tenance service (or filling after reconditioning) are not changed but the amount of fluid used in the process varies as follows:

(1) Use five quarts of fluid as the initial fill before starting the engine.

(2) After the engine has run at idle for two minutes and each push button has been depressed for at least two seconds, add three quarts of fluid.

(3) Final addition of fluid should bring the level to within ¼ inch of the "Add One Pint" mark but never above the mark.

REAR AXLE HOUSING (Except Sure-Grip)

Check the lubricant level at each 2,000-mile or two-month interval when the lubricant is at operating temperature. Replenish when the level is below the filler hole.

When checking the lubricant level in the rear axle while the car is on a hoist or lift, it is recommended that the hoist used **be one that lifts the vehicle by supporting under the wheels or under the rear axle housing and the front suspension lower control arms.** This type of hoist maintains the rear axle housing at normal driving angle; hence, an accurate check of the lubricant level can be made.

The use of any hoist which lifts the frame of the car and allows the wheels and rear axle housing to be unsupported will change the angle of the rear axle housing and an accurate check of the lubricant level cannot be made.

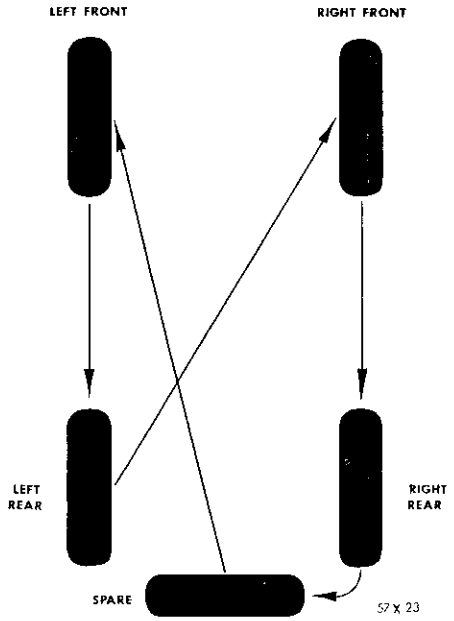

Fig. 3—Tire Rotation

The approved lubricants are Multi-Purpose lubricants designated for API Service GL-4 as defined by MIL-L-2105B: SAE 90 for temperatures above —10° F.; SAE 80 for temperatures below —10° F.; SAE 75 for temperatures below —30° F.

Drain and refill at 20,000-mile or two-year intervals.

TIRE ROTATION

Tires should be rotated after the first 3,000 miles and at 6,000 miles thereafter using the rotation plan as shown in Figure 3.

GROUP 1
ACCESSORIES

A new electrically-operated windshield washer is standard equipment on all Chrysler and Imperial models for 1961. The 1961 Auto-Pilot construction, operation, tests, adjustments and servicing are covered in this supplement.

The Chrysler vehicles are equipped with a Golden Tone Radio Model 317 and the Golden Touch Tuner Radio Model 407. The Imperial vehicles are equipped with a Touch Tuner Radio Model 404. The removal and installation procedures remain the same, however, the internal service should be done according to the new radio models.

All other accessories for the Chrysler and Imperial models are the same as those on the 1960 model vehicles.

The service procedures, with the exception of the Auto-Pilot, will remain the same as outlined in the 1960 Chrysler and Imperial Service Manual.

WINDSHIELD WASHER

A new electrically-operated windshield washer is standard equipment on all Chrysler and Imperial models.

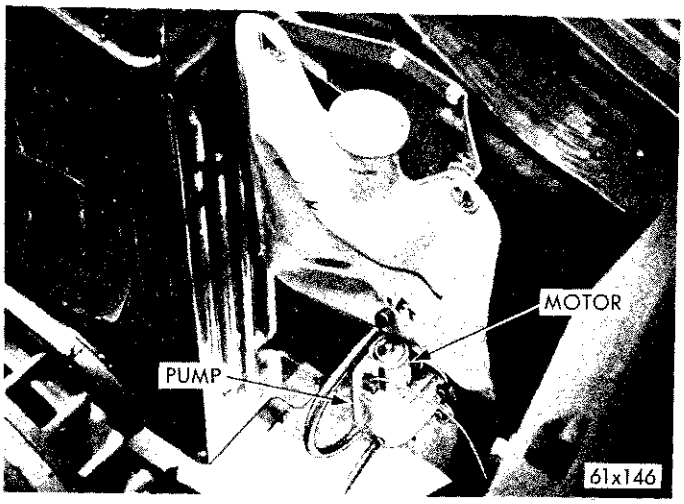

Fig. 1—Electric Windshield Washer

It is located on the engine side of the radiator support at the lower right corner (Fig. 1). This new unit is a permanent magnet type motor, coupled to a plastic gear pump that supplies fluid through rubber tubing to dual nozzle jets mounted in the fresh air intake grille of the cowl ventilator. The motor is a permanently lubricated sealed unit and needs no servicing. A circuit breaker in the unit protects the motor from overheating in the event of continuous operation or stalling of the pump. The pump and motor will be serviced as an assembly only.

TWO GEAR PUMP

A plastic bag type reservoir is mounted directly above the pump and the fluid is gravity fed from the bottom of the bag directly to the plastic two gear pump. The pump is a sealed unit and needs no service.

The outlet of the pump is attached by a rubber tubing to dual adjustable brass nozzles. Adjustment of the nozzle may be made by inserting a small screwdriver into the opening of the grille and rotating the nozzle in the direction the spray is desired.

OPERATION

Depressing a small button in the center of the windshield wiper knob actuates the motor and pump and a continuous stream of fluid is ejected as long as the button is depressed and fluid remains in the reservoir. The windshield washer operates independently of the windshield wipers.

ELECTRIC WINDSHIELD WASHER SERVICE DIAGNOSIS

Condition	Possible Causes	Correction
(1) Motor does not run.	a. Loose wiring terminals.	a. Tighten terminals.
	b. Corroded terminals.	b. Clean and tighten terminals.
	c. Broken wires.	c. Replace wires.
	d. Defective switch.	d. Replace switch.
	e. Shorted motor.	e. Replace assembly.
	f. Poor ground.	f. Clean housing and tighten.
(2) Fluid from only one nozzle.	a. Dirt in nozzle.	a. Blow out nozzle with compressed air.
	b. Broken or torn hose.	b. Replace hose.
	c. Pinched or kinked hose.	c. Replace hose.
	d. Hose disconnected from nozzle.	d. Install hose on nozzle.
(3) Pump does not operate.	a. Motor does not operate.	a. Replace unit.
	b. Broken coupling.	b. Replace unit.
	c. Defective pump.	c. Replace unit.
	d. Reservoir dry.	d. Fill reservoir.

SERVICE DIAGNOSIS — Continued

Condition	Possible Causes	Correction
(4) Spray not uniform.	a. Plugged nozzle.	a. Blow out with compressed air.
	b. Improperly aligned nozzles.	b. Aim spray nozzles.
	c. Pinched or kinked hose.	c. Align or replace hose.

AUTO PILOT

SPEED WARNING (MANUAL OPERATION)

A convenient instrument panel dial selector (Figs. 2 and 3) is used to set the Auto-Pilot to the desired speed the driver feels is appropriate under the local road and driving conditions. The car is started and operated in the normal manner. When used as a speed warning, the speed selector knob is turned to the desired speed position. When the car reaches the pre-set speed, the Auto-Pilot provides an accelerator pedal reaction pressure to remind the driver that the pre-set speed has been reached. Since the reaction pressure is five to seven pounds, the driver can exceed this speed by pressing the accelerator pedal through this reaction pressure to attain higher speeds momentarily; however, the driver can position the speed selector knob to a higher setting if he so desires. The driver maintains complete manual control when operating the car in this manner.

AUTOMATIC OPERATION

When automatic speed control operation is desired, the driver will accelerate the car to the selected speed to the point where the reaction pressure is felt in the accelerator pedal; then by pulling out the button located in the center of the speed control selector knob, will place the Auto-Pilot into full automatic regulation of the accelerator when on level road. The Auto-Pilot will, however, vary up to approximately 2½ mph when traveling uphill or downgrade terrain. The automatic accelerator regulations will stop instantly, with the slightest movement of the brake pedal and the car control is restored to complete manual operation.

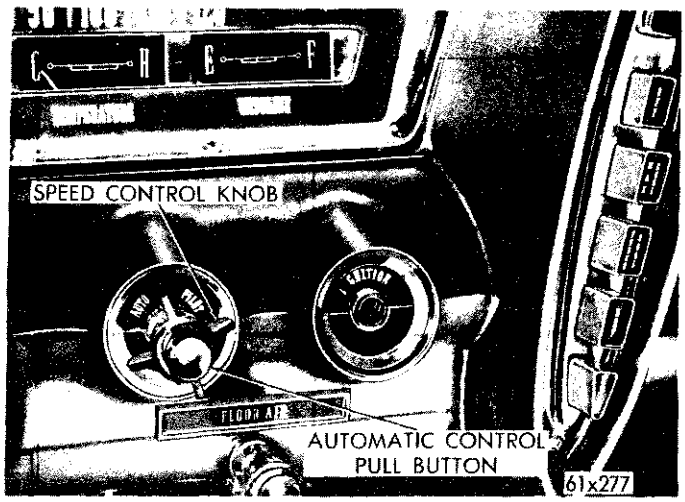

Fig. 2—Auto-Pilot Controls (Imperial)

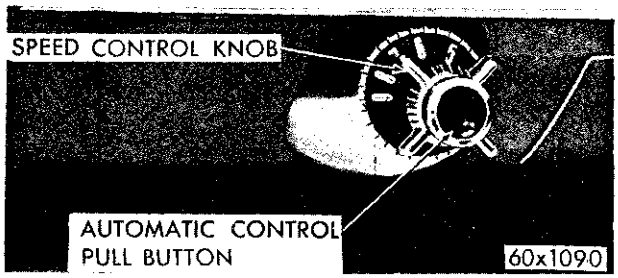

Fig. 3—Auto-Pilot Controls (Chrysler)

The automatic control will re-engage again as soon as the car is accelerated to the control set speed. Disengagement of automatic control is accomplished by pushing "IN" the engaging button in the center of the control, or when the ignition switch is turned "OFF." With the car in operation, the Auto-Pilot may again be placed into automatic operation.

CONSTRUCTION AND OPERATION

The Auto-Pilot is governed by car speed. The drive cable is connected directly from the transmission speedometer pinion to an input shaft located at the bottom center of the Auto-Pilot. This cable drives a spring-loaded governor in the Auto-Pilot unit. (See Fig. 4.) At the same time, a second speedometer cable is driven by means of a gear set to the car speedometer and indicated vehicle speed in the normal manner.

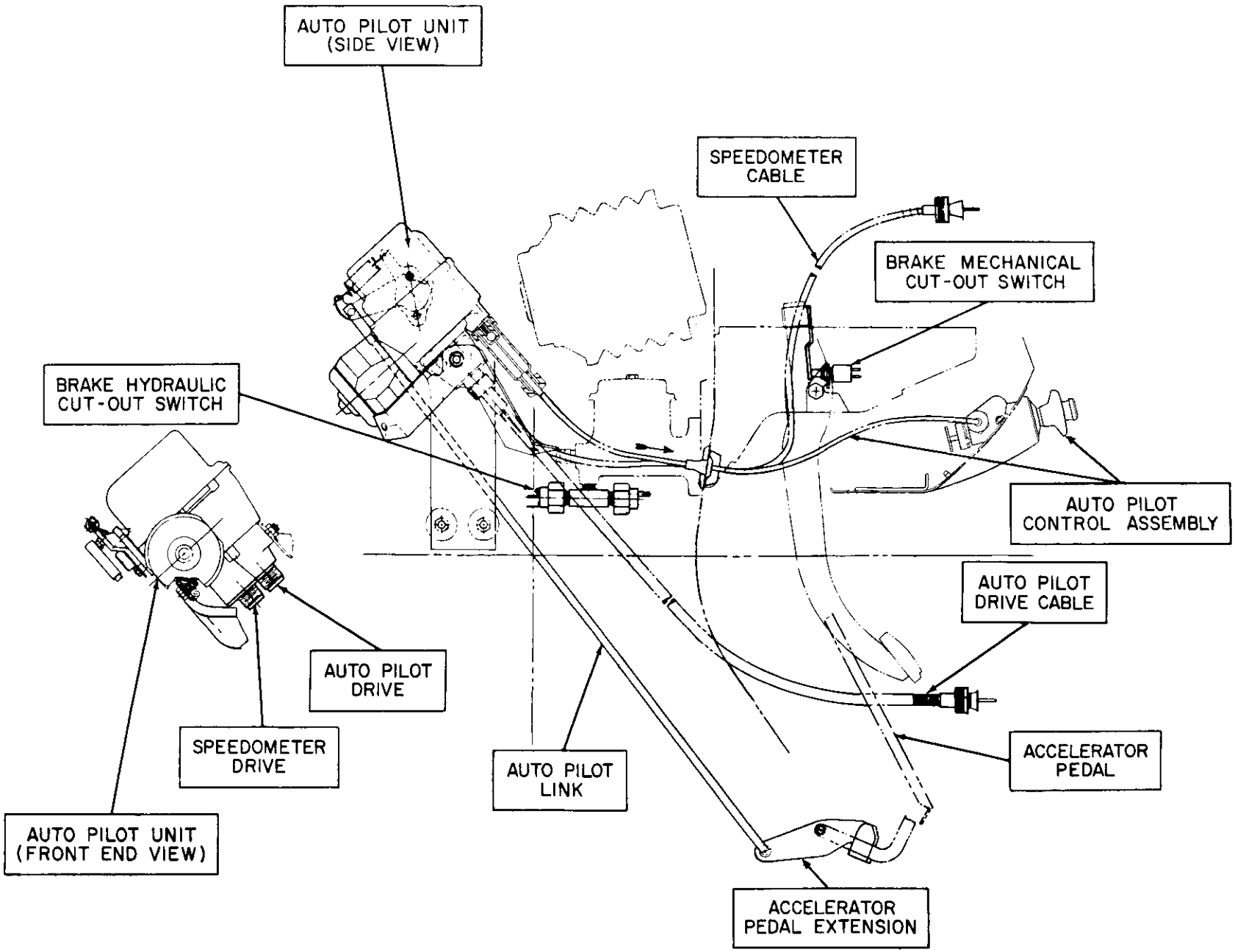

Fig. 4—Auto-Pilot Operation (Schematic View)

The spring loading of the governor is controlled by means of an Auto-Pilot control knob located on the instrument panel. This knob operates a rack and pinion gear that pulls or releases a control wire which, in turn, compresses or relieves the governor spring load. With the control set at 3, for example, tension in the governor spring is such that when the vehicle reaches approximately 30 mph, the force of the rotation of the governor weights is balanced by the governor spring compression.

The governor, riding up and down on its shaft, is connected to a contact arm that rotates by means of an eccentric arm connection (see Fig. 5). This contact arm moves between motor point #1 on the magnet assembly and motor point #2 on the locking arm. Electric contact between the point on the contact arm and the point on the magnet assembly actuates the 12-volt reversible electric motor, rotating a worm attached to the armature shaft. When the worm rotates, a worm nut on the worm carries the entire magnet assembly in a direction to increase car speed.

When the vehicle speed reaches the selector setting, the points will break contact because they are opposed by the governor spring tension. At this time, a positive back pressure is felt on the accelerator pedal. When the car tends to go faster than the dial setting, as for example, when descending a hill, the opposite

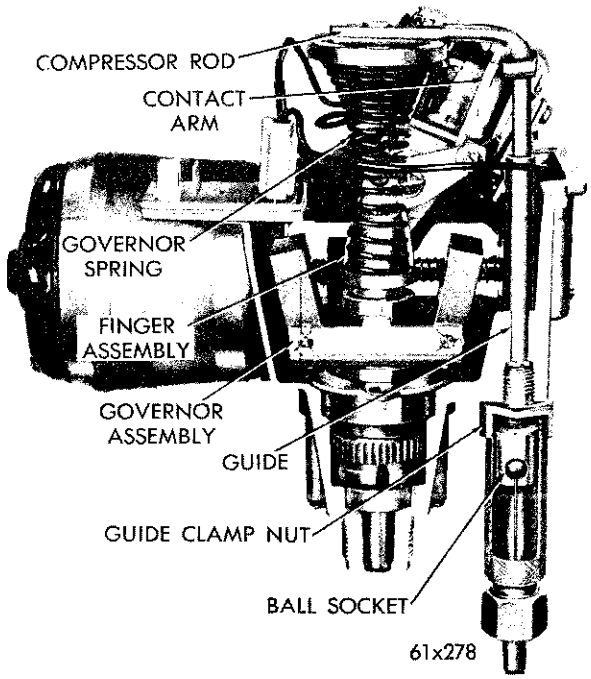

Fig. 5—Governor Assembly Operation (Cut-Away View)

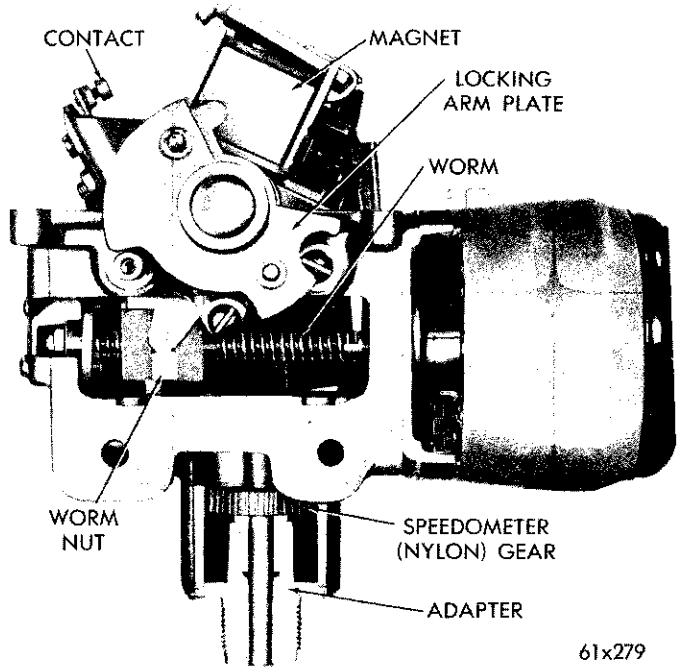

Fig. 6—Driving Magnet Assembly with Worm and Worm Nut

set of points make contact. The electric motor rotates the worm, moving the assembly to raise the accelerator pedal and close the carburetor.

The input sensings from the drive cable are balanced against the spring loaded governor (see Fig. 6) and the electric motor makes corrections to the accelerator linkage to maintain a constant speed in accordance with the control setting. As long as foot pressure is maintained against the positive reaction pressure, the vehicle will maintain its constant speed on the level, uphill, or downgrade with a possible maximum deviation of 2½ mph. The above covers manual operation of the Auto-Pilot.

For automatic operation, the cycle is the same. The following additional components, however, are actuated. When the car reaches the speed for which the Auto-Pilot control is set and positive back pressure is felt on the accelerator pedal, a small button in the center of the selector knob is pulled "out." This activates an electromagnetic coil located in the center of the magnet assembly. The magnet pulls down an armature plate which locks the magnet assembly and locking arm together. The unit now operates automatically without need for foot pressure on the accelerator, since the Auto-Pilot motor will advance and retard the accelerator pedal to maintain the constant speed at which the selector knob is set.

The selector knob setting may be raised or lowered while the unit is operating automatically. The vehicle will accelerate and decelerate to adjust to the new speed setting automatically. A touch of the brake pedal releases the magnet, which in turn instantly releases the latch and return the unit to foot control, where foot pressure on the accelerator will be required to bring the vehicle up to pre-selected speed. The automatic control will re-engage as soon as the control set speed is reached. Permanent disengagement is accomplished on pushing "IN" the control button, or by turning the ignition switch "OFF."

MAINTENANCE, EXTERNAL ADJUSTMENTS, LINKAGE ADJUSTMENT AND TESTS

LUBRICATION

Internal working parts of the Auto-Pilot are equipped with Oilite bearings, shielded ball bearings, or have been factory lubricated for the life of the unit. When internal service is performed, however, the drive screw and compressor rod should be lubricated with a non-hardening, heat-resistant lubricant.

SERVICE ADJUSTMENT

There are five service adjustments for the Auto-Pilot: 1. linkage adjustment; 2. control cable adjustment; 3. locking arm latch adjustment; 4. point adjustment; 5. brake switch check and adjustment.

LINKAGE ADJUSTMENT

CAUTION

Carburetor must be on slow idle for this adjustment.

(1) Remove the nut from the link ball joint and pull the link ball joint from the armature lever (Fig. 7).

(2) Insert the sleeve gauge Tool C-3844 over the gauge bolt and hold the armature lever securely against the sleeve gauge (Fig. 7).

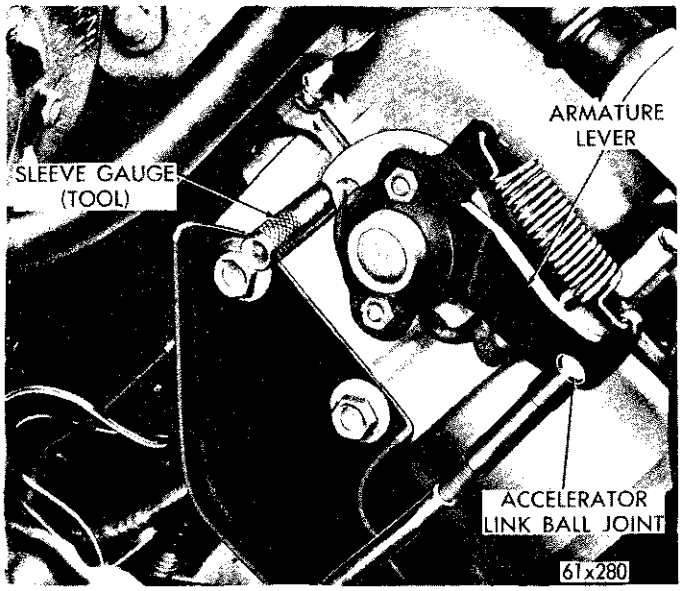

Fig. 7—Removing the Link Ball Joint from the Armature Lever

(3) Adjust the link ball joint until it will freely enter the hole in the armature lever.

(4) Replace the nut and tighten.

(5) Remove the sleeve gauge.

CONTROL CABLE ADJUSTMENT

(1) Rotate the selector knob counterclockwise as far as it will go without forcing.

(2) Hold the dust shield so that it will not rotate while unscrewing the clamp nut. Let the nut slide down the control cable. (This nut retains the control cable in the bottom of the dust shield.) (Fig. 8.)

(3) Remove the clamp nut, and pull the control cable out of the dust shield until the ferrule on the end of the cable is free from the bottom of the dust shield (Fig. 9).

NOTE: If the ferrule is tight in the dust shield, carefully pry the four fingers apart until the ferrule slides out freely. In some cases, it may be necessary to unscrew the dust shield from the unit in order to pry the four fingers apart.

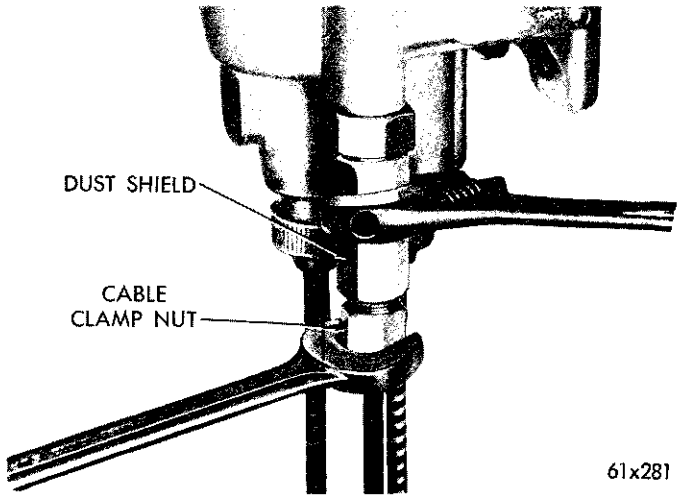

Fig. 8—Control Cable Adjustment

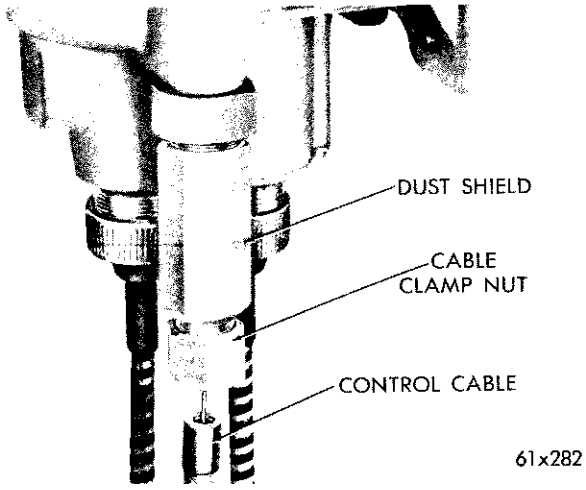

Fig. 9—Pulling the Control Cable out of the Dust Shield

CAUTION

Hold the hex fitting at the top of the dust shield so it cannot turn when unscrewing the dust shield.

(4) Reinsert the ferrule in the dust shield. Push in lightly on the control cable until it stops.

CAUTION

Do not force the cable beyond this position. The fingers of the dust shield must clamp the ferrule on its largest diameter.

(5) Again try to rotate the selector knob **counterclockwise only,** in order to make certain it is at the low setting.

(6) Tighten the clamp nut on the bottom of the dust shield securely.

INTERNAL ADJUSTMENTS AND CHECKS

Locking Arm Latch Adjustment

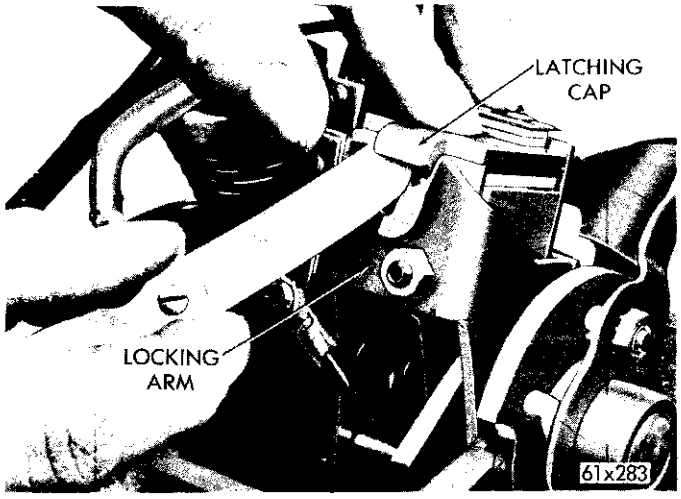

Fig. 10—Measuring the Clearance between the Locking Arm and Latching Cap

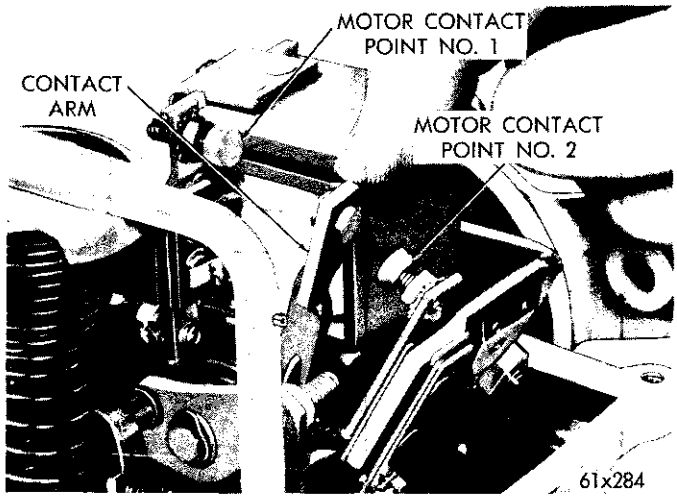

Fig. 11—Electrical Contact Points

(1) Disconnect the swivel on the accelerator linkage rod from the exterior arm.

(2) Remove the Auto-Pilot drive mechanism cover.

(3) Turn the ignition "ON." Do not start the engine.

(4) Move the locking arm against the magnet and push the latching cap down to lock the magnet assembly and locking arm together.

(5) Use a feeler gauge to measure the clearance between the locking arm and latching cap (Fig. 10). The clearance should be .001" to .006". If less than .001" clearance, loosen the lock nut. Turn the adjusting screw "counterclockwise to obtain proper clearance. If more than .006" turn the adjusting screw "clockwise." Tighten the lock nut.

(6) Turn the ignition "OFF" and replace the cover.

Point Gap Adjustment

The four electrical contact points provide forward and reverse control of the drive mechanism electric motor. They are: Motor contact point #1 on the magnet assembly; two points on the contact arm; and motor contact point #2 on the locking arm (Fig. 11).

NOTE: Unlike distributor points, these points are still operative when blackened or pitted and need not be filed. Any buildup material, however, on the contact points should be removed.

To Measure the Point Gap Setting

(1) Turn the selector knob counterclockwise to the low position.

(2) Disconnect the drive cable at the base of the

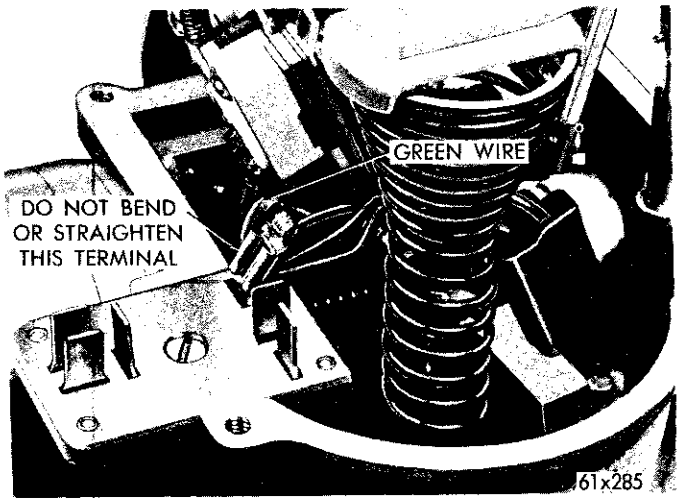

Fig. 12—Terminal Showing the Green Wire

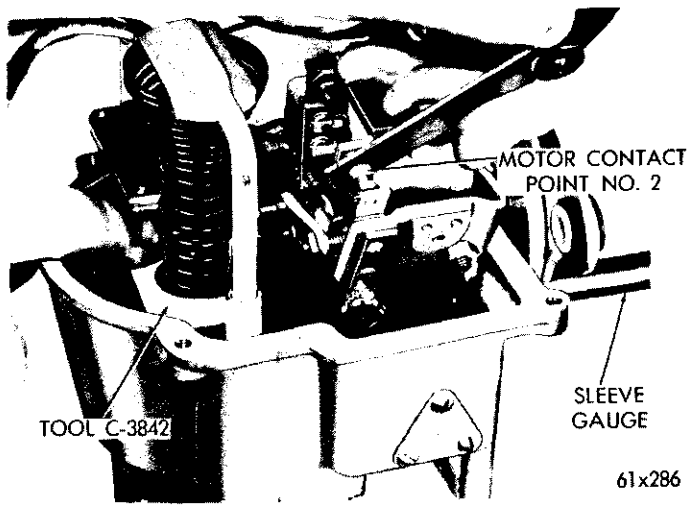

Fig. 13—Point Gap Setting

unit. Remove the cover. Disconnect the **green** wire from the terminal block (Fig. 12).

NOTE: Do not bend this terminal, as it has an agle to prevent grounding on the housing cover.

(3) Remove any material buildup from the contact points.

(4) Install the sleeve gauge over the gauge bolt.

(5) Turn the governor weights until they are parallel with the drive screw.

(6) Spread the weights and place the point gap checking gauge Tool C-3842 between them. Press the gauge down.

(7) Hold the exterior arm against the sleeve gauge and use a feeler gauge to check the clearance between the contact arm point and motor contact point #2 (Fig. 13).

NOTE: This clearance must be .030" - .045". If the gap is not within the specifications, loosen the lock nut on the motor contact point #2 and adjust to required clearance.

(8) Remove the sleeve gauge and checking gauge.

NOTE: If the checking gauge tends to jump out of the weights, roughen the two angled surfaces of the gauge with emery cloth.

(9) Turn the ignition switch "ON," do **not** start engine.

(10) Push the locking arm up against the magnet and push down on the latching cap to latch the magnet and locking arm together.

(11) With the contact arm point against the motor contact point #2, check the clearance between the motor contact point #1 and the contact arm (Fig. 14). The clearance must be .050" to .070".

(12) To adjust, loosen the lock nut on the motor contact point #1 and adjust with a screwdriver .050" to .070" clearance. Retighten the lock nut.

(13) Turn the ignition "OFF." Replace the green wire. Connect the drive cable and recheck the accelerator linkage adjustment. Replace the Auto-Pilot cover.

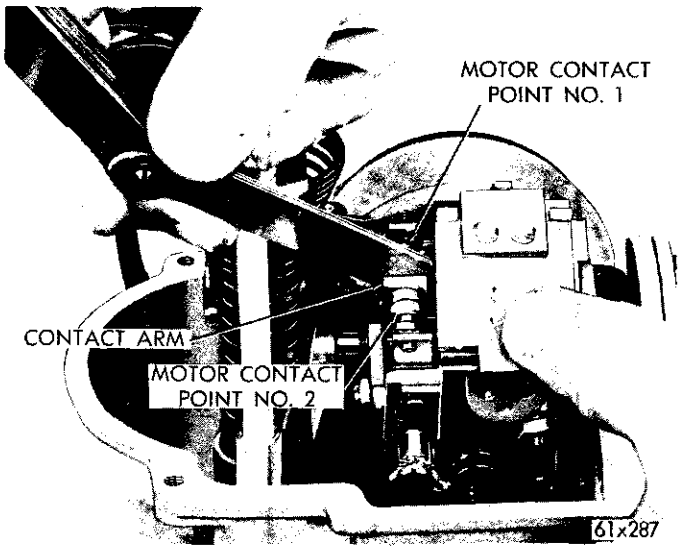

Fig. 14—Measuring Clearance between the Motor Contact Point #1 and the Contact Arm

TESTS

DRIVE MOTOR TORQUE TEST

(1) Remove the Auto-Pilot drive mechanism cover.

(2) Turn the ignition "ON," but do **not** start engine.

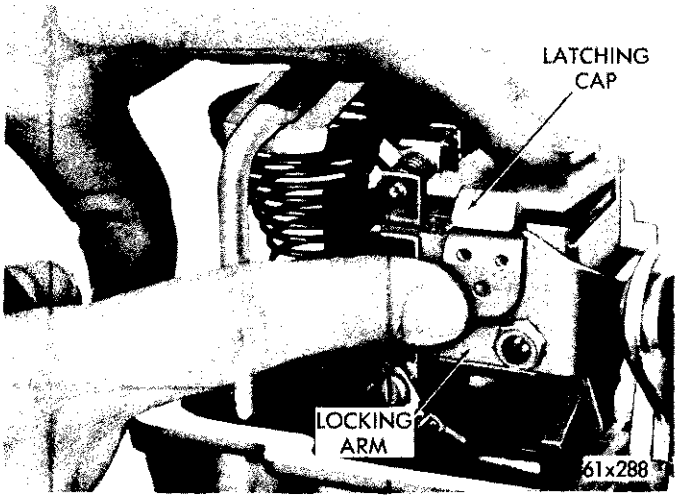

Fig. 15—Latching Arm to the Magnet Assembly

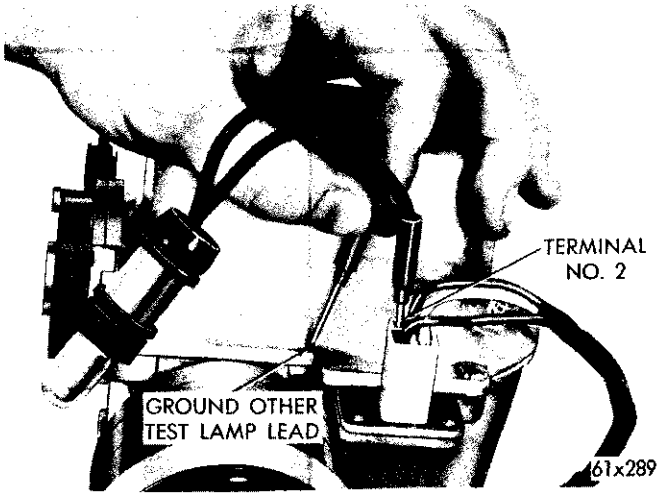

Fig. 16—Electrical Test (Terminal #2)

(3) Move the locking arm against the magnet and push the latching cap down to lock the magnet assembly and lock arm together (Fig. 15).

CAUTION

Move the contact arm with one finger, on top of the arm only, to prevent pinching or injuring the fingers as the magnet assembly moves when the contact points are in contact.

(4) Move the contact arm to touch the motor contact point #2 on the locking arm. The motor should rotate the drive screw and close the throttle.

(5) Move the contact arm to touch the motor contact point #1 on the magnet assembly. The motor should rotate the drive screw and open the throttle. If the motor will not open and close the throttle, perform the following operations:

(6) Remove the nuts holding motor to the housing. Lift the motor away from the housing to disengage the motor shaft from the slot in the drive screw.

CAUTION

Do not damage or pull out the electrical connections.

(7) Hold the motor in one hand and repeat steps 4 and 5.

(8) If the motor operates in both directions and the drive mechanism does not operate, the drive screw is damaged and must be replaced.

(9) If the motor does not operate in both directions, replace the motor.

BRAKE SWITCH TEST

(1) Turn the ignition "ON," but do **not** start the engine.

(2) Ground one lead of a test lamp and connect the other lead to terminal #2 (Fig. 16).

(3) If the lamp lights, the circuit is normal. If the lamp does not light, check for full brake pedal return. The brake pedal must return to normal for switch to operate. If the lamp still does not light, check for an improperly positioned or faulty brake switch.

(4) Remove the switch from its mounting bracket and lift it away from the brake pedal arm without disconnecting the wires. If the test lamp lights, the switch was improperly positioned. If the lamp does not light, the switch is faulty and must be replaced.

(5) To properly position the switch, it must be located so the test light will "go out" within the first ½ inch of brake pedal pad travel.

ELECTRICAL TESTS

(1) Turn the ignition "ON," but do **not** start engine.

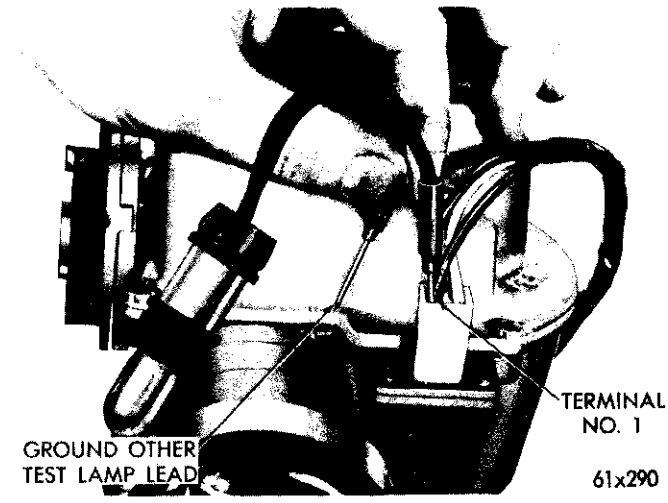

Fig. 17—Electrical Test (Terminal #1)

(2) Terminal #1—Ground one end of the test lamp lead and test terminal #1 (Fig. 17). If the lamp lights, the circuit is normal. If the lamp fails to light, the fuse is blown or wiring harness is open or grounded.

(3) Terminal #2—Ground one end of the test lamp lead and test terminal #2 (Fig. 16). If the lamp lights, the circuit is normal. If the lamp fails to light, the brake switch is faulty or improperly positioned. Test for full brake pedal return.

(4) Terminal #3 – Insert one test lamp lead in terminal #1 and the other in terminal #3 (Fig. 18). No light indicates a normal circuit. The test lamp, however, should light when the button in the speed selector is pulled out. If the lamp fails to light, the wire from terminal #3 to the speed selector is loose or disconnected. Correctly connect the wire and retest with the test lamp. If the lamp still does not light, replace the selector head assembly.

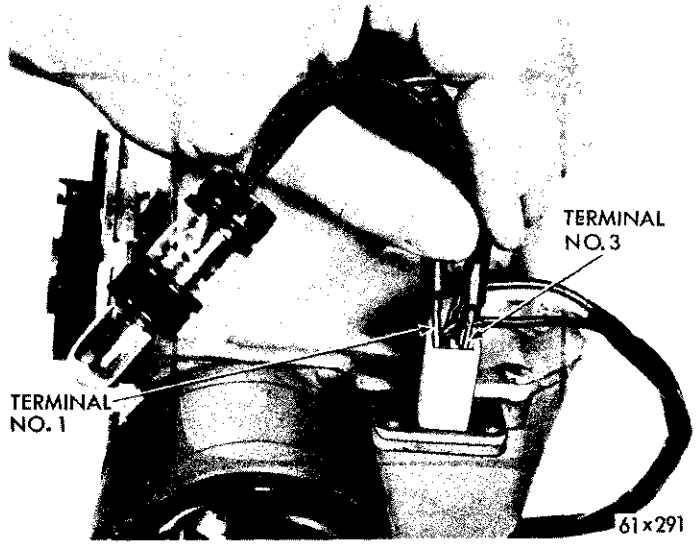

Fig. 18—Electrical Test (Terminal #3)

SERVICE PROCEDURES

REMOVAL OF THE SELECTOR CONTROL ASSEMBLY

(1) **Selector Control Assembly (Chrysler):** Disconnect the control cable from bottom of the Auto-Pilot by removing clamp nut and dust shield, and unhook ball on end of wire from ball socket.

(2) Loosen the Allen screw in the selector knob and pull button knob. Remove both knobs from the shaft.

(3) Disconnect the ground wire and also the double plug connected to the wiring harness.

(4) Unscrew attaching nut. Remove selector head from instrument panel.

(5) Pull cable through dash panel from passenger side.

(1) **Selector Control Assembly (Imperial):** Repeat steps 1-2-3 under Chrysler.

(2) Unscrew attaching nut.

(3) Remove the steering column lower dust shield.

(4) Remove the steering column clamp.

(5) Lower the steering column.

(6) Disconnect the ground wire and also the double plug connected to the wiring harness.

(7) Pull cable through dash panel from passenger side.

INSTALLATION OF THE SELECTOR CONTROL ASSEMBLY (CHRYSLER)

(1) Route the control cable through the dash panel from the passenger side.

(2) Install selector head in instrument panel.

(3) Connect ground wire and double plug.

(4) Install attaching nut.

(5) Install selector knob and dial shaft and tighten the set screw.

(6) Install pull button knob on shaft and tighten the set screw.

(7) Connect control cable to Auto-Pilot unit. Adjust the control cable as described under Paragraph "Control Cable Adjustments."

INSTALLATION OF THE SELECTOR CONTROL ASSEMBLY (IMPERIAL)

(1) Route control cable through dash panel from the passenger side.

(2) Install selector head in steering column.

(3) Connect ground wire and double plug.

(4) Install attaching nut.

(5) Install selector knob and dial on shaft and tighten the set screw.

(6) Install pull button knob on shaft and tighten the set screw.

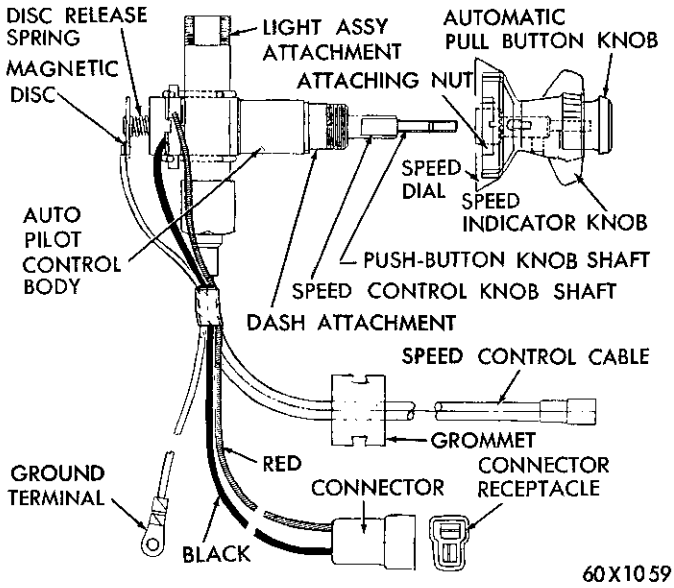

Fig. 19—Auto-Pilot Selector Control Assembly (Schematic View)

(7) Raise the steering column into position and install the steering column clamp. Tighten the clamp nuts.

(8) Install the steering column lower dust shield.

(9) Connect control cable to Auto-Pilot unit. Adjust the control cable as described under Paragraph "Control Cable Adjustments."

REMOVAL OF THE DRIVE MECHANISM

(1) Disconnect the terminal plug at the drive mechanism.

(2) Disconnect the drive cable and speedometer cable from the bottom of the drive mechanism.

(3) Loosen the cable clamping nut at the lower end of the dust shield.

(4) Hold the guide clamp nut at the top of the dust shield and unscrew the dust shield. Slide the cable clamping nut and dust shield down the control cable. Slip the ball end of the control cable out of the socket.

(5) Disconnect the accelerator link ball joint from the armature lever.

(6) Remove the brace nut. Remove the two mounting bracket bolts and remove the drive mechanism leaving the mounting bracket attached to the fender splash shield.

DISASSEMBLY OF THE DRIVE MECHANISM

(1) Remove the four screws attaching the cover and remove the cover. **Be careful not to lose the gaskets in the cover groove.**

(2) Disconnect the green motor wire from the terminal block (Fig. 12).

NOTE: Do not straighten the terminal fitting, as it has an angle to prevent grounding on the housing cover (Fig. 12).

(3) Disconnect the red motor wire at the bottom of the contact point #1 on the magnet assembly (Fig. 23).

(4) Disconnect the black motor wire from the terminal on the locking arm contact point #2 (Fig. 20).

(5) Remove the nuts attaching the motor to the housing and remove the motor.

NOTE: One nut is inside of housing, the other out-

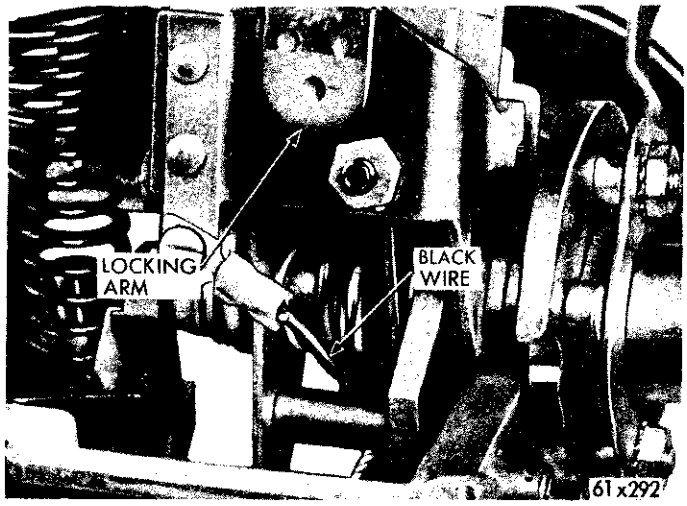

Fig. 20—Remove Black Wire from Locking Arm Contact Point #2

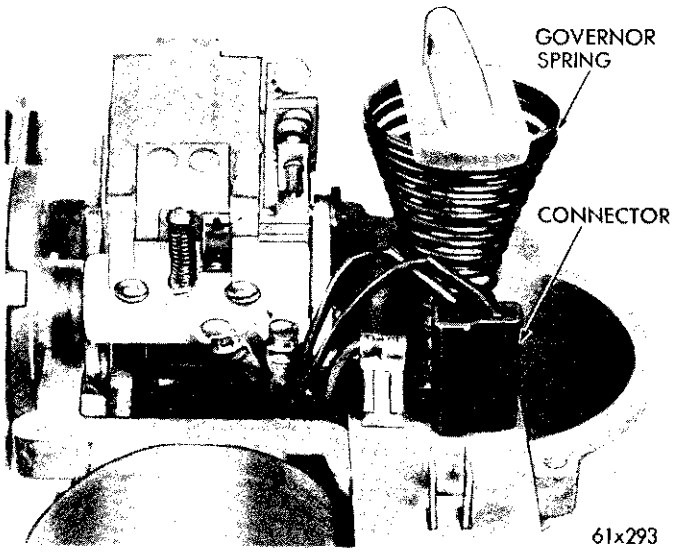

Fig. 21—Remove the Connector from the Terminal Block

side. When pulling the wires through the opening in housing, bring red and black wires through first; then the green wire.

(6) Disconnect the double plug-in connector from the terminal block (Fig. 21).

(7) Remove the governor spring (Fig. 21).

(8) Remove the ball socket from the end of the compressor rod and remove the compressor rod from the housing.

(9) Remove the guide clamp nut from the housing.

(10) Remove the compressor rod guide.

(11) Disconnect the spring from the armature lever and remove the armature lever and locking arm lever.

(12) Remove the gauge bolt and washer. Remove

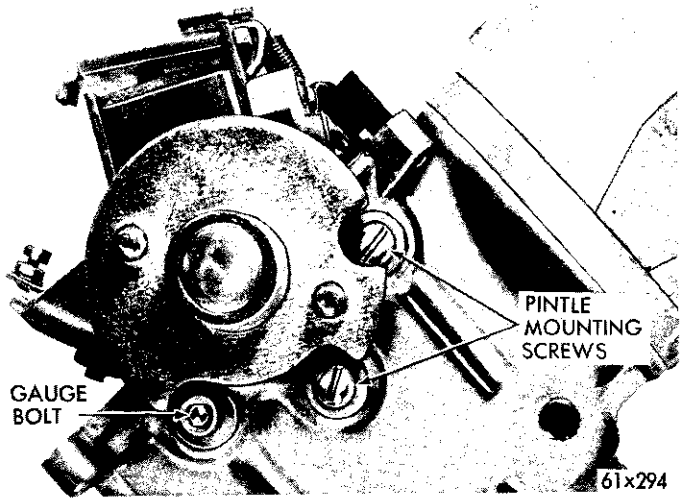

Fig. 22—Remove Two Pintle Screws and Washers and Gauge Bolt

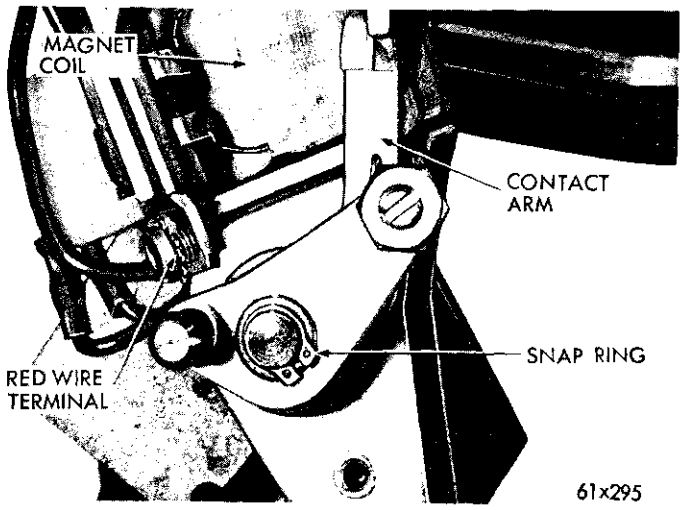

Fig. 23—Remove Snap Ring and Contact Arm from Pintle Shaft

the two pintle screws and washers located under the locking arm (Fig. 22).

(13) Lift the pintle assembly out of the housing.

CAUTION

Be careful not to lose the gasket from the groove in the housing.

NOTE: The finger assembly will come out with the pintle assembly.

(14) Remove the locking arm and spring washer from the pintle shaft.

(15) Remove the snap ring from the end of the pintle shaft and remove the contact arm from the shaft (Fig. 23).

(16) Remove the magnet and throttle over-ride switch assembly from the pintle shaft.

CAUTION

Do not remove the switch on the magnet assembly, as the two electrical contact points in the switch are not serviceable, nor adjustable.

(17) Remove the screw attaching the terminal block to the housing and remove the terminal block.

(18) In order to remove the drive screw assembly, remove the three screws from serial number plate and remove the plate. Remove the drive screw assembly from the motor end of the housing.

CAUTION

When handling the drive screw assembly, keep the parts clean, as dirt particles can become wedged between the small ball bearings in the nut and cause the nut to stick.

(19) Remove the three screws attaching the

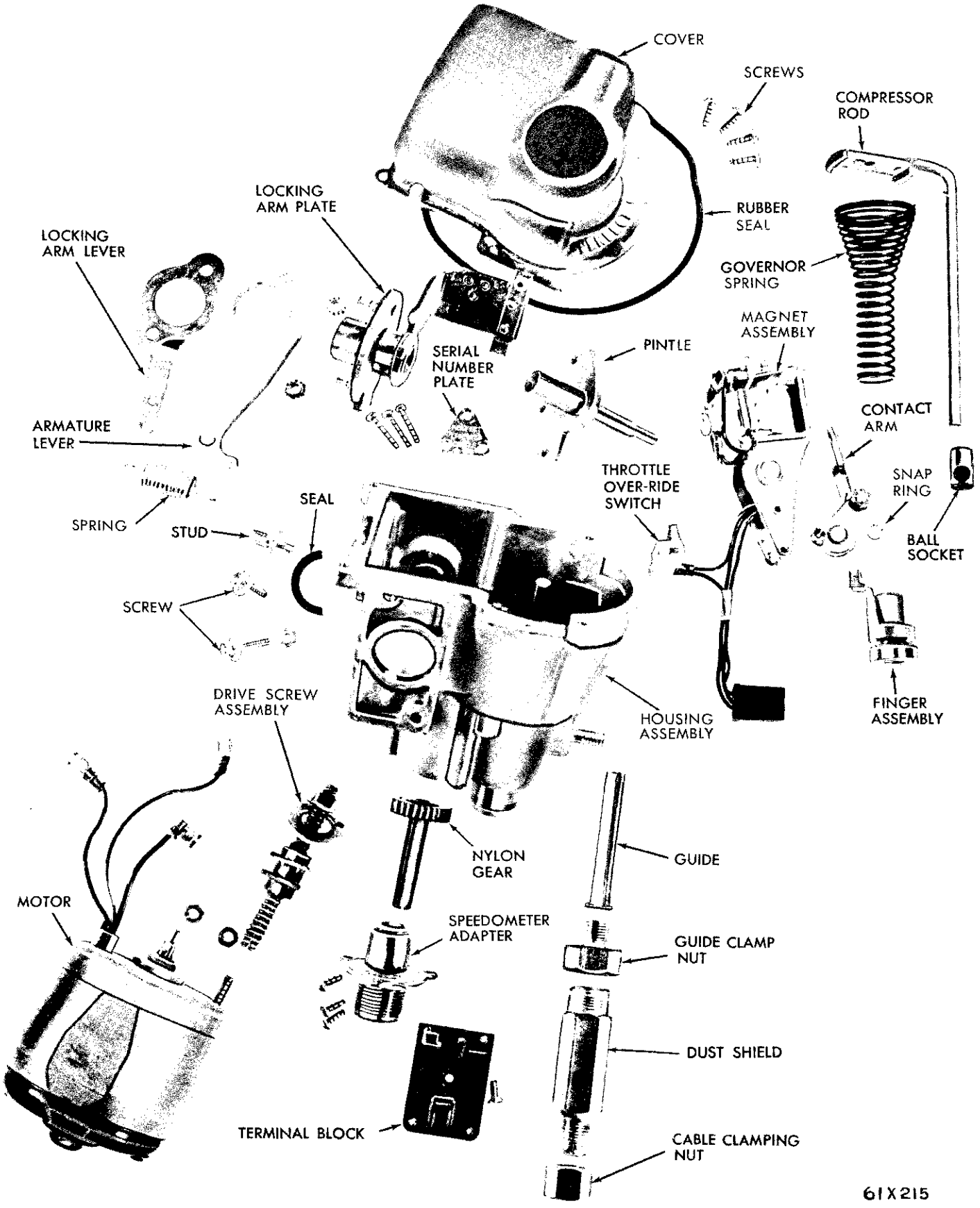

Fig. 24—Auto-Pilot (Disassembled View)

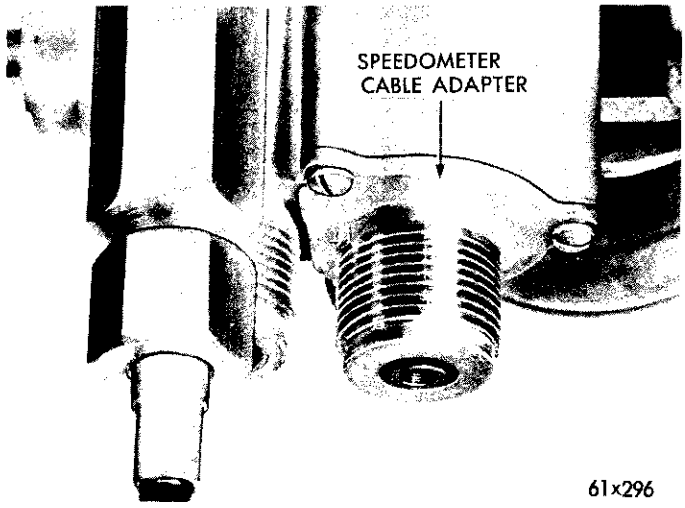

Fig. 25—Assembling the Speedometer Cable Adapter

speedometer adapter to the housing and remove the adapter and nylon gear.

NOTE: The governor assembly and drive mechanism housing are serviced as a single unit. Do not disassemble.

ASSEMBLY OF THE DRIVE MECHANISM

(1) Lubricate the nylon gear with MoPar Lubriplate, and insert the gear in the housing on the bottom of the drive mechanism. Install the speedometer adapter and attach with the three screws (Fig. 25).

(2) Lubricate the drive worm and nut assembly with MoPar Lubriplate and install the assembly in the motor end of the housing (Fig. 26). Install the serial number plate. Attach the plate and drive screw

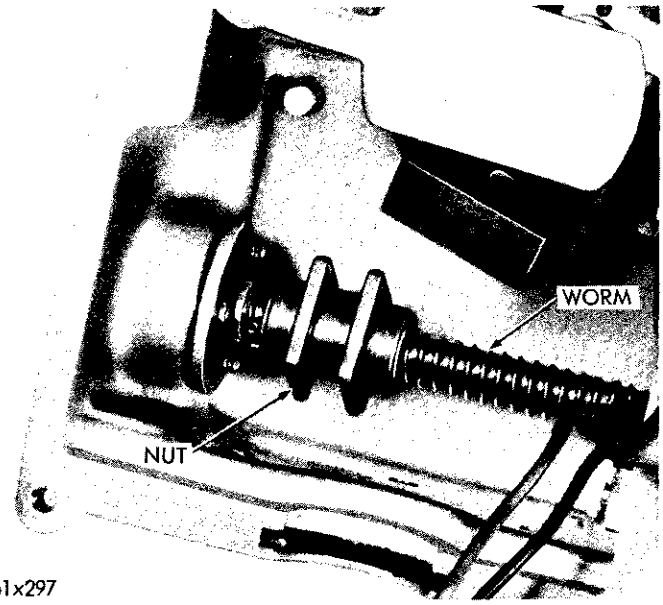

Fig. 26—Assembling the Drive Worm and Nut Assembly in the Housing

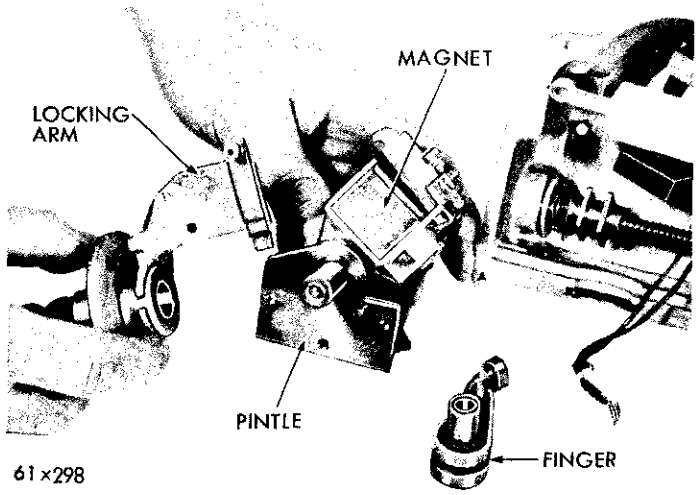

Fig. 27—Assembling the Locking Arm on the Pintle Shaft

assembly with the three screws. **Do not overtighten the screws.**

(3) Install the pintle shaft in the collar end of the bushing in the magnet assembly.

(4) Install the contact arm on the end of the pintle shaft and attach with the snap ring.

(5) Install the locking arm on the pintle shaft (Fig. 27).

(6) Install the finger assembly on the ball joint of the contact arm.

(7) Install the complete assembly in the housing (Fig. 28). Position the finger assembly over the governor shaft, align the bracket tangs on the bottom of the magnet assembly with the grooves in the drive screw nut. Press down on the complete assembly until it seats itself in the housing.

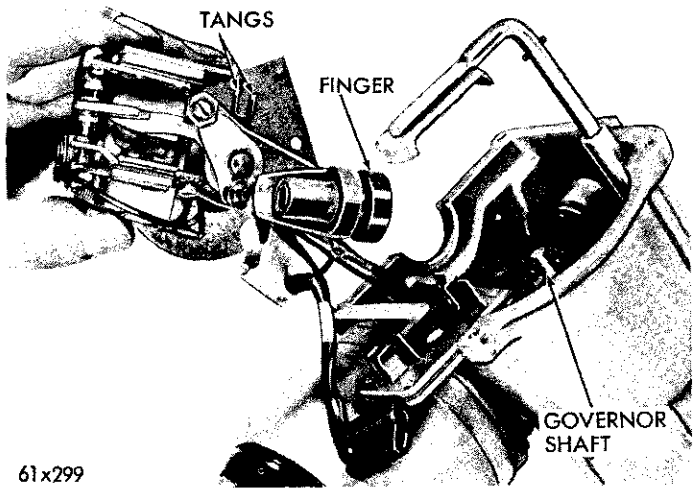

Fig. 28—Installing the Complete Pintle Assembly in the Housing

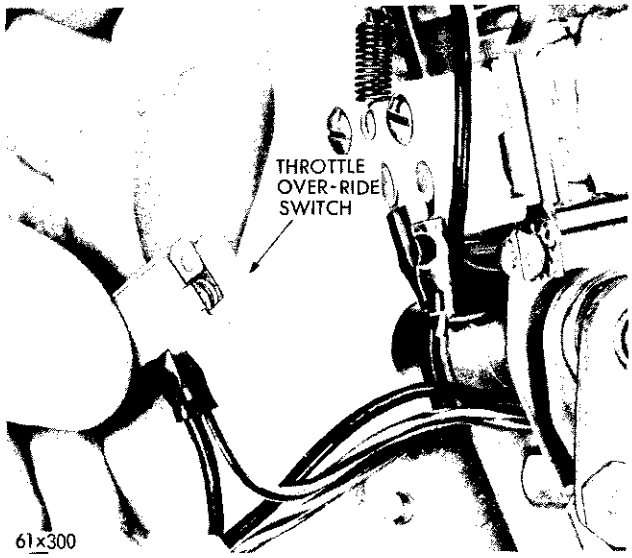

Fig. 29—Installing the Over-Ride Switch

(8) Install the throttle over-ride switch (Fig. 29). Install the two pintle screws and washers to attach the pintle assembly in the housing.

NOTE: The longer of the two pintle screws attaches the throttle over-ride switch, and is located in the foremost location.

(9) Install the gauge stud and washer.

(10) Install the armature lever on the locking arm.

(11) Install the armature lever spring.

(12) Install the terminal block on the housing with the numbered connector blades toward the outside of the housing. Attach the terminal block with the flat head screw. Plug the connector onto the terminal block.

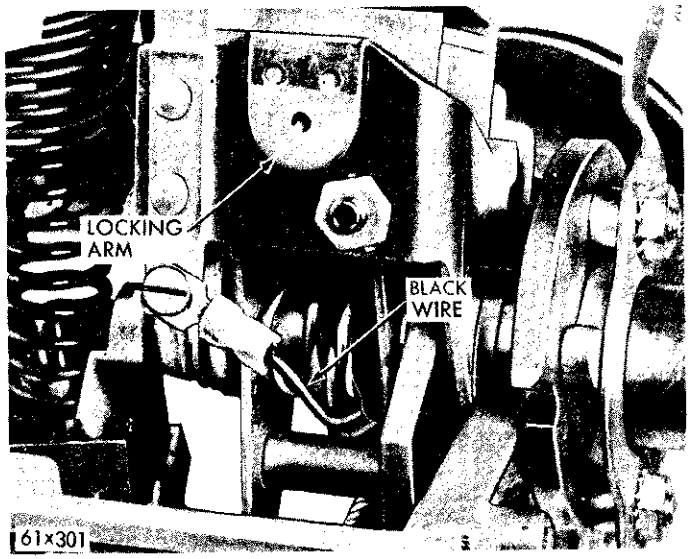

Fig. 30—Installing Black Wire to the Terminal on the Locking Arm Contact Point #2

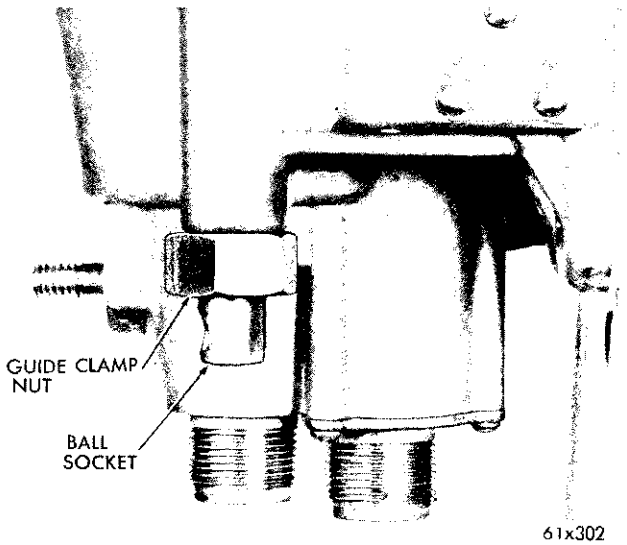

Fig. 31—Install the Ball Socket on End of Compressor Rod

(13) Rotate the drive screw until the magnet is in an upright position. Install the motor on the housing. Make certain that the end of the motor shaft engages in the slot of the drive screw. Install the motor mounting nuts and tighten.

CAUTION

Do not tighten by the use of a screwdriver on slotted bolt heads as this may result in binding of the motor bearings.

(14) Route the black motor wire **over** the pintle shaft between the legs of the magnet assembly, and connect the wire to the terminal on the locking arm (Fig. 30).

(15) Route the red motor wire **under** the pintle shaft, loop the wire back over the pintle shaft and connect the wire at the bottom of the contact point #1. Attach it with a screw and washer.

(16) Connect the green motor wire to the single connector on the terminal block.

(17) Install the compressor rod guide in the housing with the dimple in rod guide facing the finger assembly.

(18) Install the guide clamp nut on the housing and tighten.

(19) Lubricate the compressor rod with MoPar Lubriplate and install the compressor rod in the guide. Install the governor spring.

(20) Install the ball socket on the end of the compressor rod. While holding the housing in an upright position, tighten the ball socket until it touches the bottom of the guide clamp nut (Fig. 31).

NOTE: Do not tighten the ball socket so far as to allow the compressor rod cap to compress on the governor spring.

(21) Loosen the ball socket two complete turns. (This provides the correct low speed calibration for the drive mechanism.)

(22) Install the cover, making certain that the rubber and felt gaskets are properly seated in the grooves of the cover and housing. Attach the cover with the four screws.

INSTALLATION OF THE DRIVE MECHANISM

(1) Attach the drive mechanism to the mounting bracket.

(2) Connect the accelerator link ball joint to the armature lever. Adjust the accelerator linkage as described under "Linkage Adjustments."

(3) Install the ball end of the control cable in the ball socket on the bottom of the drive mechanism. Install the dust shield. Adjust the control cable.

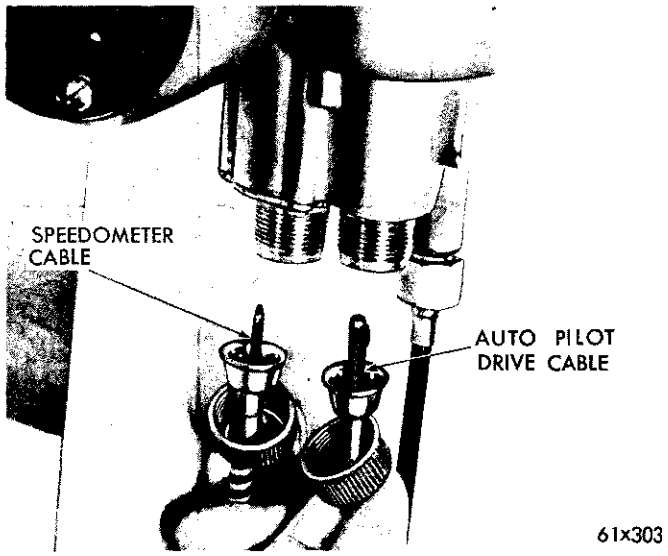

Fig. 32—Installing the Drive and Speedometer Cable

(4) Connect the drive cable and the speedometer cable (Fig 32).

(5) Connect the terminal plug.

SERVICE DIAGNOSIS

NOTE: It is recommended that the diagnosis be performed in the sequence outlined. Do not disassemble the Auto-Pilot unit, or the control assembly, until all the diagnosis and adjustment operations are performed and it is proven beyond any doubt that the control assembly or Auto-Pilot unit is at fault.

Condition	Possible Causes	Correction
(1) Speedometer Noise.	a. Cables bent or kinked.	a. Straighten or replace the cables.
	b. Lack of cable lubrication.	b. Lubricate the cables.
	c. Noisy speedometer head assembly.	c. Remove and repair the speedometer.
	d. Noisy nylon gear or metal drive gear.	d. Replace the nylon gear or housing assembly.
(2) Blowing fuses.	a. Short or ground in wiring circuit.	a. Test for short or ground. Repair or replace as required.
	b. Locked drive screw.	b. Inspect the drive screw for dirt or damage. Replace if necessary.

SERVICE DIAGNOSIS — Continued

Condition	Possible Causes	Correction
(3) No speed control response.	a. Accelerator linkage broken or disconnected.	a. Connect or replace the linkage and adjust.
	b. Drive cables broken or disconnected.	b. Connect or replace cables.
	c. Damaged nylon gear or drive gear.	c. Replace the nylon gear or housing assembly.
	d. Blown fuse.	d. Replace and locate and correct the cause.
	e. Loose connections or broken wires (internal or external).	e. Test for current at the unit. Repair the wires or tighten the wiring connections as required.
(4) Constant pressure on accelerator pedal regardless of selector setting.	a. Blown fuse.	a. Replace fuse. Locate and correct the cause of blowing fuse.
	b. No current at #1 terminal.	b. Test for current at #1 terminal.
	c. Control cable improperly adjusted.	c. Properly adjust the cable.
	d. Inoperative motor or locked drive screw.	d. Test the operation of motor. Correct as required.
(5) Automatic control does not engage when button is pulled out.	a. Driver riding the brake pedal. Driver does not hold accelerator against back pressure when pulling the button.	a. Instruct the owner of Auto-Pilot operation and demonstrate.
	b. No current at #2 terminal.	b. Perform electrical test and correct as required.
	c. Loose or disconnected ground wire between the selector assembly and terminal #3.	c. Tighten or connect the ground wire.
	d. Inoperative switch in the selector assembly.	d. Test the switch and current at terminal #3.
	e. Magnet assembly does not latch.	e. Inspect and adjust the locking arm latch.
	f. Inoperative magnet.	f. Replace the magnet assembly.
(6) Automatic selector engages at selected speed without pulling pull button knob.	a. Ground wire (#3 to selector) is grounded.	a. Test for ground in the circuit and repair as required.
	b. Inoperative grounding switch in the selector assembly.	b. Test at terminal #3, and install a new control if necessary.
(7) Automatic control remains engaged when brake pedal is touched.	a. Inoperative brake switch.	a. Test at terminal #2. Adjust brake switch.

SERVICE DIAGNOSIS — Continued

Condition	Possible Causes	Correction
(8) Pulsating accelerator pedal.	a. Speedometer cable or drive cable kinked.	a. Straighten and align the cables. Replace if necessary.
	b. Lack of lubrication.	b. Lubricate the cables.
	c. Improper accelerator linkage adjustment.	c. Adjust the accelerator linkage properly.
	d. Improper locking arm latch adjustment.	d. Inspect and adjust the locking arm latch.
	e. #1 and #2 contact points improperly adjusted.	e. Inspect and adjust the point clearance.
(9) Carburetor does not return to normal idle.	a. Improper carburetor or accelerator linkage adjustment.	a. Adjust the throttle control and accelerator linkage.
(10) Speedometer does not register or unit does not operate.	a. Speedometer drive pinion in the transmission damaged.	a. Replace the speedometer drive pinion.
	b. Broken speedometer cable.	b. Replace the speedometer cable.
	c. Faulty speedometer.	c. Remove and repair the speedometer.
	d. Broken drive cable from transmission to the drive mechanism.	d. Replace the drive cable.
	e. Damaged drive gear or nylon gear in the drive mechanism.	e. Replace the nylon gear. If the metal drive gear is damaged, replace the housing assembly.

GROUP 2

FRONT SUSPENSION

DATA AND SPECIFICATIONS

MODELS	RC-1	RC-2	RC-3	RY-1
STEERING AXIS INCLINATION	$5\frac{1}{2}° - 7\frac{1}{2}°$			
CAMBER	Left $+\frac{1}{2}° \pm\frac{1}{4}°$ ($+\frac{1}{2}°$ Preferred) Right $+\frac{1}{4}° \pm\frac{1}{4}°$ ($+\frac{1}{4}°$ Preferred)			
CASTER (Manual Steering)	$-\frac{1}{2}° \pm\frac{1}{2}°$			
(Power Steering)	$+\frac{3}{4}° \pm\frac{1}{2}°$			
TOE-IN	$\frac{3}{32}$ inch to $\frac{5}{32}$ inch ($\frac{1}{8}$ inch Preferred)			
TOE-OUT ON TURNS	$21\frac{1}{2}°$ ($\pm1°$) Inner Wheel, When Outer Wheel is 20°			

DATA AND SPECIFICATIONS — Continued

MODELS	RC-1	RC-2	RC-3	RY-1
THREAD				
Front	61.0	61.0	61.2	61.8
Rear	59.7	59.7	60.0	62.2
WHEELBASE (Inches)	122	122	126	129
Town and Country (Inches)	122	—	126	—

TIGHTENING REFERENCE

	Foot-Pounds	Inch-Pounds
BALL JOINT IN CONTROL ARMS (RC-1, RC-2)	125 Min.	
JOINTS IN CONTROL ARMS (RC-3, RY-1)	150	
LOWER BALL JOINT STUD	135	
UPPER BALL JOINT STUD 9/16 (RC-1, RC-2)	100	
5/8 (RC-3, RY-1)	135	
LOWER CONTROL ARM		
Bumper Nut		200
Shaft Nut – Outer 3/4 (RC-1, RC-2)	180	
7/8 (RC-3, RY-1)	200	
Inner 5/8	100	
Strut Bolt Nut	100	
Strut Bushing Nut	50	
UPPER CONTROL ARM		
Bumper Nut		200
Support Bracket Cam Bolt Nut	65	
SWAY ELIMINATOR SHAFT		
Cushion Retainer Bolt Nut	35	
Frame Bracket Screws		150
Link Nut		100
FRONT SHOCK ABSORBERS		
Upper Mounting Nuts	25	
Lower Mounting Nut	55	
Steering Knuckle to Bracket Support Bolt	55	
Steering Knuckle to Steering Knuckle Arm Nut	50	

Service Information for Front Suspension remains the same as described in the 1960 Chrysler and Imperial Service Manual with the following exceptions:

Front Suspension height has been changed to 2 3/8 inches on Town and Country models and those models equipped with heavy duty springs.

Torque specifications have been changed on the following items:

The RC-2 (Windsor Model) wheelbase is 122 inches. The suspension parts of the RC-2 are the same as those for the RC-1. All tools and torques lists for the RC-1 (Newport Model) should be used on the RC-2 (Windsor Model).

Lower Control Arm Strut Bushing Nut	50 Foot-Pounds
Sway Eliminator Shaft Frame Bracket Screws	150 Inch-Pounds
Sway Eliminator Shaft Link Nut	100 Inch-Pounds
Front Shock Absorber Upper Mounting Nut	25 Foot-Pounds