Component Procedures: Air Bag Control Module

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Component Procedures: Air Bag Control Module

Parts and Labor (itype_189)

Parts

Qualifier	Part #	Name	Price	Note
Control Module	56010105AD	Air Bag Components, Co?	0.00	

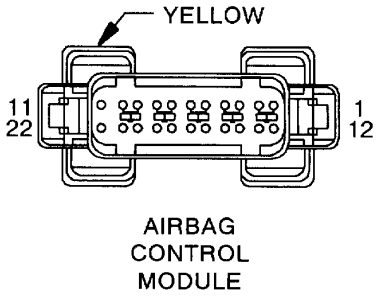
Labor

Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Replace	Control Module	B	0.5	0.3

Components (itype_392)

DESCRIPTION
The
Airbag Control Module
(
ACM
)
is secured with screws to a mounting bracket that is secured with four screws onto the floor panel transmission tunnel below the instrument panel and forward of the center floor console in the passenger compartment of the vehicle. The ACM contains an electronic microprocessor, an electronic impact sensor, an electromechanical safing sensor, and an energy storage capacitor.
The ACM is serviced as a unit with the mounting bracket. The ACM cannot be repaired or adjusted and, if damaged or faulty, the ACM and mounting bracket unit must be replaced.
OPERATION
The microprocessor in the ACM contains the
airbag
system logic. The airbag system logic includes On-Board Diagnostics
(OBD)
, and the ability to communicate with the instrument cluster circuitry over the Chrysler Collision Detection
(CCD)
data bus to control the airbag indicator lamp. The microprocessor continuously monitors all of the airbag system electrical circuits to determine the system readiness. If the ACM detects a monitored system fault, it sends messages to the instrument cluster over the CCD data bus to turn on the airbag indicator lamp. Refer to Instrument Cluster in the Instrument Panel Systems for more information on the airbag indicator lamp.
One electronic impact sensor is used in this airbag system. The impact sensor is an accelerometer that senses the rate of vehicle deceleration, which provides verification of the direction and severity of an impact. The impact sensor is calibrated for the specific vehicle, and is only serviced as a unit with the ACM. A pre-programmed decision algorithm in the ACM microprocessor determines when the deceleration rate as signaled by the impact sensor indicates an impact that is severe enough to require airbag system protection. When the programmed conditions are met, the ACM sends an electrical signal to deploy the airbags.
In addition to the electronic impact sensor, there is an electromechanical sensor within the ACM called a safing sensor. The safing sensor is a normally open series switch located in the airbag deployment circuit of the ACM. This sensor detects impact energy of a lesser magnitude than the electronic impact sensor, and must be closed in order for the airbags to deploy.
The ACM also contains an energy-storage capacitor. This capacitor stores enough electrical energy to deploy the airbags for up to
one second
following a battery disconnect or failure during an impact. The purpose of the capacitor is to provide airbag system protection in a severe secondary impact, if the initial impact has damaged or disconnected the battery, but was not severe enough to deploy the airbags.

Connector Views (itype_47)

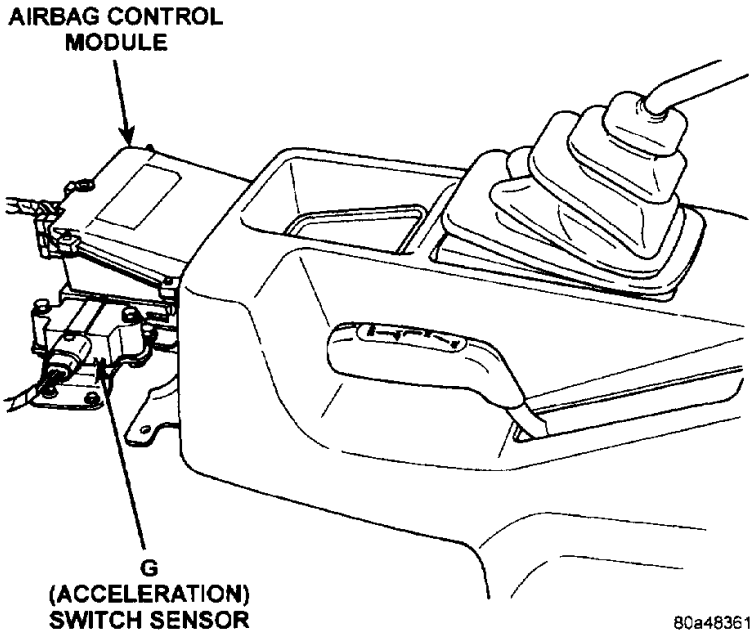


AIRBAG
CONTROL
MODULE

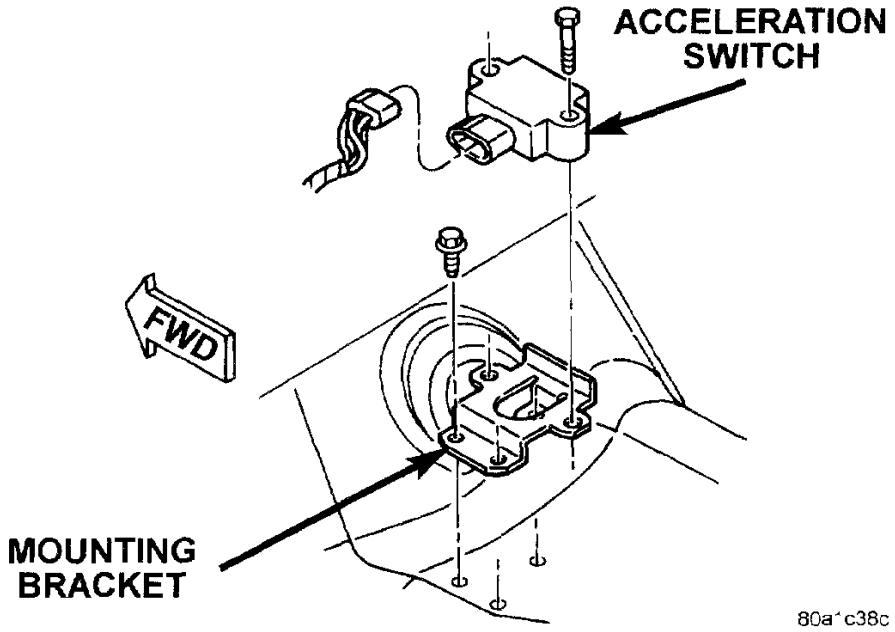
AIRBAG CONTROL MODULE - YELLOW 22 WAY

CAV	CIRCUIT	FUNCTION
1	R45 18DG/LB	DRIVER AIRBAG LINE 2
2	R43 18BK/LB	DRIVER AIRBAG LINE
3	-	-
4	-	-
5	R142 18BR/YL	PASSENGER AIRBAG SQUIB LINE
6	R144 18VT/YL	PASSENGER AIRBAG SQUIB LINE
7	-	-
8	-	-
9	-	-
10	Z6 18BK/PK	GROUND
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	F14 18LG/YL	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
18	D2 18WT/BK	CCD BUS (-)
19	D1 18VT/BR	CCD BUS (+)
20	F23 18DB/YL	FUSED IGNITION SWITCH OUTPUT (RUN)
21	-	-
22	-	-

Components (itype_32)



Procedures (itype_376)



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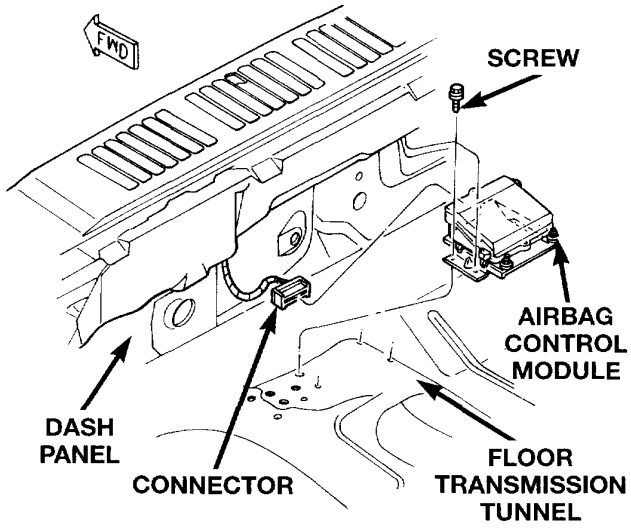

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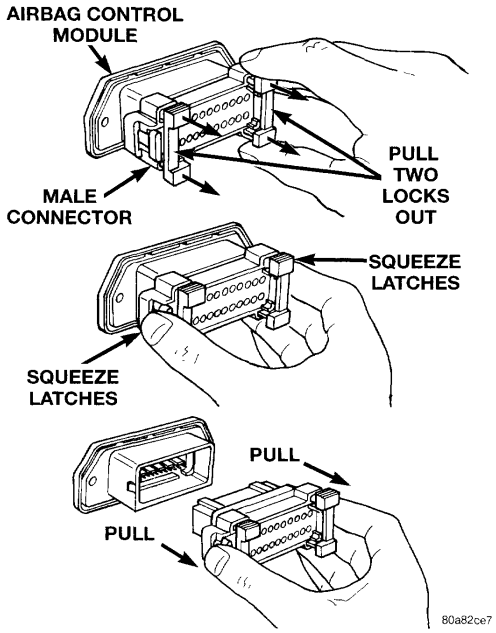

Technician Safety Information (itype_15)

WARNING:
- THE
AIRBAG CONTROL MODULE
CONTAINS THE IMPACT SENSOR, WHICH ENABLES THE SYSTEM TO DEPLOY THE
AIRBAG
. BEFORE ATTEMPTING TO DIAGNOSE OR SERVICE ANY AIRBAG SYSTEM OR RELATED STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENTS YOU MUST FIRST DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE. THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE FURTHER SYSTEM SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE AIRBAG SYSTEM. FAILURE TO DO THIS COULD RESULT IN ACCIDENTAL AIR-BAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.
- NEVER STRIKE OR KICK THE AIRBAG
CONTROL MODULE
, AS IT CAN DAMAGE THE IMPACT SENSOR OR AFFECT ITS CALIBRATION. IF AN AIR-BAG CONTROL MODULE IS ACCIDENTALLY DROPPED DURING SERVICE, THE MODULE MUST BE SCRAPPED AND REPLACED WITH A NEW UNIT. FAILURE TO OBSERVE THIS WARNING COULD RESULT IN ACCIDENTAL, INCOMPLETE, OR IMPROPER AIRBAG DEPLOYMENT AND POSSIBLE OCCUPANT INJURY
.

Mechanical (including Torque) (itype_28)

Tighten the four screws that secure the
ACM
mounting bracket to the floor panel transmission tunnel to
10.7 Nm (95 in. lbs.)
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