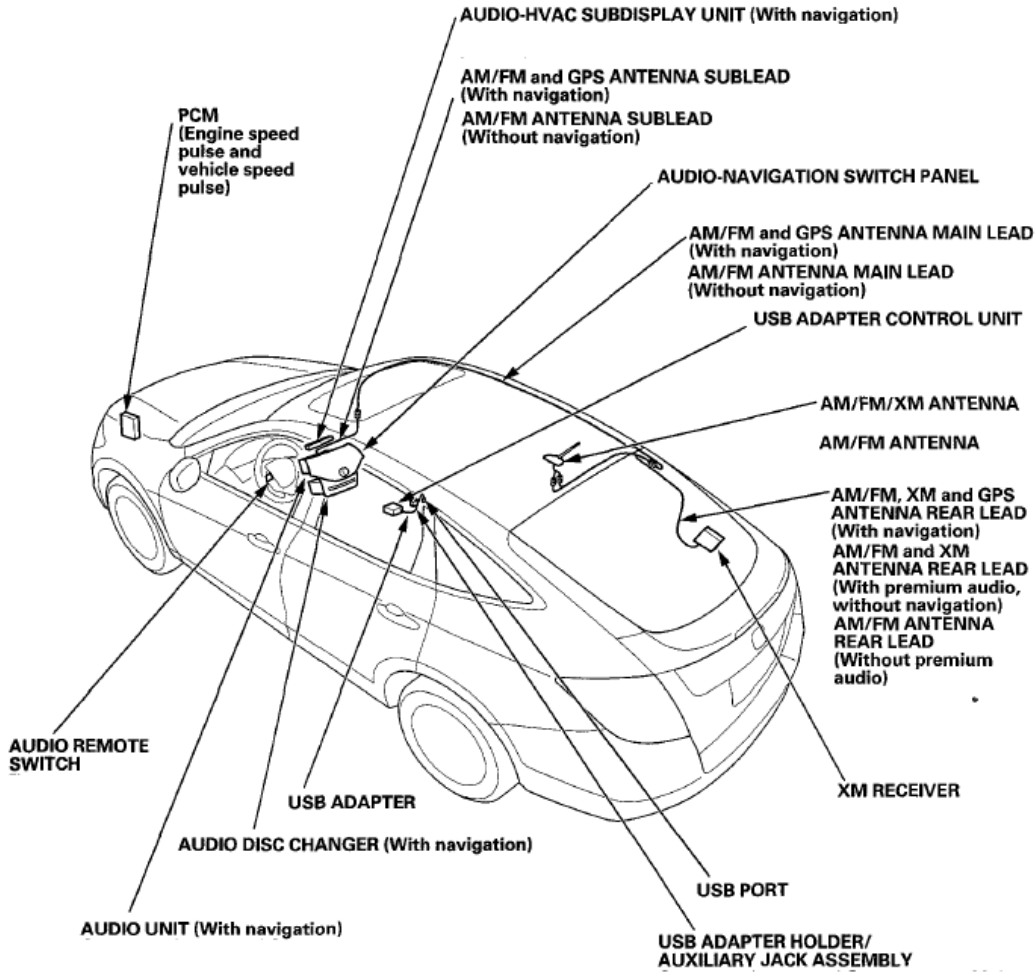


2012 ACCESSORIES & EQUIPMENT

Audio System - (4-CYL)

COMPONENT LOCATION INDEX



**Fig. 1: Audio System Component Location (1 Of 2)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

**2012 Honda Crosstour EX**

2012 ACCESSORIES & EQUIPMENT Audio System - (4-CYL)

Audio unit power switch will not turn off	Symptom Troubleshooting (see <b>AUDIO UNIT POWER SWITCH WILL NOT TURN OFF</b> )	
No sound is heard from the speaker(s) (display is normal)	Symptom Troubleshooting (see <b>NO SOUND IS HEARD FROM THE SPEAKER(S) (DISPLAY IS NORMAL)</b> )	
Auxiliary input sound is low or cannot be heard	Symptom Troubleshooting (see <b>AUXILIARY INPUT SOUND IS LOW OR CANNOT BE HEARD</b> )	
Audio system sound is weak or distorted (display is normal)	Symptom Troubleshooting (see <b>AUDIO SYSTEM SOUND IS WEAK OR DISTORTED (DISPLAY IS NORMAL)</b> )	
Radio preset memory is lost	Symptom Troubleshooting (see <b>RADIO PRESET MEMORY IS LOST</b> )	
Volume does not change	Symptom Troubleshooting (see <b>RADIO PRESET MEMORY IS LOST</b> )	
Volume does not increase with speed	Symptom Troubleshooting (see <b>VOLUME DOES NOT INCREASE WITH SPEED</b> )	
Volume is too high or too low when driving at freeway speeds	Symptom Troubleshooting (see <b>VOLUME DOES NOT INCREASE WITH SPEED</b> )	
Radio tuner does not change stations	Symptom Troubleshooting (see <b>RADIO TUNER DOES NOT CHANGE STATIONS</b> )	
Audio system information does not display on the audio-HVAC subdisplay unit	Symptom Troubleshooting (see <b>AUDIO SYSTEM INFORMATION DOES NOT DISPLAY ON THE AUDIO-HVAC SUBDISPLAY UNIT</b> )	
Audio system information does not display on the audio-HVAC display unit	Symptom Troubleshooting (see <b>AUDIO SYSTEM INFORMATION DOES NOT DISPLAY ON THE AUDIO-HVAC DISPLAY UNIT</b> )	
Security indicator does not work properly	Symptom Troubleshooting (see <b>SECURITY INDICATOR DOES NOT WORK PROPERLY</b> )	
Audio unit button illumination does not work	Symptom Troubleshooting (see <b>SECURITY INDICATOR DOES NOT WORK PROPERLY</b> )	
Audio remote	Symptom Troubleshooting (see <b>AUDIO REMOTE SWITCH</b> )	

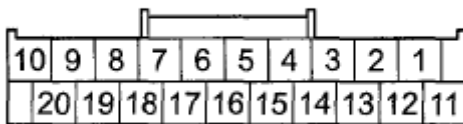
**YES** -Go to next step.

**NO** -Repair poor connection or loose terminals, and recheck.

8. Disconnect the auxiliary jack assembly 5P connector.
9. Disconnect audio unit connector B (20P).
10. Check for continuity between audio unit connector B (20P) and body ground according to the table.

Audio unit connector	Wire color
B8	BLK
B16	GRY
B17	WHT
B18	RED

**AUDIO UNIT CONNECTOR B (20P)**



Wire side of female terminals

**Fig. 102: View Of Audio Unit Connector (20P)**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

*Is there continuity?*

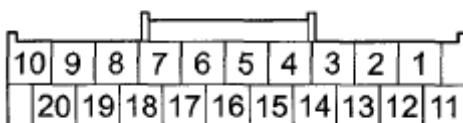
**YES** -There is a short to body ground in the wire(s) between the audio unit and the auxiliary jack assembly. Repair or replace the affected harness.

**NO** -Go to next step.

11. Check for continuity between the terminals of audio unit connector B (20P) according to the table.

From terminal	To terminals
B7 (GRY)	B8(BLK), B17(WHT), B18(RED)
B8(BLK)	B17(WHT), B18(RED)
B17(WHT)	B18(RED)

**AUDIO UNIT CONNECTOR B (20P)**

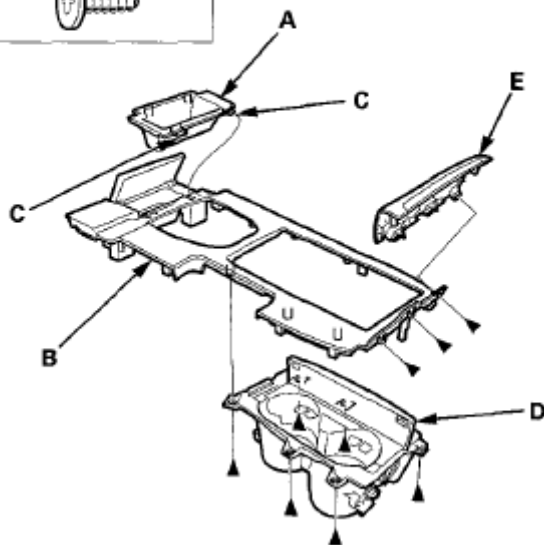


Wire side of female terminals

**Fig. 103: View Of Audio Unit Connector (20P)**

**Fastener Locations**

▶ : Screw, 9



**Fig. 3: Identifying Center Console Panel, Inner Pocket, Hooks, Beverage Holder And Console Box Trim With Mounting Screws**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the panel in the reverse order of removal, and note these items:
  - If the clips are damaged or stress-whitened, replace them with new ones.
  - Make sure each connector is plugged in properly.
  - Push the clips and the hook into place securely.

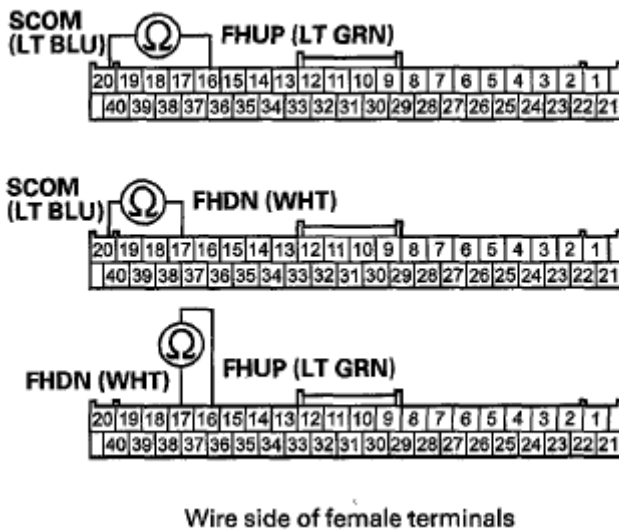
## CENTER CONSOLE REMOVAL/INSTALLATION

**NOTE:**

- Put on gloves to protect your hands.
- Take care not to scratch the front seat, the dashboard, or the related parts.

1. Remove these items:
  - Center console panel (see **CENTER CONSOLE PANEL REMOVAL/INSTALLATION** )
  - Center console rear trim (see **CENTER CONSOLE REAR TRIM REMOVAL/INSTALLATION** )
2. With seat heater: Detach the harness clips (A) fastening the front seat heater switch harnesses (B) from the center console.

**POWER SEAT CONTROL UNIT CONNECTOR B (40P)**



**Fig. 62: Checking Continuity Between Power Seat Control Unit Connector B (40P) Terminals**

Courtesy of ABLE BODY CORP.

*Is there continuity?*

**YES** -Repair a short in the wire.

**NO** -Go to next step.

10. Do the power seat adjustment switch test (see **POWER SEAT ADJUSTMENT SWITCH TEST/REPLACEMENT** ).

*Is the switch OK?*

**YES** -Replace the power seat control unit (see **POWER SEAT CONTROL UNIT INPUT TEST/REPLACEMENT** ).

**NO** -Replace the power seat adjustment switch (see **POWER SEAT ADJUSTMENT SWITCH TEST/REPLACEMENT** ).

**DTC B1847: POWER SEAT REAR UP-DOWN SWITCH CIRCUIT MALFUNCTION**

**NOTE:** If you are troubleshooting multiple DTCs, be sure to follow the instructions in **B-CAN System Diagnosis Test Mode A** (see **TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A** ).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Operate the rear up-down switch in each direction for more than 1 second.
4. Check for DTCs with the HDS.

**NOTE:** Before troubleshooting, check the items listed in General Check before Troubleshooting (see **GENERAL CHECK BEFORE TROUBLESHOOTING** ).

1. Try to start the engine.

*Does the engine start?*

**YES** -Intermittent failure, the vehicle is OK at this time. Check STATUS LOG (see **STATUS LOG** ) and check the line indicated in the table.

**NO** -Go to next step

2. Turn the ignition switch to LOCK (0).
3. Turn the ignition switch to ON (II), and check the immobilizer indicator.

*Does the indicator blink once, then stay off?*

**YES** -Go to next step

**NO** -Go to the **IMMOBILIZER INDICATOR BLINKS TROUBLESHOOTING** (see ).

4. Turn the ignition switch to START (III).

*Does the starter motor run?*

**YES** -Go to next step

**NO** -Go to Starting System, and check the starter motor (see **STARTER PERFORMANCE TEST** ).

5. Try to start the engine the immobilizer key.

*Does the engine start?*

**YES** -Go to next step

**NO** -Go to the PGM-FI System Symptom Troubleshooting (see **SYMPTOM TROUBLESHOOTING INDEX** ).

6. Wait for a few minutes with the engine running.

*Does the engine stop?*

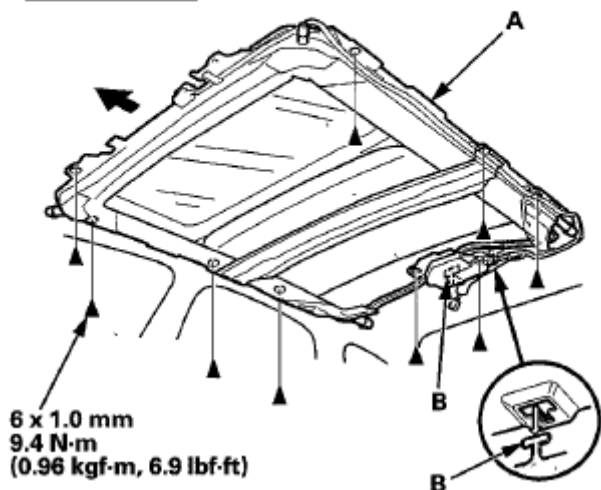
**YES** -Go to the PGM-FI System Symptom Troubleshooting (see **SYMPTOM TROUBLESHOOTING INDEX** ).

**NO** -The system is OK at this time.

#### IMMOBILIZER INDICATOR DOES NOT GO OFF

**Fastener Locations**

▶ : Bolt, 9

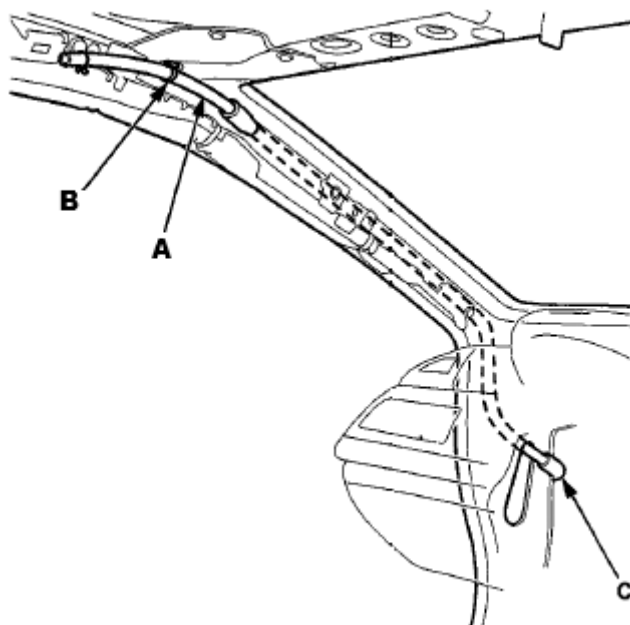


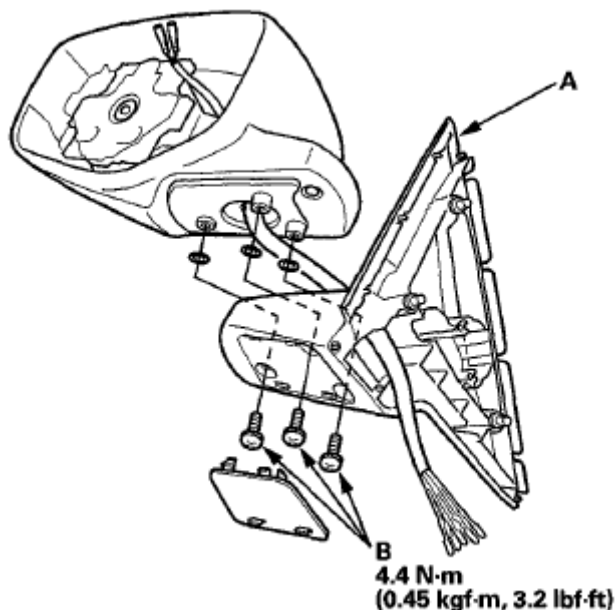
**Fig. 21: Identifying Rear Hooks, Frame And Bolts With Torque Specifications**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. With the help of an assistant, carefully remove the frame through the tailgate opening.

**Front Drain Tube Replacement**

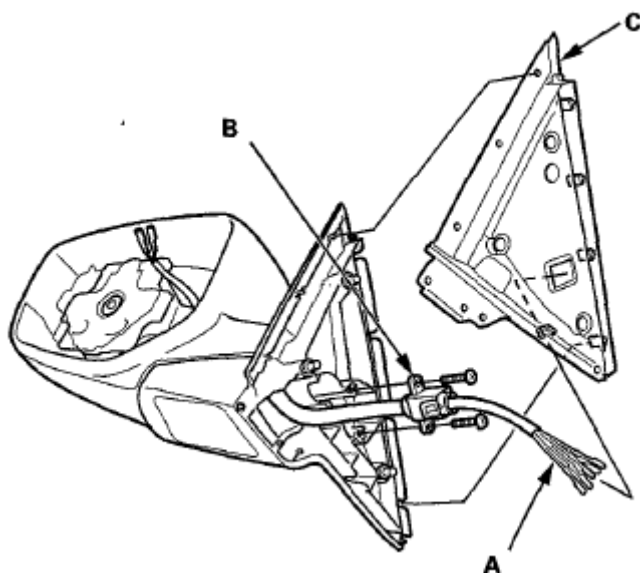
6. Remove the front drain tube (A).
  - Detach the clip (B) securing the drain tube.
  - Pull out the front drain valve (C) from the body hole.
  - Tie a string to the top end of the drain tube, and pull down the drain tube out of the A-pillar to use when reinstalling the drain tube.





**Fig. 17: Identifying Bracket With Screws With Torque Specifications**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Reassemble the mirror in the reverse order of removal. Apply LOCTITE to the three screws (B) and tighten to 4.4 N.m (0.45 kgf.m, 3.2 lbf.ft).
12. Route the wire harness (A) of the new actuator through the hole in the retainer clip (B) and the gasket (C).



**Fig. 18: Identifying Actuator Wire Harness, Retainer Clip And Gasket**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Insert the mirror actuator wires into the original terminal locations.

**With DPMS**

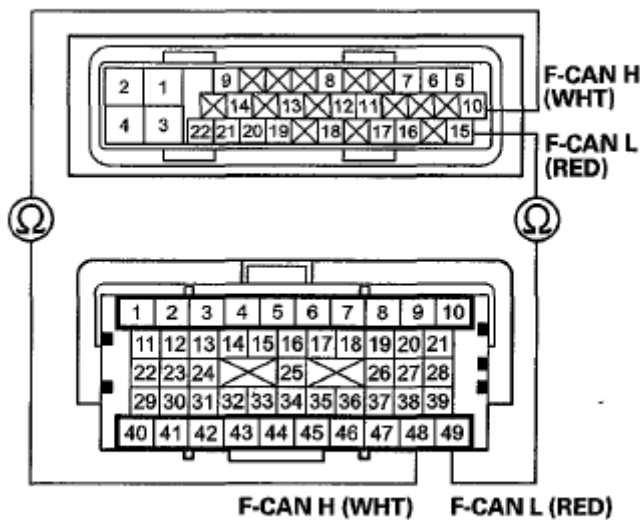


**TERMINAL REFERENCE**

Sign	VSA Modulator-Control Unit 22P Connector Terminal	PCM Connector A (49P) Terminal
F-CAN L	No. 15	No. 49
F-CAN H	No. 10	No. 48

**VSA MODULATOR-CONTROL UNIT 22P CONNECTOR**

Wire side of female terminals



**PCM CONNECTOR A (49P)**

Terminal side of female terminals

**Fig. 54: Identifying VSA Modulator-Control Unit And PCM Connector Terminal Location**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

*Is there continuity?*

**YES** -Go to next step.

**NO** -Repair an open in the wire between the PCM and the VSA modulator-control unit.

10. Reconnect all connectors.
11. Update the VSA modulator-control unit if it does not have the latest software (see **VSA MODULATOR-CONTROL UNIT UPDATE** ). If the unit already has the latest software, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).
12. Turn the ignition switch to LOCK (0) and then back to ON (II).
13. Check for DTCs with the HDS.

*Is DTC 86-11 indicated?*

**YES** -Check for loose terminals in the VSA modulator-control unit 22P connector. If the VSA modulator-control unit was updated, substitute a known-good VSA modulator-control unit (see **VSA**

11. Reconnect all connectors.
12. Turn the ignition switch ON (II).
13. Clear the DTCs with the HDS.
14. Turn the ignition switch to LOCK (0), and then back to ON (II).
15. Check the DTCs with the HDS.

*Is DTC 86-14 indicated?*

**YES** -Go to next step.

**NO** -Replace the original gauge control module (see **GAUGE CONTROL MODULE REPLACEMENT** ).

16. Update the VSA modulator-control unit if it does not have the latest software (see **VSA MODULATOR-CONTROL UNIT UPDATE** ). If the unit already has the latest software, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).
17. Turn the ignition switch to LOCK (0) and then back to ON (II).
18. Check for DTCs with the HDS.

*Is DTC 86-14 indicated?*

**YES** -Check for loose terminals in the VSA modulator-control unit 22P connector. If the VSA modulator-control unit was updated, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ), then retest. If the VSA modulator-control unit was substituted, go to 1.

**NO** -If the VSA modulator-control unit was updated, troubleshooting is complete. If the VSA modulator-control unit was substituted, replace the original VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ). If any other DTCs are indicated, go to the indicated DTCs troubleshooting.

#### **DTC 86-15: F-CAN COMMUNICATION WITH YAW RATE-ACCELERATION SENSOR MALFUNCTION**

##### **NOTE:**

- **Troubleshoot any fuel and emissions DTCs first.**
- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see **GENERAL TROUBLESHOOTING INFORMATION** ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0) and then back to ON (II).
4. Check for DTCs with the HDS.

*Is DTC 86-15 indicated?*

**2012 Honda Crosstour EX**

2010 - 2012 ELECTRICAL Fuse/Relay Boxes - Accord Crosstour

E	10	20	<ul style="list-style-type: none"> <li>• 4WD (see <b><u>LEFT SIDE WIRE HARNESS (4WD) (BH)</u></b> )</li> <li>• 2WD (see <b><u>LEFT SIDE WIRE HARNESS (2WD) (BH)</u></b> )</li> </ul> Left side wire harness:
F	9	33	<ul style="list-style-type: none"> <li>• 4WD (see <b><u>LEFT SIDE WIRE HARNESS (4WD) (BH)</u></b> )</li> <li>• 2WD (see <b><u>LEFT SIDE WIRE HARNESS (2WD) (BH)</u></b> )</li> </ul> Left engine compartment wire harness (dash branch) (see <b><u>LEFT ENGINE COMPARTMENT WIRE HARNESS (DASH BRANCH) (BD)</u></b> )
Front accessory power socket relay	4	4	-
G	8	13	Left engine compartment wire harness (dash branch) (see <b><u>LEFT ENGINE COMPARTMENT WIRE HARNESS (DASH BRANCH) (BD)</u></b> )
H (optional connector)	7	12	Not used
K (multiplex control inspection connector)	6	3	-
M	13	4	Dashboard wire harness (view of driver's side) (see <b><u>DASHBOARD WIRE HARNESS (VIEW OF DRIVER'S SIDE) (BC)</u></b> )
N	14	16	Dashboard wire harness (view of driver's side) (see <b><u>DASHBOARD WIRE HARNESS (VIEW OF DRIVER'S SIDE) (BC)</u></b> )
P	15	20	Dashboard wire harness (view of driver's side) (see <b><u>DASHBOARD WIRE HARNESS (VIEW OF DRIVER'S SIDE) (BC)</u></b> )
PGM-FI main relay 2	12	4	
Q	17	20	Dashboard wire harness (view of driver's side) (see

# 2012 Honda Crosstour EX

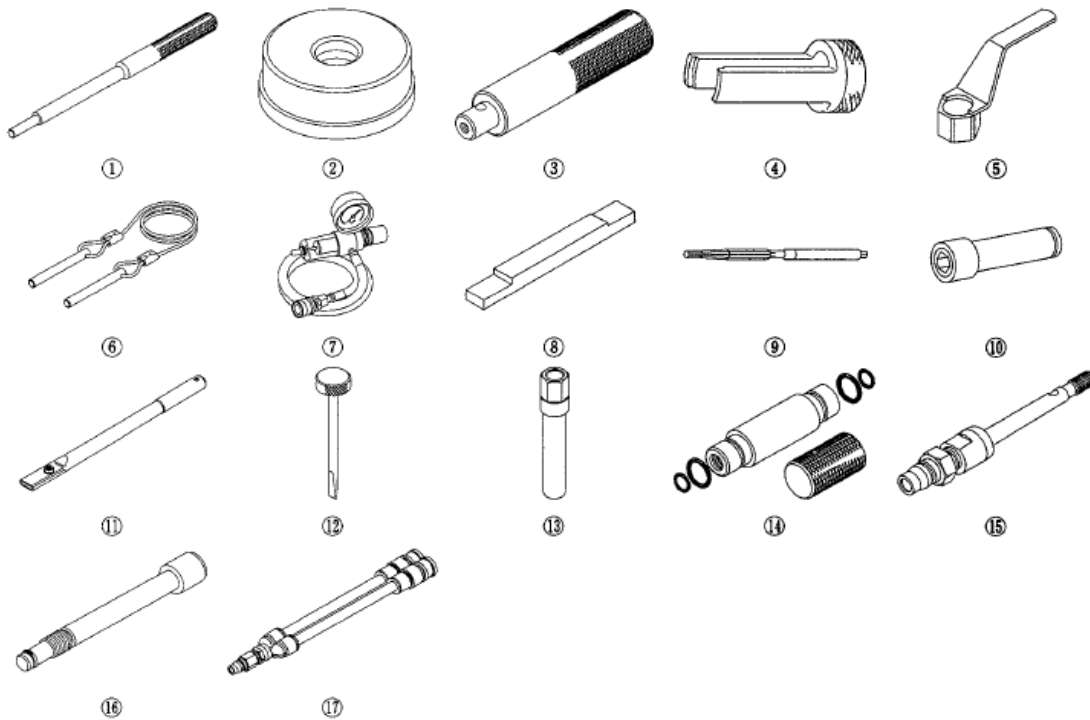
2012 ENGINE Cylinder Head - (4-CYL)

## 2012 ENGINE

### Cylinder Head - (4-CYL)

#### SPECIAL TOOLS

Ref.No.	Tool Number	Description	Qty
①	07742-0010100	Valve Guide Driver, 5.35 x 9.7 mm	1
②	07746-0010400	Bearing Driver Attachment, 52 x 55 mm	1
③	07749-0010000	Driver Handle, 15 x 135L	1
④	07757-PJ1010A	Valve Spring Compressor Attachment	1
⑤	07AAB-RJAA100	Crankshaft Pulley Holder	1
⑥	07AAB-RWCA120	Camshaft Lock Pin Set	1
⑦	07AAJ-PNAA101	Air Pressure Regulator	1
⑧	07AAJ-RWCA100	Cam Chain Inspection Gauge	1
⑨	07HAH-PJ7A100	Valve Guide Reamer, 5.5 mm	1
⑩	07JAA-001020A	Socket, 19 mm	1
⑪	07JAB-001020B	Holder Handle	1
⑫	07MAA-PR70110	Adjuster	1
⑬	07MAA-PR70120	Locknut Wrench	1
⑭	07PAD-0010000	Stem Seal Driver	1
⑮	07ZAJ-PNAA101	VTEC Air Adapter	2
⑯	07ZAJ-PNAA200	VTEC Air Stopper	1
⑰	07ZAJ-PNAA300	Air Joint Adapter	1



**Fig. 1: Identifying Special Tools**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

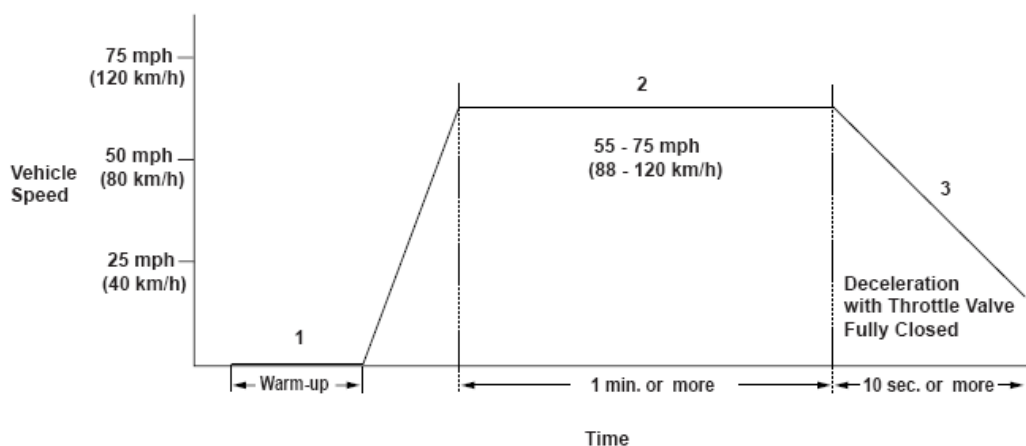
#### COMPONENT LOCATION INDEX

Secondary HO2S output voltage	0.05 V	-
Fuel feedback	During deceleration	
No active DTCs set (prevents monitor from running)	P0101, P0102, P0103, P0107, P0108, P0111, P0112, P0113, P0116, P0117, P0118, P0122, P0123, P0125, P0135, P0137, P0138, P0141, P0171, P0172, P0222, P0223, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0335, P0339, P0351, P0352, P0353, P0354, P0355, P0356, P0443, P0496, P0497, P060A, P0722, P1116, P1128, P1129, P1172, P145C, P1659, P2101, P2118, P2122, P2123, P2127, P2128, P2135, P2138, P2176, P2195, P2237, P2238, P2243, P2245, P2251, P2252, P2270, P2279, P2649, P2654, P2659, P3400, P3497	

**MALFUNCTION THRESHOLD**

The rear secondary HO2S output voltage is 0.05 V or more for at least 10 seconds.

**DRIVING PATTERN**



P0139-0850

**Fig. 75: Vehicle Speed Driving Pattern**

1. Start the engine. Hold the engine speed at 3,000 rpm without load (in P or N) until the radiator fan comes on.
2. Drive the vehicle at a steady speed between 55 - 75 mph (88 - 120 km/h) for at least 1 minute.
3. Decelerate with the throttle valve fully closed for at least 10 seconds.
  - Drive the vehicle in this manner only if the traffic regulations and ambient conditions allow.

**DIAGNOSIS DETAILS**

**Conditions for setting the DTC**

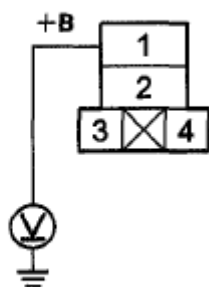
When a malfunction is detected during the first drive cycle, a Pending DTC is stored in the PCM memory. If the malfunction returns in the next (second) drive cycle, the MIL comes on and a Confirmed DTC and the freeze data are stored.

**Conditions for clearing the DTC**

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10. Measure the voltage between ETCS control relay 4P connector terminal No. 1 and body ground.

**ETCS CONTROL RELAY 4P CONNECTOR**



Terminal side of female terminals

**Fig. 19: Measuring Voltage Between ETCS Control Relay 4P Connector Terminal No. 1 And Body Ground**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

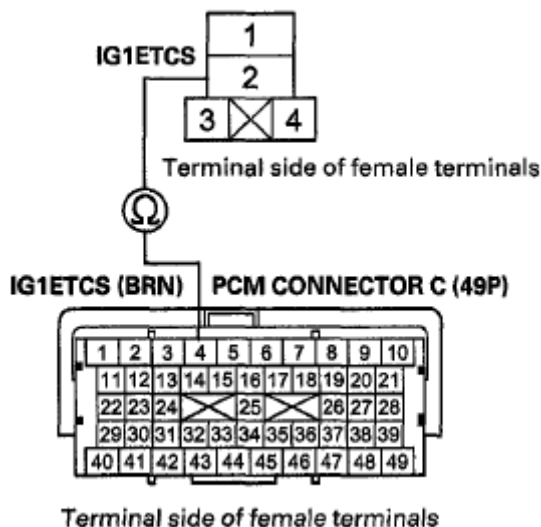
*Is there battery voltage?*

**YES** -Go to next step.

**NO** -Replace the under-hood fuse/relay box (see **REMOVAL AND INSTALLATION** ), then go to step 28.

11. Turn the ignition switch to LOCK (0).
12. Jump the SCS line with the HDS.
13. Disconnect PCM connector C (49P).
14. Check for continuity between ETCS control relay 4P connector terminal No. 2 and PCM connector terminal C4.

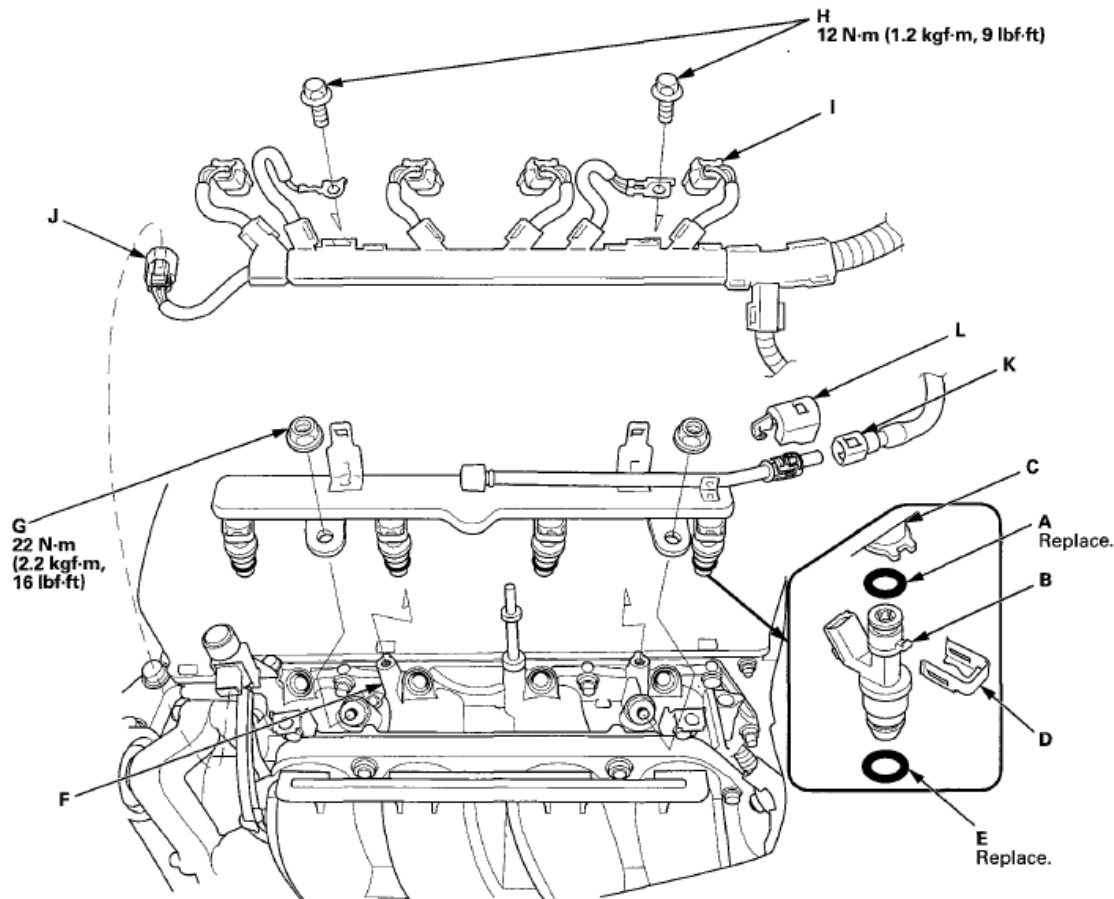
**ETCS CONTROL RELAY 4P CONNECTOR**



Terminal side of female terminals

**Fig. 20: Identifying ETCS Control Relay 4P Connector terminal No. 2 And PCM Connector**

8. Remove the injector clips (H) from the fuel rail.
9. Remove the injectors from the fuel rail.
10. Coat the new O-rings (black) (A) with clean engine oil, and insert the injectors (B) into the fuel rail (C).



**Fig. 129: Identifying Injectors And O-Rings With Torque Specifications**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Install the injectors clips (D).
12. Coat the new O-rings (brown) (E) with clean engine oil.
13. Install the fuel rail and the injectors in the injector base (F).
14. Install the fuel rail mounting nuts (G) and the ground cable bolts (G101 and G102) (H).
15. Connect the injector connectors (I) and the engine mount control solenoid valve connector (J).
16. Connect the quick-connect fitting (K) (see **FUEL LINE/QUICK-CONNECT FITTING INSTALLATION**), and quick-connect fitting cover (L).
17. Turn the ignition switch to ON (II), but do not operate the starter. After the fuel pump runs for about 2 seconds, the fuel rail will be pressurized. Repeat this two or three times, then make sure there are no fuel leaks.
18. Reinstall the engine cover.

## MAP SENSOR REPLACEMENT