

GENERAL INFORMATION

Body Dimensions (Straight-line Dimensions)

- Straight-line dimensions are the actual dimensions between two standard points.
- When there are no specific indications, the standard points and dimensions are symmetrical in regard to the center of the vehicle.

Example

ROOM STRAIGHT-LINE DIMENSIONS (2)

Shows vehicle section

Shows dimension location

Shows outline drawing

Shows point symbol

Shows details of the standard point location

Shows position and shape of the points

Shows point indication
Without apostrophe:RH
With apostrophe:LH

Measured location	Dimensions mm {in}
1	1,184 {46.61}
2	1,064 {41.89}
3	919 {36.18}
4	690 {27.17}
5	1,185 {46.65}
6	901 {35.47}
7	607 {23.90}

Measured location	Dimensions mm {in}
8	1,642 {64.65}
9	1,463 {57.60}
10	1,667 {65.63}
11	1,672 {65.83}
B-B'	1,037 {40.83}
C-C'	1,290 {50.79}
D-D'	1,208 {47.56}

Shows dimension

No indication are shown within the outline drawing.

MZZ2010B004

Symbols of Body Dimensions

- The following 8 symbols are used to indicate the standard points.

SYMBOL	MEANING	SYMBOL	MEANING
	Center of circular hole		Panel seam, bead, etc.
	Center elliptical hole		Bolt tip
	Notch		Center of rectangular-shaped hole

MZZ2010B005

2011 - RX-8 - Engine

DTC P0030 [13B-MSP]

DTC P0030	A/F sensor heater control circuit problem
DETECTION CONDITION	<ul style="list-style-type: none">• The PCM monitors the A/F sensor impedance when under the A/F sensor heater control for 190 s. If the impedance is more than 44 ohms while PCM turns A/F sensor heater on, the PCM determines that there is a A/F sensor heater control circuit problem. <p>Diagnostic support note</p> <ul style="list-style-type: none">• This is a continuous monitor (A/F sensor heater, HO2S heater).• The MIL illuminates if the PCM detects the above malfunction condition in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the PCM.• PENDING CODE is available if the PCM detects the above malfunction condition during the first drive cycle.• FREEZE FRAME DATA (Mode 2/Mode 12) is available.• The DTC is stored in the PCM memory.
POSSIBLE CAUSE	<ul style="list-style-type: none">• A/F sensor connector or terminals malfunction• A/F sensor heater malfunction• PCM connector or terminals malfunction• PCM malfunction

Diagnostic procedure

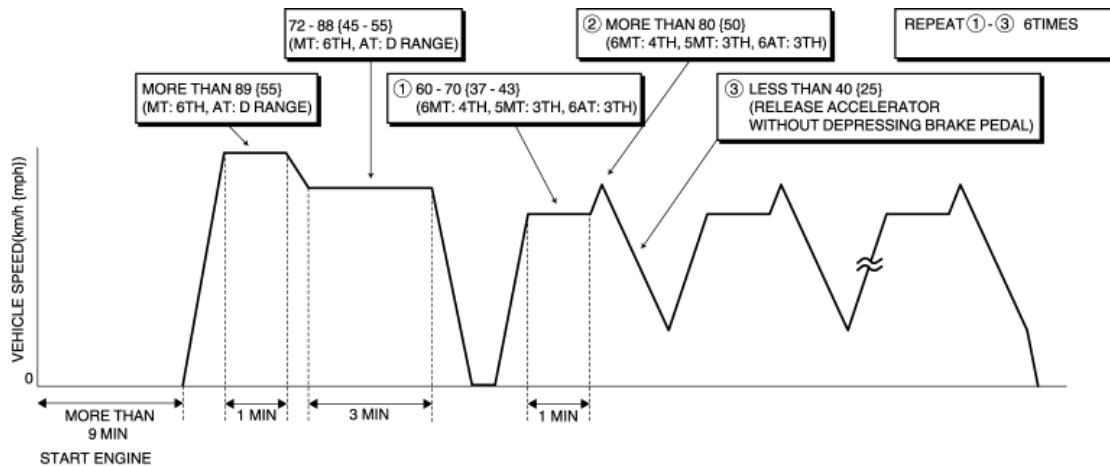
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2011 - RX-8 - Engine

DTC P2407 [13B-MSP]

DTC P2407	EVAP system leak detection pump sense circuit intermittent/erratic problem
DETECTION CONDITION	<ul style="list-style-type: none">• The PCM monitors the pump load current (EVAP line pressure) when the evaporative leak monitor is operating. If the change in pump load current is more than the specification while the PCM obtains the reference current value 6 times, the PCM determines that there is an EVAP system leak detection pump sense circuit intermittent/erratic problem.• The PCM monitors the pump load current (EVAP line pressure) when the evaporative leak monitor is operating. If the pump load current is kept less than the maximum pump load current after the PCM obtains the reference current value 6 times, the PCM determines that there is an EVAP system leak detection pump sense circuit intermittent/erratic problem. <p>Diagnostic support note</p> <ul style="list-style-type: none">• This is an intermittent monitor (EVAP system).• The MIL illuminates if the PCM detects the above malfunction condition in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the PCM.• PENDING CODE is available if the PCM detects the above malfunction condition during the first drive cycle.• FREEZE FRAME DATA (Mode 2/Mode 12) is available.• The DTC is stored in the PCM memory.
POSSIBLE CAUSE	<ul style="list-style-type: none">• EVAP system leak detection pump malfunction<ul style="list-style-type: none">▪ Heater malfunction• PCM malfunction

2. Drive the vehicle as shown in the graph. The driving condition before driving at constant speed is not specified.



3. Stop the vehicle and access the ON BOARD SYSTEM READINESS to inspect the Drive Mode completion status.

- If completed, RFC changes from No to Yes.
- If not completed, turn the ignition switch off, then go back to Step 2.

4. Access the DIAGNOSTIC MONITORING TEST RESULTS to inspect the monitor results.

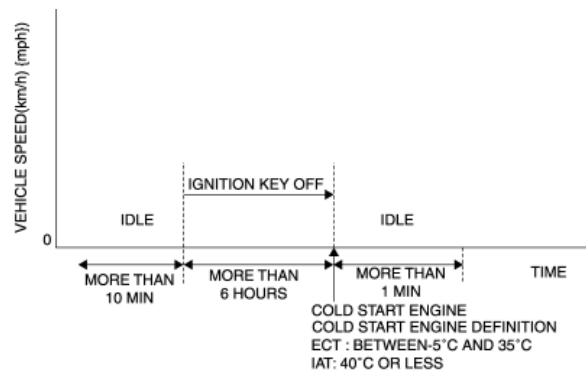
- If detect values are not within specification, repair has not been completed.

5. Verify that no DTCs are available.

Mode 5 (AIR System Repair Verification Drive Mode)

1. Verify that all accessory loads (A/C, headlights, blower fan, rear window defroster) are off.

2. Drive the vehicle as shown in the graph. The driving condition before driving at constant speed is not specified.



3. Stop the vehicle and access the ON BOARD SYSTEM READINESS to inspect the Drive Mode completion status.

- If completed, RFC changes from No to Yes.
- If not completed, turn the ignition switch off, then go back to Step 2.

4. Access the DIAGNOSTIC MONITORING TEST RESULTS to inspect the monitor results.

- If detect values are not within specification, repair has not been completed.

5. Verify that no DTCs are available.

Mode 6 (EVAP System Repair Verification Drive Mode)

NOTE:

- If the Mode 6 cannot be performed (you cannot drive the vehicle under the Mode 6 condition), perform the “Evaporative System Test” as an alternative. (See [ENGINE CONTROL SYSTEM OPERATION INSPECTION \[13B-MSP\]](#).)

NOTE:

2011 - RX-8 - Engine

NO.14 POOR FUEL ECONOMY [13B-MSP]

14	POOR FUEL ECONOMY
DESCRIPTION	<ul style="list-style-type: none">• The fuel economy is unsatisfactory.
	<ul style="list-style-type: none">• Contaminated air cleaner element• Air suction at intake-air system (between MAF sensor and intake ports)• Poor fuel quality• Inadequate fuel pressure• Pressure regulator (integrated in fuel pump unit) malfunction• Fuel pump relay stuck closed• Fuel leakage from fuel injector• Restriction in exhaust system• Erratic signal from eccentric shaft position sensor• Improper MAF sensor installation• Improper fuel injector control operation (abnormal signals from MAF, ECT, A/F sensor, HO2S and IAT sensors to PCM)• KS malfunction (abnormal signal to PCM)• Contaminated MAF sensor• Improper engine compression<ul style="list-style-type: none">▪ Engine internal malfunction▪ Abnormal engine oil condition (viscosity, deterioration)▪ Low oil pressure▪ Excessive fuel pressure

	<p>DIAGNOSTIC TEST [13B-MSP].)</p> <p>Are there any DTCs displayed?</p>	No	Go to the next step.
4	Is the engine overheating?	Yes	<p>Go to the symptom troubleshooting “NO.17 COOLING SYSTEM CONCERNS-OVERHEATING”.</p> <p>(See NO.17 COOLING SYSTEM CONCERNS-OVERHEATING [13B-MSP].)</p>
		No	Go to the next step.
5	<p>NOTE:</p> <ul style="list-style-type: none"> The following test is for an engine running at rough idle with the A/C on. If other symptoms exist, go to the next step. <p>Connect the pressure gauge to the A/C low and high pressure side lines.</p> <p>Start the engine and run it at idle.</p> <p>Turn the A/C switch on.</p> <p>Measure the low side and high side pressures.</p> <p>Are the pressures within the specifications?</p> <p>(See REFRIGERANT PRESSURE CHECK.)</p>	Yes	Go to the next step.
		No	<p>If the A/C is always on, go to the symptom troubleshooting “NO.24 A/C IS ALWAYS ON OR A/C COMPRESSOR RUNS CONTINUOUSLY”.</p> <p>(See NO.24 A/C IS ALWAYS ON OR A/C COMPRESSOR RUNS CONTINUOUSLY [13B-MSP].)</p> <p>For other symptoms, inspect the following:</p> <ul style="list-style-type: none"> Refrigerant charging amount Cooling fans operation
6	<p>NOTE:</p> <ul style="list-style-type: none"> The following test is for an engine running rough with the P/S on. If 	Yes	<p>Go to the applicable DTC inspection.</p> <p>(See ELECTRIC POWER STEERING (EPS) ON-BOARD DIAGNOSIS.)</p>

2011 - RX-8 - Steering

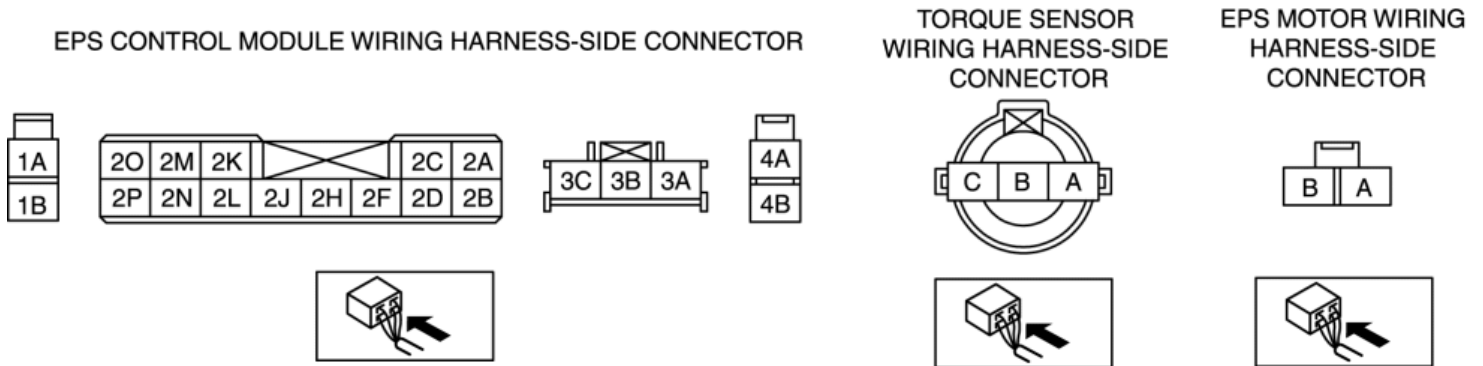
EPS CONTROL MODULE INSPECTION

1. Remove the following parts:
 - a. Engine cover. (See [ENGINE COVER REMOVAL/INSTALLATION \[13B-MSP\]](#).)
 - b. Battery cover. (See [BATTERY REMOVAL/INSTALLATION \[13B-MSP\]](#).)
 - c. PCM cover (See [PCM REMOVAL/INSTALLATION \[13B-MSP\]](#).)
 - d. PCM (See [PCM REMOVAL/INSTALLATION \[13B-MSP\]](#).)
 - e. PCM bracket No.1 (See [PCM REMOVAL/INSTALLATION \[13B-MSP\]](#).)
 - f. PCM bracket No.2 (See [PCM REMOVAL/INSTALLATION \[13B-MSP\]](#).)
 - g. PCM bracket No.3 (See [PCM REMOVAL/INSTALLATION \[13B-MSP\]](#).)
 - h. EPS control module (See [EPS CONTROL MODULE REMOVAL/INSTALLATION](#).)
2. Connect the PCM and EPS control module connectors.
3. Attach the tester lead to the underside of the control module connector and inspect the voltage and continuity according to the Terminal Voltage Table (Reference) indicated in the table.

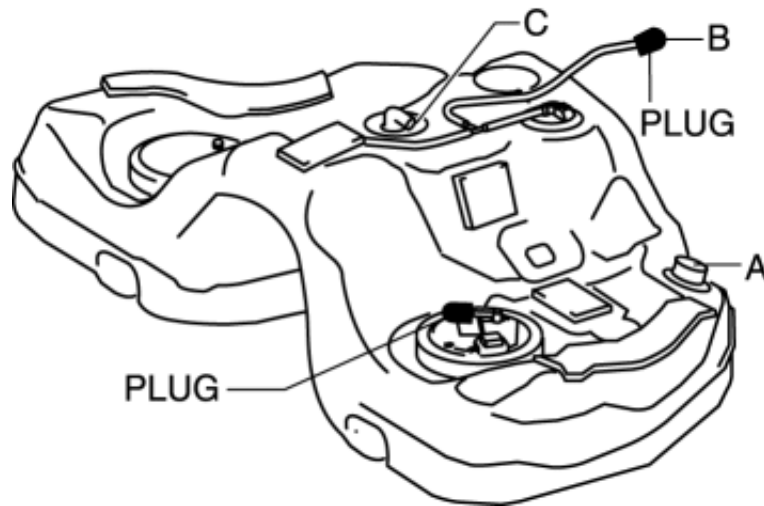
NOTE:

- When inspecting the torque sensor and EPS motor for continuity, turn the ignition switch off and inspect with the connectors for the EPS control module, torque sensor, and EPS motor disconnected.

Terminal Voltage Table (Reference)



Terminal	Signal name	Connected to	Measured item	Measured terminal (measured condition)	Standard	Inspection item(s)
1A	Battery power supply	Battery	Voltage	Under any condition	B+	<ul style="list-style-type: none"> • Wiring harness (1A—battery) • Fuse (60 A)
1B	Ground	Ground point	Voltage	Under any condition	1 V or less	<ul style="list-style-type: none"> • Wiring harness (1B—ground point)
		Ground				



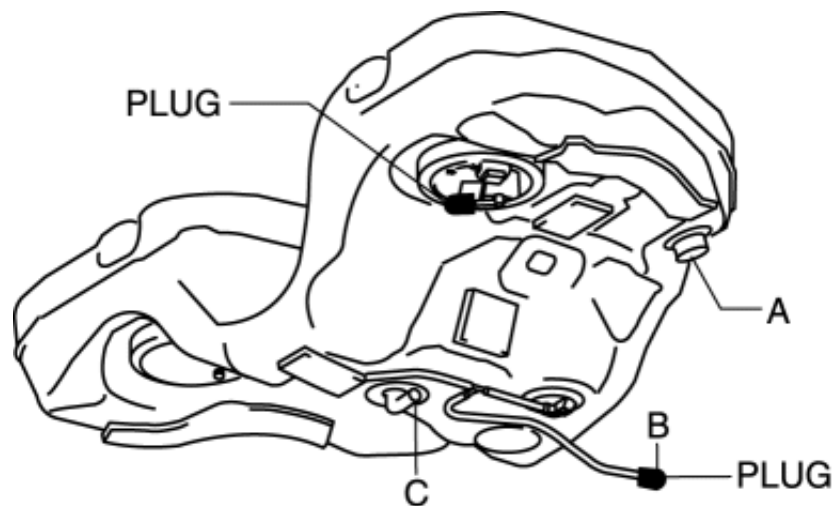
5. Level the fuel tank.

6. Apply a pressure to port A and wait for a while.

7. With the pressure still applied, verify that there is air flow port C and the pressure.

- If there is no air flow, replace the fuel tank. (See [FUEL TANK REMOVAL/INSTALLATION \[13B-MSP\]](#).)
- If there is air flow, place the fuel tank upside down.

8. Apply a pressure to port A and wait for a while.



9. With the pressure still applied, verify that there is no air flow from port C.

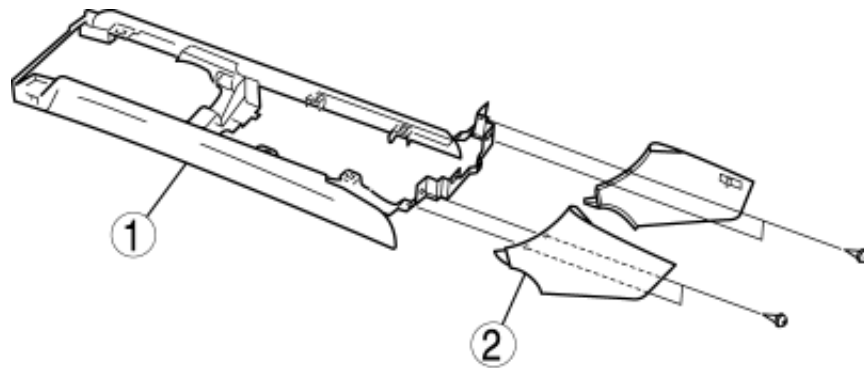
- If there is air flow, replace the fuel tank. (See [FUEL TANK REMOVAL/INSTALLATION \[13B-MSP\]](#).)

2011 - RX-8 - Body and Accessories

CONSOLE DISASSEMBLY/ASSEMBLY

Front Console

1. Disassemble in the order indicated in the table.



1	Front console
2	Side wall

2. Assemble in the reverse order of disassembly.

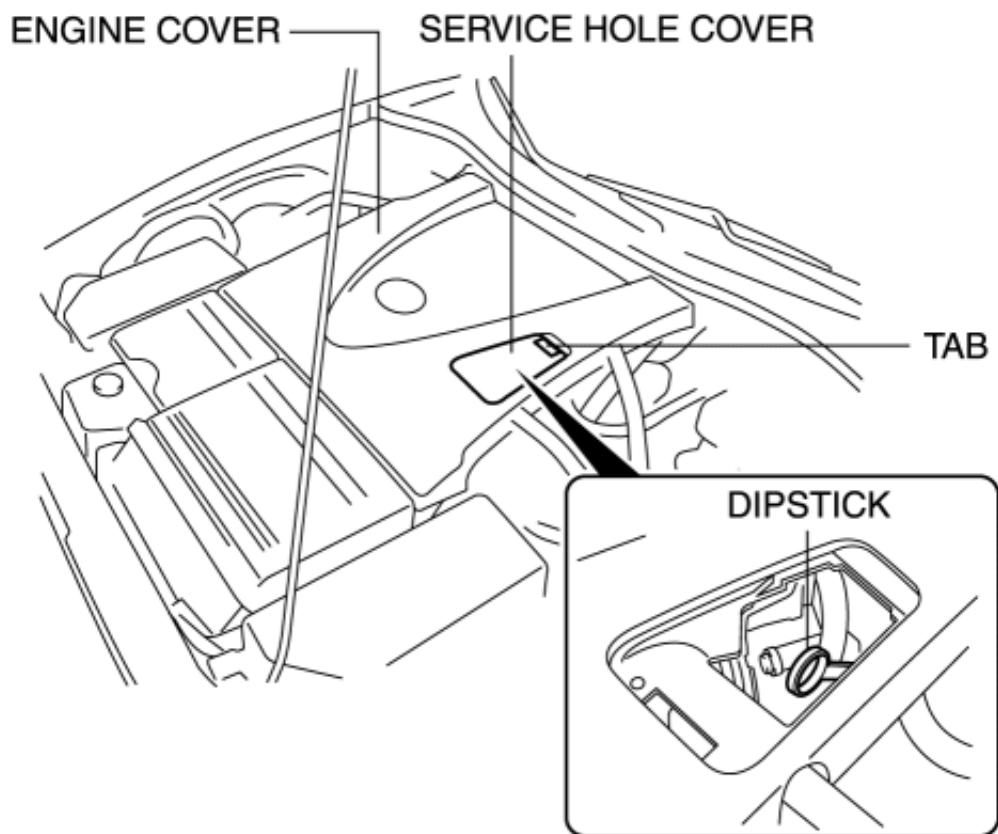
Rear Console

1. Disassemble in the order indicated in the table.

2011 - RX-8 - Engine

ENGINE OIL LEVEL INSPECTION [13B-MSP]

1. Position the vehicle on level ground.
2. Warm up the engine.
3. Stop the engine and allow **at least 5 min** before continuing.
4. Remove the service hole cover attached to the engine cover using the following procedure.



- a. Press the tab of the service hole cover toward the vehicle front.
 - b. Lift up the service hole cover.
5. Remove the dipstick, wipe it cleanly, and reinstall it fully.
 6. Remove the dipstick and verify that the oil level is between the F and L marks on the dipstick.

2011 - RX-8 - HVAC

NO.5 WINDSHIELD FOGGED [FULL-AUTO AIR CONDITIONER]

5	Windshield fogged.
DESCRIPTION	<ul style="list-style-type: none"> • A/C compressor does not operate while airflow mode is in DEFROSTER or HEAT/DEF modes. • Air intake mode does not change to FRESH while airflow mode is in DEFROSTER or HEAT/DEF modes.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • A/C amplifier (B+ signal) system malfunction (Steps 2, 4, 5) • Air intake actuator malfunction (Steps 3, 7) • A/C amplifier (RECIRCULATE, FRESH signal) system malfunction (Steps 9—11) • Malfunction in blower unit air intake doors (Steps 12, 13)

- When performing an asterisked (*) troubleshooting inspection, shake the wiring harness and connectors while doing the inspection to discover whether poor contact points are the cause of any intermittent malfunctions. If there is a problem, check to make sure connectors, terminals and wiring harness are connected correctly and undamaged.

Diagnostic procedure

STEP	INSPECTION	ACTION
1	COOL AIR BLOW OUT INSPECTION <ul style="list-style-type: none"> • When both A/C and fan switch in A/C amplifier are on, does cool air 	Yes Go to next step.
		No Go to Step 1 of troubleshooting index

2011 - RX-8 - Transmission/Transaxle

BASIC INSPECTION [SJ6A-EL]

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> • Measure the battery voltage. • Is the battery voltage 10.0—14.0 V? 	Yes Go to the next step.
		No Replace or recharge the battery. (See BATTERY RECHARGING [13B-MSP] .)
2	<ul style="list-style-type: none"> • Inspect the TCM related harnesses, connectors and fuses. • Are they normal? 	Yes Go to the next step.
		No Repair or replace any malfunctioning parts according to the inspection result.
3	<ul style="list-style-type: none"> • Warm up the engine to normal operating temperature. • Retrieve DTC using the M-MDS. • Is there any DTC present? 	Yes Record Freeze Frame Data and perform appropriate DTC troubleshooting procedures.
		No Go to the next step.
4	<ul style="list-style-type: none"> • Inspect ATF color and condition. (See AUTOMATIC TRANSMISSION FLUID (ATF) INSPECTION [SJ6A-EL].) • Are ATF color and odor normal? 	Yes Go to the next step.
		No Repair or replace any malfunctioning parts according to the inspection result. Flush AT and cooler line if necessary.
5	<ul style="list-style-type: none"> • Perform the road test. 	Yes Go to the next step.

2011 - RX-8 - Suspension

TIRE PRESSURE ADJUSTMENT (WITH TPMS)

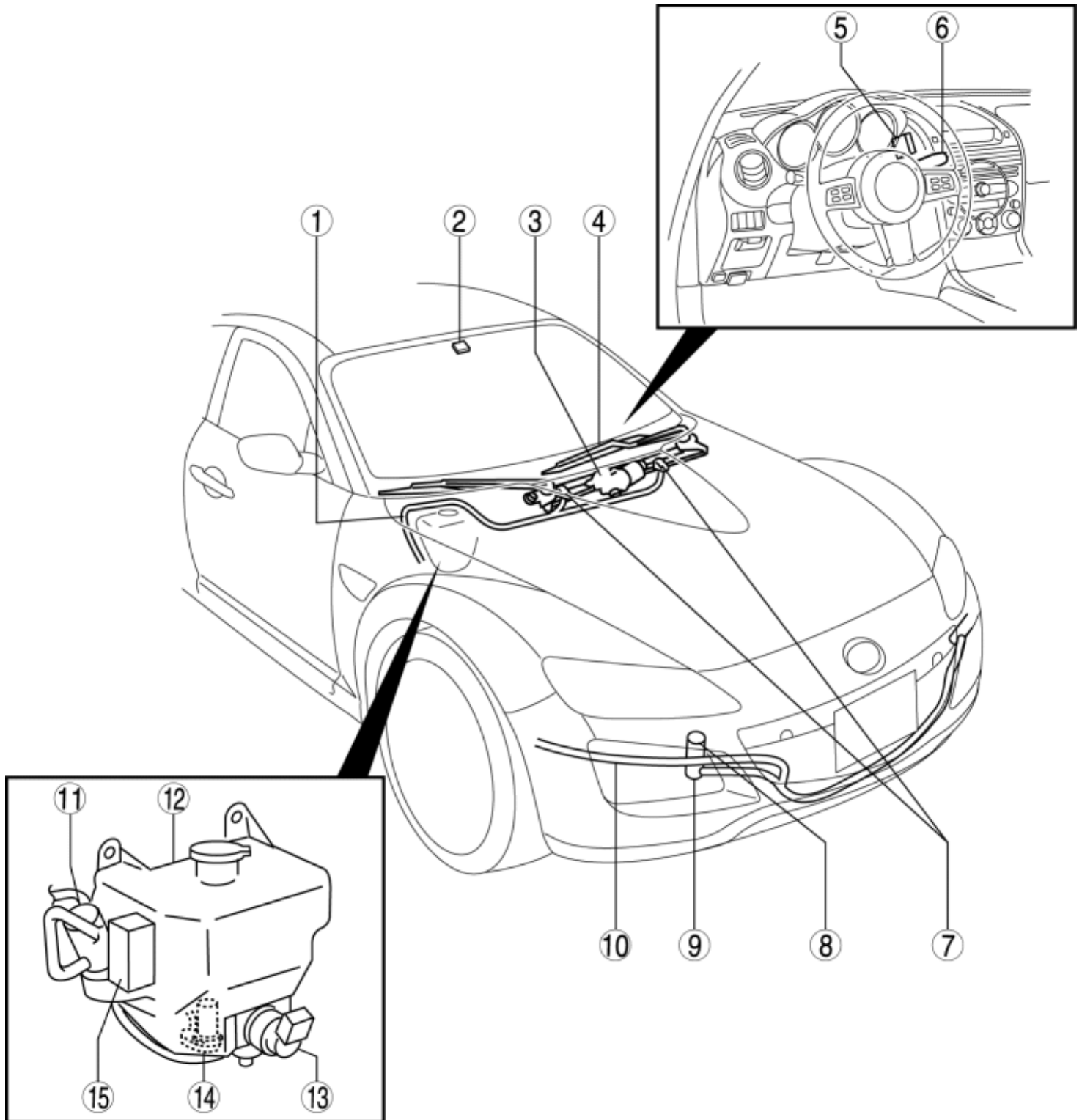
1. Use of a digital gauge is recommended for accurate measurement of the air pressure.
2. Tire pressure lowers gradually as time passes. Due to this, monthly air pressure inspection is recommended.
3. Perform tire pressure adjustment before driving. (When tires are cold.)
 - Tire pressure will increase after driving because the internal temperature of the tire is high. If tire pressure is adjusted to specifications when the internal temperature of the tire is high, tire pressure will decrease when the internal temperature of the tire decreases to the same level as ambient temperature. If the tire pressure is lower than the lower-limit pressure, the TPMS warning light may illuminate.
 - Even though the air pressure is adjusted to specifications, the indicated air pressure may be higher than the specified value when the internal temperature of the tire is higher than ambient temperature. (Example: Air pressure changes approx.10 kPa {0.1 kgf/cm², 1.5 psi} when the temperature changes 10 degrees)

CAUTION:

- In an area or a season with varying temperatures, tire pressure will change due to ambient temperature change. If the tire pressure is lower than the lower-limit pressure due to low ambient temperature, the TPMS warning light may illuminate. Adjust the pressure when the TPMS warning light illuminates.
- The wheel unit air pressure stem is made from aluminum and can be damaged. Do not tilt or use excessive side force when checking air pressure or filling tire with air. Some tire pressure gauges and air filling nozzles have extended tips, which can provide enough leverage to easily bend or break the wheel unit.

2011 - RX-8 - Body and Accessories

WIPER/WASHER SYSTEM LOCATION INDEX



#...WITH ADVANCED KEYLESS ENTRY & START SYSTEM

