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2011 - Mazda2 - Engine

GENERATOR INSPECTION [MZR 1.5]

CAUTION:

1. Do not apply direct battery positive voltage to generator terminal D, otherwise it could cause damage to the internal parts (power transistor) of the generator.

Generator Warning Light

1. Verify that the battery is fully charged.
2. Verify that the drive belt is correct. (See [DRIVE BELT INSPECTION \[MZR 1.5\]](#).)
3. Switch the ignition to ON, verify that the generator warning light illuminates.
 - If it does not illuminate, inspect the generator warning light and the wiring harness.
 1. If the generator warning light and the wiring harness are normal, inspect the PCM.
4. Verify that the generator warning light goes out after the engine is started.
 - If the generator warning light does not go out, perform the DTC inspection, then perform troubleshooting according to the corresponding diagnostic procedure. (See [ON-BOARD DIAGNOSTIC TEST \[MZR 1.5\]](#).) (See [DTC TABLE \[MZR 1.5\]](#).)

Generator

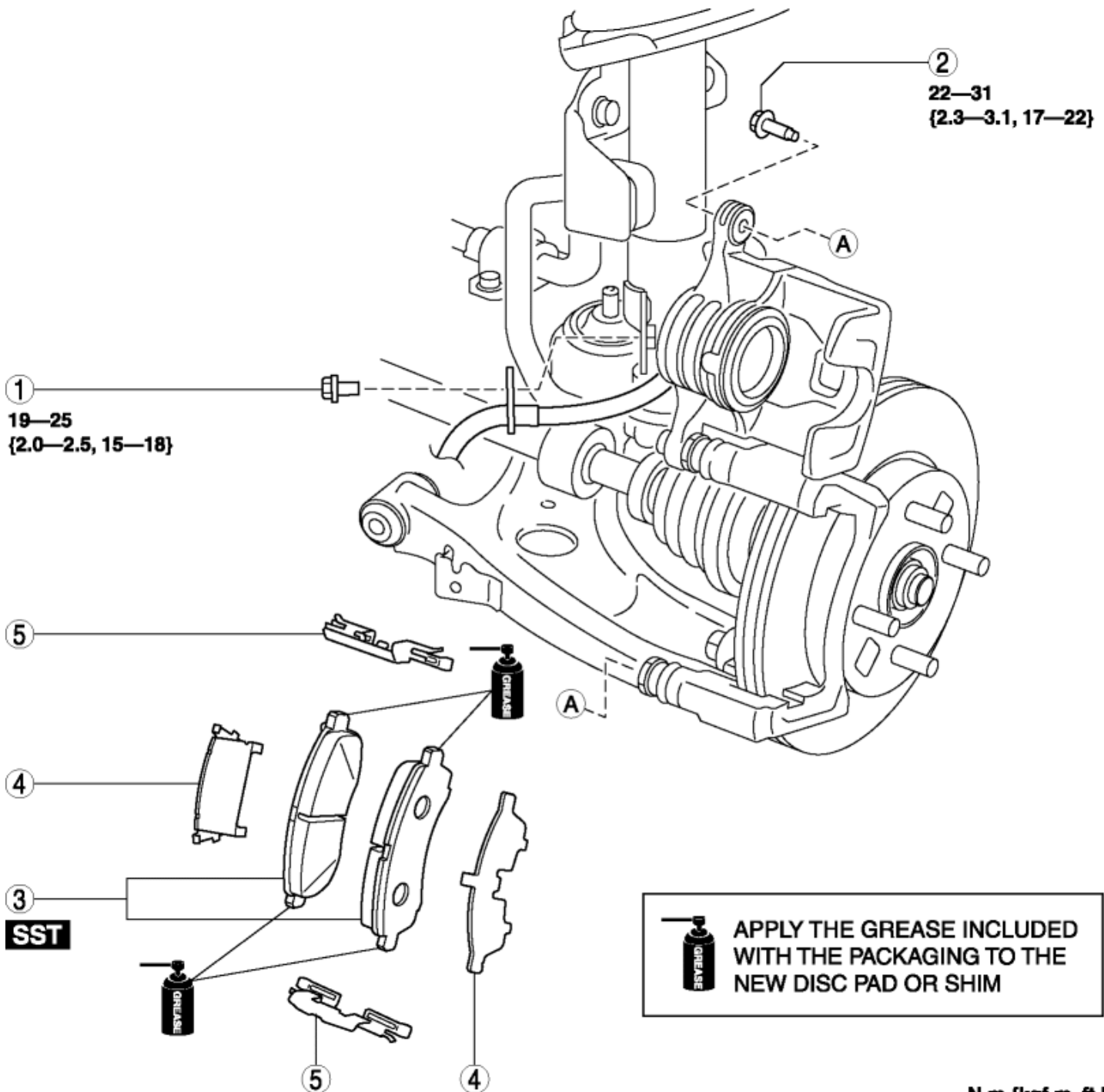
Voltage

1. Verify that the battery is fully charged.
2. Verify that the drive belt is correct. (See [DRIVE BELT INSPECTION \[MZR 1.5\]](#).)
3. Turn off all electrical loads.
4. Start the engine.
5. Verify that the generator rotates smoothly without any noise while the engine is running.
 - If there is any noise, find the cause and repair or replace the generator.
6. Measure the voltage at each terminal using a tester.

2011 - Mazda2 - Brakes

DISC PAD (FRONT) REPLACEMENT

1. Remove in the order indicated in the table.
2. Install in the reverse order of removal.
3. After installation, pump the brake pedal a few times and verify that the brakes do not drag.



FRONT DOOR MODULE PANEL

FRONT DOOR HARNESS

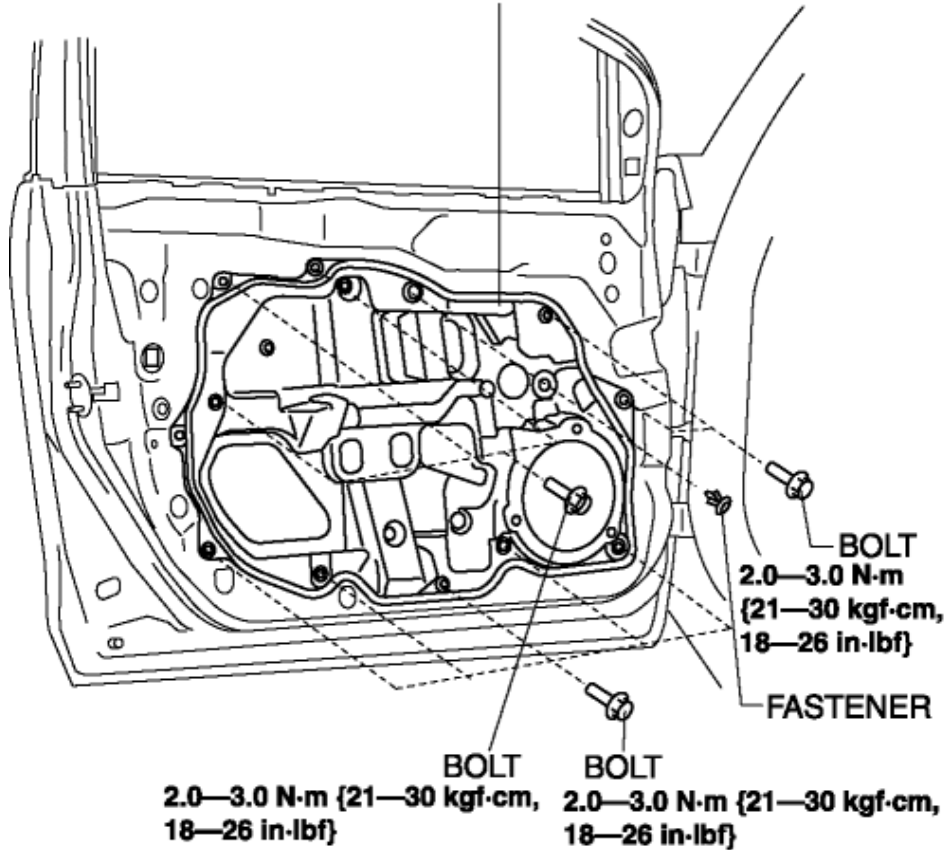
CLIP



CLIP

5. Remove the bolts.

FRONT DOOR MODULE PANEL



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2011 - Mazda2 - Engine

WARM-UP THREE-WAY CATALYTIC CONVERTER (WU-TWC) INSPECTION [MZR 1.5]

CAUTION:

- Perform the following procedures, DTC P0421:00 is indicated only.
 1. Connect the M-MDS to the DLC-2.
 2. Start the engine and warm it up to normal operating temperature.
 3. Turn off the engine.
 4. Verify that the engine compression is within the specification. (See [COMPRESSION INSPECTION \[MZR 1.5\]](#).)
 - If the compression pressure is not within the specification, repair or replace the malfunctioning part.
 5. Drive the vehicle for **10 min at 65—96 km/h {40—60 mph}** to allow the WU-TWC to reach normal operating temperature.
 6. Stop the vehicle and leave it in a safe space.
 7. Access Test ID 10:21:80 on the “Diagnostic Monitoring Test Result” function.
 8. Verify that the test result is within specification indicated on the M-MDS.
 - If it is not as specified, replace the WU-TWC. (See [EXHAUST SYSTEM REMOVAL/INSTALLATION \[MZR 1.5\]](#).)

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WARNING:

The following troubleshooting flow chart contains the fuel system diagnosis and repair procedures. Read the following warnings before performing the fuel system services:

- Fuel vapor is hazardous. It can easily ignite, causing serious injury and damage. Always keep sparks and flames away from fuel.
- Fuel line spills and leakage are dangerous. Fuel can ignite and cause serious injuries or death and damage. Fuel can also irritate skin and eyes. To prevent this, always complete “BEFORE SERVICE PRECAUTION” and “AFTER SERVICE PRECAUTION” described in this manual. (See [BEFORE SERVICE PRECAUTION \[MZR 1.5\]](#).) (See [AFTER SERVICE PRECAUTION \[MZR 1.5\]](#).)

CAUTION:

- Disconnecting/connecting the quick release connector without cleaning it may possibly cause damage to fuel pipe and quick release connector. Always clean the quick release connector joint area before disconnecting/connecting, and make sure that it is free of foreign material.

Diagnostic procedure

STEP	INSPECTION	RESULTS	ACTION
1	Remove the all spark plugs. (See SPARK PLUG REMOVAL/INSTALLATION [MZR 1.5] .) Inspect the spark plug condition. (See SPARK PLUG INSPECTION [MZR 1.5] .) Is there any malfunction?	Yes	Specific plug is wet or covered with carbon: <ul style="list-style-type: none"> • Go to the next step. Specific plug looks grayish white: <ul style="list-style-type: none"> • Go to Step 7. All plugs are wet or covered with carbon: <ul style="list-style-type: none"> • Go to Step 10. All plugs look grayish white: <ul style="list-style-type: none"> • Go to Step 16.
		No	DTC troubleshooting completed.
2	Are the spark plugs wet/covered with carbon by engine oil?	Yes	Inspect the all areas related to oil working up and down. Repair or replace the malfunctioning part according to the inspection results, if necessary.
		No	Go to the next step.
3	Inspect the spark plug for the following: <ul style="list-style-type: none"> • Air gap • Cracked insulator 	Yes	Replace the spark plug. (See SPARK PLUG REMOVAL/INSTALLATION [MZR 1.5] .)

	<ul style="list-style-type: none"> Inspect for poor connection (such as damaged/pulled-out pins, corrosion). Is there any malfunction? 	No	Go to the next step.
4	<p>INSPECT OCV</p> <ul style="list-style-type: none"> Inspect the OCV. <p>(See OIL CONTROL VALVE (OCV) INSPECTION [MZR 1.5].)</p> <ul style="list-style-type: none"> Is there any malfunction? 	Yes	<p>Replace the OCV, then go to Step 8.</p> <p>(See OIL CONTROL VALVE (OCV) REMOVAL/INSTALLATION [MZR 1.5].)</p>
	<ul style="list-style-type: none"> Is there any malfunction? 	No	Go to the next step.
5	<p>INSPECT OCV CIRCUIT FOR SHORT TO GROUND</p> <ul style="list-style-type: none"> OCV connector is disconnected. Inspect for continuity between the following terminals (wiring harness-side) and body ground: <ul style="list-style-type: none"> OCV terminal A OCV terminal B Is there continuity? 	Yes	<p>If the short to ground circuit could be detected:</p> <ul style="list-style-type: none"> Repair or replace the wiring harness for a possible short to ground. <p>If the short to ground circuit could not be detected:</p> <ul style="list-style-type: none"> Replace the PCM (short to ground in the PCM internal circuit). <p>(See PCM REMOVAL/INSTALLATION [MZR 1.5].)</p> <p>Go to Step 8.</p>
		No	Go to the next step.
6	<p>INSPECT PCM CONNECTOR CONDITION</p> <ul style="list-style-type: none"> Disconnect the PCM connector. Inspect for poor connection (such as damaged/pulled-out pins, corrosion). Is there any malfunction? 	Yes	Repair or replace the connector and/or terminals, then go to Step 8.
		No	Go to the next step.
7	<p>INSPECT OCV CIRCUIT FOR OPEN CIRCUIT</p> <ul style="list-style-type: none"> OCV and PCM connectors are disconnected. Inspect for continuity between the following terminals (wiring harness-side): <ul style="list-style-type: none"> OCV terminal A— PCM terminal 2I OCV terminal B— PCM terminal 2W 	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to the next step.

7	<p>INSPECT HO2S HEATER</p> <ul style="list-style-type: none"> Inspect the HO2S heater. <p>(See HEATED OXYGEN SENSOR (HO2S) INSPECTION [MZR 1.5].)</p> <ul style="list-style-type: none"> Is there any malfunction? 	<p>Yes Replace the HO2S, then go to Step 14.</p> <p>(See HEATED OXYGEN SENSOR (HO2S) REMOVAL/INSTALLATION [MZR 1.5].)</p>
		<p>No Go to the next step.</p>
8	<p>INSPECT HO2S SIGNAL CIRCUIT FOR SHORT TO GROUND</p> <ul style="list-style-type: none"> HO2S connector is disconnected. Inspect for continuity between HO2S terminal A (wiring harness-side) and body ground. Is there continuity? 	<p>Yes If the short to ground circuit could be detected:</p> <ul style="list-style-type: none"> Repair or replace the wiring harness for a possible short to ground. <p>If the short to ground circuit could not be detected:</p> <ul style="list-style-type: none"> Replace the PCM (short to ground in the PCM internal circuit). <p>(See PCM REMOVAL/INSTALLATION [MZR 1.5].)</p> <p>Go to Step 14.</p>
		<p>No Go to the next step.</p>
9	<p>INSPECT PCM CONNECTOR CONDITION</p> <ul style="list-style-type: none"> Disconnect the PCM connector. Inspect for poor connection (such as damaged/pulled-out pins, corrosion). Is there any malfunction? 	<p>Yes Repair or replace the connector and/or terminals, then go to Step 14.</p>
		<p>No Go to the next step.</p>
10	<p>INSPECT HO2S SIGNAL CIRCUIT FOR OPEN CIRCUIT</p> <ul style="list-style-type: none"> HO2S and PCM connectors are disconnected. Inspect for continuity between HO2S terminal A (wiring harness-side) and PCM terminal 2AH (wiring harness-side). Is there continuity? 	<p>Yes Go to the next step.</p>
		<p>No Repair or replace the wiring harness for a possible open circuit, then go to Step 14.</p>
11	<p>INSPECT SEALING OF ENGINE COOLANT PASSAGE</p>	<p>Yes Repair or replace the malfunctioning part according</p>

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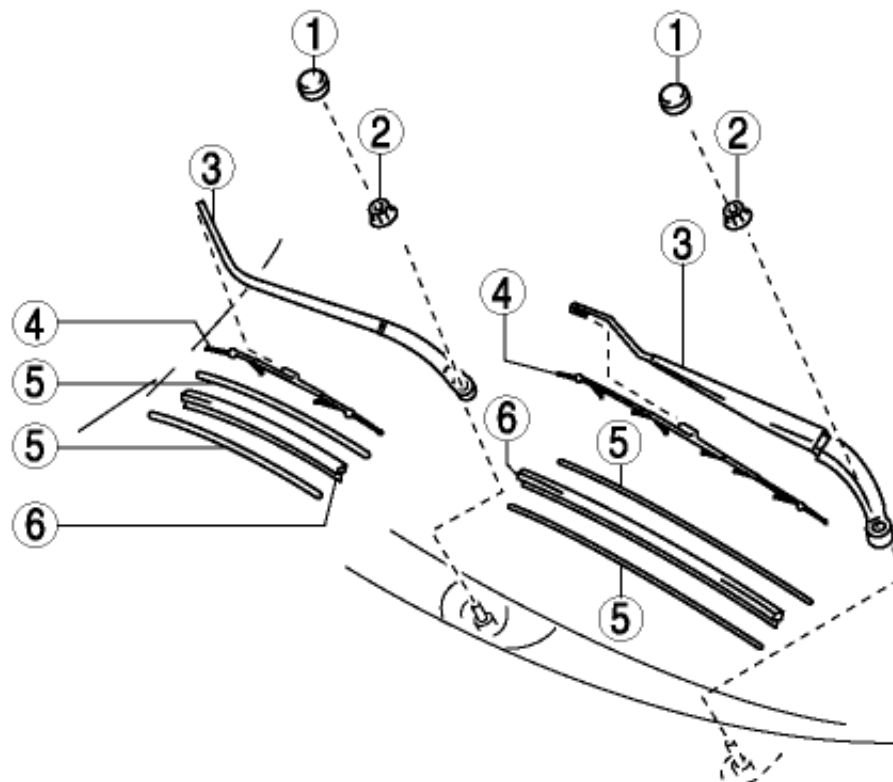
2011 - Mazda2 - Body and Accessories

WINDSHIELD WIPER ARM AND BLADE REMOVAL/INSTALLATION

WARNING:

- When the switch the ignition to ON, and the wiper and washer switch is in the AUTO position, the windshield wipers could operate accidentally under the following conditions. Always switch the ignition, and the wiper and washer switch off before handling the windshield wipers; otherwise a pinched hand or fingers could result in injury or a wiper system malfunction:
 - The windshield in the rain sensor installation area is touched.
 - The windshield is subjected to an impact.
 - The rain sensor is subjected to an impact from inside the vehicle.
 - Water is poured on the windshield.

1. Remove in the order indicated in the table.



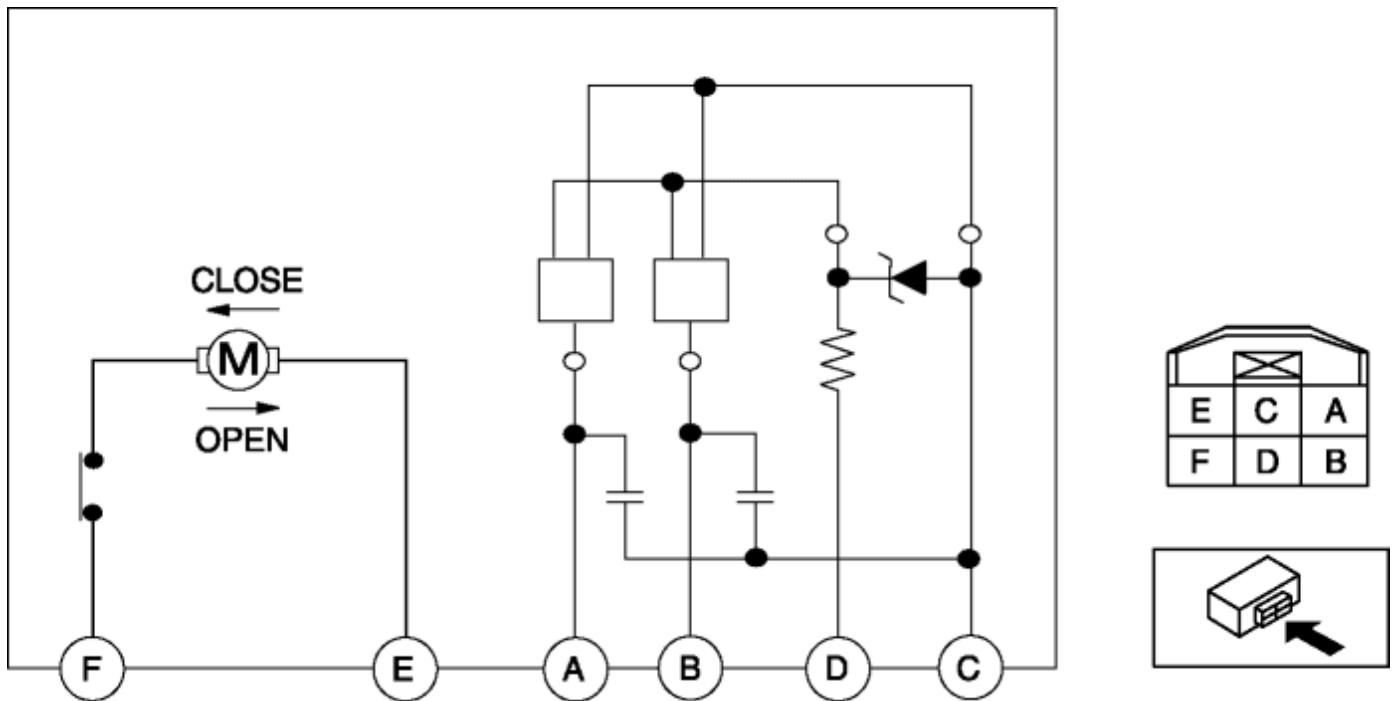
NUT : 24—27 N·m {2.4—2.7 kgf·m, 18—20 ft·lbf}

2011 - Mazda2 - Body and Accessories

POWER WINDOW MOTOR INSPECTION

Driver's Side

1. Disconnect the negative battery cable.
2. Remove the inner garnish. (See [INNER GARNISH REMOVAL/INSTALLATION.](#))
3. Remove the front door trim. (See [FRONT DOOR TRIM REMOVAL/INSTALLATION.](#))
4. Disconnect the power window motor connector.
5. Apply battery positive voltage and connect the ground to power window motor terminals E and F, and then inspect the power window motor operation.



- If the power window motor does not operate as indicated in the table, replace it.

Operation	Terminal	
	E	F

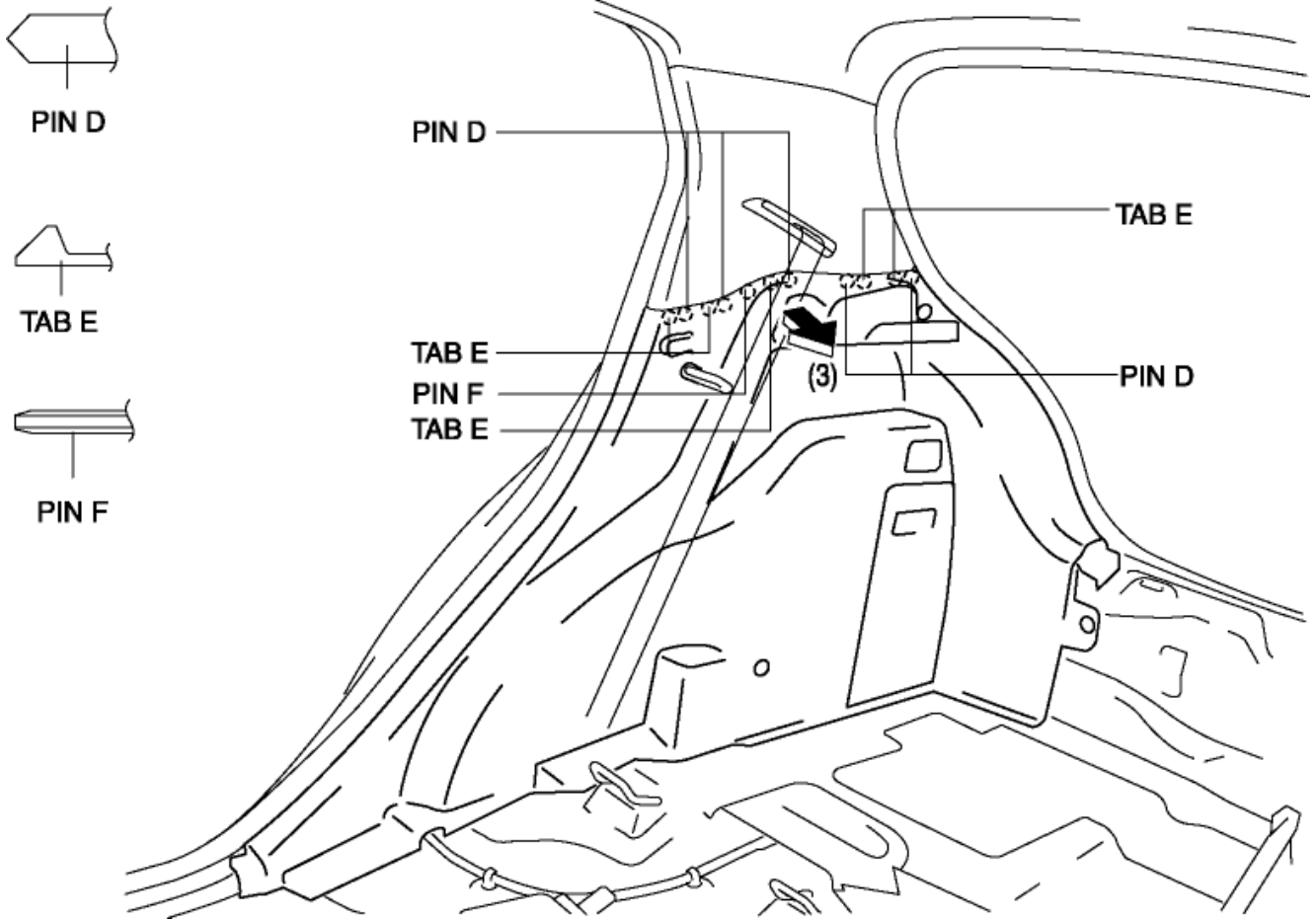
2011 - Mazda2 - HVAC

NO.4 NO TEMPERATURE CONTROL WITH CLIMATE CONTROL UNIT [MANUAL AIR CONDITIONER]

4	No temperature control with climate control unit
DESCRIPTION	<ul style="list-style-type: none"> • Malfunction in A/C unit and/or climate control unit air mix system
POSSIBLE CAUSE	<ul style="list-style-type: none"> • A/C unit air mix link, air mix crank, air mix rod, air mix wire, wire clamp malfunction (Steps 2, 3) • Climate control unit rack-and-pinion, air mix wire malfunction (Step 4) • A/C unit air mix door malfunction (Steps 5, 6) • Heater piping malfunction (Step 7)

Diagnostic procedure

STEP	INSPECTION	ACTION
1	INSPECT COOLANT TEMPERATURE <ul style="list-style-type: none"> • Is the coolant sufficiently warmed up? 	Yes Go to the next step.
		No Warm up the engine, then go to Step 8.
2	INSPECT A/C UNIT AIR MIX SYSTEM <ul style="list-style-type: none"> • Inspect the A/C unit air mix links, air mix cranks, air mix rods, air mix actuator, and wire 	Yes Go to the next step.



6. Disconnect the cargo compartment light connector.

7. Install in the reverse order of removal.

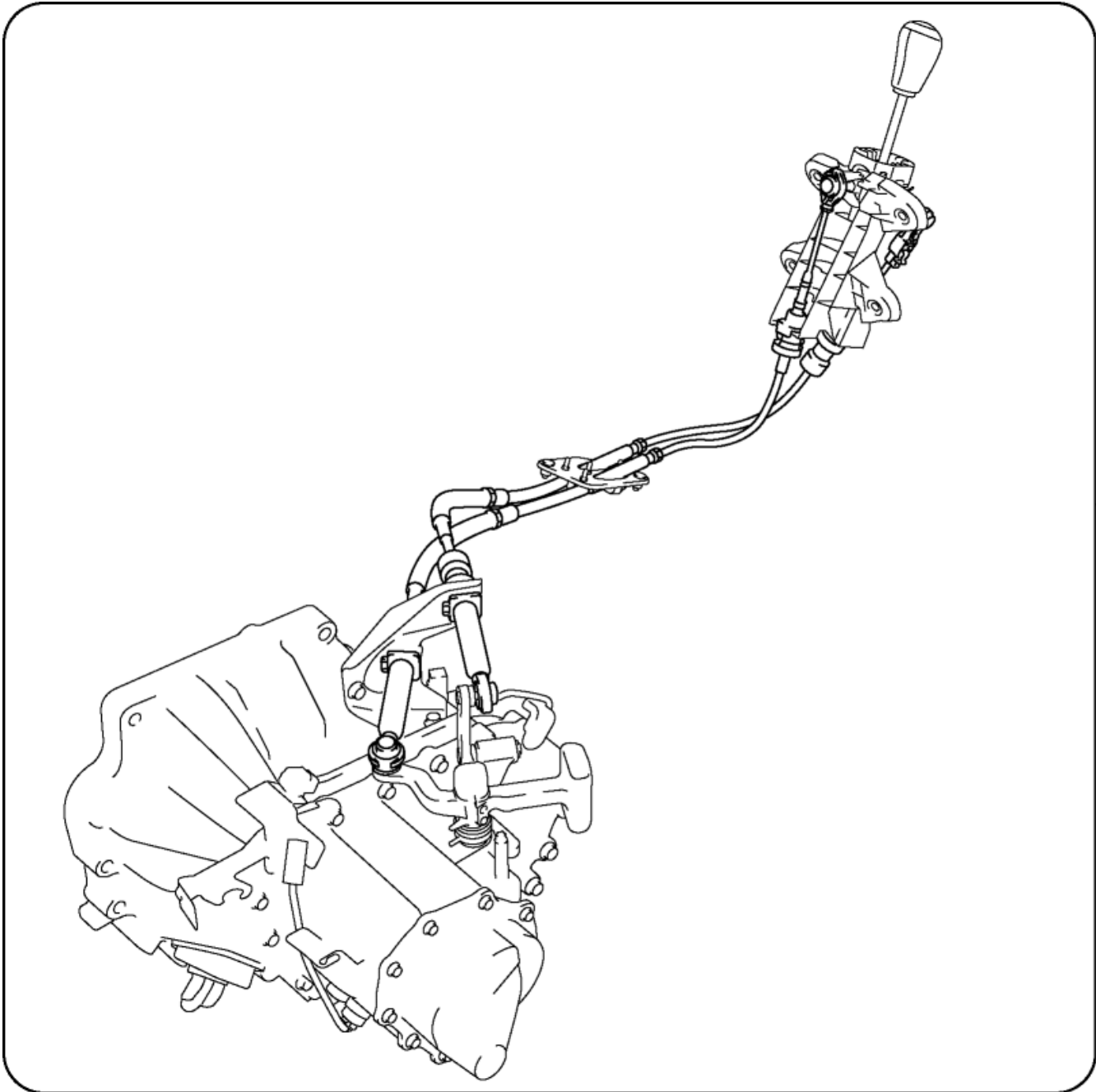
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2011 - Mazda2 - Transmission/Transaxle

MANUAL TRANSAXLE SHIFT MECHANISM LOCATION INDEX [F35M-R]



1 Manual transaxle shift mechanism

(See [MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION \[F35M-R\]](#).)

2011 - Mazda2 - Body and Accessories

NO.5 CANNOT PRESET (PRESET FUNCTION DOES NOT OPERATE) [RADIO]

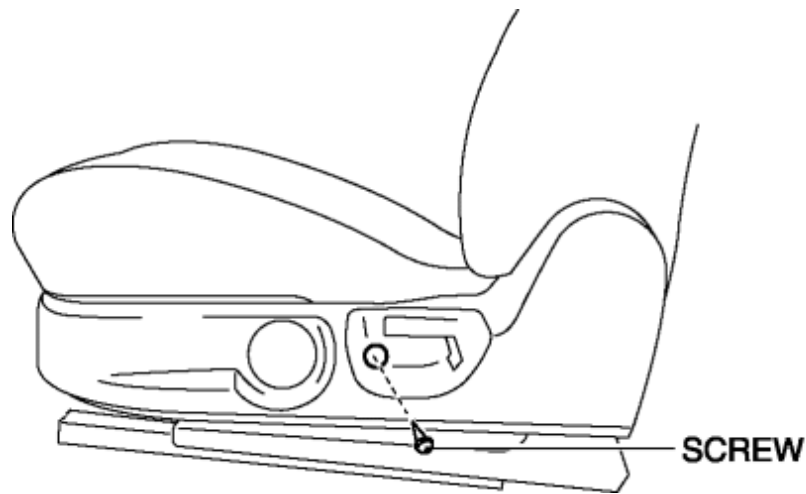
5	Cannot preset (preset function does not operate)
Possible DTC	—
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Audio unit malfunction • Center panel malfunction

Diagnostic procedure

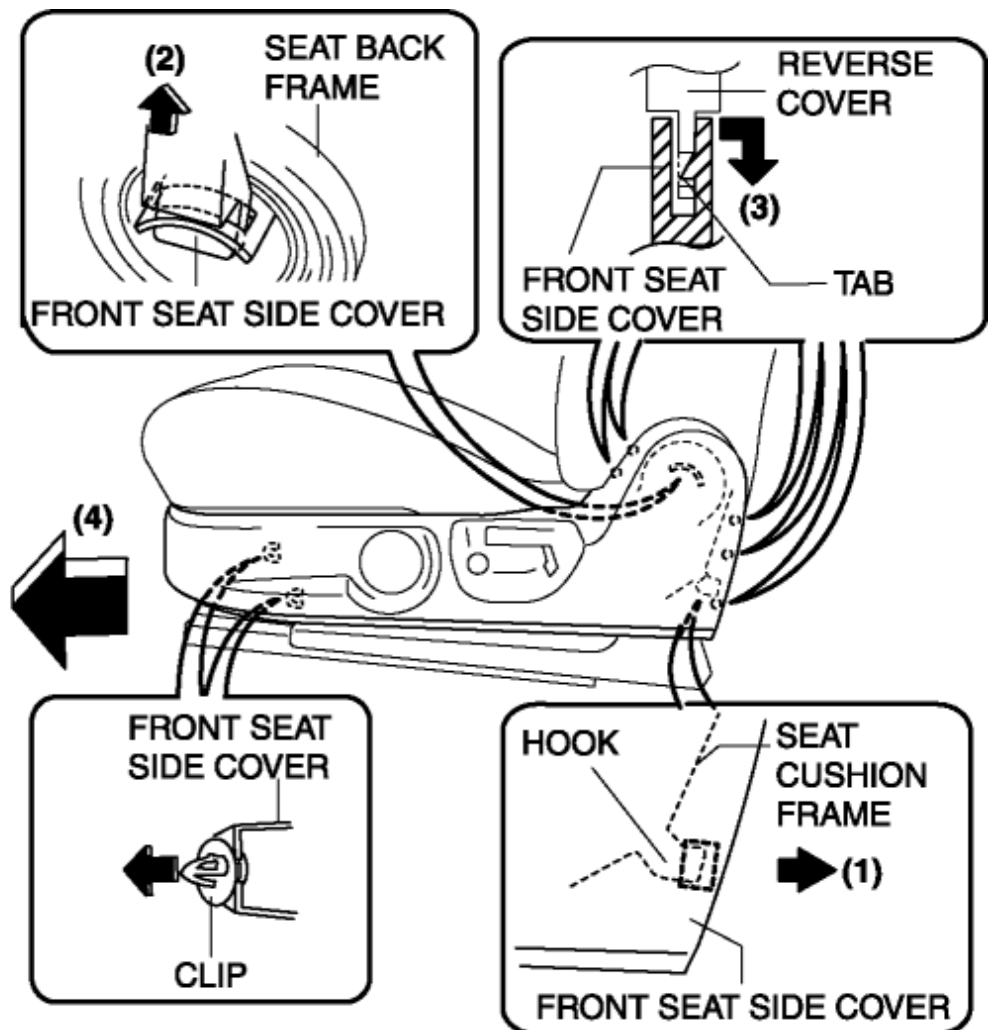
STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> • Tune to the desired station and press channel preset switch 1 for about 2 s to store it. • Repeat the above for other stations using channel preset switch 2 to 5. • Press channel preset switch 1 to 6 one by one. • Are the stored stations present? 	Yes Go to the next step.
		No Go to Step 3.
2	<ul style="list-style-type: none"> • Switch the ignition to off and then to ACC. • Check if the preset stations are stored by pressing the preset switch. 	Yes The system is normal. (Explain preset procedure to customer using Owner's Manual)

- The seat back folds forward when the recliner knob is operated. Be careful when operating the recliner knob.

8. Remove the screw.



9. Pull the front seat side cover in the order of (1), (2), (3) shown in the figure to disengage the clip, hook and tab.



10. Remove the front seat side cover from the hook by sliding the front seat side cover in the direction of arrow (4) shown in the figure.