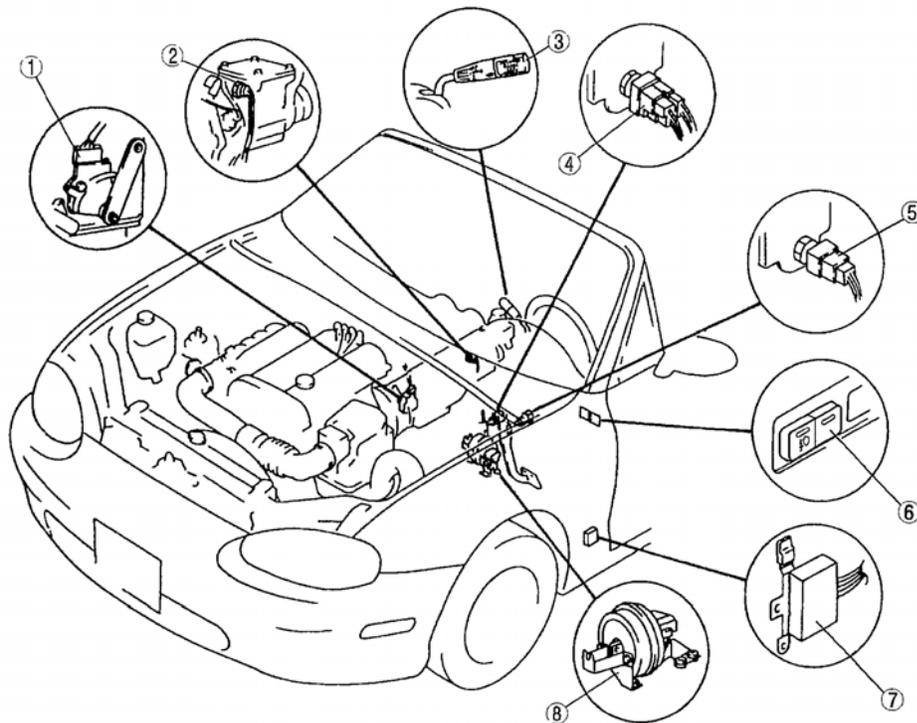


2005 ACCESSORIES & EQUIPMENT

Cruise Control System - MX-5 Miata

CRUISE CONTROL SYSTEM LOCATION INDEX



1	Transmission range (TR) switch (AT) (See TRANSMISSION RANGE (TR) SWITCH REMOVAL/INSTALLATION) (See TRANSMISSION RANGE (TR) SWITCH INSPECTION) (See TRANSMISSION RANGE (TR) SWITCH ADJUSTMENT)
2	Neutral switch (MT) (See NEUTRAL SWITCH INSPECTION [BP, BP WITH TC])
3	Cruise control switch (See CRUISE CONTROL SWITCH REMOVAL/INSTALLATION) (See CRUISE CONTROL SWITCH INSPECTION)
4	Brake switch (See BRAKE SWITCH INSPECTION)

5	Clutch switch (MT) (See CLUTCH PEDAL POSITION SWITCH INSPECTION [BP, BP WITH TC])
6	Cruise control main switch (See CRUISE CONTROL MAIN SWITCH REMOVAL/INSTALLATION) (See CRUISE CONTROL MAIN SWITCH INSPECTION)
7	Cruise control module (See CRUISE CONTROL MODULE REMOVAL/INSTALLATION) (See CRUISE CONTROL MODULE INSPECTION)
8	Cruise actuator (See CRUISE ACTUATOR REMOVAL/INSTALLATION) (See CRUISE ACTUATOR INSPECTION)

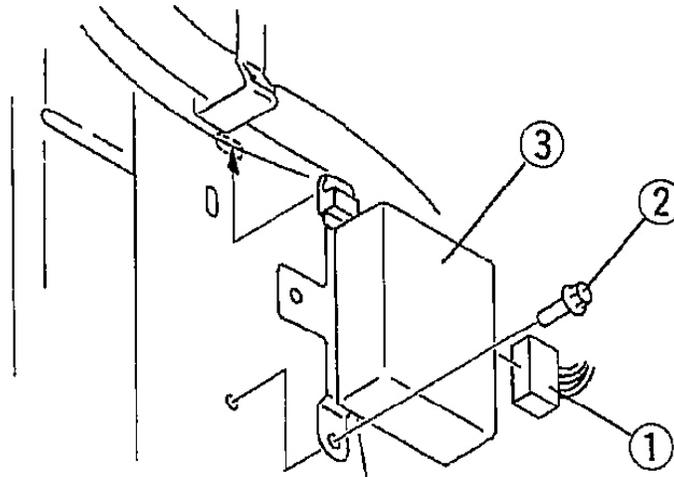
G03637927

Fig. 1: Identifying Components Of Cruise Control & Torque Specifications
Courtesy of MAZDA MOTORS CORP.

CRUISE CONTROL MODULE REMOVAL/INSTALLATION

1. Disconnect the negative battery cable.

2. Remove the lower panel.
3. Remove the key interlock unit. (See **KEY INTERLOCK UNIT REMOVAL/INSTALLATION** .)
4. Remove in the order indicated in the table.



1	Connector
2	Bolt
3	Cruise control module

G03637928

Fig. 2: Removing Key Interlock Unit
 Courtesy of MAZDA MOTORS CORP.

5. Install in the reverse order of removal.

CRUISE CONTROL MODULE INSPECTION

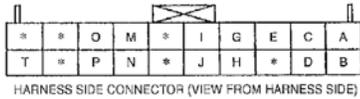
1. Remove the lower panel.
2. Remove the key interlock unit. (See **KEY INTERLOCK UNIT REMOVAL/INSTALLATION** .)
3. Remove the cruise control module with the connector connected.
4. Measure the voltage at the cruise control module terminals as indicated below.
5. Disconnect the cruise control module connector before inspecting for continuity at terminal T.
 - If not as specified, inspect the parts listed under "Action."
 - If the parts and wiring harnesses are okay but the system still does not work properly, replace the

2005 Mazda MX-5 Miata

2005 ACCESSORIES & EQUIPMENT Cruise Control System - MX-5 Miata

cruise control module.

TERMINAL VOLTAGE TABLE (REFERENCE)



Terminal	Signal	Connected to	Test condition	Voltage (V)/ Continuity	Action
A	Cruise actuator control	Cruise actuator (Vent 1)	Cruise control main switch on	B+	<ul style="list-style-type: none"> Inspect brake switch (See BRAKE SWITCH INSPECTION) Inspect cruise actuator (See CRUISE ACTUATOR INSPECTION) Inspect related harness
			Ignition switch at ON position	Other	
B	Cruise actuator control	Cruise actuator (Vacuum)	Cruise control main switch on	B+	<ul style="list-style-type: none"> Inspect brake switch (See BRAKE SWITCH INSPECTION) Inspect cruise actuator (See CRUISE ACTUATOR INSPECTION) Inspect related harness
			Ignition switch at ON position	Other	
C	Cruise actuator control	Cruise actuator (Vent 2)	Cruise control main switch on	B+	<ul style="list-style-type: none"> Inspect brake switch (See BRAKE SWITCH INSPECTION) Inspect cruise actuator (See CRUISE ACTUATOR INSPECTION) Inspect related harness
			Ignition switch at ON position	Other	
D	Cruise set indicator light output	Cruise set indicator light	Ignition switch at ON position	B-	<ul style="list-style-type: none"> Inspect METER 15 A fuse Inspect instrument cluster (See INSTRUMENT CLUSTER INSPECTION) Inspect related harness
			Ignition switch at LOCK or ACC position	0	
E	Cruise control main switch on/off	Cruise control main switch	Cruise control main switch on	B+	<ul style="list-style-type: none"> Inspect METER 15 A fuse Inspect cruise control main switch (See CRUISE CONTROL MAIN SWITCH INSPECTION) Inspect related harness
			Ignition switch at ON position	Other	
F	—	—	—	—	—
G	O/D off	TCM	Ignition switch at ON position	B+	<ul style="list-style-type: none"> Inspect TCM (See TRANSMISSION CONTROL MODULE (TCM) INSPECTION) Inspect related harness
			Ignition switch at LOCK or ACC position	0	
H	Cruise actuator power supply	Brake switch	Ignition switch at ON position	B+	—
			Cruise control main switch on	Other	
I	Test	DLC	—	—	—

2005 Mazda MX-5 Miata

2005 ACCESSORIES & EQUIPMENT Cruise Control System - MX-5 Miata

Fig. 3: Identifying Terminal Voltage Table (1 Of 2)
 Courtesy of MAZDA MOTORS CORP.

Terminal	Signal		Connected to	Test condition		Voltage (V)/ Continuity	Action
J	AT	Selector lever position	TR switch	Ignition switch at ON position	Selector lever at N or P range	0	<ul style="list-style-type: none"> Inspect TR switch (See TRANSMISSION RANGE (TR) SWITCH ADJUSTMENT) Inspect related harness
					Other	B+	
	MT	Clutch switch on/off	Clutch switch	Ignition switch at ON position	Depress clutch pedal	0	
					Other	B+	
K	—		—	—		—	—
L	—		—	—		—	—
M	Brake switch on/off	Brake switch	Brake switch	Depress brake pedal	B+	<ul style="list-style-type: none"> Inspect brake switch (See BRAKE SWITCH INSPECTION) Inspect related harness 	
				Release brake pedal	0		
N	Cruise control switch position	Cruise control switch	Ignition switch at ON position and cruise control main switch on	SET/COAST switch hold on	Approx. 1.5	<ul style="list-style-type: none"> Inspect cruise control switch (See CRUISE CONTROL SWITCH INSPECTION) Inspect related harness 	
				RESUME/ACCEL switch hold on	Approx. 3.1		
				Other	Approx. 5		
O	Brake switch on/off	Brake switch	Ignition switch at ON position and cruise control main switch on	Depress brake pedal	0	<ul style="list-style-type: none"> Inspect brake switch (See BRAKE SWITCH INSPECTION) Inspect related harness 	
				Release brake pedal	B+		
P	Vehicle speed	Vehicle speedometer sensor	Ignition switch at ON position and cruise control main switch on	Rear tires rotating	Alternates between 0 and 5	<ul style="list-style-type: none"> Inspect METER 15 A fuse Inspect instrument cluster (See INSTRUMENT CLUSTER INSPECTION) Inspect related harness 	
				Other	0 or 5		
Q	—		—	—		—	—
R	—		—	—		—	—
S	—		—	—		—	—
T	Cruise control module ground	GND		Under any condition: inspect for continuity to ground	Yes	<ul style="list-style-type: none"> Inspect GND 	

G03637930

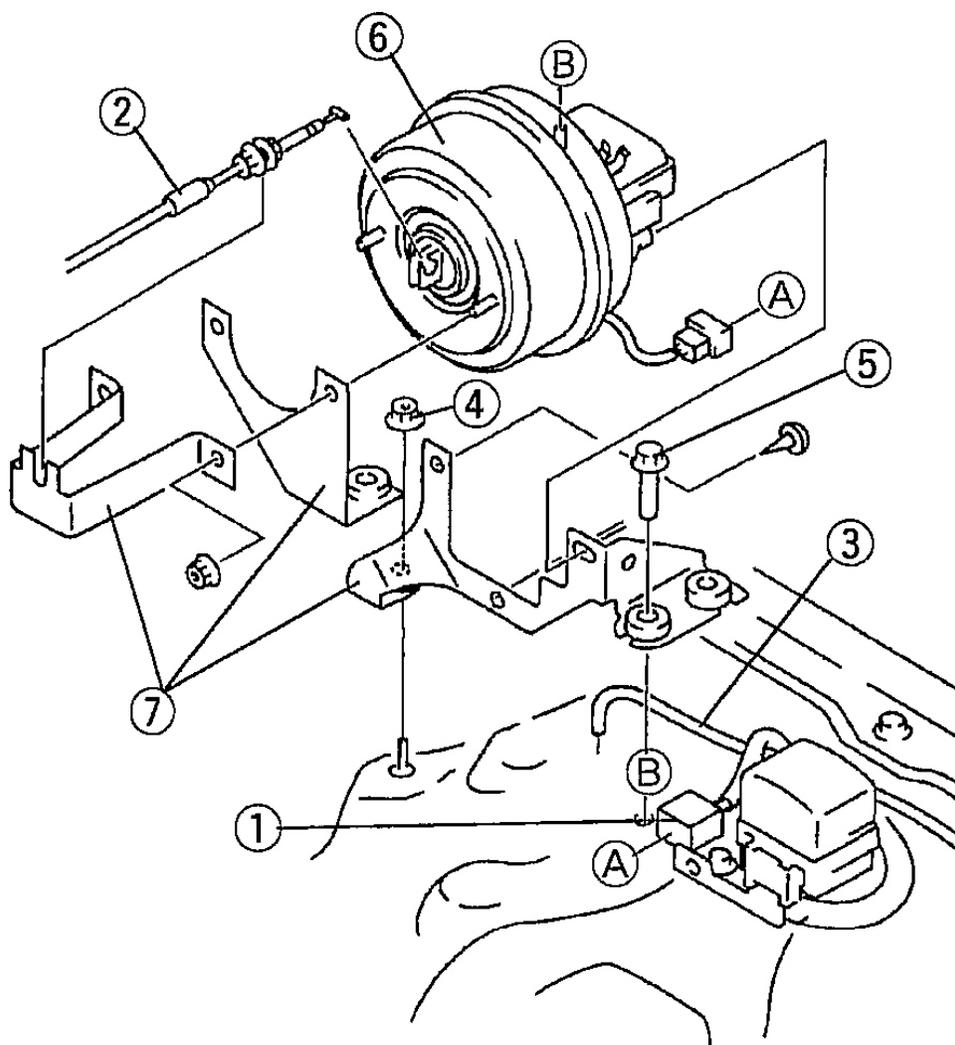
Fig. 4: Identifying Terminal Voltage Table (2 Of 2)
 Courtesy of MAZDA MOTORS CORP.

CRUISE ACTUATOR REMOVAL/INSTALLATION

1. Disconnect the negative battery cable.
2. Remove in the order indicated in the table.

2005 Mazda MX-5 Miata

2005 ACCESSORIES & EQUIPMENT Cruise Control System - MX-5 Miata



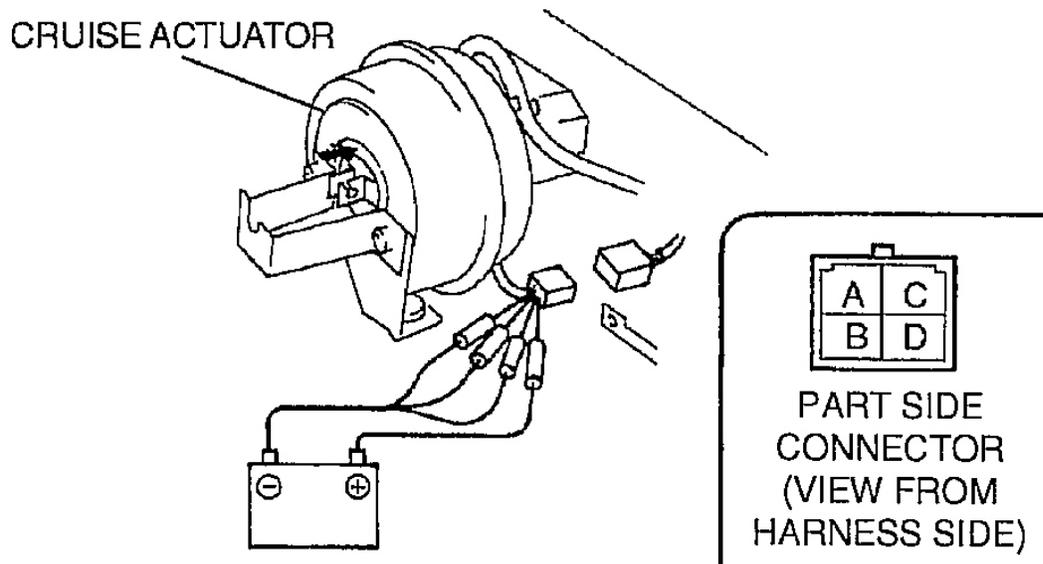
1	Connector
2	Actuator cable
3	Vacuum hose
4	Nut
5	Bolt
6	Cruise actuator
7	Bracket

Fig. 5: Exploded View Of Cruise Actuator
 Courtesy of MAZDA MOTORS CORP.

3. Install in the reverse order of removal.

CRUISE ACTUATOR INSPECTION

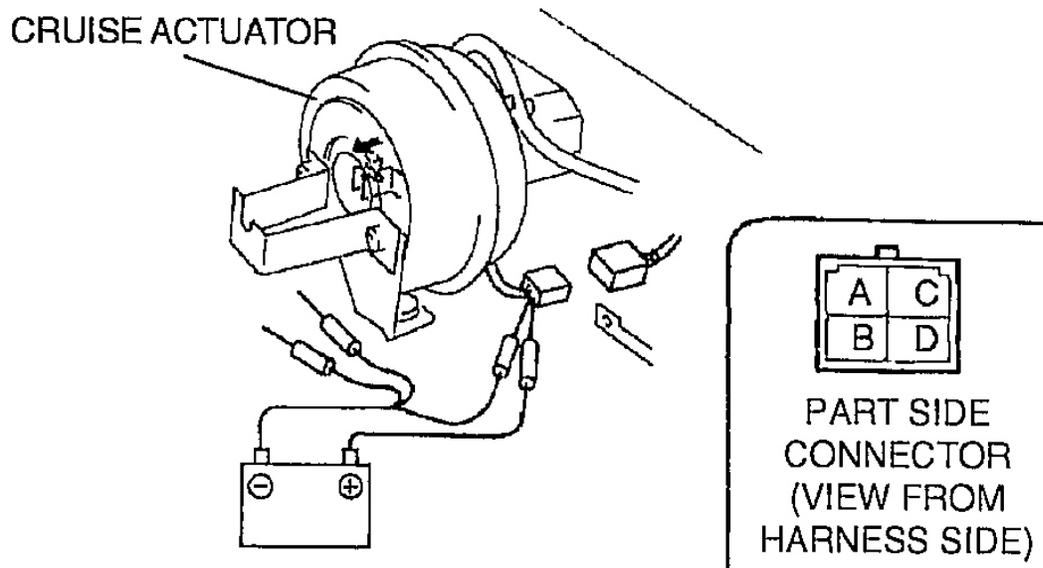
1. Disconnect the cruise actuator connector.
2. Disconnect the actuator cable from the cruise actuator.
3. Start the engine and run it idle.
4. Confirm that the diaphragm is drawn into the cruise actuator when battery positive voltage is connected to terminal C and terminals A, B and D are connected to the ground.



G03637932

Fig. 6: Identifying Battery Positive Voltage Is Connected To Cruise Actuator Terminal C And Terminals A, B And D Are Connected To The Ground
 Courtesy of MAZDA MOTORS CORP.

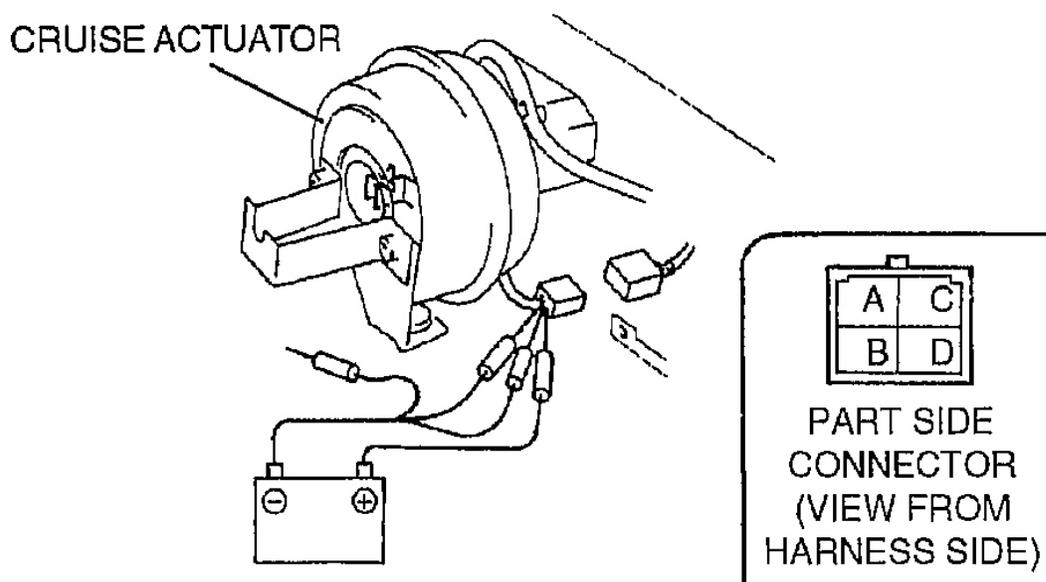
5. With the diaphragm being drawn into the cruise actuator, confirm that the diaphragm returns to its original position when terminals B and D are disconnected from the ground.



G03637933

Fig. 7: Identifying Cruise Actuator Terminals B And D Disconnected From Ground
Courtesy of MAZDA MOTORS CORP.

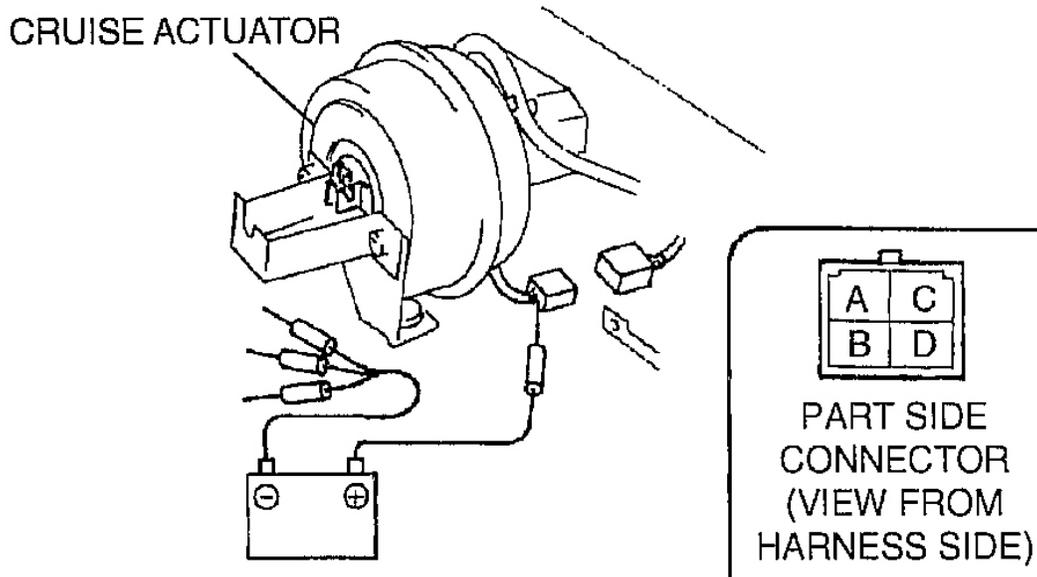
6. With the diaphragm returning to its original position, confirm that the diaphragm stops moving when terminal D is reconnected to the ground.



G03637934

Fig. 8: Identifying Cruise Actuator Terminal D Disconnected From Ground
Courtesy of MAZDA MOTORS CORP.

7. With the movement of the diaphragm stopped, confirm that the diaphragm returns completely to its original position when all terminals connected to the ground are disconnected.
 - If not as specified, replace the cruise actuator.



G03637935

Fig. 9: Identifying All Cruise Actuator Terminals Disconnected From Ground
Courtesy of MAZDA MOTORS CORP.

ACTUATOR CABLE REMOVAL

1. Loosen the nut, and remove the actuator cable.

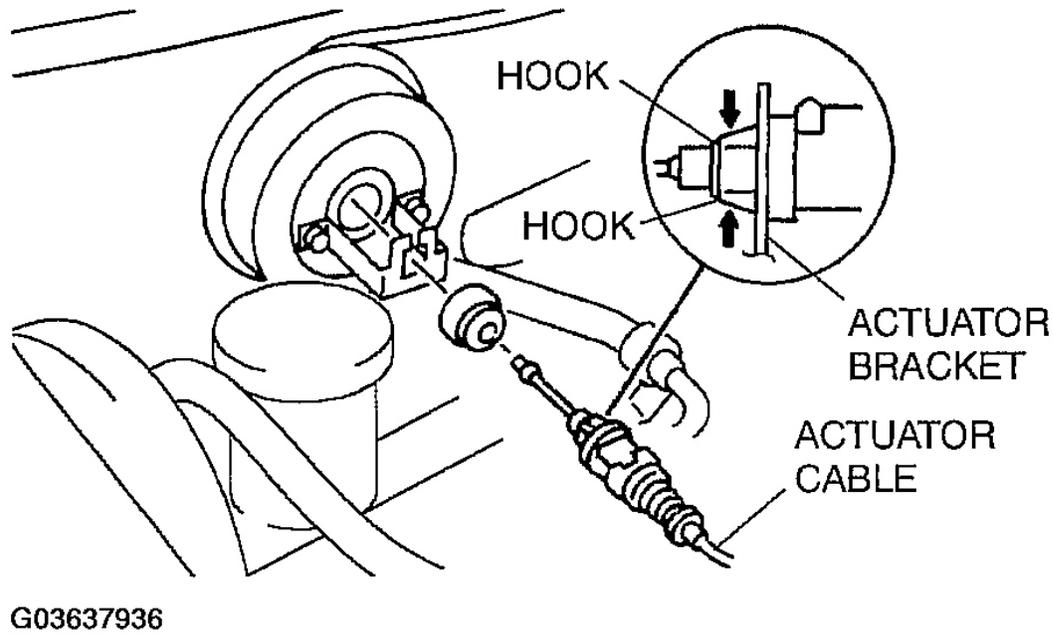
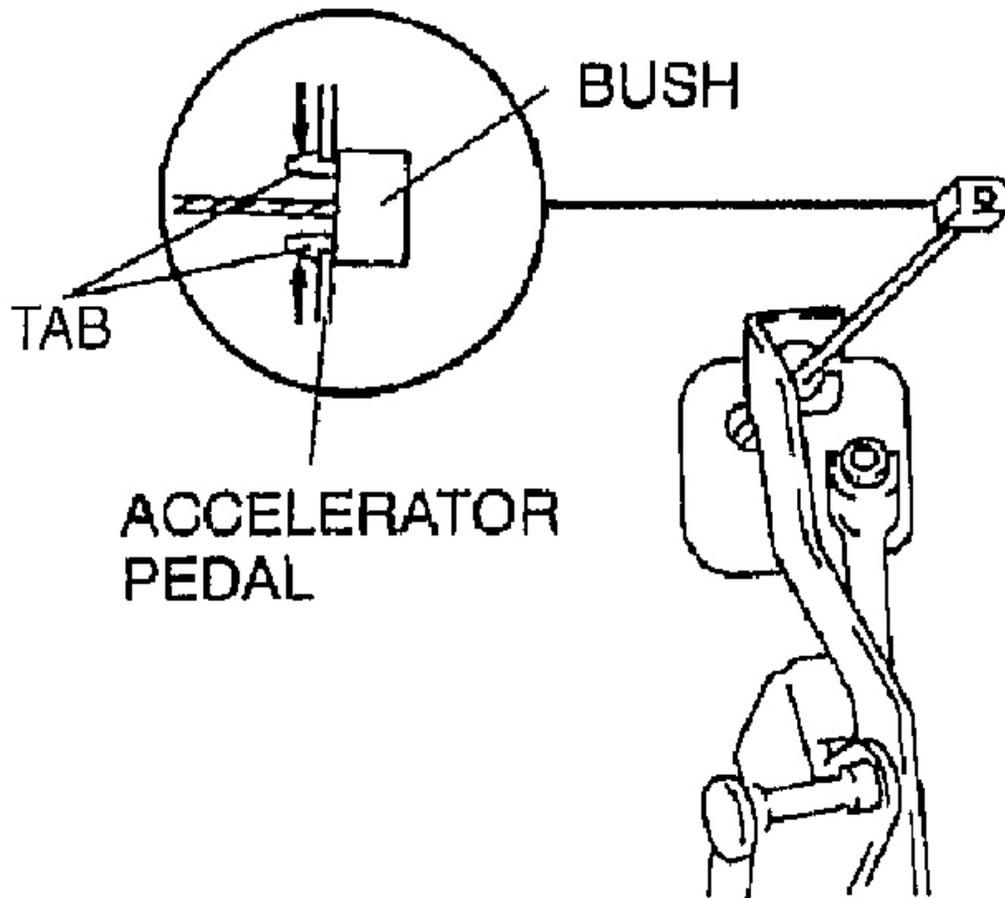


Fig. 10: Removing Actuator Cable
Courtesy of MAZDA MOTORS CORP.

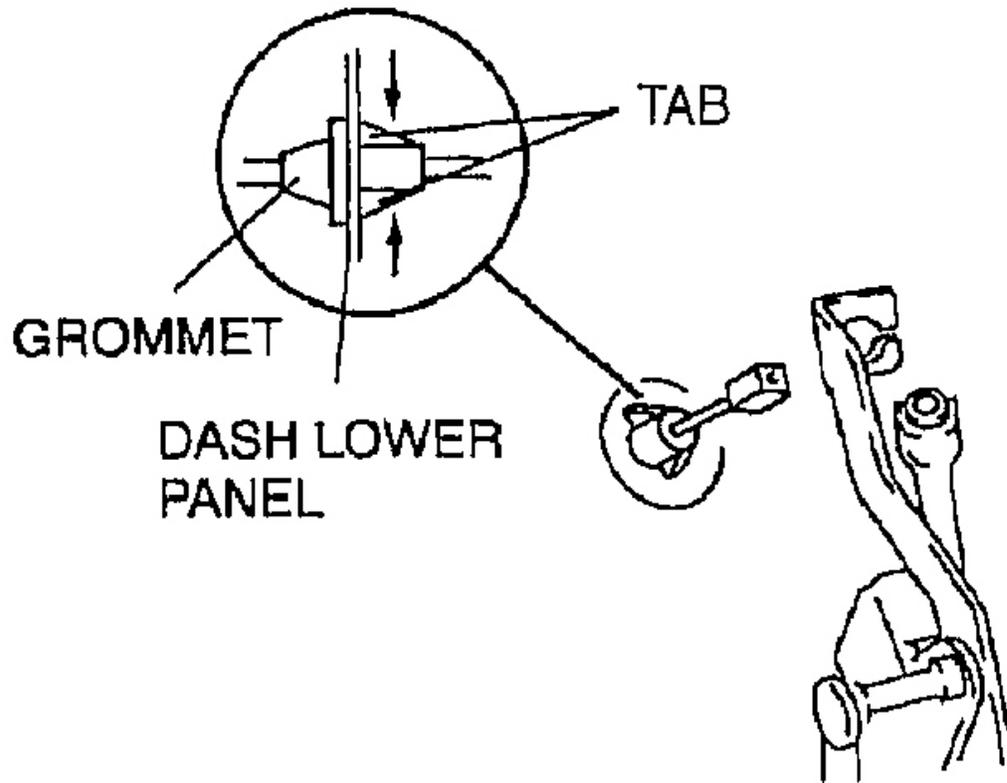
2. Press the tabs of the bush, and remove it from the accelerator pedal.



G03637937

Fig. 11: Removing Accelerator Pedal
Courtesy of MAZDA MOTORS CORP.

3. Press the tabs of the grommet, and remove it from the dash lower panel.
4. Push the actuator cable through the dash lower panel to remove it.

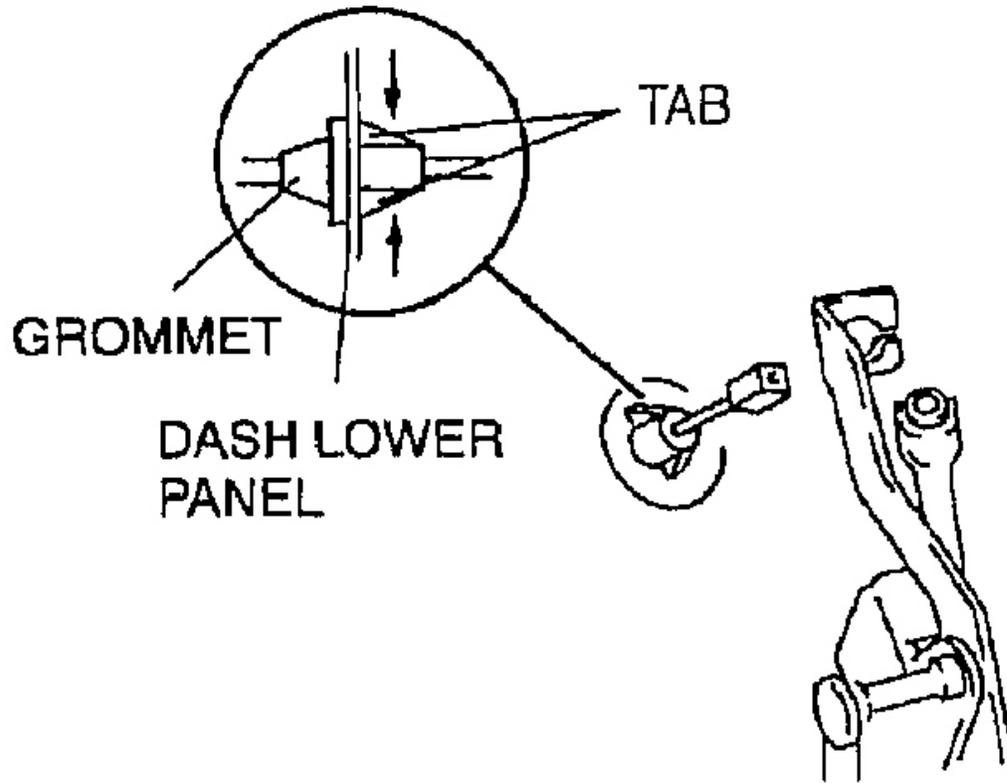


G03637938

Fig. 12: Pushing Actuator Cable
Courtesy of MAZDA MOTORS CORP.

ACTUATOR CABLE INSTALLATION

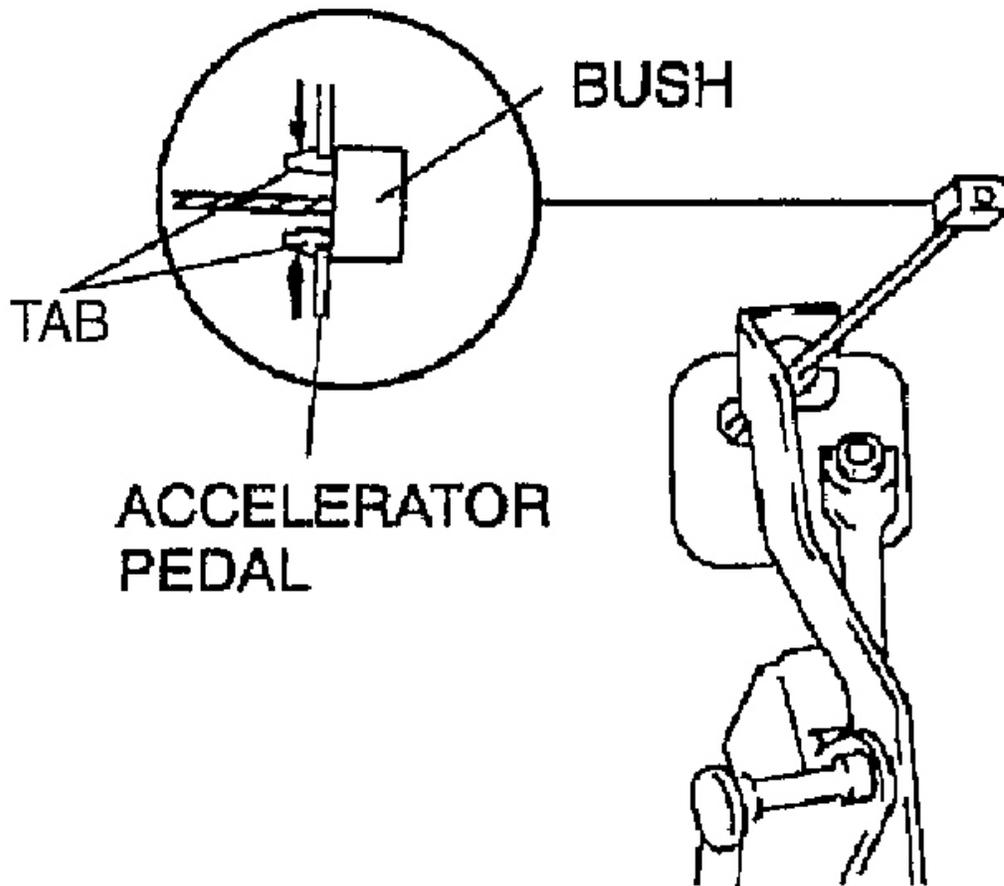
1. Install the grommet to the dash lower panel.



G03637939

Fig. 13: Installing Grommet To Dash Lower Panel
Courtesy of MAZDA MOTORS CORP.

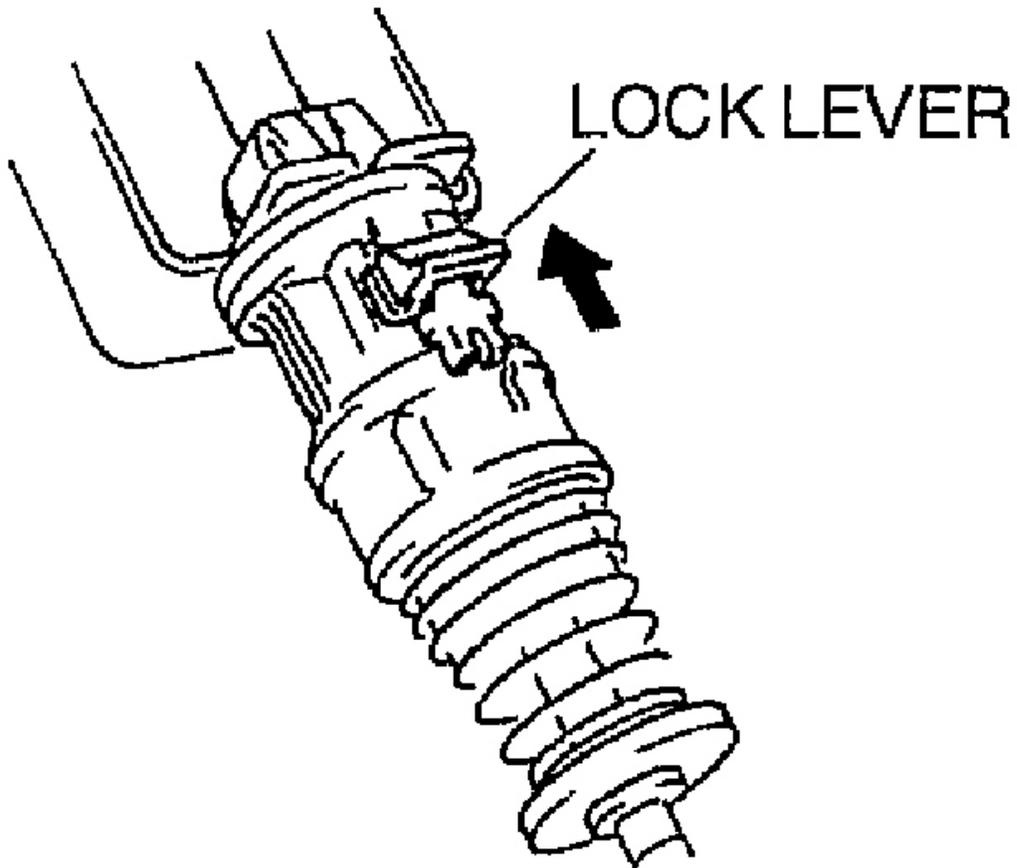
2. Install the actuator cable to the accelerator pedal.



G03637940

Fig. 14: Installing Actuator Cable To Accelerator Pedal
Courtesy of MAZDA MOTORS CORP.

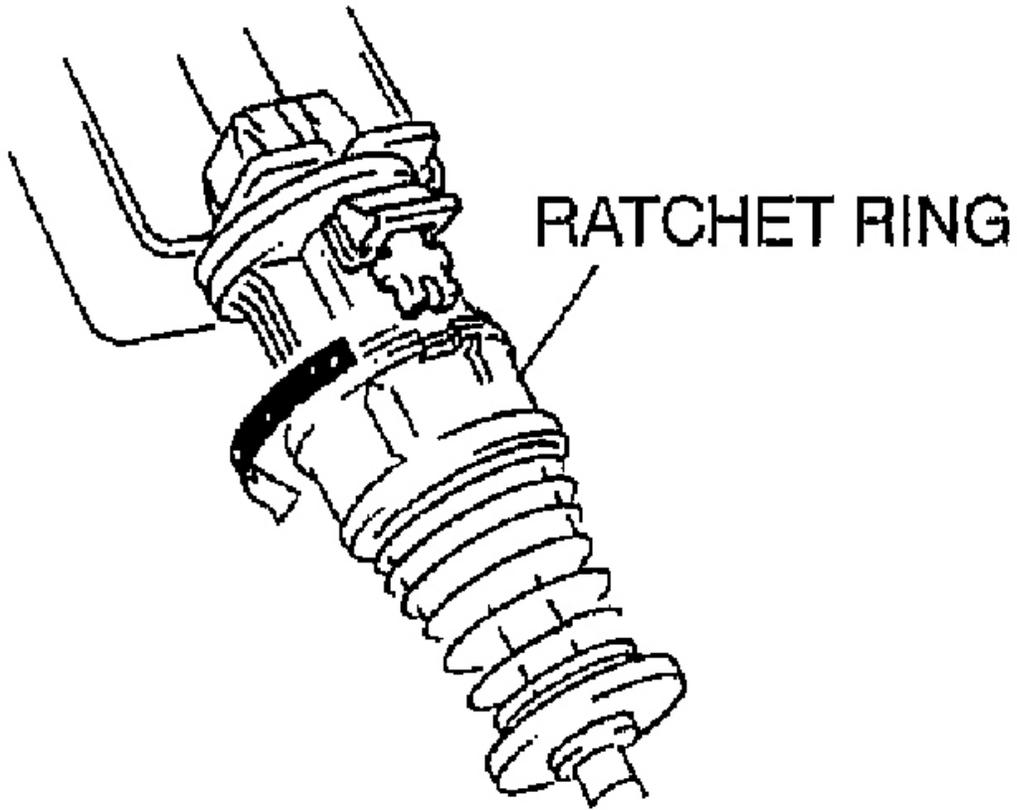
3. Slide the lock lever in the direction shown by the arrow in **Fig. 15** to unlock the adjuster.



G03637941

Fig. 15: Sliding Lock Lever
Courtesy of MAZDA MOTORS CORP.

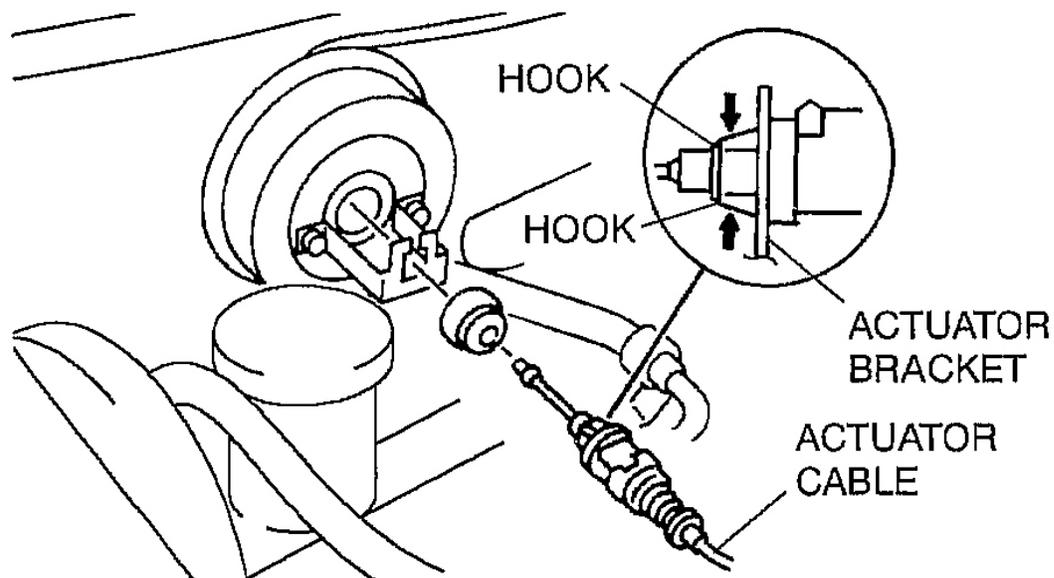
4. Turn the ratchet ring to release lock in the direction shown by the arrow in **Fig. 16**.



G03637942

Fig. 16: Turning Ratchet Ring
Courtesy of MAZDA MOTORS CORP.

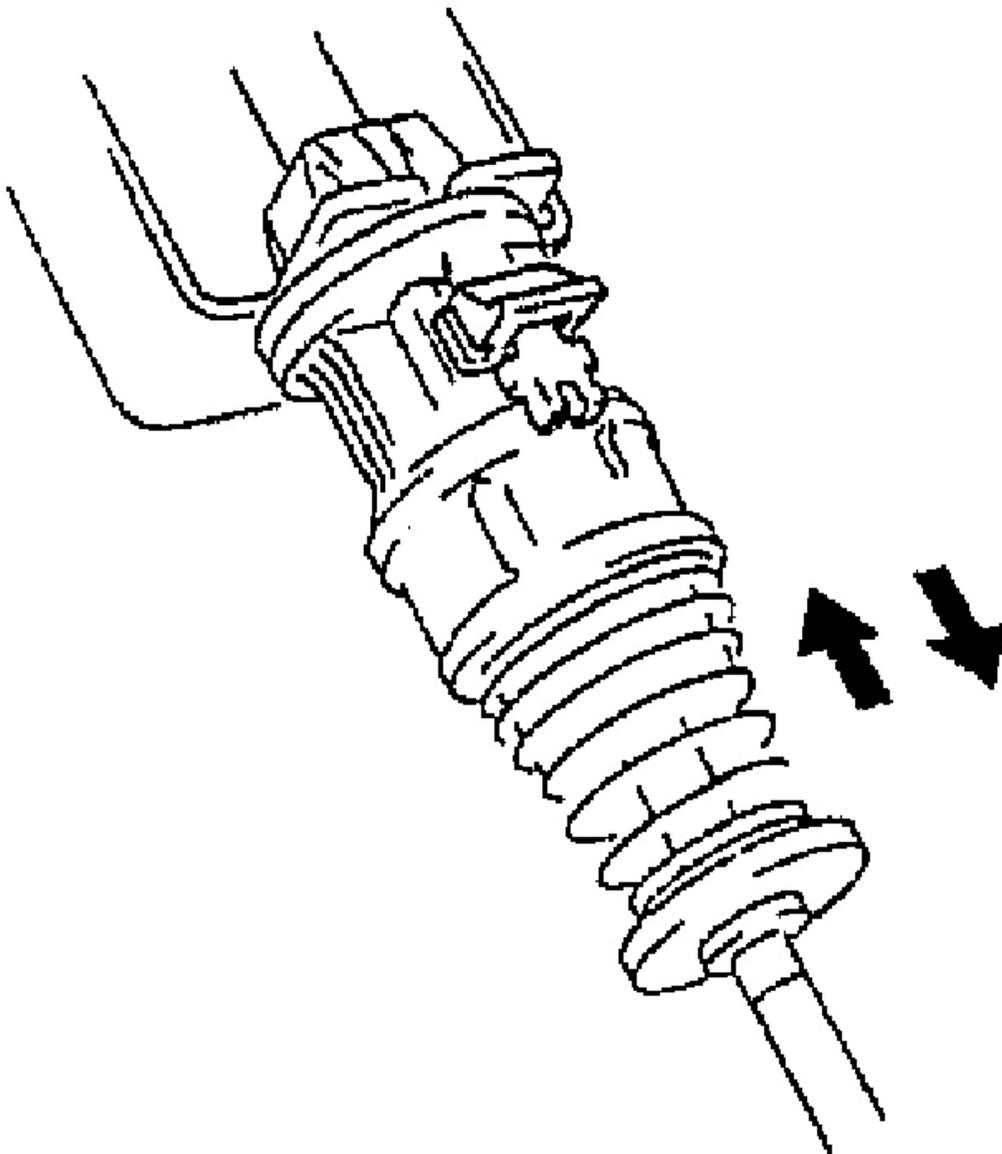
5. Insert the grommet into the actuator bracket.



G03637943

Fig. 17: Inserting Grommet Into Actuator Bracket
Courtesy of MAZDA MOTORS CORP.

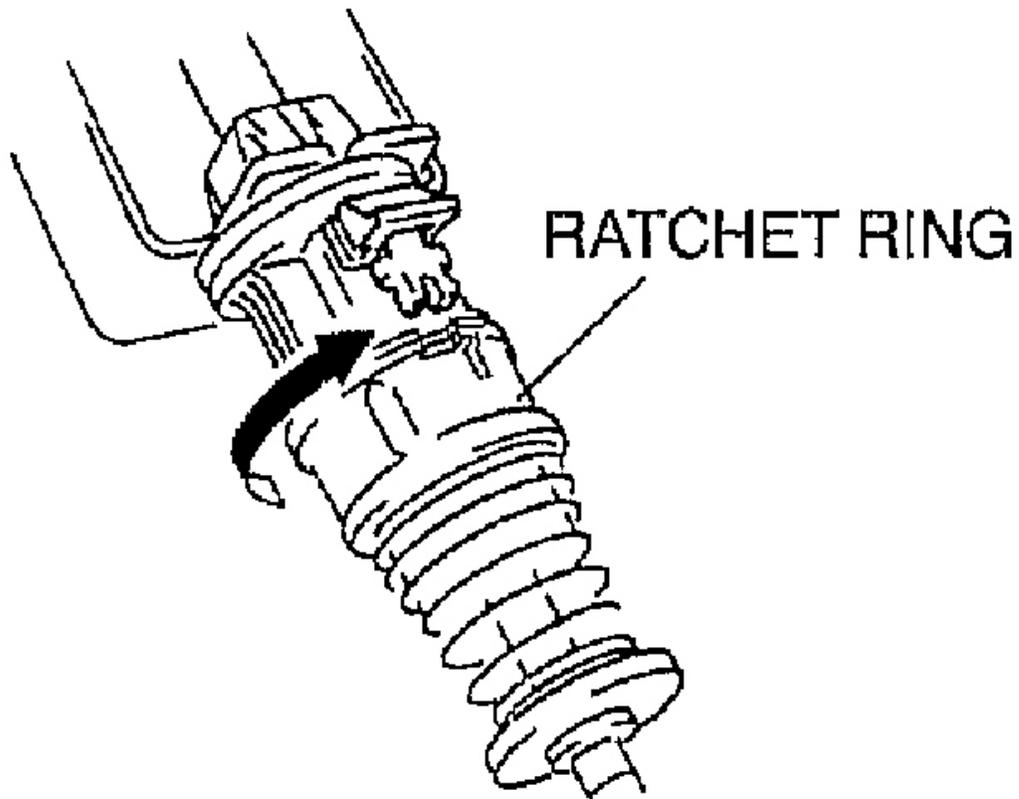
6. To adjust the free play, push or pull the actuator cable directly behind the spring **two times**.



G03637944

Fig. 18: Pushing Actuator Cable
Courtesy of MAZDA MOTORS CORP.

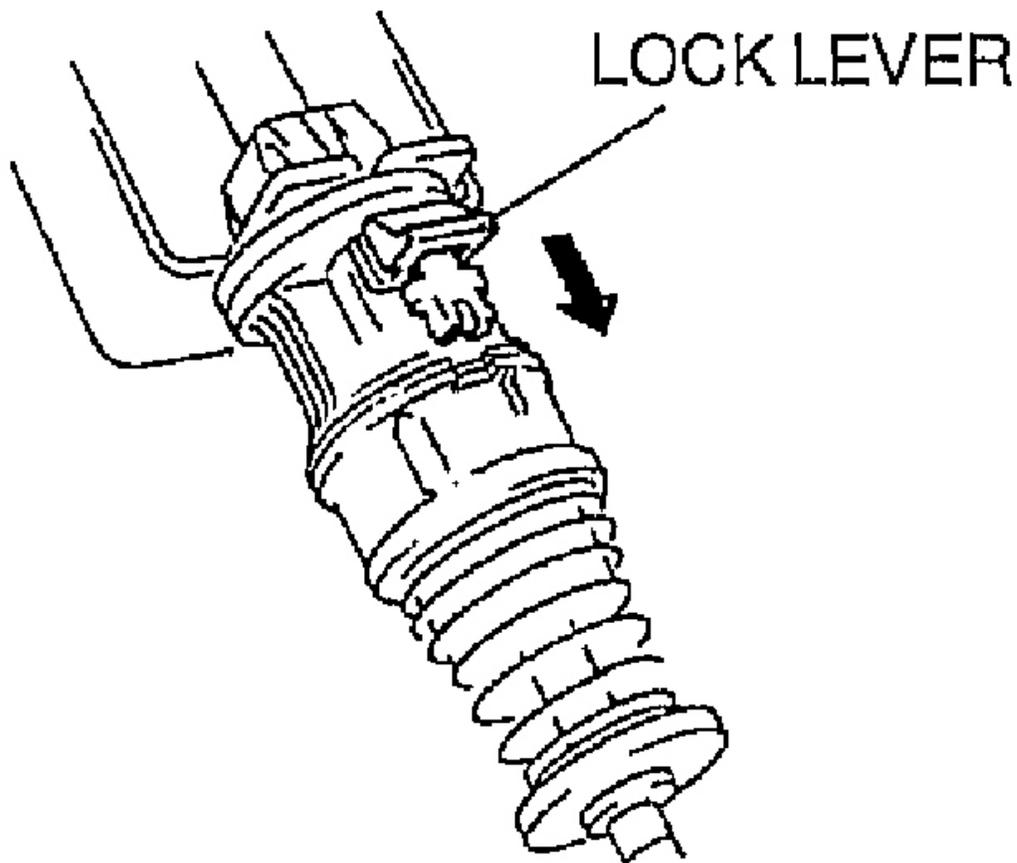
7. Turn the ratchet ring in the direction shown by the arrow in **Fig. 19** to lock it.



G03637945

Fig. 19: Turning Ratchet Ring
Courtesy of MAZDA MOTORS CORP.

8. Slide the lock lever in the direction shown by the arrow in **Fig. 20** to lock the adjuster.



G03637946

Fig. 20: Sliding Lock Lever
Courtesy of MAZDA MOTORS CORP.

CRUISE CONTROL MAIN SWITCH REMOVAL/INSTALLATION

1. Disconnect the negative battery cable.
2. Remove the fuse block cover.
3. Remove the panel light control switch. (See **PANEL LIGHT CONTROL SWITCH REMOVAL/INSTALLATION** .)
4. Push the tabs of the cruise control main switch and pull the switch out from inside of the dashboard.
5. Disconnect the cruise control main switch connector to remove the cruise control main switch.
6. Install in the reverse order of removal.

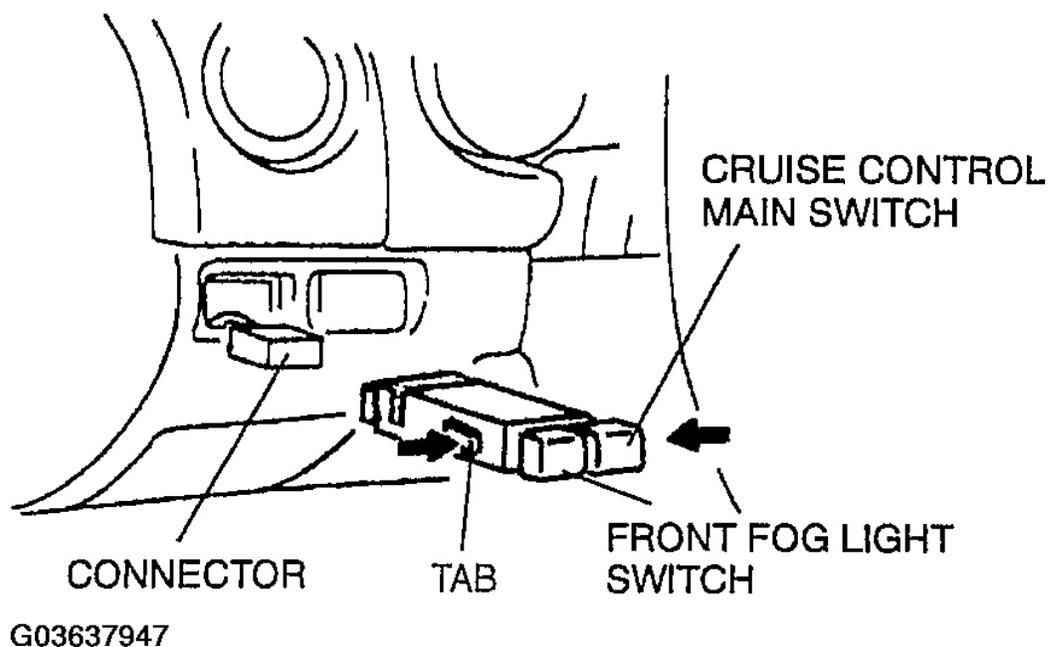


Fig. 21: Identifying Cruise Control Main Switch
Courtesy of MAZDA MOTORS CORP.

CRUISE CONTROL MAIN SWITCH INSPECTION

1. Remove the cruise control main switch. (See **CRUISE CONTROL MAIN SWITCH REMOVAL/INSTALLATION.**)
2. Inspect for continuity between the cruise control main switch terminals using an ohmmeter.
 - If not as specified, replace the cruise control main switch.

2005 Mazda MX-5 Miata

2005 ACCESSORIES & EQUIPMENT Cruise Control System - MX-5 Miata

○—○ : Continuity ○—⊙—○ : Bulb

Switch position	Terminal							
	A	B	D	F	H	J	K	L
Off	○			⊙			○	
		○—⊙—○					○—⊙—○	○
Front fog light on	○			⊙			○	
		○—⊙—○			○—○	○—○	○—⊙—○	○
Cruise control main on	○			⊙			○	
		○—⊙—○—○		○			○—⊙—○	○

G03637948

Fig. 22: Identifying Terminal
 Courtesy of MAZDA MOTORS CORP.

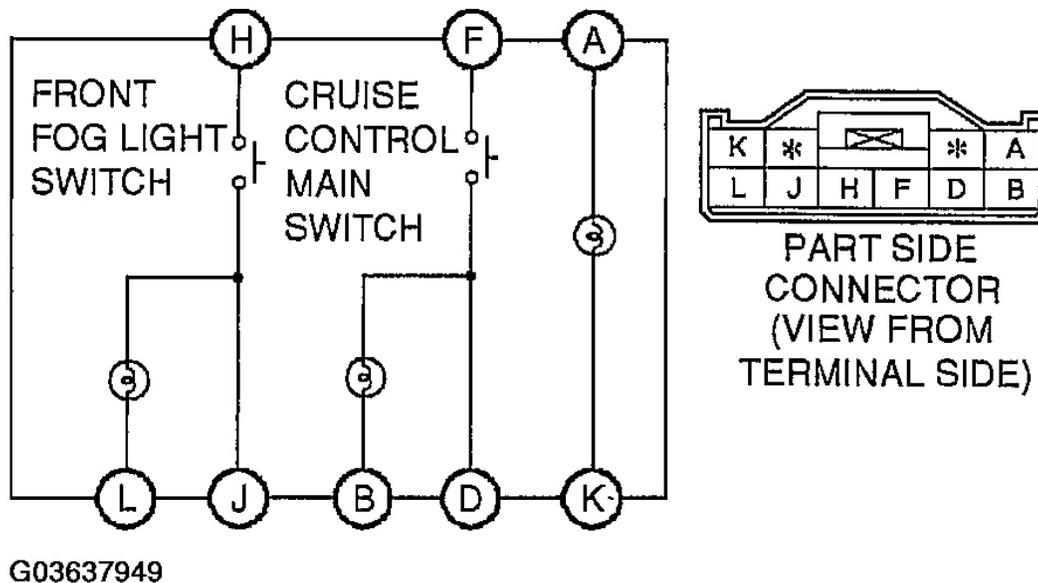


Fig. 23: Inspecting For Continuity Between Cruise Control Main Switch Terminals Using An Ohmmeter

Courtesy of MAZDA MOTORS CORP.

CRUISE CONTROL SWITCH REMOVAL/INSTALLATION

NOTE:

- The cruise control switch is together with the wiper lever.

1. Disconnect the negative battery cable.
2. Remove the wiper lever from the combination switch. (See COMBINATION SWITCH DISASSEMBLY/ASSEMBLY .)
3. Install in the reverse order of removal.

CRUISE CONTROL SWITCH INSPECTION

1. Remove the combination switch. (See COMBINATION SWITCH REMOVAL/INSTALLATION .)
2. Measure the resistance between the cruise control switch terminals using an ohmmeter.
 - If not as specified, replace the wiper lever.

2005 Mazda MX-5 Miata

2005 ACCESSORIES & EQUIPMENT Cruise Control System - MX-5 Miata

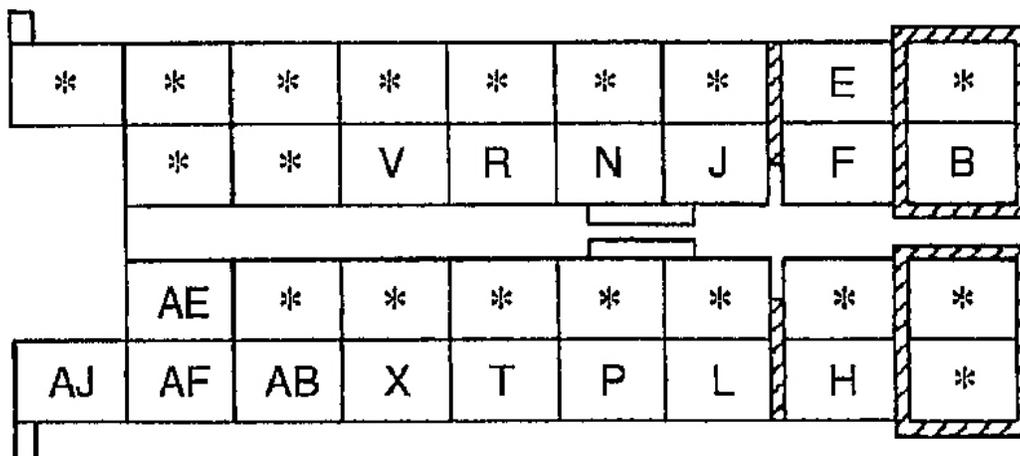
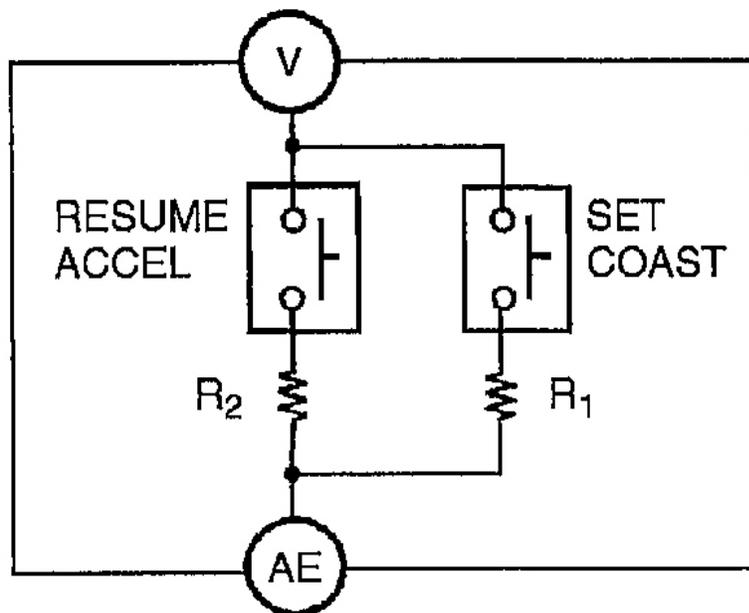
○—|/|—○ : Resistance

Switch position	Terminal	
	V	AE
SET/COAST	○— / —○	:R ₁
Off		
RESUME/ACCEL	○— / —○	:R ₂

R₁: 240 Ω R₂: 910 Ω

G03637950

Fig. 24: Cruise Control Switch Position Chart
 Courtesy of MAZDA MOTORS CORP.



PART SIDE CONNECTOR
(VIEW FROM TERMINAL SIDE)

G03637951

Fig. 25: Measuring Resistance Between Cruise Control Switch Terminals Using An Ohmmeter
Courtesy of MAZDA MOTORS CORP.