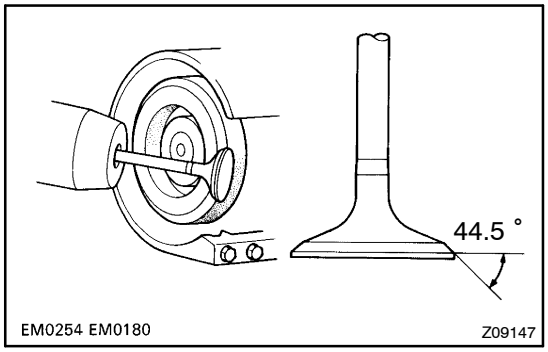
EM1LR–01

# INSPECTION

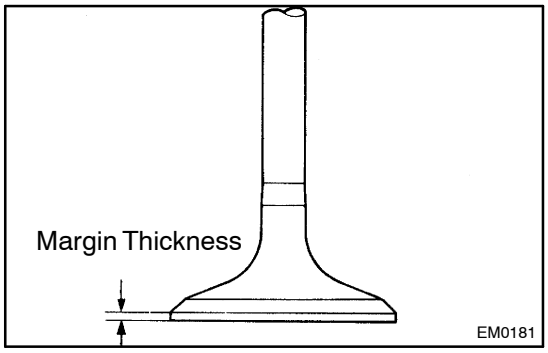



**1. INSPECT AND GRIND VALVES**

(a) Grind the valve enough to remove pits and carbon.

(b) Check that the valve is ground to the correct valve face angle.

**Valve face angle: 44.5°**




(c) Check the valve head margin thickness.

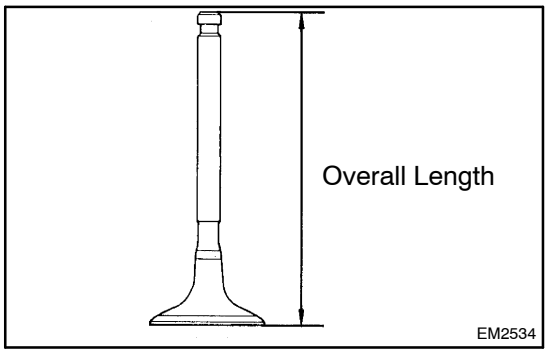
**Standard margin thickness:**

| | |
|---|---|
| Intake | 1.6 mm (0.063 in.) |
| Exhaust | 1.7 mm (0.067 in.) |

**Minimum margin thickness:**

| | |
|---|---|
| Intake | 1.1 mm (0.043 in.) |
| Exhaust | 1.2 mm (0.047 in.) |

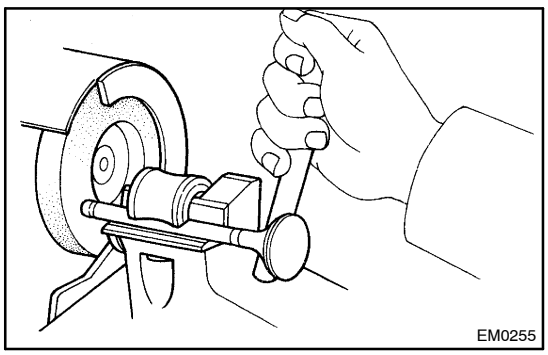
If the margin thickness is less than minimum, replace the valve.




(d) Check the valve overall length.

**Standard overall length:**
**104.10 – 104.50 mm (4.0984 – 4.1142 in.)**
**Minimum overall length: 103.60 mm (4.0787 in.)**

If the overall length is less than minimum, replace the valve.

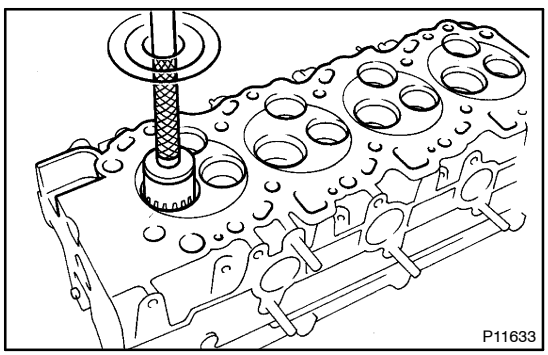



(e) Check the surface of the valve stem tip for wear.

If the valve stem tip is worn, resurface the tip with a grinder or replace the valve.

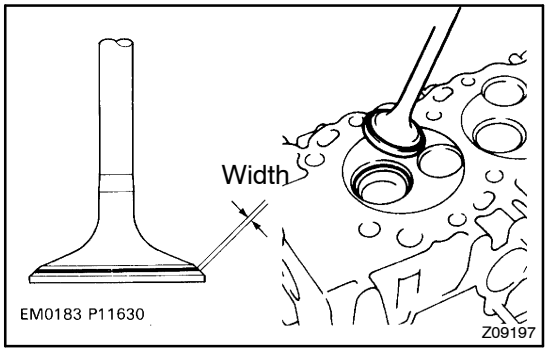
**NOTICE:**

**Do not grind off more than minimum overall length.**




**2. INSPECT AND CLEAN VALVE SEATS**

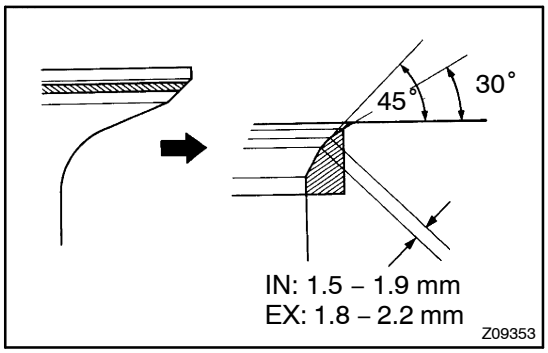
(a) Using a 45° carbide cutter, resurface the valve seats. Remove only enough metal to clean the seats.




(b) Check the valve seating position.
Apply a light coat of prussian blue (or white lead) to the valve face. Lightly press the valve against the seat. Do not rotate valve.

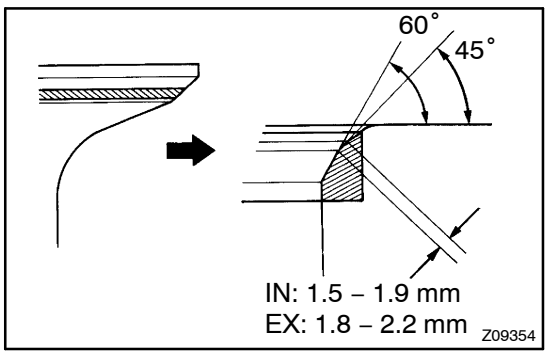
(c) Check the valve face and seat for the following:
- If blue appears 360° around the valve face, the valve is concentric. If not, replace the valve.
- If blue appears 360° around the valve seat, the guide and face are concentric. If not, resurface the seat.
- Check that the seat contact is in the middle of the valve face with the following width:

| | |
|---|---|
| Intake | 1.5 – 1.9 mm (0.059 – 0.075 in.) |
| Exhaust | 1.8 – 2.2 mm (0.071 – 0.087 in.) |

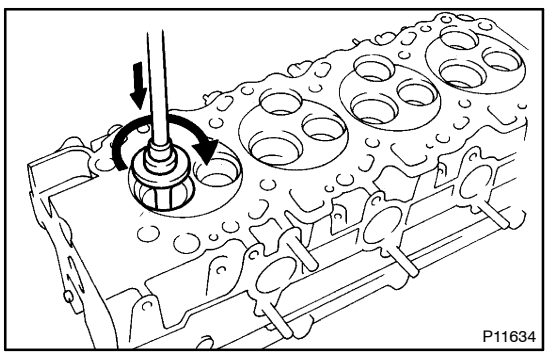



If not, correct the valve seats as follows:

(1) If the seating is too high on the valve face, use 30° and 45° cutters to correct the seat.




(2) If the seating is too low on the valve face, use 60° and 45° cutters to correct the seat.




(d) Hand–lap the valve and valve seat with an abrasive compound.

(e) After hand–lapping, clean the valve and valve seat.

(f) Remove the bearing caps.