

3. Reaming (continued)

- a. Generously lubricate the bore and reamer with cutting fluid (i.e. Mobilmet S-122, Lubegard® Bio-Tap, Tap Magic™, etc.). For best results, provide a continuous flow of water-soluble cutting fluid (i.e. Mobilmet S-122) during the reaming process.
- b. Gently insert Sonnax roughing reamer (22771A-RM13) into the bore until the cutting tip contacts the first bore to be reamed.
- c. Use a loose fitting reamer socket and a wobble adapter to ream the bore. The reamer can be turned by using a speed handle or with a low-RPM, high-torque air drill regulated to a maximum of 200 RPM. The reaming actions must be clockwise in smooth and continuous motion at 60-200 RPM. Continue reaming until the reamer stop is reached.
- d. Using low air pressure, blow the chips free before removing the reamer.
- e. To remove the reamer, turn clockwise while slowly pulling outward on the reamer.
- f. Gently insert Sonnax finishing reamer (22771A-RM14) into the bore until the cutting tip contacts the first bore to be reamed.
- g. Repeat steps 2c. through 2e.

4. Finish & Clean Up

- a. Examine the bore after cleaning for surface finish, debris and burrs. Flashing and burrs on the exit side of land and in bores must be carefully removed. A small piece of Scotch-Brite® material attached to a wire and powered with a drill motor is ideal for the task. Scotch-Brite® is a very abrasive material and all residual debris must be cleaned to ensure particles do not migrate or remain imbedded into the surface. Post cleaning involves several progressive steps with solvent on a lint-free rag.
- b. Clean the reamer after each use and store in its protective tube.

5. Installation & Assembly

- a. Install Sonnax 4-spool switch valve.
- b. Reinstall OE spring and bracket.
- c. Modify separator plate per following instructions (Figure 3).

6. Separator Plate Modification Adjustments (Figure 3)

- a. Open exhaust port/slot cut in plate. Exhaust should be .350–.400" wide on gas, or .450–.500" wide on diesel. The wider the slot, the faster the release oil exhausts and a firmer apply is felt.
- b. Drill TRE orifice to .062". This is the .042" orifice inboard of the exhaust port/slot mentioned above. Going larger than .062" will create a bump on TCC apply.

7. Valve Body Preparation

- a. Resurface all the cast-aluminum pieces until flat to avoid cross leaks.
- b. Torque valve body-to-case bolts at 110 in-lb.