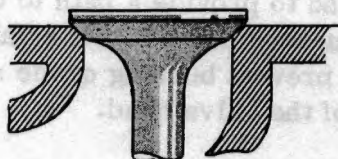
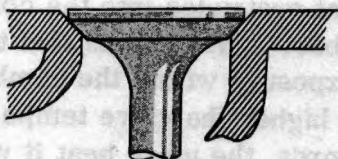


Dress the stone to the correct angle. Lightly lubricate and install the pilot of the correct size into the valve guide bore.

Lower the grinder head over the pilot shank until the stone just clears the valve seat. Turn on the power and very gently allow the stone to contact the valve seat. Very little pressure other than the normal weight of the stone should be used. Sudden hard pressure can cause cocking of the pilot in the guide and result in eccentric grinding. Raise the stone frequently from the valve seat to prevent overheating and



Correct Seat

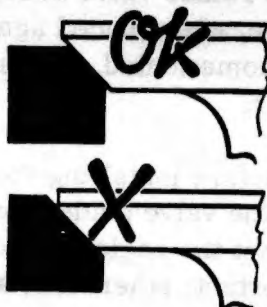


Seat too wide



Seat too narrow

FESM-3255



FEA-63042

to clear away grinding dust. Grind the seat sufficiently to provide an even, smooth surface.

Check the seat concentricity, roundness and valve face contact using Prussian blue. Spread an extremely thin film of this blue on the valve face and insert the valve into its guide. With pressure on the exact center of the valve head, make a quarter turn rotation in the seat. Remove the valve and inspect the impression made upon the seat by the transfer of blueing, and upon the valve face by the removal of blueing. Check several times to guarantee that no error was made. If a full seat-width contact around the entire circle of seated valve is not shown, the angles do not match. It will then be necessary to re-dress the valve seat grinding stones, changing the angle sufficiently to correct the error. The correction should be made on the valve seat, and not on the valve.

The location of the area of contact between the valve and the seat is a very important factor in securing maximum valve life. Seating the valve with the sharp edge of the seat not contacting the valve face is undesirable. This sharp edge tends to break off face deposits which may lead to valve failure.

Similarly, the location of the upper line of contact well below the top of the valve face, is also undesirable because a large overhang prevents rapid cooling of the outer edge of the valve.

After grinding the seats it may be found that the seats are considerably wider than the specified width of 3/64 inch. Valve seats that are too wide may be narrowed by grinding down the top edge of the seat with a stone mounted on the grinder head. The stone must be a smaller angle than the valve seat (15° preferably).