

# Service Bulletin

JUNE

1958

NO. 338

SOUTH BEND 27, INDIANA



## SAFETY-CHECK CAMPAIGN

Please be sure to send in the summary report card of your safety-checks to the Inter-Industry Highway Safety Committee.



The results of all safety-checks reported will be released nationally to call public attention to vehicle condition as well as assist in future planning of needed traffic safety activities. Last year the national summary showed that one out of every five vehicles safety-checked was in need of service attention to one or more parts affecting safe driving condition.

These results will also help promote the need of safety service the year around - in your community, as well as elsewhere.

### FRONT SEAT CUSHION SPRING MODIFICATION AND RELOCATION OF COVER TO ELIMINATE CUSHION COVER DAMAGE - 1958 2-DOOR MODELS

*This article cancels and supersedes the information given on page 6 of Service Bulletin 335. Please make a note of this article in Service Bulletin 335.*

The installation of a second clip (see Fig. 1) on each side of the cushion spring assembly and relocation of the cushion padding as shown in Fig. 2 will eliminate the possibility of cushion cover damage in the clip area. This change entered production with the following serial numbers:

- |                    |                    |
|--------------------|--------------------|
| 58G - F1 - 1427267 | 58H - F1 - 7217958 |
| 58G - D1 - 1427268 | 58B - J4 - 8481041 |
| 58G - F4 - 1427451 | 58H - K7 - 6105313 |
| 58H - C3 - 7217950 | 58L - J8 - 7744    |
| 58H - J6 - 7217957 |                    |

## In this issue

	PAGE
<b>STUDEBAKER AND PACKARD</b>	
HAT TYPE DRY CARBURETOR AIR CLEANER - 1958 MODELS WITH 4 BBL. CARB . . . . .	2
FRONT SEAT CUSHION COVER DAMAGE - 1958 2-DOOR MODELS . . . . .	1
REAR SHOCK ABSORBER NOISE - 1957-58 PASSENGER CARS . . . . .	2
SAFETY-CHECK CAMPAIGN . . . . .	1
<b>PACKARD</b>	
ADJUSTING ACTUATOR-TO-TRANSMISSION CONTROL VALVE DETENT - PUSH BUTTON CONTROL ULTRAMATIC . . . . .	3
CORRECTION TO SERVICE BULLETIN 337 - TRIM MOULDING - 1958 PACKARD HAWK MODELS. . . . .	3
DIAGNOSIS AND PRESSURE CHECK INFORMATION FOR ULTRAMATIC PRIOR TO GEAR START . . . . .	6
HIGH RANGE CLUTCH BURNING - ULTRAMATIC TRANSMISSION. . . . .	3
REDUCTION OF FAN NOISE AND IMPROVED COOLING - 1958 PACKARD HAWK MODELS . . . . .	3
ULTRAMATIC DRIVE CONTROL ASSEMBLY. PART NO. 423800 - PRIOR TO GEAR START. . . . .	4
<b>TRUCKS</b>	
FRONT LICENSE PLATE BRACKET - 3E MODELS . . . . .	7
<b>TOOLS</b>	
CARBURETOR GAUGE SETS . . . . .	7

When the clip loosens, the spring assembly top rim and skirt wires separate and cause additional pressure on the cushion cover which may result in damage. Should evidence of this condition appear, on the vehicles manufactured prior to the above serial numbers, immediate action should be taken to fabricate and install a second clip and relocate the padding as described.

The clip may be made from a piece of stock .045" - .050" thick, 5/8" wide and 1 1/2" long.

Remove the hog rings from the cushion cover and uncover the spring assembly as shown or as required.

## REAR SHOCK ABSORBER NOISE - 1957-58 STUDEBAKER AND PACKARD PASSENGER CARS

*Please record this article on the Service Bulletin Reference page of your 1958 Passenger Car Shop Manual Supplement.*

Inspection of shock absorbers returned to us by dealers shows that many shock absorbers are replaced unnecessarily.

There is indication that misalignment may be contributing to some of the complaints of rear shock absorber noise on 1957-58 Studebaker and Packard models. It is suggested that the following procedure be tried before replacing the shock absorber because of noise. When this does not eliminate the noise, then replace the shocks. This procedure should also be used when installing the new shock absorbers.

The procedure is as follows:

1. Lift the car by the wheels or axles so that the car remains in the roadload position (no passenger or trunk load).
2. Remove the rear shock absorbers from the rear spring clip plates.
3. Bend the rear spring plate shock absorber mounting ear so that the ear is positioned 90° to the spring plate.
4. Replace the original lower shock absorber mounting bolt with Part No. G181678, Bolt (7/16-20 x 3"). Install Part No. 524832, Spacer - 1/2" wide, between the lower shock absorber mounting sleeve, and the rear spring plate.
5. Check the shock absorber alignment. When hanging free, the shock absorber should be positioned adjacent to the spacer. If not, bend the crossmember in the area of the upper mounting as required.
6. Reassemble, making certain that the shock absorber mounting bolt nuts are properly torqued.

## HAT TYPE DRY CARBURETOR AIR CLEANER - 1958 STUDEBAKER AND PACKARD MODELS WITH 4-BBL. CARBURETOR

*Please record this article on the Service Bulletin Reference page of your 1958 Passenger Car Shop Manual Supplement.*

Effective immediately, the hat type air

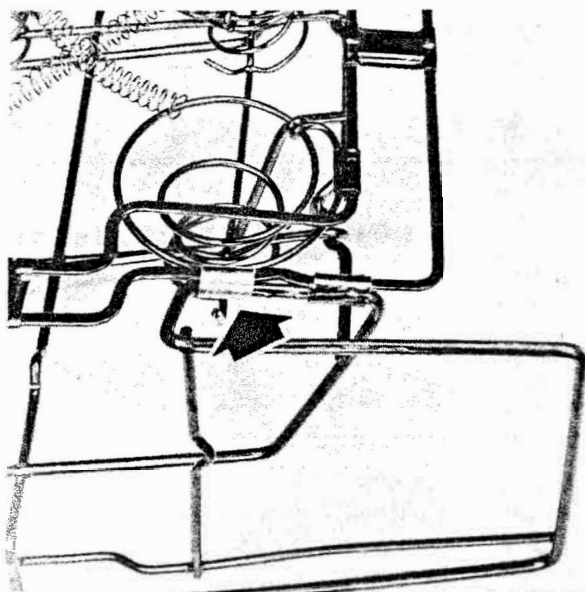


Fig. 1

Place the flat side of the top rim wire directly on top of the skirt wire as shown on Fig. 1 then install the fabricated clip securely.

Unfold the padding and/or sponge rubber under the cushion cover in the area indicated by the dotted lines in Fig. 2, and extend the padding rearward. Secure the padding to the skirt wire frame with hog rings. Use two hog rings on top and one on the rear edge of the skirt frame.

Reinstall the cushion cover and arrange the padding as required to obtain a smooth appearance. Secure the cover to the frame in the same manner as originally described.

Check the lower spring assembly frame wires and, if they are distorted, bend them as required to engage the seat frame and retain the cushion properly.

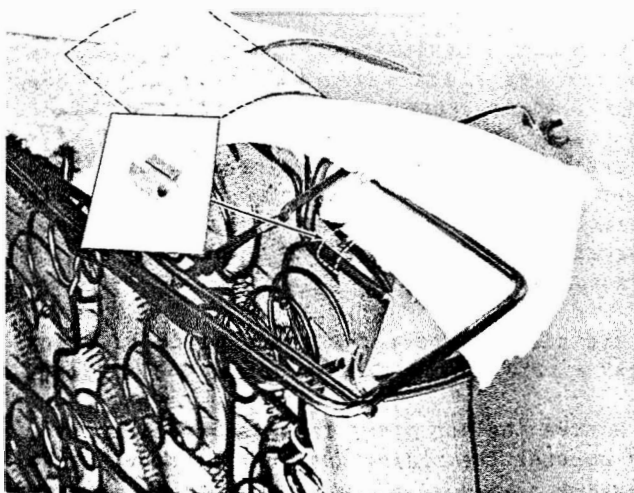


Fig. 2

cleaner with the replaceable plasticized paper element will be factory-installed on all Studebaker and Packard models equipped with a 4 barrel carburetor.

Service recommendations for the hat type air cleaner are the same as given for the dry plasticized paper filter air cleaner used on other models.



### REDUCTION OF FAN NOISE AND IMPROVED COOLING-1958 PACKARD HAWK MODELS

The fan noise of a 1958 Packard Hawk Model can be reduced to an acceptable level by the installation of a four blade fan assembly. However, when a four blade fan is installed, it is necessary that all the other modifications, as outlined in Service Letter, Number P-6, dated February 25, 1958, also be made.

In some localities, because of climatic conditions or in congested traffic operation, it may be necessary to use a five blade fan with the modifications outlined in the Service Letter. The modifications listed in Service Letter Number P-6 entered production with Serial Number 58L-1465. Therefore, on cars after this serial number, it will be only necessary to install the five blade fan when conditions warrant the use of this type fan.

### HIGH RANGE CLUTCH BURNING - ULTRAMATIC TRANSMISSION

In Service bulletin No. 327 dated August 1957, in the article High Range Clutch Burning - Ultramatic, it was stated that the free length of the High Range Clutch Spring, Part No. 470182, must not be less than 3 55/64". This figure is a production specification and does not provide a tolerance for free length since the compressed load and solid length specifications are the important factors. Actually we have found that new service springs may vary as much as 3/8" from this specification and yet be well within the compressed load and solid length tolerances. Therefore, a spring that measures as short as 3 7/16" is acceptable for service.

### CORRECTION TO SERVICE BULLETIN No. 337, MAY, 1958 - TRIM MOULDING - 1958 PACKARD HAWK MODELS

The part number shown for the moulding, right and left rear quarter, is incorrect. Please insert the following part numbers:

1330086 Moulding, right rear quarter  
1330087 Moulding, left rear quarter

### ADJUSTING ACTUATOR-TO- TRANSMISSION CONTROL VALVE DETENT, PUSH BUTTON CONTROL - ULTRAMATIC TRANSMISSION

It is important to have the actuator adjustment to the manual valve lined up so that the detent for the selected position of the control valve is squarely seated in the well of the control valve.

Because the segment in the actuator does come to a positive stop when it reaches the break point on the segment that breaks the circuit, it is imperative that this stopping of the segment be in correct relationship to the detent of the button position selected. This positive controlled stop of the actuator segment and control valve lever, if not properly aligned with the manual valve detent, could cause a loss or delay of pressure to the high range clutch by not having a full or central seating in the detent, when in the "D" or "H" position.

Following transmission servicing that requires the removal of the motor and actuator assembly along with the transmission oil pan, install the oil pan with two or four screws to hold it in place, install the motor and actuator after transmission is attached to engine, line up in the reverse position detent, as instructed in the Service Manual. Complete the actuator installation to the point it may be operated through the push button controls but leave the actuator assembly loose enough at its adjusting strap so it may be rechecked and adjusted if necessary.

Remove the oil pan. Position the actuator by depressing either the "D" or "H" button and remove the manual control valve link-to-control valve lever pin. With the manual control valve detent set positive to its depth in the well of the control valve, adjust or rotate the motor and actuator assembly just enough in the direction required, to permit alignment of the manual control valve link to the control lever

so that the link pin can be finger installed. While holding the motor and actuator in this detent position, secure the nut on the back of the actuator and the capscrew at the forward end of the mounting bracket.

Install the oil pan and fill with transmission fluid to proper level.

**ULTRAMATIC DRIVE CONTROL ASSEMBLY PART NO. 423800, PRIOR TO GEAR START**

The Valve Control Assembly illustrated in Fig. 3 is Part No. 423800 and is the standard control unit as used in the 1954 Ultramatic prior to gear start. It is supplied for service as a complete assembly replacement for all Ultramatic Transmissions of the 23rd Series after transmission No. 101509, Model 2301 and transmission No. 5360, Models 2302-06, and all 24th Series through the 54th.

**SERIES PRIOR TO THE 1954 GEAR START TYPE**

The exceptions to this assembly as applied to the original Valve Control Assemblies installed in the 24th, 25th and 26th series will be stated in the text to follow.

**PART AND NUMBERS**

The part numbers listed for the valves and

springs apply to the valves and springs as assembled in the 1954 Ultramatic Valve Control Body, Part No. 423800, prior to gear start.

These parts vary in some prior model valve body assemblies and are listed under their specific part numbers in the parts book along with the model identification to which they apply.

When replacing valves or springs or other valve body control parts in the original unit of a car model prior to the 423800 54th Series assembly, check the parts book for the correct part for the model involved.

**CONVERTER RELIEF VALVE**

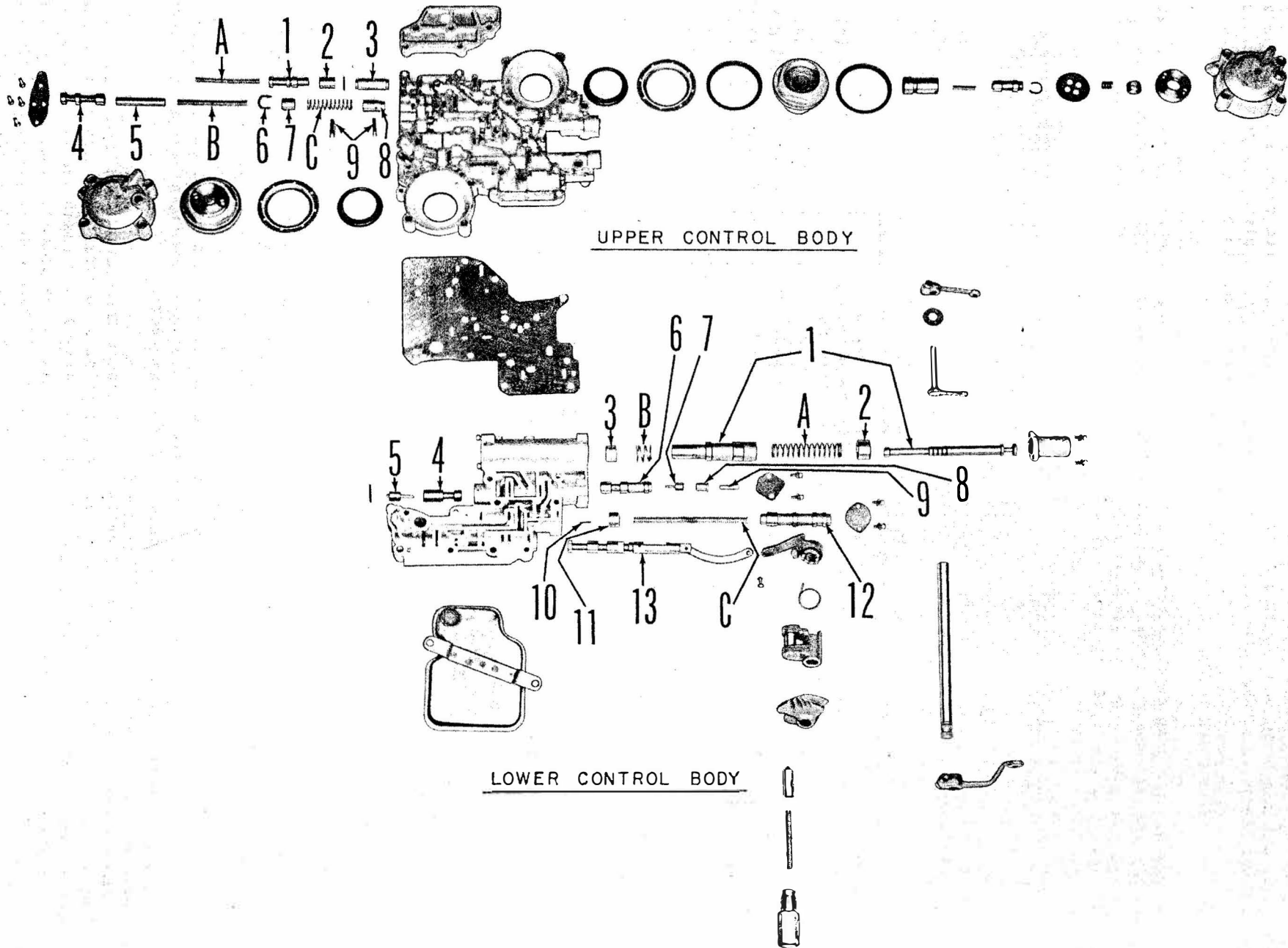
During the production of the 1952-25th series cars the converter relief valve was discontinued. The valve, valve spring and spacer were replaced by Converter Relief Plug, Part No. 423548. This may be applied to the 24th and early 25th series that still have the valve, spring and spacer.

This plug is not to be confused as the cause of converter inlet pressure not dropping off and thus preventing direct drive clutch engagement when this problem is encountered.

The following are conditions that could cause the converter oil pressure to not drop off: - clogged or restricted converter outlet

**KEY TO PARTS IN FIG. 3**

No. on Illust.	UPPER CONTROL BODY	Part No.	No. on Illust.	LOWER CONTROL BODY	Part No.
1.	Converter Inlet Valve	423288	1.	Throttle Shaft and Valve Assembly	423779
2.	Converter Inlet Valve Spacer	423306	2.	Throttle Valve Spring Seat	423013
3.	Converter Relief Valve Plug	423548	3.	Throttle Shaft Bushing	421858
4.	Pump Selector Valve	423093	4.	Control Modulating Valve	423004
5.	Oil Pump Selector Valve		5.	Modulating Valve Venting Valve	423006
6.	Spring Retainer, Inner	421873	6.	Direct Drive Valve	423318
7.	Outer Spring Retainer Stop	423119	7.	Direct Drive Valve Piston	423317
8.	Oil Pump Selector Valve		8.	Direct Drive Valve Piston Spacer Sleeve	423009
9.	Spring Retainer, Outer	423094	9.	Direct Drive Valve Piston Spacer	423008
10.	Oil Pump Selector Valve		10.	Timing Valve Timing Pin	G137474
11.	Spring Seat	423099	11.	Timing Valve Spring Seat	423012
12.	Oil Pump Selector Valves Rear	434527	12.	Timing Valve	434758
13.	Oil Pump Selector Valves Front	423547	13.	Control Valve and Link	423229
a.	Oil Pump Inlet Valve Spring	423063	a.	Throttle Valve Spring	434818
b.	Oil Pump Selector Valve		b.	Throttle Valve Coast Spring	434816
c.	Spring Retainer	423096	c.	Timing Valve Spring	421992
d.	Oil Pump Selector Valve				
e.	Spring Retainer	421876			



UPPER CONTROL BODY

LOWER CONTROL BODY

Fig. 3



oil passage, anywhere from the converter through clutch housing, input shaft, brass transfer tube, rear oil pump body, oil cooler and tubes and incorrect torquing of the valve body bolts.

#### PUMP CHECK VALVES

Flat spring type pump check valves are now used in all die cast control bodies. The rear check valve has a 3/32" hole in the flat side to eliminate a noise tendency caused by an aeration condition in reverse.

#### THROTTLE SHAFT AND VALVE ASSEMBLY

The Throttle Shaft and Valve Assembly Part No. 423779 applies to the 1954 Ultramatic prior to gear start and Assembly Part No. 423115 applies to 24, 25 and 26th series.

Assembly Part No. 423779 also has an additional coast spring which was not used in preceding models.

#### TIMING VALVE

Timing Valve, Part No. 434758 applies to Valve Body Assembly, Part No. 423800 shown in the illustration, Timing Valve, Part No. 421866 applies to the original valve bodies in the 24, 25 and 26th series. The same spring, Part No. 421992 and the seat, Part No. 423012 apply to all valve bodies of the 24, 25, 26 and 54th series prior to gear start.

#### CONTROL VALVE AND LINK ASSEMBLY

The Control Valve, Part No. 423229, applies to all valve body assemblies of the 24, 25, 26 and 54th series prior to gear start.

#### VALVE BODY SEPARATOR PLATE

The separator plate illustrated, Part No. 423097, applies to all valve body assemblies of the 24, 25, 26 and 54th series prior to gear start.

#### FRONT PUMP PRESSURE RELIEF VALVE

The front pump pressure relief valve, spring and spring retainer are the same parts in the 24, 25, 26 and 54th series prior to gear start.

In approximately 5000 of the 26th series 1953 Ultramatics, a .025" oversize front oil pump relief valve was used. These are identified by the letter "O" stamped on the outer surface of the relief valve retainer plugs. In case of replacement install an oversize valve, Part No. 436767; the standard valve is Part No. 421881.

#### IMPORTANT

When assembling the upper and lower valve bodies and separator plate, torque tighten the cap screws evenly to 5 foot pounds (1/4-20 screws).

When securing the valve control body assembly to the transmission case tighten the cap screws evenly to 9 foot pounds torque (5/16 - 18 screws).

### DIAGNOSIS AND PRESSURE CHECK INFORMATION FOR ULTRAMATIC PRIOR TO GEAR START TYPE

*Direct Drive Clutch is slow in disengaging or stalls the engine on quick stop.* This condition will only be encountered when transmission is equipped with a rear pump check valve (flapper type) having a 3/32" hole and Governor Housing, Part No. 434279 and Inlet Valve, Part No. 434278. Pressure should vent off at 10 to 11 m.p.h. If it does not until 3 or 4 m.p.h., check vent hole in top of governor housing. If it is .062", enlarge it to .094" by drilling it out with a 3/32" drill. This is the type with the closed inlet valve end and the vent hole in the top of the governor housing.

Other possible causes:

- (a) Faulty or sticking governor
- (b) Sticking direct drive shift valve
- (c) Sticking converter inlet valve
- (d) Excessive reactor shaft end play
- (e) Sticking direct drive clutch piston

Corrections:

- (a) Make pressure tests. Service or recondition as required.
- (b) Make pressure test. Free-up valve if necessary.
- (c) Make pressure test. Free-up valve if necessary.
- (d) Check and change thrust washer as required to obtain end play.
- (e) Piston should move freely, rings should have .002" to .010" gap.

The possible causes listed for direct drive clutch failure to disengage may also affect clutch engagement.

If direct drive clutch fails to engage and car continues to operate in converter, check the previous listed disengagement causes and check direct drive pressure along with governor pressures. If direct drive pressure is low and fails to engage or hold the direct drive clutch

engaged, there is a possibility of pressure leakage at busbings or snafts. This is provided the governor pressures are as they should be and rear pump is normal as to output.

### PRESSURES

#### *Front Pump Regulated Pressure.*

Remove the 3/8" pipe plug from the lower left side of the transmission bell housing, use a 3/8" to 1/8" pipe reducer to attach gauge flexible line. Start engine, run at 600 r.p.m., pressure should read 80 to 90 p.s.i.

#### *High Range Clutch Pressure.*

Remove the 1/8" pipe plug nearest to right of center at lower rear end of bell housing. With engine idling, place lever in "H" position, pressure should read approximately 35 to 43 p.s.i. throttle closed and approximately 85 p.s.i. throttle wide open on road test.

#### *Direct Drive Clutch Pressure.*

Connect gauge line to the 1/8" pipe plug just to right of high range pressure plug. Road test car at light throttle, speeds between 15-18 m.p.h. with steady throttle and light engine load. When the clutch engages, the reading on the gauge should be approximately 33 to 41 p.s.i. At full throttle engagement at approximately 56 m.p.h., the reading on the gauge should be approximately 85 p.s.i.

#### *Front Pump Relief Valve Boost Pressure.*

Connect gauge flexible line at 1/8" pipe plug opening at right of direct drive plug in transmission bell housing.

Operate engine at 600 to 1000 r.p.m., pressure should be 65 to 75 p.s.i.

#### *Governor Pressure.*

Remove the 1/8" pipe plug at right rear end of transmission case and connect gauge flexible line.

Road test car at various speeds above 15 m.p.h. Reading on gauge should be in direct proportion to car speeds, approximately 31 p.s.i. at 15 m.p.h. and 65 p.s.i. at 58 m.p.h.

#### *Converter Inlet Pressure.*

Remove the 1/8" pipe plug at the upper left side of the bell housing, connect the pressure gauge line at this opening. Operate the engine at 600 r.p.m., the pressure should be 65 to 80 p.s.i.

## TRUCKS

### FRONT LICENSE PLATE BRACKET - 3E MODELS TRUCKS

Because there are so few states that issue a front license plate, the front license plate bracket is no longer installed on the truck. Instead, it is placed in the glove compartment.

This change became effective with the following serial numbers:

E5 - 126419	E14 - 2916
E6 - 17475	E16 - 45238
E7 - 10582	E17 - 38477
E11 - 13242	E28 - 6327
E12 - 3760	E38 - 11476
E13 - 2524	E40 - 1905

NOTE: The Front License Plate Bracket, Part No. 1687950, is a special order item on the 3E1 Scotsman Model truck.



### CARBURETOR GAUGE SETS

Enclosed with this issue of the Service Bulletin is a brochure and order blank describing carburetor gauge sets offered by the Kent-Moore Organization. These gauge sets provide all the gauges necessary for proper adjustment of carburetors used on Studebaker and Packard cars, 1955 through 1958. Each set combines every gauge required for a given model carburetor in the exact order in which they are used. All gauges are assembled on a heavy duty bead chain with an identification tag for the carburetor model.

Export dealers should submit their order to the Studebaker-Packard Corporation, Export Division.



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