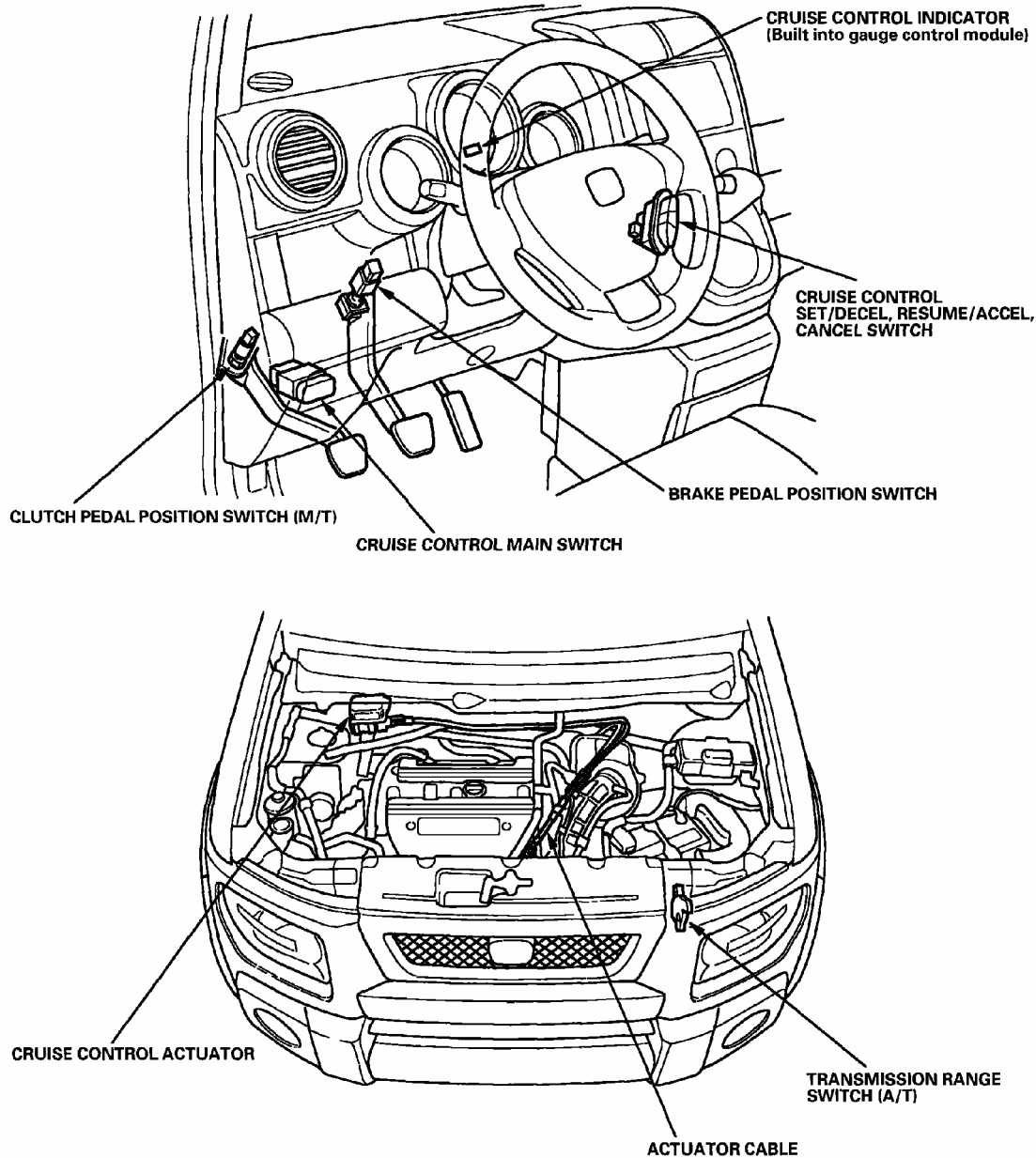


2003-06 ACCESSORIES & EQUIPMENT

Cruise Control - Element

COMPONENT LOCATION INDEX



G03677050

Fig. 1: Identifying Components Location
Courtesy of AMERICAN HONDA MOTOR CO., INC.

SYMPTOM TROUBLESHOOTING INDEX

DIAGNOSTIC CHART

--	--	--

2004 Honda Element DX

2003-06 ACCESSORIES & EQUIPMENT Cruise Control - Element

Symptom	Diagnostic procedure	Also check for
Cruise control cannot be set	<ol style="list-style-type: none"> 1. Check for PGM-FI DTCs (see GENERAL TROUBLESHOOTING INFORMATION). 2. Check horn operation. 3. Check the cruise control main switch (see CRUISE CONTROL MAIN SWITCH TEST/REPLACEMENT). 4. Check the cruise control set/decel, resume/accel, cancel switch (see CRUISE CONTROL SET/DECEL, RESUME/ACCEL, CANCEL SWITCH TEST/REPLACEMENT). 5. Test the brake pedal position switch (see LICENSE PLATE LIGHT REPLACEMENT) and check its adjustment (see BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH A). 6. Test the clutch pedal position switch (see CLUTCH PEDAL POSITION SWITCH TEST) and check its adjustment (M/T) (see CLUTCH PEDAL, CLUTCH PEDAL POSITION SWITCH, A). 7. Check the transmission range switch (A/T) (see TRANSMISSION RANGE SWITCH TEST). 8. Do the cruise control unit input test (see CRUISE CONTROL ACTUATOR INPUT TEST). 	<ul style="list-style-type: none"> • Blown No. 4 (10 A) fuse in the under-dash fuse/relay box • Blown No. 7 (15 A) fuse in the under-hood fuse/relay box • Poor ground: G101 (A/T), G301, G502 (M/T) • Faulty horn relay • Open circuit, loose or disconnected terminals: BLK/YEL, LT GRN, BLU, YEL/GRN, BLU/WHT
Cruise control can be set, but the cruise control indicator does not come on	<ol style="list-style-type: none"> 1. Do the gauge control module self-diagnostic function procedure (see SELF-DIAGNOSTIC FUNCTION). 2. Do the cruise control unit input test 	Open circuit, loose or disconnected terminals: BLU/YEL

2004 Honda Element DX

2003-06 ACCESSORIES & EQUIPMENT Cruise Control - Element

	<p>on pin No. 2 (see <u>CRUISE CONTROL ACTUATOR INPUT TEST</u>).</p>	
Cruise speed is noticeably higher or lower than what was set	<ol style="list-style-type: none"> 1. Adjust the cruise control cable (see <u>CRUISE CONTROL ACTUATOR CABLE ADJUSTMENT</u>). 2. Do the cruise control unit input test on pin No. 5 (see <u>CRUISE CONTROL ACTUATOR INPUT TEST</u>). 	
Excessive overshooting or undershooting when trying to set speed	<ol style="list-style-type: none"> 1. Adjust the cruise control cable (see <u>CRUISE CONTROL ACTUATOR CABLE ADJUSTMENT</u>). 2. Do the cruise control unit input test on pin No. 5 (see <u>CRUISE CONTROL ACTUATOR INPUT TEST</u>). 	
Speed fluctuates on a flat road with the cruise control set	<ol style="list-style-type: none"> 1. Adjust the cruise control cable (see <u>CRUISE CONTROL ACTUATOR CABLE ADJUSTMENT</u>). 2. Do the cruise control unit input test on pin No. 5 (see <u>CRUISE CONTROL ACTUATOR INPUT TEST</u>). 	
Vehicle does not decelerate or accelerate accordingly when the set/decel or resume/accel switch is pressed	<ol style="list-style-type: none"> 1. Check the cruise control set/decel, resume/accel, cancel switch (see <u>CRUISE CONTROL SET/DECEL, RESUME/ACCEL, CANCEL SWITCH TEST/REPLACEMENT</u>). 2. Do the cruise control unit input test on pins No. 8 and No. 9 (see <u>CRUISE CONTROL ACTUATOR INPUT TEST</u>). 	Open circuit, loose or disconnected terminals: GRY/RED, LT GRN/BLK
Set speed does not cancel (engine RPM stays high) when the clutch pedal is	<ol style="list-style-type: none"> 1. Test the clutch pedal position switch (see <u>CLUTCH PEDAL POSITION SWITCH TEST</u>) and check its adjustment (see <u>CLUTCH</u> 	Short to ground in the YEL/GRN wire

2004 Honda Element DX

2003-06 ACCESSORIES & EQUIPMENT Cruise Control - Element

<p>pressed (M/T)</p>	<p align="center"><u>PEDAL, CLUTCH PEDAL POSITION SWITCH, A</u>).</p> <p>2. Do the cruise control unit input test on pin No. 3 (see <u>CRUISE CONTROL ACTUATOR INPUT TEST</u>).</p>	
<p>Set speed does not cancel (engine RPM stays high) when the shift lever is moved to N (A/T)</p>	<p>1. Check the transmission range switch (see <u>TRANSMISSION RANGE SWITCH TEST</u>).</p> <p>2. Do the cruise control unit input test on pin No. 3 (see <u>CRUISE CONTROL ACTUATOR INPUT TEST</u>).</p>	<p>Short to ground in the YEL/GRN wire</p>
<p>Set speed does not cancel when the brake pedal is pressed</p>	<p>1. Test the brake pedal position switch (see <u>LICENSE PLATE LIGHT REPLACEMENT</u>) and check its adjustment (see <u>BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH A</u>).</p> <p>2. Do the cruise control unit input test on pins No. 1 and No. 11 (see <u>CRUISE CONTROL ACTUATOR INPUT TEST</u>).</p>	<p>Short to power on BLU wire</p>
<p>Set speed does not cancel when the cruise control main switch is turned off</p>	<p>1. Check the cruise control main switch (see <u>CRUISE CONTROL MAIN SWITCH TEST/REPLACEMENT</u>).</p> <p>2. Do the cruise control unit input test on pin No. 7 (see <u>CRUISE CONTROL ACTUATOR INPUT TEST</u>).</p>	<p>Short to power in the LT GRN wire</p>
<p>Set speed does not cancel when the cancel switch is pressed</p>	<p>1. Check the cruise control set/decel, resume/accel, cancel switch (see page <u>CRUISE CONTROL SET/DECEL, RESUME/ACCEL, CANCEL SWITCH TEST/REPLACEMENT</u>).</p> <p>2. Do the cruise control unit input test on pins No. 8 and No. 9 (see <u>CRUISE CONTROL ACTUATOR INPUT TEST</u>).</p>	<p>Open circuit, loose or disconnected terminals: GRY/RED, LT GRN/BLK</p>

2004 Honda Element DX

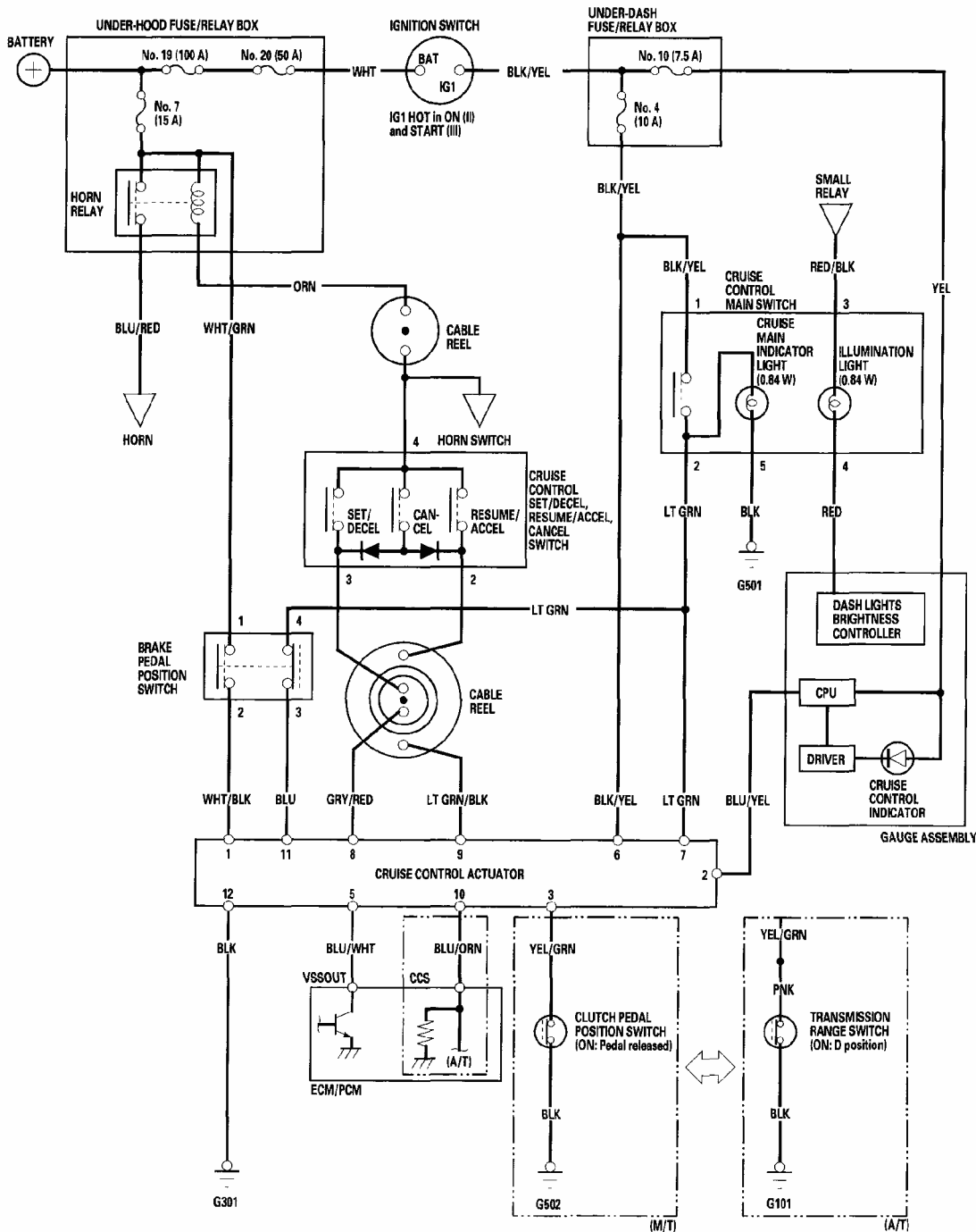
2003-06 ACCESSORIES & EQUIPMENT Cruise Control - Element

Set speed will not resume when the resume/accel switch is pressed (with the cruise control main switch turned on, and set speed temporarily canceled by pressing the brake pedal)	<ol style="list-style-type: none">1. Check the cruise control set/decel, resume/accel, cancel switch (see page <u>CRUISE CONTROL SET/DECEL, RESUME/ACCEL, CANCEL SWITCH TEST/REPLACEMENT</u>).2. Do the cruise control unit input test on pins No. 8 and No. 9 (see <u>CRUISE CONTROL ACTUATOR INPUT TEST</u>).	<ul style="list-style-type: none">• Faulty brake pedal position switch• Open circuit, loose or disconnected terminals: LT GRN/BLK
The transmission shifts down slower than normal when going uphill with the cruise control on (A/T)	Troubleshoot the cruise control communication circuit (see <u>CRUISE CONTROL COMMUNICATION CIRCUIT TROUBLESHOOTING</u>).	Open circuit, loose or disconnected terminals: BLU/ORN

CIRCUIT DIAGRAM

2004 Honda Element DX

2003-06 ACCESSORIES & EQUIPMENT Cruise Control - Element



G03677051

Fig. 2: Circuit Diagram Cruise Control
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

CRUISE CONTROL COMMUNICATION CIRCUIT TROUBLESHOOTING

A/T

1. Start the engine.

2. Turn on the cruise control main switch, then drive the vehicle at speeds over 25 mph (40 km/h) with the cruise control set.

Does the cruise control operate?

YES - Go to step 3.

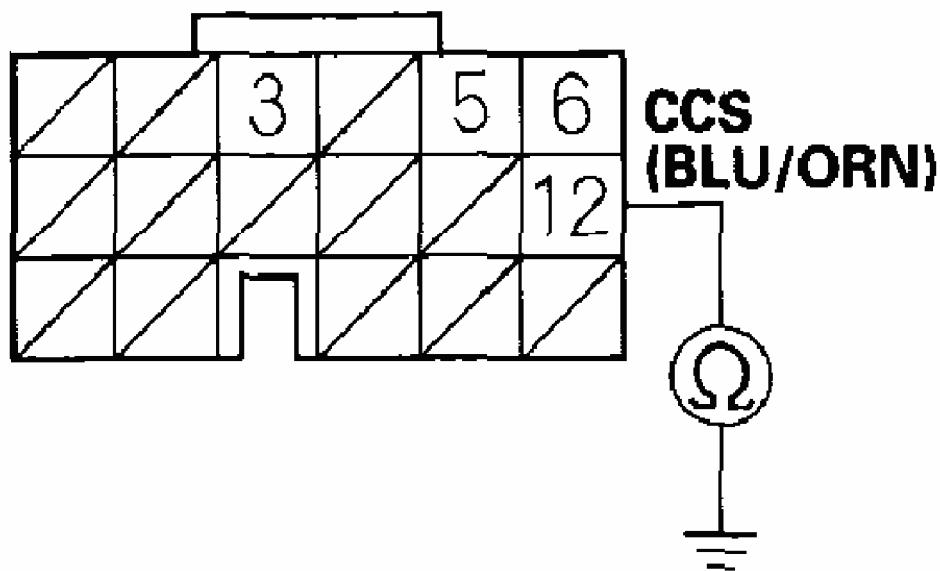
NO - Check the cruise control actuator (see **CRUISE CONTROL ACTUATOR INPUT TEST**).

3. Turn the ignition switch OFF.
4. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 on **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)**). Turn the ignition switch ON (II), and jump the SCS line with the HDS, then turn the ignition switch OFF.

NOTE: **This step must be done to protect the powertrain control module (PCM) from damage.**

5. Disconnect PCM connector D (17P) and cruise control actuator 12P connector.
6. Check for continuity between PCM connector terminal D12 and body ground.

PCM CONNECTOR D (17P)



Wire side of female terminals

G03677052

Fig. 3: Checking Continuity Between PCM Connector Terminal And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair a short to ground in the wire between PCM connector terminal D12 and the cruise control actuator 12P connector terminal No. 10.

NO - Go to step 7.

7. Check for continuity between PCM connector terminal D12 and cruise control actuator 12P connector terminal No. 10.

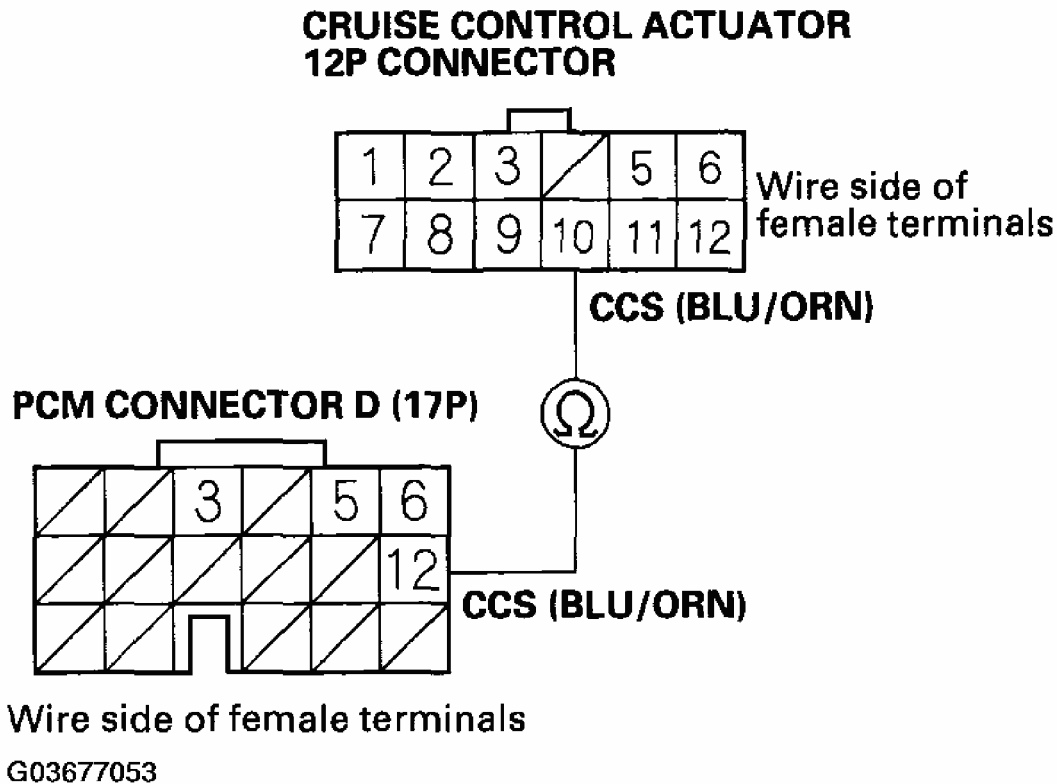


Fig. 4: Checking Continuity Between PCM Connector Terminal And Cruise Control Actuator Connector Terminal
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

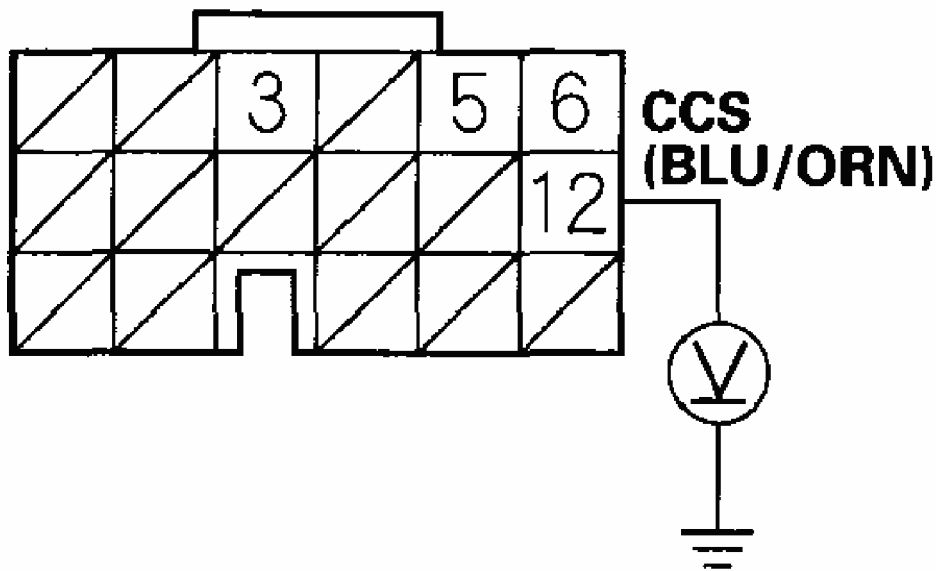
Is there continuity?

YES - Go to step 8.

NO - Repair an open in the wire between PCM connector terminal D12 and cruise control actuator 12P connector terminal No. 10.

8. Reconnect the PCM connector D (17P) and the cruise control actuator 12P connector.
9. Disconnect the HDS.
10. Connect a voltmeter between PCM connector terminal D12 and body ground. Drive the vehicle at speeds over 25 mph (40 km/h) with the cruise control set, and watch the voltmeter.

PCM CONNECTOR D (17P)



Wire side of female terminals

G03677054

Fig. 5: Connecting Voltmeter Between PCM Connector Terminal And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 1 V?

YES - Update the PCM if it does not have the latest software (see **ECM/PCM UPDATING AND SUBSTITUTION FOR TESTING**) or substitute a known-good PCM (see **HOW TO SUBSTITUTE THE ECM/PCM**), then recheck. If the system works properly, and the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT**).

NO - Substitute a known-good cruise control actuator, then recheck. If the system works properly, replace the original cruise control actuator (see **CRUISE CONTROL ACTUATOR/CABLE REPLACEMENT**).

CRUISE CONTROL ACTUATOR INPUT TEST

1. Disconnect the 12P connector from the cruise control actuator.
2. Inspect the connector and socket terminals to be sure they are all making good contact.
 - If the terminals are bent, loose, or corroded, repair them as necessary, and recheck the system.
 - If the terminals look OK, go to step 3.

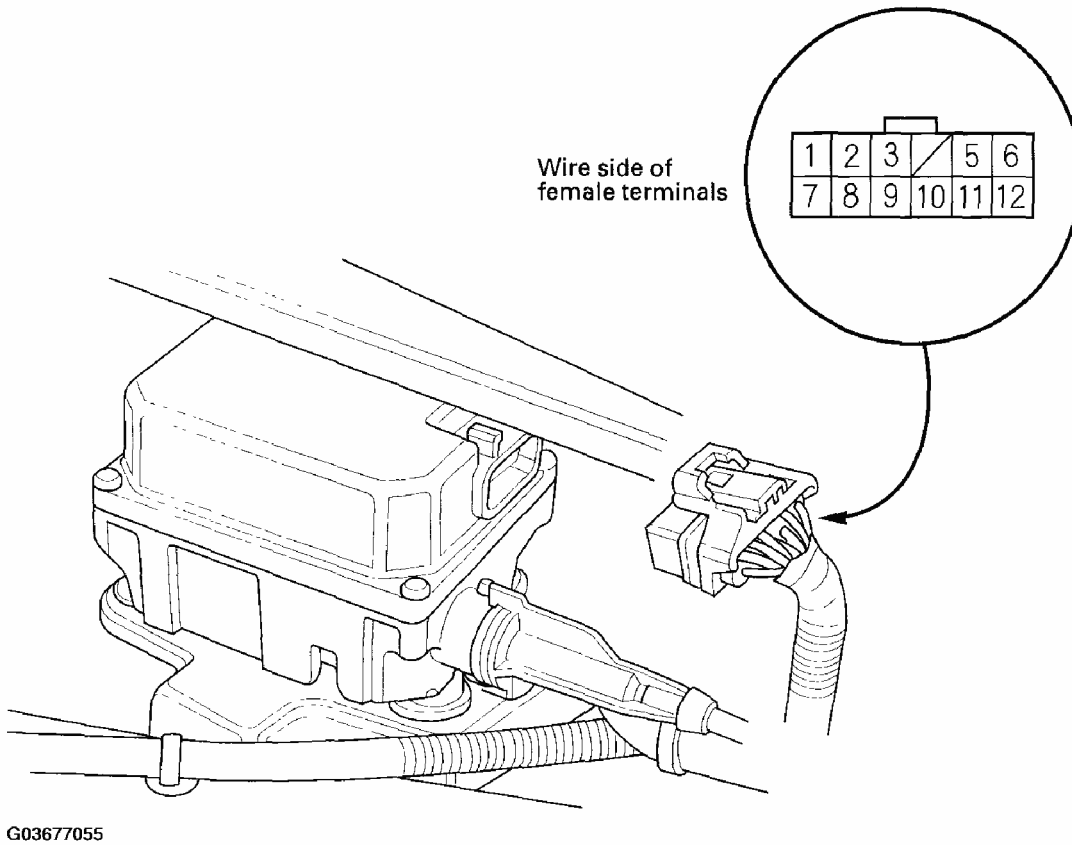


Fig. 6: Disconnecting Connector From Cruise Control Actuator
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. With the 12P connector disconnected, do these input tests.
 - If the test indicates a problem, find and correct the cause, then recheck the system.
 - If all the input tests prove OK, the cruise control actuator may be faulty. Substitute a known-good cruise control actuator, and retest. If the system works properly, replace the original cruise control actuator.

DIAGNOSTIC REFERENCE

				Test: Desired	Possible cause if result is not

2004 Honda Element DX

2003-06 ACCESSORIES & EQUIPMENT Cruise Control - Element

Cavity	Wire	Test condition	result	obtained
1	WHT/BLK	Brake pedal pressed, then released	Check for voltage to ground: There should be battery voltage with the pedal pressed, and 0 V with the pedal released.	<ul style="list-style-type: none"> • Blown No. 7 (15 A) fuse in the under-hood fuse/relay box • Faulty brake pedal position switch • An open in the wire
2	BLU/YEL	Ignition switch ON (II)	Attach to ground: Cruise indicator in the gauge assembly should come on.	<ul style="list-style-type: none"> • Blown No. 10 (7.5 A) fuse in the under-dash fuse/relay box • Faulty gauge assembly • An open in the wire
3	YEL/GRN	Clutch pedal released (M/T)	<p>Check for continuity to ground: There should be continuity</p> <p>NOTE: There should be no continuity when the clutch pedal is pressed.</p>	<ul style="list-style-type: none"> • Faulty clutch pedal position switch • Poor ground (G502) • An open in the wire
		Shift lever in D (A/T)	<p>Check for continuity to ground: There should be continuity.</p> <p>NOTE: There should be no continuity when the shift lever is in other positions.</p>	<ul style="list-style-type: none"> • Faulty transmission range switch • Poor ground (G101) • An open in the wire
5	BLU/WHT	Ignition switch ON (II), raise the front of the vehicle, and rotate one	Check for voltage between the BLU/WHT (+)	<ul style="list-style-type: none"> • Faulty ECM/PCM • An open in the

2004 Honda Element DX

2003-06 ACCESSORIES & EQUIPMENT Cruise Control - Element

		wheel slowly while holding the other wheel	and BLK (-) terminals: There should be 0 V, then 5 V or more repeatedly.	wire <ul style="list-style-type: none"> • Short to ground
6	BLK/YEL	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> • Blown No. 4 (10 A) fuse in the under-dash fuse/relay box • An open in the wire
7	LT GRN	Ignition switch ON (II) and cruise control main switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> • Blown No. 4 (10 A) fuse in the under-dash fuse/relay box • Faulty cruise control main switch • An open in the wire
8	GRY/RED	Set/decel switch pressed	Check for voltage to ground: There should be battery voltage. When testing terminal No. 8, there should be no voltage on terminal No. 9.	<ul style="list-style-type: none"> • Blown No. 7 (15 A) fuse in the under-dash fuse/relay box • Faulty horn relay • Faulty cruise control set/decel, resume/accel, cancel switch • Faulty cable reel • An open in the wire
9	LT GRN/BLK	Resume/accel switch pressed	Check for voltage to ground: There should be battery voltage. When testing terminal No. 9, there should be no voltage on terminal No. 8.	
11	BLU	Ignition switch ON (II), cruise control main switch ON and brake pedal pressed, then released	Check for voltage to ground: There should be 0 V with the pedal pressed, and battery voltage with the pedal	<ul style="list-style-type: none"> • Faulty brake pedal position switch • An open in the wire

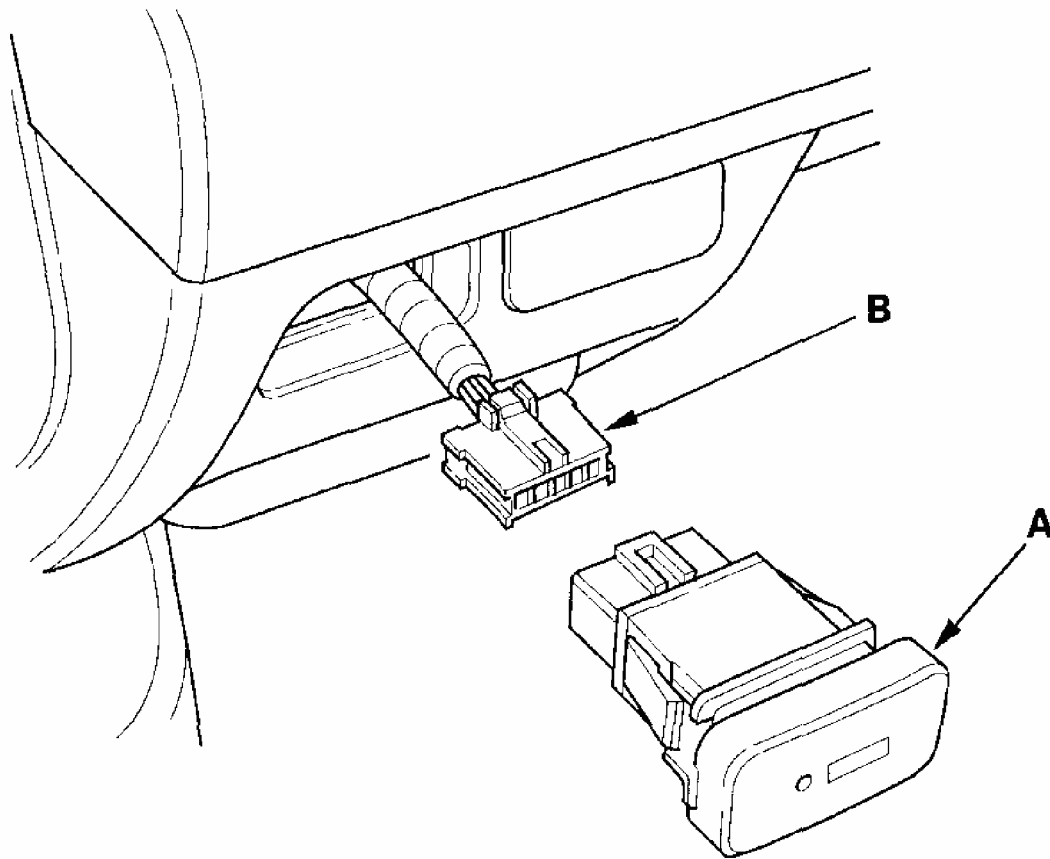
2004 Honda Element DX

2003-06 ACCESSORIES & EQUIPMENT Cruise Control - Element

			released.	<ul style="list-style-type: none">• Open in cruise control main switch• Blown No. 4 (10 A) fuse in the under-dash fuse/relay box
12	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none">• Poor ground (G301)• An open in the wire
10	BLU/ORN	Reconnect the cruise control actuator 12P connector, start the engine, turn the cruise control main switch ON and drive the vehicle to speeds over 25 mph (40 km/h) with the cruise control set	Check for voltage to ground: There should be about 1 V.	<ul style="list-style-type: none">• Faulty cruise control actuator• Short to ground

CRUISE CONTROL MAIN SWITCH TEST/REPLACEMENT

1. Release the clips of the switch and push the switch (A) out of the panel, then disconnect the 5P connector (B) from the main switch.



G03677056

Fig. 7: Disconnecting 5P Connector From Main Switch
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Check for continuity between the terminals in each switch position according to the table. If there is no continuity, replace illumination bulbs (A) or the switch.

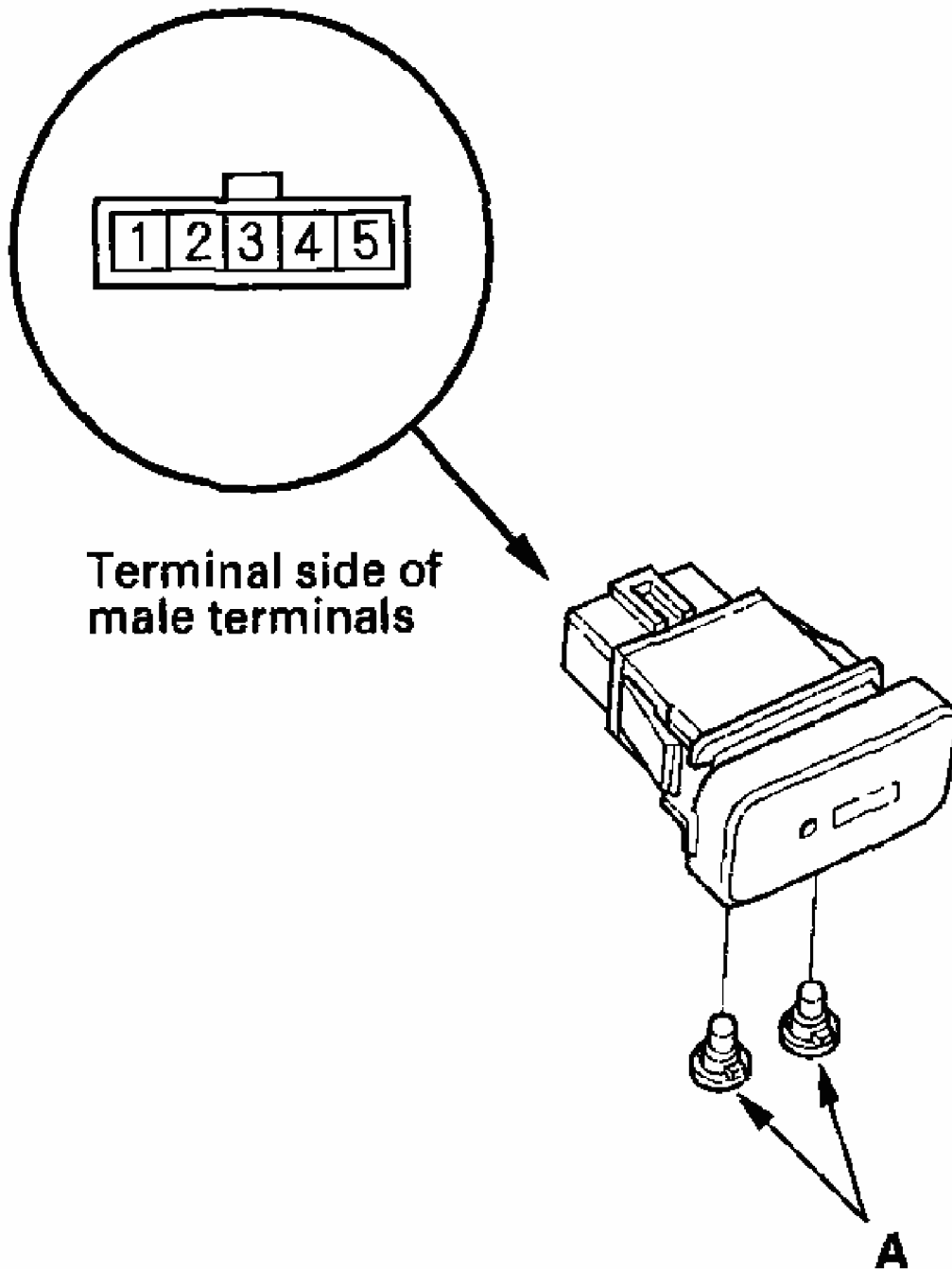
2004 Honda Element DX

2003-06 ACCESSORIES & EQUIPMENT Cruise Control - Element

Terminal Position	2		5	1	3		4
OFF	○	⊗	○		○	⊗	○
ON	○	⊗	○	○	○	⊗	○

G03677057

Fig. 8: Terminal And Continuity Reference Chart
Courtesy of AMERICAN HONDA MOTOR CO., INC.



Terminal side of
male terminals

G03677058

Fig. 9: Identifying Connector Terminal

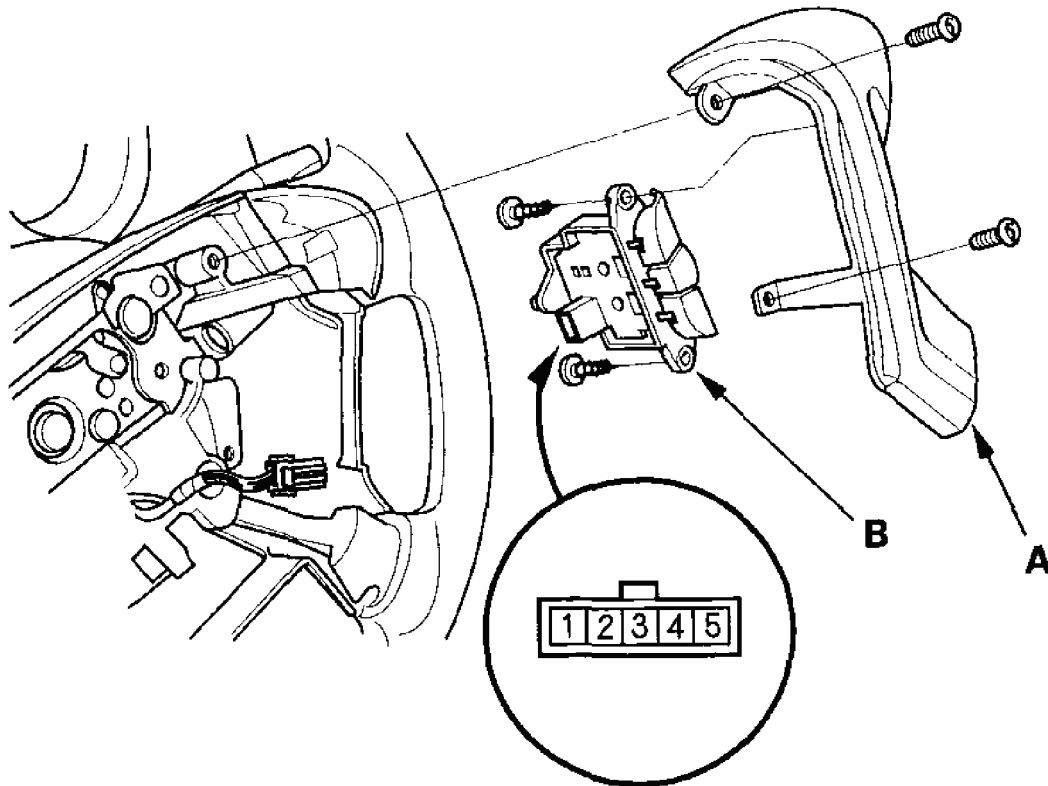
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CRUISE CONTROL SET/DECEL, RESUME/ACCEL, CANCEL SWITCH

TEST/REPLACEMENT

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX**), and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES**), before performing repairs or service.

1. Remove the driver's airbag (see **DRIVER'S AIRBAG REPLACEMENT**).
2. Remove the cover (A), then remove the cruise control set/decel, resume/accel, cancel switch (B).



Terminal side of male terminals

G03677059

Fig. 10: Removing Cover

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Check for continuity between the terminals in each switch position according to the table.
 - If there is continuity, and it matches the table, but switch failure occurred on the cruise control actuator input test, check and repair the wire harness on the switch circuit.

- If there is no continuity in one or both positions, replace the switch.

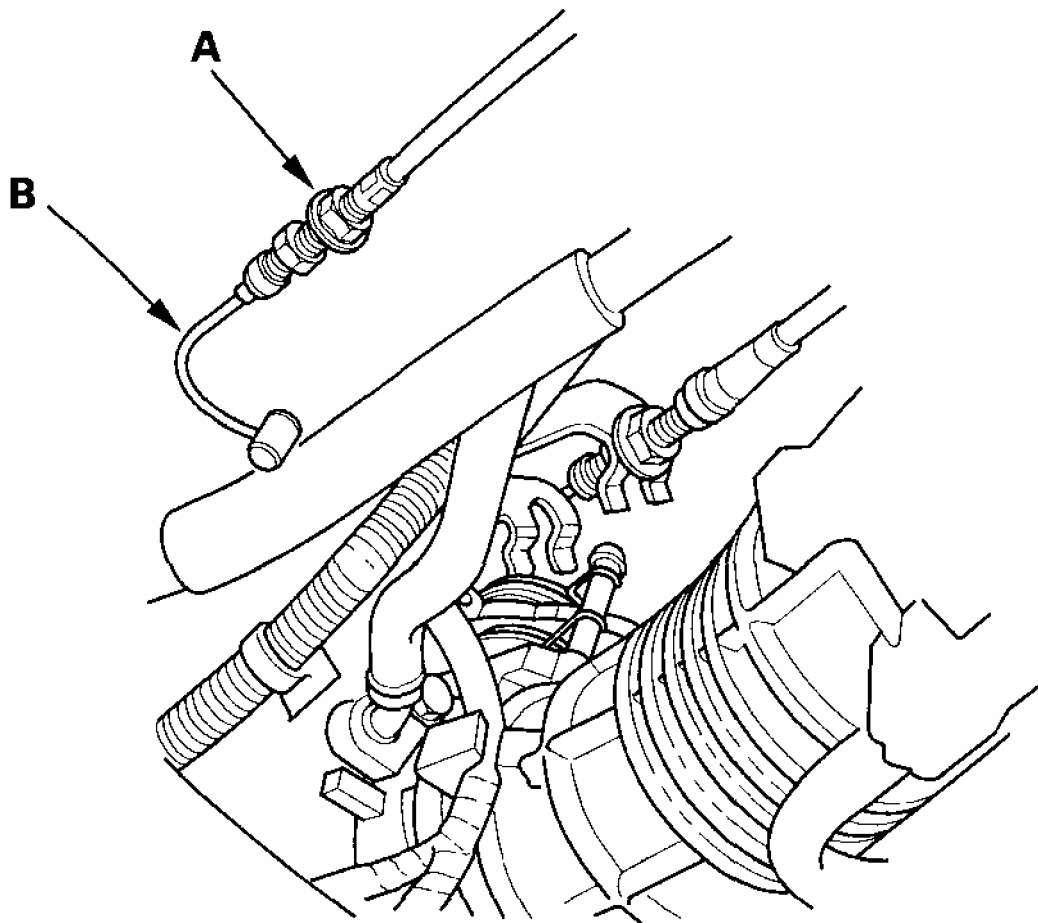
Terminal	2		3	4
Position				
Set/decel (PRESSED)	○	—	—	○
Resume/accel (PRESSED)	○	—	○	
Cancel (PRESSED)	○	—	○	○

G03677060

Fig. 11: Terminals And Continuity Reference Chart
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

CRUISE CONTROL ACTUATOR/CABLE REPLACEMENT

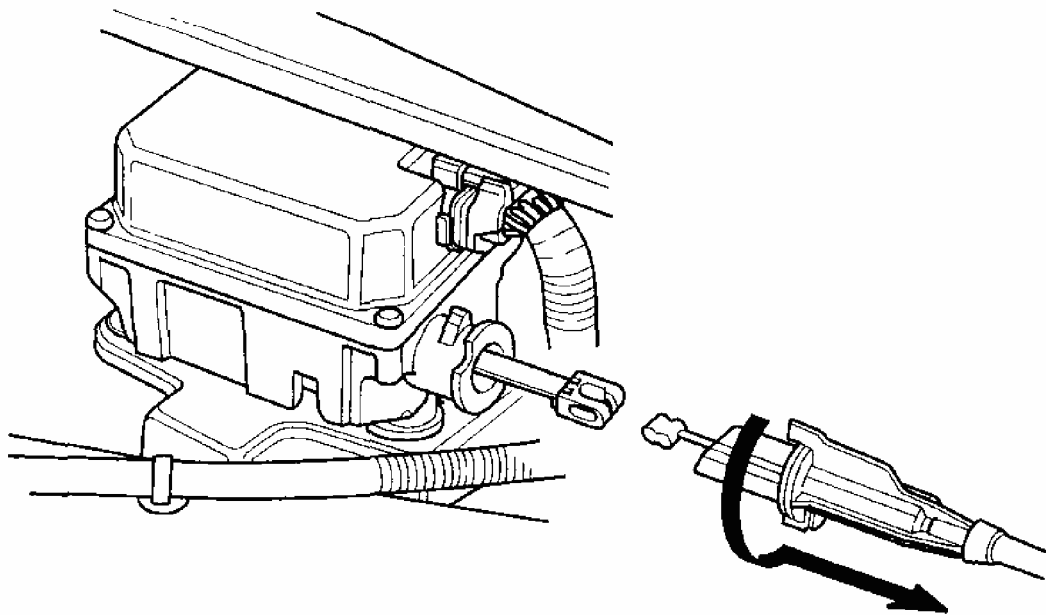
1. Loosen the locknut (A), then remove the actuator cable (B) from the throttle linkage.



G03677061

Fig. 12: Loosening Locknut And Remove Actuator Scale From Throttle Linkage
Courtesy of AMERICAN HONDA MOTOR CO., INC.

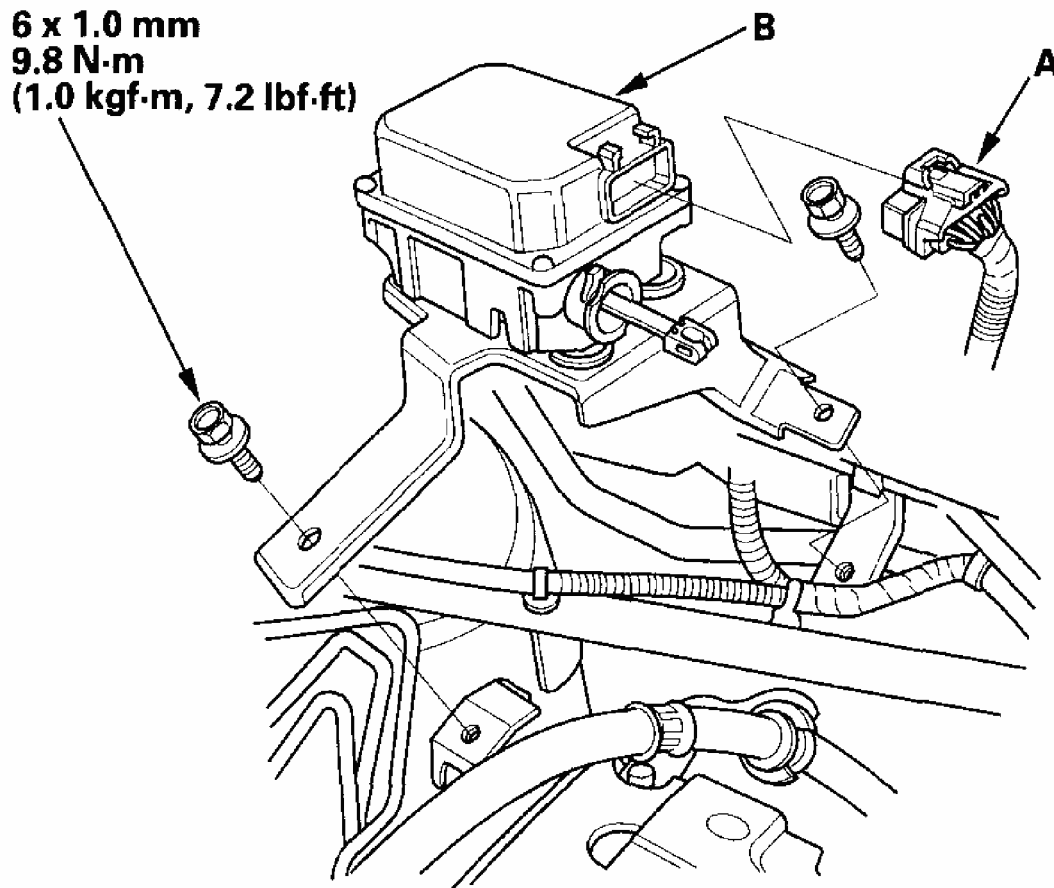
2. Turn the connector to disconnect it from the actuator, then remove the cable from the actuator.



G03677062

Fig. 13: Removing Cable From Actuator And Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Disconnect the 12P connector (A) from the cruise control actuator (B).



G03677063

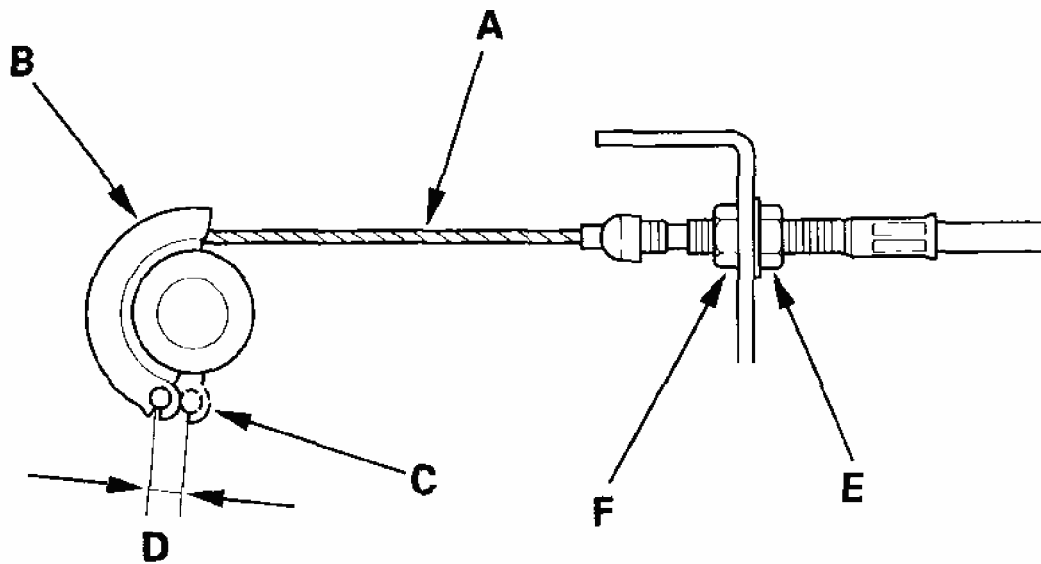
Fig. 14: Disconnecting 12P Connector From Cruise Control Actuator And Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the two mounting bolts from the mounting bracket.
5. Remove the three mounting bolts attaching the cruise control actuator to the mounting bracket.
6. Install in the reverse order of removal, and adjust the free play (see **CRUISE CONTROL ACTUATOR CABLE ADJUSTMENT**) at the throttle linkage after connecting the actuator cable.

CRUISE CONTROL ACTUATOR CABLE ADJUSTMENT

1. Check that the actuator cable (A) moves smoothly with no binding or sticking.



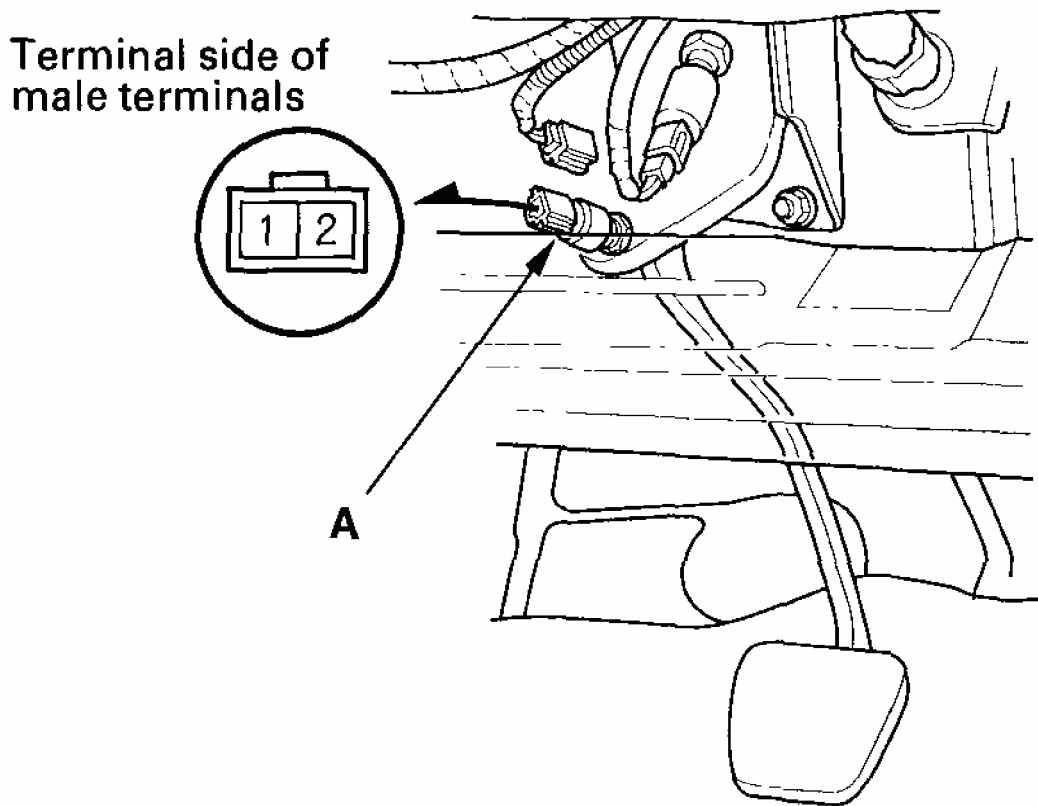
G03677064

Fig. 15: Checking That Actuator Cable Moves Smoothly
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Measure the amount of movement of the output linkage (B) until the engine speed starts to increase. At first, the output linkage should be located at the fully closed position (C). The free play (D) should be 3.75+/-0.5 mm (0.15+/-0.02 in.).
3. If the free play is not within specs, loosen the locknut (E), and turn the adjusting nut (F) until the free play is as specified, then retighten the locknut.

CLUTCH PEDAL POSITION SWITCH TEST

1. Disconnect the 2P connector from the clutch pedal position switch (A).




G03677065

Fig. 16: Disconnecting Connector From Clutch Pedal Position Switch
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the clutch pedal position switch.
3. Check for continuity between the terminals according to the table.
 - If the continuity is not as specified, replace the clutch pedal position switch.
 - If OK, install the clutch pedal position switch and adjust the pedal height (see **CLUTCH PEDAL, CLUTCH PEDAL POSITION SWITCH, A**).

2004 Honda Element DX

2003-06 ACCESSORIES & EQUIPMENT Cruise Control - Element

Terminal Clutch Pedal Position Switch	1	2
PRESSED		
RELEASED		

G03677066

Fig. 17: Terminal And Continuity Reference Chart
Courtesy of AMERICAN HONDA MOTOR CO., INC.