

2002 ACCESSORIES & EQUIPMENT

Cruise Control Systems - MDX

DESCRIPTION

WARNING: Deactivate air bag system before performing any service operation. See **DISABLING & ACTIVATING AIR BAG SYSTEM** in RESTRAINTS. DO NOT apply electrical power to any component on steering column without first deactivating air bag system. Air bag may deploy.

The cruise control system uses mechanically and electrically operated devices to maintain vehicle speed settings greater than 25 MPH. The cruise control unit receives command signals from cruise control main switch and cruise control SET/RESUME/CANCEL switch. It also receives operating signals from brake switch, Powertrain Control Module (PCM), and gear position switch (A/T).

The cruise control unit compares actual vehicle speed to vehicle speed setting and adjusts throttle to maintain set speed. When brake pedal is pressed, the brake switch releases system control of throttle. When clutch is disengaged, the clutch switch sends a disengage signal to the cruise control unit.

OPERATION

The cruise control system will automatically maintain any set speed greater than 25 MPH. To set, ensure cruise control main switch is on and cruise control indicator is illuminated, bring vehicle to desired speed, then press SET switch. Pressing SET switch sends a set signal to cruise control unit, which engages the cruise control actuator to maintain vehicle set speed. Pushing cruise control main switch off will cancel cruise control operation and erase vehicle speed setting from memory.

If system is disengaged temporarily by brake switch, clutch switch or gear position switch, pressing RESUME switch will automatically return vehicle to previously set speed. Holding RESUME switch will gradually increase vehicle speed, without having to depress accelerator pedal. This sends an acceleration signal to cruise control unit. When RESUME switch is released, system is reprogrammed for new set vehicle speed.

For gradual deceleration, without pressing brake pedal, push SET switch and hold switch until desired speed is reached. This sends a deceleration signal to cruise control unit. When desired speed is reached, release SET switch, and a new vehicle speed setting should be maintained.

COMPONENT LOCATIONS

COMPONENT LOCATIONS

Component	Location
Actuator Assembly	Right Side Of Engine Compartment
Brake Switch	On Bracket, Above Brake Pedal
Cruise Control Unit	Right Of Steering Column
Driver's Underdash Fuse/Relay Box	Behind Left Kick Panel

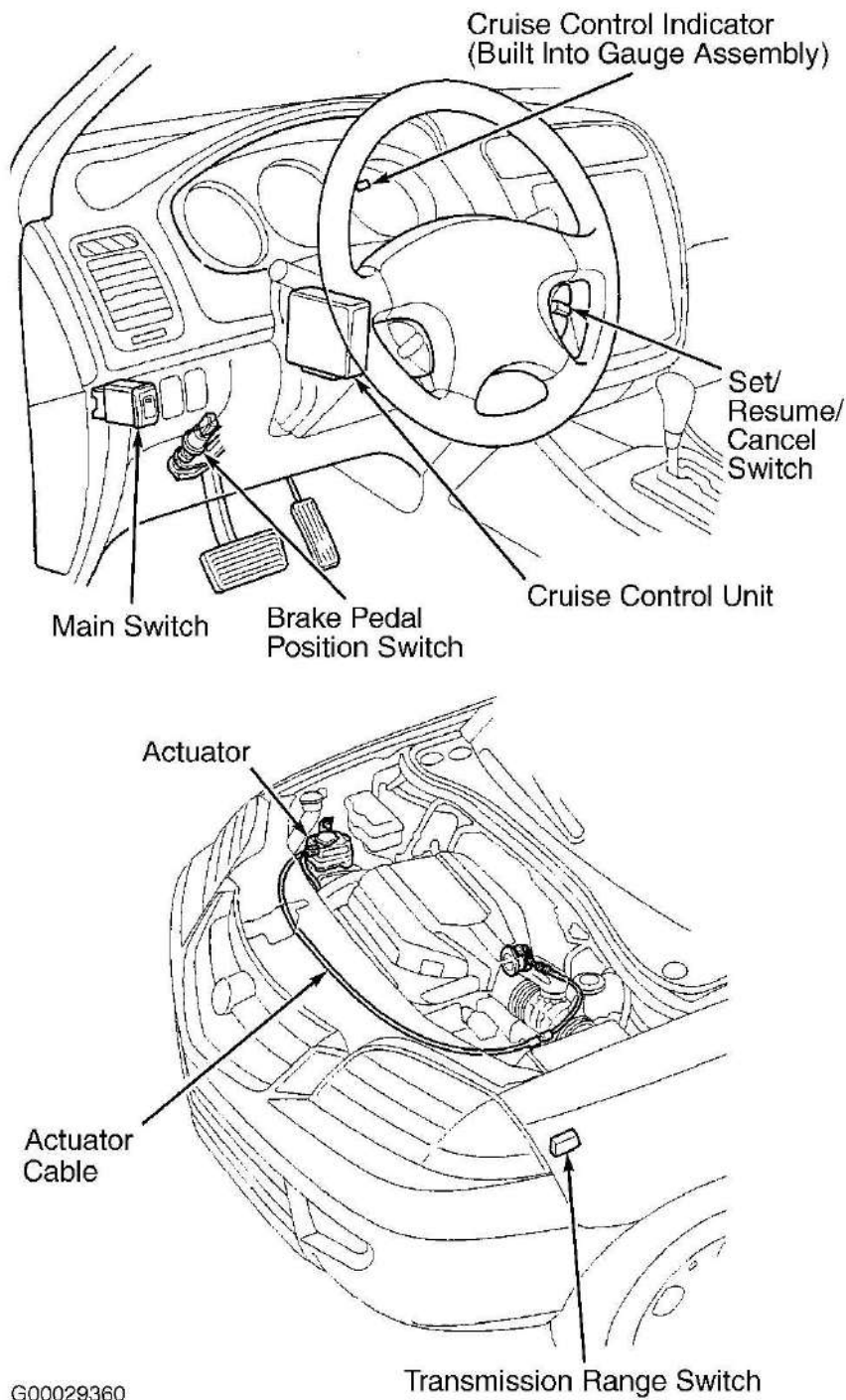
2002 Acura MDX

2002 ACCESSORIES & EQUIPMENT Cruise Control Systems - MDX

Gear Position Switch (A/T)	Mounted On Back Of Transaxle
Ground (G101)	Left Side Of Engine, By Thermostat Housing
Ground (G201)	Right Front Corner Of Engine Compartment
Ground (G401)	Behind Left Side Of Dashboard
Ground (G501)	Under Left Side Of Dashboard, Behind Fuse Block
Intermediate Connector C201 (16-Pin, Light Blue)	Under Right side Of Dashboard
Main Cruise Control Switch	Left Side Of Instrument Panel
Powertrain Control Module (PCM)	Under Center Of Dashboard
Set/Resume/Cancel Switch	On Steering Wheel
Underhood Fuse/Relay Box	Right Side Of Engine Compartment

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Fig. 1: Locating Cruise Control Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

ADJUSTMENTS

ACTUATOR CABLE

1. Ensure actuator cable operates smoothly without binding or sticking. Start engine. Turn cruise control main switch on. Run engine at 3000 RPM until radiator fan comes on, then let engine idle. Measure output linkage movement before cable pulls on accelerator lever (engine speed starts to increase). This is amount of actuator cable free play. See **Fig. 2**.
2. Actuator cable free play should be .13-.17" (3.25-4.25 mm). If free play is not as specified, loosen lock nut and turn adjusting nut as necessary. See **Fig. 2**. Tighten lock nut and recheck free play.

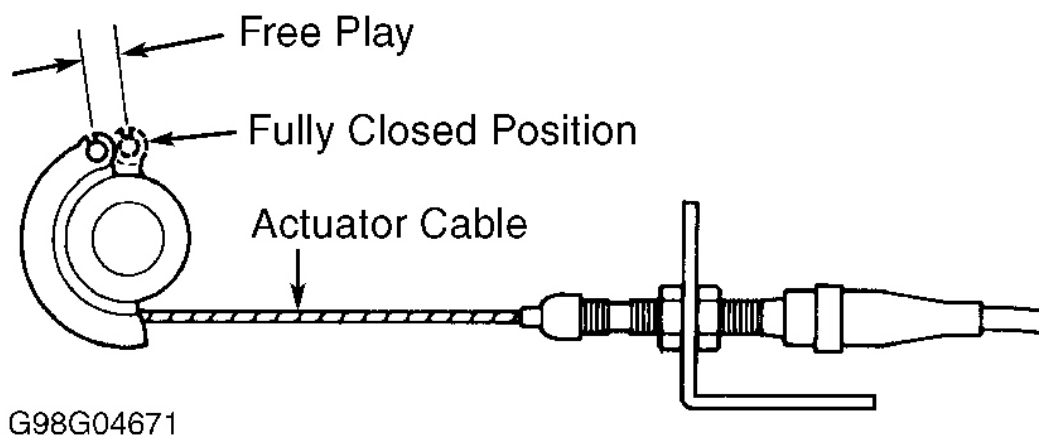


Fig. 2: Adjusting Cruise Control Actuator Cable Free Play
Courtesy of AMERICAN HONDA MOTOR CO., INC.

BRAKE PEDAL HEIGHT

1. Disconnect brake switch connector. Loosen brake switch lock nut, and back off brake switch until it no longer touches brake pedal. Pull back carpet at insulator cutout and measure distance between left center of brake pedal and floor. Loosen lock nut and adjust brake pedal height to 6.44" (164 mm). Tighten lock nut. See **Fig. 3**.
2. Screw in brake switch until plunger is fully depressed (threaded end touching pad on pedal arm). Back off switch 3/4 turn until clearance between threaded end of brake switch and pedal pad is .01" (.3 mm) and tighten lock nut. Ensure brakelights illuminate when brake pedal is depressed.

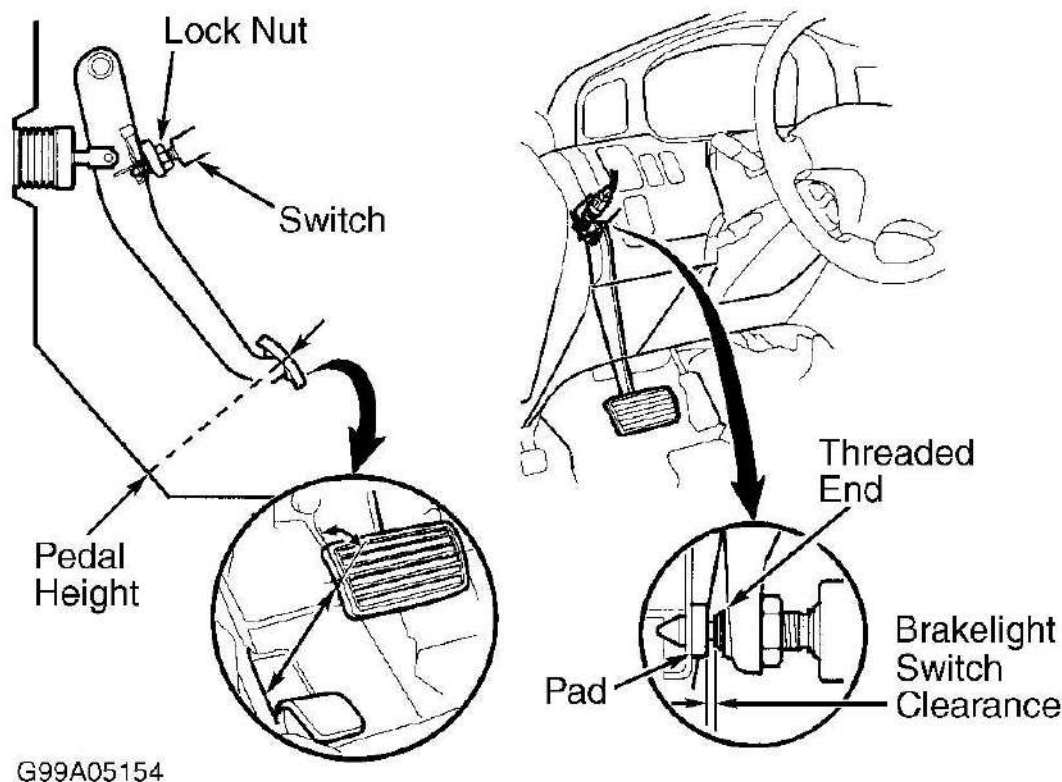


Fig. 3: Identifying Brake Pedal Height & Switch Clearances
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CABLE REEL CENTERING

For centering procedure, see **CABLE REEL CENTERING** in RESTRAINTS.

TROUBLE SHOOTING

PRELIMINARY CHECKS

Ensure speedometer operates properly. Check fuses No. 6 (15-amp) and No. 9 (10-amp), located in driver's underdash fuse/relay box. Check fuse No. 47 (20-amp), located in underhood fuse/relay box. Ensure horn operates properly. Ensure tachometer works properly. Ensure all connections are clean and tight. If problem exists, repair as necessary, then retest cruise control operation. If problem does not exist, go to appropriate symptom.

CRUISE CONTROL WILL NOT SET

1. Check for faulty cruise control main switch, SET/RESUME/CANCEL switch, brake switch and

mounting, gear position switch (A/T) or cruise control unit. See **CRUISE CONTROL MAIN SWITCH** , **SET/RESUME/CANCEL SWITCH** , **BRAKE SWITCH** or **CRUISE CONTROL UNIT INPUT TEST** .

2. Check for open in one or more of the following wires:

- Black/Yellow wire between driver's underdash fuse/relay box fuse No. 6 (15-amp), cruise control main switch or cruise control unit.
- Light Green wire between brake switch and cruise control main switch or cruise control unit.
- Light Green/Red wire between cable reel and cruise control unit.
- Gray wire between brake switch and cruise control unit.
- Light Blue wire between gear position switch and cruise control unit.
- Blue/White wire between PCM and cruise control unit.

See **WIRING DIAGRAMS** .

3. Check for faulty ground connections at G101 or G102. See **COMPONENT LOCATIONS** .

CRUISE CONTROL WILL SET, BUT INDICATOR LIGHT DOES NOT ILLUMINATE

Check for defective bulb in cruise control indicator. Check dimming circuit in gauges. See **INSTRUMENT PANELS** article. Check for faulty cruise control unit. See **CRUISE CONTROL UNIT INPUT TEST** under SYSTEM TESTS. Check for open in Yellow wire between underdash fuse No. 9 (10-amp) and gauge assembly. Check for open circuit in Blue/Black wire between cruise indicator light and cruise control unit. See **WIRING DIAGRAMS** . Check for poor ground connection at G501. See **COMPONENT LOCATIONS** .

CRUISE SPEED NOTICEABLY HIGHER OR LOWER THAN SET SPEED

Check for faulty cruise control unit. See **CRUISE CONTROL UNIT INPUT TEST** under SYSTEM TESTS.

EXCESSIVE HUNTING WHEN TRYING TO ACHIEVE SET SPEED

Check for incorrect actuator cable free play. See **ACTUATOR CABLE** under ADJUSTMENTS. Check for faulty cruise control unit. See **CRUISE CONTROL UNIT INPUT TEST** under SYSTEM TESTS.

SET SPEED WILL NOT HOLD, EVEN ON FLAT ROAD

Check for incorrect actuator cable free play. See **ACTUATOR CABLE** under ADJUSTMENTS. Check for faulty cruise control unit. See **CRUISE CONTROL UNIT INPUT TEST** under SYSTEM TESTS.

VEHICLE WILL NOT DECELERATE OR ACCELERATE WHEN SET OR RESUME BUTTON IS PUSHED

Check for faulty SET/RESUME/CANCEL switch. See **SET/RESUME/CANCEL SWITCH** under COMPONENT TESTS. Check for faulty cruise control unit. See **CRUISE CONTROL UNIT INPUT TEST** under SYSTEM TESTS. Check for open circuit in Light Green/Black wire or Light Green/Red wire between cable reel and cruise control unit. See **WIRING DIAGRAMS** .

SET SPEED WILL NOT CANCEL WHEN SHIFTER IS MOVED TO NEUTRAL (A/T)

Check for faulty gear position switch. See **GEAR POSITION SWITCH TEST** under COMPONENT TESTS. Check for faulty cruise control unit. See **CRUISE CONTROL UNIT INPUT TEST** under SYSTEM TESTS. Check for open circuit or short to ground in Light Blue wire between cruise control unit and gear position switch.

SET SPEED WILL NOT CANCEL WHEN BRAKE PEDAL IS PUSHED IN

Check for faulty brake switch. See **BRAKE SWITCH** under COMPONENT TESTS. Check for faulty cruise control unit. See **CRUISE CONTROL UNIT INPUT TEST** under SYSTEM TESTS. Check for open circuit in White/Black wire between brake switch and cruise control unit.

SET SPEED WILL NOT CANCEL WHEN CRUISE CONTROL MAIN SWITCH IS TURNED OFF

Check for faulty cruise control main switch. See **CRUISE CONTROL MAIN SWITCH** under COMPONENT TESTS. Check for faulty cruise control unit. See **CRUISE CONTROL UNIT INPUT TEST** under SYSTEM TESTS. Check for open circuit or short to power in Light Green wire between cruise control main switch and cruise control unit. See **WIRING DIAGRAMS** .

SET SPEED WILL NOT CANCEL WHEN CANCEL SWITCH IS PUSHED

Check for faulty SET/RESUME/CANCEL switch. See **SET/RESUME/CANCEL SWITCH** under COMPONENT TESTS. Check for faulty cruise control unit. See **CRUISE CONTROL UNIT INPUT TEST** under SYSTEM TESTS. Check for open circuit in Light Green/Black wire or Light Green/Red wire between cable reel and cruise control unit.

SET SPEED WILL NOT RESUME WHEN RESUME SWITCH IS PRESSED WITH CRUISE CONTROL MAIN SWITCH ON, BUT SET SPEED WILL TEMPORARILY CANCEL

Check for faulty SET/RESUME/CANCEL switch. See **SET/RESUME/CANCEL SWITCH** under COMPONENT TESTS. Check for faulty cruise control unit. See **CRUISE CONTROL UNIT INPUT TEST** under SYSTEM TESTS. Check for open circuit in Light Green/Black wire between cable reel and cruise control unit.

TRANSMISSION SHIFTS DOWN SLOWER THAN NORMAL WHEN GOING UP A HILL WITH CRUISE CONTROL ON

Check cruise control communication circuit. See **CRUISE CONTROL COMMUNICATION CIRCUIT** under SYSTEM TESTS.

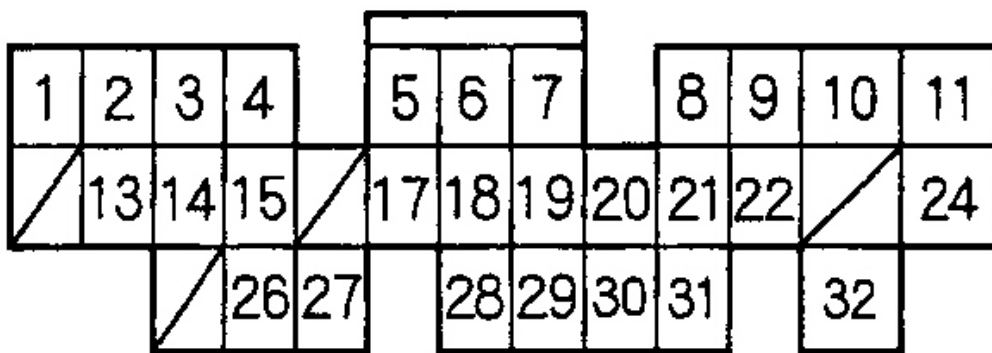
SYSTEM TESTS

WARNING: Deactivate air bag system before performing any service operation. See **DISABLING & ACTIVATING AIR BAG SYSTEM** article in RESTRAINTS. DO NOT apply electrical power to any component on steering column without

first deactivating air bag system. Air bag may deploy.

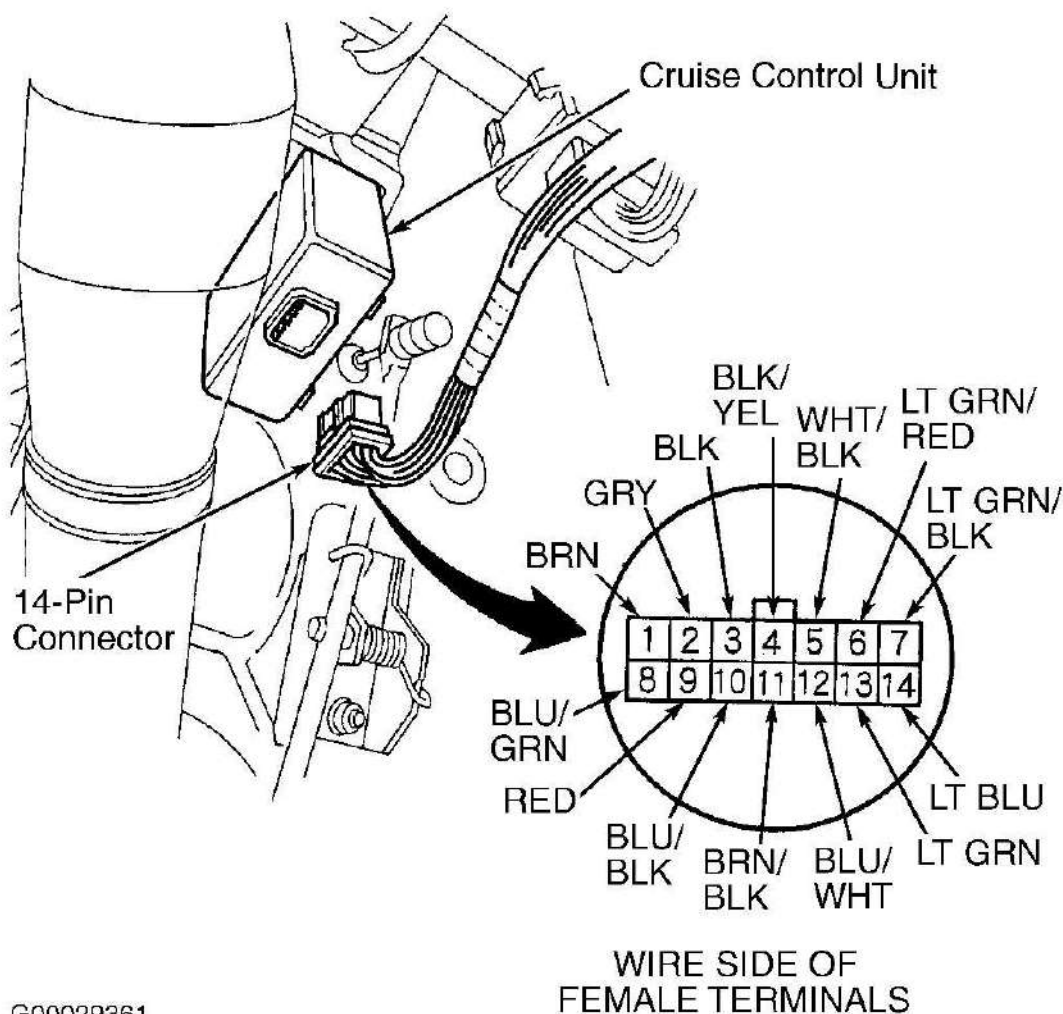
CRUISE CONTROL COMMUNICATION CIRCUIT

1. Start engine. Turn on cruise control main switch. Drive vehicle over 25 MPH and operate cruise control. If cruise control operates, go to next step. If cruise control does not operate, check cruise control unit or actuator. See **CRUISE CONTROL UNIT INPUT TEST** under SYSTEM TESTS.
2. Turn ignition off. Disconnect PCM 32-pin connector "A" and cruise control unit 14-pin connector. See **Fig. 4 -Fig. 5** . Using DVOM, check for continuity between ground and PCM 32-pin connector "A" terminal No. 5 (Blue/Green wire). If continuity exists, repair short to ground in Blue/Green wire. If continuity does not exist, go to next step.
3. Reconnect PCM 32-pin connector "A" and cruise control unit 14-pin connector. Using DVOM to backprobe, measure voltage between ground and cruise control unit connector terminal No. 8. See **Fig. 5** . Drive vehicle at more than 25 MPH with cruise control set. Voltage should be about one volt. If voltage is as specified, go to next step. If voltage is not as specified, replace cruise control unit.
4. Using DVOM to backprobe, measure voltage between ground and PCM 32-pin connector "A" terminal No. 5. See **Fig. 4** . Drive vehicle at speeds more than 25 MPH with cruise control set and check voltage. Voltage should be about one volt. If voltage is as specified, check connectors for loose, damaged or corroded terminals. If problem exists, repair connector. If problem does not exist, replace PCM and retest system. If voltage is not as specified, repair open or short in Blue/Green wire between PCM connector "A" and cruise control unit.



WIRE SIDE OF FEMALE TERMINALS

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Fig. 5: Identifying Cruise Control Unit Connector Terminals
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

CRUISE CONTROL UNIT INPUT TEST

1. Remove driver's side instrument panel lower cover and disconnect 14-pin connector from cruise control unit. See **Fig. 5** . Inspect connector and control unit for damaged, loose, or corroded terminals. Repair as necessary, then test cruise control operation. If connectors and terminals are okay, go to next step.
2. Turn ignition on. Check for battery voltage between ground and cruise control unit connector terminal No. 2 (Gray wire). See **Fig. 5** . When brake pedal is depressed, zero volts should exist. When brake pedal is released, battery voltage should exist. If voltage is as specified, go to next step. If voltage is not as specified, check for defective brake switch. See **BRAKE SWITCH** under COMPONENT TESTS. Check for open in Gray wire between brake switch and cruise control unit. See **WIRING DIAGRAMS** .
3. Ignition may be in any position. Check for continuity between ground and cruise control unit connector

terminal No. 3 (Black wire). See **Fig. 5** . If continuity exists, go to next step. If continuity does not exist, check for open in Black wire between cruise control unit and ground G401. See **COMPONENT LOCATIONS** .

4. Turn ignition on. Check voltage between ground and cruise control unit connector terminal No. 4 (Black/Yellow wire). If battery voltage exists, go to next step. If battery voltage does not exist, check for blown fuse No. 6 (15-amp), located in driver's underdash fuse/relay box, or open in Black/Yellow wire between fuse No. 6 and cruise control unit. See **WIRING DIAGRAMS** .
5. Check for battery voltage between ground and cruise control unit connector terminal No. 5 (White/Black wire). See **Fig. 5** . When brake pedal is depressed, battery voltage should exist. When brake pedal is released, zero volts should exist. If voltage is as specified, go to next step. If voltage is not as specified, check for defective brake switch, blown fuse No. 47 (20-amp), located in underhood fuse/relay box, or open in Black/Yellow wire between brake switch and cruise control unit.
6. While depressing SET and CANCEL buttons, check voltage between ground and cruise control unit connector terminal No. 6 (Light Green/Red wire). If battery voltage exists, go to next step. If battery voltage does not exist, check for blown fuse No. 47 (20-amp) located in underhood fuse/relay box, faulty horn relay, SET/RESUME/CANCEL switch, cable reel, or open in Light Green/Red wire between cable reel and cruise control unit. See **WIRING DIAGRAMS** .
7. While depressing RESUME and CANCEL buttons, check voltage between ground and cruise control unit connector terminal No. 7 (Light Green/Black wire). If battery voltage exists, go to next step. If battery voltage does not exist, check for blown fuse No. 47 (20-amp), located in underhood fuse/relay box, faulty horn relay, SET/RESUME/CANCEL switch, cable reel, or open in Light Green/Black wire between cable reel and cruise control unit.
8. Connect fused jumper wire between ground and cruise control harness connector terminal No. 11 (Brown/Black wire). Check operation of actuator motor by applying battery voltage to cruise control harness connector terminal No. 1 (Brown wire), then to terminal No. 9 (Red wire). See **Fig. 5** . If actuator motor runs and throttle moves when both circuits are tested, go to next step. If not, check for open circuits in Brown, Brown/Black or Red wires. See **WIRING DIAGRAMS** . Check ground G201. See **COMPONENT LOCATIONS** . Repair as necessary. If circuit is okay, replace defective actuator.
9. Turn ignition on. Connect a jumper wire between ground and cruise control harness connector terminal No. 10 (Blue/Black wire). If cruise indicator light comes on, go to next step. If cruise indicator light does not come on, check for blown fuse No. 9 (10-amp) located in underdash driver's fuse/relay box, blown indicator light bulb, or an open circuit in Blue/Black wire. See **WIRING DIAGRAMS** . Check for defective dimming circuit in instrument cluster. See **INSTRUMENT PANELS** article.
10. Using DVOM, backprobing, connect positive lead to cruise control unit terminal No. 12 (Blue/White wire). Connect DVOM negative lead to cruise control unit terminal No. 3 (Black wire). See **Fig. 5** . Raise front of vehicle. Turn ignition on. Slowly rotate one wheel while blocking the other. Voltage should repeatedly fluctuate between zero volts and about 5 volts. If voltage is as specified, go to next step. If voltage is not as specified, check for an open circuit in Blue/White wire between PCM and cruise control unit. If circuit is okay, replace PCM.

NOTE: Before replacing PCM, check if DTC P0720 is stored in PCM. If DTC P0720 is stored, see **DTC P0720 (COUNTERSHAFT SPEED SENSOR)** under **VEHICLE SPEED SENSOR SIGNAL** under **SYSTEM TESTS**.

11. Turn ignition switch and cruise control main switch on. Check voltage between ground and cruise control

unit terminal No. 13 (Light Green wire). If battery voltage exists, go to next step. If battery voltage does not exist, check for blown fuse No. 6 (15-amp), located in driver's underdash fuse/relay box, faulty cruise control main switch, or an open in Light Green wire between cruise control main switch and cruise control unit. See **WIRING DIAGRAMS** .

12. Turn ignition off. Check continuity between ground and cruise control unit terminal No. 14 (Light Blue wire) while moving shift lever to D3, D4 and D5 positions. If continuity exists in each specified position, go to next step. If continuity does not exist in each specified position, check for defective A/T gear position switch. See **GEAR POSITION SWITCH TEST** . Check for open in Light Blue wire between gear position switch and cruise control unit, or poor ground G101. See **COMPONENT LOCATIONS** .
13. Reconnect cruise control unit connector. Start engine and turn cruise control main switch on. Backprobing, connect DVOM between ground and cruise control unit terminal No. 8 (Blue/Green wire). See **Fig. 5** . Drive vehicle at least 25 MPH (40 km/h), set cruise control and check voltage. Voltage should be about one volt. If voltage is as specified, go to next step. If voltage is not as specified, check for short to ground in Blue/Green wire between cruise control unit and PCM. Repair as necessary. If Blue/Green wire is okay, replace cruise control unit.
14. If any problems were found in previous steps, repair and retest system. If no problems were found, replace cruise control unit.

VEHICLE SPEED SENSOR SIGNAL

NOTE: Countershaft speed sensor is used to generate vehicle speed sensor signal. A vehicle speed sensor is NOT used.

Preliminary Test

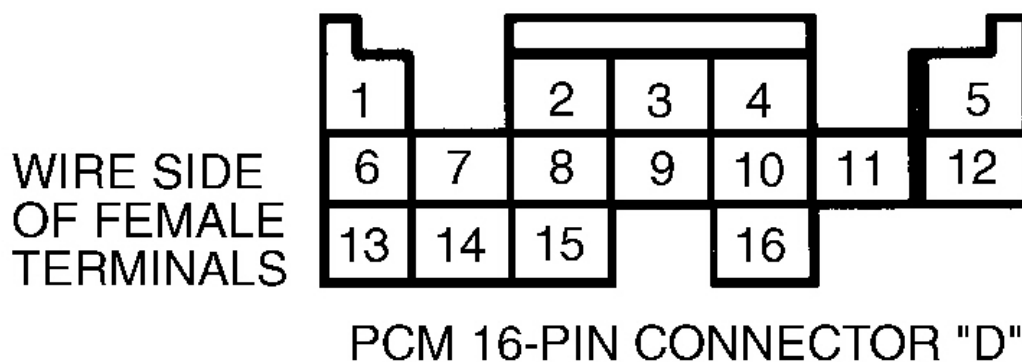
Check if DTC P0720 is present. If DTC P0720 is present, diagnose and repair countershaft speed sensor circuit. See **DTC P0720 (COUNTERSHAFT SPEED SENSOR)** . If DTC P0720 is not present, diagnose and repair vehicle speed signal circuit. See **VEHICLE SPEED SIGNAL CIRCUIT** .

DTC P0720 (Countershaft Speed Sensor)

1. Using Honda PGM tester or OBD-II compliant scan tool connected to Data Link Connector 3 (DLC3), retrieve Diagnostic Trouble Codes (DTCs). If any MAP sensor codes are stored (P0107, P0108, P1128 or P1129), go to appropriate diagnostic test procedure in SELF-DIAGNOSTICS - MDX article before attempting to check speed sensor circuit. If no MAP sensor DTCs are stored, go to next step.
2. Turn ignition off. Locate countershaft speed sensor on top of transaxle. Disconnect speed sensor 3-pin harness connector. Turn ignition on. Using DVOM, measure voltage between ground and speed sensor harness connector terminal No. 1 (Yellow/Red wire). If voltage reading is about 5 volts, go to next step. If voltage reading is not about 5 volts, go to step 5 .
3. Turn ignition off. Disconnect PCM 16-pin connector "D". See **Fig. 6** . Using DVOM, check for continuity between ground and countershaft speed sensor harness connector terminal No. 2 (Blue wire). If continuity exists, repair short to ground in Blue wire between countershaft speed sensor and PCM. See **WIRING DIAGRAMS** . If continuity does not exist, go to next step.
4. Reconnect PCM 16-pin connector "D". Using DVOM, check for continuity between ground and countershaft speed sensor harness connector terminal No. 3 (Green wire). If continuity exists, go to next

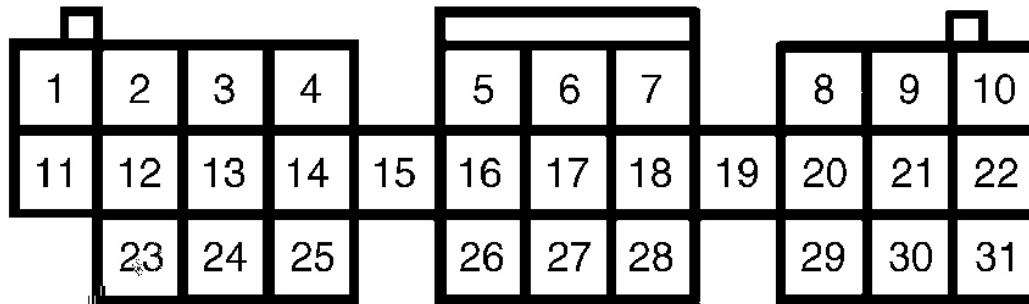
step. If continuity does not exist, repair open in Green wire between countershaft speed sensor and PCM. See **WIRING DIAGRAMS** .

5. Turn ignition on. Using DVOM, measure voltage between countershaft speed sensor harness connector terminals No. 2 (Blue wire) and No. 3 (Green wire). If voltage reading is about 5 volts, go to step 8 . If voltage reading is not about 5 volts, go to next step.
6. Backprobing, measure voltage between PCM 16-pin connector "D" terminals No. 10 (Blue wire) and No. 16 (Green wire). See **Fig. 6** . If voltage reading is about 5 volts, repair open in Blue wire between countershaft speed sensor and PCM. See **WIRING DIAGRAMS** . If voltage is not about 5 volts, check for poor connections at PCM. Repair as necessary. If all connections are okay, replace PCM and retest system.
7. Backprobing, measure voltage between PCM 31-pin connector "C" terminal No. 19 (Yellow/Red wire) and ground. See **Fig. 7** . If voltage reading is 4.75-5.25 volts, repair open circuit in Yellow/Red wire between PCM and speed sensor. If voltage is not 4.75-5.25 volts, check for poor connections at PCM. Repair as necessary. If all connections are okay, replace PCM and retest system.
8. Reconnect countershaft speed sensor harness connector. Backprobing, measure voltage between PCM 16-pin connector "D" terminals No. 10 (Blue wire) and No. 16 (Green wire). See **Fig. 6** . If voltage reading is about 0-5 volts, go to next step. If voltage is not about 0-5 volts, replace countershaft speed sensor.
9. Raise and support vehicle. Start engine and shift transmission to D5 position. Allow wheels to turn. Backprobing, measure voltage between PCM 16-pin connector "D" terminals No. 10 (Blue wire) and No. 16 (Green wire). If voltage reading is about 1.5-3.5 volts, check for poor connections at PCM. Repair as necessary. If all connections are okay, replace PCM and retest system. If voltage is not about 1.5-3.5 volts, replace countershaft speed sensor.



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Fig. 6: Identifying Powertrain Control Module (PCM) Connector "D" Terminals
 Courtesy of AMERICAN HONDA MOTOR CO., INC.



WIRE SIDE OF FEMALE TERMINALS

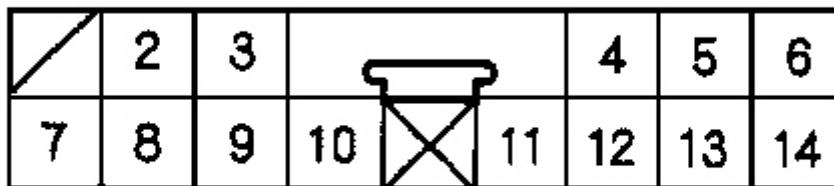
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Fig. 7: Identifying Powertrain Control Module (PCM) Connector "C" Terminals
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Vehicle Speed Signal Circuit

1. Check fuse No. 9 (10-amp) located in driver's underdash fuse/relay box. If fuse is blown, locate and repair problem in wiring or components connected to fuse No. 9, then retest cruise control operation. See **POWER DISTRIBUTION** article in WIRING DIAGRAMS. If problem does not exist, go to next step.
2. Remove instrument panel cluster. See **REMOVAL & INSTALLATION** in INSTRUMENT PANELS - MDX article. Using DVOM, check for continuity between ground and instrument panel cluster harness connector "C" terminals No. 9 and 10 (Black wires). See **Fig. 8** . If either circuit does not have continuity to ground, locate and repair open in Black wire between instrument panel cluster and ground G501. See **COMPONENT LOCATIONS** . If both circuits have continuity to ground, go to next step.
3. Disconnect instrument panel cluster harness connector "C". Raise and support vehicle. Put vehicle in neutral. Backprobing, connect positive probe of DVOM to instrument panel cluster harness connector "C" terminal No. 2 (Blue/White wire). See **Fig. 8** . Connect negative probe of DVOM to ground. Turn ignition on. Go to next step.
4. Block one wheel and slowly rotate other wheel over 3 MPH. As wheel is rotated, voltage should repeatedly pulse from zero volts to about 5 volts. If voltage pulses as specified, replace instrument panel cluster. See **REMOVAL & INSTALLATION** in INSTRUMENT PANELS article. If voltage pulses are not as specified, go to next step.
5. Turn ignition off. Backprobing, connect positive probe of DVOM to PCM 32-pin connector "A" terminal No. 9 (Blue/White wire). See **Fig. 4** . Connect negative probe of DVOM to ground. Turn ignition on. Block one wheel and slowly rotate other wheel over 3 MPH. As wheel is rotated, voltage should repeatedly pulse from zero volts to about 5 volts. If voltage pulses as specified, repair open circuit in Blue/White wire between PCM and instrument panel cluster. See **WIRING DIAGRAMS** . If voltage pulses are not as specified, go to next step.
6. Disconnect PCM 32-pin connector "A". Check continuity between ground and PCM connector "A" terminal No. 9 (Blue/White wire). If continuity exists, repair short to ground in Blue/White wire between

PCM, instrument panel cluster, driver's multiplex control unit or cruise control unit. See **WIRING DIAGRAMS** . If continuity does not exist, check connectors for loose, damaged or corroded terminals. If problem exists, repair connector. If problem does not exist, replace PCM with known-good PCM and retest system.



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Fig. 8: Identifying Instrument Panel Cluster Connector "C" Terminals
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

COMPONENT TESTS

WARNING: Deactivate air bag system before performing any service operation. See **DISABLING & ACTIVATING AIR BAG SYSTEM** in RESTRAINTS. DO NOT apply electrical power to any component on steering column without first deactivating air bag system. Air bag may deploy.

NOTE: On models with radio theft protection system, obtain radio security code from vehicle owner, before disconnecting battery cable.

BRAKE SWITCH

Disconnect 4-pin connector from brake switch. Ensure continuity exists between specified brake switch terminals. See **BRAKE SWITCH CONTINUITY TEST** . See **Fig. 9** . If continuity is not as specified, replace brake switch.

BRAKE SWITCH CONTINUITY TEST

Switch Position	Continuity Between Terminals No.
Depressed	2 & 3
Released	1 & 4

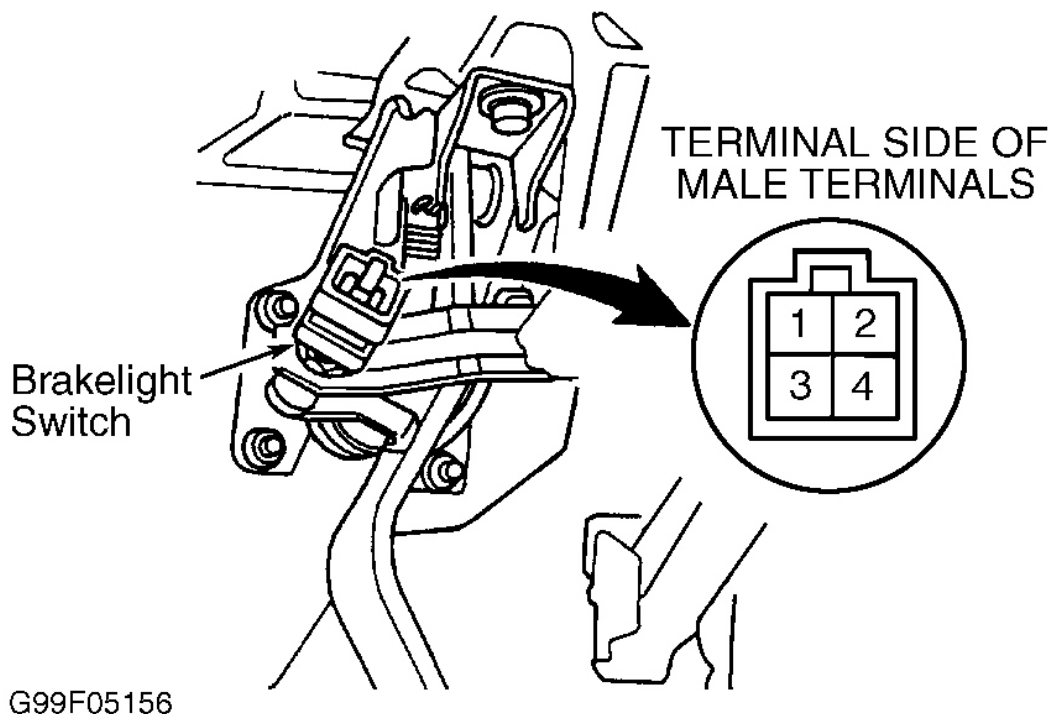
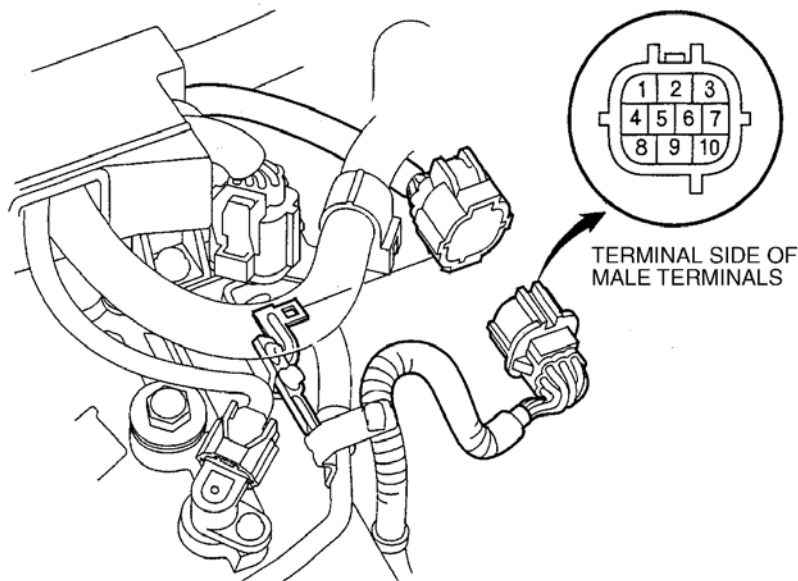


Fig. 9: Identifying Brake Switch Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

GEAR POSITION SWITCH TEST

Remove A/T gear position switch connector from bracket, located under hood, above transaxle. Disconnect gear position switch 10-pin connector. See **Fig. 10** . Place gear position switch in each position and check continuity between specified gear position switch terminals. Continuity should only exist between specified terminals when gear position switch is in corresponding gear. If continuity is not as specified, replace gear position switch.



Transmission Range Switch Continuity Check

Terminal Position	1	2	3	4	5	6	7	8	9	10
P	○		○							○
R			○						○	
N	○		○					○		
D ₅		○	○				○			
D ₄		○	○			○				
D ₃		○	○		○					
2 & 1			○	○						

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Fig. 10: Testing A/T Gear Position Switch
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CRUISE CONTROL MAIN SWITCH

Turn ignition off. Carefully pry cruise control main switch out of instrument panel. Disconnect cruise control main switch 5-pin connector. Check for continuity between specified cruise control main switch terminals. See **CRUISE CONTROL MAIN SWITCH CONTINUITY TEST** table. See Fig. 11 . If continuity is not as specified, replace cruise control main switch.

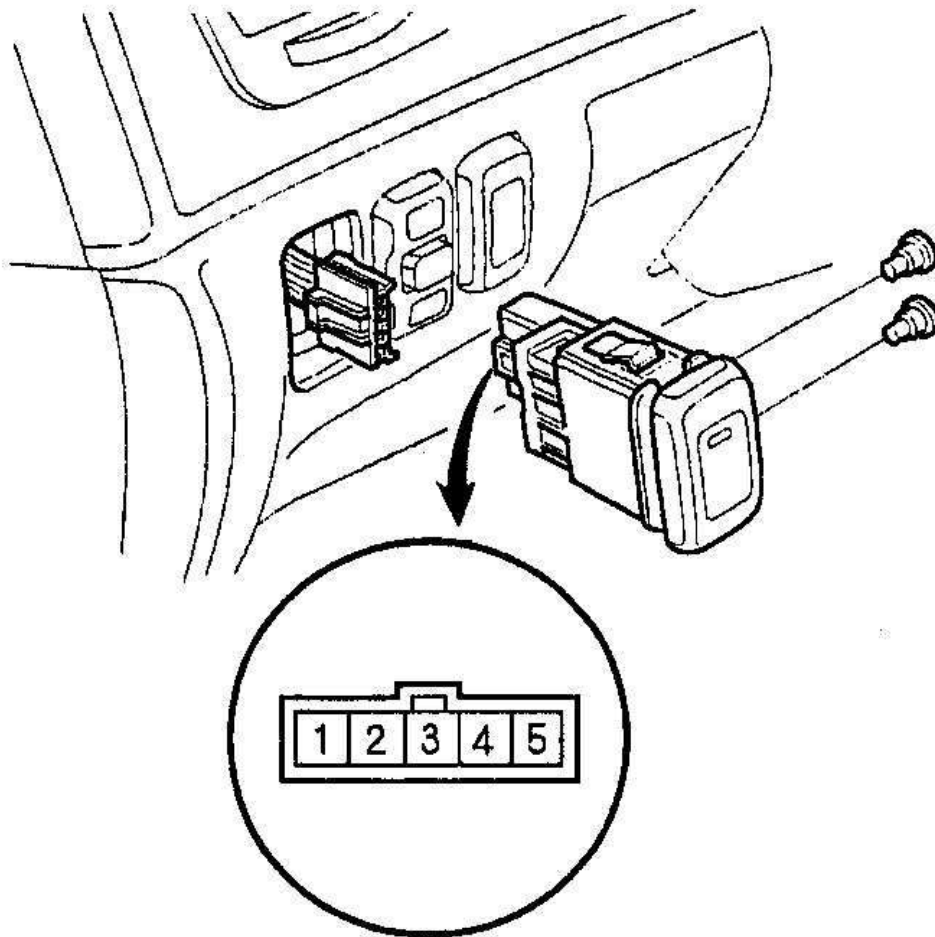
CRUISE CONTROL MAIN SWITCH CONTINUITY TEST

Switch Position	Continuity Between Terminals No.

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OFF	1 & 2; 4 & 5
ON	1, 2 & 3; 4 & 5



TERMINAL SIDE OF
MALE TERMINALS

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Fig. 11: Identifying Cruise Control Main Switch Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

SET/RESUME/CANCEL SWITCH

1. Deactivate air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** in RESTRAINTS. Remove 2 SET/RESUME/CANCEL switch screws. Disconnect 4-pin harness connector. See **Fig. 12** . Go

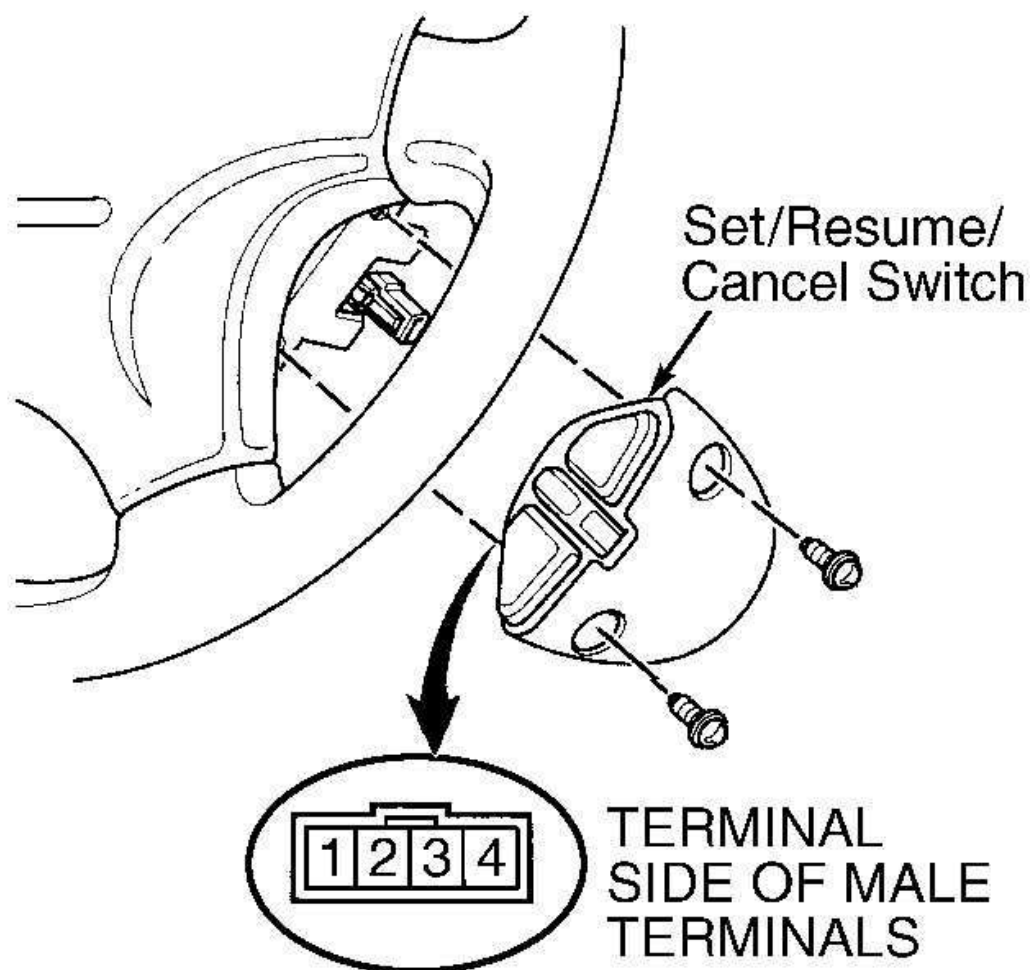
2002 Acura MDX

2002 ACCESSORIES & EQUIPMENT Cruise Control Systems - MDX

to next step.

2. Place SET/RESUME/CANCEL switch in each position and ensure continuity exists only between indicated cable reel connector terminals (component side):
 - With SET switch depressed, continuity should exist between terminals No. 2 and 4.
 - With RESUME switch depressed, continuity should exist between terminals No. 2 and 3.
 - With CANCEL switch depressed, continuity should exist between terminal No. 2 (positive lead of DVOM) and terminal No. 3 (negative lead), and between terminal No. 2 (positive lead) and terminal No. 4 (negative lead).

If continuity exists as specified, SET/RESUME/CANCEL switch is okay. If continuity does not exist as specified, replace SET/RESUME/CANCEL switch.



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Fig. 12: Identifying SET/RESUME/CANCEL Switch Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

REMOVAL & INSTALLATION

WARNING: Deactivate air bag system before performing any service operation. See DISABLING & ACTIVATING AIR BAG SYSTEM in RESTRAINTS. DO NOT apply electrical power to any component on steering column without first deactivating air bag system. Air bag may deploy.

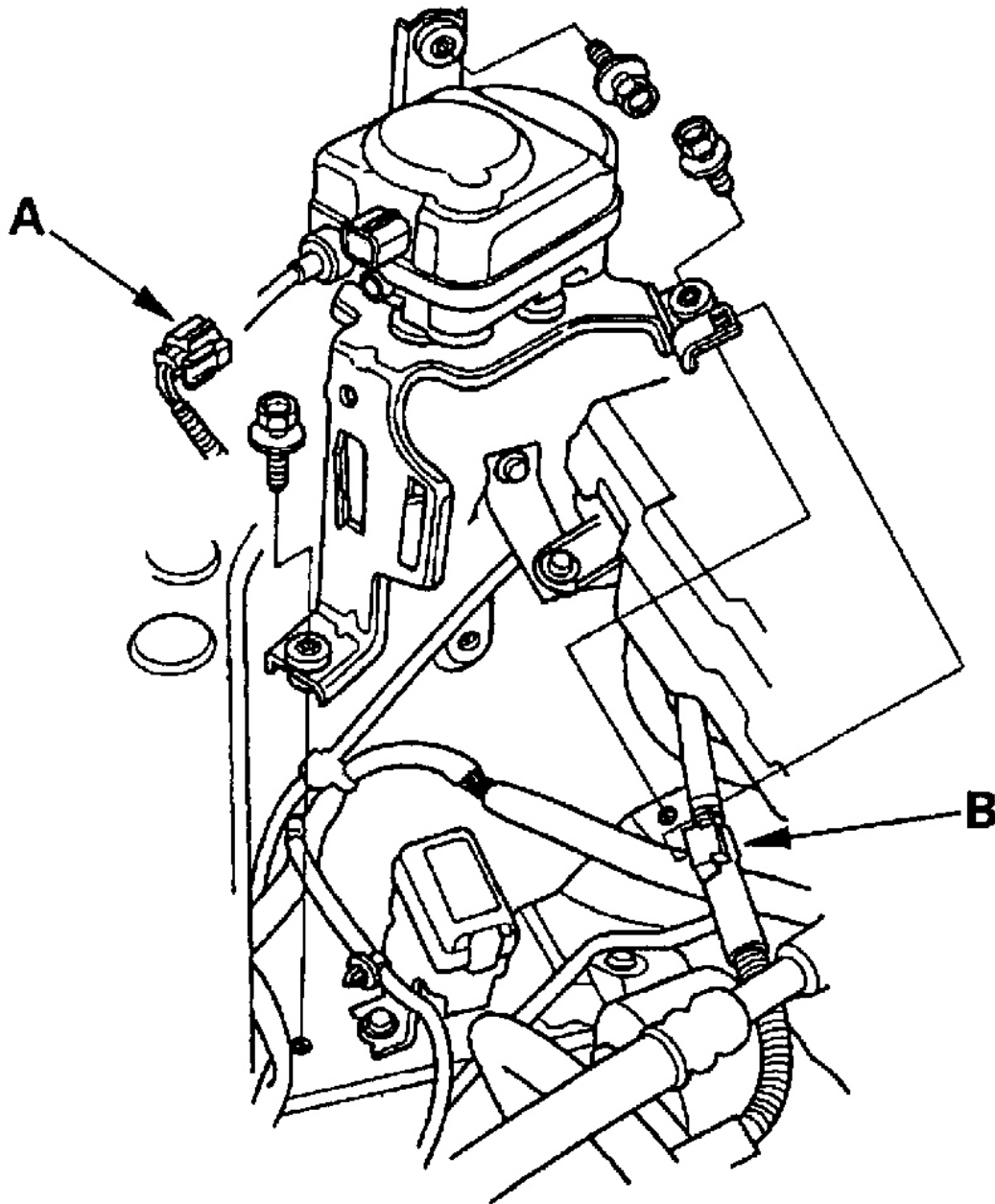
NOTE: Some models are equipped with radio theft protection system. Obtain vehicle

security code before disconnecting battery cable.

ACTUATOR/CABLE

Removal & Installation

Remove intake manifold cover. Loosen lock nut on cable. Disconnect the actuator cable from the throttle linkage. Disconnect the 4P connector (A) and harness clamp (B) from actuator assembly. See **Fig. 13** . Remove three mounting bolts and remove actuator assembly. Remove actuator from mounting bracket. To install, reverse removal procedure. When installing cable adjust the free play at the throttle linkage. See **ACTUATOR CABLE** in ADJUSTMENTS.



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Fig. 13: Removing Actuator/Cable
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CABLE REEL

Removal & Installation

For removal and installation procedure, see **AIR BAG RESTRAINT SYSTEMS** article.

CRUISE CONTROL UNIT

Removal & Installation

Turn ignition off. Disconnect negative battery cable. Remove driver's side instrument panel lower cover. Disconnect cruise control unit connector. See **COMPONENT LOCATIONS** . Remove control unit. To install, reverse removal procedure.

CRUISE CONTROL MAIN SWITCH

Removal & Installation

Carefully pry cruise control main switch assembly from instrument panel. Disconnect harness connector. Remove cruise control main switch. To install, reverse removal procedure.

SET/RESUME/CANCEL SWITCH

Removal & Installation

Disconnect driver's and passenger's air bag connectors. See **DISABLING & ACTIVATING AIR BAG SYSTEM** in RESTRAINTS. Carefully pry cover from side of SET/RESUME/CANCEL switch. Remove 2 screws attaching switch to steering wheel. See **Fig. 12** . Remove SET/RESUME/CANCEL switch from steering wheel. To install, reverse removal procedure.

WIRING DIAGRAMS

For wiring, see **CRUISE CONTROL** in SYSTEM WIRING DIAGRAMS article in ELECTRICAL.