

Instructions for use of

RE-226

"REAR-ENDER"

READ CAREFULLY BEFORE USING THIS MACHINE

Nearly everytime the differential third members are overhauled, the pinion pocket bearing surface is worn badly enough to require having it bored and re-sleeved back to standard. Up until now, you've probably had to farm this work out. REAR-ENDER makes it possible for truck shops to cash in on this very profitable operation at a very reasonable cost.

CAUTION: IT IS RECOMMENDED TO PRACTICE ON A JUNK HOUSING FIRST,
UNTIL YOU GET THE FEEL OF THE TOOL!!!

1. The flange surface and the beveled edge on the inside diameter of the flange should be clean and free from burrs. Draw file the flange surface if necessary.

2. TO SET THE DIAL GAUGE, place the proper Cutter Holder on the Setting Standard with the line on the Cutter Holder matching the line on the Setting Standard. Tighten the Cutter Holder on the Setting Standard. Select proper cutter (short cutter with Small Cutter Holder) and place cutter in holder. With flat part of carbide facing toward set screw (D), slightly tighten set screw (D).

Place indicating unit on the Setting Standard so stylus is on point of Standard Tip (C, Fig. 1). To adjust indicator so both hands are on zero, loosen set screw (A). Adjust indicator so small hand on small dial is zero and large hand is straight-up. Rotate Indicator Holder back and forth slightly to get highest reading on the dial. Loosen Knob (B) and turn indicator dial face to zero. Tighten Knob (B). At this reading, your Indicator should be set at 3.000 inches.

3. TO SET THE CUTTER, place Indicator unit so stylus is over the tip of the cutter. Rotate the Indicator unit slightly back and forth to get the highest reading on the dial. Using Hex Key (E), force cutter up to proper bore size as shown in Chart #1. See illustration for proper dial reading. Tighten set screw (D). Using Hex Key (E), back off cutter adjusting screw into Setting Standard shaft.

Remove Cutter Holder and place on boring machine shaft with scribe lines matching.

4. Before installing the unit into the rear-end housing, pull the main shaft all-the-way up. (It will be necessary to turn the knurled feed knob counterclockwise to move the shaft upward). After the main shaft has reached its highest position, turn the feed knob clockwise. This will keep it in the "up" position. Make sure the Alignment Ring and the Base Plate are wiped clean.

5. Place the unit into the rear-end housing. Align the holes in the Base Plate with the corresponding ones in the housing. Install the 3 mounting bolts loosely. Rotate the Base Plate back and forth to insure proper alignment. Tighten mounting bolts.

6. Before starting the boring operation, (large-bushing type rear-end only!), it will be necessary to lower the main shaft closer to the area to be bored. Attach the Universal Drive to the drill chuck and mount onto the main shaft of the machine and bore completely through the original bore.

7. After completing the boring operation, turn the feed knob counterclockwise and raise the main shaft all-the-way up. Now turn the feed control knob clockwise to hold the shaft up. Remove the mounting bolts and grasp the main shaft off the tool and pull straight up. Exercise caution so as not to hit the tip of the carbide cutter. This will release the Alignment Ring and make removal of the tool much easier.

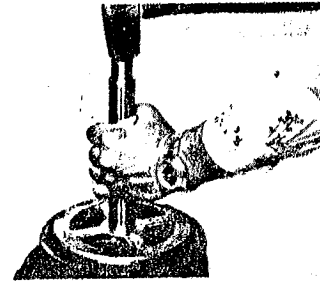


Fig. A Driving the repair bushing into place.

8. Attach the Bushing Driver to the Bushing Driver Handle and install the Repair Bushing over the Bushing Driver. Apply a coat of PORTA-TOOL retaining compound to the outside of the bushing and the inside of bored hole, and position bushing over the bored hole. Install the Guide Plate onto the Bushing Driver Handle and drive bushing into housing (See Fig. A). MAKE SURE THE BUSHING IS FLUSH WITH THE SURFACE BEFORE PROCEEDING!

NOTE: STEP 9 is OPTIONAL but is RECOMMENDED!!!

9. Set the appropriate Drill Jig (also used as the Bushing Driver) in to the installed bushing. Drill and tap the two holes to depth of at least 1/2 inch. Remove the Drill Jig and clean the holes and set screws. Apply PORTA-TOOL retaining compound to the set screw and install them. MAKE SURE THE HEADS OF THE SCREW ARE FLUSH OR SLIGHTLY BELOW THE SURFACE (See Fig. B).

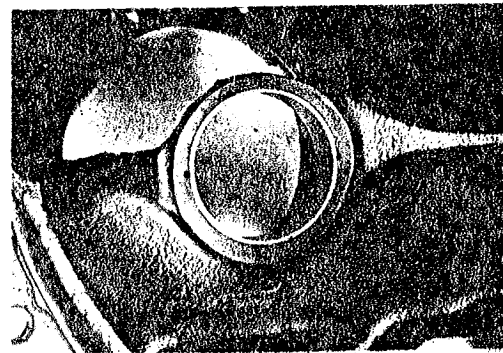


Fig. B Make sure the screws are flush with the surface.

CAUTION: DO NOT set set screws all-the-way DOWN! This will cause distortion of the bushing.

CARE AND MAINTENANCE:

*If the tool chatters or has an erratic feed, it will probably be due to either a dull cutter or air in the oil chamber. To check the oil level, place the machine on a bench with the oil plug up. Tilt the machine so that the oil plug is at the highest position. Loosen the feed valve and push the main shaft up and down several times allowing the air to work itself up to the oil plug area. Pull the main shaft back as far as possible and remove the oil plug and fill with 30W non-detergent oil. This procedure may have to be done several times.

*It is recommended to keep the cutters sharp to prevent chatter when cutting. Send the cutters to PORTA-TOOL INC for sharpening.

*It is recommended to use our special retaining compound (#PT-024) and our special primer (#PT-025) for inserting the Repair Bushings.

*It is recommended to use our Repair Bushings which are made from special alloy cast iron and available from PORTA-TOOL INC.

If adjustment is necessary on Setting Standard, loosen set screw and adjust the Setting Standard Tip. For example, if after you bore a hole and your bore size is .002 under size, move your Setting Standard Tip up .001. Every .001 on the tip increases the diameter by .002.

CHART #1

INSTRUCTIONS FOR SETTING THE CUTTER (FOR THE RE-226)

LOOSEN Screw "A" (FIGURE 1). Adjust indicator when the indicator stylus in on the highest point of the Standard Tip. The small dial should be on zero and the large hand is straight up. Tighten Screw "A". Now Loosen Knob "B" and turn dial face to zero. Tighten Knob. At this reading your indicator is set at 3.000 inch.

Using the illustrations and the chart below, you may set your indicator to bore the following sizes:

NOTE: READ LARGE NUMBERS ON LARGE DIAL!

BORE SIZE	BUSHING #	APPLICATION	SETTING YOUR CUTTER
2.937	RE-27	T/M SQ & SL	Place Small Cutter Holder with cutter at the end of the Standard Shaft. Position ZEROED Indicator stylus over highest point of cutter. Raise or lower cutter until small dial pointer is between 0 and 9 and large dial is on 68-1/2 (Figure 2).
3.250	RE-53 RE-54 RE-55 RE-56	INT 351 Front INT 351 Rear EATON 38 DP EATON 38 DP	Place Small Cutter Holder with cutter at the end of the Standard Shaft. Position ZEROED Indicator stylus over highest point of cutter. Raise or lower cutter until small dial pointer is between 1 and 2 and large dial is on 25 (Figure 3).
3.687	RE-57 RE-58	RA 57 19T R 140 160 SS R	Place Large Cutter Holder with cutter at the end of the Standard Shaft. Position ZEROED Indicator stylus over highest point of cutter. Raise or lower cutter until small dial pointer is between 3 and 4 and large dial is on 43-1/2 (Figure 4).
4.062	RE-59 RE-28	WHITE 134C T/M 170	Place Large Cutter Holder with cutter at the end of the Standard Shaft. Position ZEROED Indicator stylus over highest point of cutter. Raise or lower cutter until small dial pointer is between 5 and 6 and large dial is on 31 (Figure 5).

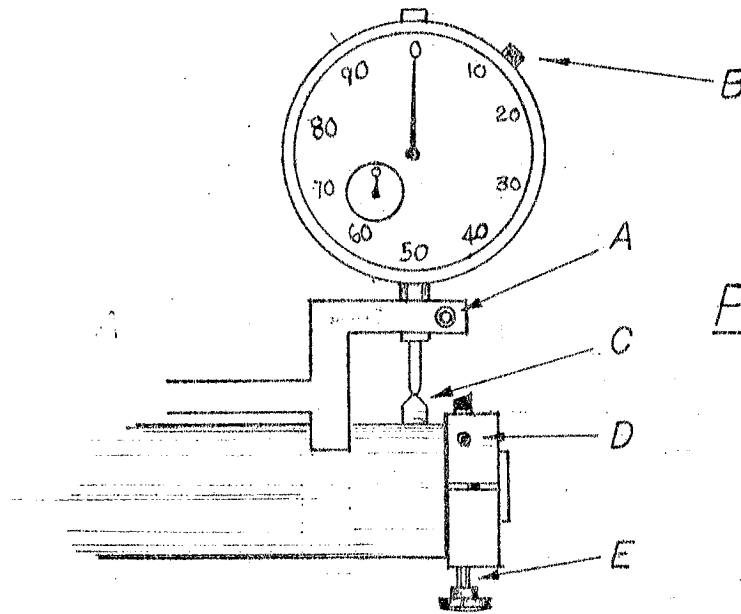


FIGURE 1

ZEROing the Dial Indicator

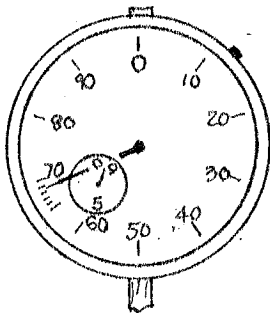


FIGURE 2

Dial setting for:
RE-27 TIM SQ & SL

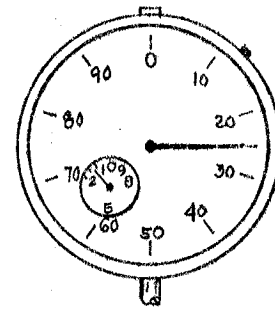


FIGURE 3

Dial setting for:
RE-53 INT 351 Front
RE-54 INT 351 Rear
RE-55 EATON 38 DP
RE-56 EATON 38 DI

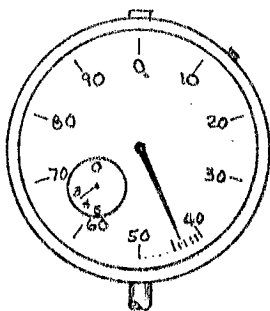


FIGURE 4

Dial setting for:
RE-57 RA 57 19T
RE-58 R 140 160 SS R

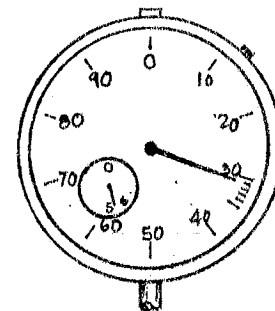


FIGURE 5

Dial setting for:
RE-59 WHITE 134C
RE-28 TIM 170