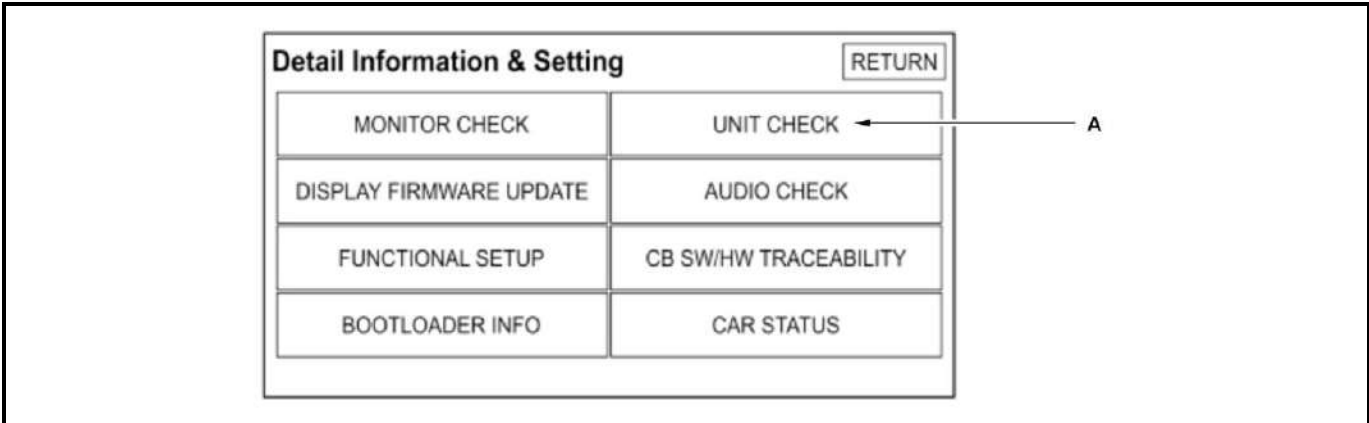
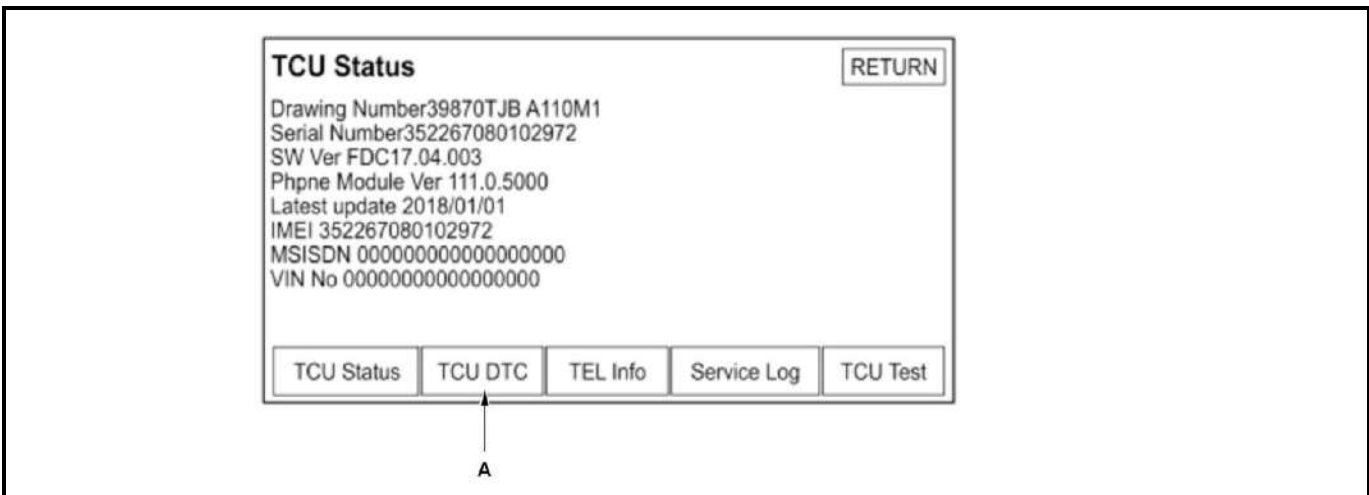


4. Select the UNIT CHECK (A) from the DETAIL INFORMATION and SETTING menu.



5. Select the TCU DIAG from the UNIT CHECK menu.

6. Select the TCU DTC (A) from the TCU DIAG screen.



the anti-theft mode. Or you can enter the 5-digit anti-theft code.

- GPS initialization (may not be needed depending of the length of time the system was without power).
- Map matching aligns the GPS to a location on the map.

GPS Initialization

NOTE: You must park the vehicle outside with a clear view of the sky.

Depending on the length of time the 12 volt battery was disconnected, your system may require GPS initialization.


NOTE:

- The average acquiring time is less than 10 minutes, but it can take as long as 45 minutes.
- If the system is still unable to acquire a signal, follow the instructions on the screen. If this screen appears again, [Audio and Visual System Symptom Troubleshooting](#) or [Symptom Troubleshooting Index](#) .

Map Matching

This part of the initialization matches the GPS coordinates with a road on the map screen. To do this part of the procedure, make sure that the navigation system displays a map, and drive the vehicle on a mapped road shown on the map screen. Do not enter a destination at this time. When the name of the current road you are driving on appears at the upper of the screen, the entire procedure is complete. Your system is now ready to use.

HandsFreeLink Symptom Diagnosis

The HandsFreeLink (HFL) system works only with Acura approved Bluetooth -enabled cell phones with a hands-free profile. If you are not sure if your cell phone is compatible with the HFL system or if it is configured correctly, always visit the web site (www.handsfreelink.com/Acura) or call the HandsFreeLink Customer Service (call 1-888-528-7876) before replacing the HFL components, not Tech Line because the HandsFreeLink Customer Service has the latest information about cell phone software versions, settings and other issues.

HandsFreeLink General Operation

The HFL gives the user the convenience of hands free operation. It cannot control the cell phone's performance (call quality and signal strength). To avoid performance problems, do not put the cell phone in a metal briefcase or in a purse under the seat.

If you want a complete description of this system (how to pair a cell phone to the HFL and make and receive calls, and how to use simple voice tags), please refer to the Owner's Manual.

Checking Cell Phone Compatibility

The most important step in troubleshooting HFL issues is to identify the client's cell phone model, the software version, and the cellular carrier that experiences the HFL problem. Not all cell phones with the Bluetooth feature and a hands-free profile are compatible with the Acura HFL system.

Go to the web site (www.handsfreelink.com/Acura) or call the HandsFreeLink Customer Service (call 1-888-528-7876), and check if the client's cell phone is approved to work with the Acura HFL system.

- (1) DRIVING SUPPORT (System Selection Menu)
- (2) Multi View Camera System
- (3) ADJUSTMENT
- (4) AUTO CAMERA AIMING

Result

- If the aiming procedure cannot be completed properly, go back to the NOTE at the top of this procedure and make sure the instructions are followed correctly.

After Aiming

- Inspect the multi view camera picture - Refer to: [Multi View Camera Picture Inspection](#).

MULTI VIEW CAMERA PICTURE INSPECTION

Special Tools Required

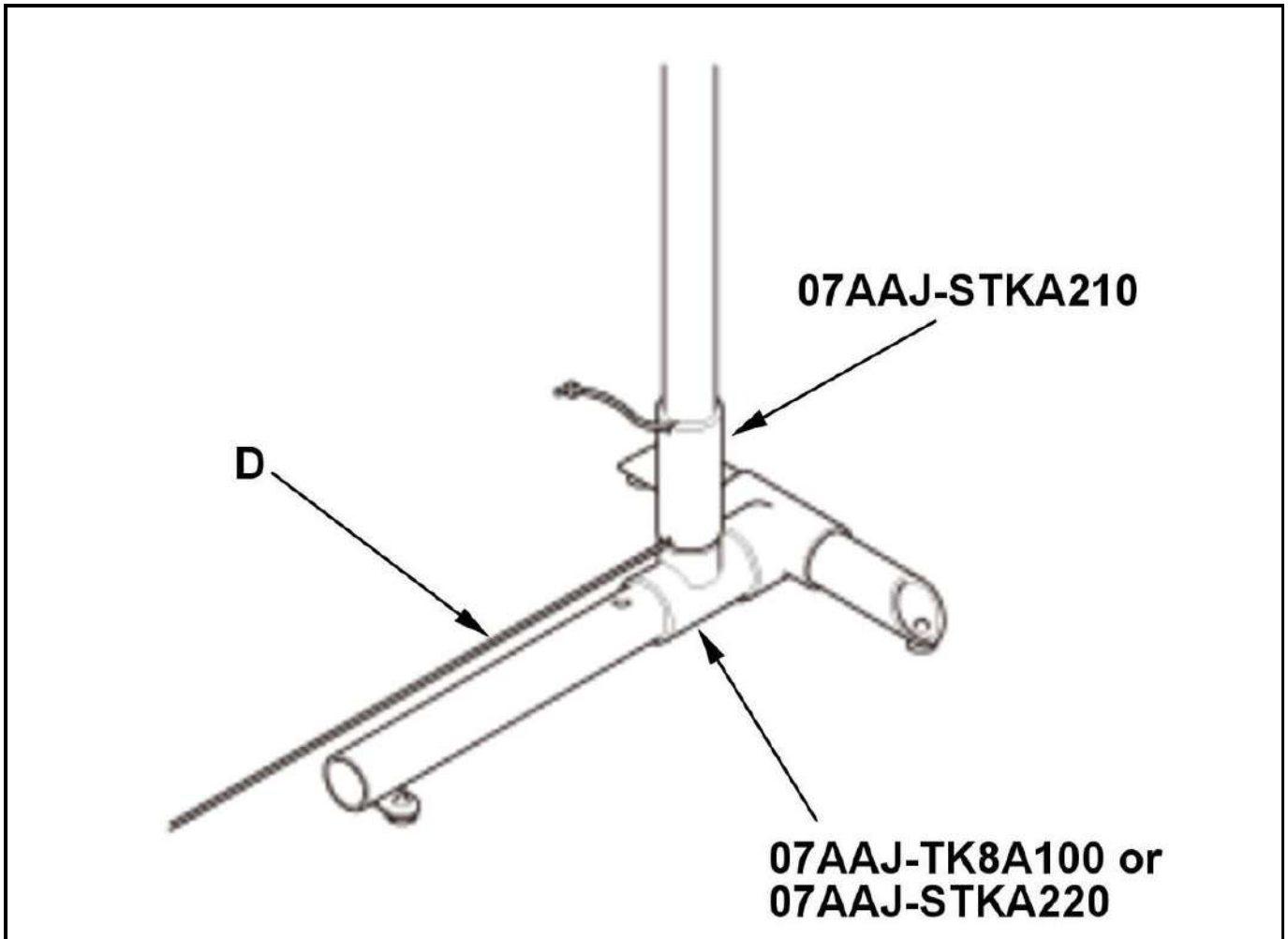
Image	Description/Tool Number
	Mask Sheet 070AK-SLEA120

Inspection

How to use this service information .

NOTE:

- **Before doing the multi view camera picture inspection, a person or an object equivalent to the driver must be placed in the driver's seat.**
- **A multi view camera aiming and picture inspection must be done whenever these items were removed / replaced or adjusted:**
 - **Power mirror**
 - **Front door**
 - **Tailgate**
 - **Front bumper or front grille**
 - **Camera (all)**

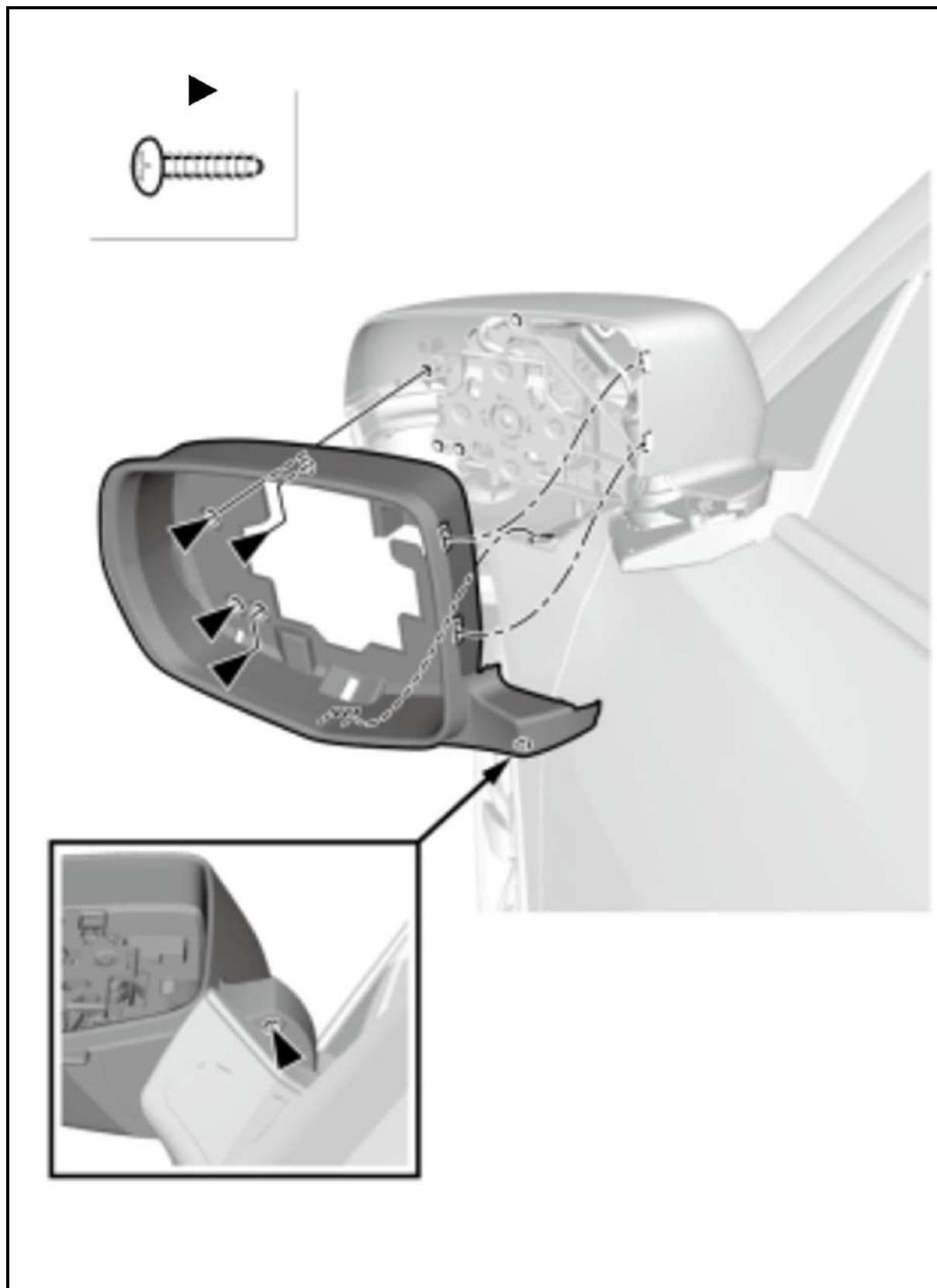


4. Stretch a string (C) between point V1 and point V2, and tape both ends of the string on the floor surface. Mark a new point U where the string crosses with the cord (D) of the center-line. (Figure 2)

5. Route the cord (D) through the collar and place it on the stand set. (Figure 3)

6. Use the stand set to stretch the cord of the center-line, and mark a new point U where the string crosses with the cord while centering the cord to the center line of the centering stand. (Figure 2 and 3)

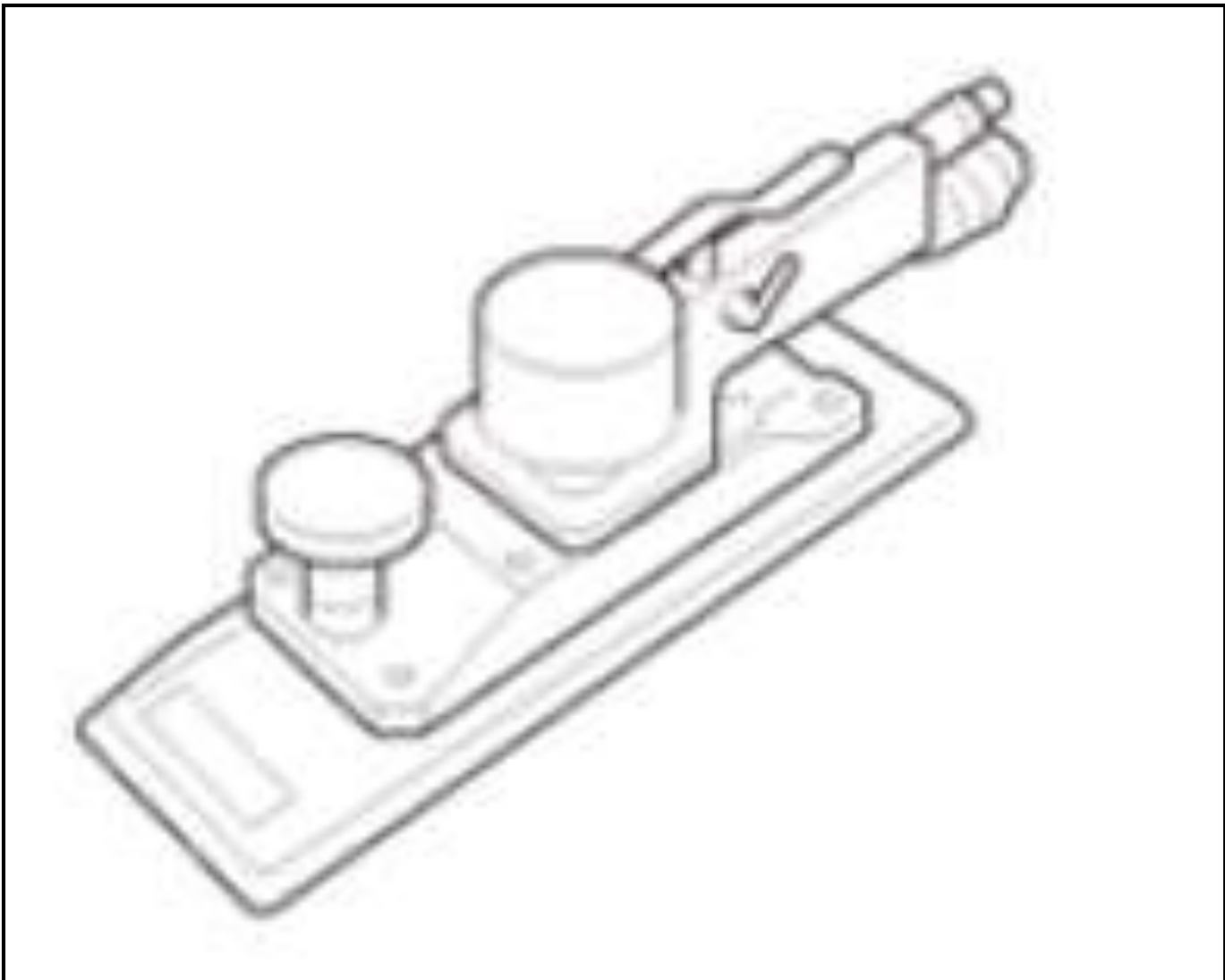
Figure 4

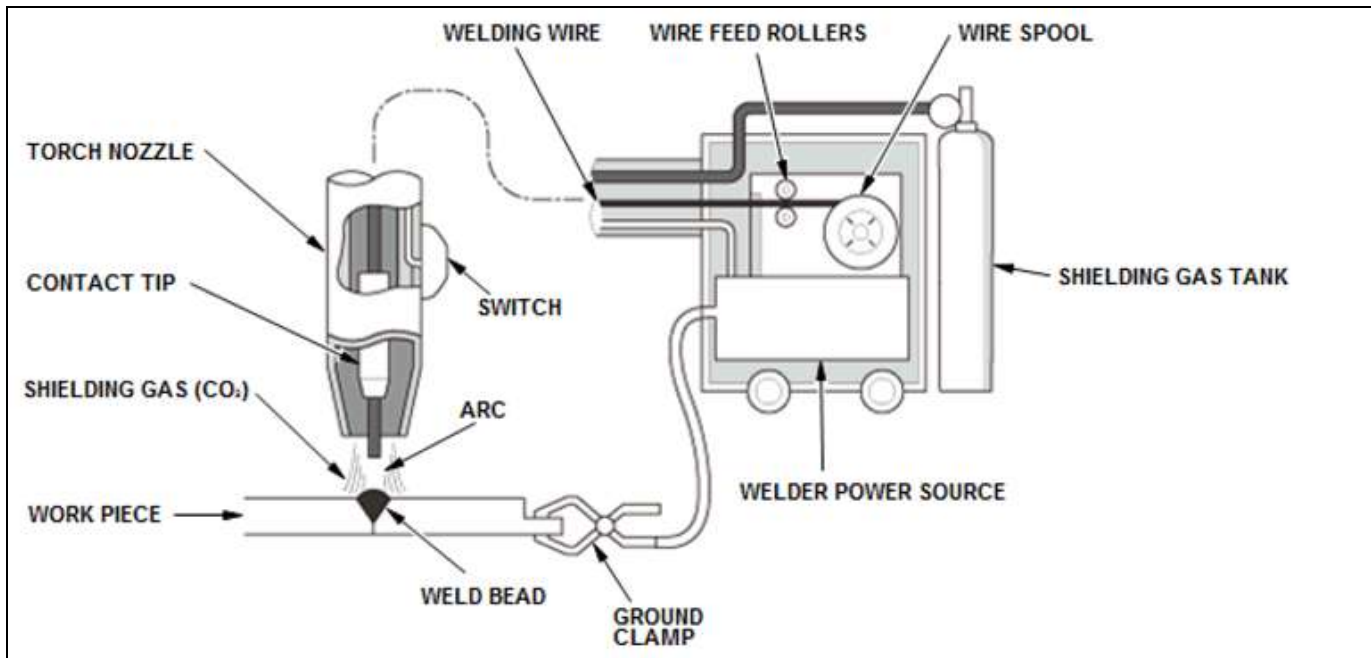


Removal

- Refer to the figure.

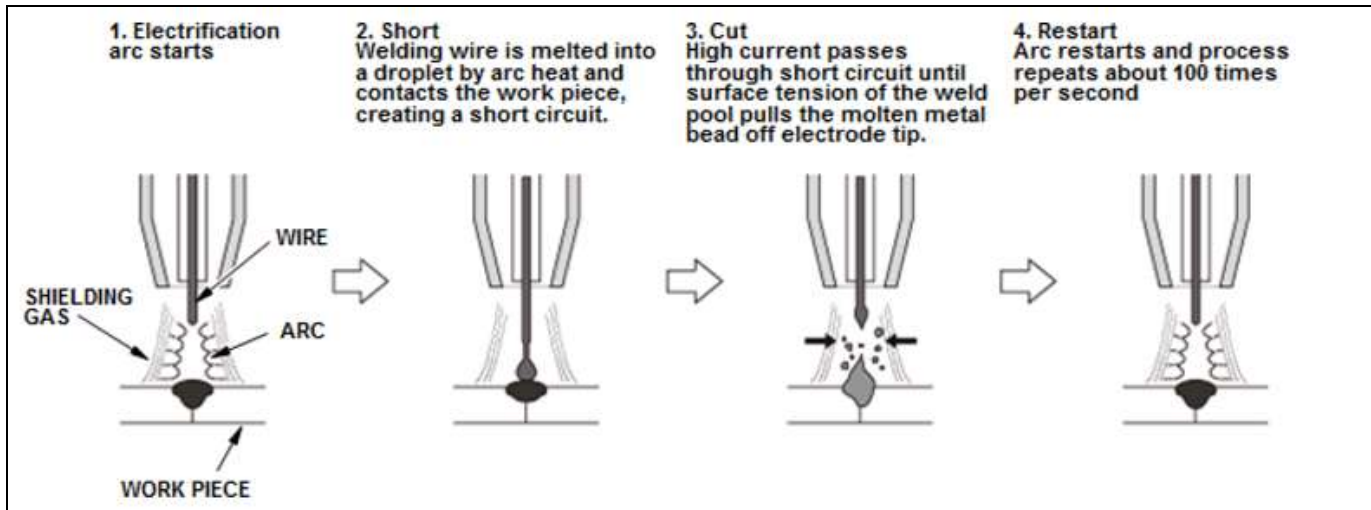
After Installation





Transfer of molten droplets in short-circuit welding:

The end of the welding wire melts due to heat from the arc. This makes a molten droplet that contacts the work piece, creating a short circuit, which briefly extinguishes the arc. As the short circuit occurs, high current passes until surface tension of the weld pool pulls the molten metal bead off electrode tip. The Arc then restarts again and the process repeats itself about 100 times per second.



Characteristics of MAG Welding:

- The risk of distortion and burn through is reduced, allowing thin plates to be welded.
- Simple to learn. Weld quality is not dependent upon the welders skill level.
- Low molten metal temperature, little fluidity, all position welding is possible with high workability.
- Very little formation of welding slag, so there is no need to remove it.
- Because shielding gas must remain around welding area, it is unsuitable for welding outdoors or where a strong breeze exists.

NOTE:

MAG welding

Metal Active Gas welding where the shielding gas used is pure carbon dioxide (CO₂), or contains a mixture carbon dioxide (CO₂) and other gases. It is considered active because the CO₂ undergoes a limited reaction with the molten weld pool. MAG welding reaches a temperature of approximately 2732 Å°F (1500 Å°C).

MIG welding

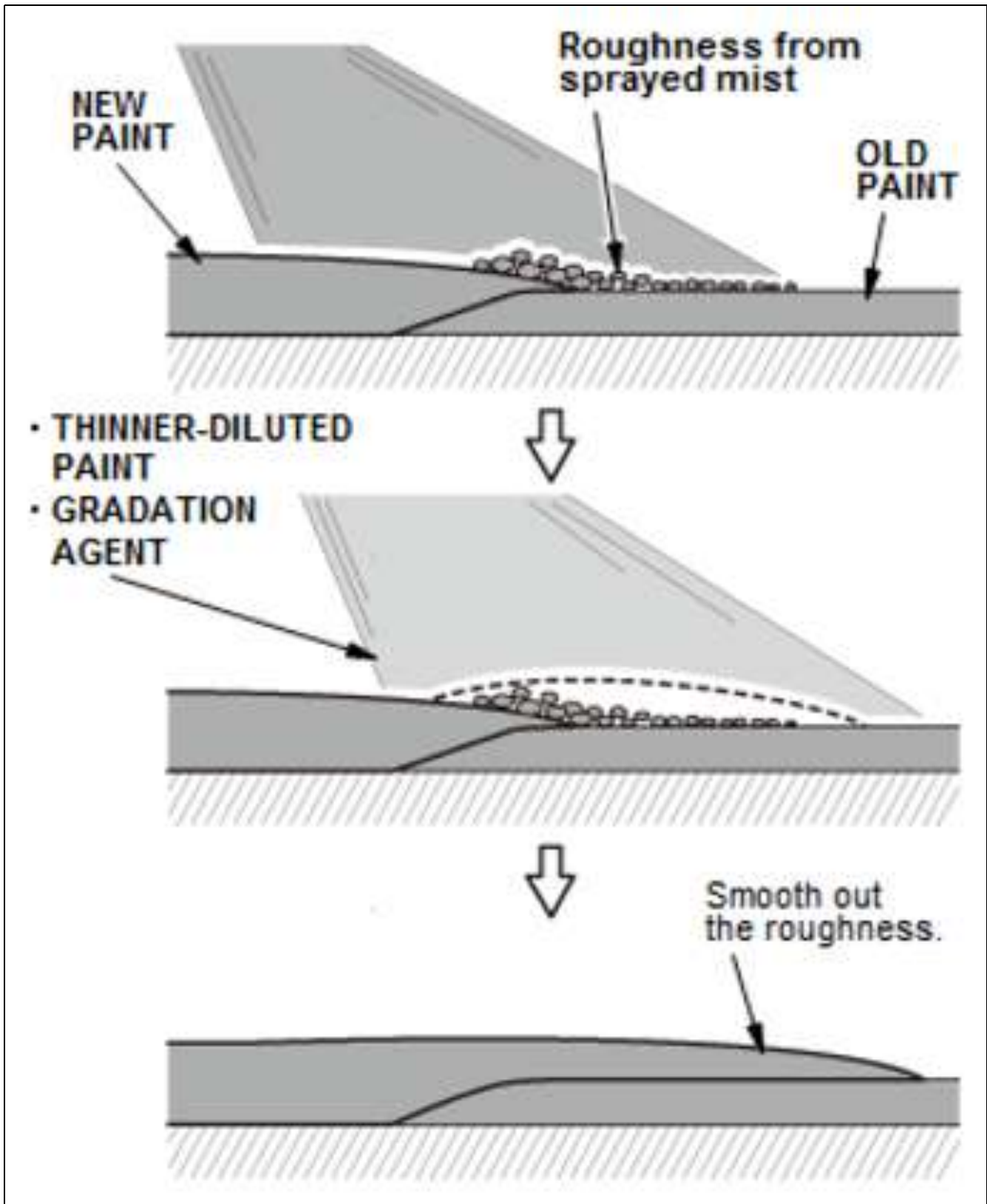
Metal Inert Gas welding where an inert shielding gas such as 100% argon (Ar) is used. Because argon is inert, it does not react with the molten weld pool.

MIG Brazing

A metal jointing method that bonds the work pieces together using a filler material at a much lower temperature than MAG welding, approximately 1742 Å°F (950 Å°C). The base metal remains below a temperature that would weaken UHSS such as 1, 500 MPa steel. A pulsed MIG welder, Silicon bronze wire (CuSi-A or CuSi3), and inert 100% Argon (Ar) shielding gas must be used.

MAG WELDING STARTING THE ARC

1. Starting the Arc



Steps of Gradation Paint (Gradation of Metallic and Pearl)

NOTE: Gradation paint is a clear paint diluted by the paint reducer/thinner. Its viscosity is very low and it applies in very thin layers.

When using under clear coating

1. Spray under clear-coating roughly around the repair area.
2. Spray a base color on the under cleared area.
3. Repeat these steps until no differences between the old and new paint layer in color while keeping the under clear

Inspection Items	Work Items
VSA Modulator-Control Unit	Right Electric Parking Brake Actuator Inspection
	VSA Modulator-Control Unit Inspection

Confirmation Procedure

1. Apply and release the parking brake several times.

Related Information

- Component Location Index
- [Electric Parking Brake Actuator VSA Modulator-Control Unit](#)
- [Circuit Diagram](#)
- [VSA Modulator-Control Unit Connector for Inputs and Outputs](#)

HDS Function

DTC (VSA)

Clear DTC (VSA)

Left Electric Parking Brake Actuator Inspection

NOTE: Since there is no direct method to test the inspection item, troubleshooting is performed using a known-good component.

Test Procedure

- Install a known-good left electric parking brake actuator and attempt to reproduce the failure.

Results

- If the failure is reproduced, there is a problem with the related components.
- If the symptom/DTC goes away, the left electric parking brake actuator must be faulty.

Right Electric Parking Brake Actuator Inspection

NOTE: Since there is no direct method to test the inspection item, troubleshooting is performed using a known-good component.

Test Procedure

- Install a known-good right electric parking brake actuator and attempt to reproduce the failure.

Results

- If the failure is reproduced, there is a problem with the related components.
- If the symptom/DTC goes away, the right electric parking brake actuator must be faulty.

VSA Modulator-Control Unit Inspection

Test Procedure

- If the other inspection item(s) indicated a normal condition, then it is determined that the remaining VSA modulator-control unit is the cause.

Results

- There is a problem with the VSA modulator-control unit.

DTC C1110-11, C1111-11

DTC C1110-11 : Left Rear Electric Parking Brake Actuator Circuit Short to Ground

DTC C1111-11 : Right Rear Electric Parking Brake Actuator Circuit Short to Ground

NOTE:

- Make sure the HDS has the latest HDS software version.
- If you are replacing the PCM after substituting a known-good PCM, reinstall the original PCM, then do this procedure.

Sub-Procedure**Removal**

1. Connect the HDS to the DLC .

2. Only for replacing PCM: Select the following menu buttons on the HDS screen in sequence.

NOTE:

- Doing this step copies (READS) the ENGINE OIL LIFE and the IDLE STOP STARTER COUNTER from the original PCM so you can later download (WRITES) them into a new PCM.
- If the READ DATA indicates FAILED, go to the next step.

(1) PGM-FI (System Selection Menu)

(2) ECU Replacement

(3) READ DATA

3. Turn the vehicle to the OFF (LOCK) mode.

4. Jump the SCS line with the HDS, and wait more than 1 minute.

5. Remove the PCM.

Installation

1. Install the PCM.

2. Connect the HDS to the DLC

3. Open the SCS.

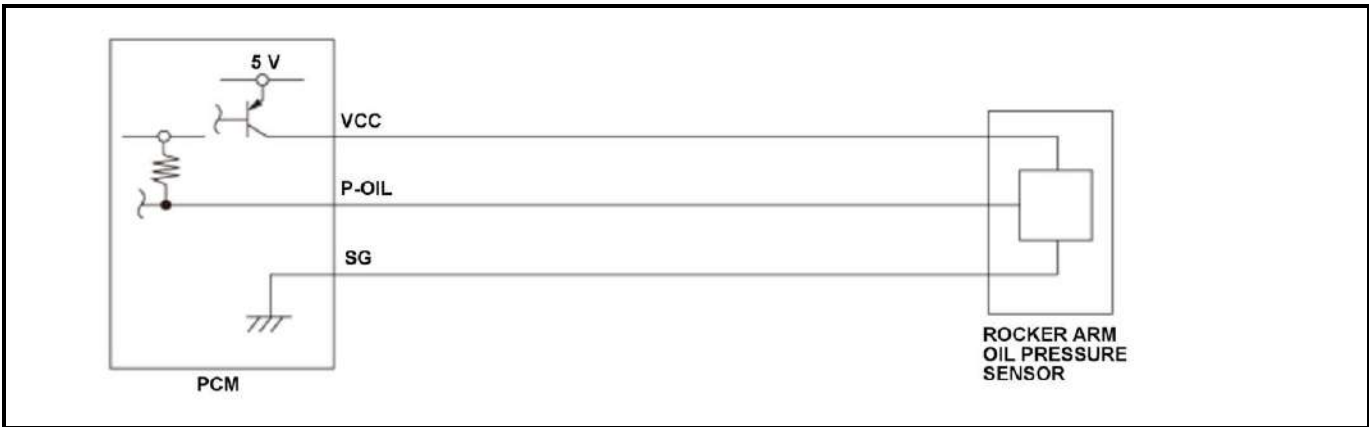
After Installation**Procedure After Replacing/Substituting PCM**

- 1. VIN Input

NOTE: If DTC P0630 VIN Not Programmed or Mismatch is stored, ignore it and go to the next step.

- 2. Keyless Access System Registration
- 3. Only for replacing PCM: Select the following menu buttons on the HDS screen in sequence.

NOTE: If the READ DATA failed, skip this procedure, and replace the engine oil and the oil filter - Refer to: Engine Oil Replacement and the oil



The rocker arm oil pressure sensor detects engine oil pressure in the VTEC system. When the voltage from the rocker arm oil pressure sensor is a set value for a specified time, the powertrain control module (PCM) detects a malfunction and stores a DTC.

Monitor Execution, Sequence, Duration, DTC Type

Execution	Continuous
Sequence	None
Duration	2 seconds or more
DTC Type	One drive cycle, MIL on

Enable Conditions

DTC: P055C

Condition	Â
Vehicle	ON mode

DTC: P055D

Condition	Minimum	Maximum
Engine speed [Engine Speed]	-	6, 500 RPM

[]: HDS Parameter

Malfunction Threshold

DTC: P055C

The rocker arm oil pressure sensor output voltage [(Rocker Arm) Oil Pressure Sensor (B) Voltage] is 0.18 V or less for at least 2 seconds.




DTC: P055D

The rocker arm oil pressure sensor output voltage [(Rocker Arm) Oil Pressure Sensor (B) Voltage] is 4.79 V or more for at least 2.0 seconds.

Possible Cause

If the HDS indicates PCM is Not Available on Bus B : 

If the HDS indicates PCM is Detected on Bus A and Bus B : 

Inspection Items	Work Items			
External Circuit	Communication (F-CAN A_H), Communication (F-CAN A_L), Communication (F-CAN B_H), Communication (F-CAN B_L) Open Wire Inspection	o	o	Â
	Communication (F-CAN) Open Wire Inspection* <ul style="list-style-type: none"> • For DTC U0101: F-CAN A_H, F-CAN A_L, F-CAN B_H, F-CAN B_L • For DTC U0103: F-CAN A_H, F-CAN A_L, F-CAN B_H, F-CAN B_L • For DTC U0104: F-CAN E_H, F-CAN E_L • For DTC U0114: F-CAN C_H, F-CAN C_L • For DTC U0122: F-CAN B_H, F-CAN B_L, F-CAN C_H, F-CAN C_L • For DTC U0126: F-CAN C_H, F-CAN C_L • For DTC U0128: F-CAN B_H, F-CAN B_L, F-CAN C_H, F-CAN C_L • For DTC U0129: F-CAN B_H, F-CAN B_L, F-CAN C_H, F-CAN C_L • For DTC U0131: F-CAN C_H, F-CAN C_L • For DTC U0132: F-CAN C_H, F-CAN C_L • For DTC U0151: F-CAN C_H, F-CAN C_L • For DTC U0155: F-CAN D_H, F-CAN D_L • For DTC U129E: F-CAN B_H, F-CAN B_L 	Â	Â	o
PCM	PCM Inspection	o	o	Â
Transmitting Control Unit	Transmitting Control Unit Inspection	Â	Â	o

*: Choose the work item based on the stored DTC.

Confirmation Procedure

1. Turn the vehicle to the ON mode.

Related Information

- Component Location Index
- [PCM, CAN Gateway](#)
[TCM, SBW Shifter Control Module](#)
Millimeter Wave Radar - Refer to: [Adaptive Cruise Control \(ACC\) Component Location Index](#), or [Lane Keeping Assist System \(LKAS\) Component Location Index](#)
[SH-AWD Control Unit](#)
[VSA Modulator-Control Unit, Steering Angle Sensor](#)
[Electric Brake Booster](#)
[EPS Control Unit](#)
[Adaptive Damper Control Unit](#)
[SRS Unit](#)
[Gauge Control Module](#)
[Body Control Module](#)
- [Circuit Diagram](#)
- [PCM Connector for Inputs and Outputs](#)
- Advanced Diagnostic: [DTC U0101](#) , [U0103](#) , [U0104](#) , [U0114](#) , [U0122](#) , [U0126](#) , [U0128](#) , [U0129](#) , [U0131](#) , [U0132](#) , [U0151](#) , [U0155](#) , [U129E](#)

HDS Function

DTC (PGM-FI)

Clear DTC (PGM-FI)

DTC (CAN GATEWAY)

Clear DTC (CAN GATEWAY)

CAN Gateway > Function Test > F-CAN Bus Connected Unit Check

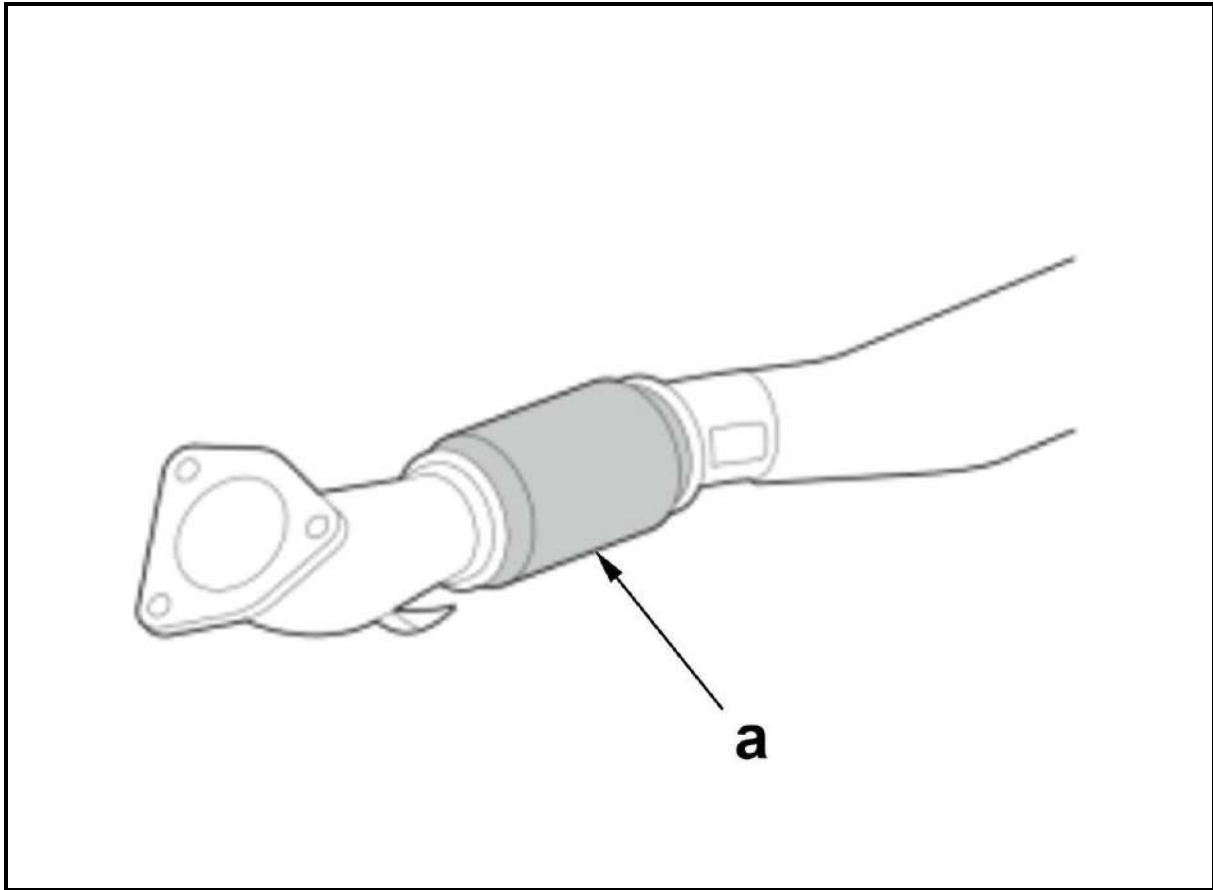
F-CAN Bus Connected Unit Check

Communication (F-CAN A_H), Communication (F-CAN A_L), Communication (F-CAN B_H), Communication (F-CAN B_L) Open Wire Inspection

NOTE: Before disconnecting the PCM connector, jump the SCS line with the HDS, and wait more than 1 minute.

Test Procedure

- Preparation
- PCM connector A (50P) : disconnected
CAN gateway 16P connector: disconnected
- Procedure



Installation

- When replacing exhaust pipe A, remove the protector (b) from new exhaust pipe A. (Figure 2)

Figure 2

Install upper connecting rod bearings. Lubricate upper bearings with engine oil. Install lower bearings in rod caps. Ensure bearing tabs are properly seated. Position piston ring gaps according to manufacturer's recommendations. See [Fig. 16](#). Lubricate pistons, rings and cylinder walls.

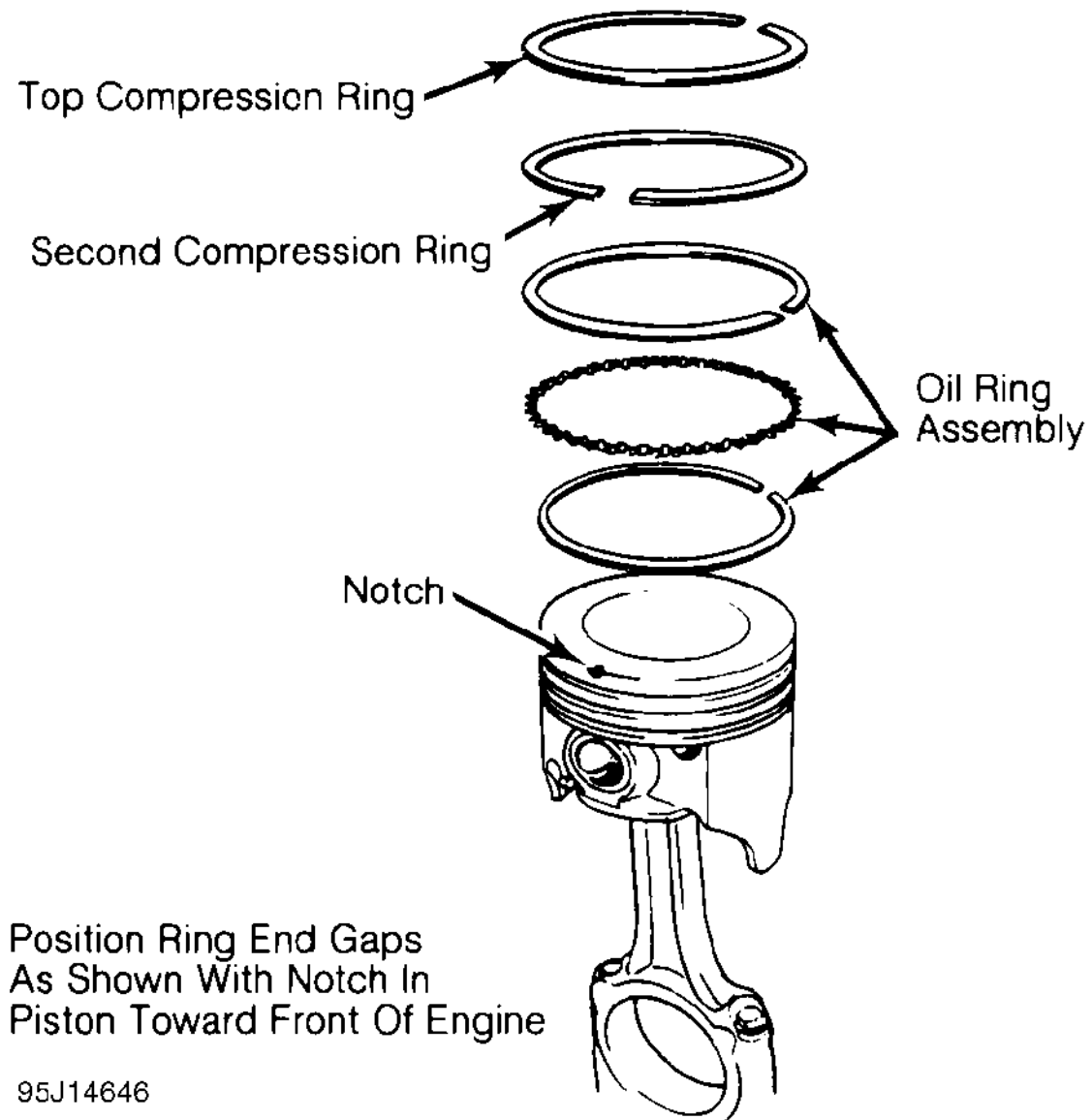


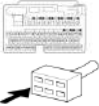
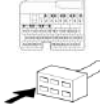
Fig. 16: Positioning Typical Piston Ring End Gap

Install ring compressor. Use care not to rotate piston rings. Compress rings with ring compressor. Install plastic tubing protectors over connecting rod bolts. Install piston and connecting rod assembly. Ensure piston notch, arrow or FRONT mark is toward front of engine. See [Fig. 17](#).

Inflator connectors which are assigned to 2B codes listed on HDS: disconnected

- Procedure
- Perform the inspection according to the following table.

Â	Â	Â	(Disconnected) SRS unit connector B (57P) female terminals	(Disconnected) SRS unit connector A (43P) female terminals	Â
---	---	---	---	---	---

Â	Â	IG Mode			Normal Conditions
A	LCA+, LA1+ shorted wire to wire inspection	OFF	9 — Ω — 7		There is more than 1 M Ω
A	LCA-, LA1- shorted wire to wire inspection	OFF	10 — Ω — 6		There is more than 1 M Ω
B	LCA+, LA2+ shorted wire to wire inspection	OFF	9 — Ω — 3		There is more than 1 M Ω
B	LCA-, LA2- shorted wire to wire inspection	OFF	10 — Ω — 2		There is more than 1 M Ω
C	LCA+, LKA+ shorted wire to wire inspection	OFF	9 — Ω — 14		There is more than 1 M Ω
C	LCA-, LKA- shorted wire to wire inspection	OFF	10 — Ω — 15		There is more than 1 M Ω
D	LCA+, RA1+ shorted wire to wire inspection	OFF	9 — Ω — 4		There is more than 1 M Ω
D	LCA-, RA1- shorted wire to wire inspection	OFF	10 — Ω — 5		There is more than 1 M Ω
E	LCA+, RA2+ shorted wire to wire inspection	OFF	9 — Ω — 10		There is more than 1 M Ω
E	LCA-, RA2- shorted wire to wire inspection	OFF	10 — Ω — 11		There is more than 1 M Ω
F	LCA+, RA3+ shorted wire to wire inspection	OFF	9 — Ω — 8		There is more than 1 M Ω
F	LCA-, RA3- shorted wire to wire inspection	OFF	10 — Ω — 9		There is more than 1 M Ω
G	LCA+, RKA+ shorted wire to wire inspection	OFF	9 — Ω — 13		There is more than 1 M Ω
G	LCA-, RKA- shorted wire to wire inspection	OFF	10 — Ω — 12		There is more than 1 M Ω
H	LCA+, LSA+ shorted wire to wire inspection	OFF	9 — Ω — 28	Â	There is more than 1 M Ω
H	LCA-, LSA- shorted wire to wire inspection	OFF	10 — Ω — 27	Â	There is more than 1 M Ω