

Complete steps 1-4 in the original operation sheet.

Operation #5. – Valve Seats

1. Chuck one of the valve towers in a 25/32” collet. You may need a small spacer between the collet and the head to prevent the other valve tower from interfering with the collet chuck.
2. Drill 0.177” (#16) through.
3. Drill 0.302” (Letter “N”) 0.393” deep as in Figure 1.

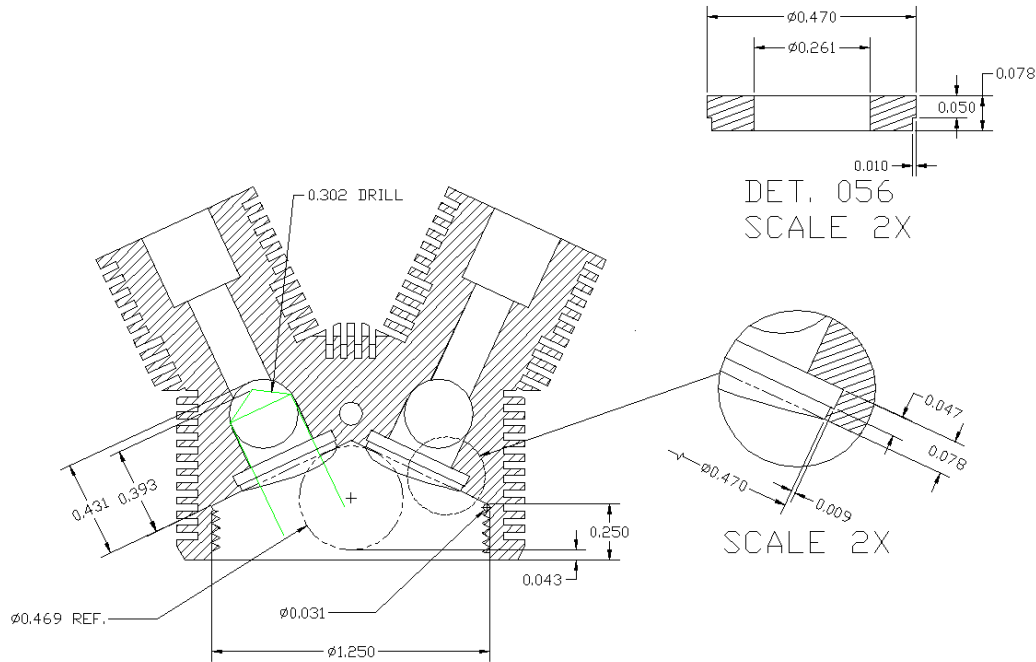


Figure 1

4. Proceed to bore the valve insert cavity per the detail in Figure 1.
5. Install and swage the valve insert.
6. Using a 5/16” ball-nose endmill, plunge the intake runner 0.431” deep.
7. Create the valve seat using a 90° countersink. Countersink to 0.437” in diameter.
8. Ream 0.1875” through.
9. Repeat for the second valve tower.

Operation #6. – Top Cooling Fins

1. In the lathe, setup cylinder head in tool CH2 without any spacers as shown in Figure 2.

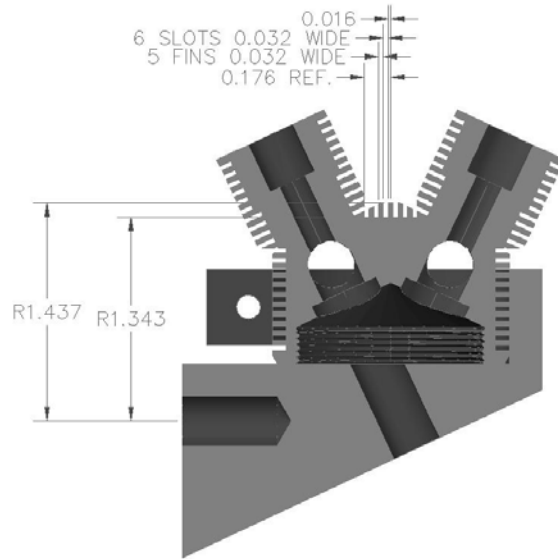


Figure 2

2. Turn fin area to 1.437" radius by 0.352" wide centered between valve towers.
3. Plunge 6 grooves to 1.343" radius dimension.

Operation #7. – Spark Plug – using Rimfire VR2L Plugs

1. Using CH2 with a 3/16" spacer, mount the cylinder head in the mill and locate the sparkplug hole as shown in Figure 3.

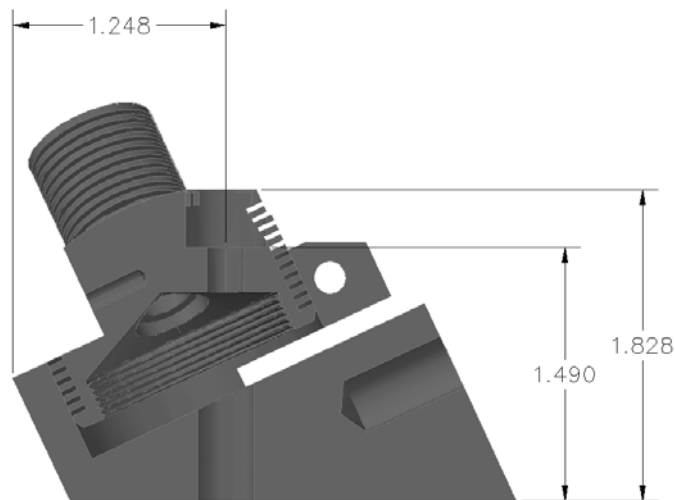


Figure 3

2. Using a 3/4" endmill, remove the top of the excess stock in the spark plug area to the 1.828" dimension.
3. Drill 7/32" (0.219") thru and tap 1/4"-32 through (or to match your sparkplugs).
4. C'Bore the sparkplug well Ø1/2" to the 1.490 depth (or to match your plugs), C'Sink to break sharp edge. The threads of the sparkplug, when installed with its copper washer, should just reach the combustion chamber and must not be recessed in the head.

Operation #8. – Rocker Tower Holes

1. Locate tool CH2 without spacers in the mill as shown in Figure 4.

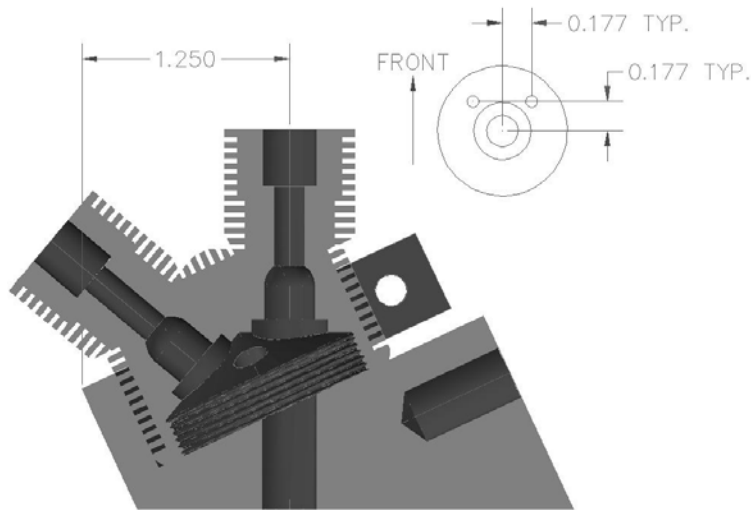


Figure 4

2. Drill 0.070" (#50) x 0.375" deep, Tap 2-56x5/16" deep, two places on each valve tower as show. Be sure to pay attention to proper orientation towards FRONT on each valve tower.

Operation #9. – Remove Sparkplug Area Overhang

1. The excess material remaining on the front of the head is removed with the part set up on a rotary table as in Figure 5. Using 3/16" endmill, mill away the waste to the 1.563" diameter of the fins and as close to the valve towers as possible (approximately 56° each side of center).

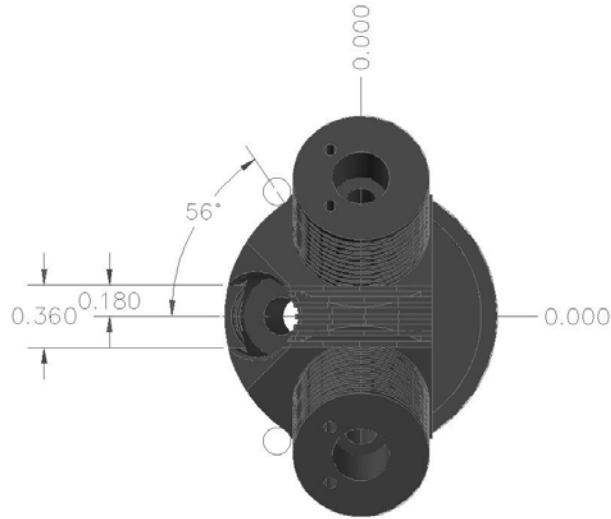


Figure 5

2. Mill a 0.360" wide slot centered on the sparkplug well down through the first fin that was notched when putting in the top grooves as shown in Figure 6.

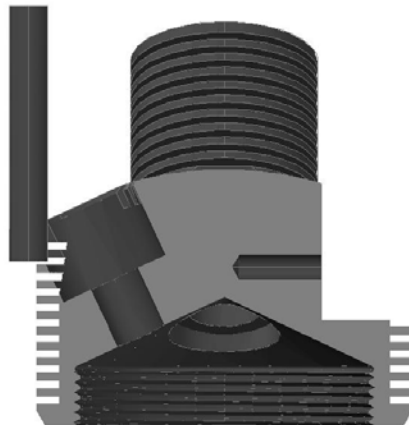


Figure 6

Proceed with step 9 on the original operation sheet.