

CRS-2000 AND CRS-3000

SUPPLEMENT TO WORLD CRUISE 2 OR GLOBAL CRUISE INSTALLATION MANUAL

This supplement provides some information and guidelines to help in the installation of this cruise control into street rods and custom vehicles.

Throttle connection:

The GlobalCruise installation manual provides detailed diagrams for connecting the servo to the throttle on pages 9 - 16. These diagrams cover OEM factory throttle hook-ups. It may be necessary to use a slight variation of one of the diagrams with aftermarket carburetors.

Control switch:

There are various types of turn signal and dash mount control switches that are available. The type of control switch that we supply with the cruise control is a closed circuit type for a turn signal handle control and open circuit for dash mount switches. It you will be connecting to a factory GM 4 wire control switch, they are open circuit type. GM switches which do not have 4 wires are not compatible with this cruise control. Ford cruise control switches are neither closed circuit nor open circuit and are not compatible with this cruise control.

Wiring:

The wiring diagram for the cruise control is located on pages 18 and 21 of the GlobalCruise installation manual. The wire connections that you will need to make into your vehicle are as follows:

RED: Connect to constant 12 volt source. This should go to the fused terminal that feeds

power to the brake lights.

BROWN: Connect to switched 12 volt source. This should be connected to an accessory

terminal of the fuse panel capable of supplying 10 amps. This wire should have 12 volts when the ignition key is in the accessory and run positions, but not in the off or

start positions.

BLACK: Connect to a good ground point on the chassis or fire wall.

VIOLET: Connect to cold side of brake light switch. This wire should have 12 volts only when

the brake is depressed. When the brake is not depressed it should be grounding through the brake light bulbs. If the brake light bulbs are not connected or are burned out, the system will not operate. **LED brake lights will not provide proper grounding**. If you have LED brake lights, use a relay to switch the violet wire

between 12 volts and ground.

BLUE: Connect to negative side of ignition coil. On GM HEI ignitions or MSD ignitions

connect to TACH terminal. Do not route the BLUE tach wire and GRAY speed wires along side each other. The tach wire can cause interference with the speed signal

wire.

LIGHT GREEN: This wire is taped up in the harness and should not be connected to anything.

GRAY: see following section on SPEED CONNECTION.

SPEED CONNECTION:

When using a cable drive speedometer, the metal speed pulse generator is placed in line with the cable. This can be done at either the transmission side or the speedometer side of the cable. The two wires from the sensor connect as follows:

Systems with black and gray wires twisted together from the sensor: BLACK wire to ground, GRAY wire from sensor harness to GRAY wire from cruise harness.

Systems with a gray cable with a red and black wire inside:

BLACK wire to ground, RED wire from sensor harness to GRAY wire from cruise harness.

When the cruise control is used with a Dakota Digital STR3B, STR4B, STR5B, STR6B, STR3C, STR6C, STR5D, STR6D, STR2000, VFD3, VFD3X or RET display system the gray wire should be connected to the SPEED terminal on the display system control box.

When the cruise control is being installed into a newer vehicle which does not use a speedometer cable consult the Vehicle Technical Information Guide supplied with the cruise. This will provide you with information on where to connect the gray wire.

SETTING PROGRAMMING SWITCHES:

The typical application is an 8 cylinder engine, automatic transmission, and a Dakota Digital or similar speed sensor. If your application is different, consult the GlobalCruise installation manual.

The normal setting when using a closed circuit control (turn signal switch) for the 12 switches will be 1, 3, 4, 11, and 12 on and the rest off. When using an open circuit control (dash mount switch) 1, 3, 4, and 11 should be on and the rest off. The description of the switch functions are found on page 7 of the GlobalCruise manual. If you experience a surging when the cruise control engages then turn switch number 1 off.

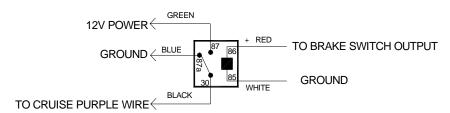
TROUBLE SHOOTING:

If the system fails to operate after making all of the proper connections, consult the self diagnostics procedure on page 20. The Diagnostics LED is located beside the programming switches, under the rubber plug on the actuator.

In order for the cruise to regulate the speed properly, the car must be tested on the road and not with the tires elevated off the ground.

How to wire relay when using LED brake lights

DAKOTA DIGITAL RLY-1 SHOWN. ANY 12 VOLT RELAY MAY BE USED.





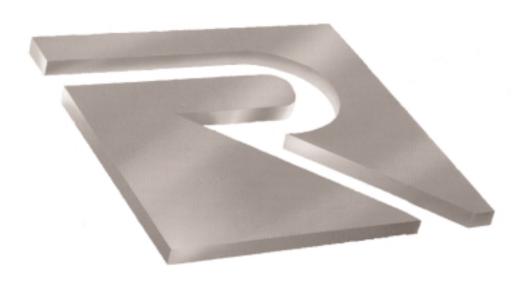
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GLOBAL CRUISE

ELECTRIC CRUISE CONTROL

Kit# 250-1591 Installation & Owner's Manual



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SAFETY PROCEDURES

THE **GlobalCruise** 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.

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

YOUR VEHICLE MUST HAVE A **VSS** (VEHICLE SPEED SIGNAL) WIRE OR AN AVAILABLE SIGNAL GENERATOR FOR INSTALLATION OF THE **GlobalCruise**. Please consult vendor's application guide.

Throughout the instructions there are **Warnings**, **Cautions**, and **notes** that are meant to make it easier for you to install the **GlobalCruise** on your vehicle and make it safer to use. We have gathered these tips from people across the country who have informed us of their problems and solutions. 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 Judgement** 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 GLOBAL CRUISE NEEDS NO REGULAR SERVICE.

WARNING

FAILURE TO FOLLOW THE INSTRUCTION MANUAL COULD NOT ONLY CAUSE THE GLOBALCRUISE 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.

WARNING

IF YOU QUESTION THE APPLICATIONS OF THE GLOBAL CRUISE, PLEASE CONSULT THE APPLICABLE APPLICATION GUIDE. ONLY INSTALL ON APPROVED APPLICATIONS.

THE PRODUCT DESCRIBED IN THIS MANUAL WAS DEVELOPED, MANUFACTURED AND TESTED IN LINE WITH RECOGNIZED TECHNICAL STANDARDS AND IS IN COMPLIANCE WITH THE FUNDAMENTAL SAFETY REQUIREMENTS.

NEVERTHELESS, THERE ARE RESIDUAL RISKS!

It is therefore important to read this manual before installing and connecting the product. Keep the manual in a place that is readily accessible at all times.

THROTTLE ADAPTER

In order to cover certain vehicles with a universal cruise control, we have designed throttle adapters for performance and safety. Consult current Application Guides and Vehicle Technical Information Guides to see if your vehicle needs a Throttle Adapter before you install the **GlobalCruise**. If an adapter is listed, it must be used with that application.

TARGET GROUP AND QUALIFIED INSTALLATION

This description is intended for those persons who install the product in the motor vehicle. In order to be able to operate properly, the **GlobalCruise** must be correctly installed. The system may therefore be installed and wired by persons who know and have understood the installation instructions of this manual and are familiar with automotive electrical and mechanical systems. Installation by nonqualified personnel can lead to injury to the driver or third parties, or damage to property or the environment

MODIFICATIONS TO THE PRODUCT

The GlobalCruise is designed, manufactured and tested with due regard to safety and reliability.

Modifying or tampering with the product can affect its safety. This can lead to death, serious or slight injury to the driver or third parties, or damage to property or the environment. For this reason, the product must not be modified or tampered with!

INFORM THE USER

HAND THE OPERATING MANUAL FOR THE CRUISE TO THE USER. THE OPERATION MANUAL IS AN INTEGRAL PART OF THE PRODUCT!

IF THE CRUISE HAS NOT BEEN FITTED WITH A CLUTCH SWITCH, PLEASE INFORM THE USER THAT THE ENGINE SPEED BRIEFLY INCREASES WHEN THE FUNCTION IS SWITCHED OFF VIA THE CLUTCH.

WARNING

The information in this manual has been carefully compiled through actual vehicle testing and manufacturers service manual research and to the best of our ability is accurate. However, we do not warrant the accuracy of this information against changes in vehicle design, the use or misuse of this information or typographical errors. It is the responsibility of the installer to verify the signal and color on the wire attachments prior to and after the installation of the **GlobalCruise** to assure proper operation. We do not accept any responsibility for damage to the vehicle or injury to its occupants caused by the use of this information. Improper installation and/or connection to the incorrect wires could cause **GlobalCruise** or vehicle malfunction, component damage, and or personal injury for you and/or your passengers.

HELPFUL HINTS

1. BEFORE STARTING INSTALLATION:

FAMILIARIZE YOURSELF WITH THE INSTALLATION INSTRUCTIONS AND **GLOBALCRUISE** COMPONENTS.

2. MATING CONNECTORS:

A. When disconnecting, hold connector and press the lock downward while pulling connectors apart. **Figure A**

CAUTION

DO NOT PULL ON WIRES.

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

3. AIRBAG 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 reentered when the negative battery cable is reinstalled.

B. If vehicle is equipped with an Airbag (SRS), it is advisable to disconnect the negative battery cable. However, remember that some vehicles retain power to the airbag system when battery is disconnected.

4. REMOVAL OF NEGATIVE BATTERY CABLE:

DISCONNECT THE NEGATIVE BATTERY CABLE BEFORE INSTALLING THE **GLOBALCRUISE** FOR SAFETY PRECAUTIONS. REMEMBER TO RECONNECT THE CABLE AFTER INSTALLATION. **FIGURE C**

5. ACCESSORY POWER:

When installing the special terminal into the fuse panel of vehicle, See Figure D.

WARNING

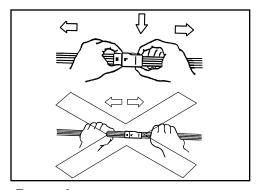


FIGURE A

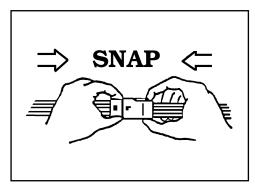


FIGURE B

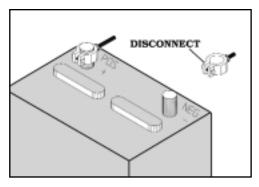


FIGURE C

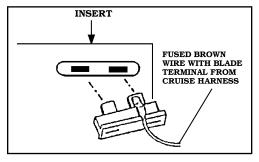


FIGURE D

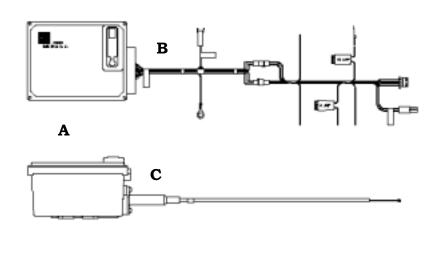
Parts List

ITEM	SERVICE PART #	DESCRIPTION	QTY
A	250-2316	Cruise Module	1
В	250-2317	Cruise Harness	1
С	250-3607	CRUISE CABLE	1
D	250-2236	Module Bracket	1
E	250-3700	Cable Bracket	1
F	250-3425	Convoluted Tubing (58")	1
G	250-3947	HARDWARE PACKAGE	1
		1 Module Bolt 2 Self-Threading Bolt (M6 x 19) 3 Bead Chain 4 Bead Chain Connector 5 Connector Cover 6 Loop Cable (67mm) 7 Loop Cable (81mm) 8 Three Bead Connector 9 Eyelet Connector 10 Tie Strap (102mm) 11 Tie Strap (102mm) 12 Tube Clamp (10mm) 13 Flag Nut (Threaded Tube Clamp) 14 M5 Bolt (M58 x 10) 15 M5 Bolt (M58 x 20) 16 M5 Nut 17 Locknut (Nylon Insert, M58) 18 Lockwasher Nut (1/4-20) 19 Plain Washer 20 Snap-In Adapter 21 Cotter Pin (2mm x 16mm) 22 Sealing Putty (or Grommet, 1")	2 4 1 2 2 1 1 1 1 1 1 1 1 1 2 2 1 1 1 1

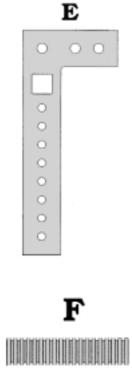
Use Clutch Disengagement Switch (Kit# 250-4206) for manual transmission vehicle when the Dark Blue TACH wire cannot be obtained from vehicle or fails to disengage the GlobalCruise.

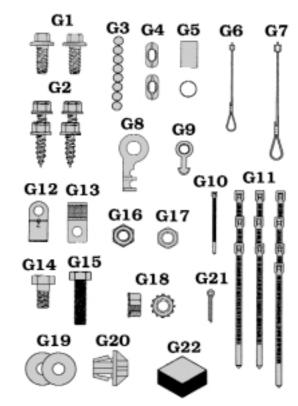
SERVICE PARTS ARE AVAILABLE TO REPLACE ANY PART IN THIS KIT (SEE SERVICE PART NUMBERS ABOVE). ADDITIONAL HARDWARE IS AVAILABLE ON PAGE 6.

PARTS DIAGRAM









WARNING

SUPPLEMENTAL PARTS

The following parts are available for your convenience and may simplify the installation of your **GlobalCruise** Contact your local dealer or **Rostra** representative for details.

<u>ITEM</u>	SERVICE PART #	DESCRIPTION	<u>QTY</u>	
A. LOOP CABLE	ES			A
	250-2248 250-3089 250-2250 250-2249 250-2251	1.83" (47мм) 2.62" (67мм) 2.91" (74мм) 3.20" (81мм) 3.81" (97мм)	10 10 10 10 10	
B. T-BAR ADA	PTERS			D
	250-2252 250-2247 250-2253 250-2254 250-4248	1.65" (42мм) 2.74" (70мм) 3.03" (77мм) 3.53" (90мм) 5.93" (151мм)	10 10 10 10 10	В
C. STUD-CLIP	w Cable			С
	250-2261 250-4255B 250-4242 250-2260	1.00" (25мм) 1.25" (32мм) 2.40" (61мм) 2.80" (71мм)	10 10 10 10	B
D. THROTTLE (Couplers*			D
	250-4291 250-4292	M6 M8	10 10	
E. TUBE CLAM	PS			_
	250-2255 250-2256 250-2257 250-2258 250-2259	3/16" (5MM) 1/4" (6MM) 5/16" (8MM) 3/8" (10MM) 1/2" (13MM)	10 10 10 10 10	E 597
Miscellaneou	S			F G
F. G.	250-3440 250-2262	GM™ HATCLIP PEDAL BRACKET ASSEMBLY**	10	

^{*} The Throttle Coupler Sets (250-4291 and 250-4292) come complete with Throttle Coupler, Stud Cap and Elastomer Retainer.

^{**} The Pedal Bracket Assembly (250-2262) comes complete with a Pedal Bracket, a Self-Locking Pin, an M5-.8 x 12 Bolt, an M5 Nut and two (2) Plain Washers.

SWITCH SETTINGS

THE CRUISE MODULE MUST BE PROGRAMMED FOR THE VEHICLE ON WHICH IT IS INSTALLED. THE TWELVE (12) PROGRAMMING SWITCHES MUST BE SET ACCORDING TO THE CHART BELOW IN ORDER FOR THE GLOBALCRUISE TO OPERATE PROPERLY. FIGURE 1

NOTE 1: BOTH THE VSS (GRAY) AND TACH (DARK BLUE) WIRES MUST BE CONNECTED. (IF THE GRAY WIRE IS NOT USED, AN AUXILIARY ROAD SPEED SOURCE MUST BE USED.) SEE PAGE 18.

NOTE 2: IF USING AN "OPEN CIRCUIT" CONTROL SWITCH WITH THE GLOBALCRUISE, SWITCH NUMBER TWELVE (12) WILL HAVE TO BE OFF. IF YOU ARE UNSURE AS TO WHETHER THE CONTROL SWITCH IS "OPEN CIRCUIT" OR "CLOSED CIRCUIT", LOOK AT THE LABEL OF THE PACKAGING IN WHICH THE SWITCH CAME, OR SEE PAGE 22.

NOTE 3: If any of the twelve (12) switches need to be changed AFTER INSTALLATION OF THE GLOBALCRUISE, THE CONTROL SWITCH AND THE VEHICLE IGNITION MUST BE IN THE OFF POSITION; THIS IS TO ALLOW THE GLOBALCRUISE TO RESET.

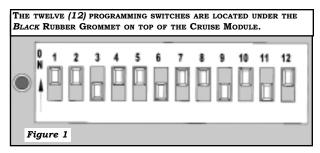


FIGURE 1 REPRESENTS THE TWELVE (12) PROGRAMMING SWITCHES FOR A VEHICLE CHARACTERIZED BY:

SWITCH (1 & 2) HIGH GAIN,

Switch (3 THRU 6) 18000 PPM,

SWITCH (7 THRU 9) 6 CYLINDER/EXTRA HIGH SETUP TIMER,

SWITCH (10) SQUARE WAVE INPUT,

SWITCH (11) MANUAL TRANSMISSION, AND

SWITCH (12) CLOSED CIRCUIT CONTROL SWITCH

PROGRAMMING FUNCTIONS	1	2	3	4	5	6	7	8	9	10	11	12
GAIN (SENSITIVITY)												
Extra Low	OFF	OFF										
Low	ON	OFF										
\mathbf{M} ID	OFF	ON										
Нідн	ON	ON										
Pulses/Mile (Pulses/Kilometer)	SEE PAG	E 18										
2000 (1250)			OFF	OFF	OFF	OFF						
4000 (2500)			ON	OFF	OFF	OFF						
6000 (3700)			OFF	ON	OFF	OFF						
8000 (5000)			ON	ON	OFF	OFF						
10000 (6200)			OFF	OFF	ON	OFF						
12000 (7500)			ON	OFF	ON	OFF						
18000 (11200)			OFF	ON	ON	OFF						
24000 (15000)			ON	ON	ON	OFF						
3200 (2000)			OFF	OFF	OFF	ON						
6400 (4000)			ON	OFF	OFF	ON						
9650 (6000)			OFF	ON	OFF	ON						
12870 (8000)			ON	ON	OFF	ON						
16090 (10000)			OFF	OFF	ON	ON						
19300 (12000)			ON	OFF	ON	ON						
28960 (18000)			OFF	ON	ON	ON						
38600 (24000)			ON	ON	ON	ON						
ENGINE/SETUP TIMER				-								
8 Cylinder/Low							OFF	OFF	OFF			
4 Cylinder/Low		l					ON	OFF	OFF			
6 Cylinder/Low		l					OFF	ON	OFF			
6 Cylinder/Extra High		l					ON	ON	OFF			l
8 Cylinder/High		l					OFF	OFF	ON			l
4 Cylinder/High		l					ON	OFF	ON			l
6 Cylinder/High		l					OFF	ON	ON			l
4 Cylinder/Extra High							ON	ON	ON			
VSS SOURCE SEE PAGE 18	•			•			•			•		
Sine Wave Input**										OFF		
SQUARE WAVE INPUT*										ON		
TRANSMISSION	•			•		-	•	•		•		•
Manual											OFF	
AUTOMATIC											ON	
CONTROL SWITCH SEE PAGE 22												
OPEN CIRCUIT												OFF
CLOSED CIRCUIT												ON
* VEHICLE'S COMBLITED								<u> </u>		l .		

^{*} VEHICLE'S COMPUTER

^{**} AUXILIARY VSS SOURCE (SIGNAL GENERATOR, MAGNET KIT)

INSTALLATION

I. CRUISE MODULE MOUNTING

NOTE

DO NOT MOUNT THE CRUISE MODULE IN THE FOLLOWING AREAS:

- * Under the fender.
- * Under the vehicle.
- * DIRECTLY TO THE ENGINE.
- * 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.
- A. SELECT A POSSIBLE LOCATION TO MOUNT YOUR

 CRUISE MODULE, SET THE CRUISE MODULE

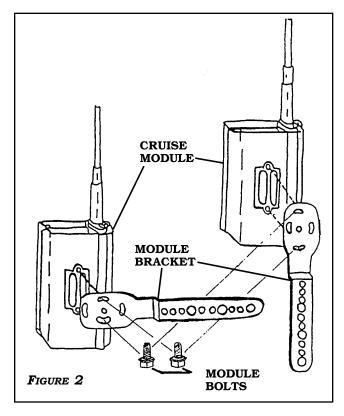
 UNMOUNTED IN THAT AREA. THE REASON FOR LEAVING
 THE CRUISE MODULE UNMOUNTED IS TO MAKE SURE
 THE CRUISE HARNESS WILL REACH THE PASSENGER
 COMPARTMENT AND THE CRUISE CABLE WILL REACH
 THE THROTTLE ATTACHING POINT.
- B. Once you have selected a location, install the Module Bracket to the bottom of the Cruise Module with the two (2) Module Bolts provided. It may be necessary to cut and bend the Module Bracket to achieve a custom fit. Figure 2

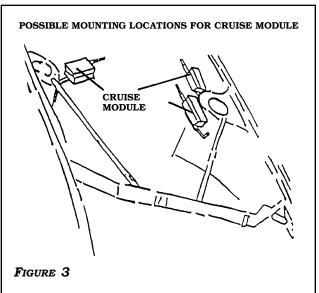
NOTE

<u>DO NOT OVERTIGHTEN!</u> DAMAGE TO THE CRUISE MODULE WILL OCCUR IF THE BOLTS ARE OVERTIGHTENED.

C. Mount the Cruise Module in the spot you have selected using two (2) of the Self-Threading Bolts provided in the kit. Be sure to set the programming switches located underneath the rubber grommet on top of the Cruise Module (See Page 7) before mounting the WorldCruise 2.

Figure 3





WARNING

II. MEASURING THROTTLE CABLE TRAVEL

THIS IS A VERY IMPORTANT STEP. FAILURE TO DETERMINE THROTTLE CABLE TRAVEL COULD CAUSE DAMAGE TO YOUR VEHICLE AND/OR WORLDCRUISE 2.

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 4**
- **B.** Depress accelerator pedal and make a mark on the throttle cable when the throttle is in the wide open position. *Figure 5*
- C. Measure the Distance "C" between the two marks. Figure 6 If the distance is greater than 41mm (1-5/8"), go to Page 9; If it is less, go to Step D.
- D. If the throttle travel is less than 41mm (1-5/8"), you must add length to the Cruise Cable to provide slack.

NOTE: SLACK IS THE DISTANCE THE **CRUISE CABLE** MOVES BEFORE THE THROTTLE STARTS TO MOVE.

- E. SLIDE A CONNECTOR COVER ON THE THROTTLE LOOP CABLE AND ON THE CRUISE CABLE. INSTALL A BEAD CHAIN CONNECTOR ON THE END OF THE LOOP CABLE AND ON THE END OF THE CRUISE CABLE. THE BEAD CHAIN CONNECTOR MAY NEED TO BE SPREAD SLIGHTLY FOR CABLE TO ENTER.
- F. Install the end bead of the **Bead Chain** in each **Bead**Chain Connector with a bead (or beads) between them to
 add additional length. The beads inside the **Bead Chain**Connectors do not add length.

NOTE: EACH BEAD OF THE **BEAD CHAIN** ADDED BETWEEN THE **BEAD**CHAIN CONNECTORS WILL GIVE YOU 7MM (.28") OF SLACK.

Example: If your throttle travels 35mm (1-3/8), you will need to add one (1) bead between connectors. Figure 7

G. After the Bead Chain is installed, lightly crimp the Bead Chain Connectors without pinching the cables and center the Connector Covers over the Bead Chain Connectors.

NOTE: YOU MUST ALWAYS USE THE CONNECTOR COVERS.

After determining your throttle cable travel, continue to ${\bf Section}$ ${\bf III.}$

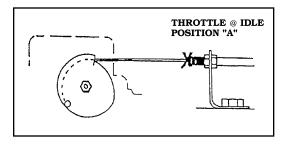


FIGURE 4

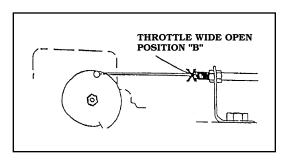


FIGURE 5

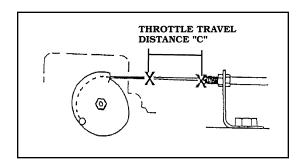


FIGURE 6

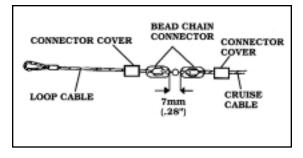


FIGURE 7

WARNING

III. ATTACHING CRUISE CABLE 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 **five (5)** different types of throttle connections.

- A. PULLEY ASSEMBLY USING THE LOOP CABLE
- B. PULLEY ASSEMBLY USING T-BAR ADAPTER (SEE PAGE 6)
- C. PEDAL ATTACHMENT.
- **D. FORD**TM THROTTLE
- E. GENERAL MOTORSTM AND CHRYSLERTM THROTTLE USING THREE BEAD CONNECTOR

NOTE

When using the Bead Chain Connector to connect the Bead Chain to the Cruise Cable you must always use the Connector Cover. Figure 8 Failure to use the Connector Cover could possibly cause the Bead Chain or Cruise Cable to hang in the Bead Chain Connector causing the throttle to be held in a partially open position. This condition may even occur when the cruise control is not being used.

A. Pulley Assembly Using The Loop Cable

- 1. On some vehicles it may be necessary to remove the air cleaner to access the throttle pulley segment.
- 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 9
- 4. CONNECT THE LOOP CABLE TO THE CRUISE CABLE USING THE BEAD CHAIN CONNECTOR AS FOLLOWS:

SLIDE A CONNECTOR COVER ON THE LOOP CABLE. INSTALL A BEAD CHAIN CONNECTOR ONTO THE LOOP CABLE AND THEN ONTO THE CRUISE CABLE. BEAD CHAIN CONNECTOR MAY NEED TO BE SPREAD SLIGHTLY FOR CABLES TO ENTER. AFTER THE BEAD CHAIN CONNECTOR IS INSTALLED, LIGHTLY CRIMP THE CONNECTOR WITHOUT PINCHING THE CABLES. THEN SLIDE THE CONNECTOR OVER OVER THE CENTER OF THE BEAD CHAIN CONNECTOR.

NOTE

YOU MUST ALWAYS USE THE CONNECTOR COVER. FAILURE TO DO SO COULD POSSIBLY CAUSE THE LOOP CABLE OR THE CRUISE CABLE TO HANG IN THE BEAD CHAIN CONNECTOR CAUSING THE THROTTLE TO BE HELD IN A PARTIALLY OPEN POSITION.

5. To secure the Loop Cable to the throttle cable, punch a small hole in the Connector Cover and slide the Tie Strap (102mm) through the hole and secure to the throttle cable. Figure 10

NOTE: FIRMLY TIGHTEN THE **TIE STRAP** (102mm) AND REMOVE EXCESS TO PREVENT POSSIBLE THROTTLE INTERFERENCE.

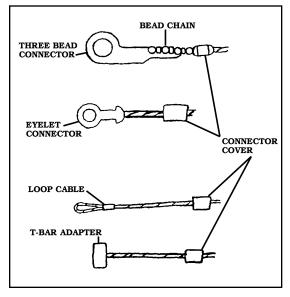


FIGURE 8

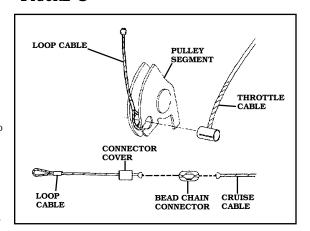


FIGURE 9

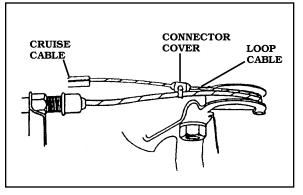


FIGURE 10

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.

INSTALLATION

III. ATTACHING CRUISE CABLE TO THROTTLE (CONTINUED)

- B. Pulley Assembly (Dual) Using The T-Bar Adapter
 - 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 14.
 - 3. Attach a Bead Chain Connector onto the Cruise Cable. Figure 11
 - 4. Attach the **T-Bar Adapter** to the top pulley segment. Slide the **Connector Cover** onto the **T-Bar Adapter**.
 - 5. Attach the **T-Bar Adapter** to the **Bead Chain Connector**Make sure to slide the **Connector Cover** over the **Bead**Chain Connector. Figure 12

C. PEDAL ATTACHMENT

- 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 Cruise Cable with a Bead Chain Connector. Make sure to use a Connector 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 **Connector Cover.**
- 4. Put M5 Bolt through the holes in the Tube Clamp. Slide the Eyelet Connector over the bolt. Thread Locknut onto the bolt and tighten. Figure 13

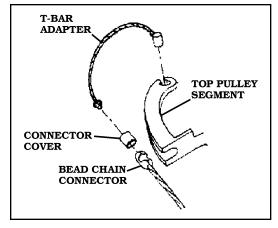


FIGURE 11

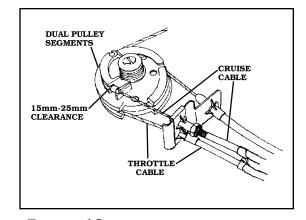


FIGURE 12

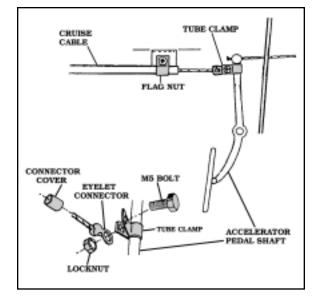


FIGURE 13

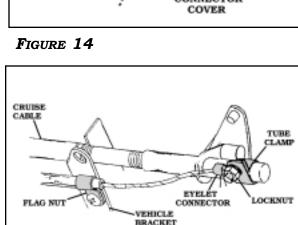
WARNING

III. ATTACHING CRUISE CABLE TO THROTTLE (CONTINUED)

- **D. FORD**TM 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 14
 - 2. ATTACH CRUISE CABLE TO THE EYELET CONNECTOR.

NOTE: USE THE CONNECTOR COVER.

- 3. Put the M5 Bolt through the holes in the Tube CLAMP. SLIDE THE EYELET CONNECTOR OVER THE BOLT. THREAD THE **LOCKNUT** ONTO THE BOLT AND TIGHTEN. FIGURE 14
- 4. Figure 15 is an example of a FordTM Throttle CONNECTION USING THE TUBE CLAMP.

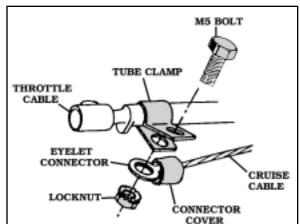


- FIGURE 15
- GENERAL MOTORSTM GMI HATCLIP BEAD **FORD**TM **CHRYSLER**TM THREE-BEAD ONNECTOR

FIGURE 16

- E. GENERAL MOTORSTM AND CHRYSLERTM THROTTLE USING THREE BEAD CONNECTOR.
 - 1. Most General MotorsTM vehicles and many CHRYSLERTM VEHICLES CAN USE THE THREE BEAD CONNECTOR TO ATTACH THE CRUISE CABLE. FIGURE 16

WARNING



III. ATTACHING CRUISE CABLE TO THROTTLE (CONTINUED)

- E. GENERAL MOTORSTM AND CHRYSLERTM THROTTLE USING THREE BEAD CONNECTOR. (CONTINUED)
 - 2. Attach the Bead Chain to the Three Bead Connector. Secure beads by folding the metal tabs. Figure 17
 - 3. Remove clip or pin which retains throttle cable (and washer if provided) and install **Three Bead Connector** on the same side of throttle cable that the **Cruise Cable** will be anchored (this is necessary so that **Cruise Cable** and throttle cable will not cross).
 - 4. The Three Bead Connector may need to be bent so that it clears the throttle cable. Figure 18 Use the Tie Strap (102mm) to hold the Three Bead Connector to the sleeve of the throttle cable. Figure 18
 - **5.** When the **Three Bead Connector** is properly used, the following parts will be required:

THREE BEAD CONNECTOR CONNECTOR COVER BEAD CHAIN CONNECTOR BEAD CHAIN

SEE FIGURE 19

NOTE

AFTER THE CRUISE CABLE HAS BEEN ATTACHED, MANUALLY MOVE THE THROTTLE TO ASSURE THE CRUISE CABLE DOES NOT HANG UP ON ANY PART OF THE VEHICLE.

WARNING

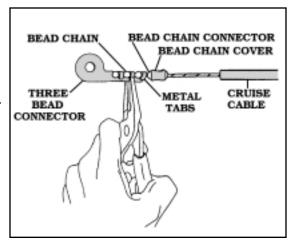


FIGURE 17

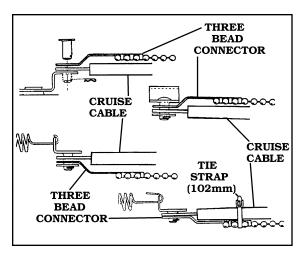


FIGURE 18

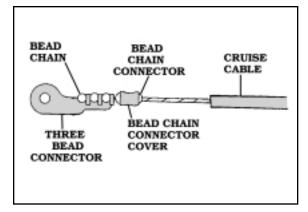


FIGURE 19

INSTALLATION

IV. ANCHORING CRUISE CABLE

THERE ARE **THREE (3)** TYPES OF CONNECTORS USED TO ANCHOR THE **CRUISE CABLE:**

- A. SNAP-IN ADAPTER
- B. General MotorsTM Blank Anchor
- C. FLAG NUT

A. SNAP-IN ADAPTER

- 1. Before using the Snap-In Adapter, remove the Adjustable Sleeve from the Cruise Cable. To use the Snap-In Adapter, it will be necessary to form threads on the end of the Cruise Cable. This is easily accomplished by placing the Lockwasher Nut on the end of the Cruise Cable with your fingers. Then using an 11mm box end wrench and turning clockwise until the desired amount of threads have been formed. Figure 20
- 2. After the threads have been formed, screw the SNAP-IN ADAPTER ONTO THE CRUISE CABLE. FIGURE 21



INSULATION ON THE CRUISE CABLE MUST EXTEND PAST THE END OF THE SNAP-IN ADAPTER ON ALL APPLICATIONS.

3. The **Snap-In Adapter** snaps into the square hole of the **Cable Bracket** *Figure 22* or snaps into an existing square hole on the vehicle (*common on GM*^{IM} *vehicles*). *Figure 23*

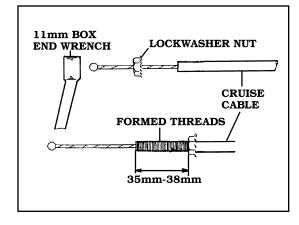


FIGURE 20

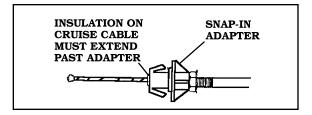


FIGURE 21

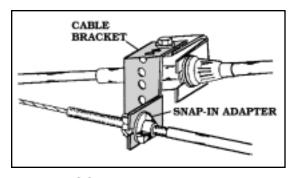


FIGURE 22

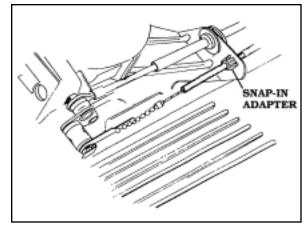


FIGURE 23

WARNING



IV. ANCHORING CRUISE CABLE (CONTINUED)

- B. General MotorsTM Blank Anchor
 - 1. To locate the blank anchor on **General Motors**tm vehicles, it is necessary to remove the air cleaner. The blank anchor is located above the throttle anchor.
 - 2. This anchor is hollow except at one end. Use a 6.4mm (.25") bit drill as shown in Figure 24.
 - 3. Before using the Lockwasher Nut, remove the Adjustable sleeve from the Cruise Cable. Then use the Lockwasher Nut to form threads on the end of the Cruise Cable. This is easily accomplished by placing the Lockwasher Nut on the end of the Cruise Cable with your fingers. Then use an 11mm box end wrench and turn clockwise until the desired amount of threads have been formed. Figure 20, Page 14
 - 4. Insert the **Cruise Cable** through the blank anchor and thread the other **Lockwasher Nut** in place.

 Figure 25



IF YOU DO NOT USE THE OTHER LOCKWASHER NUT, INSTALL A TUBE CLAMP 152mm-178mm FROM THE ANCHOR POINT. FIGURE 26 THIS WILL KEEP THE CRUISE CABLE FROM BACKING OUT OF THE ANCHOR.

5. The **Lockwasher Nut** can also be used if there is a pre-existing **6.4mm** hole in a bracket on the vehicle or if it is possible to drill a **6.4mm** hole in a bracket on the vehicle.

WARNING

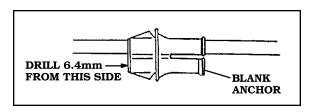


FIGURE 24

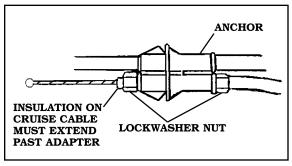


FIGURE 25

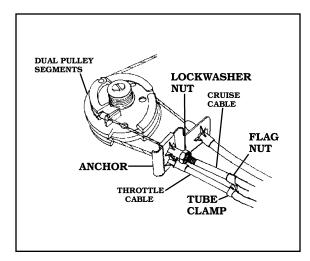


FIGURE 26

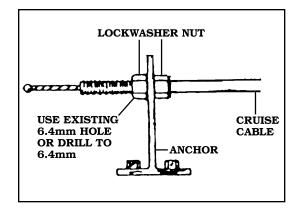


FIGURE 27

IV. ANCHORING CRUISE CABLE (CONTINUED)

CAUTION

WHEN USING THE FLAG NUT ON THE CRUISE CABLE THE ADJUSTABLE SLEEVE MUST BE REMOVED.

WHEN USING A TUBE CLAMP ON THE CRUISE CABLE THE ADJUSTABLE SLEEVE MUST BE USED TO PREVENT SLIPPAGE OR BINDING OF CABLE.

C. FLAG NUT

- 1. Before using the Flag Nut, it will be necessary to form threads on the end of the Cruise Cable. This is easily accomplished by placing the Lockwasher Nut on the end of the Cruise Cable with your fingers. Then use an 11mm box end wrench and turn clockwise until the desired amount of threads have been formed. Figure 20, Page 14
- 2. After the threads have been formed, screw the Flag Nut onto the Cruise Cable. Figure 28
- 3. The Flag Nut may be used to anchor the Cruise Cable to the existing throttle cable bracket. Figure 29 In some cases there is an existing hole, in other cases you can drill a 5mm (.20") hole in the bracket.
- 4. The Flag Nut may also be used to anchor the Cruise Cable using the Cable Bracket.

 Figure 30

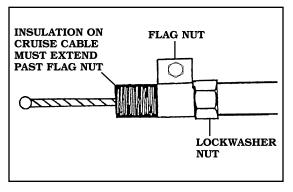


FIGURE 28

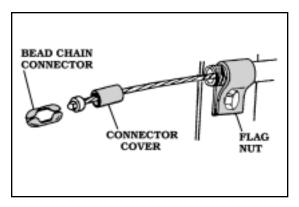


FIGURE 29

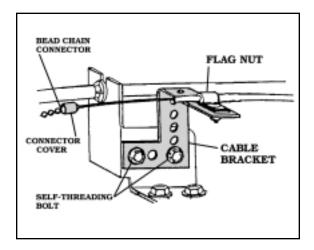


FIGURE 30

WARNING

V. CRUISE HARNESS

- **A.** Push Rubber Grommet securely into place on the cover of the **Cruise Module**. *Figure 31*
- **B.** Straighten the **Cruise Harness** and find the **2- & 4-**pin mating connectors. Seperate the **2- & 4-**pin connectors. A small screwdriver may be needed (See **K** in **Figure 34**).
- C. Cruise Harness needs a 19mm (.75") 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 vehicle grommet. If not, drill, saw, or punch a 19mm hole in bulkhead. A hole a few millimeters to the left or slightly higher than the steering column is usually a good place. Figure 32



CHECK INSIDE BEFORE DRILLING, SAWING, OR FILING SO YOU DON'T DAMAGE ANYTHING.

- **D.** From engine side, pass the **2-** & **4-**Pin connectors through hole. If you do not hook up the **Dark Blue TACH** wire and the **Gray VSS** wire under the hood, pass them through to the inside of the vehicle, also.
 - **E.** Reattach the **2-** & **4-**Pin mating connectors and make the necessary wire connections. (See **Page 18** For wiring Instructions)

VI. SEALING BULKHEAD

SEAL HOLE IN BULKHEAD WITH SEALING PUTTY AS SHOWN IN FIGURE 32.

VII. 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.

WARNING

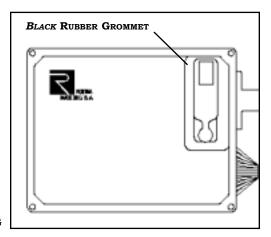


FIGURE 31

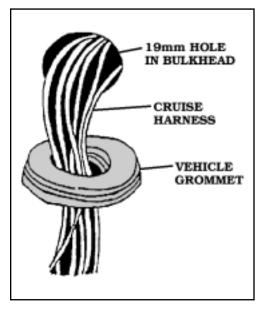


FIGURE 32

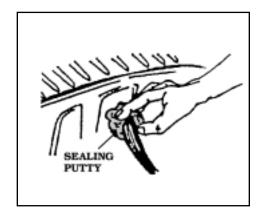


FIGURE 33

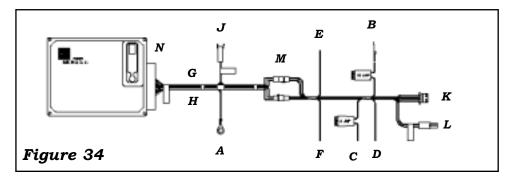
INSTALLATION

VIII. WIRING ATTACHMENTS TO VEHICLE

UTILIZE **FIGURE 34** TO MAKE THE NECESSARY WIRING HARNESS CONNECTIONS TO YOUR VEHICLE.

CAUTION

BEFORE MAKING ANY WIRING CONNECTIONS, BE SURE TO DISCONNECT YOUR VEHICLE'S NEGATIVE BATTERY CABLE TO AVOID ELECTRICAL SHOCK AND/OR DAMAGE TO THE THE VEHICLE'S ELECTRICAL SYSTEM.



A. BLACK GROUND WIRE

IN ORDER TO FIND A GOOD GROUND FOR THE CRUISE SYSTEM, FIND A VEHICLE GROUND POINT WHICH IS A CLEAN UNPAINTED METAL SURFACE. IF THE CRUISE CONTROL DOES NOT "SEE" GROUND AT ALL TIMES, IT WILL NOT FUNCTION.

NOTE: DO NOT USE THE ENGINE AS A GROUNDING POINT. DO NOT USE THE CABLE BRACKET AS A GOUNDING POINT.

NOTE: To find a place to get electrical power you will need to ground one lead of your test light or volt-ohmmeter. 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. The bracket for the parking brake lever is usually a good ground. Turn the ignition **OFF.**

B. Brown Accessory Power

Find a fuse at the fuse panel that supplies power to one of the vehicles accessories. It should be +12 volts when the key is **ON** and **zero** (O) volts when the key is **OFF** or in the **START** (CRANK) position.

C. RED BRAKE POSITIVE

"Hot" side of brake switch: Use the wire at the brake switch connector with constant +12 volts

D. VIOLET BRAKE NEGATIVE

"Cold" side of brake switch: Use the wire at the brake switch connector with zero (0) resistance when brake is not pressed, and +12 volts or open resistance when brake is pressed.

E. DARK BLUE TACHOMETER (TACH) WIRE

THE TACH FUNCTION IS A SAFETY FEATURE OF THE GLOBALCRUISE.

If a vehicle with an automatic transmission is accidentally "knocked" into neutral while the vehicle is in motion and the **GlobalCruise** is active, the **TACH** wire, when connected, will disengage the **GlobalCruise** before engine over-rev. If the **TACH** wire is not "hooked-up", the cruise control will function; however the **TACH** over-rev safety feature will be inactive; this is dangerous and not recommended. **Rostra Precision Controls, Inc.** always recommends the attachment of the **TACH** wire.

On a vehicle with a manual transmission, the **TACH** wire connection is not required only when **Clutch Disengagement Switch** (*Kit# 250-4206*) has been installed; this will take into account the **TACH** over-rev safety feature. The **TACH** wire should be grounded when using a clutch disengagement switch to ensure that the wire does not introduce "trashy" signals into the system.

F. GRAY VEHICLE SPEED SENSOR (VSS) WIRE

The Gray Vehicle Speed Signal (VSS) wire is how the Global Cruise "knows" how fast the vehicle is moving. The Pulses Per Mile/Kilometer (PPM/PPK) are a characteristic of the vehicle and must be set accordingly (See Page 7). If VSS cannot be located on the vehicle then an auxiliary road speed sensor must be used [Signal Generator or Magnet & Coil Pick-Up Kit (Kit# 250-4165)]. If you use an auxiliary speed sensor, plug it into auxiliary speed sensor connector (G in Figure 34) and trim the Gray VSS wire as not to pick-up any stray signals.

IN ORDER TO LOCATE THE VSS AND TACH SIGNALS, CONSULT A VEHICLE SHOP MANUAL, OUR VEHICLE TECHNICAL GUIDE (ROSTRA FORM# 2482), TRY OUR FAX-BACK SYSTEM AT (910) 610-4191, CALL OUR TECHNICAL SERVICE DEPARTMENT AT (910) 277-1828, FAX US AT (910) 276-3759 (USA) OR VISIT US ON THE WEB AT WWW.ROSTRA.COM.

G. LIGHT GREEN NEUTRAL SAFETY (NSS)

THE NSS FUNCTION IS A SAFETY FEATURE OF THE GLOBALCRUISE.

If a vehicle with an automatic transmission is accidentally "knocked" into neutral while the vehicle is in motion and the **GlobalCruise** is active, the **NSS** wire, when connected, will disengage the **GlobalCruise** before engine over-rev. If the **NSS** wire is not "hooked-up", the cruise control will function; however the engine over-rev protection will be inactive; this is dangerous and not recommended. This wire terminates in the harness.

H. ORANGE ENABLE OUTPUT (ENO) WIRE

The **ENO Function** allows you to use the **GlobalCruise** as a driver for an external wheatlamp connected to a V+. The **ENO** Wire will drive low when the system is engaged and to a high impedance state otherwise. This wire terminates in the harness.

J. AUXILIARY SPEED SENSOR CONNECTOR

This connector is utilized when the **Gray VSS** wire is not used as the vehicle speed source. Both **Rostra** [Signal Generator and Magnet & Coil Pick-Up Kit (Kit# 250-4165)] have a mating connector which plugs right into the wiring harness.

K. 4-Pin Switch Connector

This connector is utilized by the control switch. All **Rostra** control switches contain a mating connector which plugs right into the main wiring harness.

L. 2-PIN SWITCH CONNECTOR

This connector is used in conjunction with the **4-Pin Switch Connector** (*H in Figure 34*). The **2-Pin Switch Connector** (*J in Figure 34*) is utilized by control switches which require an additional power and ground source such as those containing an **LED** indicator light or **rostra Radio Frequency** (*RF*) models.

M. BULKHEAD CONNECTORS

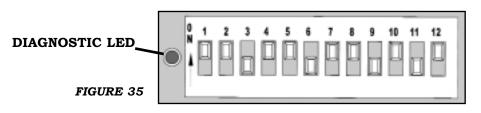
These connectors simplify the installation of the wiring harness through the engine bulkhead (firewall). Simply disconnect the connectors, run them through any 19mm (.75") hole in the firewall (preferably near the steering column), and reconnect them once inside the passenger compartment.

N. GLOBALCRUISE SERVO CONNECTOR

TROUBLESHOOTING

IX. SELF DIAGNOSTIC TESTING PROCEDURE

THE GLOBALCRUISE IS EQUIPPED WITH A SELF DIAGNOSTIC LIGHT EMITTING DIODE (LED) LOCATED UNDERNEATH THE RUBBER GROMMET ON TOP OF THE CRUSE MODULE. UTILIZE THE FOLLOWING SELF DIAGNOSTIC PROCEDURE TO TROUBLESHOOT YOUR CRUISE CONTROL IF IT DOES NOT FUNCTION PROPERLY ONCE INSTALLED.



THE TWELVE (12) PROGRAMMING SWITCHES AND DIAGNOSTIC LED ARE LOCATED UNDER THE BLACK RUBBER GROMMET ON TOP OF THE CRUISE MODULE.

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 22): PRESS AND HOLD THE RESUME/ACCEL BUTTON WHILE YOU TURN THE IGNITION SWITCH TO THE ON POSITION WITHOUT STARTING THE ENGINE. NOW RELEASE THE THE RESUME/ACCEL SLIDE SWITCH.

OPEN CIRCUIT CONTROL SWITCH (SEE PAGE 22): 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# 12. IT SHOULD BE ON FOR A NORMALLY CLOSED CIRCUIT CONTROL SWITCH AND OFF FOR A NORMALLY OPEN CIRCUIT CONTROL SWITCH. (SEE PAGE 22): 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 22).
- 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 22).
- STEP 7: YOU WILL NEED A SECOND PERSON TO HELP YOU PERFORM 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 TO 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.

STEP 8:

- A. VEHICLE'S 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 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. INPECT YOUR VSS CONNECTION AND REENTER SELF DIAGNOSTIC MODE.

TROUBLESHOOTING

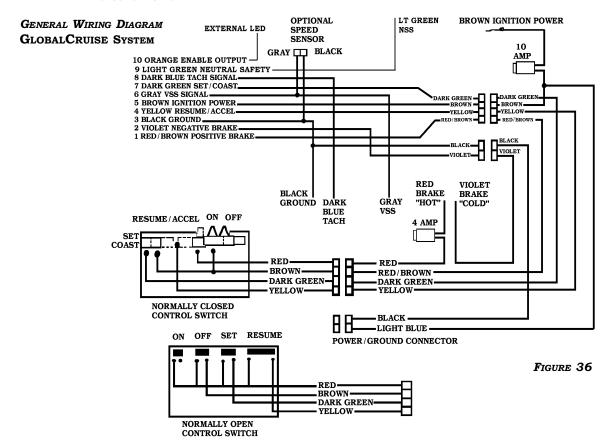
- B. Auxiliary Speed Sensor ([Signal Generator or Magnet & Coil Pick-Up Kit (Kit# 250-4165)] Raise one (1) of the vehicle drive wheels (both drive wheels on a limited slip differential) and block the non drive wheels. Use a support stand for safety. Spin the drive wheel by hand as fast as possible (You 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 GLOBALCRUISE HAS SUCCESSFULLY PASSED THE SELF DIAGNOSTIC TESTING PROCEDURE. IF IT STILL DOES NOT FUNCTION, TEST YOUR TACH SIGNAL.

X. TACH SIGNAL TESTING PROCEDURE

- 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 22): PRESS AND HOLD THE RESUME/ACCEL BUTTON WHILE YOU TURN THE IGNITION SWITCH TO THE ON POSITION AND START THE ENGINE. NOW RELEASE THE THE RESUME/ACCEL SLIDE SWITCH.

OPEN CIRCUIT CONTROL SWITCH (SEE **PAGE 22**): 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.

- STEP 4: THE DIAGNOSTIC LED SHOULD BE FLASHING. REV THE ENGINE, THE LED SHOULD FLASH FASTER AT HIGHER RPM'S. IF SO, YOUR TACH SIGNAL IS VALID, IF NOT, GO TO STEP 4A.
 - A. CHECK STEPS TO ENTERING **DIAGNOSTIC MODE** AND TEST AGAIN.
 - B. EITHER YOUR TACH WIRE IS INCORRECT OR YOUR CONNECTION IS BAD. INSPECT YOUR TACH CONNECTION AND REENTER SELF DIAGNOSTIC MODE.



PAGE 21

TROUBLESHOOTING

XI. CONTROL SWITCH TESTING PROCEDURE

Utilize the following continuity charts to test your control switch if you suspect that it is not functioning properly. You need to unplug the 8-pin connector from the **Cruise Module** to perform these tests.

- 1. Ground the test light lead and verify that the light works by probing a known power source.
- 2. FOLLOW THE TEST CHARTS BELOW USING THE APPROPRIATE CHART FOR YOUR CONTROL SWITCH.

YOUR CONTROL SWITCH IS A CLOSED CIRCUIT CONTROL SWITCH IF:

1. Its rostra part number is 250-3002, 250-3018, 250-3020, 250-3021, 250-3026, 250-3032, 250-3084, 250-3091, 250-3100, 250-3120, 250-3125, 250-3126, 250-3127, 250-3133, 250-3167, 250-3168, 250-3169, 250-3175, 250-3180, 250-3194, 250-3304, 250-3328, 250-3421, 250-3446

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2. You must push the control button to the **left** for the **RESUME/ACCEL** function.

YOUR CONTROL SWITCH IS AN **OPEN CIRCUIT CONTROL SWITCH** IF:

1. Its rostra part number is 250-3357, 250-3358, 250-3443, 250-3444, 250-3592, 250-3593, 250-3632, 250-3633, 250-3594, 250-3595, 250-3742, 250-3743.

OF

2. YOU MUST PUSH THE CONTROL BUTTON TO THE RIGHT FOR THE RESUME/ACCEL FUNCTION.

OF

3. IT HAS A GREEN LED INDICATOR LIGHT.

OR

4. It is a ${f ROSTRA}$ Radio ${f Frequency}$ (${\it RF}$) control switch.

CLOSED CIRCUIT CONTROL SWITCH

IGNITION SWITCH POSITION	CONTROL SWITCH POSITION	RED WIRE	<i>DARK GREEN</i> WIRE	YELLOW WIRE	BROWN WIRE
OFF	OFF	OFF	OFF	OFF	OFF
OFF	ON	ON	ON	OFF	OFF
OFF	ON press and hold SET/COAST	ON	OFF	ON	OFF
OFF	ON press and hold RESUME/ACCEL	ON	ON	ON	OFF
ON	ON	ON	ON	OFF	ON
CRANK or START	ON	ON	ON	OFF	OFF

OPEN CIRCUIT CONTROL SWITCH

IGNITION SWITCH POSITION	CONTROL SWITCH POSITION	RED WIRE	DARK GREEN WIRE	YELLOW WIRE	BROWN WIRE
OFF	OFF	OFF	OFF	OFF	OFF
OFF	ON	ON	OFF	OFF	OFF
OFF	ON press and hold SET/COAST	ON	ON	OFF	OFF
OFF	ON press and hold RESUME/ACCEL	ON	OFF	ON	OFF
ON	ON	ON	OFF	OFF	ON
CRANK or START	ON	ON	OFF	OFF	OFF

The **Crank** or **Start ignition switch position** refers to the momentary state when the key starts the engine just before it returns to the **Run ignition switch position**.

OPERATING INSTRUCTIONS

XII. GLOBALCRUISE OPERATING INSTRUCTIONS

ON: TO OPERATE THE **GLOBALCRUISE**, TURN THE POWER BUTTON ON. (*GREEN LED INDICATOR WILL LIGHT*, *IF EQUIPPED.*) WAIT THREE (3) SECONDS BEFORE SETTING SPEED.

SET SPEED: TO ENGAGE SYSTEM, DRIVE AT ANY SPEED ABOVE 50 KPH (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 THE BUTTON IS RELEASED PLUS OR MINUS 3 KPH (1-1/2 MPH) PRESS ACCELERATOR AND SPEED WILL INCREASE, RELEASE ACCELERATOR AND YOU WILL RETURN TO SET SPEED.

NOTE: THE RESUME/ACCEL BUTTON WILL SET THE GLOBALCRUISE 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 **50 KPH** (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 **1-1/2** to **5** KPH (2 to 3 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 1-1/2 to 5 KPH (2 to 3 MPH).

DISENGAGE: DEPRESS BRAKE PEDAL SLIGHTLY; AUTOMATIC SPEED CONTROL WILL CEASE BUT SET SPEED WILL STAY IN THE 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 50 KPH (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 KPH (MPH) of your set speed, then press and release the RESUME/ACCEL button.

THINGS YOU SHOULD KNOW ABOUT YOUR GLOBALCRUISE

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

Under normal conditions and with proper switch settings, speed should be controlled within plus or minus **3 kph** (1-1/2 MPH). There may be situations; however, which make it seem as if the **GlobalCruise** is not capable of functioning accurately, such as an extra heavy load, a very steep hill, or a severe headwind.

CAUTION: DO NOT USE THE GLOBALCRUISE ON A SLIPPERY ROAD NOR IN HEAVY TRAFFIC.

CAUTION: (MANUAL TRANSMISSION) WHILE DRIVING WITH
THE GLOBALCRUISE ON, DO NOT SHIFT TO NEUTRAL
WITHOUT DEPRESSING THE CLUTCH PEDAL, AS THIS
MAY CAUSE ENGINE RACING OR OVERREVING. IF THIS
HAPPENS, DEPRESS THE CLUTCH PEDAL OR TURN
OFF THE MAIN CRUISE CONTROL SWITCH
IMMEDIATELY.

OUR QUALIFIED EXPERT TECHNICAL SERVICE DEPARTMENT IS READY TO ASSIST YOU WITH ANY QUESTIONS OR PROBLEMS THAT YOU MAY HAVE ABOUT OUR PRODUCT. CONTACT US VIA PHONE AT (910) 277-1828 (USA) OR FAX AT (910) 276-3759 (USA).

