L23/30H Cylinder head
- Cross section

Lub. oil inlet
Land the cylinder head upon the special work table and remove the lifting tool.

Mount supporting devices for the valve spindle heads.

Remove the cone rings

Slightly grind the seat ONLY for check of contact areas!

Check max. wear
L23/30H Cylinder head
- Rocker arms
L23/30H Cylinder head
- Check of Rocker arms

- Please note marks when mounting new bearings
- Check ovality
- Blow through oil channels
L23/30H Cylinder head
- Valve bridge

Note oil groove
L23/30H Cylinder head

Dismantle of valves, Valve rotator

Marking on the rotator
L23/30H Cylinder head
- Replacement of Valve guide / O-ring
L23/30H Cylinder head
- Overhaul of valve

As received

After cleaning and grinding
L23/30H Cylinder head
- How to Avoid Burned Valves

Reasons for burned valves:
1. Valve rotator
2. Seat angles/geometry
3. High exhaust temperatures
4. Material properties
5. Sticking valves/poor combustions
6. Worn valve guide

How to detect in service…?
Correct tools **must** be used for machining

Before mounting of valve spindle, valve seat ring **must** be machined

Ensure correct:
- Centering of valve seat
- Angle of the seat

**Important:**
**Lapping is not recommended by MAN**
After assembling the valves, check - on account of the valve motion - that distance "H"2 between the upper edge of the cylinder head and the upper edge of the valve spindle does not exceed the maximum value, see page 500.35.

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>mm. / bar</th>
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</table>
| 505     | Maximum inner diameter, valve guide  
For grinding of valve spindle and valve seat ring  
(see also working card 505-01.10)  
Minimum height of valve head, inlet valve and exhaust valve, "H" 1  
Maximum height of spindle above cylinder head, "H" 2 |           |
|         |                                                                             | 14.25 mm  |
|         |                                                                             | 5.0 mm    |
|         |                                                                             | 83.3 mm   |
L23/30H Cylinder head
- Replacement of valve seats

Coat with loctite 648

Valve seat ring

Coat with oil

O-Ring
L23/30H Cylinder head
- Exhaust Valve Seat

- New seat
- Impression marks from particles
- Increasing exhaust temperatures
**L23/30H - L28/32H Cylinder head**

- **Valve seat angle**

  - After grinding of valve seat, the angle between seat and valve cone is correct.
  
  - During operation, the valve cone will be deformed and the contact area between seat and valve cone will be complete.

  *(Illustration is not to scale)*

  **CORRECT !**
L23/30H - L28/32H Cylinder head
- Valve seat angle

- Not correct angle of valve seat. During operation, the valve cone will be deformed and the gap in the outer diameter will be bigger.

- Bigger gap will cause deposits on the seat and insufficient cooling of the valve cone.

- Insufficient cooling will cause burned valves and burning marks on the seat.

- INCORRECT!