



Valve Seats

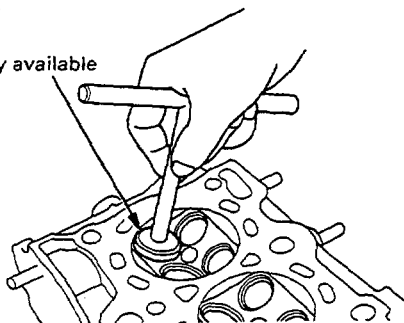
Reconditioning

1. Renew the valve seats in the cylinder head using a valve seat cutter.

NOTE: If the guides are worn (see page 6-48), replace them (see page 6-50) before cutting the valve seats.

VALVE SEAT CUTTER

Commercially available



2. Carefully cut a 45° seat, removing only enough material to ensure a smooth and concentric seat.
3. Bevel the upper edge of the seat with the 30° cutter and the lower edge of the seat with the 60° cutter. Check the width of seat and adjust accordingly.
4. Make one more very light pass with the 45° cutter to remove any possible burrs caused by the other cutters.

Valve Seat Width:

Standard (New):

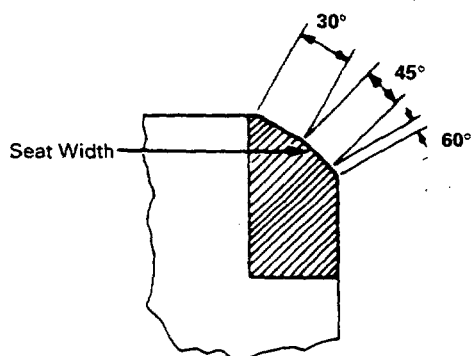
Intake: 0.85 – 1.15 mm (0.033 – 0.045 in)

Exhaust: 1.25 – 1.55 mm (0.049 – 0.061 in)

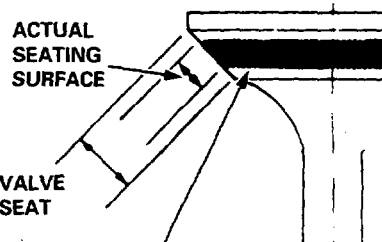
Service Limit:

Intake: 1.6 mm (0.063 in)

Exhaust: 2.0 mm (0.079 in)



5. After resurfacing the seat, inspect for even valve seating: Apply Prussian Blue compound to the valve face, and insert the valve in its original location in the head, then lift and snap it closed against the seat several times.



PRUSSIAN BLUE COMPOUND

6. The actual valve seating surface, as shown by the blue compound, should be centered on the seat.
 - If it is too high (closer to the valve stem), you must make a second cut with the 60° cutter to move it down, then one more cut with the 45° cutter to restore seat width.
 - If it is too low (closer to the valve edge), you must make a second cut with the 30° cutter to move it up, then one more cut with the 45° cutter to restore seat width.

NOTE: The final cut should always be made with the 45° cutter.

7. Insert the intake and exhaust valves in the head and measure the valve stem installed height.

D16Y2, D15Z3 engines:

Intake, Exhaust Stem Installed Height:

Standard (New): 53.17 – 53.64 mm

(2.0931 – 2.112 in)

Service Limit: 53.89 mm (2.122 in)

D16Y3, D14A2 engines:

Intake Valve Stem Installed Height:

Standard (New): 46.99 – 47.46 mm

(1.850 – 1.868 in)

Service Limit: 47.71 mm (1.878 in)

Exhaust Valve Stem Installed Height:

Standard (New): 48.97 – 49.44 mm

(1.9278 – 1.946 in)

Service Limit: 49.69 mm (1.956 in)

8. If the valve stem installed height is over the service limit, replace the valve and recheck. If its still over the service limit, replace the cylinder head; the valve seat in the head is too deep.

