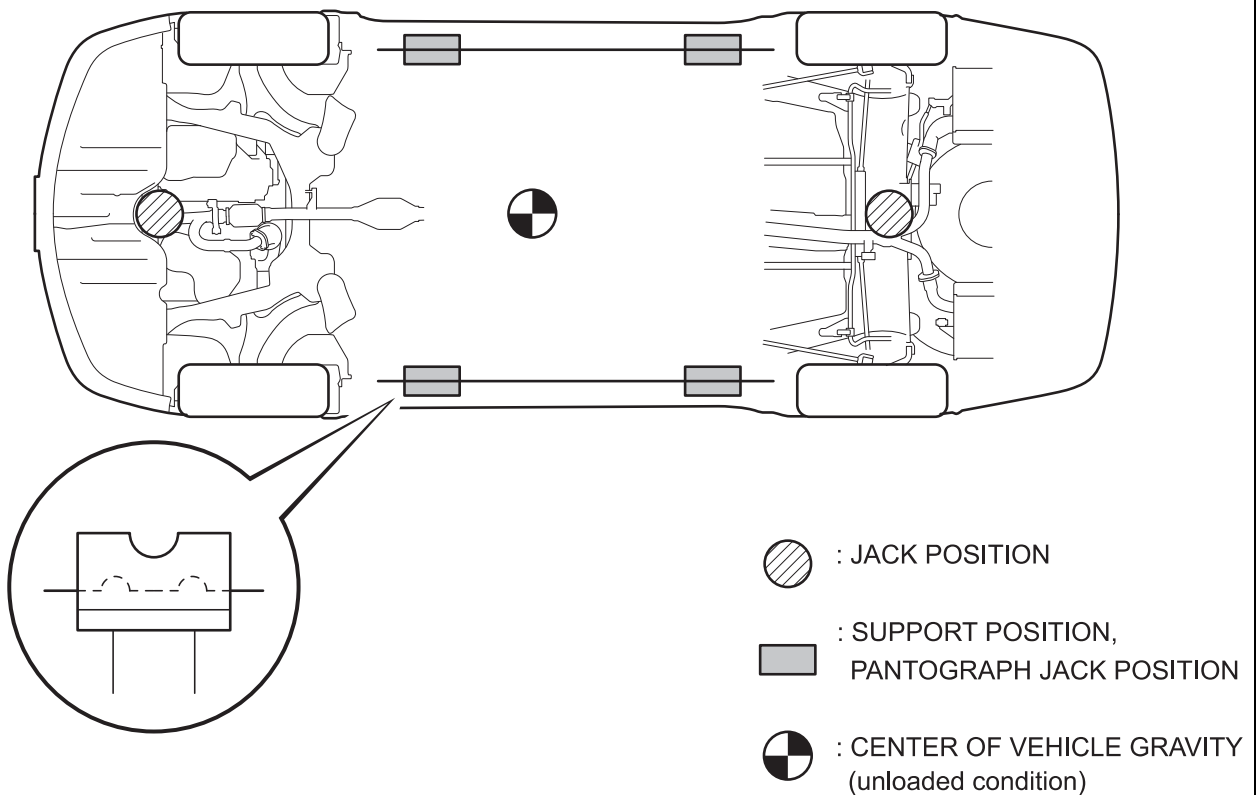


- (g) When jacking down the vehicle with its front wheels jacked up, release the parking brake and place wheel stoppers only in front of the rear wheels. When jacking down the vehicle with its rear wheels jacked up, place wheel stoppers only behind the front wheels.

IN



D100375E01

4. NOTICE FOR USING SWING ARM TYPE LIFT

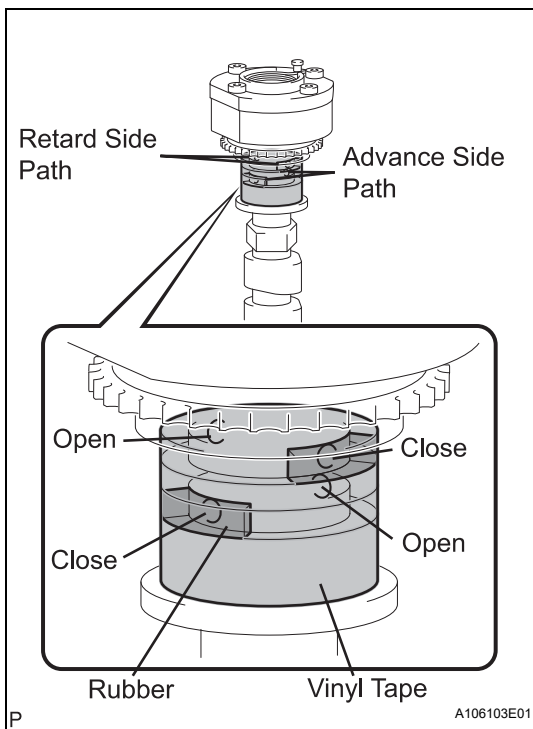
- (a) Follow the instruction manual of the lift for a safety operation.
- (b) Use a cradle with a rubber attachment, as shown in the illustration.
- (c) Set in the vehicle so as to make its center of gravity as close as possible to the center of the lift.
- (d) Place the vehicle horizontally by adjusting the height of the cradle, and match the groove of the cradle and the safety stand support location accurately.
- (e) Be sure to lock the swing arm during the operation.
- (f) Lift the vehicle up until the tires float, and shake the vehicle to make sure that the vehicle is stable.

TORQUE SPECIFICATIONS

Part Tightened	N*m	kgf*cm	ft.*lbf
Park/neutral position switch	5.4	55	48 in.*lbf
Control shaft lever x Control shaft	13	130	9
Transmission control cable x Control shaft lever	13	130	9
Transaxle housing x Engine block	Bolt A	64	653
	Bolt B	64	653
	Bolt C	46	469
	Bolt D	43	439
Torque converter clutch x Drive plate	41	418	30
Engine mounting front bracket x Transaxle case	64	653	47
Refill plug x Transaxle case	49	500	36
Over flow plug x Transaxle case	40	408	30
Control cable bracket No. 1 x Transaxle case	12	122	9
Oil cooler tube union (inlet oil cooler union) x Transaxle case	27	275	20
Oil cooler tube union (outlet oil cooler union) x Transaxle case	27	275	20
Wire harness x Transaxle case	12	122	9
Wire harness clamp bracket x Transaxle case	8.4	86	74 in.*lbf
Transmission revolution sensor x Valve body	11	112	8
No. 1 transmission oil filler tube x Oil pan	1.7	17	15 in.*lbf
Speedometer driven hole cover x Transaxle case	5.5	56	49 in.*lbf
Transmission wire (ATF temperature sensor) x Valve body	11	112	8
Oil pan x Transaxle case	7.5	76	66 in.*lbf
Transmission wire x Valve body	11	112	8
Valve body x Transaxle case	11	112	8
Oil strainer x Valve body	11	112	8
Breather bracket x Camshaft housing sub-assembly LH	5.5	56	49 in.*lbf
Air cleaner bracket x Body	7.8	80	69 in.*lbf
No. 2 shift cable grommet retainer x Body	5.0	51	44 in.*lbf
Flywheel housing under cover x Transaxle housing	7.8	80	69 in.*lbf
TCM x Transaxle case	11	112	8
Shift lock control unit x Body	12	122	9
Differential gear lube apply tube x Transaxle housing	23	234	17
Lock nut x Transaxle case	120	1,223	88
Transaxle case No. 1 plug x Transaxle rear cover	7.4	75	65 in.*lbf
Transaxle case No. 1 plug x Transaxle housing	7.4	75	65 in.*lbf
Transaxle case No. 1 plug x Transaxle case	29	296	20
Transaxle rear cover x Transaxle case	Bolt A	23	234
	Bolt B	17	173
Transaxle rear cover plate x Transaxle case	7.5	76	66 in.*lbf
Oil pump assembly x Transaxle case	23	234	17
Transaxle housing x Transaxle case	Bolt A	31	316
	Bolt B	23	234
Pawl shaft clamp x Transaxle case	23	234	17
Pawl stopper plate x Transaxle case	23	234	17
Manual detent spring x Transaxle case	23	234	17
Oil pump body x Stator shaft assembly	9.3	95	82 in.*lbf
Shift solenoid valve SL3 x Transmission valve body assembly	11	110	8
Shift solenoid valve SL4 x Transmission valve body assembly	11	110	8
Front differential case x Front differential ring gear	120	1,223	88

SS

DTC Code	Detection Item	Suspected Trouble Area	MIL	Memory	See page
P0051	Oxygen (A/F) Sensor Heater Control Circuit Low (Bank 2 Sensor 1)	1. Open in A/F sensor heater circuit 2. A/F sensor heater (bank 2 sensor 1) 3. A/F sensor heater relay 4. ECM	Comes on	DTC stored	ES-103
P0052	Oxygen (A/F) Sensor Heater Control Circuit High (Bank 2 Sensor 1)	1. Short in A/F sensor heater circuit 2. A/F sensor heater (bank 2 sensor 1) 3. A/F sensor heater relay 4. ECM	Comes on	DTC stored	ES-103
P0057	Oxygen Sensor Heater Control Circuit Low (Bank 2 Sensor 2)	1. Open in HO2 sensor heater circuit 2. HO2 sensor heater (bank 2 sensor 2) 3. Engine room junction block (EFI relay) 4. ECM	Comes on	DTC stored	ES-111
P0058	Oxygen Sensor Heater Control Circuit High (Bank 2 Sensor 2)	1. Short in HO2 sensor heater circuit 2. HO2 sensor heater (bank 2 sensor 2) 3. Engine room junction block (EFI relay) 4. ECM	Comes on	DTC stored	ES-111
P0100	Mass or Volume Air Flow Circuit	1. Open or short in Mass Air Flow (MAF) meter circuit 2. MAF meter 3. ECM	Comes on	DTC stored	ES-121
P0101	Mass Air Flow Circuit Range / Performance Problem	MAF meter	Comes on	DTC stored	ES-129
P0102	Mass or Volume Air Flow Circuit Low Input	1. Open in MAF meter circuit 2. Short in MAF meter circuit 3. MAF meter 4. ECM	Comes on	DTC stored	ES-121
P0103	Mass or Volume Air Flow Circuit High Input	1. Short in MAF meter circuit (+B circuit) 2. MAF meter 3. ECM	Comes on	DTC stored	ES-121
P0110	Intake Air Temperature Circuit Malfunction	1. Open or short in Intake Air Temperature (IAT) sensor circuit 2. IAT sensor (built into Mass Air Flow [MAF] meter) 3. ECM	Comes on	DTC stored	ES-132
P0111	Intake Air Temperature Sensor Gradient Too High	MAF meter	Comes on	DTC stored	ES-138



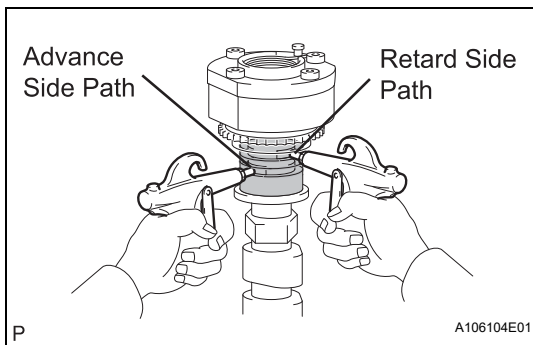
(g) Release the lock pin.

- (1) Cover the 4 oil paths of the cam journal with vinyl tape as shown in the illustration.

HINT:

4 oil paths are provided in the groove. Plug 2 paths with rubber pieces.

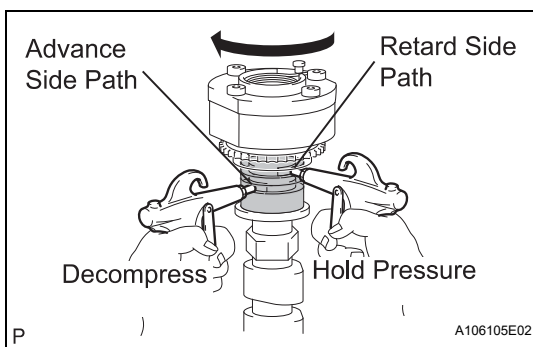
- (2) Prick a hole in the tape placed on the advance side path. Prick a hole in the tape placed on the retard side path, on the opposite side to that of the advance side path, as shown in the illustration.



- (3) Apply approximately 200 kPa (2.0 kgf/cm², 28 psi) of air pressure to the 2 broken paths (the advance side path and the retard side path).

CAUTION:

Cover the paths with a piece of cloth when applying pressure to keep oil from splashing.



- (4) Make sure that the camshaft timing exhaust gear turns in the retard direction when reducing the air pressure applied to the advance side path.

HINT:

The lock pin is released and the camshaft timing exhaust gear turns in the retard direction.

- (5) When the camshaft timing exhaust gear moves to the most retarded position, release the air pressure from the advance side path, and then release the air pressure from the retard side path.

NOTICE:

Be sure to release the air pressure from the advance side path first. If the air pressure of the retard side path is released first, the camshaft timing exhaust gear may abruptly shift in the advance direction and break the lock pin or other parts.

FRONT WHEEL ALIGNMENT

ADJUSTMENT

1. INSPECT TIRES

(See page TW-3)

2. MEASURE VEHICLE HEIGHT

(a) Bounce the vehicle up and down at the corners to stabilize the suspension. Inspect the vehicle height.

Vehicle height

Front A - B	Rear C - D
126 mm (4.96 in.)	57 mm (2.24 in.)

Measuring points:

A:

Ground clearance of front wheel center

B:

Ground clearance of lower suspension arm
No. 2 bushing set bolt head center

C:

Ground clearance of rear wheel center

D:

Ground clearance of strut rod set bolt center

NOTICE:

- Before inspecting the wheel alignment, adjust the vehicle height to the specified value.
- Be sure to perform measurement on a level surface.
- If it is necessary to go under the vehicle for measurement, confirm that the parking brake is applied and the vehicle is secured with chocks.

3. INSPECT TOE-IN

(a) Bounce the vehicle up and down at the corners to stabilize the suspension.

(b) Release the parking brake and move the shift lever to the neutral position.

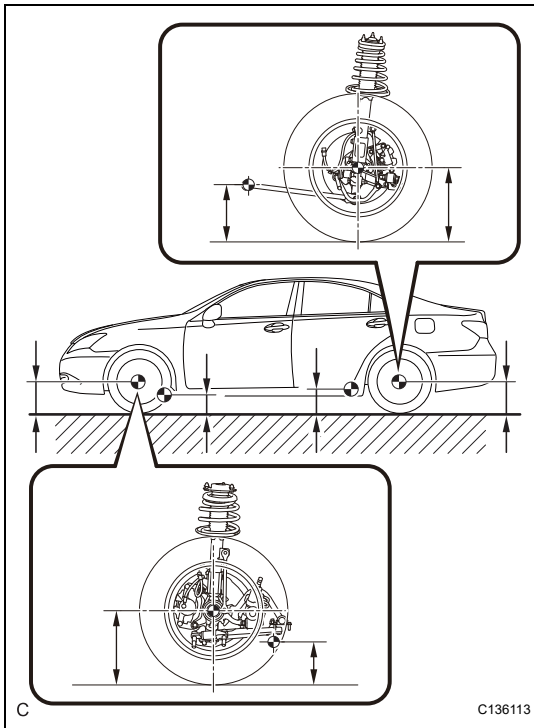
(c) Push the vehicle straight ahead approximately 5 m (16.4 ft). (*1)

(d) Put tread center marks on the rearmost points of the front wheels and measure the distance between the marks (dimension B).

(e) Slowly push the vehicle straight ahead to cause the front wheels to rotate 180° using the front tire valve as a reference point.

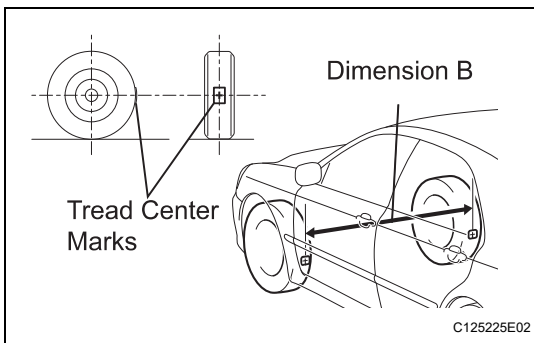
HINT:

Do not allow the wheels to rotate more than 180°. If the wheels rotate more than 180°, perform the procedure from *1 again.



C136113

SP



C125225E02

DTC	P1570	Radar Sensor Malfunction
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DESCRIPTION

The millimeter wave radar sensor emits radar beams towards an object in front and measures the distance and direction of the object by receiving the beam reflections. Based on the reflections, the sensor calculates the difference in speed between your own vehicle and an object in front. This data is transmitted to the distance control ECU.

DTC No.	DTC Detection Condition	Trouble Area
P1570	The ECM detects a radar sensor malfunction signal for 0.15 sec. or more while the dynamic radar cruise control is in operation	Millimeter wave radar sensor

HINT:

The millimeter wave radar sensor monitors the millimeter wave circuit activation by itself. This DTC is output when one of the following occurs: 1) the monitor is malfunctioning, 2) an EEPROM error is detected, 3) a voltage error is detected, and 4) the radar sensor is not adjusted. When raindrops or snowflakes strike the millimeter wave radar sensor face, the distance between the vehicle in front and your own vehicle cannot be measured correctly. The dynamic radar cruise control system functions by detecting the beam reflections from the vehicle directly in front. In the following cases, the system may not be able to detect the vehicle in front and may not properly maintain the correct vehicle-to-vehicle distance:

- The vehicle in front is a tall trailer.
- Emission from the vehicle in front or vehicle in other lanes are heavy.

INSPECTION PROCEDURE

NOTICE:

When the millimeter wave radar sensor is replaced with a new one, adjustment of the radar sensor beam axis must be performed (See page CC-119).

1	ADJUST MILLIMETER WAVE RADAR SENSOR
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Refer to adjustment (See page [CC-122](#)).

HINT:

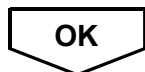
It is necessary to make the ECM recognize specification information (whether the vehicle is equipped with the dynamic radar cruise control system or not). When this procedure has not been carried out, this DTC may be output.

- (a) Clear the DTCs and then recheck for DTCs.

OK:

DTC is not output

NG	REPLACE MILLIMETER WAVE RADAR SENSOR (See page CC-122)
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SYSTEM IS OK

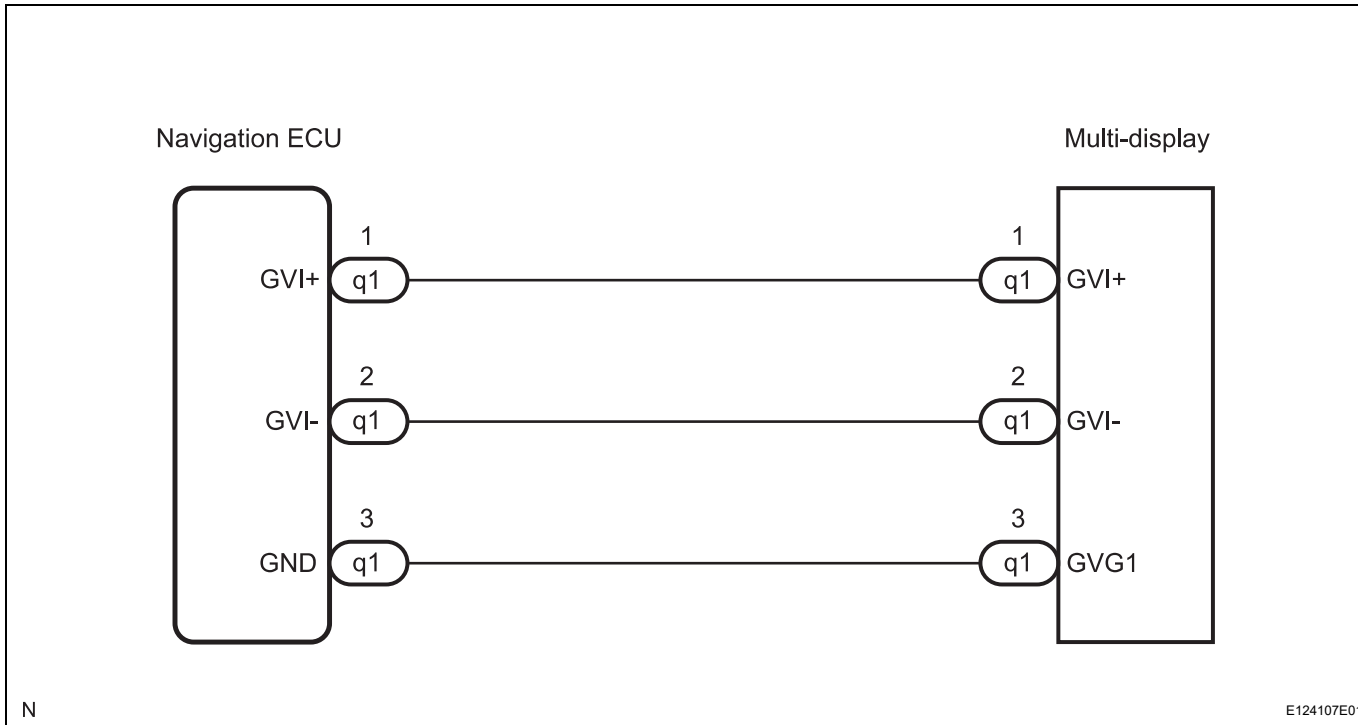


Display Signal Circuit between Navigation ECU and Multi-display

DESCRIPTION

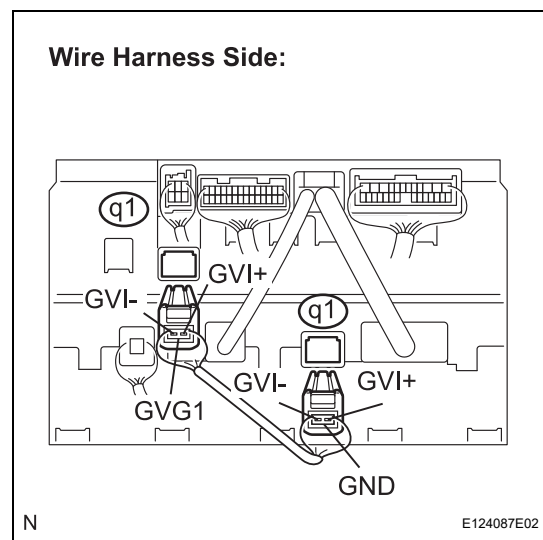
This is the display signal circuit from the navigation ECU to the multi-display.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 CHECK HARNESS AND CONNECTOR (NAVIGATION ECU - MULTI-DISPLAY)



- Disconnect the navigation ECU connector q1 and multi-display connector q1.
- Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
GVI+ - GVI+	Always	Below 1 Ω
GVI- - GVI-	Always	Below 1 Ω
GVG1 - GND	Always	Below 1 Ω
GVI+ - Body ground	Always	10 kΩ or higher
GVI- - Body ground	Always	10 kΩ or higher

NG

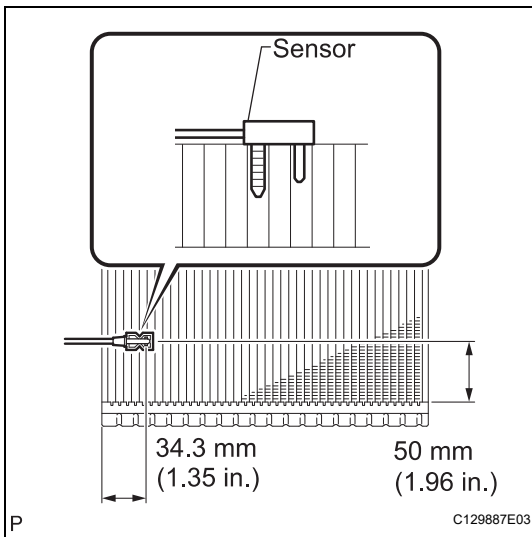
REPAIR OR REPLACE HARNESS OR CONNECTOR

DTC Code	Detection Item	Suspected Trouble Area	MIL	Memory	See page
P0051	Oxygen (A/F) Sensor Heater Control Circuit Low (Bank 2 Sensor 1)	1. Open in A/F sensor heater circuit 2. A/F sensor heater (bank 2 sensor 1) 3. A/F sensor heater relay 4. ECM	Comes on	DTC stored	ES-103
P0052	Oxygen (A/F) Sensor Heater Control Circuit High (Bank 2 Sensor 1)	1. Short in A/F sensor heater circuit 2. A/F sensor heater (bank 2 sensor 1) 3. A/F sensor heater relay 4. ECM	Comes on	DTC stored	ES-103
P0057	Oxygen Sensor Heater Control Circuit Low (Bank 2 Sensor 2)	1. Open in HO2 sensor heater circuit 2. HO2 sensor heater (bank 2 sensor 2) 3. Engine room junction block (EFI relay) 4. ECM	Comes on	DTC stored	ES-111
P0058	Oxygen Sensor Heater Control Circuit High (Bank 2 Sensor 2)	1. Short in HO2 sensor heater circuit 2. HO2 sensor heater (bank 2 sensor 2) 3. Engine room junction block (EFI relay) 4. ECM	Comes on	DTC stored	ES-111
P0100	Mass or Volume Air Flow Circuit	1. Open or short in Mass Air Flow (MAF) meter circuit 2. MAF meter 3. ECM	Comes on	DTC stored	ES-121
P0101	Mass Air Flow Circuit Range / Performance Problem	MAF meter	Comes on	DTC stored	ES-129
P0102	Mass or Volume Air Flow Circuit Low Input	1. Open in MAF meter circuit 2. Short in MAF meter circuit 3. MAF meter 4. ECM	Comes on	DTC stored	ES-121
P0103	Mass or Volume Air Flow Circuit High Input	1. Short in MAF meter circuit (+B circuit) 2. MAF meter 3. ECM	Comes on	DTC stored	ES-121
P0110	Intake Air Temperature Circuit Malfunction	1. Open or short in Intake Air Temperature (IAT) sensor circuit 2. IAT sensor (built into Mass Air Flow [MAF] meter) 3. ECM	Comes on	DTC stored	ES-132
P0111	Intake Air Temperature Sensor Gradient Too High	MAF meter	Comes on	DTC stored	ES-138

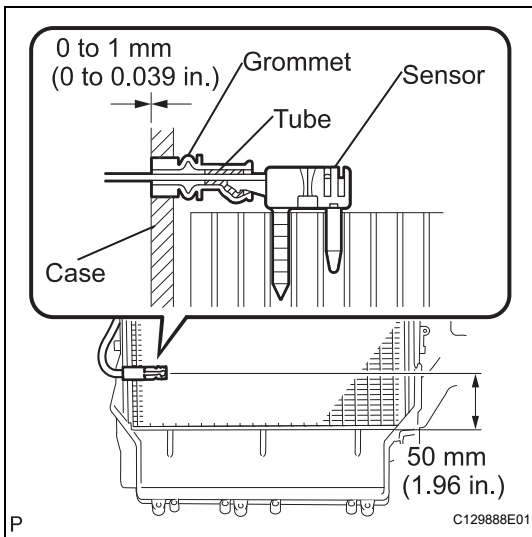
REASSEMBLY

1. INSTALL NO. 1 COOLER THERMISTOR

- (a) If using a new evaporator:
- (1) Install the No. 1 cooler thermistor to the evaporator as shown in the illustration.



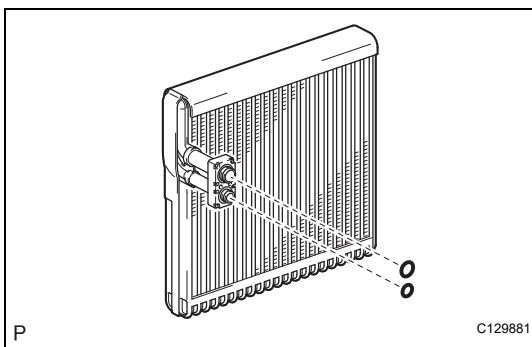
- (b) If reusing the evaporator:
- (1) Install the No. 1 cooler thermistor to the evaporator as shown in the illustration.



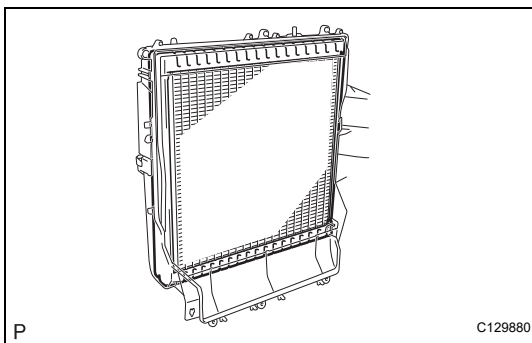
2. INSTALL NO. 1 COOLER EVAPORATOR SUB-ASSEMBLY

- (a) Sufficiently apply compressor oil to 2 new O-rings and the fitting surfaces.
- (b) Install the 2 O-rings to the No. 1 cooler evaporator sub-assembly.

Compressor oil:
ND-OIL 8 or equivalent



- (c) Install the No. 1 cooler evaporator sub-assembly.



DTC	B2424	Headlight Leveling Motor LH Communication Malfunction
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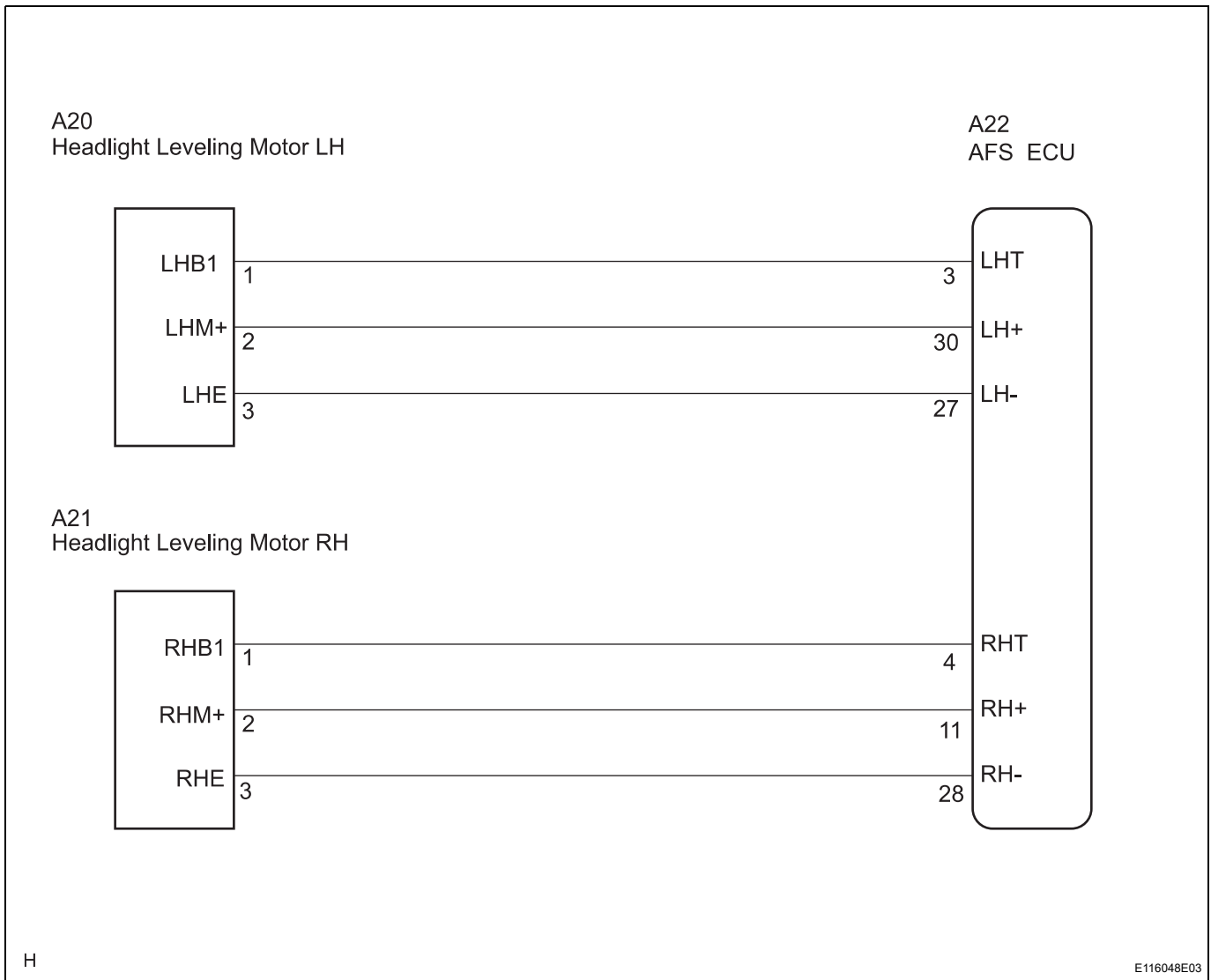
DTC	B2425	Headlight Leveling Motor RH Communication Malfunction
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DESCRIPTION

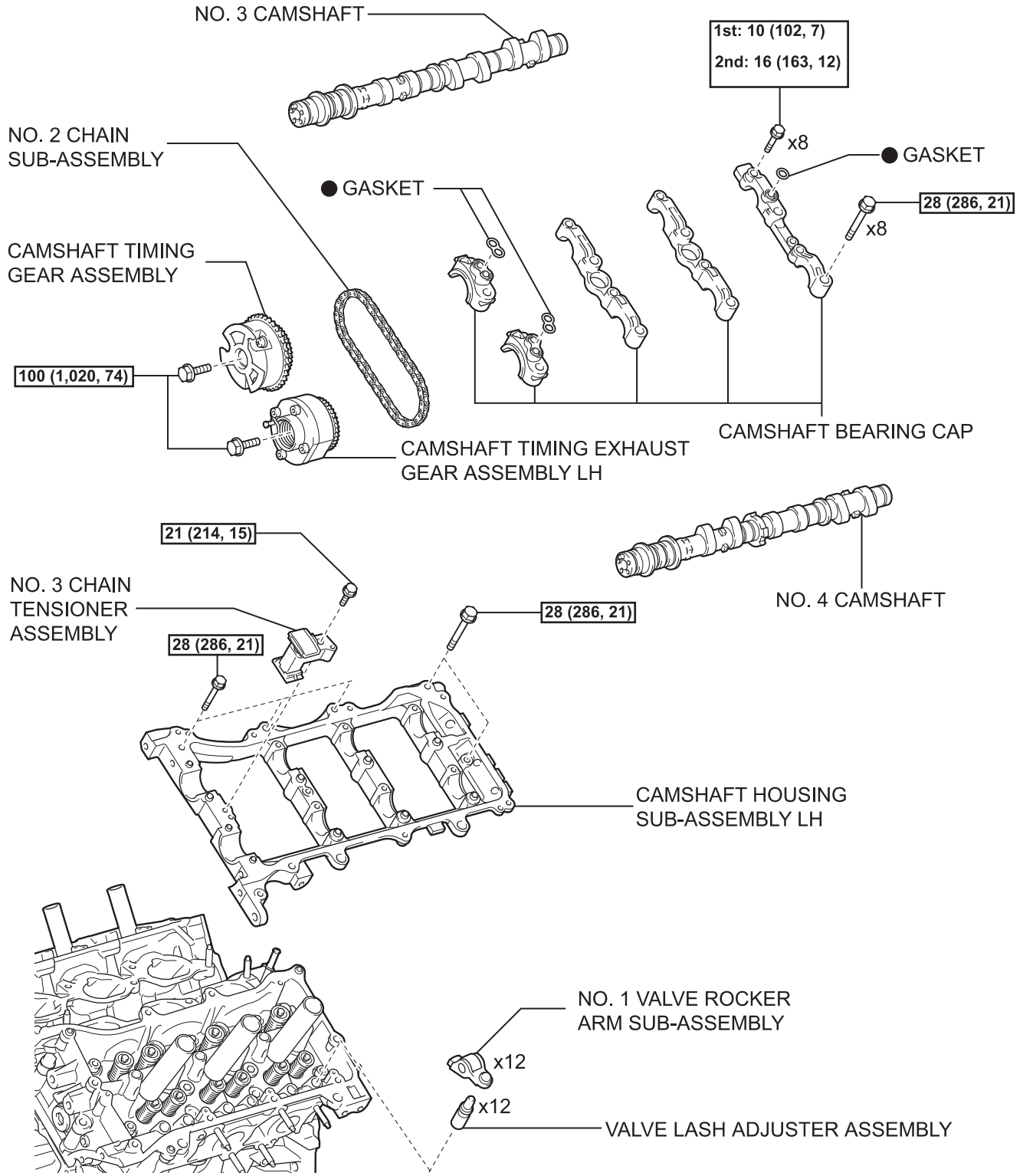
The AFS ECU receives a signal from the headlight swivel motor using LIN communication.

DTC No.	DTC Detecting Condition	Trouble Area
B2424	<ul style="list-style-type: none"> Malfunction in headlight leveling motor LH Open or short in headlight leveling motor LH communication circuit 	<ul style="list-style-type: none"> Headlight leveling motor LH Harness or connector AFS ECU
B2425	<ul style="list-style-type: none"> Malfunction in headlight leveling motor RH Open or short in headlight leveling motor RH communication circuit 	<ul style="list-style-type: none"> Headlight leveling motor RH Harness or connector AFS ECU

WIRING DIAGRAM



LH SIDE:



N*m (kgf*cm, ft.*lbf) : Specified torque

● Non-reusable part

EM

BRAKE SYSTEM

PRECAUTION

1. TROUBLESHOOTING PRECAUTION

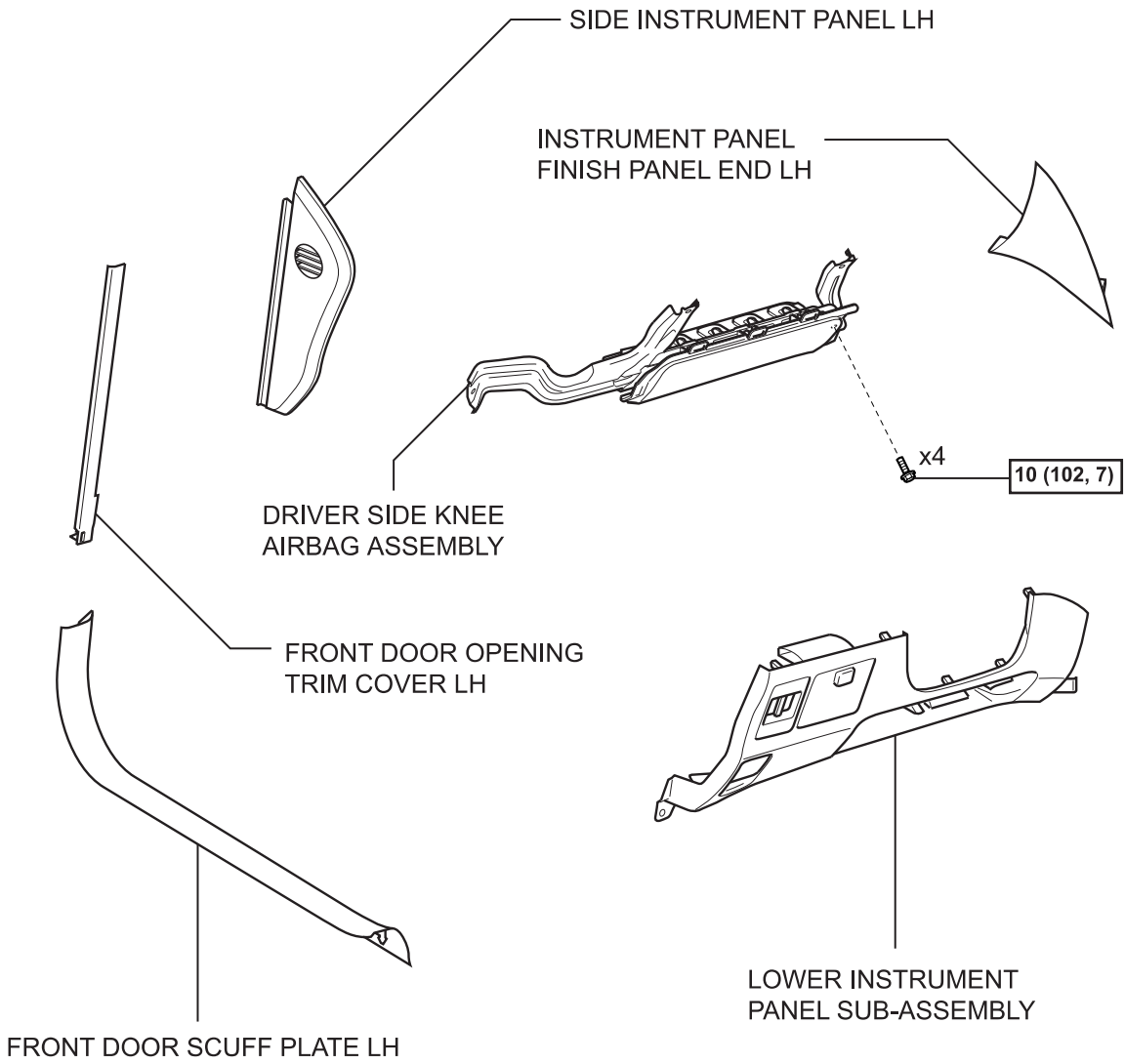
NOTICE:

- Care must be taken to replace each part properly as it could affect the performance of the brake system and result in a driving hazard. Replace the parts with those having the same part number or equivalent.
- It is very important to keep parts and the area clean when repairing the brake system.
- If the vehicle is equipped with a mobile communication system, refer to the precaution in the INTRODUCTION section.
- Care must be taken when using magnets as they could affect the performance of the speed sensors.
- Since the brake line is classified as one of the critical safety related parts, be sure to disassemble the components if a brake fluid leak is found. If any abnormality is found, replace the component with a new one.
- When removing brake components, cover the brake tube connections to prevent foreign matter such as dust or dirt from entering the tubes.
- Do not damage or deform the brake tubes when removing or installing them.
- When installing a grommet to the body, ensure that the brake tube passes through the center of the grommet.
- When installing a brake tube or flexible hose, ensure that they are free from twisting or bending.
- If the cap of the flexible hose does not match the groove on the bracket, twist the hose slightly to insert it.
- Flexible hoses must be free from absorber oil, grease, etc.
- When installing a brake tube to a plastic clamp, ensure that the brake tube is not loose or being pinched.
- Do not reuse a clip or plastic clamp removed from a flexible hose.
- After installing a brake tube and flexible hose, ensure that they do not interfere with any other components.
- Do not allow brake fluid to adhere to any painted surface such as the vehicle body. If brake fluid leaks onto any painted surface, immediately wash it off.

DRIVER SIDE KNEE AIRBAG ASSEMBLY

COMPONENTS

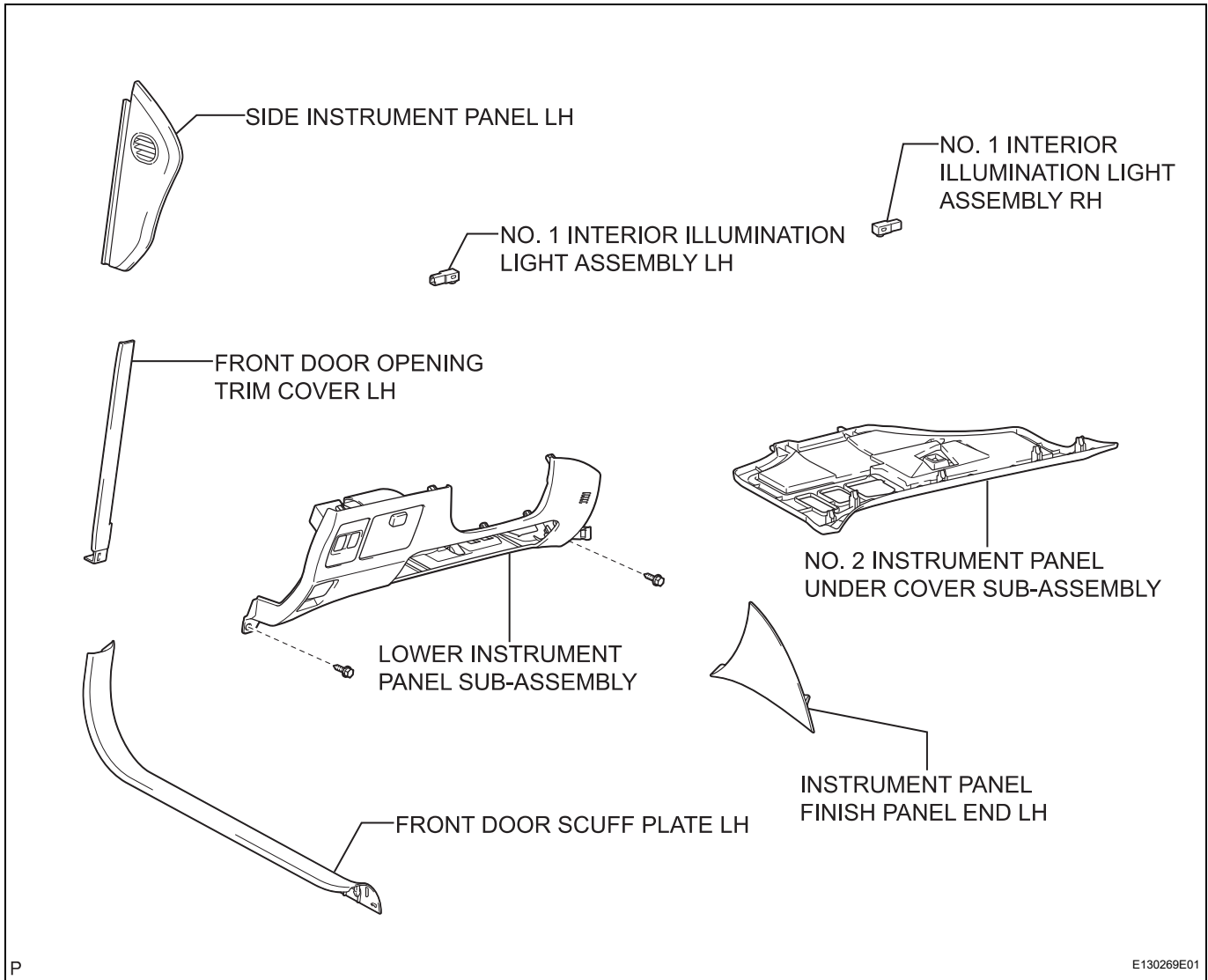
RS

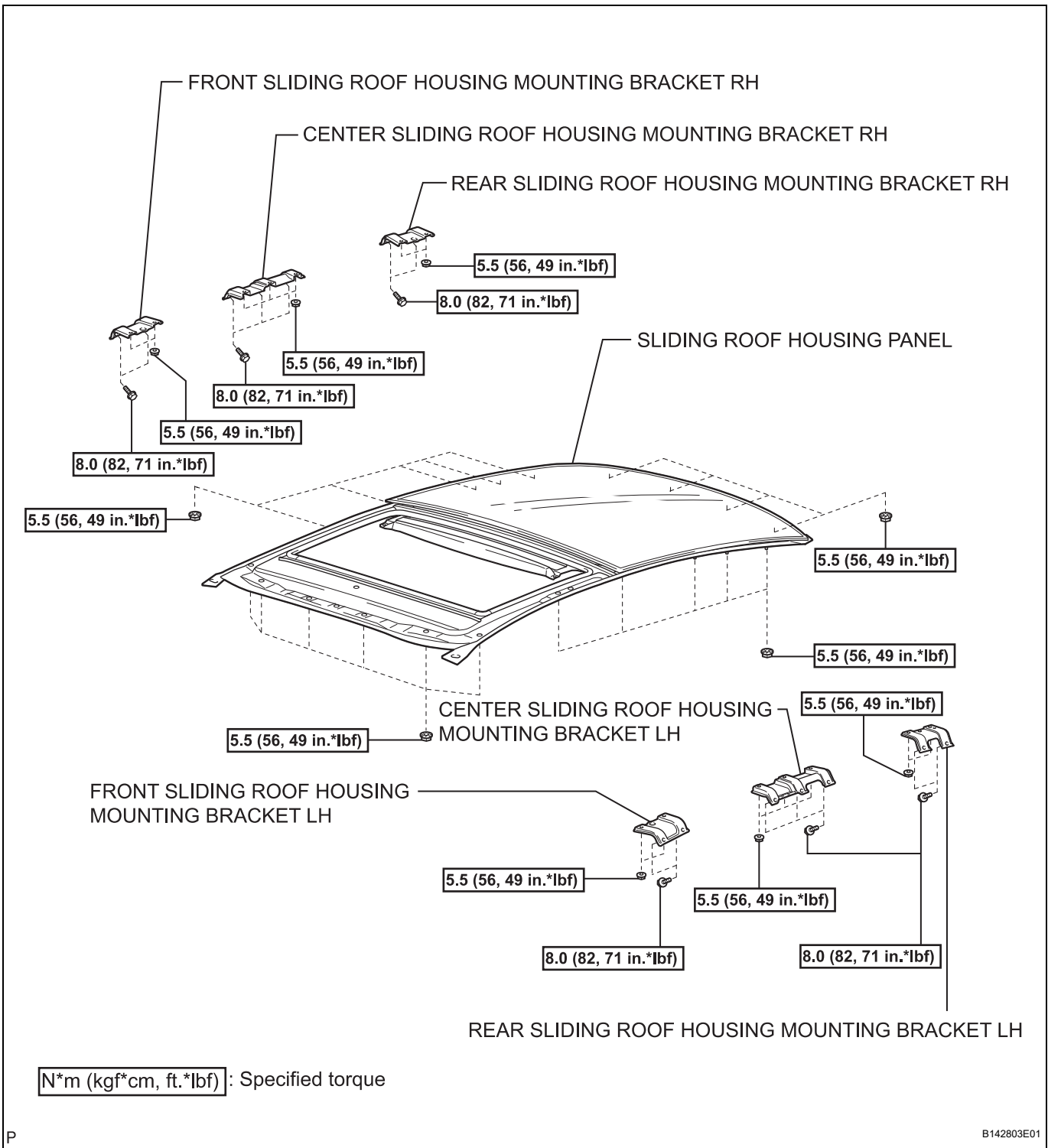


N*m (kgf*cm, ft.*lbf) : Specified torque

FOOTWELL LIGHT

COMPONENTS





P

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