



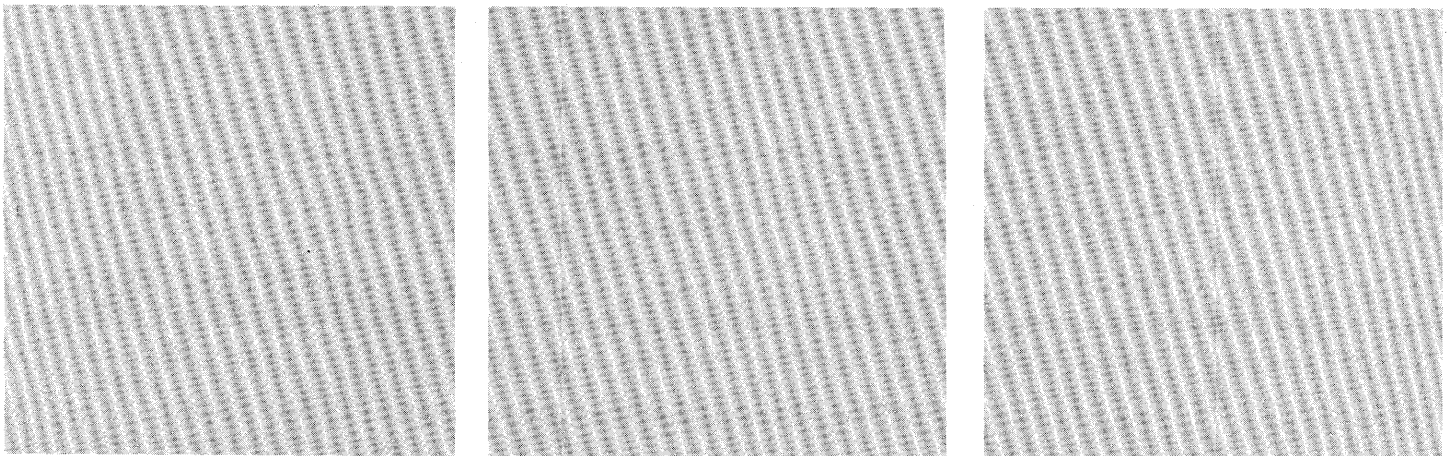
**Heavy Vehicle  
Systems Division**

# **Bendix Parts Catalog**

**CATALOG 10-A-1**

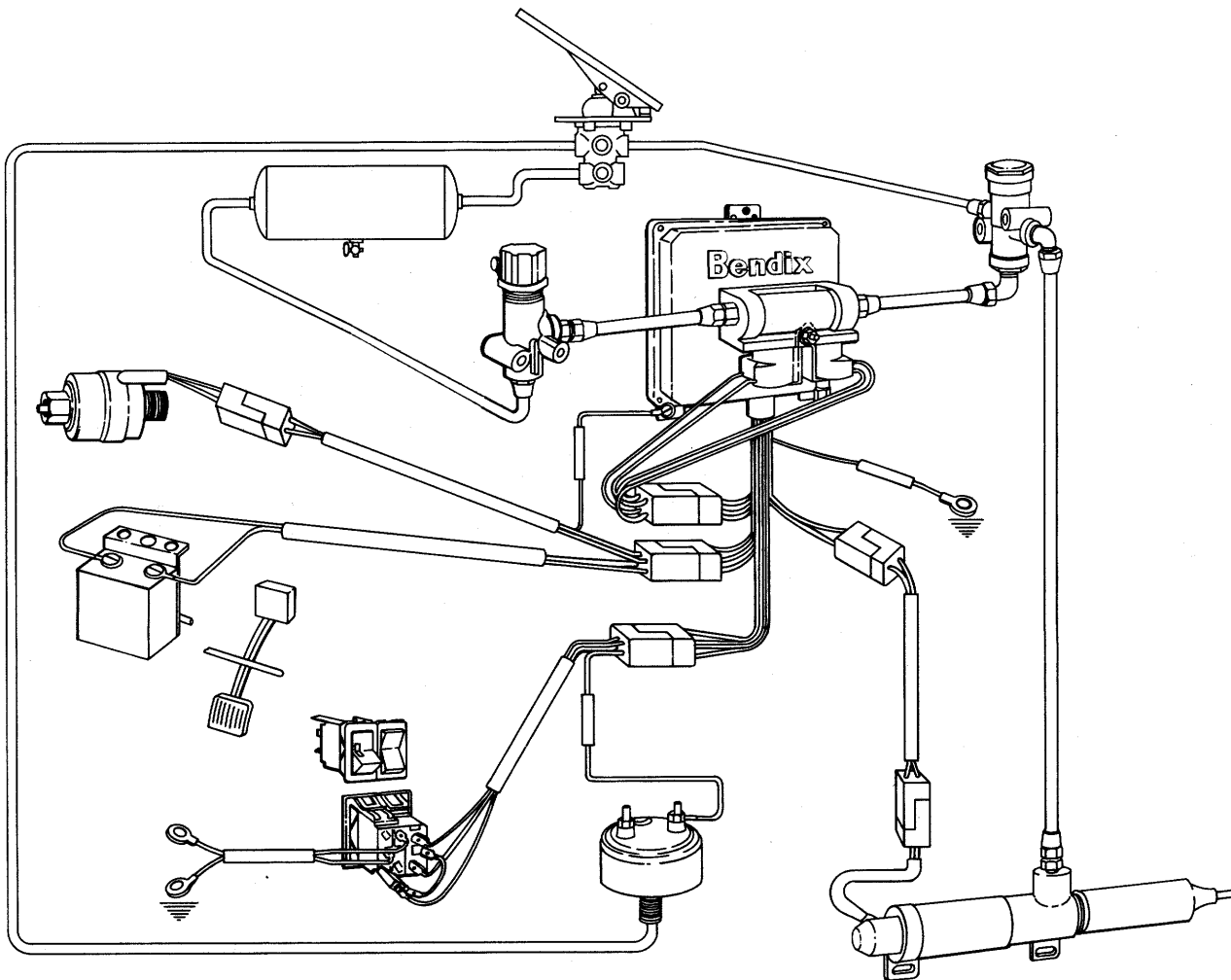
*Universal Truck Cruise Control Installation Kits*

# **CRUISE CONTROL**



**CRUISE CONTROL INDEX**

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**Typical Truck Cruise Control System**

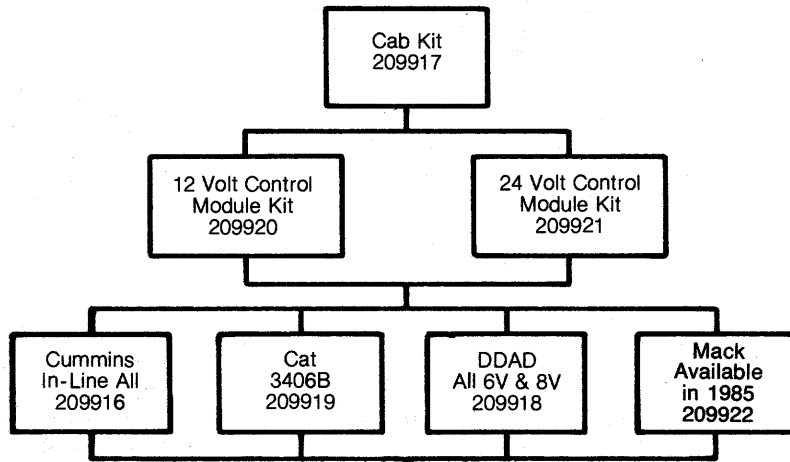
## FOUR(4) KITS ARE REQUIRED TO INSTALL THE BENDIX UNIVERSAL CRUISE CONTROL:

SELECT

SELECT ONE

SELECT ONE

SELECT ONE



SPEEDOMETER TYPE	KIT PC. NO.
Mechanical — Cable driven from transmission speedometer output port.	209867*
Electronic — Gear driven speed signal generator externally mounted at speedometer output port of transmission.	209867*
Electronic — Speed signal obtained from magnetic pick-up mounted into transmission non-gear driven.	209890
Electronic — Speed signal obtained from magnetic pick-up inside drive-wheel. If pick-up is not in drive wheel, use kit 209867 instead of 209890	209890

\*NOTE: Kit 209867 can be used with all popular transmissions with the exception of the following Fuller models RT-610, RTO-610 & RTO-6610.

## CAB KIT

The universal cab kit is designed to accommodate both C.O.E. and conventional cab configurations. Contents of the cab kit are presented on catalog page 10-A-4 for reference.

## CONTROL MODULE KITS

Select the appropriate control module kit by determining the vehicle accessory voltage. The control module contained in these kits are user programmable for; engine make, stationary throttle control, speed signal source (electronic and mechanical speedometers), and top set limit. Contents of the control module kits are presented on catalog page 10-A-5 for reference.

## ENGINE KITS

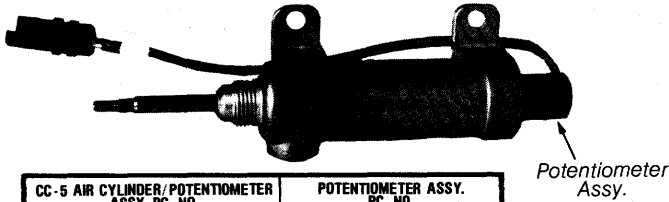
Select the appropriate engine kit by determining the engine make and model in use. The universal cruise control may be installed on the newer Caterpillar 3406-B engine but not the older 3406. Contents of the engine kits are presented on catalog pages 10-A-6 to 10-A-9 for reference.

## SPEED SENDER KITS

The speed sender kits will accommodate automatic and manual transmissions as well as mechanical and electronic speedometers. Choose the appropriate kit by determining the type of speedometer and the method by which it obtains vehicle speed information. Contents of the speed sender kits are presented on catalog pages 10-A-10 to 10-A-11 for reference.

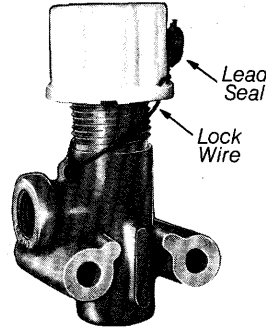
## GENERAL

1. Service parts replacement and maintenance kit part numbers for all major cruise control components presented on catalog pages 10-A-4 to 10-A-11.
2. For operation and troubleshooting information, consult Bendix Service Data sheet SD-10-1, furnished in the cab kit. This publication is also available separately upon request.
3. The universal cruise control kits are designed to accommodate all popular engine, transmission and cab combinations noted in the guide above. In some cases where unusual or special equipment is installed on the vehicle, modifications to the cruise control kits or their instruction may be required. In the event that an installation difficulty cannot be resolved, contact your local Bendix sales representative for assistance.

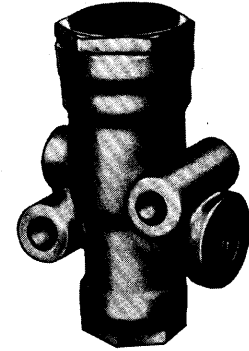


<b>CC-5 AIR CYLINDER/POTENTIOMETER ASSY. PC. NO.</b>	<b>POTENTIOMETER ASSY. PC. NO.</b>
101950	101951

Maint. Kit Pc. No. 102315

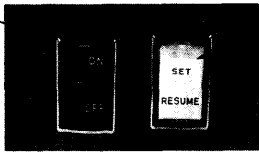


**RV-1  
Pressure Reducing Valve  
Pc. No. 282811**



**TR-3 Inversion Valve  
Pc. No. 101781**

**Control  
Switch  
Pc. No.  
101954**

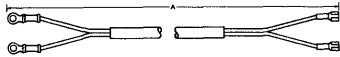


**Control  
Switch  
Pc. No.  
101955**

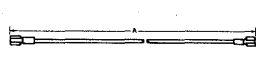
**Switch  
Plate  
Pc. No.  
294639**

**WIRING HARNESSES  
AND CONNECTORS**

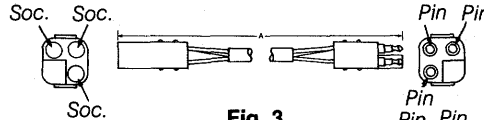
WIRING HARNESS PC. NO.	FIG. NO.	CONNECTION		A LENGTH (APPROX.) IN.	WIRE COLOR
		TO	FROM		
102238	1	Control Switch	Vehicle Power & Ground	60	Red & Black
102240	2	Control Switch	Set/Resume Switch	6	White
102244	3	CA-1 Controller	CC-5 Cylinder	182	Red, White, Black
102736	4	Control Switches & 102545 Harness	CA-1 Controller	155	White/Green, White/Yellow White/Red, Orange
102252	5	Vehicle Ground	CA-1 Controller	12	Green
102252	5	Vehicle Ground	102256 Harness	12	Green
102256	6	Speed Sender & Cl. Switch	CA-1 Controller	A120/B180	Blue, Gray, Green & Violet
102545	7	Stop Light Switch	102736 Harness	120	Orange



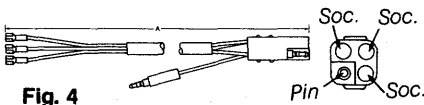
**Fig. 1**



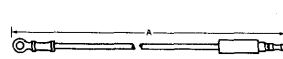
**Fig. 2**



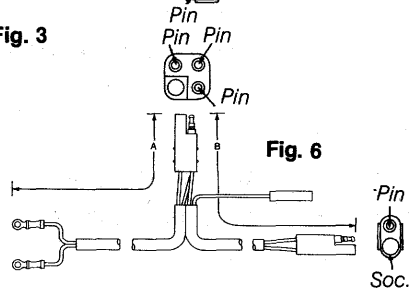
**Fig. 3**



**Fig. 4**

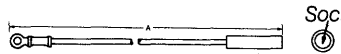


**Fig. 5**



**Fig. 6**

**Wiring Harnesses**



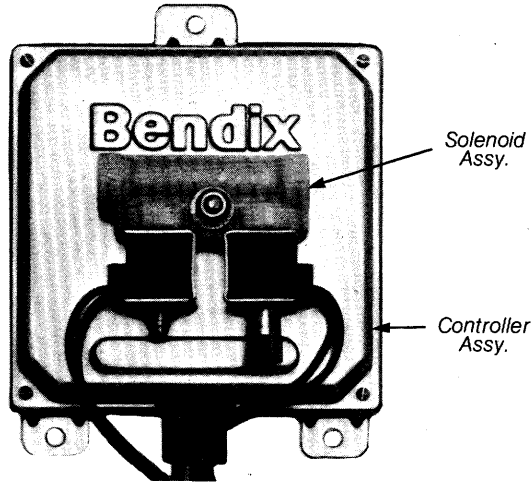
**Fig. 7**

**MISCELLANEOUS HARDWARE ITEMS**

**CAB KIT NO. 209917 ADDITIONAL PARTS NOT LISTED ABOVE**

DESCRIPTION	QUANTITY
1/4 Lockwasher	7
1/4 Hex Nut	7
Tubing Conn	1
Tubing Elbow	2
Tubing Elbow	5
1/4 Cap Screw	3

DESCRIPTION	QUANTITY
Brass Insert	12
Tubing Conn	2
1/4 Cap Screw	4
# 6 Screw	4
Nylon Tubing	1

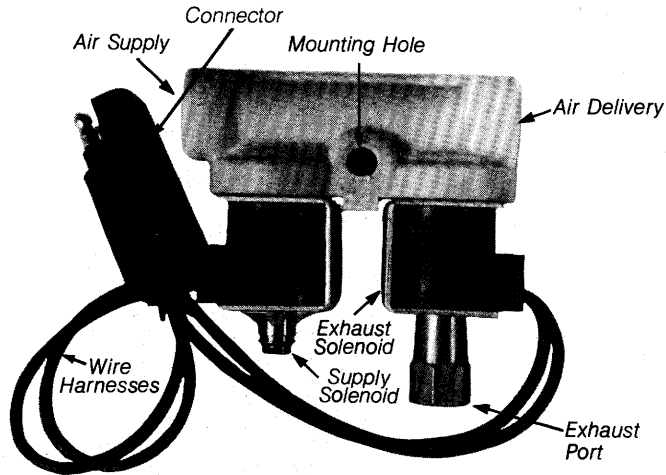


### CA-1 Control Module

CA-1 CONTROLLER/SOLENOID ASSY. PC. NO.	VOLTAGE	CONNECTOR FIG. NO.
209920	12V	1
* 209921	24V	1

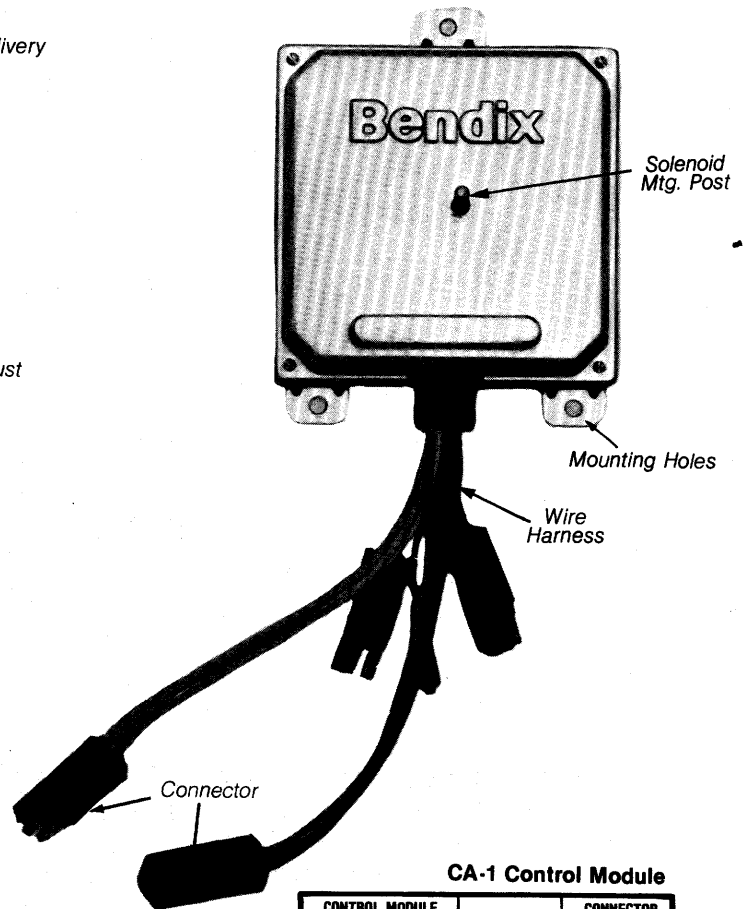
\* A 24V on/off control switch, Pc. No. 102101, is furnished with this kit to replace the 12V switch contained in Cab Kit 209917.

## SERVICE REPLACEMENT PARTS



### Solenoid Assembly

SOLENOID ASSY. SERVICE PC. NO.	VOLTAGE	CONNECTOR FIG. NO.
065030	12V	1
065031	24V	1
065029	12V	2



### CA-1 Control Module

CONTROL MODULE SERVICE PC. NO.	VOLTAGE	CONNECTOR FIG. NO.
065072	12V	1
065073	24V	1
065022	12V	2

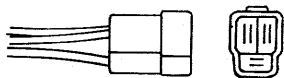


Figure 2

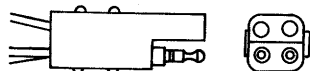
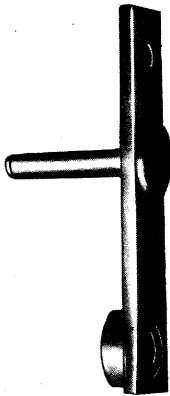
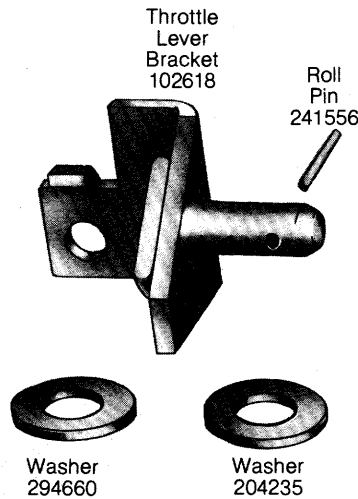


Figure 1

Connector Styles

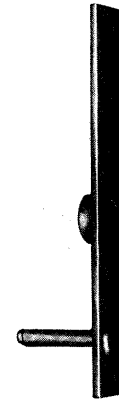


**Throttle Lever  
Pc. No. 102617**

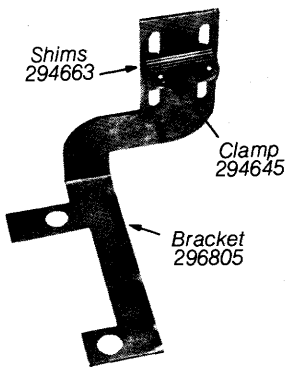


Washer  
294660

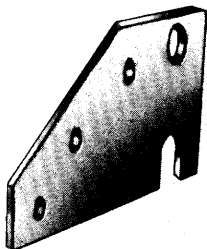
Washer  
204235



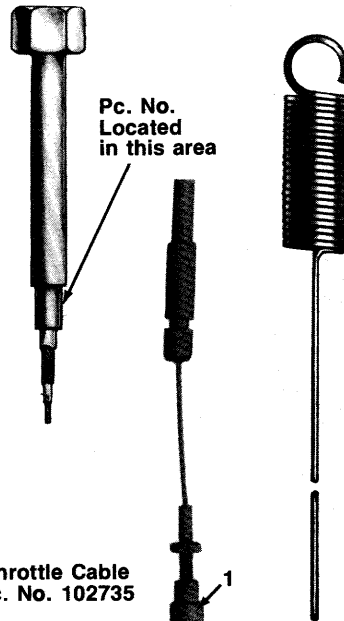
**Throttle Lever  
Pc. No. 102737**



**Throttle Cable  
Bracket Assembled**

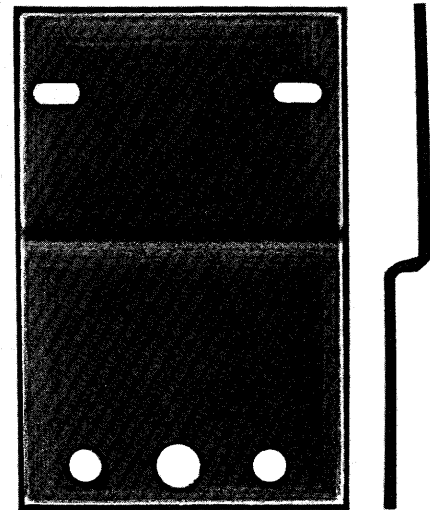


**Throttle Lever  
Pc. No. 560136**



**Throttle Cable  
Pc. No. 102735**

**Spring Extension  
Pc. No. 296257**



**Mounting Bracket  
Pc. No. 294850**

**MISCELLANEOUS HARDWARE ITEMS**

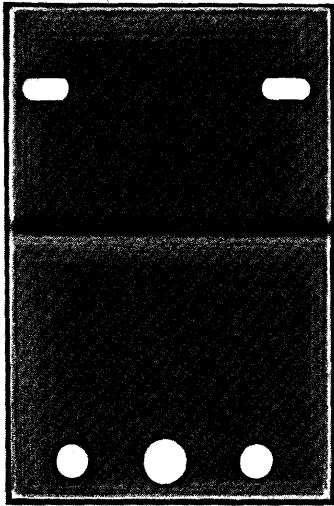
**MISCELLANEOUS HARDWARE ITEMS  
FURNISHED IN KIT 209916**

DESCRIPTION	QUANTITY
5/16 Lockwasher	2
1/2 Lockwasher	2
1/2 Washer	2
5/16 Hex Nut	2
Plate Washer	2
1/2 Cap Screw	2

DESCRIPTION	QUANTITY
# 10 Lockwasher	2
1/2 Hex Nut	2
5/16 Cap Screw	2
# 10 Hex Nut	2
# 10 Mach. Screw	2

**BALL SWIVEL KIT  
104708 CONSISTS OF:**

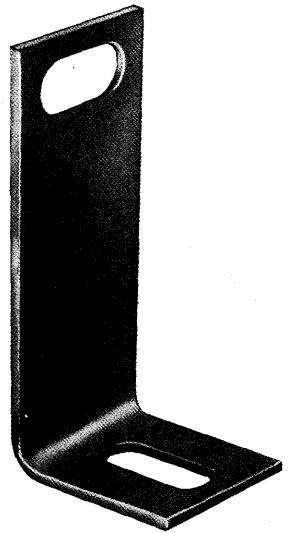
KEY NO.	QTY.	DESCRIPTION
1	1	Ball Swivel Assy.
2	1	#10 Lockwasher
3	2	#10 Hex Nut



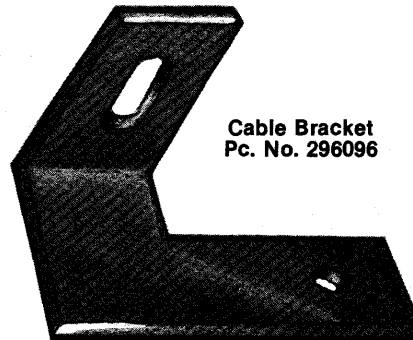
**Mounting Bracket  
Pc. No. 294850**



**Throttle Lever  
Pc. No. 560159**



**Cable Bracket  
Pc. No. 560156**

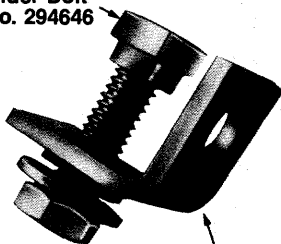


**Cable Bracket  
Pc. No. 296096**

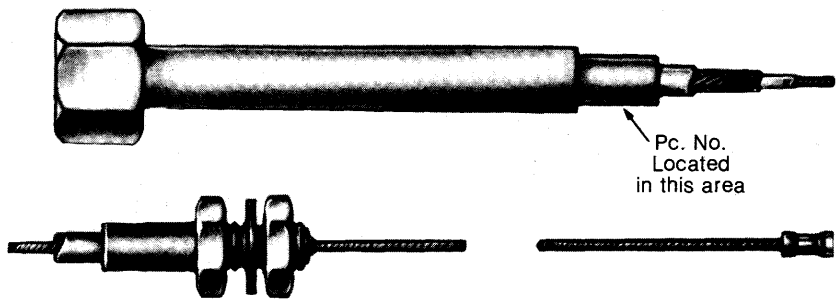


**Retainer  
Pc. No. 294419**

**Shoulder Bolt  
Pc. No. 294646**



**Throttle Lever  
Pc. No. 296004**



**Pc. No.  
Located  
in this area**

**Throttle Cable  
Pc. No. 102298**

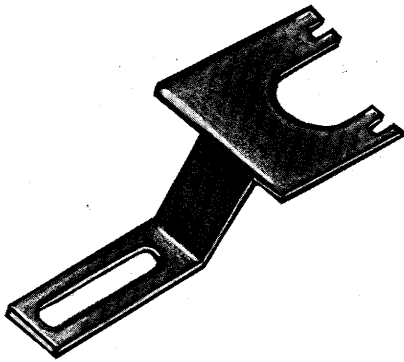
**MISCELLANEOUS HARDWARE ITEMS**

**ENGINE KIT NO. 209918 ADDITIONAL PARTS NOT LISTED ABOVE**

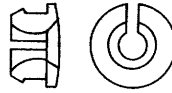
DESCRIPTION	QUANTITY
5/16 Hex Nut	1
5/16 Cap Screw	1
5/16 Cap Screw	2
5/16 Hex Nut	2
5/16 Lockwasher	3
1/2 Cap Screw	2
1/2 Lockwasher	2

DESCRIPTION	QUANTITY
1/2 Plate Washer	2
# 8-32 Machine Screw	1
# 8 Internal Lockwasher	1
# 8-32 Hex Nut	1
# 8 Steel Plate Washer	1
1/2 Hex Nut	2

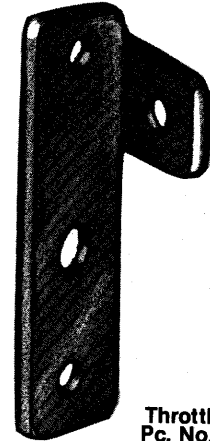




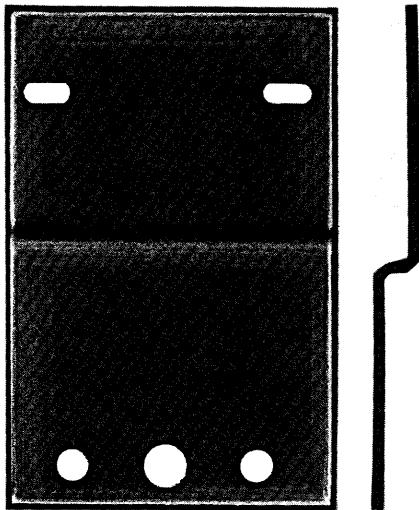
**Throttle Cable Bracket  
Pc. No. 560158**



**Retainer  
Pc. No. 294419**



**Throttle Lever  
Pc. No. 560157**



**Mounting Bracket  
Pc. No. 294850**



**Shoulder Bolt  
560155**



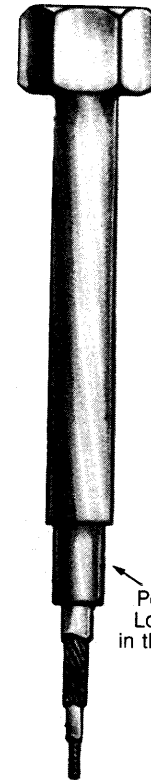
**Lock-washer  
297509**



**Spacer  
Pc. No. 560154**



**Throttle Cable  
Pc. No. 102298**



**Pc. No. Located  
in this area**



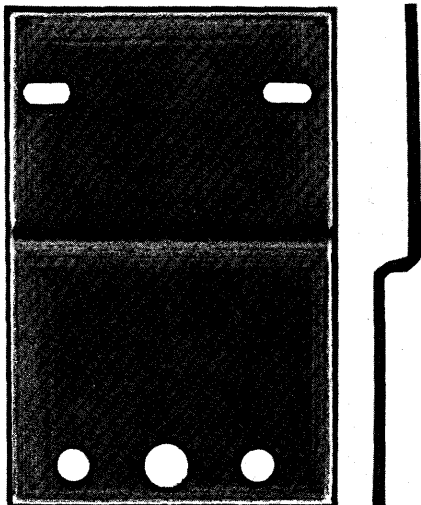
**MISCELLANEOUS HARDWARE ITEMS**

**ENGINE KIT NO. 209919 ADDITIONAL PARTS NOT LISTED ABOVE**

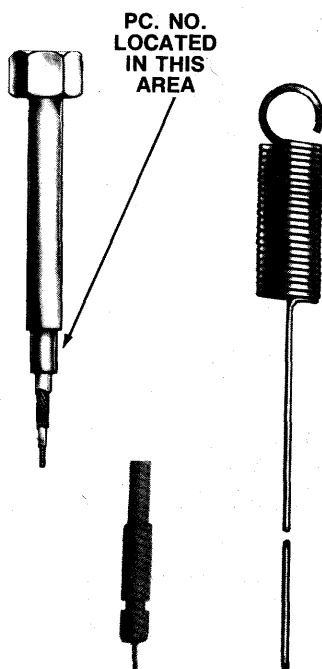
DESCRIPTION	QUANTITY
1/4 Cap Screw	1
1/4 Cap Screw	1
1/4 Lockwasher	2
1/4 Hex Nut	2
5/16 Cap Screw	2
5/16 Hex Nut	2

DESCRIPTION	QUANTITY
5/16 Lockwasher	2
1/2 Cap Screw	2
1/2 Lockwasher	2
1/2 Plate Washer	2
1/2 Hex Nut	2
1/4 Cap Screw	1



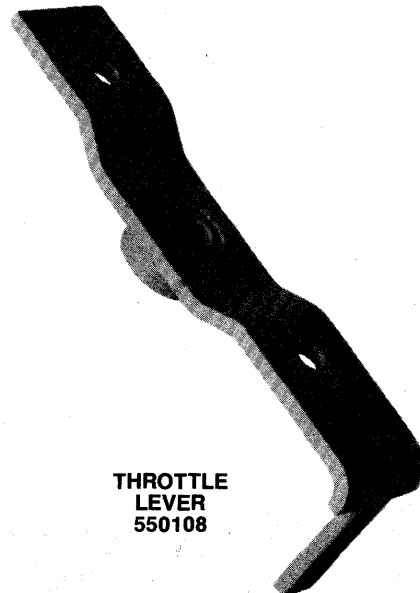


**MOUNTING BRACKET**  
294850

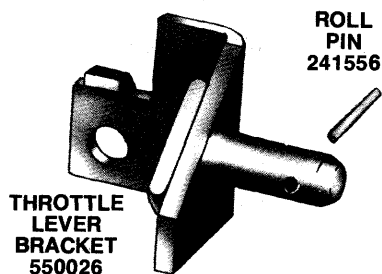


PC. NO.  
LOCATED  
IN THIS  
AREA

**SPRING  
EXTENSION**  
296257



**THROTTLE  
LEVER**  
550108



**ROLL  
PIN**  
241556

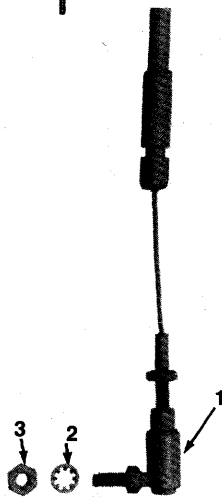
**THROTTLE  
LEVER  
BRACKET**  
550026



**NYLON  
WASHER**  
294660



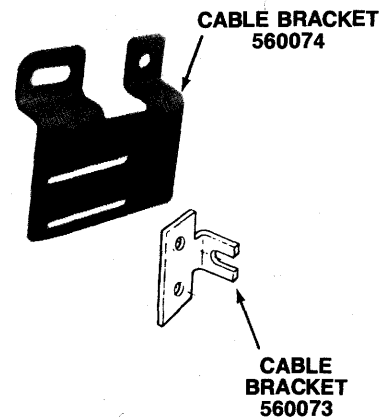
**METAL  
WASHER**  
204235



**THROTTLE  
CABLE**  
550110



**SPACER**  
560076



**CABLE BRACKET**  
560074

**CABLE  
BRACKET**  
560073

### MISCELLANEOUS HARDWARE ITEMS

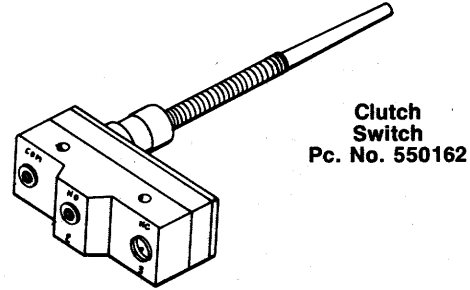
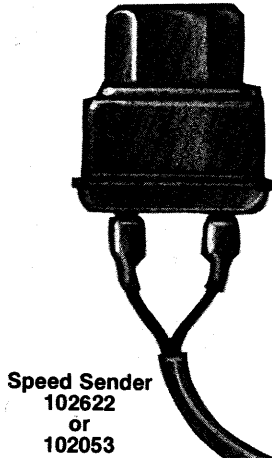
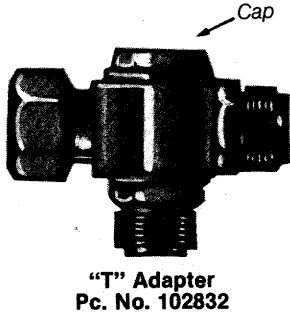
#### ENGINE KIT 209922 ADDITIONAL PARTS NOT LISTED ABOVE

DESCRIPTION	QUANTITY
5/16 Lockwasher	2
1/2 Lockwasher	2
1/2 Washer	2
5/16 Hex Nut	2
Plate Washer	2
1/2 Cap Screw	2
3/8 Cap Screw	1

DESCRIPTION	QUANTITY
#10 Lockwasher	2
1/2 Hex Nut	2
5/16 Cap Screw	2
#10 Hex Nut	2
#10 Mach. Screw	2

#### BALL SWIVEL KIT 104708 CONSISTS OF:

KEY NO.	QTY.	DESCRIPTION
1	1	Ball Swivel Assy.
2	1	#10 Lockwasher
3	2	#10 Hex Nut



**IMPORTANT INFORMATION**

**General**

This kit will accommodate vehicles equipped with electronic and cable driven speedometers that require a mechanical (gear driven) connection to the transmission speedometer output port. Specifically, included are speed signal generators (speed senders) for electronic speedometers that are externally mounted on the transmission at the speedometer port and direct cable driven speedometers.

1. This kit will accommodate all transmissions **except** the following Fuller transmissions:

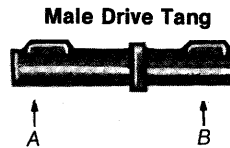
- RT-6610      RTO-6610
- RT-610      RTO-610

**Vehicle equipped with these transmissions cannot be fitted with cruise control.**

2. If the vehicle speedometer ratio corrector (mounted on transmission) has a non-removable drive tang that is other than .187" round, the entire ratio corrector must be replaced.
3. If a transmission mounted ratio adapter is not installed and the speedometer cable is mounted directly to the transmission, remove the cable and check the tip size. If the cable tip size is other than .187" round, it will be necessary to procure the proper components to adapt the cable to the .187" round socket of the "T" adapter furnished in this kit.
4. If the speedometer driven gear in the transmission has other than a .203" round socket drive, it will be necessary to replace the two male drive tangs furnished in this kit. Replacement drive tangs must have a .187" round drive on one end to accommodate the "T" adapter and must be obtained from a local sales outlet for Stewart Warner or S.S. White. The chart below lists the sizes and part numbers of drive tangs available from these companies.

A	B	STEWART WARNER	S.S. WHITE
.187" RD.	.152" RD.	101451	2701-3020
.187" RD.	.187" RD.	101452	2701-3021
.187" RD.	.203" RD.	101453	2701-3022
.172" RD.*	.104" SQ.	101454	2701-3018
.172" RD.*	.150" SQ.	428798	2701-3019
.172" RD.*	.183" SQ.	810654	Not Available

\*Will Accomodate a .187" Round Socket



**MISCELLANEOUS HARDWARE ITEMS**

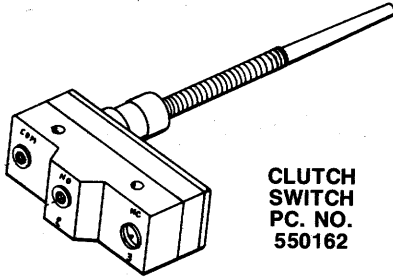
**SPEED SENDER KIT 209867 ADDITIONAL PARTS NOT LISTED ABOVE**

DESCRIPTION	QUANTITY
1/4 Lockwasher	2
1/4 Hex Nut	2
1/4 Cap Screw	2
#6 Lockwasher	6
#6 Mach Scr Nut	2
#6 Mach Screw	2
Clutch Sw Brkt	1

# SPEED SENDER KIT 209890

UNIVERSAL TRUCK  
CRUISE CONTROL

CATALOG  
**10-A-11**



CLUTCH  
SWITCH  
PC. NO.  
550162

## IMPORTANT INFORMATION

### General

This kit will accommodate vehicles equipped with electronic speedometers that **do not have** externally mounted (gear driven) speed signal generators installed in the speedometer output port of the transmission.

Kit should not be used when the electronic speedometer speed signal is obtained from an in-wheel, speed sending unit on a **non-powered** wheel. For example; steering, tag or pusher axle wheels.

The electronic speedometer must be operating correctly to insure proper cruise control operation.

## MISCELLANEOUS HARDWARE ITEMS

### SPEED SENDER KIT 209890 ADDITIONAL PARTS NOT LISTED ABOVE

DESCRIPTION	QUANTITY
1/4 Lockwasher	2
1/4 Hex Nut	2
1/4 Cap Screw	2
#6 Lockwasher	6
#6 Mach Scr Nut	2
#6 Mach Screw	2
Clutch Sw Brkt	1
Ring Terminal	2

Typical Truck Cruise Control System

