2004 CHEVROLET AVEO
AUTOMATIC TRANSMISSION ONLY
(REQUIRES 250-4371 ADAPTER FOR MANUAL TRANSMISSION)

CRUISE CONTROL INSTALLATION INSTRUCTIONS
PART NO. 250-1753

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<th>ITEM</th>
<th>QUANTITY</th>
<th>SERVICE NUMBER</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>1</td>
<td>A 1</td>
<td>250-2606</td>
<td>Module/Harness Assembly</td>
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<tr>
<td></td>
<td>A 2</td>
<td>**</td>
<td>Cable Screws/Gasket</td>
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<tr>
<td>2</td>
<td>A 1</td>
<td>250-2607</td>
<td>Cable Assembly</td>
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<tr>
<td></td>
<td>B 1</td>
<td>250-2608</td>
<td>Cable Bracket</td>
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<tr>
<td></td>
<td>C 1</td>
<td>250-2609</td>
<td>Throttle Lever Bracket</td>
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<tr>
<td></td>
<td>D 2</td>
<td>**</td>
<td>Cotter Pin</td>
</tr>
<tr>
<td></td>
<td>D 2</td>
<td>**</td>
<td>Washer-Plain #10</td>
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<td>A 1</td>
<td>250-2610</td>
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<tr>
<td></td>
<td>A 1</td>
<td>**</td>
<td>6 mm Bolt</td>
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<td>A 1</td>
<td>250-3717</td>
<td>Control Switch Assembly</td>
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<td></td>
<td>B 1</td>
<td>***</td>
<td>Nut-hex 3/8&quot;-24 thin</td>
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<tr>
<td></td>
<td>C 1</td>
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<td>Connector-Female 2 pin</td>
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<td>D 1</td>
<td>***</td>
<td>Connector-Female 4 pin</td>
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<tr>
<td></td>
<td>E 2</td>
<td>***</td>
<td>Lockwasher-3/8&quot; internal</td>
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<tr>
<td></td>
<td>E 2</td>
<td>***</td>
<td>Wedge-17.5 degrees</td>
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<td>1</td>
<td>250-2611</td>
<td>Harness Assembly</td>
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<td>250-2612</td>
<td>Hardware Package: M8-1 Bolt, M6-1 Bolt,</td>
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<td></td>
<td></td>
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<td>Female T-Tap (3), Tie Straps (10), Putty</td>
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**Diagram:**

1. Module/Harness Assembly
2. Cable Assembly
3. Module Bracket
4. Harness Assembly
5. Control Switch Assembly
6. Hardware Package: M8-1 Bolt, M6-1 Bolt, Female T-Tap (3), Tie Straps (10), Putty
1. BEFORE STARTING INSTALLATION:
   Familiarize yourself with the Installation Instructions and Cruise Control components.

2. MATING CONNECTORS:
   A. When disconnecting connectors, hold connector and press the lock downward while pulling connectors apart. **Figure 1**

   **CAUTION: DO NOT PULL ON WIRES**

   B. When connecting mating connectors, push connectors together until locking mechanisms are firmly locked together. **Figure 2**

3. ANTI-THEFT RADIO:
   If vehicle is equipped with an Anti-Theft Radio, the radio code must be written down prior to disconnecting battery cable. The code must be reentered when the negative battery cable is reinstalled.

4. REMOVAL OF NEGATIVE BATTERY CABLE:
   Remove the negative battery cable before installing the Cruise Control components for safety precautions. **Figure 3**

5. FEMALE T-TAP CONNECTOR:
   When installing female T-Tap Connectors, ensure wire is inside groove of the female T-Tap Connector before closing on wire with pliers. **Figure 4**
**INSTALLATION**

**STEP 1: VEHICLE PREPARATION**

*Location: Driver’s Side Engine Compartment.*

1. **Disconnect negative side of battery** *(as illustrated in hints).* Remove the plastic cover over positive terminal and disconnect positive side of the battery. *Figure 6*

2. **Remove** *(2)* two **10mm** bolts securing fuse box and *(1)* one **10mm** bolt securing power steering fluid reservoir to battery tray. *Figure 6*

3. **Loosen** *(2)* two **10mm** nuts retaining the battery placement bar and remove. Remove battery. **Remove** *(4)* **12mm** bolts from battery tray and remove tray from vehicle. *Figure 7*

**STEP 2: WIRE HARNESS ROUTING**

1. **Place Cruise Control Module Assembly** in the approximate location for mounting *(two threaded holes of battery tray)* and route cable and harness toward firewall. *Figure 8*

2. **Remove** *(2)* two **10mm** nuts securing the radiator surge tank and pull away from firewall to access firewall grommet located behind it. *Figure 9*

3. **Route cruise control harness toward firewall access hole along factory vehicle harness.**

*For ABS equipped vehicle,* **route Cruise Control Module Harness** harness beneath brake pressure module along factory wiring harness. *Figure 10*
STEP 2: WIRE HARNESS ROUTING cont.

**Location:** Driver’s Side Fenderwell Access.

4. Route Cruise Control Harness under battery tray along factory harness toward driver side fender well access. **Figure 10.** Secure Module Harness with Cable Tie to factory wire harness (once installed).

5. Mount Black Cruise Control Ground Wire to factory ground point as illustrated in **Figure 10**

6. Remove Fenderwell panel and route cruise harness along factory harness to access the passenger compartment. **Figures 11A & 11B.**

7. From inside the passenger compartment, seal Cruise Main Harness and SLIT in grommet with Sealing Putty provided in kit.

STEP 3: MODULE MOUNTING

**Location:** Driver’s Side Engine Compartment.

1. Reinstall battery tray while aligning mounting holes on Cruise Control Module Bracket with those in battery tray. **Figures 8 & 12**

   Install (2) two 12mm bolts securing cruise control in place. **Figure 12**

2. Install remaining (2) two 12mm bolts in battery tray. **Figure 12**

STEP 4: CABLE ROUTING

**Location:** Engine Compartment

1. Route Cable Assembly from Module Assembly, behind power steering fluid reservoir and towards vehicle’s throttle area. **Figure 13**

2. Also, secure Cable Assembly with Cable Ties to factory cable. **Figure 13**

NOTE: KEEP CABLE CLEAR OF SHARP, HOT OR MOVING OBJECTS
STEP 5: THROTTLE ATTACHMENT

**Location:** Engine Throttle Shaft Area

1. **Mount Cruise Control Cable Bracket** in the threaded hole on intake manifold utilizing (1) 10mm bolt supplied in kit. **Do Not Overtighten.** *Figure 14*

2. **Place Throttle Bracket** over vehicle throttle body and rotate clockwise into place ensuring that legs bend around the backside of the throttle body. *Figure 15*

3. **Insert #4-40 Socket Head Cap Screw** included in kit into threaded hole of throttle bracket and fully seat along top edge of throttle body with ¼” Hex Wrench to prevent bracket roll-back. *Figure 16*

4. After assembly is secured, make sure the **Cable Assembly** is not holding the throttle open in any way. There should be 0.06-0.10” slack between in Cruise Control Cable play.

**STEP 6A: HARNESS CONNECTIONS**

**Location:** Passenger Compartment, Access Hardware: Mating Connectors

1. Locate firewall access grommet from passenger compartment and pull Cruise Control Module Harness Connectors inside vehicle. *Figure 16*

2. Locate **NSS (Light Green Wire)** and **TACH (Dark Blue Wire)** circuit terminals that are taped in harness. *Figure 17*

   **Automatic Transmission:** Install **Light Green NSS Wire** in empty cavity of Cruise Harness Connector.

   **Manual Transmission:** Install **Dark Blue TACH Wire** in empty cavity of cruise harness connector.

3. Connect Mating Cruise Control Connectors. *Figure 17*
STEP 6B: BRAKE SWITCH CONNECTION

**LOCATION:** Brake Pedal Assembly  
**HARDWARE:** Mating Connectors

1. Disconnect vehicle brake switch harness from brake switch. *Figure 18*

2. Connect mating connectors of Cruise Main Harness Assembly to the vehicle brake switch and harness. *Figure 18*

3. Route Harness Assemblies so that they do not interfere with any moving components.

STEP 6C: ECU CONNECTIONS *Figure 19*

**LOCATION:** Driver’s Side Firewall, Cockpit  
**HARDWARE:** (3) Female T-Tap connectors (Red)

1. Locate the vehicle computer located inside the passenger’s compartment, on the Driver’s Side, along the firewall just above the control pedals.

2. **Ignition Power:** Locate Ignition Power Wire in White 24 Pin Connector, Position #6, Pink Wire and install Red T-Tap. Connect the Brown Wire from Cruise Harness to T-Tap previously installed.

3. **NSS Connections:**
   - **For Automatic Transmission Vehicles:** Locate NSS Wire in White 26 Pin Connector, Position #7, White Wire and install Red T-Tap. Connect the Dark Blue Wire from Cruise Harness to T-Tap previously installed.
   - **VSS Connection:** Locate Vehicle Speed Signal Wire in White 26 Pin Connector, Position #25, Green/White Wire and install Red T-Tap. Connect the Gray Wire from Cruise Harness to T-Tap previously installed.

5. Secure all wires under dash with Cable Ties.
**INSTALLATION**

**STEP 7: CONTROL SWITCH**

*Location: Left Side Lower Steering Column Cover*

1. **Remove lower steering column cover.** *Figure 20*

2. **Using the Lever Wedge as an angle template,** drill **9.5mm (3/8") hole in lower shroud as shown in Figure 20.**

3. **Ensure Lever Wedges are assembled as shown in Figure 21.** To prevent the cruise control switch from rotating and creating a more positive lock when mounting, position the Lockwashers as shown in Figure 21. Start nut and position lettering for driver’s best view. Fully secure nut at 22-25 in lbs. **Do not overtighten.**

4. **Route Control Switch Wire Harness so there is no interference with any moving parts.** Operate tilt column if equipped. Secure steering column shroud.

5. **Ensure that the switch can be seen during normal driving seating positioning.** *Figure 22*

**CONTROL SWITCH CONNECTION TO MODULE ASSEMBLY HARNESS**

6. **Install 4-pin connector on Red, Brown, Green, and Yellow wires.** Install 2-pin connector on to Blue and Black wires of switch harness. *Figure 23*

*NOTE: The mating connector to this 4-pin connector will have a Red wire mating to the Brown wire, all other colors should match.*

Connect 4-pin and 2-pin connectors to **Module Assembly Harness.** Ensure that all pins lock into connector.

7. **Secure Module Assembly Harness with Cable Ties to prevent harness from coming into contact with hot, sharp or moving objects.**

**STEP 8: REASSEMBLY**

1. **Reconnect Negative Battery Cable and torque to 35 in lbs.** *Figure 3*

2. If equipped with anti-theft Radio, reenter the code and pre-recorded stations

*Figure 23*
Connect to NEUTRAL SAFETY FOR AUTOMATIC TRANSMISSION and Connect to TACH FOR MANUAL TRANSMISSION VEHICLE.


Tape securing the Light Green and Dark Blue Wires with the Un-installed Terminals.

FIGURE 24
## TROUBLESHOOTING

### A. ELECTRICAL TESTING:

1. **Testing of the Cruise Control System** is best done at the (10) wires at the Cruise Control Module.

2. Depending upon the test being conducted, a VOLT OR OHM METER must be used for accurate results. A test light will **NOT** provide accurate information in some circuits being tested.

   **WARNING: TEST LIGHTS MAY CAUSE DAMAGE TO THE VEHICLE.**

3. Using a VOLT/OHM METER, conduct the following tests where the wiring harness enters the Cruise Control Module. **View Figure 25 for wire color and location at rear of cruise control module.**

   ![Figure 25](image)

   **Figure 25**

   **Connector as viewed from the harness side**

   - R/BR=RED/BROWN=CONTROL SWITCH POWER
   - V=VIOLET= BRAKE LIGHT GROUND
   - BL=BLACK=MODULE GROUND
   - Y=YELLOW=ACCEL/RESUME
   - DB=DARK BLUE=NO CONNECTION
   - BR=BROWN=IGNITION POWER
   - GR=GRAY=VSS SIGNAL CIRCUIT
   - DG=DARK GREEN=SET/COAST
   - LG=LIGHT GREEN=NEUTRAL SAFETY
   - O=ORANGE=NO CONNECTION

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<tr>
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<th>CONDITION</th>
<th>DESIRED RESULTS</th>
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<tr>
<td>A-1</td>
<td>“OFF”</td>
<td>Ignition “OFF”</td>
<td>Zero volts at all wires</td>
<td>A-2</td>
<td>B-1</td>
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<tr>
<td>A-2</td>
<td>SYSTEM POWER</td>
<td>Control Switch “OFF”</td>
<td>12VDC on BROWN wire only</td>
<td>A-3</td>
<td>B-2</td>
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<tr>
<td>A-3</td>
<td>CRUISE SWITCH</td>
<td>Control Switch “OFF”</td>
<td>12VDC on BROWN wire</td>
<td>A-4</td>
<td>B-3</td>
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<td>A-4</td>
<td>BRAKE CIRCUIT</td>
<td>Control Switch “ON”</td>
<td>12VDC on RED wire</td>
<td>A-5</td>
<td>B-1</td>
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<td>A-5</td>
<td>SET/COAST</td>
<td>Push Brake Pedal Ignition “ON”</td>
<td>12VDC on DARK GREEN wire</td>
<td>A-6</td>
<td>B-4</td>
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<td>ACCEL/RESUME</td>
<td>Push SET Button Ignition “ON”</td>
<td>12VDC on YELLOW wire</td>
<td>A-7</td>
<td>B-4</td>
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<tr>
<td>A-7</td>
<td>VEHICLE SPEED SENSOR</td>
<td>Push ACCEL Button Ignition “ON”</td>
<td>4.5VDC to Zero volts on GRAY wire, 3-4 times in 10 feet</td>
<td>A-8</td>
<td>B-5</td>
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<td>A-8</td>
<td>SYSTEM GROUND</td>
<td>Roll vehicle 10 feet Ignition “ON”</td>
<td>Continuity to Ground on BLACK wire</td>
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<td>A-9</td>
<td>NEUTRAL SAFETY AUTOMATIC ONLY (OHM METER)</td>
<td>Control Switch “ON”</td>
<td>0.5 volts in “P” or “N” on LIGHT GREEN wire</td>
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<td>B-7</td>
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<td>A-10</td>
<td>CLUTCH SWITCH MANUAL (OHM METER)</td>
<td>Ignition “ON”</td>
<td>Continuity to Ground with Clutch Pedal NOT depressed and “NO” continuity to Ground with Clutch Pedal depressed on the VIOLET wire</td>
<td>C-1</td>
<td>B-8</td>
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B. ELECTRICAL TESTING DIAGNOSTIC:
B-1....Check Brake Light Fuse, Bulbs, wires & connectors to Brake Switch and Clutch switch if manual
B-2.....Check Ignition Switch Link wires, connector and Ignition Fuse.
B-3.....Check Ignition Switch Link wires, connector and Ignition Fuse, Cruise Switch wires and connector.
B-4.....Check Cruise Control Switch wires and connector.
B-5.....Check Vehicle ECU wire and connector, T-Tap at VSS wire.
B-6.....Check Vehicle Battery ground, Module ground wire connection.
B-7.....Check Ignition Link Harness, wires and connector, Vehicle Neutral Safety Switch.
B-8....Check wires and connector, Clutch Switch for damage and/or adjust switch.

C. MECHANICAL TESTING PROCEDURES:
C-1 Verify Cable and/or Linkage:
   Visually inspect all related parts of the Throttle Connection. Ensure that cable operates freely and all brackets are secured and not damaged. Replace any damaged or worn parts.

NOTES
SPEED CONTROL OPERATING INSTRUCTIONS

ON- To operate the cruise control, push the cruise “ON/OFF” button “ON”. (Green indicator will light.) Wait 3 seconds before setting speed.

SET SPEED- To engage system, drive at any speed above 33 MPH, press “SET/COAST” or press “RESUME/ACCEL” and release, then remove your foot from the accelerator pedal. Automatic control will be at the speed of the vehicle when button is released plus or minus 1-1/2 MPH. Press accelerator and speed will increase, release accelerator and you will return to set speed. THE RESUME/ACCEL BUTTON WILL SET THE CRUISE CONTROL WITHOUT PRESSING THE SET BUTTON FIRST.

COAST- Press and hold the “SET/COAST” button and your speed will decrease. Release button and speed of vehicle at time button is released will be new set speed if above 33 MPH.

ACCEL- Press and hold the “RESUME/ACCEL” button and your speed will increase. Release button and you will have a new higher set speed.

TAP-UP- You can gradually increase your speed by quickly pressing and releasing the “RESUME/ACCEL” button. Each time you press and release the button your speed will increase by one to two MPH.

TAP-DOWN- You can gradually decrease your speed by quickly pressing and releasing the “SET/COAST” button. Each time you press and release the button your speed will decrease by one or two MPH.

DISENGAGE- Depress brake pedal slightly - automatic speed control will cease but set speed will stay in system’s memory. Also, you can disengage by pressing button to OFF position, but this erases the memory. To get the RESUME feature to work again, you must first set a speed. Turning off the ignition also clears the system’s memory.

RESUME- After disengaging system with brake or clutch, return to set speed by driving above 33 MPH. Then press “RESUME/ACCEL” button and release it. If acceleration rate is faster or slower than you like, drive to within a few MPH of your set speed, then press and release the RESUME/ACCEL button.

THINGS YOU SHOULD KNOW ABOUT YOUR CRUISE CONTROL

The performance of the cruise control is dependent upon the condition of the engine, its size and even by the type of emission control equipment it has. Driving at higher altitude will have an effect on the vehicle cruise control performance.

Under normal conditions and with proper regulator adjustments, speed should be controlled within plus or minus 1-1/2 MPH. There may be situations; however, which make it seem as if the cruise control is not capable of functioning accurately, such as an extra heavy load, a very steep hill, or a severe head-wind.

CAUTION: Do not use cruise control on a slippery road nor in heavy traffic.

CAUTION: (Manual Transmission) While driving with cruise control “ON”, do not shift to neutral without depressing the clutch pedal, as this may cause engine racing or overrevving. If this happens, depress the clutch pedal or turn “OFF” the main cruise control switch immediately.