60 in), and twist them together.



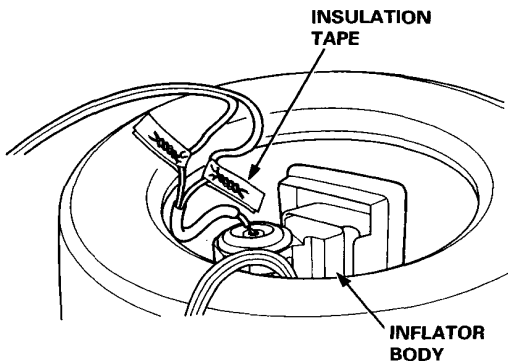
9. Strip both ends of the vinyl double cable about 15 mm (0.60 in), and intertwine the wires on one end.



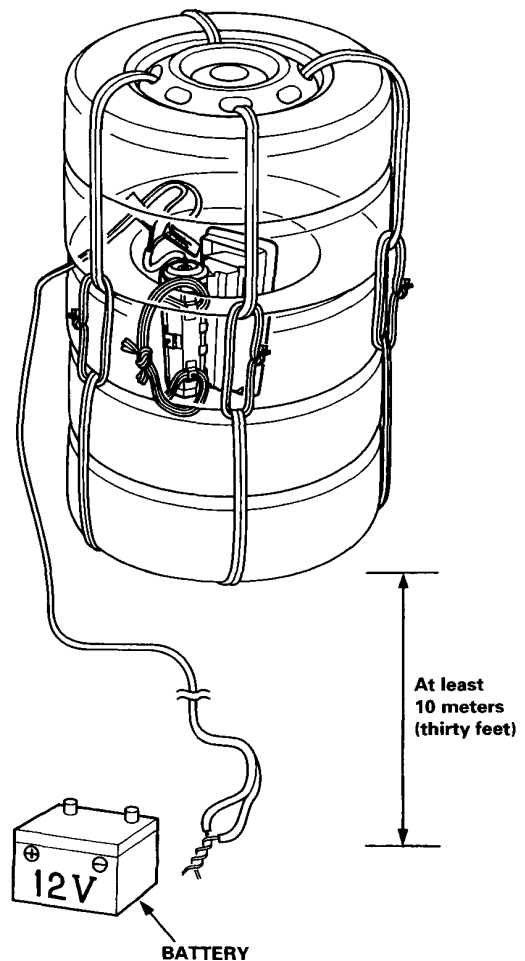
10. Connect the wires of the vinyl double cable which were not intertwined in step 9 to the airbag assembly as shown, and put insulation tape over the connections.

CAUTION

- Do not route the vinyl double cable nearby the pad surface of the airbag or the inflator body.
- Make sure the pad surface is turned to the center of the tire.



11. With the wheel-installed tire up, put the second pair of tires on top of the other three tires, and tie the upper and lower tire sets together. Place the battery at least 10 meters (thirty feet) away from the tires.

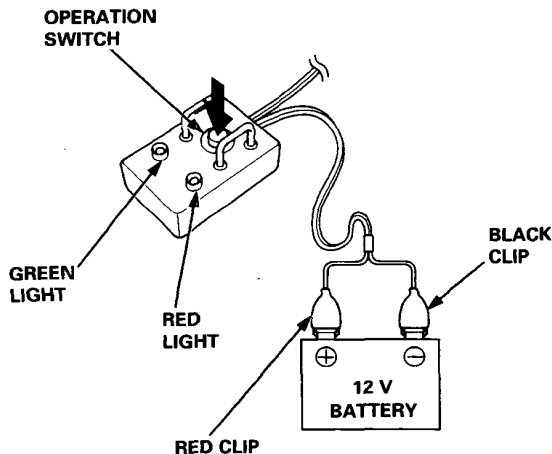


12. Go to Out-of-car Deployment (Without Deployment Tool) on page 23B-63.

Scrapping (SRS-Type III)

Deployment (With Deployment Tool)

1. Connect the red (+) and black (-) clips of the deployment tool to the 12 volt battery:
 - If the green light on the tool comes on, the airbag igniter circuit is defective and cannot deploy the airbag. In this case, refer to Damaged Airbag Special Procedure under Disposal on page 23B-63.
 - If the red light on the tool comes on, the airbag is ready to be deployed.
2. Push the tool's operation switch. The airbag should deploy (deployment is both highly audible and visible; a loud noise and rapid inflation of the bag, followed by slow deflation).
 - If audible/visible deployment happens and the green light on the tool comes on, go to Disposal on page 23B-63.
 - If the airbag does not deploy, yet the green light comes on, the igniter is defective. Go to Damaged Airbag Special Procedure under Disposal on page 23B-63.

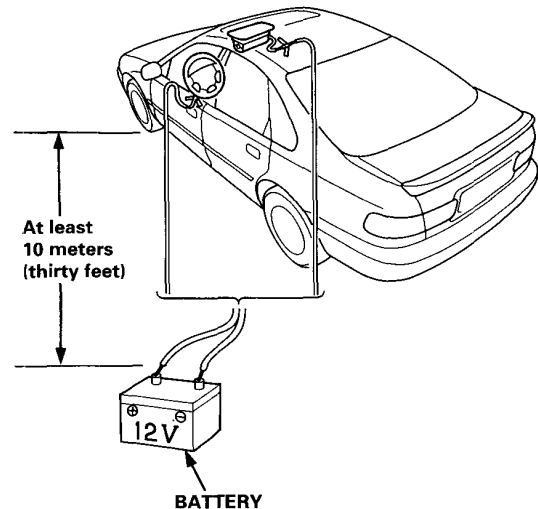


⚠ WARNING During deployment, the airbag assembly can become hot enough to burn you. Wait thirty minutes after deployment before touching the assembly.

In-car Deployment (Without Deployment Tool)

Untwist the stripped ends of the vinyl double cable and connect them to the 12 volt battery. The airbag should deploy (deployment is both highly audible and visible; a loud noise and rapid inflation of the bag, followed by slow deflation).

- If audible/visible deployment happens, go to Disposal on page 23B-63.
- If the airbag does not deploy, go to Damaged Airbag Special Procedure under Disposal on page 23B-63.

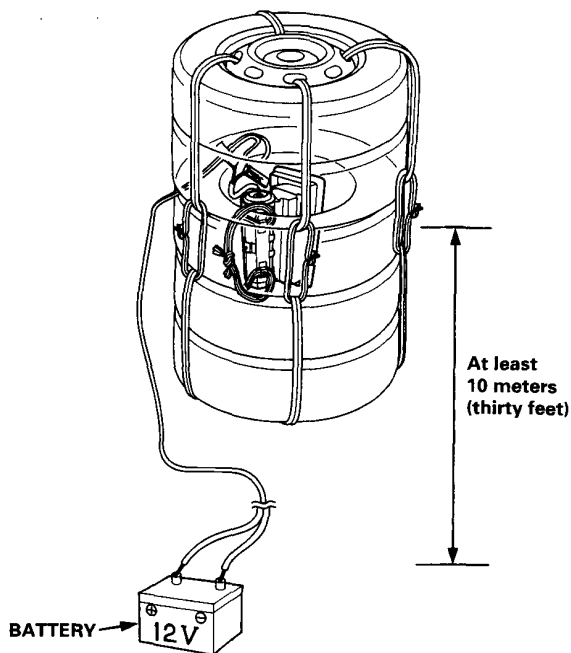


⚠ WARNING During deployment, the airbag assembly can become hot enough to burn you. Wait thirty minutes after deployment before touching the assembly.

Out-of-car Deployment (Without Deployment Tool)

Untwist the stripped ends of the vinyl double cable and connect them to the 12 volt battery. The airbag should deploy (deployment is both highly audible and visible; a loud noise and rapid inflation of the bag, followed by slow deflation).

- If audible/visible deployment happens, go to Disposal.
- If the airbag does not deploy, go to Damaged Airbag Special Procedure.



⚠ WARNING During deployment, the airbag assembly can become hot enough to burn you. Wait thirty minutes after deployment before touching the assembly.

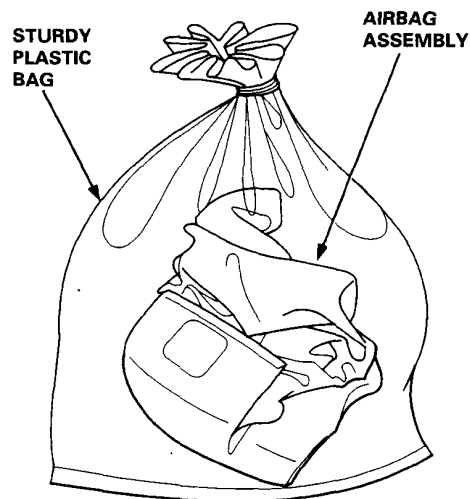
Disposal

⚠ WARNING During deployment, the airbag assembly can become hot enough to burn you. Wait thirty minutes after deployment before touching the assembly.

In accordance with local regulations, dispose of the complete airbag assembly. No part of it can be reused. Place it in a sturdy plastic bag, and seal it securely.

CAUTION:

- Wear a face shield and gloves when handling a deployed airbag.
- Wash your hands and rinse them well with water after handling a deployed airbag.



Damaged Airbag Special Procedure

⚠ WARNING If an airbag cannot be deployed, it should not be treated as normal scrap; it should still be considered a potentially explosive device that can cause serious injury.

1. If installed in a car, follow the removal procedure on page 23B-45.
2. Intertwine the stripped ends of the two airbag wires to make a short circuit.
3. Package the airbag in exactly the same packaging that the new replacement part came in.
4. Mark the outside of the box "DAMAGED AIRBAG NOT DEPLOYED" so it does not get confused with your parts stock.
5. Contact your local Honda Service Manager for how and where to return it for disposal.