

## **INSTRUCTIONS**

### **Heavy-Duty Division**

## PT 2205

## COUNTERBORING TOOL FOR USE ON CUMMINS 5 1/2 BORE NH ENGINES

**TOOL FUNCTION:** To resurface cylinder liner counterbore areas of the engine block. The counterbore tools cuts an even counterbore ledge for correct liner protrusion. This tool is necessary to finish cut counterbore repair sleeves and is recommended for use when installing shims.

DET NO.	PART NO.	DESCRIPTION	AMT.
1	PT 2200-17	T-Handle Group	1
2	PT 2200-20	Cutter Set Strap	. 1
3	PT 2205-3	Steel Box	1
4	PT 2205-9	Cutter Plate Assembly	1
.5	PT 2205-112	Basic Machine	1
6	PT 3000-12	Stud Adapter	4
7	RS 13500-325	Washers (Stud Adapters)	4
*8	PT 2400-19	Brass Stop (located beneath	2

\*Item not shown

Available to add to PT 2205

(For .020 oversize flange liners)

PT 2205-11 Cutter Plate Assembly

IMPORTANT! Top deck of block and base plate of Counterboring Tool must be clean and free of all nicks and burrs,

Fill oil git with 30W non-detergent oil for proper Tool operation.

 Place Cutter Plate on a flat surface, loosen Button Head Socket Cap Screws until cutter moves easily. Place Cutter Set Strap across edge of Cutter Plate, adjusting cutter until it is flush with the Cutter Plate. Tighten Button Head Socket Cap Screws. (Fig 1)



FIG 1 Adjusting Cutter

2. Install Cutter Plate on lower area of main shaft placing flat side towards Tool, and slotted side out. (Fig 2)



FIG 2 Installing Cutter Plate



- Place Tool on bore and by turning T-handle clockwise (never counterclockwise) lower Cutter Plate into bore.
   Proper position is attained when turning T-handle clockwise, the shaft rotates freely.
- Place Stud Adapters and Washers on base plate, add stud bolts and tighten securely.

NOTE: Correct positioning prevents cutting counterbore inside diameter oversize. (Fig 3)

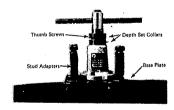


FIG 3 Tool Properly Mounted

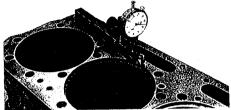
- 5. Loosen thumb screws on depth set collars allowing free movement on shaft. Turning T-handle clockwise with constant downward pressure cut bore to predetermined depth. At this point tighten thumb screw on top depth set collar securely. (This allows all bores to be cut to the same depth.) Pull up on the T-handle to retract Cutter Plate from bore. Loosen stud bolts and remove Tool.
- 6. Check concentricity of counterbore inside diameter to lower bore inside diameter with "PT 5010" Concentricity Gauge. If outside of the limits, concentricity can be achieved by boring and resleeving the lower packing ring bore. The "PT 3050-A" Porta-Bore is designed for this procedure.

Form No. PT 2205-20 (PT85-382)

# FINE QUALITY TOOLS FOR UPPER DECK WORK

## PT-5020 DIAL DEPTH/LINER PROTRUSION GAUGE

Saves time - designed for use with our counterbore tool.



#### PT-2801 PORTA-THREAD KIT

Repairs stripped, cracked head bolt holes and seals coolant leaks.



#### PT-7100 WATER HOLE KIT

Repairs eroded water holes using brass bushings.



#### PT-7191 FLAW FINDER

Spray cleaner, dye penetrant and developer kit finds cracks and porosity in castings.



#### PT-6570 DOWELOUT

Pulls even stubborn dowels easily.



#### PT-5010 CONCENTRICITY GAUGE

Checks upper to lower bore concentricity within .001".



#### PT-7190 PORTA-FLUX

Powerful permanent magnet attracts white powder to locate cracks in head and block. Hundreds of uses.



#### PT-2050-C PORTA-MATIC

The upper deck boring tool for installing our exclusive prefinished repair bushings. Easy to operate with precision, machine shop quality results.



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