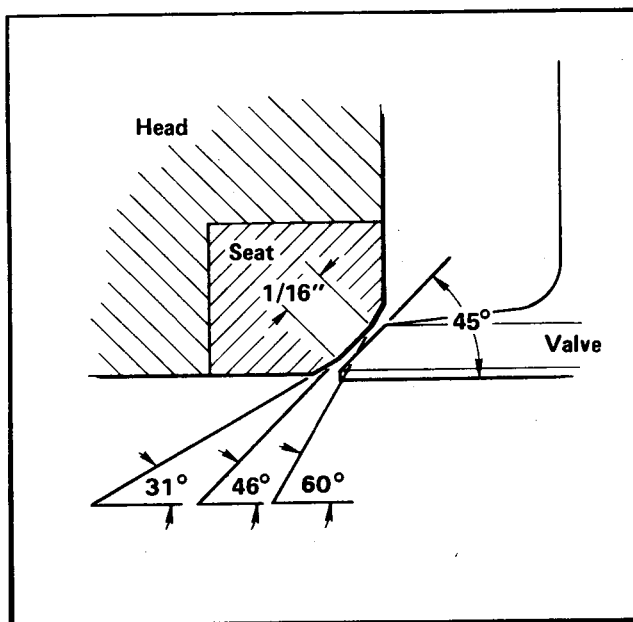


### THREE ANGLE VALVE SEATS — 1981 XL MODELS

**Beginning with crankcase number 781012001 all production XL models incorporate three angle valve seats on both intake and exhaust cylinder head ports.**

There are specific procedures that must be followed when cutting this type of valve seat. Always be sure to reface valves before you cut seats. We recommend using a NEWAY VALVE SEAT CUTTER, Part No. 80444-HDF. Proper cutting procedure follows:

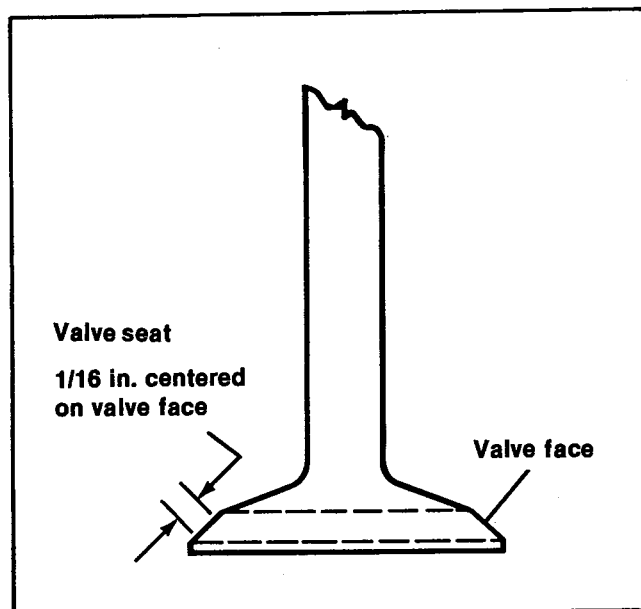
1. Follow procedures outlined in the current SERVICE MANUAL, Part No. 99484-81, to remove and reface valves and guides; also to decarbonize combustion chamber.
2. See Figure 1. Cut 46° seat angle first. Cut only enough to clean up seat.



### Figure 1. Valve Seat Angles

- See Figure 2. Apply blueing to valve and install valve in head. Rotate valve against seat. Remove

valve and check contact pattern. Valve seat should be 1/16 in. wide and centered on valve.



### Figure 2. Valve

4. If valve seat pattern is too close to stem side of valve face, cut 60° angle to raise seat. If pattern is too close to edge of valve face, cut 31° angle to lower seat.
5. After cutting either or both 31° or 60° angles to position seat, final cut 46° seat angle to obtain proper 1/16 in. width.
6. Recheck valve seat width and location with blueing as described in Step 3.
7. When reassembling, follow the inspection and assembly instructions found in the current SERVICE MANUAL, Part No. 99484-81, to assure proper valve seat height, valve guide installation and valve spring length and tension.

[illegible]