Installing a Delphi Stepper Motor Cruise Control on GMC Motorhome

- One Piece Module
 No Vacuum needed
 'Resume' Feature
 Increase/Decrease speed in 1 MPH increments
- Factory LookGM Parts

Parts Needed for Basic Installation



Parts for Enhancements



Parts for Enhancements



Wiring Diagram as installed on '90 Chevrolet Pick-up



*A modification to the plug is required at this time if you choose the option of connecting the original Tell-Tale light. This is addressed in the next 7 frames.









*To Connect Tell-Tale Signal Wire, Change the Module Plug

The 'J' cavity on the MW unit is blocked and will not accept a wire. Select a suitable plug from another cruise control or anti-lock brake module.

NOTE: Required wire cavities must be open to accept wires. This plug has a removable seal in the blank ('H') cavity. *The wires have to be relocated to the replacement plug.

^ First the wire retainer has to be removed by releasing the tangs.

*This is a locking tang that holds the terminal into the plug. These tangs have to be depressed in order for the terminal to be released from the plug.

*Using a pick, probe beside the terminal to depress the tang.

*When the tang is released the terminal & wire will pull out the back of the plug..

*Move Wires to Replacement Plug

- Bend the tangs back into locking position.
- Transfer wires to corresponding plug cavities.
- Install the terminals with the tangs toward the plug clip.
- Add a wire to 'J' for the Tell-Tale light.
- Add plug seals as necessary to seal the plug.
 - Replace the retaining clip to hold wires into the plug.

Wiring Diagram as Installed on GMC Motorhome

Warning: GM uses redundant brake switches in their installations for failsafe reasons. That was NOT done in this installation. *An additional switch could be added to circuit 'D' to add failsafe.



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Using harvested & original wiring harnesses construct a new wiring harness for the motorhome that is at least 76" long. 80" would be better. Follow the wiring diagram.

59

Wires to VSS

99

Circuit Ground & *Tell Tale signal

04

69

Brake Switch Plug from motorhome harness

Add Failsafe Brake Switch here

Power wire

Plug from motorhome harness

Original plug not used Control Switch Plug from harvested harness

80" Length starts here

Wiring 15" to VSS to Plug



Original Wires and Dump Hose Removed

Cockpit Wires - threaded through same hole as original wires and dump hose Brake Switch Plug on New Harness

Control Switch Plug on New Harness

Power Plug on New Harness

Install Dump Valve



Ground Wire attached at Original Location

Tell Tale Wire Attached to Original Plug

HIV ALTONIA

Mount the Vehicle Speed Sensor and connect the 3 wires



Install Module for VSS input to TBI Computer

• All the circuit board does is divide the white wire signal from the generator (4000 ppm) by 2 to get a suitable signal for the TBI computer (2000 ppm).



Module Wiring Diagram

- +12V = RED, -12V = BLACK,
- White =VSS 4000 pulses/mile,
- GREEN = computer VSS 2000



Position Cruise Module Under Driver's Seat

On upper step riser.

Drill pilot holes

Mounted Cruise Module with plug installed

Mounting the Throttle Cable

Remove Throttle Cable & Cable Bracket

Bracket from '80's Olds 307 can be used without modification if original air cleaner is not used.

Bracket is too tall and interferes with original air cleaner housing Stock Height 3.25"

TANLEY 3

8

G

5

NO. 3

Modifying Bracket to Clear Air Filter Housing

First Cut to Shorten

Second Cut ~.75"



Bracket Welded Together

Comparing Height of Brackets



Original Bracket

Bevel the Locater Tab so it will fit into the slot.



Modify Housing to Eliminate Interference Accelerator Cable Reattached Original Cruise Control Throttle Stud

Use Clip & Washer to Attach Cruise Control Cable to Stud

Throttle Cables & Bracket Installed and Ready for Air Filter


Throttle Body



Position to the left of the throttle cable



Welded Bracket



Cruise Throttle Stud



Install Stud on Throttle Lever



Mounted Cables



****Cruise Control Switch Installation**

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WIPER

LIGHTS

** '90-'91 Eldorado/Seville Cruise Control Switch

Plug is accessible without removing steering wheel



Break off lever from donor vehicle

**These clips are very fragile. The following is a technique to use for removing the cover with a single edged razor blade. **Insert the blade into the slot just deep enough to allow the blade to lift on the back side of the cover. If the blade is too deep it will get caught in the switch housing and not pry the cover up to disengage the clips.

TZAOD

110

**Push down on the blade to lift the cover enough to release the clips



**Cut plug from wire and remove switch from housing.



**To hold the switch housing onto the lever shaft the original and a few of the later model levers are splined.

Most levers are crosshatched and difficult to remove. There is no distinguishing feature identifying to the method of attachment.

**To remove switch housing:
use a heat gun to warm the shaft
hold the shaft with lock pliers
grab the switch housing and pull the housing off.
Be careful not to overheat.
May take several conservative attempts.

Tools needed to remove steering wheel





Pull Steering wheel



Remove Cover Plate



Depress Lock Plate



Remove Lock ring



**Using the Maintenance Manual as a guide remove the steering wheel and locking plate from the steering column. This will expose the turn signal switch lever. Remove the single screw located here

**Attach a pull wire into the end of the Cruise Control Switch Wire located near the brake pedal switch.



**Pull the switch wire up through the steering column while feeding the pull wire from the bottom. DO NOT HAVE THE COLUMN in 'TILT'. **Remove from the pull wire, remove the switch from the lever & cut the wire to remove it from the lever.

Harvest 4-conductor wire & plug from a donor car with a multifunction switch. Simply unplug at the base of the column and pull the switch out along with the wire or cut the wire at the switch and pull it out from the bottom of the column.

Run the wire through the GMC lever and switch housing

**Remove the wires from the switch and solder the longer corresponding wires onto there respective terminals..





**Clock the switch in the correct orientation and press it onto the lever.

**Put the end of the wire through the lever hole; attach to the pull wire and thread the wire down through the steering column.

FUE



**Mount the lever on the switch while carefully positioning the wires

WASHER

LIGHTS

65

Connect the switch wire to the plug on the Cruise Control Harness



**Replace the lock plate and steering wheel

6

Π

WIPER

LIGHTS

45 55

5

***If you choose to use the more common Multi-Function Switch, here are a few considerations.

WIPER

WASHER

IGHTS

65

*85

75

 Instead of cutting the plug from the switch wire, the wires could be disconnected from the switch.

•The switch housing is glued together so it needs to be cut in a 'C' fashion for access to the switch. The area of the switch lever is not to be cut.



The wires can be de-soldered Run through the Lever and the Switch Housing Reattached in their respective locations on the switch

Note: The Switch Lever simply lifts from the switch

Note: The switch cannot be removed from the Housing Cap

***Install the switch and glue the switch housing back together:

- Protect the surface from glue
- Do not allow glue to contact Switch Lever
- Clock the cap in proper alignment



switch installation should be applied for this installation.

Replace top of Column with one that has the Multi-function Switch

- Features

- Some have telescopic
- Some have cornering lights
- Cruise
- Wiper Control
- Dimmer Switch
- Some have Hi-Beam Flash



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By Richard Sowers
Richard Sowers Presentation on Steering Column Upgrade at http://www.gmceast.com

http://www.gmceast.com/Steering%20ccolumn%20rebuild%20hi%20res%20NW.pdf

