LEXUS

Technical Service Information Bulletin

April 3, 1998

Title:

R-12 AIR CONDITIONER SYSTEM RETROFIT

Models:

'90–'93 ES 250/300, SC 400/300, LS 400

TSIB

Introduction

The following information should be used for guidance when retrofitting vehicle air conditioning systems from R–12 to R134a refrigerant.

Affected Vehicles

- **1990–1992** model year **LS 400, 1990–1991** model year **ES 250, 1992–1993** model year **ES 300, 1992–1993** model year **SC 300, 1992–1993** model year **SC 400**

Parts Information

All parts required for retrofit are available through the normal parts system:

IDENTIFICATION		REQUIRED PARTS & MATERIALS			
MODEL	COMPRESSOR	RETROFIT SET	RECEIVER	ND OIL 8	CHARGE
LS 400	10PA20	88840–33020 (1) plus 90099–14044 (2) 90099–14045 (1)	88471–16050	170 cc	1000 g
ES 250	10PA17V		88471–12040	100 cc	650 g
ES 300	10PA17		88471–16050	150 cc	900 g
SC 300					
SC400					

NOTE:

Retrofit Set 88840–33020 includes:

88374–33010	**Low pressure side service fitting adaptor (7/16–20 UNF)**
88374–33020	**High pressure side service fitting adaptor (3/8–20 UNF)**
88723–20040	**R134a "USE ONLY" label (ND Oil 8 for 10P, 10PA compressor)**
88723–33050	**Retrofit Caution Label**
90099–14046	**Piping O–rings for discharge hose (quantity 2)**

Required for all models (not included in set):

90099–14044	**Receiver O–rings (quantity 2)**
08885–09107	**ND–Oil 8**

Also available as needed:

88374–33040	**L–shaped low pressure side service fitting adaptor**
88374–33050	**L–shaped high pressure side service fitting adaptor**

Warranty Information

OP CODE	NWC	DESCRIPTION	TIME	OPN	T1	T2
Not Applicable to Warranty						

Table of Contents

Required Tools & Materials

A. Required Equipment:

1. R–12 recovery/recycling/recharging equipment
2. R134a recovery/recycling/recharging equipment
3. Measuring cylinder (for compressor oil)
4. Valve core remover for service valves
5. Air conditioner service tool set
6. Torque Wrench Set, P/N 00002–50284–01, includes the following*:
   - 14 mm 00002–51410–01
   - 17 mm 00002–51710–01
   - 22 mm 00002–52216–01
   - 27 mm 00002–52724–01

B. Required Parts & Materials: **

1. R134a Refrigerant
2. Service Fitting Adaptors
3. Caution Labels
4. ND–OIL 8 compressor oil (PAG type oil)
5. Receiver
6. O–Rings for compressor, line & hose connections ***
7. Loctite 262 or equivalent

* required size dependent upon model.
** see parts information section of this bulletin on page 1.
*** it is **not** necessary to replace any O–rings on ES 300, SC 300 and SC 400 models.

Retrofitting Overview

A. Refrigerant and Oil Charges

- Oil and refrigerant charge amounts are different after the R–12 system has been retrofitted to R134a. Refrigerant charge amounts are less, while oil charge amounts are greater, compared to R–12 system requirements. Refer to the **ND OIL 8** and **CHARGE** columns in “Parts Information” table on page 1 for proper amounts.

B. System Performance

- A slight decrease in system performance may be noticed on some vehicles under certain operating conditions.

C. Refrigerant Pressures

- R134a high side pressures are greater than that of R–12 above ambient temperatures of 68˚F.

D. Flushing Requirements

- There is no need to remove or flush R–12 mineral oil from the system. Simply charge the system with the specified amount of ND–Oil 8 to provide proper lubrication.

E. Use of Sight Glass

- Mineral based R–12 oil remains and circulates in the A/C system and does not dissolve in R134a refrigerant. This results in a cloudy appearance at the sight glass making it impossible to judge the refrigerant charge amount by using the sight glass method. To prevent misdiagnosis on retrofit vehicles, apply black paint to the sight glass on block–joint (FF) type Receivers. Union–nut joint (BAG) type retrofit Receivers are manufactured without a sight glass.

Service Precautions

A. Refrigerant handling
1. Do not handle refrigerant in an enclosed area or near an open flame.
2. Always wear eye protection.
3. Avoid getting liquid refrigerant in your eyes or on your skin.
4. Never heat a container with an open flame.
5. Keep containers below 104˚F.
6. When heating a refrigerant can with water, keep the valve above water.
7. Never reuse empty service cans.

B. Replacing parts
1. Plug off any open connections to prevent the entry of moisture and dust.
2. Do not remove plugs from Receiver ports until it is ready for installation.

C. Tightening connecting parts
1. Apply a few drops of ND–Oil 8 compressor oil to O–ring fittings before tightening.
2. Avoid twisting refrigerant piping when installing R134a service fitting adapters.
3. Tighten all fittings to specified torque.

D. Recharging with A/C “on”
1. Never open the high side valve with the engine running.
2. Never run the A/C system when low on refrigerant as compressor damage may occur.
3. Never charge the system with liquid refrigerant with the engine running.
4. Be careful not to overcharge the system.

NOTE:
Oil removed during R–12 evacuation should not be used with an R134a System.

Repair Procedure

A. Vehicle Inspection:
- Ensure the integrity of the A/C system before proceeding with retrofit.

B. Recover R–12 using R–12 recovery/recycling/recharging equipment:
- Follow Lexus recommended procedure.

C. Install R134a service fitting adapters:
1. Remove valve cores from R–12 service fittings and discard.
2. Clean external threads of the R–12 service fittings.
3. Apply adhesive to threads (Loctite 262 or equivalent), screw on R134a adapter fittings, and tighten to **13** ft–lb.

NOTE:
Vehicles with more than 2 service fittings will require the installation of additional adaptors. All service fittings must have R134a adaptors installed.

D. Replace piping and hose O–rings:
1. Disconnect discharge hose from compressor.
2. Remove and discard old O–rings.
3. Lubricate with ND–Oil 8 and install **new** O–rings.
4. Disconnect discharge hose from condenser.
5. Lubricate and install retrofit O–rings with ND–Oil 8.
6. Reconnect hoses and torque to specification. (Specifications can be found in applicable manuals/guides.)

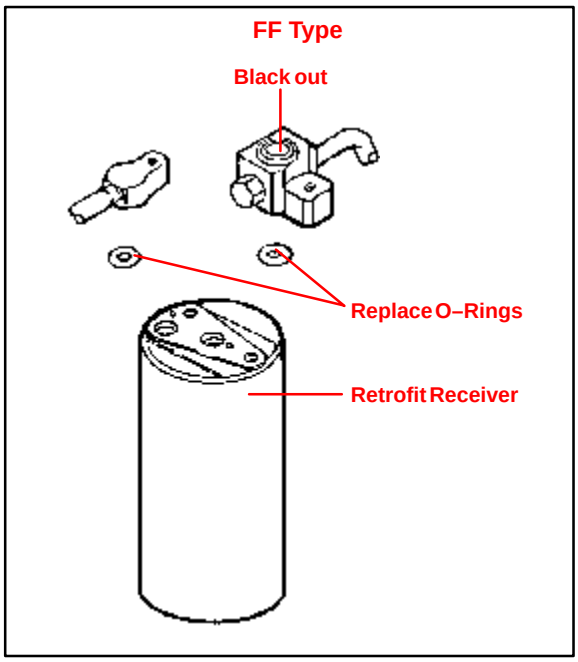
Repair Procedure (continued)

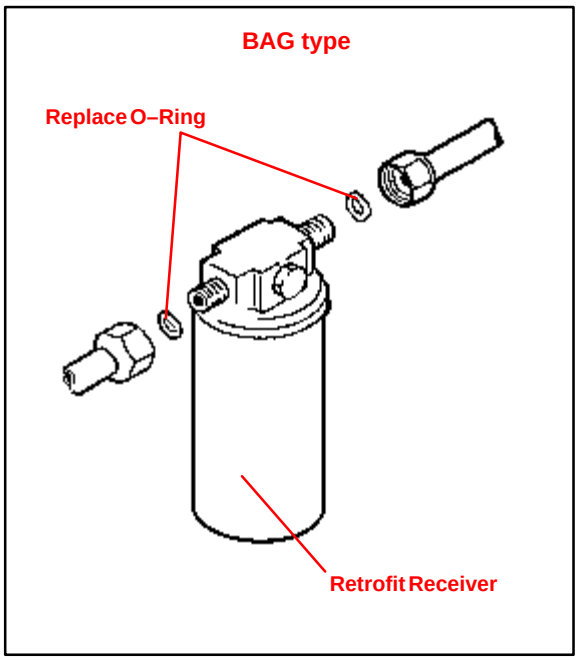
E. Replace Receiver
   1. Remove original R–12 Receiver and discard.
   2. Measure oil and pour 1/2 of specified amount of oil into the **"OUT"** side of new Receiver (see table on page 1 for amount).
   3. Black out the sight glass on block – joint – type Receiver with black paint.
   4. Lubricate and install the O–rings on the Receiver connections.
   5. Install Receiver.

F. Using **R134a** Recovery equipment, evacuate, charge, and leak test the system (Use equipment manufacturer's recommended procedure).
   1. Evacuate for 45 minutes.
   2. Vacuum check.
   3. If vacuum check is OK, add remaining 1/2 compressor oil using the recovery equipment.
      - Using recovery / recycling / recharging equipment charge the system with the remaining ½ of the specified amount of oil from step **E2**.
   4. Charge system with specified amount of **R134a**. (reference table on page 1).
   5. Perform a gas leak check.

G. Confirm cooling performance of Air Conditioning system.

H. Install retrofit labels:
   1. Choose **R134a "USE ONLY"** label for proper oil type (**ND–OIL 8**).
   2. Using a ball point pen, enter the proper retrofit refrigerant and oil charges on the caution label.
   3. Cross out unused type of compressor oil on caution label.
   4. Affix labels in a prominent location such as radiator support, underside of hood, or suspension tower area.
   5. Remove any R–12 labels.





Technical Service Information Bulletin
December 16, 2004

Title:

SENSOR INSPECTION FOR AIR CONDITIONING SYSTEM

Models:

'90 – Current All Models

TSIB

Introduction

This service bulletin contains inspection procedures to more precisely confirm proper operation of the following temperature sensors of the air conditioning system. Follow the procedures in this service bulletin when inspecting these sensors. These contents will be reflected in future repair manuals.

- Room Temperature Sensor
- Ambient Temperature Sensor
- Air Duct Sensor
- Evaporator Temperature Sensor
- Solar Sensor
- Room Humidity Sensor

Applicable Vehicles

- **All 1990 – Current** model year **Lexus** vehicles.

Warranty Information

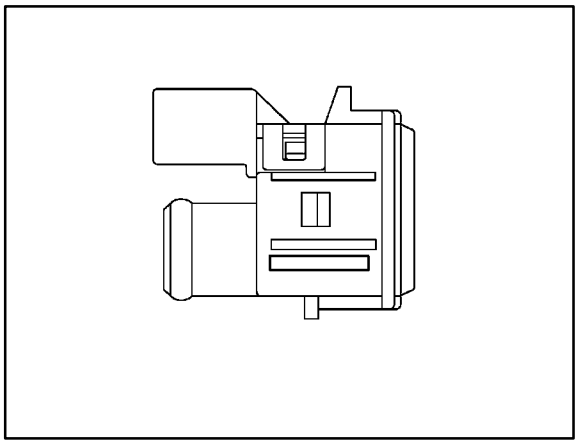
OP CODE	DESCRIPTION	TIME	OFP	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Inspection Procedure

1. Inspect Room Temperature Sensor.

A. Measure the sensor resistance.

Resistance Value at 77°F (25°C)	1700 +/– 85Ω



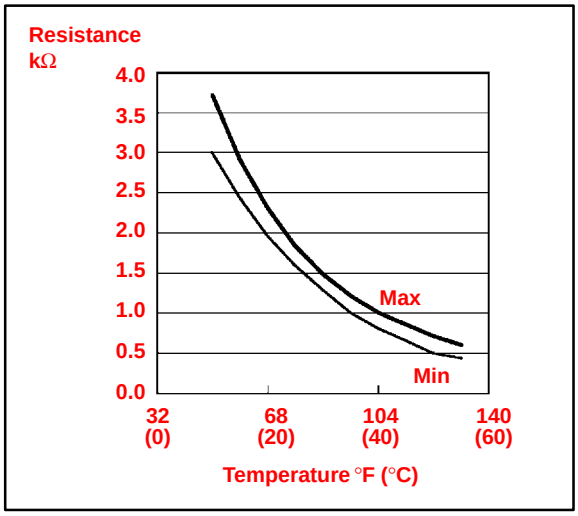
NOTE:

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be the same as the ambient temperature.**

HINT:

As the temperature increases, the resistance decreases.

TEMPERATURE °F (°C)	SPECIFICATION kΩ
50 (10)	3.00 to 3.73
59 (15)	2.45 to 2.88
68 (20)	1.95 to 2.30
77 (25)	1.60 to 1.80
86 (30)	1.28 to 1.47
95 (35)	1.00 to 1.22
104 (40)	0.80 to 1.00
113 (45)	0.65 to 0.85
122 (50)	0.50 to 0.70
131 (55)	0.44 to 0.60
140 (60)	0.36 to 0.50

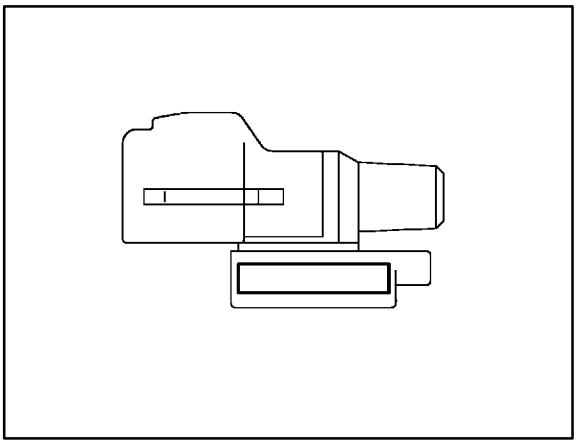


Inspection Procedure (Continued)

2. Inspect Ambient Temperature Sensor.

A. Measure the sensor resistance according to the selected graph (specification).

Resistance Value at 77°F (25°C)	1700 +/– 85Ω



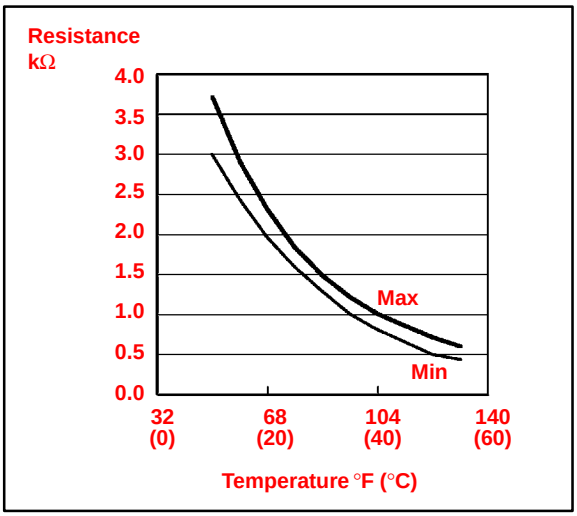
NOTE:

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be the same as the ambient temperature.**

HINT:

As the temperature increases, the resistance decreases.

TEMPERATURE °F (°C)	SPECIFICATION kΩ
50 (10)	3.00 to 3.73
59 (15)	2.45 to 2.88
68 (20)	1.95 to 2.30
77 (25)	1.60 to 1.80
86 (30)	1.28 to 1.47
95 (35)	1.00 to 1.22
104 (40)	0.80 to 1.00
113 (45)	0.65 to 0.85
122 (50)	0.50 to 0.70
131 (55)	0.44 to 0.60
140 (60)	0.36 to 0.50



Inspection Procedure (Continued)

3. Inspect Air Duct Sensor.

A. Measure the sensor resistance according to the table and graph (specification).

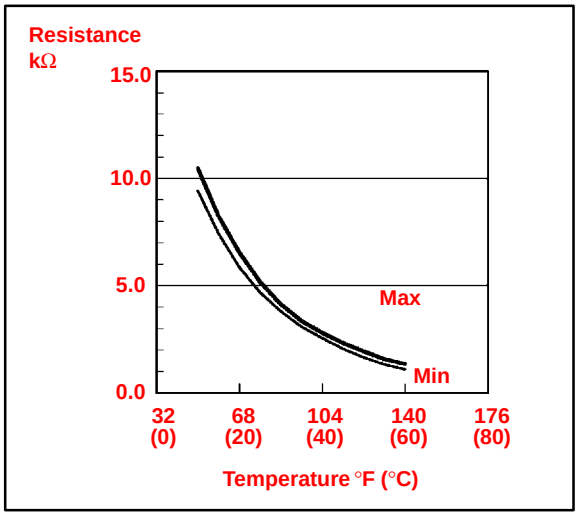
NOTE:

- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be the same as the ambient temperature.**

HINT:

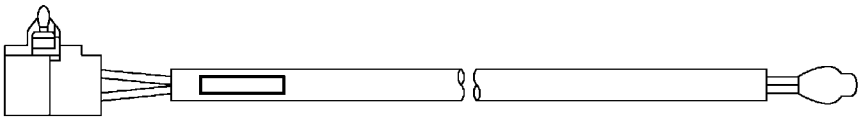
As the temperature increases, the resistance decreases.

TEMPERATURE °F (°C)	SPECIFICATION kΩ
50 (10)	9.48 to 10.49
59 (15)	7.50 to 8.28
68 (20)	5.95 to 6.57
77 (25)	4.77 to 5.25
86 (30)	3.85 to 4.21
95 (35)	3.12 to 3.40
104 (40)	2.53 to 2.79
113 (45)	2.06 to 2.30
122 (50)	1.69 to 1.91
131 (55)	1.39 to 1.59
140 (60)	1.15 to 1.33



Inspection Procedure (Continued)

4. Inspect Evaporator Temperature Sensor.



Select the appropriate graph (specification) using the following table.

NOTE:

Please inspect the sensors for model years not indicated by this bulletin, according to the instructions in the applicable repair manual.

MODEL	MODEL YEAR	COMMENTS	PART NUMBER	GRAPH
ES 300	1992 – 2001		88625–33070	2
ES 300/330	2002 – 2003		88625–17130	2
	2003		88625–33170	3
GS 300	1993 – 1997		88625–3A020	2
GS 300/400/430	1998 – 2002		88625–3A120	2
GX 470	2003 – 2005	Thermistor No. 1	88625–35050	3
		Thermistor No. 2	88625–16210	2
IS 300	2000 – 2001		88625–48010	2
LS 400	1990 – 1992		88625–32040	2
	1993 – 1994		88625–50100	2
	1995 – 2000		88625–50140	2
LS 430	2001 – 2005		88625–50160	2
LX 450	1996 – 1997		88625–60060	2
LX 470	1998 – 2000	Thermistor No. 2	88625–60140	2
	1998 – 2002	Thermistor No. 1	88625–60130	2
	2003 – 2005		88625–47011	2
RX 300	1998 – 2003		88625–48010	2
RX 330	2004	CBU	88625–48050	1
	2004 – 2005	CBU	88625–48060	3
		NAP		
SC 300/400	1991 – 2000		88625–32040	2

Inspection Procedure (Continued)

A. Measure the sensor resistance according to the selected graph (specification).

NOTE:

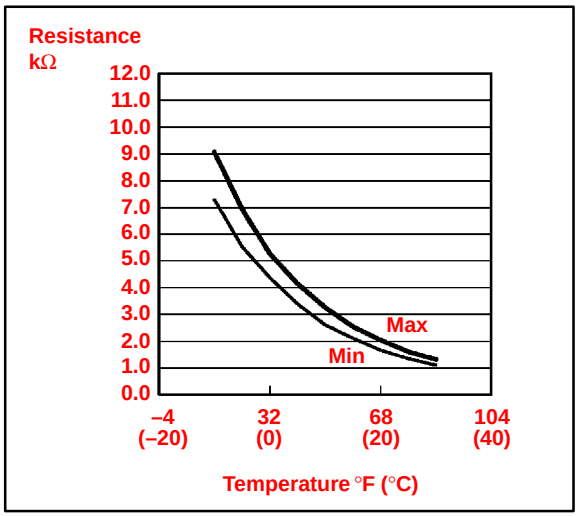
- **Even slightly touching the sensor may change the resistance value. Be sure to hold the connector of the sensor.**
- **When measuring, the sensor temperature must be the same as the ambient temperature.**

HINT:

As the temperature increases, the resistance decreases.

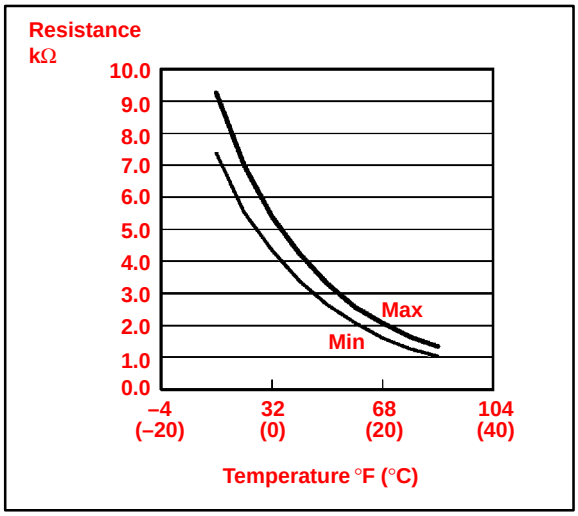
Graph 1:

TEMPERATURE °F (°C)	SPECIFICATION kΩ
14 (–10)	7.30 to 9.10
23 (–5)	5.65 to 6.95
32 (0)	4.40 to 5.35
41 (5)	3.40 to 4.15
50 (10)	2.70 to 3.25
59 (15)	2.14 to 2.58
68 (20)	1.71 to 2.05
77 (25)	1.38 to 1.64
86 (30)	1.11 to 1.32



Graph 2:

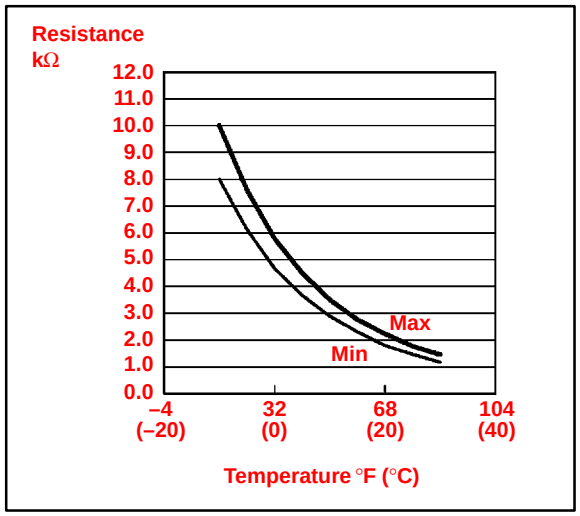
TEMPERATURE °F (°C)	SPECIFICATION kΩ
14 (–10)	7.40 to 9.20
23 (–5)	5.65 to 7.00
32 (0)	4.35 to 5.40
41 (5)	3.40 to 4.20
50 (10)	2.68 to 3.30
59 (15)	2.10 to 2.60
68 (20)	1.66 to 2.10
77 (25)	1.32 to 1.66
86 (30)	1.05 to 1.35



Inspection Procedure (Continued)

Graph 3:

TEMPERATURE °F (°C)	SPECIFICATION kΩ
14 (–10)	8.00 to 10.00
23 (–5)	6.15 to 7.65
32 (0)	4.75 to 5.85
41 (5)	3.70 to 4.55
50 (10)	2.91 to 3.55
59 (15)	2.32 to 2.80
68 (20)	1.85 to 2.22
77 (25)	1.48 to 1.77
86 (30)	1.20 to 1.43



Inspection Procedure (Continued)

5. Inspect Solar Sensor.

Four types of solar sensors are used on Lexus vehicles depending on the vehicle specifications. The inspection procedure for each type of sensor differs from the others. Select the appropriate inspection procedure from the table below according to vehicle specifications and perform the inspection.

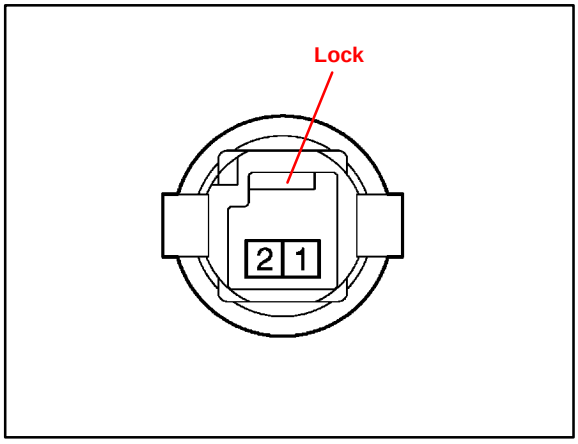
EQUIPPED WITH AUTOMATIC LIGHT CONTROL SYSTEM	A/C SYSTEM WITH RIGHT/LEFT INDEPENDENT TEMPERATURE CONTROL	INSPECTION PROCEDURE
No	No	A
No	Yes	B
Yes	Yes	C
Yes	No	D

Procedure A:

a. Disconnect the solar sensor connector.

b. Measure the resistance between terminals 1 and 2 of the solar sensor under the following conditions:

- Cover the sensor with a cloth to avoid direct light.
- Expose the sensor to light from a distance of 300 mm (11.81 in.) or less with an inspection light.



NOTE:

- **Terminal 1 of the sensor is always on the right, when the lock is facing up.**
- **When using an analog tester, connect the positive (+) lead to terminal 2 and negative (–) lead to terminal 1 of the solar sensor.**

HINT:

If the light is weak, the sensor may not react. Be sure to use an incandescent light for an inspection light.

Standard:

CONDITION	SPECIFICATION
When the sensor is covered with a cloth (to avoid direct light)	Infinite ohms
When the sensor is exposed to light	Less than infinite resistance

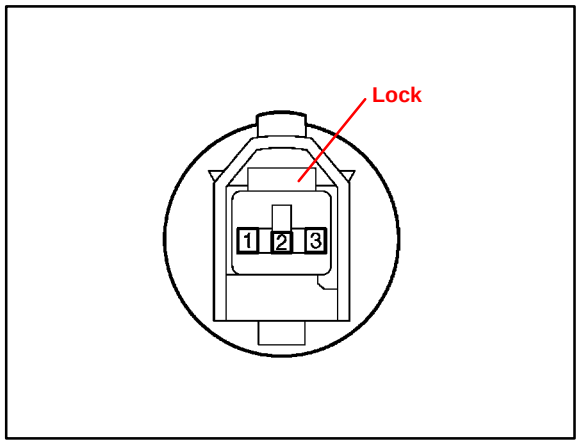
Inspection Procedure (Continued)

Procedure B:

a. Disconnect the solar sensor connector.

b. Measure the resistance between terminals 2 and 3 of the solar sensor under the following conditions:

- Cover the sensor with a cloth to avoid direct light.
- Expose the sensor to light from a distance of 300 mm (11.81 in.) or less with an inspection light.



NOTE:

When using an analog tester, connect the positive (+) lead to terminal 3 and negative (–) lead to terminal 2 of the solar sensor.

HINT:

If the light is weak, the sensor may not react. Be sure to use an incandescent light for an inspection light.

Standard:

CONDITION	SPECIFICATION
When the sensor is covered with a cloth (to avoid direct light)	Infinite ohms
When the sensor is exposed to light	Less than infinite resistance

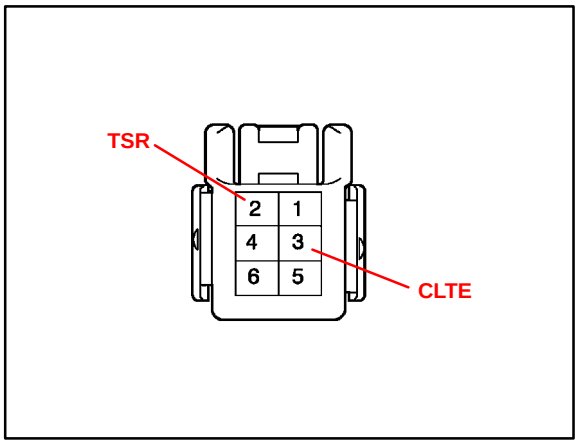
Inspection Procedure (Continued)

Procedure C:

a. Turn the ignition switch ON.

b. Measure the voltage between terminals TSR (+) and CLTE (–) of the connector under the following conditions:

- Cover the sensor with a cloth to avoid direct light.
- Expose the sensor to light from a distance of 300 mm (11.81 in.) or less with an inspection light.



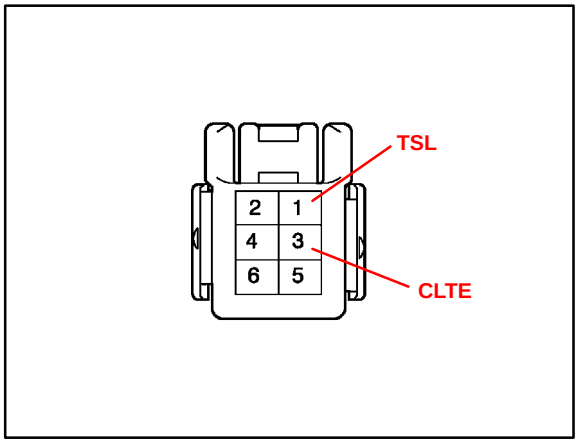
HINT:
- **If the light is weak, the sensor may not react. Be sure to use an incandescent light for an inspection light.**
- **Do not disconnect the solar sensor connector.**

Standard:

CONDITION	SPECIFICATION
When the sensor is covered with a cloth (to avoid direct light)	Below 0.8 V
When the sensor is exposed to light	4.3 +/– 0.3 V

c. Measure the voltage between terminals TSL (+) and CLTE (–) of the connector under the following conditions:

- Cover the sensor with a cloth to avoid direct light.
- Expose the sensor to light from a distance of 300 mm (11.81 in.) or less with an inspection light.



HINT:
- **If the light is weak, the sensor may not react. Be sure to use an incandescent light for an inspection light.**
- **Do not disconnect the solar sensor connector.**

Standard:

CONDITION	SPECIFICATION
When the sensor is covered with a cloth (to avoid direct light)	Below 0.8 V
When the sensor is exposed to light	4.3 +/– 0.3 V

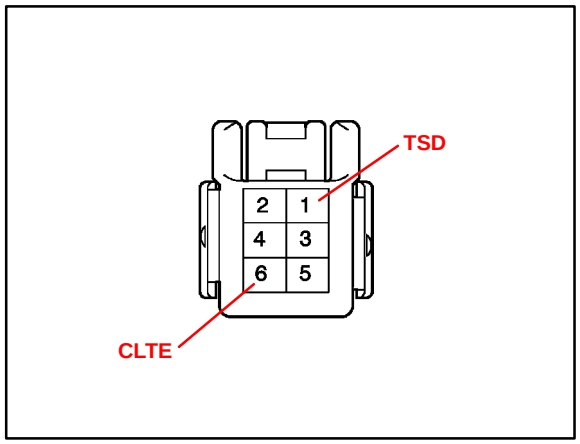
Inspection Procedure (Continued)

Procedure D:

a. Turn the ignition switch ON.

b. Using the tester, measure the voltage between terminals TSD (+) and CLTE (–) of the connector under the following conditions:

- Cover the sensor with a cloth to avoid direct light.
- Expose the sensor to light from a distance of 300 mm (11.81 in.) or less with an inspection light.



HINT:

- **If the light is weak, the sensor may not react. Be sure to use an incandescent light for an inspection light.**
- **Do not disconnect the solar sensor connector.**

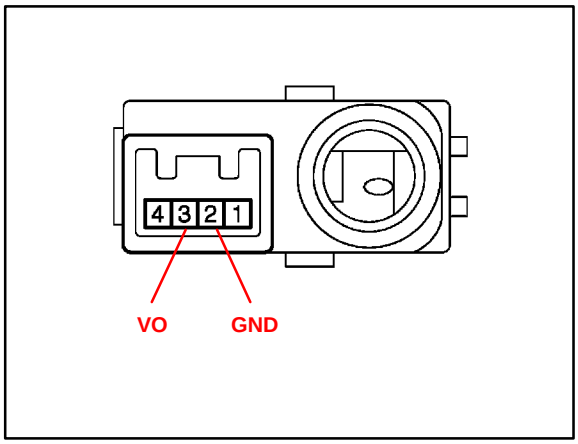
Standard:

CONDITION	SPECIFICATION
When the sensor is covered with a cloth (to avoid direct light)	Below 0.8 V
When the sensor is exposed to light	4.3 +/– 0.3 V

Inspection Procedure (Continued)

6. Inspect Room Humidity Sensor.

Measure the humidity and output voltage of the humidity sensor when the sensor is installed on the vehicle and the temperature at the humidity sensor position (room temperature sensor position) is 77°F (25°C).
If the output voltage is within the specifications according to the graph and table below, the sensor is normal.



HINT:

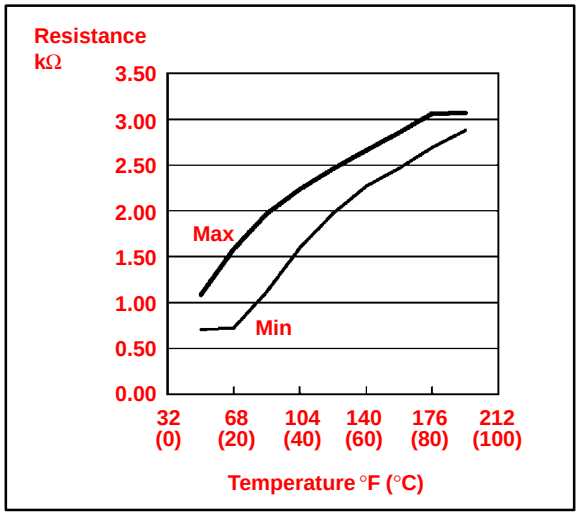
For the inspection procedure of the room temperature sensor, refer to "Room Temperature Sensor Inspection Procedure" in this bulletin.

A. Turn the ignition switch to the ON position.

B. Measure the voltage between terminal VO (3) and GND (2) of the room humidity sensor.

C. Measure the humidity and voltage when the room temperature (humidity sensor position) is 77°F (25°C). According to the result, determine whether the sensor is normal or not.

HUMIDITY (% RH)	OUTPUT VOLTAGE AT 77°F (25°C)
10	0.70 to 1.08 V
20	0.72 to 1.57 V
30	1.13 to 1.95 V
40	1.61 to 2.24 V
50	1.99 to 2.46 V
60	2.26 to 2.66 V
70	2.48 to 2.85 V
80	2.68 to 3.04 V
90	2.87 to 3.05 V



LEXUS

Technical Service Information Bulletin

March 17, 2000

Title:

LEXUS "DINGHY" TOWING GUIDE

Models:

All Models

TSIB

ACCESSORIES

AX001–00

Introduction

The following chart indicates which Lexus vehicles can be Dinghy towed (towed with four wheels on the ground) behind a Motorhome.

CAUTION:

Dinghy towing a vehicle behind a Motorhome requires special towing equipment and accessories. Please see your Motorhome Manufacturer / Service Outlet for recommended towing equipment.

Applicable Vehicles

- **All Models**

YEAR	MODEL	DINGHY TOWABLE		SPEED/DISTANCE LIMITS
		M/T	A/T	
1990–2000	LS 400	Not Towable		–
1992–2000	SC 400/300	Not Towable	Not Towable	–
1993–2000	GS 400/300	Not Towable		–
1992–1998	ES 300	Not Towable		–
1999–2000	ES 300	Yes		55 mph / 200 miles
1999–2000	RX 300 2WD	Yes		55 mph / 200 miles
1999–2000	RX 300 4WD	Yes		55 mph / 200 miles
1996–1997	LX 450	Not Towable		–
1998–2000	LX 470	Not Towable		–

NOTE:

After "Dinghy" Towing, or at the recommended distance limits, let the Engine idle for more than 3 minutes before operating the vehicle or resuming towing.

NOTE:

Vehicles that are Dinghy towable will not sustain internal damage to the transmission or transfer components, as long as speed/distance limits are observed. The transmission must be placed in the "neutral" position when Dinghy towing. Dinghy towing these vehicles does not eliminate the possibility of damage to other vehicle systems (Body, Chassis, Electrical Systems, etc.).

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

LEXUS

Technical Service Information Bulletin

May 25, 2001

Title:

RETRO-FIT INTERNAL TRUNK RELEASE KITS

Models:

ES 300, GS 400/300, LS 400 & SC 400/300

TSIB

TSIB REVISION NOTICE:

The parts information updated in this TSIB is red and underlined.

Introduction

In order to respond to requests of our valued customers, we are offering Retro–Fit Internal Trunk Release Kits. These kits allow the trunk to be opened from the inside in case of entrapment.

Applicable Vehicles

MODEL	MODEL CODE	MODEL YEAR	# CLAMPS
ES 300	VCV10, MCV10	1992 – 1996	4
	MCV20	1997 – 2000	4
GS 300	JZS147	1994 – 1997	4
GS 400/300	UZS160, JZS160	1998 – 2000	4
LS 400	UCF10	1993 – 1994	4
	UCF20	1995 – 2000	4
SC 400/300	UZZ30, JZZ31	1992 – 2000	4

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
–	64640–33030	Trunk Release
–	90464–00551	Clamp
–	MDC 00237–LUTRI–01	Installation Instructions

Installation Procedure

Order the appropriate trunk release, at least as many clamps as listed above, and a set of installation instructions. Follow the installation procedure detailed in the installation instructions. Installation time is 0.7 hours.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Technical Service Information Bulletin
March 19, 1999

Title:
LEXUS "DINGHY" TOWING GUIDE

Models:
All Models

TSIB

Introduction

The following chart indicates which Lexus vehicles can be Dinghy towed (towed with four wheels on the ground) behind a Motorhome.

CAUTION:
Dinghy towing a vehicle behind a Motorhome requires special towing equipment and accessories. Please see your Motorhome Manufacturer / Service Outlet for recommended towing equipment.

Affected Vehicles

- **All Models**

YEAR	MODEL	DINGHY TOWABLE		SPEED/DISTANCE LIMITS
		M/T	A/T	
1990 – 1999	LS 400	Not Towable		–
1992 – 1999	SC 300	Not Towable		–
1992 – 1999	SC 400	Not Towable		–
1993 – 1999	GS 300	Not Towable		–
1992 – 1998	ES 300	Not Towable		–
1999	ES 300	N/A	Yes	55 mph / 200 miles
1996 – 1997	LX 450	Not Towable		–
1998 – 1999	LX 470	Not Towable		–
1999	RX 300 2WD	N/A	Yes	55 mph / 200 miles
1999	RX 300 4WD	N/A	Yes	55 mph / 200 miles

NOTE:
After "Dinghy" Towing, let the Engine idle for more than 3 minutes.

NOTE:
Vehicles that are Dinghy towable will not sustain internal damage to the transmission or transfer components. The transmission must be placed in the "neutral" position when Dinghy towing. Dinghy towing these vehicles does not eliminate the possibility of damage to other vehicle systems (Body, Chassis, Electrical Systems, etc.).

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

LEXUS

Technical Service Information Bulletin

July 29, 2002

Title:

CHILD RESTRAINT SEAT TOP STRAP BRACKET INSTALLATION

Models:

'90 – '00 All Models

TSIB

BODY

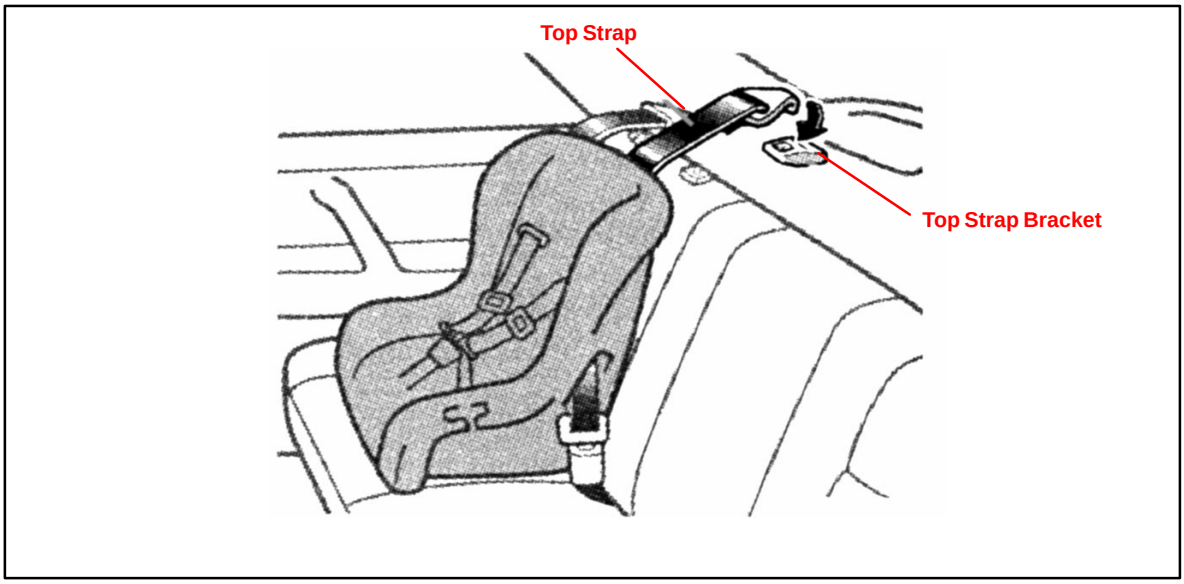
BO004-02

Introduction

Child restraint seat top strap bracket installation procedures are provided to supplement the Owner's Manual. Beginning with 2001 models, the top strap brackets are factory installed.

NOTE:

- **The child restraint seat top strap assembly is not available as a service part. Contact the child restraint seat manufacturer for recommended top strap information, top strap to child restraint seat installation instructions, and top strap retailers.**
- **The top strap brackets can only be installed on vehicles that have nuts welded in place by the factory. The locations of these nuts can be found in the Owner's Manual (for most 1990 and newer models). Lexus does not recommend modifying vehicles that do not have nuts welded in place by the factory. All LX 450 and LX 470 vehicles, prior to 2001 model year, may not have these nuts welded in by the factory.**



Applicable Vehicles

- **1990 – 2000** model year vehicles, **all models.**

Parts Information

PART NUMBER	PART NAME
73709–12010	Bracket Sub–Assembly (Bracket, Bolt, 10 mm Spacer, and Washers)
04731–22012	CRS Kit (two Bolts [15 mm, 30 mm], three Spacers [5 mm, 10 mm, 15 mm], and Locking Clip)

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Installation Procedure

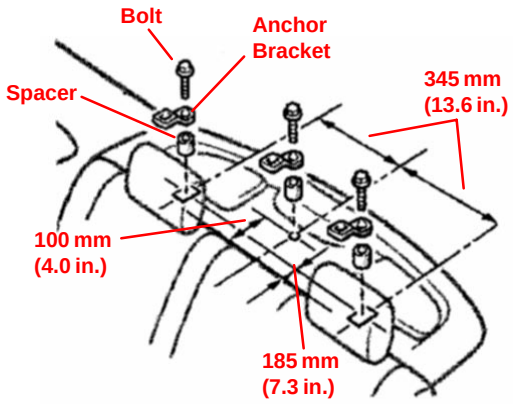
Child Restraint Seat Top Strap Bracket Installation

Obtain the exact year and vehicle model Lexus Owner's Manual before beginning installation.

1. Confirm with the customer which seat location(s) they will be installing the child restraint seat. The Owner's Manual seat section provides an illustration showing available top strap bracket location(s). The illustration page in the Owner's Manual is provided on page 4 of this bulletin.

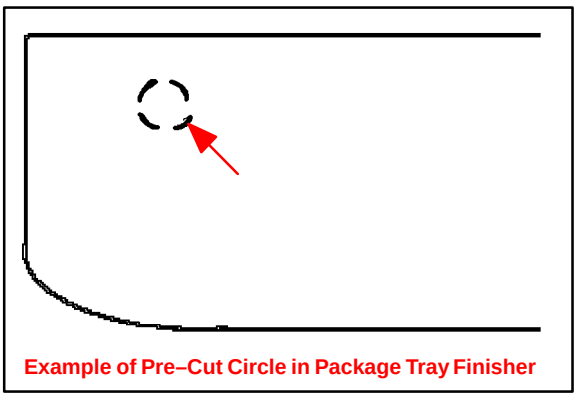
NOTE:

Determine which kit parts are needed for each specific child seat location, by referring to page 4 of this bulletin.



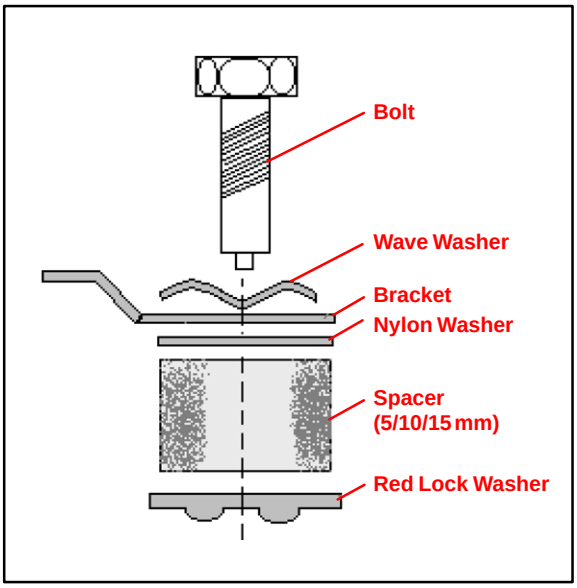
Example of 1999 ES 300 Showing Three (3) Available Bracket Locations

2. Remove a 20 mm diameter area of the carpet or trim material above the bracket mounting location. In some vehicles, a 20 mm circle is already pre–cut into the interior trim material. Once the interior trim material is removed, the nuts welded in by the factory should be visible.



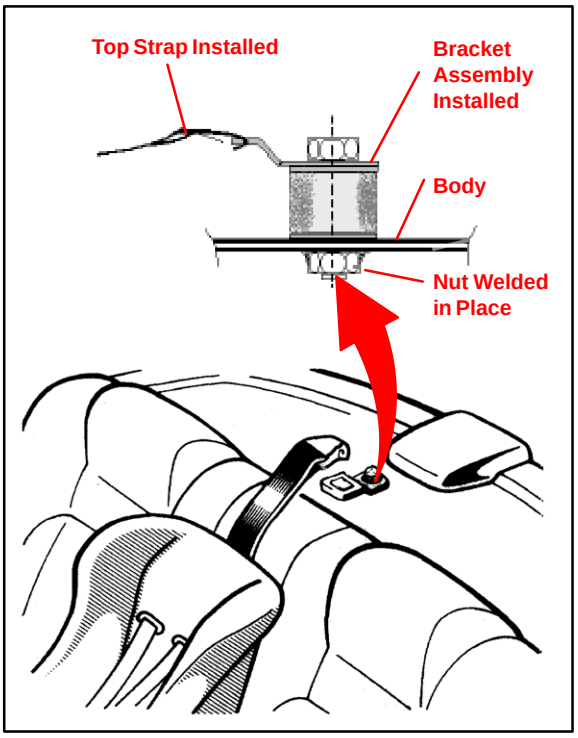
Example of Pre–Cut Circle in Package Tray Finisher

3. If a 5 mm or 15 mm spacer is specified, remove the red lock washer from the Bracket Sub–Assembly (P/N 73709–12010) and remove the 10 mm spacer. Assure the red lock washer is re–installed onto the bolt. If a 5 mm spacer is needed, use the 15 mm bolt from the CRS Kit (P/N 04731–22012).



Installation Procedure (Continued)

4. Install the bracket assembly, according to the directions in the Owner's Manual. Tighten the bolt to 16.5 – 24.7 N–m, (1.68 – 2.52 kgf–m, 12.2 – 18.2 ft–lbf).
   - Assure the top strap is attached to the child seat, according to the child seat manufacturer's instructions.
   - Assure the child seat is installed in the vehicle according to the Lexus Owner's Manual (seat section).



Installation Reference Information

Owner's Manual Installation Reference Information

Page 4 of this bulletin is a reference chart containing:

- Owner's Manual page(s) that provide the illustration showing available top strap bracket location(s). The information goes back to 1990 model year. 2001 models and newer already had the bracket installed by the factory.
- Installation notes, such as bracket spacer sizes for each specific child seat location.

EXAMPLE:

OWNER'S MANUAL	ES 300
1997	pg 89–90 a

This cell contains information on the 1997 ES300

Refer to this page in the Owner's Manual to find the illustration showing available top strap bracket locations.

Installation Note. In this case, all bracket positions on the 1997 ES 300 will require a 15 mm spacer.

INSTALLATION NOTE	COMMENT
a	Spacer – 15 mm for all anchors
b	Spacer – 10 mm for outer, 15 mm for center
c	Spacer – 15 mm for outer, 10 mm for center
d	Spacer – 5 mm for all anchors
N/A	Top strap anchor bracket mounting not available
Standard	No installation necessary, anchor already installed by factory

Installation Reference Information (Continued)

OWNER'S MANUAL	LS 400	ES 300	ES 250	SC 400	SC 300
2000	pg 117–118 Standard	pg 114–115 Standard		N/A	N/A
1999	pg 112–114 a	pg 105–106 a		N/A	N/A
1998	pg 111–113 a	pg 99–100 a		N/A	N/A
1997	pg 98–100 a	pg 89–90 a		pg 91–92 a	pg 91–92 a
1996	pg 79–82 a	pg 67–68 c		pg 72–73 a	pg 72–73 a
1995	pg 77–80 a	pg 67–68 c		pg 70–71 a	pg 70–71 a
1994	pg 74–75 b	pg 68–69 c		pg 67–68 a	pg 67–68 a
1993	pg 74–75 b	pg 60–61 c		pg 67–68 a	pg 67–68 a
1992	pg 62 b	pg 61–62 c		pg 61–62 a	pg 61–62 a
1991	pg 61–62 b		pg 59–60 a		
1990	pg 61 b		pg 55–56 a		

OWNER'S MANUAL	GS 400	GS 300	LX 470	LX 450	RX 300
2000	pg 112–113 Standard	pg 112–113 Standard	N/A		pg 126–127 d
1999	pg 108–109 a	pg 108–109 a	N/A		pg 123–124 d*
1998	pg 107–108 a	pg 107–108 a	N/A		
1997		pg 97–98 a		N/A	
1996		pg 70–72 a		N/A	
1995		pg 69–70 a			
1994		pg 69–70 a			
1993		pg 69–70 a			
1992					
1991					
1990					

* 1999 RX 300 Owner's Manual OM48403U refer to pages 126–127.

LEXUS

Technical Service Information Bulletin

March 23, 2001

Title:

NEW SEAT BELT TONGUE PLATE STOPPER SERVICE PARTS

Models:

All Applicable Models

TSIB

Introduction

A new service part for seat belt tongue plate stoppers has been introduced. Installation procedures are provided to supplement the Repair Manual.

Applicable Vehicles

MODEL	YEAR
LS 400	1990 – 2001
ES 250	1990 – 1991
ES 300	1992 – 2001
SC 400	1992 – 2001
SC 300	1992 – 2001
GS 400	1993 – 2001
GS 300	1993 – 2001
LX 450	1996 – 1998
LX 470	1998 – 2001
RX 300	2000 – 2001

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
N/A	73219–02010	Stopper, Tongue Plate (Black)*
N/A	73219–02020	Stopper, Tongue Plate (Gray)*
N/A	73219–02030	Stopper, Tongue Plate (Beige)*

* Use a stopper color that is closest to the seat belt webbing color.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
BD0046	Install Seat Belt Tongue Plate Stopper	0.1	73219–020#0	62	12

Applicable Warranty*:

This repair is covered under the Lexus Comprehensive Warranty. This warranty is in effect for 48 months or 50,000 miles, whichever occurs first, from the vehicle's in–service date.

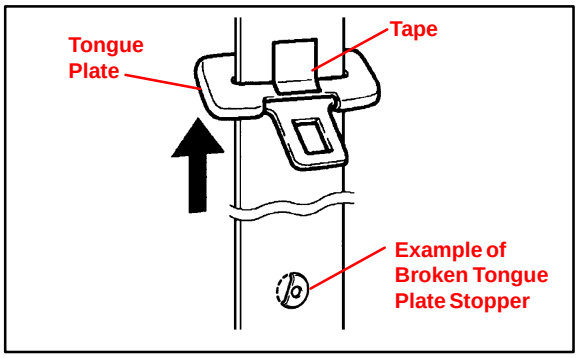
* Warranty application is limited to correction of a problem based upon a customer's specific complaint.

Installation Procedure

1. Preparation

A. Shift the Tongue Plate to the upper portion of the Tongue Plate Stopper, and temporarily hold it with a clip or tape.

B. Remove any pieces of the original Tongue Plate Stopper in the webbing with a pair of pliers.



CAUTION:

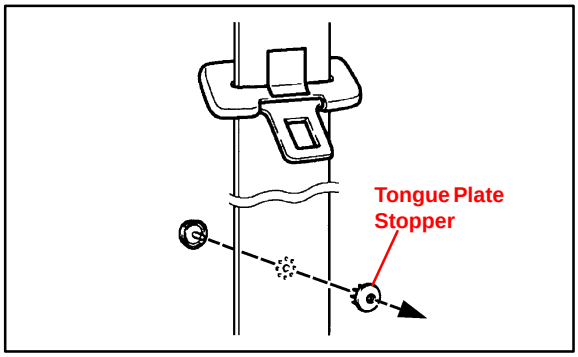
Damaged or weakened seat belts may break in an accident and injure the occupant. The seat belt assembly must be replaced if:

- **The webbing is cut, frayed, worn, or damaged.**
- **It has been used in a severe impact.**

Inspect the entire length of webbing for damage and replace the assembly if needed. Be careful not to damage the webbing during repair.

2. Install the Tongue Plate Stopper

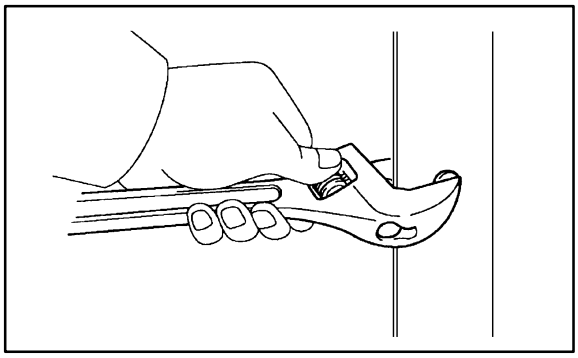
A. Install a new Tongue Plate Stopper in the hole of the webbing.



NOTE:

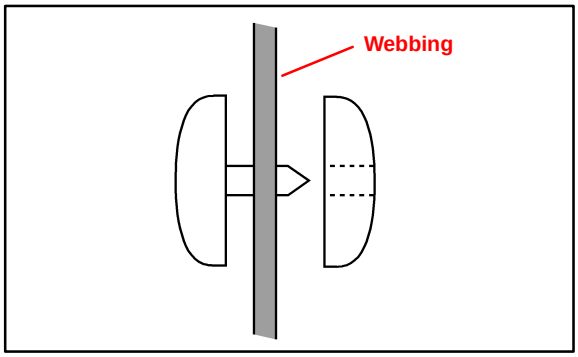
Be aware of the installation direction of the Tongue Plate Stopper as shown in the illustration.

B. Pinch the Tongue Plate Stopper into the webbing using an adjustable wrench, and turn and push the adjustment screw by hand.



HINT:

Press the adjustment screw in order to position the male and female parts of the Tongue Plate Stopper parallel to each other, as shown in illustration.

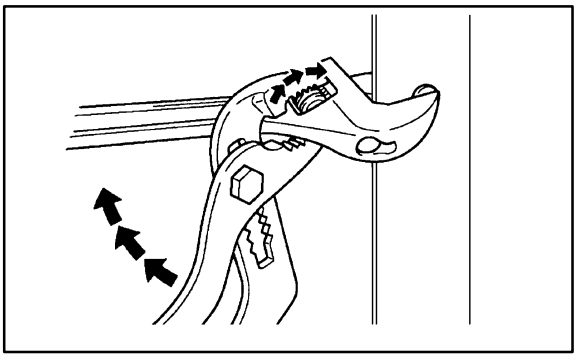


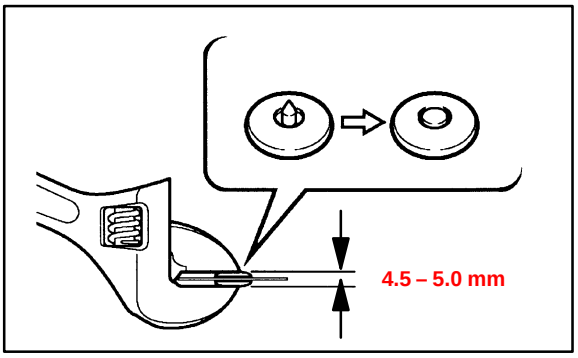
CAUTION:

DO NOT use pliers. They may damage the webbing.

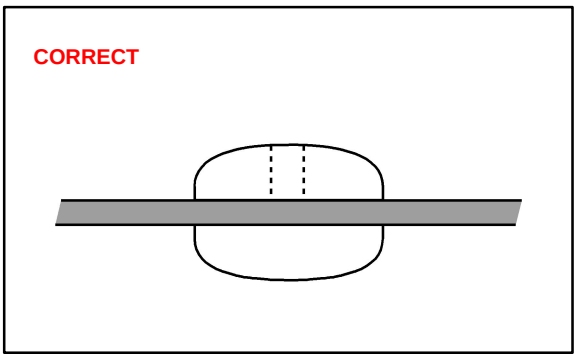
Installation Procedure (Continued)

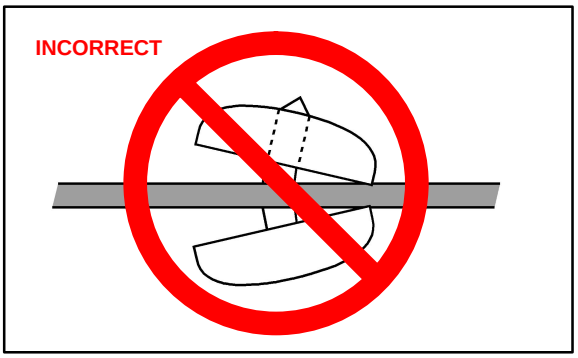
C. When the adjustment screw for the adjustable wrench can't be turned by hand, tighten the adjustment screw using a pair of adjustable joint pliers until the space between jaws of the adjustable wrench is 4.5 – 5.0 mm. (See illustrations.)





D. Check to be sure that the male pin of the Tongue Plate Stopper has become deformed evenly in the hole of the female part and is firmly held to the belt webbing. (See illustrations.)





Technical Service Information Bulletin
October 20, 2000

Title:

BRAKE PAD CLICKING NOISE

Models:

'90 – '00 All Models

TSIB

Introduction

A clicking type noise may be noticed when first applying the brakes after changing vehicle travel direction (*Drive/Forward* to *Reverse, Reverse* to *Drive/Forward*). This is a normal noise caused by the required brake pad–to–caliper clearances. When the direction of travel is changed, the brake pads may "shift" towards the new direction of travel. When the brake pad contacts the caliper, a clicking noise may be heard.

To minimize this clicking noise, a disc brake caliper grease has been made available for use during brake service/maintenance operations. Under normal usage conditions this grease should be effective for a period of 6 months to 1 year.

Applicable Vehicles

- **1990 – 2000** model year **Lexus vehicles, all models.**

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME
N/A	08887–80609	Disc Brake Caliper Grease (50 g tube)

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Application Procedure

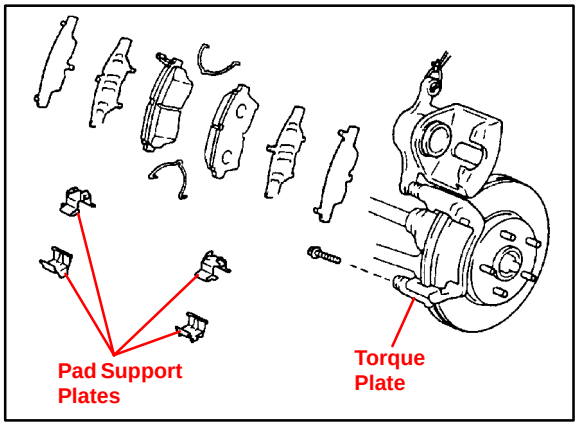
There are two types of brake calipers: floating and fixed. Check the type of brake caliper installed on the vehicle by removing the wheel assembly.

1. Floating Type Brake Caliper

A. Lift up or remove the brake caliper and suspend it securely.

HINT:

Do not disconnect the flexible hose from the brake caliper.



B. If equipped with anti–squeal spring: Remove the anti–squeal springs.

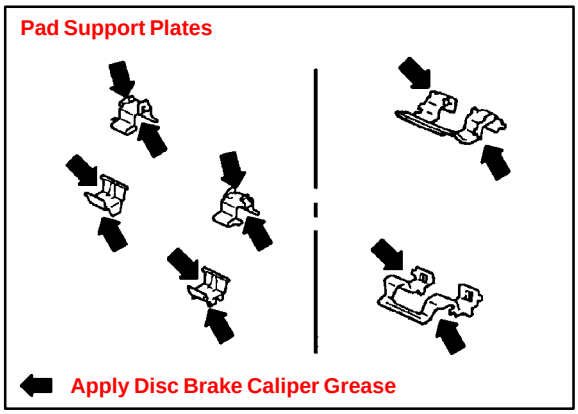
C. Remove the brake pads with anti–squeal shims.

D. Remove the pad support plates from the torque plate. Clean any dust from the pad support plates, torque plates and brake pads.

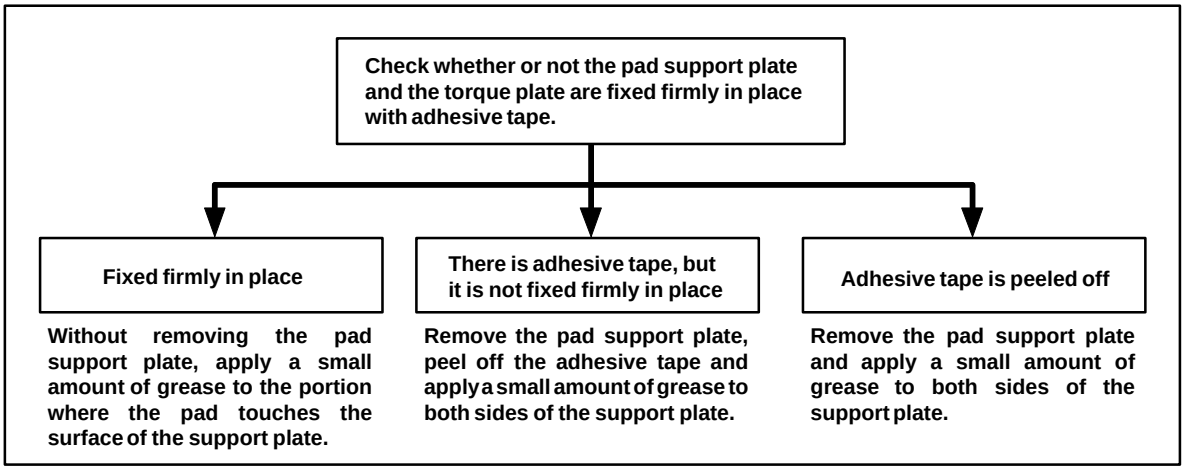
E. Apply a small amount of the disc brake caliper grease (1–2 mm thick) to both sides of the pad support plates.

NOTE:

Do NOT apply grease to the friction surfaces of the brake pads or the disc rotor.



F. If the pad support plate is fixed to the torque plate with adhesive tape, perform the operation according to the following flow chart.



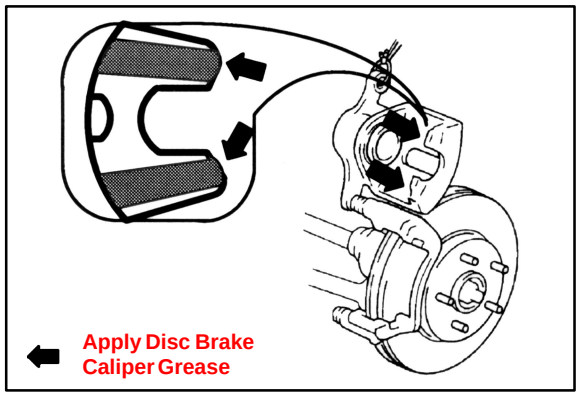
Application Procedure (Continued)

G. Apply a small amount of the disc brake caliper grease (1–2 mm thick) to the caliper as indicated in the illustration.

H. Install the brake pads with the anti–squeal shims.

I. If equipped with anti–squeal spring: Install the anti–squeal springs.

J. Press the piston in firmly and install the brake caliper.



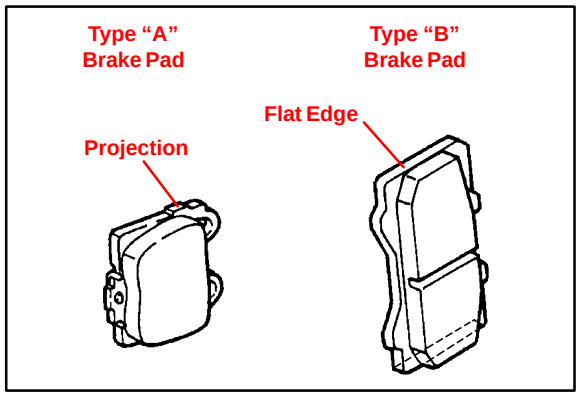
NOTE:
- **Clean excess grease from brake pad and caliper.**
- **Do NOT apply grease to the friction surfaces of the brake pads or the disc rotor.**

K. Install the wheel assembly.

2. Fixed Type Brake Caliper

There are two types of brake pads:

- Type “**A**”: Has a projection on the upper and lower side of the brake pad. (See illustration.)
- Type “**B**”: Has a flat upper and lower edge on the brake pad backing plate.

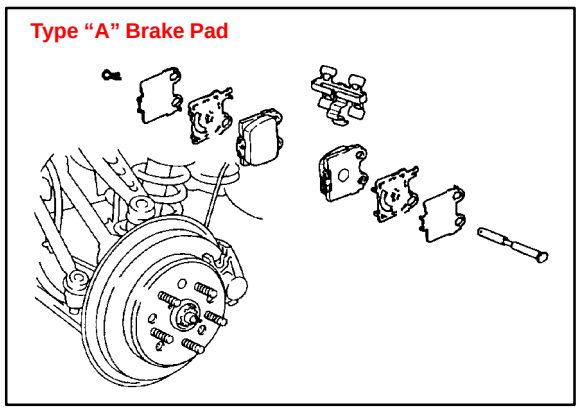


Type “A” Brake Pad

A. Remove the anti–squeal spring, clip and pad guide pin.

B. Remove the brake pads with the anti–squeal shims.

C. Clean any dust from the brake pads.



Application Procedure (Continued)

D. Apply a small amount of the disc brake caliper grease (1–2 mm thick) to the areas indicated in the illustration.

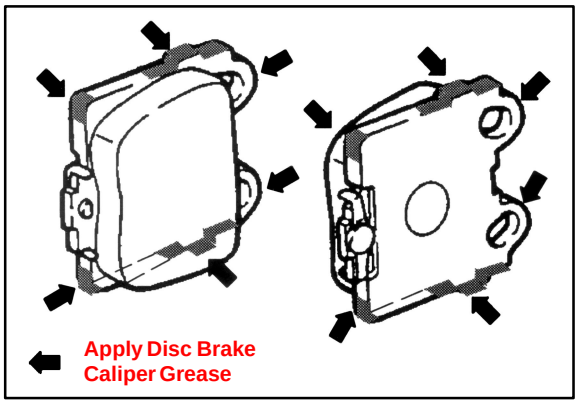
NOTE:
Do NOT apply grease to the friction surfaces of the brake pads or the disc rotor.

E. Install the brake pads with the anti–squeal shims.

NOTE:
Clean excess grease from the brake pads and caliper.

F. Install the pad guide pin, clip and anti–squeal spring.

G. Install the wheel assembly.

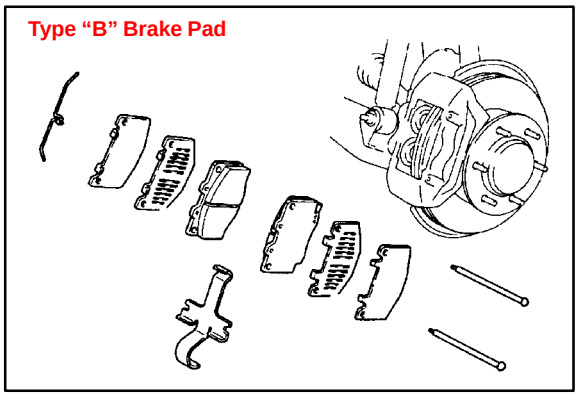


Type “B” Brake Pad

A. Remove the clip, pins and anti–rattle spring/pad retainer clip.

B. Remove the brake pads with the anti–squeal shims.

C. Clean any dust from the brake pads.



D. Apply a small amount of the disc brake caliper grease (1–2 mm thick) to the areas indicated in the illustration.

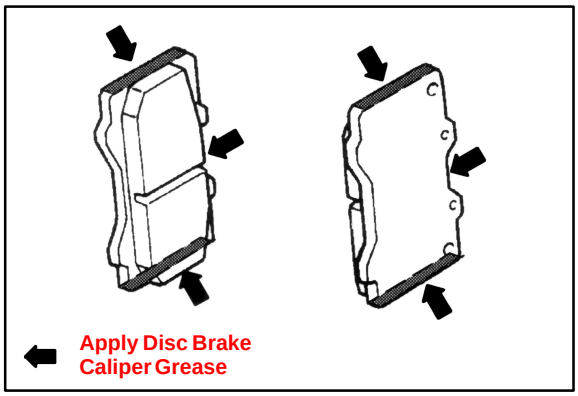
NOTE:
Do NOT apply grease to the friction surfaces of the brake pads or the disc rotor.

E. Install the brake pads with the anti–squeal shims.

NOTE:
Clean excess grease from the brake pads and caliper.

F. Install the pad guide pin, clip and anti–squeal spring.

G. Install the wheel assembly.



LEXUS

Technical Service Information Bulletin

August 7, 1998

Title:

FRONT BRAKE NOISE

Models:

'92 – '96 ES 300

TSIB

Introduction

New Front Brake Pads are available to reduce front brake groan noise, grinding noise, squeak or vibration on 1992 to 1996 ES 300s.

Affected Vehicles

- **All 1992 to 1996 ES 300s.**

Parts Information

PART NUMBER	PART NAME
04465–33100	Front Brake Pads
04945–33010	Shim Kit (If Needed*)

* Visually inspect Shims for heat discoloration. If discolored, then replace.

Repair Procedure

1. Surface the disc rotors with the "On–Car Brake Lathe" to within serviceable limits.
2. If the rotors are unserviceable or below minimum thickness, replace the rotors.
3. Check any new disc rotors for runout.
4. If the disc rotor runout is over 0.03 mm (0.0012 in), perform phase matching procedure.
5. Replace the front brake pads.
6. Road test.

Warranty Information

OP CODE	COMBO	DESCRIPTION	TIME	OPN	T1	T2
473025	A	Grind Front Discs and Replace Pads, Shims (if needed) for Squeak (both sides)	2.1	43512–33040	36	99
		Grind Front Discs and Replace Pads, Shims (if needed) for Vibration (both sides)			21	99
		Grind Front Discs and Replace Pads, Shims (if needed) for Groan/Grinding (both sides)			91	99

Applicable Warranty:**

This repair is covered under the Lexus Basic Warranty. This warranty is in effect for 48 months or 50,000 miles, whichever occurs first, from the vehicle's in–service date.

** Warranty application is limited to correction of a problem based upon a customer's complaint.

NOTE:

Replacement of front brake pad kit and/or shims is limited to correction of a problem based upon customer complaint and subject to all of the provisions of Lexus Warranty Policy Bulletin POL94–17, dated November 4, 1994.

LEXUS

Technical Service Information Bulletin

February 24, 2003

Title:

SULFUR ODOR FROM EXHAUST

Models:

All Models

TSIB

ENGINE

EG001-03

Introduction

Some owners of Lexus vehicles may experience a sulfur–like or “rotten egg” odor from the exhaust system. Sulfur is a natural component of crude oil from which gasoline is refined and the amount of sulfur can be decreased through the refining process. The amount of sulfur in fuel sold in California is regulated, however gasoline sold in other states can have substantially higher sulfur content. Sulfur content also varies considerably between gasoline brands and locations.

Applicable Vehicles

- **All Models.**

Repair Procedure

A sulfur odor emitted from the vehicle’s tailpipe does not necessarily indicate that there is an issue with the engine’s running condition, but is most likely directly related to the fuel. If the vehicle is exhibiting an excessive sulfur odor, the following checks should be performed:

- If the MIL light is ON, check for DTCs and repair as necessary.

If no trouble is found after performing the above check, recommend the customer try a different source of fuel.

Replacement of oxygen sensors, air/fuel ratio sensors or catalytic converters will not reduce the odor and will therefore **not** be considered warrantable.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

LEXUS

Technical Service Information Bulletin

March 28, 2005

Title:

RADIATOR CAP INSPECTION

Models:

All Models

TSIB

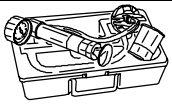
Introduction

The procedure for inspecting the radiator cap has been revised. Please refer to the following procedures when inspecting the radiator cap on all Lexus models.

Applicable Vehicles

- **All Lexus models.**

Required Equipment

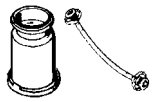
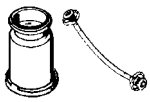
MANUFACTURER	EQUIPMENT	QTY
Snap–On/Sun SVTS262A (or equivalent)	Cooling System Tester (Radiator Cap Tester) 	1

NOTE:
Additional Lexus Approved Dealer Equipment may be ordered by calling Lexus Approved Dealer Equipment at 1–800–368–6787.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Required SSTs

ITEM NO.	SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QTY	DRW**
1	**Radiator Cap Test Set*** 	09230–00030–02	1	7
2	**Radiator Cap Test Set (Small)*** 	09230–00020–02	1	7

* Essential SSTs.

** Refers to drawer number in SST Storage System.

NOTE:

Additional SSTs may be ordered by calling SPX/OTC at 1-800-933-8335.

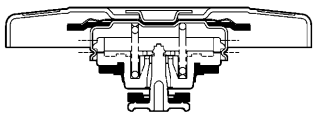
Radiator Cap Identification Procedure

1. Use the illustration below to identify the vehicle's radiator cap type and kPa rating.
2. Proceed to the required inspection procedure for the radiator cap and kPa rating.

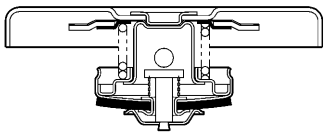
Radiator Cap Identification

kPa Rating

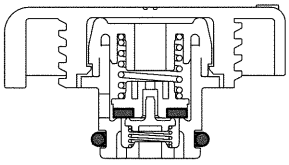
N–Cap



Compact Cap

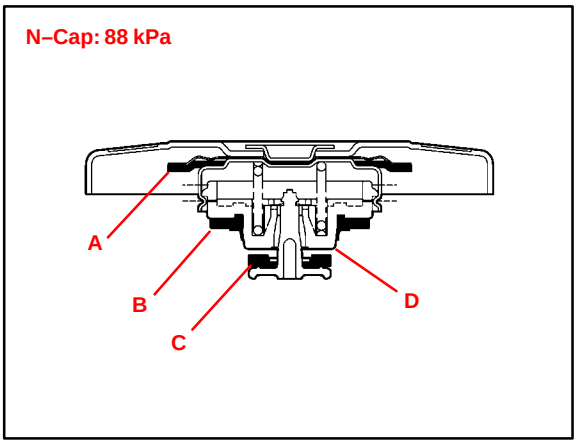


Plastic Cap



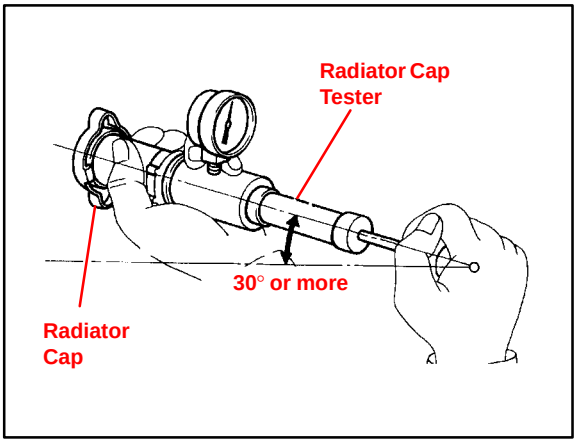
Radiator Cap Inspection Procedure

Type: N–cap, 88 kPa



1. Remove coolant and any foreign material on rubber points "A," "B," and "C."
2. Check that points "A," "B," and "C" are not deformed, cracked, or swollen.
3. Check that points "C" and "D" are not stuck together.
4. Apply engine coolant to points "B" and "C" before using the radiator cap tester.
   - Radiator Cap Tester: Snap–On/Sun P/N SVTS262A (or equivalent)
5. Before installing the radiator cap tester, use the applicable radiator cap adaptor provided in the following SST kits in conjunction with the radiator cap tester:
   - SST P/N 09230–00030–02 (09231–10080–01) or 09230–00020–02 (09231–10060–01)
6. When using the radiator cap tester, tilt it more than 30 degrees.
7. Pump the radiator cap tester several times, and check the maximum pressure.

   Pumping speed: 1 pump/second



HINT:

Stop pumping when the valve opens and read the gauge. The gauge must be within the standard values listed below when the pressure valve opens. The cap is considered OK when the pressure holds steady or falls very slowly, but holds within the standard values listed below for one minute.

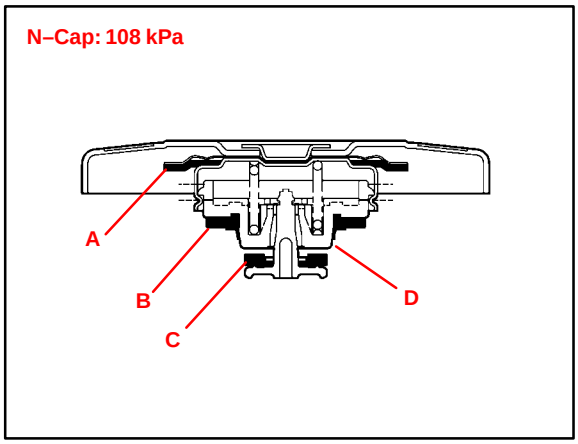
Specification:

VALVE OPENING PRESSURE	SPECIFIED CONDITION
Standard value (for brand–new cap)	74.0 to 103.0 kPa (0.75 to 1.05 kgf/cm^2, 10.7 to 14.9 psi)
Minimum standard value (for in–service cap)	59 kPa (0.60 kgf/cm^2, 8.53 psi)

If the maximum pressure is less than the minimum standard value, replace the radiator cap sub–assembly.

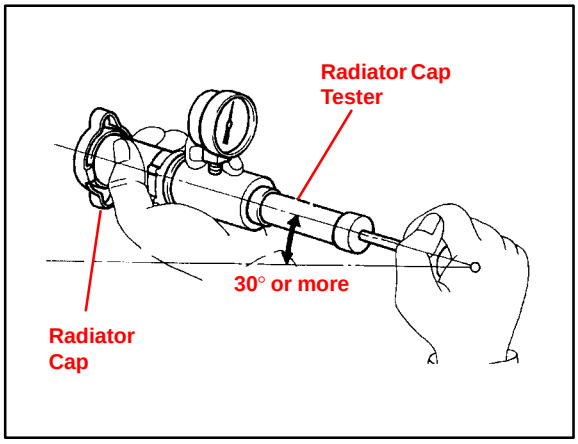
Radiator Cap Inspection Procedure (Continued)

Type: N–cap, 108 kPa



1. Remove coolant and any foreign material on rubber points "A," "B," and "C."
2. Check that points "A," "B," and "C" are not deformed, cracked, or swollen.
3. Check that points "C" and "D" are not stuck together.
4. Apply engine coolant to points "B" and "C" before using the radiator cap tester.
   - Radiator Cap Tester: Snap–On/Sun P/N SVTS262A (or equivalent)
5. Before installing the radiator cap tester, use the applicable radiator cap adaptor provided in the following SST kits in conjunction with the radiator cap tester:
   - SST P/N 09230–00030–02 (09231–10080–01) or 09230–00020–02 (09231–10060–01)
6. When using the radiator cap tester, tilt it more than 30 degrees.
7. Pump the radiator cap tester several times, and check the maximum pressure.

   Pumping speed: 1 pump/second



HINT:

Stop pumping when the valve opens and read the gauge. The gauge must be within the standard values listed below when the pressure valve opens. The cap is considered OK when the pressure holds steady or falls very slowly, but holds within the standard values listed below for one minute.

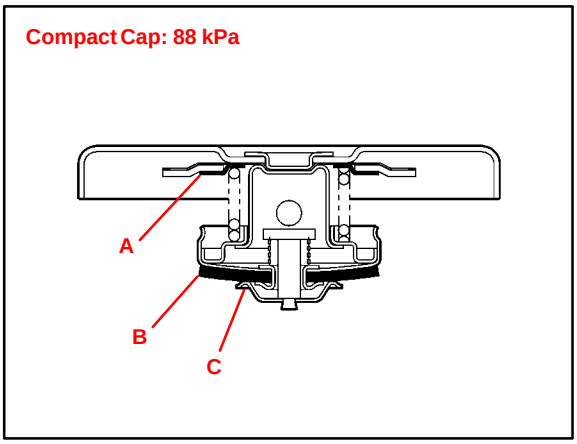
Specification:

VALVE OPENING PRESSURE	SPECIFIED CONDITION
Standard value (for brand–new cap)	93.3 to 122.7 kPa (0.95 to 1.25 kgf/cm^2, 13.5 to 17.8 psi)
Minimum standard value (for in–service cap)	78.5 kPa (0.80 kgf/cm^2, 11.38 psi)

If the maximum pressure is less than the minimum standard value, replace the radiator cap sub–assembly.

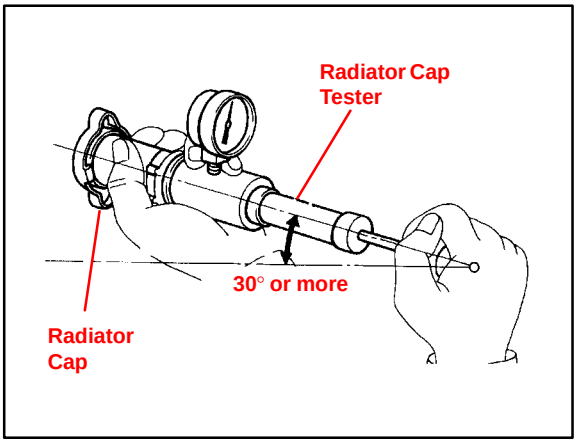
Radiator Cap Inspection Procedure (Continued)

Type: Compact Cap, 88 kPa



1. Remove coolant and any foreign material on rubber points "A," "B," and "C."
2. Check that points "A" and "B" are not deformed, cracked, or swollen.
3. Check that points "B" and "C" are not stuck together.
4. Apply engine coolant to point "B" before using the radiator cap tester.
   - Radiator Cap Tester: Snap–On/Sun P/N SVTS262A (or equivalent)
5. Before installing the radiator cap tester, use the applicable radiator cap adaptor provided in the following SST kits in conjunction with the radiator cap tester:
   - SST P/N 09230–00030–02 (09231–10080–01) or 09230–00020–02 (09231–10060–01)
6. When using the radiator cap tester, tilt it more than 30 degrees.
7. Pump the radiator cap tester several times, and check the maximum pressure.

   Pumping speed: 1 pump/second



HINT:

Stop pumping when the valve opens and read the gauge. The gauge must be within the standard values listed below when the pressure valve opens. The cap is considered OK when the pressure holds steady or falls very slowly, but holds within the standard values listed below for one minute.

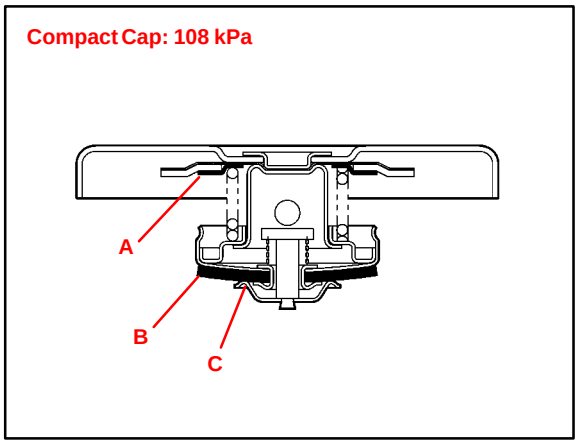
Specification:

VALVE OPENING PRESSURE	SPECIFIED CONDITION
Standard value (for brand–new cap)	74.0 to 103.0 kPa (0.75 to 1.05 kgf/cm^2, 10.7 to 14.9 psi)
Minimum standard value (for in–service cap)	59 kPa (0.60 kgf/cm^2, 8.53 psi)

If the maximum pressure is less than the minimum standard value, replace the radiator cap sub–assembly.

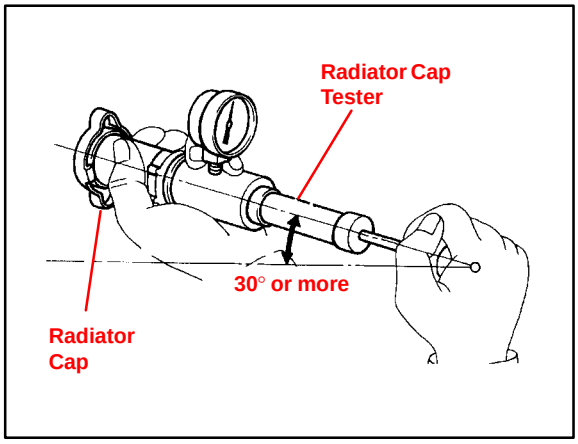
Radiator Cap Inspection Procedure (Continued)

Type: Compact Cap, 108 kPa



1. Remove coolant and any foreign material on rubber points "A," "B," and "C."
2. Check that points "A" and "B" are not deformed, cracked, or swollen.
3. Check that points "B" and "C" are not stuck together.
4. Apply engine coolant to point "B" before using the radiator cap tester.
   - Radiator Cap Tester: Snap–On/Sun P/N SVTS262A (or equivalent)
5. Before installing the radiator cap tester, use the applicable radiator cap adaptor provided in the following SST kits in conjunction with the radiator cap tester:
   - SST P/N 09230–00030–02 (09231–10080–01) or 09230–00020–02 (09231–10060–01)
6. When using the radiator cap tester, tilt it more than 30 degrees.
7. Pump the radiator cap tester several times, and check the maximum pressure.

   Pumping speed: 1 pump/second



HINT:

Stop pumping when the valve opens and read the gauge. The gauge must be within the standard values listed below when the pressure valve opens. The cap is considered OK when the pressure holds steady or falls very slowly, but holds within the standard values listed below for one minute.

Specification:

VALVE OPENING PRESSURE	SPECIFIED CONDITION
Standard value (for brand–new cap)	93.3 to 122.7 kPa (0.95 to 1.25 kgf/cm^2, 13.5 to 17.8 psi)
Minimum standard value (for in–service cap)	78.5 kPa (0.80 kgf/cm^2, 11.38 psi)

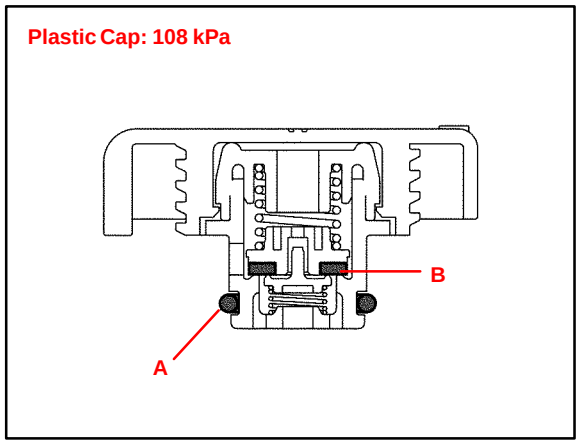
If the maximum pressure is less than the minimum standard value, replace the radiator cap sub–assembly.

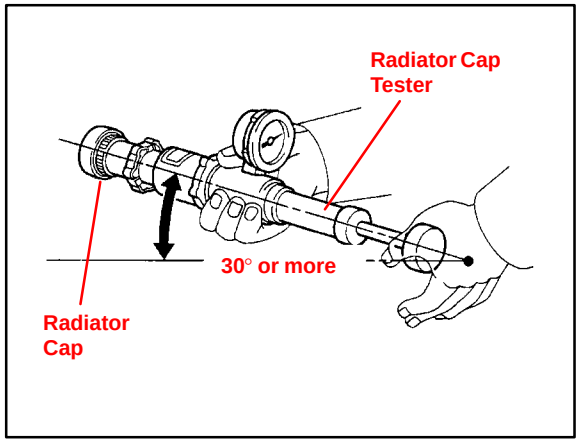
Radiator Cap Inspection Procedure (Continued)

Type: Plastic Cap, 108 kPa

1. Remove coolant and any foreign material on O–ring "A."
2. Check that O–ring "A" is not deformed, cracked, or swollen.
3. Apply engine coolant to O–ring "A" and rubber point "B" before using the radiator cap tester.
   - Radiator Cap Tester: Snap–On/Sun P/N SVTS262A (or equivalent)
4. Before installing the radiator cap tester, use the applicable radiator cap adaptor provided in the following SST kits in conjunction with the radiator cap tester:
   - SST P/N 09230–00030–02 (09231–10080–01) or 09230–00020–02 (09231–10060–01)
5. When using the radiator cap tester, tilt it more than 30 degrees.
6. Pump the radiator cap tester several times, and check the maximum pressure.

   Pumping speed: 1 pump/second





HINT:

Stop pumping when the valve opens and read the gauge. The gauge must be within the standard values listed below when the pressure valve opens. The cap is considered OK when the pressure holds steady or falls very slowly, but holds within the standard values listed below for one minute.

Specification:

VALVE OPENING PRESSURE	SPECIFIED CONDITION
Standard value (for brand–new cap)	93.3 to 122.7 kPa (0.95 to 1.25 kgf/cm^2, 13.5 to 17.8 psi)
Minimum standard value (for in–service cap)	78.5 kPa (0.80 kgf/cm^2, 11.38 psi)

If the maximum pressure is less than the minimum standard value, replace the radiator cap sub–assembly.

Technical Service Information Bulletin
September 3, 2004

Title:

ENGINE BANK 1 AND BANK 2 A/F AND O2 IDENTIFICATION

Models:

Applicable Models

TSIB

Introduction

This service bulletin provides information on the proper identification of engine bank 1 and engine bank 2 for correct A/F sensor and oxygen sensor replacement.

This bulletin contains information that identifies engine bank 1 and engine bank 2 on the following engines: 1MZ–FE, 3MZ–FE, 1UZ–FE, 2UZ–FE and 3UZ–FE.

- Bank 1 (B1) refers to the bank that includes cylinder No. 1.
- Bank 2 (B2) refers to the bank opposite bank 1.
- Sensor 1 (S1) refers to the sensor that is located before the catalytic converters.
- Sensor 2 (S2) refers to the sensor that is located after the catalytic converters.

Applicable Vehicles

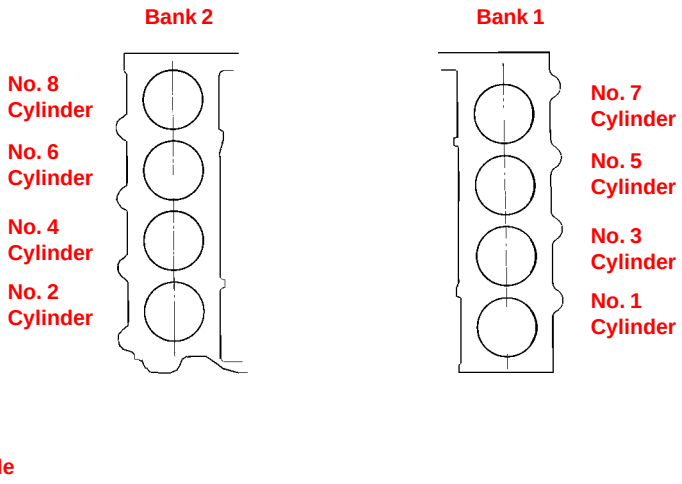
- **1994 – 2003** model year **ES 300** vehicles equipped with **1MZ–FE engine**.
- **2004** model year **ES 330** and **RX 330** vehicles equipped with **3MZ–FE engine**.
- **1998 – 2000** model year **GS 400** vehicles equipped with **1UZ–FE engine**.
- **2003 – 2004** model year **GX 470** vehicles equipped with **2UZ–FE engine**.
- **1990 – 2000** model year **LS 400** vehicles equipped with **1UZ–FE engine**.
- **2001 – 2004** model year **LS 430** and **GS 430** vehicles equipped with **3UZ–FE engine**.
- **1998 – 2004** model year **LX 470** vehicles equipped with **2UZ–FE engine**.
- **1999 – 2003** model year **RX 300** vehicles equipped with **1MZ–FE engine**.
- **1992 – 2000** model year **SC 400** vehicles equipped with **1UZ–FE engine**.
- **2002 – 2004** model year **SC 430** vehicles equipped with **3UZ–FE engine**.

Warranty Information

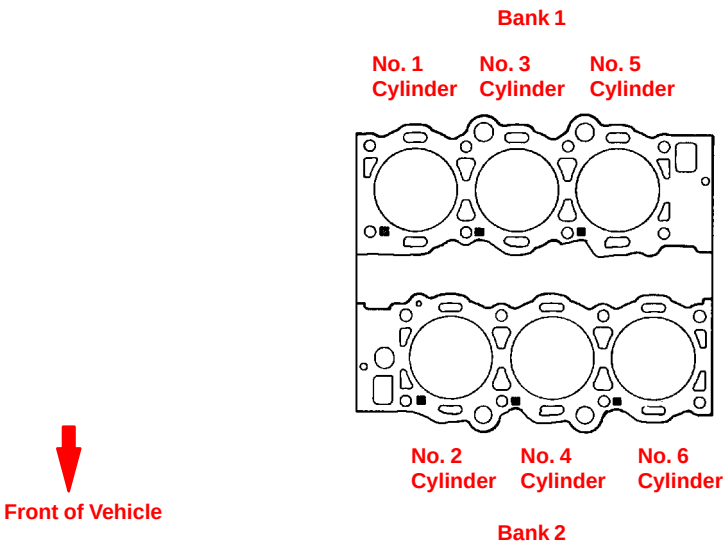
OP CODE	DESCRIPTION	TIME	OFP	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Engine Bank Identification

1UZ–FE, 2UZ–FE and 3UZ–FE Engine Bank Identification

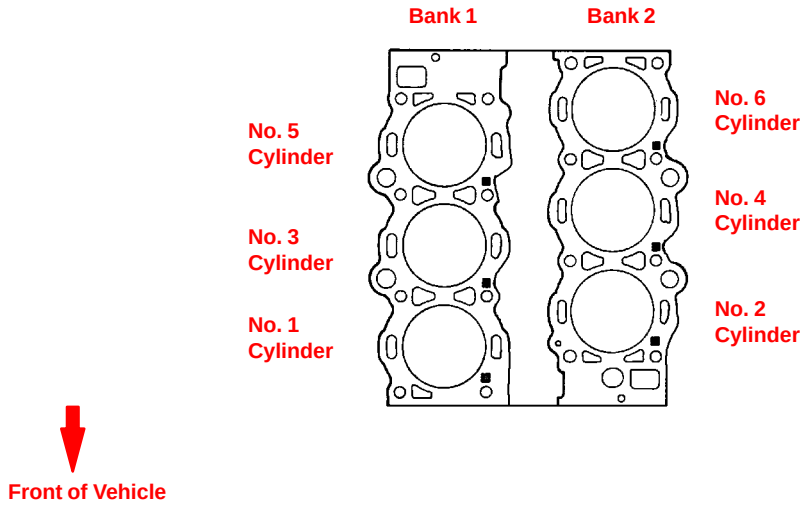


1MZ–FE and 3MZ–FE Engine Bank Identification



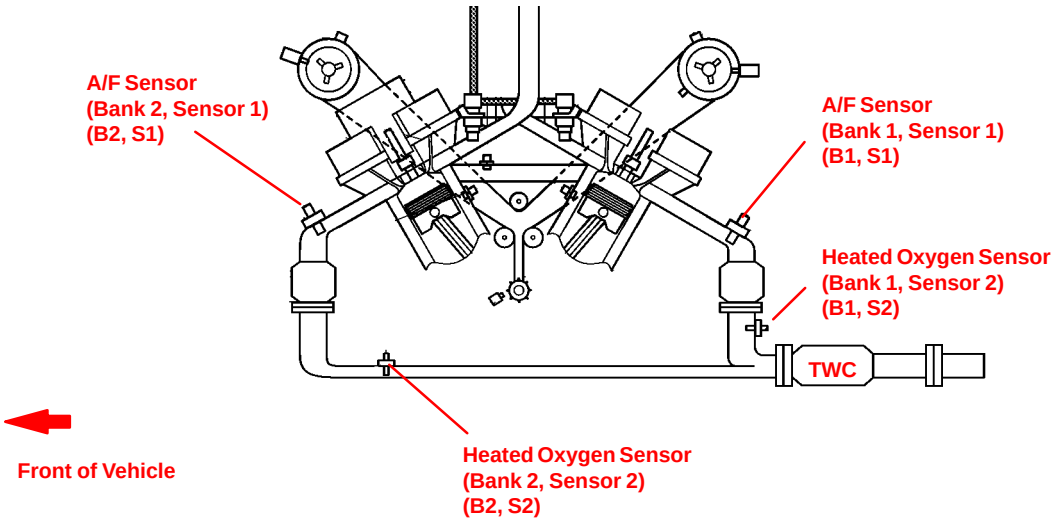
Engine Bank Identification (Continued)

5VZ–FE and 1GR–FE Engine Bank Identification



A/F and O2 Sensor Identification

Sensor Identification (Example of FWD V6)



LEXUS

Technical Service Information Bulletin

April 10, 1998

Title:

CIGARETTE LIGHTER SERVICE

Models:

All Model

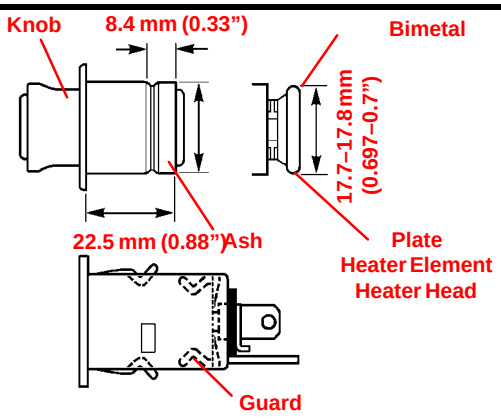
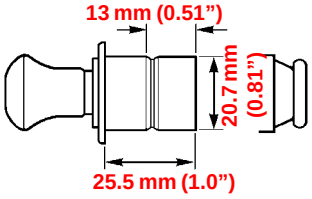
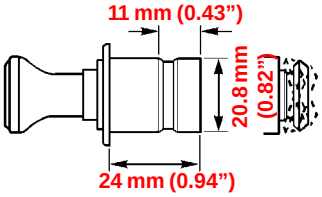
TSIB

Introduction

When receiving customer complaints to repair the lighter or lighter socket, please carefully investigate the cause of the failure to prevent further occurrences. If the customer uses the wrong size lighter element or power accessory plug, damage may occur to the lighter socket. When applicable, instruct the customer to replace the lighter element with original equipment components or to use an appropriate sized accessory plug. Dimensional information included within this document will instruct you on component specifications.

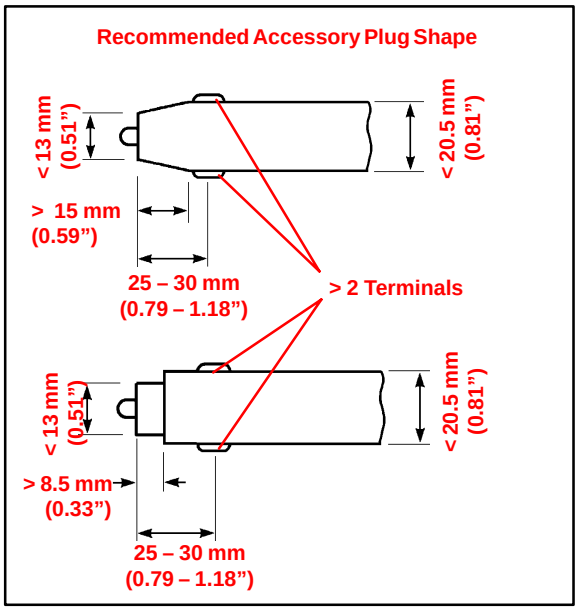
Service Procedure

1. Determine if the lighter is original equipment by using the specifications shown.
   a. If the vehicle has a non–genuine lighter element, it has the possibility to cause a short circuit between the lighter element and the lighter socket, which can result in an open fuse.
   b. A non–genuine lighter element may cause a rattle or bend the socket bimetal contacts.
   c. If a non–genuine lighter element is being used, advise the customer to use an original equipment element.

TYPE	DRAWING WITH DIMESIONS	FEATURES
Genuine		No Problem to use.
Non–Genuine		Too long an ash guard will contact bimetal (positive circuit) plate and cause fuse to melt.
		Excessive free play on the heater head which allows contact between heater element, socket body and bimetal plate, will cause fuse to melt.

Service Procedure (Continued)

2. If the lighter element is original equipment and the lighter socket is bent or pulled out of the dash, please ask the customer about the accessory plug being used in the lighter socket.
    a. The attached specifications in the drawing provide the maximum recommended size of accessory plug. If the customer is using an accessory plug larger than recommended, please advise the customer to use a plug of appropriate size.
    b. Using a power plug larger than the given dimensions may damage the lighter socket.
    c. If the vehicle has a power point socket, advise the customer to use this socket instead of the lighter socket.



Affected Vehicles

- **All** models, **all** model years

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Beginning with the Montreal Protocol signed in April 1988, auto manufacturers world–wide committed to phase–out the use of ozone damaging Refrigerant R–12, also known as Freon. All automobile manufacturers are re–designing new production vehicles to use non-ozone depleting R–134a which is the only universally approved replacement refrigerant for R–12. All 1994 and newer Lexus use R–134a.

Several independent companies have begun marketing alternative refrigerants which they claim can replace R–12 when servicing vehicles in the dealership. These R–12 replacements commonly referred to as blends or hydrocarbon based refrigerants, have the potential to cause damage to Lexus AC systems and in some cases can cause personal injury to the service technician or the end–user. **Lexus strongly discourages the use of these refrigerants in Lexus vehicles.**

Furthermore, dealer technicians should be cautious of vehicles that may be labeled or otherwise identified to contain such refrigerants. Servicing these vehicles **can contaminate your AC refrigerant recovery equipment** causing refrigerant stored in the recovery machine to be rendered unusable. Also, if the contaminated refrigerant equipment is then used on subsequent repairs, the dealer may unknowingly contaminate other owner's vehicles.

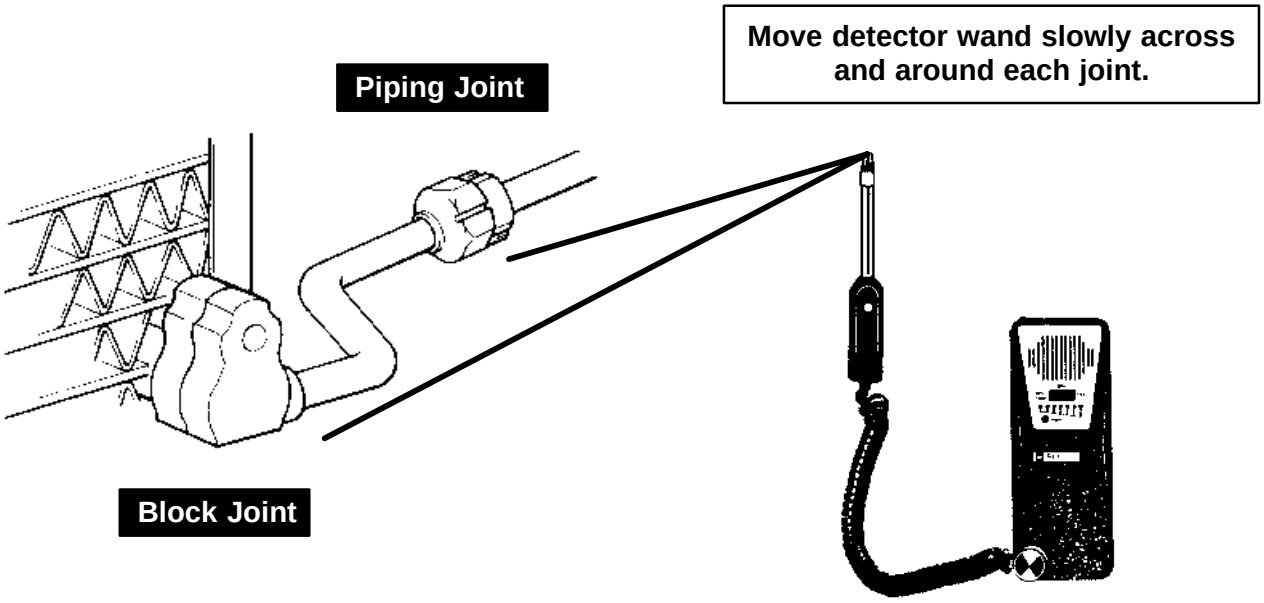
For all Lexus models and years that are designed to operate on R–12, **continue to service with R–12 as long as it is available which is expected to be two or more years.** When research is complete and R–12 becomes difficult to acquire, Lexus will provide parts and procedures to properly retrofit an R–12 vehicle to non–ozone depleting R–134a.

Use of electronic leak detectors for checking A/C systems refrigerant leakage is the only method approved by TMS. This type of leak detector is sensitive not only to refrigerant, but also sensitive to numerous petrochemical substances (motor oil, gasoline, solvents, etc.) commonly found in a repair shop environment. Because this sensitivity could diminish the leak detector's capacity for accurate leak detection, some service hints have been provided to help increase the accuracy of your diagnosis.

SERVICE HINTS:

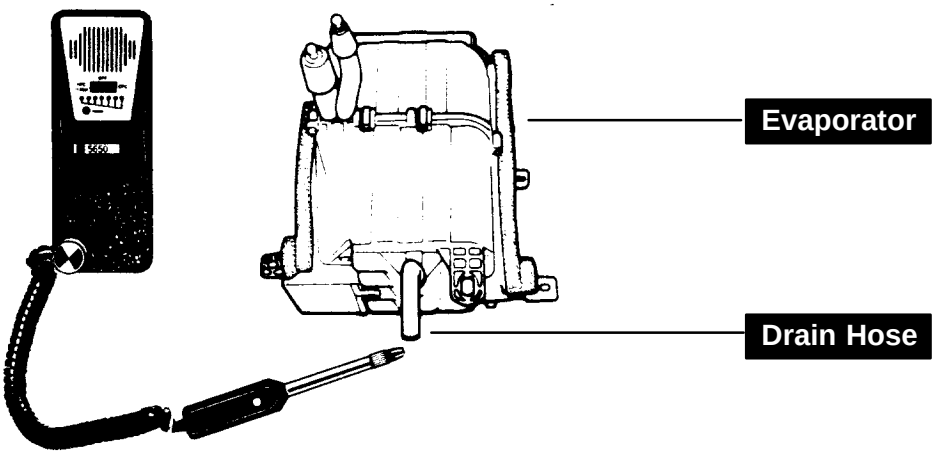
1. **Visual Inspection:** Do a quick visual inspection under the hood for signs of refrigerant leakage. Check for areas of heavy oil leakage at block and piping joints. Many times these areas have accumulated road dust and dirt.
2. **Inspection with leak detector:** **NOTE:** Make sure the system is fully charged. Operate the system to increase refrigerant pressure. Shut the system off before inspecting with leak detector.

   A. Checking for leakage at a joint: Wipe the oil/dirt accumulation off the joint with a clean rag. Do not use solvents to clean the joint. Refrigerant is heavier than air so start checking for leaks with the detector wand about 1/4 in. below the joint. Move the wand slowly across and around each joint (see illustration below).



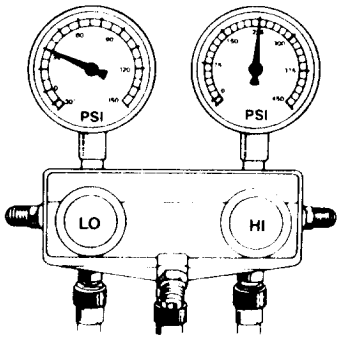
B. Checking for leakage at the evaporator: The evaporator drain hose provides an excellent access point to check for refrigerant leakage from the evaporator. Be sure to raise the vehicle on a lift so that the evaporator is as far as possible from any petrochemical source that may be on the shop floor. When leak checking in this area, turn the system off, pinch off the evaporator drain hose, and wait 10 to 15 minutes to allow the refrigerant to accumulate in the evaporator case. When the system is ready to check, release the drain hose and hold the leak detector wand about 1/4 inch below the drain opening (see diagram).

NOTE: Do not allow the leak detector tip to come in contact with water from the evaporator.

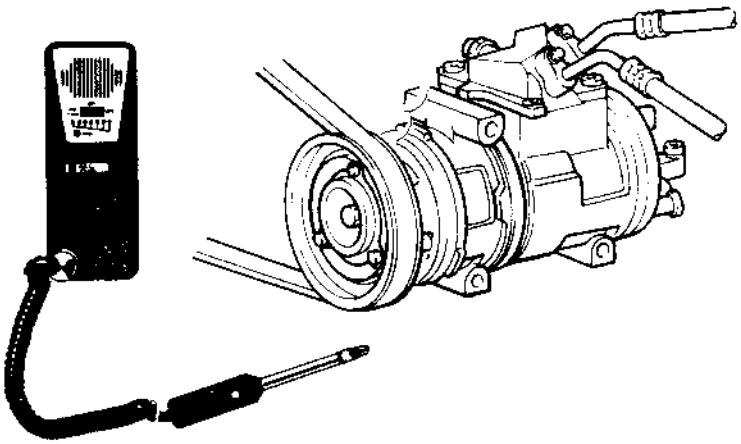


C. Checking for leakage at front compressor seal: Front compressor seal leaks are probably the most difficult leaks to detect accurately. Special diagnostic procedures must be followed for the best success. Make sure the system is fully charged. Operate the system with a pressure gauge installed and assure that the system has correct system pressures. **Shut off the engine.** Begin the leak check by placing the detector probe along the bottom half of the compressor clutch. Move the wand slowly across the bottom of the compressor clutch. Be careful not to expose the detector wand tip to any oil residue as this may cause a false leakage reading.

Verify correct system pressure.



Move dectector wand slowly across the bottom half of the compressor clutch.



D. Checking for leakage at service valves or pressure switches:
Small accumulations of refrigerant gas under the service valve caps or pressure switch connectors is normal. When checking for leaks at these points, use the following procedures to assure the highest accuracy:

1. Remove the service valve cap or pressure switch connector.

2. Allow the service valve or pressure switch to remain uncapped for approximately 20 minutes. This will allow the air to circulate and carry away the accumulated refrigerant. (This is a good time to leak check other areas of the system).

3. Do not use compressed air to flush out the service valve or pressure switch cavity. Petroleum residue from inline oilers or compressor lubrication may cause false readings.

LEXUS

TECHNICAL SERVICE INFORMATION

REF: HEATING & AIR CONDITIONING

NO: AC001-96

DATE: MAY 3, 1996

MODEL: LS 400, GS 300, SC 400, SC 300, ES 300

Title **AMBIENT TEMPERATURE DISPLAYS -22˚F**

On Lexus models equipped with an ambient temperature display, –22°F may appear in the ambient temperature display if continuity through the ambient temperature sensor circuit is interrupted. Since the –22˚ F is retained in memory, the condition will persist even after continuity through the ambient temperature sensor circuit has been re–established. Climate control system operation may also be adversely affected.

This condition can be corrected by briefly removing the fuse supplying the B+ power source to the air conditioning control unit.

Do not attempt repairs before performing the following reset procedure:

RESET PROCEDURE:

Refer to the table below and remove the appropriate fuse for 30 seconds and reinstall.

MODEL	YEARS	VIN	FUSE	BLOCK	LOCATION
ES 300	'94-'96	All	ECU-B	JB #2	Left Engine Compartment
GS 300	'93-'96	All	ECU-B	JB #2	Left Engine Compartment
LS 400	'93-'96	All	Dome	JB #2	Left Engine Compartment
LS 400	'95	Before JT8UF22E*S0018654	ECU-B	JB #2	Left Engine Compartment
LS 400	'95-'96	After JT8UF22E*S0018654	Fuel Open	JB #1	Left Instrument Panel
SC 300	'95-'96	All	Dome	RB #2	Left Engine Compartment
SC 400	'95-'96	All	Dome	RB #2	Left Engine Compartment

IMPORTANT: Some of these fuses provide power to other systems for memory retention. Check and reset clock, radio presets, and memory as necessary.

If ambient temperature display is not corrected, refer to repair manual for diagnosis.

LEXUS

Technical Service Information Bulletin

September 12, 1997

Title:

AIR CONDITIONING EVAPORATOR ODOR

Models:

’92–96 ES 300, ’93–’94 LS 400, All GS 300, SC 300/400, LX 450.

Introduction

A musty odor may be emitted from the air conditioning system of some vehicles which are usually operated in areas with high temperature and humidity. It is most noticeable when the air conditioner is first turned “ON” after the vehicle has been parked for several hours. The odor could result from one or more of the following conditions:

1. Blockage of the evaporator housing drain pipe, resulting in the build up of condensation.

2. Microbial growth in the evaporator, arising from dampness in the evaporator housing where the cooling air flow is dehumidified.

To address excessive air conditioning evaporator odor, check the evaporator housing drain pipe for blockage. If no problems are found, the evaporator and housing should be cleaned and disinfected using the general procedure given on page 2, and the model specific procedure on the pages indicated in the Table of Contents at the bottom of this page.

Affected Vehicles

- While this procedure may be used on any Lexus vehicle, this bulletin gives details specifically for the **’92–’96 ES 300, all GS 300, ’93–’94 LS 400, all SC 300/400 and the LX 450.**

Tools & Materials

PART NUMBER	DESCRIPTION OF TOOLS & MATERIALS	QUANTITY	SOURCE
08821–00810–01	Spray Gun Kit	1	OTC
08821–00811–01	Spray Gun (replacement)	(1)	OTC
08821–00812–01	Spray Gun Nozzle (replacement)	(1)	OTC
08821–00813–01	Freshener Mixing Container (replacement)	(1)	OTC
08821–00801–DS	Air Conditioning Freshener	1 per vehicle	TMS

CAUTION:
Wear safety glasses, protective mask, and gloves while working with the freshener.

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	No applicable warranty information	–	–	–	–

Table of Contents

General Procedure

1. Preparation of freshener solution:

   (a) Invert freshener container and shake vigorously for 30 seconds.
   (b) Mix 3.4 fl. oz. of freshener (1 container) with 30 fl. oz. to make 1 qt. of solution.

2. Drying the evaporator:
   - Dry the evaporator for 10 minutes with the following settings:
     A/C: . . . . . Off
     Air Outlet: . . . . . Foot
     Mode: . . . . . Recirc.
     Blower: . . . . . High
     Temp: . . . . . Max Warm

3. Evaporator Treatment Preparation:

   (a) Ensure availability of 30–45 psi compressed air to be used with spray gun for application of freshener.
   (b) Place a tray under the evaporator housing drain hose to collect used cleaning solution.
   (c) Place shop cloth under the evaporator housing in the vehicle to prevent cleaning solution from dripping onto the floor mat.

4. Vehicle Preparation: **See specific model section.**

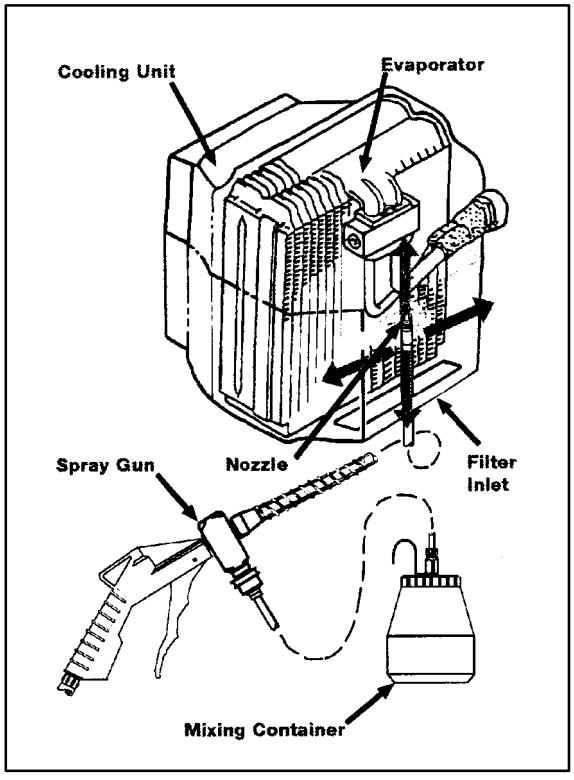
5. Evaporator treatment:

   (a) Set HVAC mode as follows:
   A/C: . . . . . Off
   Air Outlet: . . . . . Face
   Mode: . . . . . Fresh
   Blower: . . . . . High
   Temp: . . . . . Max Warm
   Windows: . . . . . Open
   (b) Insert spray nozzle into the filter inlet and spray the entire quantity (1 qt.) of freshener solution into the evaporator while moving the nozzle around to cover the complete evaporator surface.
   (c) Turn the blower OFF.

6. Reinstallation of Parts.

7. Completion of Treatment.

   (a) Dry the evaporator for 30 minutes with the following settings:
   A/C: . . . . . Off
   Air Outlet: . . . . . Foot
   Mode: . . . . . Recirc.
   Blower: . . . . . High
   Temp: . . . . . Max Warm
   Windows: . . . . . Closed
   (b) If the vehicle still has alcohol smell, open windows for ventilation. Do not turn on the AC switch until the evaporator is completely dry as this can reduce the effectiveness of the solution.

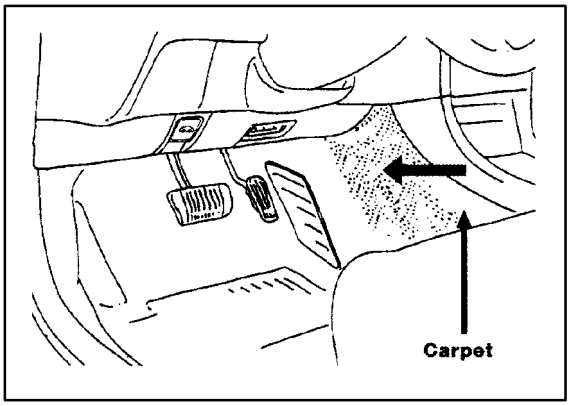


CAUTION
Do not get into the vehicle during this drying operation.

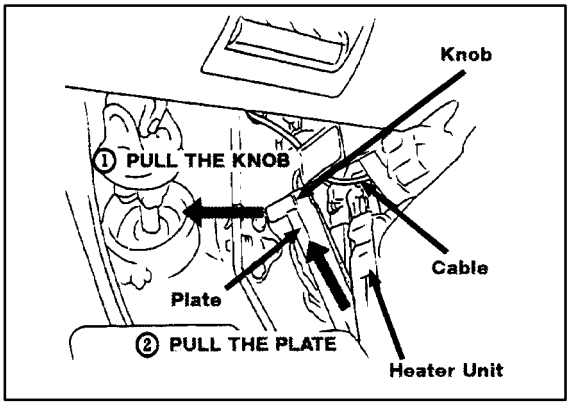
ES 300 ('92–'96)

1. Removal of parts.

(a) Pull down the carpet from the center console as indicated by red arrow in the illustration.



(b) Remove the plate on the side of the heater unit using steps ① and ❷, indicated with red arrows to show direction, in the illustration.

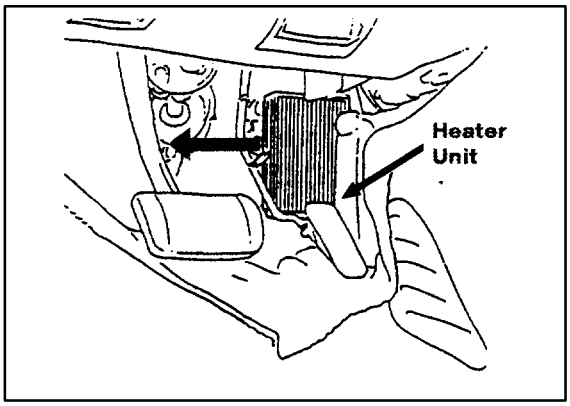


CAUTION:
Do not bend the cable.

NOTE:
The Plate will be reused.

(c) Remove the filter.

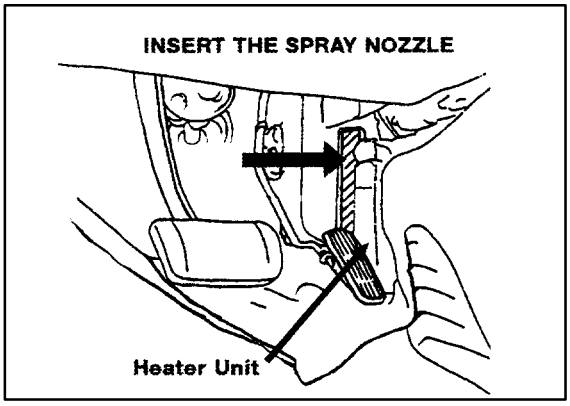
(d) Remove the blower controller.



2. Clean the Evaporator.

- Follow the general procedures given on page 2.

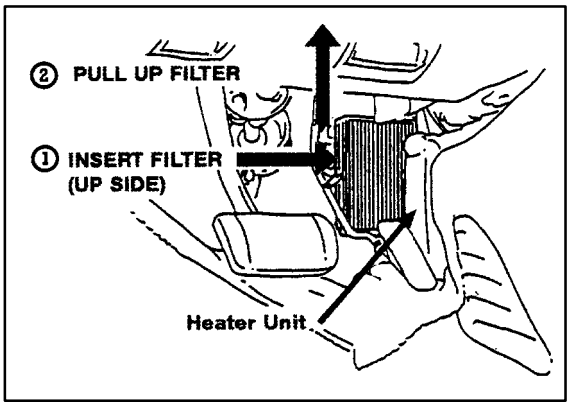
NOTE:
Location for insertion of spray nozzle is indicated by the red arrow in the illustration.



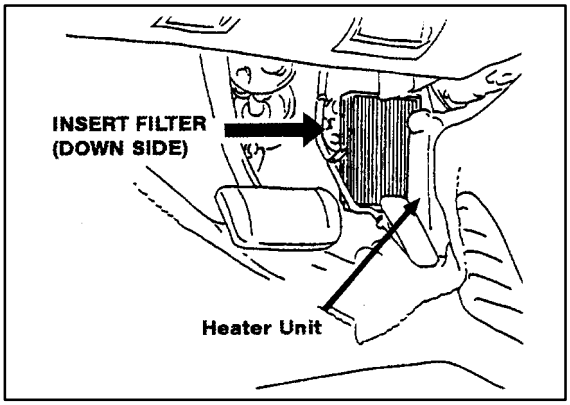
ES 300 ('92–'96) (Continued)

3. Reinstallation of parts.

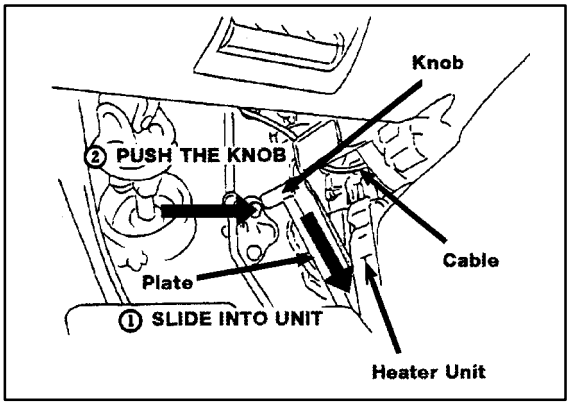
(a) Insert the filter (up side) into the heater unit following the numbered steps shown in the illustration.



(b) Insert the filter (down side) into the heater unit.



(c) Reinstall the plate on the side of the heater unit using steps ① and ❷, indicated with **red** arrows to show direction, in the illustration.



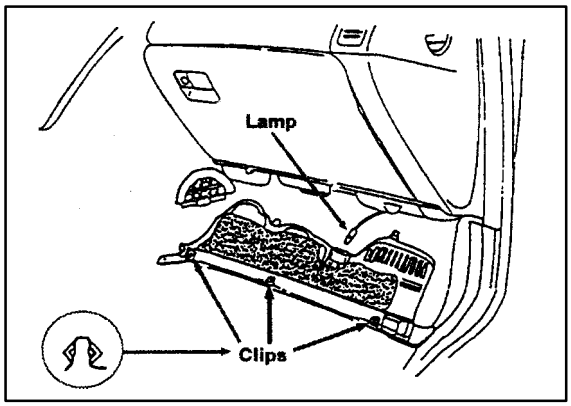
CAUTION:
Confirm that the plate is secure.

(d) Restore the carpet to its original position taking care not to bend the cable.

GS 300 1. Removal of parts.

(a) Remove the undercover.

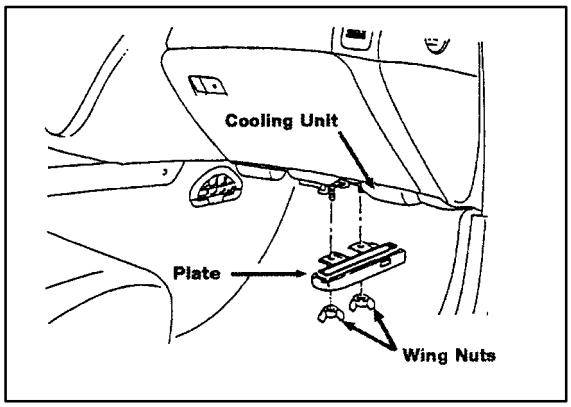
NOTE:
Pull down the clip areas (3 places) of the Undercover to remove.



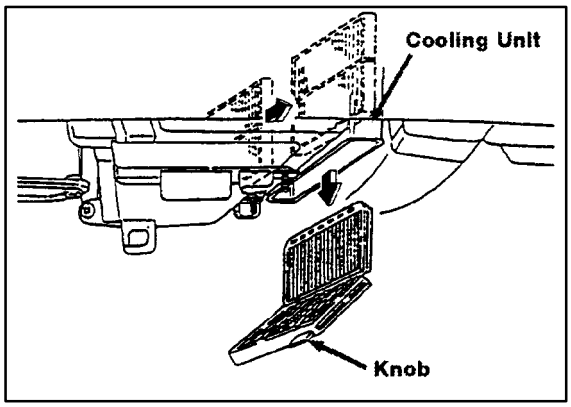
(b) Remove the lamp.

(c) Remove the (2) wing nuts and the plate on the bottom of the cooling unit.

CAUTION:
The plate and wing nuts will be reused.



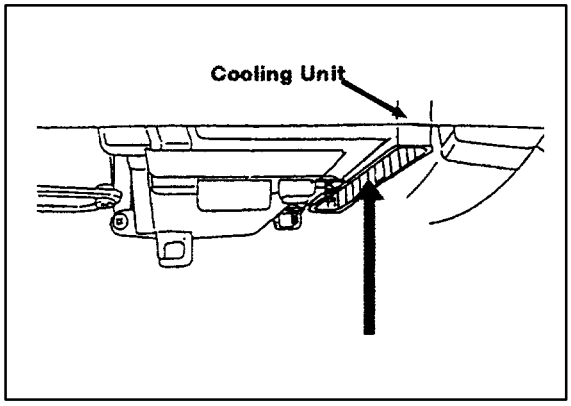
(d) Remove the (2) filters from the cooling unit.



2. Clean the Evaporator.

- Follow the general procedures given on page 2.

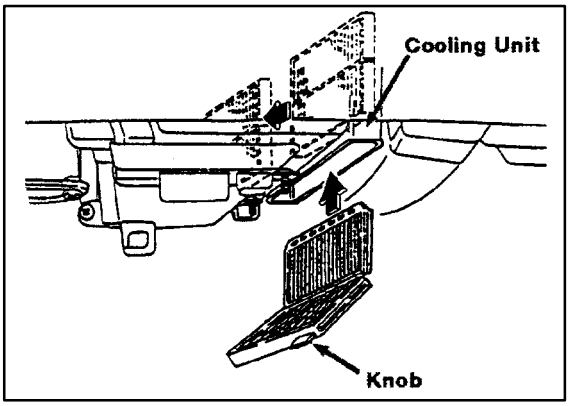
NOTE:
Location for insertion of spray nozzle is indicated by the red arrow in the illustration.



GS 300 (Continued)

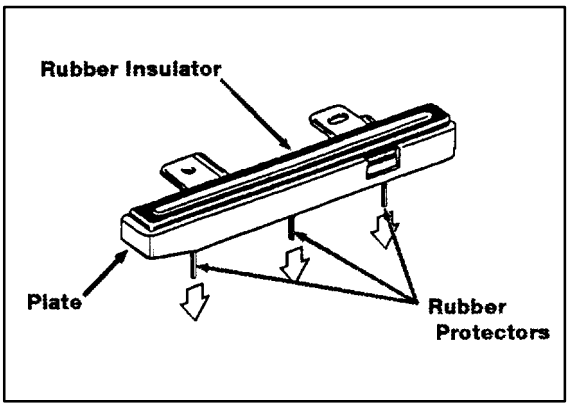
3. Reinstallation of parts.

(a) Insert the (2) filters into the cooling unit as shown in the illustration.



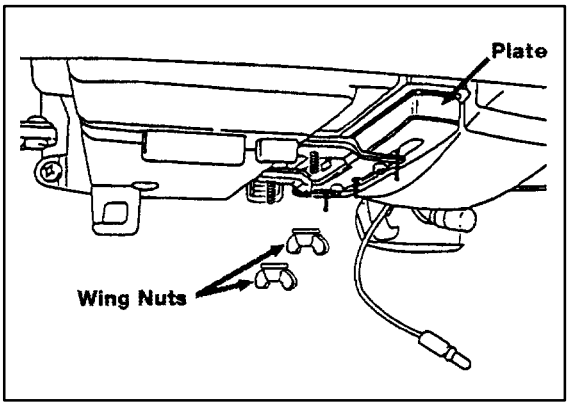
NOTE:
Insert a clean air filter with it's knob facing downwards, then slide it forward and install the second filter in the same manner.

(b) Assemble the rubber insulator on the plate.



CAUTION:
To prevent the cooling unit from leaking water, pull the three rubber projections from the other side of the plate to make sure that the rubber insulator seals properly against the plate.

(c) Install the plate on the cooling unit and secure with the (2) wing nuts.



CAUTION:
To prevent water leaks, verify that the cooling unit and plate are fully secure before tightening the wing nuts.

NOTE:
Before installing the plate on the cooling unit, coat the rubber insulator with water for easier assembly.

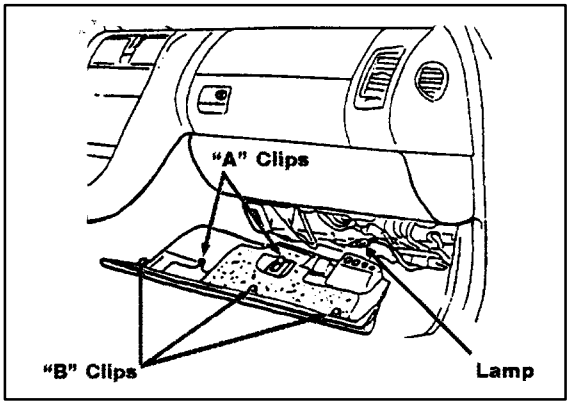
(d) Reinstall the lamp.

(e) Reassemble the Undercover.

LS 400 ('93–'94)

1. Removal of parts.

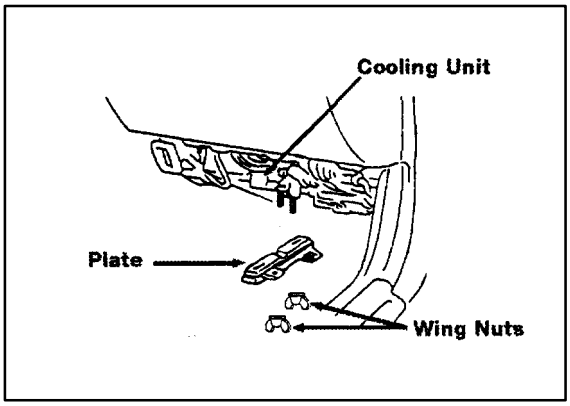
   (a) Remove the undercover.



NOTE:
- **Remove the front of "A" clips.**
- **Pull down the three "B" clip areas of the Undercover to remove.**

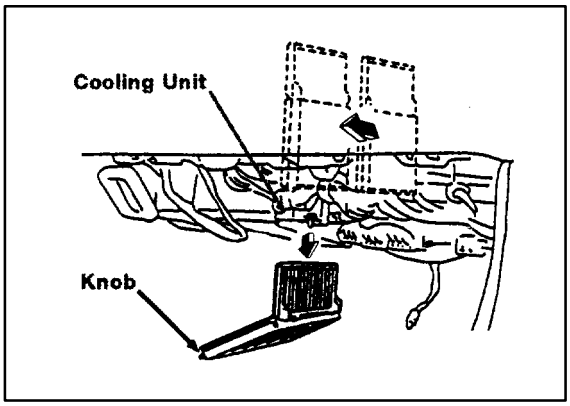
   (b) Remove the lamp.

   (c) Remove the (2) wing nuts and the plate on the bottom of the cooling unit.



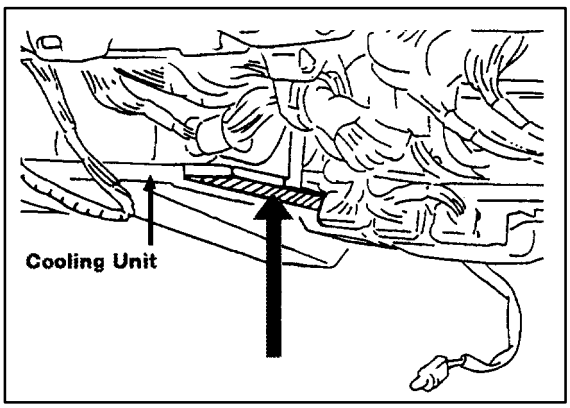
CAUTION:
The plate and wing nuts will be reused.

   (d) Remove the (2) filters from the cooling unit.



2. Clean the Evaporator

   - Follow the general procedures given on page 2.

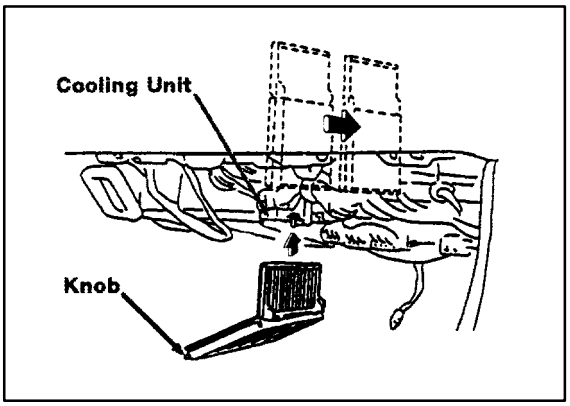


NOTE:
Location for the insertion of spray nozzle is indicated by the red arrow in the illustration.

LS 400 ('93–'94) (Continued)

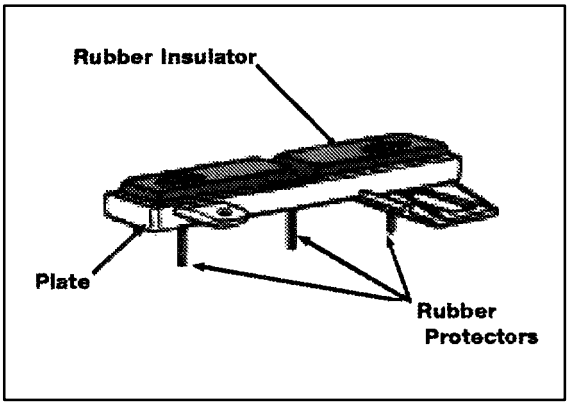
3. Reinstallation of parts.

(a) Insert the (2) filters into the cooling unit as shown in the illustration.



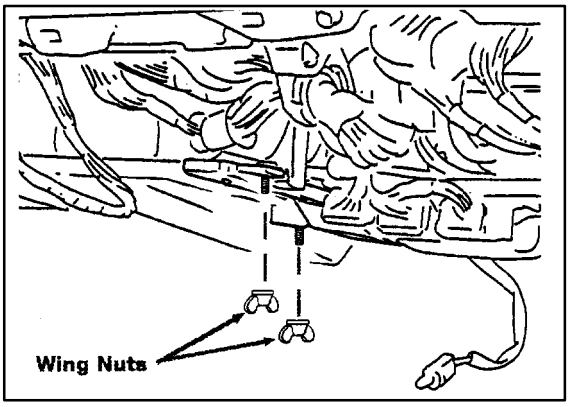
NOTE:
Insert a clean air filter with it's knob facing downwards, then slide it forward and install the second filter in the same manner.

(b) Assemble the rubber insulator on the plate.



CAUTION:
To prevent the cooling unit from leaking water, pull the three rubber projections from the other side of the plate to make sure that the rubber insulator seals properly against the plate.

(c) Install the plate on the cooling unit and secure with the (2) wing nuts.

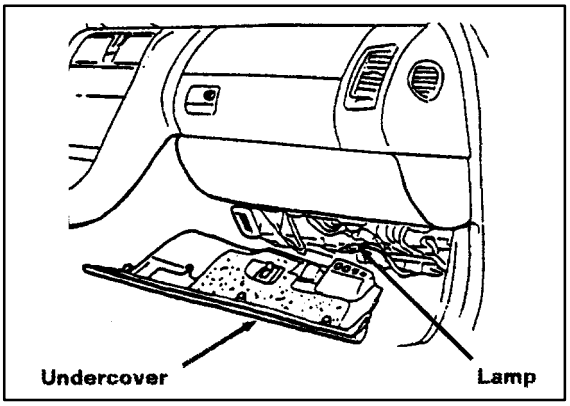


CAUTION:
To prevent water leaks, verify that the cooling unit and plate are fully secure before tightening the wing nuts.

NOTE:
Before installing the plate on the cooling unit, coat the rubber insulator with water for easier assembly.

(d) Reinstall the lamp.

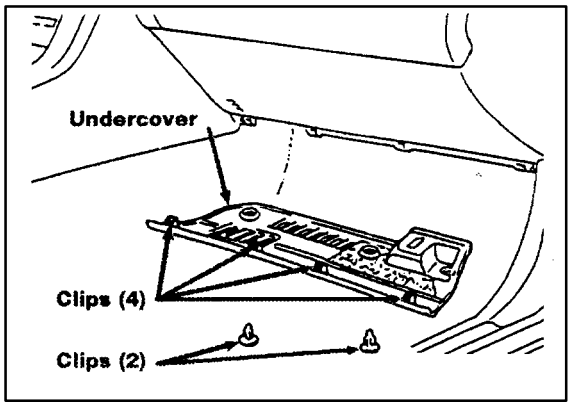
(e) Reassemble the Undercover.



SC 300
SC 400

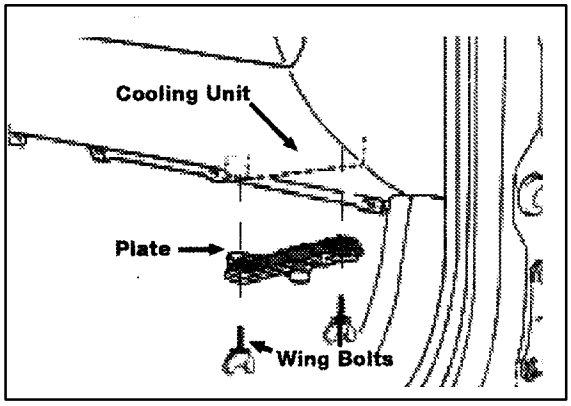
1. Removal of parts.

   (a) Remove two clips using the clip remover then remove the undercover.



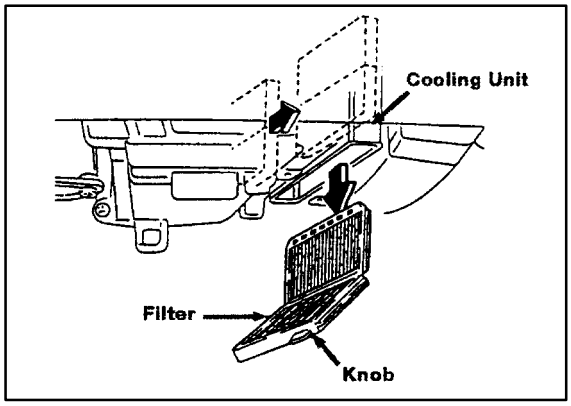
> **NOTE:**
> **Pull down the clip areas (4 places) of the Undercover to remove.**

   (b) Remove the (2) wing nuts and the plate on the bottom of the cooling unit.



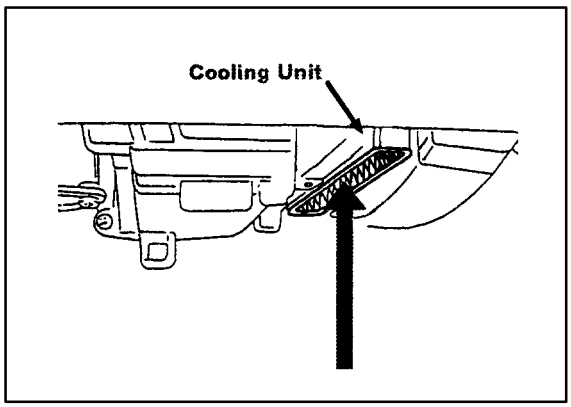
> **CAUTION:**
> **The plate and wing nuts will be reused.**

   (c) Remove the (2) filters from the cooling unit.



2. Clean the Evaporator

   - Follow the general procedures given on page 2.

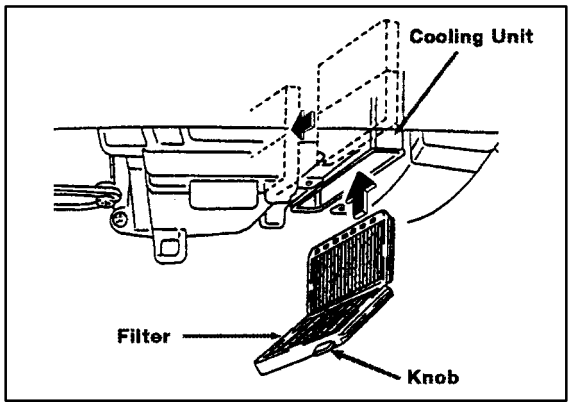


> **NOTE:**
> **Location for the insertion of spray nozzle is indicated by the red arrow in the illustration.**

SC 300
SC 400
(Continued)

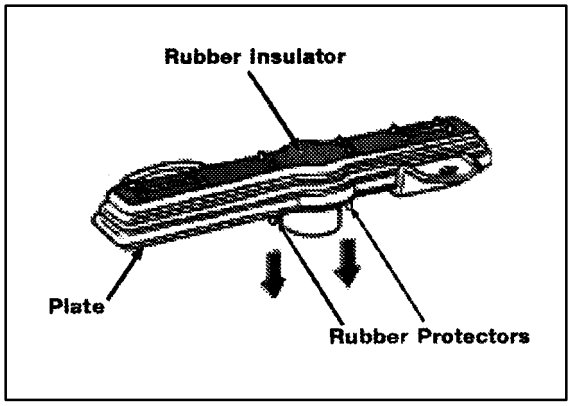
3. Reinstallation of parts.

(a) Insert the (2) filters into the cooling unit as shown in the illustration.



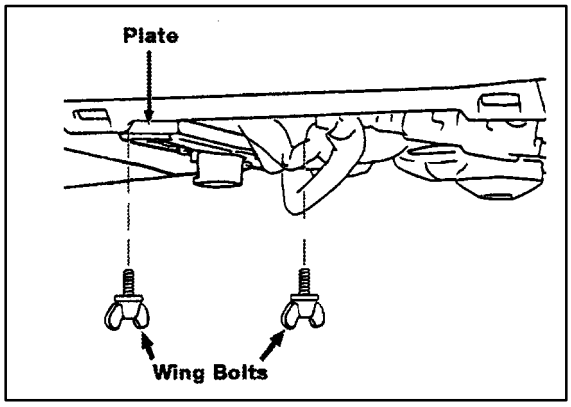
NOTE:
Insert a clean air filter with it's knob facing downwards, then slide it forward and install the second filter in the same manner.

(b) Assemble the rubber insulator on the plate.



CAUTION:
To prevent the cooling unit from leaking water, pull the three rubber projections from the other side of the plate to make sure that the rubber insulator seals properly against the plate.

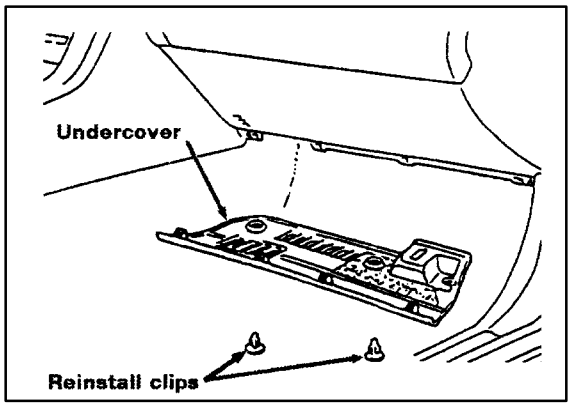
(c) Install the plate on the cooling unit and secure with the (2) wing nuts.



CAUTION:
To prevent water leaks, verify that the cooling unit and plate are fully secure before tightening the wing nuts.

NOTE:
Before installing the plate on the cooling unit, coat the rubber insulator with water for easier assembly.

(d) Reassemble the Undercover.



LX 450 1. Removal of parts.

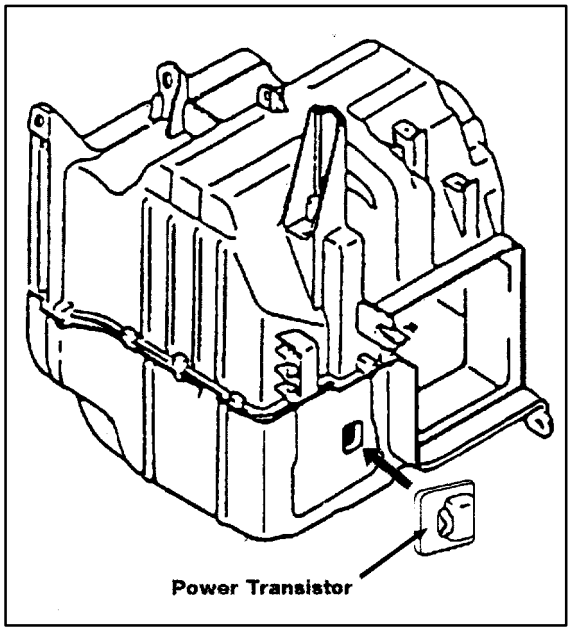
(a) Remove the glove compartment door.
(b) Remove the A/C Amplifier.
(c) Remove power transistor.

2. Clean the Evaporator

- Follow the general procedures given on page 2.

3. Reinstallation of parts.

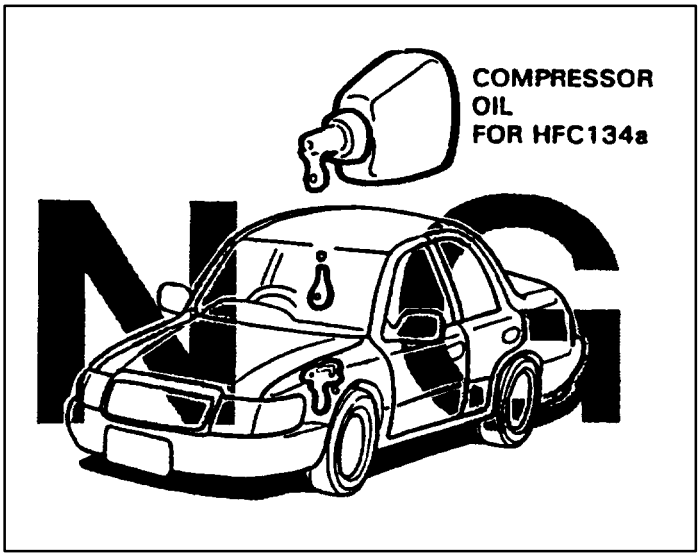
- Reinstall the parts in reverse order of removal described in step 1.



Title **HFC–134A REFRIGERANT OIL HANDLING PRECAUTIONS**

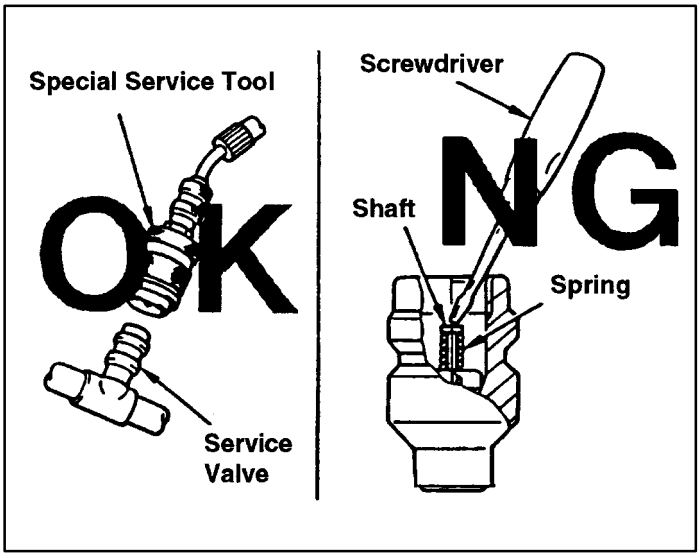
Special precautions need to be exercised when handling the new refrigerant oil for HFC–134a systems.

ND–OIL8 is used in systems utilizing swash plate type compressors (10P/10PA). Do not allow refrigerant oil (ND–OIL8) to come into contact with any of the vehicle's surfaces. It will cause discoloration of painted surfaces and will deteriorate components made from acrylic or ABS (Acrylonitrile Butadiene Styrene).



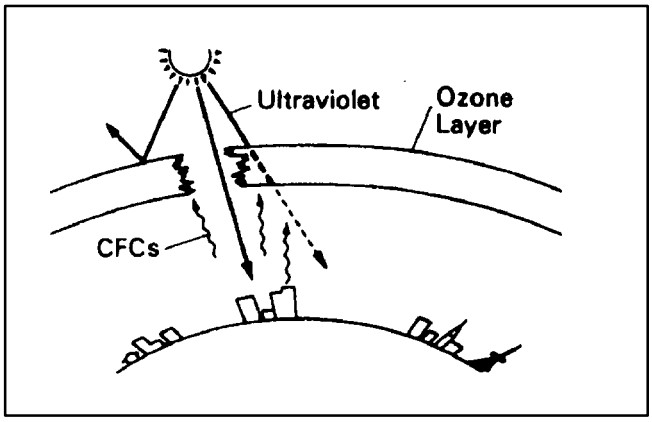
PRECAUTION:

When servicing a HFC–134a system, use only approved Lexus Special Service Tools (SSTs) to perform refrigerant recovery. Use of unapproved tools may cause unnecessary release of refrigerant into the atmosphere, oil contamination of vehicle surfaces or damage system components.

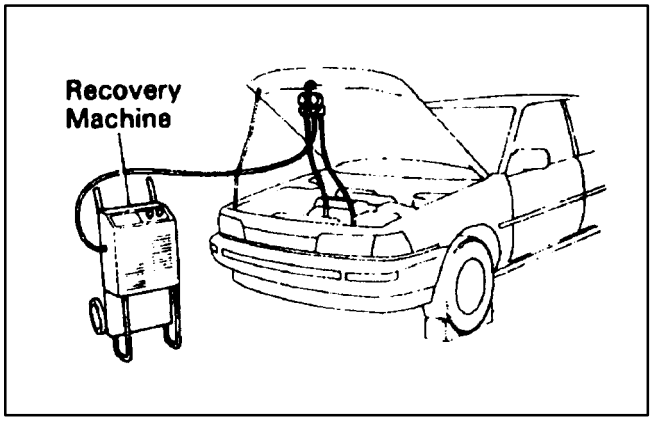


SPECIAL CARE SHOULD ALSO BE TAKEN TO ENSURE THAT THE HIGH SIDE AND LOW SIDE SERVICE VALVE CAPS ARE INSTALLED AFTER ANY WORK IS COMPLETED ON A SYSTEM.

In recent years, there has been a growing concern for the effects of chemical substances on the environment throughout the world. One of the substances that has attracted attention is the R–12 refrigerant used in automotive air conditioning (A/C) systems.



The chemical name for R–12 is Chlorofluorocarbon (CFC) and it has been identified along with CFCs from other sources as being a contributing factor in the depletion of the ozone layer in the earth's atmosphere. The ozone layer provides protection from the harmful effects of the sun's ultraviolet rays. Consequently it is very important to minimize the amount of refrigerant released into the atmosphere.

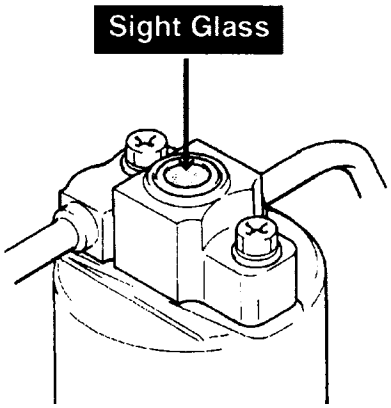


When servicing the A/C system it is mandatory to use a **Lexus Approved** refrigerant recovery machine **(Lexus P/N 00002–01396–02)** or its equivalent, and to use only the minimum amount of refrigerant necessary to test or charge the system.

The actual repair of each model's A/C system is detailed in the appropriate Lexus repair manual. However, to aid you in making quick, accurate diagnosis and repair of low refrigerant level conditions, the following inspection procedures have been developed.

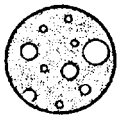
QUICK CHECKS OF REFRIGERANT VOLUME:

Inspect the condition of the refrigerant flowing through the sight glass, according to the following indicators:



Properly charged system

Almost no air bubbles are seen in the flow of refrigerant. When raising the engine speed gradually from idle to 1500 rpm, the bubbles disappear, making the refrigerant transparent.



Insufficiently charged system

Air bubbles seen continuously in the refrigerant.

Excessively charged system

No air bubbles seen in the refrigerant flow.

Item	Symptom	Amount of Refrigerant	Remedy
1	Bubbles present in sight glass	Insufficient	(1) Check for gas leakage with gas leak tester and repair if necessary (2) Add refrigerant until bubbles disappear
2	No bubbles present in sight glass	None, sufficient or too much	Refer to items 3 and 4
3.	No difference between compressor inlet and outlet	Empty or nearly empty	(1) Check for gas leakage with gas leak tester and repair if necessary (2) Add refrigerant until bubbles disappear
4	Temperature of compressor inlet and outlet is noticeably different	Correct or too much	Refer to items 5 and 6
5	Immediately after air conditioner is turned off, refrigerant in sight glass stays clear	Too much	(1) Recover refrigerant (2) Evacuate air and charge proper amount of purified refrigerant
6	When air conditioner is turned off, refrigerant foams briefly and then stays clear	Correct	

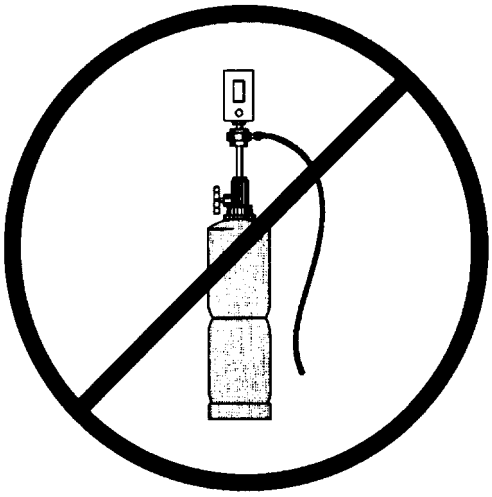
☞ **With higher ambient temperatures (above about 85 F), bubbles in the sight glass can be considered normal if cooling is sufficient.**

LEAK DETECTION:

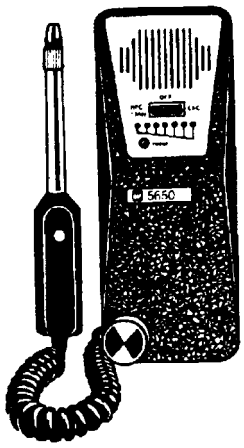
Identifying the exact location of A/C refrigerant leaks must be done with great care and can sometimes be difficult.

1) Ensure that at least 1 lb (450 g) of A/C refrigerant is in the system.
2) Install a gauge set and operate the A/C system to obtain normal system pressures. (Low: 21~28 psi, Hi: 206~213 psi)
3) Stop engine and allow low side pressure to peak.
4) Always use a proper gas leak detector for the refrigerant you are working with.
   A) **Do not** use propane type testers
   B) Always allow full warm–up of electronic type testers
   C) Calibrate instrument according to manufacturer's instructions
   D) **Do not** get probe wet or oily, etc.
5) Inspect the A/C system according to the following A/C system inspection procedures.

NOTE: **BEFORE PERFORMING ANY REPAIRS, CONNECT AND USE THE REFRIGERANT RECOVERY MACHINE.**

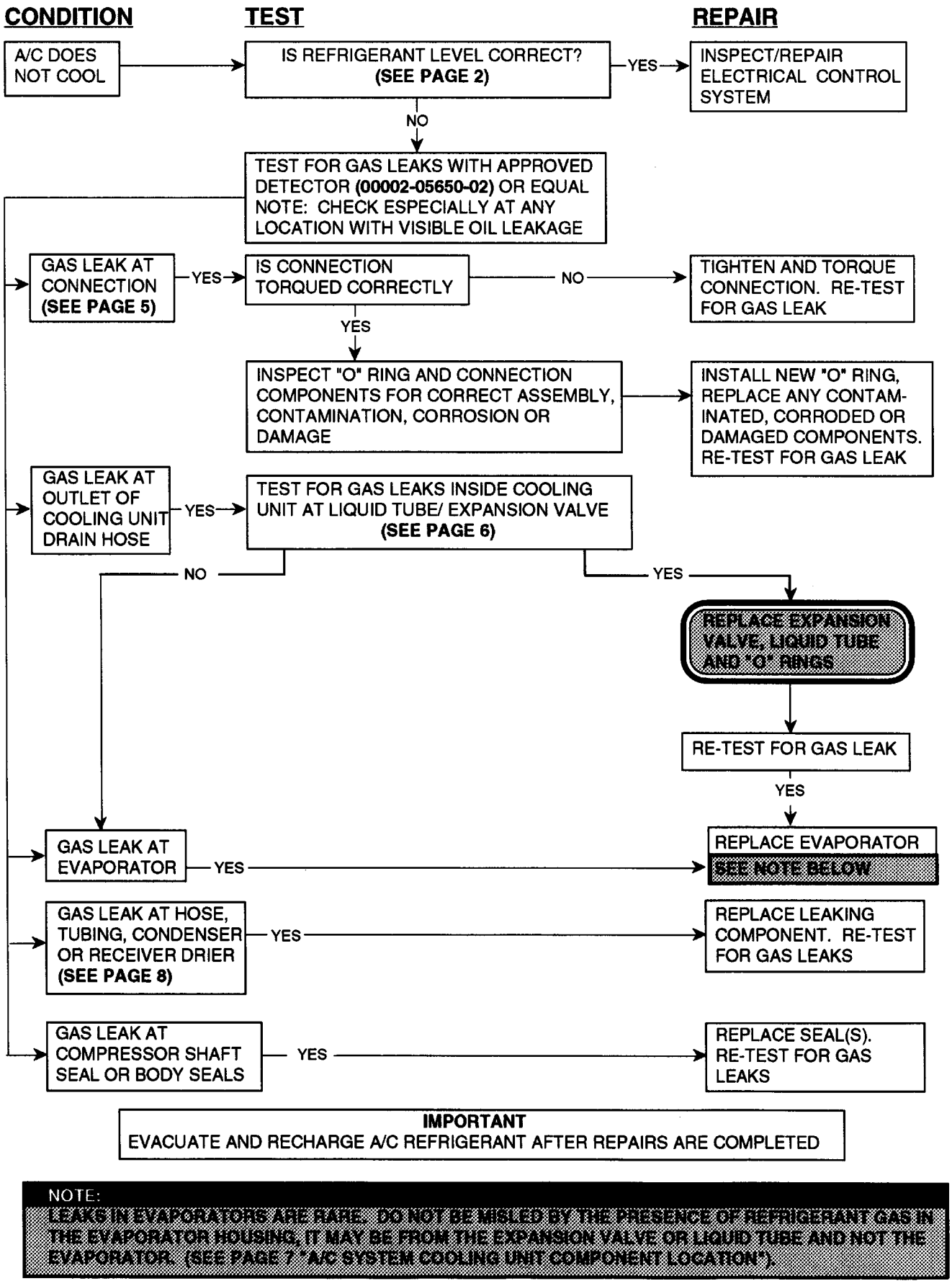


Halide Leak Detector



HFC 134a & R-12 Electronic Leak Detector

A/C SYSTEM INSPECTION PROCEDURE:

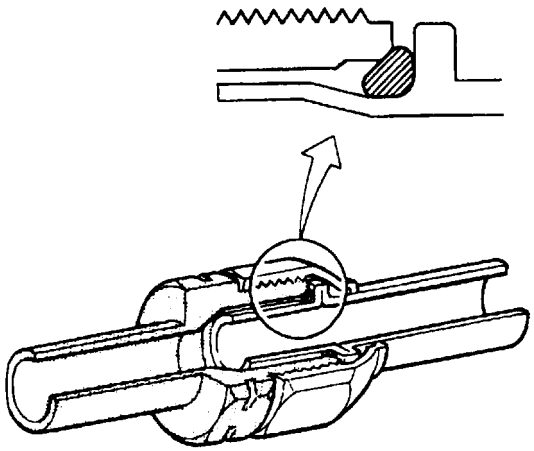


IMPORTANT
EVACUATE AND RECHARGE A/C REFRIGERANT AFTER REPAIRS ARE COMPLETED

NOTE:
LEAKS IN EVAPORATORS ARE RARE. DO NOT BE MISLED BY THE PRESENCE OF REFRIGERANT GAS IN THE EVAPORATOR HOUSING, IT MAY BE FROM THE EXPANSION VALVE OR LIQUID TUBE AND NOT THE EVAPORATOR. (SEE PAGE 7 "A/C SYSTEM COOLING UNIT COMPONENT LOCATION").

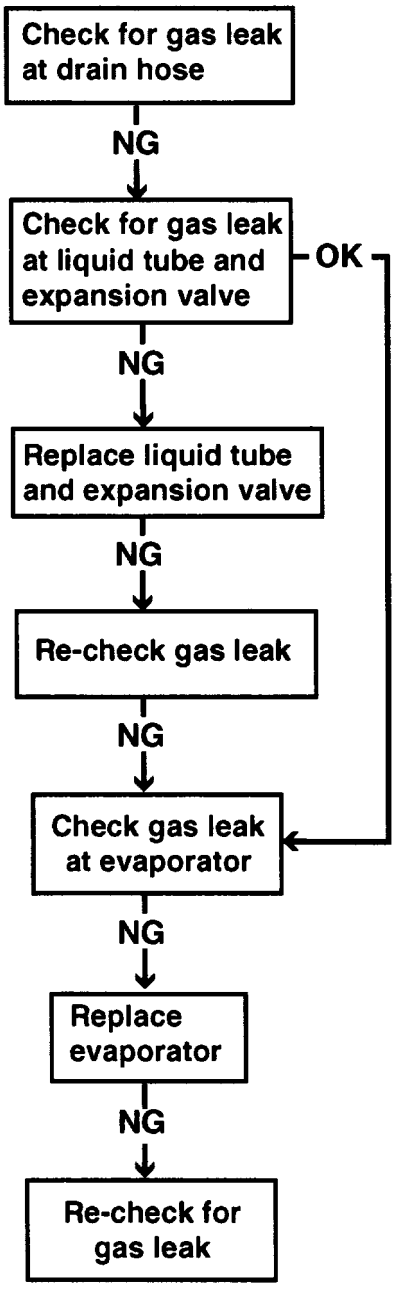
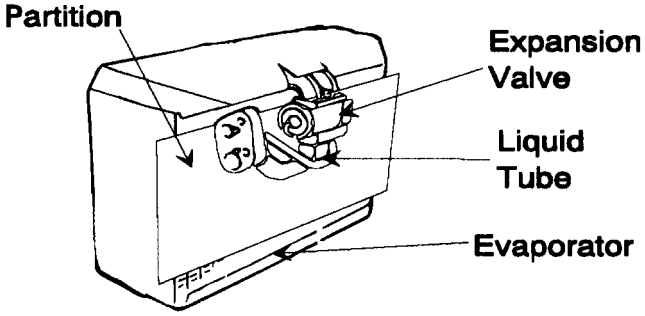
GAS LEAK INSPECTION:

1. Connection

INSPECTION AND REPAIR PROCEDURE	REMARKS
Check For Gas Leak NG Check Connection Torque — OK NG Tighten and Torque Connector Re-Check For Gas Leak NG Inspect "O" Ring And Connection Install New "O" Ring And Replace Any Damaged Components Re-Check For Gas Leak	Carefully check each connection in the refrigerant system: Pipe to pipe Pipe to each functional A/C component  Refer to the applicable repair manual to obtain correct torque value and determine O–Ring lubrication requirements.

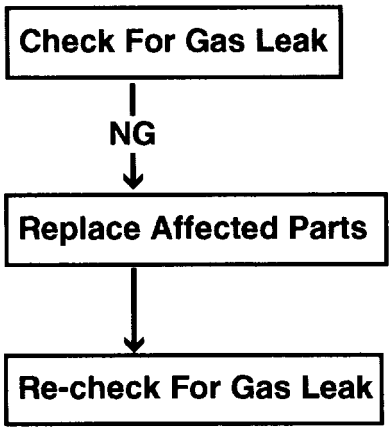
NG = No Good

2. Outlet of Cooling Unit Drain Hose

INSPECTION & REPAIR PROCEDURES	REMARKS
	CHECK WITH GAS LEAK DETECTION AT OUTLET OF COOLING UNIT DRAIN HOSE. CHECK INSIDE COOLING UNIT (a) Disconnect negative battery terminal. (b) Remove parts surrounding cooling unit. (c) Remove evaporator cover or appropriate component to allow access to the expansion valve and liquid tube. (d) Clear any residual gas in the cooling housing by blowing with low pressure compressed air. (e) If possible, insert a partition of plastic or card board between expansion valve/liquid tube and evaporator to more easily pinpoint gas leak location.  (f) Check for gas leak at the following locations: Mating surfaces of expansion valve and evaporator or expansion valve and liquid tube Expansion valve adjustment screw Evaporator tubes

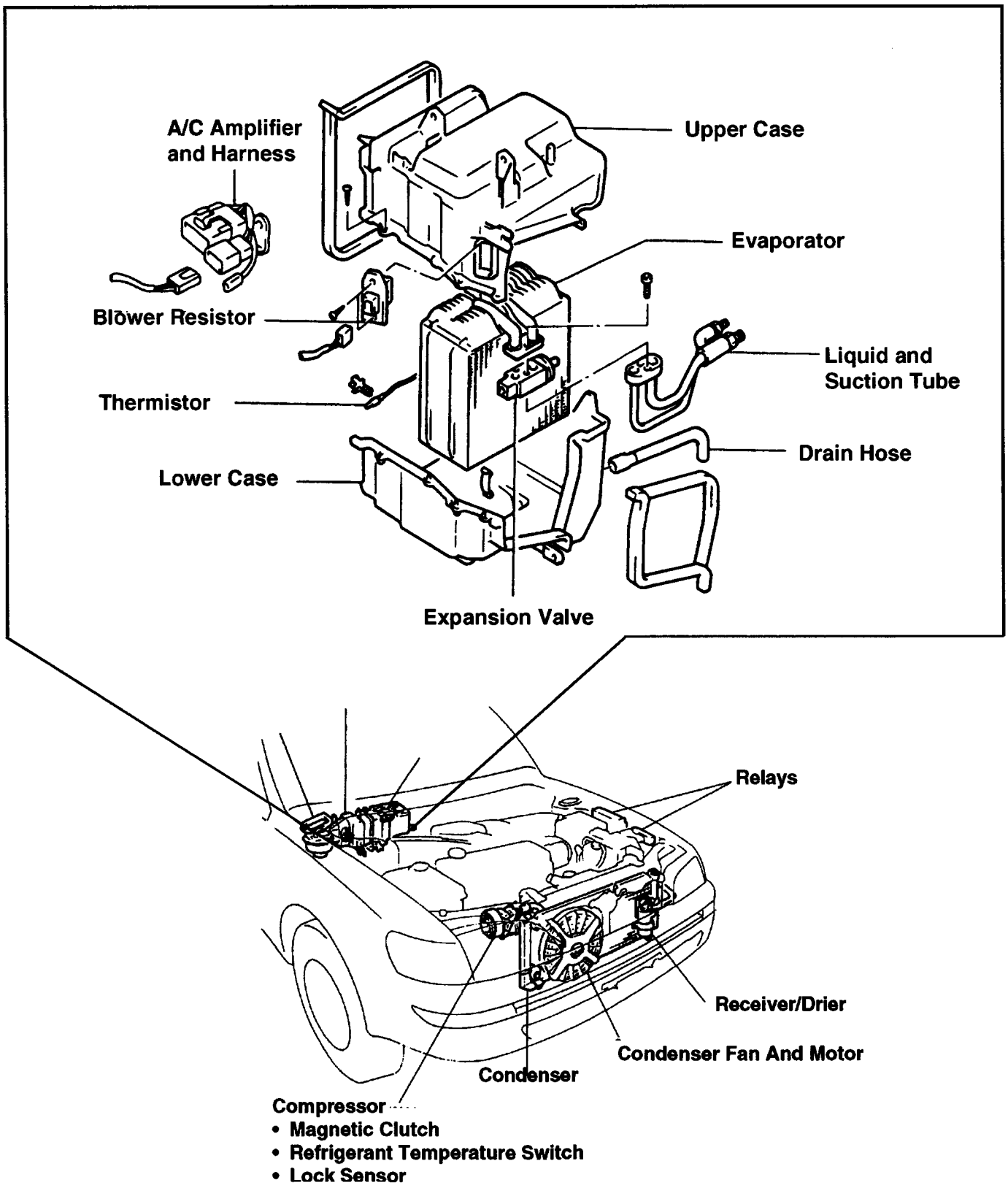
NG = No Good

3. Condenser / Receiver Drier / Compressor

INSPECTION & REPAIR PROCEDURES	REMARKS
	Check affected components by using the gas leak detector: All portions of condenser Compressor shaft seal and body seals Compressor lock sensor

AIR CONDITIONING SYSTEM COOLING UNIT COMPONENT LOCATION

(1) A/C system for single evaporator (all Passenger Cars)



LEXUS

TECHNICAL SERVICE INFORMATION

REF: HEATING & AIR CONDITIONING
NO: AC003-96
DATE: JUNE 7, 1996
MODEL: ALL MODELS

Title **A/C COMPRESSOR MAINTENANCE FOR STORED VEHICLES**

When a vehicle is stored for a long period, the volume of oil in the A/C compressor may decrease due to oil flow into the condenser, pipes, etc.

If the A/C system is turned on at high engine RPM after a long storage period, A/C compressor damage may result.

To minimize the possibility of damage to the A/C compressor while storing a vehicle, perform the following recommended procedure at least once a month to lubricate the compressor.

RECOMMENDED PROCEDURE FOR A/C COMPRESSOR LUBRICATION:

1. Turn off A/C And blower switches prior to starting engine.
2. Start and warm–up engine until engine speed drops below 1,000 RPM.
3. Turn on the A/C system using the following settings:
   - A/C switch: On
   - Blower Speed: High
   - Engine speed: Below 1,000 RPM
4. Keep A/C on with engine idling for 30 seconds.
5. Turn off A/C system and stop engine.

Care must be taken to use **only** refrigerant oil which is compatible to the vehicle's system. Following are A/C oil application charts for both R–12 and HFC–134a systems:

R–12 SYSTEMS

MODEL	OIL TYPE	PART NUMBER	QUANTITY
All Models	ND–Oil 6	P/N (88899–28040)	60 cc
	(or Equivalent)	P/N (07117–68040)	500 cc

HFC–134A SYSTEMS

MODEL	OIL TYPE	PART NUMBER	QUANTITY
All Models	ND–Oil 8	P/N (08885–09109)	40 cc
		P/N (08885–09107)	250 cc

LEXUS

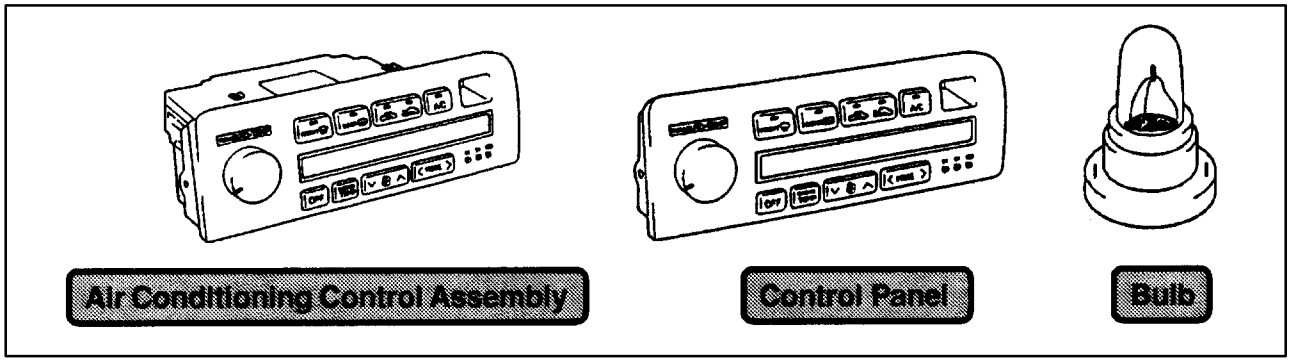
TECHNICAL SERVICE INFORMATION

REF: HEATING & AIR CONDITIONING
NO: AC006–96
DATE: AUGUST 9, 1996
MODEL: ES 300

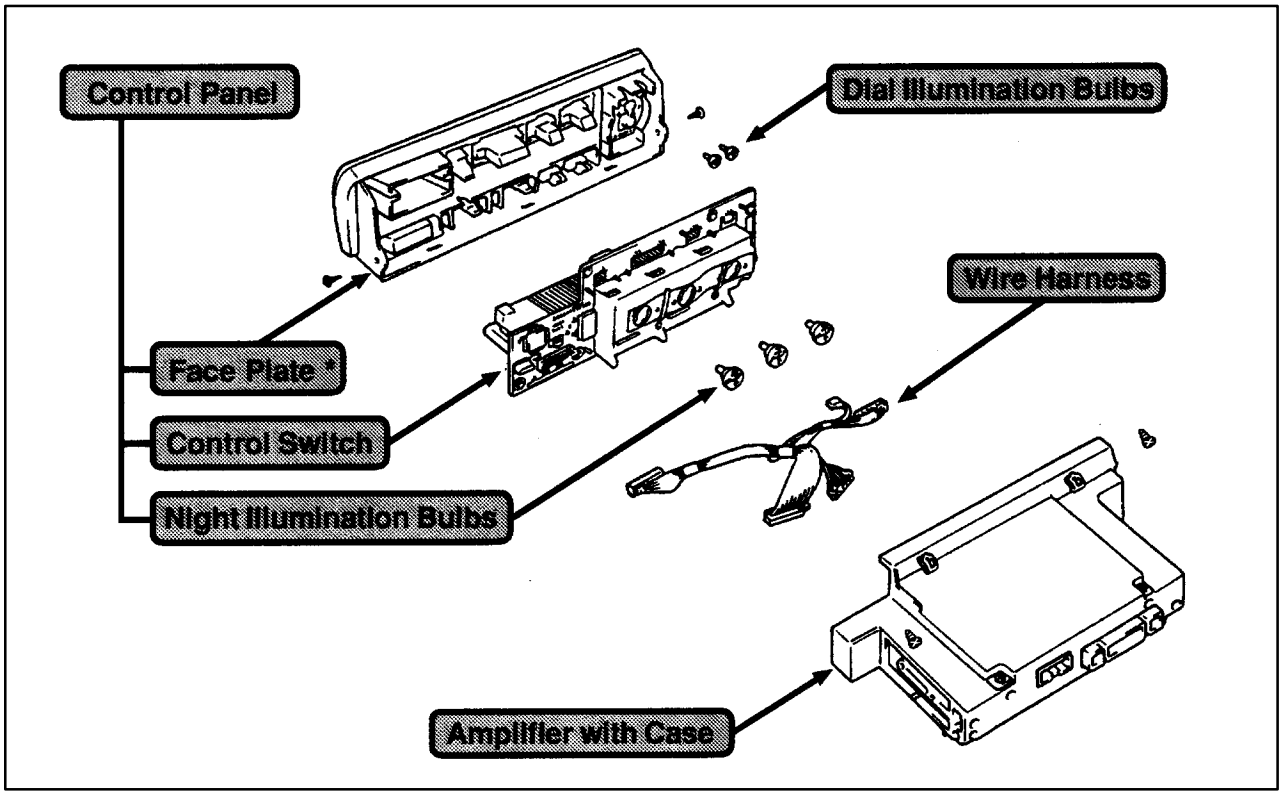
Title **1992 – 1995 ES 300 A/C CONTROL ASSEMBLY SERVICE PARTS**

To allow repairs to the A/C Control Assembly, service parts are now available. The following information on parts and troubleshooting will aid you in addressing complaints with the LCD display, night illumination or switch indicators.

PREVIOUSLY AVAILABLE PARTS:



CURRENTLY AVAILABLE PARTS:



* Face Plate is not available as a separate part.

TROUBLESHOOTING:

Use the matrix chart below as a guide to repairs. Verify necessary inputs to the A/C Control Assembly from the vehicle prior to disassembly. Use the repair manual, A/C System section, to validate inputs such as B+, ILL+, ground, etc..

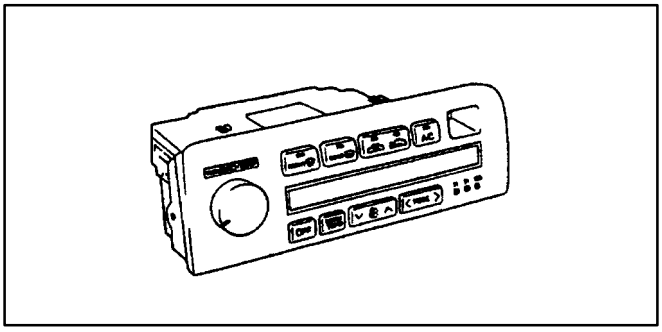
SUSPECT AREA / SYMPTOM	Control Switch	Bulb Switch	Switch Control	Indicator Lamp Circuit
Night Illumination does not come on		●		
LCD back lighting does not come on	●*1			
Indicator lamps of all switches are off			●	●
Indicator lamps of all switches are on			●	
LCD is faulty	●			

***1** LCD Illumination bulbs are not serviceable, Control Switch must be replaced if illumination does not occur.

NOTE: If symptoms still exist after the suspect areas have been tested and found not to be faulty, replace the amplifier.

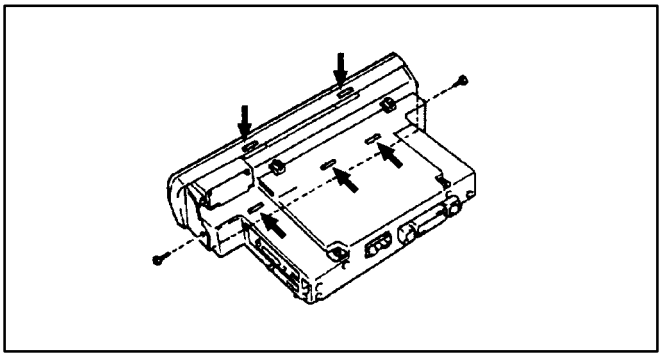
AIR CONDITIONING DISASSEMBLY:

1. Remove the Air Conditioning Control Assembly.



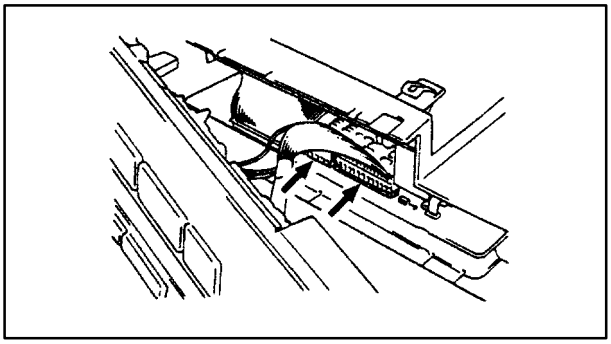
2. Separate Control Panel from case.

   a. Remove the 2 screws and release the 5 clips to separate the Control Panel from the case.

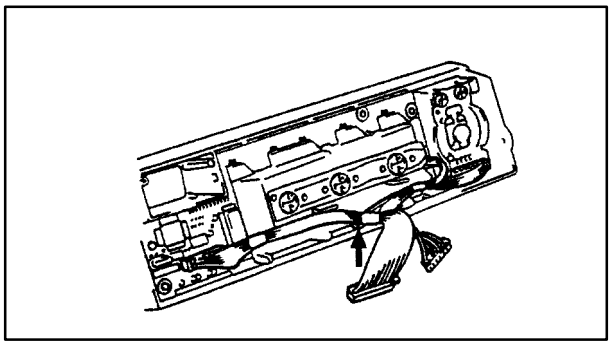


AIR CONDITIONING CONTROL DISASSEMBLY (Cont'd):

b. Disconnect the 2 connectors and separate the Control Panel from the case.

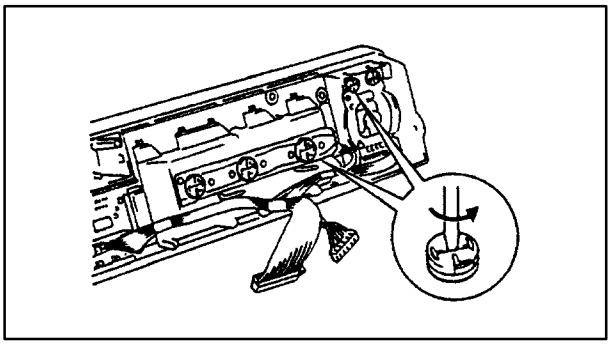


c. Remove the Wire Harness as shown in the illustration.



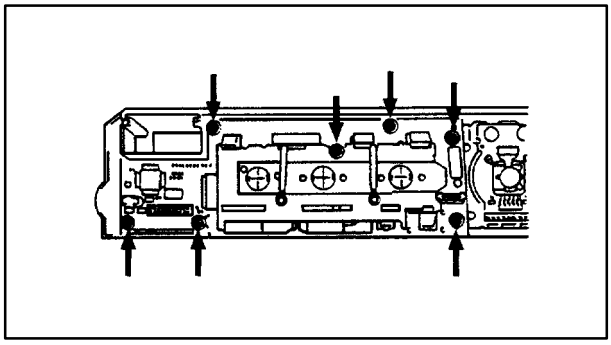
3. Replace the Night Illumination Bulb.

   Use a flat–bladed screwdriver to remove and replace the Night Illumination Bulb.

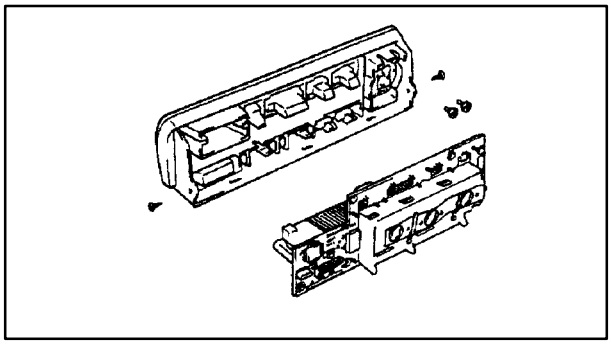


4. Remove the Control Switch.

   a. Release the 7 screws to remove the Control Switch.

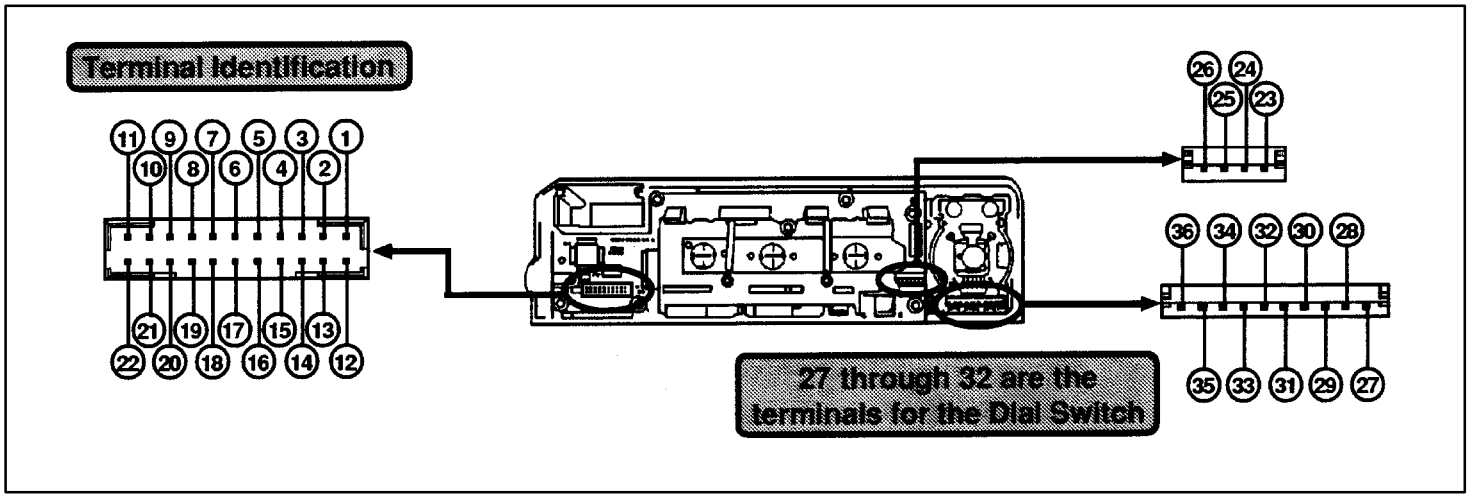


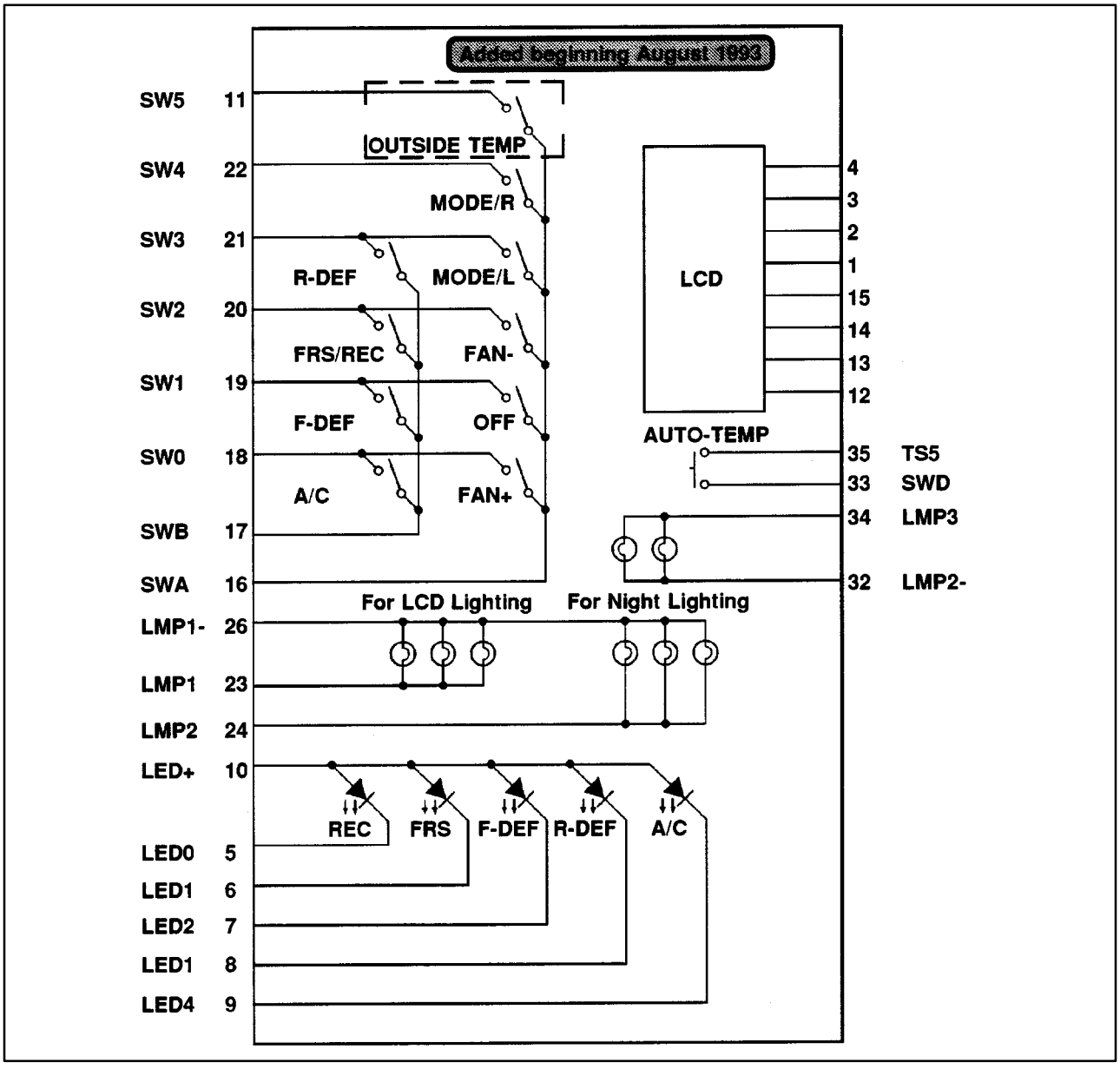
   b. Separate the Control Switch from the Face Plate.



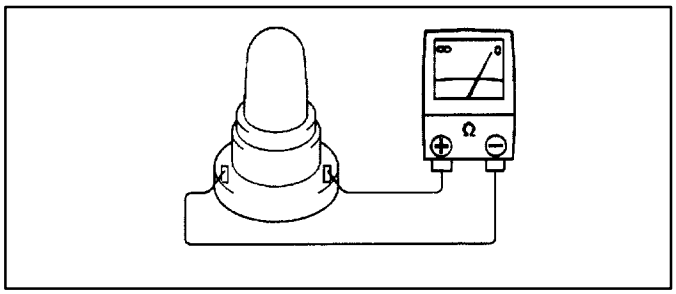
CONTROL PANEL INSPECTION PROCEDURE:

Interior Circuits –





INSPECTION PROCEDURE:

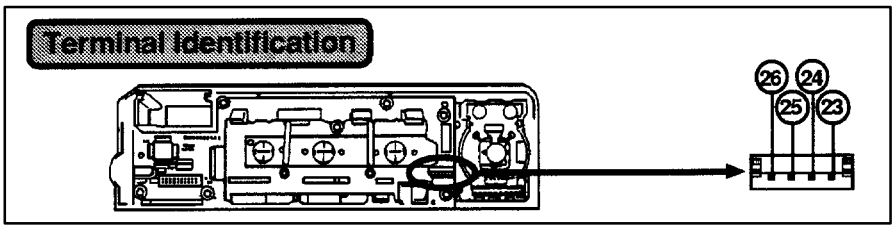


1. Bulb Circuit –

   Perform the following tests on suspect Night Illumination Bulbs. Check for continuity as shown. Replace the bulb if there is no continuity.

2. Bulb Circuit Inspection –

   Verify continuity between terminals 24 – 26, if no continuity replace the Control Switch.



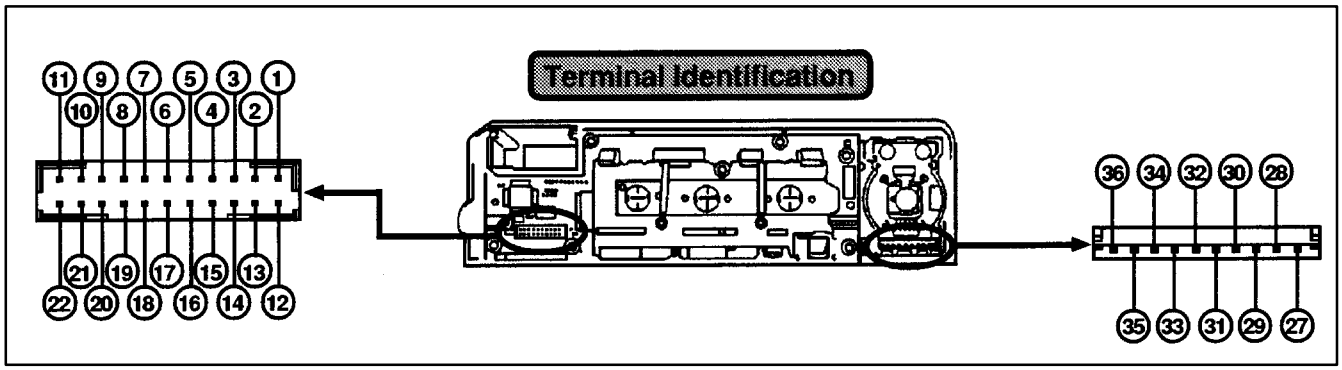
3. Switch Circuit –

   a. Switch Continuity Inspection:

   - Check that there is continuity between the terminals while the switch is pressed.
   - If there is no continuity between even one pair of terminals, replace the Control Switch.

* Added beginning August 1993.

SWITCH	INSPECTION TERMINALS
Outside Temp*	11 – 16
Mode/Right	22 – 16
Mode/Left	21 –16
Rear Def	21 – 17
Fan Down	20 –16
Fresh/Recirc	20 –17
Off	19 –16
Front Def	19 – 17
Fan Up	18 – 16
A/C	18 – 17
Auto–Temp	35 – 33

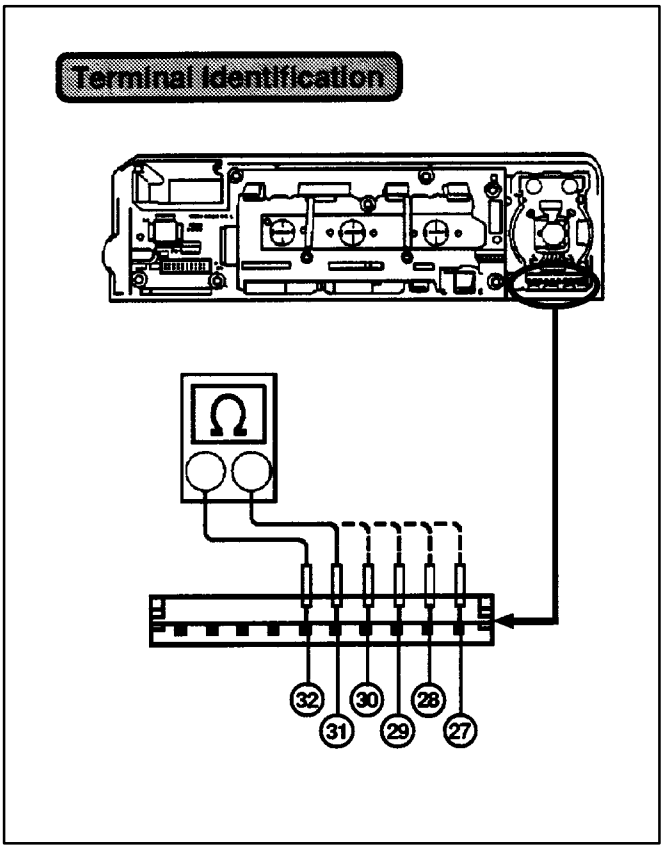


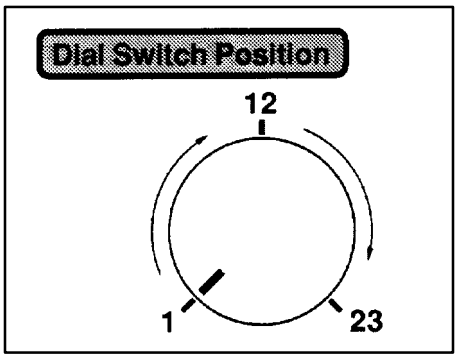
INSPECTION PROCEDURE (CONT'D):

b. Dial Switch Continuity Inspection –

- Check terminal continuity between 32 and 27 – 31.
- Rotate the Dial Switch to positions 1 through 23 and check for continuity/no continuity.
- If continuity is not as identified on the chart, Control Panel replacement is required.
- Chart Legend –

CONTINUITY: **1** – Yes
0 – No





POSITION	TERMINAL NUMBER				
	(31)	(30)	(29)	(28)	(27)
1	0	0	1	1	1
2	0	0	1	0	1
3	0	0	1	0	0
4	0	1	1	0	0
5	0	1	1	0	1
6	0	1	1	1	1
7	0	1	1	1	0
8	0	1	0	1	0
9	0	1	0	1	1
10	0	1	0	0	1
11	0	1	0	0	0
12	1	1	0	0	0
13	1	1	0	0	1
14	1	1	0	1	1
15	1	1	0	1	0
16	1	1	1	1	0
17	1	1	1	1	1
18	1	1	1	0	1
19	1	1	1	0	0
20	1	0	1	0	0
21	1	0	1	0	1
22	1	0	1	1	1
23	1	0	1	1	0

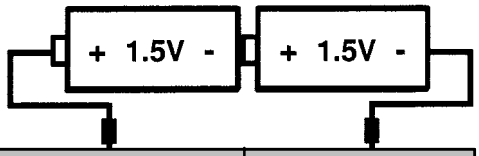
INSPECTION PROCEDURE (Cont'd):

4. Indicator Lamp Circuit –

   Connect two 1.5v dry cell batteries in series. Using the table, check that each suspect Indicator Lamp illuminates.

NOTE: Since the Indicator Lamps are LEDs, do not mix the "+" and "–" terminals of the test batteries or apply power to them for more than 3 seconds at a time.

If a suspect LED does not illuminate when tested, replace the Control Switch.



INDICATOR	TERMINAL TO CONNECT "+"	TERMINAL TO CONNECT "–"
A/C	10	9
REAR–DEF	10	8
FRONT–DEF	10	7
FRESH	10	6
RECIRC	10	5

PART NUMBER INFORMATION:

PART NAME	PART NUMBER	MODEL YEAR	MODEL APPLICATION	QTY
Control Panel	55902–33100	'92–'93	VK13T	1
	55902–33050	'94–'95	GK13T	1
Control Switch	88601–33040	'92–'93	VK13T	1
	88601–33020	'94–'95	GK13T	1
Bulb	84999–60420	'92–'93	VK13T	2
	84999–60440	'94–'95	GK13T	3
Dial Switch Bulb	84999–60430	'92–'95	VK13T, GK13T	2
Amplifier with Case	88650–33110	'92–'93	VK13T	1
	88650–33070	'94	GK13T	1
	88650–33140	'95	GK13T	1
Wire Harness	88484–33020	'92–'95	VK13T, GK13T	1
Screws	90099–00263	'92–'95	VK13T, GK13T	2

WARRANTY INFORMATION:

OPCODE	DESCRIPTION	TIME*	OPN	T1	T2
883851	A/C Control Assembly R&R	0.4	55902–XXXXX	**	**
Combo “A”	A/C Panel Sub–Assembly R&R	0.2	55902–330XX	**	**
Combo “B”	R&R Night Illumination Bulb (all)	0.2	84999–604XX	**	**
Combo “C”	R&R Knob Illumination Bulb (all)	0.2	84999–60430	**	**
Combo “D”	R&R Control Computer/Amplifier	0.2	88650–33XXX	**	**
Combo “E”	R&R Flexible Flat Cable/Wire Harness	0.2	88484–33020	**	**
Combo “G”	R&R Control Switch	0.2	88601–330XX	**	**

* Listed time for sub–operations are to be added to base operation to R&R the A/C control Assembly and include all necessary checks and tests.

** As applicable per the Lexus Universal Flat Rate Manual.

LEXUS

TECHNICAL SERVICE INFORMATION

REF: HEATING & AIR CONDITIONING
NO: AC007–96
DATE: NOVEMBER 29, 1996
MODEL: ALL MODELS

Effective January 1, 1996, the E.P.A. has officially banned the manufacture of Refrigerant 12 (Freon). As a result, surplus supplies of R–12 will begin to dwindle over the next several years until, eventually, R–12 will no longer be available.

This uncertainty about the availability of R–12 has caused significant concerns for Lexus dealers when servicing HVAC systems not using R–134a refrigerant. Similarly, the reduced availability of R–12 has prompted demands for R–134a retrofit kits and/or alternate refrigerants. This TSB will clarify Lexus's current recommendations for servicing and retrofitting HVAC systems on Lexus vehicles using R–12 refrigerant.

ALTERNATE REFRIGERANTS:

Previously, the E.P.A. has endorsed other alternative refrigerants. These endorsements, combined with the uncertain future availability of R–12, have lead to a limited acceptance of using alternative refrigerants when servicing or retrofitting R–12 HVAC systems. Use of these refrigerants can lead to several service related problems, including:

- Poor system performance and leak detection capabilities.
- Contamination of R–12 and R–134a during refrigerant recovery and recycling.

Recently the E.P.A. released a statement clarifying that approval of alternative refrigerants relates only to the toxicology, flammability, ozone depletion and global warming characteristics. The approval **does not imply acceptability of alternative refrigerants** use with respect to serviceability or performance.

TOYOTA MOTOR SALES, U.S.A. ENDORSES THE USE OF R–134a AS THE ONLY ACCEPTABLE ALTERNATIVE REFRIGERANT FOR VEHICLES USING R–12.

R–12 AVAILABILITY:

It is estimated that existing R–12 supplies will meet market demand in 1996. Beyond that, Lexus will supply R–12 to it's dealers from a strategic reserve. These strategic reserves are allocated specifically for distribution to Lexus dealers for repair of their customers' R–12 HVAC systems. TMS projects these reserves may meet dealer demand through early 1998. After that, we believe R–12 will no longer be readily available and dealers will begin to retrofit customer vehicles with R–134a.

RETROFIT ISSUES:

Lexus has completed development of retrofit parts for all later model Lexus vehicles using R–12 refrigerant. These parts will be produced in harmony with market demand, based on R–12 availability.

The parts necessary for a typical retrofit will generally include:

- Receiver Dryer
- O–Rings
- Fittings
- Labels
- Oil

A TSIB outlining retrofit procedures will be released when the retrofit kits become available.

For additional information, contact the Environmental Assistance Network Hotline at 1–800–542–3914.

LEXUS

TECHNICAL SERVICE INFORMATION

REF: AUDIO

NO: AU001–96

MODEL: ALL MODELS

Title **STATIC NOISE ON WEAK AM STATIONS**

Some Lexus audio systems may exhibit audible electrical noise on weak AM stations when various electrical accesssories (turn signals, rear defogger, cruise control, brakes, etc.) are operated.

Poor antenna grounding can cause this condition.

To eliminate or reduce the intensity of the noise use the following repair procedure:

REPAIR PROCEDURE:

1. Play the radio on a strong, static–free AM station and slowly move the tip of the antenna mast forward and back approximately 2 inches (Fig. 1). If static noise is not heard, go to Step 2. If static noise is heard during antenna movement, replace the antenna mast and go to Step 3.

NOTE: Do not touch the antenna mast with your bare hands. Use a glove or non-metallic object to move the antenna. (If you touch the antenna with your hands, you will change the antenna sensitivity).

2. Remove the antenna mast and inspect the base of the mast for corrosion and damage. Clean with 1500 grit sandpaper (Fig. 2).

3. Remove the antenna assembly and inspect the inner fender around the antenna hole for corrosion. Clean with 1500 grit sandpaper (Fig. 3).

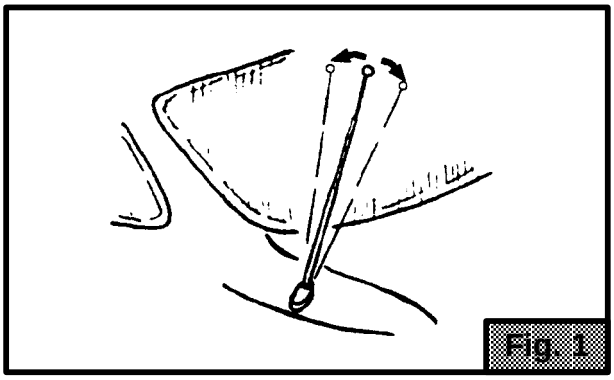


Fig. 1

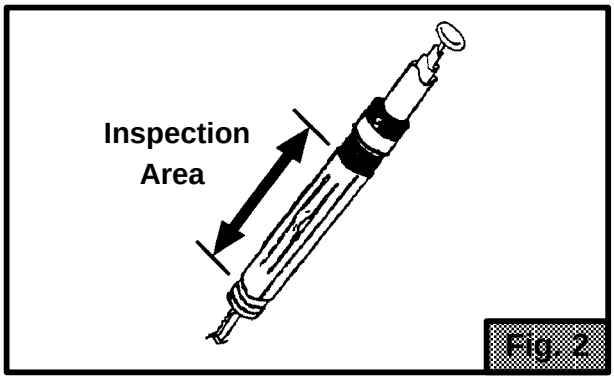


Fig. 2

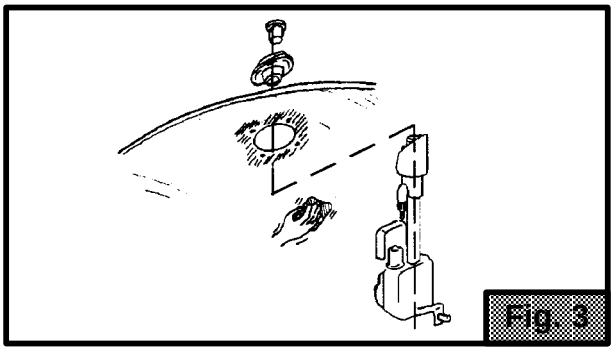
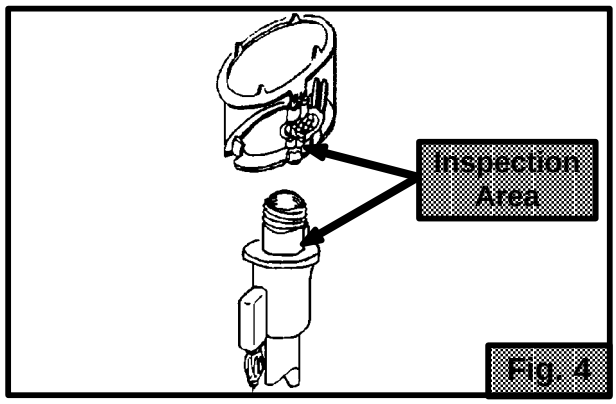


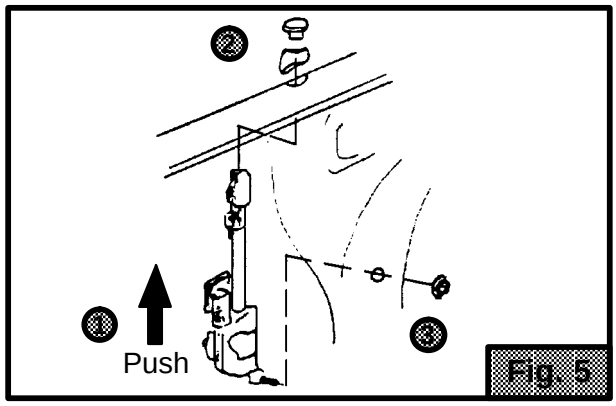
Fig. 3

REPAIR PROCEDURE (Cont'd):

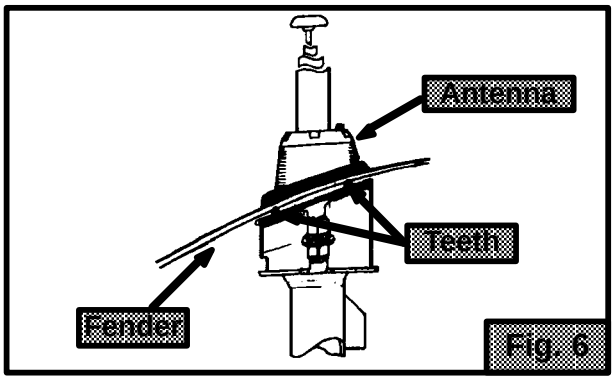
4. Remove the antenna spacer grommet at the top of the antenna assembly and inspect for corrosion. Clean with 1500 grit sandpaper (Fig. 4).



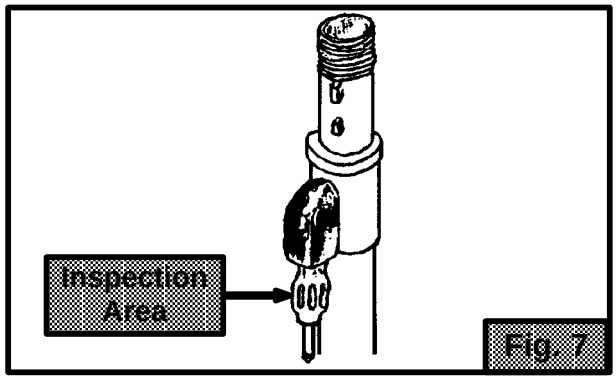
5. Reinstall the antenna assembly. Be sure to install the external antenna nut (escutcheon) first. Then install the nut which holds the assembly to the inner bracket (Fig. 5).



6. Check to make sure that the teeth on the antenna spacer grommet make good contact with the inner fender well (Fig. 6).



7. Inspect the antenna cable connection and clean as necessary. Reconnect the antenna cable, the wire harness and the drain hose (Fig. 7).



WARRANTY INFORMATION:

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
EL5001	Listed TSIB repair procedure (All Items)	1.0	86300–XXXXX	76	73

LEXUS
Technical Service Information Bulletin
May 16, 1997

Title:

CLEANING CASSETTE TAPE HEADS AND CAPSTANS

Models:

All Models

TSIB
AUDIO
AU001–97
REVISED

Introduction

The cassette tape head and capstan should be cleaned regularly to prevent poor sound quality and/or cassettes from jamming.

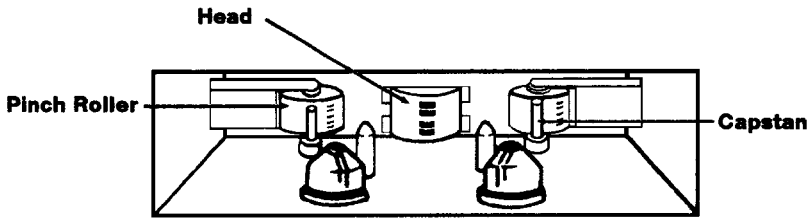


Fig. 1

Conditions

The following conditions can easily be avoided by regularly cleaning the head with a tape cleaner and only using good quality cassettes.

Poor Sound Quality due to Dirty Head

Since the tape head contacts the cassette tape, the tape head accumulates metal oxides and dirt particles from the tape. In time, a layer of dirt forms on the tape head resulting in poor transfer of information between the tape and the tape head. This typically causes a reduction of higher frequencies or a reduction of the brightness in sound quality.

Tape Speed

Tape speed is controlled by the tape capstan and pinch rollers. If the capstan and pinch rollers accumulate dirt, the tape may slip causing the music to play too fast or too slow.

Jamming

Dirt can make the capstans sticky, causing the tape to become entangled in the cassette mechanism. This can cause the cassette to become jammed in the player.

Cassette Tape Head Cleaners

To reduce the occurrence of these conditions, the following approved cassette cleaners are available through the non–parts system (Material Distribution Center).

TOOLS & MATERIALS	MATERIAL NUMBER	DESCRIPTION
Allsop 3 Cassette Recorder Cleaner	00113–AS710–00	Cleaning Cassette and Cleaning Solution with Instruction Sheet

NOTE:
Allow 15 minutes for the cleaning fluid to evaporate before playing a tape.

Cassette Tape Care Procedure

The following precautions should be taken to keep cassettes in good condition:

1. Remove the cassette from the player when the cassette is not in use.

2. Store the cassette in its case.

3. Store the cassette in a cool, dry area away from direct sunlight and magnetic components such as speakers.

4. Avoid touching the tape itself. This could result in poor sound quality or sound drop out.

5. Keep the tape tightly wound as shown in figure 2. Tape speed can be affected by loosely wound tape.

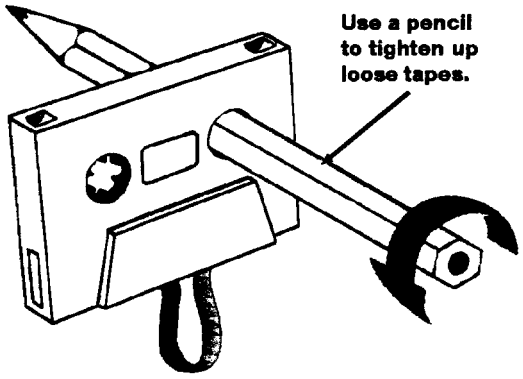


Fig. 2

6. Avoid inserting a cassette into the player if the cassette label is loose or peeling as shown in figure 3. This can cause a cassette to become stuck in the player.

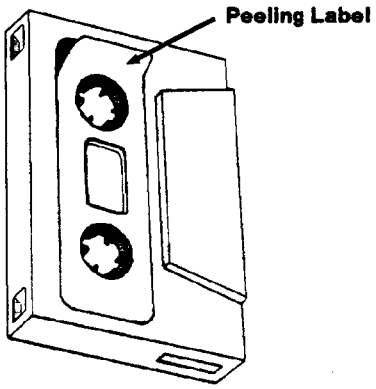


Fig. 3

7. Use cassettes that are 90 minutes or less in length. Cassettes over 90 minutes use extremely thin tape that is subject to stretch, resulting in poor sound quality.

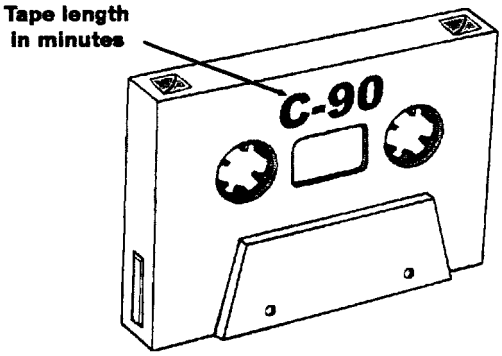


Fig. 4

Two–way communication equipment should work properly in Lexus vehicles when installed correctly and FCC regulations related to power output and spurious emissions are observed. Two–way radios can be defined as one of the following:

- Cellular Mobile Telephone
- Commercial FM Radio (ie, Police, Fire, Business)
- Citizen Band Radio (CB)
- Amateur Radio (HAM)

INSTALLATION PRECAUTIONS:

The following precautions should be taken in addition to instructions included in the installation manual of the two–way radio:

1) The antenna should be installed as far away as is reasonably possible from the ECM or other on–board computers/sensors. Refer to the appropriate sections of the Electrical Wiring Diagram to determine exact locations of these components.
2) The antenna cable must not be routed closer than 20 cm (approximately 8 inches) to any ECM or other on–board computers/sensors.
3) Antenna and power cables must not be routed alongside or in conjunction with vehicle wire harnesses.
4) Antenna and the power cable should be adjusted to obtain the lowest possible Standing Wave Radio (SWR).
5) Two–way radio needs to be operated within the legal limits for the applicable class of service.

A mudguard kit is now available for installation on 1992 ES 300s. Be sure to thoroughly clean all attachment areas and carefully follow the installation procedures below.

INSTALLATION PROCEDURE:

Front of vehicle

1. Take out screws 1 and 2 which secure the front fender liner (See Figure 1).

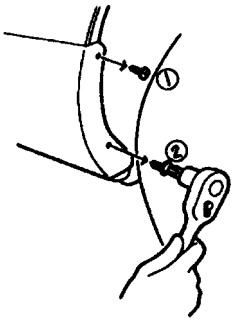


Figure 1

2. Insert the round flanged grommet (supplied in the kit) into hole, at point A, at bottom of fender well (See Figure 2).

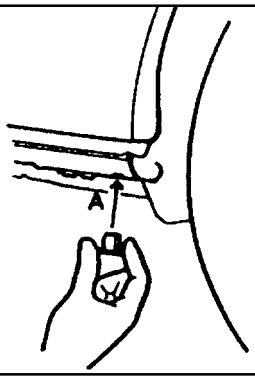


Figure 2

3. Re-using screws 1 and 2, install the mudguard at points 1 and 2, while holding the mudguard against body to ensure proper fit and tighten down screws (See Figure 3).

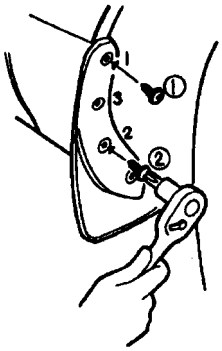


Figure 3

4. Using two screws (supplied in the kit), install the mudguard at points 3 and 4.

Note: There are no holes in plastic cladding at points 3 and 4, so please use mudguard as a template to locate proper location of holes and apply pressure firmly on the self-tapping screws to pierce cladding and tighten screws (See Figure 4).

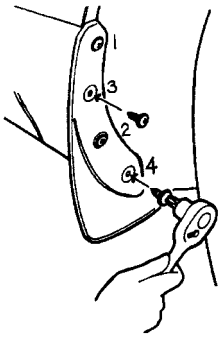


Figure 4

5. Using a screw and washer (supplied in the kit), install the mudguard at point A and tighten down screws (See Figure 5).

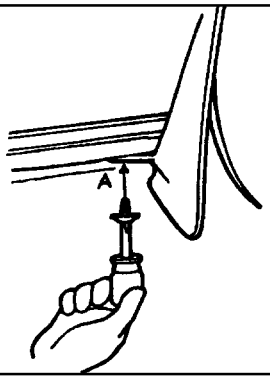


Figure 5

Rear of vehicle

1. Remove bolt B, found at lower body panel, to fender well attachment intersection (See Figure 6).

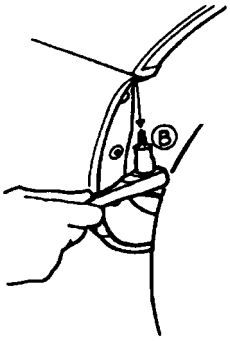


Figure 6

2. Re-using bolt B, install the attachment adaptor bracket at point B (See Figures 6 and 7).

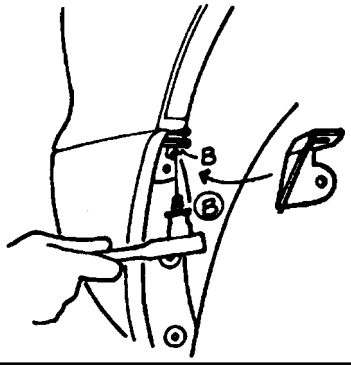


Figure 7

3. Insert the square flanged grommet (supplied in the kit), at point C, at bottom of fender well (See Figure 8).

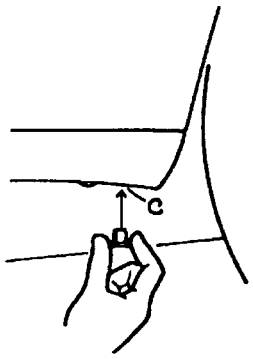


Figure 8

4. Using three screws (supplied in the kit), install the mudguard at points 5, 6, 7 and 8 while holding mudguard against body to insure proper fit and tighten down screws (See Figures 9 and 10).

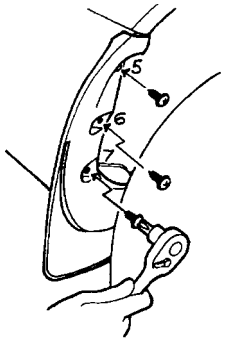


Figure 9

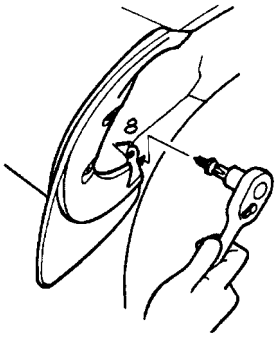


Figure 10

5. Using a screw (supplied in the kit), install the mudguard at point C and tighten down (See Figure 11).

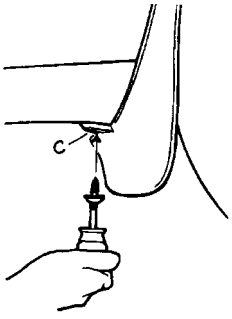


Figure 11

PART NUMBER INFORMATION

PART NUMBER	PART NAME	QTY
76621-39265	Front Mudguard Kit (RH)	1
76622-39265	Front Mudguard Kit (LH)	1
76625-39345	Rear Mudguard Kit (RH)	1
76626-39345	Rear Mudguard Kit (LH)	1

Lexus customers who find it necessary to increase the length of their seat belts may now obtain Seat Belt Extenders at no cost through their local Lexus dealer.

The extender is available in black only and in lengths of 6”, 9”, 12”, 15” and 18”.

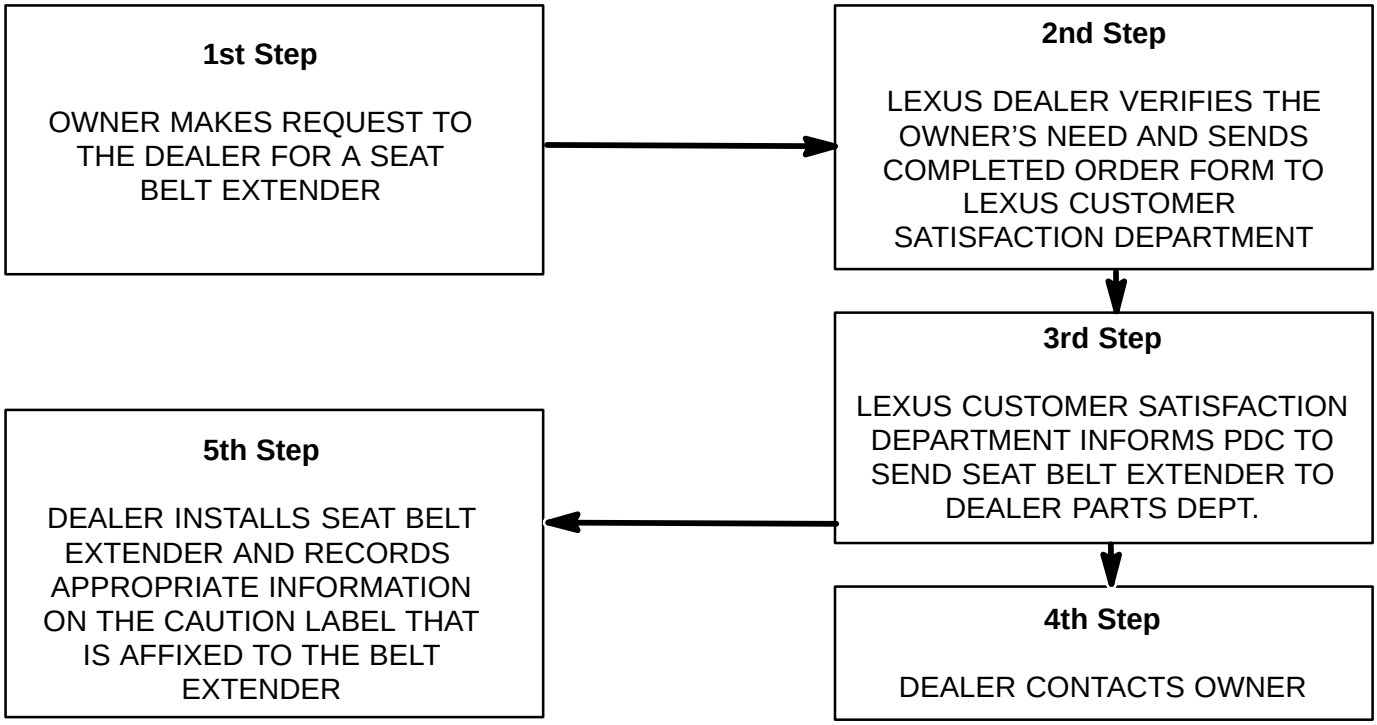
Customers must visit a Lexus Dealership for the required measurements and to complete an application form. The dealer should forward the form to the Lexus National Customer Satisfaction Department for order processing (see page 7). Additional application forms are available through the Lexus Area Offices or through the Support Material Ordering System which is accessed through your TDN System, “Factory Communication Options” screen, option FCD – Dealer Support Material and ordering part number **00241–00005–94**.

Attached for your information are the following guidelines and examples:

- Flow chart (Page 2)
- Seat belt extender application/part number chart (Page 4)
- Owner instruction sheet (Page 4)
- Statement included in Owner’s Manual (Page 6)
- Customer application for seat belt extender (Page 7)

The appropriate seat belt extender will be shipped to the Lexus Dealer’s Parts Department at no charge. The Lexus Dealer Service Department must fill in the appropriate customer and vehicle information on the extender label affixed to the seat belt extender. The proper use of the seat belt extender (described in the accompanying instruction sheet) must be reviewed with the customer by a designated dealer service person.

Please refer to page 7 for a sample of a properly completed seat belt extender form.



SEAT BELT LABEL

CAUTION

THIS SEAT BELT EXTENDER IS TO BE USED ONLY BY: _____
Customer Name

ON VEHICLE: _____

VIN: _____

SEATING POSITION: _____ Driver _____ Passenger _____ Front _____ Rear

USE BY OTHERS, OR IN ANOTHER SEATING POSITION, OR IN ANOTHER VEHICLE COULD REDUCE SEAT BELT RESTRAINT IN AN ACCIDENT AND RESULT IN PERSONAL INJURY.

(1) Owner makes request to dealer for a belt extender.

(2) Dealer verifies the condition and provides "Application for Seat Belt Extender." Dealer sends completed application form to Lexus National Customer Satisfaction Department, Attention: Technical Representative L203, 19001 So. Western Ave. Torrance, Ca 90509–2991

- Dealer retains copies 3 and 4 to process delivery to owner.

(3) Lexus Customer Satisfaction Department records receipt of the application form, copies 1 and 2.

- Retains files in computer and microfilm.
- Informs Lexus Parts Department to ship parts to dealer.

(4) Dealer advises owner to bring vehicle into the dealer for initial installation and formal instructions on the use and maintenance of the belt extender. Dealer completes the "CAUTION" label on the seat belt extender after the use and maintenance instructions have been explained to the user/ customer.

To determine the part number, locate the “series” on the following charts. Then refer to the chart on page 4 to locate the part number for the “series” and length.

FRONT SEAT EXTENDER APPLICATION TABLE (EXTENDER SERIES NUMBER)

MODEL	1995	1994	1993	1992	1991	1990
LS 400		R–3	R–3	R–3	R–3	R–3
GS 300		N–3*1 N–3*1	N–3			
SC 400	R–3	R–3	R–3	R–3		
SC 300	R–3	R–3	R–3	R–3		
ES 300		K–4	K–4	K–4		
ES 250					K–3	K–3

*1 Check I/D number on tongue of the vehicle seat belt.

If I/D = 5402 use extender series number N–3
If I/D = 5557 use extender series number N–4

REAR SEAT EXTENDER APPLICATION TABLE (EXTENDER SERIES NUMBER)

MODEL	1995	1994	1993	1992	1991	1990
LS 400		R–3	R–3	R–3	R–3	R–3
GS 300		K–4	K–4			
SC 400	R–3	R–3	R–3	R–3		
SC 300	R–3	R–3	R–3	R–3		
ES 300		R–3	R–3	R–3		
ES 250				R–1	R–1	

Note: **Seat belt extenders must not be used for the center rear seat belt on all models.**

PART NUMBER INFORMATION:

(73399–_____)

LENGTH					
SERIES	**6”**	**9”**	**12”**	**15”**	**18”**
K–3	–22060	–22070	–22080	–22090	–22100
K–4	–33050	–33040	–33030	–33020	–33010
N–3	–20010	–20020	–20030	–20040	–20050
N–4	–20011	–20021	–20031	–20041	–20051
R–1	–12010	–12020	–12030	–12040	–12050
R–3	–50010	–50020	–50030	–50040	–50050

OWNER INSTRUCTION
(FOR PERSONALIZED SEAT BELT EXTENDER)

Precaution when using the seat belt extenders:

1. Never use the seat belt extender if you can fasten the seat belt without it.

2. Remember that the extender provided for you may not be safe when used on a different vehicle, or for another person and at a different seating position than specified.

3. When the seat belt extender is provided for a rear seat position (with automatic locking retractor), make sure the retractor is locked when in use.

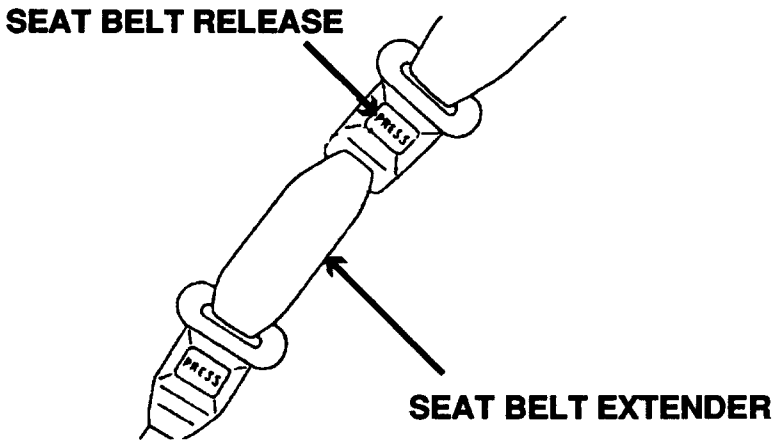
4. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN A LESS EFFECTIVE SEAT BELT RESTRAINT SYSTEM IN CASE OF A VEHICLE ACCIDENT, CAUSING PERSONAL INJURY.

Using The Seat Belt Extender:

1. Connect the extender to the seat belt by inserting the tab into the seat belt buckle so that the buckle–release buttons of the extender and the seat belt are located on the same side as shown. You will hear a click when the tab properly locks into the buckle.

2. MAKE SURE THAT THE CONNECTION IS SECURE AND THE SEAT BELT EXTENDER IS NOT TWISTED.

3. When releasing the seat belt, press on the buckle–release button on the extender, not on the seat belt. This helps prevent damage to the vehicle interior and extender itself.



4. When not in use, remove the extender and store in the vehicle for future use.

OWNER'S MANUAL TEXT:

SEAT BELT EXTENDER

If your seat belt cannot be fastened securely because it is not long enough, a personalized seat belt extender is available from your Lexus dealer free of charge.

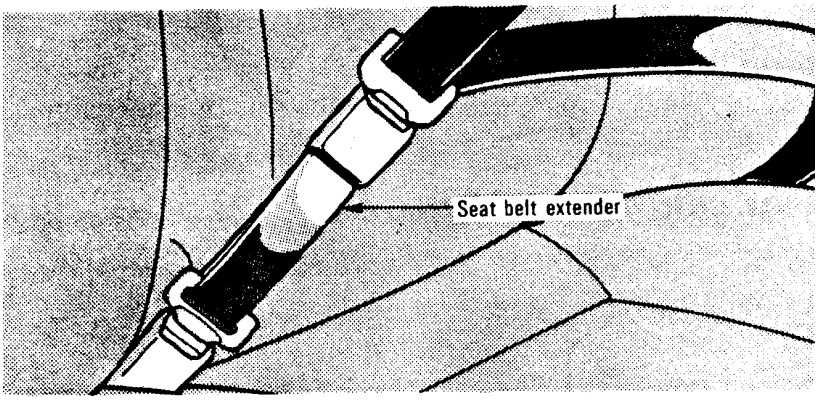
Please contact your local Lexus dealer so that the dealer can order an extender of the proper required length. Bring the heaviest coat you expect to wear for proper measurement and selection of length. Additional ordering information is available at your Lexus dealer.

CAUTION:

When using the seat belt extender, observe the following. Failure to follow these instructions could result in a less effectiveness of the seat belt restraint system in case of a vehicle accident, increasing the chance of personal injury.

- Never use the seat belt extender if you can fasten the seat belt without it.

- Remember that the extender provided for you may not be safe when used on a different vehicle, or for another person or at different seating positions than specified.



To connect the extender to the seat belt, insert the tab into the seat belt buckle so that the buckle release buttons of the extender and the seat belt are both facing outward as shown.

You will hear a click when the tab locks into the buckle. When releasing the seat belt, press on the buckle–release button on the extender, not on the seat belt. This helps prevent damage to the vehicle interior and extender itself.

When not in use, remove the extender and store in the vehicle for future use.

CAUTION:

After inserting the tab, make sure that the connection is secure and the seat belt extender is not twisted.

APPLICATION FOR SEAT BELT EXTENDER

(Only one extender can be processed per application form)

In order to provide a personalized extender for the seat belt, all of the following specific information must be provided regarding the individual and vehicle involved.

CAUTION: To minimize the chance and/or severity of injury in an accident, the seat belt extender **must not be used:**

- By anyone but the person for whom it was provided, and
- In any vehicle or seat specified other than the one for which it was provided.
- With any car seats for children.

When the seat belt extender is provided for rear seat position (with automatic locking retractor), make sure the retractor is locked when in use.

IMPORTANT: Application must be complete for processing.

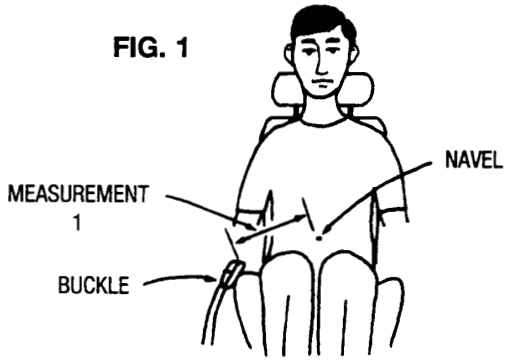
DEALER		PLEASE PRINT CLEARLY	APPLICANT		
DEALER CODE: 82430	DEALER NAME: LEXUS DEALER USA		NAME: JOE CUSTOMER		
ADDRESS: 12 AUTO CENTER DRIVE			ADDRESS: 8 MAIN ST.		
CITY AND STATE: LEXUS CITY CA	ZIP CODE:		CITY AND STATE: ANYTOWN CA	ZIP CODE: 99999	TELEPHONE: (310) 555–12121
DEALER EMPLOYEE NAME: J. SMITH – PARTS MGR.	MODEL YEAR: 1993	BODY TYPE: LS 400	SEAT POSITION: (F) / R	VEHICLE IDENTIFICATION NUMBER: JT8UF11E3R0186273	
				MILEAGE: 5,8236	DOFU: 9/17/93

3 POINT SEAT BELT MEASUREMENT

1. Place the seat in the position the occupant normally uses.
2. With occupant in the seat, extend the seat belt as much as possible and see if the seat belt does or does not latch.
3. If seat belt does not latch, then measure the distance from seat belt latch edge to the seat belt buckle, as shown in Figure 2, and note the dimension.
4. Measure the lap area directly below navel to the edge of the buckle, as shown in Figure 1 below, and note the dimension.
5. The difference between Figure 1 and Figure 2 measurement is the Allowable Margin. The customer satisfaction department will determine the extender length.

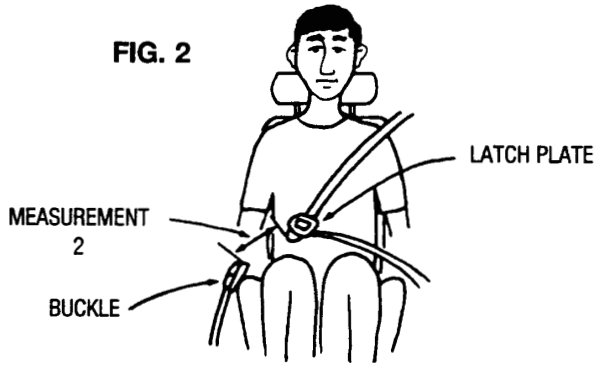
Dimension from navel to buckle

FIG. 1



Dimension from latch to buckle

FIG. 2



MEASUREMENT 1 (Figure 1) – MEASUREMENT 2 (Figure 2) = Allowable Margin

_____ – _____ = _____

FOR TMS USE ONLY		
EXTENDED LENGTH REQ.	PART NUMBER	
LEAVE BLANK	73399 -	LEAVE BLANK

NOTE: If the Allowable Margin is smaller than 6 inches, the seat belt extender will not be available due to design and construction features.

AUTHORIZATION

The same extender may be used for right and left seating applications. Each seat belt extender will be affixed with a label identifying the owner, vehicle VIN and seating position. The extender will be available only in one color.
Send completed form to Lexus Customer Satisfaction.

MUST HAVE CUSTOMER SIGN TO BE PROCESSED

_____ _____

APPLICANT'S SIGNATURE (actual user of the seat belt extender) DATE

LEXUS

Technical Service Information Bulletin

February 21, 1997

Title:

WIND NOISE REPAIR KIT

Models:

All Models

TSIB

BODY
BO001-97

Introduction

A kit containing special foam sponge material has been developed. This kit, when used in conjunction with procedures outlined in the Interior and Wind Noise Diagnosis Manual (P/N 00246-30015) and Lexus Service Information Bulletins, should enable effective wind noise repairs.

Affected Vehicles

- **All Models**

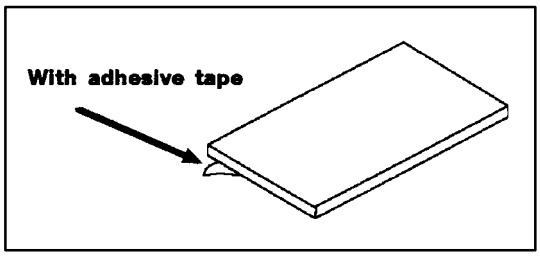
Parts Information

PART NUMBER	PART NAME	SIZE (MM)	QTY
08231-00810	Kit, Wind Noise	– – –	1
08231-00811*	Caulking Sponge Sealant No. 1	297 x 150 (T = 3.0)	2
08231-00812*	Caulking Sponge Sealant No. 2	297 x 150 (T = 5.0)	2
08231-00813*	Caulking Sponge Sealant No. 3	297 x 150 (T = 10.0)	2
08231-00814*	Caulking Sponge Sealant No. 4	297 x 150 (T = 3.0)	2
08231-00815*	Caulking Sponge Sealant No. 5	297 x 150 (T = 5.0)	2
08231-00816*	Caulking Sponge Sealant No. 6	297 x 150 (T = 5.0)	2

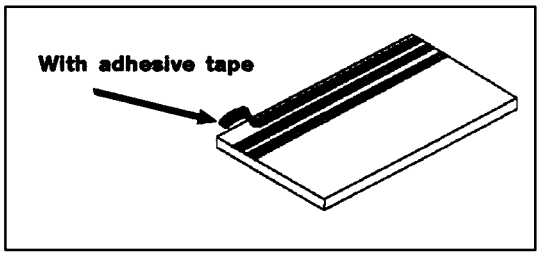
* All of these parts are included in the kit.

Kit Components

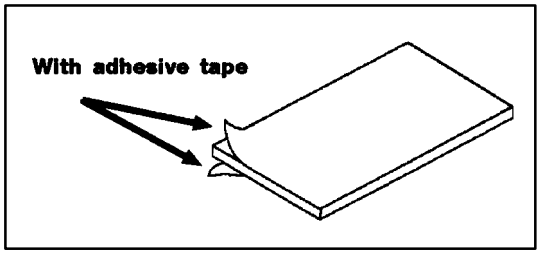
1. Caulking Sponge Sealant No. 1, No. 2 and No. 3 (Ept-sealer).



2. Caulking Sponge Sealant No. 4 and No. 5 (Ept-sealer). This sheet is divided into 27 strips, 5 mm wide.

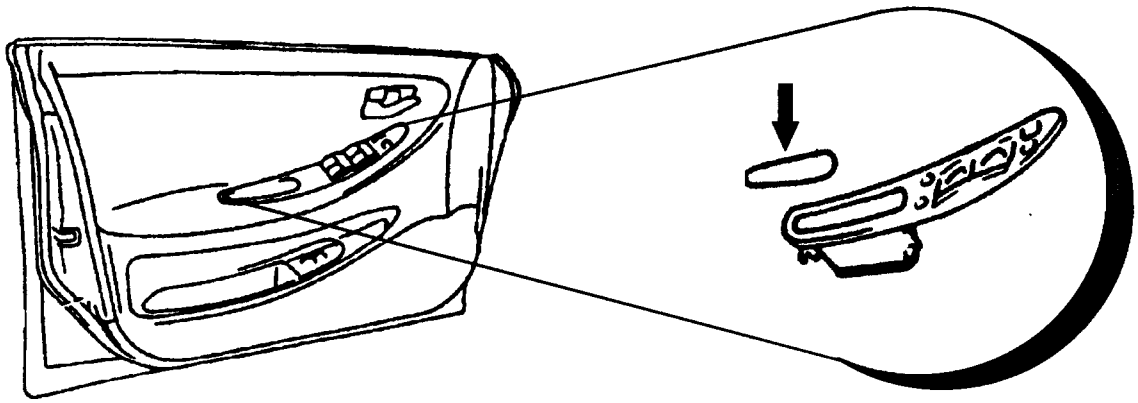


3. Caulking Sponge Sealant No. 6 (Ept-sealer).



Title **DOOR ARMREST PLUG**

The ensure that the door armrest plug stays seated inside the armrest base panel, the material shape and adhesive have been changed as follows:



PRODUCTION EFFECTIVE:

From VIN No.: JT8VK13T4P0162895 (November, 1992)

PART NUMBER INFORMATION:

Previous Part Name	New Part No.	Part Name
74221–33020	74221–33021	Plug, Front Door Armrest RH/LH
74261–33010	74261–33011	Plug, Front Door Armrest RH/LH

New Part is interchangeable with previous part.

LEXUS

TECHNICAL SERVICE INFORMATION

REF: BODY

NO: BO003–96

DATE: NOVEMBER 15, 1996

MODEL: ALL MODELS

Title **SEAT BELT EXTENDERS FOR 1993 THROUGH 1997 MODELS**

Lexus customers who find it necessary to increase the length of their seat belts may obtain Seat Belt Extenders at no cost through their local Lexus dealer.

- The extender is available in black only, in 6, 9, 12, 15 and 18 inch lengths.
- Owners are informed of the seat belt extender availability through the Lexus Owner's Manual included in each vehicle.

The customer *(individual requiring the extender)* must visit a Lexus Dealership to have the required measurements made and to complete the seat belt extender worksheet. The worksheet will allow the proper fitting and selection of a seat belt extender for the customer. The dealership personnel should then determine the applicable part number and place a *Critical Order* through the *TDN Parts Network.*

Included in this bulletin is the information covering the1993 through 1997 model years:

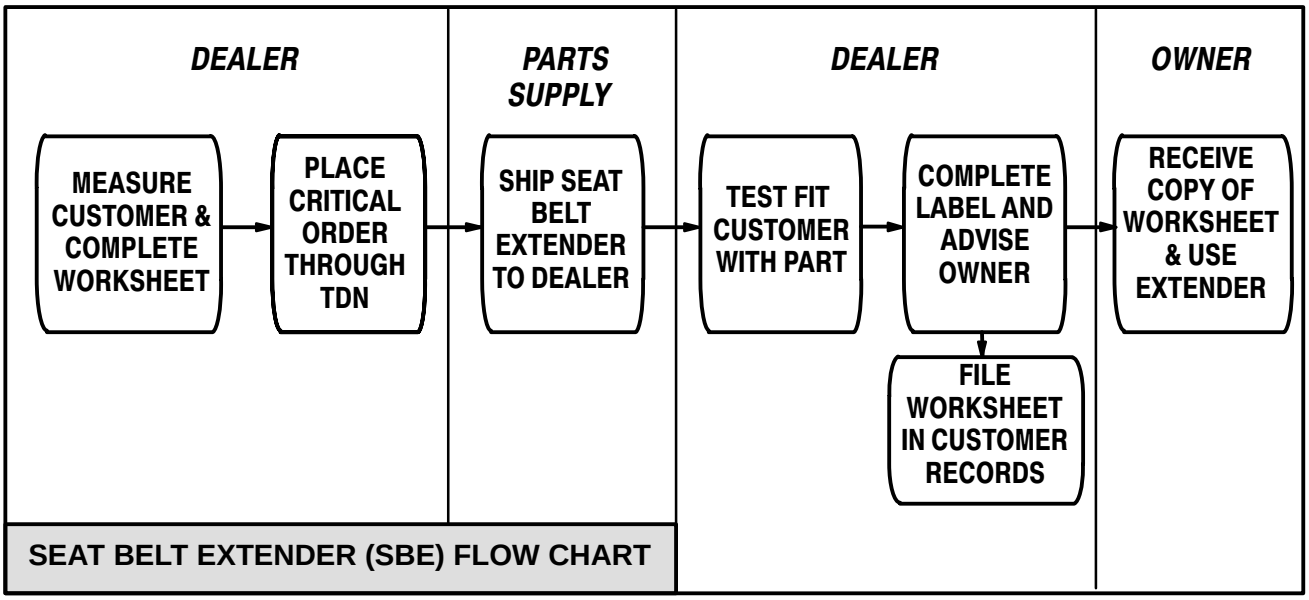
The dealership service department should complete the affixed Seat Belt Extender Label and review the "owner instruction sheet" with the customer. The dealership should give a copy of the completed worksheet to the customer and keep the original in the customer's file.

To assure utmost owner satisfaction, it is recommended that a dealership designate one person to coordinate all activities related to the seat belt extender issue.

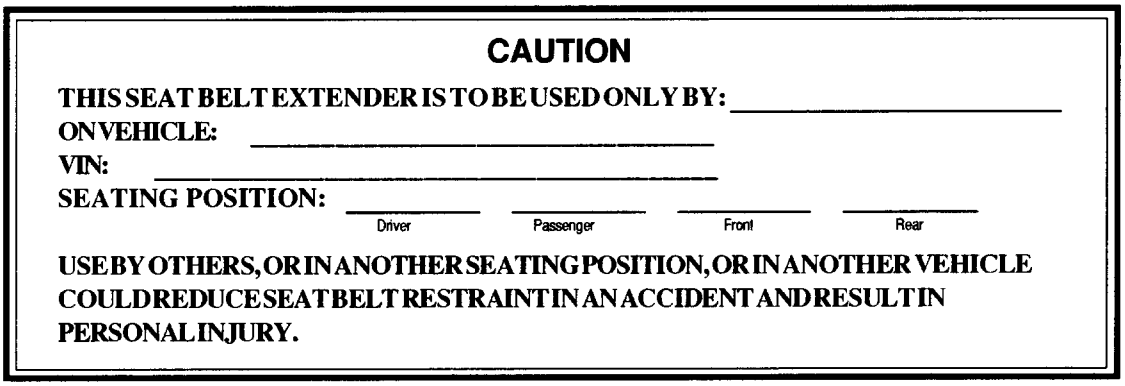
From past sales history, it is recommended that dealerships **do not** stock seat belt extenders due to low demand and the need for customer fitting.

PROCEDURE:

1. Owner requests a seat belt extender from the dealer.
2. Dealer verifies the need for a seat belt extender, obtains a current copy of the TSB, and copies the worksheet.
3. Dealer measures the customer and completes the worksheet. Dealer determines the correct part number and places a Critical Order for the part through the TDN Parts Network.
4. Dealer receives the seat belt extender and calls the customer in to check fit of the part.
5. If the seat belt extender fit is OK, dealership personnel complete the customer information label on the part, explains usage of the part to customer, then gives customer a copy of the completed worksheet.
6. Dealer places a copy of the completed worksheet in the customer's records.



SAMPLE SEAT BELT LABEL:



PART NUMBER INFORMATION:

Locate the series code on the ***series application*** charts, then use the ***part number by length*** chart to identify the correct part number for the specific customer.

FRONT SEAT EXTENDER SERIES APPLICATION TABLE:

Model	1997	1996	1995	1994	1993
LS 400	R-3	R-3	R-3	R-3	R-3
GS 300	N-3	N-3	N-3	N-3	N-3
SC 400	R-3	R-3	R-3	R-3	R-3
SC 300	R-3	R-3	R-3	R-3	R-3
ES 300	R-5	K-4	K-4	K-4	K-4
LX 450	R-3	R-3	-	-	-

REAR SEAT EXTENDER SERIES APPLICATION TABLE:

Model	1997	1996	1995	1994	1993
LS 400	R-3	R-3	R-3	R-3	R-3
GS 300	K-4	K-4	K-4	K-4	K-4
SC 400	R-3	R-3	R-3	R-3	R-3
SC 300	R-3	R-3	R-3	R-3	R-3
ES 300.. Right & Left	R-5	R-3	R-3	R-3	R-3
ES 300..Center	R-3*	-	-	-	-
LX 450	K-4**	K-4**	-	-	-

NOTE: **The extender must not be used for the center rear seat belt (except '97 model ES 300 as noted in the chart).*
***Includes third seat application.*

PART NUMBER BY REQUIRED LENGTH (73399–):

SERIES	6 INCH	9 INCH	12 INCH	15 INCH	18 INCH
K-4	33010	33020	33030	33040	33050
N-3	20011	20021	20031	20041	20051
R-3	50010	50020	50030	50040	50050
R-5	16060	16070	16080	16090	16100

OWNER INSTRUCTION FOR PERSONALIZED SEAT BELT EXTENDER:

CAUTION FOR USE OF SEAT BELT EXTENDERS:

1. Never use the seat belt extender if you can fasten the seat belt without it.

2. Remember the seat belt extender provided for you may not be safe when used in a different vehicle, or for another person or at a seating position different than specified.

3. When the seat belt extender is provided for a rear seat position (with automatic locking retractor), make sure the retractor is locked when in use.

4. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN A LESS EFFECTIVE SEAT BELT RESTRAINT SYSTEM IN CASE OF A VEHICLE ACCIDENT, CAUSING PERSONAL INJURY.

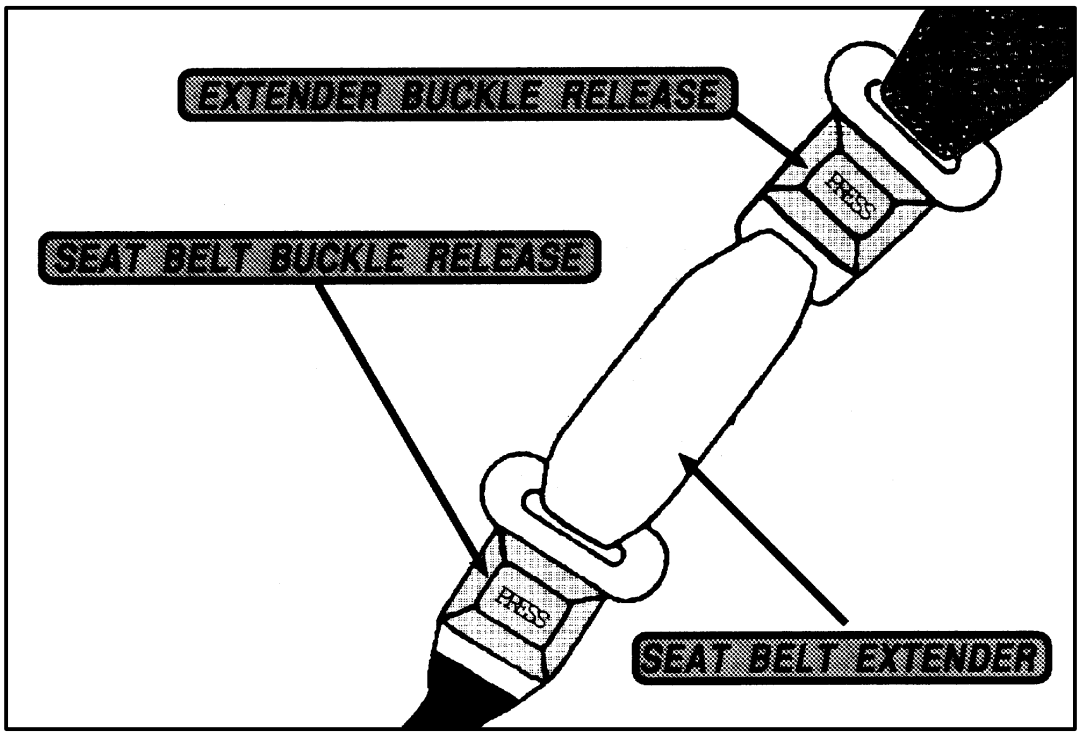
USING THE SEAT BELT EXTENDER:

1. Connect the seat belt extender to the seat belt by inserting the tab into the seat belt buckle so the buckle release buttons of the seat belt extender and the seat belt are located on the same side as shown in the illustration. You will hear a click when the tab properly locks into the buckle.

2. MAKE SURE THAT THE CONNECTION IS SECURE AND THE SEAT BELT EXTENDER IS NOT TWISTED.

3. When releasing the seat belt, press on the buckle release button on the seat belt extender, not on the seat belt. This helps prevent damage to the vehicle interior and seat belt extender.

4. When not in use, remove the extender and store in the vehicle.



OWNER'S MANUAL TEXT:

SEAT BELT EXTENDER

If your seat belt cannot be fastened securely because it is not long enough, a personalized seat belt extender is available from your Lexus dealer free of charge.

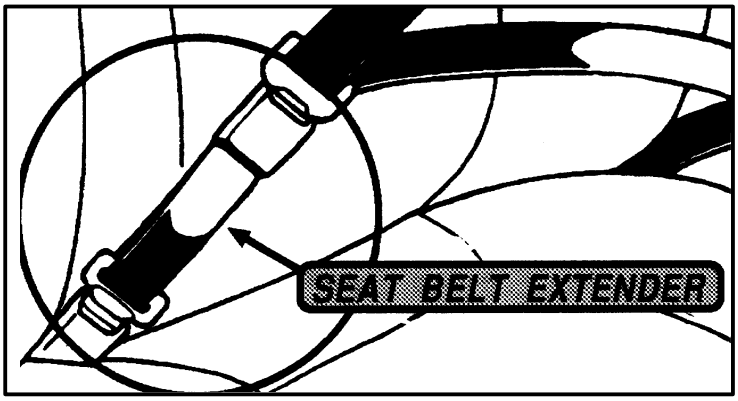
Please contact your local Lexus dealer so that the dealer can order a seat belt extender of the proper required length. Bring the heaviest coat you expect to wear for proper measurement and selection of length. Additional ordering information is available at your Lexus dealer.

CAUTION:

When using the seat belt extender, observe the following. Failure to follow these instructions could result in less effectiveness of the seat belt restraint system in case of a vehicle accident, increasing the chance of personal injury.

- Never use the seat belt extender if you can fasten the seat belt without it.

- Remember that the seat belt extender provided for you may not be safe when used on a different vehicle, or for another person and/or at different seating positions than specified.



To connect the seat belt extender to the seat belt, insert the tab into the seat belt buckle so that the buckle release buttons of the seat belt extender and the seat belt are both facing outward as shown.

You will hear a click when the tab locks into the buckle. When releasing the seat belt, press on the buckle–release button on the seat belt extender, not on the seat belt. This helps prevent damage to the vehicle interior and seat belt extender itself.

When not in use, remove the seat belt extender and store in the vehicle for future use.

CAUTION:

After inserting the tab, make sure that the connection is secure and the seat belt extender is not twisted.

SEAT BELT EXTENDER WORKSHEET

Please copy this original worksheet for each extender needed.

CAUTION: To minimize the chance and/or severity of injury in an accident, the seat belt extender must not be used:

- By anyone but the person for whom it was provided, and
- In any vehicle or seat specified other than the one for which it was provided, and
- With any car child safety seats.

When the seat belt extender is provided for rear seat positions (with automatic locking retractor), make sure the retractor is locked when in use.

In all cases seat belts must be worn below the abdomen by pregnant women.

DEALER	PLEASE PRINT CLEARLY	APPLICANT

DEALER CODE	DEALER NAME		APPLICANT NAME		
ADDRESS			ADDRESS		
CITY AND STATE		ZIP CODE	CITY AND STATE	ZIP CODE	TELEPHONE
DEALER EMPLOYEE NAME	MODEL YEAR	BODY TYPE	SEAT POSITION F / R	VEHICLE IDENTIFICATION NUMBER	

DIRECTIONS FOR DETERMINING PROPER EXTENDER LENGTH

1. Place the seat in the position the person normally uses.
2. With the person in the seat, extend the seat belt as much as possible and see if the belt latches.
3. If the buckle latches but has no slack remaining, the dimension for Figure 2 is zero. If the seat belt does not latch, measure the distance from the seat belt latch edge to the seat belt buckle as shown in Figure 2 below, and note the dimension.
4. Measure the lap area directly below the navel to the edge of the buckle as shown in Figure 1 and note the dimension.
5. The difference between Figure 1 and Figure 2 measurements is the "Allowable Margin". (Do not use this dimension for the extender length.)
6. Take the measurement in Figure 2 and round it up to the next extender size available, without exceeding the "Allowable Margin".

FIGURE 1
DIMENSION FROM NAVEL TO BUCKLE

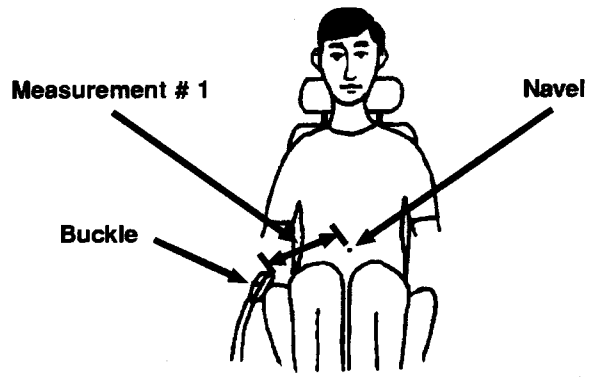
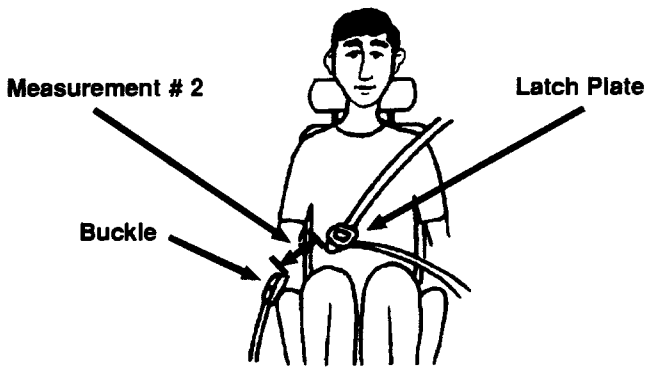


FIGURE 2
DIMENSION FROM LATCH TO BUCKLE



Measurement #1 (Figure 1) - Measurement #2 (Figure 2) = "Allowable Margin"

_____ - _____ = _____

NOTE: The length of the extender must not exceed the "Allowable Margin", due to design and construction features

AUTHORIZATION

The same extender can be used for right and left seating applications. Each seat belt extender will be affixed with a label identifying the owner, vehicle VIN and seating position. Extenders are available in one color only.

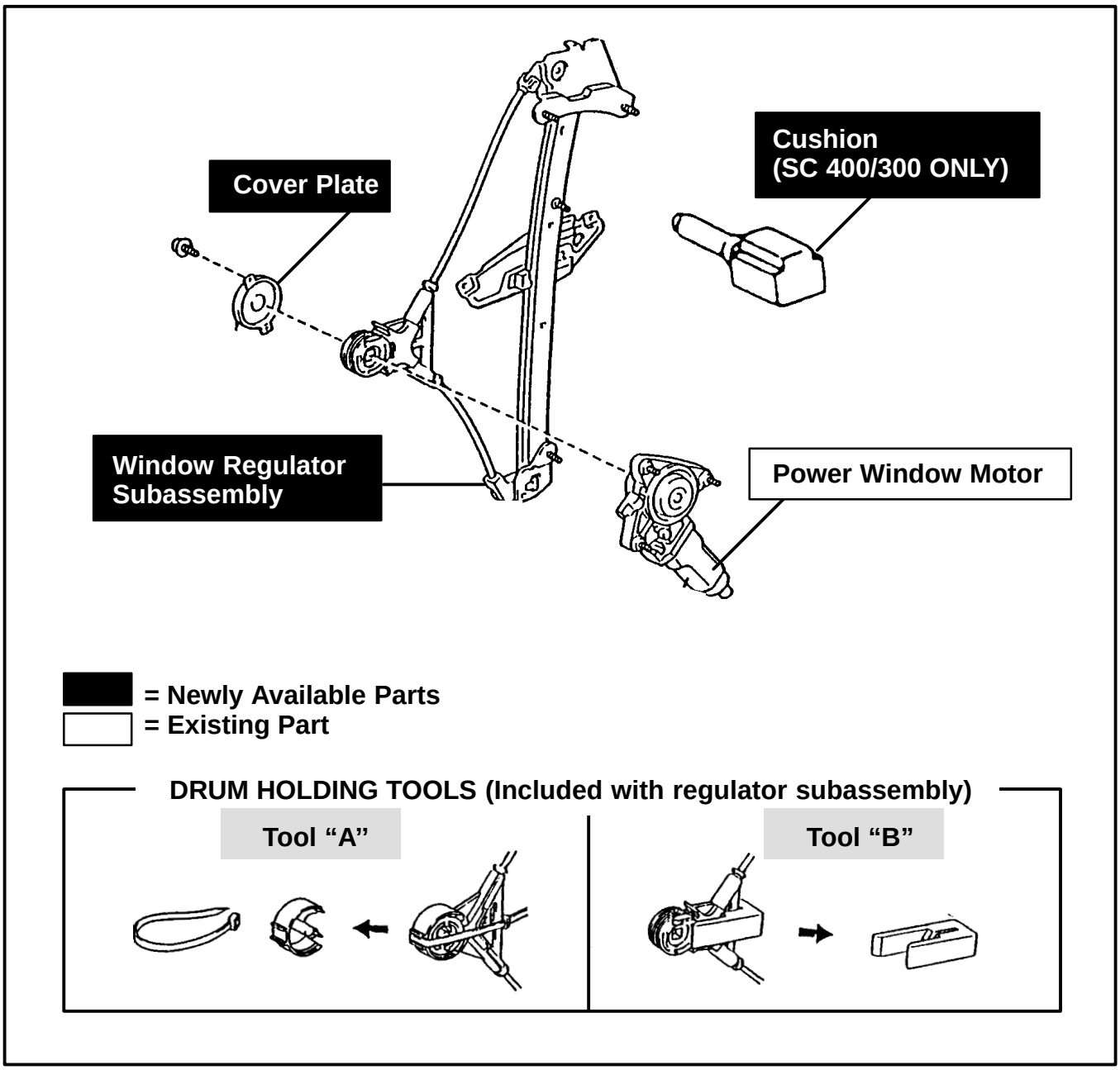
_____ APPLICANT'S SIGNATURE
(Actual user of seat belt extender)

_____ DATE

Title **WIRE TYPE REGULATOR SUBASSEMBLY, POWER DOOR WINDOW**

The information contained in this TSB supersedes BO94–004 dated October 21, 1994. The previous TSIB should be discarded.

To improve power door window serviceability on SC 400/300, GS 300 and ES 300, a wire regulator subassembly is now available as separate supply parts. See illustration below.



REPAIR PROCEDURES:

- Verify motor operates property.
- If the motor must be replaced, change the complete regulator assembly.
- If motor operation is correct, replace only the regulator subassembly.

Use the following procedures when replacing the subassembly. Refer to appropriate section of the repair manual for window regulator removal procedures.

WINDOW REGULATOR DISASSEMBLY:

1. Screw type cover plate:

- Remove the two screws and cover plate **see figure 1.**

Note: The screws and cover plate are reusable.

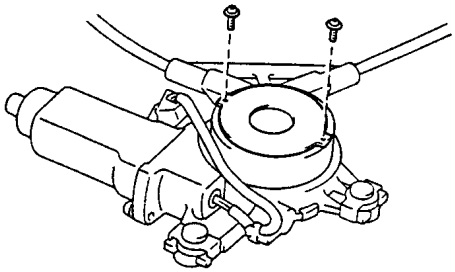


Fig. 1

Crimped type cover plate:

- Pry up the cover plate tab using a small flat–head screwdriver and remove the plate. Use care not to damage the motor housing **see Figure 2.**

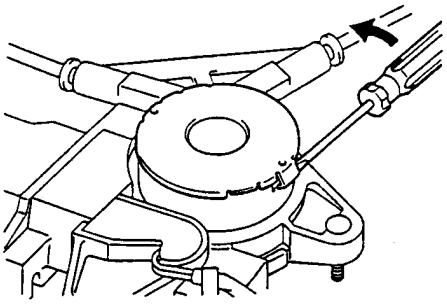


Fig. 2

Note: The cover plate is not reusable.

2. REMOVE WINDOW REGULATOR DRUM AND WIRE GUIDE FROM MOTOR HOUSING USING NEEDLE NOSE PLIERS (SEE FIGURE 3)

Caution: Do not use a flat–head screwdriver to remove the drum and wire guide.

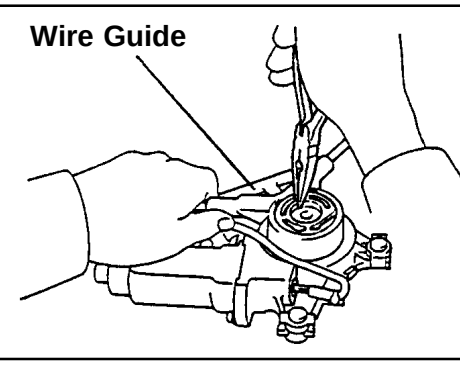


Fig. 3

WINDOW REGULATOR INSTALLATION:

1. INSERT THE WINDOW REGULATOR DRUM INTO THE MOTOR HOUSING.

Note:

- To prevent the window regulator drum and cable from coming off, do not tilt the drum, subject it to shocks or use force. If the cable comes off the drum, do not rewind the cable or reuse it. After the window regulator is installed, do not operate it manually (some window regulators do not utilize a stopper).
- Multipurpose grease **(P/N 00289–1WG00)** should be applied to all moving parts, especially inside the motor housing and sides of the window regulator drum.

Type "A" holding tool

- Apply grease inside the motor housing **see Figure 4.**
- Using **Holding Tool "A**,**"** match the holding tool with the motor housing **see Figure 5.**
- Push down on the wire guide and window regulator while inserting into motor housing **see Figure 5.**

Note: If you experience difficulty inserting the window regulator drum into the motor housing, slowly slide the window glass carrier bracket and align the drive shaft of the motor housing with the window regulator drum.

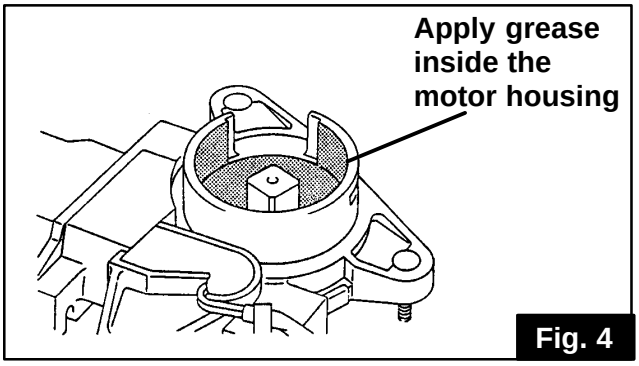


Fig. 4

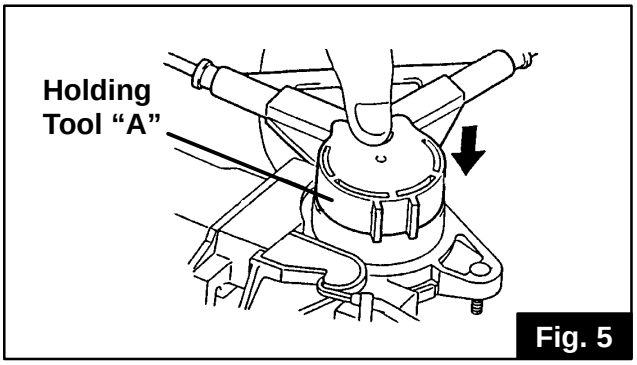


Fig. 5

Type "B" holding tool

- Apply grease inside the motor housing **see Figure 4.**
- Using **Holding Tool "B**,**"** partially insert the window regulator drum into the motor housing **see figure 6.**
- Remove **Holding Tool "B"** and push the window regulator drum into the motor housing.

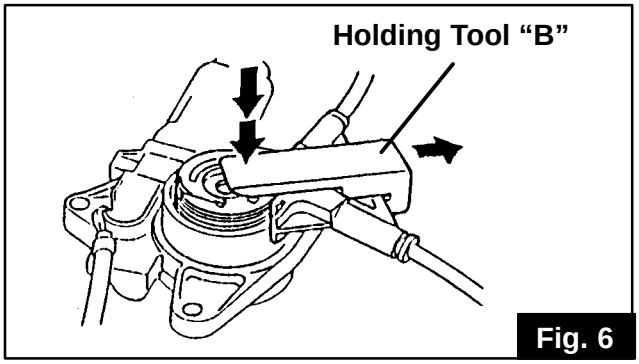


Fig. 6

Note: If you are experiencing difficulty inserting the window regulator drum into the motor housing, slowly slide the glass carrier bracket and align the drive shaft of the motor housing with the window regulator drum **see figure 5.**

- Apply grease to the sides of the window regulator drum.

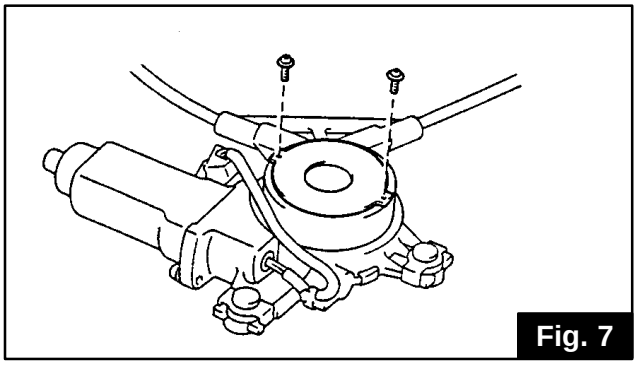


Fig. 7

2. INSTALL COVER PLATE.

Screw Type Cover Plate

- Install the original cover plate and screws **see figure 7.**

Crimped Type Cover Plate

- Use adjustable pliers to crimp the tab of the cover plate **see Figure 8.**

Note:

- Use a new cover plate.
- Do not hit the cover plate with a hammer, etc.
- Do not damage the motor housing.

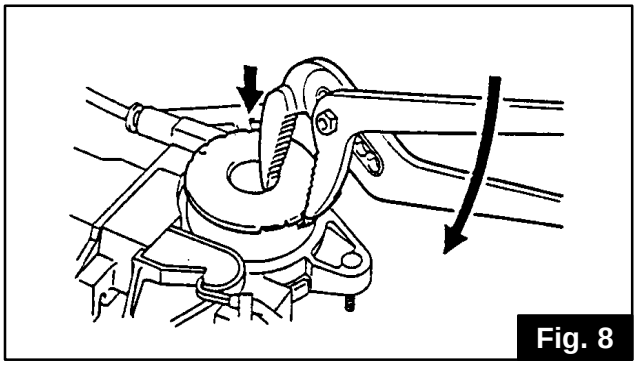


Fig. 8

PART NUMBER INFORMATION:

SC 300/400

Production Date	Part Name	Part No.
4/91~7/93	Regulator Subassembly Front Door Window RH	69801–24030*
	Regulator Subassembly Front Door Window LH	69802–24030**
7/93~1/94	Regulator Subassembly Front Door Window RH	69801–24031*
	Regulator Subassembly Front Door Window LH	69802–24031**
1/94~	Regulator Subassembly Front Door Window RH	69801–24040
	Regulator Subassembly Front Door Window LH	69802–24040
4/91~	Cover Plate, Window Regulator	69813–32030
	Cushion RH (Included W/Subassembly)	68119–24010
	Cushion LH (Included W/Subassembly	68119–24020
	Screw	93319–14010

*** P/N 69801–24030 is interchangeable with P/N 69801–24031**

**** P/N 69802–24030 is interchangeable with P/N 69802–24031**

GS 300

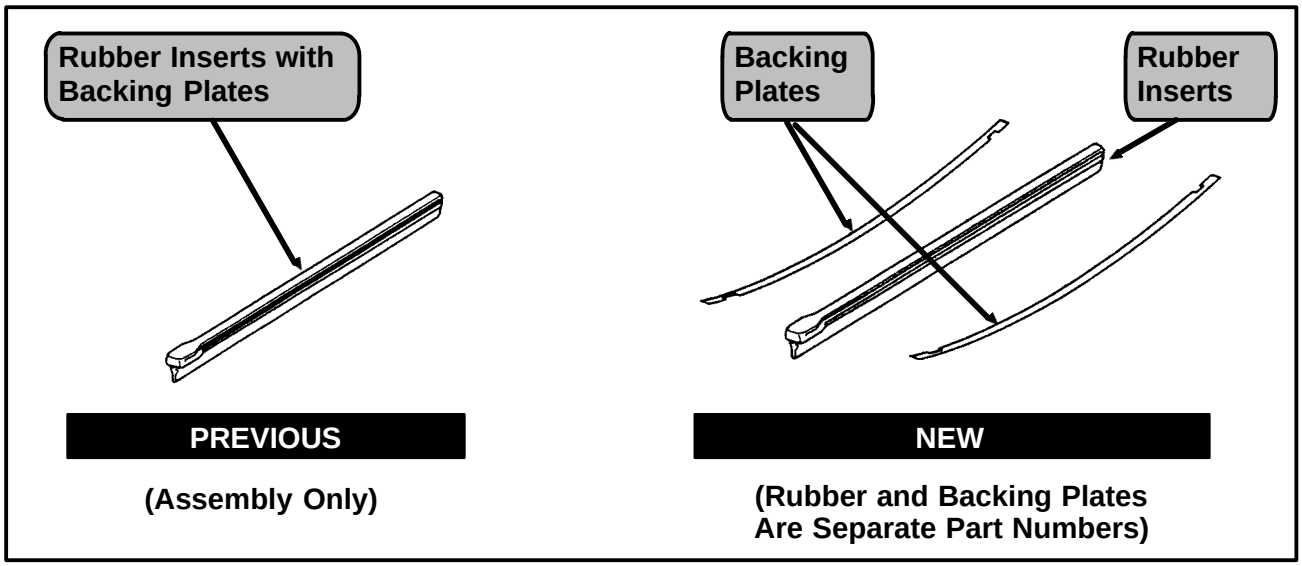
	Part Name	Part Number
	Regulator Subassembly, Front Door Window RH	69801–30190
	Regulator Subassembly, Front Door Window LH	69802–30190
	Regulator Subassembly, Rear Door Window RH	69803–30190
	Regulator Subassembly, Rear Door Window LH	69804–30190
	Cover Plate, Front Door Window Regulator***	69811–32040
	Cover Plate, Rear Door Window Regulator***	69813–32010

***** Nonreusable crimp type and included with subassembly**

ES 300

	Part Name	Part No.
	Regulator Subassembly Front Door Window RH	69801–32070
	Regulator Subassembly Front Door Window LH	69802–32070
	Regulator Subassembly Rear Door Window RH	69803–32060
	Regulator Subassembly Rear Door Window LH	69804–32060
	Cover Plate, Front Door Window Regulator	69811–32050
	Cover Plate, Rear Door Window Regulator	69813–32030
	Screw	93319–14010

To improve serviceability, the wiper blade rubber inserts will now be available separately from the steel backing plates as shown below.



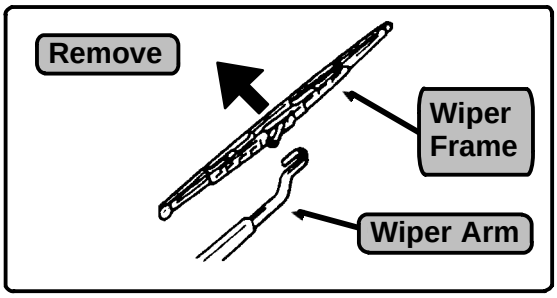
PART NUMBER INFORMATION:

Part Numbers of the new rubber inserts and steel backing plates which correspond to the previous complete assemblies are found in the Parts Operations Communications Update dated June 24, 1995.

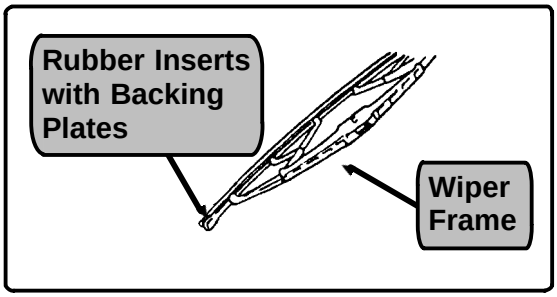
REPLACEMENT PROCEDURES:

1. Remove the wiper frame from the wiper arm.

NOTE: Put a towel or equivalent between the wiper arm end and the windshield glass to prevent damage to the glass.



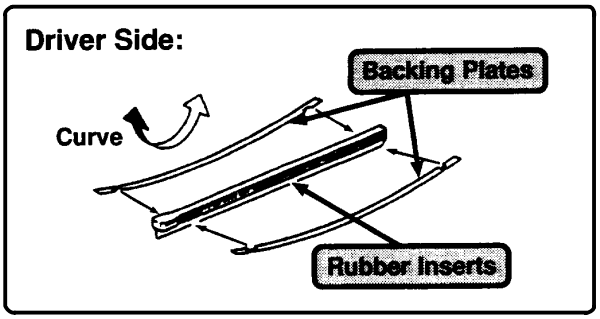
2. Remove the rubber insert, with the steel backing plates, from the wiper frame.



REPLACEMENT PROCEDURES: (Cont'd.)

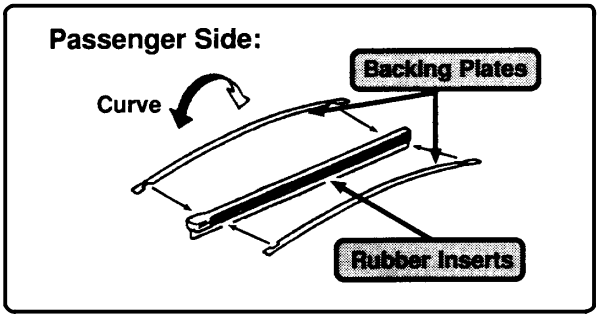
3. Remove the steel backing plates from the rubber inserts.

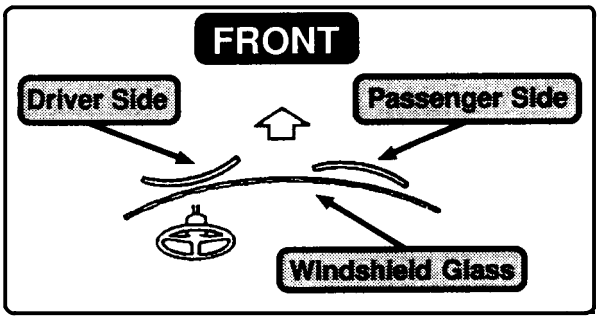
NOTE: The backing plates are to be reused unless damaged.



4. Install the backing plates on the new rubber inserts.

NOTE: The backing plates are slightly curved. Check and install the backing plates according to the illustration. Driver side and passenger side backing plates are oriented differently.

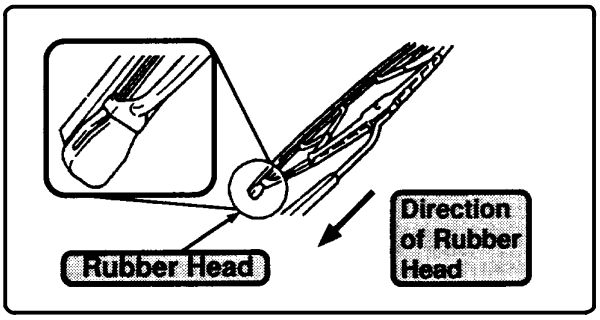




5. Install the rubber inserts, with the backing plates, onto the wiper frame.

6. Install the wiper frame on the wiper arm.

NOTE: Be sure to install the head (big end) of the insert toward the bottom as shown.



WARRANTY INFORMATION: *

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
850091	R&R Front Wiper Blade (Rubber only, both sides)	0.2	85214-XXXXX	75	41

* 12 months or 12,500 miles from the date–of–first–use or demo date, whichever occurs first. Coverage is extended to 18 months or 24,000 miles in New York due to "Lemon Law" legislation.

Lexus customers who find it necessary to increase the length of their seat belts may now obtain Seat Belt Extenders at no cost through their local Lexus dealer.

The extender is available in black only in the lengths of 6'', 9'', 12'', 15'' and 18''.

Customers must visit a Lexus Dealership for the required measurements and to complete an application form. The dealer should forward the form to the Lexus National Customer Satisfaction Department for order processing (see page 6). Additional application forms are available through the Lexus Area Offices or the Material Distribution Center Non–Parts Ordering System (MDC NPM) via part number **00241–00005.**

Attached for your information are the following guidelines and examples:

- Flow chart (Page 2)
- Seat belt extender application/Part number chart (Page 4)
- Owner instruction sheet (Page 4)
- Statement included in Owner's Manual (Page 6)
- Customer application for seat belt extender (Page 7)

The appropriate seat belt extender will be shipped to the Lexus Dealer's Parts Department at no charge. The Lexus Dealer Service Department must fill in the appropriate customer and vehicle information on the extender label affixed to the seat belt extender. The proper use of the seat belt extender (described in the accompanying instruction sheet) must be reviewed with the customer by a designated dealer service person.

Please refer to page 7 for a sample of a properly completed seat belt extender form.

1st Step

OWNER MAKES REQUEST TO THE DEALER FOR A SEAT BELT EXTENDER

2nd Step

LEXUS DEALER VERIFIES THE OWNER'S NEEDS AND SENDS COMPLETED ORDER FORM TO LEXUS CUSTOMER SATISFACTION DEPARTMENT

3rd Step

LEXUS CUSTOMER SATISFACTION DEPARTMENT INFORMS PDC TO SEND SEAT BELT EXTENDER TO DEALER PARTS DEPT.

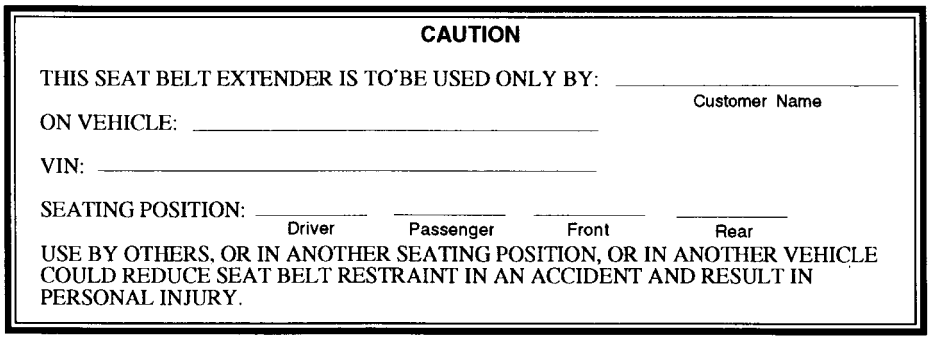
4th Step

DEALER CONTACTS OWNER

5th Step

DEALER INSTALLS SEAT BELT EXTENDER AND RECORDS APPROPRIATE INFORMATION ON THE CAUTION LABEL THAT IS AFFIXED TO THE BELT EXTENDER

SEAT BELT LABEL



CAUTION

THIS SEAT BELT EXTENDER IS TO BE USED ONLY BY: _____
Customer Name

ON VEHICLE: _____

VIN: _____

SEATING POSITION: _____ Driver _____ Passenger _____ Front _____ Rear

USE BY OTHERS, OR IN ANOTHER SEATING POSITION, OR IN ANOTHER VEHICLE COULD REDUCE SEAT BELT RESTRAINT IN AN ACCIDENT AND RESULT IN PERSONAL INJURY.

(1) Owner makes request to dealer for a belt extender.

(2) Dealer verifies the condition and provides "Application for Seat Belt Extender." Dealer sends completed application form to Lexus National Customer Satisfaction Department, Attention Technical Representative.

- Dealer retains copies 3 and 4 to process delivery to owner.

(3) Lexus Customer Satisfaction Department records receipt of the application form, copies 1 and 2.

- Retains files in computer and microfilm.
- Informs Lexus Parts Department to ship parts to dealer.

(4) Dealer advises owner to bring vehicle into the dealer for initial installation and formal instructions on the use and maintenance of the belt extender. Dealer completes the "CAUTION" label on the seat belt extender after the use and maintenance instructions have been explained to the user/customer.

To determine the part number, locate the ‘‘series’’ on the following charts. Then refer to the chart on page 4 to locate the part number for the ‘‘series’’ and length.

FRONT SEAT EXTENDER APPLICATION TABLE
(EXTENDER SERIES NUMBERS)

MODEL \ YEAR	1993	1992	1991	1990
LS 400	R–3	R–3	R–3	R–3
GS 300	N–3			
SC 400	R–3	R–3		
SC 300	R–3	R–3		
ES 300	R–3	R–3		
ES 250			K–3	K–3

REAR SEAT EXTENDER APPLICATION TABLE
(EXTENDER SERIES NUMBERS)

MODEL \ YEAR	1993	1992	1991	1990
LS 400	R–3	R–3	R–3	R–3
GS 300	K–4			
SC 400	R–3	R–3		
SC 300	R–3	R–3		
ES 300	R–3	R–3		
ES 250			R–1	R–1

PART NUMBER INFORMATION:

(73399–_____)

LENGTH					
SERIES	**6”**	**9”**	**12”**	**15”**	**18”**
R–1	–12010	–12020	–12030	–12040	–12050
R–3	–50010	–50020	–50030	–50040	–50050
K–3	–22060	–22070	–22080	–22090	–22100
K–4	–33050	–33040	–33030	–33020	–33010
N–3	–20010	–20020	–20030	–20040	–20050

OWNER INSTRUCTION
(FOR PERSONALIZED SEAT BELT EXTENDER)

Precaution when using the seat belt extenders:

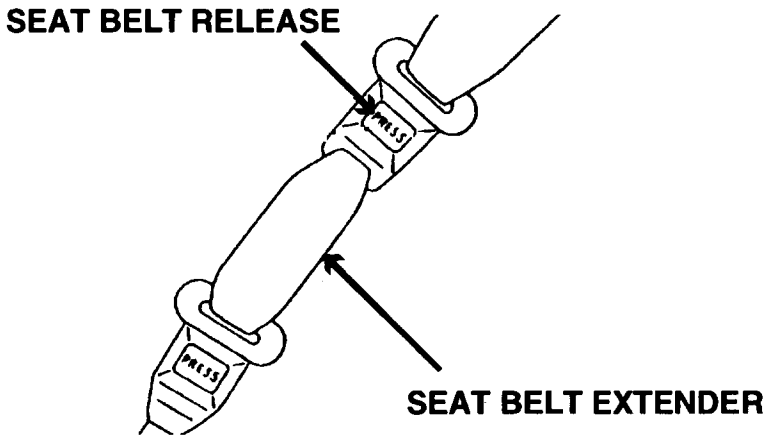
1. Never use the seat belt extender if you can fasten the seat belt without it.
2. Remember that the extender provided for you may not be safe when used on a different vehicle, or for another person and at a different seating position than specified.
3. When the seat belt extender is provided for a rear seat position (with automatic locking retractor), make sure the retractor is locked when in use.
4. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN A LESS EFFECTIVE SEAT BELT RESTRAINT SYSTEM IN CASE OF A VEHICLE ACCIDENT, CAUSING PERSONAL INJURY.

Using The Seat Belt Extender:

1. Connect the extender to the seat belt by inserting the tab into the seat belt buckle so that the buckle–release buttons of the extender and the seat belt are located on the same side as shown. You will hear a click when the tab properly locks into the buckle.

2. MAKE SURE THAT THE CONNECTION IS SECURE AND THE SEAT BELT EXTENDER IS NOT TWISTED.

3. When releasing the seat belt, press on the buckle–release button on the extender, not on the seat belt. This helps prevent damage to the vehicle interior and extender itself.



4. When not in use, remove the extender and store in the vehicle for future use.

OWNER'S MANUAL TEXT:

SEAT BELT EXTENDER

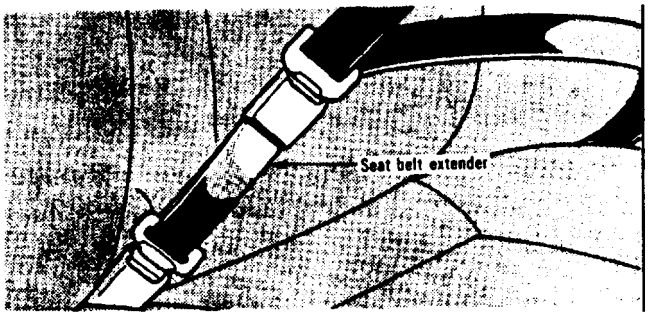
If your seat belt cannot be fastened securely because it is not long enough, a personalized seat belt extender is available from your Lexus dealer free of charge.

Please contact your local Lexus dealer so that the dealer can order an extender of the proper required length. Bring the heaviest coat you expect to wear for proper measurement and selection of length. Additional ordering information is available at your Lexus dealer.

CAUTION:

When using the seat belt extender, observe the following. Failure to follow these instructions could result in a less effective seat belt restraint system in case of a vehicle accident, increasing the chance of personal injury.

- Never use the seat belt extender if you can fasten the seat belt without it.
- Remember that the extender provided for you may not be safe when used on a different vehicle, or for another person or at different seating positions than specified.



To connect the extender to the seat belt, insert the tab into the seat belt buckle so that the buckle release buttons of the extender and the seat belt are both facing outward as shown.

You will hear a click when the tab locks into the buckle. When releasing the seat belt, press on the buckle–release button on the extender, not on the seat belt. This helps prevent damage to the vehicle interior and extender itself.

When not in use, remove the extender and store in the vehicle for future use.

CAUTION:

After inserting the tab, make sure that the connection is secure and the seat belt extender is not twisted.

APPLICATION FOR SEAT BELT EXTENDER 00078

(ONLY ONE EXTENDER CAN BE PROCESSED PER APPLICATION FORM)

IN ORDER TO PROVIDE A PERSONALIZED EXTENDER FOR THE SEAT BELT, ALL OF THE FOLLOWING SPECIFIC INFORMATION MUST BE PROVIDED REGARDING THE INDIVIDUAL AND VEHICLE INVOLVED.

CAUTION: TO MINIMIZE THE CHANCE AND/OR SEVERITY OF INJURY IN AN ACCIDENT, THE SEAT BELT EXTENDER **MUST NOT BE USED:**

- BY ANY ONE BUT THE PERSON FOR WHOM IT WAS PROVIDED, AND
- IN ANY VEHICLE OR SEAT SPECIFIED OTHER THAN THE ONE FOR WHICH IT WAS PROVIDED.

WHEN THE SEAT BELT EXTENDER IS PROVIDED FOR REAR SEAT POSITION (WITH AUTOMATIC LOCKING RETRACTOR), MAKE SURE THE RETRACTOR IS LOCKED WHEN IN USE.

- WITH ANY CAR SEATS FOR CHILDREN.

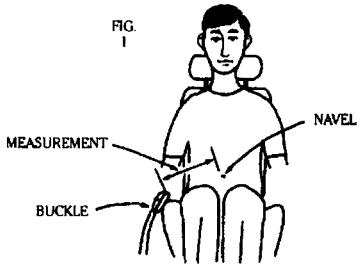
DEALER		APPLICANT			
DEALER CODE: 82430	DEALER NAME: LEXUS DEALER USA	NAME: JOE CUSTOMER			
ADDRESS: 12 AUTO CENTER DRIVE		ADDRESS: 8 MAIN ST.			
CITY AND STATE: LEXUS CITY CA 99999		CITY AND STATE: ANYTOWN CA 99999			TELEPHONE: (310) 555-1212
VEHICLE IDENTIFICATION NUMBER: JT8UF11EXP5000000	MODEL YEAR: 1993	BODY TYPE: LS 400	SEAT POSITION: LF	PART NUMBER: 733 99 –	

FRONT SEAT BELT MEASUREMENT

1. PLACE THE SEAT IN THE POSITION THE OCCUPANT NORMALLY USES.
2. WITH OCCUPANT IN THE SEAT, EXTEND THE SEAT BELT AS MUCH AS POSSIBLE AND SEE IF THE SEAT BELT DOES OR DOES NOT LATCH.
3. IF SEAT BELT DOES NOT LATCH, THEN MEASURE THE DISTANCE FROM SEAT BELT LATCH EDGE TO THE SEAT BELT BUCKLE, AS SHOWN IN FIGURE 2, AND NOTE THE DIMENSION.
4. MEASURE THE LAP AREA DIRECTLY BELOW NAVEL TO THE EDGE OF THE BUCKLE, AS SHOWN IN FIGURE 1 BELOW, AND NOTE THE DIMENSION.
5. THE DIFFERENCE BETWEEN FIGURE 1 AND FIGURE 2 MEASUREMENT IS THE ACTUAL MEASUREMENT. THE CUSTOMER SATISFACTION DEPARTMENT WILL DETERMINE THE EXTENDER LENGTH.

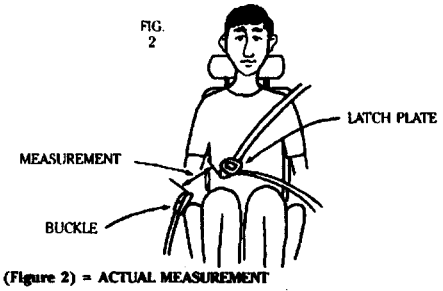
DIMENSION FROM NAVEL TO BUCKLE

FIG. 1



DIMENSION FROM LATCH TO BUCKLE

FIG. 2



MEASUREMENT (Figure 1) – MEASUREMENT (Figure 2) = ACTUAL MEASUREMENT

20 – 06 = 14

EXTENDER LENGTH REQUIRED
LEAVE BLANK

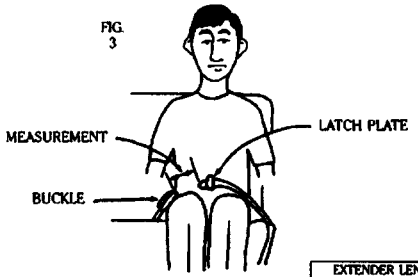
NOTE: IF THE DIFFERENCE FROM THE NAVEL TO BUCKLE DIMENSION (FIGURE 1) MINUS LATCH TO BUCKLE DIMENSION (FIGURE 2) IS SMALLER THAN 6 INCHES, THE SEAT BELT EXTENDER WILL NOT BE AVAILABLE DUE TO DESIGN AND CONSTRUCTION FEATURES.

LAP BELT MEASUREMENT

1. WITH OCCUPANT IN THE SEAT, EXTENT THE SEAT BELT AS MUCH AS POSSIBLE, AND SEE IF THE SEAT BELT DOES OR DOES NOT LATCH.
2. IF SEAT BELT DOES NOT LATCH, THEN MEASURE THE DISTANCE FROM SEAT BELT LATCH EDGE TO THE SEAT BELT BUCKLE, AS SHOWN IN FIGURE 3, AND NOTE THE DIMENSION.
3. THE CUSTOMER SATISFACTION DEPARTMENT WILL DETERMINE THE EXTENDER LENGTH.

DIMENSION FROM LATCH TO BUCKLE

FIG. 3



ACTUAL MEASUREMENT 06

EXTENDER LENGTH REQUIRED
LEAVE BLANK

THE SAME EXTENDER MAY BE USED FOR RIGHT AND LEFT SEATING APPLICATIONS.
EACH SEAT BELT EXTENDER WILL BE AFFIXED WITH A LABEL IDENTIFYING THE OWNER, VEHICLE VIN AND SEATING POSITION. THE EXTENDER WILL BE AVAILABLE ONLY IN THE COLOR BLACK.

APPLICANT'S SIGNATURE
(actual user of the seat belt extender)

DATE

00241-00005

90-LEX-113

1–LEXUS (CS)

Lexus customers who find it necessary to increase the length of their seat belts may now obtain Seat Belt Extenders at no cost through their local Lexus dealer.

The extender is available in black only and in lengths of 6”, 9”, 12”, 15” and 18”.

Owner’s are informed of the seat belt extender availability through the Lexus Owner’s Manual included in each vehicle (see page 6 for text of Owner’s Manual).

The user must visit a Lexus Dealership to have the required measurements made and complete the seat belt extender worksheet. The worksheet will allow the proper fitting and selection of a seat belt extender for the customer. The dealer should then determine the part number needed and place a Critical Order for the item through the TDN Parts Network.

Attached for your information are the following 1996 model year updated guides and examples:

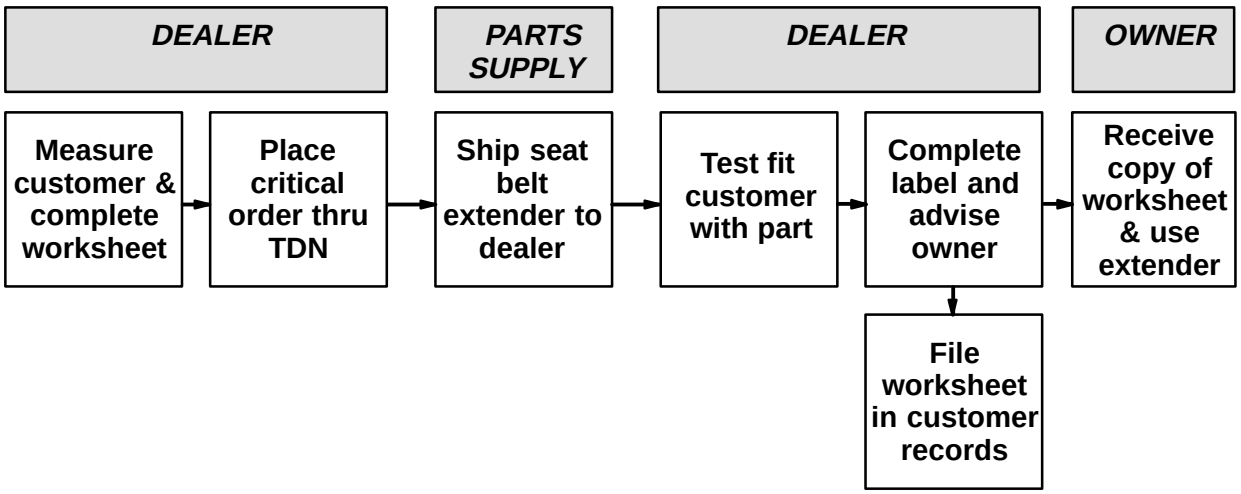
- Flow chart (Page 2)
- Seat belt extender application/part number chart (Pages 3 & 4)
- Owner instruction sheet (Page 4)
- Statement included in Owner’s Manual (Page 6)
- Seat Belt Extender Worksheet (Page 7)

The dealership service department should complete the affixed Seat Belt Extender Label and review the “owner instruction sheet” with the owner. The dealer should give a copy of the completed worksheet to the owner and keep the original in the customer’s file.

To assure utmost owner satisfaction, it is recommended that a dealer designate one person to coordinate all activities related to the seat belt extender issue.

Due to past sales history, it is recommended that dealers **DO NOT** stock seat belt extenders due to low demand for the parts and the need for custom fitting.

SEAT BELT EXTENDER (SBE) FLOW CHART:



SEAT BELT LABEL

CAUTION

THIS SEAT BELT EXTENDER IS TO BE USED ONLY BY: _____
Customer Name

ON VEHICLE: _____

VIN: _____

SEATING POSITION: _____ Driver _____ Passenger _____ Front _____ Rear

USE BY OTHERS, OR IN ANOTHER SEATING POSITION, OR IN ANOTHER VEHICLE COULD REDUCE SEAT BELT RESTRAINT IN AN ACCIDENT AND RESULT IN PERSONAL INJURY.

(1) Owner requests a seat belt extender from the dealer.

(2) Dealer verifies need for a seat belt extender, obtains current copy of TSIB and copies the worksheet.

(3) Dealer measures the customer and completes the worksheet. Dealer determines the correct part number needed and places a Critical Order for the part through the TDN Parts Network.

(4) Dealer receives seat belt extender and calls customer in to check fit of part.

(5) If seat belt extender fit is OK, dealer completes the customer information label on the part, explains usage of the part and gives the customer a copy of the completed worksheet.

(6) Dealer places a copy of the completed worksheet in the customer’s records.

To determine the part number, locate the “series” on the following charts. Then refer to the chart on page 4 to locate the part number for the “series” and length.

FRONT SEAT EXTENDER APPLICATION TABLE (EXTENDER SERIES NUMBER)

MODEL	1996	1995	1994	1993	1992	1991	1990
LS 400	R-3	R-3	R-3	R-3	R-3	R-3	R-3
GS 300	N-3	N-3	N-3	N-3			
SC 400	R-3	R-3	R-3	R-3	R-3		
SC 300	R-3	R-3	R-3	R-3	R-3		
ES 300	K-4	K-4	K-4	K-4	K-4		
ES 250						K-3	K-3
LX 450	R-3						

REAR SEAT EXTENDER APPLICATION TABLE (EXTENDER SERIES NUMBER)

MODEL	1996	1995	1994	1993	1992	1991	1990
LS 400	R-3	R-3	R-3	R-3	R-3	R-3	R-3
GS 300	K-4	K-4	K-4	K-4			
SC 400	R-3	R-3	R-3	R-3	R-3		
SC 300	R-3	R-3	R-3	R-3	R-3		
ES 300	R-3	R-3	R-3	R-3	R-3		
ES 250						R-1	R-1
LX 450	K-4*						

* Includes 3rd Seat Application.

Note: Seat belt extenders must not be used for the center rear seat belt on all models.

PART NUMBER INFORMATION:

(73399–_____)

LENGTH					
SERIES	**6”**	**9”**	**12”**	**15”**	**18”**
K–3	–22060	–22070	–22080	–22090	–22100
K–4	–33010	–33020	–33030	–33040	–33050
N–3	–20011	–20021	–20031	–20041	–20051
R–1	–12010	–12020	–12030	–12040	–12050
R–3	–50010	–50020	–50030	–50040	–50050

OWNER INSTRUCTION
(FOR PERSONALIZED SEAT BELT EXTENDER)

Precaution when using the seat belt extenders:

1. Never use the seat belt extender if you can fasten the seat belt without it.

2. Remember that the seat belt extender provided for you may not be safe when used on a different vehicle, or for another person and/or at a different seating position than specified.

3. When the seat belt extender is provided for a rear seat position (with automatic locking retractor), make sure the retractor is locked when in use.

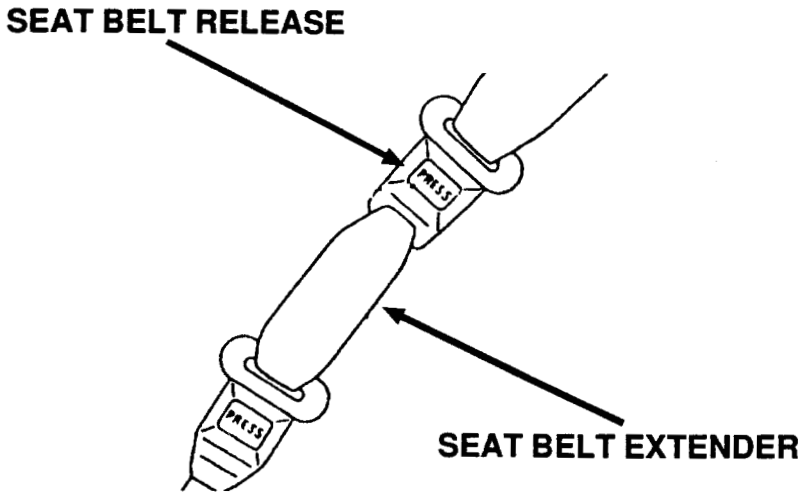
4. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN A LESS EFFECTIVE SEAT BELT RESTRAINT SYSTEM IN CASE OF A VEHICLE ACCIDENT, CAUSING PERSONAL INJURY.

Using The Seat Belt Extender:

1. Connect the seat belt extender to the seat belt by inserting the tab into the seat belt buckle so that the buckle–release buttons of the seat belt extender and the seat belt are located on the same side as shown. You will hear a click when the tab properly locks into the buckle.

2. MAKE SURE THAT THE CONNECTION IS SECURE AND THE SEAT BELT EXTENDER IS NOT TWISTED.

3. When releasing the seat belt, press on the buckle–release button on the seat belt extender, not on the seat belt. This helps prevent damage to the vehicle interior and seat belt extender itself.



4. When not in use, remove the extender and store in the vehicle for future use.

OWNER'S MANUAL TEXT:

SEAT BELT EXTENDER

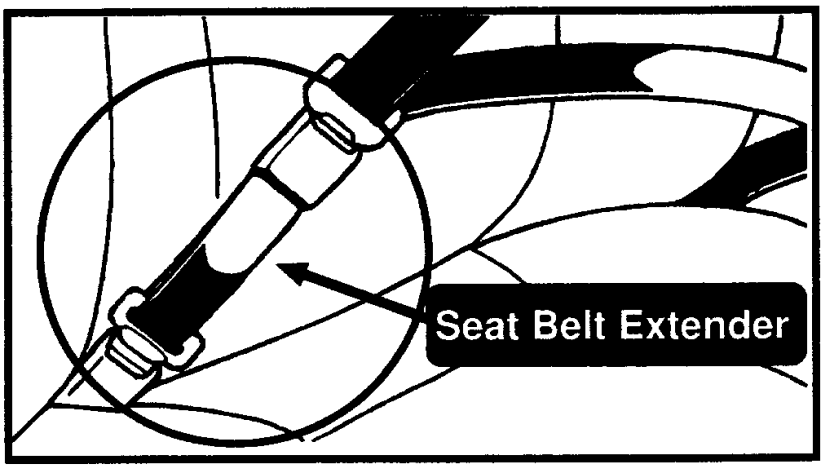
If your seat belt cannot be fastened securely because it is not long enough, a personalized seat belt extender is available from your Lexus dealer free of charge.

Please contact your local Lexus dealer so that the dealer can order a seat belt extender of the proper required length. Bring the heaviest coat you expect to wear for proper measurement and selection of length. Additional ordering information is available at your Lexus dealer.

CAUTION:

When using the seat belt extender, observe the following. Failure to follow these instructions could result in less effectiveness of the seat belt restraint system in case of a vehicle accident, increasing the chance of personal injury.

- Never use the seat belt extender if you can fasten the seat belt without it.
- Remember that the seat belt extender provided for you may not be safe when used on a different vehicle, or for another person and/or at different seating positions than specified.



To connect the seat belt extender to the seat belt, insert the tab into the seat belt buckle so that the buckle release buttons of the seat belt extender and the seat belt are both facing outward as shown.

You will hear a click when the tab locks into the buckle. When releasing the seat belt, press on the buckle–release button on the seat belt extender, not on the seat belt. This helps prevent damage to the vehicle interior and seat belt extender itself.

When not in use, remove the seat belt extender and store in the vehicle for future use.

CAUTION:

After inserting the tab, make sure that the connection is secure and the seat belt extender is not twisted.

SEAT BELT EXTENDER WORKSHEET

Please copy this original worksheet for each extender needed.

CAUTION: To minimize the chance and/or severity of injury in an accident, the seat belt extender must not be used:

- By anyone but the person for whom it was provided, and
- In any vehicle or seat specified other than the one for which it was provided, and
- With any car child safety seats.

When the seat belt extender is provided for rear seat positions (with automatic locking retractor), make sure the retractor is locked when in use.

In all cases seat belts must be worn below the abdomen by pregnant women.

DEALER	PLEASE PRINT CLEARLY	APPLICANT

DEALER CODE	DEALER NAME		APPLICANT NAME		
ADDRESS			ADDRESS		
CITY AND STATE		ZIP CODE	CITY AND STATE	ZIP CODE	TELEPHONE
DEALER EMPLOYEE NAME	MODEL YEAR	BODY TYPE	SEAT POSITION *F / R*	VEHICLE IDENTIFICATION NUMBER	

DIRECTIONS FOR DETERMINING PROPER EXTENDER LENGTH

1. Place the seat in the position the person normally uses.
2. With the person in the seat, extend the seat belt as much as possible and see if the belt latches.
3. If the buckle latches but has no slack remaining, the dimension for Figure 2 is zero. If the seat belt does not latch, measure the distance from the seat belt latch edge to the seat belt buckle as shown in Figure 2 below, and note the dimension.
4. Measure the lap area directly below the navel to the edge of the buckle as shown in Figure 1 and note the dimension.
5. The difference between Figure 1 and Figure 2 measurements is the "Allowable Margin". (Do not use this dimension for the extender length.)
6. Take the measurement in Figure 2 and round it up to the next extender size available, without exceeding the "Allowable Margin".

FIGURE 1
DIMENSION FROM NAVEL TO BUCKLE

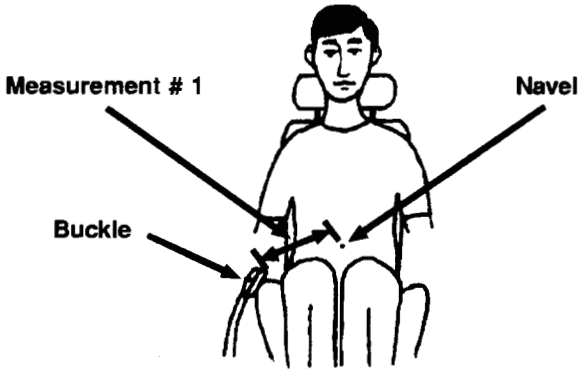
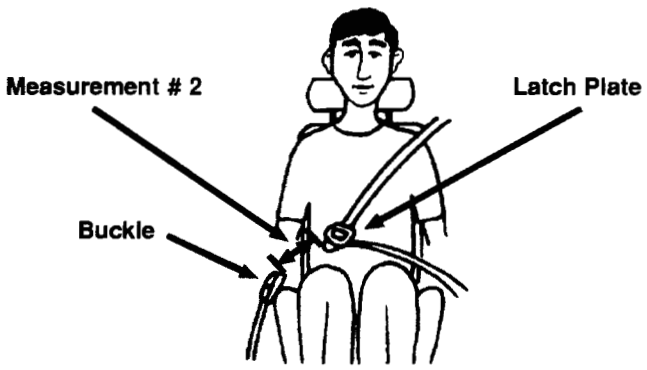


FIGURE 2
DIMENSION FROM LATCH TO BUCKLE



Measurement #1 (Figure 1) - Measurement #2 (Figure 2) = "Allowable Margin"

_____ - _____ = _____

NOTE: The length of the extender must not exceed the "Allowable Margin", due to design and construction features

AUTHORIZATION

The same extender can be used for right and left seating applications. Each seat belt extender will be affixed with a label identifying the owner, vehicle VIN and seating position. Extenders are available in one color only .

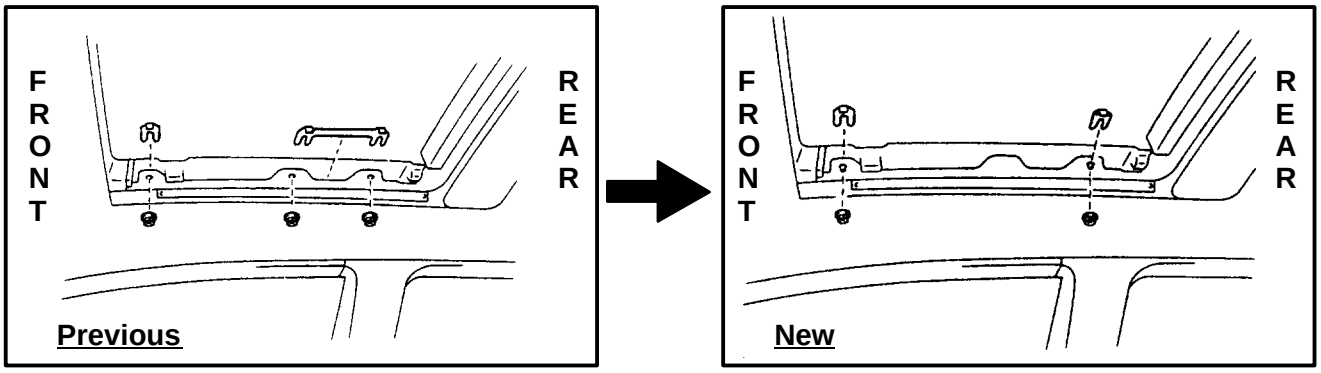
_____ _____

APPLICANT'S SIGNATURE
(Actual user of seat belt extender)

DATE

Title **MOONROOF PANEL SERVICE TIPS**

To limit internal stress on the moonroof panel glass, the six mounting studs have been reduced to four (see illustration below).



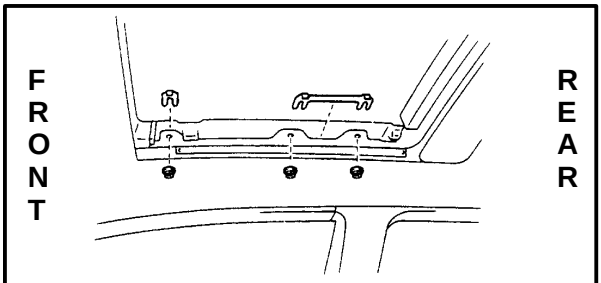
PRODUCTION EFFECTIVE:

PRODUCTION DATE	VIN JT8GK13T–	No. OF STUDS ON PANEL	REPAIR ADJUSTMENTS
Before 2/94	To R0041539	6	Do NOT install nuts on forward studs of double shims*
After 2/94	From R0041540	4	*

* Use torque setting values contained in table.

NOTE: The 4 and 6 stud moonroof panels are completely interchangeable and the part numbers have not been changed.

If adding or removing moonroof shims from a 6 stud moonroof panel (vehicles built prior to 2/94, VIN# JT8GK13T – R0041540) Discard stud nuts at forward position of the double shims.



Remove & Discard Stud Nuts at forward position of the double shims

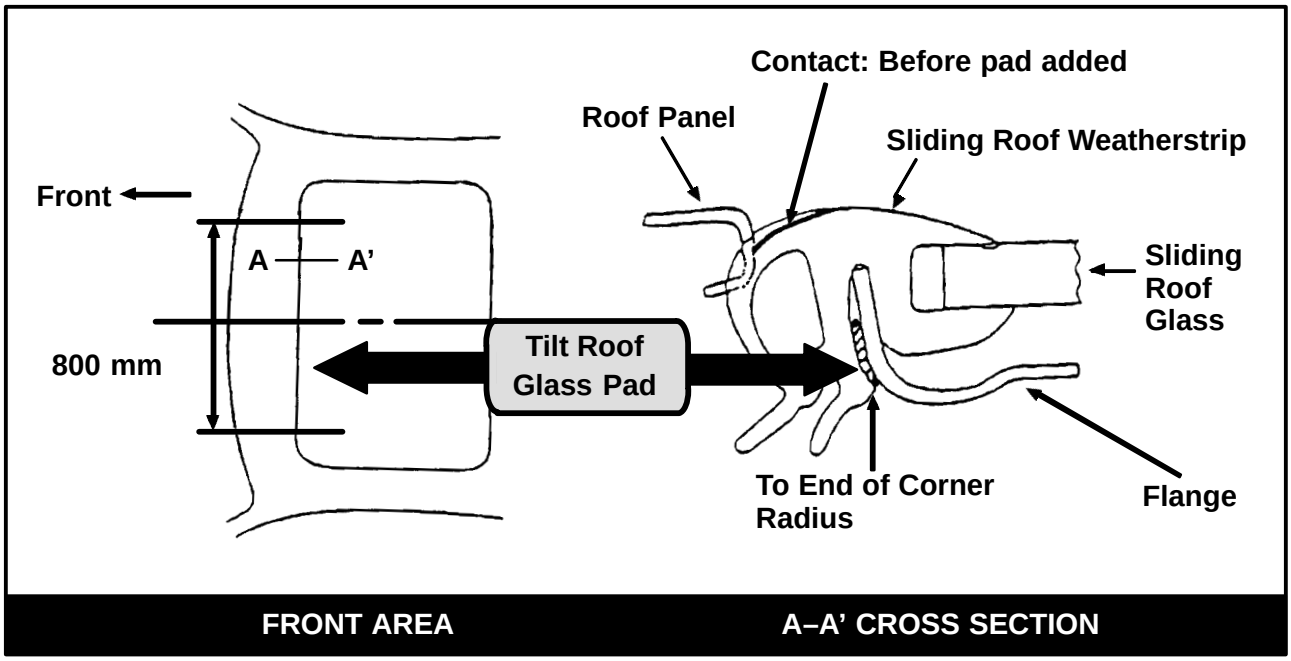
Torque settings for the stud nuts securing the moonroof have been revised as follows:

TORQUE SETTINGS	ft-lbs	N-m	kgf-cm
NEW	***3***	***4***	***40***
OLD	**7**	**9.5**	**97**

Call the Technical Hotline at 1-(800)-446–4740 for additional information.

Title **MOONROOF PANEL WIND NOISE**

On some ES 300 vehicles, wind noise from the moonroof panel may be present. In order to provide a tighter fit and more complete seal, the sliding roof glass panel has been improved. The improved sliding roof glass incorporates shim stock (Tilt Roof Glass Pad, 800 mm x 4 mm, t=0.9 mm) in the front of the flange on the sliding roof inner panel (see illustration below).



PRODUCTION EFFECTIVE:

Starting VIN: JT8GK13T–S0108922

REPAIR PROCEDURE:

Use the steps below to correct for wind noise:

STEP 1 – VERIFY CONDITION:

Determine the conditions at which the problem occurs (speed, wind direction, etc.). Test drive vehicle to identify the type of noise and confirm the location of the noise (front, rear, corners, etc.).

Moonroof closure (slide or tilt operation) may be a critical factor. If the problem occurs after one operation and not the other, make certain that the drive gear and drive rails are properly aligned (refer to repair manual for adjustment procedures).

REPAIR PROCEDURE: Cont'd

STEP 2 – VISUAL INSPECTION:

From a visual inspection, determine what type of field–fix repair is required:

- Over/under flushness of the moonroof panel to the roof panel (step 3A)
- Gaps between the weather–strip and the roof panel (step 3B)

NOTE: The following base adjustments must be correct before proceeding with moonroof panel field–fix repairs.
- positioning of moonroof panel to the cutout in the roof panel (front to rear, left to right and centering)
- "Match Mark" alignment (correct phasing of motor/drive cables, refer to repair manual for specific adjustment procedures).

STEP 3 – FIELD–FIX REPAIRS

METHOD A – FLUSHNESS (SHIMMING) ADJUSTMENT:

1. Measure and record the "before" and "after" readings on the repair order for flushness levels between the sliding roof weatherstrip and the roof panel to verify that they are within the following ranges:

- Front end +1.0 $\pm$1 mm
- Rear end 0 $\pm$1 mm

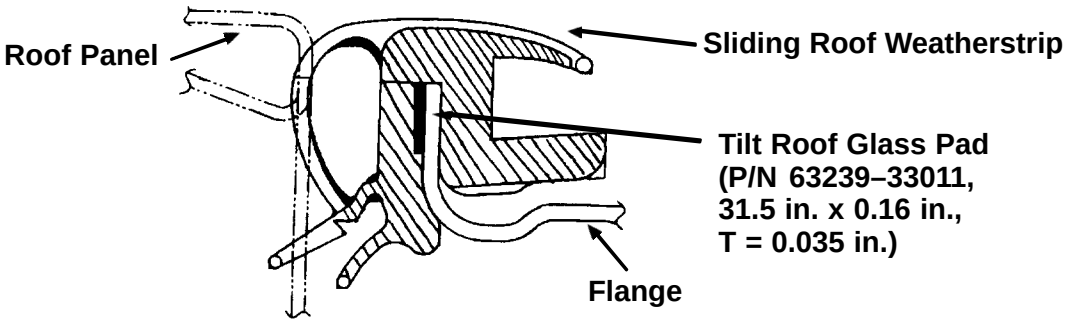
2. Adjust flushness by adding or removing shims (refer to TSB BO95–007 for torque values of nuts).

METHOD B – WEATHERSTRIP SEALING INSTRUCTIONS:

1. Remove moonroof panel as specified in the repair manual.

2. Insert section of shim stock (Tilt Roof Glass Pad, P/N 63239–33011) to front edge of the metal flange on the sliding roof inner panel (see figure below).

HINT: It may be easier to add the shim stock working from the center outward.



WARRANTY INFORMATION:

Method A –

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
BD5006	Sliding Roof Panel Shim R&R – includes all necessary checks and adjustments (1992–1993 Models)	0.5	63277–XXXXX	64	52
614261	Sliding Roof Panel Shim R&R – includes all necessary checks and adjustments (1994–On Models)	0.5	63277–XXXXX	64	52

Method B –

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
BD5007	Install Shimstock to front edge of panel (includes panel R&R and all necessary checks and adjustments)	1.0	63201–XXXXX	64	41

Call the Technical Hotline at 1-800-446–4740 for additional information.

On some ES 300s the front passenger floor carpet may become wet or damp after a heavy rain. Two sources of water entry have been identified:

(1) Water travels down SRS wire harness and enters through SRS wire harness grommet located on RH outer cowl side panel subassembly (side kick panel).

(2) Water flowing on the back side (underside) of cowl outer panel, enters by dripping into fresh air intake plenum.

PRODUCTION COUNTERMEASURE:

To prevent water entry into front passenger compartment, the following production countermeasures have been implemented.

(1) Water entry at SRS wire harness grommet

SRS wire harness grommet has been modified to prevent water from entering vehicle (see Figure 1).

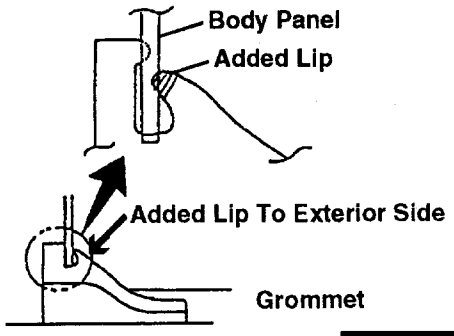


Figure 1

PRODUCTION EFFECTIVE:

VIN	P/D
JT8GK13T#R0001033	8/93

(2) Water entry through fresh air intake plenum.

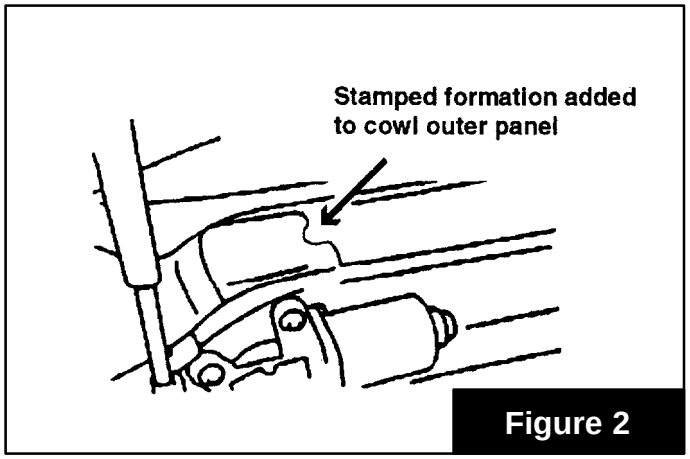


Figure 2

Stamped formation (drain channel) added to RH cowl outer panel to prevent water flow along back side of panel. (see Figure 2)

PRODUCTION EFFECTIVE:

VIN	P/D
JT8VK13T#N0117382	7/92

REPAIR PROCEDURES:

Should preliminary inspection confirm wet/damp passenger side carpet or silencer pad, the following repair procedures are recommended:

(1) For water entry at SRS wire harness grommet, seal SRS grommet to body panel

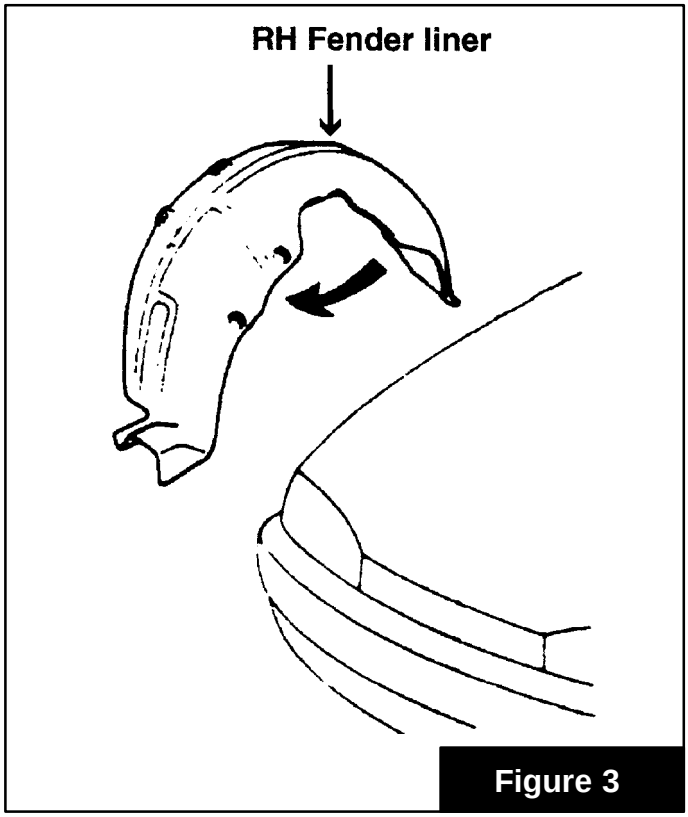


Figure 3

1. REMOVE RH FRONT TIRE.
2. REMOVE FRONT FENDER WHEEL OPENING MOULDING.
   Remove four screws and the moulding.
3. REMOVE RH FRONT FENDER LINER.
   Remove fasteners (12) RH front fender liner (as shown in Figure 3) to gain access to SRS wire harness grommet.
4. CLEAN AREA FOR APPLICATION OF SEALER.
   Clean area around SRS wire harness grommet opening in RH cowl side panel subassembly.

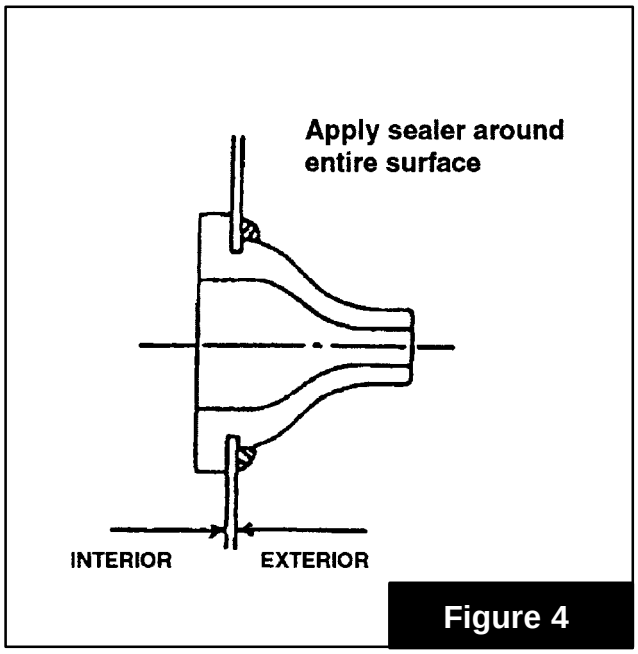


Figure 4

5. POSITION SRS WIRE HARNESS GROMMET.
   Ensure grommet is properly seated to opening in RH cowl side panel subassembly.

6. SEAL SURFACE BETWEEN GROMMET AND BODY PANEL.
   Recommend using **3M Ultrapro Auto Body Sealant (Clear) P/N 08302 or 3M All Around Auto Body Sealant (White) P/N 08500 or equivalent.**

   Apply sealer to surface between SRS wire harness grommet and body panel (as shown in Figure 4), to prevent water entry.

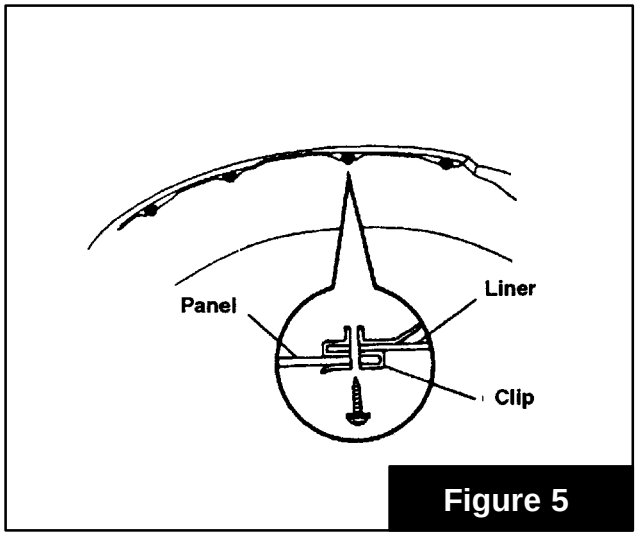


Figure 5

7. RE–INSTALL FENDER LINER.
   Install three clips so that the screw can be inserted in the manner shown in Figure 5.

8. RE–INSTALL FRONT FENDER WHEEL OPENING MOLDING.

2. For water entry through plenum fresh air intake, install countermeasure seal

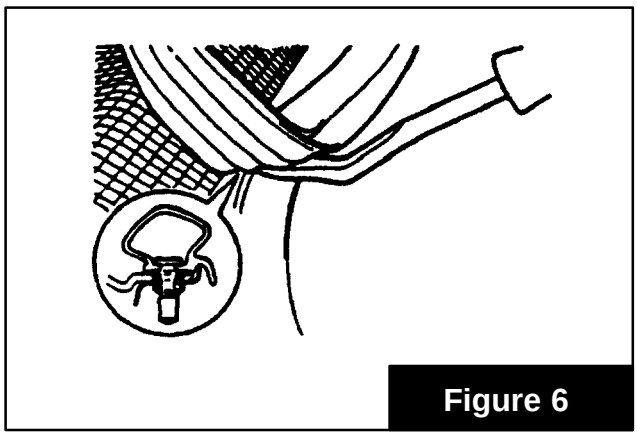


Figure 6

1. REMOVE RH COWL LOUVER (SCREEN)
   Operate windshield wiper and stop the arm at the upper position.

   Using a clip remover, remove attaching clips (5) for RH cowl louver and hood to cowl top weather–strip. (see Figure 6)

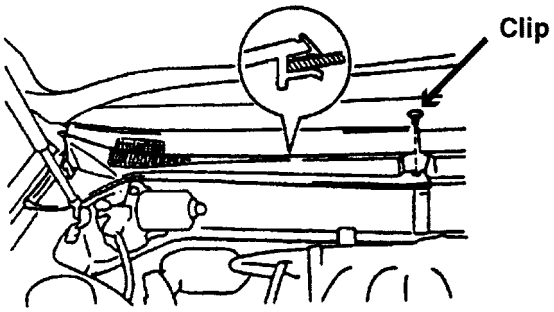


Figure 7

Using clip remover, remove additional clip securing RH cowl louver to LH cowl louver and cowl top (see Figure 7). Pull the cowl louver out forward to remove clip.

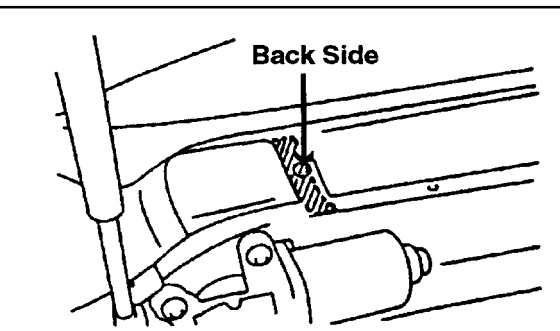


Figure 8

2. CLEAN AREA FOR INSTALLATION OF SEAL.
   Clean the back side of the cowl outer panel with isopropyl alcohol to promote adhesion (see Figure 8).

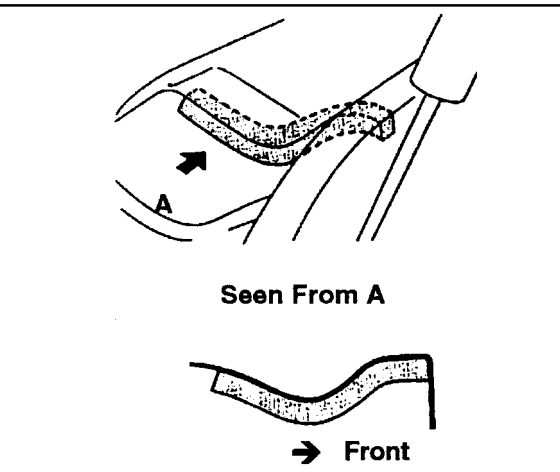


Figure 9

3. APPLY SEAL TO COWL OUTER PANEL.
   Recommend using Quarter Window **No. 2 Glass Seal (PN 68177–12020, Toyota Supply Part)**

   Cut strip of seal approximately 130 mm (5.12 in.) long.

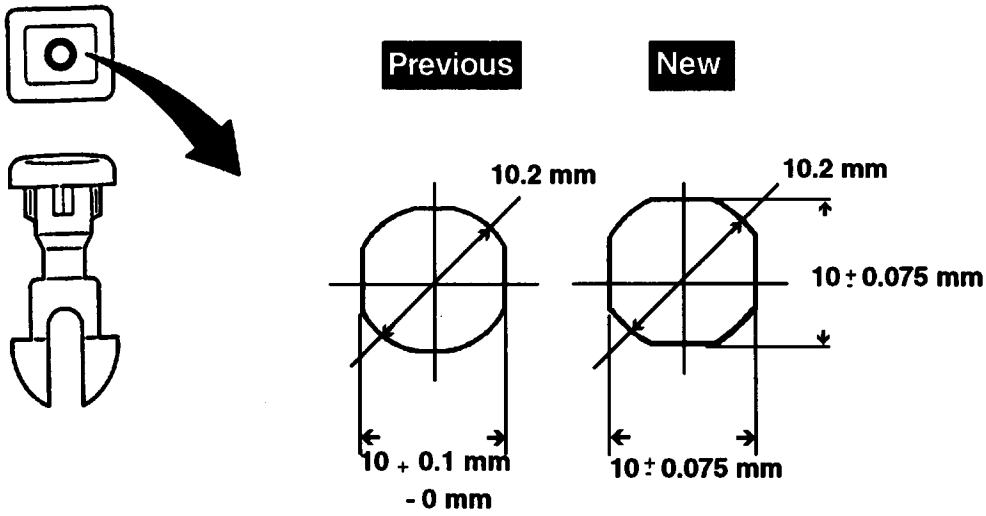
   Apply the seal to the bake side (underside) of the cowl top panel as shown, starting from the front end of the cowl top panel.

   Align the edge of the seal strip with the edge of the opening in the cowl top panel (see Figure 9).

4. REINSTALL RH COWL LOUVER (SCREEN).

Title **ES 300 FRONT SEAT HEADREST SUPPORT**

To prevent a rattling noise from the front seat headrest, the shape of the headrest support has been changed as follows:



PRODUCTION EFFECTIVE:

From VIN: JT8VK13T8P0136347 **Production Date:** 09/92

PART NUMBER INFORMATION:

Previous Part No.	New Part No.	Part Description	Color
71931–32010–01	71931–10020–22	Support, front seat headrest (w/o lock)	Black
71931–32010–04	71931–10020–W4	Support, front seat headrest (w/o lock)	Blue
71931–32010–08	71931–10020–A0	Support, front seat headrest (w/o lock)	Ivory
71931–32010–12	71931–10020–K1	Support, front seat headrest (w/o lock)	Medium Taupe

New Part is interchangeable with previous part

Title **INSTALLATION OF FRONT LICENSE PLATE MOUNTING BRACKET**

The new ES300 uses a front license plate mounting bracket which is shipped along with two bolts, in the luggage compartment. Please install the mounting bracket **as required** to the front bumper (Fig. 1) during PDS.

INSTALLATION PROCEDURE

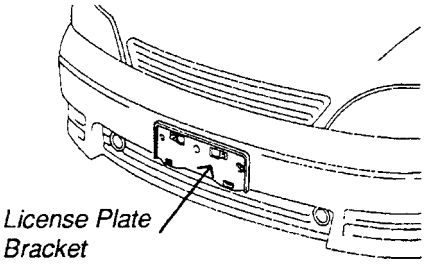


Figure 1

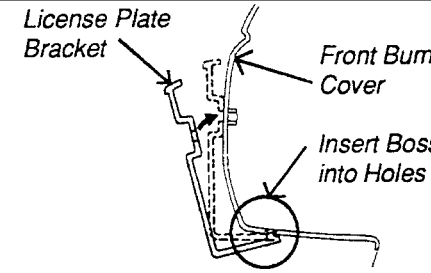


Figure 2

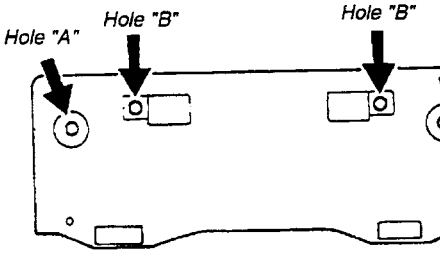


Figure 3

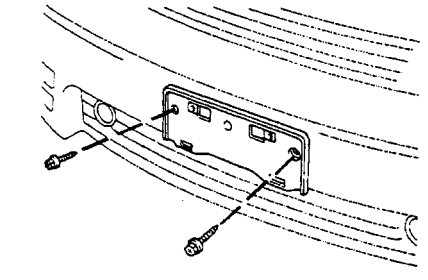


Figure 4

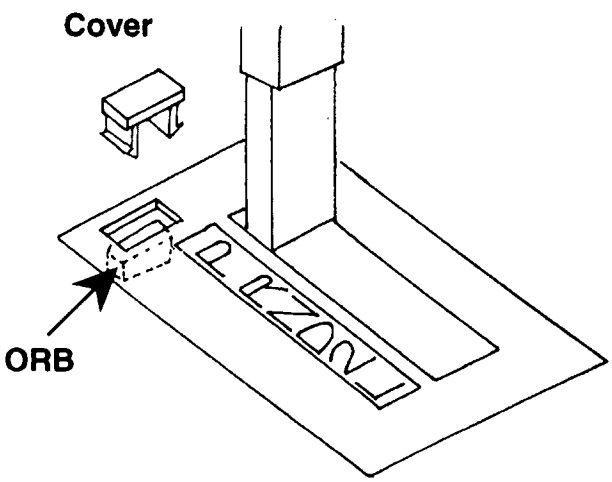
1. Insert the bosses on the bottom side of the license plate bracket into the front bumper holes (Fig. 2).
2. Position the license plate bracket on the front bumper cover. Mark the drilling location of hole “A” and “B” on the front bumper cover (Fig. 3).
   - Hole “A” is to install the license plate mounting bracket on the front bumper.
   - Hole “B” is a *through hole* for the bolt when the license plate is installed on the license plate bracket.
3. Remove the license plate bracket.
4. Drill four holes through the marks on the front bumper cover.

   Diameter of hole “A”: 9 mm (0.35 in.)
   Diameter of hole “B”: 11 mm (0.43 in.)

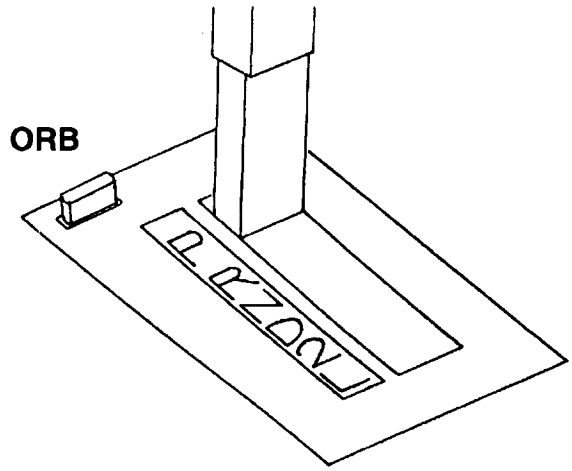
   Note: Use a drill stop positioned 4 mm (0.16 in.) from the end of the drill bit to prevent over drilling.
5. Install the license plate bracket (as shown in steps 1 and 2) and tighten the two 6 X 20 mm bolts supplied (Fig. 4).
6. Use the following bolt dimensions for installation of the front license plate:

   Nominal length: 15.0 mm (0.59 in.)
   Diameter: 6.0 mm (0.24 in.)

The position of the automatic transmission shift lock override button (ORB) has been changed and a cover added for increased theft protection in accordance with FMVSS No. 114.



NEW

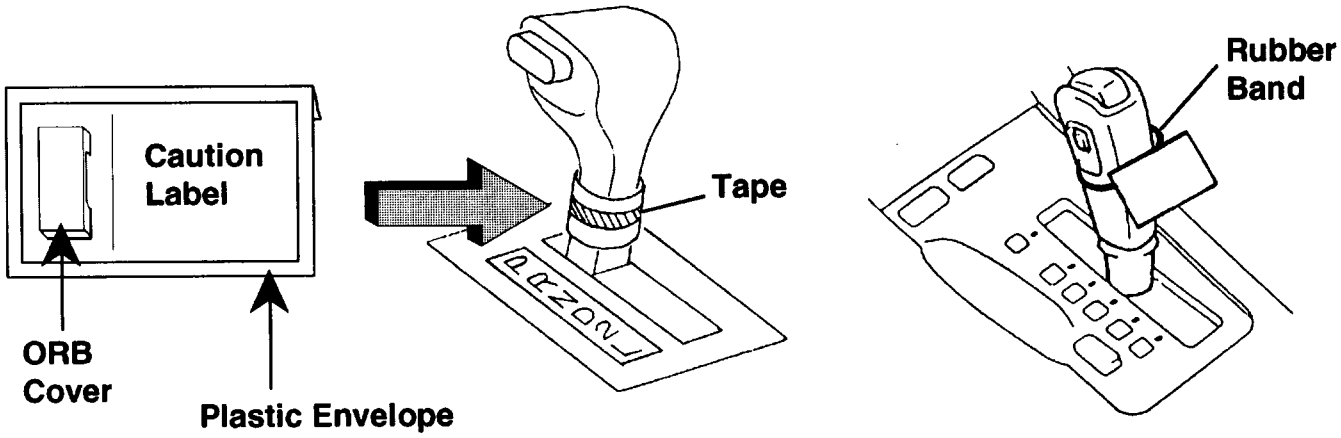


PREVIOUS

The ORB cover is packaged separately at the factory for transportation and must be installed during PDS (Pre-Delivery Service) according to the following procedure:

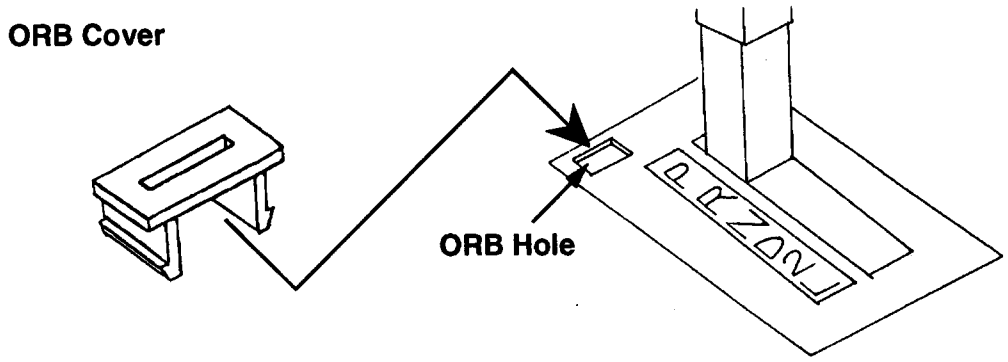
ORB COVER STORAGE:

The ORB cover is put in a plastic envelope with a caution label and is taped to the automatic transmission shift lever as shown below.

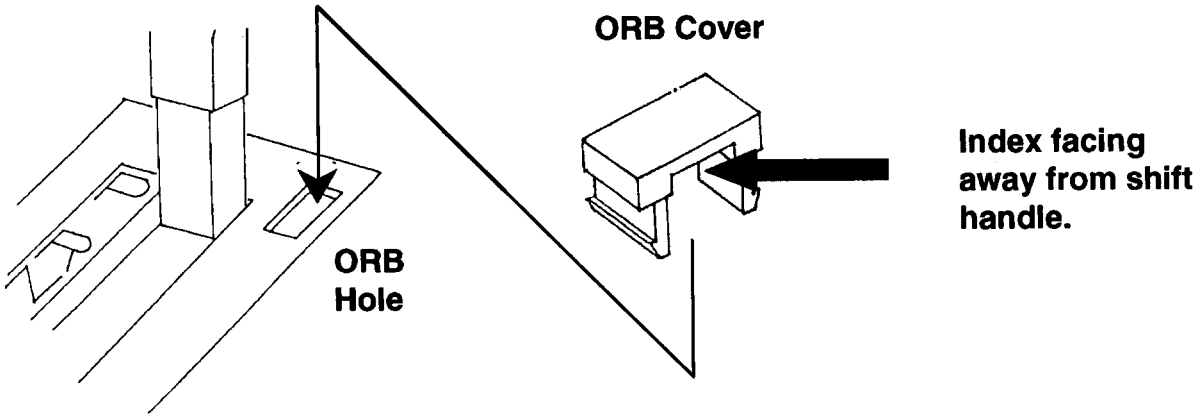


INSTALLATION OF ORB COVER:

For LS 400, SC 400 and SC 300, install the ORB cover in the ORB hole.



For ES 300, install the ORB cover with the index facing away from the shift handle.



PRODUCTION EFFECTIVE:

MODEL	PRODUCTION EFFECTIVE
LS 400	From '93 M/Y (August, 1992)
SC 400, 300	From '93 M/Y (September, 1992)
ES 300	From '93 M/Y (August, 1992)

CANCELLING SHIFT LOCK WITH ORB:

If a dead battery or similar problem occurs, the shift lever cannot be moved out of the "P" position even though the brake pedal is depressed with the ignition switch in the "ON" position.
Use the ORB to cancel the shift lock as follows:

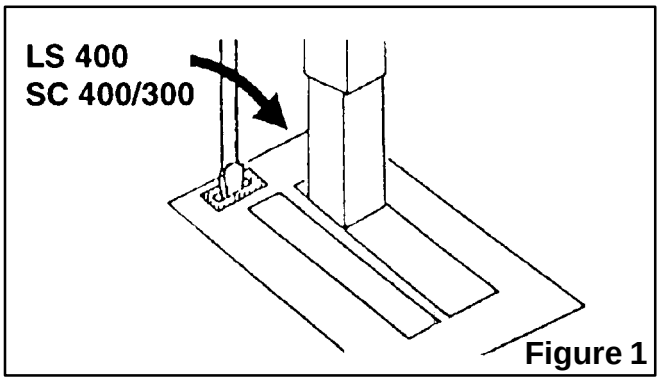


Figure 1

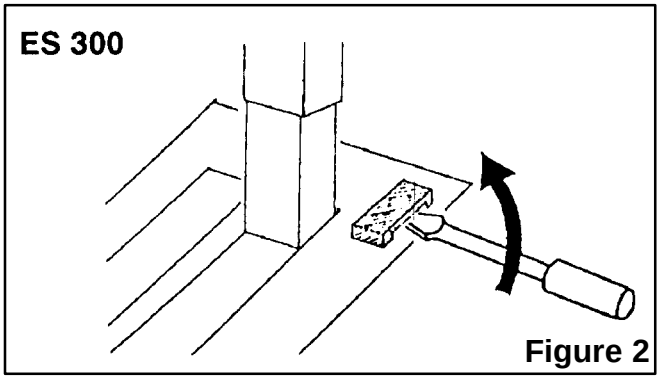


Figure 2

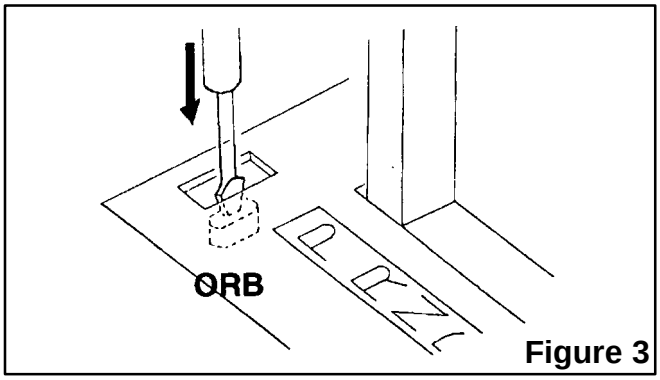


Figure 3

1. Apply the parking brake and turn the ignition key to the "OFF" position.

2. For LS 400, SC 400/300, insert a flat bladed screwdriver or equivalent into the index on top of the ORB cover and pry towards the shift handle (see Figure 1).

Note: Apply tape to tip of screwdriver to prevent damage to vehicle.

3. For ES 300, insert a flat–bladed screwdriver or equivalent into the index on the side of the ORB cover and pry it up (see Figure 2).

4. Use the same tool to push down the ORB while at the same time releasing the shift handle from the "P" position (see Figure 3).

This TSIB outlines the causes of brake vibration and pulsation as well as the best corrective measures to use.

CONTENTS

1) SYMPTOMS OF BRAKE VIBRATION AND PULSATION

Brake vibration problems generally involve one or both of two phenomena:

body vibration and/or pedal pulsation.

A. BRAKE VIBRATION:

Applying brakes causes vibration to occur in the instrument panel, steering column, steering wheel, and/or body of the vehicle **(see Figure 1 below).**

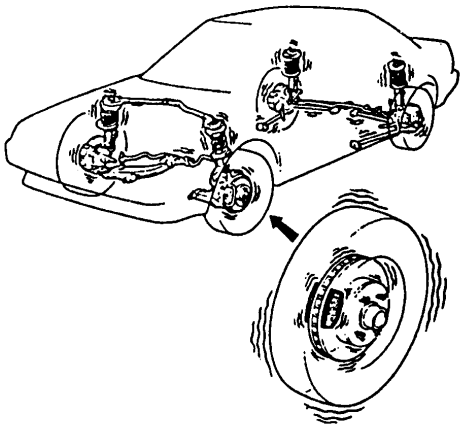


Figure 1

B. PEDAL PULSATION

Applying brakes causes the brake pedal to pulsate. This brake pulsation sometimes causes the steering wheel to oscillate when the brakes are applied **(see Figure 2 below).**

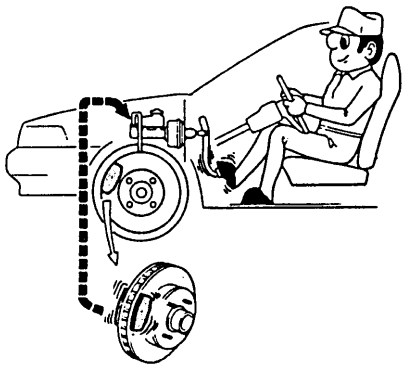
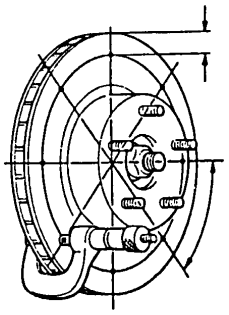


Figure 2

2) CAUSE OF VIBRATION/PULSATION PROBLEMS

Brake rotor thickness variation causes brake vibration due to changes in the braking force as thick/thin portions of the rotor pass the pads. Brake rotor thickness variation can be measured with a micrometer as shown in **Figure 3** below.



Thickness Variation = Maximum – Minimum

Figure 3

There are two factors which cause excessive rotor thickness variation:

A. ROTOR RUN–OUT

– **Rotor run–out** can be caused by poor mating of flanges between the hub and rotor when assembled as a unit. Manufacturing tolerance stack–up of the rotor and hub may also cause excessive rotor assembly run–out **(see Figure 4 below).**

– If there is rotor run–out, a portion of the rotor comes into contact with the brake pad on each rotor revolution. If left like this, the portion of the rotor that contacts the brake pad becomes worn, creating **thickness variation.**

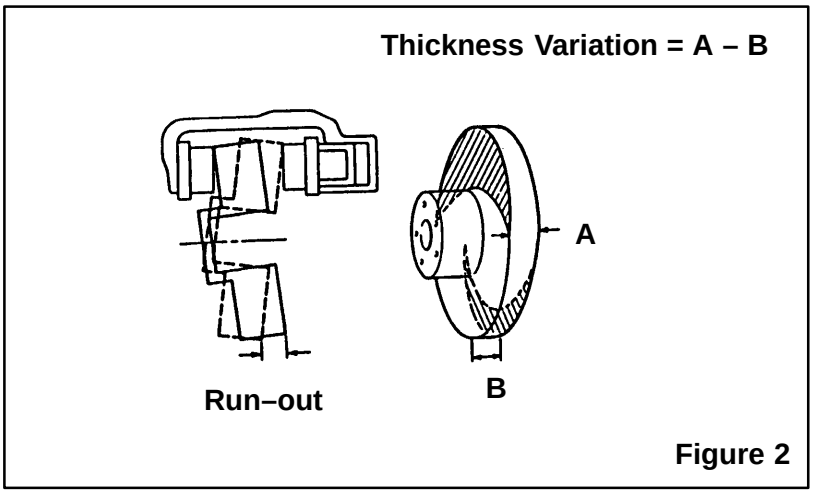


Figure 2

B. EXCESSIVE RUST OR CORROSION ON ROTOR SURFACE

– Driving in areas where salt is applied to road surfaces for winter conditions can cause rust and corrosion when the vehicle is parked for an extended period of time. This occurs on the area where the brake pads are not in contact with the rotor.

– When a vehicle is driven with rusted rotors, the area with corrosion wears at a different rate than the non–corroded areas, resulting in excessive thickness variation.

3) Advantages Of Using An On–Car Brake Lathe

Toyota Motor Corporation Engineers strongly recommend that an on–car brake lathe be used for repairing brake vibration and pulsation. This method improves rotor and hub combined run–out, and is the preferred method when compared to rotor replacement and off–the–car rotor machining.

A. Technical Advantage of Caliper Mounted Brake Lathe

- Installing the brake lathe in the same position as the caliper results in minimal run–out relative to the caliper.
- Eliminating this run–out minimizes the pad grinding on the rotor and reduces rotor thickness variation.

B. Practical Use Benefits

- Resurfacing rotors on vehicles with rotor/hub assemblies can be performed easily.
- Vehicles with corrosion between hub and rotor flanges can be machined without removing rotor from hub.

4) Rotor Replacement And Off–Car Brake Lathe Procedures

If an on–car brake lathe is not available at your dealership, it may be necessary to use an off–car lathe or replace rotors. In order to ensure proper brake vibration and pulsation repairs, pay close attention to the following precautions:

A. Off–Car Brake Lathe Precautions

- Perform routine maintenance of brake lathe components (clearance of arbor shaft to adapters may need to be repaired).
- Clean all adapters and shaft to maintain accuracy of equipment.
- When installing rotor to machine, clean mud, rust, and/or foreign material from the adapters and rotors.
- After installing rotor on machine, check rotor run–out using dial indicator. If run–out is excessive, determine the cause and correct it.
- Follow lathe manufacturer repair procedures. Do not cut excessive amounts off rotor during the first cut to save time.

Anytime a rotor is machined it must be measured for minimum rotor thickness.
The thickness for the rotor is never to be less than minimum thickness as specified in the appropriate repair manual.

B. Installation of Rotor

- Check wheel bearing pre–load. If excessive movement is found, adjust bearing pre–load.
- Using a dial indicator, measure the rotor 10 mm from the outside edge **(see Figure 5 below).**

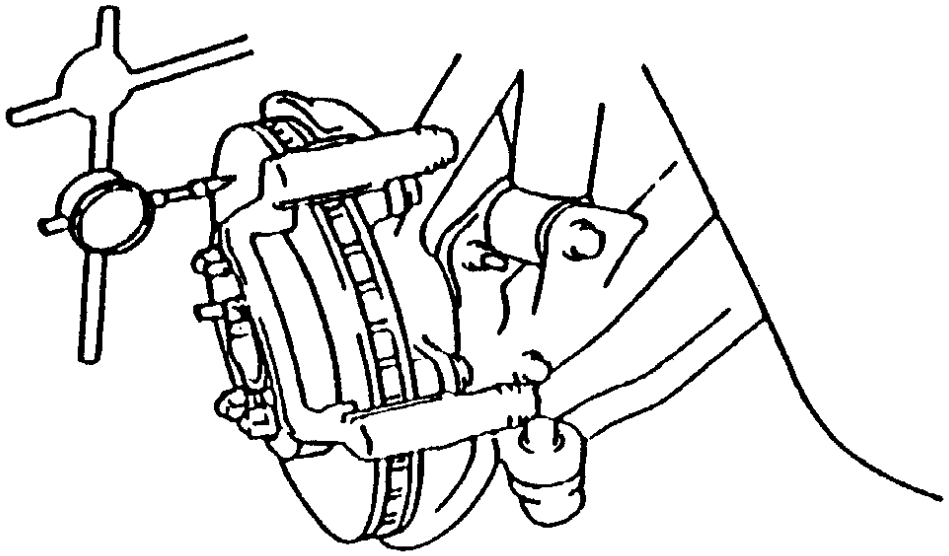


Figure 5

C. Phase Match Rotor To Hub

– If rotor run–out is at the maximum value or greater, (see appropriate repair manual) index the rotor one lug and measure the run–out again. Repeat this process, moving the rotor one lug each time, until the position is found where the run–out is at the minimum and within the maximum value listed in the appropriate repair manual **(see Figure 6 below).**

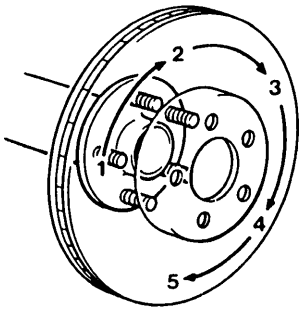
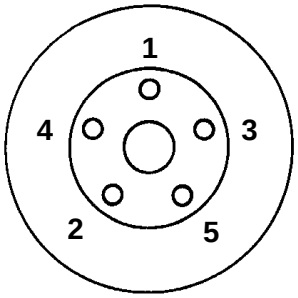


Figure 6

– Tighten lug nuts to the specified torque following a star sequence when installing wheel **(see Figure 7 below).**

Note: DO NOT USE AIR IMPACT WRENCH.



Five Holes

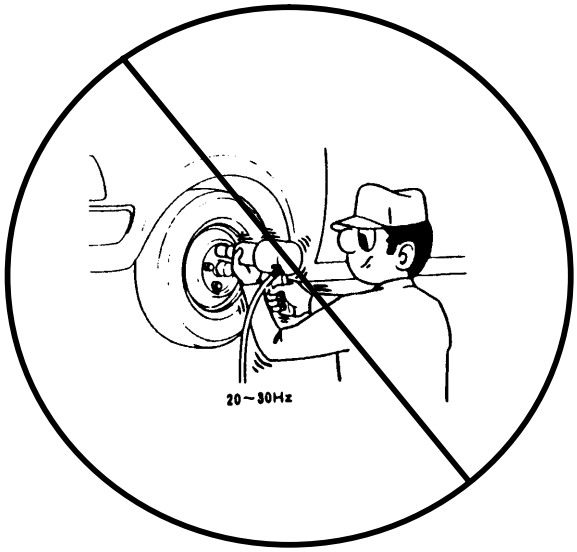


Figure 7

A new brake pad material is now available to reduce front brake groan/grinding noise on ‘92/‘93 ES 300s.

PRODUCTION EFFECTIVE:

TRANSMISSION	FROM VIN #	P/D
AUTOMATIC	JT8VK13T#P0130656	9/92
MANUAL	JT8VK13T#P0204772	4/93

PART NUMBER INFORMATION:

PREVIOUS P/N	NEW P/N	PART NAME
04491–33020	04491–33100	FRONT PAD, KIT

NOTE: Previous and new style parts are completely interchangeable.

Title **INTRODUCTION OF BRAKE SHIM KITS & BRAKE FITTING KITS**

Full brake kits, with complete hardware, have been discontinued. Shim kits and fitting kits for the front and rear brakes are now available separately, along with previously released pad kits.

SUPPLY PARTS CHANGES:

DISCONTINUED PARTS:

Full Kit

UNCHANGED PARTS:

Shim Kit

Fitting Kit

NEW PARTS:

Pad Kit

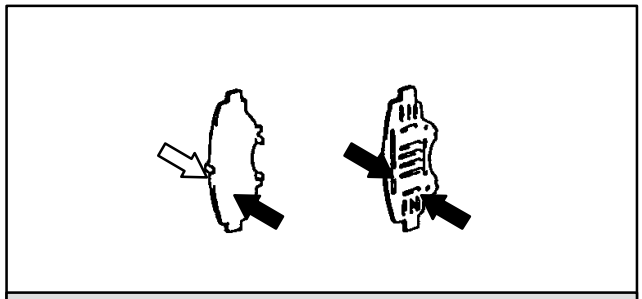
PART NUMBER INFORMATION:

For the part numbers of these pad kits, shim kits and fitting kits matrix, please consult the most recent Lexus Parts Operations Communications Bulletin.

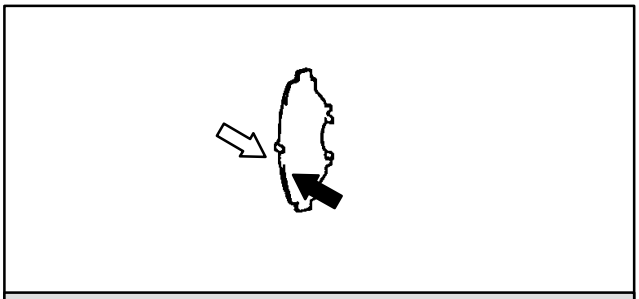
SERVICE INSTRUCTIONS:

1. All vehicles are to be inspected to insure that the integrity of the complete brake system is maintained. When replacing worn pads, you should replace the shims, wear indicators, (wear indicators may be riveted onto pads for some models) and shim grease at the same time using the pad kit and shim kit. Vehicles found to need extensive hardware replacement, including anti–squeal springs and support plates, should be repaired using the pad kit, shim kit and fitting kit, which together include all hardware components.

2. When applying shim grease, apply a thin layer over the shim faces as indicated below.



Grease application on double shim



Grease application on single shim

= Apply shim grease on this face.

= Do not apply shim grease on this face (piston side).

3. Anti–squeal springs and support plates my be reused if they are in good condition. When reusing anti–squeal springs and support plates inspect them for appropriate rebound and no deformation, burrs, cracks, wear, rust, or foreign materials.

LEXUS

TECHNICAL SERVICE INFORMATION

REF: BRAKES

NO: BR002–96

DATE: MARCH 29, 1996

MODEL: ES 300

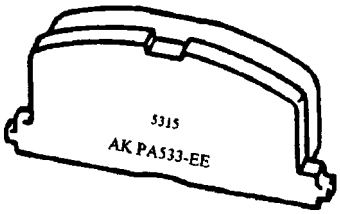
Title **ES 300 FRONT BRAKE GROAN NOISE**

To reduce front brake groan noise on ES 300s, the brake pad material has been changed.

IDENTIFICATION OF NEW PARTS:

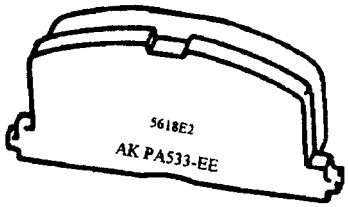
Check the lot number embossed on the metal backing plate of the brake pads, as shown below:

Previous Pads



4 digit lot number (Example "5315")

New Pads



6 digit lot number (Example "5618E2")

PRODUCTION EFFECTIVE:

MODEL	VIN
ES 300	JT8BF12G0T0133206

PART NUMBER INFORMATION:

Part number for ES 300 front brake pad kit (P/N 04465–33060) remains unchanged.

WARRANTY INFORMATION:*

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
473301	R&R front disc brake pads (both sides)	0.6	04465–33060	91	18

* Warrantable only for 12 months or 12,500 miles from date–of–first–use or demo date, whichever occurs first. Coverage is extended to 24 months or 18,000 miles, whichever occurs first, in the state of New York due to “Lemon Law” legislation.

NOTE: Replacement of the front brake pad kit and/or shims is limited to correction of a problem based upon a customer’s complaint and subject to all of the provisions of Toyota Warranty Policy Bulletin POL94–17 (Revised), dated November 4, 1994.

LEXUS
Technical Service Information Bulletin
January 17, 1997

Title:

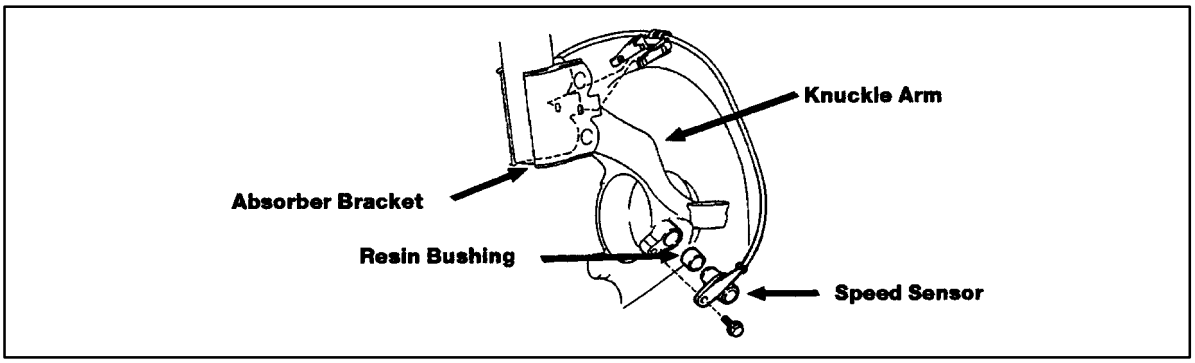
ABS FRONT WHEEL SPEED SENSOR

Models:

ES 300

TSIB

Introduction To improve serviceability of the front ABS Wheel Speed Sensor, the diameter of the speed sensor mounting hole, in the steering knuckle, has been increased. In addition, a resin bushing has been installed on the speed sensor.



Production Change Information **ES 300s** starting with **VIN JT8GK13T**0116357**.

Parts Information

PREVIOUS PART NUMBER	NEW PART NAME	PART NAME
N/A	90389-16020	Resin Bushing
43211-33010	43211-33011	Steering Knuckle (RH)
43212-33010	43212-33011	Steering Knuckle (LH)

NOTE:
New Steering Knuckles and Bushings must be replaced as a set.

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
434211	Steering Knuckle, R&R (one side)	1.8	43211-33010	94	83
434211A	Steering Knuckle, R&R (both side)	2.9	43212-33010	94	83

Applicable Warranty Coverage: Basic Vehicle Warranty.

LEXUS

TECHNICAL SERVICE INFORMATION

REF: BRAKES

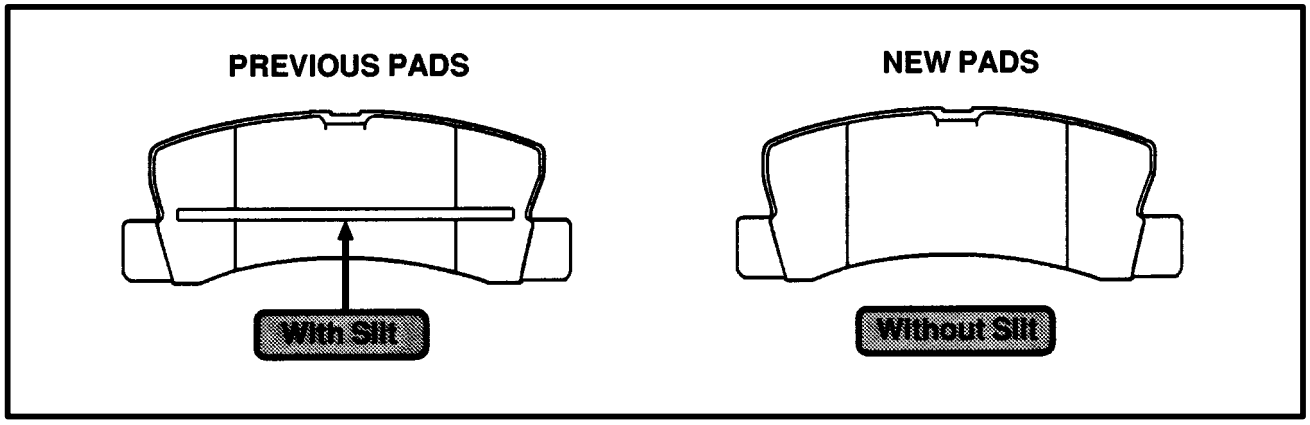
NO: BR004–96

DATE: MAY 31,1996

MODEL: ES 300

Title **REAR DISC BRAKE SQUEAK NOISE**

A new brake pad material is now available to reduce rear brake squeak noise.



PRODUCTION EFFECTIVE:

Starting VIN: JT8BF12G4T0134410

PART NUMBER INFORMATION:

PREVIOUS PART NUMBER	NEW PART NO.	PART NAME
04466–32010	Same	Pad Kit, Disc Brake Rear (pad only)

WARRANTY INFORMATION:*

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
473311	Rear disc brake pad and/or disc brake pad shim R&R (both sides)	0.6	04466–32010	36	99

* Warrantable only for 12 months or 12,500 miles from the date–of–first–use or demo date, whichever occurs first. Coverage is extended to 24 months or 18,000 miles, whichever occurs first, in the state of New York due to “Lemon Law” legislation.

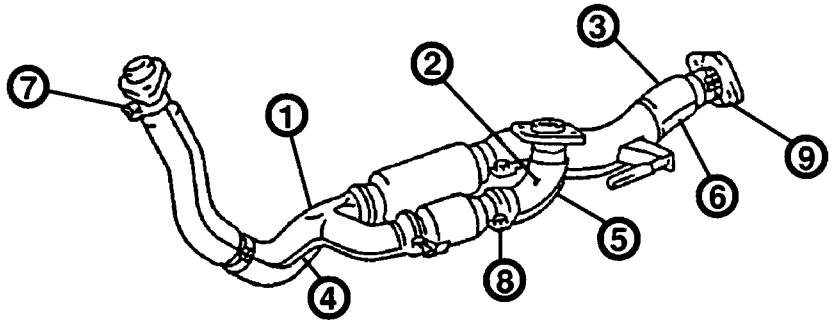
NOTE: Replacement of the rear brake pad (pad only) kit under warranty is limited to the correction of a problem based upon a customer’s complaint and subject to all of the provisions of Lexus Warranty Policy Bulletin POL94–17, dated October 10, 1994.

Title **EXHAUST PIPE PROTECTOR AND CLAMP**

For ES 300s with 1MZ–FE engines, exhaust pipe protectors and clamps are now available as separate supply parts. Part numbers and installation instructions for these parts are provided below.

PART NUMBER INFORMATION:

NUMBER	PART NAME	PART NUMBER	QUANTITY
1	Protector, Exhaust Pipe, Upper No. 2	17522–20010	1
2	Protector, Exhaust Pipe, Upper No. 3	17523–20010	1
3	Protector, Exhaust Pipe, Upper No. 4	17524–62020	1
4	Protector, Exhaust Pipe, Lower No. 2	17594–20010	1
5	Protector, Exhaust Pipe, Lower No. 3	17595–20010	1
6	Protector, Exhaust Pipe, Lower No. 4	17596–62020	1
7	Clamp	90461–12350	1
8	Clamp	90461–12385	1
9	Clamp	90461–12353	1



REPLACEMENT PROCEDURE:

Install protector so there is no noticeable gap or interference between exhaust pipe and protector.

Torque: 100 kgf-cm (7ft-lbs)

Title **WATER PUMP SEAL IMPROVEMENTS**

To improve seal durability and performance for Water Pump Assemblies, production changes were implemented as follows:

E/G SERIES	PRODUCTION CHANGE EFFECTIVE
1UZ–FE	February 14, 1994
2JZ–GE	January 14, 1994
1MZ–FE	March 17, 1994
3VZ–FE	November 17, 1993

PARTS INFORMATION:

- Part numbers remain the same.
- All Service Parts are of the new design (after countermeasure).

IMPORTANT NOTICE:

Prior to replacement of a failed Water Pump Assembly, the cooling system **must be flushed** and refilled using **Toyota Genuine Coolant** or similar **non–silicate** coolant.

WARRANTY INFORMATION:

Opcode	Description	Time	OPN	T1	T2
161011	Water Pump	Use Applicable Model Year Lexus Flat Rate Manual For Specific Time Allowance.	16100–xxxxx	99	41
APPLICABLE WARRANTY COVERAGE: 6 YEARS / 70,000 MILES					

LEXUS

TECHNICAL SERVICE INFORMATION

REF: ENGINE

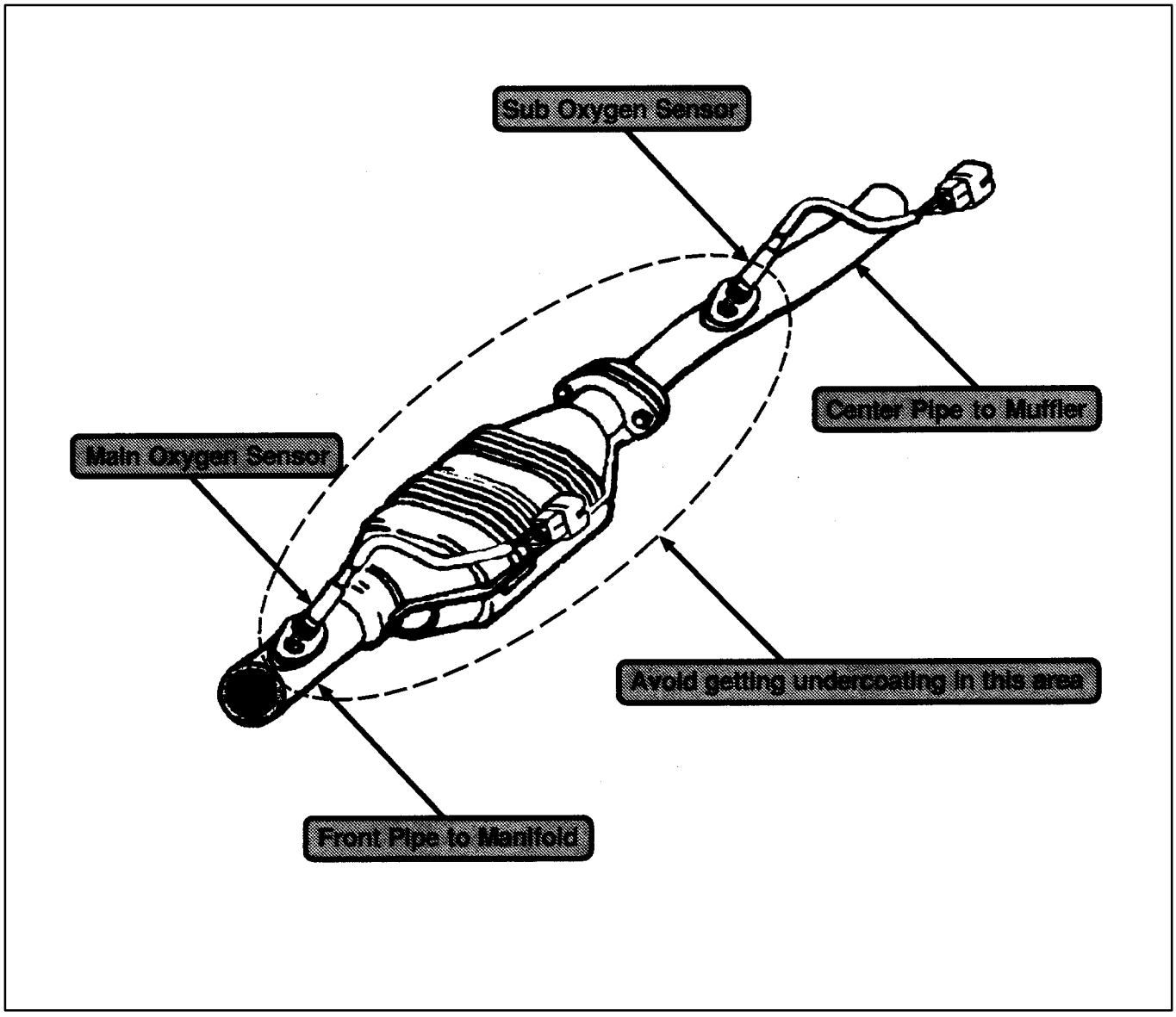
NO: EG004–96

DATE: OCTOBER 11, 1996

MODEL: ALL MODELS

Title **UNDERCOATING ON OXYGEN SENSORS**

During vehicle processing by Dealers, care must be taken to avoid applying undercoating in the area surrounding the Oxygen Sensors. Application of undercoating on or near the Oxygen Sensors can cause insufficient air to flow around the sensor, and inaccurate information storage by the ECM. If this condition occurs, the Malfunction Indicator Light (MIL) may illuminate.



Under certain driving conditions, minor engine ping, also referred to as "spark knock," is common for high compression engines such as those used in all Lexus models. Do not hesitate to inform customers of the following information included in their Lexus Owner's Manual:

> "If your engine knocks...
>
> If you detect heavy knocking, even when using the recommended fuel, or if you hear steady knocking while holding a steady speed on level roads, consult your Lexus dealer.
>
> However, now and then, you may notice light knocking for a short time while accelerating or driving up hills. This is no cause for concern."

This statement is included in all Lexus Owner's Manuals on the following pages:

MODEL	YEAR	PAGE
ES 250	1990	165
ES 250	1991	171
ES 300	1992	165
ES 300	1993	170
LS 400	1990	166
LS 400	1991	166
LS 400	1992	172
LS 400	1993	192
SC 400	1992	170
SC 400/SC 300	1992	170
SC 400/SC 300	1993	186

Because all Lexus models have knock sensors, the following question may arise:

Q: When I hear knocking, does it mean that the knock sensors are not working correctly?

A: Engine control systems with knock sensors operate by modifying ignition timing when knocking is detected. In other words, knocking must be present before the control system acts to modify the timing. This is usually noticeable by a short duration of a light knocking noise and is not cause for concern.

The Engine Control Module has been modified to improve the following conditions:
1. Hot soak restart.
2. Engine driveability during downhill operation.

Note: **Some vehicles may experience both conditions.**

PRODUCTION CHANGE EFFECTIVE:

VIN	**DATE**
JT8VK13T8P0120387	8/92 (1993 MY)

PART NUMBER INFORMATION:

APPLICATION		**PREVIOUS P/N**	**NEW P/N**
FED	M/T	89661–33110	89661–33111
	A/T	–33180	–33181
CAL	M/T	–33130	–33131
	A/T	–33190	–33191

New parts are interchangeable with 1992 MY vehicles.

All Lexus SRS systems are equipped with a back up power source so the air bag can still be deployed even if the vehicle battery is damaged in a collision.

During vehicle service this means that the air bag could be inadvertently deployed if work is started too soon after disconnecting the negative battery terminal.

Because of slight variations in the Supplemental Restraint System of each model, the period of time specified to wait after removal of the battery terminal now varies (from 20–90 seconds).

SRS service waiting time specification

To avoid a potential error during servicing of the SRS, the waiting time is being standardized for all models to 90 seconds regardless of what the specification is in the applicable repair manual. Work should not be started until after 90 seconds has passed from the time the ignition switch is turned to the lock position and the negative (–) terminal of the battery has been disconnected.

LEXUS

TECHNICAL SERVICE INFORMATION

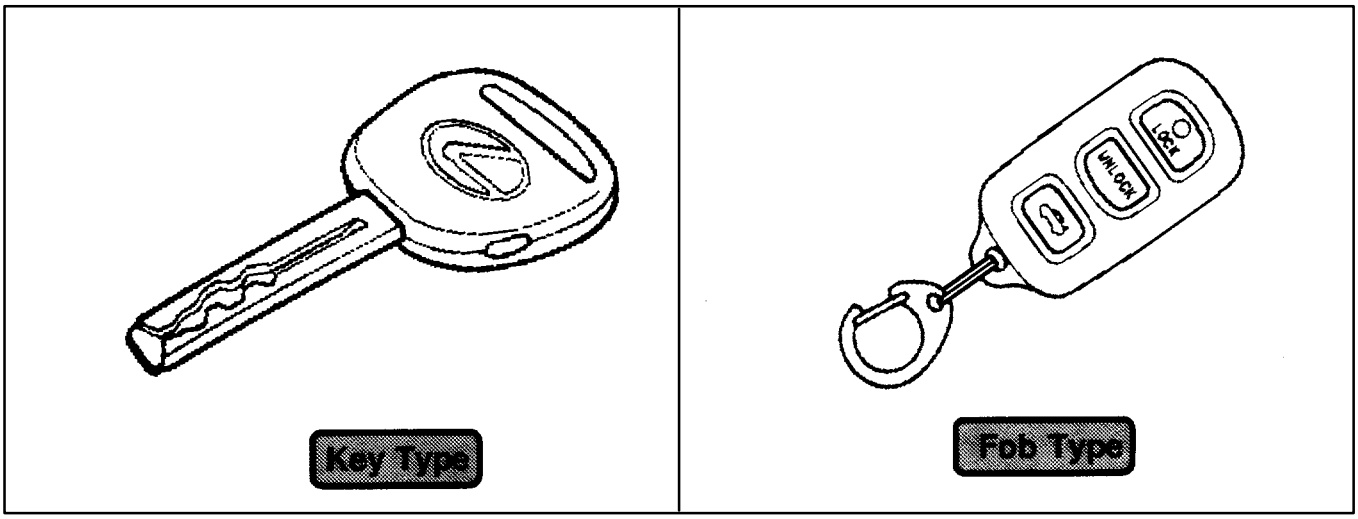
REF: ELECTRICAL

NO: EL003–96

DATE: AUGUST 9, 1996

MODEL: LS 400, GS 300, SC 300, SC 400, ES 300

The following information applies to all 1996 and previous models, except the LX 450, and to both transmitter types shown below:



FEATURES AND LIMITATIONS:

The following features and limitations of Lexus wireless door lock control systems must be thoroughly understood before proceeding with diagnosis.

In the following information, the word **"transmitter"** is used to describe the signal generating device that is an integral part of the key or fob and **"receiver"** is used to describe the wireless door lock ECU.

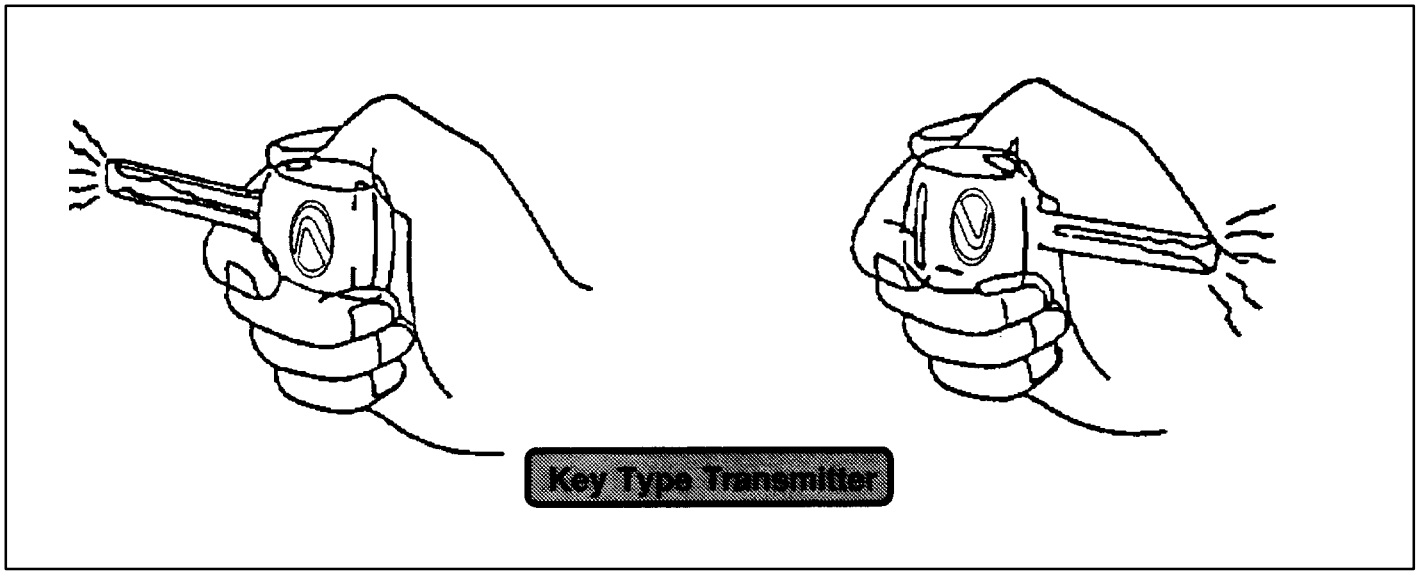
TRANSMITTER CHARACTERISTICS AND RANGE:

1. Weak radio frequency (RF) waves are used by the transmitter to operate the wireless door lock control system. Strong radio waves or RF noise from other sources may shorten the operating distance or prevent operation.

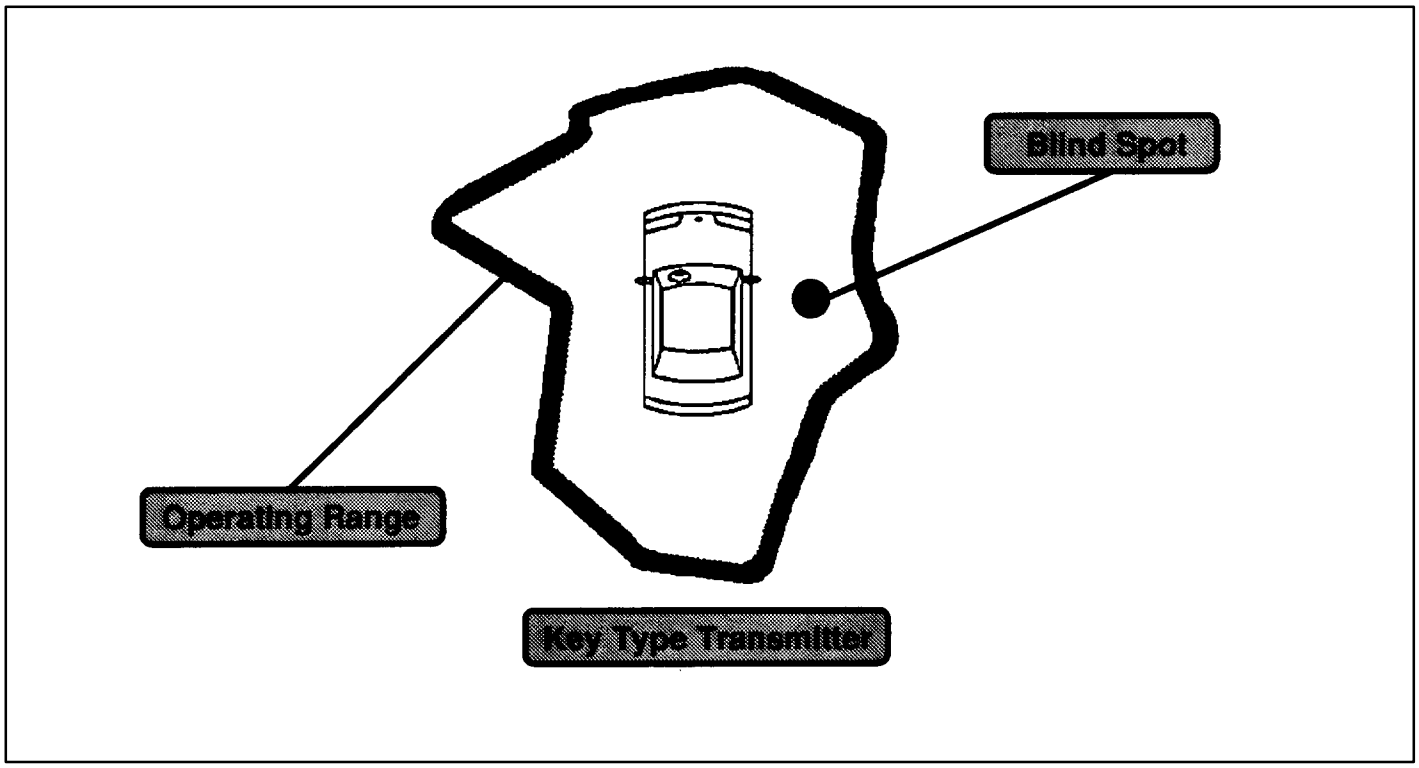
2. When the transmitter battery is weak, operation may be normal for the first one or two activations and then stop as the remaining battery capacity is depleted.

TRANSMITTER CHARACTERISTICS AND RANGE (Cont'd):

3. On key type transmitters, the metal portion of the key serves as an antenna during transmitter operation. For optimum performance, the path between the metal portion of the key and the vehicle should not be obstructed by the operator's hand or other objects.



4. On key type transmitters, the operating distance of the transmitter varies from front to back and side to side as shown below.



NOTE: Diagram represents only a generalized view which may vary depending on the model and operating conditions. Fob type transmitters accommodate a larger transmitter and battery which typically provide increased operating range.

SPECIAL FUNCTIONS:

1. Transmitter Auto Power Off Function *:

Transmitting stops automatically after continually pressing the transmitter button for a fixed amount of time.

- Key type transmitter *: 0.8 – 1.2 seconds
- Fob type transmitter: approximately 10 seconds

***** This power saving feature was added to key type transmitters after the following VINs:

PRODUCTION EFFECTIVE:

MODEL	VIN
SC 300	JT8JZ31C**0017065
SC 400	JT8UZ30C**0035393
GS 300	JT8JS47E**0021034
LS 400	JT8UF11E**0145224
ES 300	JT8GK13T**0001033

2. Auto Lock Function:

If the vehicle is unlocked with the transmitter, the doors will automatically relock if no door is opened within 30 seconds.

3. Chatter Prevention Function:

When the receiver picks up the correct specified code the first time, it rejects subsequent code signals. It stops reception until transmission is suspended for 0.5 seconds or longer to prevent door lock chattering.

4. Transmitter Switch Misoperation Prevention Function:

When the ignition key is in the ignition key cylinder, the receiver will suspend signal reception.

WIRELESS DOOR LOCK CONTROL SYSTEM DIAGNOSIS:

IMPORTANT: All wireless diagnosis must start at this point and proceed as directed. Diagnostic information from this point forward assumes that all preceding steps have been properly performed. If steps are performed improperly or started beyond this point, an erroneous diagnosis may be obtained.

Start here by performing the following power door lock control and theft deterrent system checks:

1. Verify that both interior power door lock control switches will lock and unlock **all** doors.
2. Verify that driver and passenger door key locks will lock and unlock* **all** doors.
3. Verify that the theft deterrent system will arm when all doors are closed and locked.

***** Driver's door key lock must be cycled twice to unlock all doors.

If any of the above items do not operate normally, refer to either the (Power) Door Lock Control System or Theft Deterrent System section of the repair manual for diagnosis. The wireless feature is an enhancement to the power door lock control system and is dependent on proper operation of the power door lock control and theft deterrent systems.

Choose the applicable problem area from the chart shown below and refer to the listed procedure for diagnosis.

Matrix Chart Of Problem Symptoms:

PROBLEM	PROCEDURE	PAGE NUMBER
Wireless inoperative at all times	A	5
Wireless intermittently inoperative	B	7
Wireless has reduced operating distance	B	7
Wireless inoperative at specific locations	C	8

PROCEDURE A – WIRELESS INOPERATIVE AT ALL TIMES:

1. Check battery capacity (See Page 9 – Battery Capacity Check Procedure).

2. Set FM radio to 94.9 MHz* and press the transmitter button while holding transmitter near radio antenna. If noise interference cannot be heard on the radio when the transmitter is depressed, the transmitter is faulty. This test is only used to identify a faulty transmitter, a positive result does not guarantee transmitter integrity or sufficient battery capacity.

* **This test cannot be performed on and does not apply to vehicles equipped with a fob type transmitter which uses a frequency that does not have a multiple in the FM frequency range.**

REMINDER: Transmitters equipped with the Auto Power Off Function quit transmitting 0.8 – 1.2 seconds after depressing the transmitter button (see Page 3).

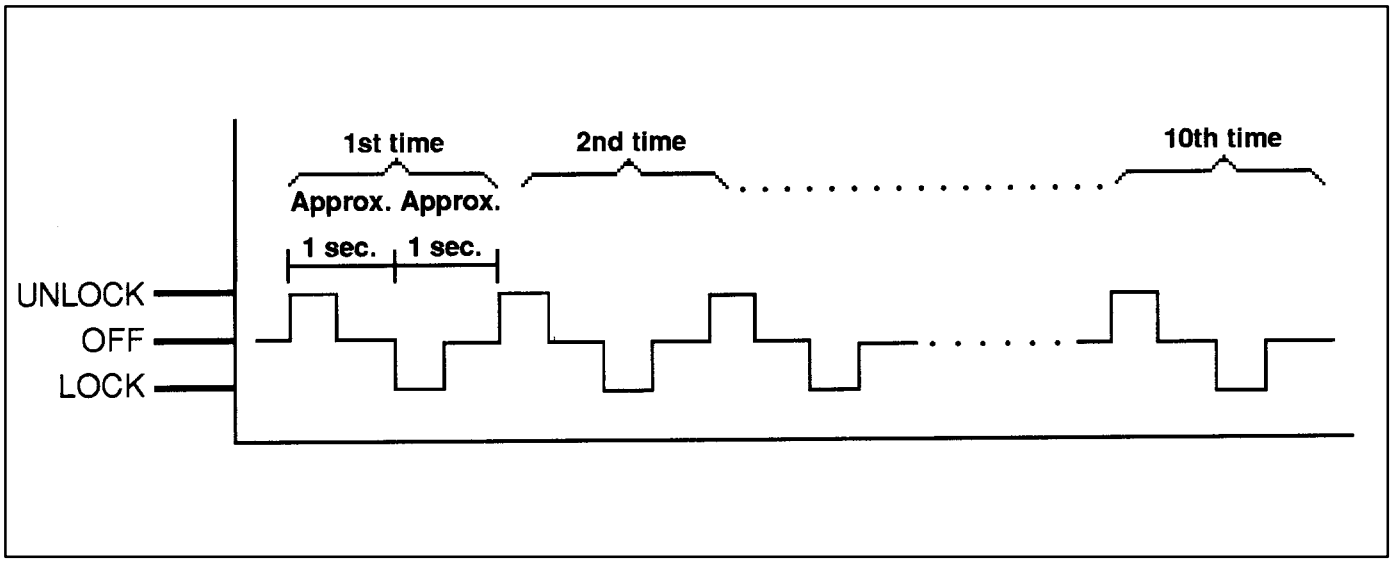
3. Enter diagnostic mode:

   a. Open driver's door.

   b. Lock all doors using the interior power door lock switch.

   c. Insert key in ignition once and remove.

   d. Cycle the door locks (unlock and lock = 1 cycle) using the interior power door lock switch 10 times as shown below (if door locks are cycled too slow or too fast, diagnostic mode will not be initiated).



4. Door locks should cycle (unlock/lock) one time automatically to confirm that diagnostic mode has been entered. If door locks do not cycle, repeat Step 3.

NOTE: If attempts to enter the diagnostic mode fail repeatedly, faulty vehicle harness wiring or a faulty receiver may be the cause. Refer to Matrix Chart of Problem Symptoms in the Wireless Door Lock Control System section of the repair manual for diagnosis.

PROCEDURE A – WIRELESS INOPERATIVE AT ALL TIMES (Cont'd):

5. Within 10 seconds of entering diagnostic mode, press the transmitter button once and count the number of door lock (unlock/lock) cycles. Refer to the applicable chart below:

Non–Programmable Type (Pre–1995):

DOOR LOCK CYCLES	DIAGNOSIS	REPAIR PROCEDURE
0	Wireless antenna, receiver or vehicle wiring harness problem	First perform antenna check (Page 12). If antenna is OK, refer to "Wireless Door Lock Control System" section of Repair Manual for diagnosis.
1	Mismatched key and ROM	Replace key and ROM.
2	Faulty transmitter	Replace transmitter.

Programmable Key Type (1995 and later):

DOOR LOCK CYCLES	DIAGNOSIS	REPAIR PROCEDURE
0	Wireless antenna, receiver or vehicle wiring harness problem	First perform antenna check (Page 12). If antenna is OK, refer to "Wireless Door Lock Control System" section of Repair Manual for diagnosis.
1	Normal	None
2	Transmitter not registered	Key Registration (see Page 11)

Programmable Fob Type (1995 and later):

DOOR LOCK CYCLES	DIAGNOSIS	REPAIR PROCEDURE
0	Faulty transmitter or receiver	Continue with procedure below
1	Transmitter not registered	Key Registration (see Page 11)

Repeat diagnostic mode initiation procedure (Steps 3 through 5) with a known good tranmitter. Do **NOT** register the transmitter first. Count the number of door lock cycles (unlock/lock) and refer to the table below:

DOOR LOCK CYCLES	DIAGNOSIS	REPAIR PROCEDURE
0	Faulty reciever	Replace
1	Original transmitter faulty	Replace original transmitter

PROCEDURE B – WIRELESS IS INTERMITTENTLY INOPERATIVE OR HAS REDUCED OPERATING DISTANCE:

1. Review the Transmitter Characteristics and Range section on Pages 1 and 2.

2. Check battery capacity (see Page 9 – Battery Capacity Check Procedure).

3. Inspect wireless antenna* (see Page 12 – Wireless Antenna Inspection Procedure).

***** This step only applies to key type transmitters (see illustration below). Fob type transmitter systems use an internal antenna in the receiver (1995 and later LS 400 and 1996 and later SC 300/400).

4. If a complaint of intermittent operation **can** be verified, the transmitter is faulty.

5. If a complaint of intermittent operation **cannot** be verified, check for intermittent sticking of the unlock warning switch using the following method:

   a. Insert key in ignition.

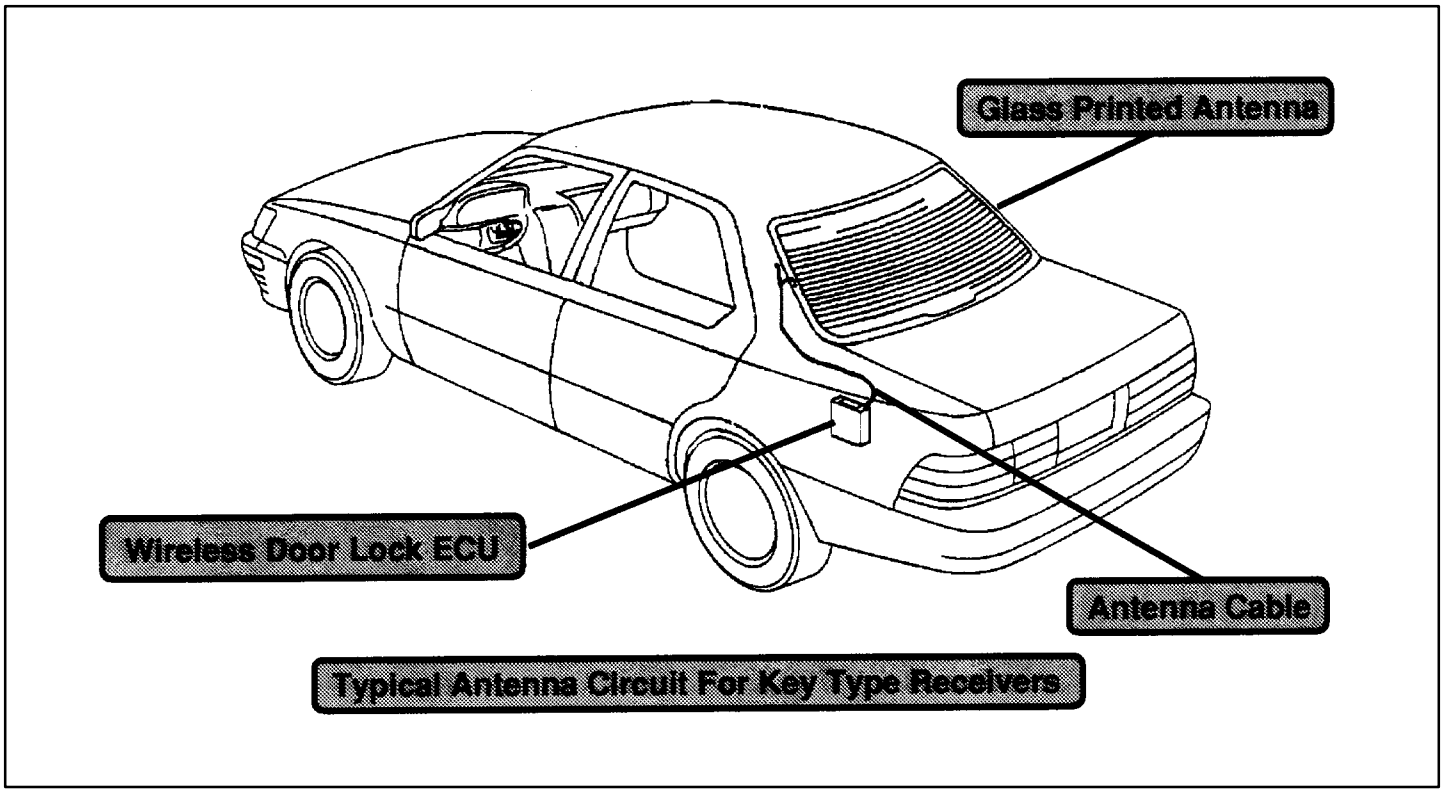
   b. Turn ignition switch from lock to accessory and back to lock.

   c. Remove key.

   d. Check remote lock/unlock operation.

   e. Repeat steps “a” – “d” at least 10 times.

   If remote becomes inoperative during step “d”, unlock detection switch or ignition key cylinder is faulty.



PROCEDURE C – WIRELESS INOPERATIVE AT SPECIFIC LOCATIONS:

This procedure is used to check for the presence of electrical interference at specific locations that may interfere with wireless transmitter/receiver operation. This test is used only to verify the presence of electrical interference at a specific location and **does not** lead to a repair.

IMPORTANT: Verify that the wireless door lock control system operation is normal in **non–compliant areas**. If the system is inoperative at all locations, do not continue with this procedure, refer to Procedure A – Wireless Inoperative At All Times.

Perform the following procedure in the area where the problem is occurring:

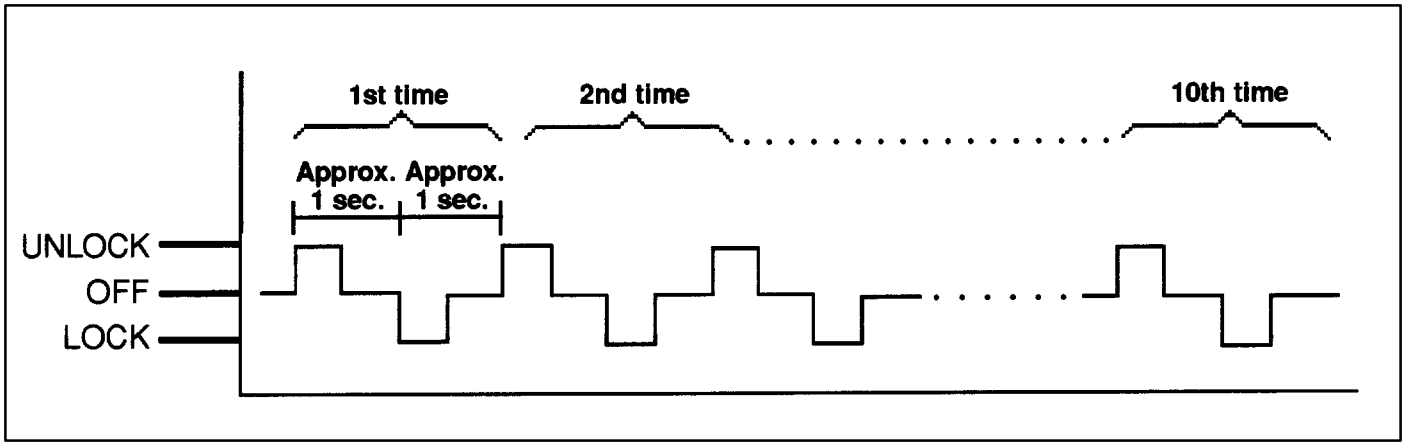
1. Enter the diagnostic mode:

   a. Open the driver's door.

   b. Lock all doors using the interior power door lock switch.

   c. Insert key in ignition once and remove.

   d. Cycle the door locks (unlock and lock = 1 cycle) using the interior power door lock switch 10 times as shown below (if door locks are cycled too slow or too fast, diagnostic mode will not be initiated).



2. Door locks should cycle (unlock/lock) one time automatically to confirm that diagnostic mode has been entered. If door locks do not cycle, repeat Step 1.

3. Within the next 10 seconds, count the number of door lock (unlock/lock) cycles and refer to the chart below:

DOOR LOCK CYCLES	DIAGNOSIS
0	No interference at this time
1 or 2	Outside electrical interference

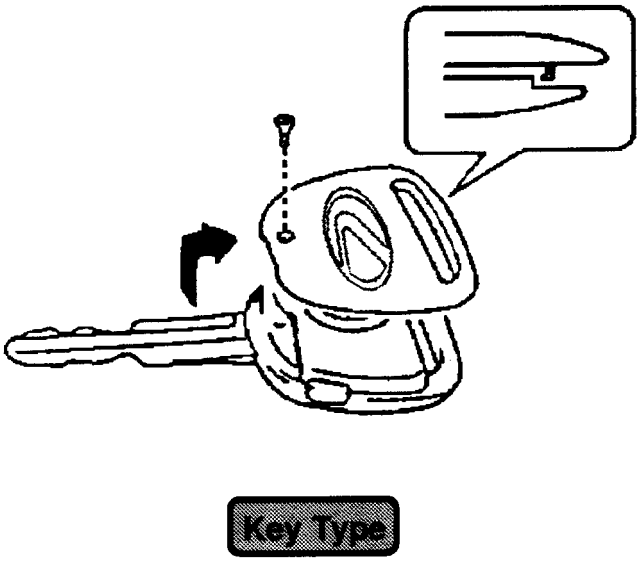
BATTERY CAPACITY CHECK PROCEDURE:

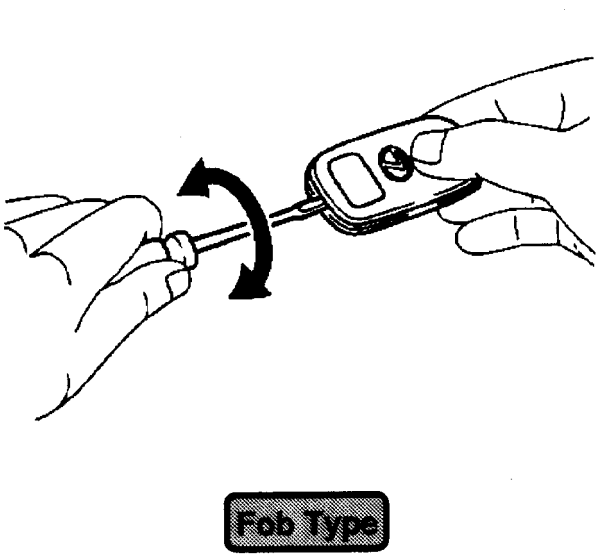
The lithium battery used in the transmitter will measure a voltage of 2.5 volts or more until the battery capacity is fully consumed. To accurately determine the remaining battery capacity, a load must be applied.

NOTE: Make all battery checks at room temperature (low temperatures may adversely affect output).

1. Key Type Transmitters:
   Remove screw, pry cover up slightly, and push cover away from portion of the key.

   Fob Type Transmitters:
   Insert a screwdriver and twist to remove cover.



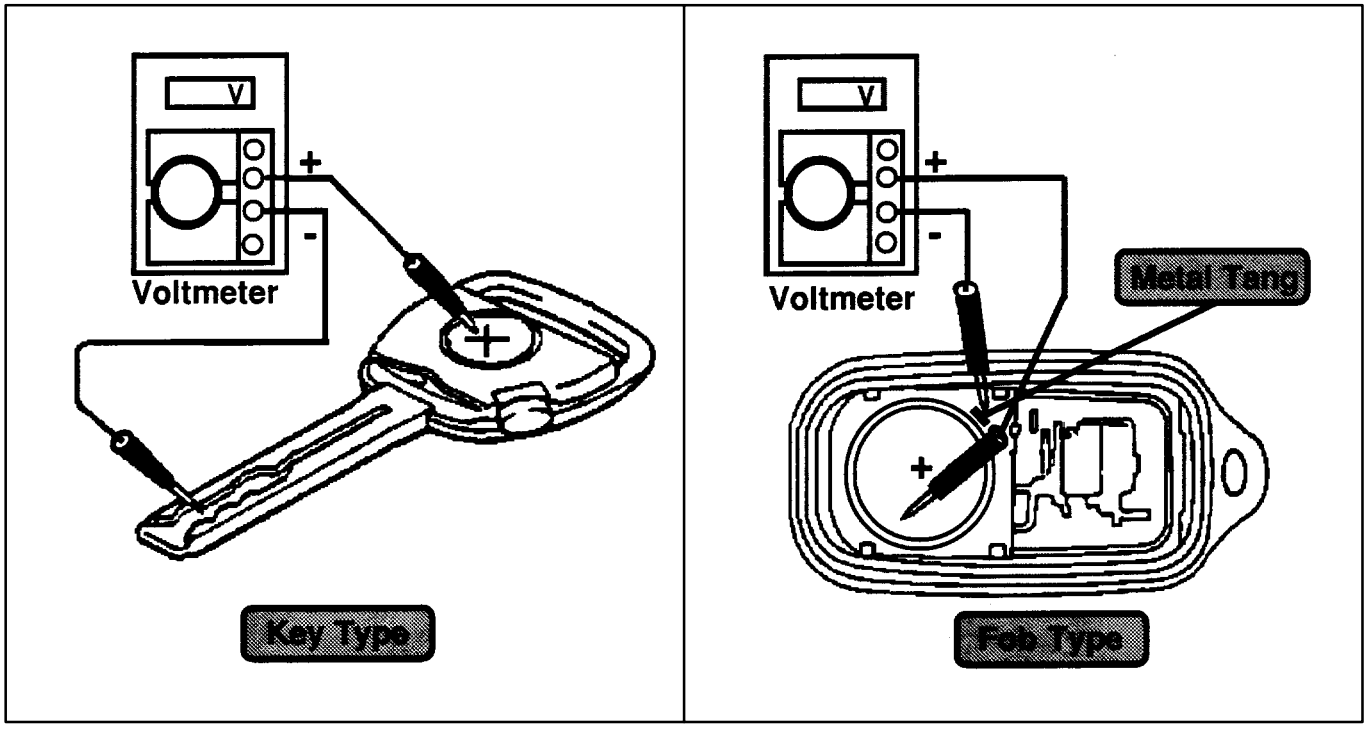


2. Inspect the battery terminals, transmitter case, and cover for corrosion or visible damage. Replace transmitter if necessary.

3. Depress the transmitter button for 1 second and then release for 1 second. Repeat this process 5 times.

BATTERY CAPACITY CHECK PROCEDURE (Cont'd):

4. Connect the positive (+) lead from the tester to the transmitter battery (+) and the negative (–) lead as shown.



5. Depress the transmitter button again and measure the voltage. Verify that the voltage drops when the transmitter button is depressed (no voltage drop may indicate a faulty transmitter). Transmitters equipped with the Auto Power Off Function (see Page 3) will only load the battery for 0.8 – 1.2 seconds after the transmitter button is depressed (voltage must be checked during this time). If loaded battery voltage is below 2.1 volts, replace the battery.

BATTERY INFORMATION:

TRANSMITTER TYPE	BATTERY PART NUMBER	BATTERY TYPE
Key	89706–50010	BR 1216
Fob	89745–50010	CR 2016

KEY REGISTRATION (1995 AND LATER MODELS):

Set initial conditions:

- Key out of ignition
- Driver's door open and unlocked
- All other doors closed and locked

Registration Procedure:

NOTE: Perform all steps with no more than a five second interval between steps.

1. Insert key into ignition for 1 second and remove.
2. Cycle (lock and unlock = 1 cycle) the driver's interior power door lock switch 5 times (1 second in each position).
3. Close and reopen driver's door.
4. Cycle the driver's interior power door lock switch 5 times (1 second in each position).
5. Insert key into ignition and cycle the ignition on and off:
   - One time to add a new code.
   - Two times to add a new code and erase all previously stored codes.
   - Three times to check how many codes are currently registered.
6. Remove key from ignition. Receiver should respond by cycling the door locks a corresponding number of times:
   - One time to add a new code.
   - Two times to add a new code and erase all previously stored codes.
   - One to four times (slowly) to indicate how many codes are registered (end).

NOTE: If no response is given, start over at the beginning of this procedure.

7. Press the transmitter button (any button on fob type transmitters) for 1 second.

NOTE: Receiver should respond by cycling door locks once. If no response is given, start over at the beginning of this procedure.

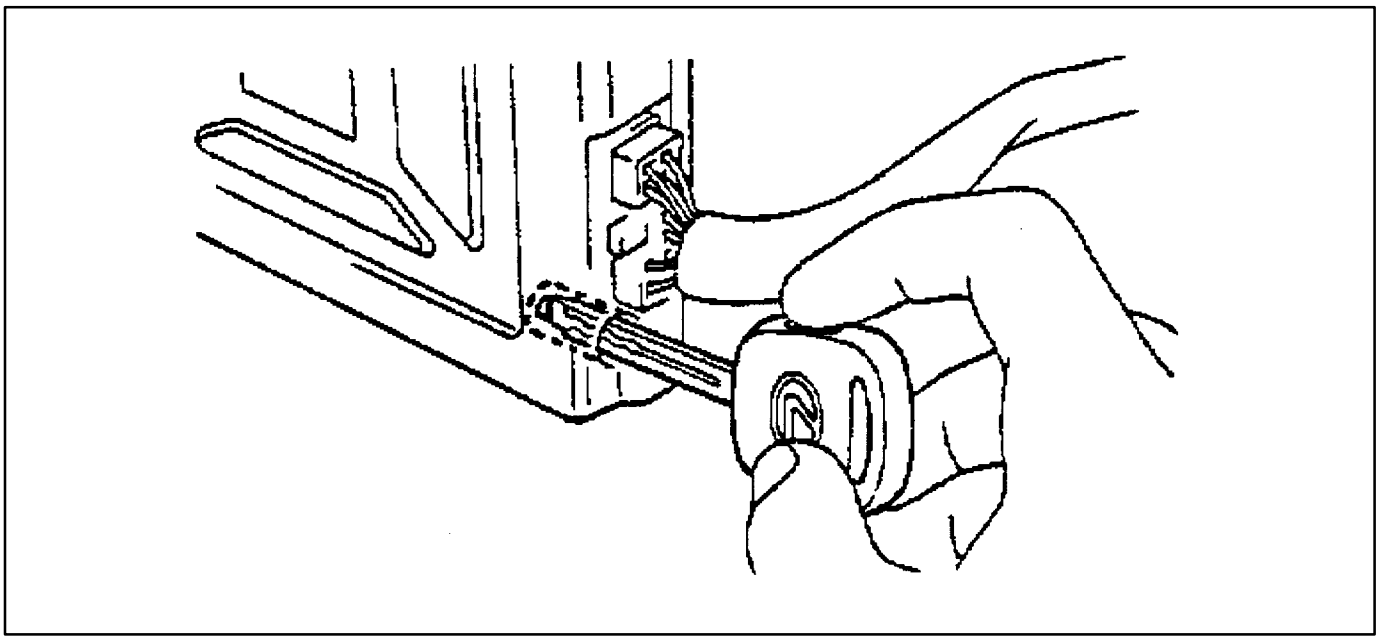
8. Close and reopen driver's door.
9. Press the transmitter button for 1 second. Receiver should respond by cycling door locks:
   - One time to confirm operation is complete.
   - Two times to signal that the code is already registered.

WIRELESS ANTENNA INSPECTION PROCEDURE:

If wireless operation is verifiably inoperative, use **Procedure A**, otherwise use **Procedure B**.

Procedure A:

Remove antenna cable from receiver. Insert key into receiver antenna port as shown below. Press transmitter button several times while monitoring door lock operation.



If door locks are still inoperative, the antenna circuit is not the primary problem.

If door lock operation is consistent:

1. Inspect rear glass for damaged or broken wires and replace glass if necessary.
2. If rear glass is OK, replace wireless antenna cable.

Procedure B:

Perform the following checks:

1. Inspect rear glass for damaged or broken wires and replace glass if necessary.
2. Inspect antenna cable connections at rear glass and at receiver.
3. Physically inspect antenna cable for pinches or breaks and replace cable if necessary.
4. Check continuity through inner coaxial cable wire and replace cable if necessary.

WARRANTY INFORMATION:

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
891101	Transmitter replacement includes key registration or installation of the ROM in the ECU where applicable and all necessary checks and tests	0.3	897XX–50XXX	95	71
EL6002	For VCV10 Transmitter replacement includes the ROM in the ECU where applicable and all necessary checks and tests	0.2	897XX–50XXX	95	71
EL6003	Receiver replacement including all necessary checks and tests	0.3	5974X–50XXX	95	71
830651	Ignition key cylinder R&R including all necessary checks and tests	*	84450–XXXXX	72	71
672101	Door key (unlock/lock) switch R&R including all necessary checks and tests	*	69052–XXXXX	95	71

NOTE: Replacement of the transmitter battery is not warrantable as per the Lexus Warranty Policy & Procedures Manual.

***** Refer to the specific model in the Lexus Flat Rate Manual for repair time.

LEXUS

TECHNICAL SERVICE INFORMATION

REF: ELECTRICAL

NO: EL004–96

DATE: OCTOBER 11, 1996

MODEL: ES 300

Title **'92 – '96 ES 300 CD CHANGER WILL NOT EJECT MAGAZINE**

'92 through '96 ES 300 CD changer door may not open due to misalignment of the carpeted trim cover (P/N 86276–33010) that is placed on top of the CD changer. The cover may contact the CD changer door at the top and the side closest to the driver side fender as indicated in Figure 1.

The CD changer cover may become misaligned due to luggage or other objects bumping into the CD changer and cover.

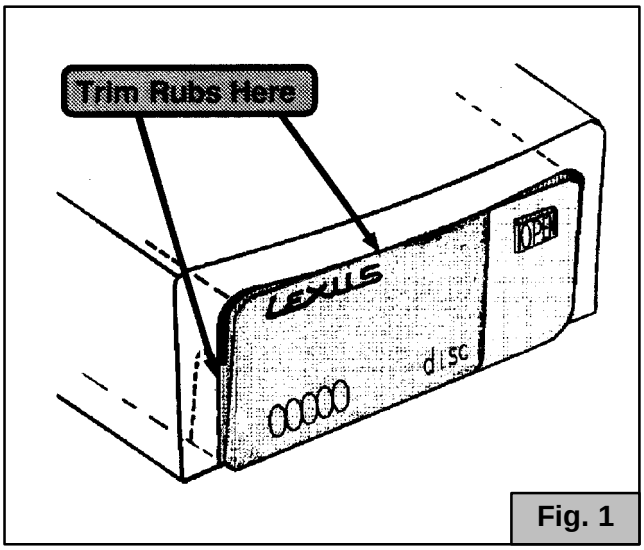


Fig. 1

PROCEDURE:

Check the following if the CD magazine will not eject:

1. Push the "OPEN" button and listen for the door open solenoid.
2. If the solenoid makes a click sound but the door does not open, make sure that the CD door is free from interference.
3. Make sure that the clips are on correctly so the cover will stay in place (Figure 2).

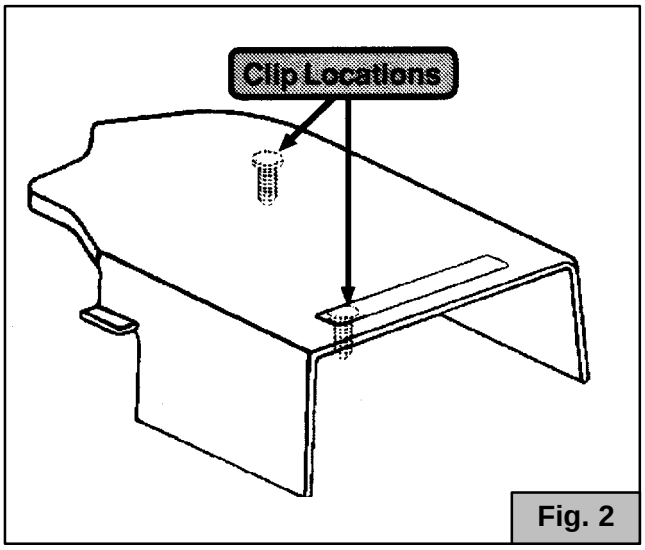


Fig. 2

PART NUMBER INFORMATION:

PART NUMBER	PART NAME	QTY
86276–33010	Cover, CD Changer	1
90467–10154	Clips	2
86275–33010	CD Changer	1

WARRANTY INFORMATION:

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
EL6004	ES 300 CD Changer Adjustment	0.2	86276–33010	95	83

Applicable Warranty Coverage: 12 Months or 12,500 Miles.

Title **1993 PAINT AND REFINISH CODES (UPDATED)**

The following is a listing of 1993 Lexus paint codes and corresponding refinish formula codes for 7 (seven) refinish paint companies — BASF, DuPont, PPG Industries, Sherwin Williams, Spies Hecker, Sikkens and Herberts–Standox (Paint and refinish formula codes are located on page 2.).

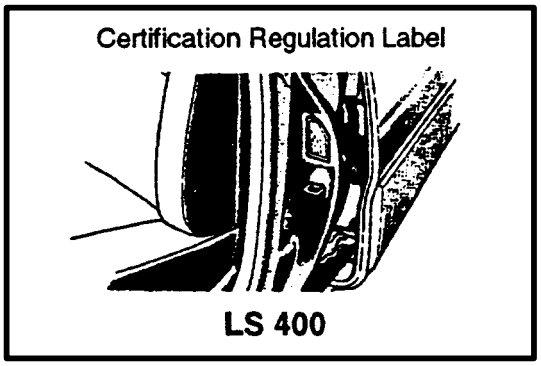
SIKKENS AND HERBERTS PAINT AND REFINISH FORMULA CODES:

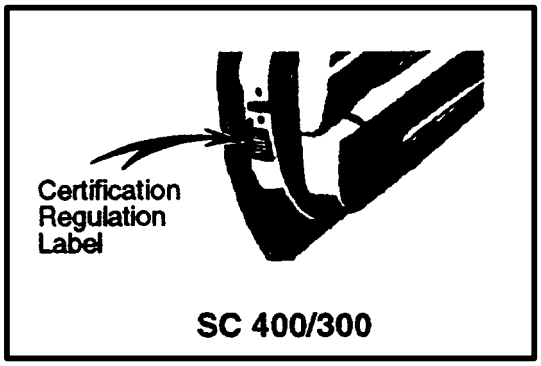
- For **SIKKENS** paint formulas, add "LEX" to the factory paint code.

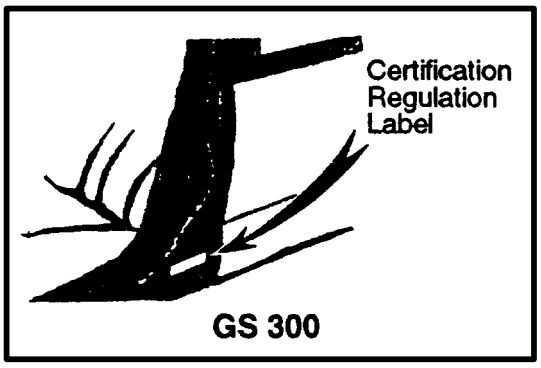
  Example: Lexus color code 202 becomes "LEX202."

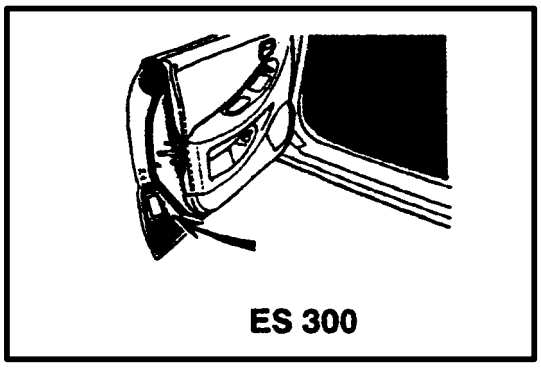
- **HERBERTS** uses the Lexus color code number as their paint code identification number. Example: The Herberts–Standox paint code number for Lexus color code 202 (Black) is 202.

NOTE: The body color code is indicated on the Certification Label which is located in the door area as shown below.









Contact Your Local Paint Representative For The Actual Paint Mixing Formulas Or For Additional Assistance On Color Matching.

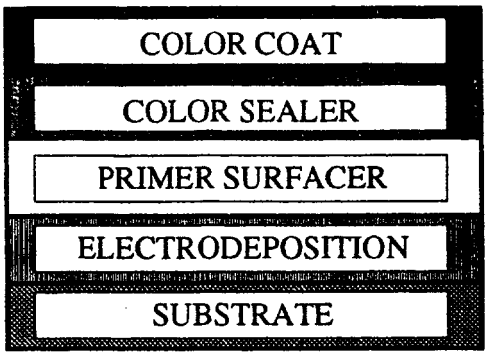
Please Provide A Copy Of This Information To Your Lexus Collision Repair Center.

BODY/ CLADDING	BODY COLOR NAME	BASF GLASURIT	DU PONT CRONAR	PPG DBU–DELTRON	SHERWIN WILLIAMS ULTRABASE	SPIES HECKER ––––––––
046 178	OPAL WHITE PEARL SILVER METALLIC	21225 TOY178	L9339(B) L9340(P) L9055	4397(B) 4398(P) 35706	44335(B) 44366(P)	10721 70763
051 UCA29	PEARL WHITE BASE SILVER METALLIC	TOY051 20563	L9246(B) L9247(P) H9399	90822(B) 90826(P) 85075	42872(B) 42873(P) 44105	98125 99418
172 UCA32	COBALT BLUE METALLIC DARK GRAY METALLIC	TOY172 20561	N8989 K9304	17099 35086	43477 44157	98226 99413
176 UCA31	SILVER MIST METALLIC LIGHT GRAY METALLIC	TOY176 20564	L9022 K9301	34692 35073	40888 44104	97244 99412
180 UCA31	FLINT GRAY PEARL SAPPHIRE METALLIC	TOY180 20562	N9199 H9398	34879 35060	42874 44155	98139 99424
182	BLUISH GRAY MET.	TOY182	L9241	34880	42867	98128
183	BLUE SLATE METALLIC	TOY183	K9318	35189	44338	70761
199	ALPINE SILVER MET.	TOY199	L9990	35710	48976	70762
202 UCA31	BLACK ONYX SAPPHIRE METALLIC	PKG1240 20562	99 H9398	09300 35060	01738 44155	79335 99424
3H8 3H8	BURGUNDY PEARL DEEP RED MICA	TOY3H8 20355	N9217 L9329	51504 73618	43480 43480	98798 98798
3H9 UCA33	TAUPE METALLIC DARK ROSE METALLIC	TOY3H9 20566	L9237 K9302	34881 51536	42875 44101	98141 99415
3J8	PRUSSIAN RED PEARL	TOY3J8	W9463	04596	46590	30208
3K1 UCA47	DK AMETHYST PEARL DK GRAY PURPLE MET.	TOY3K1 TOYUA47	W9435 H9753	04404 35425	45211 46755	99005 91348
3K3 138	GARNET RED PEARL DARK GRAY METALLIC	TOY3K3 TOY138	W9512 N8118	04478 33694	45929 32876	99681 94742
3K7 UCA47	SHADOW ROSE QTZ. DK GRAY PURPLE MET.	TOY3K7 TOYUA47	H9650 H9753	04615 35425	46620 46755	99745 91348
4J1 UCA46	ALMOND BEIGE MET. LIGHT GRAY BEIGE MET.	TOY4J1 TOYUA46	N9215 H9752	26847 27345	43481 46754	98197 91344
4K9	SANDSTONE BEIGE MET.	TOY4K9	N9216	26846	43482	98224
6K4	BLACK JADE PEARL	TOY6K4	N9259	46599	43483	98227
6M1 UCA45	DARK EMERALD PEARL DARK GRAY METALLIC	TOY6M1 TOYUA45	W9542 L9708	04595 35461	46589 46960	99746 92044
6M2	ROYAL JADE PEARL	TOY6M2	W9513	04476	45930	99680
6M3	SILVER SPRUCE MET.	TOY6M3	W9514	04474	45931	99679
8J4 UCA45	FROSTED SAPPHIRE DARK GRAY METALLIC	TOY8J4 TOYUA45	W9543 L9708	04600 35461	46592 46960	90398 92044
8J5	MIDNIGHT INDIGO PC	TOY8J5	W9515	04477	45932	99678
923 UCA54	SILVER TAUPE MET. TAUPE METALLIC	TOY923 TOY9415	W9544 W9890	04602 35637	46594 48522	90400 70574

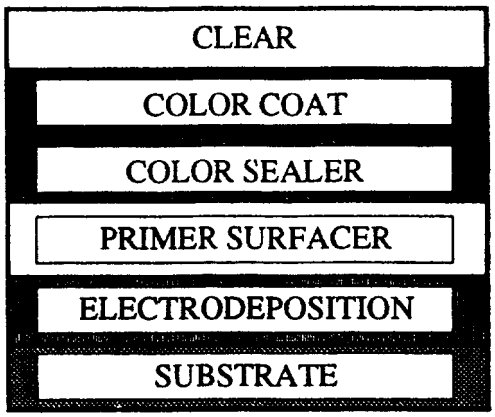
NOTE:
The prefix UCA used for Body Cladding Codes replaces the former prefix UA beginning M/Y 1993. The “C” stands for clear coat.

	Model Application					
	LS 400	GS 300	ES 300	SC 400	SC 300	PAINT TYPE
046						**4**
051						**4**
176						**2**
180						**2**
182						**7**
183						**7**
202						**1**
3J8						**7**
3K1						**2**
3K3						**2**
3K7						**2**
4J1						**2**
4K7						**7**
4K9						**2**
6K4						**5**
6M1						**2**
6M2						**3**
6M3						**2**
8J4						**2**
8J5						**6**
923						**7**

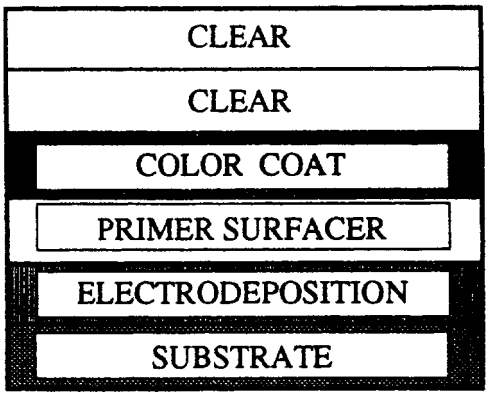
PAINT TYPE #1
Solid Color – Non Clear Coat
Codes: 202



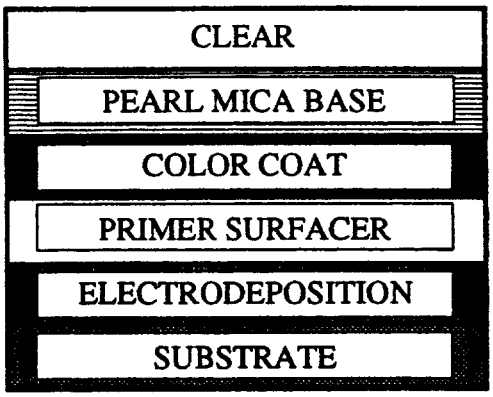
PAINT TYPE #2
Metallic or Mica Color – Clear Coat
Codes: 176, 180, 182, 3K1, 3K3, 3K7, 4J1, 4K7, 4K9, 6M1, 6M3, 8J4, 923



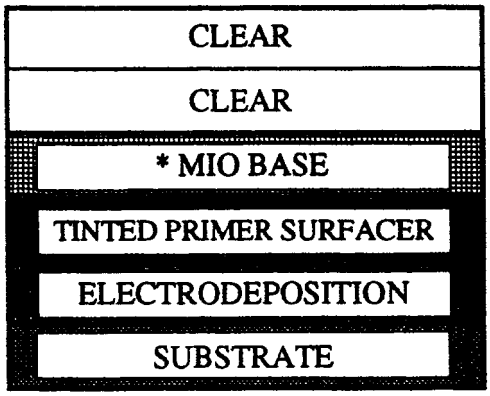
PAINT TYPE #3
Mica Color – Two Clear Coat
Codes: 6M2



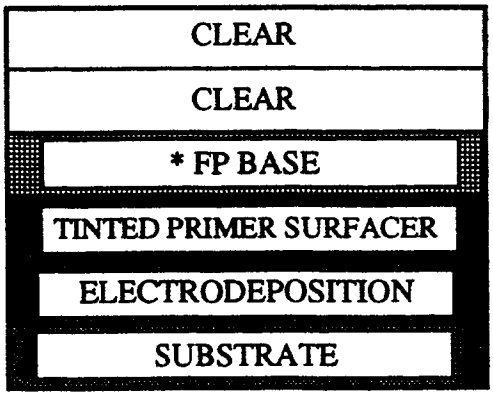
PAINT TYPE #4
Pearl Mica Color – One Clear Coat
Codes: 051



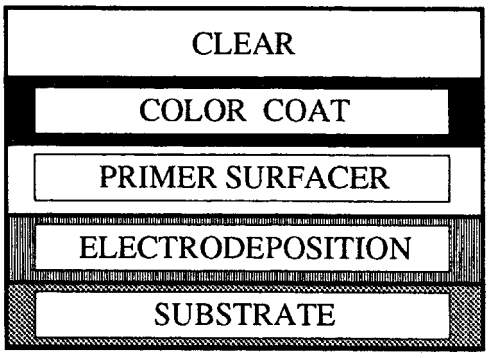
PAINT TYPE #5
Mio Color – Two Clear Coat
Codes: 6K4
* MIO = Micaceous Iron Oxide



PAINT TYPE #6
Flake Phthalocyanine Color – Two Clear Coat
Codes: 8J5
*FP=Flake Phthalocyanine



PAINT TYPE #7
Metallic – Clear Coat
Codes: 182, 183, 3J8, 4K7, 923



BACKGROUND:

Polyurethane bumper covers are formed by forcing liquid plastic material into a mold. Lubricant is added to the mold as a release agent to make it easier to separate the bumper from the mold.

MOLD LUBRICANT CHANGE:

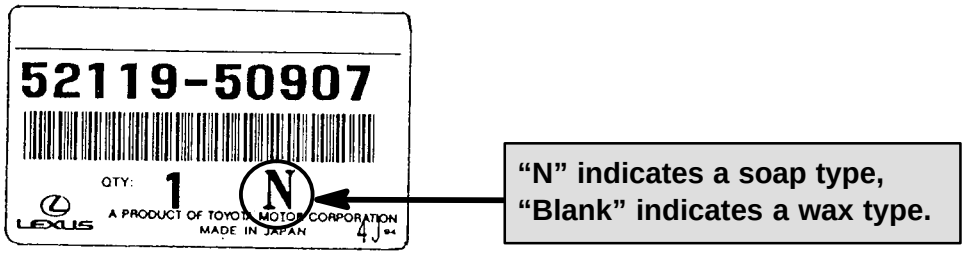
Recently, the mold lubricant (release agent) was changed from a **wax type to a soap type** on OEM supply parts. The wax lubricant was discontinued because wax removal from the bumper surface required the use of trichloroethane.

The new mold lubricant (soap type) is easily removed by using a water based cleaner, such as mild soap and water, and a photochemically non–reactive cleaning agent.

NOTE: Remove wax from wax type lubricant supply parts according to the paint manufacturer's recommendations.

BUMPER IDENTIFICATION:

Supply part bumper covers using Soap Type lubricant were introduced in June 1995. An "N" on the part label identifies the new Soap Type bumpers (see diagram). The "N" identifier on the part number label will be discontinued after July1996.



STANDARD PROCESS:

Washing → Drying → Sanding → Degreasing → Primer Surfacer → Top Coat

For further details on different paint types and application methods, refer to the paint suppliers' Technical Manual.

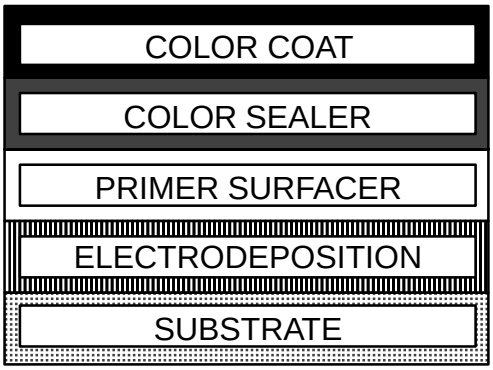
This bulletin provides information about the different types of paint and recommended repair procedures for Lexus vehicles. The actual number of refinish paint coat applications will vary depending upon the pigment, metallic and mica flakes, or the use of a clear coat which can be determined by the paint code on the vehicle. In order to properly make these repairs, the technician must:

Step 1	Locate the paint code on the vehicle.
Step 2	Reference the paint guide for paint code, model and paint type on page 2.
Step 3	Verify paint type on page 3.
Step 4	Reference the recommended repair procedure according to the type of paint on pages 4–8.

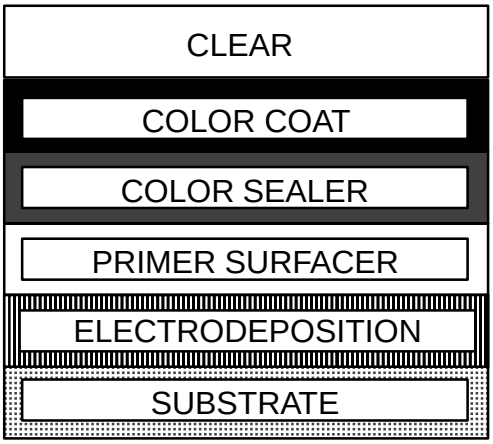
1993 LEXUS PAINT CODES AND APPLICATIONS

Paint Code	Model Application				
	LS400	SC400	SC300	ES 300	PAINT TYPE
051	■	■	■	■	4
176	■				2
180	■				2
182		■	■		2
202	■	■	■	■	1
3K1				■	2
3K3		■	■	■	2
3K7				■	2
4J1				■	2
4K7	■				2
4K9	■	■	■		2
6K4	■				5
6M1				■	2
6M2		■	■		3
6M3		■	■		2
8J4				■	2
8J5	■	■	■		6
923	■				2

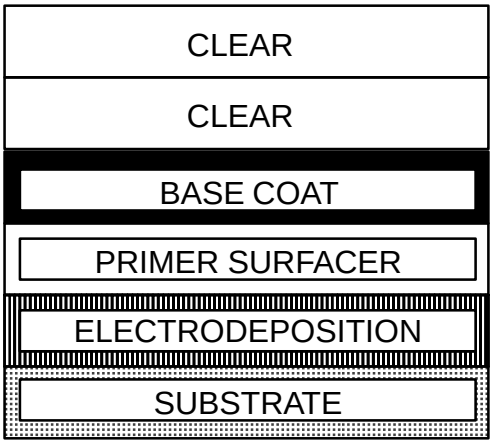
PAINT TYPE #1
Solid Color – Non Clear Coat
Codes: 202



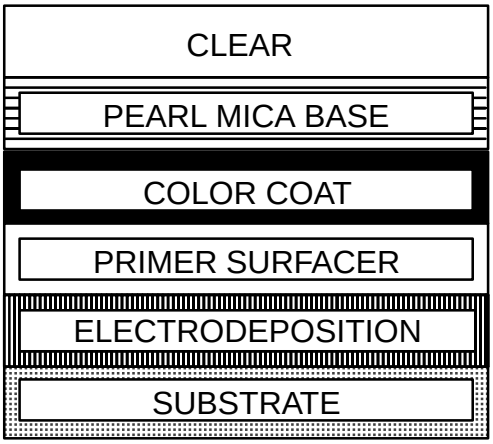
PAINT TYPE #2
Metallic or Mica Color – Clear Coat
Codes: 176, 180, 182, 3K1, 3K3, 3K7, 4J1, 4K7, 4K9, 6M1, 6M3, 8J4, 923



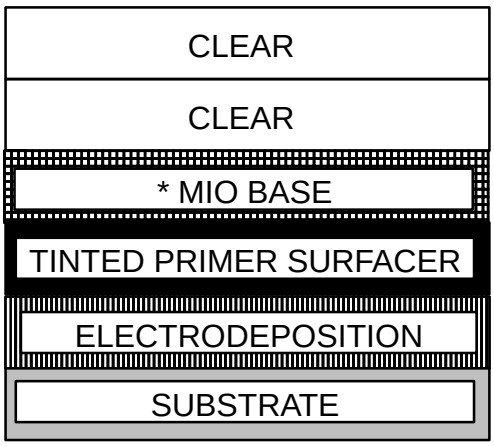
PAINT TYPE #3
Mica Color – Two Clear Coat
Code: 6M2



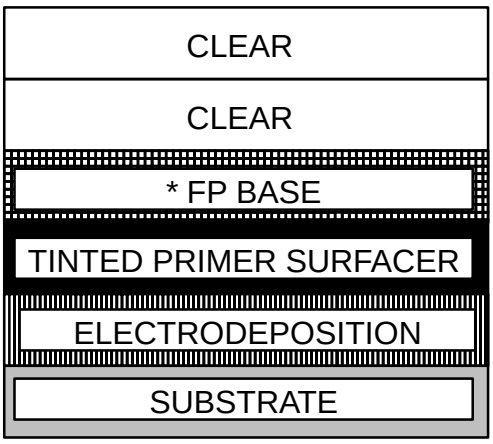
PAINT TYPE #4
Pearl Mica Color – One Clear Coat
Codes: 051



PAINT TYPE #5
Mio Color – Two Clear Coat
Code: 6K4
* MIO = Micaceous Iron Oxide



PAINT TYPE #6
Flake Phthalocyanine Color – Two Clear Coat
Code: 8J5
*FP=Flake Phthalocyanine



APPLICATION PROCESS FOR PAINT TYPE #1
(Solid Color – Non Clear Coat)

MATERIAL	PROCESS	SEQUENTIAL OPERATION PROCEDURE	IMPORTANT POINTS
PRIMER SURFACER	Application of UNDERCOAT	Apply primer–surfacer following manufacturers recommendations. Hand sand after recommended dry time, using 600 grit sandpaper (wet) or power sand using 500 grit sandpaper (dry).	Use a high quality 2 component primer–surfacer. Use of a tintable primer sealer may increase top coat hiding.
COLOR SEALER	Application of UNDERCOAT	Follow manufacturers recommendations.	Sanding not necessary. Follow manufacturers recommended dry time.
COLOR COAT	Application of COLOR TOP COAT	Use a spray–out panel to verify color match. Match texture to surrounding panels. Apply according to paint manufacturer's recommendation.	Apply only urethane color coats. To reduce orange peel use the four following steps: • Use slower evaporating solvent. • Use higher air pressure for better atomization. • Decrease spray gun travel speed. • Decrease spray gun distance to the panel.
	DRYING	Allow proper flash time BEFORE forced drying.	Allow panels to cool down naturally to room temperature before sanding or polishing.
	SANDING	Color sanding of the top coat can be performed, if necessary with 1500/2000 grit sandpaper (wet).	Use clean water with a mild detergent for abrasion resistance. Periodically check sanding progress with a squeegee.
	POLISHING	If necessary, finish the paint film so the adjacent panels have matching texture and luster.	Allow 24 hours dry time. Use a non–aggressive polishing system that eliminates any imperfections.
	EVALUATING	Evaluate your repair with the unrepaired portions of the vehicle.	Customer Satisfaction: if you can see a difference, so will the customer.

APPLICATION PROCESS FOR PAINT TYPE #2
(Metallic or Mica Color – Clear Coat)

MATERIAL	PROCESS	SEQUENTIAL OPERATION PROCEDURE	IMPORTANT POINTS
PRIMER SURFACER	Application of UNDERCOAT	Follow paint manufacturers recommendations. Hand sand after recommended dry time, using 600 grit sandpaper (wet) or power sand using 500 grit sandpaper (dry).	Use a high quality 2 component primer–surfacer. Use of a tintable primer sealer may increase top coat hiding.
COLOR COAT	Application of COLOR TOP COAT	Use a spray–out panel to verify color match. Spray two full wet coats according to instructions. Use air pressure appropriate to conditions.	*Do not over reduce with solvent.* Use the slowest drying solvent your shop conditions will allow.
CLEAR COAT	Application of CLEAR TOP COAT	Match texture to surrounding panels using paint manufacturers recommendations.	To reduce orange peel follow the four following steps: • Use slower evaporating solvent. • Use higher air pressure for better atomization. • Decrease spray gun travel speed. • Decrease spray gun distance to the panel.
	DRYING	Allow proper flash time BEFORE forced drying.	Allow panels to cool down naturally to room temperature before polishing procedures are started (normally 24 hours).
	SANDING	Color sanding of the top coat can be performed, if necessary with 1500/2000 grit sandpaper (wet).	Use clean water with a mild detergent for abrasion resistance. Periodically check sanding progress with a squeegee.
	POLISHING	If necessary, finish the paint film so the adjacent panels have matching texture and luster.	Use a non–aggressive polishing system that eliminates any imperfections.
	EVALUATING	Evaluate your repair with the unrepaired portions of the vehicle.	Customer Satisfaction: if you can see a difference, so will the customer.

APPLICATION PROCESS FOR SECOND CLEAR COAT TYPE #3 (Mica Color – Two Clear Coat)

PROCESS	SEQUENTIAL OPERATION PROCEDURE	IMPORTANT POINTS
CLEAR COAT Application Number 2	Apply two full wet coats of urethane clear ONLY.	Follow paint suppliers recommendations.
DRYING	Allow proper flashatime BEFORE forced drying.	Allow panels to cool down naturally to room temperature before additional repair procedures are started.
POLISHING	Allow at least 24 hours before polishing.	Use the least aggresive method to eliminate any imperfections.
ORANGE PEEL	Evaluate according to the unrepaired portions of the vehicle and the written evaluation criteria on page 3 of this bulletin.	To reduce orange peel follow the four following steps: • Use slower evaporating solvent. • Use higher air pressure for better atomization. • Decrease spray gun travel speed. • Decrease spray gun distance to the panel.

APPLICATION PROCESS FOR PAINT TYPE #4
(Pearl Mica Color – One Clear Coat)

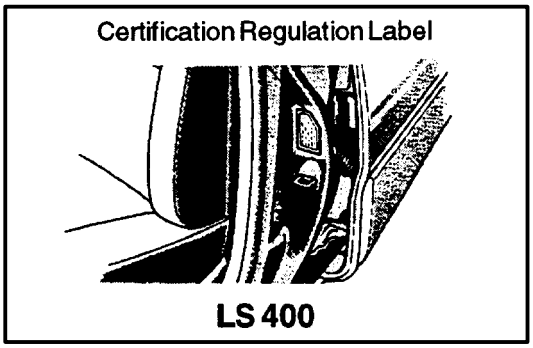
MATERIAL	PROCESS	SEQUENTIAL OPERATION PROCEDURE	IMPORTANT POINTS
PRIMER SURFACER	Application of UNDERCOAT	Follow paint manufacturers recommendations. Hand sand after recommended dry time, using 600 grit sandpaper (wet) or power sand using 500 grit sandpaper (dry).	Use a high quality 2 component primer–surfacer. Use of a tintable primer sealer may increase top coat hiding.
COLOR COAT	Application of COLOR TOP COAT	Apply urethane top coats only. Follow paint manufacturers recommendation. Manually sand with 600 grit sandpaper (wet).	*Do not over reduce with solvent.*
PEARL/MICA	Application of PEARL/MICA TOP COAT	Follow paint manufacturer's recommendations. Apply ONLY urethane clear coats.	Use spray out panel before applying pearl to vehicle. Paint viscosity should follow paint supplier recommendations.
CLEAR COAT	Application of CLEAR TOP COAT	Apply according to paint manufacturer recommendations.	Paint Viscosity should follow paint supplier recommendations. To reduce orange peel follow the four following steps: • Use slower evaporating solvent. • Use higher air pressure for better atomization. • Decrease spray gun travel speed. • Decrease spray gun distance to the panel.
	DRYING	Allow proper flash time BEFORE forced drying.	Allow panels to cool down naturally to room temperature before polishing procedures are started.
	SANDING	If necessary, use 1500 grit Wet Sand to smooth out orange peel.	Sand with extreme caution so as not to expose base color coat on body character lines.
	POLISHING	If necessary, finish the paint film so the adjacent panels have matching texture and luster.	Use a non–aggressive polishing system that eliminates any imperfections.
	EVALUATING	Evaluate your repair with the unrepaired portions of the vehicle.	Customer Satisfaction: if you can see a difference, so will the customer.

APPLICATION PROCESS FOR PAINT TYPE #5 & #6
Flake Phthalocyanine Color – Two Clear Coat

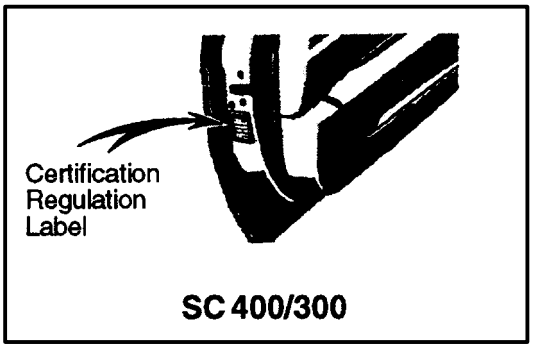
MATERIAL	PROCESS	SEQUENTIAL OPERATION PROCEDURE	IMPORTANT POINTS
PRIMER SURFACER	Application of UNDERCOAT	Follow paint manufacturers recommendations. Hand sand after recommended dry time, using 600 grit sandpaper (wet) or power sand using 500 grit sandpaper (dry).	Use a high quality 2 component primer–surfacer. Use of a tintable primer sealer may increase top coat hiding.
COLOR COAT	Application of COLOR TOP COAT	Use a spray–out panel to verify color match. Spray two full wet coats according to instructions. Use air pressure appropriate to conditions.	*Do not over reduce with solvent.* Use slowest dry solvent shop conditions will allow.
CLEAR COAT	Application of CLEAR TOP COAT	Match texture to surrounding panels using paint manufacturers recommendations.	To reduce orange peel follow the four following steps: • Use slower evaporating solvent. • Use higher air pressure for better atomization. • Decrease spray gun travel speed. • Decrease spray gun distance to the panel.
	DRYING	Allow proper flash time BEFORE forced drying.	Allow panels to cool down naturally to room temperature before polishing procedures are started (normally 24 hours).
	SANDING	Color sanding of the top coat can be performed, if necessary with 1500/2000 grit sandpaper (wet).	Use clean water with a mild detergent for abrasion resistance. Periodically check sanding progress with a squeegee.
	POLISHING	If necessary, finish the paint film so the adjacent panels have matching texture and luster.	Use a non–aggressive polishing system that eliminates any imperfections.
	EVALUATING	Evaluate your repair with the unrepaired portions of the vehicle.	Customer Satisfaction: if you can see a difference, so will the customer.

The following is a list of 1993 Lexus paint codes and corresponding refinish formula codes for 7 (seven) refinish paint manufacturers — BASF, DuPont, Herberts Standox, PPG Industries, Sherwin Williams, Sikkens and Spies Hecker (Paint and refinish formula codes are located on page 2.).

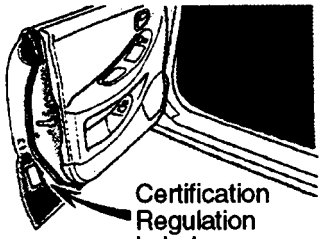
NOTE: The body color code is indicated on the Certification Label which is located in the left door area as shown below.



LS 400



SC 400/300



ES 300

HERBERTS STANDOX PAINT AND REFINISH FORMULA CODES:

- **HERBERTS STANDOX** uses the Lexus color code number as their paint code identification number.

Example: The Herberts Standox paint code number for Lexus color code 202 (Black) is 202.

Contact Your Local Paint Representative For The Actual Paint Mixing Formulas Or For Additional Assistance On Color Matching.

Please Provide A Copy Of This Information To Your Lexus Collision Repair Center.

BODY / CLAD	*BODY COLOR NAME*	*AKZO SIKKENS*	*BASF GLASURIT*	*DU PONT CRONAR*	*PPG DBU– DELTRON*	*SHERWIN WILLIAMS ULTRABASE*	*SPIES HECKER –––––––*
051	PEARL WHITE	LEX051	20318	L9246(B) L9247(P)	90822(B) 90826(P)	42872(B) 42873(P)	98125
UA29	SILVER MET.	LEX9403	20563	H9399	30575	44105	99418
176	SILVER MIST MET.	LEX176	19245	N9022	34692	40886	97244
UA30	LIGHT GRAY MET.	LEX9405	20564	K9301	35073	44104	99412
180	FLINT GRAY PEARL	LEX180	20319	N9199	34879	42874	98139
UA31	SAPPHIRE MET.	LEX9401	20562	H9398	35060	44155	99424
182	GRAY METALLIC	LEX182	20320	L9241	34880	42867	98128
202	BLACK ONYX	LEX202	PKG1240	99	9300	01738	79335
UA31	SAPPHIRE MET.	LEX9401	20562	H9398	35060	44155	99424
3K1	DK AMETHYST PEARL	LEX3K1	21240	W9435	04404	45211	99005
UA47	DK GRAY PURPLE MET.	LEX9411	TOYUA47	H9753	35425	46755	91348
3K3	GARNET RED PEARL	LEX3K3	22304	W9512	04478	45929	99681
138	DARK GRAY MET.	LEX138	TOY138	N8118	33571	32876	94742
3K7	SHADOW ROSE QTZ	LEX3K7	22311	H9650	04615	46620	99745
UA47	DK GRAY PURPLE MET.	LEX9411	TOYUA47	H9753	35425	46755	91348
4J1	ALMOND BEIGE MET.	LEX4J1	20353	N9215	26847	43481	98197
UA46	LIGHT GRAY BEIGE MET	LEX9410	TOYUA46	H9752	27345	46754	91344
4K7	TAUPE METALLIC	LEX4K7	19257	L9036	26606	40901	97750
UCA52	WARM BEIGE METALLIC	LEX9414	23220	W9889	27554	48521	20198
4K9	SANDSTONE BEIGE	LEX4K9	20356	N9216	26846	43482	98224
UC4D3	DARK BEIGE METALLIC	N/A	14301	K9303	25463	44404	20199
6K4	BLACK JADE PEARL	LEX6K4	20351	N9259	46599	43483(B) 43484(P)	98277
UA32	DARK GRAY METALLIC	LEX9401	20562	H9398	35060	44155	99424
6M1	DK EMERALD PEARL	LEX6M1	22312	W9542	04595	46589	99746
UA45	DK GRAY MET.	LEX9412	TOYUA45	L9708	35461	46960	92044
6M2	ROYAL JADE PEARL	LEX6M2	22307	W9513	04476	45930	99680
6M3	SILVER SPRUCE MET.	LEX6M3	22308	W9514	04474	45931	99679
8J4	FROSTED SPRUCE MET.	LEX8J4	22316	W9543	04600	46592	90398
UA45	DARK GRAY METALLIC	LRX9412	TOYUA45	L9708	35461	46960	92044
8J5	MIDNIGHT INDIGO PRL.	LEX8J5	22309	W9515	04477	45932	99678
UCA53	DARK BLUE METALLIC	LEX9413	23194	L9848	18606	47923	50591
923	SILVER TAUPE MET.	LEX923	22318	W9544	04602	46594	90400
UCA54	TAUPE METALLIC	LEX9415	23221	W9890	35637	48522	70574

Replacement VIN plates (riveted to dashboard) and Certification Labels (affixed to driver's door or door post) are available from Lexus providing the request meets one of the following criteria:

- The original label is incorrect (an incorrect Certification Label must accompany the request; an incorrect VIN plate must be returned after receipt of the new one).
- The vehicle is in an accident and the plate or label is damaged or is attached to a part that will be replaced during the repair* (the plate or label to be replaced must accompany the request).
- The plate or label is stolen.* Be sure to contact State Police or the Department of Motor Vehicles; in many cases they will issue a unique number so that the original can be included on stolen vehicle listings. When requesting a new plate or label to replace a stolen one, it is necessary to include a copy of the police or insurance company report.

* *All replacement plates and labels for damaged and/or stolen vehicles are subject to approval by the Technical Compliance Department. If you have any specific questions, contact (310) 781–3390.*

To request a replacement plate or label, complete the appropriate portion of the form on the second page. Note that damaged VIN plates or labels must accompany the request form. Your dealer parts account will be billed $10.00 for each replacement of a damaged plate or label. Replacements for incorrect plates or labels will be provided free of charge.

MAIL THE COMPLETED REQUEST FORM WITH THE REQUIRED ENCLOSURE TO:

TOYOTA MOTOR SALES, U.S.A., INC.
TECHNICAL COMPLIANCE DEPT. S203
19001 S. WESTERN AVENUE
TORRANCE, CA 90509–2991

APPLICATION FOR REPLACEMENT CERTIFICATION LABELS OR VIN PLATES

DEALER INFORMATION

Complete this section or your order can NOT be processed!

Dealer Code: ☐☐☐☐☐

Dealer Name: _____

Address: _____

City, State, Zip: _____

Contact Person: _____

Telephone #: _____

REPLACEMENT CERTIFICATION LABEL

Complete this section ONLY if you need a CERTIFICATION LABEL.

REASON FOR REPLACEMENT:

LABEL INCORRECT* ☐ ACCIDENT DAMAGE ☐ STOLEN ☐ (Allow extra time to process)

*Provide correct VIN ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

AFFIX ORIGINAL LABEL HERE OR ATTACH TO THIS FORM

*NOTE: ORIGINAL LABEL **MUST** ACCOMPANY THIS APPLICATION OR THE ORDER CAN NOT BE PROCESSED!*

REPLACEMENT VIN PLATE

Complete this section ONLY if you need a VIN PLATE.

VIN PLATE INCORRECT ☐ *Provide **INCORRECT** and **CORRECT** VIN information*

INCORRECT VIN: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

CORRECT VIN: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

*INCORRECT VIN plate **MUST** be returned after receipt of new VIN plate!!*

VIN PLATE DAMAGED ☐

*Damaged VIN plate **MUST** accompany this application*

Title **STANDARD BOLT TORQUE SPECIFICATIONS**

The following bolt mark and class identification information is currently not included in the Standard Bolt Torque Specifications found in the Introduction section of each Lexus Repair Manual.

BOLT		MARK	CLASS
	(Hexagon flange bolt or Hexagon bolt with washer)	**4 Protruding Lines**	**9T**
	(Hexagon flange bolt or Hexagon bolt with washer)	**5 Protruding Lines**	**10T**
	(Hexagon flange bolt or Hexagon bolt with washer)	**6 Protruding Lines**	**11T**

SPECIFIED TORQUE FOR STANDARD BOLTS

CLASS	DIAMETER mm	PITCH mm	SPECIFIED TORQUE					
			HEXAGON HEAD BOLT			HEXAGON FLANGE BOLT		
			N•m	kgf•cm	ft•lbf	N•m	kgf•cm	ft•lbf
9T	8	1.25	34	340	25	37	380	27
	10	1.25	70	710	51	78	790	57
	12	1.25	125	1300	94	140	1450	105
10T	8	1.25	38	390	28	42	430	31
	10	1.25	78	800	58	88	890	64
	12	1.25	140	1450	105	155	1600	116
11T	8	1.25	42	430	31	47	480	35
	10	1.25	87	890	64	97	990	72
	12	1.25	155	1600	116	175	1800	130

LEXUS

TECHNICAL SERVICE INFORMATION

REF: PRODUCT GENERAL INFORMATION

NO: PG003–96

DATE: MAY 10, 1996

MODEL: ES 300, GS 300, LS 400

Title **PUBLICATION CORRECTION INFORMATION**

Corrections have been made in the Repair Manuals and Electrical Wiring Diagrams listed below. A brief description of each correction is provided. For further details, refer to the appropriate Correction Page (attached to this TSIB for Dealer Area Office distribution). These pages should be attached in the corresponding publication.

NOTE: When ordering a technical publication (i.e. Repair Manual, Electrical Wiring Diagram) from the MDC, any correction Page(s) associated with that particular publication, will be automatically included with your order.

Additional Correction Pages are available through the Dealer Support Material Network (MDC NPM System) via the corresponding part numbers from the following table:

PUB. TITLE	PUB. NO.	PAGE(S)	DESCRIPTION	PART NUMBER
'92 ES 300 R/M	RM319U	AC-55	Air Conditioning System – Troubleshooting – (Inspection Procedure) – Step 2 – "OK" Resistance Specification has been revised to: at 20°C (68°F): 65–125 Ohm.	00246-RM319-B3051
'93 GS 300 R/M	RM340U	AC-8	Air Conditions System – Description – (Electric Cooling Fan System) – The schematic contains numerous revisions.	00246-RM340-B3052
↑	↑	AC-54	Air Conditioning System – Troubleshooting – (DTC 23 Pressure Switch Circuit) – Wiring Diagram – The schematic has been revised to indicate use of a dual contact pressure switch vs. a single contact pressure switch as previously indicated.	↑
↑	↑	AC-143	Air Conditioning System – Pressure Switch – (On Vehicle Inspection) – Step 4 – Text & accompanying illustrations have been completely revised. Additionally, the Magnetic Clutch Control & Cooling Fan Control inspections are now indicated as separate procedures.	↑

PUBLICATION CORRECTION INFORMATION

PUB. TITLE	PUB. NO.	PAGE(S)	DESCRIPTION	PART NUMBER
'93 GS 300 R/M	RM340U	AC-145	Air Conditioning System – Electric Cooling Fan – (On Vehicle Inspection) – Procedure has been completely revised & expanded. Additionally, the Inspection Table has been replaced with procedure illustrations.	00246-RM340-B3052
'93 LS 400 R/M	RM300U	MA-2 MA-3	Maintenance – Maintenance Schedule – (Schedule A) & (Schedule B) – A "Clean Air Filter" category has been added to both schedules. Additionally, for Schedule A, #8 footnote mentions that this added maintenance procedure is not applicable in dusty areas.	00246-B9233
'93 LS 400 EWD	EWD164	39	Electrical Wiring Routing – (Connector Joining Wire Harness & Wire harness) – Illustrations for IL3, IL4, & IM1 have been revised. Additionally, the Connector Location table has been revised as follows: 1M1 – Cowl wire & Floor No. 1 Wire (Right Kick Panel).	00246-WD164-B3041

LEXUS
Technical Service Information Bulletin
July 18, 1997

Title:

REPLACEMENT CERTIFICATION LABELS

Models:

All Models

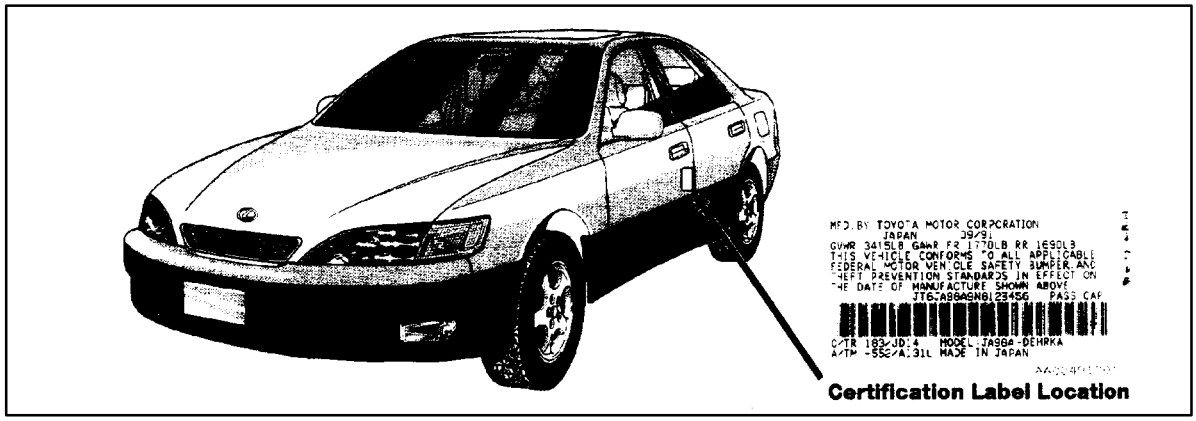
TSIB

PG003-97

PRODUCT GENERAL INFORMATION

Introduction

Replacement Certification Labels (vinyl label affixed to driver's door or door post) **may be** available from Lexus providing the request meets one of the criteria listed below.



Certification Label Location

Affected Vehicles

- All Lexus vehicles.

Certification Label Criteria

1. The vehicle is in an accident and the label is damaged or is attached to a part that will be replaced during the repair.

NOTE:
- **Processing a new label will be delayed if the old certification label is not available.**
- **A new label MAY NOT be available if the vehicle is more than five years old and the old label does not accompany this request.**

2. The label is stolen.

Procurement Procedure

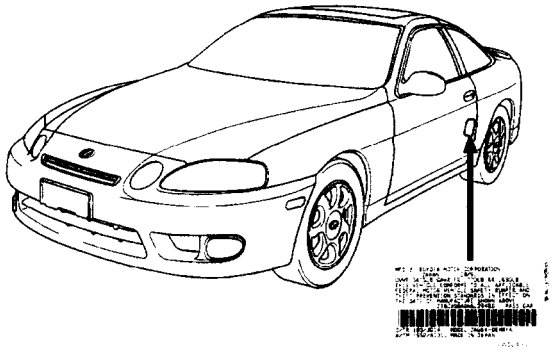
To request a replacement label, complete a copy of the form on the back of this bulletin. Your dealer parts account will be billed $10.00 for each replacement of a damaged or stolen label.

NOTE:
All replacement labels for damaged and/or stolen vehicles are subject to approval by the Technical Compliance Department. If you have any specific questions, contact (310)781-3390.

Warranty Information

- No applicable Warranty Information

APPLICATION FOR REPLACEMENT CERTIFICATION LABEL



REASON FOR REPLACEMENT:

☐ ACCIDENT DAMAGE

☐ STOLEN

☐ OTHER _____
REASON/EXPLANATION

PLEASE PROVIDE CORRECT VIN

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

ATTACH ORIGINAL LABEL HERE

NOTE:
Original label **MUST** accompany this application or order will be delayed.

DEALER INFORMATION

DEALER CODE: ☐☐☐☐☐

DEALER NAME: _____

ADDRESS: _____
STREET ADDRESS

_____
CITY, STATE, ZIP CODE

TELEPHONE: (_____) _____
AREA CODE, TELEPHONE NUMBER

CONTACT: _____
FIRST NAME, LAST NAME

MAIL *(DO NOT FAX)* THE COMPLETED REQUEST FORM WITH THE OLD LABEL TO:

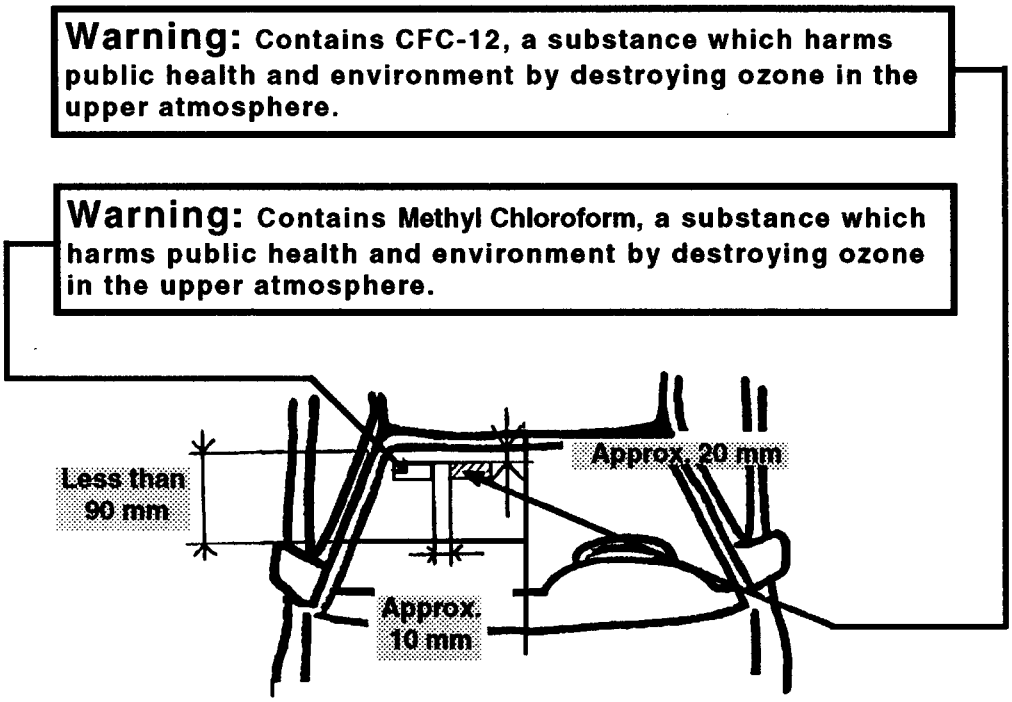
TOYOTA MOTOR SALES, U.S.A. INC.
TECHNICAL COMPLIANCE DEPARTMENT, S203
19001 S. WESTERN AVENUE
TORRANCE, CA. 90509-2991

Title **OZONE DEPLETING SUBSTANCE CAUTION LABELS**

Beginning with May 15, 1993 production, the EPA will require Ozone Depleting Substance (ODS) **Caution Labels** to be applied on every new vehicle when Methyl Chloroform is used in the manufacturing process and when the vehicle is equipped with air conditioning using R–12 (CFC–12).

- The Methyl Chloroform ODS label will be applied to vehicles at the manufacturing plant.
- Vehicles equipped with R–12 refrigerant gas A/C systems will also have the CFC–12 label applied at the manufacturing plant.

NOTE: Warning labels must be left on vehicle until delivery to a retail customer.



NOTE: To avoid obstruction of the driver's vision, the label should not extend beyond 90 mm below the upper edge of the windshield.

PART NUMBER INFORMATION:

Part Number	Part Name
74541–24010	ODS Caution Label, CFC–12

Title **PUBLICATION CORRECTION INFORMATION**

Corrections have been made in the Repair Manuals listed below. A brief description of each correction is provided. For further details, refer to the appropriate Correction Page(s). Once obtained, the Correction Page(s) should be attached in the corresponding publication(s).

NOTE: When ordering a technical publication (i.e. Repair Manual, Electrical Wiring Diagram) from the MDC, any Correction Page(s) associated with that particular publication, will be automatically included with your order.

Correction Pages are available through the **Dealer Support Material Network** (MDC NPM System) via the corresponding part numbers from the following table:

PUB. TITLE	*PUB. NO.*	*PAGE(S)*	*DESCRIPTION*	*PART NUMBER*
'93 ES 300 R/M	RM319U2	AC–26	Air Conditioning System – Troubleshoot–ing – (Diagnosis System) – The "List Of Operations Methods" diagram has been revised as follows: The statement in the right hand corner box now reads: "If both Auto switch and Recirculation/Fresh Air Switch are not pressed at the same time."	00246–B3003–RM319
↑	↑	AC–27	Air Conditioning System – Troubleshoot–ing – (Diagnosis System) – Indicator Check – Step 1 – Now reads: Turn the ignition switch on while pressing the air conditioner control Auto switch and Fan Recirculation/Fresh Air switch simultane–ously." In addition, the "F/R Switch" has been identified in the accompanying illustration.	↑
↑	↑	AC–27	Air Conditioning System – Troubleshoot–ing – (Diagnosis System) – Diagnostic Trouble Code Check (Sensor Check) – Step 2 has changed as follows: The second paragraph now reads: If the slower display is desired, press the Fan Blower Speed Reduction Switch and change it to stepped operation. Each time the Blower Speed Reduction Switch is pressed, the display changes by 1 step.	↑

PUB. TITLE	*PUB. NO.*	*PAGE(S)*	*DESCRIPTION*	*PART NUMBER*
’93 ES 300 R/M	RM319U2	AC–29	Air Conditioning System – Troubleshoot–ing – (Diagnostic Trouble Code Chart) – Hint 4 – Step 2 has been revised as follows: Press the Recirculation/Fresh Air Switch to enter actuator check mode, and set the operation to Step No. 3.	00246–B3003–M319
↑	↑	AC–30	Air Conditioning System – Troubleshoot–ing – (Actuator Check) – Several revisions have been made to the text, illustrations and accompanying table.	↑
’94–’95 A541E ATM R/M	RM393U	AX–11	Automatic Transaxle – Component Parts Installation – (Step 14 Install Second Coast Brake Band Guide) – The accom–panying illustration to Step 14 has been revised as follows: The tip of the Band Guide is now longer than previously shown.	00245–RM393–5015
’95 ES 300 R/M	RM407U1	MA–10	Maintenance – Maintenance Operations – Inspect Charcoal Canister – (Previously on Pages MA–10 & MA–11), has received major revisions to procedures and illustrations. All text and illustrations previously on Page MA–11, are now on Page MA–11–2.	00245–RM407–4048
↑	↑	EG–125 EG–126	Engine – Emission Control Systems – (Fuel Vapor Lines, Fuel Tank & Tank Cap Inspection) – Charcoal Canister inspection procedure has been deleted from EG–125. Major procedure and illustration changes have occurred on Page EG–126.	↑
’95 GS 300 R/M	RM406U2	SR–24	Steering – Power Tilt And Power Telescopic Steering Column –(Matrix Chart Of Problem Symptoms) – Several diagnostic additions to the “Manual And Return” category of the Matrix Chart.	00245–RM406–4056

PUB. TITLE	*PUB. NO.*	*PAGE(S)*	*DESCRIPTION*	*PART NUMBER*
’95 LS 400 R/M	RM405U1	SA–92 SA–93	Suspension And Axle – Electronic Modulated Air Suspension – (Diagnostic Trouble Code Check) – Several procedure and illustration changes to “Diagnostic Trouble Code Check” on Page SA–92 and “Diagnostic Trouble Code Check Using Hand Held Tester” on Page SA–93.	00245–RM405–5007
⬆	⬆	SA–98	Suspension And Axle – Electronic Modulated Air Suspension – (Input Signal Check – Test Mode Check) – Signal Check revisions include: Removal of the Dome–FR Fuse in the Engine Room J/B and opening of the driver’s door. A Dome–FR Fuse location illustration has been added.	⬆
’95 LS 400 R/M	RM405U2	SR–4 SR–5	Steering Preparation – (Special Service Tools) – Four SST’s have been added to the Preparation List as follows: Radial Ball Bearing (09951–00190), Rack Housing Oil Seal (09951–00410), Rack Housing Bearing (09951–00470), and Variable Pin Wrench Arm Assembly (09962–01000).	00245–RM405–5011
’95 LS 400 R/M	RM405U2	BE–188	Body Electrical System – Wireless Door Lock Control System – (Registration Of Recognition Mode) – Revisions are as follows: Step 1 – Driver door open and unlocked, no ignition key, (other doors are closed); Step 4 – Driver door: Closed ➡ Open.	00245–RM405–5013

LEXUS
Technical Service Information Bulletin
July 18, 1997

Title:
REPLACEMENT VIN PLATES

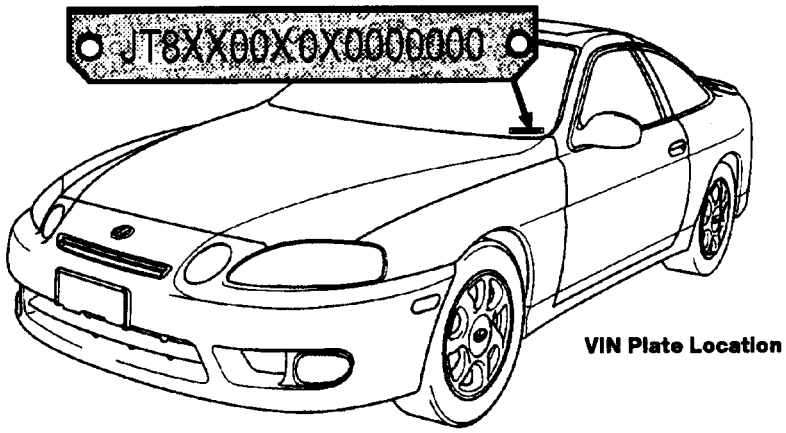
Models:
All Models

TSIB

PG004-97
PRODUCT GENERAL INFORMATION

Introduction

Replacement **VIN** plates (metal plate riveted to dashboard) **may be** available from Lexus providing the request meets one of the criteria listed below.



VIN Plate Location

Affected Vehicles

- All Lexus vehicles.

Replacement VIN Plate Criteria

- The vehicle is in an accident and the plate is damaged.

NOTE:
The plate to be replaced MUST accompany the request.

NOTE:
If a plate is stolen, be sure to contact the State Police or the Department of Motor Vehicles. In most cases the state will issue a unique number so that the original number can be included on stolen vehicle listings. If this is the case, a replacement VIN plate is NOT available from Lexus. However, the original VIN, NOT the state-issued VIN, must be used on all warranty claims.

Procurement Procedure

To request a replacement plate, complete a **copy** of the form on the back of this page. Note that damaged VIN plates must accompany the request form. Your dealer parts account will be billed $10.00 for each replacement of a damaged plate.

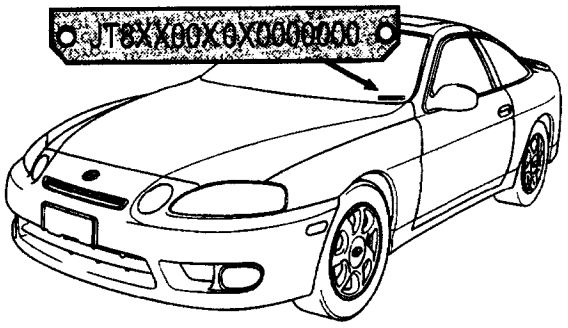
NOTE:
All replacement plates for damaged and/or stolen vehicles are subject to approval by the Technical Compliance Department. If you have any specific questions, contact (310)781-3390.

Warranty Information

- No applicable Warranty Information.

LEXUS

APPLICATION FOR REPLACEMENT VIN PLATE



REASON FOR REPLACEMENT:

☐ ACCIDENT DAMAGE

☐ OTHER _____

REASON OR EXPLANATION

PLEASE PROVIDE CORRECT VIN ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

ATTACH DAMAGED PLATE HERE

DEALER INFORMATION

DEALER CODE: ☐☐☐☐☐

DEALER NAME: _____

ADDRESS: _____
STREET ADDRESS

_____
CITY, STATE, ZIP CODE

TELEPHONE: (_____) _____
AREA CODE, TELEPHONE NUMBER

CONTACT: _____
FIRST NAME, LAST NAME

MAIL *(DO NOT FAX)* THE COMPLETED REQUEST FORM WITH THE OLD PLATE TO:

TOYOTA MOTOR SALES, U.S.A. INC.
TECHNICAL COMPLIANCE DEPARTMENT, S203
19001 S. WESTERN AVENUE
TORRANCE, CA. 90509-2991

Title **PUBLICATION CORRECTION INFORMATION**

Corrections have been made in the Repair Manuals and Electrical Wiring Diagrams listed below. A brief description of each correction is provided. For further details, refer to the appropriate Correction Page (attached to this TSIB for Dealer and Area Office distribution). These pages should be attached in the corresponding publication.

NOTE: When ordering a technical publication (i.e. Repair Manual, Electrical Wiring Diagram) from the MDC, any Correction Page(s) associated with that particular publication, will be automatically included with your order.

Additional Correction Pages are available through the Dealer Support Material Network (MDC NPM System) via the corresponding part numbers from the following table:

PUB. TITLE	PUB. NO.	PAGE(S)	DESCRIPTION	PART NUMBER
'92 ES 300 EWD	EWD123U	178	System Circuits – (Cellular Mobile Telephone) – The wire color between Terminal "PH+" of the Tele–phone Transceiver & "PH1+" of the Telephone Microphone (Combina–tion Switch), has been corrected to indicate the color "blue".	00246–WD123–B3038
↑	↑	179	System Circuits – (Cellular Mobile Telephone) – The wire between "GND 2" of the Telephone Trans–ceiver & "GND 1" of the Cellular Telephone (Hand Set), has been corrected to indicate the color "black." The "IR1" Connector between the Telephone Transceiver & the Radio & Player, has been renum–bered to indicate # "20." The wire color between Terminal "RLI+" of the Telephone Trans–ceiver and Terminal "WR+" of the Stereo Component Amplifier, has been corrected to indicate "red."	↑

PUB. TITLE	PUB. NO.	PAGE(S)	DESCRIPTION	PART NUMBER
’92 ES 300 EWD	EWD123U	179	System Circuits – (Cellular Mobile Telephone) – The wire color between Terminal “RLI–” of the Telephone Transceiver & Terminal “WR–” of the Stereo Component Amplifier, has been corrected to indicate “white.”	00246–WD123–B3038
↑	↑	198	System Circuits – (Automatic Air Conditioner) – The component schematic of the A/C Power Tran–sistor has been completely revised.	↑
↑	↑	199	System Circuits –(Automatic Air Conditioner) – The following terminals of the Air Vent Mode Control Servo Motor (7, 6, 1, 2, 3, 4, & 5), have been corrected to: (1, 2, 8, 7, 6, 5, & 4) respectively.	↑
↑	↑	201	System Circuits – (Automatic Air Conditioner) – The following terminals of the Air Mix Control Servo Motor (3, 1, 4, 6, & 2), have been corrected to: (4, 5, 3, 2, & 1) respectively. The wire between the “I55” Splice & the # “3” Terminal of the Air Mix Con–trol Servo Motor, has been corrected to indicate the addition of Connector # “I3.” The wire color between the “I3” connector and the newly renumbered # “4” Terminal of the Air Mix Control Servo Motor has been corrected to indicate the color “yellow.”	↑
↑	↑	207	System Circuits – (Automatic Air Conditioner) – Graphics of Connectors “A25” & “A26” have been completely reconfigured.	↑
’93 ES 300	EWD159U	178	System Circuits – (Cellular Mobile Telephone) – The wire color between Terminal “PH+” of the Telephone Transceiver & “PH1+” of the Tele–phone Microphone (Combination Switch), have been corrected to indicate “blue.”	00226–WD123–B3038

PUB. TITLE	PUB. NO.	PAGE(S)	DESCRIPTION	PART NUMBER
'93 ES 300 EWD	EWD159U	179	System Circuits – (Cellular Mobile Telephone) – The wire color be–tween Terminal "GND 2" of the Telephone Transceiver & "GND 1" of the Cellular Phone (Hand Set), has been corrected to indicate "black." The "IR1" Connector between the Telephone Transceiver & the Radio & Player, has been re–numbered to indicate "20." The wire color between Terminal "RLI+" of the Telephone Trans–ceiver & "WR+" of the Stereo Component Amplifier, has been corrected to indicate "red." The wire color between Terminal "RLI–" of the Telephone Trans–ceiver & "WR–" of the Stereo Com–ponent Amplifier, has been cor–rected to indicate "white."	00246–WD123–B3038
↑	↑	199	System Circuits – (Automatic Air Conditioning) – The following terminals of the Air Vent Mode Control Servo Motor: (7, 6, 1, 2, 3, 4, & 5) have been corrected to: (1, 2, 8, 7, 6, 5, & 4) respectively.	↑
↑	↑	201	The following terminals of the Air Mix Control Servo Motor: (3, 1, 4, 6 & 2) have been corrected to: (4, 5, 3, 2, & 1) respectively. The wire between the "I55" Splice & the (newly renumbered) # "4" Terminal of the Air Mix Control Servo Motor, has been corrected to indicate the addition of a con–nector (I3).	↑

PUB. TITLE	PUB. NO.	PAGE(S)	DESCRIPTION	PART NUMBER
’93 ES 300 EWD	EWD159U	201	The wire color between the “I3” Connector & the newly renumbered # “4” Terminal of the Air Mix Control Servo Motor has been corrected to indicate the color “yellow.”	00246–WD123–B3038
↑	↑	207	System Circuits – (Automatic Air Conditioning) – Graphics of Connectors “A22” & “A23” have been completely reconfigured.	↑
’93 ES 300 R/M	RM319U2	AC–55	Air Conditioning System – Trouble–shooting – (Compressor Lock Sen–sor Circuit) – Inspection Procedure – Step 2 – The “OK” specification has changed as follows: resistance: at 20° C (68° F): 65 ~ 125 ohms.	00246–RM319–B3051
’93 ES 300 R/M	RM319U2	AB–47	SRS Airbag – Troubleshooting – (Inspection Procedure) – Step 7 – The “OK” specification table re–sistance measurements have changed as follows: Between Ter–minals “+S” & “+A” = below 1 ohm. Between Terminals “+S” & “–S” = 1 mega ohm or higher. Between “–S” & “–A” = 755 ~ 885 ohms.	00246–RM319–B3020
↑	↑	AB–69	SRS Airbag – Troubleshooting – (Inspection Procedure) – Step 4 – The “OK” specification table re–sistance measurements have changed as follows: Between Ter–minals“+S” & “+A” = below 1 ohm. Between Terminals “+S” & “–S” = 1 mega ohm or higher. Between “–S” & “–A” = 755 ~ 885 ohms.	↑
‘93 SC 300	RM302U1	BR117	Brake System – Anti–Lock Brake System (ABS) – Speed Sensor Cir–cuit – Wiring Diagram – The “BW1” Connector between the # “1” Ter–minal of the ABS Speed Sensor (Right Rear) & the “RR+” Terminal of the ABS (& TRAC) ECU, has now been numbered “6.”	00246–RM320–B2041

PUB. TITLE	PUB. NO.	PAGE(S)	DESCRIPTION	PART NUMBER
’93 SC 300 R/M	RM302U1	BR–117	Brake System – Anti–Lock Brake System (ABS) – Speed Sensor Circuit – Wiring Diagram – The “BW1” Con–nector between the # “2” Terminal of the ABS Speed Sensor (Right Rear) & the “RR–” Terminal of the ABS (& TRAC) ECU, has now been num–bered “5.”	00246–RM320–B2041
’93 GS 300 R/M	RM340U2	AC–8	Air Conditioning System – Description – Electric Cooling Fan System – Several revisions have been made throughout the schematic.	00246–RM340–B3052
↑	↑	AC–54	Air Conditioning System – Trouble–shooting – (Pressure Switch Circuit – Wiring Diagram – The (Single Type) Pressure Switch indicated in the schematic, has been changed to a (Dual type) Pressure Switch.	↑
↑	↑	AC–143	Air Conditioning System – Pressure Switch – (On Vehicle Inspection) – Step 3 – Revisions include: additional text and illustrations that provide detailed information of the Magnetic Clutch & Cooling Fan Controls.	↑
↑	↑	AC–145	Air Conditioning System – Electric Cooling Fan – (On Vehicle Inspection) – The text and illustrations for the entire procedure have been revised.	↑
’93 LS 400 EWD	EWD164U	39	Electrical Wiring Routing – (Connector Joining Wire Harness And Wire Harness) – Revisions include: reconfigured “IL3,” “IL4” & “IM1” Connector graphics. The “IH1” Code text in the Connector Location Table has also been revised as follows: The “IH1” Wire Harness to Wire Har–ness (Cowl Wire & # 1 Floor Wire) Connector location is at the right kick panel.	00246–WD164–B3041

Title **COIL SPRING COMPRESSOR SST # 09727-30020-02**

Please observe the following procedures each time this tool is used:

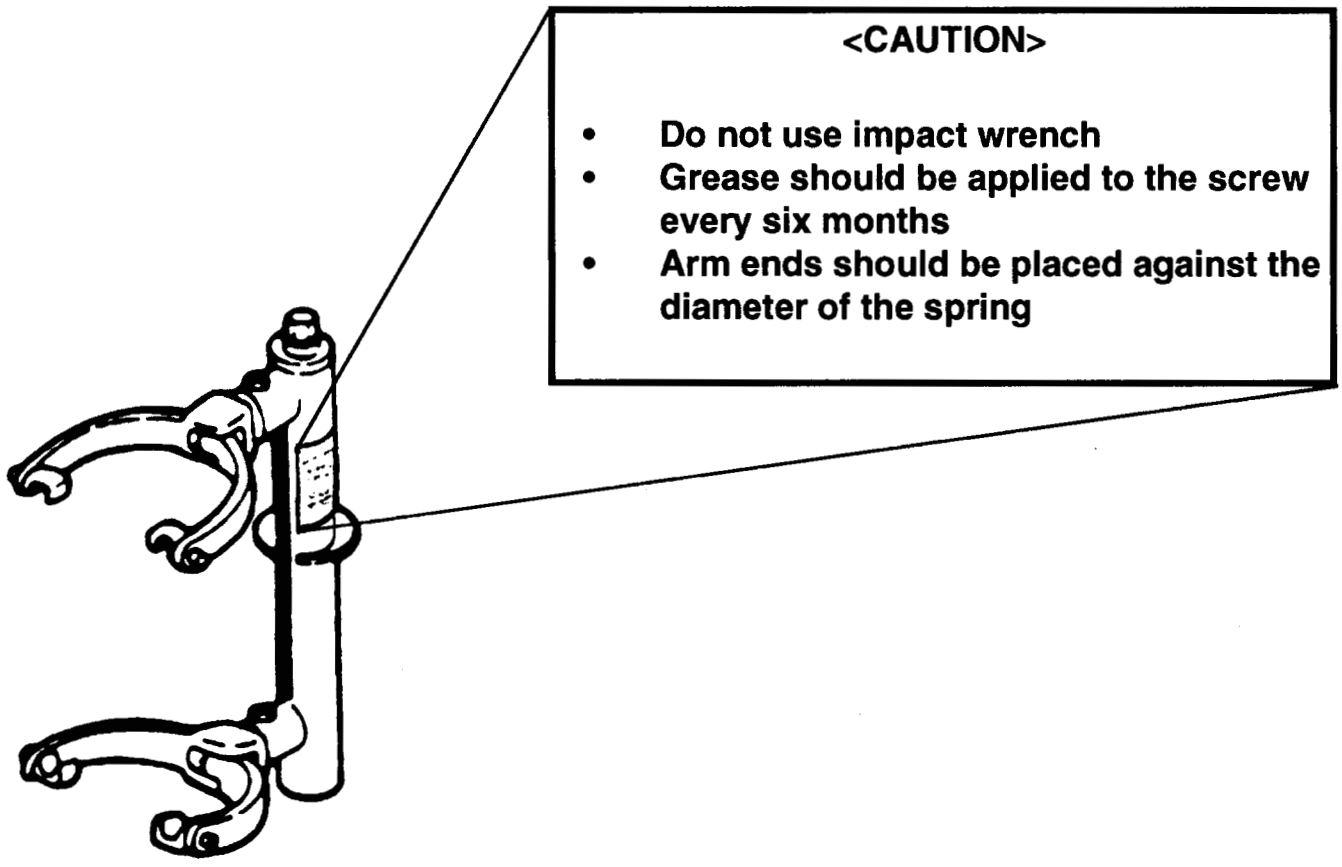
❶ **Carefully** inspect your spring compressor for cracks or other deformation **prior to each use.**

❷ **Use only on Lexus vehicles.** Use on other applications may exceed the tool design limits.

❸ Be sure spring is free from its seat (unstuck) prior to compressing.

❹ **Do not** compress the coil spring further than needed to facilitate the repair.

When using suspension coil spring compressor be sure to follow the instructions outlined in the repair manual as well as the **caution label** placed on the tool (see illustration below).



LEXUS

Technical Service Information Bulletin

September 26, 1997

Title:

BRAKE BOOSTER PUSH ROD GAUGE (SST)

Models:

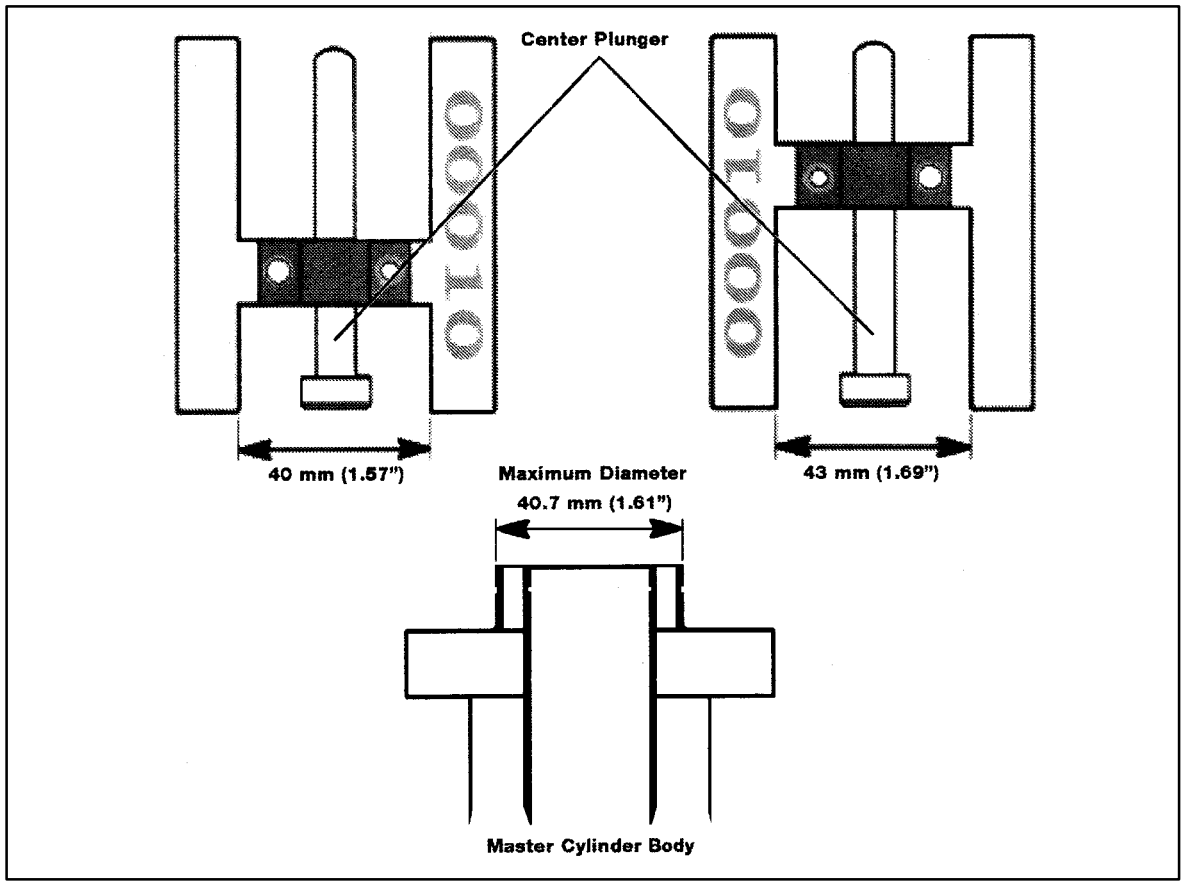
All Models

TSIB

SPECIAL SERVICE TOOLS SS001–97

Introduction

When inspecting or making brake booster push rod adjustments with SST 09737–00010, it is necessary to assure proper tool configuration prior to use. The SST has a reversible center plunger that allows it to function on a wide range of Lexus vehicles. Prior to using, verify that it is configured correctly for the application by checking the master cylinder outer diameter at the point illustrated below. The dimensions for the SST, Part Number 09737–00010, are also shown in the illustrations below.



Parts Information

PART NUMBER	PART NAME
09737–00010	Brake Booster Push Rod Gauge (SST)

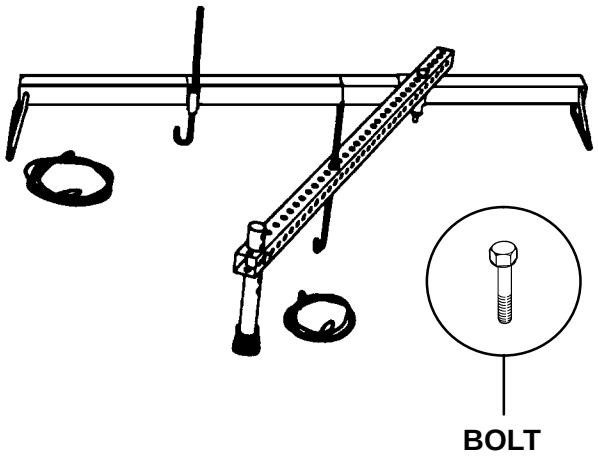
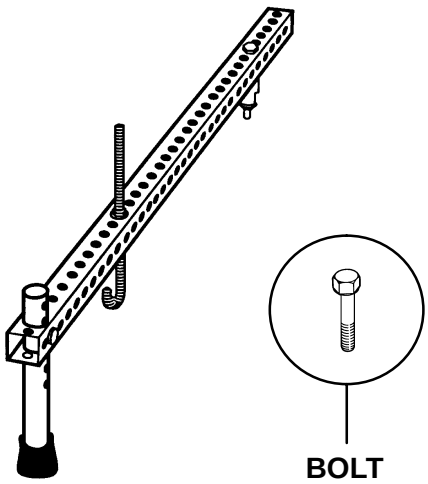
Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not applicable to warranty	–	–	–	–

Title **ENGINE SUPPORT BAR IMPROVEMENTS**

A new engine support bar, P/N 00002–01724, has been released by OTC. This new tripod design engine support bar, which is designed to support engine weight while transmission service is being performed, supersedes the current bipod engine support bar, P/N 00002–01722.

For dealers who currently own the 00002–01722 engine support bar, OTC has developed an upgrade kit, P/N 00002–01724–U which includes all necessary components and hardware to convert it to the new tripod design. **To avoid the potential for personal injury or property damage, do not use the existing engine support bar without the new upgrade kit.**

00002–01724 TRIPOD ENGINE SUPPORT BAR KIT	00002–01724–U TRIPOD UPGRADE KIT
	

DEALER PRICING IS AS FOLLOWS:

AVAILABLE SST'S		
TOOL NUMBER	**TOOL NAME**	**PRICE**
00002–01724	Tripod Engine Support Bar Kit	$165.35
00002–01724–U	Tripod Upgrade Kit	$ 77.25

For more information and to order these Special Service Tools, please call OTC at 800–933–8335.

LEXUS

TECHNICAL SERVICE INFORMATION

REF: SUSPENSION

NO: SU001–96

DATE: MARCH 15, 1996

MODEL: ES 300

Title **REAR SUSPENSION SQUEAK/GROAN NOISE**

To reduce squeak, groan, rattle or tap noise from the rear suspension, the following components have been changed:

- Rear Spring Bumper
- Rear Suspension support assemblies

For repair of squeak or groan noise from another source, please refer toTSIB SU93–001 dated July 2, 1993 and TSIB SU95–002 dated February 24, 1995.

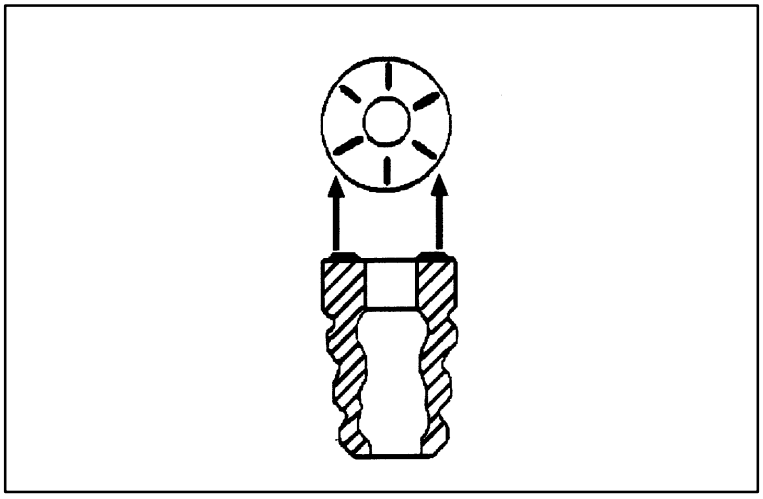
PART NUMBER INFORMATION:

PREVIOUS P/N	NEW P/N	PART NAME	SIDE	QTY
48341–32052	SAME	Rear Spring Bumper	N/A	2
48750–33010	48750–33011	Rear Suspension Support Assembly*	Right	1
48760–33010	48760–33011		Left	1

- New parts can be used on previous vehicles, previous parts should not be used on new vehicles.

PART IDENTIFICATION:

Six protrusions have been added on the top of the NEW Rear Spring Bumper as shown:



PART NUMBER INFORMATION:

COMPONENT	VIN (Reference Only)
Rear Spring Bumper	JT8GK13T–S0125886
Rear Suspension Support Assembly	JT8BF12G–T0134410

FIELD–FIX METHOD:

Confirm that the rear spring bumper and/or rear suspension support assemblies are the source of the noise and replace old style parts with the new ones.

WARRANTY INFORMATION:

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
482201A	R&R rear strut assembly and replace bumper and support (both sides)	*	487X0–33010	91	43
Combination Code ‘‘E’’ **	Adjust toe–in (MCV10 only)	+ 0.2	N/A	—	—
Combination Code ‘‘G’’ **	Adjust camber and toe–in (VCV10 only)	+ 0.3	N/A	—	—

* Refer to the applicable model in the Lexus Universal Flat Rate Manual.

** Combination code ‘‘E’’ and ‘‘G’’ in addition to the R&R of the affected parts, may only be claimed if:

- There is an alignment measurements/readings print–out BEFORE the actual repair showing the rear suspension was within specifications at the time, **and**
- There is an alignment measurements/readings print–out AFTER the work was done showing the alignment was altered by the work performed.

In addition, these print–outs need to be marked ‘‘BEFORE’’ and “AFTER,” and supported by an additional print–out confirming that the toe–in/camber (as applicable) was reset to specification.

LEXUS
Technical Service Information Bulletin
April 11, 1997

Title:
CAMBER ADJUSTING BOLTS

Models:
ES 300

TSIB

SUSPENSION
SU001-97

Introduction

To increase camber adjusting capability, the steering knuckle set bolts can be replaced with new camber adjusting bolts. These new camber adjusting bolts allow for greater movement between the steering knuckle and shock absorber assembly.

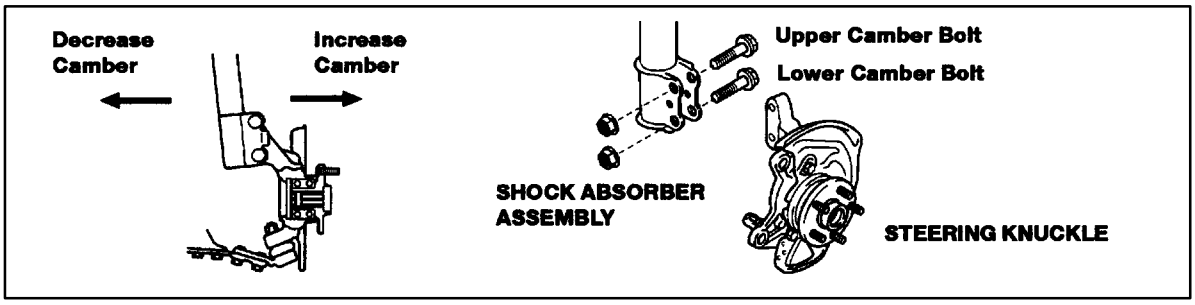
NOTE:
Vehicles which are out of alignment specifications due to a collision or worn out parts, should be inspected for damage and/or worn out parts before performing an alignment.

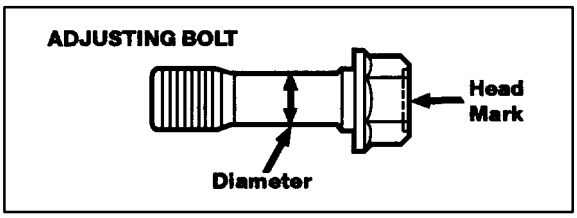
Affected Vehicles

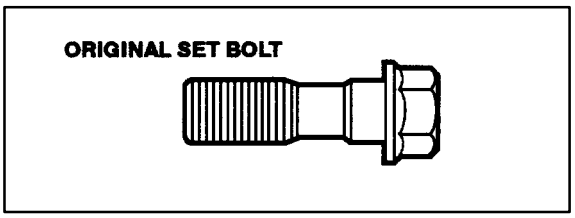
- **ES 300s.**

Adjustment Procedures

To change camber, install the adjusting bolt in the lower steering knuckle mounting hole. If a camber change greater than 0.75° (45') is required, camber bolts can be installed in both upper and lower steering knuckle holes for camber changes up to 1.50° (1°30'). See Camber Adjusting Bolt Table for model, part number and bolt selection.







Camber Adjusting Table

DIAMETER	PART NUMBER	ADJUSTABLE VALUE	HEAD MARK	REMARKS
15.9 mm (0.626 in.)	90105-17003	± 0.25° (15')	Dot ·11	The different camber adjusting bolts can be identified by the number of projecting dots on the bolt head.
15.0 mm (0.591 in.)	90105-17004	± 0.50° (30')	·11·	
14.0 mm (0.551 in.)	90105-17005	± 0.75° (45')	·11·	

Torque Specifications

MODEL	VDS	TORQUE SPECIFICATIONS
ES 300	BF12G BF22G GK13T VK13T	211 N·m (156 ft·lbs)

NOTE:
Camber adjusting bolt values, bolt identification and part number information for current production models can also be found in the SUSPENSION - WHEEL ALIGNMENT section of the applicable 1996 or later repair manuals.

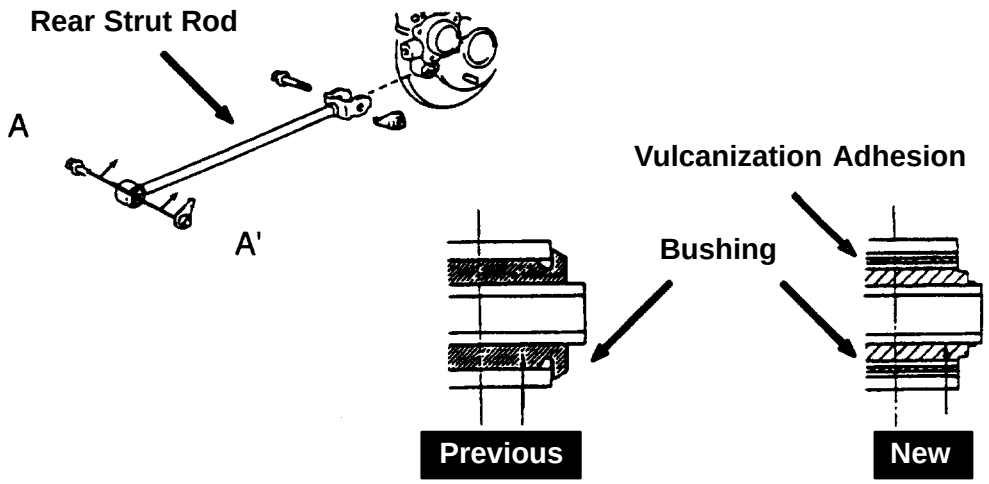
Warranty Information

NOTE:
No Warranty Applicable.

To reduce suspension squeak / groan noises, the following changes have been made:

- Rear Strut Rod Bushing – Design changed to vulcanization adhesion type
- Rear Stabilizer Bar Bushing – Material changed to an improved self–lubricating type
- Front Stabilizer Bar Bushing – Material changed to self–lubricating type

The design of the rear strut rod bushing has been changed to a vulcanization adhesion type.



A - A' Cross-Section

PRODUCTION EFFECTIVE:

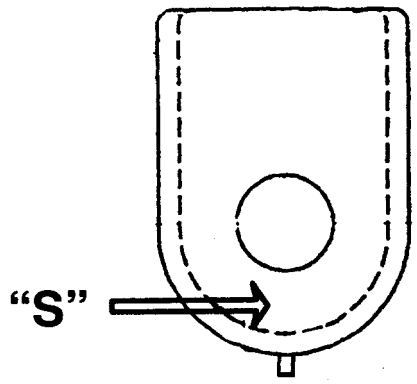
VIN	Production Date	Parts Effected
JT8GK1***R0010909	10/93	Rear Strut Rod Assembly
JT8GK1***R0036977	02/94	Rear Stabilizer Bar Bushing
JT8GK1***R0057070	05/94	Front Stabilizer Bar Bushing

PART NUMBER INFORMATION:

Previous Part Number	New Part Number	Part Name	Quantity
48780–12010	48780–33010	Assembly, Rear Strut Rod	2
48818–33011	No P/N Change	Bushing, Rear Stabilizer Bar	2
48815–33010	48815–33011	Bushing, Front	2

NOTE: **New parts can be used on vehicles built before and after production changes.**

The new rear stabilizer bar bushing utilizes the same part number, but can be identified by an "S" emboss as shown below.

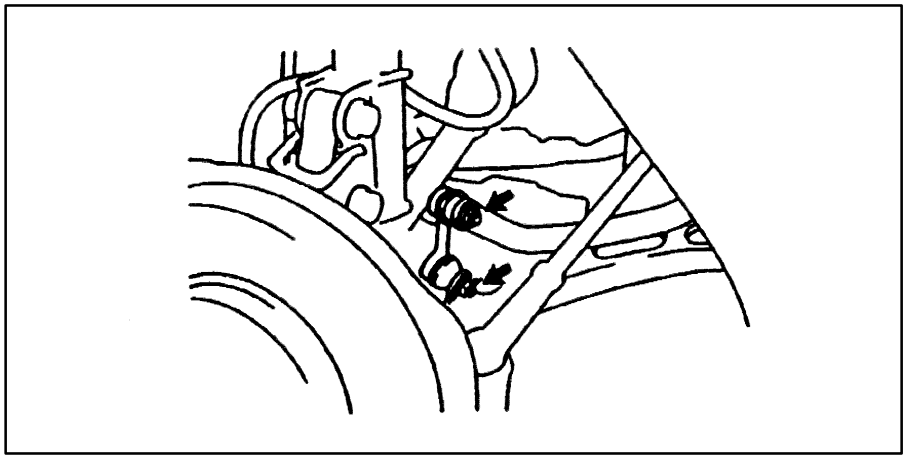


WARRANTY INFORMATION:

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
431611	Front Stabilizer Bar Bushing (One Side R&R)	0.4	48815–xxxxx	91	55
431611A	Front Stabilizer Bar Bushing (Opposite Side)	0.2	48815–xxxxx	91	55
482411	Rear Stabilizer Bar Bushing (One Side R&R)	0.3	48818–xxxxx	91	55
482411A	Rear Stabilizer Bar Bushing (Opposite Side)	0.1	48818–xxxxx	91	55
482091	Rear Strut Rod Assembly (One Side R&R)	0.5	48780–33010	91	55
482091A	Rear Strut Rod Assembly (Opposite Side)	0.1	48780–33010	91	55
482091B	Toe – In	0.2			

Title **FRONT STABILIZER LINK SET NUT**

Due to a change in the surface treatment of the rear suspension member nuts, the nut tightening torque has been reduced and the part number has been changed for the '94 model year.



	Previous	New
Torque	64 N•m (650 kgf/cm, 47 ft.lbf)	39 N•m (400 kgf/cm, 29 ft.lbf)

PART NUMBER INFORMATION:

Previous Part Number	New Part Number	Part Name
90179–10054	90179–10183	Nut (Stabilizer To Stabilizer Link)
90179–10076	90179–10183	Nut (Stabilizer Link to Stabilizer End Bracket))

REPAIR PROCEDURE:

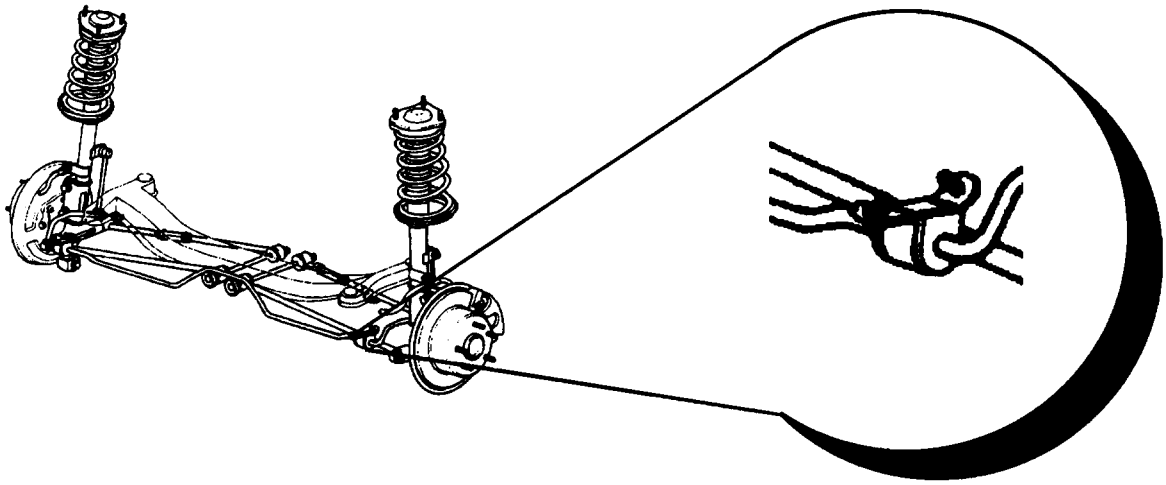
'93 and earlier ES 300s should continue to use the old style stabilizer nuts and torque specification. '94 and newer ES 300s must only use the new part number stabilizer bar nuts and torque specification.

PRODUCTION EFFECTIVE:

From August 1993 (1994 model year)

Title **REAR STABILIZER BAR BUSHING SQUEAK NOISES**

A new self–lubricating rear stabilizer bar bushing has been developed to eliminate the squeak noise coming from the rear stabilizer bar on ES 300s.



PART NUMBER INFORMATION:

Prev. Part No.	New. Part No.	Part Name	Model
48818–33010	48818–33011	Bushing, Stabilizer RR	ES 300

Note: Both rear bushings must be replaced as a set.

PRODUCTION DATE EFFECTIVE:

VIN NUMBER	MODEL	DATE
JT8VK13T#P0119837	ES 300	8/92

LEXUS

TECHNICAL SERVICE INFORMATION

REF: TRANSMISSION & CLUTCH

NO: TC002–96

DATE: JUNE 21, 1996

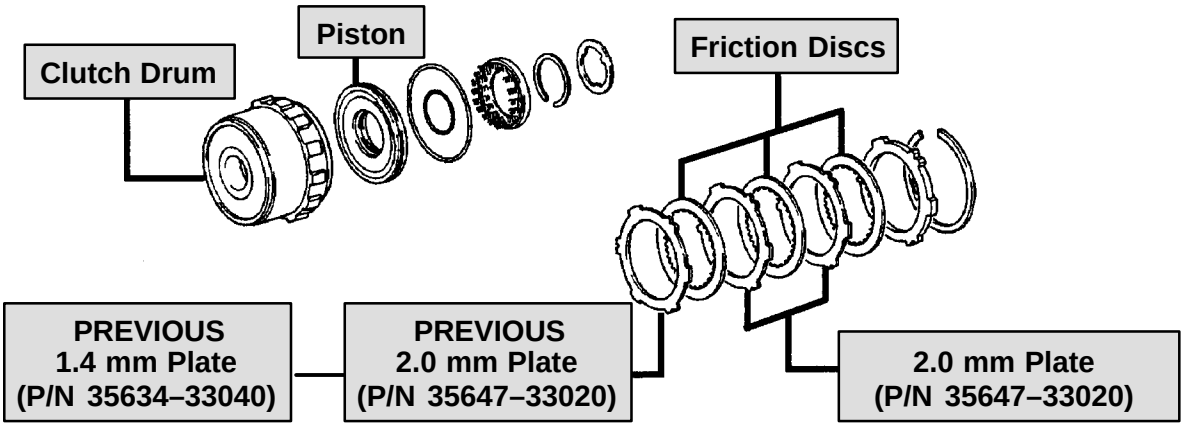
MODEL: ES 300

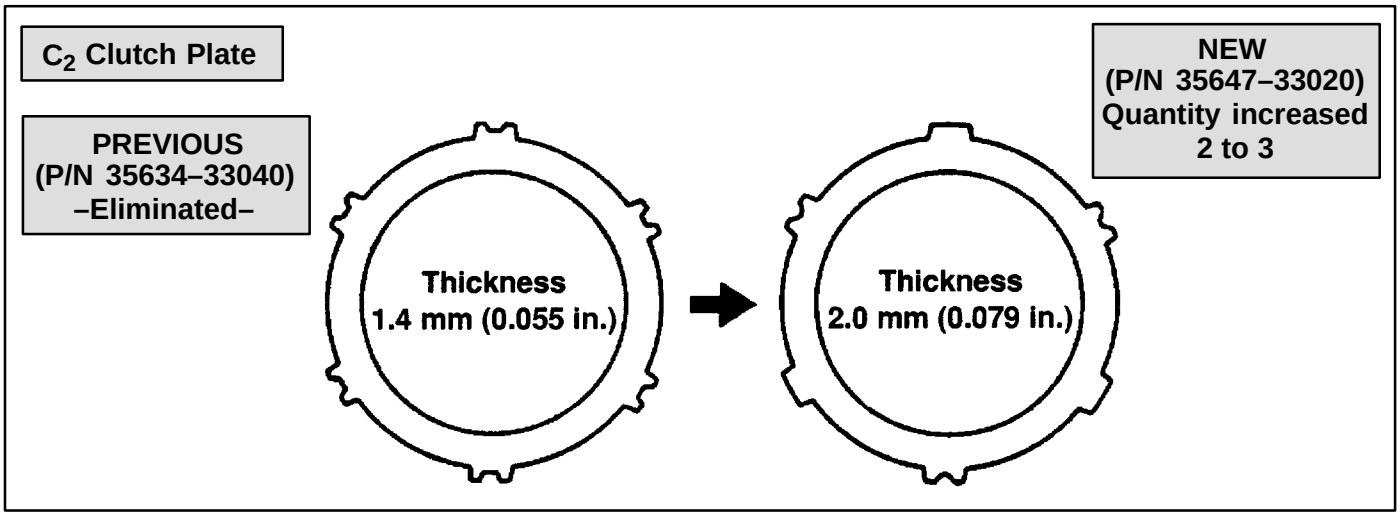
DIRECT CLUTCH (C2) IMPROVEMENTS–A541E ATM

Direct Clutch (C2) components have been changed on ES 300 models using the A541E ATM to improve shift engagement between "N" to "R" ranges. Changes to the C2 Clutch are as follows:

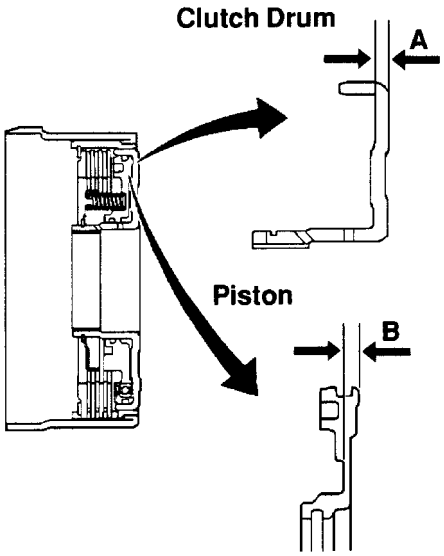
- C2 Clutch Plate (P/N 35634–33040) has been eliminated.
- C2 Clutch Plate (P/N 35647–33020) – Quantity increased from 2 to 3.
- C2 Clutch Drum wall thickness decreased (from 3.8 mm to 3.2 mm).
- C2 Piston wall thickness increased (from 3.1 mm to 3.7 mm).

CLUTCH COMPONENTS:





CLUTCH COMPONENTS: (CONT.)



	Previous	New
Part No.	35605–33020	35605–33021
A	3.8 mm (0.150 in.)	3.2 mm (0.126 in.)

	Previous	New
Part No.	35606–32030	35606–32031
B	3.1 mm (0.122 in.)	3.7 mm (0.146 in.)

PRODUCTION EFFECTIVE:

ATM Serial#: C1204694

PART NUMBER INFORMATION:

Previous P/N	NEW P/N	PART NAME	QTY
30500–33201	30500–33202	Transaxle Assy, Automatic	1
N/A	35605–33H02	Drum Sub–Assy Set, Direct Clutch	1
35605–33020	35605–33021	Spring Sub–Assy, Direct Clutch	1
35606–32030	35606–32031	Piston Sub–Assy, Direct Clutch	1
35634–33040	Eliminated	Plate, Clutch (for Direct Mulitiple Disc Clutch)	N/A
35647–33020	Same	Plate, Clutch (for Direct Mulitiple Disc Clutch)	2→3

NOTE*:* Previous and new parts are interchangeable only as a set.

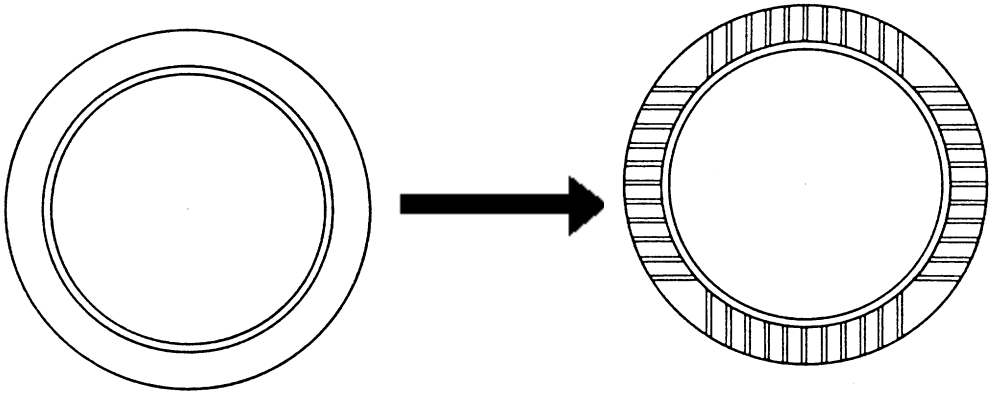
Title **GROOVED B2 CLUTCH DISC ON A540E ATM**

To improve B2 clutch durability, a grooved B2 Clutch Disc (2nd Coast Brake) has been adopted on the A540E ATM (ES 300 model).

MODIFICATION:

The new design grooved disc (shown below) allows increased ATF flow between B2 discs and B2 steel plates.

PREVIOUS **NEW**



PART NUMBER INFORMATION:

PART NAME	PREV. PART NO.	NEW PART NO.	QUANTITY
Clutch Disc (2nd Brake)	35677–33020	35677–33021	3
Kit, Transaxle Overhaul	04352–33022	04352–33023 (Ending ATM# E0301760) 04352–33041 (Starting ATM# E0301761)	1
Transaxle Assy., Automatic	30500–33063	30500–33064	1

NOTE: This change has also been adopted in the Reman Program.

INTERCHANGEABILITY:

Previous and new parts are interchangeable.

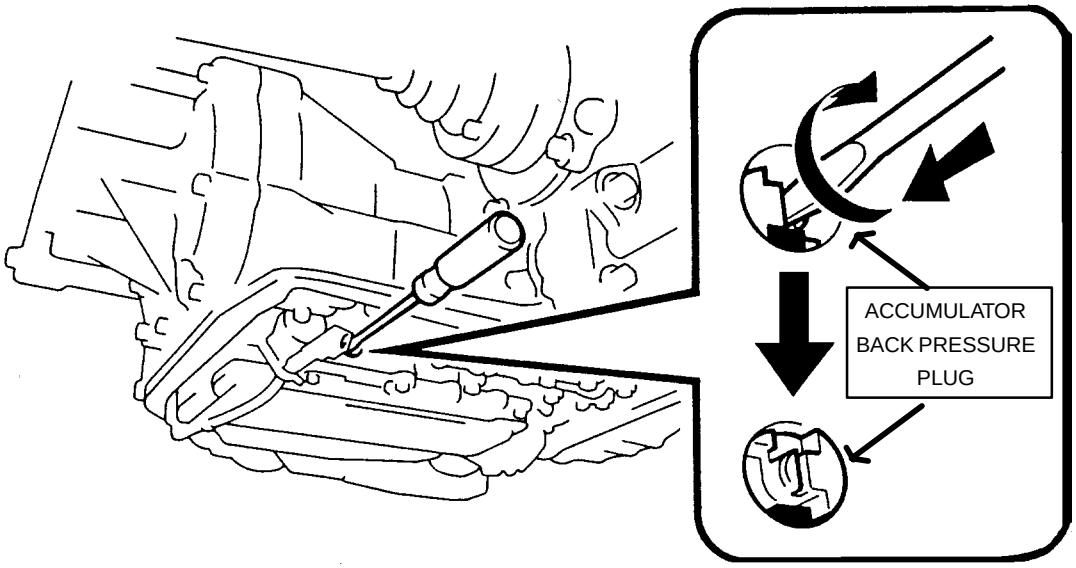
For customer complaints of harsh shift on '94 ES 300s, the following adjustment will improve 1~2, 2~3, & 3~4 upshift quality.

1. Confirm the customer's shift condition.

2. Check throttle cable adjustment. (Refer to Repair Manual).

3. Adjust the accumulator back–pressure control as indicated below.

   A. Drain the transmission fluid.
   B. Remove oil pan and gasket.
   C. Set the accumulator back–pressure to the lowest position. See illustration below.



NOTE: Depress the accumulator back–pressure plug slightly inward with a screwdriver and turn the plug to the full right position. The plug will then be set to the most protruded position (refer to illustration).

4. Install oil pan with new gasket and refill the transmission with ATF.

5. Reconfirm shift quality after a 30 minute test drive with the pattern select switch at the **"NORMAL"** position.

NOTE: **Because the ECU must relearn the logic, the vehicle should be driven under typical operating conditions for a full 30 minutes.**

WARRANTY INFORMATION:

SPECIAL OPCODE	DESCRIPTION	TIME	OPN	T1	T2
TC5001	Adjust accumulator back–pressure control including road tests and other necessary checks and adjustments	1.9	35410–33042	25	43

Title **EMISSION CONTROL LABEL ORDER FORM CALIFORNIA/50 STATE CERTIFIED**

Should a California / 50 State Certified Vehicle Emission Control Label be required, please abide by the regulations outlined in this TSB.

NOTE: California / 50 State Certified Vehicle Emission Control Labels cannot be ordered using normal parts ordering procedures.

REGULATIONS

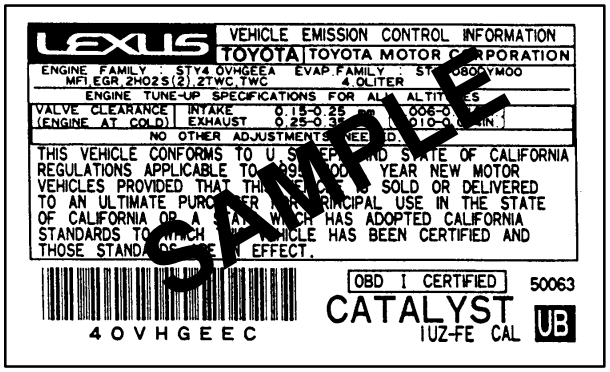
California Revenue and Taxation Code Section 6263 states that only vehicle manufacturers or persons authorized by a manufacturer may affix an Emission Control Information Label (see sample) to a vehicle. Any person who violates this regulation may be subject to a fine and / or imprisonment.

Personnel at franchised dealers are authorized to affix such labels to vehicles and are therefore subject to this regulation and the attendant penalties.

1. **DO NOT SELL LABELS OVER THE COUNTER, ALWAYS INSTALL THE LABEL ON THE VEHICLE.**
2. **NEVER INSTALL A LABEL ON A VEHICLE THAT IS NOT A CALIFORNIA / 50 STATE EMISSION CERTIFIED VEHICLE.**

To ensure the correct application of these labels, it is necessary to use the following special ordering procedures to obtain a replacement label.

- Make a copy of the form provided on page 2 of this bulletin.
- Fill in the required information and mail or fax the form to the address or number indicated.
- For questions regarding Vehicle Emission Control Information Labels for California / 50 State Certified, call (310) 781–3254.



Label No.

VEHICLE EMISSION CONTROL INFORMATION LABEL ORDER FORM
CALIFORNIA / 50 STATE CERTIFIED

IMPORTANT - PLEASE READ FIRST

Make a copy of this form, carefully complete all information and fax or mail the form to the address or fax number indicated below

TMS USE ONLY

VIN: | | | | | | | | | | | | | | | | | |

TMS USE ONLY

MILEAGE: | | | | | | | P/D: | / |

LABEL NUMBER (See example page 1): | | | | | |

PART NUMBER: | | | | | – | | | | |

TMS USE ONLY: | | | | | – | | | | |

REASON FOR REPLACEMENT:

_____

_____

_____

DEALER INFORMATION

DEALER NUMBER: | | | | | |

DEALER NAME: _____ CONTACT PERSON: _____

ADDRESS: _____

CITY _____ STATE _____ PHONE NUMBER _____

MAIL OR FAX THIS FORM TO:

TOYOTA MOTOR SALES, U.S.A. INC.
19001 S. Western Ave.
P.O. BOX 2991
Torrance, CA 90509–2991
Attn: Technical Planning and Coordination S202
Fax Number: (310) 781–3399

'95 CALIFORNIA EMISSION CONTROL LABELS

Model	Engine	P / N
SC 300	2JZ–FE	11298–46023
SC 400	1UZ–FE	11298–50063

'94 CALIFORNIA EMISSION CONTROL LABELS

ES 300	1MZ–FE	11298–20020
GS 300	2JZ–FE	11298–46081
SC 300	2JZ–FE	11298–46022
SC 400	1UZ–FE	11298–50062
LS 400	1UZ–FE (P/D 8/93–12/93) (P/D 1/94)	11298–50071 11298–50072

'93 CALIFORNIA EMISSION CONTROL LABELS

ES 300	3VZ–FE	11298–62190
GS 300	2JZ–FE	11298–46080
SC 300	2JZ–FE	11298–46021
SC 400	1UZ–FE	11298–50061
LS 400	1UZ–FE	11298–50070

'92 CALIFORNIA EMISSION CONTROL LABELS

ES 300	3VZ–FE	11298–62150
SC 300	2JZ–FE	11298–46020
SC 400	1UZ–FE	11298–50060
LS 400	1UZ–FE	11298–50022

'91 CALIFORNIA EMISSION CONTROL LABELS

ES 250	2VZ–FE	11298–62130
LS 400	1UZ–FE	11298–50021

'90 CALIFORNIA EMISSION CONTROL LABELS

ES 250	2V–FE	11298–62100
LS 400	1UZ–FE	11298–50020

LEXUS

Technical Service Information Bulletin

January 1, 1999

Title:

VOLUME 4 INFORMATION

Models:

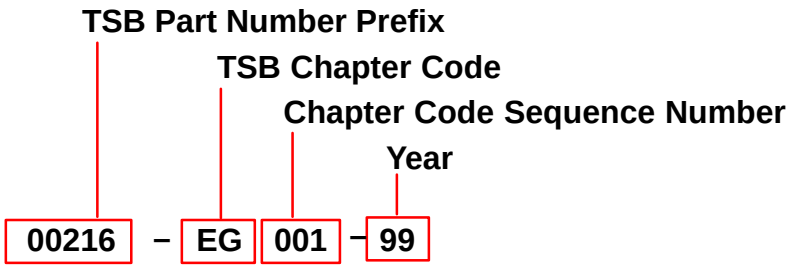
All Models

TSIB

Introduction

Lexus Technical Service Information Bulletins (TSIBs) continue to be one of the most current sources of technical information available. To ensure complete access to this reference source, use the following steps:

- Volume Four will begin with 1999 Technical Service Information Bulletins.
- Place this bulletin along with all 1999 TSIBs into the new binders received with this bulletin.
- Label this new binder “Volume Four“ using the labels provided with the binder.
- Additional copies of 1994 through 1999 TSIBs are available to all Lexus Dealerships through the Non–Parts System (MDC NPM System) by using the following Part Number designation:



Related TSIB Part Numbers

MATERIAL DESCRIPTION	PART NUMBER
1999 TSIB Binder complete with all bulletins issued to date	VOL4
New TSIB Binder and tabs only	00216–00001

LEXUS

Technical Service Information Bulletin

September 26, 2003

Title:

WARRANTY PARTS MARKING PROCEDURE

Models:

All Models

TSIB

Introduction

Effective September 1, 2003, all warranty parts (as indicated on the next page) must be marked in the area or location of the failure. The technician should complete this procedure after the failed part has been removed from the vehicle and before the part is placed in the 10–bin storage. (Exchanged parts and remanufactured parts are not included in this procedure.)

Failed parts marking will be beneficial in detecting and resolving product and parts quality issues. This will also offer additional opportunities to make future enhancements to our parts and products.

Parts are subject to random inspection in the dealership by field representatives to ensure compliance with this new policy.

Failure to comply with this policy may result in a debit of the corresponding warranty claim(s).

Applicable Vehicles

- All models.

Parts Marking Procedure

All technicians must follow these procedures to ensure proper parts marking:

- Wipe the part clean (no excess fluid should be present).
- Indicate area of defect or failure by marking the specific part(s) with a water resistant permanent marker. Use a color that can be easily seen against the background of the part being marked. For dark surfaces the color yellow is highly recommended as well as the color black for light surfaces.
- Mark the area of failure or defect by drawing a circle, a square, pointing an arrow or adhering tape with an indication of the failed or defect location.
- Attach a completed Warranty Parts Tag (M/N 00404–PRETN–TAGS) to the marked part.

All other parts recovery/shipping policies and procedures apply.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Parts Marking Requirement

Dealers are requested to mark the location of the failure of all warranty parts that are listed below. ***This list is not inclusive.*** There may be other components that can be marked in the area of failure. All other parts that can be marked should be marked.

Parts Marking List

- assist grip assy
- audio (blemish)
- back door garnish
- bumper covers
- cargo cover (retractable)
- carpet
- clutch disc
- clutch flywheel
- combination meter glass
- console and components
- cowl assy
- cowl side trim sub–assy
- cupholders
- cylinder head cover sub–assy
- dash panel insulator assy
- dashboard and trim
- disc wheel
- display panels
- door handle assy
- door moulding
- door trim panel & molding
- emblems
- engine oil pan
- exhaust manifold
- floor and cargo mats
- gear shift knob
- grills
- headlamps
- headliner
- hoses
- instrument panel safety pad sub–assy
- Interior light assemblies and covers
- knobs, levers, handles
- l/pulley pump assy
- mirrors (side and rearview)
- navigation or VES screens
- pillar garnish
- rack and pinion/power steering gear assy
- radiator
- room partition board
- rotors (mark where min. runout is exceeded or warped)
- seat covers/cushions
- seat tracks
- soft trim
- spare tire cover
- steering column cover
- steering wheel
- tail lamps and covers
- transmission oil pan
- visor
- washer jar
- wheel cap
- wheels

Parts Marking List (Continued)

NOTE:

The following parts do not have to be marked unless the technician can determine failure and location.

air induction/ejection systems
all computers
alternators
audio (internal)
batteries
bearings
belts
catalytic converter
crankshaft
cruise control
distributors
EGR systems
engine control systems
exchange parts
exhaust systems
fuel injection systems
fuel injectors
fuel pump
ignition system
internal engine components
internal transmission components
oil cooler
power door lock switches
remanufactured parts
starters
suspension components
valve covers
window regulators
wiper motors

Technical Service Information Bulletin
October 11, 2002

Title:
SUSPENSION BALL JOINT INSPECTION
Models:
Applicable Models

TSIB

Introduction

This Service Bulletin is to inform you of the inspection method, and free play specification figures for suspension ball joints. The on–vehicle inspection methods have been standardized.

Applicable Vehicles

- **1990 – 2000** model year **LS 400** vehicles.
- **2001 – 2003** model year **LS 430** vehicles.
- **1993 – 2003** model year **GS 300** vehicles.
- **1998 – 2000** model year **GS 400** vehicles.
- **2001 – 2003** model year **GS 430** vehicles.
- **1992 – 2000** model year **SC 300 & SC 400** vehicles.
- **2002 – 2003** model year **SC 430** vehicles.
- **2001 – 2003** model year **IS 300** vehicles.
- **1999 – 2003** model year **RX 300** vehicles.
- **1990 – 2003** model year **ES 250 & ES 300** vehicles.
- **1998 – 2003** model year **LX 470** vehicles.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Inspection Information Table

MODEL	LOCATION	LOWER BALL JOINT OR SUSPENSION BALL JOINT			UPPER BALL JOINT		
		INSP. METHOD	MAX. PLAY	TURNING TORQUE	INSP. METHOD	MAX. PLAY	TURNING TORQUE
LS 400 (UCF10) 1990–1994	Front	1–(A)	0.016 in. (0.4) mm	4 in.•lbf (0.5 N•m) or Less	2	No Play Felt	31 in.•lbf (3.5 N•m) or Less
	Rear	3	No Play Felt	31 in.•lbf (3.5 N•m) or Less			
LS 400 (UCF20) 1995–2000	Front	1–(A)	0.016 in. (0.4) mm	22 in.•lbf (2.5 N•m) or Less			
	Rear	3	No Play Felt	31 in.•lbf (3.5 N•m) or Less			
LS 430 (UCF30) 2001–2003	Front	1–(A)	No Play Felt	31 in.•lbf (3.5 N•m) or Less			
	Rear	3	No Play Felt	31 in.•lbf (3.5 N•m) or Less			
GS 300 (JZS147) 1993–1997	Front	1–(A)	0.016 in. (0.4) mm	27 in.•lbf (3.0 N•m) or Less			
	Rear	1–(A)	No Play Felt	31 in.•lbf (3.5 N•m) or Less			
GS 300, 400, 430 (JZS16#, UZS16#) 1998–2003	Front	1–(A)	0.016 in. (0.4) mm	27 in.•lbf (3.0 N•m) or Less			
	Rear	3	No Play Felt	31 in.•lbf (3.5 N•m) or Less			
SC 300, 400 (JZZ31, UZZ30) 1992–2000	Front	1–(A)	0.016 in. (0.4) mm	27 in.•lbf (3.0 N•m) or Less			
	Rear	1–(A)	No Play Felt	31 in.•lbf (3.5 N•m) or Less			
SC 430 (UZZ40) 2002–2003	Front	1–(A)	0.016 in. (0.4) mm	27 in.•lbf (3.0 N•m) or Less			
	Rear	3	No Play Felt	31 in.•lbf (3.5 N•m) or Less			

Inspection Information Table (Continued)

MODEL	LOCATION	LOWER BALL JOINT OR SUSPENSION BALL JOINT			UPPER BALL JOINT		
		INSP. METHOD	MAX. PLAY	TURNING TORQUE	INSP. METHOD	MAX. PLAY	TURNING TORQUE
IS 300 (JCE10) 2001–2003	Front	1–(A)	0.016 in. (0.4) mm	27 in.•lbf (3.0 N•m) or Less	2	No Play Felt	31 in.•lbf (3.5 N•m) or Less
	Rear	3	No Play Felt	31 in.•lbf (3.5 N•m) or Less			27 in.•lbf (3.0 N•m) or Less
RX 300 (MCU10, 15) 1999–2003	Front	1–(B)	No Play Felt	31 in.•lbf (3.5 N•m) or Less	N/A	N/A	N/A
	Rear	N/A	N/A	N/A	N/A	N/A	N/A
ES 250 & 300 (VZV21, MCV20, 30) 1990–2003	Front	1–(B)	No Play Felt	31 in.•lbf (3.5 N•m) or Less	N/A	N/A	N/A
	Rear	N/A	N/A	N/A	N/A	N/A	N/A
LX 470 (UZJ100) 1998–2003	Front	1–(A)	No Play Felt	27 in.•lbf (3.0 N•m) or Less	2	No Play Felt	40 in.•lbf (4.5 N•m) or Less
	Rear	N/A	N/A	N/A	N/A	N/A	N/A

Free Play Inspection

NOTE:
- **Be sure to check the table for the applicable inspection type based on the vehicle model.**
- **Refer to the table for the standard free play values.**

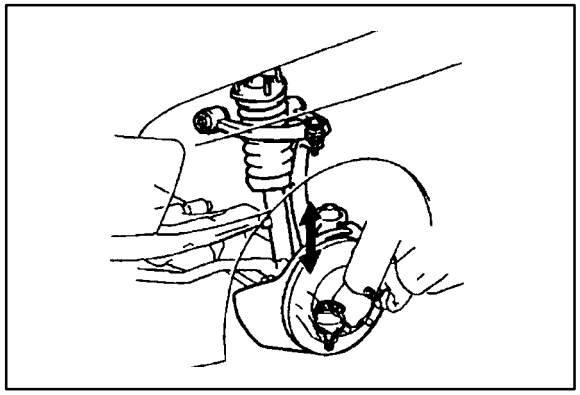
1. Inspect Lower Ball Joint Free Play

A. Move the hub up and down by hand (Most models with wish–bone suspension):

a. Remove the tire.

b. Install the 2 lug nuts.

c. Inspect the free play while moving the lug nuts up and down at a force of 67 lbf (294 N, 30 kgf).

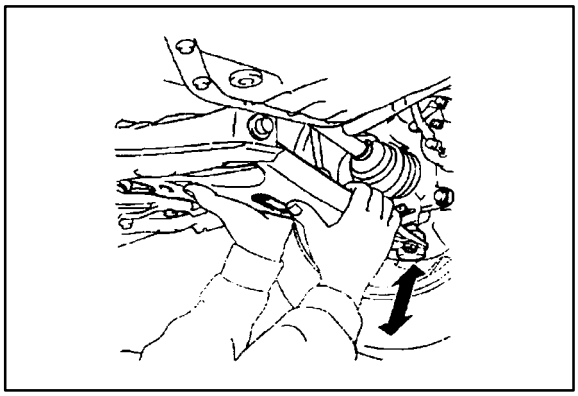


Free Play Inspection (Continued)

B. Move the lower arm by hand (All models with strut type suspension and some models with wish–bone type suspension):

a. Lift up the vehicle.

b. Inspect the free play while moving the lower arm up and down at a force of 67 lbf (294 N, 30 kgf).

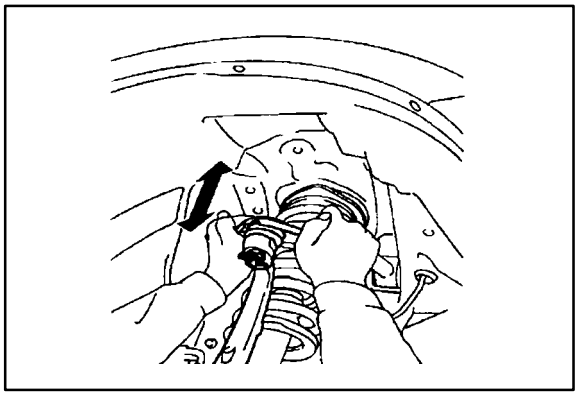


2. Inspect Upper Ball Joint Play

Move the upper arm by hand (Models where the **LOWER** control arm are linked by a torsion bar, and all models using a coil spring.

A. Remove the front tire.

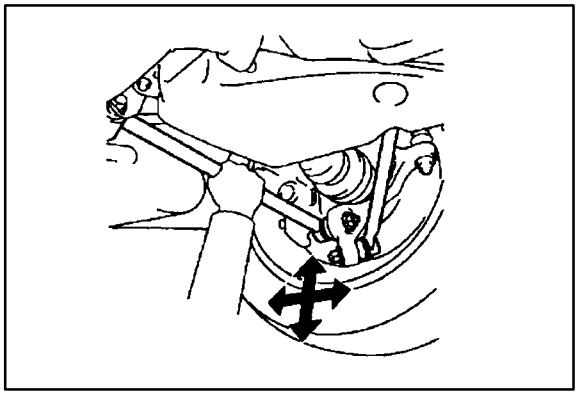
B. Inspect the free play while moving the upper arm up and down at a force of 67 lbf (294 N, 30 kgf).



3. Inspect the Suspension Arm Ball Joint Free Play

A. Lift up the vehicle.

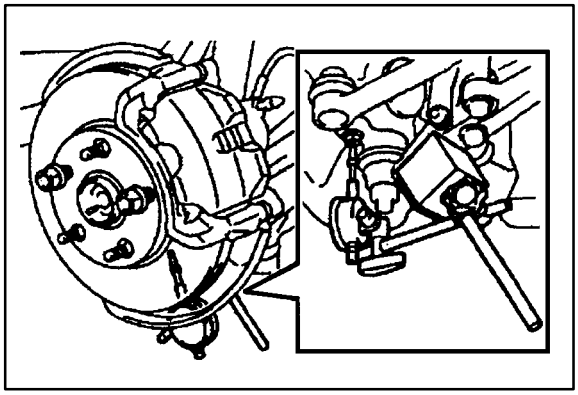
B. Inspect the free play while moving the control arm by hand.



(Reference)

Free Play Inspection Method (Gauge Installation)

- Position the dial gauge between the arm (upper or lower) and the knuckle, and measure free play.
  (This illustration shows how to measure free play for vehicles with double wishbone type suspension with coil spring).



Inspect Ball Joint Dust Cover

Check for cracks and grease leaks on the dust cover (boots).

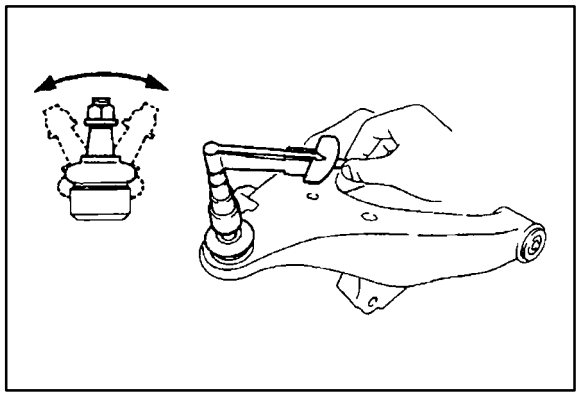
Turning Torque Inspection

Inspect Ball Joint Turning Torque

Move the stud back and forth 5 times, then turn the stud continuously at 3–5 seconds per turn, and measure the turning torque at the 5th turn.

HINT:

Refer to the table for standard values for the turning torque.



LEXUS

Technical Service Information Bulletin

May 4, 2001

Title:

REPLACEMENT CERTIFICATION LABELS

Models:

All Models

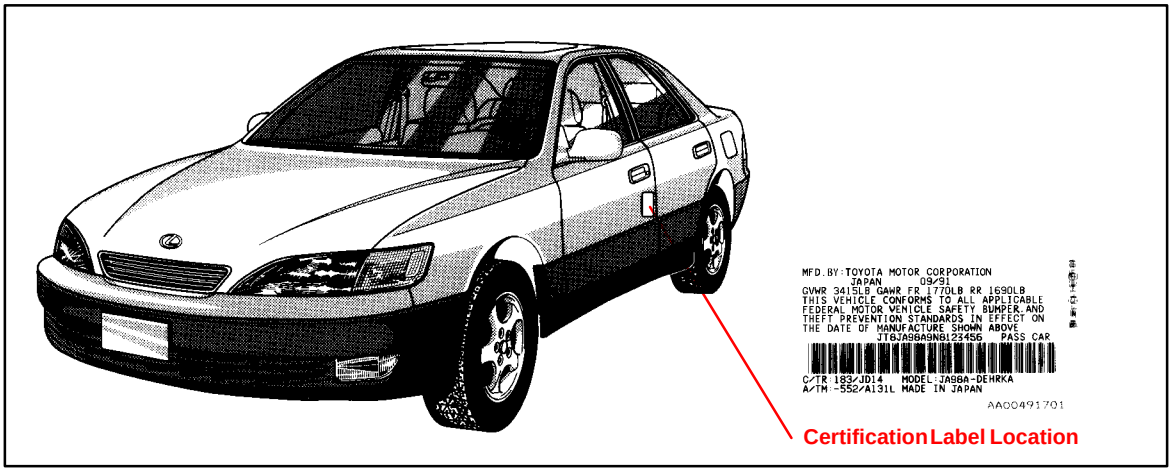
TSIB

PG015-01

PRODUCT GENERAL INFORMATION

Introduction

Replacement Certification Labels (vinyl label affixed to driver's door or door post) **may be** available from Toyota providing the request meets one of the criteria listed below.



Applicable Vehicles

- All Lexus vehicles.

Certification Label Criteria

1. The vehicle is in an accident and the label is damaged or is attached to a part that will be replaced during the repair.

NOTE:

- **Processing a new label *will be delayed significantly if the old certification label is not available.***
- **A replacement label MAY NOT be available if the vehicle is more than 5 years old and the old label does not accompany this request.**

2. The label is stolen.

Procurement Procedure

To request a replacement label, complete a copy of the form on the back of this bulletin. Your dealer parts account will be billed $10.00 for each replacement of a damaged or stolen label.

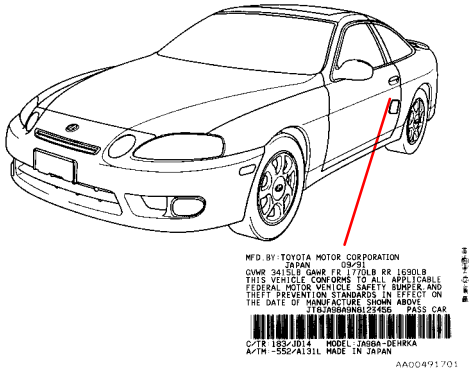
NOTE:

All replacement labels for damaged and/or stolen vehicles are subject to approval by the Technical Compliance Department. If you have any specific questions, contact (310) 468–3390.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

APPLICATION FOR REPLACEMENT CERTIFICATION LABEL



REASON FOR REPLACEMENT

- ☐ ACCIDENT DAMAGE
- ☐ STOLEN
- ☐ OTHER _____

REASON/EXPLANATION

PLEASE PROVIDE CORRECT VIN _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

ATTACH ORIGINAL LABEL HERE

NOTE:
Original label MUST accompany this application or order will be significantly delayed.

DEALER INFORMATION

DEALER CODE: ☐☐☐☐☐

DEALER NAME: _____

ADDRESS: _____
STREET ADDRESS

_____
CITY, STATE, ZIP CODE

TELEPHONE: ( ) _____
AREA CODE, TELEPHONE NUMBER

CONTACT: _____
FIRST NAME, LAST NAME

MAIL (*DO NOT FAX*) THE COMPLETED REQUEST FORM WITH THE OLD LABEL TO:

TOYOTA MOTOR SALES, U.S.A. INC.
TECHNICAL COMPLIANCE DEPARTMENT, S207
19001 S. WESTERN AVENUE
TORRANCE, CA 90509–2991

Technical Service Information Bulletin
May 4, 2001

Title:
REPLACEMENT VIN PLATES
Models:
All Models

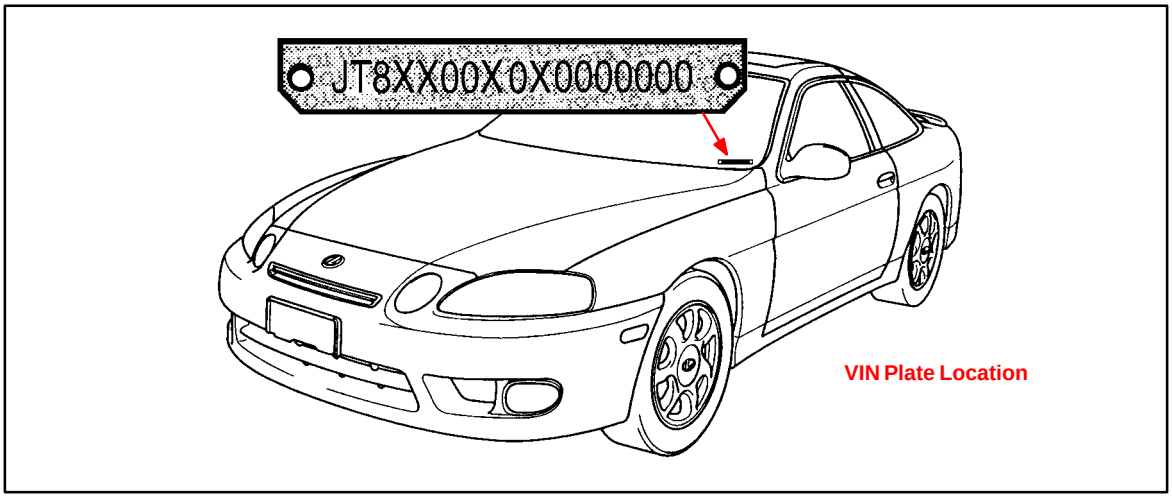
TSIB

PG016-01

PRODUCT GENERAL INFORMATION

Introduction

Replacement **VIN** plates (metal plates riveted to dashboard) **may be** available from Lexus providing the request meets the criteria listed below.



Applicable Vehicles

- All Lexus vehicles.

Replacement VIN Plate Criteria

- The vehicle is in an accident and the plate is damaged.

NOTE:
The original plate to be replaced MUST accompany the request.

NOTE:
If a plate is stolen, be sure to contact the State Police or your State's Department of Motor Vehicles (DMV). In most cases the State DMV will issue a unique number so that the original number can be included on stolen vehicle listings. If this is the case, a replacement plate is NOT available from Lexus. However, the original VIN, NOT the state issued VIN, must be used on all warranty claims.

Procurement Procedure

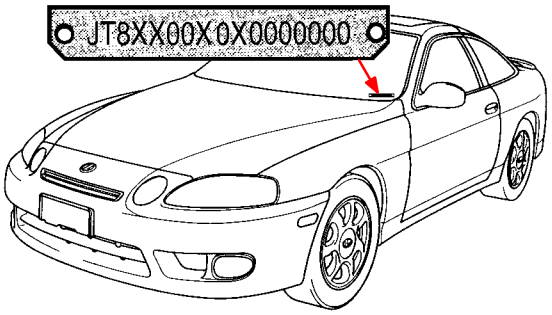
To request a replacement plate, complete a copy of the form on the back of this page. Note that the damaged VIN plate **MUST** accompany the request form. Your dealer parts account will be billed $10.00 for each replacement of a damaged plate.

NOTE:
All replacement plates for damaged and/or stolen vehicles are subject to approval by the Technical Compliance Department. If you have any specific questions, contact (310) 468–3390.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

APPLICATION FOR REPLACEMENT VIN PLATE



REASON FOR REPLACEMENT

☐ ACCIDENT DAMAGE

☐ OTHER _____

REASON/EXPLANATION

PLEASE PROVIDE CORRECT VIN _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

DEALER INFORMATION

DEALER CODE: ☐☐☐☐☐

DEALER NAME: _____

ADDRESS: _____

STREET ADDRESS

_____

CITY, STATE, ZIP CODE

TELEPHONE: ( ) _____

AREA CODE, TELEPHONE NUMBER

CONTACT: _____

FIRST NAME, LAST NAME

MAIL (*DO NOT FAX*) THE COMPLETED REQUEST FORM WITH THE OLD PLATE TO:

TOYOTA MOTOR SALES, U.S.A. INC.
TECHNICAL COMPLIANCE DEPARTMENT, S207
19001 S. WESTERN AVENUE
TORRANCE, CA. 90509–2991

LEXUS

Technical Service Information Bulletin

December 24, 1999

Title:

YEAR 200 READINESS DISCLOSURE

Models:

All Models

TSIB

Introduction

Based upon information we have obtained from our suppliers,[1] all factory–installed systems in Lexus cars and sports utility vehicles distributed and/or sold by Lexus ("Vehicles") will not be affected by the change of date from 1999 to the year 2000.

Lexus anticipates no problems with past, current or future Lexus brand vehicles or Genuine Lexus parts and accessories regarding year 2000 readiness. We hope the following information is helpful to you.

Please contact our Customer Service Department at 1–800–255–3987 should you have any other questions.

Applicable Vehicles

- **All Models**

Warranty

WARRANTY STATEMENT WITH RESPECT TO LEXUS BRAND VEHICLES

Lexus is pleased to confirm that the manufacturer's limited express warranty and Lexus' powertrain warranty warrant that all factory–installed systems in new Vehicles and Lexus Certified Pre–Owned Vehicles shall be free of any defect arising solely due to a change in date from the year 1999 to the year 2000.[2]

With respect to Vehicles no longer covered under such Lexus limited express warranty, Lexus is not aware of any operational safety or functional impact the year 2000 date change would have upon any factory–installed system in Lexus Vehicles. Should Lexus become aware of any material impact to the operational safety or functionality of such systems, Lexus shall publish such information promptly.

WARRANTY STATEMENT WITH RESPECT TO GENUINE LEXUS PARTS AND ACCESSORIES

Lexus is pleased to confirm that the manufacturer's limited express warranty warrants that all new Lexus Genuine Parts and Accessories shall be free of any defect arising solely due to a change in date from the year 1999 to the year 2000.[2]

With respect to products no longer covered under a Lexus limited express warranty, Lexus is not aware of any operational safety or functional impact the year 2000 date change would have upon such products. Should Lexus become aware of any material impact to the operational safety or functionality of such a product, Lexus shall publish such information promptly.

1 Lexus relies on the statements made by its suppliers and has not independently verified such information.

2 Please refer to terms of limited express warranty for disclaimers, limitations and restrictions.

Parts & Accessories

GENUINE LEXUS PARTS AND ACCESSORIES

Based upon information we have obtained from our suppliers,[1] all new Genuine Lexus Parts and Accessories will not be affected by the change of date from 1999 to the year 2000.

DEALER–INSTALLED AND OTHER THIRD PARTY–INSTALLED SYSTEMS/PRODUCTS

Our dealers and distributors may sell and/or install products that are not Genuine Lexus Parts and Accessories. Lexus can only determine the Year 2000 status of Genuine Lexus Parts and Accessories. Therefore, the above statements do not apply to products that are not Genuine Lexus Parts and Accessories or were not installed by the factory. We encourage you to contact your dealer or other relevant third party regarding products installed on your Lexus vehicle(s) that are not Genuine Lexus Parts and Accessories and/or were not installed by the factory to determine any Year 2000 issues associated with those products.

[1] Lexus relies on the statements made by its suppliers and has not independently verified such information.

LEXUS

Technical Service Information Bulletin

June 7, 2002

Title:

MIDTRONICS BATTERY TESTER SOFTWARE UPDATE

Models:

All Models & Model Years Through Current

TSIB

SS002-02

SPECIAL SERVICE TOOLS

Introduction

The internal software of the Midtronics Battery Tester can now be periodically updated to support future models. New updates will include new battery warranty codes and testing information.

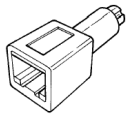
The Technical Information System (TIS) will be the primary distribution method for battery tester software updates. Utilizing the new Midtronics Update Wizard (MUW) and the new essential SST (Midtronics Battery Tester Adapter), you will be able to quickly and easily update your Midtronics Battery Tester.

This bulletin will show you how to use and install the Midtronics Update Wizard to update the Midtronics tester software.

Applicable Vehicles

- **All models and model years through current.**

Required Tools & Material

SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QUANTITY
Midtronics Battery Tester* 	00002–MP815–L	1
Midtronics Battery Tester Adapter* 	00002–DMPUC	1

* Essential SSTs.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Process Overview

The Midtronics Battery Tester Software Update is a 2-step process:

1. **Installing the Midtronics Update Wizard (MUW).**
   The Midtronics Update Wizard (MUW) is an application that only needs to be installed on the PC one time. This bulletin will provide the steps to install the MUW.
2. **Using the Midtronics Update Wizard (MUW).**
   The Midtronics Update Wizard (MUW) will be used with each battery tester software update. The Update Wizard will walk you through each step to connect the PC to the tester and perform the update.

Operation Procedure: Preparation

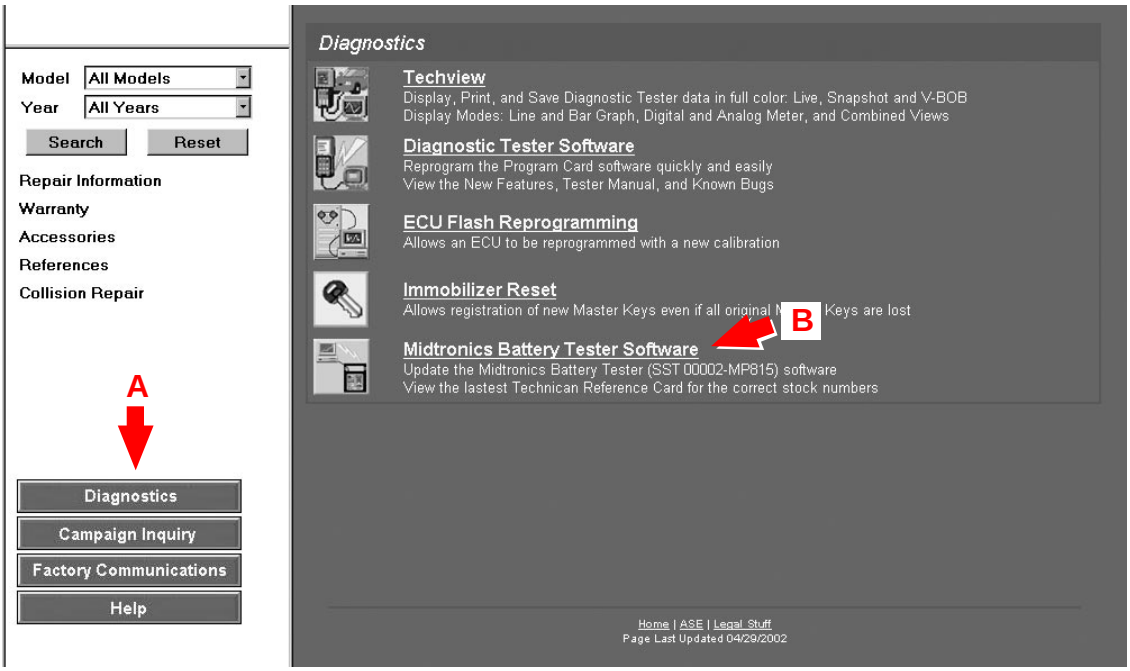
Before Installation or Use of the Midtronics Update Wizard (MUW):

Steps A and B are required to begin the update process. (Refer to Figure 1.)

A. Open TIS (Technical Information System) and go to the “Diagnostics” section.

B. Click on the text “Midtronics Battery Tester Software.”

FIGURE 1.



Operation Procedure

1. Installing the Midtronics Update Wizard (MUW).

NOTE:

The Midtronics Update Wizard only needs to be installed once and must be installed before the rest of the update process can take place. If this step is already complete, continue on to step 2.

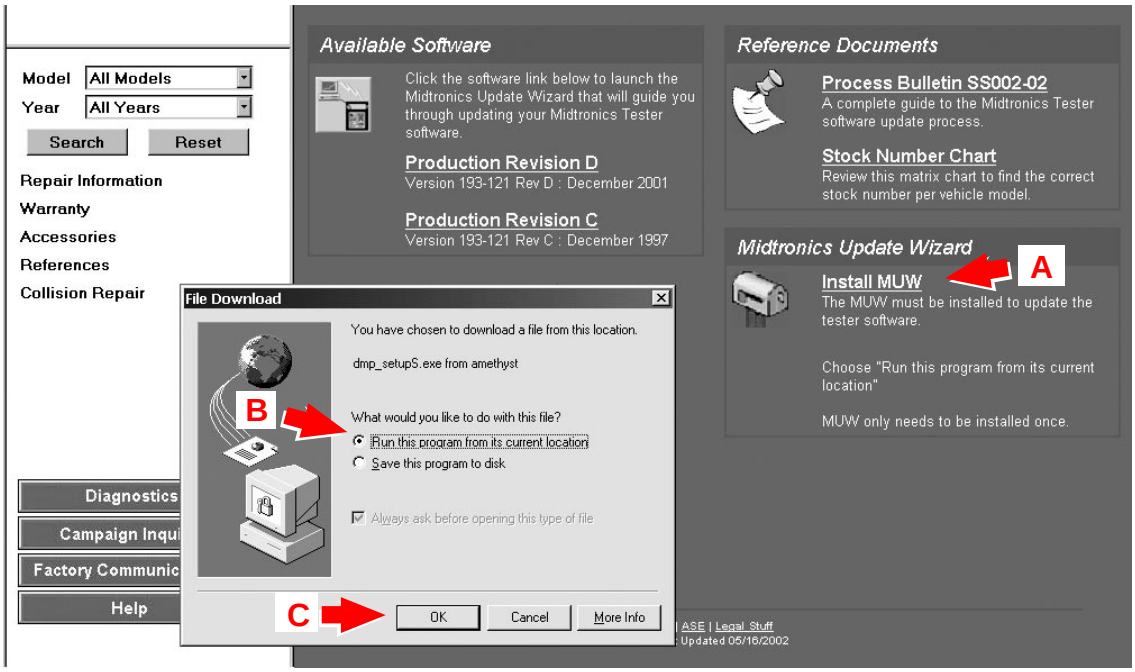
A. Click on the text “Install MUW.” (Figure 2.)

B. The file download window will appear. Click on “Run this program from it’s current location.”

C. Click the “OK” button.

D. Allow the Update Wizard to perform its self–installation. This will take only a few minutes.

FIGURE 2.



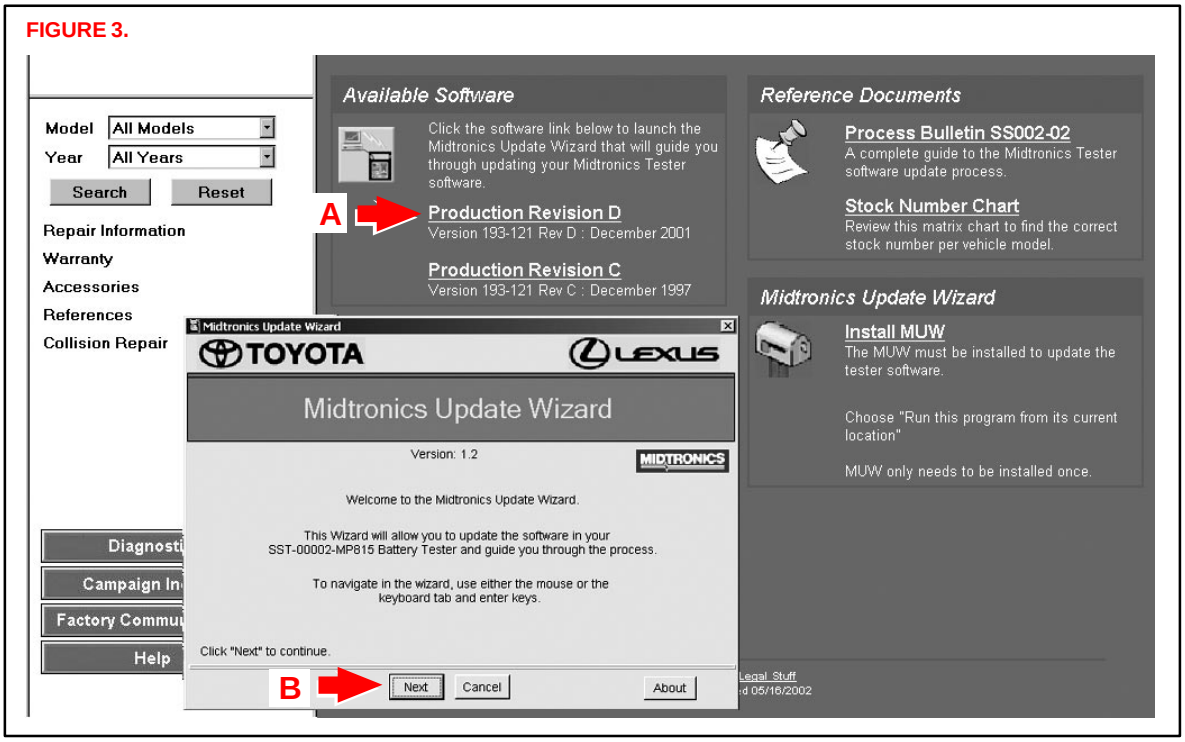
Operation Procedure (Continued)

2. Using the Midtronics Update Wizard (MUW).

A. Click on the latest version of production software. (Figure 3.) This will begin the software update process.

B. The next screen to appear will be the first screen of the software update. Click "Next" to continue.

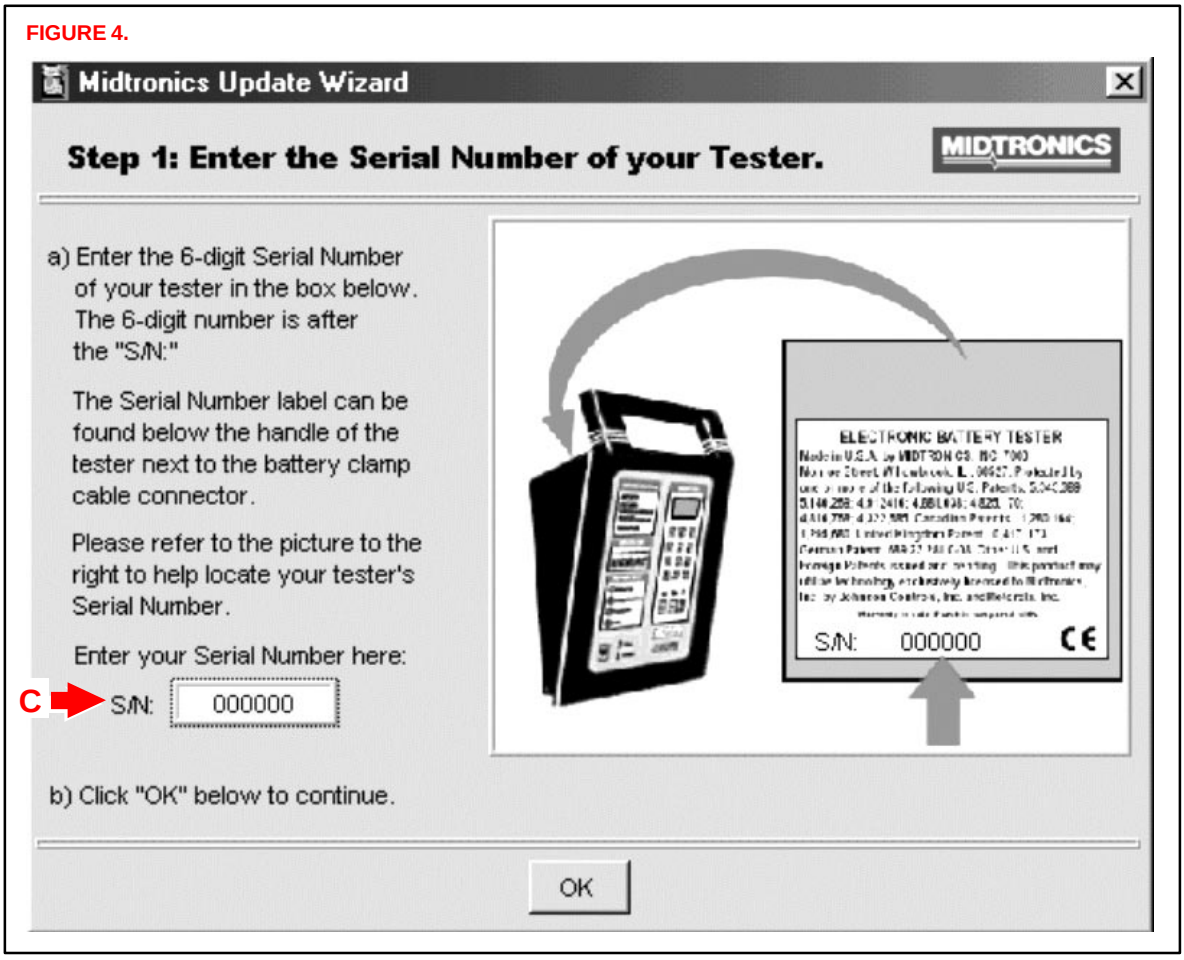
FIGURE 3.



Operation Procedure (Continued)

C. Enter the serial number of the battery tester then click “OK.” (Figure 4.)

FIGURE 4.



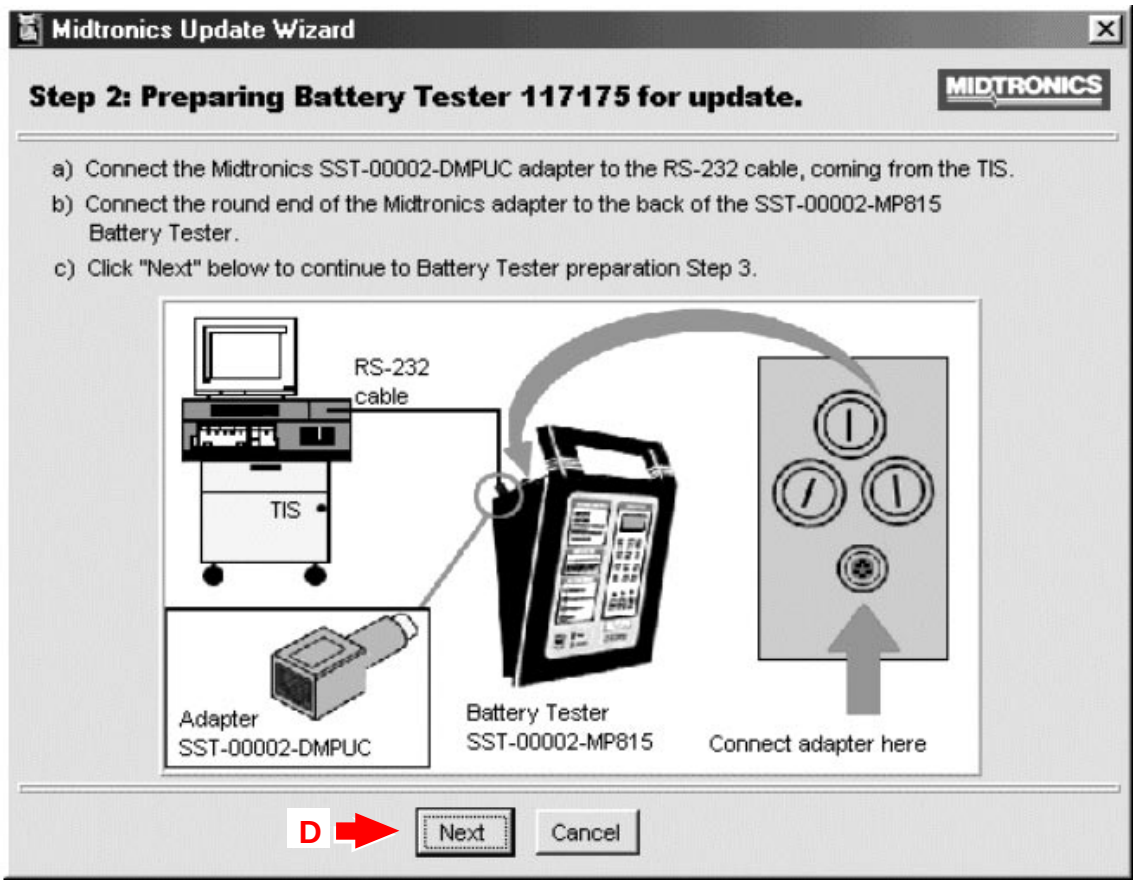
Operation Procedure (Continued)

D. Connect the Midtronics Battery Tester to TIS as instructed (Figure 5), then click "Next."

NOTE:

Connecting the Midtronics Battery Tester to the TIS station will require the use of SST 00002–DMPUC. This is an adapter that allows the TIS RS–232 cable to plug into the Battery Tester. (Figure 5.)

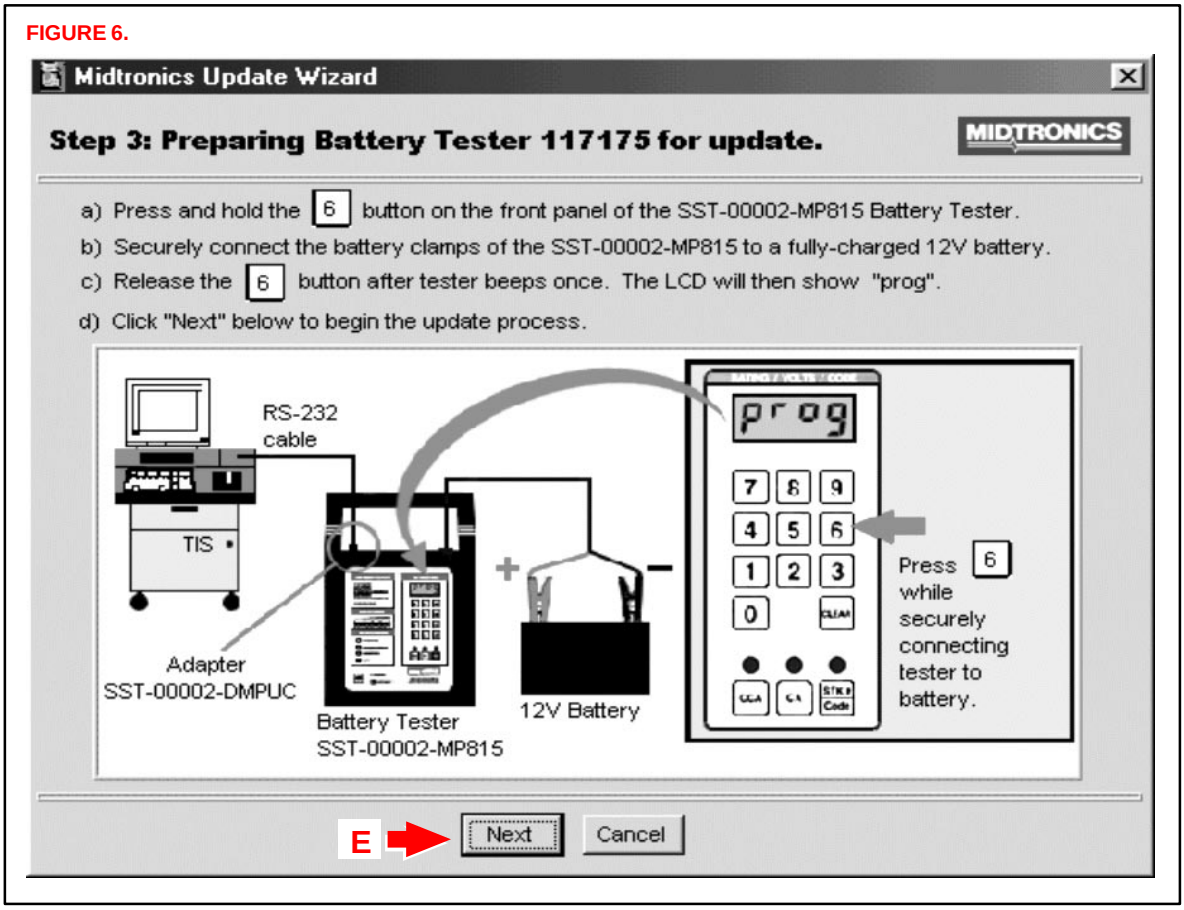
FIGURE 5.



Operation Procedure (Continued)

E. Follow the instructions to put the Midtronics Battery Tester into the correct mode (Figure 6), then click “Next.”

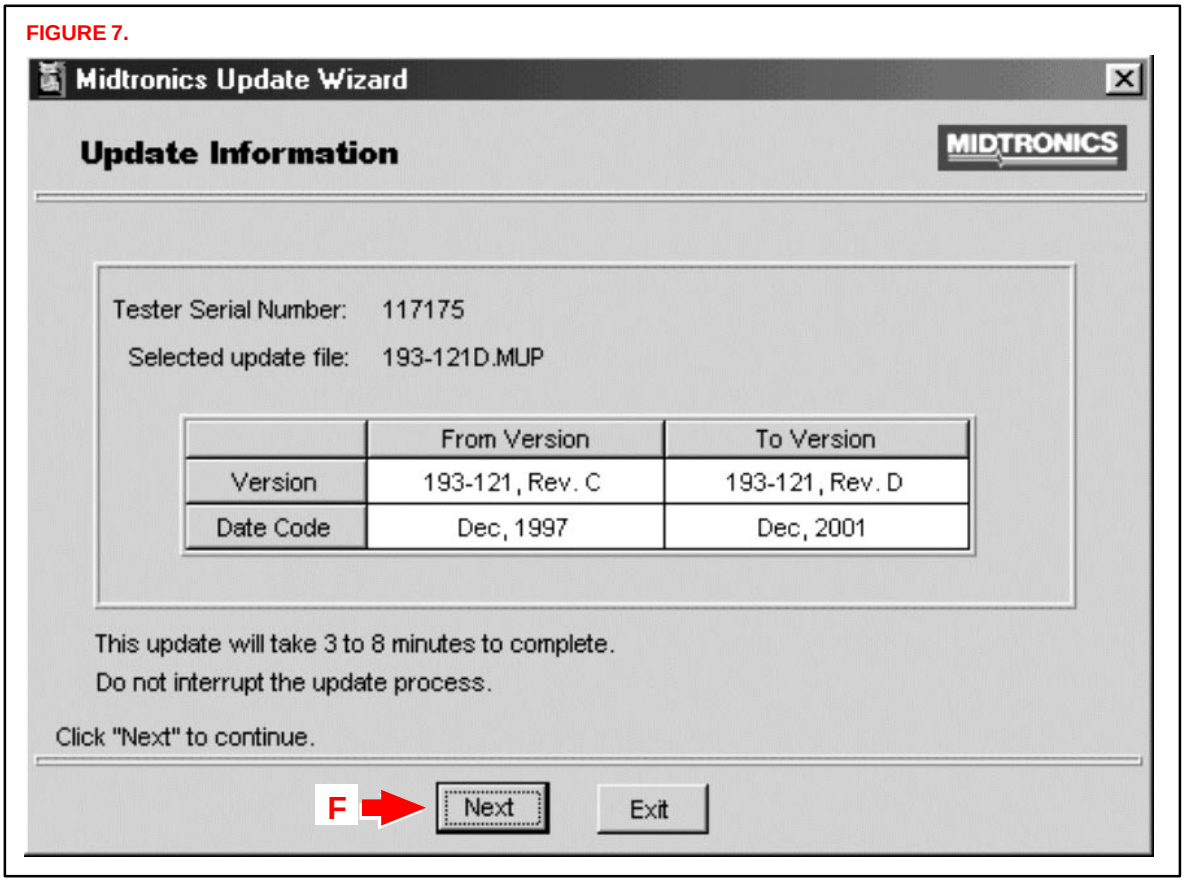
FIGURE 6.



Operation Procedure (Continued)

F. Confirm the software version and click “Next.” (Figure 7.)

FIGURE 7.



Figures 7–1 and 7–2 are confirmation dialogs that will pop up over the Update Information window (Figure 7) when:

- The update file is an older revision level than that found in the battery tester (Figure 7–1) or
- The update file is the same revision level as that found in the tester (Figure 7–2).

Click the “Yes” button to clear the pop–up dialog and continue with the update.

FIGURE 7–1.

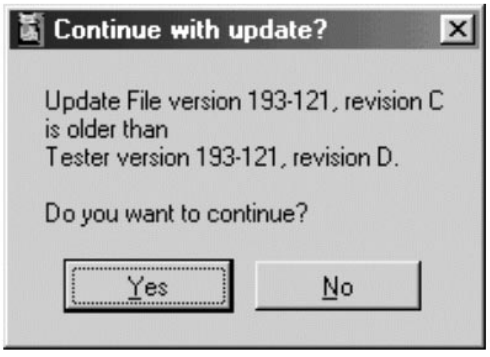
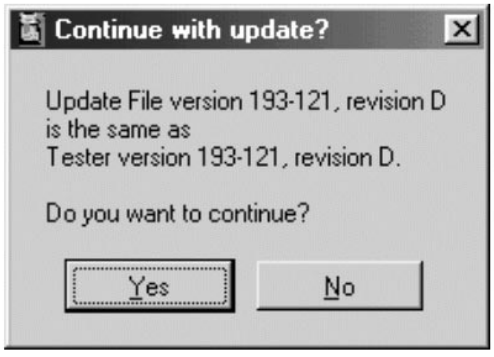


FIGURE 7–2.

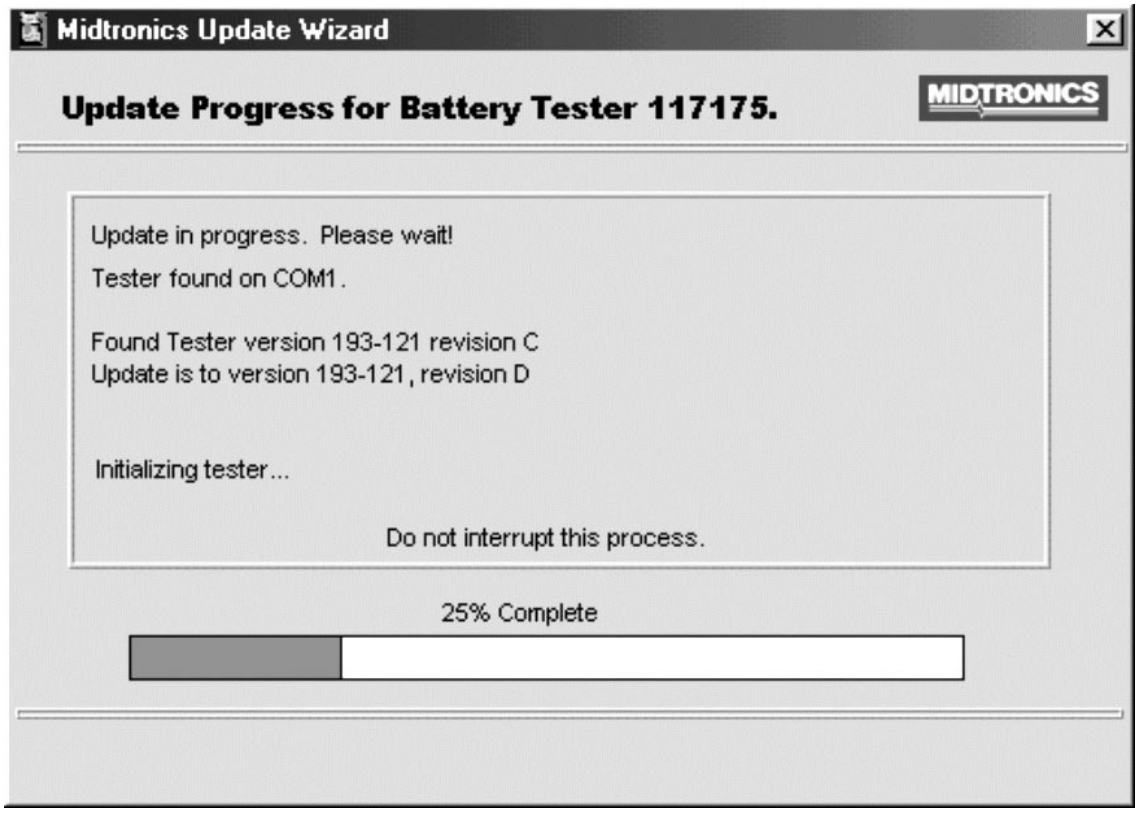


Operation Procedure (Continued)

G. The Midtronics Update Wizard (MUW) will now update the Midtronics Battery Tester software. (Figure 8.)

NOTE:
Do not interrupt this process (it will take approximately 5 minutes).

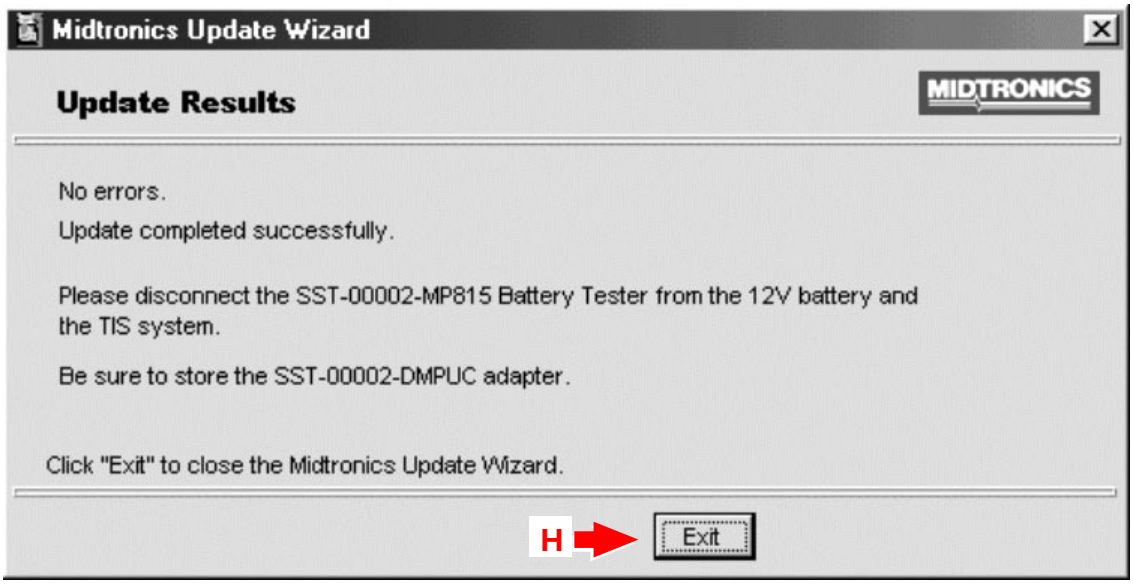
FIGURE 8.



Operation Procedure (Continued)

H. Upon successful completion, the Update Results screen will display “No errors” and the update is now complete. Click on the “Exit” button. (Figure 9.)

FIGURE 9.



Your Midtronics Battery Tester is now updated and ready for use.

NOTE:

BE SURE TO REGULARLY CHECK TIS FOR FUTURE UPDATES:

- **The Midtronics Battery Tester OE Stock Number Card will no longer be printed and shipped. It will be distributed through TIS from now on.**
- **Latest versions of Tester update software will be available on TIS.**

LEXUS

Technical Service Information Bulletin

December 8, 2000

Title:

DIAGNOSTIC TESTER COMMUNICATION ERROR WITH T.I.S.

Models:

All Models

TSIB

SS003-00

SPECIAL SERVICE TOOLS

Introduction

Certain Diagnostic Testers (SST P/N 02002019) may experience a communication error with the Technical Information System (T.I.S.). To correct this condition, the tester manufacturer, Vetronix Corporation, will recall and update affected units. The following explains how to determine which Diagnostic Testers may exhibit this problem and outlines the procedure to return the tester for repair.

Applicable Diagnostic Testers

Diagnostic Testers within the serial number range below are known to experience these communication errors.

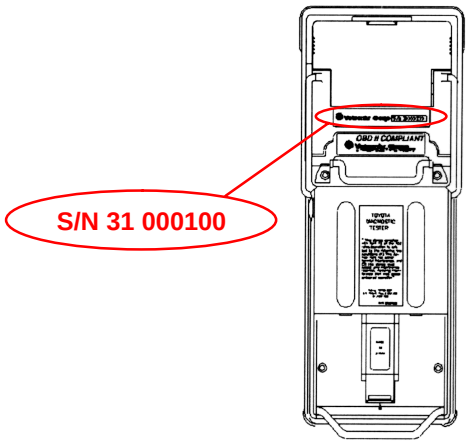
STARTING SERIAL NUMBER	ENDING SERIAL NUMBER
31 000000	31 000100

Repair Procedure

1. Determine the Diagnostic Tester serial number located on the back of the tester (see Figure 1).
2. If the serial number is within the range listed above, call Vetronix Toyota Customer Service at 1-800-321-4889, ext. 3123, to obtain a pre-paid shipping package for the Diagnostic Tester.
3. The shipping package will arrive within 2 business days. Secure the tester in the provided package following the enclosed shipping instructions.

   Diagnostic Testers are guaranteed to be returned within 3 business days from receipt at Vetronix (except over holidays).

Figure 1
Back View of Diagnostic Tester



NOTE:
This update will be performed free of charge.

Diagnostic Testers outside of the serial number range above are not affected and do not need this repair. If a Diagnostic Tester outside this range experiences a similar problem, please call Dealer Daily Support at 1-877-DL-DAILY or Vetronix Toyota Customer Service at 1-800-321-4889, ext. 3123.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

LEXUS

Technical Service Information Bulletin

February 16, 2001

Title:

STEERING WHEEL NUT SERVICE SPECIFICATION

Models:

All Applicable Models

TSIB

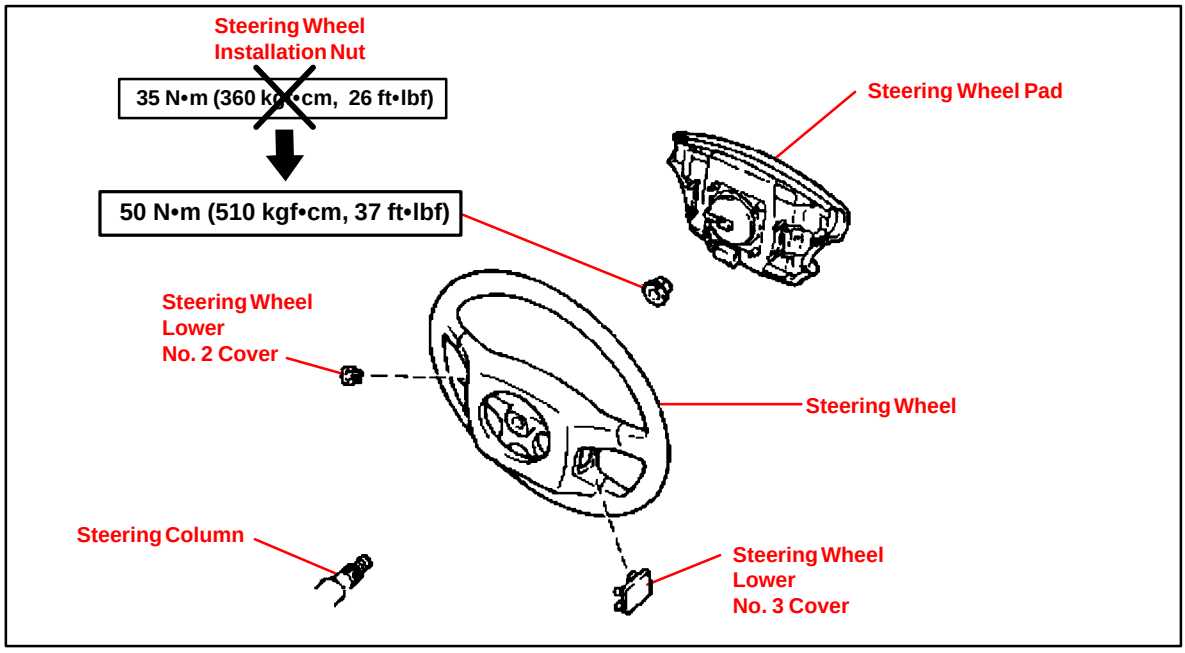
Introduction

To make the steering wheel installation procedure similar for all models, the steering wheel nut tightening torque has been standardized.

Applicable Vehicles

MODEL		MODEL YEARS
LS 400	UCF10, 20	1990 – 2000
SC 400/300	JZZ31, UZZ30	1992 – 2000
GS 400/300	JZS147, 160, UZS160	1993 – 2000
ES 300	MCV10, 20	1994 – 2000
LX 450	FZJ80	1996 – 1997
LX 470	UZJ100	1998 – 2000
RX 300	MCU10, 15	1999 – 2000
IS 300	JCE10	2001

Service Information



Warranty Information

OP CODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

STEERING GEAR/STEERING WHEEL REMOVAL AND INSTALLATION

Anytime the steering gear is removed on a vehicle equipped with an SRS airbag, the steering wheel must also be removed. Use of the following steps for reinstallation and re–centering of the steering wheel will prevent possible damage to the spiral cable.

REQUIRED STEPS FOR STEERING GEAR REMOVAL AND INSTALLATION:

Removal:

- Place front wheels facing straight ahead.
- Remove the steering wheel pad.
- Remove the steering wheel.

Installation:

- Place front wheels facing straight ahead.
- Center the spiral cable.
- Install the steering wheel.
- Install the steering wheel pad.

STEERING GEAR/STEERING WHEEL REMOVAL PROCEDURES:

Follow the steps below to remove the steering wheel, before removing the steering gear, from the vehicle.

1. Place front wheels in the straight ahead position.
2. With ignition switch in lock position, disconnect the negative terminal of the battery.
3. Remove Steering wheel pad.

NOTICE: If the airbag connector is disconnected with the ignition switch at “ON” or “ACC,” a “Diagnostic Trouble Code” will be recorded.

Never use airbag parts from another vehicle. When replacing parts, replace with new parts.

a. Remove the steering wheel lower cover.

STEERING GEAR/STEERING WHEEL REMOVAL PROCEDURES (CONT'D):

b. Using a torx socket wrench, loosen the torx screws until the groove along the screw circumference catches on the screw case. SST 09042–00010. (See Fig. 1)

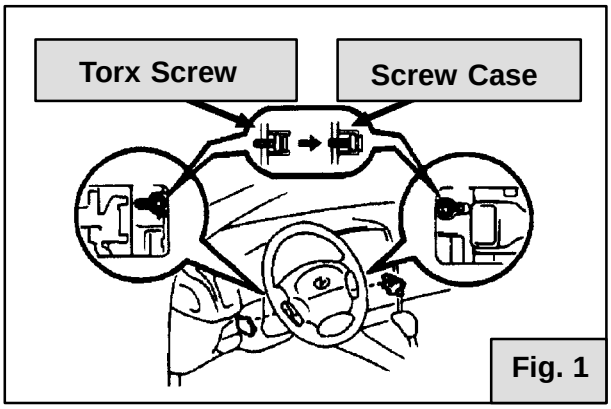


Fig. 1

c. Pull the wheel pad away from the steering wheel and disconnect the airbag connector. (See Fig. 2)

CAUTION: When storing the wheel pad, keep the upper surface of the pad facing up.

Never disassemble the wheel pad.

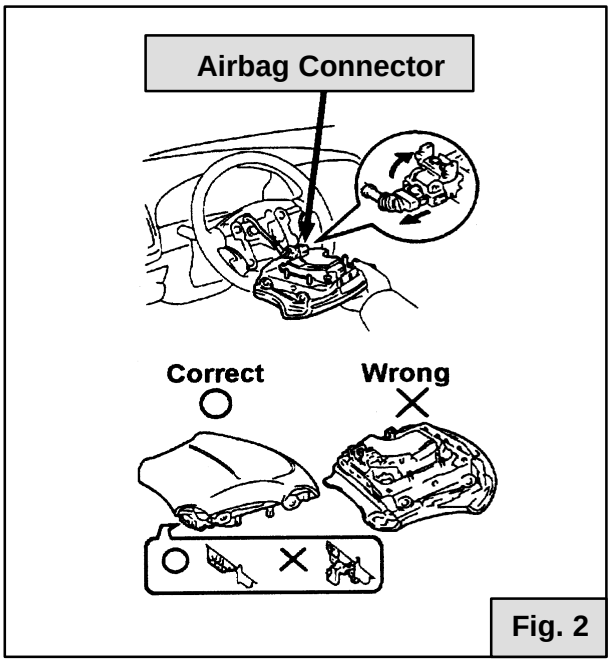


Fig. 2

NOTICE: When removing the wheel pad, take care not to pull the airbag wiring harness.

4. Remove the steering wheel.

a. Disconnect the spiral cable connector.

b. Remove the wheel set nut.

c. Place matchmarks on the wheel and steering main shaft. (See Fig. 3)

d. Using the appropriate SST, remove the wheel. SST 09950–50010 (set includes 09951–05010, 09952–05010, 09953–05020, 09954–05020)

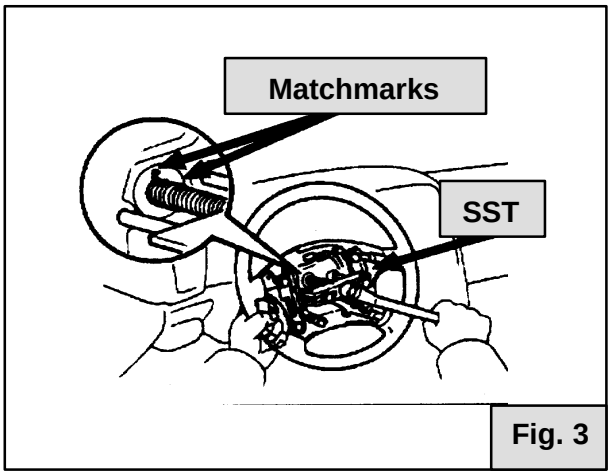


Fig. 3

For further disassembly of the steering column, refer to the Steering (SR) section of the Repair Manual.

STEERING GEAR/STEERING WHEEL INSTALLATION PROCEDURES:

Follow the steps below to install the steering wheel, after installing the steering gear.

1. Place front wheels in the straight ahead position.

STEERING GEAR/STEERING WHEEL INSTALLATION PROCEDURES (Cont'd):

2. Center spiral cable.
   a. Turn the cable counterclockwise by hand until it becomes harder to turn.
   b. Then rotate the cable clockwise about 2.5 or 3 turns to align the marks. (See Fig. 4)

NOTE: The number of turns clockwise varies by model. See the "SR" section of the vehicle's repair manual for the information.

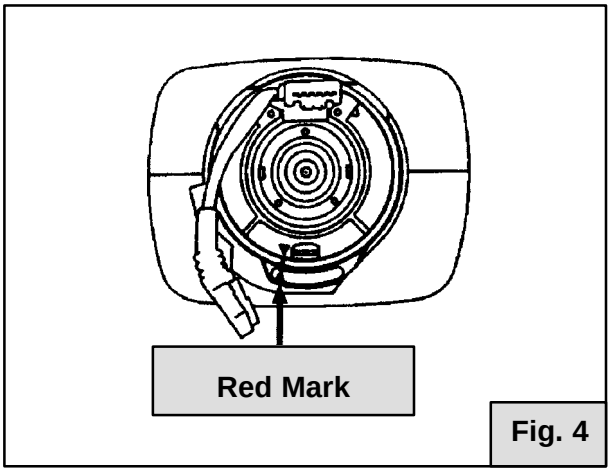


Fig. 4

3. Install the steering wheel.
   a. Align the matchmarks on the wheel and steering main shaft.
   b. Temporarily tighten the wheel set nut.
   c. Connect the spiral cable connector.

4. Bleed Power Steering System (when applicable).
5. Check steering wheel center point.
6. Torque steering wheel set nut. See the applicable vehicle's repair manual for the torque specification.
7. Install steering wheel pad.

NOTICE: Make Sure the pad is centered and installed to the specified torque.

If the pad has been dropped, or there are cracks, dents or other defects in the case or connector, replace the wheel pad with a new one.

When installing the pad, take care that the wiring does not interfere with other parts and is not pinched between other parts.

   a. Connect the airbag wiring connector.
   b. Install the pad after confirming that torx screws are in the screw case.
   c. Using a torx socket, torque the screws to the specification in the vehicle's repair manual.
      SST 09042–00010.
      (See Fig. 5)
   d. Install the steering wheel lower cover.

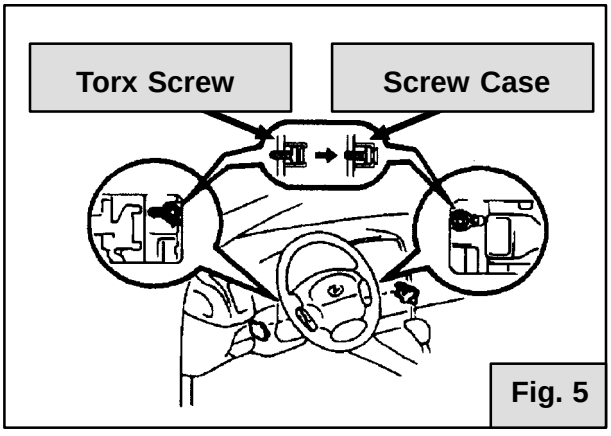
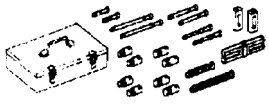
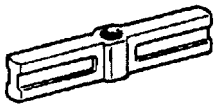
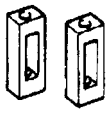
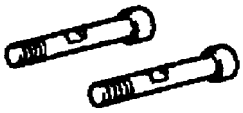


Fig. 5

SST (SPECIAL SERVICE TOOLS):

SSTs	TOOL NUMBER	TOOL NAME	APPLICATION
	09950–50010	Puller C Set	Power tilt/power telescoping steering column
	09951–05010	Hanger 150	
	09952–05010	Slide Arm	
	09953–05020	Center Bolt 150	
	09954–05020	Claw No. 2	

RECOMMENDED TOOLS AND NECESSARY EQUIPMENT:

TOOL	TOOL NUMBER	TOOL NAME	APPLICATION
	09042–00010	Torx Socket T 30	Steering wheel pad

EQUIPMENT: Torque Wrench

LUBRICANT: ATF DEXRON II or III

LEXUS

Technical Service Information Bulletin

April 9, 1999

Title:

REVISED DRIVE SHAFT GREASE

Models:

LS 400, GS 300/400, SC 300/400, ES 250/300 & RX 300

TSIB

Introduction

The greases supplied in replacement Inboard and Outboard Drive Shaft Boot Kits for the following models, has been revised.

With this revision, the grease compositions have been changed and are now both the **same color**. To correctly lubricate each joint, consult the Service Repair Manual as to which **size** packet of grease is designated for each Drive Shaft Joint Assembly.

NOTE:

Although Inboard and Outboard greases are now the same color, their compositions are different.

Affected Vehicles

- **All LS 400, GS 300/400, SC 300/400, ES 250/300 & RX 300 Models.**

Required Tools and Material

As outlined in the Service Repair Manual.

Repair Procedure

Refer to the appropriate Repair Manual for installation and lubrication information for Drive Shaft Joint Assemblies.

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

LEXUS

Technical Service Information Bulletin

September 10, 1999

Title:

AUTOMATIC TRANSMISSION FLUIDS

Models:

All Models

TSIB

REVISION NOTICE:

The information contained in this TSIB updates TC003–98 dated June 19, 1998.

Introduction

Automatic Transmission Fluid Type T–IV now replaces Type T–II fluid. Use Type T–IV for all applications that specify ATF Type T–II.

Please refer to the following table for the interchangeability between each ATF.

Applicable Vehicles

- **All vehicles produced after 1990 with Automatic Transmissions specified to use ATF Type T, T–II and T–IV.**

SPECIFIED ATF	TYPE OF ATF			
	DEXRON® II OR III	TYPE T	TYPE T–II	TYPE T–IV
DEXRON® II OR III	OK	X	X	X
TYPE T	X	OK	X	OK
TYPE T–II	X	X	OK	OK
TYPE T–IV	X	X	X	OK
X = NOT USABLE				

NOTICE:

With the exception of mixing ATF Type T with Type T–IV fluids, different types of fluids must not be mixed.

Parts Information

SIZE	NEW PART NUMBER	PART NAME
4 Liter	08886–01705	ATF Type T–IV

Warranty Information

OPCODE	DESCRIPTION	TIME	OPN	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–