MICROCRUISE 4
INSTALLATION and OWNER’S MANUAL
This Cruise Control Kit is a microprocessor based Cruise Control. It is designed for ease of installation and can be used with most cars, light trucks and vans. Carefully follow the installation procedures in this manual for best results.

TO VIEW THE INSTALLATION VIDEO VISIT OUR WEBSITE AT WWW.ROSTRA.COM

DO NOT INSTALL THIS SYSTEM ON A DIESEL POWERED VEHICLE WHICH HAS A MANUAL TRANSMISSION WITHOUT A DISENGAGEMENT SWITCH (250-4206) ON THE CLUTCH PEDAL ASSEMBLY

Your vehicle must have a VSS (Vehicle Speed Sensor) wire or an available signal generator for installation of this Cruise Control. Please consult vendor's Application Guide. Low displacement engines with limited vacuum will get better performance if a vacuum reservoir is installed. Vacuum reservoirs, pumps, regulators and other accessories are available from your dealer, automotive service center or most automotive parts outlets.

All through the instructions there are WARNINGS, CAUTIONS, AND NOTES that are meant to make it easier for you to put the Cruise Control on your vehicle and safer to use. We have gathered these tips from people across the country who have told us about their problems and how they worked them out. Even with all these reports from the field, we cannot cover every condition which you might encounter, there are just too many different vehicle makes and models. We do our best to tell you how to handle most vehicles, but we must Depend On Your Good Judgment for dealing with the rest.

Therefore, we believe you can understand why we strongly urge you to think carefully about what could happen to you, your passengers and your vehicle if you use any tools, parts, fastening methods, routing or procedures which are not described in this manual.

There is NO drain on the battery if the control switch is left on. The Cruise Control needs no regular service.

**WARNING:**
Failure to follow the instruction manual could not only cause the Cruise Control to work improperly, but could cause the Cruise Control to function incorrectly, possibly causing damage to your vehicle and/or injury or death to both you and your passengers.

**WARNING:**
If you question the applications of the Cruise Control, please consult the applicable application guide. Only install on approved applications.
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<td>PART#</td>
<td>DESCRIPTION</td>
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<tr>
<td>------</td>
<td>---------</td>
<td>------------------------</td>
</tr>
<tr>
<td>1</td>
<td>250-3694</td>
<td>Servo Assembly</td>
</tr>
<tr>
<td>2</td>
<td>250-3695</td>
<td>Harness Assembly</td>
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<td>3</td>
<td>250-3697</td>
<td>Cable Assembly</td>
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<tr>
<td>4</td>
<td>250-3696</td>
<td>Servo Bracket</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>7-1/2” Tie Strap</td>
</tr>
<tr>
<td>6</td>
<td>250-3700</td>
<td>Extension Bracket</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Tube Clamp 1/4”</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Tube Clamp 5/16”</td>
</tr>
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<td>9</td>
<td></td>
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<td>10</td>
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<td>11</td>
<td></td>
<td>Screw #10-32 x 1/2”</td>
</tr>
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<td>12</td>
<td></td>
<td>Nut - #10 - 32</td>
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<td>250-3016</td>
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Disengagement Switch use 250-4206  
Vacuum Reservoir use 250-3417 or 250-6019  
Vacuum Regulator use 250-4115  
*Order Kit 250-2213 and receive parts indicated
1. Before Starting Installation:

Familiarize yourself with the Installation Instructions and Cruise Control's components.

2. Air Bag and Anti-Theft Radio:

A. 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 re-entered when the negative battery cable is reinstalled.

B. If vehicle is equipped with an AIR BAG, it is advisable to disconnect negative battery cable. However, remember that some vehicles retain power to the air bag system when battery is disconnected.

3. Removal of Negative Battery Cable:

Remove the negative battery cable before installing the Cruise Control components as a safety precaution. (Figure A)

4. Self Stripping Connector:

When installing Self Stripping Connector, follow these four steps: (Figure B)

5. Accessory Power:

When installing the special terminal into fuse panel of vehicle, See (Figure C)
The Actuator Assembly must be programmed for the vehicle on which it is installed. The TEN (10) programming switches must be set according to the chart below in order for the Cruise Control to operate properly.

NOTE 1: Both the VSS (Gray) and TACH (Blue) wires must be connected. (If vehicle VSS wire is not used, an auxiliary road speed source must be used.) See Form#2482 Vehicle Technical Information Guide (supplied in kit) for VSS and TACH wire information.

NOTE 2: If using an “Open Circuit” control switch with the Cruise Control, Switch number 7 will have to be OFF. On “OPEN CIRCUIT” switch, the “ACCEL” slide switch will be pushed toward passenger window. If unsure whether control switch is “OPEN CIRCUIT” or “CLOSED CIRCUIT”, look at control switch box label.

NOTE 3: If any of the 10 switches need to be changed after installation of the Cruise Control, CONTROL SWITCH AND VEHICLE IGNITION SWITCH MUST BE IN THE OFF POSITION TO RESET THE CRUISE CONTROL.

### PROGRAMMING SWITCHES

<table>
<thead>
<tr>
<th>GAIN (SENSITIVITY)</th>
<th>Low</th>
<th>Medium (Normal)</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWITCH 1</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>SWITCH 2</td>
<td>OFF</td>
<td>ON</td>
<td>ON</td>
</tr>
</tbody>
</table>

**Note:** If your Cruise Control surges or is too sensitive - set Gain to Low

**Note:** If your Cruise Control seems slow in controlling or responding to set speed - set Gain to High

<table>
<thead>
<tr>
<th>PULSES PER MILE</th>
<th>2000</th>
<th>4000</th>
<th>5000</th>
<th>8000</th>
</tr>
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<tbody>
<tr>
<td>SWITCH 3</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>SWITCH 4</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
</tr>
</tbody>
</table>

**Note:** Use 2000 PPM When using magnet package

<table>
<thead>
<tr>
<th>ENGINE</th>
<th>3 &amp; 4 Cylinder</th>
<th>5 &amp; 6 Cylinder</th>
<th>8 Cylinder</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWITCH 3</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>SWITCH 6</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONTROL SWITCH</th>
<th>OFF: Open Circuit Control Switch</th>
</tr>
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<tbody>
<tr>
<td>SWITCH 7</td>
<td>ON: Closed Circuit Control Switch</td>
</tr>
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</table>

**Note:** If unsure of Control Switch, see Control Switch test or label on box

<table>
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<tr>
<th>CENTERING</th>
<th>OFF: Low (Slow pull-up)</th>
<th>(Normal)</th>
</tr>
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<tbody>
<tr>
<td>SWITCH 8</td>
<td>ON: High (Fast pull-up)</td>
<td></td>
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**Note:** If your Cruise Control drops 1 mph or more when setting, then set Centering to High

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<tr>
<th>TRANSMISSION</th>
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<td>SWITCH 9</td>
<td>ON: Automatic Transmission</td>
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<table>
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<tr>
<th>VSS SOURCE</th>
<th>OFF: Vehicles using Auxiliary VSS (Signal Generator or Magnets) and Ford Vehicles</th>
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<tr>
<td>SWITCH 10</td>
<td>ON: Vehicle’s Own VSS (ECM)</td>
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A. SERVO ASSEMBLY MOUNTING

**NOTE**

**DO NOT MOUNT THE SERVO ASSEMBLY IN THE FOLLOWING AREAS:**

* Under the fender.
* Under the vehicle.
* Directly to the engine or bulkhead.
* With the cable pointed down.
* Near sharp, hot or moving objects.
* Near ignition coil [No closer than 255mm (10”)].
* In the passenger compartment (Noise).
* Where it will interfere with service checks.

1. Select a possible location to mount your SERVO ASSEMBLY, set the SERVO ASSEMBLY unmounted in that area. The reason for leaving the SERVO ASSEMBLY unmounted is to make sure the HARNESS ASSEMBLY will reach the SERVO ASSEMBLY and the CABLE ASSEMBLY will reach the throttle attaching point.

2. Once you have confirmed that the HARNESS ASSEMBLY and the CABLE ASSEMBLY will reach their respective locations, mount the SERVO ASSEMBLY in the spot you have selected with Screws provided in the kit. (Figure 2)

---

**CAUTION:**

Failure to follow the instruction manual could not only cause the Cruise Control to work improperly, but could cause the throttle to hang up, possibly causing damage to your vehicle and injury to you and your passengers.
B. THROTTLE CONNECTION

1. MEASURING THROTTLE CABLE TRAVEL

THIS IS A VERY IMPORTANT STEP. FAILURE TO DETERMINE THROTTLE CABLE TRAVEL COULD CAUSE DAMAGE TO YOUR VEHICLE AND/OR CRUISE CONTROL.

MEASURE ONLY WITH THE ENGINE OFF. The CRUISE CABLE moves 41mm (1-5/8”).

To measure throttle travel, measure the distance from Position “A” (Idle) to Position “B” (Wide Open Throttle).

a. Make a mark on the throttle cable when the throttle is in the idle position. Figure 3
b. Depress accelerator pedal and make a mark on the throttle cable when the throttle is in the wide open position. Figure 4
c. Measure the Distance “C” between the two marks. Figure 5 If the distance is greater than 41mm (1-5/8”), go to Page 10; If it is less, go to Step d.
d. If the throttle travel is less than 41mm (1-5/8”), you must use BEAD CHAIN to provide slack.

NOTE: Slack is the distance the CABLE ASSEMBLY moves before the throttle starts to move.

Each bead of the chain added will give you 1/8” (3 mm), you will need one (1) bead.

NOTE: To add beads you must use the BEAD CHAIN, BEAD CHAIN CONNECTOR and the BEAD CHAIN COVER. Do not count the bead used with the BEAD CHAIN CONNECTOR.

After determining your throttle travel, continue to the next section.

CAUTION: Failure to follow the instruction manual could not only cause the Cruise Control to work improperly, but could cause the throttle to hang up, possibly causing damage to your vehicle and injury to you and your passengers.
2. ATTACHING CABLE ASSEMBLY TO THROTTLE

This section will cover the proper ways to use the hardware available. Each method contains sample illustrations showing how the connector is used in an actual installation. It must be noted, however, that you should have an understanding of how each attachment method works so that a proper installation is achieved.

There are **six (6)** different types of throttle connections.

a. Pulley Assembly Using The **LOOP CABLE**

b. Pulley Assembly Using **T-BAR ADAPTOR**

c. Pedal Attachment.

d. **Ford™** Throttle

e. **General Motors™** and **Chrysler™** Throttle Using **TWO BEAD CONNECTOR**

f. Throttle Stud Attachment using **ADAPTER CLIP WITH CABLE**

---

**NOTE:**

When using the Bead Chain Connector to connect the Bead Chain to the Cable Assembly you must always use the Bead Chain Cover. (Figure 6) Failure to use the Bead Chain Cover could possibly cause the Bead Chain or the Cable Assembly to hang in the Bead Chain Connector causing the throttle to be held in a partially open position. This condition could occur when the Cruise Control is not being used.

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a. **Pulley Assembly Using The **LOOP CABLE**

1. On some vehicles it may be necessary to remove the air cleaner so the throttle pulley segment is showing.

2. Set the pulley segment in an **OPEN** throttle position, and remove the throttle cable from the pulley.

3. Hold the **LOOP CABLE** between the holes in each side of the pulley. Slide the barrel at the end of the throttle cable through the slotted hole, then through the **LOOP CABLE** and into the second hole. **Figure 7**

4. Connect the **LOOP CABLE** to the **CABLE ASSEMBLY** using the **BEAD CHAIN CONNECTOR**.

5. To secure the **LOOP CABLE** to the throttle cable, punch a small hole in the **BEAD CHAIN COVER** and slide the **TIE STRAP (4”)** through the hole and secure to the existing throttle cable. **Figure 8**

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**WARNING**

If the **LOOP CABLE** is not secured to the existing throttle cable, it could come out of the pulley segment possibly causing the throttle to be held in a partially open position.
2. ATTACHING CABLE ASSEMBLY TO THROTTLE (Continued)

b. Pulley Assembly (Dual) Using The T-Bar Adaptor (250-4184)
1. Remove air cleaner to expose the dual pulley segments.
2. Find the blank anchor that is located above the throttle anchor. Follow the instructions for anchoring the Cruise Cable, See Page 15.
3. Attach a Bead Chain Connector onto the Cable Assembly. Figure 9
4. Attach the T-Bar Adaptor to the top pulley segment. Slide the Bead Chain Cover onto the T-Bar Adaptor.
5. Attach the T-Bar Adaptor to the Bead Chain Connector. Make sure to slide the Bead Chain Cover over the Bead Chain Connector. Figure 10

c. Pedal Attachment
1. Select a Tube Clamp that fits around the top of the accelerator pedal shaft. Make sure the tabs of the Tube Clamp point away from the bulkhead.
2. Attach the Bead Chain to the Cable Assembly with a Bead Chain Connector. Make sure to use a Bead Chain Cover.
3. After you determine the length of Bead Chain needed to attach to the accelerator pedal shaft, cut Bead Chain and attach to the Eyelet Connector. Make sure to use a Bead Chain Cover.
4. Put Screw #10-32 x 1/2 through the holes in the Tube Clamp. Slide the Eyelet Connector over the screw. Thread Nut #10-32 onto the screw and tighten. Figure 11

WARNING
Failure to follow the instruction manual could not only cause the Cruise Control to work improperly, but could cause the throttle to hang up, possibly causing damage to your vehicle and injury and/or death to you and your passengers.
2. ATTACHING CABLE ASSEMBLY TO THROTTLE (Continued)

d. **Ford™ Throttle**
   1. Select a **Tube Clamp** that fits the throttle cable. Make sure the tabs of the **Tube Clamp** point away from the carburetor or air throttle, this will prevent the throttle from hanging. **Figure 12**
   2. Attach **Cable Assembly** to the **Eyelet Connector**.

   **NOTE:** Use the **Bead Chain Cover**.

3. Put **Screw #10-32 x 1/2** through the holes in the **Tube Clamp**. Slide the **Eyelet Connector** over the screw. Thread the **Nut #10-32** onto the screw and tighten. **Figure 12**
4. **Figure 13** is an example of a **Ford™ Throttle** connection using the **Tube Clamp**.

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e. **General Motors™ and Chrysler™ Throttle** using **Two Bead Connector**.
   1. Most **General Motors™ vehicles** and many **Chrysler™ vehicles** can use the **Two Bead Connector** to attach the **Cable Assembly**. **Figure 14**

---

**WARNING**

Failure to follow the instruction manual could not only cause the **Cruise Control** to work improperly, but could cause the throttle to hang up, possibly causing damage to your vehicle and injury and/or death to you and your passengers.
2. ATTACHING CRUISE CABLE TO THROTTLE (Continued)

e. General Motors™ and Chrysler™ Throttle using Two Bead Connector. (Continued)

2. Attach the Bead Chain to the Two Bead Connector. Secure beads by folding down the metal tabs. Figure 15

The following parts will be used when installed properly:
Two Bead Connector, Bead Chain, Bead Chain Connector, and Bead Chain Connector Cover

3. Remove clip or pin which retains throttle cable (and washer if provided) and install Two Bead Connector on the same side of throttle cable that the Cable Assembly will be anchored (this is necessary so that Cable Assembly and throttle cable will not cross).

4. The Two Bead Connector may need to be bent so that it clears the throttle cable. Figure 16 Use the Tie Strap (4”) to hold the Two Bead Connector to the sleeve of the throttle cable. Figure 16

f. General Motors™, Ford™ and Chrysler™ Throttle using Throttle Clip w Cable.

1. Some General Motors™, Ford™ and Chrysler™ vehicles have an attachment stud on the throttle pulley.

2. Slide a Bead Chain Connector Cover over the Cruise Cable, then attach the Bead Chain Connector to the cable. Attach the Throttle Clip w Cable to the Bead Chain Connector and slide the Connector Cover over the Bead Chain Connector. Figure 17

3. Slide the Throttle Clip over the throttle pulley attachment stud. Push the Throttle Clip onto the stud until it snaps firmly onto the stud.

NOTE
After the Cable Assembly has been attached, manually move the throttle to assure the Cable Assembly does not hang up on any part of the vehicle.
C. ANCHORING CABLE ASSEMBLY

There are three (3) types of connectors used to anchor the Cable Assembly:

1. Snap-In Adaptor
2. General Motors™ Blank Anchor
3. Tube Clamp

1. Snap-In Adaptor
   a. Before using the Snap-In Adaptor, remove the Adjustable Sleeve from the Cable Assembly. To use the Snap-In Adaptor, it will be necessary to form threads on the end of the Cable Assembly. This is easily accomplished by placing the 1/4” - 20 Nut on the end of the Cable Assembly with your fingers. Then using an 7/16” box end wrench and turning the Nut clockwise until the desired amount of threads have been formed. Figure 18
   b. After the threads have been formed, screw the Snap-In Adaptor onto the Cable Assembly. Figure 19
   c. The Snap-In Adaptor snaps into the square hole of the Extension Bracket Figure 20 or snaps into an existing square hole on the vehicle (common on GM™ vehicles). Figure 21

2. General Motors™ Blank Anchor
   a. To locate the blank anchor on General Motors™ vehicles, it is necessary to remove the air cleaner. The blank anchor is located above the throttle anchor.
   b. This anchor is hollow except at one end. Use a 6.4mm (.25”) bit drill as shown in Figure 22.

NOTE
Cable Assembly must extend past the end of the Snap-In Adaptor on all applications.

c. Before using the 1/4” - 20 Nut, remove the Adjustable sleeve from the Cruise Cable. Then use the Lockwasher Nut to form threads on the end of the Cable Assembly. This is easily accomplished by placing the 1/4” - 20 Nut on the end of the Cable Assembly with your fingers. Then use an 7/16” box end wrench and turn the nut clockwise until the desired amount of threads have been formed Figure 18
C. ANCHORING CABLE ASSEMBLY  
(CONTINUED)

2. General Motors™ Blank Anchor  
d. Insert the CABLE ASSEMBLY through the blank anchor and thread the other 1/4” - 20 Nut in place. Figure 23

NOTE  
If you do not use the other 1/4” - 20 Nut, install a TUBE CLAMP and the THREADED TUBE CLAMP 6” to 7” from the anchor point. (Figure 24) This will keep the CABLE ASSEMBLY from backing out of the anchor.  
e. The 1/4” - 20 Nut can also be used if there is a pre-existing 1/4” hole in a bracket on the vehicle or if it is possible to drill a 1/4” hole in a bracket on the vehicle. Figure 25

CAUTION:  
When using a TUBE CLAMP on the CABLE ASSEMBLY, the ADJUSTABLE SLEEVE MUST be used to prevent slippage or binding of cable.

3. TUBE CLAMP  
a. Before using the TUBE CLAMP slide the ADJUSTABLE SLEEVE into a location on the CABLE ASSEMBLY so you can center the TUBE CLAMP to avoid slippage. Figure 26  
b. The TUBE CLAMP may be used to anchor the CABLE ASSEMBLY to an existing throttle cable bracket. Figure 27 In some cases you can drill a 3/16” hole in the bracket.

c. The TUBE CLAMP may also be used to anchor the CRUISE CABLE using the EXTENSION BRACKET. Figure 28

FIGURE 23

FIGURE 24

FIGURE 25

FIGURE 26

FIGURE 27

FIGURE 28
D. VACUUM LINE INSTALLATION

Suggested Vacuum Source Locations:
1. Factory Installed Tee with removable cap  
   *Figure 29*
2. Manifold Vacuum Tree usually with an extra vacuum port with removable cap.  
   *Figure 30*
3. Existing Vacuum Canister mounted on vehicle generally on the inner fenderwell or engine bulkhead.  
   *Figure 31*
4. Existing Manifold Vacuum Line that can be cut into (DO NOT USE BRAKE VACUUM LINE)  
   *Figure 32*

After locating a vacuum source and making a connection, route **VACUUM HOSE** from the source and attach to the vacuum port on the **SERVO ASSEMBLY**. DO NOT forget to remove the protective cap prior to installing the **VACUUM HOSE**.  
*Figure 33*

**VACUUM CHECK**
Run the engine at idle. Unplug the **VACUUM HOSE** from the **SERVO ASSEMBLY** and place your finger over the end of the hose. You should feel a strong suction. If not, you should find another location with stronger vacuum or add a **VACUUM RESERVOIR** (250-3417)
E. HARNESSEMBLY

1. Plug HARNESSEMBLY into SERVO ASSEMBLY. Push Rubber Grommet securely into place. **Figure 35** Place cover onto the SERVO ASSEMBLY and securely fasten screws. **Figure 36**

2. Straighten the HARNESSEMBLY and find the 4-pin mating connectors. Separate the 4-pin connectors. A small screwdriver may be needed.

3. HARNESSEMBLY needs a 3/4” hole to pass through bulkhead. You may find one nearby, such as the speedometer cable hole or a small one you can file larger. If you find the right size hole in the right place, remove grommet. If not, drill, saw, or punch a 3/4” hole in bulkhead. A hole a couple of inches to the left or slightly higher than the steering column is usually a good place. **Figure 37**

**NOTE**
Check inside before drilling, sawing, or filing so you don’t damage anything.

4. From engine side, pass the 4-pin connectors and VIOLET wire through hole. If you do not hook up the Blue TACH wire and the Gray VSS wire under the hood, pass them through to the inside of the vehicle, also.

5. Reattach the 4-pin mating connectors and make the necessary wire connections. (See Page 18 for wiring instructions)

F. SEALING BULKHEAD

Seal hole in bulkhead with SEALING PUTTY as shown in **Figure 38**.

G. CONTROL SWITCH INSTALLATION

If your cruise control switch is the type which clamps on the turn signal lever, requires cutting the turn signal lever, or is mounted on the instrument panel, follow the instructions packaged with it. If you have a switch which replaces the complete original equipment turn signal lever, remove the existing lever and install the cruise control switch and lever assembly as instructed in the vehicle shop service manual.
H. WIRING ATTACHMENTS TO VEHICLE

To find a place to get electrical power, you will need to “ground” one lead of your test light or volt-ohm meter. Find electrical ground by turning on the ignition switch and touching one lead to a hot fused terminal at fuse panel; touch other lead to unpainted metal part of vehicle. The metal you touch, if it makes continuity, is ground. Bracket for parking brake lever is usually a good ground. Turn ignition switch off.

NOTE: Some fuse panels are behind shields which must be removed first. On other vehicles the screw that mounts the panel must be removed to get to the fuses.

CAUTION: Before making any wiring connections, be sure to disconnect your vehicle’s negative battery cable to avoid electric shock and/or damage to the vehicle’s electrical system.

<table>
<thead>
<tr>
<th>WIRE COLOR</th>
<th>FUNCTION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACK</td>
<td>GROUND</td>
<td>Vehicle ground point which is a clean unpainted metal surface. <strong>NOTE: DO NOT USE THE ENGINE AS A GROUNDING POINT. DO NOT CONNECT TO THE EXTENSION BRACKET.</strong></td>
</tr>
<tr>
<td>BROWN</td>
<td>ACCESSORY POWER</td>
<td>Fuse panel: fuse that has +12 volts when key is ON and 0 volts when key is OFF or in the START (CRANKING) position.</td>
</tr>
<tr>
<td>RED</td>
<td>CONSTANT POWER</td>
<td>Hot side of brake switch +12 volts</td>
</tr>
<tr>
<td>VIOLET</td>
<td>GROUND</td>
<td>Cold side of brake switch-0 resistance when brake is not pressed +12 volts or open resistance when brake is pressed.</td>
</tr>
<tr>
<td>BLUE</td>
<td>TACHOMETER</td>
<td>See Vehicle Technical Information Guide (Form#2482) or Consult Vehicle Shop Manual</td>
</tr>
<tr>
<td>GRAY</td>
<td>VEHICLE SPEED SENSOR</td>
<td>See Vehicle Technical Information Guide (Form#2482) or Consult Vehicle Shop Manual</td>
</tr>
</tbody>
</table>
The MicroCruise 4 is equipped with Self Diagnostic Light Emitting Diode (LED) located underneath the rubber grommet on top of the Cruise Module. Utilize the following Self Diagnostic Procedure to trouble shoot your cruise control if it does not function properly once installed.

Carefully follow the procedures below to enter your cruise control into Self Diagnostic Mode.

**Step 1:** Turn the cruise control switch OFF.

**Step 2:** Turn the ignition to the OFF position.

**Step 3:** Closed Circuit Control Switch (See Page 21); Press and hold the RESUME/ACCEL button while you turn the ignition switch to the ON position without starting the engine. Now release the RESUME/ACCEL slide switch.

Open Circuit Control Switch (See Page 21); Turn the ignition switch to the ON position without starting the engine, hold the RESUME/ACCEL button down while you turn the cruise control switch to the ON position.

**Step 4:** The Diagnostic LED should be OFF at this time. You are now in Self Diagnostic Mode.

Continue to follow the procedures below to test your cruise control switch, brake switch connections and VSS Signal.

**Step 5:** Press and Release the SET/COAST button. The LED should light each time the button is pressed and go out when it is released. If so, continue to Step 6; if not, go to Step 5a.

a. Check steps to entering Diagnostic Mode and test again.

b. Check Programming Switch #7. It should be ON for a Normally Closed Circuit Control Switch and OFF for a Normally Open Circuit Control Switch. (See Page 21);

   If set incorrectly, reset and reenter Diagnostic Mode.

c. Check power to the Cruise Module if none of the diagnostic commands are functioning.

d. Check Cruise Control Switch (See Page 21)

**Step 6:** Press and Release the RESUME/ACCEL button. The LED should light each time the button is pressed and go out when it is released. If so, continue to Step 7; if not, go to Step 6a.

a. Check steps to entering Diagnostic Mode and test again.

b. Check power to the Cruise Module if none of the diagnostic commands are functioning.

c. Check Cruise Control Switch (See Page 21)

**Step 7:** You will need a second person to help you preform this test. Press and release the Brake Pedal. The LED should light each time the brake is pressed and go out when it is released. If so, continue to Step 8; if not, go the Step 7a.

a. Check steps to entering Diagnostic Mode and test again.

b. Check power to the Red Brake Positive wire.

c. Check power to the Cruise Module if none of the diagnostic commands are functioning.

d. Check Brake Switch Connector and wiring to brake switch.
SELF DIAGNOSTICS PROCEDURES

Step 8:  
a. Vehicles own computer as VSS source: Roll the vehicle at least **two (2) meters** forward or backward, the **LED** should flash and continue to flash at the same rate. If so, continue to **Step 9**; if not, go to **Step 8ai**.
   i. Check steps to entering **Diagnostic Mode** and test again.
   ii. Check **Programming Switch #10**. It should be **ON** for Square Wave Input. If set incorrectly, reset and reenter **Diagnostic Mode**.
   iii. Some vehicles need to be pushed more than **two (2) meters**. In that case, raise **one (1)** of the vehicle's drive wheels (both drive wheels on a limited slip differential) and block the non drive wheels. Use a support stand for safety. Spin the drive wheel by hand as fast as possible. The **LED** should flash and continue to flash at the same rate. If so, continue to **Step 9**; if not, go to **Step 8aiv**.

   iv. Either your VSS wire is incorrect or your connection is bad. Inspect your VSS connection and reenter **Self Diagnostic Mode**

b. **Auxiliary Speed Sensor** [Signal Generator or Magnet & Coil Pick-Up Kit (Kit #250-4165)] Raise **one (1)** of the vehicle drive wheels (both drive wheels on a limited slip differential) and block the non drive wheels. Use a support stand for safety. Spin the drive wheel by hand as fast as possible (You must spin the wheel at least 4.8 KPH (3 MPH) or faster in order to test an auxiliary speed signal.) The **LED** should flash and continue to flash at the same rate. If so, continue to **Step 9**; if not, go to **Step 8bi**.
   i. Check steps to entering **Diagnostic Mode** and test again.
   ii. Check **Programming Switch #10**. It should be **OFF** for Sine Wave Input. If set incorrectly, reset and reenter **Diagnostic Mode**.

Step 9: **Your MicroCruise 4** has successfully passed the **Self Diagnostic Testing Procedure**. If it still does not function, test your **TACH** signal.

WIRING DIAGRAM
TESTING the TACH SIGNAL

If all of the previous functions are correct, check the TACH SIGNAL
1. Turn the CRUISE CONTROL SWITCH to the OFF position
2. Turn the ignition switch to the OFF position
3. Press and hold the RESUME/ACCEL slide switch while you turn the ignition switch to the ON position and start the engine. Now release the RESUME/ACCEL slide switch. (If you are using a 250-3592 or 250-3593 dash mount Cruise Control Switch, turn the ignition switch to the ON position and start the engine, hold the RESUME/ACCEL button down while you turn the CRUISE CONTROL SWITCH to the ON position.)
4. The Diagnostics LED should be flashing. Rev the engine, the LED should flash faster at higher RPM’s. If not:
   * Check steps to entering diagnostic mode and try again
   * Connection to TACH Signal source is bad
   * TACH Signal connection point is not correct

CONTROL SWITCH TESTS

To do the test:
1. Unplug the 8-pin connector from the Actuator Assembly.
2. Ground the test light lead and verify that the test light works by proving with a known power source.
3. Follow Test Chart A for a Closed Circuit Control Switch, Test Chart B for an Open Circuit Control Switch.

### TEST CHART A (FOR CLOSED CIRCUIT CONTROL SWITCH)

<table>
<thead>
<tr>
<th>IGNITION SWITCH POSITIONS</th>
<th>CONTROL SWITCH POSITIONS</th>
<th>RED</th>
<th>DARK GREEN</th>
<th>YELLOW</th>
<th>BROWN</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
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<td>OFF</td>
<td>OFF</td>
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<tr>
<td>OFF</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>OFF</td>
<td>press and hold RESUME/ACCEL</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>OFF</td>
<td>press and hold RESUME/ACCEL</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>ON</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>CRANK or START</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
</tr>
</tbody>
</table>

### TEST CHART B (FOR OPEN CIRCUIT CONTROL SWITCH)

<table>
<thead>
<tr>
<th>IGNITION SWITCH POSITIONS</th>
<th>CONTROL SWITCH POSITIONS</th>
<th>RED</th>
<th>DARK GREEN</th>
<th>YELLOW</th>
<th>BROWN</th>
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<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>OFF</td>
<td>press and hold SET/COAST</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>OFF</td>
<td>press and hold SET/COAST</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
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<td>ON</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>CRANK or START</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
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</tbody>
</table>

Page 21
ROAD TESTING

Be sure to road test your Cruise Control after installation. If your Cruise Control was installed correctly, it should perform as indicated in this section. The Cruise Control Switch is used to operate the system.

TEST DRIVE

Follow the operating instructions to test drive your new Cruise Control. Try all functions on your Cruise Control to be sure it is operating correctly.

ON/OFF: The first time you use the Cruise Control you should be on a straight, paved road away from heavy traffic. Slide the ON/OFF switch of the Cruise Control Switch to the ON position. Nothing will happen, this simply prepares the system for use.

Remember, each time you turn OFF the ignition switch, or slide the Cruise Control Switch to OFF, you de-energize the system. To re-energize it the ignition switch must be ON and the slide switch must be in the ON position. You can leave the Cruise Control Switch ON all the time without damaging the system.

SET SPEED: After turning the system ON, wait at least three seconds before trying to set your speed. To operate the system, drive your car at a steady speed above 35 mph. Press the SET/COAST button, and release it. Slowly remove your foot from the accelerator. Your speed is now in the Servo Assembly's memory. Your driving speed should remain within 2-1/2 mph of your set speed.

ACCEL: You may increase your SET SPEED by using the RESUME/ACCEL feature. Your vehicle will accelerate as you hold the slide switch to the RESUME/ACCEL position. When you release the slide switch you will have a new, higher SET SPEED.

TAP-UP: You can also increase your speed gradually, by quickly sliding and releasing the RESUME/ACCEL switch. Each time you slide and release the slide switch, your speed will increase approximately one mph.

COAST: To reduce your SET SPEED, press and hold the SET/COAST button. This erases the old SET SPEED, and allows your vehicle to coast. Just before reaching the speed your want, release the button. This will be your new SET SPEED, providing you are above 35 mph.

TAP-DOWN: You can also decrease your speed gradually, by quickly pressing and releasing the SET/COAST button. Each time you press and release the button, your speed will decrease approximately one mph.

RESUME: When you use the brake to slow down or stop, the Cruise Control will remember your SET SPEED. To return to the SET SPEED, you need to be above 30 mph and drive to a speed within 15 mph of your SET SPEED. Slide the RESUME/ACCEL slide switch, then release it. Your vehicle will automatically accelerate to the SET SPEED and hold there.

When using the RESUME feature with a standard transmission, you must be in the correct gear for your SET SPEED.

After braking, the RESUME feature will NOT work if you:
- Move the slide switch to OFF
- Turn OFF the ignition
If this happens, you need to SET SPEED again.

DISENGAGE: You may DISENGAGE from your SET SPEED in two or three ways depending on the type of transmission (manual or automatic) you have in your car.
- Gently depress the brake pedal to activate the brake lights
- Turn the Cruise Control Switch to the OFF position
- For manual transmissions, depress the clutch (This WILL cause the engine to rev before disengaging)

THINGS YOU SHOULD KNOW ABOUT YOUR SPEED CONTROL

The performance of the Speed Control is dependent upon the amount of vacuum produced by the engine. The level of vacuum available from a gasoline-burning engine is determined by the condition of the engine, its size, and even by the type of emission control equipment it has. Even a small vacuum leak will reduce the system's performance, and driving at higher altitudes will have a similar effect.

Under normal conditions and with proper regulator adjustments, speed should be controlled within plus or minus 2-1/2 mph. There may be situations, however, which make it seem as if the Speed Control is not capable of functioning that accurately. Such things as an extra heavy load, a very steep hill, or a severe headwind will call for the throttle to be opened much wider than normal. A wider throttle opening will cause the vacuum to drop almost to zero, and that drop is the thing which denies the system the very strength it needs to open the throttle.

The way to handle these temporary problem situations is to momentarily bring the vehicle up to speed with the accelerator pedal - then let the Speed control take over again.

If the system does not perform as previously described, see the Self Diagnostics section of this manual to determine the cause.

CAUTION: Do not use Speed Control on slippery roads or in heavy traffic.
In the event that you need technical assistance with trouble shooting, please have the following information ready when calling our Technical Service Department 910-277-1828. This information is important for a proper and speedy diagnosis of the problems encountered.

Model Number of Cruise Control System printed on box and manufacturers code printed on the Servo Assembly

Vehicle Make Model and Year:

Engine and Transmission:

Ensure that the Brake Switch wiring connections are correct.
Red wire of Wiring Harness Assembly is connected to “HOT SIDE” (color):

Violet wire of Wiring Harness Assembly is connected to “COLD SIDE” (color):

Ensure that the Brown wire is connected to an “ignition power source”

Speed Signal Source:
VSS (Vehicle Speed Signal): Gray wire connection point and wire color:

Alternative Speed Signal Source (Part #)

Tachometer Signal: Blue wire connection point and color

Servo Assembly programming switch settings:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>ON</td>
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</tbody>
</table>

List the parts used for the throttle connection and cable anchoring. Refer to the Parts List and Parts Diagram on Pages 4-5.