

1. Foreword

A: FOREWORD

These manuals are used when performing maintenance, repair or diagnosis of Subaru IMPREZA and Subaru XV.

Applicable model:

2013MY GJ*****, GP*****

The manuals contain the latest information at the time of publication. Changes in the specifications, methods, etc. may be made without notice.

HOW TO USE THIS MANUALS

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1. How to Use This Manuals

A: HOW TO USE THIS MANUALS

1. STRUCTURE

Each section consists of SCT that are broken down into SC that are divided into sections for each component. The specification, maintenance and other information for the components are included, and the diagnostic information has also been added where necessary.

2. CONTENTS

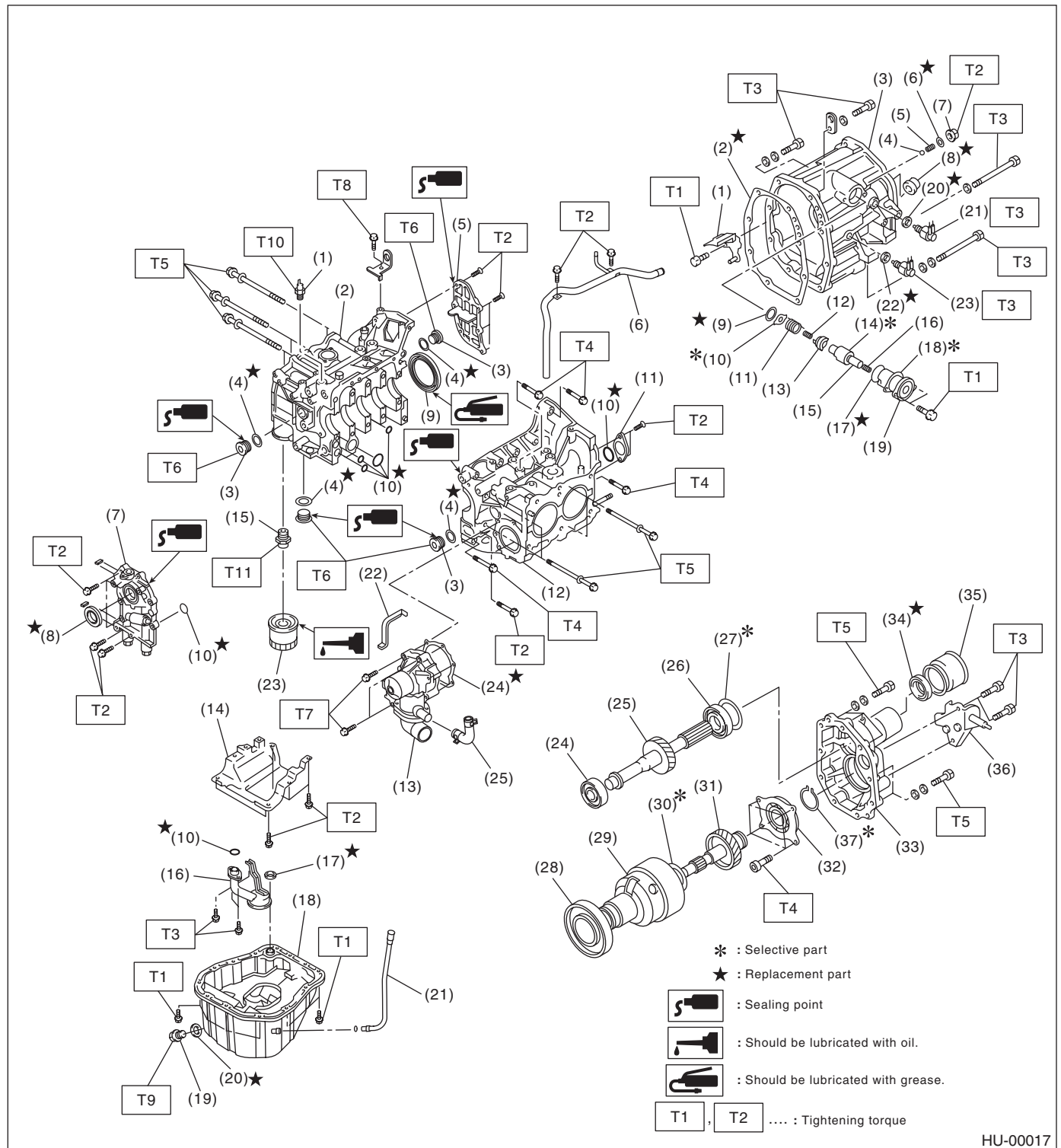
The first page has an index with tabs.

3. COMPONENT

Illustrations are provided for each component. The information necessary for repair work (tightening torque, grease up points, etc.) is described on these illustrations. Information is described using symbol.

To order parts, refer to parts catalogue.

Example:



HU-00017

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4. DEFINITIONS OF “NOTE”, “CAUTION”, AND “WARNING”

- **NOTE:**

Describes additional information to make works easier.

- **CAUTION:**

Describes prohibited matters to prevent vehicle or parts damage, or matters that requires special attention during work.

- **WARNING:**

Describes matters that may cause serious damage to the operator or other person, or that may cause damage or accident.

5. SPECIFICATIONS

If necessary, specifications are also included.

6. INSPECTION

Inspections to be carried out before and after maintenance are included.

7. MAINTENANCE

- Maintenance instructions for serviceable parts describe work area and detailed step with illustration. It also describes the use of special tool, tightening torque, caution for each procedure.
- If many serviceable parts are included in one service procedure, appropriate reference is provided for each part.

Example:

15.Main Shaft (A)

A: REMOVAL (B)

1) Remove the manual transmission assembly from vehicle. <Ref. to MT-33, REMOVAL, Manual Transmission Assembly.> (C)

11) Tighten the lock nuts to the specified torque using ST1 and ST2.

NOTE: (D)

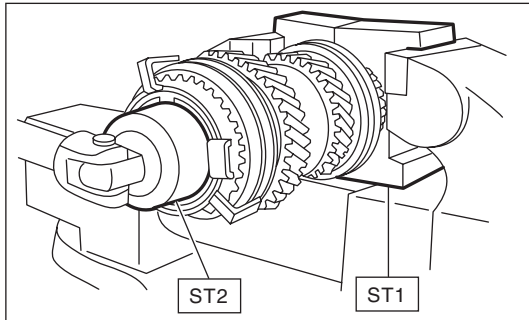
Secure the lock nuts in two places after tightening.

ST1 498937000 TRANSMISSION HOLDER

ST2 499987003 (E) SOCKET WRENCH (35) (F)

Tightening torque:

118 N·m (12.0 kgf-m, 86.8 ft-lb) (G)



HU-00020

(A) Component

(B) Process

(C) Reference

(D) Cautions

(E) Tool number of special tool

(F) Name of special tool

(G) Tightening torque

(H) Illustration

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8. DIAGNOSIS

Step-by-step process is employed for easier diagnosis.

9. SI UNITS

Measurements in these manuals are according to the SI units. Metric and yard/pound measurements are also included.

Example:

Tightening torque:

44 N·m (4.5 kgf-m, 33 ft-lb)

List of SI unit

Item	SI units	Conventional unit	Remarks
Force	N (Newton)	kgf	1 kgf = 9.807 N
Mass (Weight)	kg, g	kg, g	
Capacity	L, mL or cm ³	L or cc	1 cc = 1 cm ³ = 1 mL
Torque	N·m	kgf-m, kgf-cm	1 kgf-m = 9.807 N·m
Rotating speed	rpm	rpm	
Pressure	kPa (Kilopascal)	kgf/cm ²	1 kgf/cm ² = 98.07 kPa
		mmHg	1 mmHg = 0.1333 kPa
Power	W	PS	1 PS = 0.7355 kW
Calorie	W·h	cal	1 kcal = 1.163 W·h
Fuel consumption rate	g/kW·h	g/PS·h	1 g/PS·h = 1.3596 g/kW·h

The figure used in these manuals are described in the SI units and conventional units are described in ().

10.EXPLANATION OF TERMINOLOGY

List

2ndr	Secondary
AAI	Air Assist Injection
AAR	Angular Adjusted Roller
A/B	Airbag
ABS	Anti-lock Brake System
A/C	Air Conditioner
AC	Angular Contact
ACC	Accessory
A/F	Air Fuel Ratio
ALT	Generator
APS	Accessory Power Supply Socket
ASSY	Assembly
AT	Automatic Transmission
ATF	Automatic Transmission Fluid
AUX	Auxiliary Storage Unit (External storage)
AVCS	Active Valve Control System
AWD	All Wheel Drive
BATT	Battery
BCM	Brake Control Module
BJ	Bell Joint
CAN	Controller Area Network
CD	Compact Disc
CD-R/RW	CD Recordable/Rewritable
COMPL	Complete
CPC	Canister Purge Control Solenoid Valve
CPU	Central Processing Unit
DCCD	Driver's Control Center Differential
DOHC	Double Overhead Camshaft
DOJ	Double Offset Joint
DTC	Diagnosis Trouble Code
DVD	Digital Versatile Disc or Digital Video Disc
EBD	Electronic Brake Distribution
EBJ	High-efficiency Compact Ball Fixed Joint
ECM	Engine Control Module
EDJ	High-efficiency Compact Double Offset Joint
E/G	Engine
EGI	Electronic Gasoline Injection
EGR	Exhaust Gas Recirculation
ELR	Emergency Locking Retractor
ETC	Electronic Throttle Control
EX	Exhaust
F/B	Fuse & Joint Box
FL	Fusible Link
Ft	Front
FWD	Front Wheel Drive
GPS	Global Positioning System
HI	High
HID	High-Intensity Discharge

H/L	Headlight
H/U	Hydraulic Unit
HVAC	Heater, Ventilator and Air Conditioner
I/F	Interface
IG	Ignition
IN	Intake
INT	Intermittent
I/O	Input/Output
IR	Infrared Ray
ISC	Idle Speed Control
LAN	Local Area Network
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LH	LH (Left Hand)
LHD	Left Hand Drive
LSD	Limited Slip Differential
M/B	Main Fuse & Relay Box
MD	Mini Disc
MID	Multi Information Display
MFI	Multi-Point Fuel Injection
MP-T	Multi-Plate Transfer
MT	Manual Transmission
NA	Natural Aspiration
NC	Normal Close (Relay)
NO	Normal Open (Relay)
OBD	On-Board Diagnosis
OP	Option Parts
PC	Personal Computer
PCD	Pitch Circle Diameter
PCV	Positive Crankcase Ventilation
PID	Parameter Identification
Pr	Primary
P/S	Power Steering
PTJ	Pillow Tripod Joint
P/W	Power Window
RAM	Random Access Memory
RH	RH (Right Hand)
RHD	Right Hand Drive
ROM	Read Only Memory
rpm	Revolution Per Minute
Rr	Rear
SDI	Subaru Diagnostic Interface
SI	Subaru Intelligent
SOHC	Single Overhead Camshaft
SRS	Supplemental Restraint System
SSM	Subaru Select Monitor
ST	Special Tool
STD	Standard
SW	Switch

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T/B	Turbocharger
TCS	Traction Control System
TCM	Transmission Control Module
TGV	Tumble Generator Valve
T/M	Transmission
TPMS	Tire Pressure Monitoring System
UJ	Universal Joint
UV	Ultraviolet
VDC	Vehicle Dynamics Control
V.I.N.	Vehicle Identification Number
ViS-C	Viscous Coupling
VSV	Vacuum Switching Valve
VTD	Variable Torque Distribution
W/H	Wiring Harness

SPECIFICATIONS

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Impreza

SPECIFICATIONS

1. Impreza

A: DIMENSION

Model			4 door	5 door	SPORT
Overall length		mm (in)	4,580 (180.3)	4,415 (173.8)	
Overall width		mm (in)	1,740 (68.5)		
Overall height (at C.W.)		mm (in)	1,465 (57.7)		1,515 (59.5)
Compartment	Length	mm (in)	2,005 (78.9)		
	Width	mm (in)	1,490 (58.7)		
	Height	mm (in)	Model without sunroof: 1,010 (39.8) Model with sunroof: 946 (37.2)		
Wheelbase		mm (in)	2,645 (104.1)		
Tread	Front	mm (in)	1,510 (59.4)		
	Rear	mm (in)	1,515 (59.6)		
Minimum road clearance		mm (in)	145 (5.7)		150 (5.9)

B: ENGINE

Model	2.0 L	
Engine type	Horizontally opposed, liquid cooled, 4-cylinder, 4-stroke gasoline engine	
Valve arrangement	DOHC	
Bore × stroke	mm (in)	84.0 × 90.0 (3.31 × 3.54)
Displacement	cm ³ (cu in)	1,995 (121.73)
Compression ratio	10.5	
Ignition order	1 — 3 — 2 — 4	
Idle speed at parking or neutral position	rpm	MT: 650±50 CVT: 650±50
Maximum output	kW (HP)/rpm	110 (148)/6,200
Maximum torque	N·m (kgf-m, ft-lb)/rpm	196 (20.0, 145)/4,200

C: ELECTRICAL

Model		2.0 L
Ignition timing (at idling) BTDC		MT: 16°±10° CVT: 16°±10°
Spark plug	Type and manufacturer	NGK: SILZKAR7B11
Generator		12 V — 110 A
Battery	Type and capacity (5HR)	12 V — 48 AH (55D23L)
	CCA	390 A

D: TRANSMISSION

1. MT

Model		2.0 L DOHC non-turbo	
Transmission type		5MT	
Clutch type		DSPD	
Gear ratio	1st	3.454	
	2nd	1.888	
	3rd	1.296	
	4th	0.972	
	5th	0.738	
	Rev.	3.333	
Reduction gear (Front)		Type of gear	Hypoid
		Gear ratio	4.111
Reduction gear (Rear)	Transfer reduction	Type of gear	Helical
		Gear ratio	1.000
	Final reduction	Type of gear	Hypoid
		Gear ratio	4.111

5MT: 5-forward speeds and 1-reverse with synchromesh

DSPD: Dry Single Plate Diaphragm

2. CVT

Model			2.0 L DOHC non-turbo
Transmission type			CVT
Clutch type			TCC
Gear ratio		Forward	3.581 — 0.570
		Rev.	3.667
Reduction gear (Front)	Final reduction	Type of gear	Hypoid
		Gear ratio	3.700
Transfer reduction ratio			1.000
Reduction gear (Rear)		Type of gear	Hypoid
		Gear ratio	3.700

TCC: Torque Converter Clutch

CVT: Forward continuously variable speed change, 1-reverse

E: STEERING

Type		Rack and pinion	
Turns, lock to lock		3.2	
Minimum turning diameter	m (ft)	Curb to curb	10.6 (34.8)
		Wall to wall	11.5 (37.7)

F: SUSPENSION

Front	Macpherson strut type suspension
Rear	Double-wishbone type suspension

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G: BRAKE

Service brake system	Dual circuit hydraulic with vacuum suspended power unit
Front	Ventilated disc brake
Rear	Disc brake
Parking brake	Mechanical on rear brakes

H: TIRE

Rim size	15 × 6J	16 × 6 ¹ / ₂ J	17 × 7J, 17 × 7JJ
Tire size	P195/65R15 89H	P205/55R16 89V	P205/50R17 88V
Type	Tubeless, Steel belted radial		

I: CAPACITY

Model		2.0 L	
		5MT	CVT
Fuel tank	L (US gal, Imp gal)	55 (14.5, 12.1)	
Engine oil	Total capacity (at overhaul) L (US qt, Imp qt)	5.7 (6.0, 5.0)	
	When replacing engine oil and oil filter L (US qt, Imp qt)	4.8 (5.1, 4.2)	
	When replacing engine oil only L (US qt, Imp qt)	4.6 (4.9, 4.0)	
Transmission gear oil	L (US qt, Imp qt)	3.5 (3.7, 3.1)	—
CVTF	L (US qt, Imp qt)	—	11.93 — 12.43 (12.6 — 13.1, 10.5 — 10.9)
Front differential gear oil	L (US qt, Imp qt)	—	1.3 — 1.4 (1.4 — 1.5, 1.1 — 1.2)
Rear differential gear oil	L (US qt, Imp qt)	0.8 (0.8, 0.7)	
Engine coolant	L (US qt, Imp qt)	7.8 (8.2, 6.9)	8.2 (8.7, 7.2)

J: WEIGHT

Model		4 door					
		2.0 i					
Transmission		MT			CVT		
OP code		C0	U5	U6	C0	U5	U6
		OB	OB	OB	OB	OB	OB
Curb weight (C.W.)	Total	kg (lb)	1,320 (2,911)	1,320 (2,911)	1,320 (2,911)	1,350 (2,977)	1,350 (2,977)
	Front	kg (lb)	770 (1,698)	770 (1,698)	770 (1,698)	805 (1,775)	805 (1,775)
	Rear	kg (lb)	550 (1,213)	550 (1,213)	550 (1,213)	545 (1,202)	545 (1,202)
Gross vehicle weight (G.V.W.)		kg (lb)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)
Gross axle weight (G.A.W.)	Front	kg (lb)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		—	—	—	—	—
	Auto A/C		—	—	—	—	—
	Manual A/C		○	○	○	○	○
	Leather package		—	—	—	—	—
	Genuine leather seat		—	—	—	—	—
	Standard audio		○	○	○	○	○
	High grade audio		—	—	—	—	—
	Navigation		—	—	—	—	—
	Display audio		—	—	—	—	—
	Side airbag		○	○	○	○	○
	Curtain airbag		○	○	○	○	○
	HID headlight		—	—	—	—	—
	Cold weather package		—	—	—	—	—
	Sunroof		—	—	—	—	—

Impreza

SPECIFICATIONS

Model		4 door											
		2.0 i-Prm											
Transmission		MT						CVT					
OP code		C0	C0	U5	U5	U6	U6	C0	C0	U5	U5	U6	U6
		3C	2P	3B	3C	3B	3C	3C	2P	3B	3C	3B	3C
Curb weight (C.W.)	Total	kg (lb)	1,340 (2,955)	1,355 (2,988)	1,340 (2,955)	1,340 (2,955)	1,340 (2,955)	1,365 (3,010)	1,380 (3,043)	1,365 (3,010)	1,365 (3,010)	1,365 (3,010)	1,365 (3,010)
	Front	kg (lb)	785 (1,731)	790 (1,742)	785 (1,731)	785 (1,731)	785 (1,731)	820 (1,808)	825 (1,819)	820 (1,808)	820 (1,808)	820 (1,808)	820 (1,808)
	Rear	kg (lb)	555 (1,224)	565 (1,246)	555 (1,224)	555 (1,224)	555 (1,224)	545 (1,202)	555 (1,224)	545 (1,202)	545 (1,202)	545 (1,202)	545 (1,202)
Gross vehicle weight (G.V.W.)		kg (lb)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)
Gross axle weight (G.A.W.)	Front	kg (lb)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		○	○	○	○	○	○	○	○	○	○	○
	Auto A/C		—	—	—	—	—	—	—	—	—	—	—
	Manual A/C		○	○	○	○	○	○	○	○	○	○	○
	Leather package		—	○	—	—	—	—	○	—	—	—	—
	Genuine leather seat		—	—	—	—	—	—	—	—	—	—	—
	Standard audio		—	—	—	—	—	—	—	—	—	—	—
	High grade audio		○	○	○	○	○	○	○	○	○	○	○
	Navigation		—	—	—	—	—	—	—	—	—	—	—
	Display audio		—	—	—	—	—	—	—	—	—	—	—
	Side airbag		○	○	○	○	○	○	○	○	○	○	○
	Curtain airbag		○	○	○	○	○	○	○	○	○	○	○
	HID headlight		—	—	—	—	—	—	—	—	—	—	—
	Cold weather package		○	○	—	○	—	○	○	—	○	—	○
	Sunroof		—	○	—	—	—	—	○	—	—	—	—

Model			4 door						
			2.0 i-Prm+						
Transmission			MT						
OP code			C0	U5	U5	U5	U6	U6	U6
			CP	2P	WC	WP	2P	WC	WP
Curb weight (C.W.)	Total	kg (lb)	1,360 (2,999)	1,360 (2,999)	1,345 (2,966)	1,360 (2,999)	1,360 (2,999)	1,345 (2,966)	1,360 (2,999)
	Front	kg (lb)	790 (1,742)	790 (1,742)	785 (1,731)	790 (1,742)	790 (1,742)	785 (1,731)	790 (1,742)
	Rear	kg (lb)	570 (1,257)	570 (1,257)	560 (1,235)	570 (1,257)	570 (1,257)	560 (1,235)	570 (1,257)
Gross vehicle weight (G.V.W.)		kg (lb)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)
Gross axle weight (G.A.W.)	Front	kg (lb)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		○	○	○	○	○	○	○
	Auto A/C		○	—	—	—	—	—	—
	Manual A/C		—	○	○	○	○	○	○
	Leather pack-age		○	○	○	○	○	○	○
	Genuine leather seat		—	—	—	—	—	—	—
	Standard audio		—	—	—	—	—	—	—
	High grade audio		○	○	—	—	○	—	—
	Navigation		—	—	○	○	—	○	○
	Display audio		—	—	—	—	—	—	—
	Side airbag		○	○	○	○	○	○	○
	Curtain airbag		○	○	○	○	○	○	○
	HID headlight		—	—	—	—	—	—	—
	Cold weather package		○	○	○	○	○	○	○
	Sunroof		○	○	—	○	○	—	○

Impreza

SPECIFICATIONS

Model			4 door						
			2.0 i-Prm+						
Transmission			CVT						
OP code			C0	U5	U5	U5	U6	U6	U6
			CP	2P	WC	WP	2P	WC	WP
Curb weight (C.W.)	Total	kg (lb)	1,390 (3,065)	1,390 (3,065)	1,375 (3,032)	1,390 (3,065)	1,390 (3,065)	1,375 (3,032)	1,390 (3,065)
	Front	kg (lb)	830 (1,830)	830 (1,830)	825 (1,819)	830 (1,830)	830 (1,830)	825 (1,819)	830 (1,830)
	Rear	kg (lb)	560 (1,235)	560 (1,235)	550 (1,213)	560 (1,235)	560 (1,235)	550 (1,213)	560 (1,235)
Gross vehicle weight (G.V.W.)		kg (lb)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)
Gross axle weight (G.A.W.)	Front	kg (lb)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		○	○	○	○	○	○	○
	Auto A/C		○	—	—	—	—	—	—
	Manual A/C		—	○	○	○	○	○	○
	Leather pack-age		○	○	○	○	○	○	○
	Genuine leather seat		—	—	—	—	—	—	—
	Standard audio		—	—	—	—	—	—	—
	High grade audio		○	○	—	—	○	—	—
	Navigation		—	—	○	○	—	○	○
	Display audio		—	—	—	—	—	—	—
	Side airbag		○	○	○	○	○	○	○
	Curtain airbag		○	○	○	○	○	○	○
	HID headlight		—	—	—	—	—	—	—
	Cold weather package		○	○	○	○	○	○	○
	Sunroof		○	○	—	○	○	—	○

Model		4 door							
		2.0 i-Ltd							
Transmission		MT	CVT						
OP code		C0	C0	U5	U5	U5	U6	U6	U6
		YR	YR	YC	YP	HP	YC	YP	HP
Curb weight (C.W.)	Total	kg (lb)	1,365 (3,010)	1,400 (3,087)	1,385 (3,054)	1,400 (3,087)	1,400 (3,087)	1,385 (3,054)	1,400 (3,087)
	Front	kg (lb)	795 (1,753)	835 (1,841)	830 (1,830)	835 (1,841)	835 (1,841)	830 (1,830)	835 (1,841)
	Rear	kg (lb)	570 (1,257)	565 (1,246)	555 (1,224)	565 (1,246)	565 (1,246)	555 (1,224)	565 (1,246)
Gross vehicle weight (G.V.W.)		kg (lb)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)
Gross axle weight (G.A.W.)	Front	kg (lb)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		○	○	○	○	○	○	○
	Auto A/C		○	○	○	○	○	○	○
	Manual A/C		—	—	—	—	—	—	—
	Leather package		○	○	○	○	○	○	○
	Genuine leather seat		○	○	○	○	○	○	○
	Standard audio		—	—	—	—	—	—	—
	High grade audio		—	—	—	—	—	—	—
	Navigation		—	—	—	○	—	—	○
	Display audio		○	○	○	○	—	○	—
	Side airbag		○	○	○	○	○	○	○
	Curtain airbag		○	○	○	○	○	○	○
	HID headlight		○	○	—	—	—	—	—
	Cold weather package		○	○	○	○	○	○	○
	Sunroof		○	○	—	○	○	—	○

Impreza

SPECIFICATIONS

Model		5 door					
		2.0 i					
Transmission		MT			CVT		
OP code		C0	U5	U6	C0	U5	U6
		OB	OB	OB	OB	OB	OB
Curb weight (C.W.)	Total	kg (lb)	1,320 (2,911)	1,320 (2,911)	1,320 (2,911)	1,350 (2,977)	1,350 (2,977)
	Front	kg (lb)	770 (1,698)	770 (1,698)	770 (1,698)	805 (1,775)	805 (1,775)
	Rear	kg (lb)	550 (1,213)	550 (1,213)	550 (1,213)	545 (1,202)	545 (1,202)
Gross vehicle weight (G.V.W.)		kg (lb)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)
Gross axle weight (G.A.W.)	Front	kg (lb)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		—	—	—	—	—
	Auto A/C		—	—	—	—	—
	Manual A/C		○	○	○	○	○
	Leather package		—	—	—	—	—
	Genuine leather seat		—	—	—	—	—
	Standard audio		○	○	○	○	○
	High grade audio		—	—	—	—	—
	Navigation		—	—	—	—	—
	Display audio		—	—	—	—	—
	Side airbag		○	○	○	○	○
	Curtain airbag		○	○	○	○	○
	HID headlight		—	—	—	—	—
	Cold weather package		—	—	—	—	—
	Sunroof		—	—	—	—	—

Model			5 door											
			2.0 i-Prm											
Transmission			MT						CVT					
OP code			C0	C0	U5	U5	U6	U6	C0	C0	U5	U5	U6	U6
			3C	2P	3B	3C	3B	3C	3C	2P	3B	3C	3B	3C
Curb weight (C.W.)	Total	kg (lb)	1,340 (2,955)	1,355 (2,988)	1,340 (2,955)	1,340 (2,955)	1,340 (2,955)	1,340 (2,955)	1,365 (3,010)	1,380 (3,043)	1,365 (3,010)	1,365 (3,010)	1,365 (3,010)	1,365 (3,010)
	Front	kg (lb)	785 (1,731)	790 (1,742)	785 (1,731)	785 (1,731)	785 (1,731)	785 (1,731)	820 (1,808)	825 (1,819)	820 (1,808)	820 (1,808)	820 (1,808)	820 (1,808)
	Rear	kg (lb)	555 (1,224)	565 (1,246)	555 (1,224)	555 (1,224)	555 (1,224)	555 (1,224)	545 (1,202)	555 (1,224)	545 (1,202)	545 (1,202)	545 (1,202)	545 (1,202)
Gross vehicle weight (G.V.W.)		kg (lb)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)
Gross axle weight (G.A.W.)	Front	kg (lb)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		○	○	○	○	○	○	○	○	○	○	○	○
	Auto A/C		—	—	—	—	—	—	—	—	—	—	—	—
	Manual A/C		○	○	○	○	○	○	○	○	○	○	○	○
	Leather package		—	○	—	—	—	—	—	○	—	—	—	—
	Genuine leather seat		—	—	—	—	—	—	—	—	—	—	—	—
	Standard audio		—	—	—	—	—	—	—	—	—	—	—	—
	High grade audio		○	○	○	○	○	○	○	○	○	○	○	○
	Navigation		—	—	—	—	—	—	—	—	—	—	—	—
	Display audio		—	—	—	—	—	—	—	—	—	—	—	—
	Side airbag		○	○	○	○	○	○	○	○	○	○	○	○
	Curtain airbag		○	○	○	○	○	○	○	○	○	○	○	○
	HID headlight		—	—	—	—	—	—	—	—	—	—	—	—
	Cold weather package		○	○	—	○	—	○	○	○	—	○	—	○
	Sunroof		—	○	—	—	—	—	—	○	—	—	—	—

Impreza

SPECIFICATIONS

Model			5 door						
			2.0 i-Prm+						
Transmission			MT						
OP code			C0	U5	U5	U5	U6	U6	U6
			CP	2P	WC	WP	2P	WC	WP
Curb weight (C.W.)	Total	kg (lb)	1,360 (2,999)	1,360 (2,999)	1,345 (2,966)	1,360 (2,999)	1,360 (2,999)	1,345 (2,966)	1,360 (2,999)
	Front	kg (lb)	790 (1,742)	790 (1,742)	785 (1,731)	790 (1,742)	790 (1,742)	785 (1,731)	790 (1,742)
	Rear	kg (lb)	570 (1,257)	570 (1,257)	560 (1,235)	570 (1,257)	570 (1,257)	560 (1,235)	570 (1,257)
Gross vehicle weight (G.V.W.)		kg (lb)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)
Gross axle weight (G.A.W.)	Front	kg (lb)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		○	○	○	○	○	○	○
	Auto A/C		○	—	—	—	—	—	—
	Manual A/C		—	○	○	○	○	○	○
	Leather pack-age		○	○	○	○	○	○	○
	Genuine leather seat		—	—	—	—	—	—	—
	Standard audio		—	—	—	—	—	—	—
	High grade audio		○	○	—	—	○	—	—
	Navigation		—	—	○	○	—	○	○
	Display audio		—	—	—	—	—	—	—
	Side airbag		○	○	○	○	○	○	○
	Curtain airbag		○	○	○	○	○	○	○
	HID headlight		—	—	—	—	—	—	—
	Cold weather package		○	○	○	○	○	○	○
	Sunroof		○	○	—	○	○	—	○

Model			5 door						
			2.0 i-Prm+						
Transmission			CVT						
OP code			C0	U5	U5	U5	U6	U6	U6
			CP	2P	WC	WP	2P	WC	WP
Curb weight (C.W.)	Total	kg (lb)	1,390 (3,065)	1,390 (3,065)	1,375 (3,032)	1,390 (3,065)	1,390 (3,065)	1,375 (3,032)	1,390 (3,065)
	Front	kg (lb)	830 (1,830)	830 (1,830)	825 (1,819)	830 (1,830)	830 (1,830)	825 (1,819)	830 (1,830)
	Rear	kg (lb)	560 (1,235)	560 (1,235)	550 (1,213)	560 (1,235)	560 (1,235)	550 (1,213)	560 (1,235)
Gross vehicle weight (G.V.W.)		kg (lb)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)
Gross axle weight (G.A.W.)	Front	kg (lb)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		○	○	○	○	○	○	○
	Auto A/C		○	—	—	—	—	—	—
	Manual A/C		—	○	○	○	○	○	○
	Leather pack-age		○	○	○	○	○	○	○
	Genuine leather seat		—	—	—	—	—	—	—
	Standard audio		—	—	—	—	—	—	—
	High grade audio		○	○	—	—	○	—	—
	Navigation		—	—	○	○	—	○	○
	Display audio		—	—	—	—	—	—	—
	Side airbag		○	○	○	○	○	○	○
	Curtain airbag		○	○	○	○	○	○	○
	HID headlight		—	—	—	—	—	—	—
	Cold weather package		○	○	○	○	○	○	○
	Sunroof		○	○	—	○	○	—	○

Impreza

SPECIFICATIONS

Model		5 door							
		2.0 i-Ltd							
Transmission		MT	CVT						
OP code		C0	C0	U5	U5	U5	U6	U6	U6
		YR	YR	YC	YP	HP	YC	YP	HP
Curb weight (C.W.)	Total	kg (lb)	1,365 (3,010)	1,400 (3,087)	1,385 (3,054)	1,400 (3,087)	1,400 (3,087)	1,385 (3,054)	1,400 (3,087)
	Front	kg (lb)	795 (1,753)	835 (1,841)	830 (1,830)	835 (1,841)	835 (1,841)	830 (1,830)	835 (1,841)
	Rear	kg (lb)	570 (1,257)	565 (1,246)	555 (1,224)	565 (1,246)	565 (1,246)	555 (1,224)	565 (1,246)
Gross vehicle weight (G.V.W.)		kg (lb)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)
Gross axle weight (G.A.W.)	Front	kg (lb)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		○	○	○	○	○	○	○
	Auto A/C		○	○	○	○	○	○	○
	Manual A/C		—	—	—	—	—	—	—
	Leather package		○	○	○	○	○	○	○
	Genuine leather seat		○	○	○	○	○	○	○
	Standard audio		—	—	—	—	—	—	—
	High grade audio		—	—	—	—	—	—	—
	Navigation		—	—	—	○	—	—	○
	Display audio		○	○	○	○	—	○	—
	Side airbag		○	○	○	○	○	○	○
	Curtain airbag		○	○	○	○	○	○	○
	HID headlight		○	○	—	—	—	—	—
	Cold weather package		○	○	○	○	○	○	○
	Sunroof		○	○	—	○	○	—	○

Impreza

SPECIFICATIONS

Model			5 door											
			SPORT											
Transmission			MT						CVT					
OP code			U5	U5	U5	U6	U6	U6	U5	U5	U5	U6	U6	U6
			3C	3P	VP	3C	3P	VP	3C	3P	VP	3C	3P	VP
Curb weight (C.W.)	Total	kg (lb)	1,360 (2,999)	1,375 (3,032)	1,375 (3,032)	1,360 (2,999)	1,375 (3,032)	1,375 (3,032)	1,395 (3,076)	1,410 (3,109)	1,410 (3,109)	1,395 (3,076)	1,410 (3,109)	1,410 (3,109)
	Front	kg (lb)	795 (1,753)	800 (1,764)	800 (1,764)	795 (1,753)	800 (1,764)	800 (1,764)	830 (1,830)	835 (1,841)	835 (1,841)	830 (1,830)	835 (1,841)	835 (1,841)
	Rear	kg (lb)	565 (1,246)	575 (1,268)	575 (1,268)	565 (1,246)	575 (1,268)	575 (1,268)	565 (1,246)	575 (1,268)	575 (1,268)	565 (1,246)	575 (1,268)	575 (1,268)
Gross vehicle weight (G.V.W.)		kg (lb)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)
Gross axle weight (G.A.W.)	Front	kg (lb)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		○	○	○	○	○	○	○	○	○	○	○	○
	Auto A/C		—	—	—	—	—	—	—	—	—	—	—	—
	Manual A/C		○	○	○	○	○	○	○	○	○	○	○	○
	Leather package		—	—	—	—	—	—	—	—	—	—	—	—
	Genuine leather seat		—	—	—	—	—	—	—	—	—	—	—	—
	Standard audio		—	—	—	—	—	—	—	—	—	—	—	—
	High grade audio		○	○	—	○	○	—	○	○	—	○	○	—
	Navigation		—	—	○	—	—	○	—	—	○	—	—	○
	Display audio		—	—	—	—	—	—	—	—	—	—	—	—
	Side airbag		○	○	○	○	○	○	○	○	○	○	○	○
	Curtain airbag		○	○	○	○	○	○	○	○	○	○	○	○
	HID headlight		—	—	—	—	—	—	—	—	—	—	—	—
	Cold weather package		○	○	○	○	○	○	○	○	○	○	○	○
	Sunroof		—	○	○	—	○	○	—	○	○	—	○	○

Impreza

SPECIFICATIONS

Model			5 door											
			SPORT-Ltd											
Transmission			MT						CVT					
OP code			U5	U5	U5	U6	U6	U6	U5	U5	U5	U6	U6	U6
			YC	YP	HP	YC	YP	HP	YC	YP	HP	YC	YP	HP
Curb weight (C.W.)	Total	kg (lb)	1,365 (3,010)	1,380 (3,043)	1,380 (3,043)	1,365 (3,010)	1,380 (3,043)	1,380 (3,043)	1,400 (3,087)	1,415 (3,120)	1,415 (3,120)	1,400 (3,087)	1,415 (3,120)	1,415 (3,120)
	Front	kg (lb)	800 (1,764)	805 (1,775)	805 (1,775)	800 (1,764)	805 (1,775)	805 (1,775)	835 (1,841)	840 (1,852)	840 (1,852)	835 (1,841)	840 (1,852)	840 (1,852)
	Rear	kg (lb)	565 (1,246)	575 (1,268)	575 (1,268)	565 (1,246)	575 (1,268)	575 (1,268)	565 (1,246)	575 (1,268)	575 (1,268)	565 (1,246)	575 (1,268)	575 (1,268)
Gross vehicle weight (G.V.W.)		kg (lb)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)	1,950 (4,299)
Gross axle weight (G.A.W.)	Front	kg (lb)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		○	○	○	○	○	○	○	○	○	○	○	○
	Auto A/C		○	○	○	○	○	○	○	○	○	○	○	○
	Manual A/C		—	—	—	—	—	—	—	—	—	—	—	—
	Leather pack-age		○	○	○	○	○	○	○	○	○	○	○	○
	Genuine leather seat		○	○	○	○	○	○	○	○	○	○	○	○
	Standard audio		—	—	—	—	—	—	—	—	—	—	—	—
	High grade audio		—	—	—	—	—	—	—	—	—	—	—	—
	Navigation		—	—	○	—	—	○	—	—	○	—	—	○
	Display audio		○	○	—	○	○	—	○	○	—	○	○	—
	Side airbag		○	○	○	○	○	○	○	○	○	○	○	○
	Curtain airbag		○	○	○	○	○	○	○	○	○	○	○	○
	HID headlight		—	—	—	—	—	—	—	—	—	—	—	—
	Cold weather package		○	○	○	○	○	○	○	○	○	○	○	○
	Sunroof		—	○	○	—	○	○	—	○	○	—	○	○

2. XV

A: DIMENSION

Model			5 door
Overall length		mm (in)	4,450 (175.2)
Overall width		mm (in)	1,780 (70.1)
Overall height (at C.W.)		mm (in)	1,615 (63.6)
Compartment	Length	mm (in)	2,005 (78.9)
	Width	mm (in)	1,490 (58.7)
	Height	mm (in)	Model without sunroof: 1,205 (47.4) Model with sunroof: 1,180 (46.5)
Wheelbase		mm (in)	2,635 (103.7)
Tread	Front	mm (in)	1,525 (60)
	Rear	mm (in)	1,525 (60)
Minimum road clearance		mm (in)	220 (8.7)

B: ENGINE

Model			2.0 L
Engine type			Horizontally opposed, liquid cooled, 4-cylinder, 4-stroke gasoline engine
Valve arrangement			DOHC
Bore × stroke		mm (in)	84.0 × 90.0 (3.31 × 3.54)
Displacement		cm ³ (cu in)	1,995 (121.73)
Compression ratio			10.5
Ignition order			1 — 3 — 2 — 4
Idle speed at parking or neutral position		rpm	MT: 650±50 CVT: 650±50
Maximum output		kW (HP)/rpm	110 (148)/6,200
Maximum torque		N·m (kgf-m, ft-lb)/rpm	196 (20.0, 145)/4,200

C: ELECTRICAL

Model		2.0 L
Ignition timing (at idling) BTDC		MT: 16°±10° CVT: 16°±10°
Spark plug	Type and manufacturer	NGK: SILZKAR7B11
Generator		12 V — 110 A
Battery	Type and capacity (5HR)	12 V — 48 AH (55D23L)
	CCA	390 A

SPECIFICATIONS

D: TRANSMISSION**1. MT**

Model		2.0 L DOHC non-turbo	
Transmission type		5MT	
Clutch type		DSPD	
Gear ratio	1st	3.545	
	2nd	1.888	
	3rd	1.296	
	4th	0.972	
	5th	0.780	
	Rev.	3.333	
Reduction gear (Front)		Type of gear	Hypoid
		Gear ratio	4.444
Reduction gear (Rear)	Transfer reduction	Type of gear	Helical
		Gear ratio	1.000
	Final reduction	Type of gear	Hypoid
		Gear ratio	4.444

5MT: 5-forward speeds and 1-reverse with synchromesh

DSPD: Dry Single Plate Diaphragm

2. CVT

Model			2.0 L DOHC non-turbo	
Transmission type			CVT	
Clutch type			TCC	
Gear ratio		Forward	3.581 — 0.570	
		Rev.	3.667	
Reduction gear (Front)	Final reduction	Type of gear	Hypoid	
		Gear ratio	3.700	
Transfer reduction ratio			1.000	
Reduction gear (Rear)		Type of gear	Hypoid	
		Gear ratio	3.700	

TCC: Torque Converter Clutch

CVT: Forward continuously variable speed change, 1-reverse

E: STEERING

Type		Rack and pinion	
Turns, lock to lock		3.1	
Minimum turning diameter	m (ft)	Curb to curb	10.6 (34.8)
		Wall to wall	11.5 (37.7)

F: SUSPENSION

Front	Macpherson strut type suspension		
Rear	Double-wishbone type suspension		

G: BRAKE

Service brake system	Dual circuit hydraulic with vacuum suspended power unit
Front	Ventilated disc brake
Rear	Disc brake
Parking brake	Mechanical on rear brakes

H: TIRE

Rim size	17 × 7J
Tire size	P225/55R17 95H
Type	Tubeless, steel belted radial

I: CAPACITY

Model		2.0 L	
		5MT	CVT
Fuel tank	L (US gal, Imp gal)	60 (15.9, 13.2)	
Engine oil	Total capacity (at overhaul) L (US qt, Imp qt)	5.7 (6.0, 5.0)	
	When replacing engine oil and oil filter L (US qt, Imp qt)	4.8 (5.1, 4.2)	
	When replacing engine oil only L (US qt, Imp qt)	4.6 (4.9, 4.0)	
Transmission gear oil	L (US qt, Imp qt)	3.5 (3.7, 3.1)	—
CVTF	L (US qt, Imp qt)	—	11.93 — 12.43 (12.6 — 13.1, 10.5 — 10.9)
Front differential gear oil	L (US qt, Imp qt)	—	1.3 — 1.4 (1.4 — 1.5, 1.1 — 1.2)
Rear differential gear oil	L (US qt, Imp qt)	0.8 (0.8, 0.7)	
Engine coolant	L (US qt, Imp qt)	7.6 (8.0, 6.7)	8.0 (8.5, 7.0)

SPECIFICATIONS

J: WEIGHT

Model		5 door									
		2.0 i-Prm									
Transmission		MT									
OP code		C0	C0	U5	U6	U5	U6	U5	U6	U5	U6
		IE	CM	3A	3A	3E	3E	3S	3S	VS	VS
Curb weight (C.W.)	Total	kg (lb)	1,400 (3,087)	1,415 (3,120)	1,400 (3,087)	1,400 (3,087)	1,400 (3,087)	1,415 (3,120)	1,415 (3,120)	1,415 (3,120)	1,415 (3,120)
	Front	kg (lb)	815 (1,797)	820 (1,808)	815 (1,797)	815 (1,797)	815 (1,797)	820 (1,808)	820 (1,808)	820 (1,808)	820 (1,808)
	Rear	kg (lb)	585 (1,290)	595 (1,312)	585 (1,290)	585 (1,290)	585 (1,290)	595 (1,312)	595 (1,312)	595 (1,312)	595 (1,312)
Gross vehicle weight (G.V.W.)		kg (lb)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)
Gross axle weight (G.A.W.)	Front	kg (lb)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		○	○	○	○	○	○	○	○	○
	Auto A/C		○	○	—	—	—	—	—	—	—
	Manual A/C		—	—	○	○	○	○	○	○	○
	Leather package		—	○	—	—	—	—	—	—	—
	Genuine leather seat		—	—	—	—	—	—	—	—	—
	High grade audio		○	○	○	○	○	○	○	—	—
	Navigation		—	—	—	—	—	—	—	○	○
	Display audio		—	—	—	—	—	—	—	—	—
	Side airbag		○	○	○	○	○	○	○	○	○
	Curtain airbag		○	○	○	○	○	○	○	○	○
	HID headlight		—	○	—	—	—	—	—	—	—
	Cold weather package		○	○	—	—	○	○	○	○	○
	Privacy glass		○	○	○	○	○	○	○	○	○
	Sunroof		—	○	—	—	—	○	○	○	○

Model			5 door											
			2.0 i-Prm											
Transmission			CVT											
OP code			C0	C0	U5	U6	U5	U6	U5	U6	U5	U6	U5	U6
			IE	CM	3A	3A	3E	3E	3S	3S	VE	VE	VS	VS
Curb weight (C.W.)	Total	kg (lb)	1,425 (3,142)	1,440 (3,175)	1,425 (3,142)	1,425 (3,142)	1,425 (3,142)	1,425 (3,142)	1,440 (3,175)	1,440 (3,175)	1,425 (3,142)	1,425 (3,142)	1,440 (3,175)	1,440 (3,175)
	Front	kg (lb)	850 (1,874)	855 (1,885)	850 (1,874)	850 (1,874)	850 (1,874)	850 (1,874)	855 (1,885)	855 (1,885)	850 (1,874)	850 (1,874)	855 (1,885)	855 (1,885)
	Rear	kg (lb)	575 (1,268)	585 (1,290)	575 (1,268)	575 (1,268)	575 (1,268)	575 (1,268)	585 (1,290)	585 (1,290)	575 (1,268)	575 (1,268)	585 (1,290)	585 (1,290)
Gross vehicle weight (G.V.W.)		kg (lb)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)
Gross axle weight (G.A.W.)	Front	kg (lb)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		○	○	○	○	○	○	○	○	○	○	○	○
	Auto A/C		○	○	—	—	—	—	—	—	—	—	—	—
	Manual A/C		—	—	○	○	○	○	○	○	○	○	○	○
	Leather package		—	○	—	—	—	—	—	—	—	—	—	—
	Genuine leather seat		—	—	—	—	—	—	—	—	—	—	—	—
	High grade audio		○	○	○	○	○	○	○	○	—	—	—	—
	Navigation		—	—	—	—	—	—	—	—	○	○	○	○
	Display audio		—	—	—	—	—	—	—	—	—	—	—	—
	Side airbag		○	○	○	○	○	○	○	○	○	○	○	○
	Curtain airbag		○	○	○	○	○	○	○	○	○	○	○	○
	HID headlight		—	○	—	—	—	—	—	—	—	—	—	—
	Cold weather package		○	○	—	—	○	○	○	○	○	○	○	○
	Privacy glass		○	○	○	○	○	○	○	○	○	○	○	○
	Sunroof		—	○	—	—	—	—	○	○	—	—	○	○

SPECIFICATIONS

Model		5 door							
		2.0 i-Ltd							
Transmission		MT	CVT						
OP code		C0	C0	U5	U6	U5	U6	U5	U6
		HU	HU	YE	YE	YS	YS	HS	HS
Curb weight (C.W.)	Total	kg (lb)	1,425 (3,142)	1,450 (3,197)	1,435 (3,164)	1,435 (3,164)	1,450 (3,197)	1,450 (3,197)	1,450 (3,197)
	Front	kg (lb)	830 (1,830)	865 (1,907)	860 (1,896)	860 (1,896)	865 (1,907)	865 (1,907)	865 (1,907)
	Rear	kg (lb)	595 (1,312)	585 (1,290)	575 (1,268)	575 (1,268)	585 (1,290)	585 (1,290)	585 (1,290)
Gross vehicle weight (G.V.W.)		kg (lb)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)	1,970 (4,343)
Gross axle weight (G.A.W.)	Front	kg (lb)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)
	Rear	kg (lb)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)	1,000 (2,205)
Option	Aluminum wheel		○	○	○	○	○	○	○
	Auto A/C		○	○	○	○	○	○	○
	Manual A/C		—	—	—	—	—	—	—
	Leather package		○	○	○	○	○	○	○
	Genuine leather seat		○	○	○	○	○	○	○
	High grade audio		—	—	—	—	—	—	—
	Navigation		○	○	—	—	—	○	○
	Display audio		—	—	○	○	○	—	—
	Side airbag		○	○	○	○	○	○	○
	Curtain airbag		○	○	○	○	○	○	○
	HID headlight		○	○	—	—	—	—	—
	Cold weather package		○	○	○	○	○	○	○
	Privacy glass		○	○	○	○	○	○	○
	Sunroof		○	○	—	—	○	○	○

PRECAUTION

PC

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1. Precaution

A: CAUTION

Please clearly understand and adhere to the following general precautions for environmental protection and to avoid minor or serious injury to the person doing the work or people in the area.

1. VEHICLE DYNAMICS CONTROL (VDC)

Handle the VDC as a total system. Do not disassemble or attempt to repair individual parts. Follow the directions in this manual when performing maintenance on the VDCCM&H/U. When parts other than those specified are disassembled, it is possible that the VDC system will not operate when needed or cause it to operate incorrectly and result in injury.

2. BRAKE FLUID

If brake fluid gets in your eyes or on your skin, do the following:

- Wash eyes and seek immediate medical attention.
- Wash your skin with soap and then rinse thoroughly with water.

3. RADIATOR FAN

The radiator fan may rotate without warning, even when the engine is not ON. Do not place your hand, cloth, tools or other items near the fan at any time.

4. ROAD TEST

Always conduct road tests in accordance with traffic rules and regulations to avoid bodily injury and interrupting traffic.

5. AIRBAG

To prevent bodily injury from unexpected deployment of airbags and unnecessary maintenance, follow the instructions in this manual when performing maintenance on the airbag components or nearby, around front of the vehicle (radiator panel, front wheel apron, front side frame, bumper, hood, front fender), around side of the vehicle (front door, rear door, center pillar, rear fender, side sill, rear wheel apron), around rear of the vehicle (rear seat cushion, rear floor, rear sub frame assembly) and the airbag wiring harnesses or nearby.

To prevent unexpected deployment, turn the ignition switch to OFF and disconnect the ground cable from battery, then wait at least 60 seconds before starting work.

6. AIRBAG MODULE AND SEAT BELT PRETENSIONER DISPOSAL

To prevent bodily injury from unexpected airbag deployment, do not dispose the airbag modules or seat belt pretensioner in the same way as other waste. Follow all government regulations concerning disposal of refuse.

7. AIRBAG MODULE

Adhere to the following when handling and storing the airbag module to prevent bodily injury from unexpected deployment:

- Do not hold the harnesses or connectors to carry the module.
- Do not face the bag in the direction that it opens towards yourself or other people.
- Do not face the bag in the direction that it opens towards the floor or walls.

8. AIRBAG SPECIAL TOOL

To prevent unexpected deployment, only use special tools.

9. WINDOW

Always wear safety glasses when working around any glass to prevent glass fragments from damaging your eyes.

10. WINDOW ADHESIVE

Always use the recommended or equivalent adhesive when attaching glass to prevent it from falling off, resulting in accidents and injury.

11. OIL

When handling oil, adhere to the following to prevent unexpected accident.

- Prepare a container and cloth to prevent scattering of oil when performing work where oil can be spilled. If the oil spills, wipe it off immediately to prevent from penetrating into floor or flowing out for environmental protection.
- Follow all government and local regulations concerning disposal of refuse when disposing.

12. FUEL

When handling and storing fuel, adhere to the following to prevent from unexpected accident.

- Be careful with fire.
- Prepare a container and cloth to prevent scattering of fuels when performing work where fuels can be spilled. If the oil spills, wipe it off immediately to prevent from penetrating into floor or flowing out for environmental protection.
- Follow all government and local regulations concerning disposal of refuse when disposing.

13.ENGINE COOLANT

When handling engine coolant, adhere to the following to prevent from unexpected accident.

- Never remove the radiator cap since engine coolant may blow out when it is hot.
- Prepare a container and cloth to prevent scattering of engine coolant when performing work where engine coolant can be spilled. If the oil spills, wipe it off immediately to prevent from penetrating into floor or flowing out for environmental protection.
- Follow all government and local regulations concerning disposal of refuse when disposing.

14.AIR CONDITIONER REFRIGERANT

In order to prevent from global warming, avoid releasing air conditioner refrigerant into the atmosphere. Using a refrigerant recovery system, discharge and reuse it.

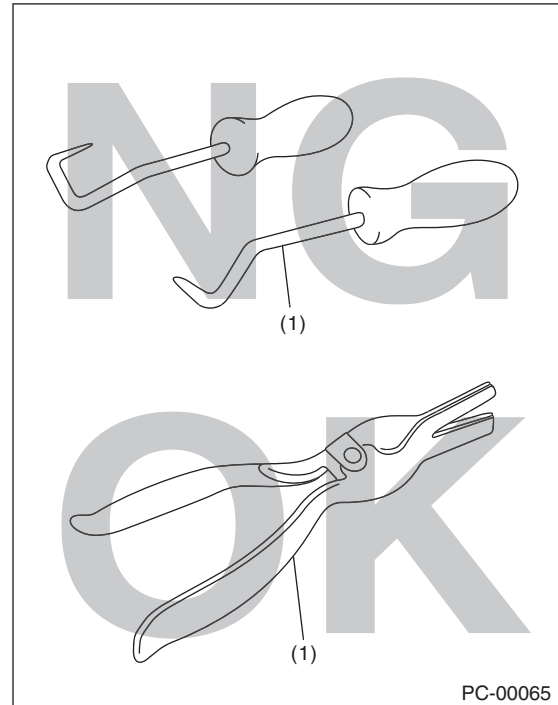
15.REMOVAL AND INSTALLATION OPERATION OF HOSES, ETC.

1. Before the removal and installation operation of hoses, etc.

- If you keep using the damaged or deformed hose, it results bleeds or leakage of the fat adheres or disconnection of the hose. Be careful not to spill fat adheres on exhaust pipes, etc. during maintenance to prevent emitting smoke or causing fires.
- Perform the operation with the hose removed. If the operation is performed without removing the hose, it may damage inner surface of the hose.

2. Removal and installation operation of hoses, etc. during the inspection

- Follow the instructions below when removing hose.
 - Do not use a pointed hose remover (hose plucker) when using a general hose remover. It may damage the pipe surface or the hose.



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(1) Hose remover

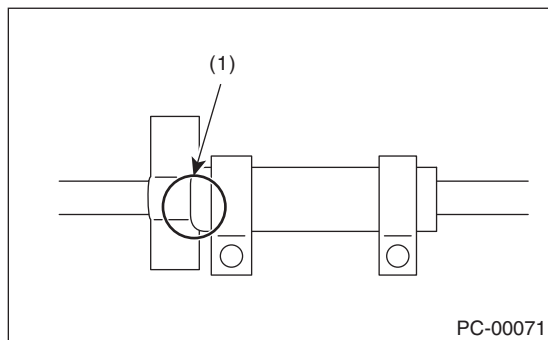
- When draining hose using pliers, be sure to cover the hose with cloth and rotate the hose slightly to extract straight.

Precaution

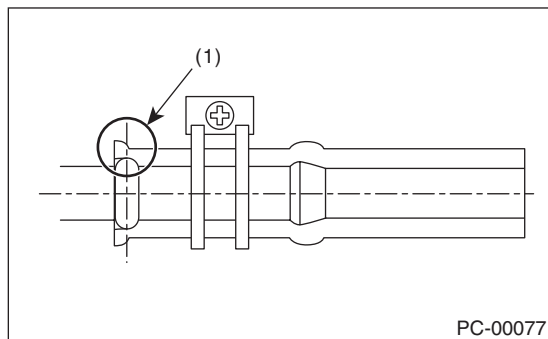
PRECAUTION

- If you keep using the hose, perform the inspection below and replace the hose with a new part if faulty.

- Replace the hose with a new part if it rides over the stay or the top of spool.



(1) Hose rides over the stay



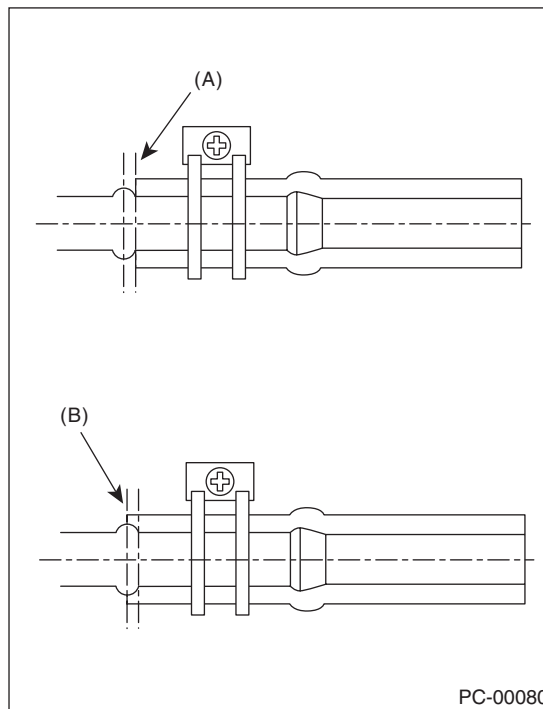
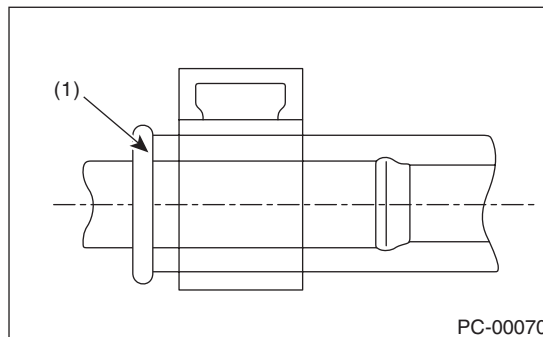
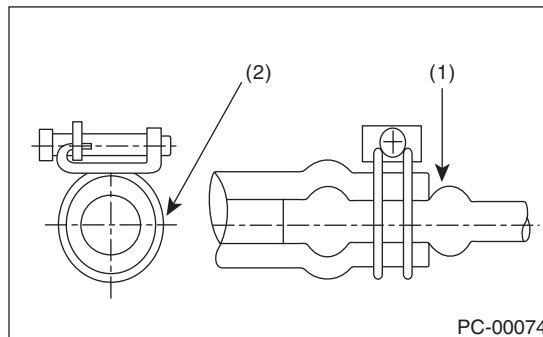
(1) Hose rides over the top of spool

- Check if the surface and the inner surface of the hose are damaged, cracked, bend, hardened, softened, swelled, peeled or deformed due to the adherence or the entry of the foreign matter by bending the hose. Replace with the new part if faulty.

- Follow the instructions below during installation.

- Check carefully for assembling position.
- Never use lubricants.

- Insert the hose to the specified position (stopper or spool) securely. (The stopper of the spool is between the top of the spool and the bottom section.)



- (1) Push against the spool. (Insert the hose and prevent it from becoming wrinkled.)
- (2) Tighten the hose outwards and apply force thoroughly.
- (A) OK position (bottom of spool)
- (B) OK position (top of spool)

- Check if the position, direction and hose layout of the hose clamp are correct. (Check if the position, direction, length and the gap around are correct, or if it is different from the condition before the work)
- After the installation, check that the hose is installed securely and there is no leakage. (Check if it is fixed securely with the clamp)
- **For hose clips and hose clamps, perform the inspection below and replace them with a new part if faulty.**
 - Check for deformation, rust, damage or foreign matters.
 - For hose clip, check if it works and has clamping force.
 - For hose clamp, check if it can tighten screw, not ovalized or the screw is not damaged.
- **For hose pipes, perform the inspection below and replace with a new part if faulty.**

Check if the pipe is not damaged, rusted, peeled (peeled plates included), covered with foreign matter, bent, compressed or cracked.
- **For the parts below, replaces with a new part when the hose is removed or the installation position is changed.**

CVTF cooler hose, power steering suction hose, power steering return hose, fuel hose (delivery)

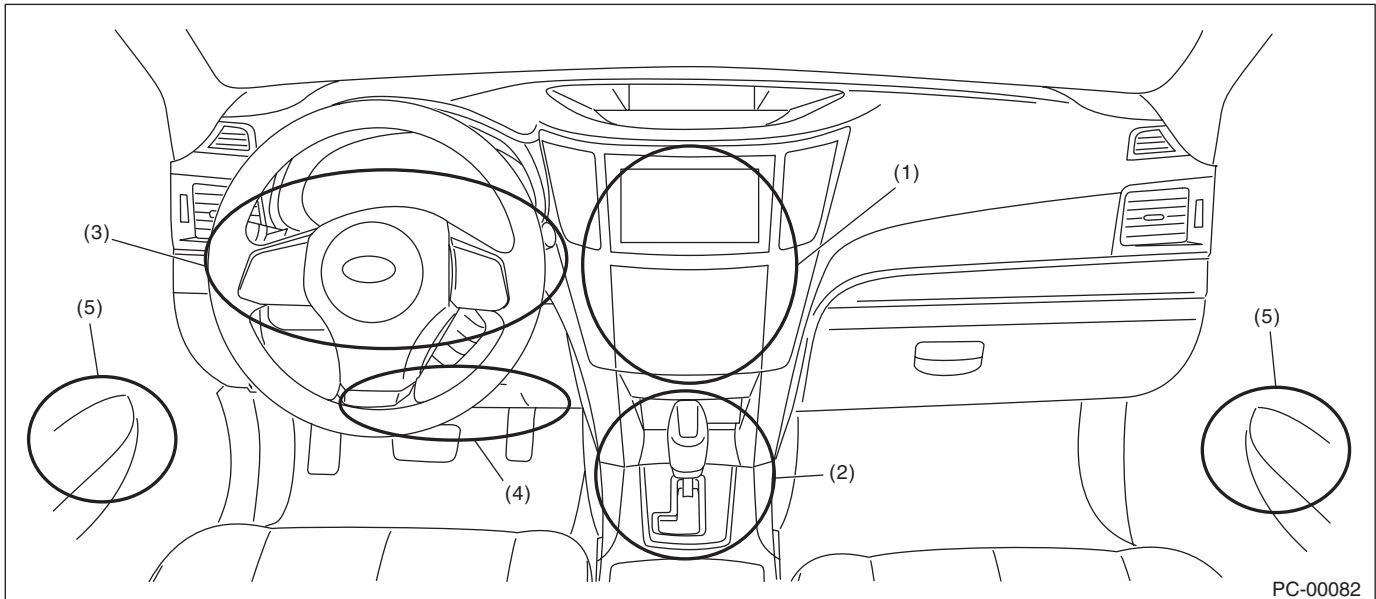
Precaution

PRECAUTION

16. HANDLING PRECAUTIONS FOR SILICON-CONTAINING SPRAY

When a silicone contained in the lubricant, rust inhibitor or glazing agent adheres to the electrical contact of the relay or switch, nonconducting silica dioxide (SiO_2) film will be formed, which may lead to poor continuity. Therefore, the following precautions must be observed when using the silicon-containing spray.

- Never spray directly to the electrical equipment.
- When using the spray close to the electrical equipment, always put the cover on it. Be sure to put the cover on the electrical equipment especially when using the spray to the locations shown in the figure below and their surrounding areas.



- | | | |
|---|---|-------------------------|
| (1) Audio, heater control switch | (3) Combination switch, steering switch | (5) Power window switch |
| (2) Shift/select lever switch, parking switch | (4) Stop light switch, brake light switch, clutch switch, clutch start switch | |

- If the residual silicon remains in the vicinity of the electrical equipment after the spray has been used, the vaporized silicon stands around the electrical equipment and it may adhere to electrical contact. After using the spray, be sure to wipe the silicon off with a cloth.
- Even when using the spray to the place away from the electrical equipment, the droplet of the spray may be splashed to the periphery. Use as small amount of spray as possible, and take care not to splash the silicon to the periphery.

NOTE:

The “silicon” used in this section refers to “silicone”, that is, silicon polymer.

NOTE

NT



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1. Note

A: BASIC REPAIR HINT

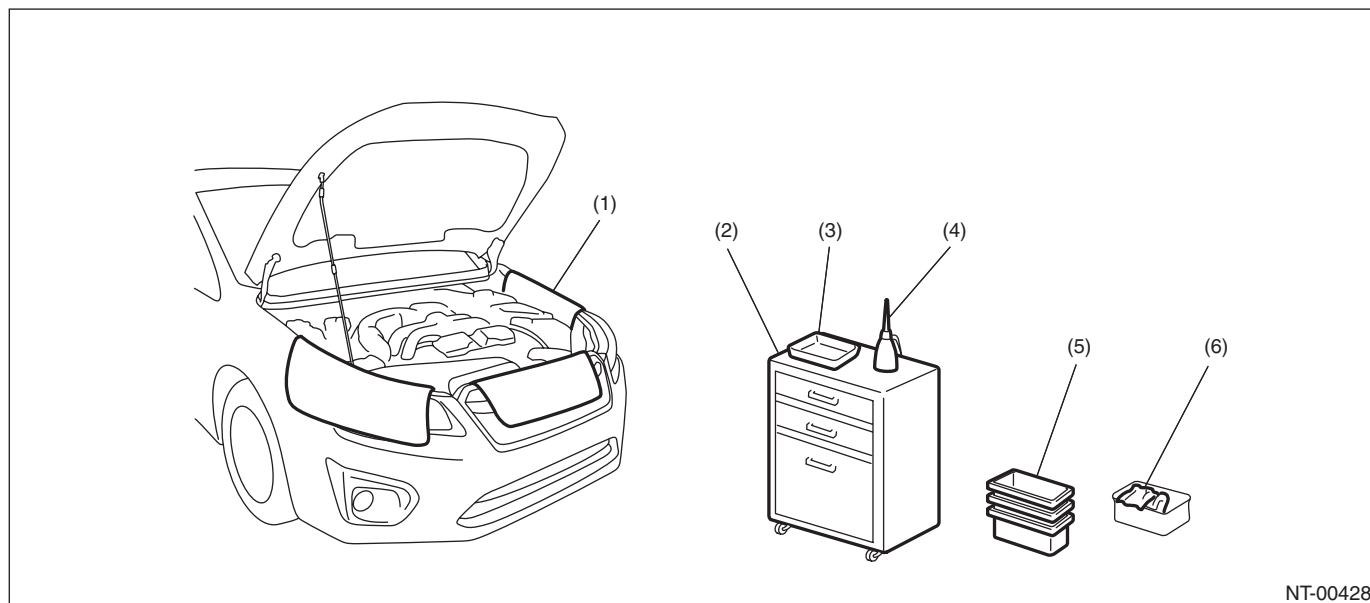
This section describes basic points that the service operator must understand before performing the service operation.

1. APPEARANCE

- Always wear clean work clothing.
- Wear a cap and protective shoes.

2. PROTECTION OF VEHICLE UNDER MAINTENANCE AND PREPARATION OF TOOLS/EQUIPMENT

- Before work, cover the vehicle body. (Ex. grille cover, fender cover, seat cover and floor mat cover)
- Before performing the service operation, prepare tools, equipment, container box, grease and cloth etc.



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- (1) Fender cover
- (2) Tools/equipment case

- (3) Tray
- (4) Oil

- (5) Container box
- (6) Cloth

3. SAFETY

- Before work, set the wheel stoppers to secure the vehicle.
- When performing work by multiple workers, call to each other to make sure that service operation is performed safely.
- Before starting engine, ventilate the room.
- When performing the service operation of high-temperature parts like muffler, rotating parts like fan and other movable parts, be careful not to get burned or injured.
- For the jack-up and lift up, set the tool to the proper location to support the vehicle correctly. And use the safety device properly when lifting up.

4. SERVICE OPERATION

- By identifying the vehicle problems thoroughly before work, service operation will be performed effectively.
- Before removing parts, confirm the installation condition or the damage of the parts.
- To reinstall parts properly, leave a note of the condition before work as necessary.
- For a part which needs positioning, take appropriate action such as putting alignment marks.
- For a removed part, clean it as necessary and check for damage and defect before installation.

5. REMOVED PART

- A removed part must be organized to avoid mixing up with similar parts. When same parts are used in multiple locations, such as pistons in engine, manage the parts by using labels with cylinder No. so that the parts are not installed to the wrong location.
- Always replace nonreusable parts such as gasket and O-ring with new parts.
- After work, have a customer confirm the replaced part.

6. WHEN REMOVING BATTERY

When removing battery, power supply is cut off and the information stored in the computer memory is volatilized. Therefore, setting information of some device is initialized to the factory default. The device and functions initialized by removing battery are as follows.

No.	Item	Job contents when connecting battery
1	Clock (MFD) (settings that the customer set)	Set the clock to the current time.
2	MFD (high grade type)	Set to the contents checked before disconnecting the battery.
3	Audio (settings that the customer set)	Set to the contents checked before disconnecting the battery.
4	Navigation system (settings that the customer set)	• Time setting is not necessary because the time information is received via GPS. • Set the sound and other settings (items that were set in the selection) to the contents checked before disconnecting the battery.
5	Temperature setting of fully automatic air conditioner (settings that the customer set)	Set to the contents checked before disconnecting the battery.
6	Power window system	Initialize automatic full open/close of driver's window (power window system). For the initialization procedure, refer to "GW" section. <Ref. to GW-10, OPERATION, Power Window System.>
7	Electronic throttle system	Turn the ignition switch to ON, wait for 10 seconds or more, and start the engine.
8	Engine control system	Let the engine run at idle until it fully warms up (the radiator fan turns 2 times or more) under no electrical load condition.
9	Past trouble history (memory code)	—

7. OTHER ADJUSTMENT OPERATIONS BEFORE DELIVERING THE VEHICLE TO CUSTOMER

Due to service and parts replacement convenience, perform the following operations before delivering the vehicle to the customer.

No.	Item	Check operation	Adjustment operation	Additional adjustment operations when replacing parts
1	Positions of devices • Steering • Room mirror • Door mirror • Seat • Air conditioner vent grille	Is the device set to the same position when the vehicle was received from the customer?	Adjust the device to the similar position when the vehicle was received from the customer.	When removing/installing each device • Meter, instrument panel, steering column, etc. • Room mirror, roof trim, sunroof assembly, etc. • Door mirror, door panel, etc. • Seat, floor carpet, parking brake lever, etc. • Vent grille, instrument panel, console box, etc.
2	Positions of switches • SI-Drive • Wiper, light (AUTO or OFF) • Headlight beam leveler • Illumination control • Room light • Seat heater, etc.	Is the switch set to the same position when the vehicle was received from the customer?	Set the switch to the same position when the vehicle was received from the customer.	When removing/installing each switch
3	Position of antenna	Is the antenna set to the same position when the vehicle was received from the customer?	Adjust the position of antenna.	When removing/installing the antenna and washing the vehicle

NOTE

B: NOTE

This is the information that can improve the efficiency of maintenance and assure the sound work.

1. CLEANING

- Perform the operation in a clean location and use extra caution in dust proofing.
- Clean the items (except for assembly components) with steam, etc. before disassembly. During steam cleaning, wrap the air breather, oil level gauge, connectors, etc. with vinyl tape to prevent steam from entering inside the parts.
- For cleaning solution, use new kerosene, etc.
- Do not clean rubber parts such as O-ring, gasket and oil seal with cleaning solution.

2. FASTENERS NOTICE

Tighten the bolts and nuts to the specified torque. Do not apply paint, lubricant, rust retardant or other substance to the surface around bolts, nuts, etc. It may cause troubles with tightening to the specified torque and result in looseness and other problems of bolts and nuts.

3. STATIC ELECTRICITY DAMAGE

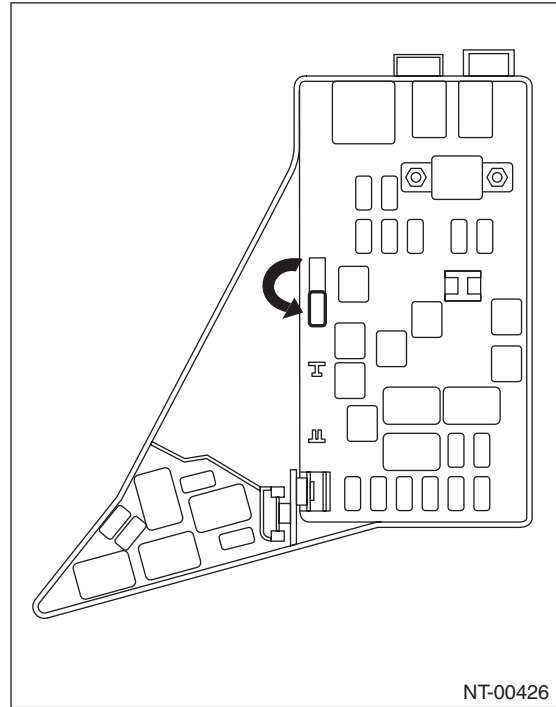
Do not touch the control modules, connectors, logic boards and other such parts when there is a risk of static electricity. Always use a static electricity prevention cord or touch grounded metal for the elimination of static electricity before conducting work.

4. BATTERY

When removing the battery terminal, always be sure to turn the ignition switch to OFF and remove the battery ground cable first.

5. BACKUP/POWER SUPPLY FUSE

Backup fuse (20A) remains removed to prevent the battery consumption when vehicles are delivered. Install the backup fuse by following the illustration.



6. IMMOBILIZER RELATED PART

Do not replace parts which have immobilizer ID (all ignition key, combination meter (except for Canada), body integrated unit, ECM and SCM (for Canada)) with the parts from other vehicle.

7. SERVICE PARTS

Use genuine parts for maximum performance and maintenance when conducting repairs. Subaru/FHI will not be responsible for poor performance resulting from the use of parts except for genuine parts.

8. PROTECTING VEHICLE UNDER MAINTENANCE

Make sure to attach the fender cover, seat covers, etc. before work.

9. ENSURING SECURITY DURING WORK

When working in a group of two or more, perform the work with calling each other to ensure mutual safety.

10.LIFT AND JACK

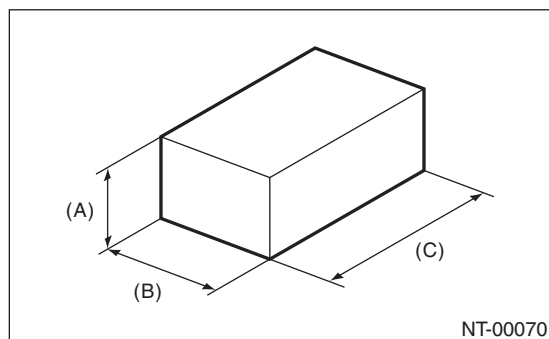
When using a lift or shop jack to raise a vehicle or using rigid rack to support a vehicle, always follow instructions concerning jack-up points and weight limits to prevent the vehicle from falling, which could result in injury. Be especially careful that the vehicle is balanced before raising it. Be sure to set the wheel stoppers when jacking-up only the front or rear side of the vehicle.

CAUTION:

Select the lift attachment so that the side sill does not contact the lift arm.

NOTE:

- When using a lift, follow its operation manual.
 - When the side sill cover contacts the lift arm, use a lift attachment.
 - Do not work or leave unattended while the vehicle is supported with jack, support it with rigid racks.
 - Be sure to use the rigid racks with rubber attached to cradle to support the vehicle.
 - When using a lift, use an attachment or something similar.
 - When using a plate lift, use a rubber attachment.
- Place the attachment to the specified position of the vehicle, by adjusting front/rear and left/right sides accordingly.



(A) 80 mm (3.1 in) or more

(B) 80 — 100 mm (3.15 — 3.94 in)

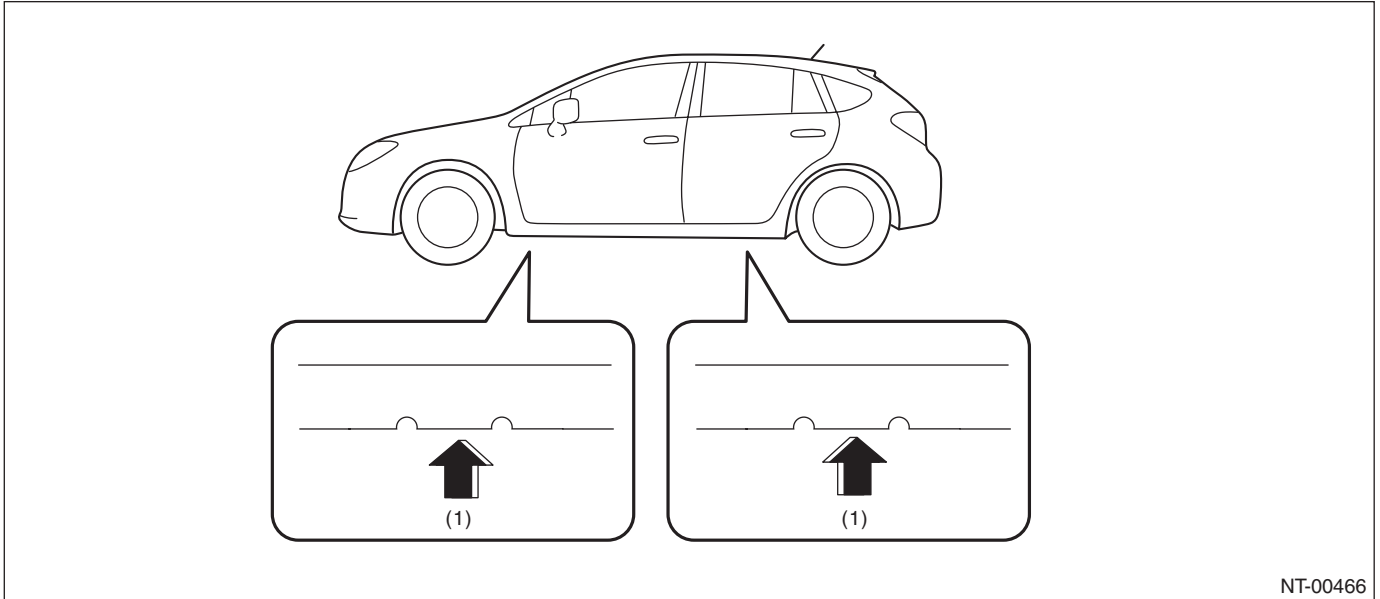
(C) 120 — 200 mm (4.72 — 7.87 in)

- Align the cushion rubber center part of plate lift with the center part of rubber attachment.
- Do not use the plate lift whose attachment does not reach the supporting locations.

Note

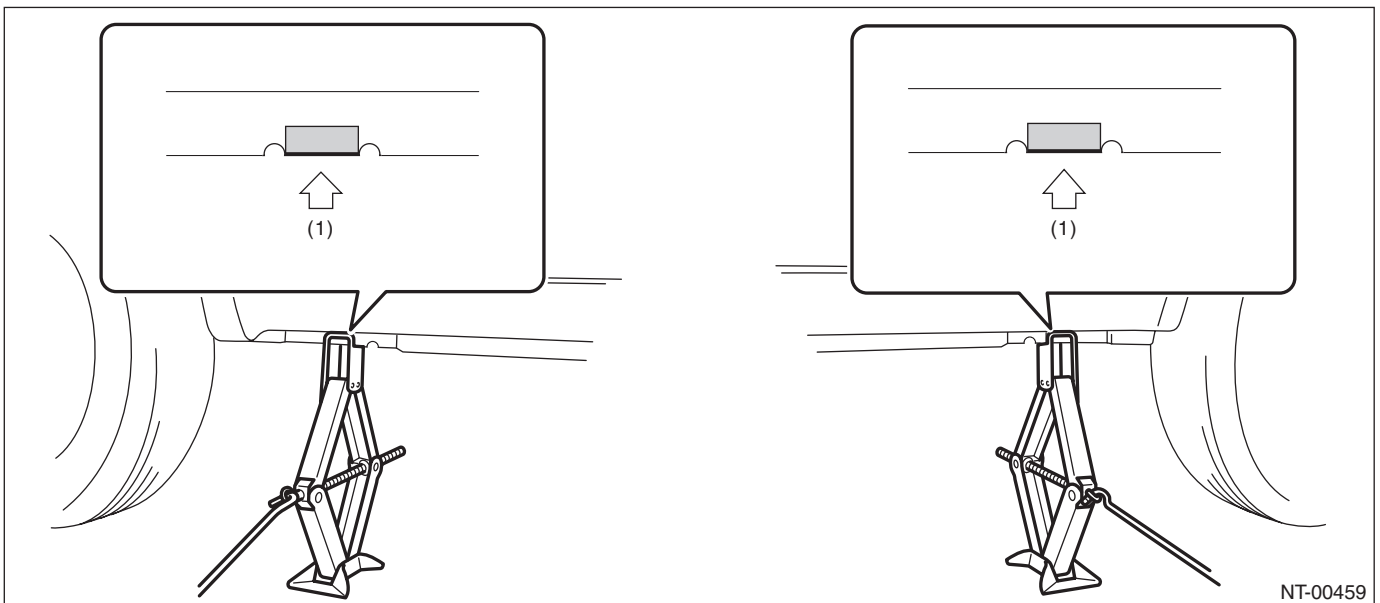
NOTE

- **Support locations**



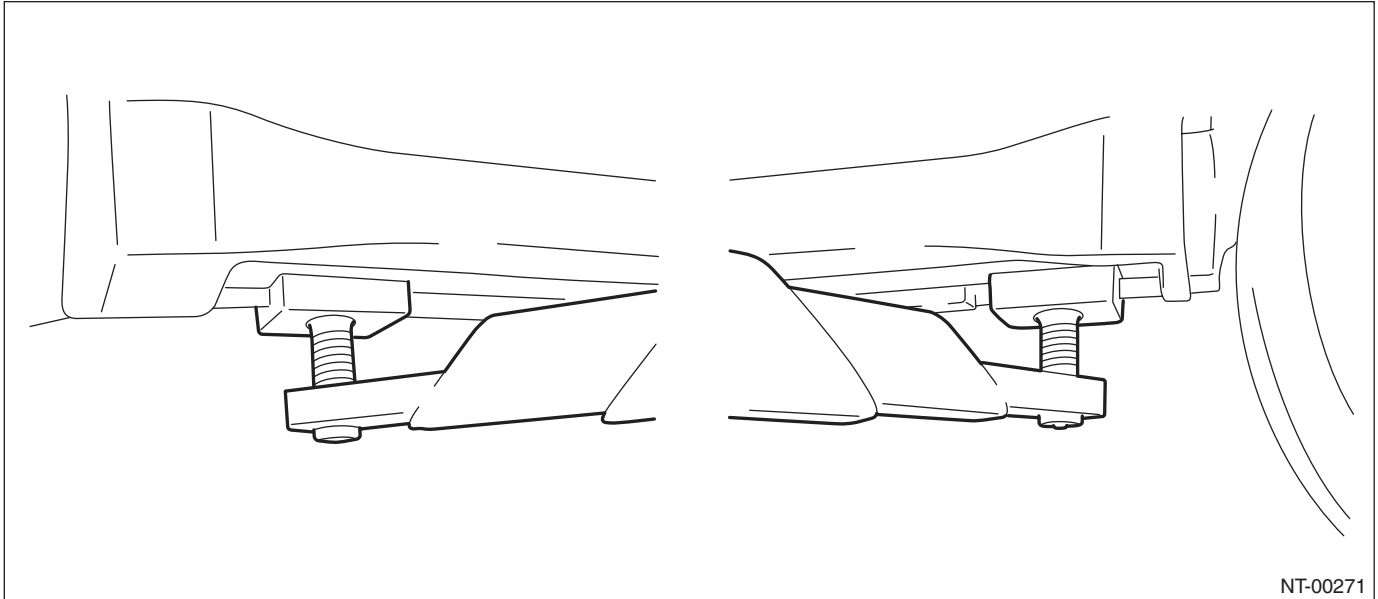
(1) Jack-up point

- **Pantograph jack**



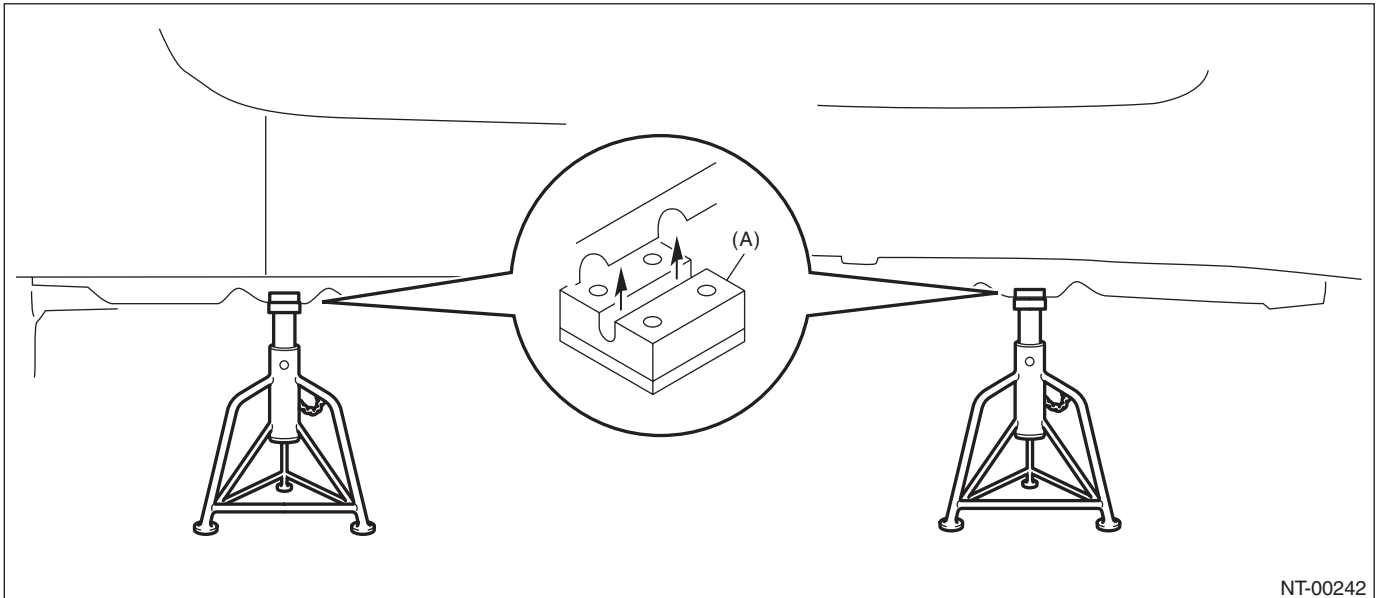
(1) Jack-up point

- Lift

**CAUTION:**

For models with side under skirt, use a spacer or an attachment to lift up the vehicle securely at jack up point, without contact of side under skirt and lift.

- Rigid rack

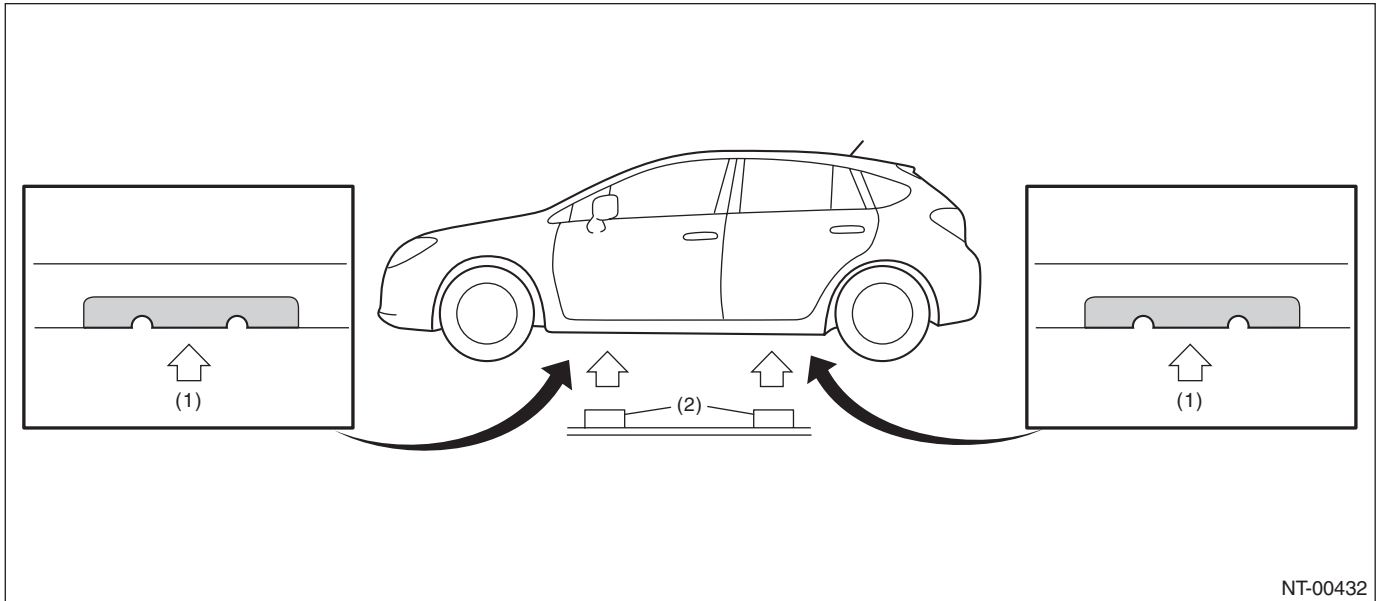


(A) Attachment

Note

NOTE

• Plate lift

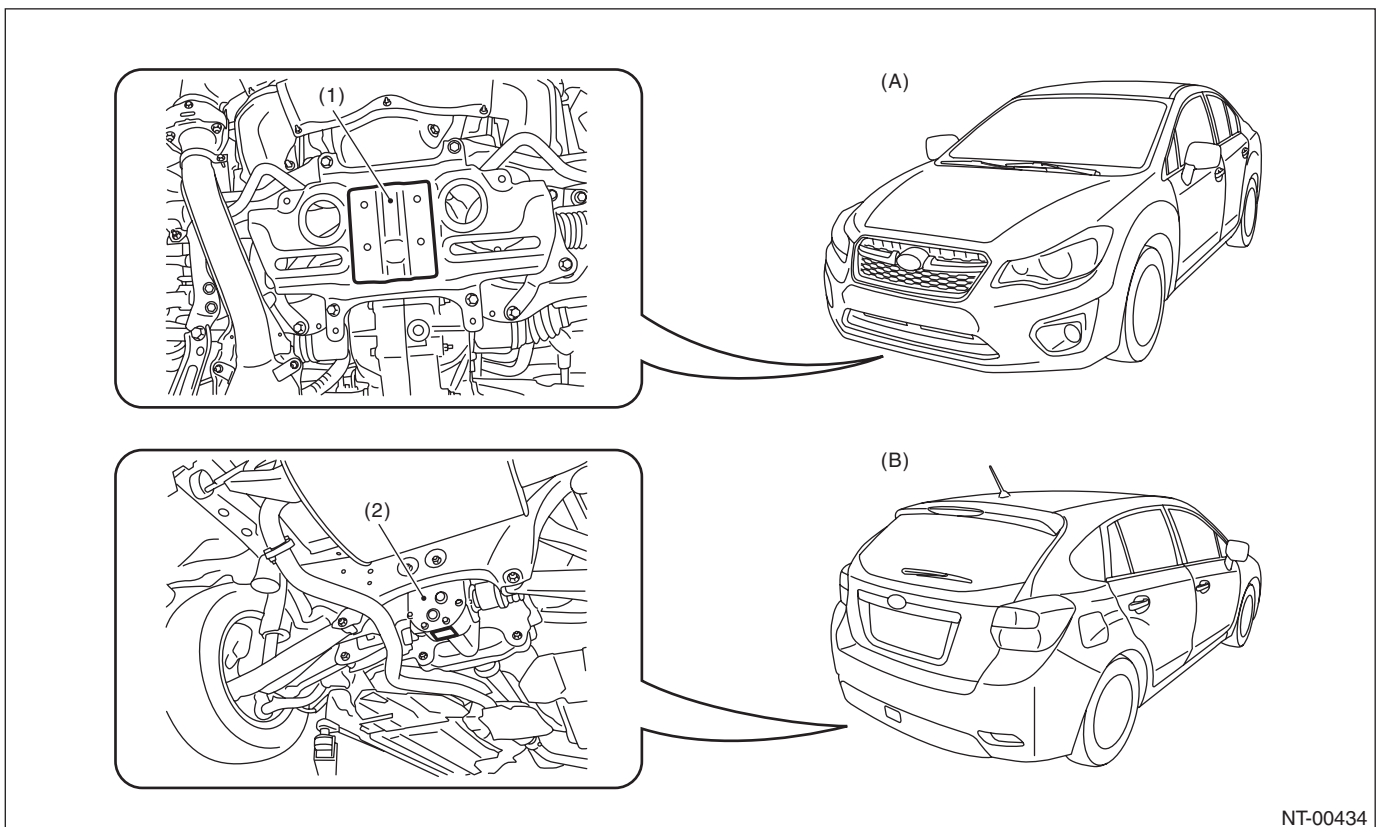


NT-00432

(1) Jack-up point

(2) Attachment

• Jack-up point (When using a garage jack)



NT-00434

(A) Front

(B) Rear

(1) Front crossmember

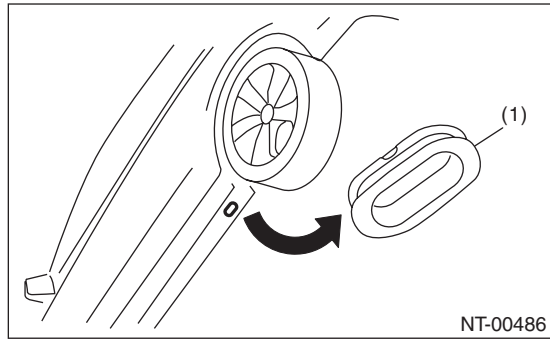
(2) Rear differential

CAUTION:

If jacking up the front side of the vehicle, make sure that the jack is attached at the center of the jack-up plate not at the sides.

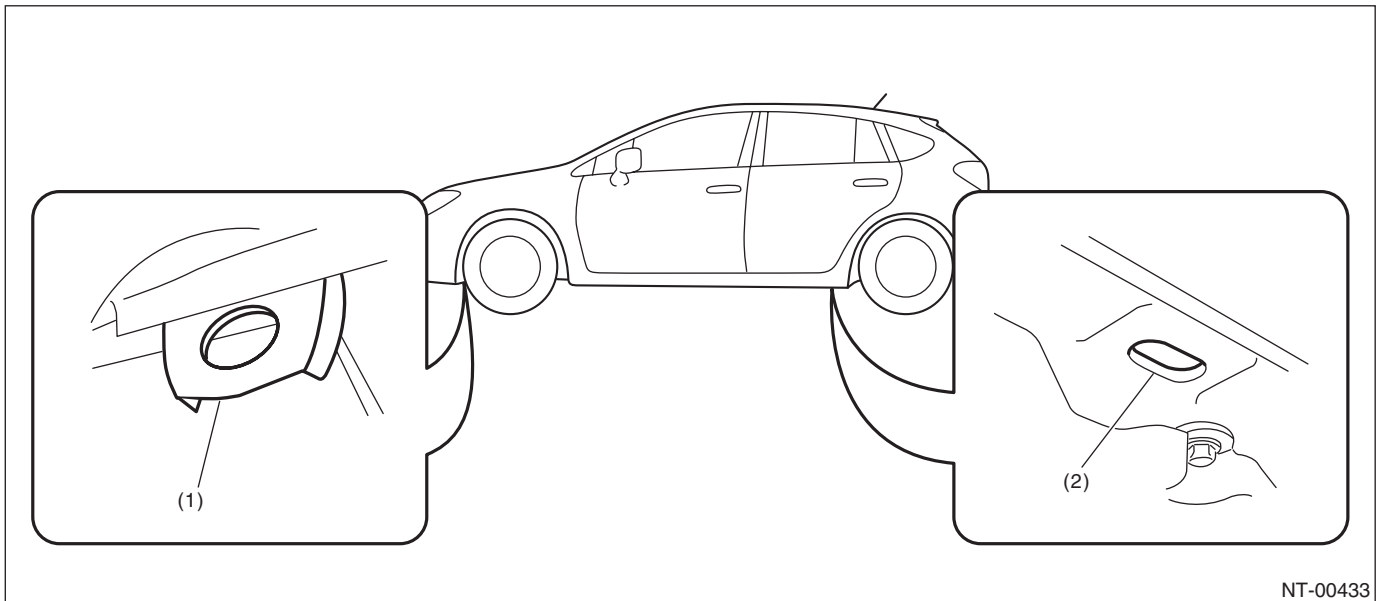
11.TIE-DOWNS

Tie-downs are used when transporting vehicles and when using the chassis dynamo. Remove the grommet of the tie-down hole (when equipped) and install the tie-down only to the specified locations on the vehicle.



(1) Grommet

• Tie-down location



(1) Hook for tie-down

(2) Tie-down hole

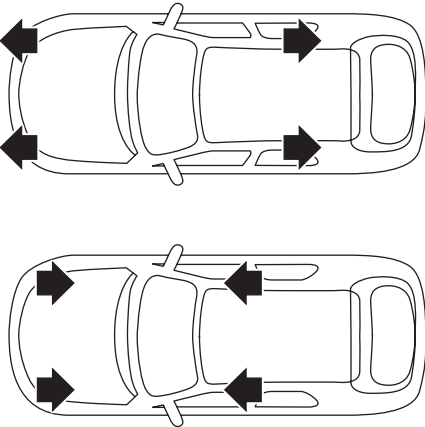
Note

NOTE

- Chain direction at tie-down condition

CAUTION:

- Pull the front and rear of the vehicle in the opposite direction, and pull the left and right of the vehicle in the same direction.
- Patterns except for the followings (recommended) are not allowed.

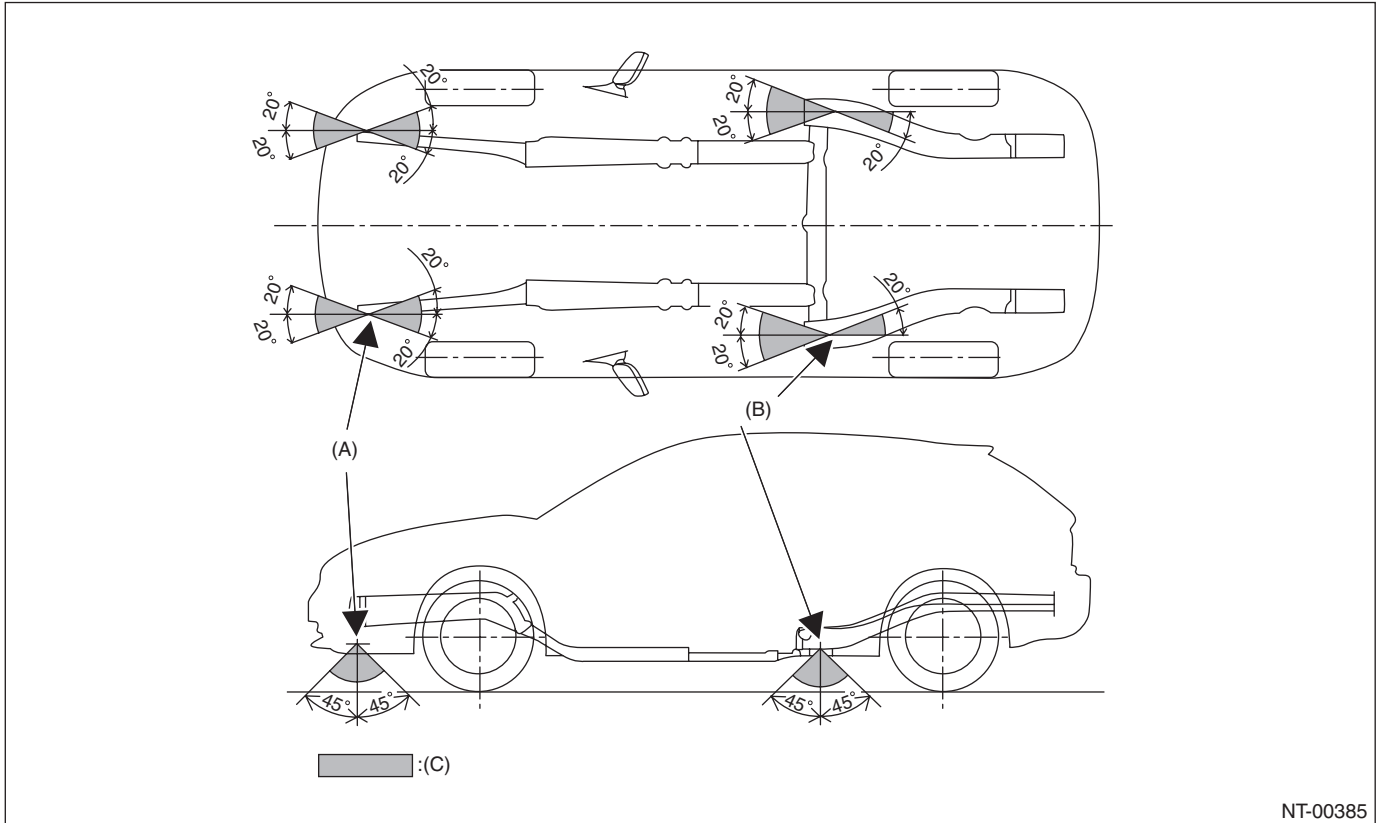
	Recommended
Tie-down direction	 NT-00214

• Tie-down range

For ground transportation

CAUTION:

When the vehicle is tied down from vehicle inside, hook the hooks of tie-down chain on the rear tie-down holes from vehicle inside. When the vehicle is tied down from vehicle outside, hook the hooks of tie-down chain on the rear tie-down hooks from vehicle outside.



NT-00385

(A) Front tie-down hook

(B) Rear tie-down hole

(C) Chain pulling range at tie-down condition

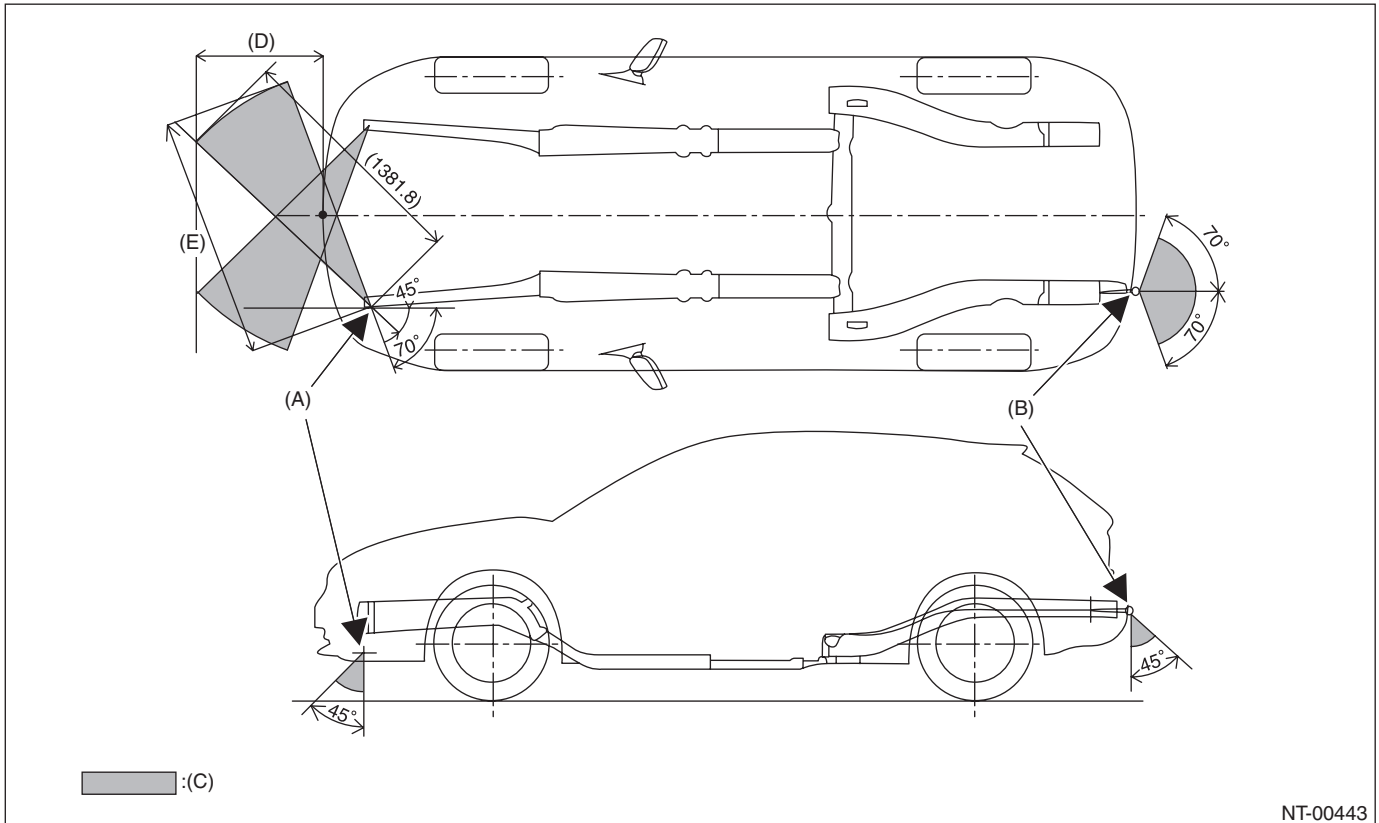
Note

NOTE

For sea transportation

CAUTION:

The eye bolts are exclusively used for towing and sea transportation tie-down, and do not use them for ground and freight transportation.



(A) Front tie-down hook

(C) Chain pulling range at tie-down condition

(E) 1,320 mm (52.0 in)

(B) Eye bolt

(D) 400 mm (15.7 in)

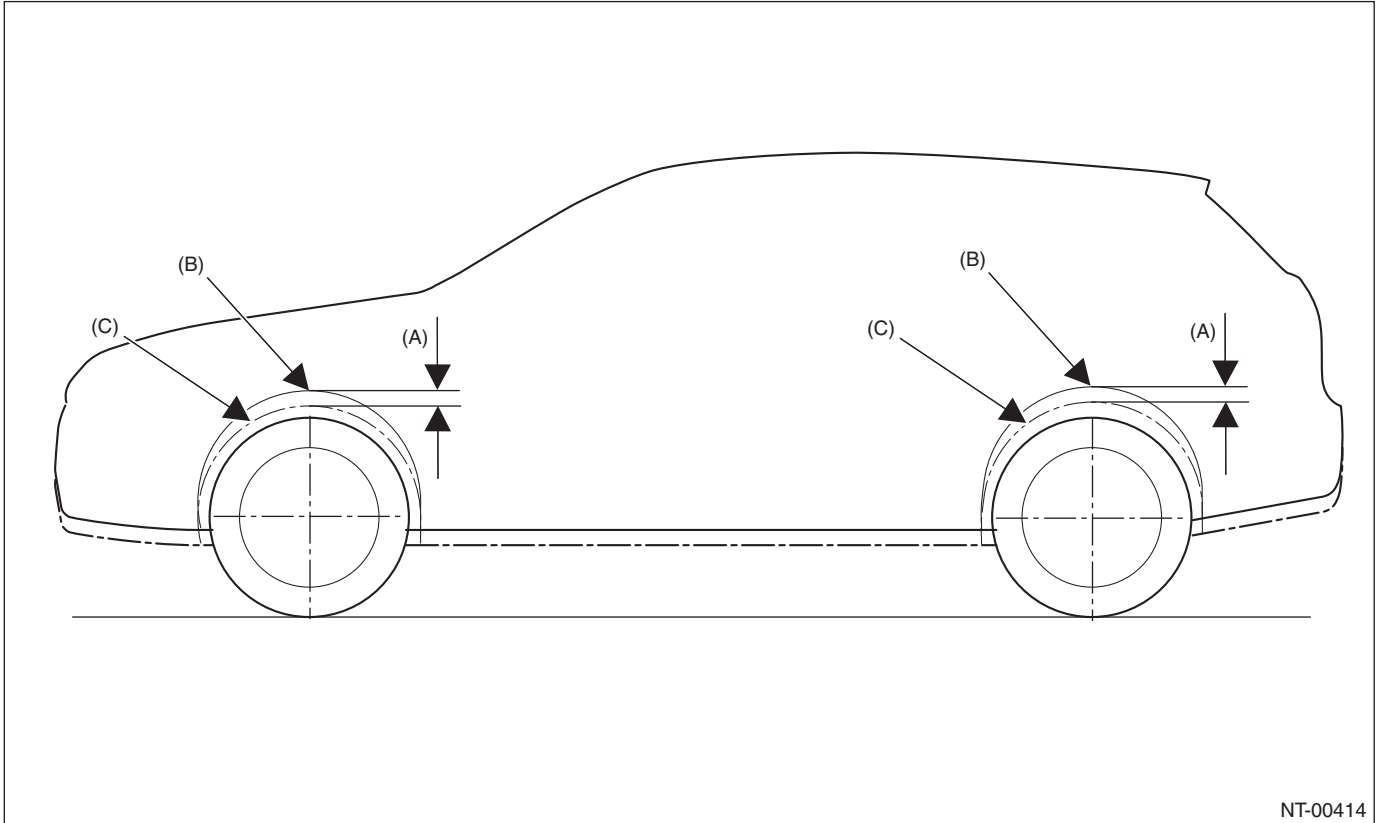
• Vehicle sinking volume at tie-down condition

CAUTION:

The vehicle sinking volume at tie-down condition should be less than 50 mm (1.97 in) and make sure to fix the vehicle securely.

Check to see if the tensions of chains or belts at tie-down condition are appropriate in the following procedures.

- 1) Before tie-down, measure the distance between the highest tire point and highest arch point at the center of wheel.
- 2) After tie-down, measure the distance between the highest tire point and highest arch point at the center of wheel.
- 3) If the distance (A) between the measured value of 1) and 2) above, is less than 50 mm (1.97 in), it is judged as OK. If the distance is 50 mm (1.97 in) or more, it is judged as NG because the tension is too high.



(B) Arch position before tie-down

(C) Arch position after tie-down

• Notes for the use of tie-down hook

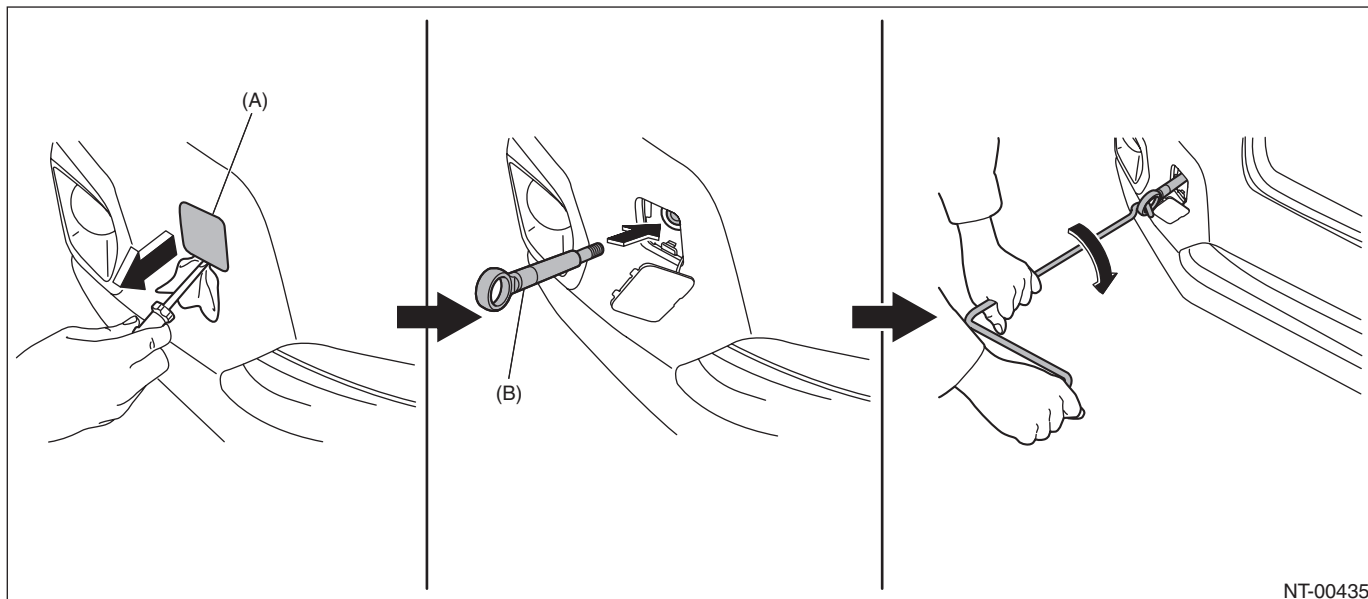
When the vehicle is tied down from vehicle inside, hook the hooks of tie-down chain from vehicle inside, and when the vehicle is tied down from vehicle outside, hook the hooks of tie-down chain from vehicle outside. For front tie-down hook, use S hook and J hook, and for rear tie-down hole, use S hook, J hook and T hook. T hook can be used only for rear tie-down hole.

12.TOWING

Avoid towing vehicles except when the vehicle cannot be driven. For models with AWD, CVT or VTD, use a loader instead of towing. When towing other vehicles, pay attention to the following to prevent hook or vehicle damage resulting from excessive weight.

- Do not tow other vehicles with a front tie-down hook.
- Make sure the vehicle towing is heavier than the vehicle being towed.
- Front

Remove the hook cover, and install the towing hook (eye bolt).

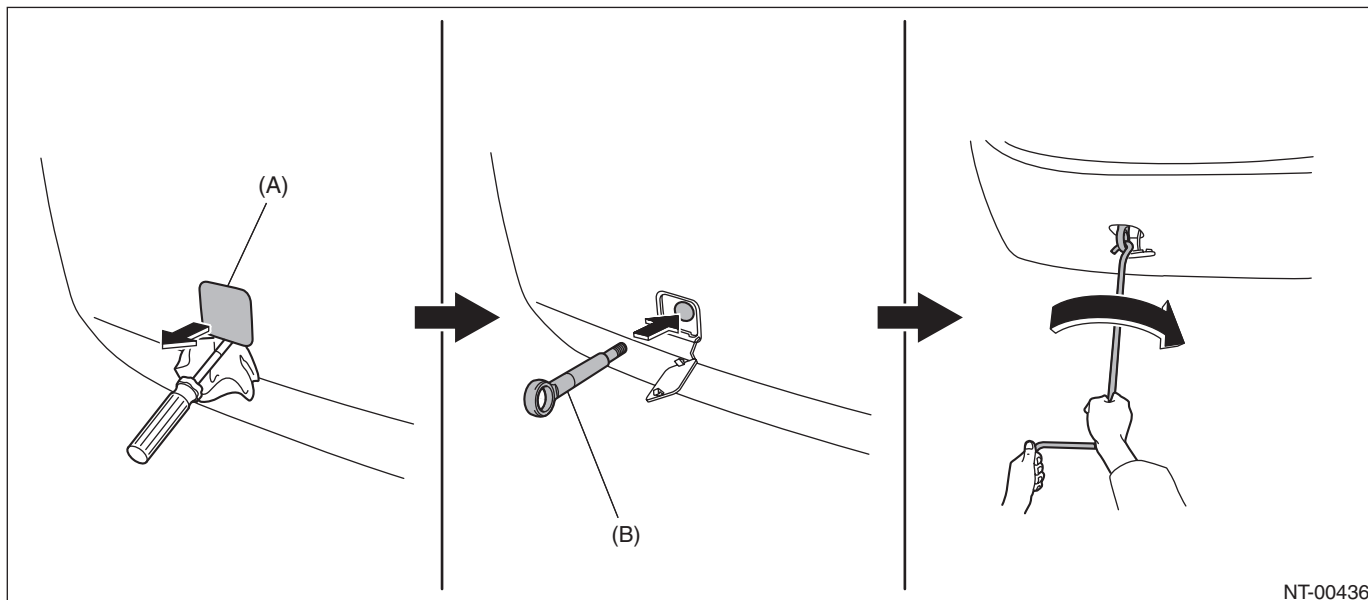


(A) Hook cover

(B) Towing hook (eye bolt)

- Rear

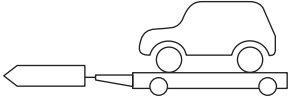
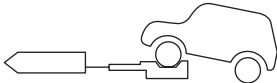
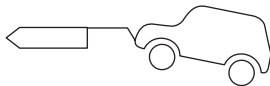
Remove the hook cover, and install the towing hook (eye bolt).



(A) Hook cover

(B) Towing hook (eye bolt)

• Precautions

Towing	Precautions	MT	CVT
Lifting up four wheels (On a trailer)  NT-00023	Towing the vehicle after lifting up all four wheels is a basic rule for AWD model.	○	○
Rope  NT-00024	• Check if both front and rear wheels are rotated normally. • CVT model driving conditions: Driving speed of 30 km/h (19 MPH) or less Allow driving distance 50 km (31 miles) or less	○	▲
Raising the front wheels  NT-00025	Prohibited for full-time AWD model.	×	×
Lifting up the front wheels  NT-00026	• Prohibited, due to damage on bumper, front grille, etc. • Do not raise the vehicle with bumper.	×	×

Marked ○ : OK, Marked × : Prohibited, Marked ▲ : Conditionally OK

CAUTION:

- Place the shift lever in “N” position during towing.
- Do not lift up the rear wheels to avoid unsteady rotation.
- Turn the ignition key to “ACC”, then check the steering wheel moves freely.
- Release the parking brake to avoid tire dragging.
- Since the power steering does not work, be careful for the heavy steering effort. (When engine is stopped)
- Since the servo brake does not work, be careful that the brake is not applied effectively. (When engine is stopped)
- In case of the malfunction of internal transmission or drive system, lift up four wheels (on a trailer) for towing.
- Do not use towing hook (eye bolt) except when towing.
- Make sure to detach the towing hook (eye bolt) after towing. If the hook remains attached, airbag may not operate properly when receiving a shock from front side. And it may also affect the crash performance of the vehicle.

13.CARRIER CAR

Before lowering the vehicle from the carrier car, perform the following operations.

CAUTION:

Always perform the following operations before lowering the vehicle from the carrier car. Otherwise, the power unit will rotate reversely, which may cause the damage to the engine, vacuum pump, and transmission.

- 1) Start the engine.
- 2) Set the transmission shift position into driving direction of the vehicle. (When the vehicle drives forward, do not set the transmission into R range. When the vehicle drives rearward, do not set the transmission into 1 — 5 speed, or D range.)

CAUTION:

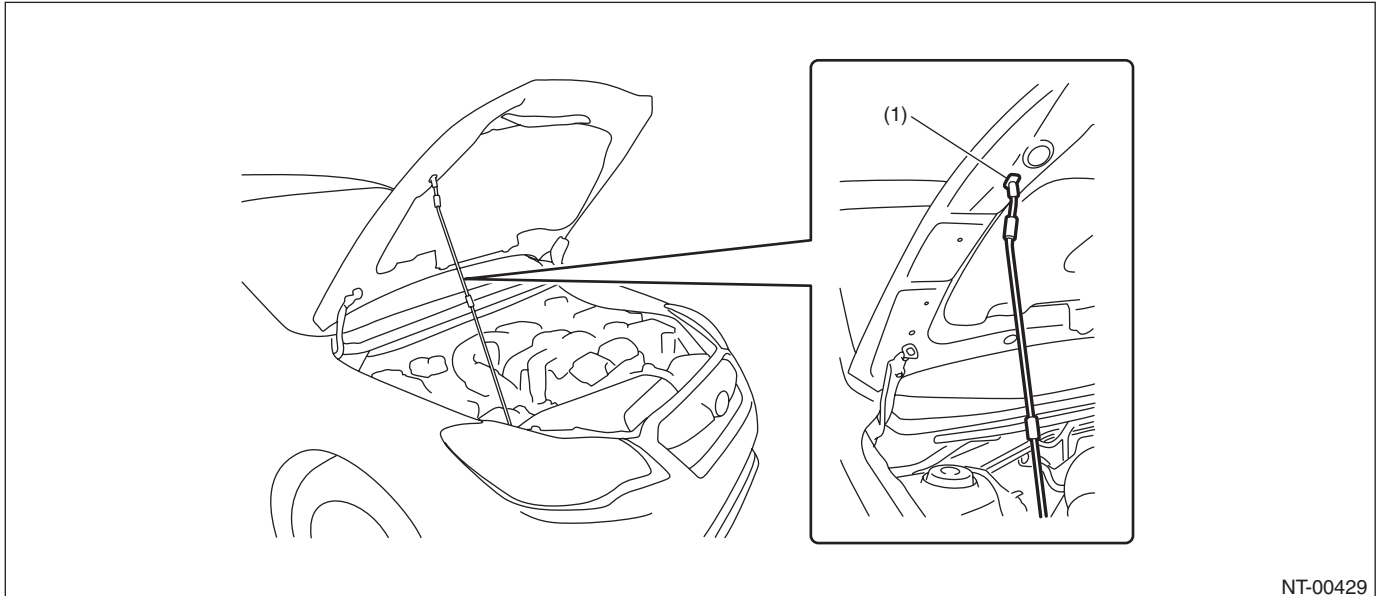
Be sure to perform 2) mentioned above even if the engine cannot be started in some reasons.

14.FRONT HOOD STAY

1) Always attach the stay to the normal position when performing works such as inspections and general maintenance.

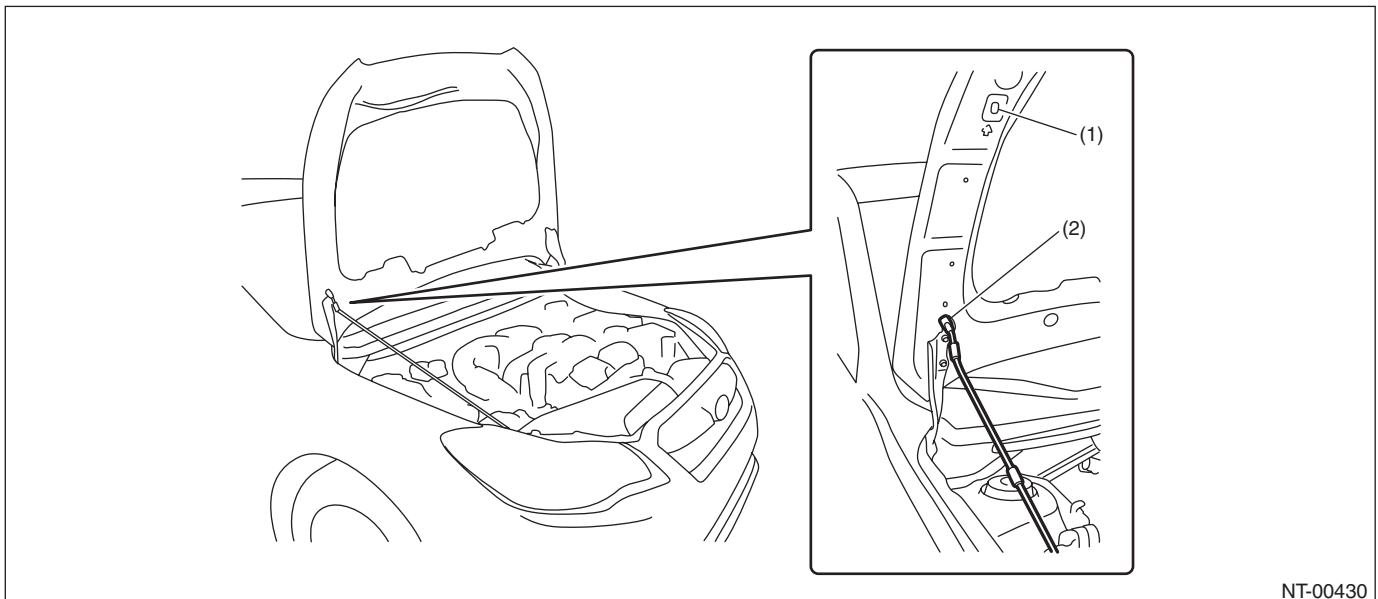
CAUTION:

At the inspection and general maintenance, do not detach the stay.



(1) Normal attached position

2) When wider front hood opening is necessary, set the stay to the lower position (hood hinge) as shown in the figure.



(1) Normal attached position

(2) Installation position at full open

NOTE

15.GENERAL SCAN TOOL

Using general scan tools will greatly improve the efficiency of repairing engine electronic throttle controls. Subaru Select Monitor can be used to diagnose the engine, VDC, air conditioner and other parts.

16.AWD CIRCUIT MEASURES

1) Full-time AWD MT model

Since viscous coupling (limited slip differential) is used in the center differential, cut-off of AWD circuit cannot be carried out.

2) Full-time AWD CVT model

Since electronically controlled MP-T hydraulic multi-plate clutch is adapted for center differential, switch to FWD by using Subaru Select Monitor.

17.SPEEDOMETER TEST

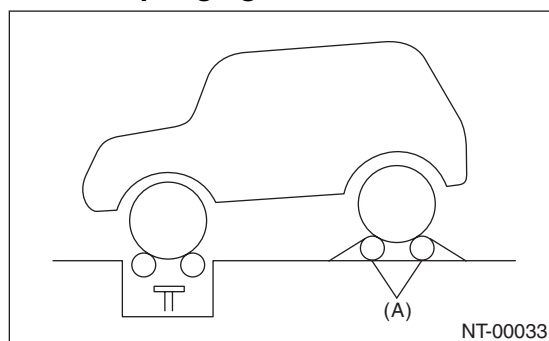
1) Rear wheel free roller system

(1) Set the free roller on the floor of rear wheel side securely according to the wheel base and rear tread of the vehicle.

(2) Let the vehicle ride on the tester and free roller gently.

CAUTION:

Fix the vehicle using a pulling metal (chain or wire) to the front and rear towing hooks or tie-down hook to prevent the lateral runout of front wheels and springing out of vehicle.



(A) Free roller

(3) Set the speedometer tester.

(4) Conduct the speedometer test work.

CAUTION:

Do not operate the clutch quickly and do not accelerate or decelerate suddenly during work.

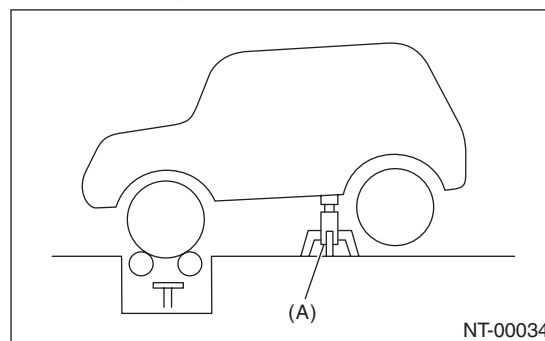
2) Rear wheel jack-up system

(1) Set the vehicle on speedometer tester.

CAUTION:

Fix the vehicle using a pulling metal (chain or wire) to the front and rear towing hooks or tie-down hook to prevent the lateral runout of front wheels and springing out of vehicle.

(2) Jack up the rear wheels and set the rigid racks to the specified locations of side sill.



(A) Rigid rack

(3) Conduct the speedometer test work.

CAUTION:

Do not operate the clutch quickly and do not accelerate or decelerate suddenly during work.

18.BRAKE TEST

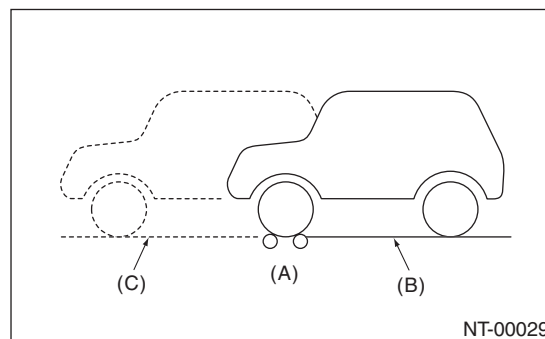
1) Full-time AWD MT model

(1) Perform this test after driving the vehicle 2 to 3 km (1.24 to 1.86 miles) on road in order to stabilize the viscous torque of viscous coupling.

(2) Keep the front or rear wheels on the ground for this test.

NOTE:

Effect of the viscous torque on braking force will be added approx. 25 kg compared with FWD model.



(A) Brake tester

(B) Position for measuring front wheel

(C) Position for measuring rear wheel

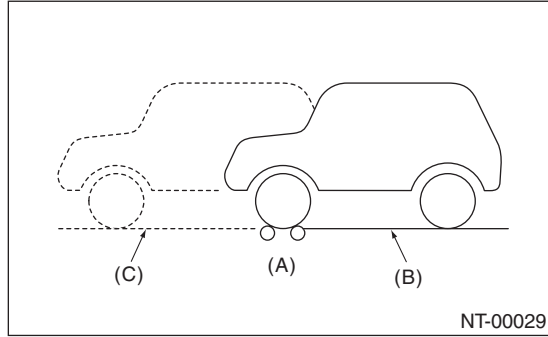
(3) When the brake dragging force is large.

- Check the dragging of brake pad or brake shoe.

- Since it may be affected by the viscosity of viscous coupling, jack up either of the front or rear two wheels to check the each wheel rotation condition with the viscous coupling affection removed.

2) Full-time AWD CVT model

(1) Keep the front or rear wheels on the ground during measurement.



- (A) Brake tester
- (B) Position for measuring front wheel
- (C) Position for measuring rear wheel

(2) When the brake dragging force is large.

- Check the dragging of brake pad or brake shoe.

Specifications:

	Braking force
Rear wheel total	10% or more of load on front or rear wheels
Difference between right and left wheels	8% or less of load on front or rear wheels
Grand total	50% or more of vehicle weight at the time of test

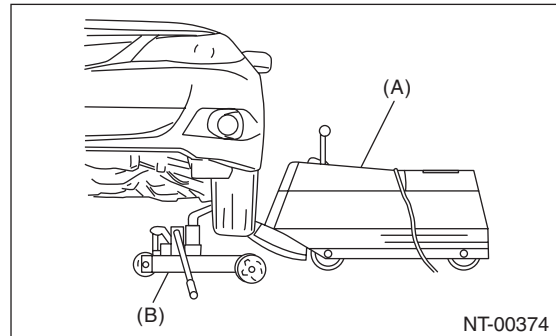
- When measurement is difficult to carry out because both of front wheels are locked, break force measurement in this condition conforms to standard grand total.

19.ON THE CAR WHEEL BALANCING

CAUTION:

- Carry out the procedures after measuring the balance of each single tire.
- Set the vehicle so that the front and rear wheels are the same height.
- Release the parking brake during measurement.
- Rotate each wheel by hands, and make sure it rotates without dragging.
- Do not operate the clutch quickly and do not accelerate or decelerate suddenly during work.
- When an error is indicated during engine drive, do not use the motor drive together.

1) Set the rigid rack to the specified locations of side sill, jack up the front or rear two wheels of non-measuring side and set the pickup stands to two wheels of measuring side.



- (A) Balancer body
- (B) Pickup stand (left and right)

2) For drive wheel, drive the tires with engine for measurement.

3) For non-drive wheel, drive the tires from the on the car wheel balancer for measurement.

NOTE

IDENTIFICATION

ID

	Page
1. Identification	2



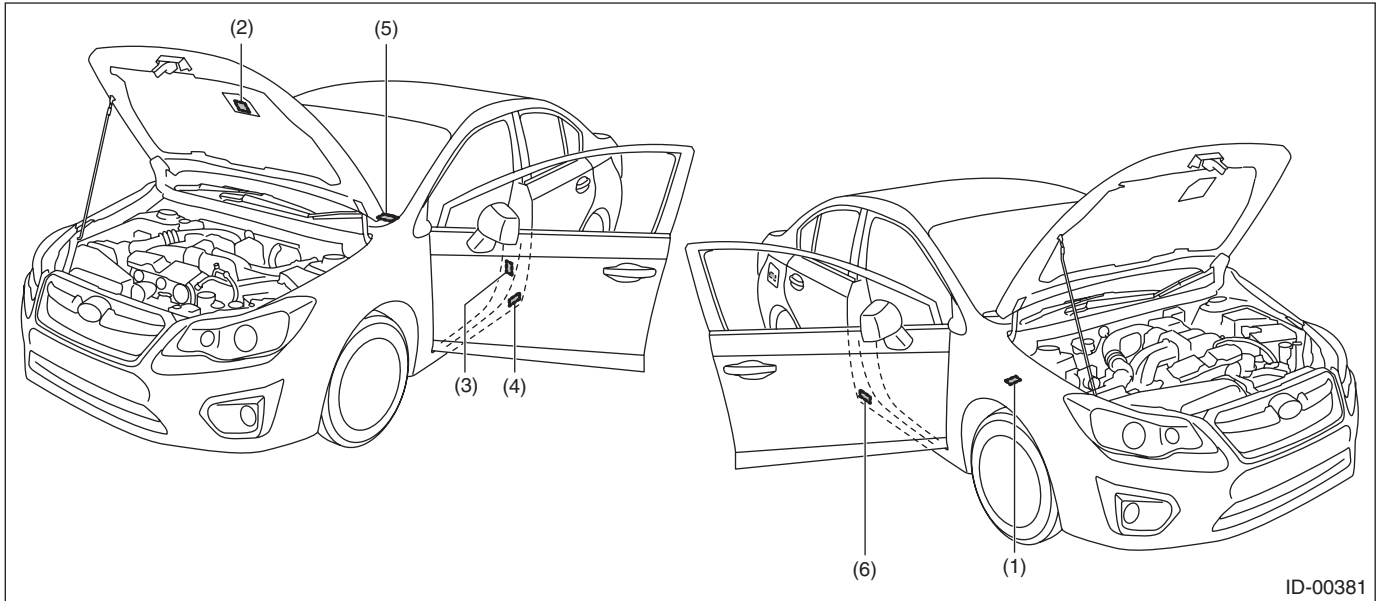
1. Identification

A: IDENTIFICATION

1. IDENTIFICATION NUMBER & LABEL LOCATIONS

The V.I.N. (Vehicle Identification Numbers) is used to classify the vehicle.

- Positioning of the label for identification



(1) Vehicle identification number (V.I.N.) (below the driver's floor carpet)

(3) Tire inflation pressure label

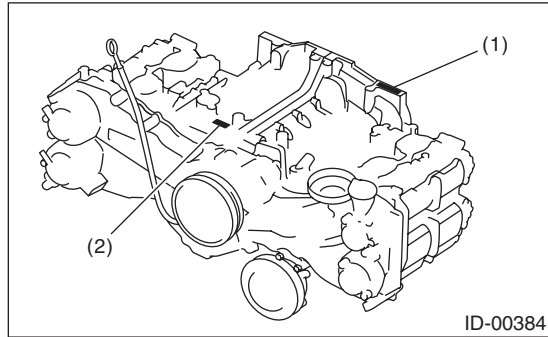
(5) Vehicle identification number (V.I.N. plate)

(2) Emission control label

(4) MVSS label

(6) Model number label

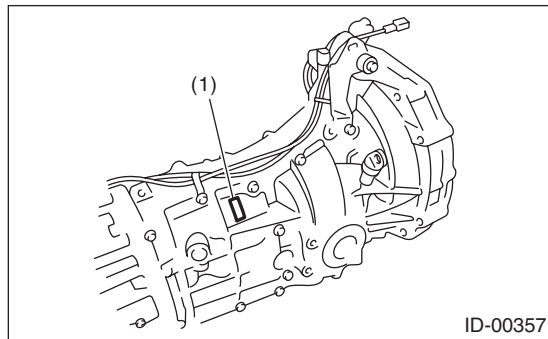
• ENGINE



- (1) Engine serial number
- (2) Engine type (casting) cylinder block upper side

• MANUAL TRANSMISSION

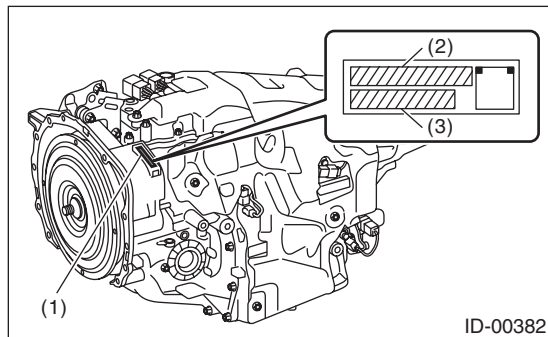
5MT



- (1) MT type and transmission serial number

• AUTOMATIC TRANSMISSION

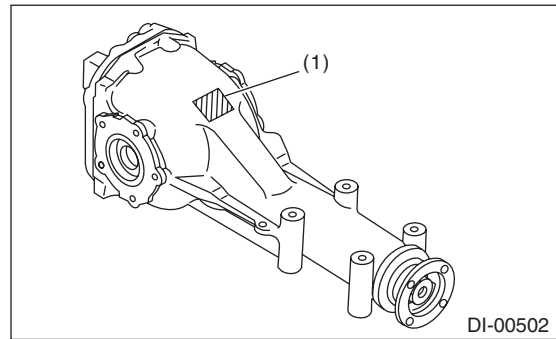
CVT



- (1) Label
- (2) CVT type label
- (3) Transmission serial No. label

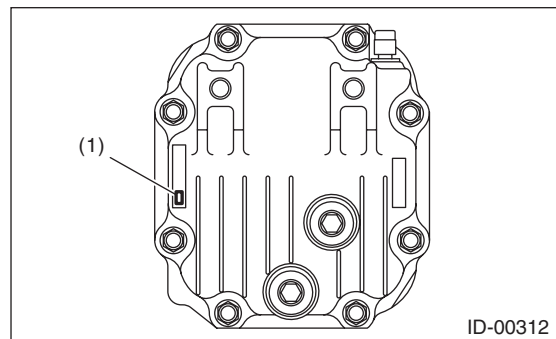
• REAR DIFFERENTIAL

T-type



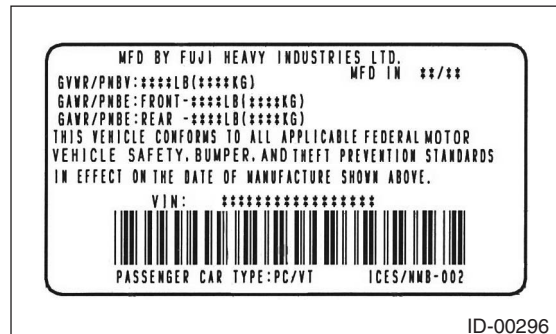
- (1) Identification (white paint)

VA1-type

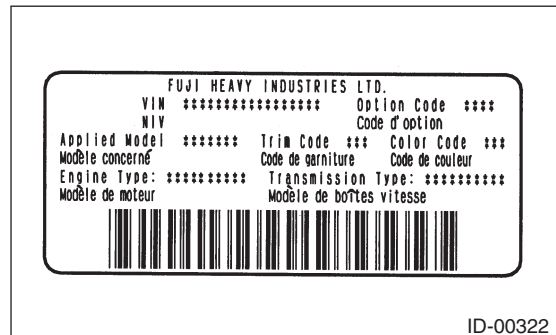


- (1) Type (label)

• MVSS LABEL



• MODEL NUMBER LABEL



Identification

IDENTIFICATION

2. MEANING OF V.I.N.

The meaning of the V.I.N. is as follows:

JF1GJAA6XDG002001

The starting and ending brackets ([]) are stop marks.

Digits	Code	Meaning	Details
1 — 3	JF1	Manufacturer body area	JF1: Passenger car, FHI made (Except for XV model) JF2: Passenger car, FHI made (XV model)
4	G	Car line	G: IMPREZA, XV
5	J	Body type	J: 4 door P: 5 door
6	A	Displacement	A: 2.0 L non-turbo
7	A	Grade	A: Base B: Prm C: Prm+AWP D: Prm Plus+S/R E: Prm Plus+NAVI F: Prm Plus+S/R+NAVI G: Limited H: Limited+S/R J: Limited+NAVI K: Limited+S/R+NAVI L: Sport M: Sport+S/R N: Sport+NAVI P: Sport+S/R+NAVI R: Sport-Ltd S: Sport-Ltd+S/R T: Sport-Ltd+NAVI U: Sport-Ltd+S/R+NAVI V: Prm+AWP+S/R W: Prm+AWP+NAVI Y: Prm+AWP+S/R+NAVI
8	6	Restraint	6: Manual belts, dual airbag, side airbag for seat back, curtain airbag for roof C: Manual belt, dual airbag, side airbag for seat back, curtain airbag for roof, class C (GVWR 4001 — 5000 lb) (XV model)
9	X	Check digit	0 — 9& X
10	D	Model year	D: 2013MY
11	G	Transmission type	G: Full-time AWD single range 5MT (Yajima plant, Gunma) H: Full-time AWD CVT (Yajima plant, Gunma) 1: Full-time AWD single range 5MT (Main plant, Gunma) 2: Full-time AWD CVT (Main plant, Gunma)
12 — 17	002001	Serial number	002001 — 199999: 4 door 200001 — 399999: 5 door 800001 — 999999: 5 door

3. MODEL NUMBER LABEL

The model number label indicates: the applied model, the option code, the trim code, the engine type, the transmission type, and the exterior color code. This information is helpful when placing orders for parts.

GJ7BY4C

Digits	Code	Meaning	Details
1	G	Series	G: IMPREZA, XV
2	J	Body type	J: 4 door P: 5 door
3	7	Total engine displacement Drive system Suspension system	7: 2.0 L AWD
4	B	Model year	B: 2013MY
5	Y	Destination	Y: U.S., Canada
6	4	Grade	4: 2.0 i 5: 2.0 i-Prm 6: 2.0 i-Prm+ 7: 2.0 i-Ltd 8: Sport 9: Sport-Ltd F: 2.0 i-Prm (XV) G: 2.0 i-Ltd (XV)
7	C	Transmission, fuel feed system	C: MFI CVT F: MFI 5 speed MT

The engine and transmission type are as follows.

Engine

FB20BAZA2A

Digits	Code	Meaning	Details
1 and 2	FB	Engine type	FB: 4 cylinder
3 and 4	20	Displacement	20: 2.0 L
5	B	Fuel feed system	B: MFI non-turbo (DOHC)
6	A	Exhaust regulations	A: For states not using California emission standards C: For states using California emission standards
7	Z	Intake/exhaust system	Z: Intake AVCS, exhaust AVCS, TGV, EGR
8	A	Mounted transmission	A: 5MT H: CVT
9 — 10	2A	Detailed specifications	Used when ordering parts. For details, refer to the parts catalog.

Transmission (MT)

TY758V45AA

Digits	Code	Meaning	Details
1	T	Transmission	T: Transmission
2	Y	Transmission system	Y: Full-time AWD MT center differential
3 and 4	75	Distance between gear center	75: Between main shaft and drive pinion
5	8	Series	8: 5MT
6	V	Transmission specifications	V: Full-time AWD single range 5MT with viscous coupling center differential
7	4	Mounted engine	4: 2.0 L DOHC non-turbo
8 — 10	5AA	Detailed specifications	Used when ordering parts. For details, refer to the parts catalog.

Identification

IDENTIFICATION

Transmission (CVT)

TR580GD6AA

Digits	Code	Meaning	Details
1	T	Transmission	T: Transmission
2	R	Transmission type	R: Full-time AWD
3 and 4	58	Between pulley centers	58: Between pulley centers
5	0	Series	0: CVT
6	G	Transmission specifications	G: Active torque split type full-time AWD CVT
7	D	Engine type	D: 2.0 L DOHC
8 — 10	6AA	Detailed specifications	Used when ordering parts. For details, refer to the parts catalog.

Rear differential

Code	Reduction gear ratio	LSD
XD	3.700	None
T2	4.111	None
TP	4.444	None

Option code

CP

- 1-digit number

	C	H	I	M	V	W	Y	2	3
Aluminum wheel	○	○	○	—	○	○	○	○	○
Auto A/C	○	○	○	—	—	—	○	—	—
Manual A/C	—	—	—	○	○	○	—	○	○
Leather package	○	○	—	—	—	○	○	○	—
Genuine leather seat	—	○	—	—	—	—	○	—	—
High grade audio	○	—	○	—	—	—	—	○	○
Display audio	—	—	—	—	—	—	○	—	—
Navigation system	—	○	—	—	○	○	—	—	—

- 2-digit number

	A	B	C	E	P	R	S	U
Side airbag	○	○	○	○	○	○	○	○
Curtain airbag	○	○	○	○	○	○	○	○
HID headlight	—	—	—	—	—	○	—	○
Cold weather package	—	—	○	○	○	○	○	○
Privacy glass	○	—	—	○	—	—	○	○
Sunroof	—	—	—	—	○	○	○	○

RECOMMENDED MATERIALS

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Recommended Materials

RECOMMENDED MATERIALS

1. Recommended Materials

A: RECOMMENDED MATERIALS

1. GENERAL

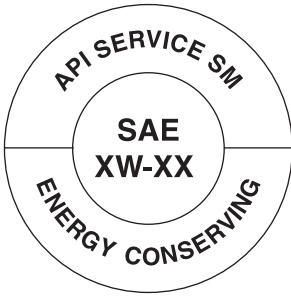
To insure the best performance, always use the specified oil, gasoline, adhesive, sealant, etc. or a substitute of equivalent quality.

2. FUEL

- Use unleaded gasoline to reduce air pollution, because using leaded gasoline will damage the catalytic converter.
- Do not use the low quality gasoline, or improper fuel such as diesel fuel, fuel alcohol, or gasoline additive because they will adversely affect on engine components and fuel system components.
- Always use gasoline that is equivalent to that prescribed in the owner's manual or that of high octane value. There is the possibility of damaging or improper operation of the engine and fuel injection system if the specifications are not observed. Use the prescribed gasoline type to maintain proper vehicle performance.

3. LUBRICANTS

Use the lubricants shown in the table below, or equivalent. See the table below to choose the correct SAE viscosity.

Lubricant	Recommended materials	
	API standard	ILSAC standard
Engine oil Choose oil suitable for the standard from the right.	SN or SM grade "Resource conserving" or "Energy conserving"  RM-00076 Those with the above API service labels	GF-5 or GF-4  RM-00002 Those with the above ILSAC certification mark (Starburst mark)
Manual transmission gear oil	GL-5	—
Front differential gear oil	GL-5	—
Rear differential gear oil	GL-5	—

Recommended Materials

RECOMMENDED MATERIALS

SAE viscosity No. and applicable temperature								
Engine oil								
(°C)	-30	-20	-10	0	10	20	30	40
(°F)	-22	-4	14	32	50	68	86	104
(1)								
RM-00075								
(1) 0W-20 (synthetic oil) Specified								
Manual transmission gear oil, rear differential gear oil and CVT front differential gear oil								
(°C)	-30	-20	-10	0	10	20	30	40
(°F)	-22	-4	14	32	50	68	86	104
90 85W 80W 75W-90								
RM-00064								

Recommended Materials

RECOMMENDED MATERIALS

4. FLUID

Use the fluids specified in the table below. Do not mix two different kinds or makes of fluid.

CAUTION:

Always use the recommended CVTF for CVT. Using other fluid will cause malfunction.

Fluid	Recommended materials	Item number	Alternative
Automatic transmission fluid	SUBARU CVT OIL FOR LINEARTRONIC	K0425Y0710	—
Brake fluid and clutch fluid	FMVSS No. 116 DOT3, or DOT4	—	—

5. ENGINE COOLANT

Use genuine engine coolant to protect the engine.

Engine coolant	Recommended materials	Item number	Alternative
Coolant	SUBARU SUPER COOLANT (Concentrated type)	—	—
	SUBARU SUPER COOLANT (Diluted type)	K0670Y0001	
Water for dilution	Distilled water	—	Soft water or tap water
Cooling system protective agent	Cooling system conditioner	SOA345001	—

6. REFRIGERANT

Standard air conditioners on Subaru vehicles use HFC134a refrigerant. Do not mix it with other refrigerants. Also, do not use any air compressor oil except for DH-PR.

Air conditioner	Recommended materials	Item number	Alternative
Refrigerant	HFC134a	—	—
Compressor oil	DH-PR	—	—

Recommended Materials

RECOMMENDED MATERIALS

7. GREASE

Use grease and supplementary lubricants shown in the table below.

Grease	Application point	Recommended materials	Item number	Alternative
Supplementary lubricants	Oxygen sensor	Spray type lubricant	—	—
Grease	- MT main shaft (spline parts) - MT main shaft (oil seal lip) - Transfer driven gear (front roller bearing, rear roller bearing) - Clutch release lever - Clutch release bearing (inner circumference) - Clutch operating cylinder	NICHIMOLY N-130	—	—
	Clutch master cylinder push rod	SILICONE GREASE G-40M	—	—
	- Gear shift lever - Clutch pedal - Brake pedal	NIGHTIGHT LYW No. 2	—	—
	Select lever	Multemp D	—	—
	- Door latch - Door striker	SILICONE GREASE G-30M	004404002	—
	Steering gearbox	Multemp AC-P	—	—
	Disc brake (lock pin, guide pin)	NIGLUBE RX-2	K0779GA102	—
	Brake pad end surface	Molykote 7439	003602001	—
	Between front brake pad and shim	Molykote AS-880N	K0777YA010	—
	Between rear brake pad and shim	WAKO grease V160	—	—
	Brake shoe (Parking brake)	Molykote 44MA	26648FJ000	—
	Front axle AAR	One-Luber GKN-C	—	—
	Front axle AC	Olistamoly 2LN584/Lo	—	—
	Front axle PTJ	NKG302	—	—
	- Front axle EBJ - Rear axle BJ (XV) - Rear axle DOJ (XV) - Rear axle EBJ - Rear axle DOJ	NKG814	—	—
	Rear axle BJ	Raremax LF-G	—	—
	Rear axle DOJ	Raremax LF-G	—	—

8. ADHESIVE

Use the adhesives shown in the table below, or equivalent.

Adhesive	Application point	Recommended materials	Item number	Alternative
Adhesive	Windshield glass, rear quarter glass, rear window glass, rear gate glass and body	Dow Automotive's Adhesive: ESSEX U-400HV or equivalent Glass primer: U-401 and U-402 Painted surface primer: U-413	—	—

Recommended Materials

RECOMMENDED MATERIALS

9. SEAL MATERIAL

Use the seal material shown in the table below, or equivalent.

Seal material	Application point	Recommended materials	Item number	Alternative
Seal material	• CVT extension case • CVT transmission case • CVT drive pinion retainer • CVT oil pump chain cover • MT transmission case • MT transfer case	THREE BOND 1215	004403007	DOW CORNING No. 7038
	Transmission oil pan (CVT model)	THREE BOND 1217B	K0877YA020	—
	• Rear differential • Oil pressure switch • PCV valve	THREE BOND 1324	004403042	—
	• Rear differential • Service hole plug	THREE BOND 1105	004403010	DOW CORNING No. 7038
	Steering adjusting screw (electric power steering)	THREE BOND 1111B	—	—
	• Front sealing cover • Rear sealing cover	3M Butyl Rubber 8626	—	—
	• Engine oil pan • Separator cover • Camshaft cap • Cylinder block • Rocker cover • Chain cover • Oil pan upper • Cylinder head • Camshaft carrier • Camshaft bearing cap	THREE BOND 1217G	K0877Y0100	—
	Rear differential	THREE BOND 1110F	—	THREE BOND 1110B

PRE-DELIVERY INSPECTION

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Pre-delivery Inspection

PRE-DELIVERY INSPECTION

1. Pre-delivery Inspection

A: GENERAL DESCRIPTION

The purposes of the pre-delivery inspection (PDI) are as follows.

- Remove the additional parts used for ensuring the vehicle quality during transportation and restore the vehicle to its normal condition.
- Check the vehicle before delivery is in normal condition.
- Check the vehicle or parts for any damage occurred during transportation or storage.
- Check the vehicle after repair is in normal condition.
- Make sure to provide a complete vehicle to customer.

For above reasons, all SOAs (dealerships) must carry out the PDIs before delivery of vehicle.

Refer to this manual unless otherwise specified.

B: PRE-DELIVERY INSPECTION (PDI) PROCEDURE

Perform the procedures indicated in the table below.

Static Checks Just after Vehicle Receipt

Step	Check point
1. Appearance	1. If the vehicle is covered with protective coating, visually check the vehicle body for damage and dents. If the protective coating has been removed, visually check the painted body surfaces in detail for damage or rust. 2. Visually check the glass and light lenses for any damage, cracks or excessive gaps between body sheet metal. 3. Visually check the plated parts for any damage. 4. Check the instrument panel, console and trim for stains or dirt.
2. Tire	1. Check the tires for damage, defective, and dents on wheels. 2. Check the tire air pressure.
3. Fuse installation	If the vehicle is about to be delivered to customer, attach a back-up fuse.
4. Door lock/unlock and open/close operations	1. Using the key, check the door can be locked or unlocked normally. 2. Open and close all doors to check that there are no problems. 3. Operate the power door lock switch to check that all doors and the rear gate lock and unlock normally.
5. Child safety lock	Check the child safety lock system operates normally.
6. Trunk lid open/close operations	1. Using the key, check that the trunk lid can be locked or unlocked normally. 2. Operate the trunk lock release lever to check that the trunk lid opens normally. 3. Use the valet key to check that the lock cannot be released. 4. Open and close the trunk lid to check that there are no problems.
7. Rear gate lock/unlock and open/close operation	1. Check if the rear gate can be unlocked normally through the emergency hole. 2. Open and close the rear gate to check that there are no problems.
8. Operation check of trunk lid release lever	Operate the trunk lid release lever to check that the trunk lock is unlocked normally.
9. Fuel lid opener lock release lever	Operate the fuel lid opener to check that the fuel filler lid can be unlocked normally.
10. Towing hook (eyebolt)	At factory shipment, the towing hook (eyebolt) is installed to the rear bumper. Remove the towing hook (eyebolt), store it in the holder.
11. Accessory	Check that the following accessories are equipped. • Owner's manual • Warranty booklet • Maintenance note • Spare key • Key No. plate • Jack • Tool set • Spare tire • Towing hook
12. Front hood lock release	Operate the front hood lock release lever to check that the front hood opens normally.
13. Battery	Check the battery for any abnormal conditions such as rust or traces of battery fluid leaks.

Pre-delivery Inspection

PRE-DELIVERY INSPECTION

Step	Check point
14. Brake fluid	Check the brake fluid amount.
15. Engine oil	Check the engine oil amount.
16. Transmission gear oil	Check that the transmission gear oil level is normal.
17. CVT front differential oil	Check for leakage of CVT front differential oil.
18. Rear differential gear oil	Check for leakage of gear oil from the rear differential.
19. Engine coolant	Check the engine coolant level.
20. Clutch fluid	Check the clutch fluid amount.
21. Window washer fluid	Check the window washer fluid amount.
22. Front hood latch	Check that the front hood is closed normally and locked securely.
23. Keyless entry system	Check that the keyless entry system operates normally.
24. Security system	Check that the security system operates normally.
25. Seat	1. Check the seat surfaces for stains or dirt. 2. Check the seat installation conditions and functionality.
26. Seat belt	Check the seat belt installation conditions and functionality.
27. TPMS (U.S. model)	1. Turn the TPMS transmitter power supply to ON. 2. If the display of TPMS warning light does not operate normally, perform the diagnosis by referring to TPMS (Diagnosis).

Checks with the Engine Running

Step	Check point
28. Grommet installation	Install the grommet provided on the rear seat to the tie-down hole. (When equipped)
29. Delivery (test) mode	Turn the ignition switch to ON and check that the malfunction indicator light starts blinking.
30. Immobilizer system	1. Check that the engine starts with all keys that are equipped on vehicle. 2. 60 seconds after turning ignition switch from ON to ACC or OFF, or immediately after removing the key, check that the security indicator light is blinking.
31. Starting condition	Start the engine and check that the engine starts smoothly.
32. Exhaust system	Check that the exhaust noise is normal and no leaks are found.
33. Indicator and warning lights	Check that all indicator lights and warning lights are operating correctly.
34. Heater & ventilation	Check that the heater & ventilation system operates normally.
35. Air conditioner	Check that the air conditioner operates normally.
36. Multi-function display (MFD)	Check that the Multi-Function Display (MFD) function operates normally.
37. Audio	Check the radio and AUX operate normally.
38. Navigation	Check the navigation and AUX operate normally.
39. Front accessory power supply socket	Check that the front accessory power supply socket operates normally.
40. Lighting system	Check that the lighting system operates normally.
41. Illumination control	Check that the illumination control operates normally.
42. Window washer	Check that the window washer system operates normally.
43. Wiper	Check that the wiper system operates normally.
44. Wiper deicer	Check that the wiper deicer operates normally.
45. Power window	Check that the power window operates normally.
46. Sunroof	Check that the sunroof operates normally.
47. Rear defogger	Check that the rear defogger operates normally.
48. Door mirror	Check that the remote control mirror and heated mirror operate normally.
49. Diagnostic trouble code (DTC) check	Check that the diagnostic trouble code (DTC) is not detected.

Pre-delivery Inspection

PRE-DELIVERY INSPECTION

Dynamic Test with the Vehicle Running

Step	Check point
50. Brake test	Check the foot brake for normal operations.
51. Parking brake	Check the parking brake for normal operations.
52. Shift control	Check that the shift patterns are correct.
53. Cruise control	Check that the cruise control system operates normally.

Checks after Dynamic Test

Step	Check point
54. Fluid leakage	Check for fluid/oil leaks.
55. Water leak test	Spray the vehicle with water and check for water leaks.
56. Appearance 2	1. Remove the protective coating (if equipped). 2. Check the body paints for damage and stain. 3. Check the plated parts for damage and rust.

1. APPEARANCE

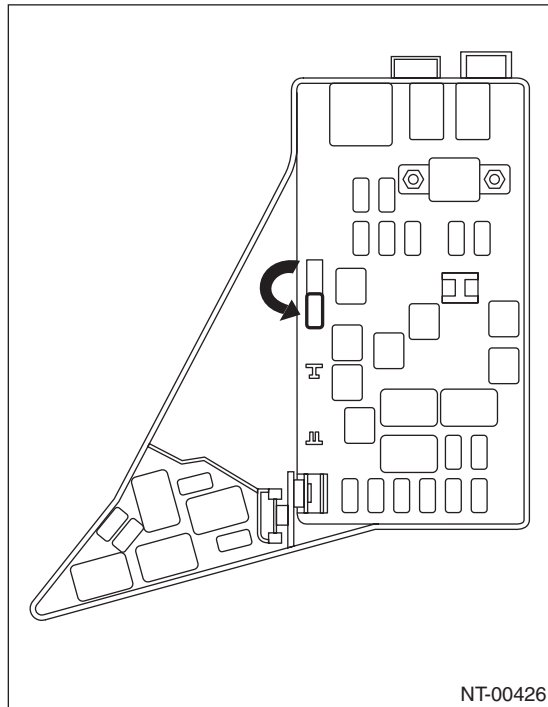
- If the vehicle is covered with protective coating, visually check the vehicle body for damage and dents.
- When there is no protective coating, check the body paints for damage or stains in detail and repair as necessary.
- Check the window glass, door glass, and lights for any cracks or damage, and replace as necessary.
- Visually check the plated parts, such as the grilles and door knobs, for damage or loss of gloss and replace the parts as necessary.
- Check the instrument panel, console and trim for stains or dirt.

2. TIRE

- Check the tires for damage, defective, and dents on wheels.
- Check the tire size, spare tire and tire air pressure described on the tire air pressure label (driver's side).

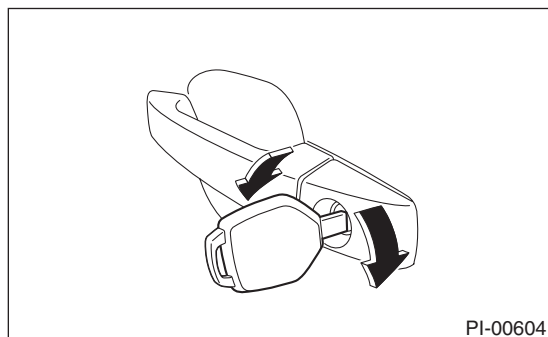
3. FUSE INSTALLATION

Fuses for the back-up circuit on initially delivered vehicles are removed to prevent battery discharge. Attach the 20 A fuse as shown in the figure.

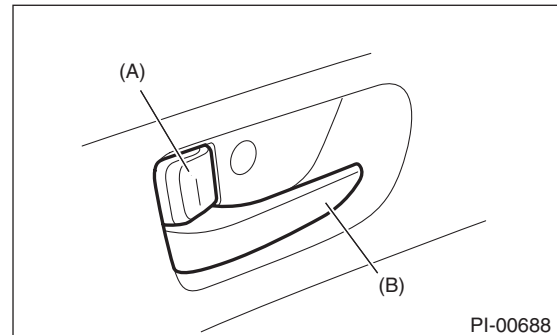


4. LOCK/UNLOCK AND OPEN/CLOSE OPERATION CHECKS OF DOORS

1) Using the key, lock and unlock the door several times to check for normal operation. Open and close the door several times for smooth movement.



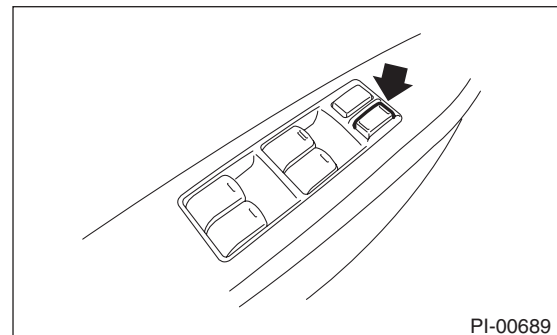
2) Completely close the driver's door, and then check the smooth movement with operating door lock knob from lock to unlock several times. Set the door lock knob (A) to lock position. Then pull the inner remote (B) to ensure that doors will not open. For other doors, place the door lock knob (A) to lock position and then pull the inner remote (B) to ensure that doors will not open.



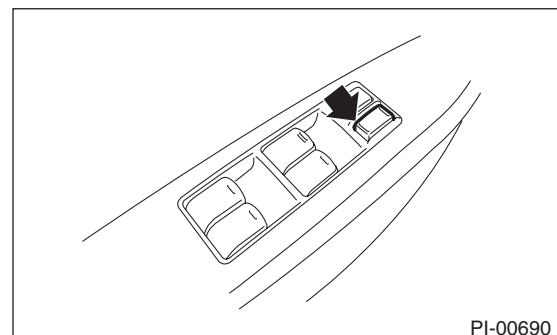
(A) Door lock knob

(B) Inner remote

3) Close all the doors, and then press the lock on power door lock switch at driver's side. Check that all doors (including the rear gate) lock.



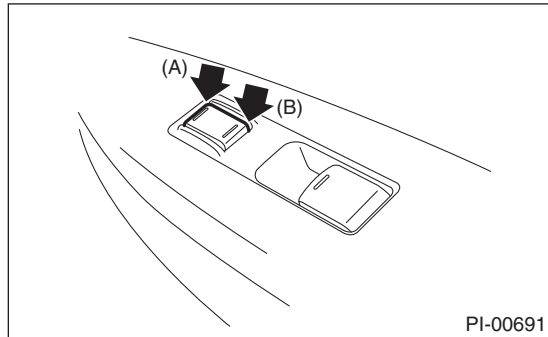
4) Press the driver's side power door lock switch to unlock side. Check that all doors including rear gate are unlocked.



Pre-delivery Inspection

PRE-DELIVERY INSPECTION

5) Check that the passenger's power door lock switch locks and unlocks normally in the same manner.

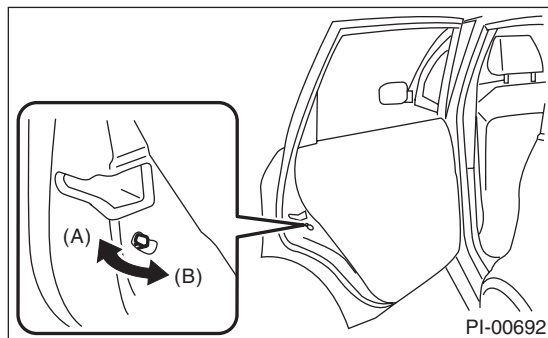


- (A) Lock
(B) Unlock

6) Insert the key to ignition switch, and open the driver's side door. Press lock on power door lock. Check that the door is not locked.

5. CHILD SAFETY LOCK

- 1) Set the child safety lock lever on both rear doors to the lock position.
- 2) Close the rear doors completely.
- 3) Check that the lock levers of the rear doors are in the unlock position. Then, pull inner remote of rear doors to ensure that doors will not open.
- 4) Pull the outer handles to ensure that doors will open.



- (A) Unlock
(B) Lock

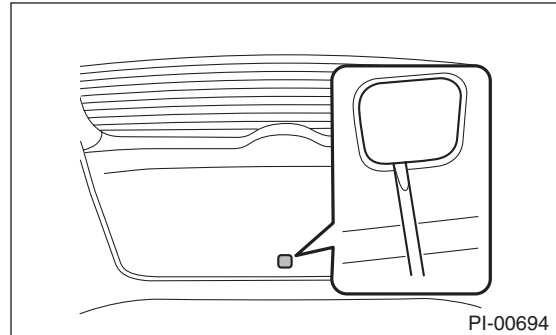
6. TRUNK LID OPEN/CLOSE OPERATIONS

- 1) Operate the trunk lock release lever to check that the trunk lid opens.
- 2) Open and close the trunk lid several times for smooth movement.

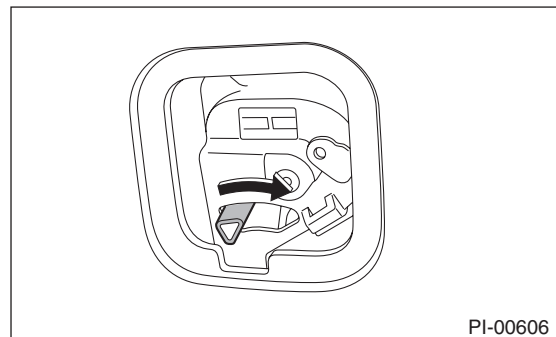
7. REAR GATE LOCK/UNLOCK AND OPEN/CLOSE OPERATIONS

- 1) Open and close the rear gate several times for smooth movement.
- 2) Operate the rear gate emergency release lever to check that the rear gate can be locked and unlocked properly.

(1) Remove the cover inside the rear gate.



(2) Operate the lever using a tool such as a screwdriver to check that the rear gate is unlocked normally.

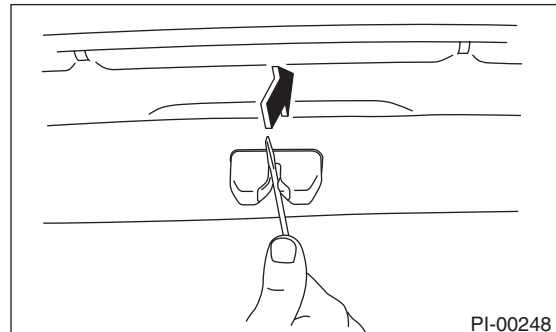


8. OPERATION CHECK OF TRUNK LID RELEASE HANDLE

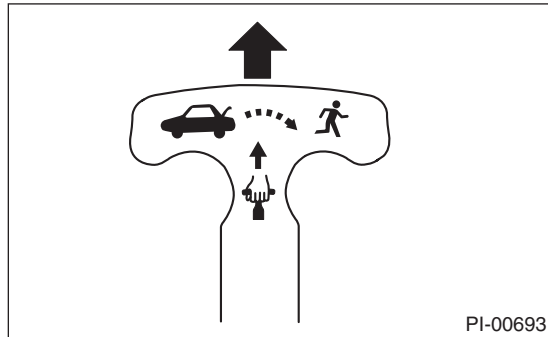
CAUTION:

Do not check the trunk lid release handle when in the trunk. If the trunk lid release handle is defective, you may be trapped in.

- 1) Use a flat tip screwdriver. Slide the screwdriver blade from the slit aperture of the lock assembly fully to the end until you hear a click. This places the latch in the locked position.



2) Make sure the latch is released by pulling the yellow trunk lid release handle in the direction of arrow.



9. FUEL LID OPENER LOCK RELEASE LEVER

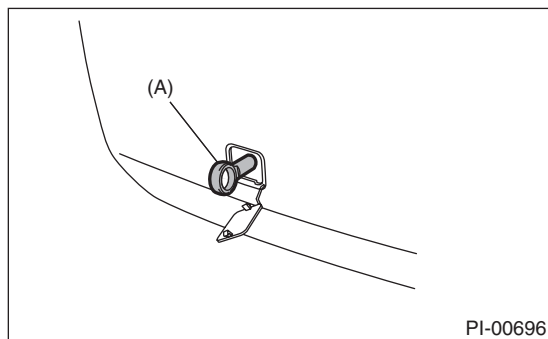
Operate the fuel lid lock release lever to check that the fuel lid is unlocked normally. Check that the filler cap is securely closed.

10. TOWING HOOK (EYEBOLT)

NOTE:

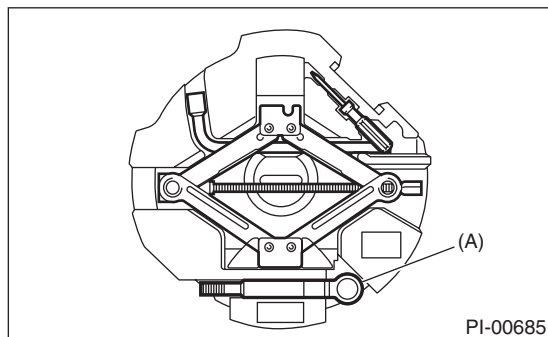
At factory shipment, the towing hook (eyebolt) is installed to the rear bumper for securing the vehicle during transportation. Follow the procedure below to store the towing hook (eyebolt) to the holder in the spare tire.

1) Remove the towing hook (eyebolt) from the rear bumper.



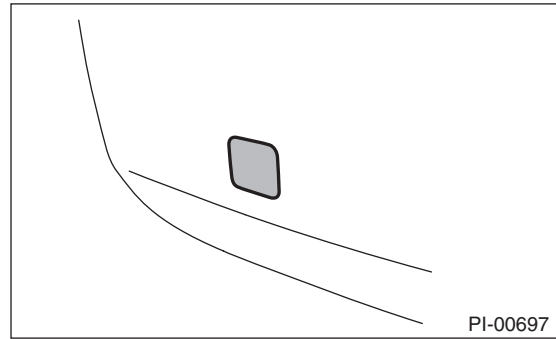
(A) Towing hook (eyebolt)

2) Store the towing hook (eyebolt) to the holder in the spare tire.



(A) Towing hook (eyebolt)

3) Install the supplied rear hook cover to rear bumper.

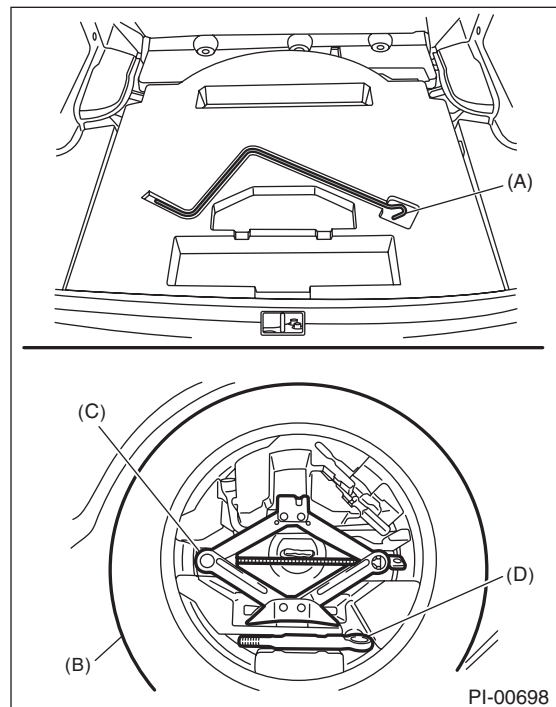


11. ACCESSORY

Check that the following accessories are provided.

- Owner's manual
- Warranty booklet
- Maintenance note
- Spare key
- Key No. plate
- Jack
- Tool set
- Spare tire
- Towing hook (eyebolt)

4 door

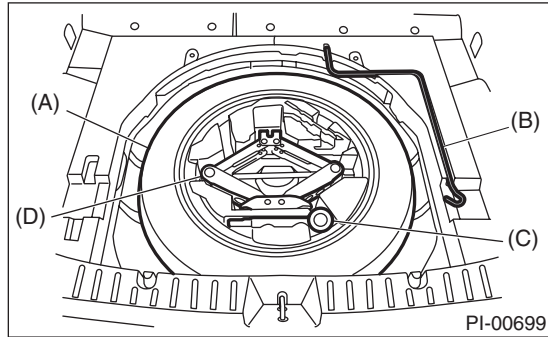


- (A) Jack handle
- (B) Spare tire
- (C) Jack
- (D) Towing hook (eyebolt)

Pre-delivery Inspection

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5 door



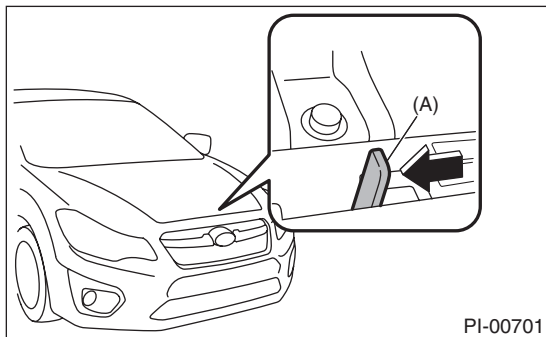
- (A) Spare tire
- (B) Jack handle
- (C) Towing hook (eyebolt)
- (D) Jack

12.FRONT HOOD LOCK RELEASE

Operate the front hood release lever to check that the front hood is unlocked normally.

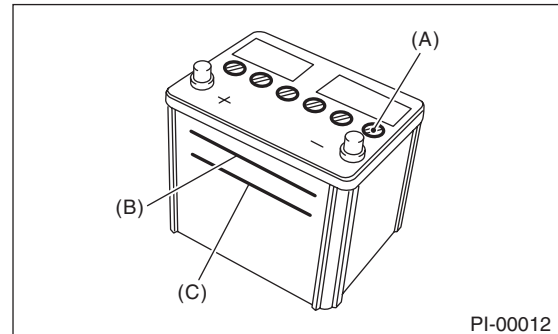


Operate the lever (A) and check that the front hood is opened normally.



13.BATTERY

Check the battery terminals to make sure that there are no rust or corruptions due to fluid leaks. Check that the battery caps are securely tightened.



- (A) Cap
- (B) Upper level
- (C) Lower level

14.BRAKE FLUID

Check the brake fluid amount. If the amount is insufficient, carry out a brake line test to identify brake fluid leaks and check the brake operation. After that, refill the brake fluid tank with the specified type of fluid.

CAUTION:

If the brake fluid is spilt over exhaust pipe, wipe it off with cloth to avoid emitting smoke or causing a fire.

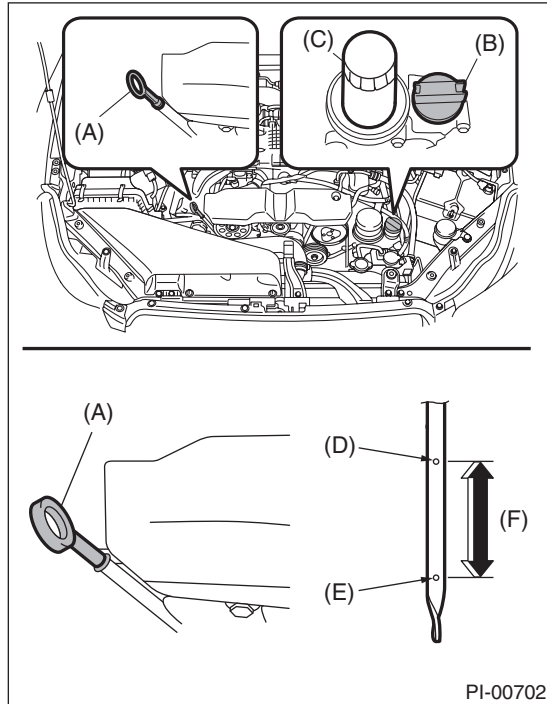
15.ENGINE OIL

- 1) Park the vehicle on a level surface.
- 2) Remove the oil level gauge and wipe away the oil.
- 3) Reinsert the oil level gauge all the way. Be sure that the oil level gauge is correctly inserted and properly orientated.
- 4) Pull out the oil level gauge again, and check both sides of the oil level gauge. Use a lower side to determine the engine oil level. If the engine oil level is below "L" line, add oil to bring the level up to "F" line.
- 5) Start the engine, and spread the oil in engine room.

6) After turning off the engine, wait a few minutes for the oil to return to the oil pan before checking the oil level.

NOTE:

To prevent overfilling of engine oil, do not add oil above “F” line when the engine is cold.



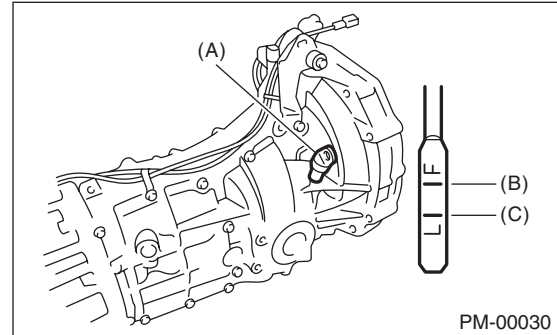
- (A) Engine oil level gauge
- (B) Engine oil filler cap
- (C) Engine oil filter
- (D) “F” line
- (E) “L” line
- (F) Approx. 1 L (1.1 US qt, 0.9 Imp qt)

16.TRANSMISSION GEAR OIL

Check the transmission gear oil amount. If the amount of gear oil is insufficient, check for leaks. Then, add the necessary amount of the specified gear oil.

CAUTION:

If gear oil is spilt over the exhaust pipe, wipe it off with a cloth to avoid emitting smoke or causing a fire.



- (A) Oil level gauge
- (B) Upper level
- (C) Lower level

17.CVT FRONT DIFFERENTIAL OIL

Check for leakage of CVT front differential gear oil.

CAUTION:

If gear oil is spilt over the exhaust pipe, wipe it off with a cloth to avoid emitting smoke or causing a fire.

18.REAR DIFFERENTIAL GEAR OIL

Check for leakage of gear oil from the rear differential.

CAUTION:

If the rear differential gear oil is spilt over exhaust pipe, wipe it off with cloth to avoid emitting smoke or causing a fire.

19.ENGINE COOLANT

Check the coolant amount on the reservoir. If the amount of engine coolant is insufficient, check that no leaks are found. Then, add the necessary amount of coolant with the specified concentration.

CAUTION:

If the coolant is spilt over exhaust pipe, wipe it off with cloth to avoid emitting smoke or causing a fire.

Pre-delivery Inspection

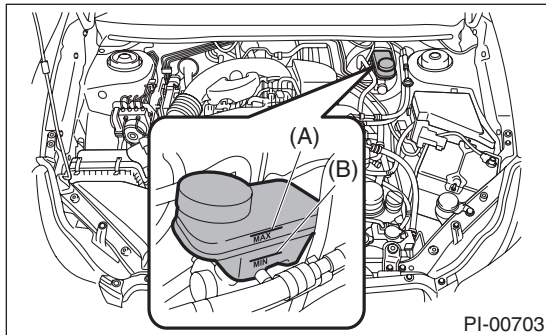
PRE-DELIVERY INSPECTION

20. CLUTCH FLUID

Check the clutch fluid amount. If the amount of fluid is insufficient, check that no leaks are found. Then, add the necessary amount of specified fluid.

CAUTION:

If any clutch fluid is spilt on the exhaust pipe, wipe it off with a cloth to avoid emitting smoke or causing a fire.

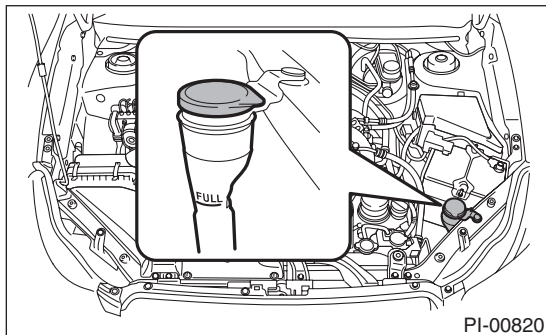


(A) MAX. level

(B) MIN. level

21. WINDOW WASHER FLUID

Check the window washer fluid amount. If the amount of washer fluid is insufficient, check that no leaks are found. Then, add the necessary amount of washer fluid.



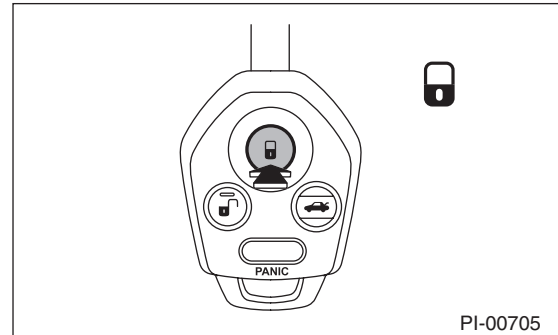
22. FRONT HOOD LATCH

Close the front hood. Check that the front hood is completely latched.

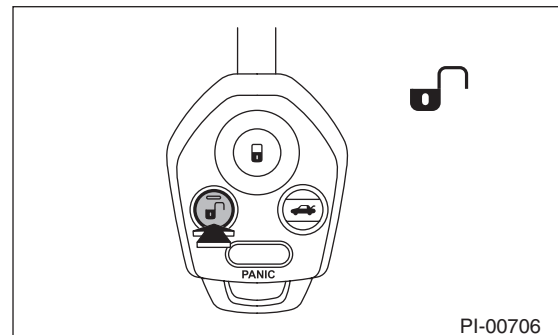
23. KEYLESS ENTRY SYSTEM

Check the keyless entry system operations as follows:

- Fully open all the door windows.
- Remove the key from the ignition switch and close all the doors including rear gate.
- Press the "LOCK/ARM" button momentarily on the keyless transmitter. Check that all the doors become locked, the buzzer sounds once, and the hazard lights flash once.

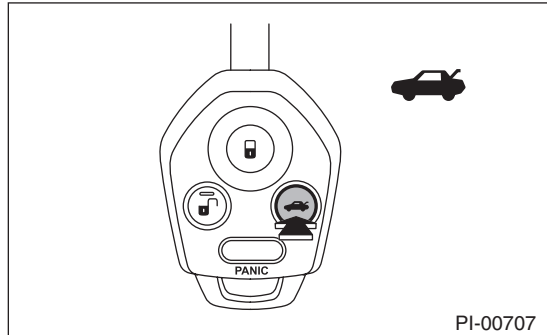


- Press the "UNLOCK/DISARM" button momentarily on the keyless transmitter. Check that the driver's door is unlocked, the buzzer sounds twice, and the hazard lights flash twice.

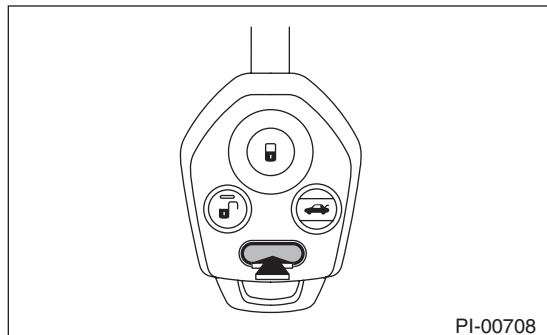


- Within 5 seconds, press the "UNLOCK/DISARM" button momentarily on the keyless transmitter. Check that all doors (including rear gate) are unlocked, the buzzer sounds twice, and the hazard lights flash twice.
- Lock all the doors including rear gate. Check that the buzzer sounds twice, and the hazard lights flash twice, when the rear gate unlock button is pressed to unlock the rear gate. Press the release button and check that the rear gate opens. (Wagon model)

- Check that the buzzer sounds twice, and the hazard lights flash twice, when the trunk lid unlock button is held down to unlock the trunk lid. (Sedan model)

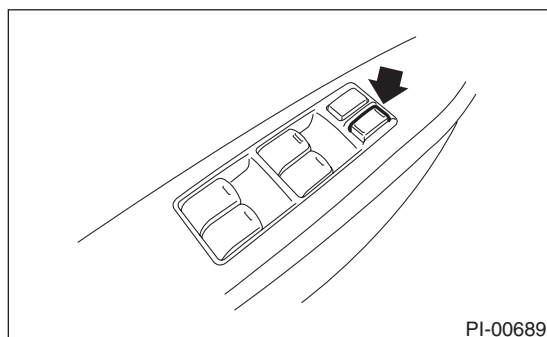


- Press the “PANIC” button of the keyless transmitter. Check that the panic mode (the horn keeps sounding) is initiated. Also, check that this condition continues for 30 seconds or until when any of the buttons on the keyless transmitter are pressed.

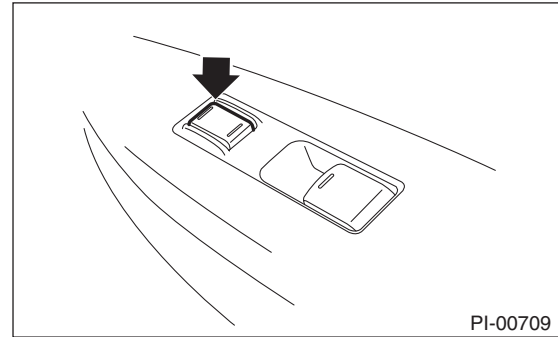


- Press the “LOCK/ARM” button momentarily on the keyless transmitter with one of the doors (including the rear gate) opened. Check that the buzzer sounds 5 times, and the hazard light flashes 5 times to notify the door not being fully closed. Next, close all the doors including rear gate. Check if all doors are locked, the buzzer sounds once and the hazard light flashes once.
- With one of the doors open (including the rear gate), press the “LOCK” side of the power door lock switch. Next, close all the doors including rear gate. Check if all doors are locked, the buzzer sounds once and the hazard light flashes once.

- Driver’s side



- Passenger’s side



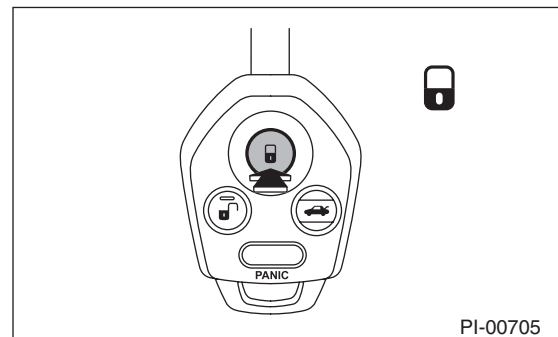
Alarm sound operational check

- The system uses the buzzer and sounds the alarm when the door is locked or unlocked. The alarm sound can be turned OFF. To turn the alarm sound from ON to OFF, close all doors, (with the key not inserted in the key cylinder), hold down the “UNLOCK” side of the power door lock switch and insert the key in the key cylinder. Within 10 seconds, insert and take out the key for 5 times or more, and within 10 seconds after that, open and close the driver’s door. With the door closed, the hazard light will flash 3 times, indicating that the alarm sound has been turned OFF. To turn the alarm sound from OFF to ON, perform this procedure again. The hazard light will flash 3 times, indicating that the alarm has been turned ON.

24.SECURITY SYSTEM

Check that the security system operates as indicated below.

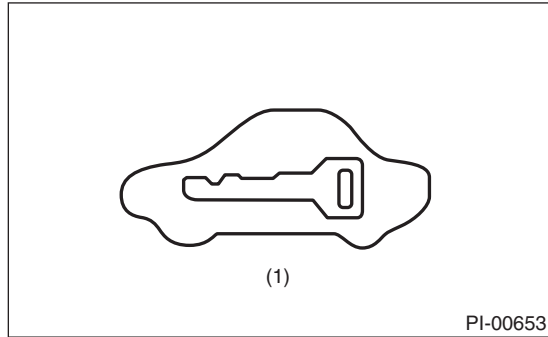
- 1) Fully open all the door windows.
- 2) Remove the key from the ignition switch and close all the doors including rear gate.
- 3) Press the “LOCK/ARM” button on the keyless transmitter once.



Pre-delivery Inspection

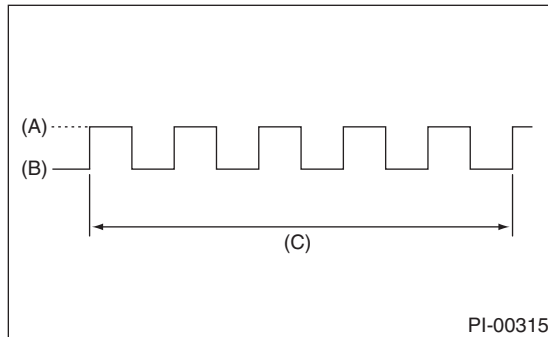
PRE-DELIVERY INSPECTION

4) If all doors are locked, the buzzer sounds once, the hazard light flashes once, and the security indicator light flashes as indicated below, the alarm system is in the monitoring condition.



(1) Security indicator light

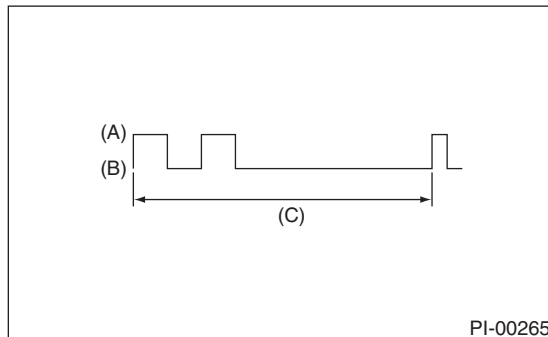
- Alarm system monitoring prepared condition



- (A) Light ON
- (B) Light OFF
- (C) 2 seconds

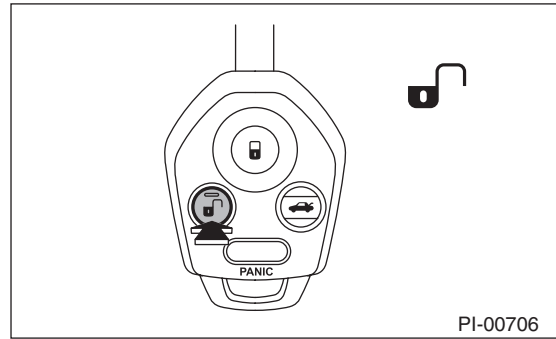
5) Check that the system enters monitoring condition 30 seconds after the condition in 4).

- Alarm system monitoring condition

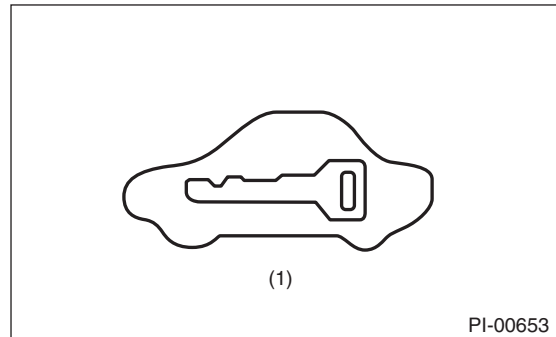


- (A) Light ON
- (B) Light OFF
- (C) 2 seconds

6) Press the "UNLOCK/DISARM" button on the keyless transmitter once.

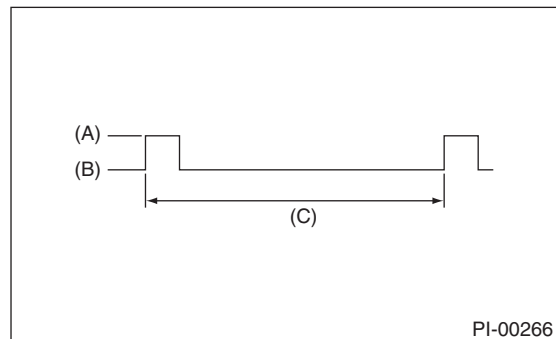


7) The alarm system is in the non-monitoring condition if the driver's side door is unlocked, the buzzer sounds twice, the hazard lights flash twice, the room light turns on, and the security indicator light flashes.



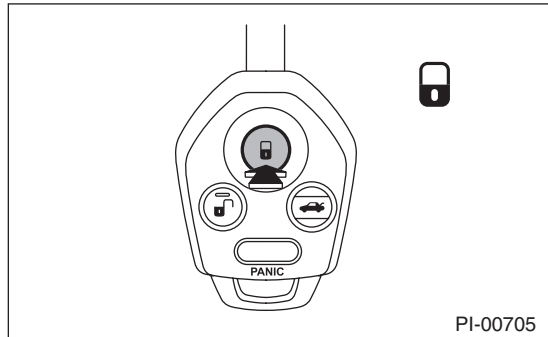
(1) Security indicator light

- Alarm system non-monitoring condition



- (A) Light ON
- (B) Light OFF
- (C) 3 seconds

8) Press the “LOCK/ARM” button once on the keyless transmitter with one of the doors (including the rear gate) opened.

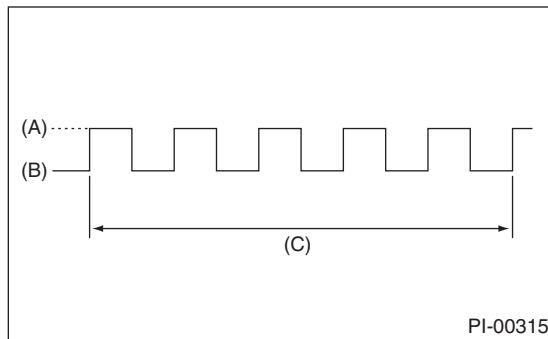


9) Check that the buzzer sounds 5 times to give the door not fully closed warning.

10) Close all the doors including rear gate.

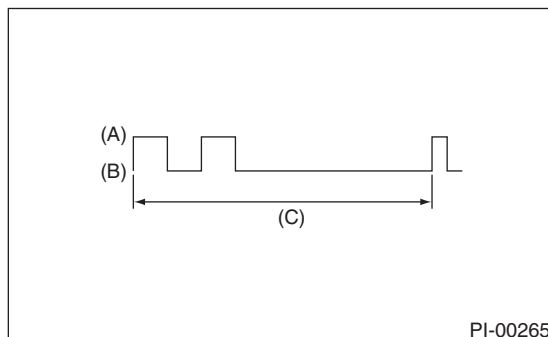
11) Check that the system is in the monitoring condition (all the doors become locked and the buzzer sounds once, and the hazard light flashes once).

- Alarm system monitoring prepared condition



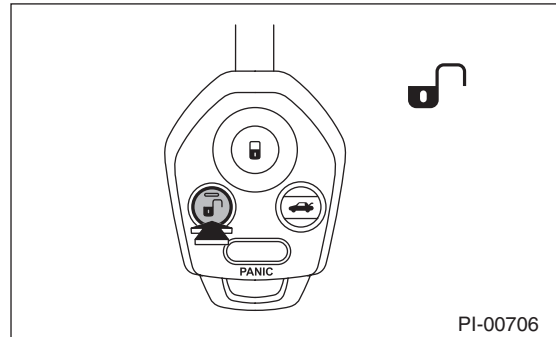
- (A) Light ON
- (B) Light OFF
- (C) 2 seconds

12) Check that the system enters monitoring condition 30 seconds after the condition in 11).



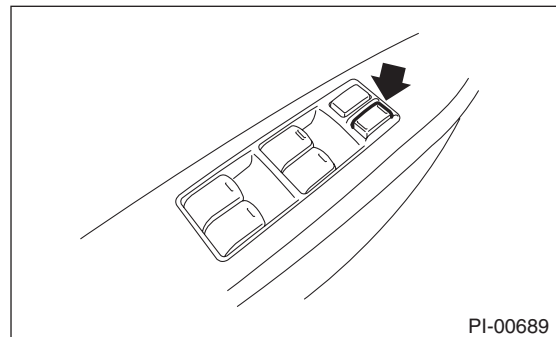
- (A) Light ON
- (B) Light OFF
- (C) 2 seconds

13) Press the “UNLOCK/DISARM” button on the keyless transmitter once and turn into non-monitoring condition.

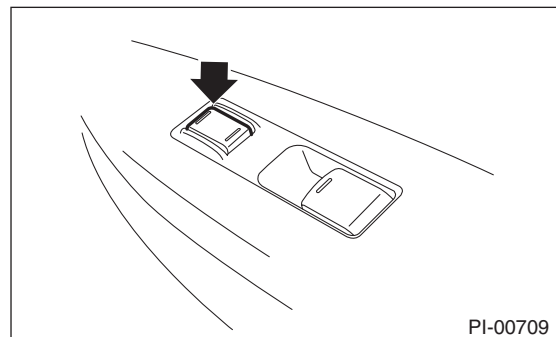


14) With one of all the doors open (including the rear gate), press the “LOCK” side of the power door lock switch.

- Driver's side



- Passenger's side

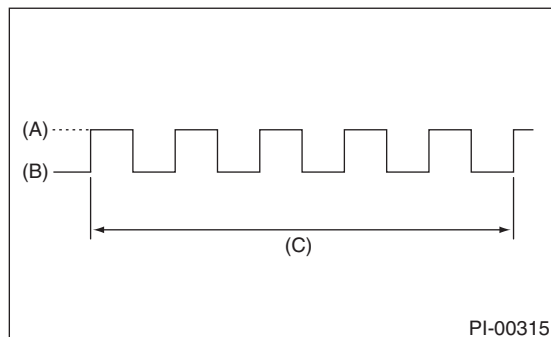


15) Close all the doors including rear gate.

PRE-DELIVERY INSPECTION

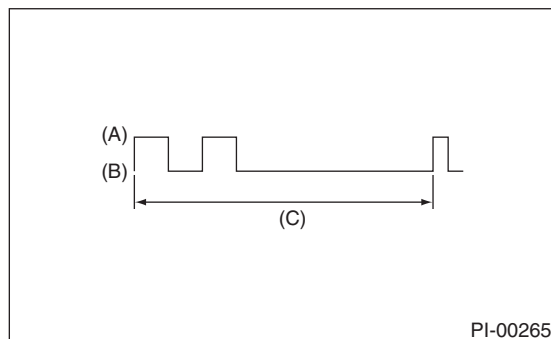
16) If all doors become locked, the buzzer sounds once, and the hazard light flashes once, the alarm system is in the monitoring prepared condition.

- Alarm system monitoring prepared condition



- (A) Light ON
(B) Light OFF
(C) 2 seconds

17) Check that the system enters monitoring condition 30 seconds after the condition in 16).



- (A) Light ON
(B) Light OFF
(C) 2 seconds

18) When the alarm system is in the monitoring condition, use the inner lock knob or the key to unlock the door, and open the door.

19) Check that the alarm condition occurs (horn sounds continuously, hazard light flashes, security indicator illuminates).

20) Check that the condition in 19) continues for 30 seconds or more, or until the "UNLOCK/DISARM" button of the keyless transmitter is pressed, or until the switch is turned ON with the correct ignition key.

21) On models equipped with an impact sensor, hit the windshield glass with your hand with the alarm system in the monitoring condition, to check that the alarm condition occurs.

22) When none of above is applicable, perform troubleshooting for the security system. <Ref. to SL-27, INSPECTION, Security System.>

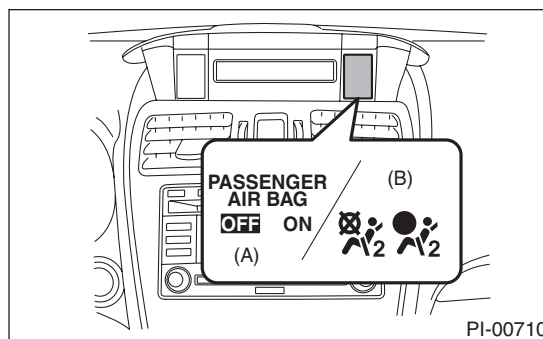
25. SEAT

1) Check that each seat provides full functionality in sliding, lifting and reclining. Check all available functions of the rear seat such as armrest and backrest tilt knob. Check that the tag of the rear center headrest can be viewed.

2) Check the passenger's seat occupant detection system.

(1) Empty the passenger's seat and turn the ignition switch to ON.

(2) Check that the passenger airbag ON/OFF indicator lights both turn on simultaneously for approximately six seconds, and after turning off for two seconds, only the OFF light illuminates.



- (A) Airbag ON/OFF indicator light (U.S.(U5 and U6) models)
(B) Airbag ON/OFF indicator light (Canada, Mexico (CO) models)

3) With a person weighing approximately 70 kg (155 lb) or more sitting in the passenger's seat, check whether the ON light of the passenger's airbag ON/OFF indicator illuminates or not.

4) Have the passenger get out of the passenger's seat, and check whether the OFF light of the passenger side airbag ON/OFF indicator illuminates.

26. SEAT BELT

1) Pull out the seat belt and then release it. Check that the belt retracts smoothly.

2) Check seat warning system

(1) Turn the ignition switch to ON without driver's and passenger's seat belts on.

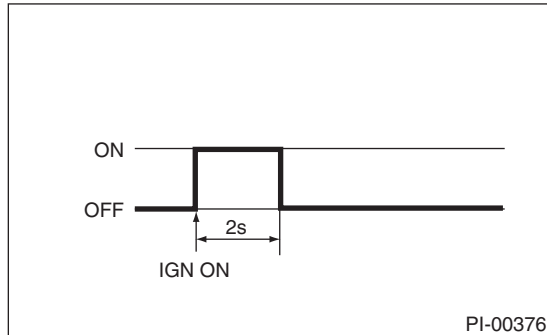
(2) Check the seat belt warning lights of the driver's and the passenger's blink for approximately six seconds and the buzzer sounds intermittently.

(3) Then check that the seat belt warning lights illuminate and blink in a cycle of approximately 15 seconds. (If no one is seated on the passenger's seat, the seat belt warning light of the passenger's will not operate.)

27.TPMS (U.S. MODEL)

1) Turn the ignition switch to ON, and check that the TPMS warning light is in a normal operation condition.

- Normal operation (IG ON (Light check))



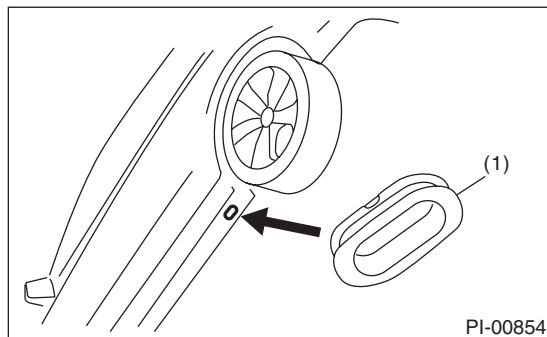
2) If the TPMS warning light display does not operate normally, check and repair the system. <Ref. to TPM(diag)-2, Basic Diagnostic Procedure.>

28.GROMMET INSTALLATION

Install the grommet provided on the rear seat to the tie-down hole. (When equipped)

CAUTION:

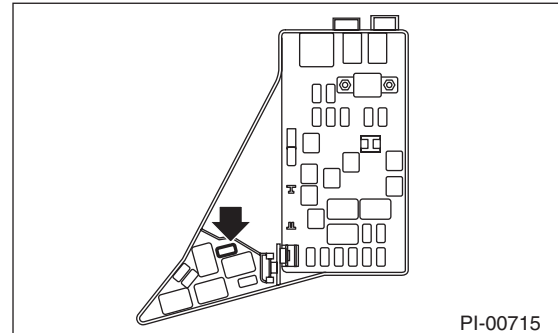
Make sure that the tie-down hole is firmly plugged with the grommet. Otherwise, dust, smell, etc. may come into the passenger compartment indirectly from the rear quarter, via the side sill from the tie-down hole.



(1) Grommet

29.DELIVERY (TEST) MODE

- 1) Turn the ignition switch to ON and check that the malfunction indicator light starts blinking.
- 2) If the light blinks, return the ignition key to LOCK.
- 3) Remove the D check fuse.



- 4) Then, turn the ignition key to ON again.
- 5) Make sure that the malfunction indicator light is off. If the malfunction indicator light blinks, carry out an engine diagnosis.

30.IMMOBILIZER SYSTEM

- 1) Check that the engine starts with all keys that are equipped on vehicle. Also, when starting the engine, check that the security indicator light goes off.
- 2) 60 seconds after turning ignition switch from ON to ACC or OFF, or immediately after removing the key, check that the security indicator light is blinking.

NOTE:

If malfunctions occur, refer to "IMMOBILIZER (DIAGNOSIS)". <Ref. to IM(diag)-2, Basic Diagnostic Procedure.>

31.STARTING CONDITION

Start the engine and check that the engine starts smoothly. If the battery voltage is low, recharge or replace the battery. If any noises are observed, immediately stop the engine and check and repair the abnormal components.

32.EXHAUST

Listen to the exhaust noise to see if no noises are observed. Check that no leaks are found.

33.INDICATOR AND WARNING LIGHTS

Check that all indicator lights and warning lights are operating correctly.

34.HEATER & VENTILATION

Operate the heater & ventilation system to check for normal airflow outlet control, air inlet control, airflow capacity and heating performance.

35.AIR CONDITIONER

Operate the air conditioner. Check that the A/C compressor operates normally and enough cooling is provided.

NOTE:

To prevent the insufficient lubrication of the air conditioner, operate the air conditioner for five minutes at idling.

36.MULTI-FUNCTION DISPLAY (MFD)

- 1) Check that the Multi-Function Display (MFD) function operates normally.
- 2) Check that the rearview camera operates normally.

37.AUDIO

- 1) Check if the AM/FM radio broadcasting can be heard.
- 2) Check that all the radio functions work properly and the noise level is normal.
- 3) Check the CD and AUX for normal operation.
- 4) Check that the AUX is installed into the console without looseness.
- 5) Check that the rearview camera operates normally.

38.NAVIGATION SYSTEM

- 1) Check all display functions for normal operation. (Refer to the operation manual.)
- 2) Check that the navigation system operates normally.
- 3) Check the radio, CD (DVD) player and AUX for normal operation.
- 4) Check that the AUX is installed into the console without looseness.
- 5) Check that the rearview camera operates normally.

39.FRONT ACCESSORY POWER SUPPLY SOCKET

Check the operation of the front accessory power supply socket.

40.LIGHTING

- 1) Check the headlight operations. When pulling out the key, check if the headlight illuminates by turning the headlight switch from OFF to ON.
- 2) Check the stop light operation.
- 3) Check other lights for normal operations.

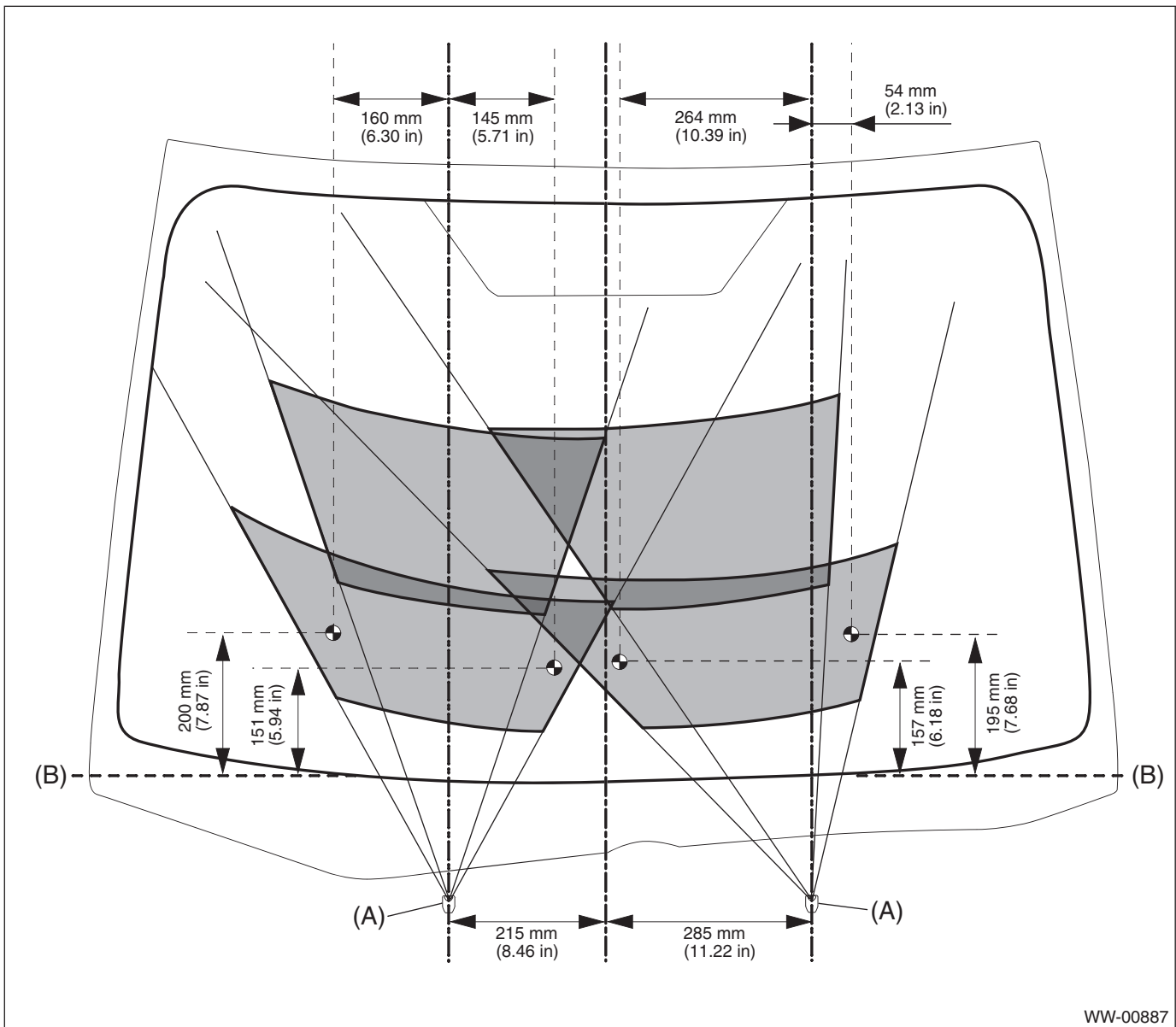
41.ILLUMINATION CONTROL

Check that the illumination control operates normally.

42.WINDOW WASHER

Check that the window washer system injects washer fluid to the specified area of the windshield shown in the figure.

Front spray position:



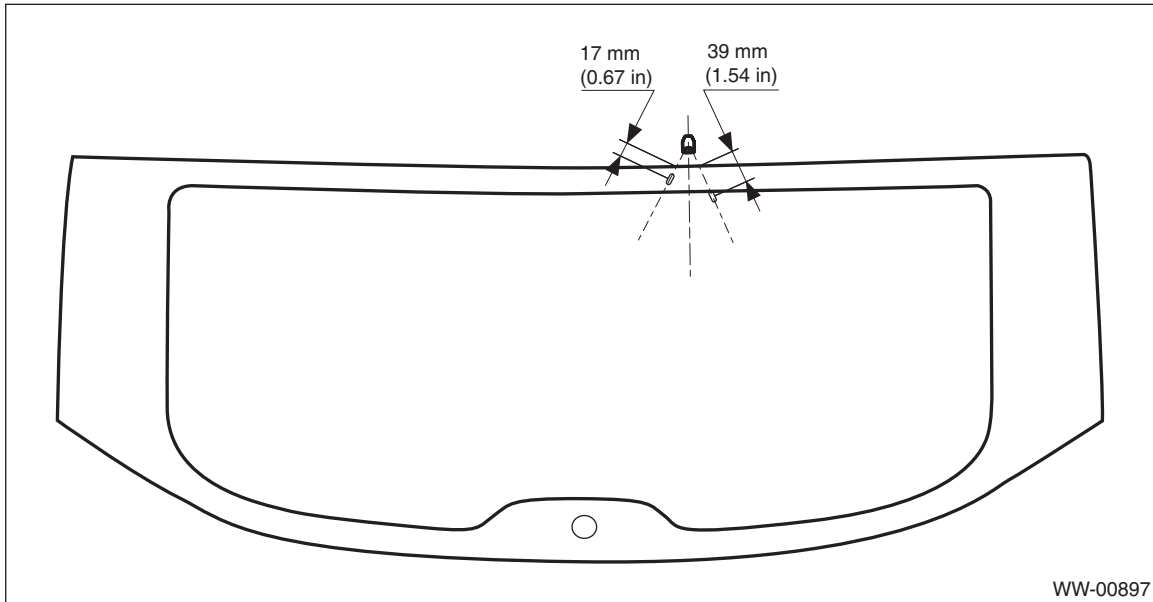
(A) Washer nozzle

(B) Ceramic line position

Pre-delivery Inspection

PRE-DELIVERY INSPECTION

Rear spray position:



43.WIPER

Check the front and rear wipers for normal operations.

44.WIPER DEICER

Check that the wiper deicer operates normally.

NOTE:

When an ambient temperature is 5°C or more, wiper deicer operation is cancelled. Press the switch for 3 seconds or more to perform the compulsory operation.

45.POWER WINDOW

Operate the power window switches one by one to check that each of the power windows goes up and down without noises.

46.SUNROOF

Check that the sunroof operates normally.

47.REAR DEFOGGER

Press the rear defogger switch and check that the light inside the switch is activated for approx. 15 minutes and the rear defogger automatically turns to OFF.

48.DOOR MIRROR

- Check that the remote control mirror operates normally.
- Check that the heated mirror operates normally.

49.DIAGNOSTIC TROUBLE CODE (DTC) CHECK

Read the diagnostic trouble code and check that the diagnostic trouble code is not detected.

If any diagnostic trouble code is detected, clear all.

1) Read Diagnostic Trouble Code

NOTE:

For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

2) Clear Memory Mode

NOTE:

For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

50.BRAKE TEST

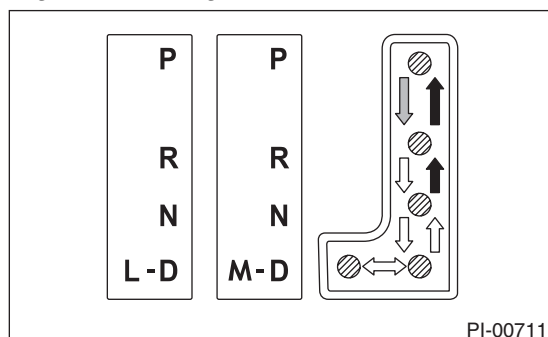
Check the foot brake for normal operations.

51.PARKING BRAKE

Check the parking brake for normal operations. When pulling the parking brake lever with a force of 200 N (20 kgf, 45 lb), check that the lever stroke of parking brake lever is 7 to 8 notches.

52.SHIFT CONTROL**• CVT**

- 1) Turn the ignition switch to ON.
- 2) While brake pedal is not depressed, check if the select lever does not move from “P” range.
- 3) While brake pedal is depressed, check if the select lever moves from “P” range.
- 4) Set the select lever to other than “P” range.
- 5) When the ignition switch is turned to OFF, check if the ignition key switch cannot be removed.
- 6) Set the selector lever to each gear position and check the shifting while driving the vehicle. Operate the paddle shift at manual mode and check the shifting while driving the vehicle.

**• MT**

Check for smooth operation to each position.

53.CRUISE CONTROL

Operate the cruise control system. Check that the system is activated and deactivated correctly.

54.FLUID LEAKAGE

Check entire areas of the vehicle for any trace of engine coolant/engine oil/transmission fluid leaks.

55.WATER LEAK TEST

Spray the vehicle with water using a hose and check that no water enters the passenger compartment.

- Before performing the water leakage test, remove anything that may obstruct the operation or which must be kept dry.
- Close all the windows and doors securely. Close the front hood, trunk lid and rear gate before starting the test.
- Connect a hose to a tap, and spray water on the vehicle. The rate of water spray must be approx. 20 to 25 L (5.3 — 6.6 US gal, 4.4 — 5.5 Imp gal) per minute.

When spraying water on areas adjacent to the floor and wheel house, increase the pressure. When spraying water on areas other than the floor and wheel house, decrease the pressure. But the force of water must be made strong occasionally by pressing the end of the hose.

NOTE:

Be sure to keep the hose at least 10 cm (3.9 in) away from vehicle.

Check the following areas.

- Front window and body framework mating portion
- Door mating portions
- Glass mating portions
- Rear quarter window mating portions
- Rear window and body framework mating portion
- Around roof drips

If any dampness in the compartments is discovered after the water has been applied, carefully check all the areas that may have possibly contributed to the leak.

56.APEARANCE 2

1) If protective coating (lap guard) is applied, remove it.

NOTE:

- When removing the lap guard, using steam will make it easier to remove.
- Vehicle left for a extended periods or at low temperatures, spray the vehicle with water heated 50 — 60°C (122 — 140°F) to raise the surface temperature before peeling off the wrap guard. Do not use the water heated to over 60°C (140°F).
- If the adhesive remains exist on the coated surface, soak a flannel rag, etc. with a small amount of coating wax or solvent such as oil benzene and IPA, put the soaked cloth on the remains lightly, and then wipe them off with a flannel rag etc.
- Keep solvent from touching the resin or rubber parts. Do not use coating wax or solvents while the component surface temperature is hot due to hot weather etc.
- If the coated surface is swollen out due to seams or moisture, expose the vehicle to the sunlight for a few hours or heat the seam and swollen portions using a dryer etc.
- Dispose of the peeled wrap guard as burnable industrial garbage.

2) Check the whole vehicle body for flaking paint, damage by transportation, corrosion, dirt, cracks or blisters.

NOTE:

- It is better to determine an inspection pattern in order to avoid missing an area, since the total inspection area is wide.
- Do not repair the body paint unless absolutely necessary. Also, if the vehicle is in need of repair to remove scratches or corroded paint, the repair area must be limited to the minimum. Re-painting and spray painting must be avoided as much as possible.

3) Check each window glass for scratches carefully. Slight damage may be removed by polishing with cerium oxide. (Fill a cup half with cerium oxide, and add warm water to it. Then agitate the content until it turns to wax. Apply this wax to a soft cloth, and polish the glass with it.)

4) Check each portion of the vehicle body and underside components for the formation of rust. If rust is discovered, remove it with sandpaper of #80 to #180 and treat the surface with rust preventive. After this treatment is completed, flush the portion thoroughly, and prepare the surface for repair painting.

5) Check each portion of body and all of the exterior parts for deformation or distortion. Also, check each light lens for cracks.

PERIODIC MAINTENANCE SERVICES

PM

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General Description

PERIODIC MAINTENANCE SERVICES

1. General Description

A: GENERAL DESCRIPTION

Be sure to perform periodic maintenance in order to maintain vehicle performance and find problems before they occur.

Schedule

PERIODIC MAINTENANCE SERVICES

2. Schedule

A: MAINTENANCE SCHEDULE 1

1. U.S. MODELS

		MAINTENANCE INTERVAL [Number of months or km (miles), whichever occurs first]																		
	Months	3	7.5	15	22.5	30	37.5	45	52.5	60	67.5	75	82.5	90	97.5	105	112.5	120	132	Remarks
	× 1,000 km	4.8	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	220	
	× 1,000 miles	3	7.5	15	22.5	30	37.5	45	52.5	60	67.5	75	82.5	90	97.5	105	112.5	120	132	
1	Engine oil		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
2	Engine oil filter		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
3	Spark plug									R								R		
4	Drive belt(s)					I				I				I				I		
5	Fuel line					(I)				(I)				(I)				I		Note (1)
6	Fuel filter											R								Note (1)
7	Air cleaner element					R				R				R				R		Note (2)
8	Cooling system					I				I				I				I		
9	Engine coolant	Replace after the first 11 years or 220,000 km (137,500 miles), and every six years or 120,000 km (75,000 miles) thereafter																		
10	Clutch system			I		I		I		I		I		I		I		I		
11	Transmission gear oil					I				I				I				I		
12	CVTF					I				I				I				I		
13	Front & rear differential gear oil					I				I				I				I		
14	Brake line			I		I		I		I		I		I		I		I		
15	Brake fluid					R				R				R				R		
16	Disc brake pad and disc			I		I		I		I		I		I		I		I		
17	Parking brake			I		I		I		I		I		I		I		I		
18	Suspension			I		I		I		I		I		I		I		I		
19	Wheel bearing									(I)								(I)		
20	Axle boots and joints			I		I		I		I		I		I		I		I		
21	Tire rotation		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Note (3)
22	Steering system (Power steering)			I		I		I		I		I		I		I		I		
23	A/C filter	Replace every 12 months or 12,000 km (7,500 miles)																		Note (4)

Symbol

R: Replace

I: Inspection

P: Perform

(I): Inspections recommended for vehicle safety

NOTE:

1. This inspection is not necessary to observe exhaust gas regulations or is the responsibility of the manufacturer under the current basic EPA regulations that must be observed by law.

2. Replace the air cleaner element more frequently than the periodic replacement if the vehicle is being used in an excessively dusty environment.

3. Replace the tires if the tread-wear indicator has caused a bar-shaped cut across the tread. The indicator will appear when the remaining amount of tread is less than 1.6 mm (0.063 in).

4. Replace the A/C filter more frequently than the periodic replacement if the vehicle is being used in an excessively dusty environment.

Schedule

PERIODIC MAINTENANCE SERVICES

B: MAINTENANCE SCHEDULE 2

Item	Maintenance interval	Repeat short distance driving	Repeat driving on bumpy muddy road	Driving in extremely cold weather	Area where salt or other corrosive substance used, or coastal area	High humidity or mountain area	Repeat towing trailer
Engine oil	Every 3.75 months	R		R			R
	6,000 km						
	3,750 miles						
Engine oil filter	Every 3.75 months	R		R			R
	6,000 km						
	3,750 miles						
Fuel line	Every 7.5 months				I		
	Every 12,000 km						
	Every 7,500 miles						
Transmission gear oil	Every 15 months						R
	Every 24,000 km						
	Every 15,000 miles						
CVTF	Every 40,000 km						R
	Every 24,855 miles						
Front & rear differential gear oil	Every 15 months						R
	Every 24,000 km						
	Every 15,000 miles						
Brake line	Every 7.5 months	I	I		I		I
	Every 12,000 km						
	Every 7,500 miles						
Brake fluid	Every 15 months					R	
	Every 24,000 km						
	Every 15,000 miles						
Disc brake pad and disc	Every 15 months	I	I		I		I
	Every 24,000 km						
	Every 15,000 miles						
Parking brake	Every 15 months	I	I		I		I
	Every 24,000 km						
	Every 15,000 miles						
Suspension	Every 7.5 months		I	I	I		I
	Every 12,000 km						
	Every 7,500 miles						
Axle boots and joints	Every 7.5 months	I	I	I	I		I
	Every 12,000 km						
	Every 7,500 miles						
Steering system (Power steering)	Every 7.5 months	I	I	I	I		I
	Every 12,000 km						
	Every 7,500 miles						

R: Replace
I: Inspection

3. Engine Oil

A: INSPECTION

Refer to “LU” section for engine oil inspection.
<Ref. to LU(H4DO)-9, INSPECTION, Engine Oil.>

B: REPLACEMENT

Refer to “LU” section for engine oil replacement.
<Ref. to LU(H4DO)-10, REPLACEMENT, Engine Oil.>

4. Engine Oil Filter

A: REPLACEMENT

Refer to “LU” section for engine oil filter replacement. <Ref. to LU(H4DO)-27, Engine Oil Filter.>

5. Spark Plug

A: REPLACEMENT

Refer to “IG” section for spark plug replacement.
<Ref. to IG(H4DO)-4, Spark Plug.>

6. V-belt

A: INSPECTION

Refer to “ME” section for V-belt inspection. <Ref. to ME(H4DO)-75, V-belt.>

B: REPLACEMENT

Refer to “ME” section for V-belt replacement. <Ref. to ME(H4DO)-75, V-belt.>

7. Fuel Line

A: INSPECTION

The fuel line is located mostly internally, so check pipes, areas near pipes, and engine compartment piping for rust, hose damage, loose band, etc. If faulty parts are found, repair or replace them. <Ref. to FU(H4DO)-173, INSPECTION, Fuel Delivery and Evaporation Lines.>

8. Fuel Filter

A: REPLACEMENT

For fuel filter replacement procedure, refer to “FU” section. <Ref. to FU(H4DO)-162, Fuel Filter.>

B: INSPECTION

Replace if the filter is clogged, or time for replacement has come.

9. Air Cleaner Element

A: REPLACEMENT

Refer to "IN" section for air cleaner element replacement. <Ref. to IN(H4DO)-4, Air Cleaner Element.>

10. Cooling System

A: INSPECTION

1. RADIATOR

Check that there are no engine coolant leaks from the hose connections. Refer to “CO” section for radiator inspection. <Ref. to CO(H4DO)-41, INSPECTION, Radiator.>

2. RADIATOR CAP

Refer to “CO” section for radiator cap inspection. <Ref. to CO(H4DO)-42, INSPECTION, Radiator Cap.>

3. COOLING FAN

Check the radiator fan operates using Subaru Select Monitor, when the coolant temperature exceeds the specified value. If it does not operate, check the radiator fan system. <Ref. to CO(H4DO)-8, INSPECTION, Radiator Fan System.>

4. COOLING SYSTEM

Start the engine, and then inspect that it does not overheat or it is not cooled excessively. If it overheats or it is cooled excessively, check the cooling system.

11.Engine Coolant

A: INSPECTION

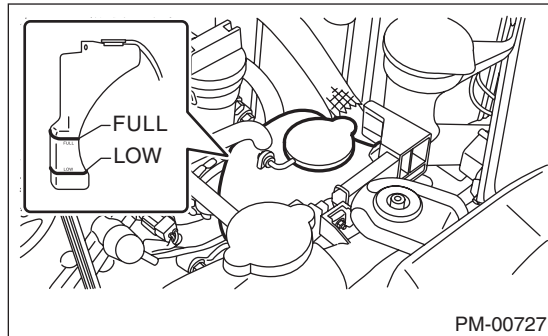
CAUTION:

- Do not use water instead of coolant.
- Refer to “RM” section for the recommended engine coolant. <Ref. to RM-4, ENGINE COOLANT, RECOMMENDED MATERIALS, Recommended Materials.>

- 1) Park the vehicle on a level surface.
- 2) Make sure the engine coolant level in the reservoir tank is between “FULL” and “LOW” when the engine is cold.

NOTE:

If the engine coolant level drops, make sure that there are no engine coolant leakage, and add engine coolant to the “FULL” line.



- 3) Remove the radiator cap and make sure that the radiator is filled with engine coolant up to the filler neck position.

B: REPLACEMENT

Refer to “CO” section for engine coolant replacement. <Ref. to CO(H4DO)-13, REPLACEMENT, Engine Coolant.>

12.Clutch System

A: INSPECTION AND ADJUSTMENT

Refer to “CL” section for inspection and adjustment of clutch system. <Ref. to CL-23, INSPECTION, Clutch Pedal.> <Ref. to CL-23, ADJUSTMENT, Clutch Pedal.>

13. Transmission Gear Oil

A: INSPECTION

Refer to “5MT” section for transmission gear oil inspection. <Ref. to 5MT-22, INSPECTION, Transmission Gear Oil.>

B: REPLACEMENT

Refer to “5MT” section for transmission gear oil replacement. <Ref. to 5MT-22, REPLACEMENT, Transmission Gear Oil.>

14.CVTF**A: INSPECTION**

Refer to “CVT” section for CVTF inspection. <Ref. to CVT-34, INSPECTION, CVTF.>

B: REPLACEMENT

Refer to “CVT” section for CVTF replacement. <Ref. to CVT-36, REPLACEMENT, CVTF.>

15. Front & Rear Differential Gear Oil

A: INSPECTION

1. FRONT DIFFERENTIAL (MT MODEL)

Front differential gear oil of MT model lubricates the transmission and differential together. Refer to “Transmission Gear Oil” for inspection procedures. <Ref. to 5MT-22, INSPECTION, Transmission Gear Oil.>

2. FRONT DIFFERENTIAL (CVT MODEL)

Refer to “CVT” section for inspection of CVT model front differential gear oil. <Ref. to CVT-39, INSPECTION, Differential Gear Oil.>

3. REAR DIFFERENTIAL

Refer to “DI” section for rear differential gear oil inspection. <Ref. to DI-19, INSPECTION, Differential Gear Oil.>

B: REPLACEMENT

1. FRONT DIFFERENTIAL (MT MODEL)

Front differential gear oil of MT model lubricates the transmission and differential together. Refer to “5MT” section for replacement procedure. <Ref. to 5MT-22, REPLACEMENT, Transmission Gear Oil.>

2. FRONT DIFFERENTIAL (CVT MODEL)

Refer to “CVT” section for front differential gear oil replacement. <Ref. to CVT-41, REPLACEMENT, Differential Gear Oil.>

3. REAR DIFFERENTIAL

Refer to “DI” section for rear differential gear oil replacement. <Ref. to DI-19, REPLACEMENT, Differential Gear Oil.>

16.Brake Line

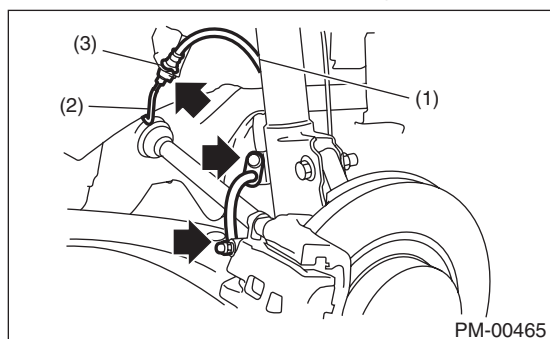
A: INSPECTION

1. BRAKE LINE

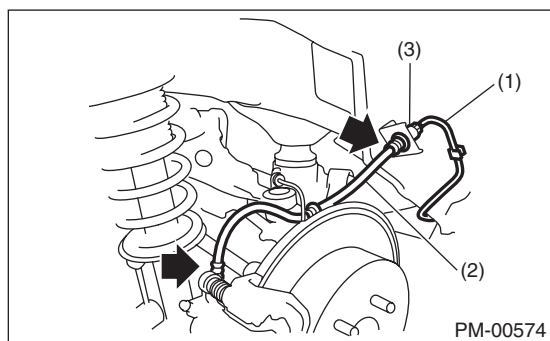
- 1) Check for scratches, swelling, corrosion, traces of fluid leakage on the brake hoses or pipe joints.
- 2) Make sure that brake pipes/hoses do not interfere with adjacent parts and there is no loose connector/clamp during driving.
- 3) Check any trace of fluid leakage, scratches, etc. on master cylinder, wheel cylinder and hydraulic unit.

NOTE:

- When the brake fluid level in the reservoir tank is lower than specified limit, the brake warning light on the combination meter will illuminate.
- Visually check the brake hose for damage. (Use a mirror where it is difficult to see)



- (1) Front brake hose
- (2) Front brake pipe
- (3) Clamp



- (1) Brake pipe
- (2) Rear brake hose
- (3) Clamp

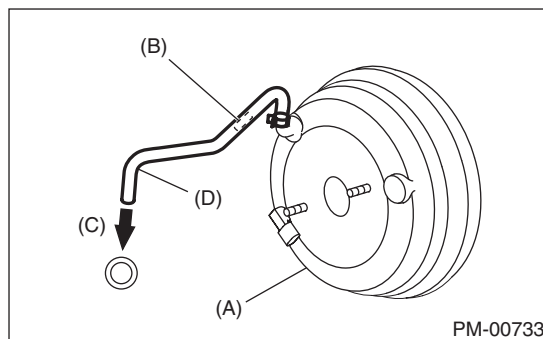
2. SERVICE BRAKE

Refer to "BR" section for foot brake inspection.
<Ref. to BR-69, INSPECTION, Brake Pedal.>

3. BRAKE SERVO SYSTEM

- 1) With the engine off, depress the brake pedal several times applying the same pedal force. Check that the travel distance should not change.
- 2) With the brake pedal depressed, start the engine. Check that the pedal moves slightly toward the floor.
- 3) With the brake pedal depressed, stop the engine and keep the pedal depressed for 30 seconds. Check that the pedal height does not change.
- 4) A check valve is built into the brake booster nipple. Disconnect the vacuum hose to inspect function of check valve.

Check that check valve ventilates from booster side to engine side. Also, check that there is no ventilation from engine side to booster side.



- (A) Brake booster
- (B) Check valve
- (C) Engine side
- (D) Brake booster side

- 5) Check the vacuum hose for cracks or other damage.

CAUTION:

When installing the vacuum hose on the engine and brake booster, do not use soapy water or lubricating oil on their connections.

- 6) Check that the vacuum hose is securely tightened.

17.Brake Fluid

A: INSPECTION

Refer to “BR” section for brake fluid inspection.
<Ref. to BR-58, INSPECTION, Brake Fluid.>

B: REPLACEMENT

Refer to “BR” section for brake fluid replacement.
<Ref. to BR-58, REPLACEMENT, Brake Fluid.>

18.Disc Brake Pad and Disc

A: INSPECTION

Refer to “BR” section for disc brake pad and disc inspection. <Ref. to BR-17, INSPECTION, Front Brake Pad.> <Ref. to BR-31, INSPECTION, Rear Brake Pad.> <Ref. to BR-19, INSPECTION, Front Disc Rotor.> <Ref. to BR-34, INSPECTION, Rear Disc Rotor.>

19. Parking Brake

A: INSPECTION

Refer to "PB" section for parking brake inspection.
<Ref. to PB-21, INSPECTION, Parking Brake Assembly (Rear Disc Brake).>

B: ADJUSTMENT

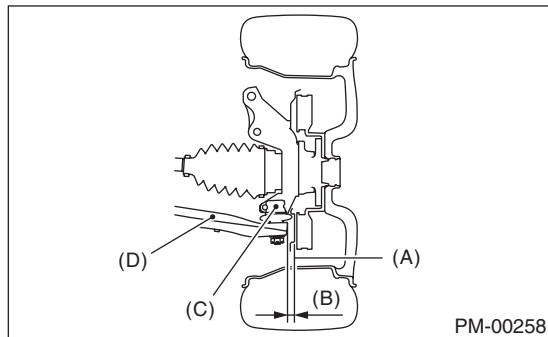
Refer to "PB" section for parking brake adjustment.
<Ref. to PB-22, ADJUSTMENT, Parking Brake Assembly (Rear Disc Brake).>

20. Suspension

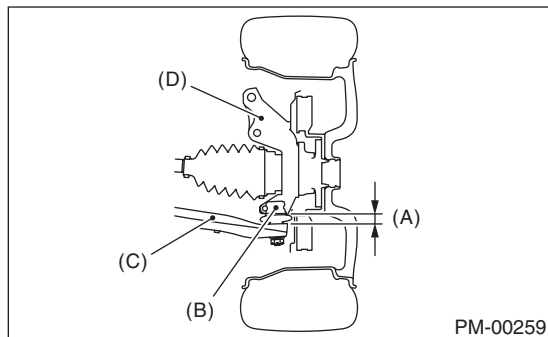
A: INSPECTION

1. FRONT SUSPENSION BALL JOINT

- 1) Lift up the vehicle until front wheels are off ground.
- 2) Grasp the bottom of tire and move it in and out in axial direction. If movement (B) is observed between the brake disc cover (A) and end of front arm (D), ball joint (C) may be excessively worn.



- 3) Next, grasp the end of front arm (C) and move it up and down. If movement (A) between the housing (D) and front arm (C) boss is observed, ball joint (B) may be excessively worn.



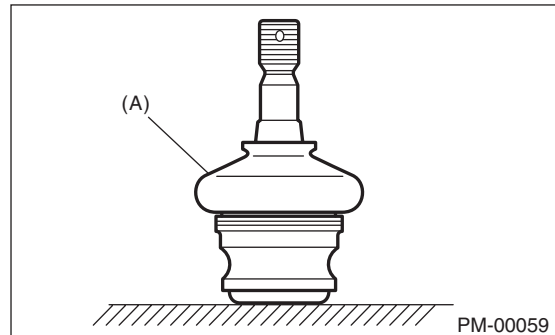
- 4) If the relative movement is observed in the preceding two steps, remove and inspect the ball joint. If the free play exceeds standard value, replace the ball joint. <Ref. to FS-32, Front Ball Joint.>

- 5) Damage of dust boot

Visually inspect the ball joint dust boot. Replace if ball joint is damaged.

NOTE:

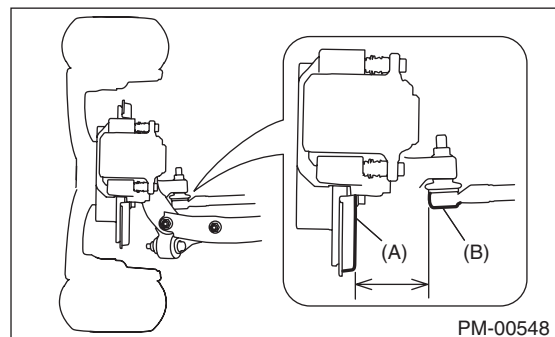
When the front arm ball joint is removed or replaced, check the toe-in of front wheel. If it is not within the specified value, adjust the toe-in. <Ref. to FS-7, Wheel Alignment.>



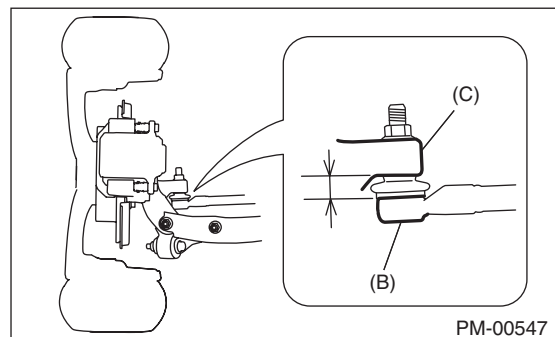
(A) Dust boot

2. REAR SUSPENSION BALL JOINT

- 1) Lift up the vehicle until rear wheels are off the ground.
- 2) Grasp the bottom of tire and move it in and out in axial direction.
- 3) If movement is observed between the brake disc cover (A) and end of front lateral link (B), ball joint may be excessively worn.



- 4) Grasp the end of front lateral link (B) and move it up and down. If movement is observed between the housing (C) and front lateral link (B) boss, ball joint may be excessively worn.

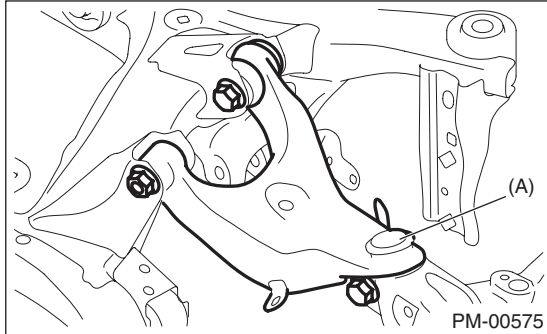


5) If the movement related to the previous two steps is observed, replace the front lateral link. <Ref. to RS-21, Front Lateral Link.>

6) Damage of dust boots

Visually inspect the ball joint dust boots. Replace if front lateral link is damaged.

7) Check the upper arm ball joint and the pillow ball bushing of housing in the same manner.

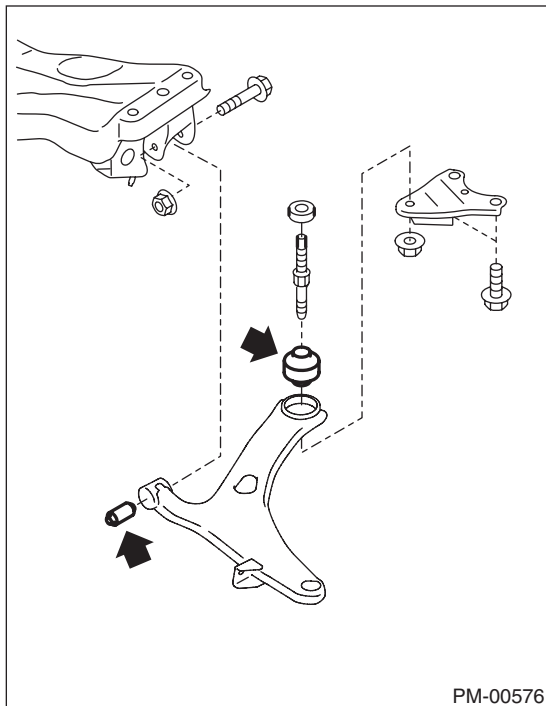


(A) Upper arm ball joint

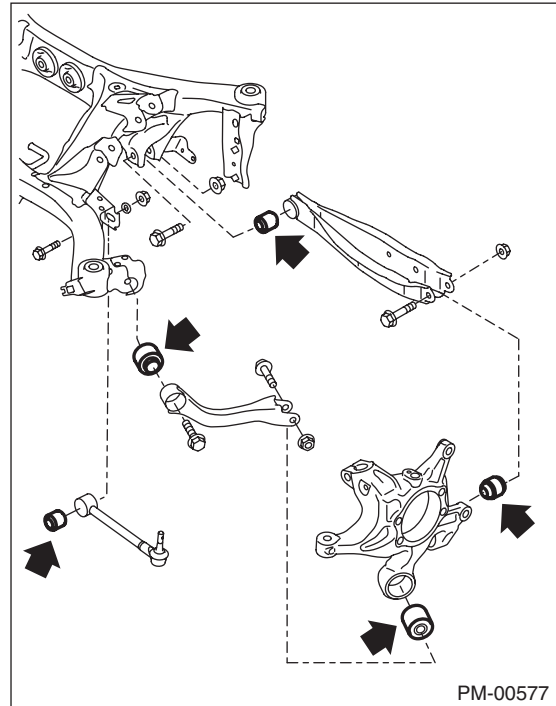
3. FRONT, REAR SUSPENSION BUSHING

Apply pressure with tire lever etc, and inspect the bushing for excessive wear or damage. If defective, replace the bushing.

- Front suspension bushing



- Rear suspension bushing



4. WHEEL ARCH HEIGHT

Refer to “FS” section for wheel arch height inspection. <Ref. to FS-8, WHEEL ARCH HEIGHT, INSPECTION, Wheel Alignment.>

5. WHEEL ALIGNMENT

Measure and adjust the front and rear wheel alignment at a time. Refer to “FS” section for measurement and adjustment of wheel alignment. <Ref. to FS-7, INSPECTION, Wheel Alignment.>

6. OIL LEAKAGE OF STRUT AND SHOCK ABSORBER

Visually inspect the front strut and rear shock absorber for oil leakage. Replace the front strut and rear shock absorber if oil leaks excessively.

7. TIGHTNESS OF BOLTS AND NUTS

Check the bolts and nuts for looseness. Retighten the bolts and nuts to specified torque. If the self-locking nuts and bolts are removed, replace them with new parts. <Ref. to FS-2, General Description.> <Ref. to RS-2, General Description.>

8. DAMAGE TO SUSPENSION PARTS

Check the following parts and the fastening portion of the vehicle body for deformation or excessive rusting which impairs the suspension. Thoroughly remove the deposits of the lower spring seat of strut where dust or mud are likely piled up. If necessary, replace the damaged parts with new parts. If minor rust formation, pitting, etc. are noted, remove the rust and take rust prevention measure.

- Front suspension
 - Front arm
 - Cradle
 - Strut
- Rear suspension
 - Sub frame
 - Front lateral link
 - Rear lateral link
 - Upper arm
 - Trailing link
 - Shock absorber
- In the area where salt is sprayed to melt snow on a road in winter, check suspension parts for damage caused by rust every 12 months after lapse of 60 months. Take rust prevention measures as required.

21. Wheel Bearing

A: INSPECTION

1. FRONT WHEEL BEARING

NOTE:

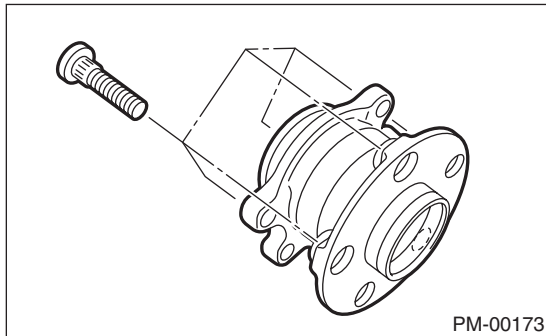
Inspect the condition of front wheel bearing grease.

- 1) Jack-up the front side of vehicle.
- 2) While holding the front wheel by hand, swing it in and out to check bearing free play.
- 3) Loosen the wheel nuts, and remove the front wheel.
- 4) If the bearing free play exists in step 2) above, attach a dial gauge to the hub and measure axial play in axial direction.

Service limit:

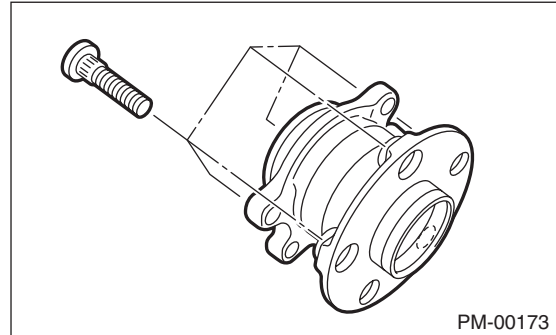
***Straight-ahead position within 0.05 mm
(0.0020 in)***

- 5) Remove the bolts and self-locking nuts, and extract the front arm from front crossmember.
 - 6) Remove the transmission-side joint of the front drive shaft from the transmission. <Ref. to DS-17, Front Axle.>
 - 7) While supporting the front drive shaft horizontally with one hand, turn the hub with the other hand to check for noise or binding.
- If the hub is noisy or binds, replace the front axle.



- 6) While supporting rear drive shaft horizontally with one hand, turn the hub with the other hand to check for noise or binding.

If the hub is noisy or binds, replace the rear axle.



2. REAR WHEEL BEARING

- 1) Jack-up the rear side of vehicle.
- 2) While holding the rear wheel by hand, swing it in and out to check bearing free play.
- 3) Loosen the wheel nuts, and remove the rear wheel.
- 4) If the bearing free play exists in step 2) above, attach a dial gauge to the hub and measure axial play in axial direction.

Service limit:

***Straight-ahead position within 0.05 mm
(0.0020 in)***

- 5) Remove the DOJ of rear drive shaft from rear differential. <Ref. to DS-71, Rear Drive Shaft.>

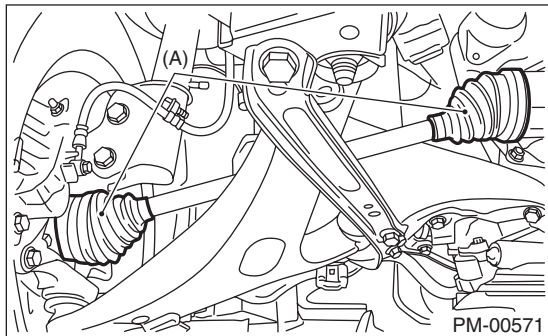
22. Axle Boots & Joints

A: INSPECTION

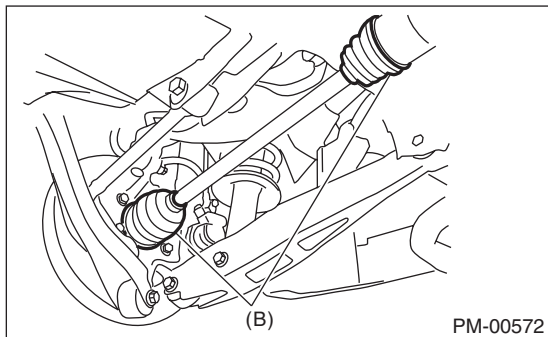
1. FRONT AND REAR AXLE BOOTS

Inspect the front axle boots (A) and rear axle boots (B) for deformation, damage or failure. If faulty, replace with new part. <Ref. to DS-57, Front Drive Shaft.> <Ref. to DS-71, Rear Drive Shaft.>

- Front



- Rear



2. PROPELLER SHAFT

Inspect the propeller shaft for damage or failure. If faulty, replace with new part. <Ref. to DS-12, Propeller Shaft.>

23. Tire Inspection and Rotation

A: INSPECTION

Refer to “WT” section for tire inspection and rotation. <Ref. to WT-5, TIRE ROTATION, INSPECTION, Tire and Wheel.>

Steering System (Power Steering)

PERIODIC MAINTENANCE SERVICES

24. Steering System (Power Steering)

A: INSPECTION

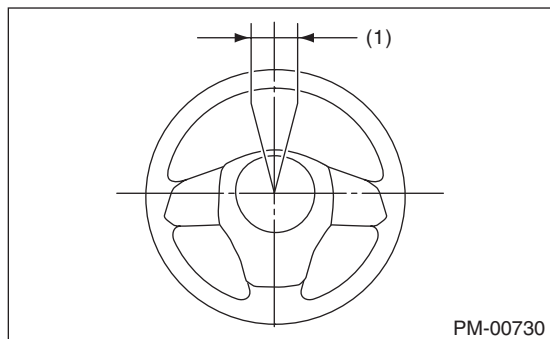
1. STEERING WHEEL

- 1) Set the steering wheel in a straight-ahead position, and check the wheel spokes to make sure they are correctly set in their specified positions.
- 2) Lightly turn the steering wheel to the left and right to determine the point where front wheels start to move.

Measure the distance of the movement of steering wheel (periphery).

Steering wheel free play:

0 — 17 mm (0 — 0.67 in)



(1) Steering wheel free play

Move the steering wheel vertically toward the shaft to check if there is play in the direction.

Play limit:

0.5 mm (0.020 in)

- 3) Drive the vehicle and check the following items.
 - (1) Steering force:
The effort required for steering should be smooth and even at all points, and should not vary.
 - (2) Pulled to one side:
Steering wheel should not be pulled to one side while driving on a level surface.
 - (3) Wheel runout:
Steering wheel should not show any sign of runout.
 - (4) Return status:
Steering wheel should return to its original position after it has been turned and then released.

2. STEERING SHAFT JOINT

When the steering wheel free play is excessive, disconnect the universal joint of steering shaft and check it for any play and yawing torque (at the point of the crossing direction). Also inspect for any damage to sealing or worn serrations. If the joint is loose, retighten the mounting bolts to the specified torque. <Ref. to PS-13, Universal Joint.>

Tightening torque:

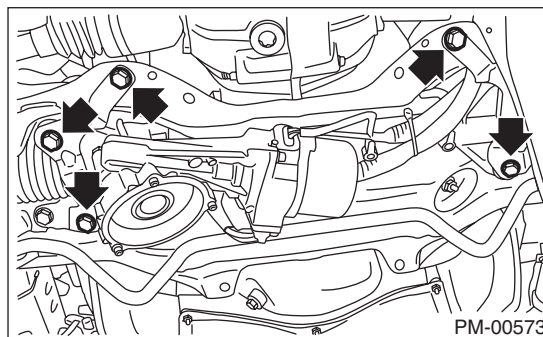
24 N·m (2.4 kgf-m, 17.4 ft-lb)

3. GEARBOX

- 1) Set the steering wheel in the straight position, then rotate it 90° in both the left and right directions. While steering wheel is being rotated, check the looseness of the gearbox.

Tightening torque:

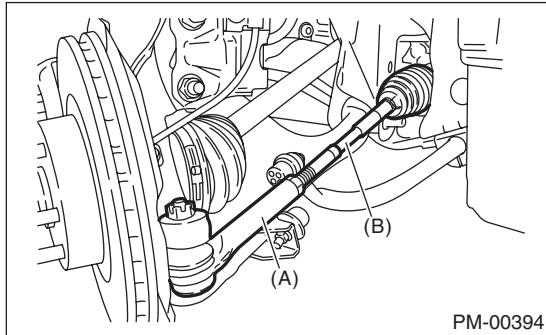
60 N·m (6.1 kgf-m, 44.3 ft-lb)



- 2) Check the boot for damage, cracks or deterioration.
- 3) With the vehicle stopped on a level surface, quickly turn the steering wheel to the left and right. While steering wheel is being rotated, check the gear backlash. If any noise is noticed, adjust the gear backlash. <Ref. to PS-40, GEARBOX BACKLASH ADJUSTMENT, ADJUSTMENT, Electric Power Steering Gearbox.>

4. TIE-ROD

1) Check the tie-rod and tie-rod ends for bends, scratches or other damage.



(A) Tie-rod end

(B) Tie-rod

2) Confirm that the connections of knuckle ball joints for play, and then check for damage on dust boots and free play of ball studs. If castle nut is loose, retighten it to the specified torque, then tighten further up to a maximum of 60° until the cotter pin hole is aligned.

Tightening torque:

27 N·m (2.75 kgf-m, 19.9 ft-lb)

3) Check the lock nut on the tie-rod end for tightness. If it is loose, retighten it to the specified torque.

Tightening torque:

85 N·m (8.7 kgf-m, 62.7 ft-lb)

5. GEARBOX BOOTS

Inspect both sides of the gearbox boot as follows, and correct the defects if necessary.

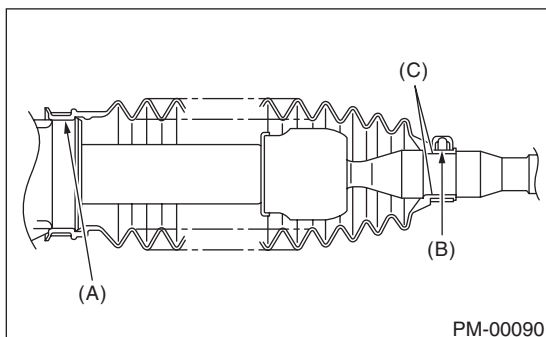
1) The (A) and (B) positions of the gearbox boot are fitted in (A) and (C) grooves of gearbox and the rod.

2) Clips are fitted outside of positions (A) and (B) of boot.

3) Check that there is no cracks or holes in the boot.

NOTE:

Rotate (B) position of gearbox boot against the torsion produced by the adjustment of toe-in etc. Apply grease to the groove (C).



25.A/C Filter

A: REPLACEMENT

Refer to “AC” section for A/C filter replacement.
<Ref. to AC-99, REPLACEMENT, A/C Filter.>

ENGINE SECTION

This service manual has been prepared to provide SUBARU service personnel with the necessary information and data for the correct maintenance and repair of SUBARU vehicles.

This manual includes the procedures for maintenance, disassembling, reassembling, inspection and adjustment of components and diagnostics for guidance of experienced mechanics.

Please peruse and utilize this manual fully to ensure complete repair work for satisfying our customers by keeping their vehicle in optimum condition. When replacement of parts during repair work is needed, be sure to use SUBARU genuine parts.

All information, illustration and specifications contained in this manual are based on the latest product information available at the time of publication approval.

FUEL INJECTION (FUEL SYSTEMS)**FU(H4DO)****EMISSION CONTROL
(AUX. EMISSION CONTROL DEVICES)****EC(H4DO)****INTAKE (INDUCTION)****IN(H4DO)****MECHANICAL****ME(H4DO)****EXHAUST****EX(H4DO)****COOLING****CO(H4DO)****LUBRICATION****LU(H4DO)****SPEED CONTROL SYSTEMS****SP(H4DO)****IGNITION****IG(H4DO)****STARTING/CHARGING SYSTEMS****SC(H4DO)****ENGINE (DIAGNOSTICS)****EN(H4DO)(diag)****GENERAL DESCRIPTION****GD(H4DO)**

FUEL INJECTION (FUEL SYSTEMS)

FU(H4DO)

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