travelaccessoriesinc.

INSTALLATION INSTRUCTIONS

OEM Replica Series

ELECTRONIC CRUISE CONTROL

for

VOLKSWAGEN

Including

VANAGON

THESE INSTALLATION INSTRUCTIONS ARE APPLICABLE TO THE FOLLOWING CAR LINE FIT KITS: P/N 47-00-4090 AND P/N 47-00-4100.

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COMPONENT PARTS LIST

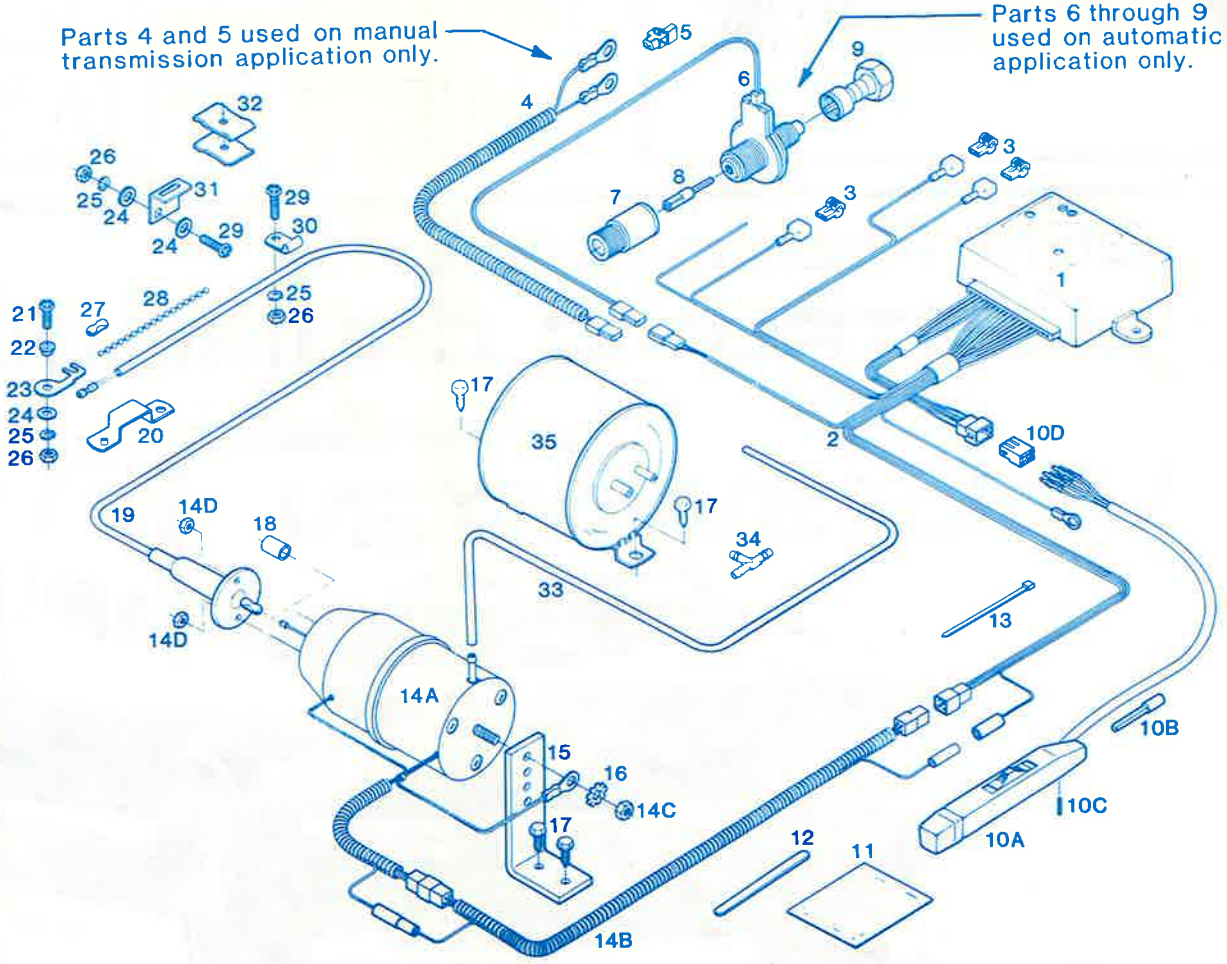
VOLKSWAGEN

Excluding VANAGON

1.	ELECTRONIC PACKAGE	(1)
2.	MAIN WIRING HARNESS	(1)
3.	T-CONNECTOR	(3)
4.	BLACK & BROWN TWISTED IGNITION HARNESS	(1)
5.	RED CONNECTOR	(1)
6.	SIGNAL GENERATOR	(1)
7.	SIG. GEN. ADAPTER SLEEVE	(1)
8.	SIG. GEN. ADAPTER SHAFT	(1)
9.	SIGNAL GENERATOR EXTENSION	(1)
10.	CONTROL ARM KIT	
	A. CONTROL ARM	(1)
	B. CONTROL ARM SHAFT	(1)
	C. ROLL PIN	(1)
	D. 6 PIN HOUSING, MALE	(1)
11.	EPOXY GLUE PACKET	(1)
12.	GLUE STIR STICK	(1)
13.	WIRE TIE	(8)
14.	SERVO ASSEMBLY	
	A. SERVO	(1)
	B. SERVO PIGTAIL HARNESS	(1)
	C. 1/4" HEX NUT	(1)
	D. #8 HEX NUT	(2)
15.	SERVO MOUNTING BRACKET	(1)
16.	1/4" STAR WASHER	(1)
17.	1/4" SELF-TAPPING SCREW	(4)
18.	CONNECTOR SLEEVE	(1)
19.	SERVO CABLE ASSEMBLY	(1)
20.	THROTTLE BRACKET	(1)
21.	#10 X 1/2" LG. HEX BOLT	(1)
22.	SHOULDER SPACER	(1)
23.	CABLE RING	(1)
24.	#10 FLAT WASHER	(3)
25.	#10 STAR WASHER	(3)
26.	#10 HEX NUT	(3)
27.	BEAD CONNECTOR	(1)
28.	BEAD CHAIN	(1)
29.	#10 X 3/4" LG. HEX BOLT	(2)
30.	P-CLAMP	(1)
31.	CABLE CASING BRACKET	(1)
32.	TWO-PIECE W-CLAMP	(1)
33.	VACUUM HOSE	(1)
34.	VACUUM TEE	(1)
35.	VACUUM RESERVOIR	(1)

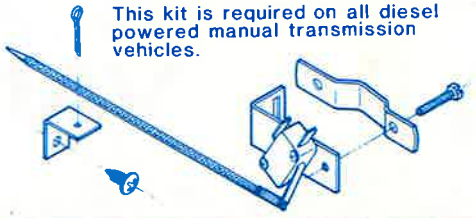
Parts 4 and 5 used on manual transmission application only.

Parts 6 through 9 used on automatic application only.



OPTION
CLUTCH SWITCH KIT
PART NUMBER 96-00-6000

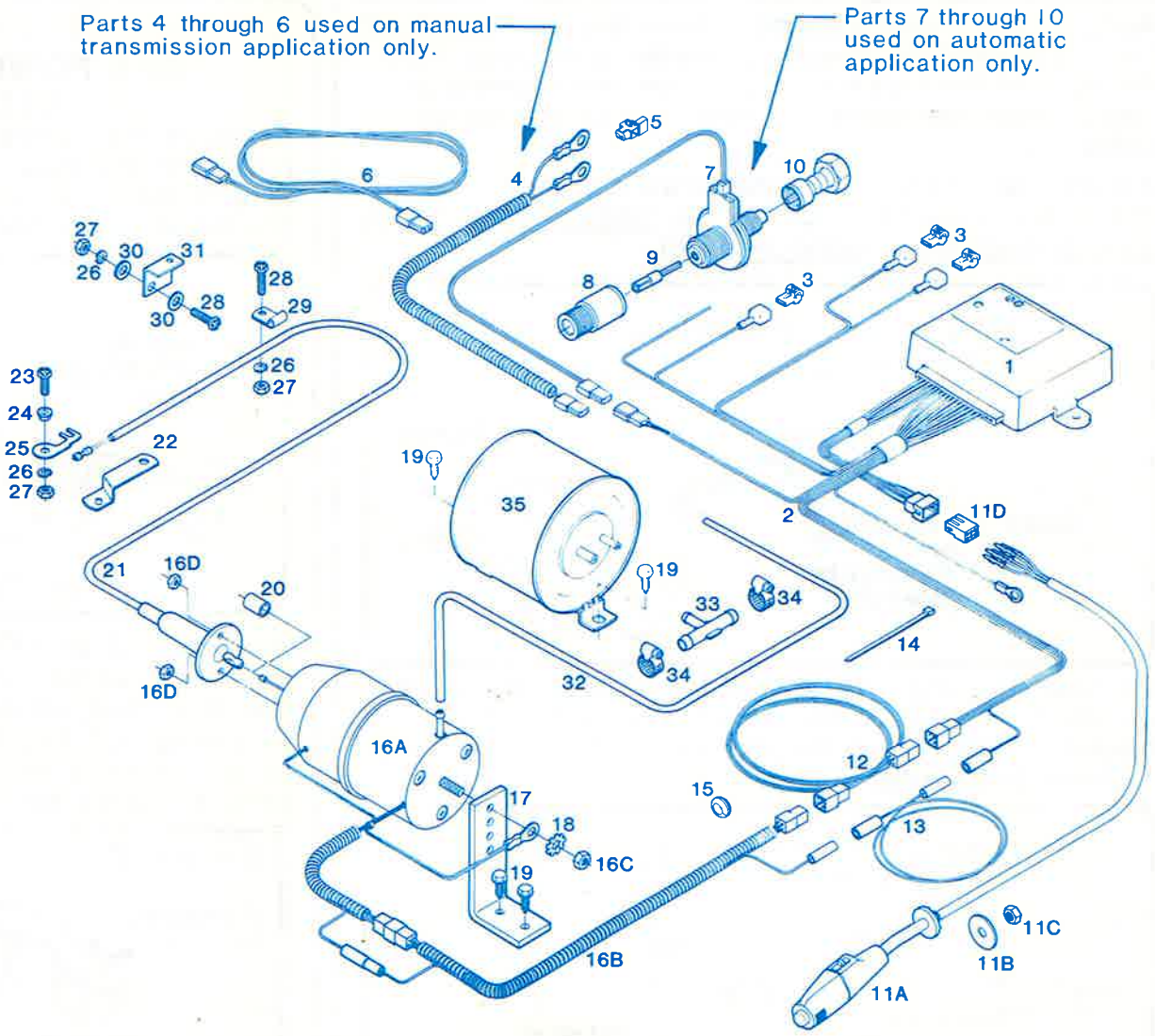
This kit is required on all diesel powered manual transmission vehicles.

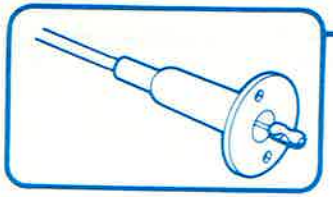


COMPONENT PARTS LIST

VANAGON

1.	ELECTRONIC PACKAGE	(1)
2.	MAIN WIRING HARNESS	(1)
3.	T-CONNECTOR	(3)
4.	BLACK & BROWN TWISTED IGNITION HARNESS	(1)
5.	RED CONNECTOR	(1)
6.	IGN. COIL HARNESS EXTENSION	(1)
7.	SIGNAL GENERATOR	(1)
8.	SIG. GEN. ADAPTER SLEEVE	(1)
9.	SIG. GEN. ADAPTER SHAFT	(1)
10.	SIGNAL GENERATOR EXTENSION	(1)
11.	CONTROL ARM KIT	
	A. CONTROL ARM	(1)
	B. 1" DIA. FLAT WASHER	(1)
	C. 1/4" JAM NUT	(1)
	D. 6 PIN HOUSING, MALE	(1)
12.	SERVO HARNESS EXTENSION	(1)
13.	SERVO GROUND WIRE EXTENSION	(1)
14.	WIRE TIE	(8)
15.	RUBBER GROMMET	(1)
16.	SERVO ASSEMBLY	
	A. SERVO	(1)
	B. SERVO PIGTAIL HARNESS	(1)
	C. 1/4" HEX NUT	(1)
	D. #8 HEX NUT	(2)
17.	SERVO MOUNTING BRACKET	(1)
18.	1/4" STAR WASHER	(1)
19.	1/4" SELF-TAPPING SCREW	(4)
20.	CONNECTOR SLEEVE	(1)
21.	SERVO CABLE ASSEMBLY	(1)
22.	THROTTLE BRACKET	(1)
23.	#10 X 1/2" LG. HEX BOLT	(1)
24.	SHOULDER SPACER	(1)
25.	CABLE RING	(1)
26.	#10 STAR WASHER	(3)
27.	#10 HEX NUT	(3)
28.	#10 X 3/4" LG. HEX BOLT	(2)
29.	P-CLAMP	(1)
30.	#10 FLAT WASHER	(2)
31.	CABLE CASING BRACKET	(1)
32.	VACUUM HOSE	(1)
33.	VACUUM TEE	(1)
34.	HOSE CLAMP	(2)
35.	VACUUM RESERVOIR	(1)

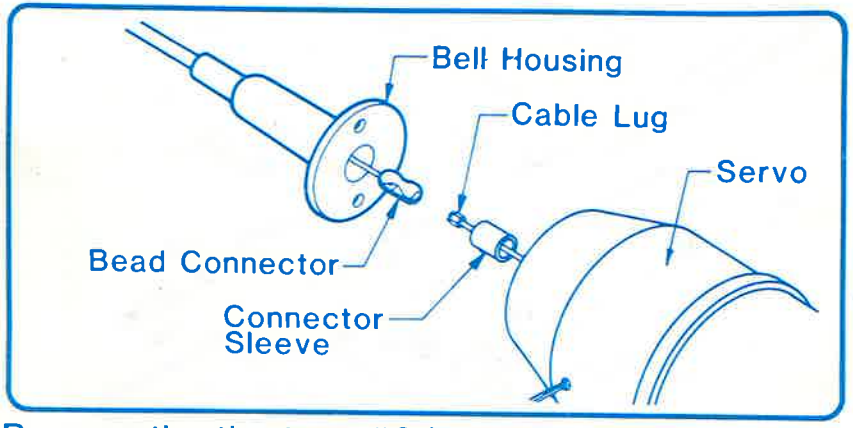




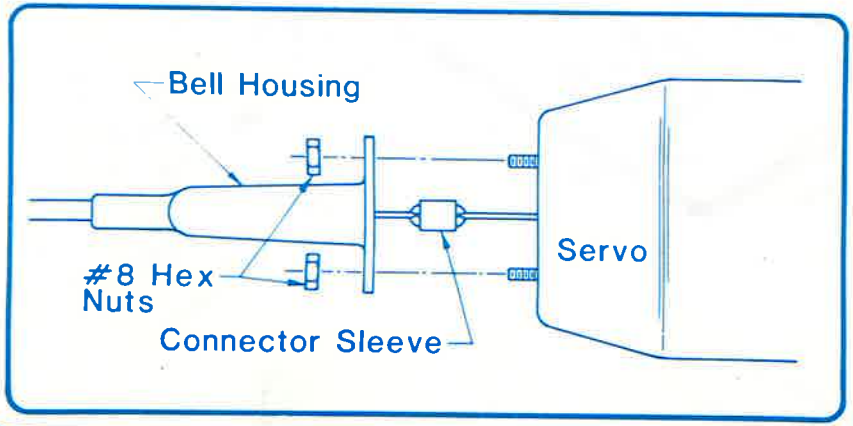
SERVO CABLE ASSEMBLY ATTACHMENT

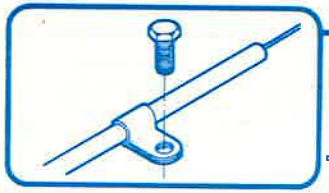
Remove the cable assembly from the kit box. Push the cable until the bead connector protrudes from the end of the bell housing. Slide the connector sleeve over the cable lug attached to the servo cable.

Attach the cable lug to the bead connector on the cable assembly. **CRITICAL:** Slide the connector sleeve over the bead connector.



Remove the the two #8 hex nuts from the studs on the front end of the servo. Place the bell housing onto the studs and reattach the two nuts. Tighten both nuts.



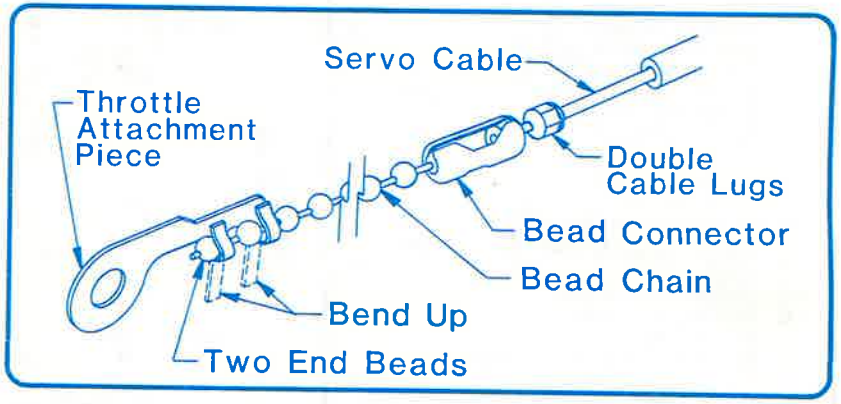


CABLE CASING ATTACHMENT and THROTTLE HOOK UP

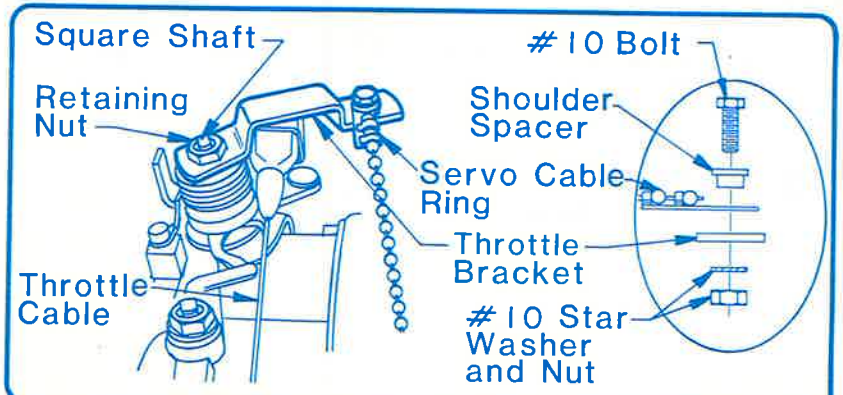
Throttle Hook Up

GAS POWERED VEHICLES ONLY (EXCEPT VANAGON)

Connect the servo cable ring to the two end beads of the bead chain as shown. Now attach the bead chain to the servo cable with the bead chain connector.

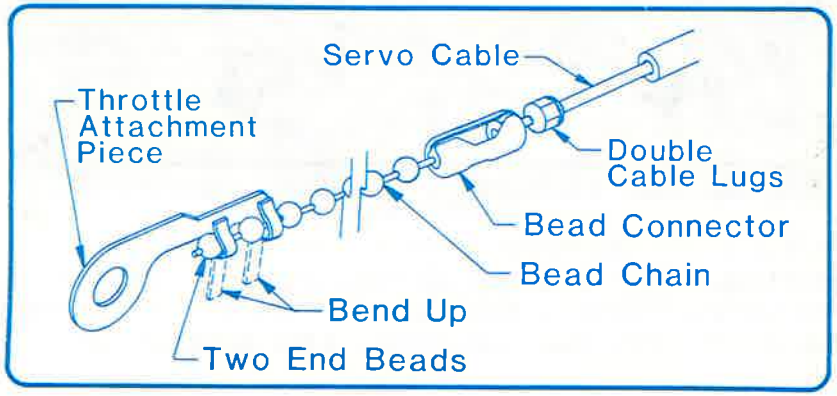


Remove the existing retaining nut from the throttle linkage. Place the throttle bracket onto the threaded square shaft. Replace the retaining nut and tighten. Fasten the cable ring to the throttle bracket as shown, using the #10 bolt, shoulder spacer, star washer and nut.

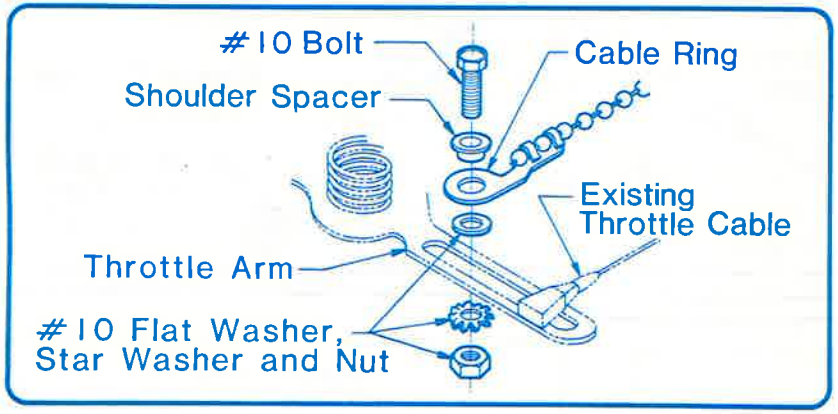


DIESEL POWERED VEHICLES ONLY

Connect the servo cable ring to the two end beads of the bead chain as shown. Now attach the bead chain to the servo cable with the bead chain connector.

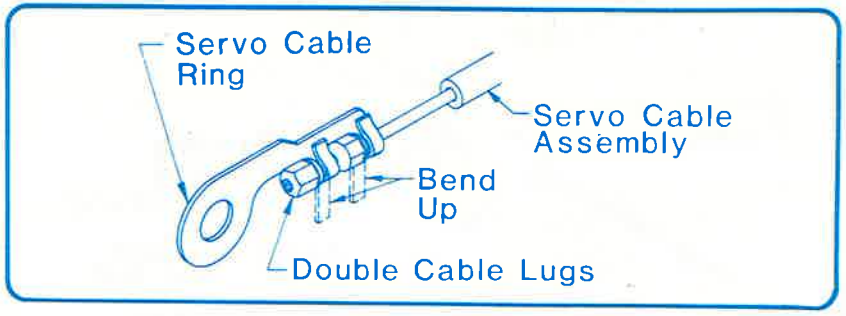


Locate the throttle arm. Move the existing throttle cable to the outer end of the throttle arm. Attach the cable ring to the throttle arm as shown. Move the cable ring next to the existing throttle cable and tighten.

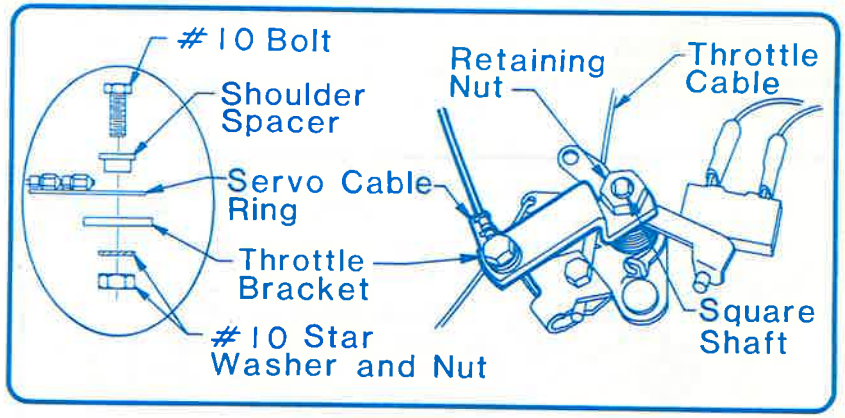


VANAGON

Connect the servo cable ring to the double lugs on the servo cable assembly as shown.



Remove the existing retaining nut from the throttle linkage. Place the throttle bracket onto the threaded square shaft. Replace the retaining nut and tighten. Fasten the cable ring to the throttle bracket as shown, using the #10 bolt, shoulder spacer, star washer and nut.



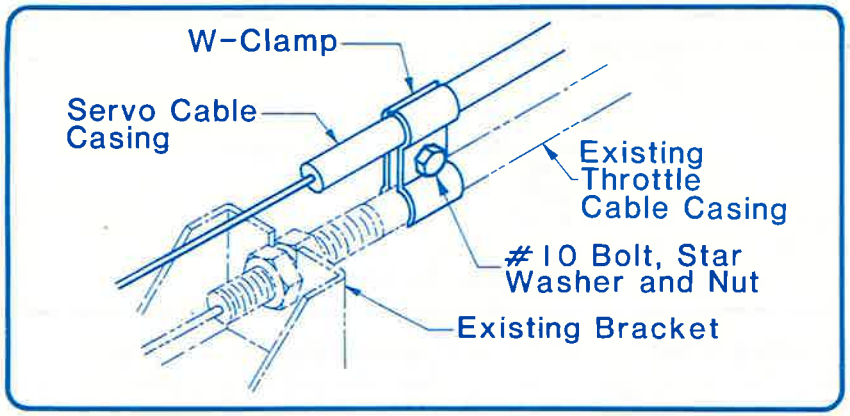
Cable Casing Attachment

ALL VEHICLES EXCEPT VANAGON

There are three ways to attach the servo cable casing. Use the method that best suits this application.

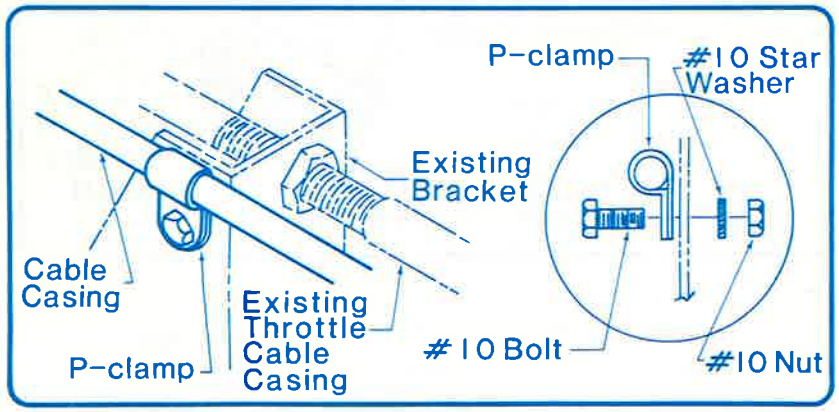
METHOD #1

Attach the servo cable casing to the existing throttle cable casing using the W-clamp, #10 bolt, star washer and nut.



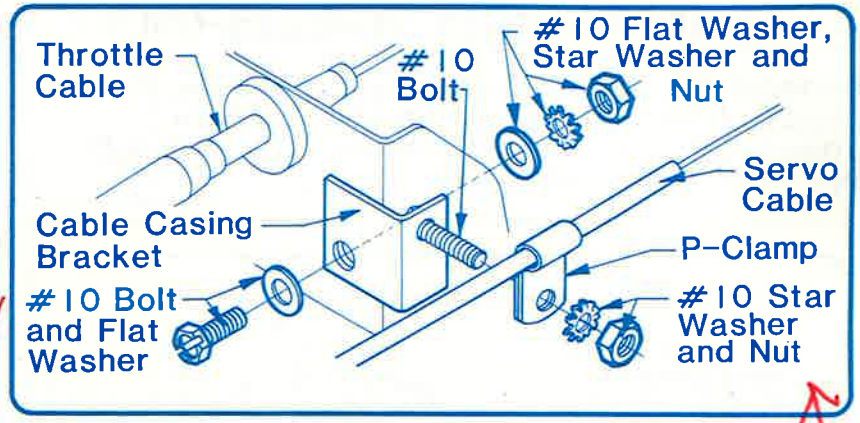
METHOD #2

Place the P-clamp onto the servo cable casing and secure it to a hole in an existing engine bracket, keeping in mind that the servo cable must be in a straight line with the throttle linkage. Fasten with a #10 bolt, star washer and nut.



METHOD #3

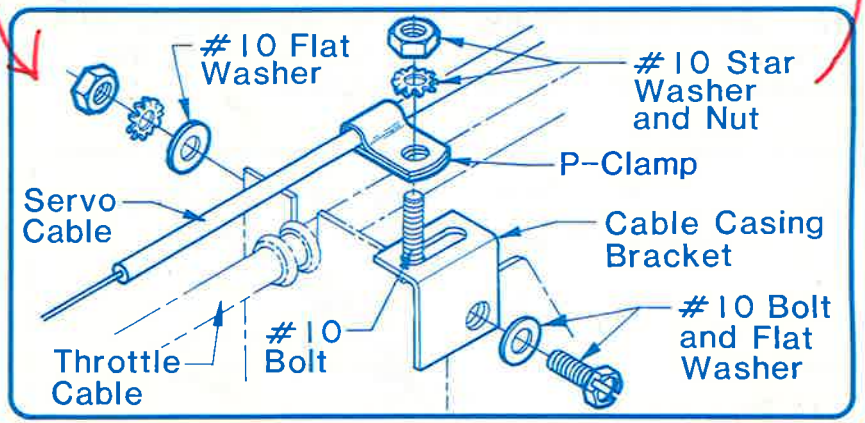
Use the supplied cable casing mounting bracket in situations where the hole in the existing engine bracket would prevent the cable casing from being in line with the throttle linkage. Bend the bracket as required and then fasten it to both the P-clamp and the existing engine bracket with #10 bolts, flat washer, star washers and nuts.

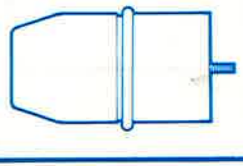


VANAGON

Drill a 1/4" diameter hole in the side of the existing throttle cable casing bracket. Mount the servo cable casing bracket as shown, using the #10 bolt, flat washers, star washer and nut.

Now clamp the servo cable casing to the bracket using the P-clamp, #10 bolt, star washer and nut.





SERVO INSTALLATION

The servo installations shown are suggestions. Due to midyear engine changes, the location

shown may not be usable. Another location may be chosen which will allow the servo cable to be routed in a smooth manner to the throttle connection (See "Throttle Hook Up" section).

NOTE: There is a possibility that the servo will make a metalic clicking noise which will be greatly amplified into the passenger compartment if the servo is mounted on the vehicle firewall. Mount the servo on the firewall only as a last resort!

ALL VEHICLES EXCEPT VANAGON

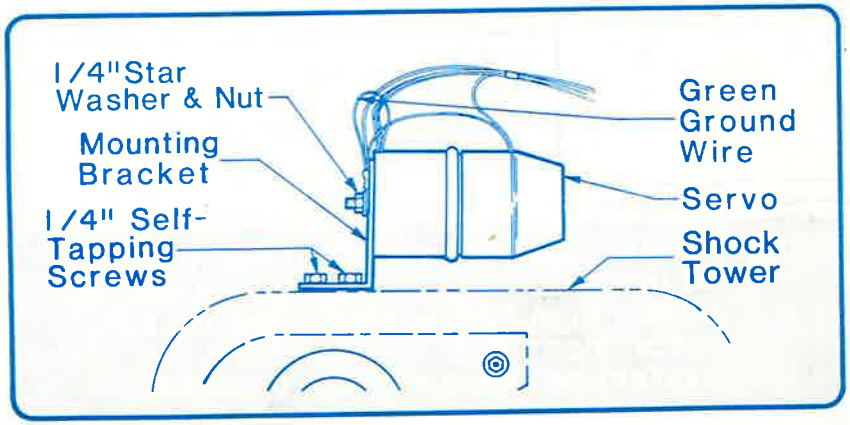
The servo may be mounted in two ways. Use the method which best suits this application.

NOTE:: When drilling, be careful not to drill into wires or mechanical parts on the opposite side.

METHOD #1

In a suitable location on the shock tower, use the servo bracket as a template to mark and drill two 3/16" diameter holes. Attach the bracket using 1/4" self-tapping screws.

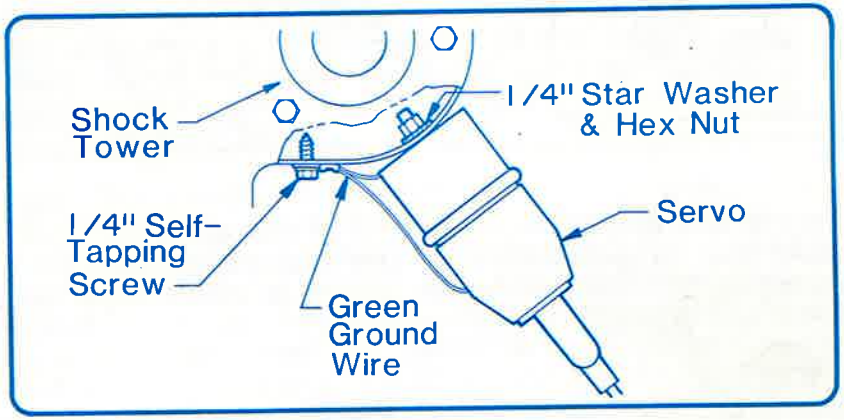
Attach the servo to the bracket with the green ground wire placed on the servo stud as shown.



METHOD #2

In a suitable location on the shock tower, drill a 5/16" diameter hole. Mount the servo directly into this hole using a 1/4" star washer and nut.

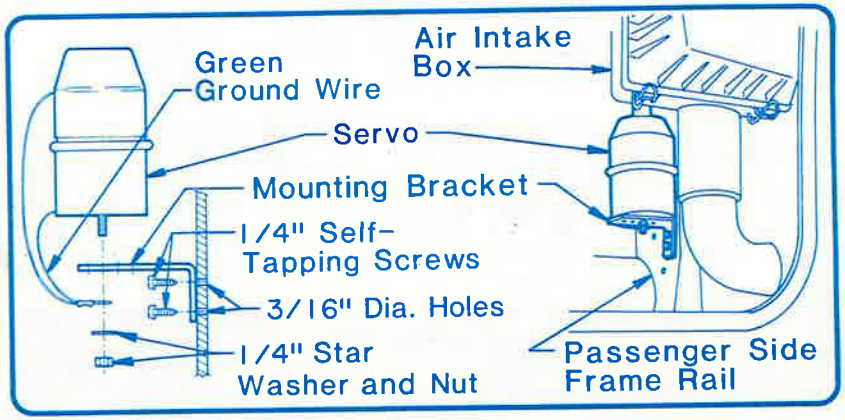
Drill a 3/16" diameter hole and attach the green ground wire with a 1/4" self-tapping screw.



VANAGON

Locate the passenger side frame rail in the engine compartment. Position the servo mounting bracket behind the air intake box so that the servo will point toward the front of the vehicle. Using the bracket as a template, mark and drill two 3/16" diameter holes. Mount the bracket using two self-tapping screws.

Attach the servo to the bracket with the green ground wire placed on the servo stud as shown.



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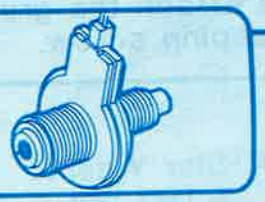
FOR AUTOMATIC TRANSMISSION VEHICLES and DIESEL POWERED VEHICLES ONLY

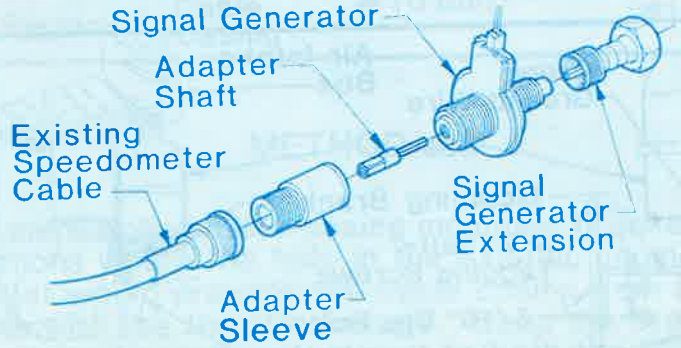


SIGNAL GENERATOR INSTALLATION

Locate and disconnect the end of the speedometer cable that is connected to the transmisssion. On Vanagon the speedometer cable is connected to the front wheels.

Assemble the small end of the signal generator extension to the signal generator. Connect this assembly to the vehicle.

Insert the adapter shaft into the signal generator and screw on the adapter sleeve. Reattach the speedometer cable onto the adapter sleeve as shown.



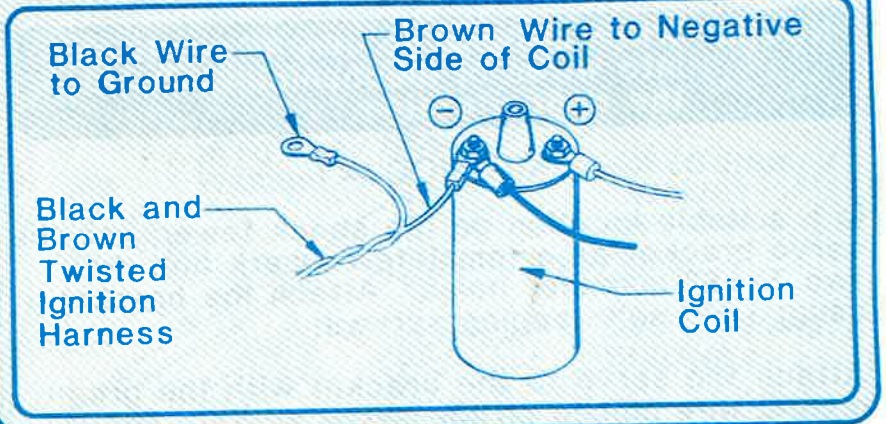
FOR GAS POWERED MANUAL TRANSMISSION VEHICLES ONLY

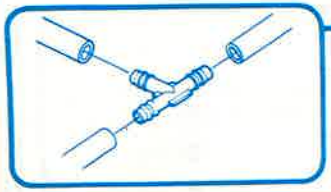
IGNITION COIL HOOK UP

Locate the vehicle ignition coil. Connect the brown wire of the black and brown twisted ignition harness to the negative side of the coil. See illustration.

NOTE: The negative wire of the coil will cause a test light to pulse when the engine is being turned over.

The black wire with a ring terminal must be attached to a good ground.





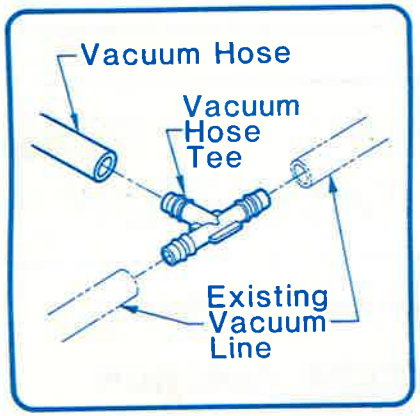
VACUUM HOOK UP and RESERVOIR INSTALLATION

NOTE: Proper vacuum is vital to the function of this unit. Vacuum directly from the intake manifold is best. We do not recommend that vacuum from the brake system or smog system be used.

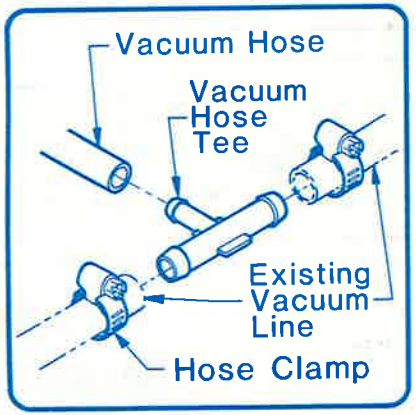
Identify a good vacuum source, at least 8" of vacuum. Cut the existing vacuum hose and install the supplied vacuum tee.

For Vanagon only, use supplied hose clamps to secure the vacuum hose to the tee.

ALL VEHICLES EXCEPT VANAGON

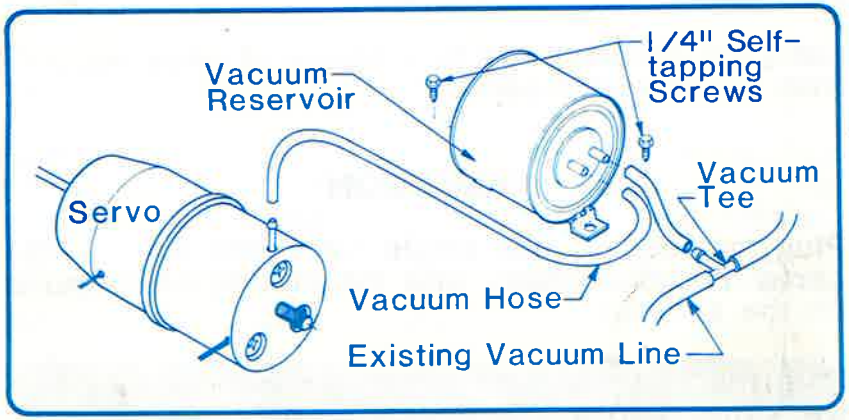


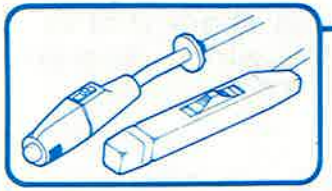
VANAGON



Install the vacuum reservoir in a location which will not interfere with normal engine operation. Connect the remaining end of the vacuum hose to the large port on the reservoir, cutting off the excess hose.

Attach one end of the remaining hose to the small port on the reservoir, and the other to the servo.





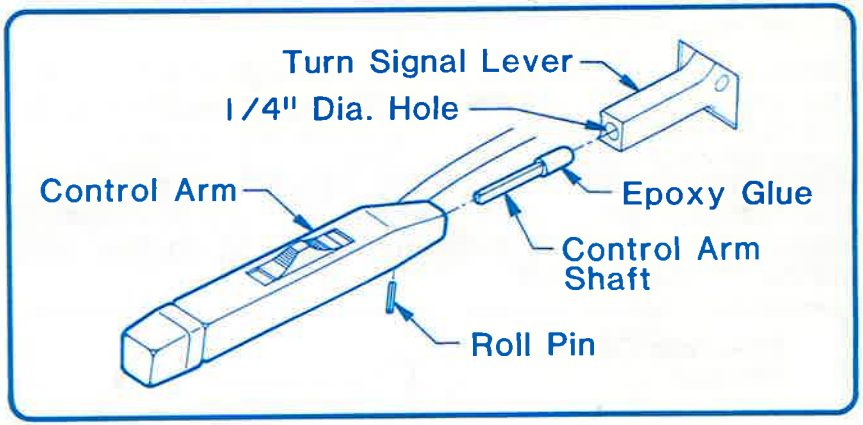
CONTROL ARM INSTALLATION

ALL VEHICLES EXCEPT VANAGON

Cut off and discard 4-3/4" of the turn signal lever. Drill a 3/32" diameter pilot hole, 5/8" deep in the remaining lever shaft. Enlarge this hole to 1/4" diameter.

Slide the control arm onto the control arm shaft. Mix the epoxy glue according to the directions on the back of the packet and apply to the exposed end of the shaft. Install the shaft into the turn signal lever so that all control arm functions are clearly visible from the driver's seat. The control arm should be removed if a light tap is required to install the shaft.

Secure the control arm to the shaft by installing the supplied roll pin as shown.



Loosen the screw on the left side of the lower shroud just enough to separate the two shrouds. Now route the control arm wires alongside the steering column and then tighten screw.

NOTE: Check that the control arm wires do not become pinched during installation of the shroud.

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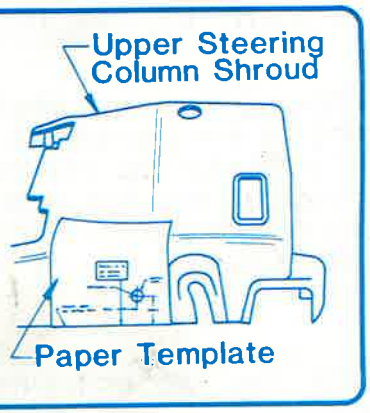
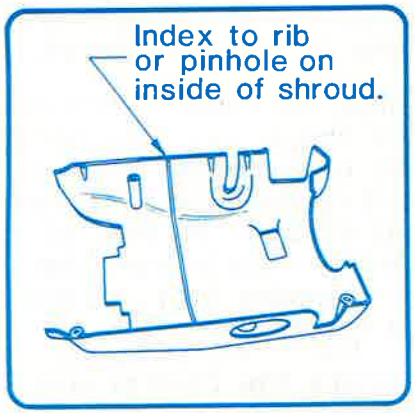
Refer to the control arm installation sheet that is packed with the control arm for the wiring diagram showing the proper pin-to-connector location.

VANAGON

Remove the upper and lower plastic steering wheel shrouds. Cut the appropriate paper template from the last page of these instructions and tape it to the shroud as shown.

TYPICAL FOR UPPER SHROUDS

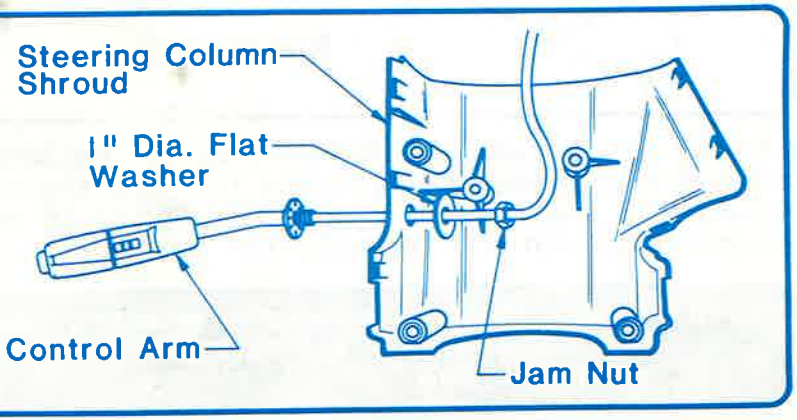




Drill a small pilot hole where indicated, then drill a 7/16" dia. hole.

Thread the control arm wires through the hole in the shroud, through the 1" diameter washer and 1/4"nut, and then down the steering column.

Place the control arm on the shroud so that all the controls are easily visible. Secure the control arm into position by tightening the nut on the inside of the shroud.



Now reinstall both upper and lower shrouds onto the steering column.

NOTE: Check that the control arm wires do not become pinched during installation of the shroud.

Refer to the control arm installation sheet that is packed with the control arm for the wiring diagram showing the proper pin-to-connector location.

WIRING HARNESS INSTALLATION

Engine Compartment Wiring

ALL VEHICLES EXCEPT VANAGON

Plug the four pin and single pin connectors on the servo pigtail harness into the mating connectors on the servo.

Route the black and brown twisted pair and the wires from the servo into the passenger compartment. To do this, use the existing hole and grommet where the speedometer cable passes through the firewall.

Using the provided wire ties, secure all wires away from hot or moving parts.

VANAGON

Plug the four pin and single pin connectors on the servo pigtail harness into the mating connectors on the servo.

Plug the four pin and single pin connectors on the other end of the pigtail harness into the servo harness extensions.

For automatic transmission vehicles only, route the wires from the servo and the signal generator to the dash area of the passenger compartment. If an access hole is drilled, install the supplied rubber grommet.

For manual transmission vehicles only, plug the two pin connector on the ignition coil harness into the mating connector on the extension harness. Route the wires from the servo and the ignition coil to the dash area of the passenger compartment. If an access hole is drilled, install the supplied rubber grommet.

Using the provided wire ties, secure all wires away from hot or moving parts.

Passenger Compartment Wiring

ALL VEHICLES

Plug the two pin connector on the black and brown twisted pair into the mating plug on the main harness.

Plug the four pin connector on the servo pigtail harness into the mating connector on the main harness.

Plug the single pin connector on the servo pigtail harness into the mating connector on the main harness.

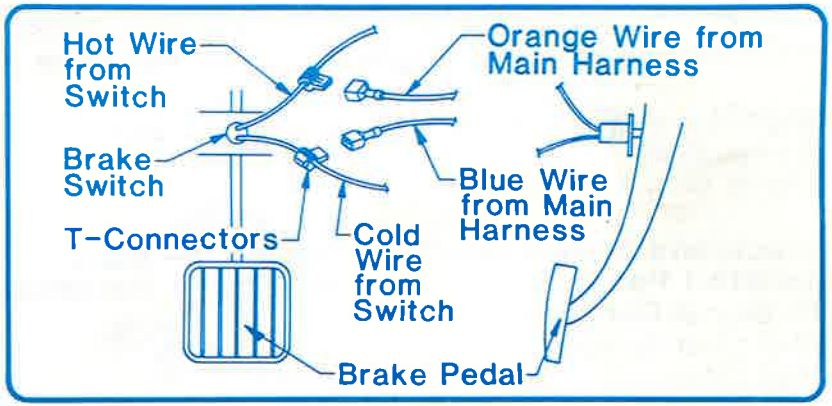
Plug the connector on the control arm wires into the mating connector on the main harness.

Connect the green wire with ring terminal on the main harness to a good ground (locate a screw under the dash that is attached to a metal part of the vehicle).

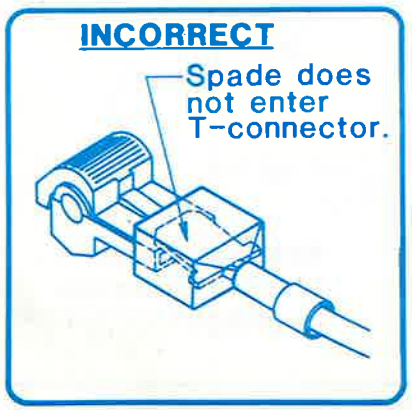
Using a T-connector, connect the **red** wire from the main harness to a 12V wire at the fuse box.

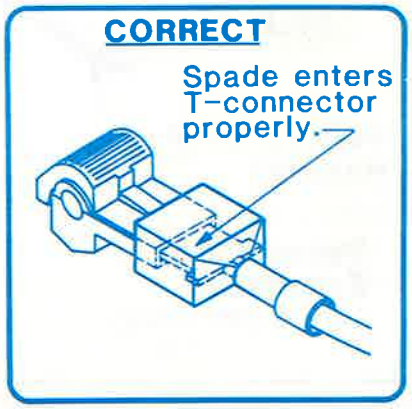
NOTE: Locate a 12V source which is off when the ignition key is in the "off" position. Best operation of the cruise control will be obtained when you select a 12V source that is free from interference. The best source is the one going to the radio. If possible, do not use a 12V source connected to the headlights, lighter, windshield wiper, heater or turn signal circuits.

Locate the brake light switch under the dash. Step on the brake and observe if the brake lights are working. If not, make necessary repairs. Using the supplied T-connectors, connect the **orange** wire from the main harness to the **hot** side (12 volt side) of the switch. Connect the **blue** wire from the main harness to the **cold** side (tail light side) of the switch.

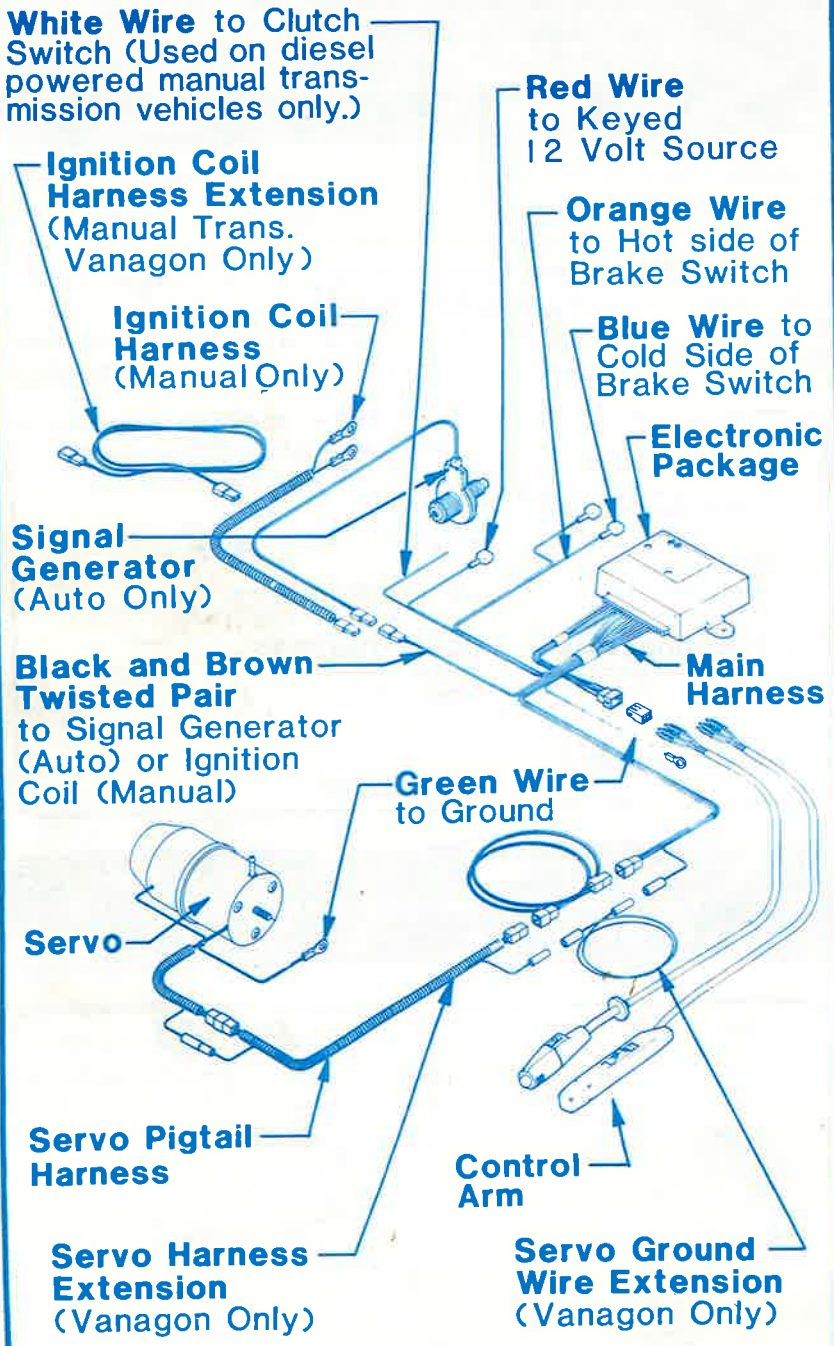


NOTE: Double check to be sure all connectors have been inserted directly into the T-connectors.





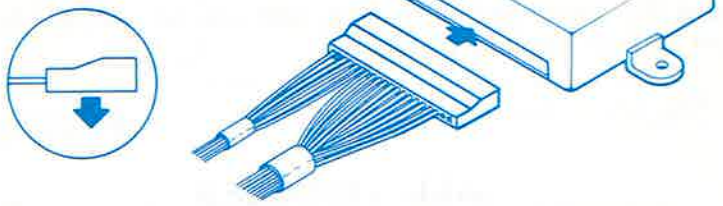
WIRING DIAGRAM



INSTALLATION TEST

Attach the main wire harness to the electronics package as shown.

Position plug with flat side down and insert into slot in electronic package.



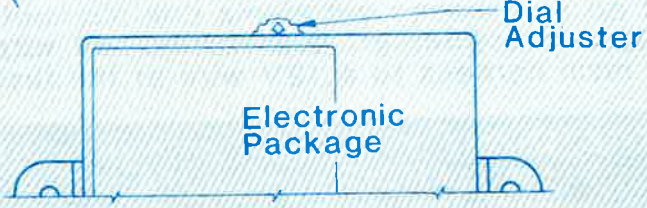
FOR MANUAL TRANSMISSION VEHICLES ONLY

Be certain that the dial adjuster for engine type is in the correct position. If not, turn the dial to the position that applies to the vehicle on which this unit is being installed.

4 Cylinder
Rotate dial fully counter-clockwise.

6 Cylinder
Rotate dial until arrow is visible and centered. (shown)

8 Cylinder
Rotate dial fully clockwise.



NOTE: For safety reasons, it is suggested that you read this section completely before doing the road test.

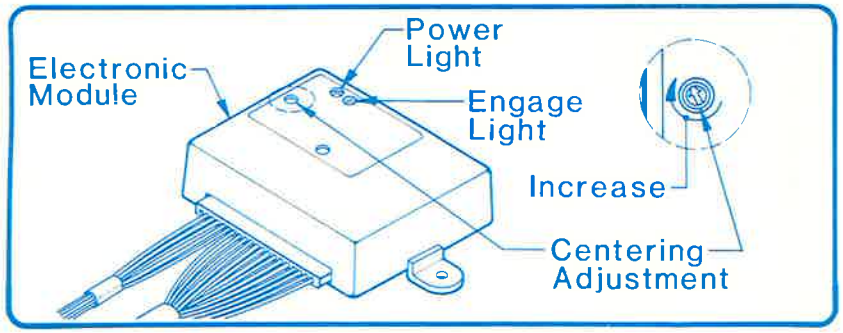
Place the electronics package so the engage and power lights can be easily seen. Turn the ignition key on but don't start the engine.

Move the control arm switch to the "on" position. The power light should go on. Then depress the brake pedal and the light should go off. If not, see the trouble shooting guide.

ALL VEHICLES EXCEPT VANAGON

Start the engine and drive to a level roadway where the legal speed limit is 55 MPH. Switch the control arm to the on position. Now accelerate to about 35 MPH and turn knob to accel/set position. The cruise control is now in operation and the engage light on the electronics package should be brightly lit. Depress the brake pedal (press the brake just enough to activate the brake light switch). The cruise control should disengage and the engage light should go out.

Accelerate to 55 MPH, hold that speed and turn knob to accel/set position. The cruise control should hold the vehicle at the set speed. If not, adjust the centering screw either up or down until the vehicle speedometer reads 55 MPH.

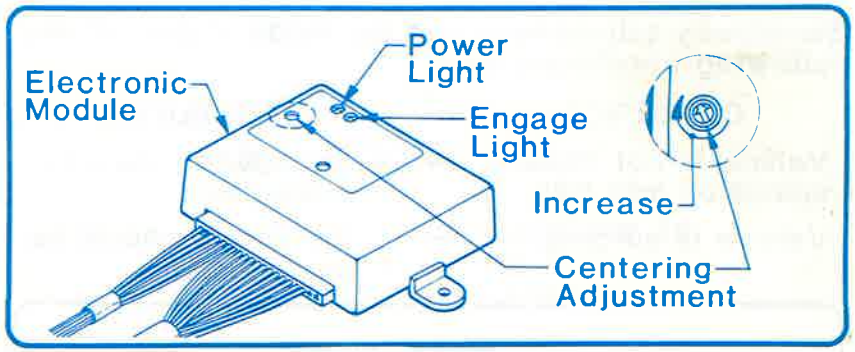


Tap the brake pedal to disengage the cruise control. Allow the vehicle to slow down to about 45 MPH and then push the control arm switch to the resume position. The cruise control should engage and accelerate the vehicle back to 55 MPH.

VANAGON

Start the engine and drive to a level roadway where the legal speed limit is 55 MPH. Switch the control arm to the on position. Now accelerate to about 35 MPH and press the set button. The cruise control is now in operation and the engage light on the electronics package should be brightly lit. Depress the brake pedal (press the brake just enough to activate the brake light switch). The cruise control should disengage and the engage light should go out.

Accelerate to 55 MPH, hold that speed and depress the set button. The cruise control should hold the vehicle at the set speed. If not, adjust the centering screw either up or down until the vehicle speedometer reads 55 MPH.



Tap the brake pedal to disengage the cruise control. Allow the vehicle to slow down to about 45 MPH and then turn the control arm to the the resume position. The cruise control should engage and accelerate the vehicle back to 55 MPH.

FOR MANUAL TRANSMISSION VEHICLES ONLY

Clutch Circuit Disengage Test

Accelerate to about 35 MPH and engage the cruise control. With one foot near the brake pedal so the unit can be disengaged, depress the clutch pedal. The cruise control should disengage. If the engine continues to increase speed rapidly, depress the brake (press just hard enough to activate the brake light switch) or turn the control arm off and see the trouble shooting guide.

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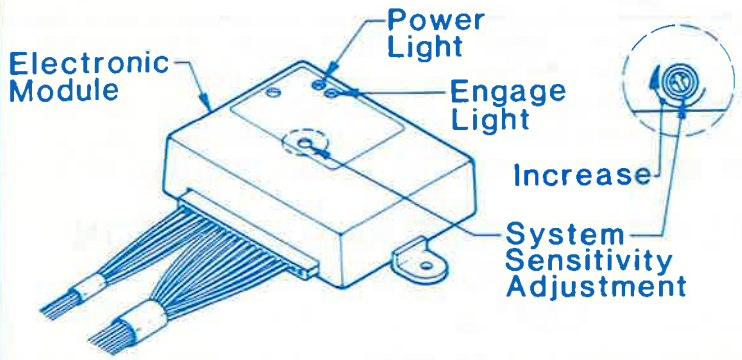
SENSITIVITY ADJUSTMENT

NOTE: Normally no adjustment of the electronic sensitivity is required as it is preset at the factory.

Sensitivity affects the cruise control accuracy and not the acceleration rate. If the vehicle has poor response, see the trouble shooting guide.

Sensitivity adjustment can be made if one of the following conditions exist.

CONDITION	SOLUTION
Vehicle is not holding speed on mild hills.	→ Sensitivity should be increased.
Vehicle is surging.	→ Sensitivity should be decreased.



Template for **VANAGON**

This template to be used on upper shroud.