

# SERVICE

# C

PACKARD-CLIPPER DIVISION

OF

STUDEBAKER-PACKARD CORPORATION



## Counselor

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## Transmission Front Oil Pump Oil Passage Restriction Test

55th-56th Series

Occasionally we have found a restriction in the high range clutch oil passage in the front oil pump due to core shift when the pump housings were cast.

If the cored passage is restricted, possible engine runaway on low to high upshift may occur or the high range clutch may burn out prematurely.

It is advisable when replacing a burned out high range clutch or installing a new front oil pump in 55th and 56th Series transmissions, that an oil flow test be made to determine if any restriction exists in the oil passage.

The following is a simple procedure that can be used in making the oil flow test:

Place the complete oil pump assembly in a shallow pan with the pump plate up and in a horizontal position. Use a small funnel and rework the end of the funnel so it will be a close fit in the high range clutch oil circuit hole of the pump plate. "See illustration for correct location of the hole."

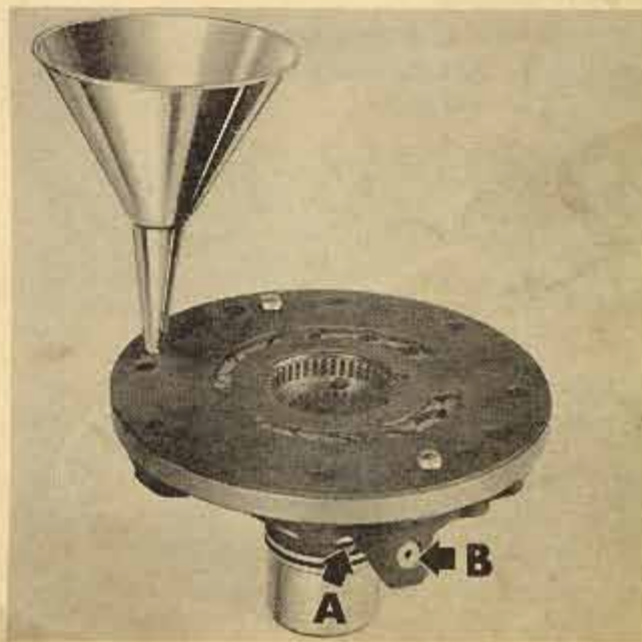
Pour enough transmission fluid in the funnel for fluid to start flowing from passage "A" and fill the passage in the pump, allow the fluid to drain down to a level slightly above the funnel spout. At this time pour an additional  $\frac{1}{2}$  pint of fluid in the funnel and observe time required for the fluid level to reach the predetermined level.

If it requires more than 2 minutes and 15 seconds for passage of the  $\frac{1}{2}$  pint of fluid, it will indicate the passage is restricted and the pump is not satisfactory

for the application of the high range clutch and pump should be replaced.

The flow test should be made with transmission fluid at 70° temperature.

NOTE: A few drops of fluid from passage "B" is permissible as this is the check valve that bleeds air from the circuit.



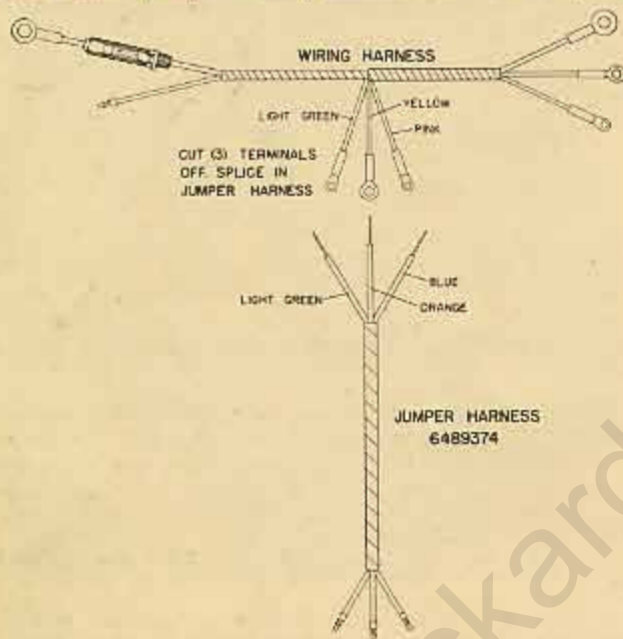
## Torsion Level Suspension Control Switch

### 55th Series

The terminals on the Torsion Level Suspension Control Assembly on 56th Series cars are enclosed in the switch case to protect the terminals from shorting due to snow, ice and salt.

Part No. 472181 Control Assembly (55th Series) will be cancelled for service replacement when the present stock is exhausted and the Warehouse will ship 56th Series Control Assembly Part No. 472239.

When installing Part No. 472239 Control Assemblies on 55th Series cars, it will be necessary to order and install a jumper wiring harness Part No. 6489374.



Cut the three terminals off the old harness and splice the new jumper harness to the wires as shown in the illustration:

Light green to light green.

Orange to yellow.

Blue to pink.

## Spark Plug Failures

### 55th-56th Series

We have received several reports of Spark Plug failures on 55th and 56th Series cars which we believe are primarily the result of other conditions and not justifiably Spark Plug faults.

Several Service Counselor Articles and other Bulletins have been released in the past months with reference to Spark Plugs—Cylinder Heads—Rocker Arm Shafts—Valve Spring Oil Baffles—Ignition Cables and Brackets. All of these articles contain information regarding conditions that directly or indirectly affect spark plug life, missing and/or plug fouling.

We believe that changing spark plugs to a different heat range other than that approved by engineering

is only a temporary fix. Therefore we are briefly describing each article and suggest you review this information, which we feel will assist in properly diagnosing the cause of spark plug complaints.

1. Service Technical Bulletin, 55T-35, July 25, 1955, Rocker Lever Shafts with 1/16" oil holes to provide proper oil control to the rocker levers and reduce the amount of oil on the intake valve stems.

This change reduces high oil consumption and spark plug fouling due to over-oiling.

2. Service Counselor, Vol. 29, No. 7, July, 1955. "Cast Dome Cylinder Heads" This article refers to 5540 models relative to machined and cast dome cylinder heads, electrical and fuel specifications, and spark plugs recommended for both type cylinder heads.

3. Service Counselor, Vol. 29, No. 8, August, 1955. "Spark Plug Fouling" One step hotter spark plug released to aid in eliminating cold fouling.

4. Service Counselor, Vol. 30, No. 1, January, 1956. "Valve Spring Baffles" Service baffles released to prevent excessive oil from getting on the intake valve stems resulting in high oil consumption and spark plug fouling.

**IMPORTANT:** Any complaints of plug fouling or excessive oil consumption should have the valve spring baffles installed.

Production type baffles were installed in the engine plant starting with engine numbers: A-6723, B-3230, C-1104, D-4839.

5. Service Counselor, Vol. 30, No. 2, February, 1956. "Ignition Resistors" Description of Auto-Lite and Delco ignition resistors. Troubles encountered if interchanged.

6. Service Counselor, Vol. 30, No. 3, March, 1956. "Ignition Cable Support Brackets" It is highly important that these support brackets and cables be installed when cross-firing or plug fouling occurs due to ignition cable electrical failure.

## Water In Push Button Actuator

### 56th Series

A few reports have been received of water getting into the push button actuator and motor assembly. Most of the assemblies in production were sealed with rubber cement around the motor and actuator wires where they lead into the unit, however, occasionally a pin hole will develop in the cement permitting water to enter.

Water in the actuator above the fingers will cause an electrical short which prevents the actuator from moving resulting in an overheated motor when the buttons are pushed. In some cases water will corrode the actuator gear bushings to the point where the motor does not have power enough to shift the transmission.

When water is found in the actuator, remove the unit from the transmission, remove the cover, finger assembly, contact segment, rear plate and actuator gear.

Dry out the unit and finger assembly with compressed air. Clean corrosion from bushings and gear shaft with crocus cloth, lubricate the bushings and reassemble the unit. Before installing the cover, push all buttons in random order to see if the actuator is operating properly.

Reseal the wires leading into the motor and actuator, also the edges of the gaskets using a rubberized cement as shown in figure 238, page 117, in the "Ultramatic Section" of your Service Manual.

## Push Button Control Conversion to Left Side

### 56th Series

There may be some 56th Series owner's who, because of physical characteristics or personal preference may desire the push button switch control changed to the left side of the steering column.

This may be accomplished by the following procedure, however, it will be necessary to mount the turn signal lever on the right side.

1. Remove the steering wheel.
  2. Disconnect the push button switch and signal light connectors. Remove the steering column shroud with push button, signal light switch, wiring and wiring connectors attached.
  3. Remove the push button switch brackets from steering column shroud.
- Remove connector from push button switch wires and remove wires from shroud tunnel.
4. Remove connector from signal switch wires leaving wires in shroud tunnel.
  5. Remove steering column to instrument panel bracket and file out notch to the dimensions indicated by the dotted lines in figure 1.

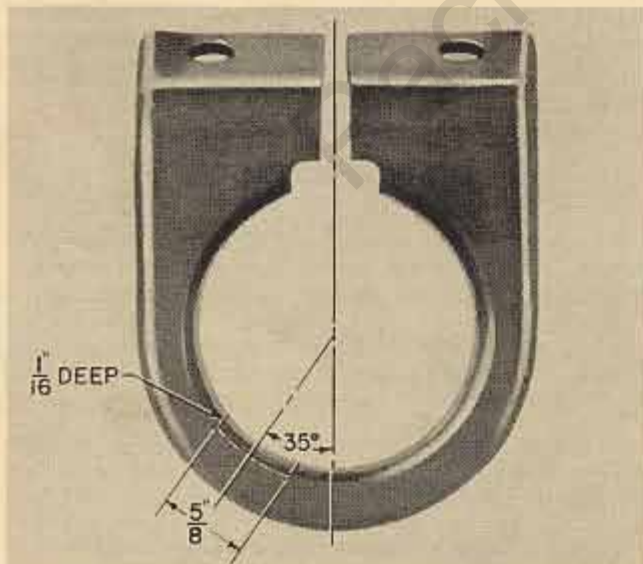


Fig. 1

Reinstall bracket on steering column shroud making sure the "cut out" fits loosely on the locating pad on shroud.

6. Install the steering column shroud assembly with its locating pad in the new "cut out" in the bracket and bolt the bracket to the instrument panel. This positions the signal lever to the right side.

7. Install the signal switch wires in the connector making sure the wire colors correspond to the wires in the other half of the connector.

8. Insert the push button switch wires through the upper tunnel in the shroud. Install the wires in the connector making sure the wire colors correspond to the wires in the other half of the connector.

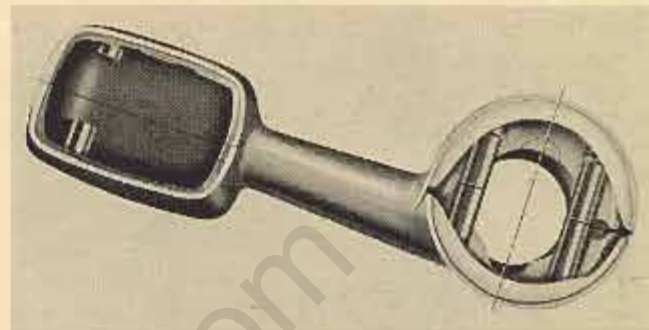


Fig. 2

9. File out a notch in the rib of the push button switch bracket indicated by the dotted line in figure 2. File the notch to the same size as in the other half of the bracket.

The upper bracket when on the right side becomes the lower bracket when moved to the left side therefore, the hood or lip on the bracket above the push buttons should be filed off to provide easy operation of the buttons.

10. Carefully fold the push button switch wires under the switch between the switch contacts.

Engage bosses of lower half of the switch bracket with steering column "cut outs" and press bracket into place and install the switch assembly in the groove in the lower bracket so the letters on the buttons read correctly.

Install the upper half of the switch bracket.

11. Bend the signal lever to a horizontal position. Install the steering wheel.



Fig. 3

NOTE: If the push button switch wires are too short, install wiring extension shown in figure 3. The extension is available under Part No. 6489238.

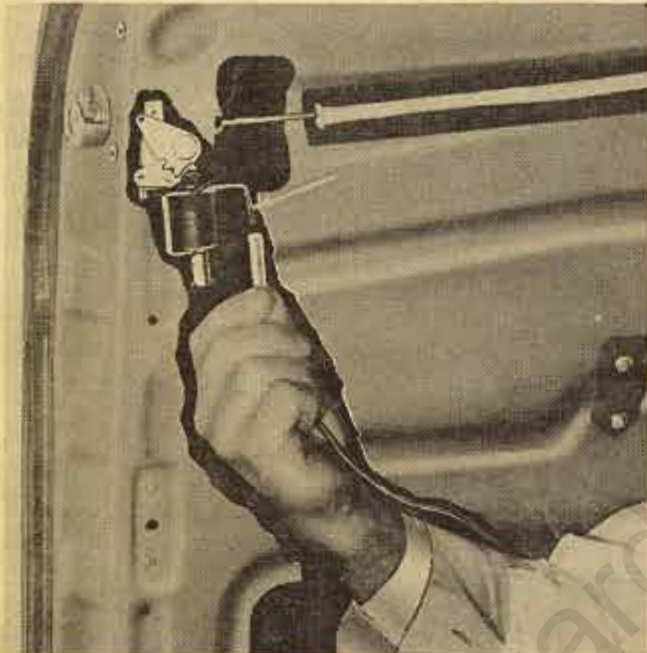
The push buttons positioned by this procedure, locates the buttons on an angle approximately 35° off the horizontal toward the roof of the car. This positions the switch so the buttons are not hid under the steering wheel spoke and provides access to the switches on the left side of the instrument panel.

## Electric Door Locks

### 56th Series

Trouble has been experienced with the wire connectors becoming disconnected from the electrical door lock units. The brass terminal on the lock unit points downward, therefore, the weight of the wire tends to pull it off of the terminal.

This condition can be corrected by bending the brass terminal on the lock unit 180 degrees upward to a vertical position or just opposite as shown in the illustration.



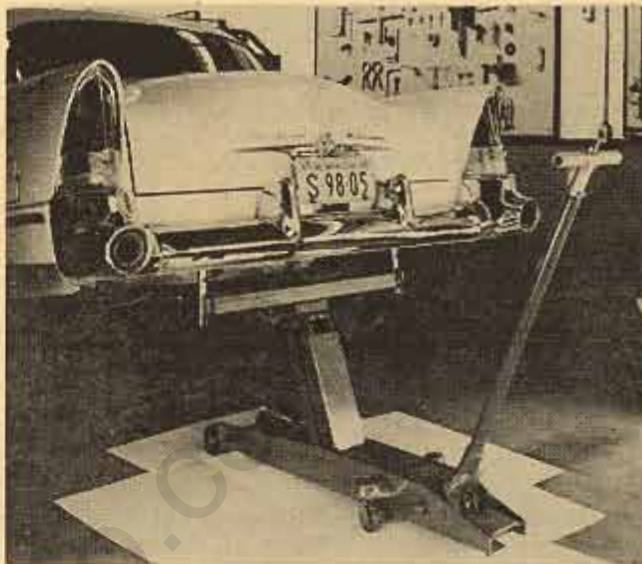
This is being done in production along with the installation of a wiring clip Part No. G432682 to hold the wire in position.

## Universal Bumper Attachment

The Universal Bumper Attachment as illustrated may be used with any hydraulic jack having a 1½"



diameter rest plate bored hole. This attachment permits the raising of a car with a regular hydraulic floor jack quickly and to a desired height for service and the installation of supporting stands or horses. You will note the load is evenly supported as well as holding the vehicle level and is applied against the bumper support bars.



The attachment is No. 476 and the list price \$26.45. Send all orders direct to K. R. Wilson Inc., Arcade, New York.

NOTE: *Export Dealers* may order from the Studebaker-Packard Corporation, Export Division, 635 South Main Street, South Bend, Indiana.

## Front Bumper Impact Bar— Lower

### 55th Series

Part No. 455878 Front Bumper Lower Impact Bar will be cancelled for service replacement for 55th Series Cars when the present supply is exhausted.

The 56th Series bar (Part No. 6480000) will be shipped instead and can be installed on 55th Series cars as follows:

1. If the bumper support brackets have been riveted together. Remove the forward rivet and spread the bracket assembly  $\frac{3}{4}$ " to 1" then install the bars.
2. If the bumper brackets are welded together, it will be necessary to grind off the welds and separate the bars.

Attach the impact bars to the support brackets, install the support bracket bolts in the frame horns, align the bumper assembly and tighten the bolts.