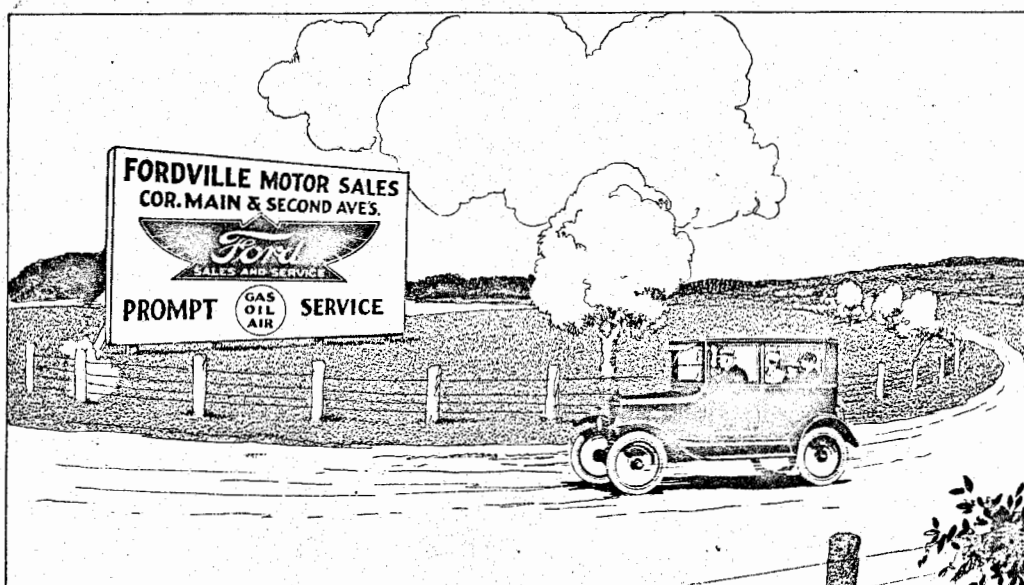


UBI FORD MOTOR COMPANY OF CANADA, LIMITED, FORD, ONTARIO, CANADA

JULY, 1925

Vol. 7

9



Clean Up Your Service Department for the Tourist Season

There will be a larger number of Tourists through Canada this year than ever before. This is already making itself apparent. These Tourists are going to need your service on their cars. They are going to demand prompt service also, because a Tourist will often spend his entire holiday covering a predetermined route and he cannot afford to spend much of his time while waiting for repairs.

Prepare for these Tourists by making your premises clean and attractive—a coat of paint on both outside and inside may not come amiss. Give all night service or, at least, until 12 p. m.

Advertise your service along the main Highway, and in your local Tourists' Camp. Endeavor to get Tourists to store their cars in your Garage. This will give you an opportunity to check over their cars and make necessary adjustments. Keep an adequate stock of Genuine Ford Parts—you cannot afford to be short of any part at this time.

Reconditioning Valves and Valve Seats

Upon making numerous investigations of valve trouble experienced by a few of our Dealers, we find that the trouble is in a majority of cases caused by poor workmanship on the part of some mechanic.

These conclusions have been arrived at, after correctly reconditioning valves and valve seats in motors reported to be giving trouble. One of these cases was reported something over a year ago and we requested that the Dealer return the block to us.

We found that the valve ports in this particular block had been resealed a number of times and that the valve seats were badly out of true and very wide. Upon making inspection of this block, we found that it was not soft, as had been reported by the Dealer, but that the cause of the trouble was entirely due to poor workmanship on the part of some mechanic. This block was reconditioned in our Service School, using methods shown below, and has been in continuous service ever since.

It is frequently necessary to grind a set of valves in a car that has been out from two to three weeks. This is caused by the valve stem or head warping slightly while taking its final set.

Mechanics must exercise a great deal of care in making this first valve grind as, in most case an ordinary, so called, valve grind is not sufficient to overcome the trouble, and continual grinding only exaggerates the trouble as time goes on.

This is caused by the hot flame escaping under one side of the warped head until the valve seat is very badly eaten away, giving the seat the appearance of being out of true with the guide hole, see Fig. 15.

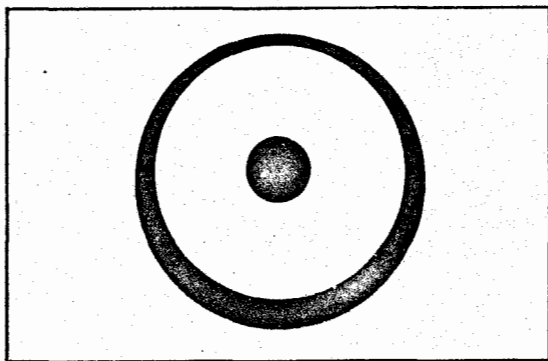


Fig. 15

This condition will cause the valve to continue to give trouble, resulting in a dissatisfied customer and in additional and unnecessary expense to the Dealer.

When you find it necessary to grind a set of valves, carefully re-face the valve faces on a grinder similar to Fig. 17 or a refacer similar to Fig. 16. The grinder does by far the best job, leaving a much truer and highly polished finish which is important as carbon will not stick so readily to a finished surface as to a rough or grooved surface.

When entering the Valve in the collet of the grinder, enter it so that the collet will hold the valve in the same position on the stem as it will

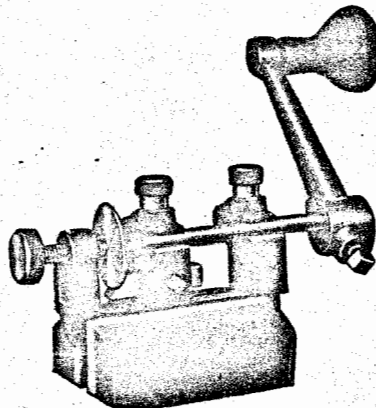


Fig. 16

be held in the valve guide. This also applies to the valve facer. This measures approximately $1\frac{1}{2}$ " from lower side of valve head.

Feed the valve into the wheel gradually, moving it backward and forward across the wheel slowly, but do not allow the edge of the wheel to grind on the valve face as this will leave a ridge on the valve. When backing the valve away from the stone, do so slowly in order that the grinder may finish as truly as possible.

Carefully scrape all the carbon from the valve and valve seat before grinding or re-seating, as carbon, especially on the valve face will quickly fill up the stone, causing it to cut unevenly. When this condition arises, the stone must be cleaned and trued with the diamond point provided. Fig. 18.

If the valve stems show appreciable wear they should be replaced, as they will not only admit air through the guide, but will not be guided squarely on the seat.

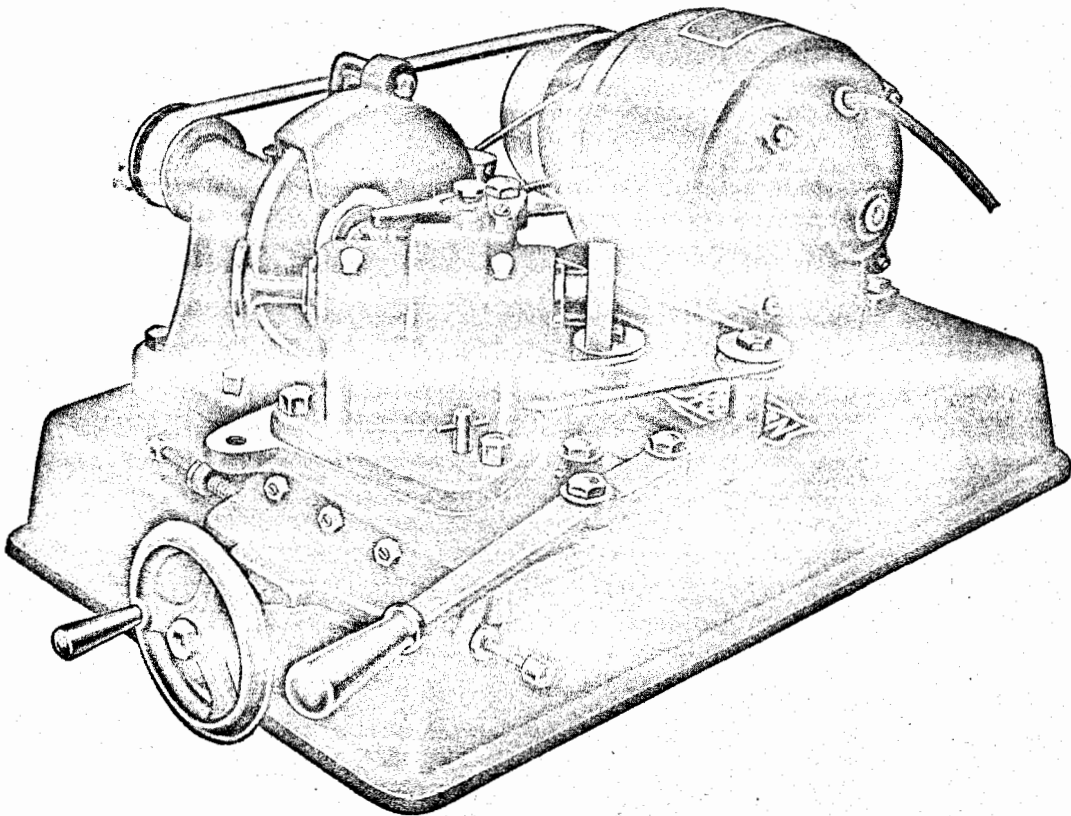


Fig. 17

Valve Stems

While Automobile Engineers' opinions differ as to whether valve seats should be flat or conical, they all admit that if the valve has a gas tight seat when closed, it is functioning 100%.

Our method of production is to make a radial seat, as shown in Fig. 19. This type of

seat has been found to be the most efficient in production. However, after a valve has been ground a number of times, and especially where the valve face has not been trued up properly, the seat becomes very wide and often times lop-sided, see Fig. 20, due to burning. A seat of this type must first be trued and a reamer—either the flat or conical type can be used satisfactorily.

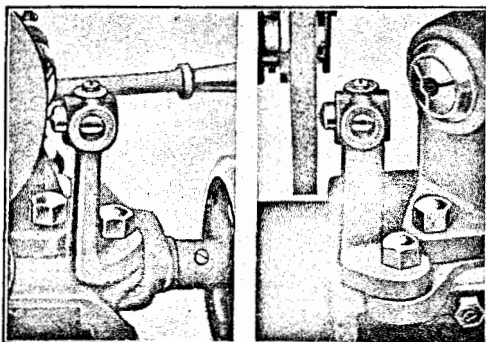


Fig. 18

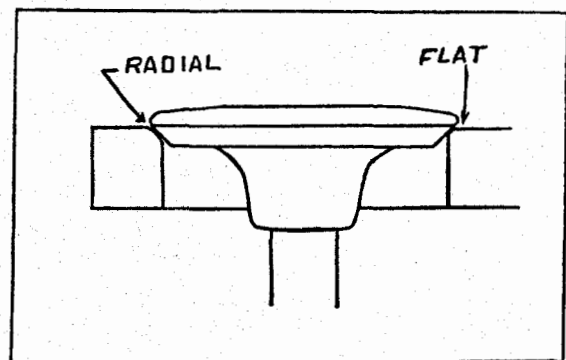


Fig. 19

We have found in our Service School that the most satisfactory reamers for this operation are a combination of three reamers—Figs. 21, 22 and 23—Fig. 21 is a 20 deg. reamer; this reamer takes a cut off the top of the seat, similar to that shown in Fig. 24. After sufficient metal has been removed from the top, use the 70 deg. reamer, Fig. 22—this reamer takes a

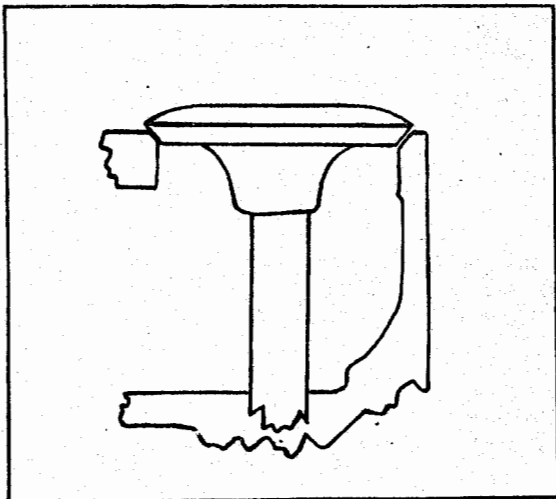


Fig. 20

cut from the inside of the port, see Fig. 25. Use these two reamers until the widest part of the seat is narrowed down to about $\frac{1}{8}$ " in width; then reseat with the 45 deg. reamer, Fig. 26.

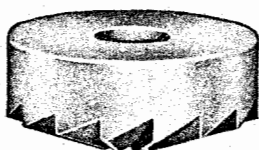


Fig. 21

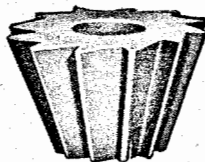


Fig. 22

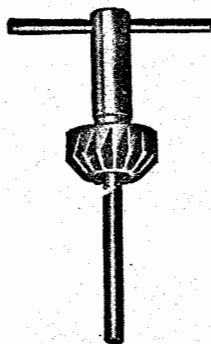


Fig. 23

This reseating operation is very important and should be very carefully performed. It is very important that the pilots of the reamer be a snug fit in the valve guide and that the mechanic presses straight in on the reamer. As a side pressure will throw the seat out of true.

It is a good plan to have the pilots of .0005" and .001" oversize to take care of wear of valve stem guides. If the valve stem guides become too badly worn, they should be reamed out with oversize reamers, and valves with oversize stems installed.

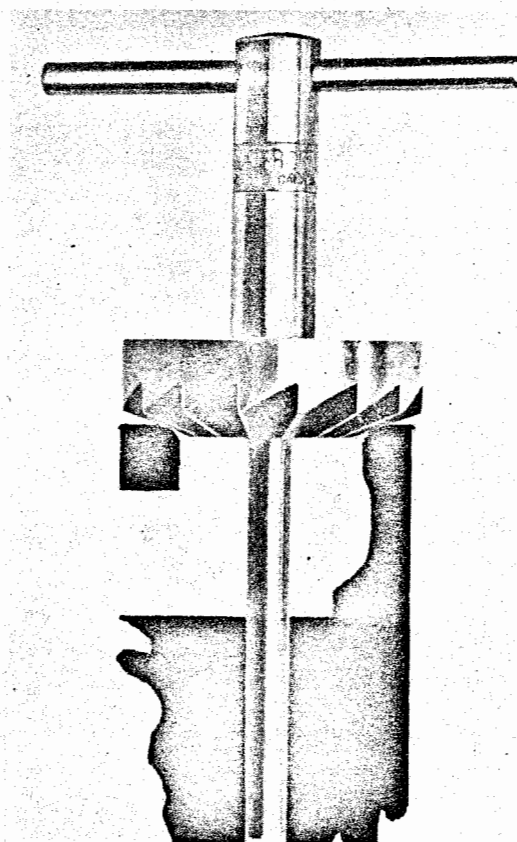


Fig. 24

Always use the 20 deg. and 70 deg. reamers first, then finish with the 45 deg. reamer. If you use the 45 deg. reamer first, you will cause it to remove excessive metal from the untrue seat, which will in turn cause it to follow the old seat, whereas if you first true the seat with the 20 deg. and 70 deg. reamers you will have very little difficulty in truing with the 45 deg.

reamer, as there will be very little metal to remove.

When using 20 and 70 deg. reamers, be sure to use them both equally, so that the finished seat will come as nearly as possible to the centre of the valve face. If the 70 deg. reamer is used more than the 20 deg., the seat will come too near the outside edge of the valve face, or vice versa.

The reamers shown are very smooth in operation, due to the uneven setting of the teeth and, if used properly, will insure a first-class job. When using these reamers, grasp them by

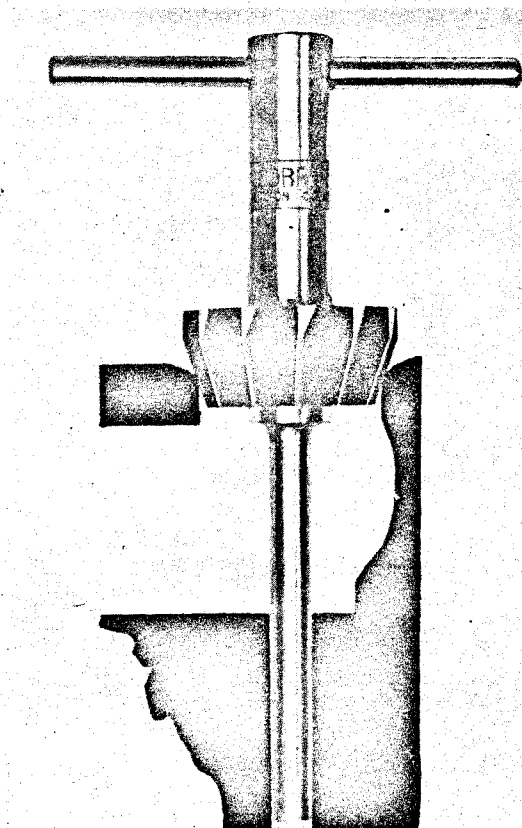


Fig. 25

the handle in a similar manner to that shown in Fig. 27. This method gives more strength to the arm and wrist, holding them steady while turning. While you may get a little more pressure by holding the arm straight up from the pilot there is more danger of the reamer chattering in the seat.

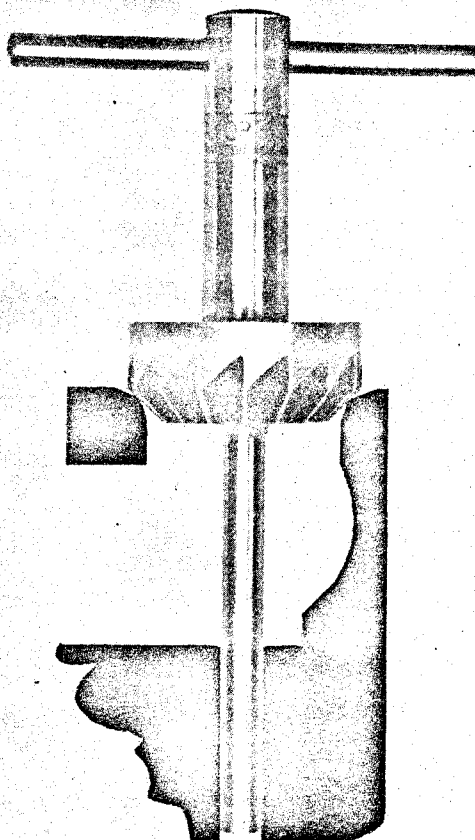


Fig. 26

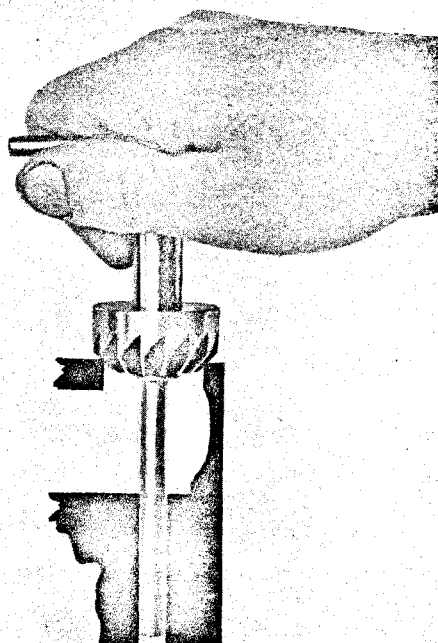


Fig. 27

One advantage of using the valve grinder machine, Fig. 16 is that the reamers may be ground on it. See Fig. 28. It is very important that reamers be kept sharp for the best results.

By grinding the valves and reseating the seats, as described above, it will be unnecessary

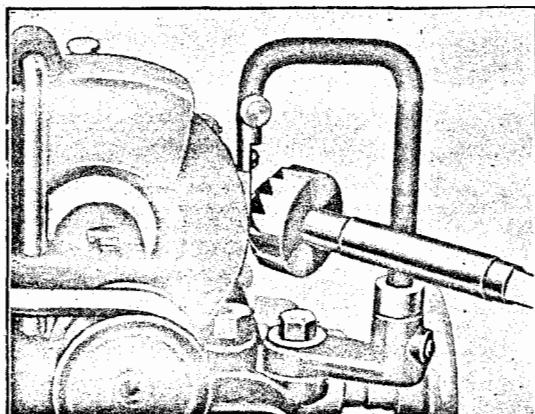


Fig. 28

to use the compound for lapping in, as you will have a better job than a lap job.

If you do not use the grinder, be sure to use the reamers and the valve facer shown in Fig. 16, then use a hand or multiple grinder. A very few turns should be sufficient.

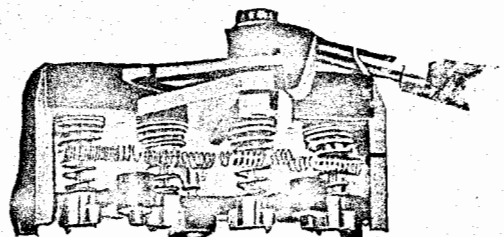


Fig. 29

Do not expect to get a good valve grind job, if the seats are wide. We recommend about $\frac{1}{64}$ ". Always true the valve face, and if the valve seats are too wide or out of true, carefully reface them.

If you do not get good results in using this method, your work is improperly performed.

If you do not use a valve grinding machine, the manufacturers of the reamers will gladly sharpen them free of charge.

Instructions for Installing New Design Transmission on Right Hand Control Cars

On page 5 of June Service Bulletin, we illustrated the new design transmission bands, now standard equipment in all model "T" engines. The instructions given for the installation, however, only cover left hand control motors. We give you herewith instructions for converting old design right hand control into the present design.

First remove the centre pedal shaft by holding band gear up with screw driver and running nut off with finger. This nut is also installed in a similar manner. It is a good plan to pack rags under this nut before attempting to remove it, see Fig. 30, as you may drop either the nut or the washer and the rags will prevent them from falling down into the transmission.

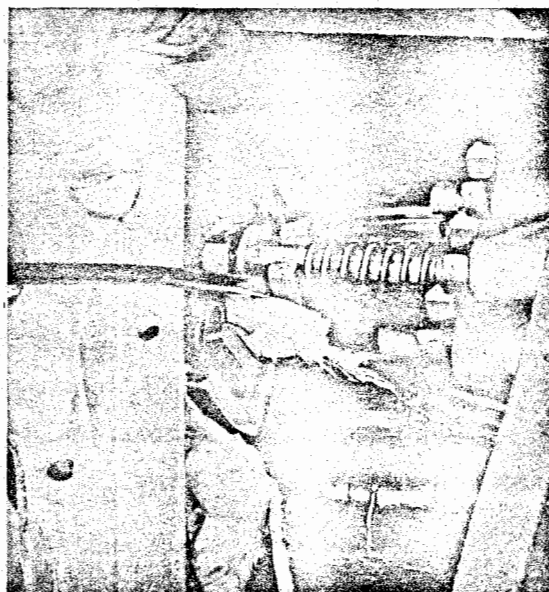


Fig. 30

Now cut off the reverse and brake pedal leaving about 1" projecting past the pedal, see Fig. 30. For this purpose, use a back saw, cut down, as shown in Fig. 7, on page 11 of June Bulletin; work old bands into a position so that they may be cut in two, as shown on page 6, Fig. 8, using an "O" size bolt cutter—then remove them.

For installing the bands, about the only tools necessary are a screw driver; a wire with a hook on it, made from an old priming rod,

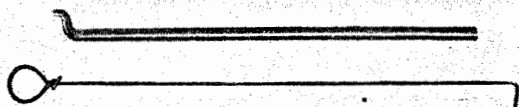


Fig. 31

Fig. 31 and the hook tool, which can be easily made.

Now remove ear from band and work the first band around from the right to the left through centre space, using the hook, Fig. 32 to pull the loose end up. Allow ear end to go down as far as possible into the cover and install the detachable ear. Place this band on reverse drum, keeping it as far forward as pos-

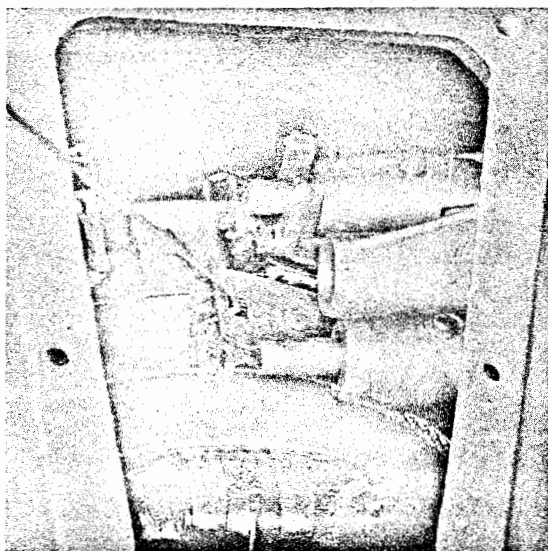


Fig. 32

sible. Now install second band, as shown in Fig. 33, in a similar manner to number one, pulling loose end up with hook, then hold in position on brake drum while installing ear, Fig. 34.

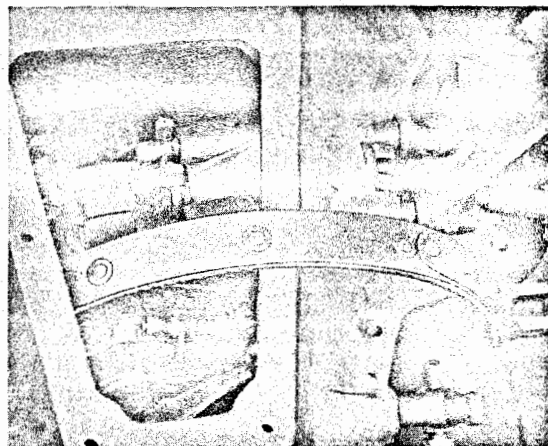


Fig. 33

Install number three bands over brake drum, Fig. 35, keeping well to the rear end of drum. When you have pulled loose end up, allow ear

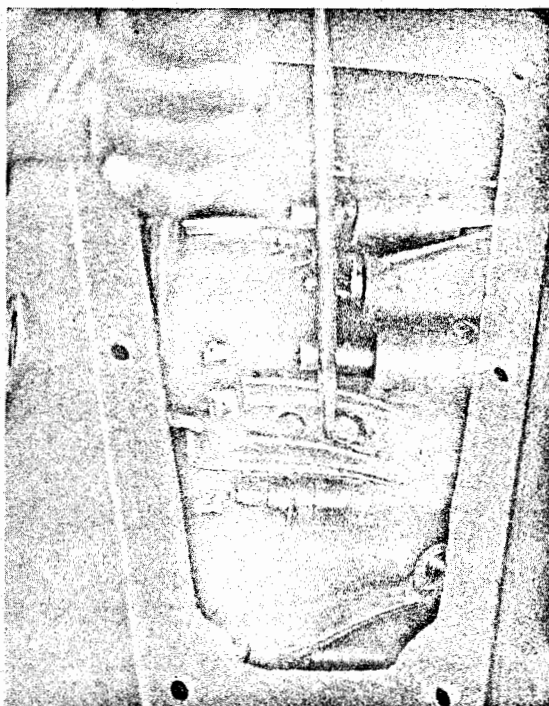


Fig. 34

to go down as far as possible into the cover to the back of the drum and install ear, Fig. 36.

When the bands are in place and springs and the new design adjusting screws are installed, the assembly will look similar to Fig. 37.

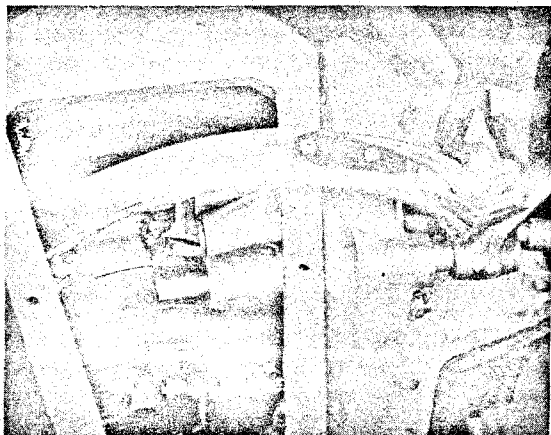


Fig. 35

You may have some little difficulty at first, but the installation will be fairly simple after one or two sets have been installed.

To simply change new style bands, have new style short shaft work in reverse to instructions given on installing.

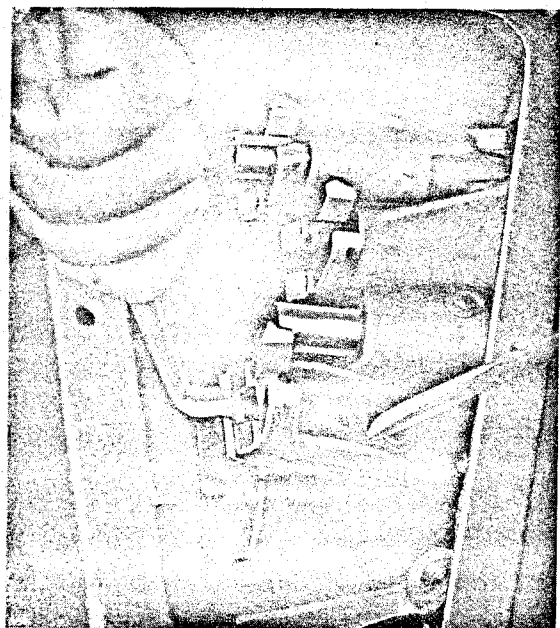


Fig. 36

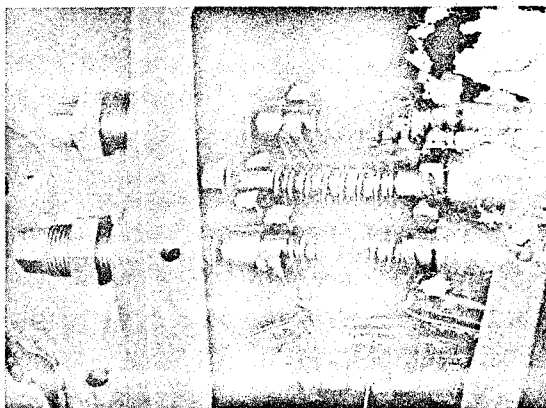


Fig. 37

Tourists' Road Maps

For the convenience of the Tourist and travelling public at large, every Ford Dealer and Service Station should have Road Maps hung or displayed at various points in his Garage or Showroom.

Get a good size Map and have the good roads plainly traced; also have those points which are bad or muddy plainly marked so that owners will know what to expect.

Place large colored tacks at every point on your map where there is a Ford Dealer or garage handling "Genuine Ford Parts."

It would be a good idea to place a notice over this map, reading as follows—"Ford Service Station on every road selling and using only Genuine Ford Parts."

Instruct your mechanics to be posted on road conditions, distance, etc.—such information as this for convenience of owners and Tourists will indicate that you are interested in them. This will give them a greater reason for stopping and help them to remember you when they are again in your vicinity. This is "**Ford Service**"—every Ford Dealer being interested in every Ford Owner, no matter where he is.