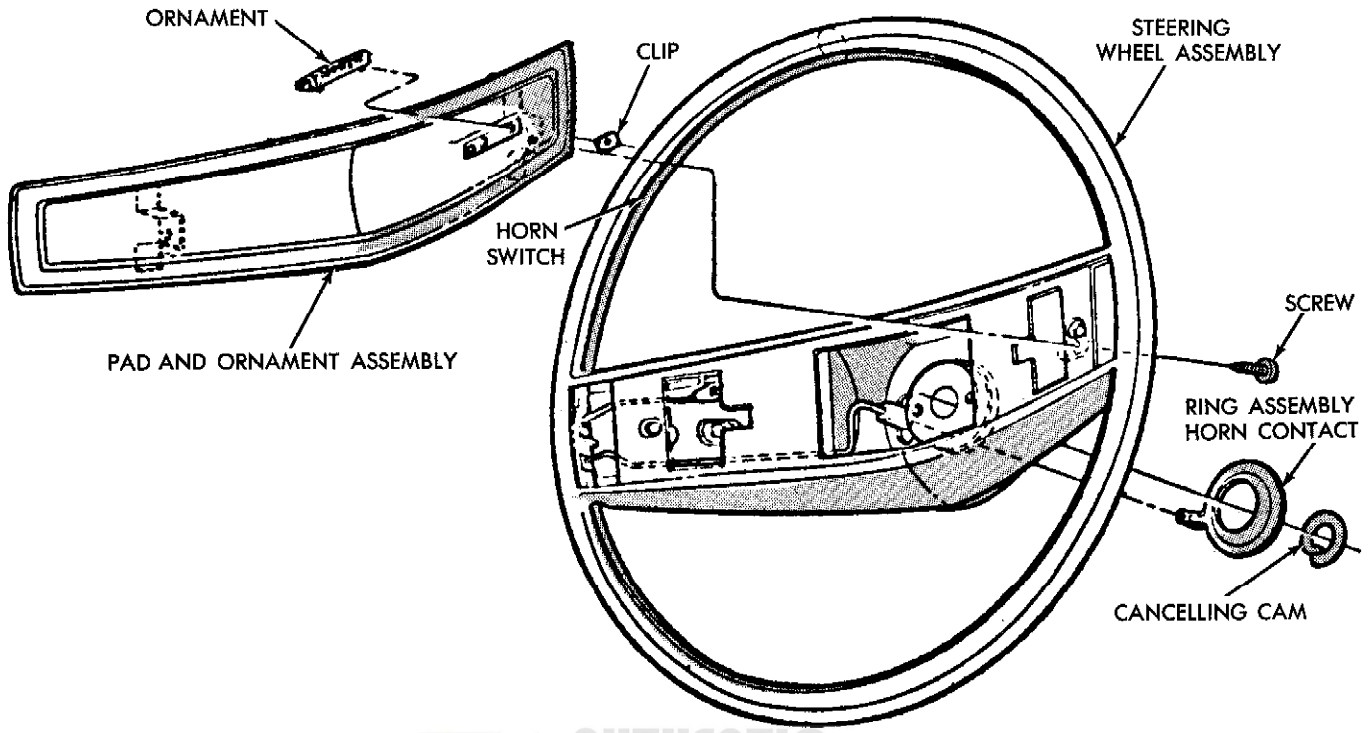


Fig. 4—Horn Switch Assembly Rim Blow

(5) Fasten wheel cover to the wheel using three Phillips screws; snap center cover into position, test horn for operation.

HORN SWITCH—RIM BLOW (Fig. 4)

Removal

(1) Remove steering wheel pad by removing two retaining screws from rear face of spoke.

(2) Disconnect horn leads.

(3) Using a blade, pry each end of the rubber enclosed switch assembly from the groove, to start removal.

Lubricate the rubber surface of the switch with a solution of soap and water, then pull it free from the wheel.

Installation

(1) Lubricate the groove in the steering wheel and the rubber exterior of the switch with a solution of soap and water.

(2) Place steering wheel in normal driving position having the spoke horizontal.

(3) Insert the ground lead eyelet through the left spoke lower opening, as viewed from the drivers seat. Pull the lead and the rubber encased switch through this opening and through the opening in the second spoke.

(4) Using a blade, carefully press the rubber covered portion of the switch into the groove. The switch is positioned properly when each end of the rubber covering is flush with the edge of each opening in the spoke.

(5) Reconnect both leads.

(6) Replace pad, install and tighten the two retaining screws; test horn for operation.

SPEED CONTROL SYSTEM

INDEX

GENERAL INFORMATION

The speed control system (Fig. 1) is electrically actuated and vacuum operated. The turn signal lever on the steering column incorporates a CONTROL RING which when rotated, turns the system "OFF", "ON" or "RESUME SPEED". A SPEED SET button is located in the end of the lever. This device is designed to operate at speeds above approximately 30 M.P.H.

WARNING: The use of "Speed Control" is not recommended when driving conditions do not permit maintaining a constant speed, such as heavy traffic or on roads that are winding, icy, snow covered or slippery.

TO ENGAGE: Rotate control ring to the "ON" position, attain desired speed then momentarily depress and release "SPEED SET" button establishing speed memory and engaging system. Remove foot from accelerator. Speed will be maintained at this level. Turning the control ring from "OFF" to "ON" while the vehicle is in motion establishes memory without system engagement at that speed.

TO DISENGAGE: Normal brake application or a soft tap on the brake pedal will disengage control unit without erasing speed memory. Fully rotating the control ring in the "OFF" direction or turning the ignition "OFF" also disengages the system and in addition erases the speed memory.

TO RESUME: Momentarily rotate control ring fully in the "RESUME" direction. Vehicle will resume to the previously memorized speed.

TO VARY SPEED SETTING: To increase speed, depress accelerator to desired speed and momentarily depress and release SPEED SET button. When speed control units is engaged, tapping SPEED SET button may increase speed setting incrementally.

To decrease speed, tap brake pedal lightly disengaging system. When desired speed has been obtained depress and release SPEED SET button. Decrease in speed can also be attained by holding set button depressed until desired speed is attained. Releasing the button engages the system at that speed.

TO ACCELERATE FOR PASSING: Depress accelerator as needed, when passing is completed, release accelerator and vehicle will return to previous speed setting.

SERVICE PROCEDURES

TESTS AND ADJUSTMENTS
SERVO LOCK-IN SCREW ADJUSTMENT

The Lock-in Screw Adjustment (Fig. 2) controls the accuracy of the speed control unit. When the SPEED-SET button is depressed and released at speeds above approximately 30 M.P.H.; the speed control system is activated, the system "locks in" and should hold the vehicle at virtually the same speed at which it is traveling.

IMPORTANT: Lock-in accuracy will be affected by:

(a) **Poor engine performance (need for tune-up etc.)**

(b) **Power to weight ratio (loaded gross weight of car; trailering).**

(c) **Improper slack in throttle control cable, (See "Throttle Control Cable Adjustment").**

This screw should never be adjusted indiscriminately. Need for adjustment can be determined only after accurate diagnosis of the Speed Control System operation.

After the steps (a) (b) and (c) have been considered and speed "sags" (drops) more than 2 to 3 M.P.H. when speed control is activated, the lock-in adjusting screw should be turned counter-clockwise (approximately 1/4 turn per one M.P.H. correction required). If "Pull-up" (speed increase) of more than 2 to 3 M.P.H. occurs, the lock-in adjusting screw should be turned clockwise (approximately 1/4 turn per one M.P.H. correction required. If the screw is loose, stake side of servo housing adjacent to screw to INSURE a snug fit.

CAUTION: This adjustment must not exceed two turns in either direction or damage to unit may occur.

SPEED CONTROL THROTTLE CABLE ADJUSTMENT

Optimum servo performance is obtained with a given amount of free play in the throttle control cable. To obtain proper free play, insert a 1/16 inch diameter pin between forward end of slot in cable and carburetor linkage pin. Use hair pin clip removed from carburetor linkage pin as a gauge (Fig. 3). With choke in full open position and carburetor at curb idle, pull back on cable (toward dash panel) without moving carburetor linkage until all free play is removed. Tighten cable clamp bolt to 45 inch-pounds, remove 1/16 inch diameter pin and install hair pin clip.

STOP LAMP AND SPEED CONTROL SWITCH ADJUSTMENT (Fig. 4)

Refer to Figure for proper switch adjustment as follows:

WARNING: THE USE OF "SPEED CONTROL" IS NOT RECOMMENDED WHEN DRIVING CONDITIONS DO NOT PERMIT MAINTAINING A CONSTANT SPEED , SUCH AS HEAVY TRAFFIC OR ON ROADS THAT ARE WINDING, ICY, SNOW COVERED OR SLIPPERY.

SPEED CONTROL SYSTEM SERVICE DIAGNOSIS

BLOCK VEHICLE WHEELSAND SET BRAKES. PLACE TRANSMISSION IN NEUTRAL OR PARK. START ENGINE.

UNBLOCK WHEELS, RELEASE BRAKES AND ACCELERATE VEHICLE TO DESIRED SPEED.

SPEED CONTROL ENGAGES WHEN ENGINE IS STARTED, OR DOES NOT DISENGAGE WHEN BRAKE PEDAL IS DEPRESSED.

FAULTY ELECTRICAL CIRCUIT.*

ROTATE SPEED CONTROL-RING TO "ON" POSITION. DEPRESS AND RELEASE "SPEED SET" BUTTON.

SPEED CONTROL ENGAGES WITHOUT ACTUATING THE "SPEED SET" BUTTON

FAULTY ELECTRICAL CIRCUIT*

REMOVE FOOT FROM ACCELERATOR. SPEED SHOULD BE CONTROLLED

NO SPEED CONTROL WHEN BUTTON IS PRESSED

CONTROL RING IN "OFF" POSITION.

FUSE BLOWN

VACUUM LEAK.

SPEED CONTROL THROTTLE CABLE DISCONNECTED.

IMPROPER STOP LAMP AND SPEED CONTROL SWITCH ADJUSTMENT.*

FAULTY ELECTRICAL CIRCUIT.*

SPEEDOMETER NOISE, EXCESSIVE NEEDLE WAIVER OR ERRATIC SERVO LOCK-IN PERFORMANCE

SPEEDOMETER CABLE KINKED OR DAMAGED.

CABLE CORE BENT OR TOO LONG.

CABLE FERRULE NUT LOOSE AT SPEEDOMETER HEAD, TRANSMISSION OR SPEED CONTROL SERVO.

NOISY SPEEDOMETER HEAD ASSEMBLY.

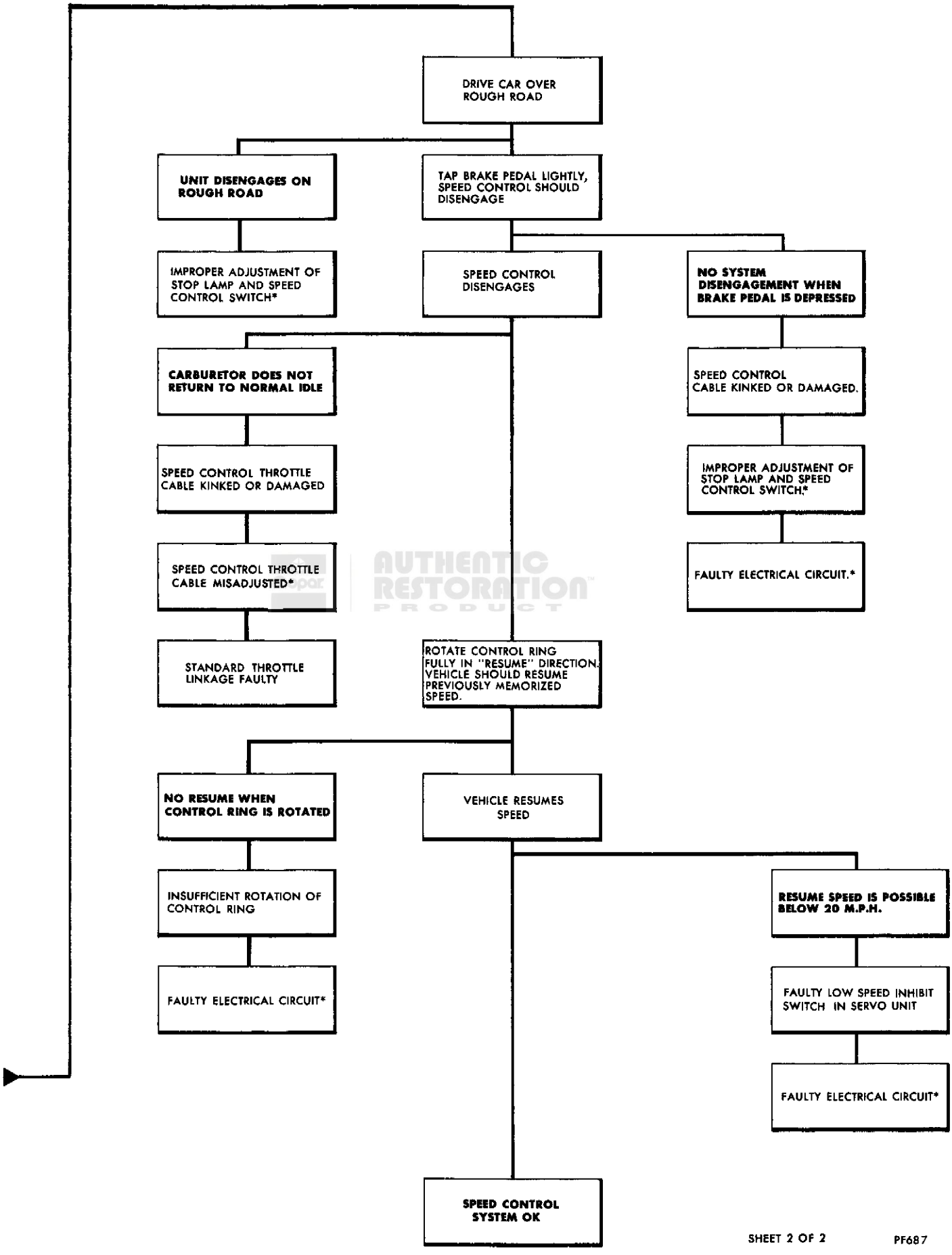
SPEED SETTING AFTER LOCK-IN, TOO HIGH OR TOO LOW.

IMPROPER ADJUSTMENT OF SPEED CONTROL THROTTLE CABLE*

VACUUM LEAK.

IMPROPER SPEED CONTROL SERVO LOCK-IN ADJUSTMENT.*

*TESTS AND ADJUSTMENTS ARE DESCRIBED IN APPROPRIATE SECTION OF SERVICE MANUAL.



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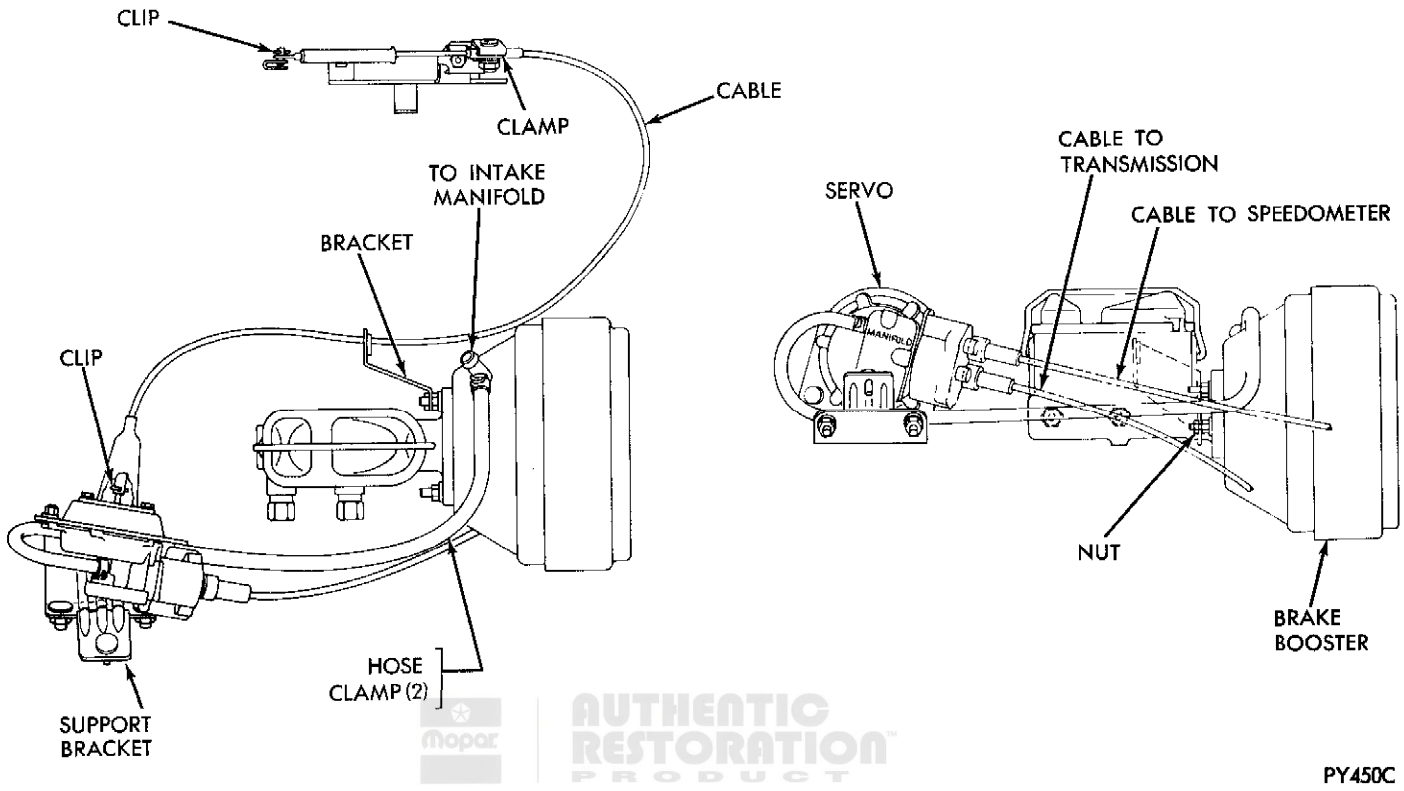

Fig. 1—Speed Control Servo

(1) Loosen switch bracket.

(2) Insert proper spacer gauge between brake push rod and switch with pedal in free position.

(3) Push switch bracket assembly toward brake push rod until plunger is fully depressed and switch body contacts spacer.

(4) Retighten switch bracket bolt to 100 inch-pounds.

(5) Remove spacer.

ELECTRICAL TESTS

Refer to "Speed Control Wiring Diagram", (Fig. 7). It is suggested that the electrical tests be made in the following sequence:

(1) **Check accessory fuse for continuity.**

(2) **Speed control switch (turn signal lever) test.**

(a) Disconnect the four wire electrical connector at the steering column.

(b) Connect a twelve volt positive source to the black wire terminal in the speed control harness connector (male).

(c) With the lever rotary switch in the **ON** position, attach one lead of a test lamp to the con-

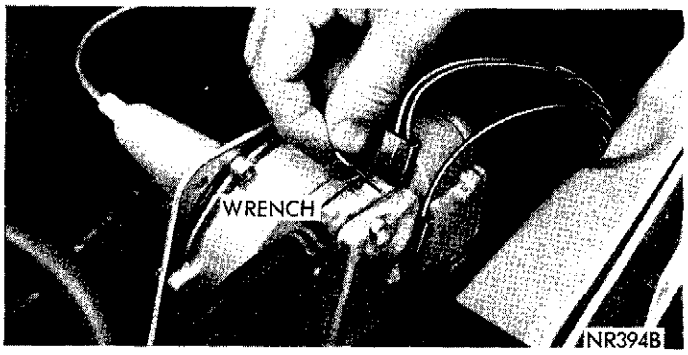

Fig. 2—Lock-In Screw Adjustment

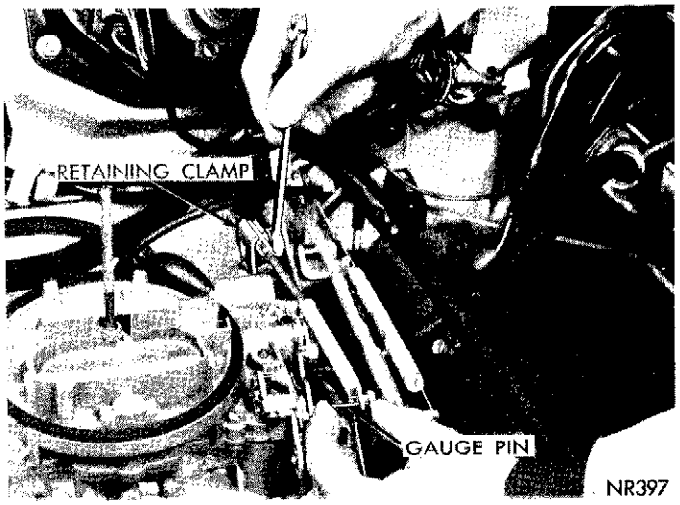

Fig. 3—Servo Throttle Cable Adjustment

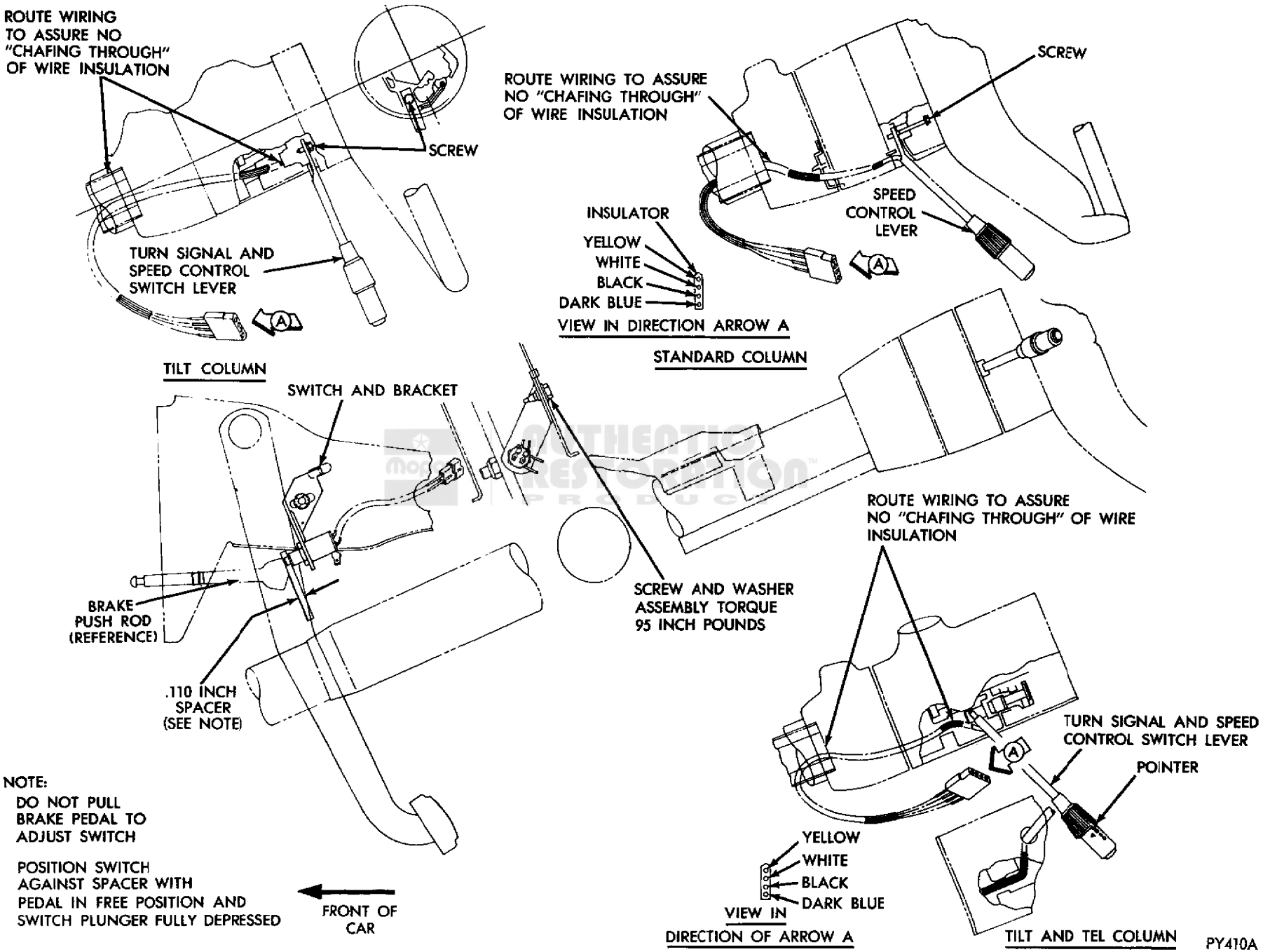

Fig. 4—Stop Lamp and Speed Control Switch

nector yellow wire, other lead to a good ground; test lamp should light and should go off when the "Speed Set" button is depressed.

(d) Move the test lamp lead to the connector blue wire; test lamp should light and should go off when the rotary switch is turned to the **OFF** position.

(e) With the rotary switch in the **ON** position, move test lamp lead to the connector white wire; test lamp should light by either depressing the Speed Set button or by rotating the rotary switch fully toward the "Resume" position.

(f) Reconnect speed control lever harness connector to harness connector.

(3) **Stop lamp and speed control switch test:**

(a) Disconnect the double connector at the switch pigtail and connect a twelve volt source to either terminal and connect a test lamp from other terminal to a good ground: test lamp should light when brake pedal is in the normal position and should go off when the brake pedal is depressed to a maximum of approximately one half inch after proper adjustment as outlined under "Stop Lamp and Speed Control Switch Adjustment".

(b) Remove test lamp and reconnect pigtail connector to harness connector.

(4) **Servo unit tests:**

(a) **Locking coil test;** turn ignition to the **Accessory** or **ON** position and rotate the speed control rotary switch to the **ON** position.

(b) Momentarily disconnecting and connecting the double connector at the servo terminals should produce a clicking sound in the servo. Replace the servo if no clicking sound is heard.

(c) **Holding coil and Low Speed switch test;** without removing either connector at servo, place a test lamp probe to the black (with tracer) wire terminal of servo, other probe to a good ground. Block front wheels; raise rear wheels and drive rear wheels to 35 miles per hour; with speed control lever rotary switch in the **ON** position and ignition switch in the **ON** position, depress and release "Speed Set" button. The speed should increase above 35 miles per hour and the test lamp should remain **ON** until the brake pedal is depressed to disengage the system and test light should go **off.**

(d) Remove test lamp.

SPEED CONTROL SERVO (Fig. 1)

Removal

(1) Remove two nut and washer assemblies attaching the servo cable cover to servo housing. Pull cover away from servo to expose cable retaining clip (Fig. 5) and remove clip attaching cable to servo diaphragm pin.

(2) Disconnect speedometer and transmission drive cables at the servo housing.

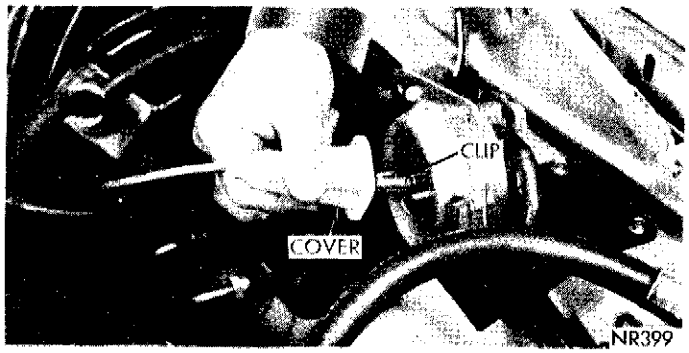

Fig. 5—Removing or Installing Throttle Cable Cover

(3) Disconnect the vacuum hose at servo housing (Fig. 6) and electrical connectors.

(4) Remove servo from mounting bracket (two nut and washer assemblies).

Installation

(1) Position servo on mounting bracket studs and install attaching nuts. Tighten to 95 inch-pounds.

(2) Install vacuum hose and clamp. Make sure the hose clamp is locked securely.

(3) Connect speedometer and transmission drive cables at servo.

(4) With choke in full open position, align throttle cable to servo pin and install retaining clip.

(5) Install cable cover on servo studs and install attaching nuts. Tighten to 32 inch-pounds torque.

(6) Install electrical connectors at servo.

SERVO THROTTLE CABLE ASSEMBLY (Servo to Carburetor)

Removal

(1) Remove air cleaner.

(2) Disconnect cable at retaining clamp and at carburetor lost motion link, removing hair pin clip.

(3) Disconnect cable at servo (Fig. 5) and remove cable assembly.

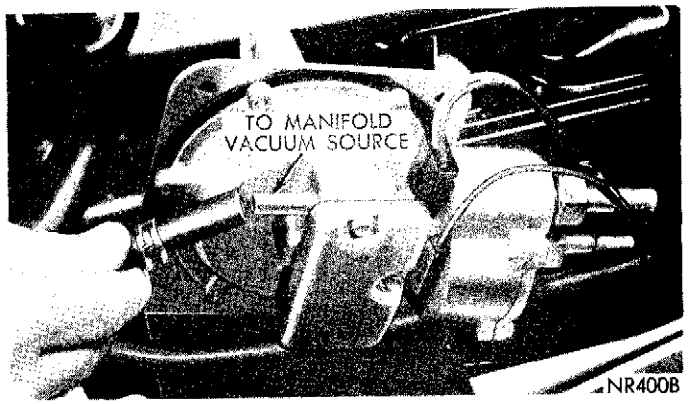

Fig. 6—Removing or Installing Servo Hose

Installation

(1) Locate cable through routing bracket on master cylinder studs.

(2) Connect cable at servo housing; tighten nuts to 32 inch-pounds torque.

(3) Route cable through retaining clamp (tighten nut to 45 inch-pounds torque) and connect at carburetor lost motion link lever pin.

(4) Adjust cable free play as described under "Speed Control Throttle Cable Adjustment".

SPEED CONTROL SWITCH (Turn Signal Lever) (STANDARD AND TILT COLUMNS)

Removal

(1) Disconnect battery negative terminal at battery negative post and speed control connector at lower end of column.

(2) Remove steering wheel. See Group 19 "Steering".

(3) Remove turn signal switch and lever attaching screw.

(4) Remove steering column cover plate, remove wire harness trough to facilitate reaching the lower end of speed control switch lead wires (Fig. 4) and remove wires and terminals from connector with Wire Harness Tool C-4135.

(5) Tape terminals and pull lever and wires out.

Installation

(1) With a guide wire thread the harness through the opening in column. **Make guide wire long enough so that it can be reached at bottom of column before harness is attached to the upper hook.** When harness has been pulled through, install terminal clips into switch connector and connect to harness connector. **CAUTION: Check color coding of wires to insure they are installed in the proper cavity. (See Figures 4 and 7.)**

(2) Install harness trough and steering column cover plate.

(3) Install turn signal lever (speed control lever switch) attaching screw.

(4) Install steering wheel, steering column cover plate. See Group 19 "Steering".

(5) Connect battery negative terminal at battery negative post.

SPEED CONTROL SWITCH (Turn Signal Lever) TILT-A-SCOPE STEERING COLUMN

Removal

(1) Disconnect battery negative terminal at battery negative post and speed control harness connector

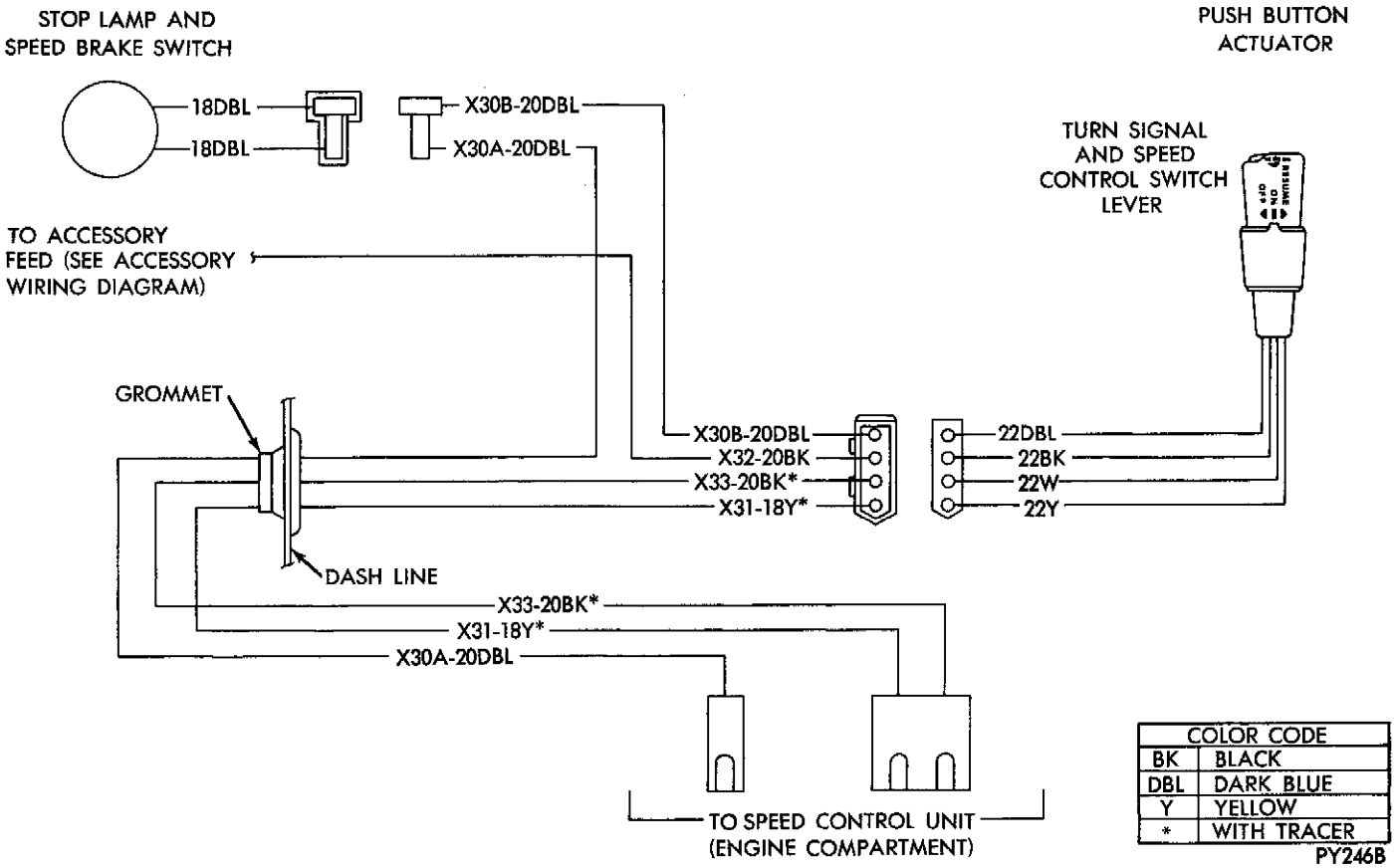

Fig. 7—Speed Control Wiring Diagram

from main harness connector at steering column.

(2) Remove wires and terminals from speed control lever harness (male connector) with "Wire Harness" Tool C-4135 (Fig. 8).

(3) Tape the wire terminals together then make up a guide wire, attaching the hook end to the taped terminals. Make guide wire long enough so that it can be reached at bottom of column tube when harness is withdrawn at speed control lever access hole.

(4) Rotate turn signal switch and lever to expose the wires, then pull the wires out through speed control lever access hole. Detach hook from wire terminals. Keep guide wire in place and unscrew lever completely.

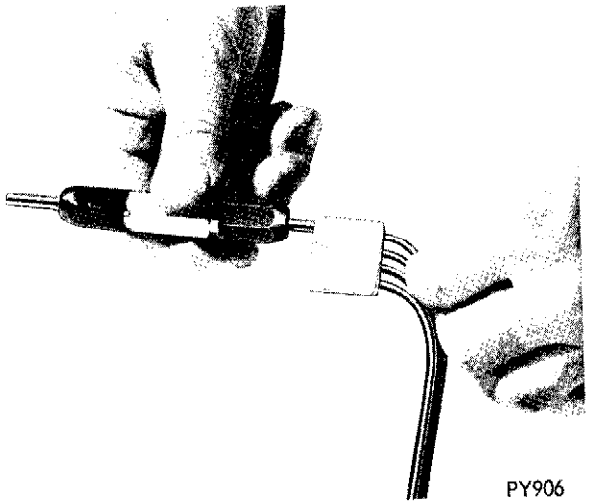

Fig. 8—Removing Wire Terminals with Tool C-4135

Installation

(1) Tape terminals of speed control lever harness and attach the hook of the guide wire at column opening to the wire terminals. Pull the guide wire with harness at the lower end slowly assuring no wire chafing.

(2) Hold lever close to the column with lever nomenclature in right position and rotate lever counterclockwise till harness makes 7 loops over lever while holding at the other end of the harness.

(3) Screw the lever into the column until lever is hand tight. (Approximately 3 turns).

(4) With a wrench at "Flats", screw the lever in 3 to 4 full turns while pulling at the harness at other end and complete the installation by indexing the lever lettering to the correct angular position with the steering wheel. **DO NOT TURN LEVER IN A COUNTERCLOCKWISE DIRECTION AT ANY TIME DURING INSTALLATION.**

(5) When wire harness has been pulled through, remove guide wire and install wire terminals in proper cavity of harness connector. **CAUTION: Check color coding of wires to insure they are installed in proper cavity (see Figures 4 and 7).**

(6) Connect speed harness connector to main harness and connect battery terminals at battery posts.

TURN SIGNALS AND HAZARD WARNING FLASHER

INDEX

GENERAL INFORMATION

Turn Signals

The turn signals are actuated with a lever on the left side of the steering column just below the steering wheel. When the driver wishes to signal his intentions to change direction of travel, he moves the lever upward to cause the right signals to flash and downward to cause the left signals to flash.

After completion of a turn the system is deactivated automatically. As the steering wheel returns to the straight ahead position, a canceling cam mounted to the underside of the steering wheel comes in contact with one of two canceling fingers of the turn signal switch mounted in the steering column upper bearing. The cam pushing on the switch canceling finger returns the switch to the off position.

If only momentary signaling such as indication of a lane change is desired, the switch is actuated to a left or right intermediate detent position. In this position the signal lights flash as described above, but the switch returns to the off position as soon as the lever is released.

When the system is activated, one of two indicator lights mounted in the instrument cluster or on the front fender flashes in unison with the turn signal lights, indicating to the driver that the system is operating.

Hazard Warning

The hazard warning system is actuated by a switch knob on the right side of the steering column just below the steering wheel. On standard columns the knob is pulled out (away from the column) to operate the hazard warning system, and on the Tilt and Tilt-A-Scope column it is pushed in. When the switch is