

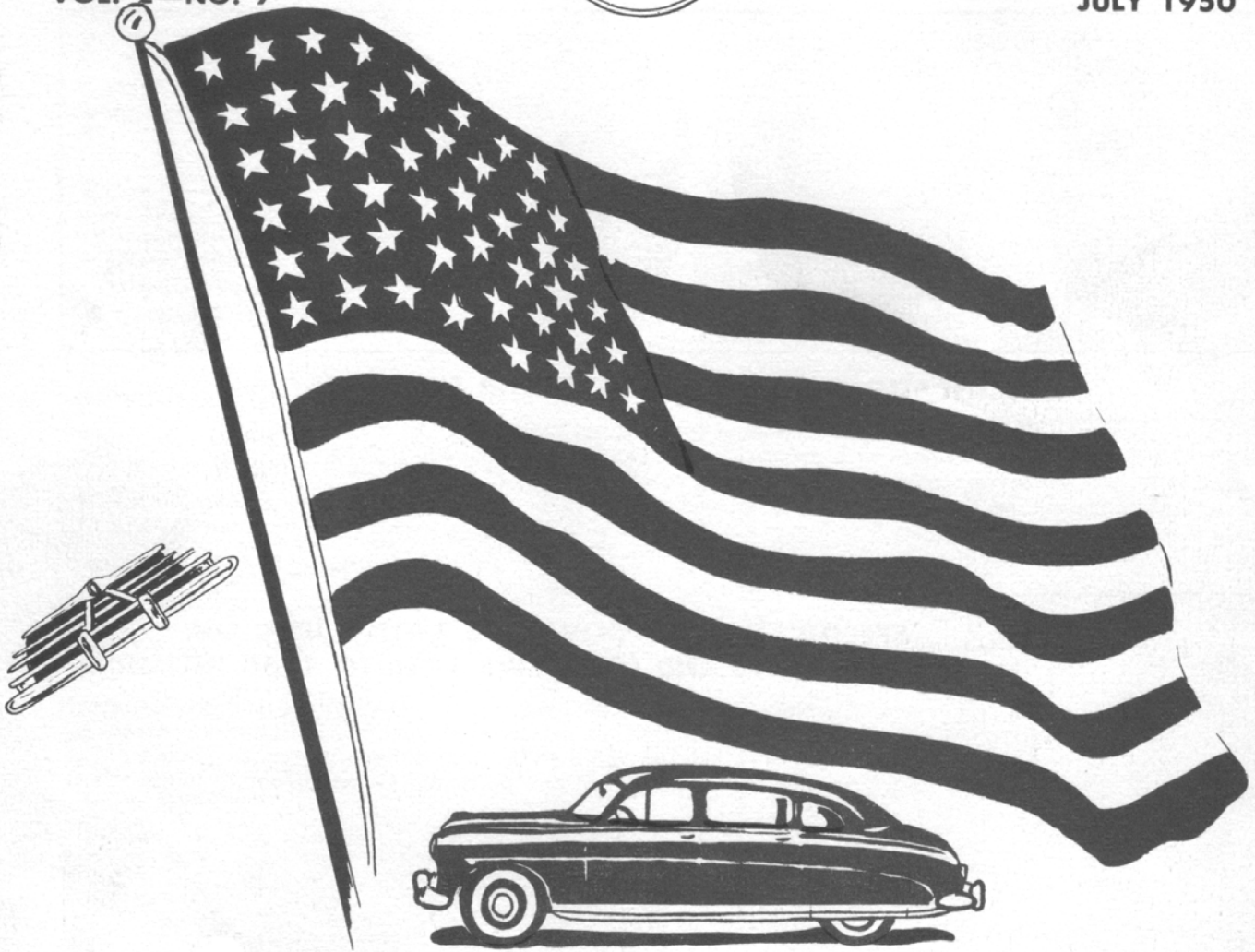
HUDSON

Service Merchandiser

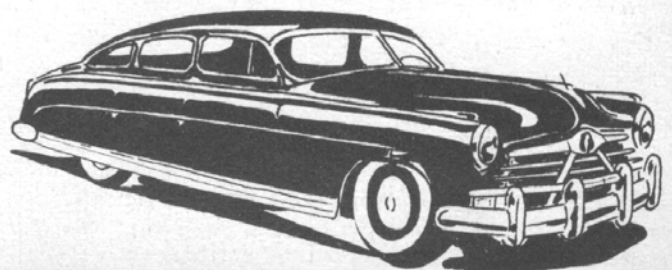


VOL. 2—NO. 7

JULY 1950



And to Assume Among the Powers of the Earth . . . Liberty, Freedom, Equality and Justice to All!



HUDSON MOTOR CAR COMPANY.. DETROIT 14, MICHIGAN

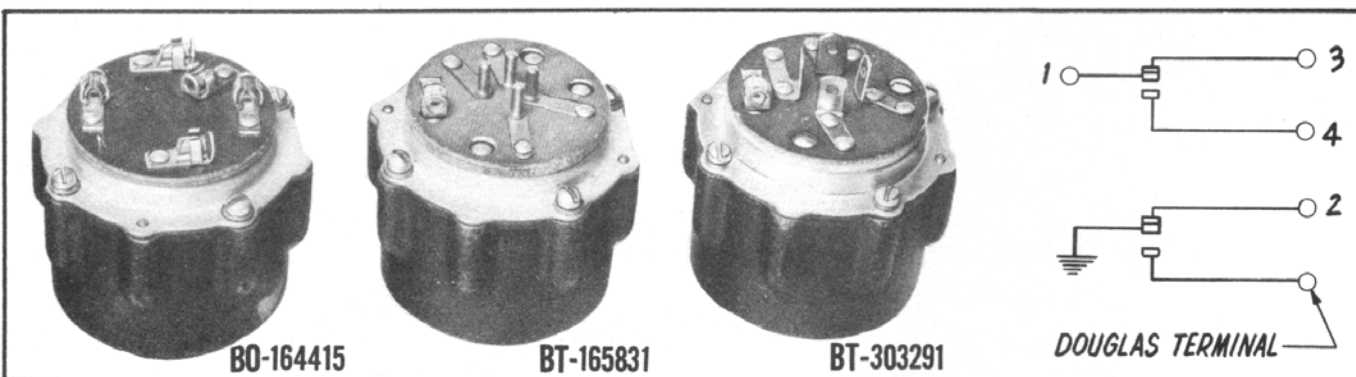
GOVERNOR SWITCH SPECIFICATIONS AND TESTING

Not infrequently when an inoperative condition seems to center in a single unit, it is removed and returned to the factory, when a careful test out of the suspected unit would have shown that its functioning was up to standard and the difficulty lay elsewhere.

This applies to Switches, Solenoids, Relays, Governors, etc., with the large percentage of electrical testing equipment in dealers repair shops, we believe that both time and expense of replacement can be reduced by a careful test to prove that the unit in question is actually out of order before replacing it.

In this article we will deal with the Governor Switches that are used with the Hudson Drive Master, Vacumotive Drive and Overdrive. Far the larger percentage of these that are returned to our factory prove to be up to standard when tested out.

The four different Governor Switches used in connection with Hudson Drive Master, Vacumotive Drive and Overdrive are shown below. The specification for testing applies to R.P.M. of the Governor Shaft and is comparative with the MPH specification as is outlined in the Procedure Manual.



SPECIFICATIONS OF ABOVE GOVERNOR SWITCHES

Circuit 1 to 3 opens and 1 to 4 closes with increasing speed at not more than 430 R.P.M.

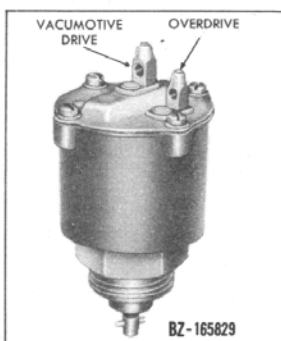
Circuit 1 to 3 closes and 1 to 4 opens with decreasing speed at not less than 300 R.P.M.

Minimum difference between increasing and decreasing speeds 30 R.P.M.

Circuit 2 to ground opens and Douglas Terminal to ground closes with increasing speed at not more than 700 R.P.M.

Circuit 2 to ground closes and Douglas Terminal to ground opens with decreasing speeds at not less than 535 R.P.M.

Minimum difference between increasing and decreasing speeds 80 R.P.M.



SPECIFICATION OF GOVERNOR SWITCH USED ON VACUMOTIVE DRIVE AND OVERDRIVE 1946 TO 1950 INCLUSIVE

On acceleration Governor must make contact (terminal with $\frac{5}{32}$ hole) and break contact (terminal with $\frac{3}{16}$ hole) at 740 R.P.M. on deceleration Governor must break contact ($\frac{5}{32}$ hole) and make contact ($\frac{3}{16}$ hole) at 535 R.P.M., min. difference between make contact ($\frac{5}{32}$ hole) and break contact ($\frac{5}{32}$ hole) on any particular Governor not to be less than 80 R.P.M.

When mounting a Governor Switch in a test machine as shown below keep in mind that—A. The Governor Shaft rotation is counter-clockwise as viewed from the top. B. When the Governor Shaft is secured in the collet there must be a slight thrust upwards on the Shaft. C. Number 1 or "Y" Terminal *must* always be grounded on all units when testing.

During the test, Governor speed should be brought up gradually and a pencil recording made of the R.P.M. at which the points open and close on both increasing and diminishing speed. Go over this several times and note consistency. Observe carefully if the contact points open or close within permissible R.P.M. variation at increasing and decreasing speed. There are no replacements parts supplied for these Governors, such as points, springs, etc.



FOG LIGHTS

THEORY—DESIGN

The blinding effects of the standard automobile driving lights when used in a fog or heavy snow storm is the result of the stray light beams being reflected back in the drivers eyes from the moisture laden particles in the atmosphere. It has readily been observed by those who have had experience of night driving in dense fog, that the more brilliant the driving lights the more intense is the glare or reflection.

In general, fog lamps are designed with a wide beam pattern so as to get plenty of light at the side of the car to follow the edge of the road, particularly around corners and sharp curves. The beam pattern is designed with a sharp cut off at the top of the beam. Fog lamps are also designed to incorporate a bulb cap or use a black end bulb so that direct filament light is not used.

Due mainly to the character of the light given off by fog lamps as well as the position of their mounting this light reflection is minimized and road light distribution becomes more effective and is carried through to a far greater distance than is possible with the regular standard driving lights.

APPROVAL

Approximately thirty-five states and the District of Columbia require the approval of fog lamps before they can be sold in these states. In general these states require that the fog lamps meet S.A.E. requirements which pertain to both photometric candle power tests as well as mechanical tests.

Legal mounting requirements are as follows:

Minimum Mounting Height—24" (required by 10 states)

Maximum Mounting Height—42" (required by all states)

Maximum Mounting Height—30" (required by District of Columbia)

Minimum Lateral Spacing—20" (required by Pennsylvania)

The above measurements are taken from the center of the lamp. Four states; namely, California, Ohio, Rhode Island and Washington, require that the fog lamps must be mounted below the horizontal center line of the headlamps.

MOUNTING—STATE REGULATIONS

Fog Lamps should be mounted as low as possible on the car and should be aimed so the top cut off is 4" below the center line of the fog lamp at a distance of 25 feet. The purpose of this aiming is that the light goes underneath the fog, and since they have a sharp cut off and no stray light going above horizontal, there will be very little reflected light from the small fog particles back to the driver's eyes.

The various states have their own regulations relative to the required position (from road height) of mounting fog lights, however 12 to 24 inches seems to be the prevailing rule. These regulations vary with different states as 24 to 42 inches—16 inches or higher—beam 2 ft. above road at 30 feet etc., The low mounting is highly desirable. Also various state regulations specify the limits of lateral spacing.

HIGHWAY USE

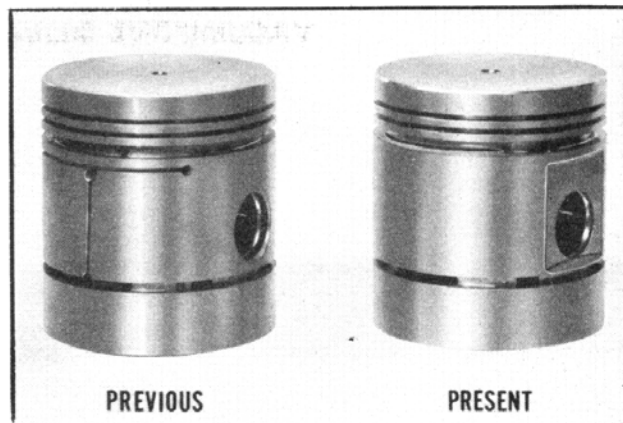
In most states Headlamps are not permitted to be used when fog lights are in use. Obviously this would defeat the purpose and functioning of the fog lamps and could be confusing to on-coming traffic. Some states require a cut-off switch between the head-lights and the fog lights so that the use of either will open the electrical circuit to the other.

HUDSON MOUNTING

It has frequently been noted that fog lamps are mounted very close together and directly in front of the grille on Hudson Cars. Such a method of mounting is bad in that it not only deflects a portion of the air stream necessary for proper engine cooling but also does not provide the desired road light. If mounted just above or below and slightly back of the front bumper, the cooling will not be impaired and the lighting should be more effective.

NEW PISTONS IN SUPER SIX ENGINES

Starting April 18th at serial number 501-63216 all Super Six Engines have been fitted with Pistons differing slightly in design from those used previously and are **NOT** interchangeable except in complete sets.



It will be noted in the illustration above that the new or present type Piston has no "T" slot and has a relief at each Piston Pin boss opening. The internal ribbing and smoke holes have been changed. The new Piston has the number 304503 cast on the inner wall. Do not order by this number.

Complete details, including sizes and part numbers, are covered in General Parts Policies and Information Bulletin, Dealer No. 30.

questions and answers

1. Hydraulic brake fluid is used in the convertible hydraulic mechanism. Page 71—Body Manual.

2 and 3. The pump is provided with a combination spring loaded maximum pressure relief and piston type flow control valve. This valve is adjusted to a minimum fluid pressure of 250 psi and a maximum of 260 psi. Page 70—Body Manual.

4. Before removing any hydraulic unit two precautionary steps must be taken.

(a) All hydraulic fluid must be removed from the system.

(b) Disconnect negative cable at battery. Page 71—Body Manual.

5. This precaution is necessary because the fluid is highly inflammable. Any accidental grounding of the electrical connection might cause sparks that could ignite the fluid. The fluid is also extremely injurious to painted and lacquered surfaces. Page 71—Body Manual.

6. The top Control Knob should have $1\frac{3}{8}$ inches of travel. Page 74—Body Manual.

7. The Control Knob travel may be adjusted by means of the control rod setting shown at "A" and "B" in the illustration on Page 74—Body Manual.

8. Remove the plate from bottom of pump well and remove fluid reservoir. If fluid level is low, add sufficient to bring the level up to the line on the reservoir. Page 90—Body Manual.

9. Bleeding as ordinarily meant by the term is unnecessary with the hydraulic system. An air vent is provided in the pump body to allow air to enter or escape. Page 94—Body Manual.

10. Insufficient fluid in the hydraulic system cause the pressure pump to become noisy also erratic and sluggish top action. Page 96—Body Manual.

QUESTIONS

1. At what car mileage should the original (new car) engine oil be changed?

2. What are the Factory recommended engine oil drain periods?

3. How often should tires be rotated?

4. Why is this very important?

5. How are front and rear wheel bearings lubricated?

6. How often should the air cleaners be serviced?

7. How often should the fuel pump filter screen be cleaned?

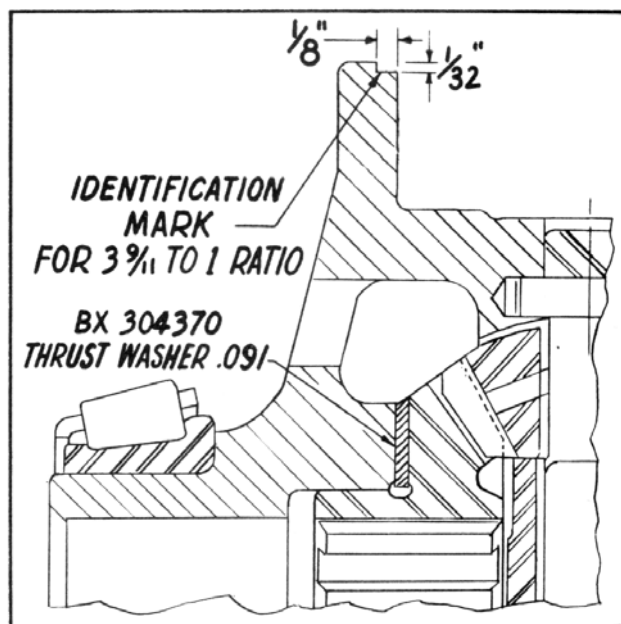
8. At what temperature does the cooling system thermostat begin to open and is wide open?

9. Why is it important to turn the sealed cooling cap down tightly?

10. What is the correct fan belt adjustment?

DIFFERENTIAL CASE CHANGED— ALL MODELS

Starting May 18 production, the Differential Gear Thrust Washer was increased from .032 to .091 in thickness, part number BX 304370. The additional space required for the thicker Thrust Washer was provided by machining off .060 from each side of the Differential Case. A Thrust Washer .095 thick, part number BX 304371, is furnished for service. The new case and thrust washers **ARE NOT INTERCHANGEABLE** with the previous type except when used together. Although the differential gear was changed slightly and a new part number assigned, it is interchangeable with the old differential gear.



These Differential Cases in both production and service are marked with a yellow paint band at the junction of the right and left halves. This new case that may be used with the 3-9/11 to 1 axle ratio will bear the identification mark as outlined on page 86 of the May Service Merchandiser and as shown in the illustration above.

New parts first effective in 4-1/10 to 1 axle with serial 502-76953 exc. 77300-77505 incl., 4-5/9 to 1 axle with serial 501-77235 exc. 77300-77795 incl. and 3-9/11 to 1 axle with serial 50A-77812 exc. 78183-78414 incl.

SILENCER SLEEVE FOR SPEEDOMETER CABLE

There has been released for service use only a special sleeve $\frac{3}{8}$ inch long, .118 inner diameter and made of vinyl chloride, for installation on the upper or squared end of speedometer core before insertion into magnet shaft of speedometer.

This sleeve may be used in cases where there is evidence of speedometer cable noise 480-490 and 500 series. The part number is BZ 220008 and may be ordered in the regular manner.

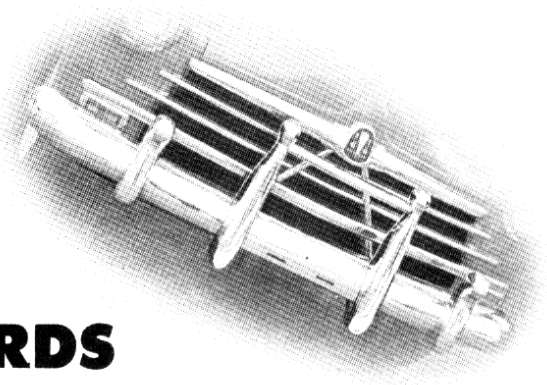
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REAR BUMPER GUARDS

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- BIG VALUE
- Beautiful yet low priced

PARTS MANAGERS: Are you stocked FOR BIG PROFITS?

Here's how to order:

Grille Guard for 480-490 Models—Part No. HA 210828

Grille Guard for 1950 Models—Part No. HA 220006

Rear Bumper Guard for 500-50A and 480-490 Models—Part No. HA 211125

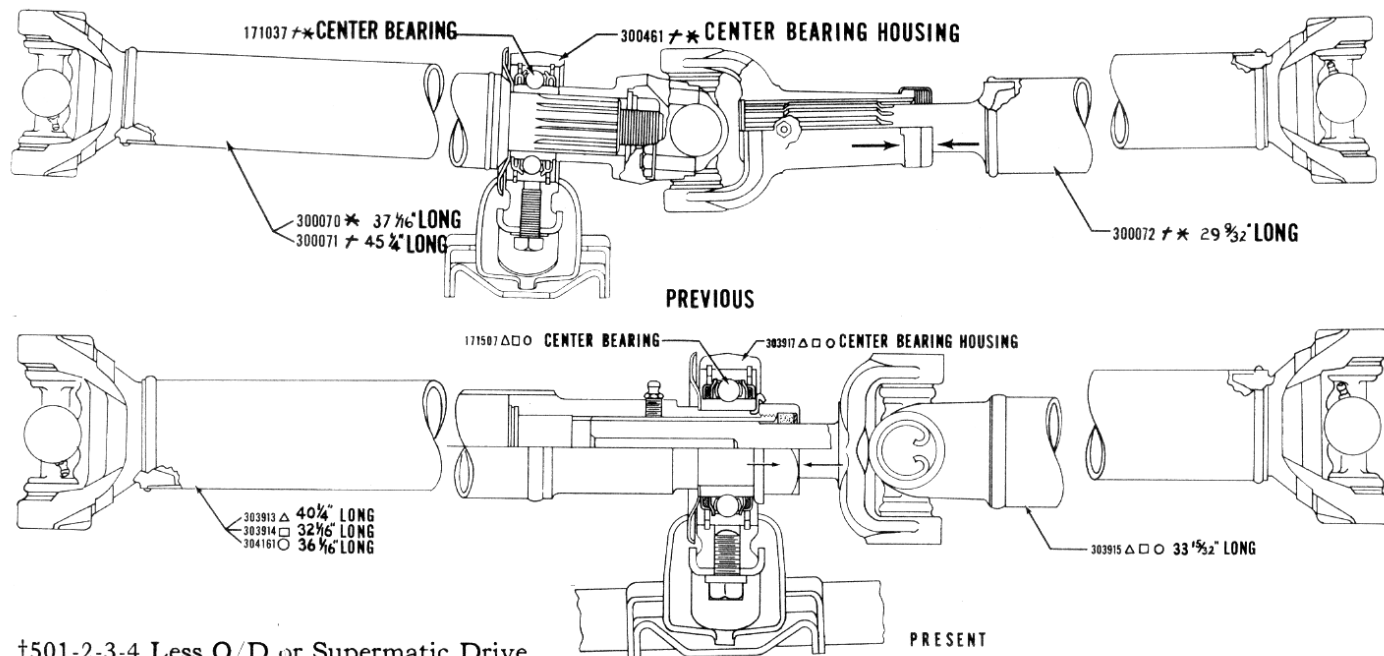
SELL PROTECTION GROUP "PK"—Remember Group Selling Makes Group Money!

PROPELLER SHAFT IDENTIFICATION

In order to simplify identification of the present type Propeller Shaft from that of the previous type, a line drawing of each one is shown below, with part numbers and models on which they are used.

Making comparison of the two Propeller Shafts, Center Bearings and Housings, it will be noted that

the later type does not have the companion flange coupling but attaches through a sliding spline instead. The new shaft employs a larger center bearing and housing. Other parts as Dust Washers, Dirt Shield, etc., have also been revised. See General Parts Policies and Information Bulletin, Dealer Number 32 for details.



†501-2-3-4 Less O/D or Supermatic Drive

*501-2-3-4 With O/D or Supermatic Drive

Δ50A-500 Less O/D or Supermatic Drive

□50A-500 With O/D or Supermatic Drive

°501-2-3-4 With O/D or Supermatic Drive

As a means of identification in event tag may be lost, the lengths shown are from the center of Trunnion Bearing to end of shaft spline or threads.

IMPORTANT: when assembling or installing a Propeller Shaft be sure to check the arrows on both the spline shaft and the sleeve in which it engages to see that they coincide or point directly at each other.

AN ORDERLY AND CLEAN SERVICE STATION ATTRACTS CUSTOMERS

We must never lose sight of the fact that the automobile Service Department must look for its profits to a large percentage of those people whose daily business and social activities necessitate having others look after their automobiles. In that classification we find professional, executive, business and salesmen and women and others to all of whom "personal appearance" is a matter of routine necessity. To properly impress people of this type; to increase their confidence in the character of workmanship turned out; to insure their repeat business; nothing can displace the bright, clean, business-like appearance of the Service Department. A clean, bright, cheerful atmosphere is unquestionably essential to the rendering of efficient, prompt service in a pleasant and courteous manner. These are proven fundamental facts and are the least expensive of any

service promotion ideas.

Customers do not expect that a Service Station can be operated without some appearance of oil and grease on the floor at various times during the day, because this type of work has to do with greasy parts, mud and dust falling from the cars as they are being worked on in their various stages of repair. That is not what we are talking about when we refer to just plain disorderly conditions.

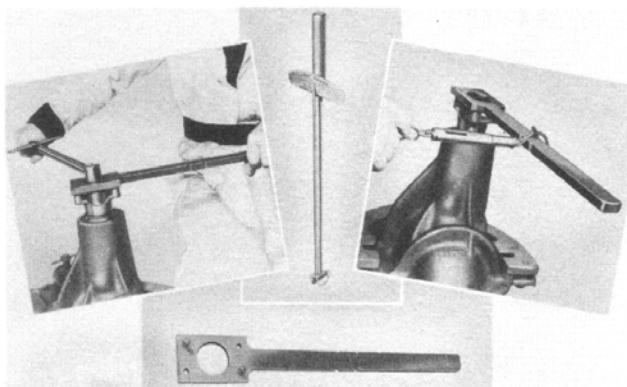
Repair shops that have a bad appearance may attribute the condition to insufficient attention given to the general subject of cleanliness. If, towards the end of every working day, a short period is set aside for cleaning off benches, getting rid of waste and a thorough sweeping and mopping of floors, little difficulty would be encountered in keeping the place clean and orderly.

This is an important point in successfully keeping up a favorable impression of the Dealership. Building layouts may not be just as we would all like them because of size, location and other factors, but there is little excuse, in any case, for not having a semblance of orderliness and a general appearance of being clean.

Let us all keep this objective in mind and do our part to keep the Service and Parts Department clean and orderly.

COMPANION FLANGE HOLDING TOOL J-2637

More than ever special tools are associated with specialists, men who have been especially trained to do a particular accurate work. Invariably these repair shops that have successfully held the patronage of a large clientele and still showed an operating profit, have gone all out for special tools. Frankly there is no mystery concerning the need for and use of those tools that expedite work—prevent damaging parts and enable the mechanics to shorten time required and to turn out a first class job.



Illustrated above is a special tool that enables the mechanic to hold the companion flange of the transmission or rear axle while tightening the holding nut to an exact torque. The tool provides sufficient leverage for one man to do this work rapidly yet accurately. The rear axle companion flange nut is tightened to 200 ft. lbs. using torque wrench J 1264, as shown in Figure 1.

After proper tightening, the pinion bearing resistance (preload) must equal 17 to 32 inch pounds. This resistance can readily be determined by using J-544-A checking scale on J-2637 Companion Flange Holding Tool, as shown in Figure 2 above.

CORRECTION

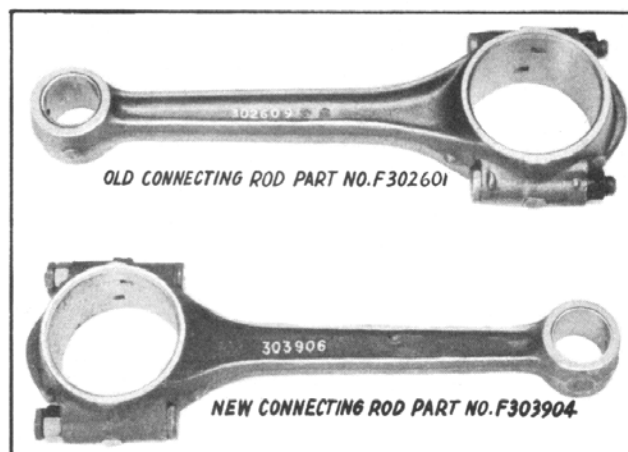
Please refer to General Technical Policies and Information Bulletin No. 8 dated May 12, 1950, also article in June Issue of the Service Merchandiser under caption of Installation of Radiator and Hood Seals.

The rubber cement referred to as part number 208235 should read 208238. This may be procured locally by specifying Minnesota Mining and Cement E. C. 308 or equivalent. Should order be placed with the Factory or Zone, be sure to specify quantity desired.

Refer to your 480-490 Series Flat Rate Manual and change operation 9-75 to read 18-2 included, instead of 19-1.

CONNECTING RODS 501-502 50A AND 500 ENGINES

A new Connecting Rod and Cap Assembly, part F 303904 supersedes F 302601 in all the above Engines starting with serial number 501-68790. However, a few cars built prior to this number were fitted with Engines having the new Connecting Rods.

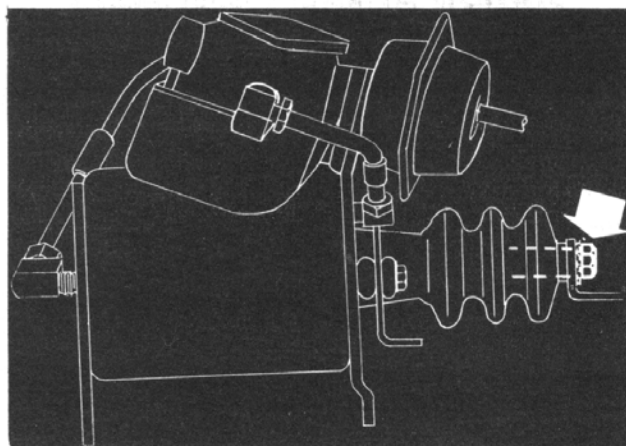


Due to the difference in weight, Connecting Rods of one type *MUST NOT* be installed in an Engine having Rods of the other type—only as a complete set are they interchangeable. The only positive way to distinguish the two Rods is by the forging numbers on the "I" Beam Section, as shown above.

Order by the part numbers indicated in General Parts Policies and Information Bulletin Number 30, dated June 1, 1950.

THE SHIFT STRAP TO POWER CYLINDER CAP SCREW—480-490 AND 500 SERIES

Referring to all 480-490 and 500 Series, cars fitted with Drive-Master the Shift Strap to power cylinder is secured to the piston rod by a cap screw and star washer.



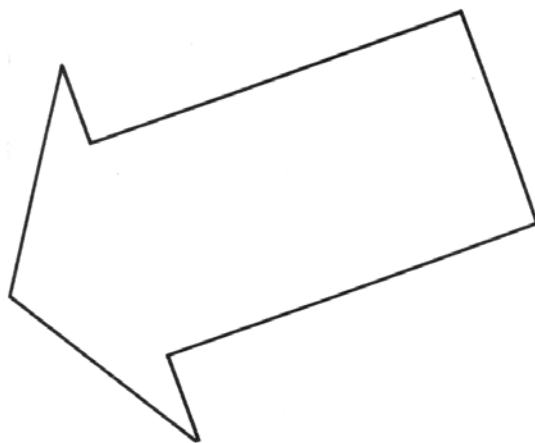
It is important that this cap screw be kept tight. Erratic shifting and gear clashing will result, should this cap screw become loose.

"an easy item to do business with ..."



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- **INDEPENDENT GARAGES**
- **GAS STATIONS**
- **BUMP SHOPS**
- **OTHER WHOLESALE OUTLETS**



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