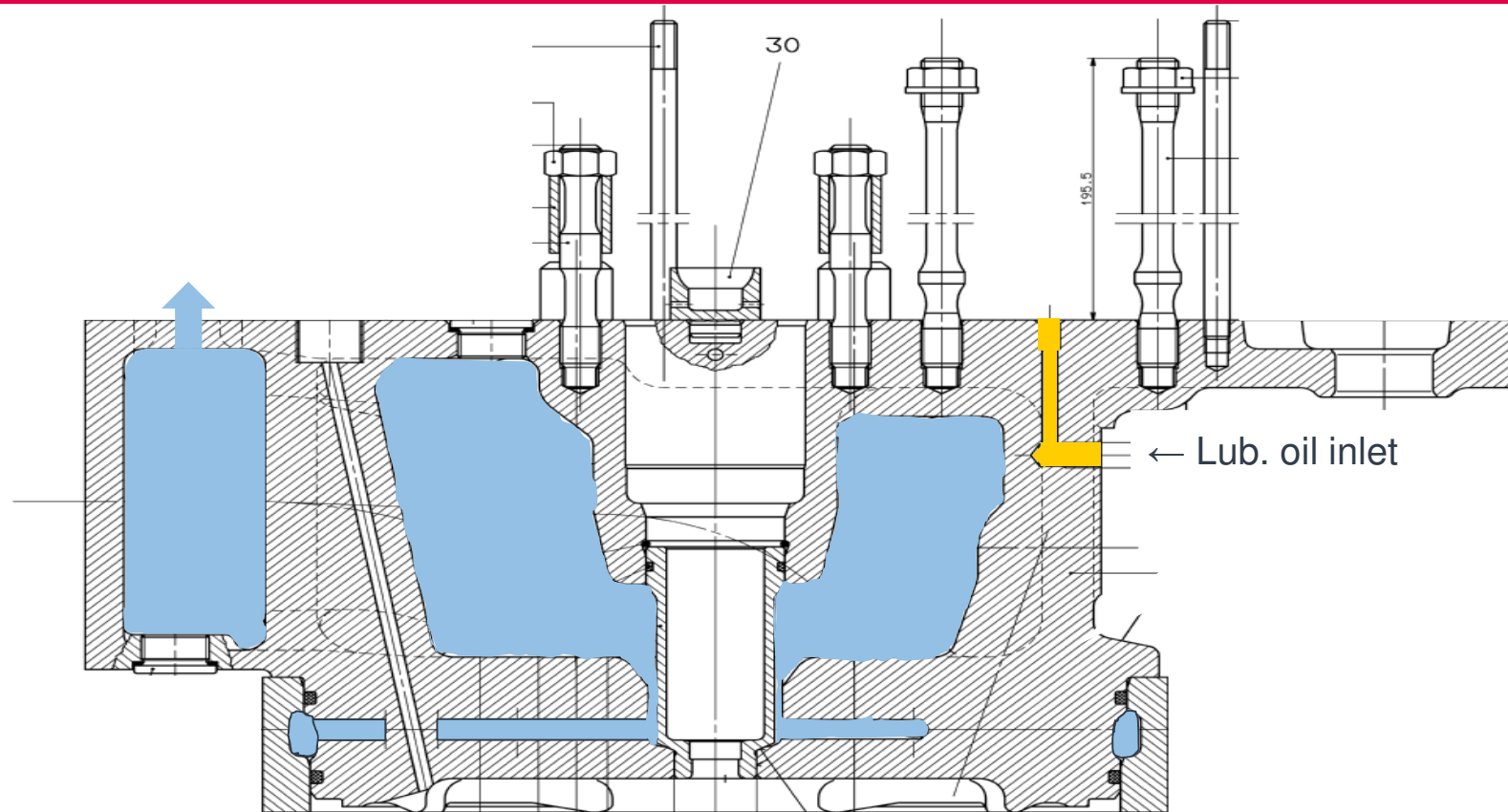
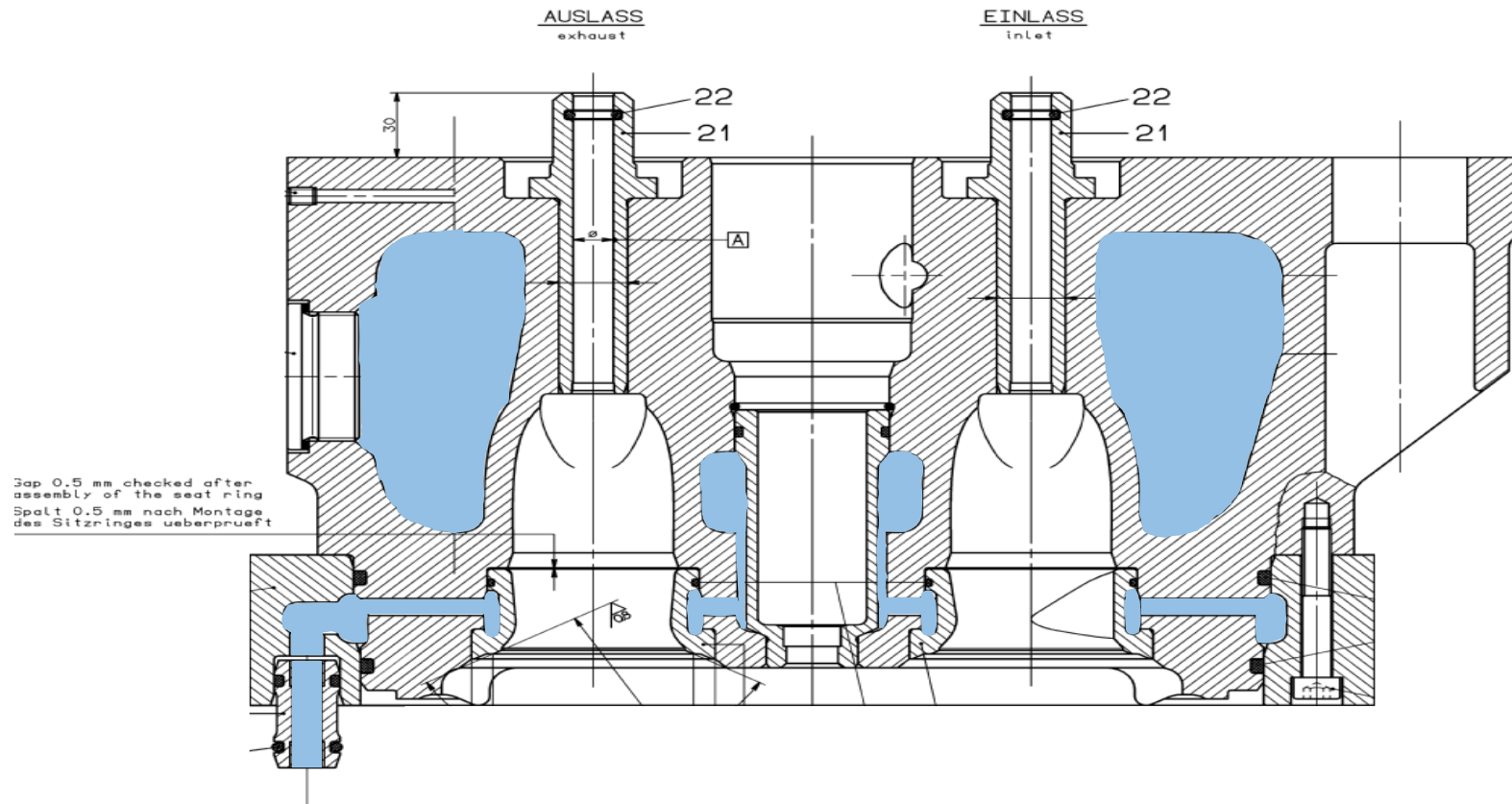


L23/30H Cylinder head - *Cross section*

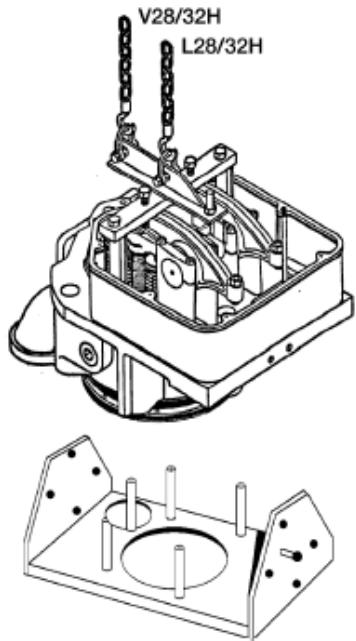


L23/30H Cylinder head - Cross section

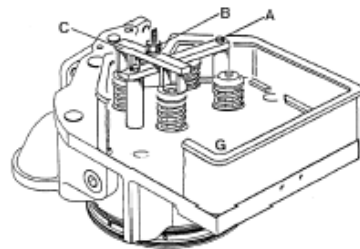


L23/30H Cylinder head

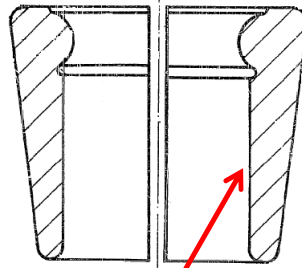
- Inspection of inlet valve, exhaust valve and valve guide



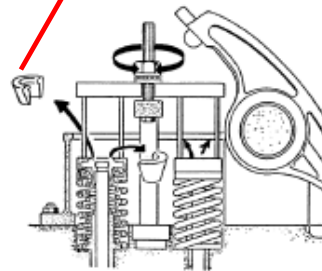
Land the cylinder head upon the special work table and remove the lifting tool.



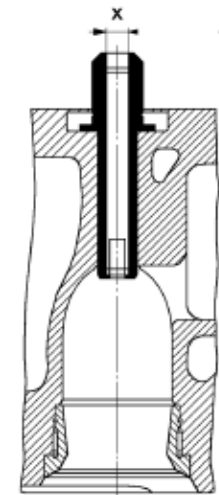
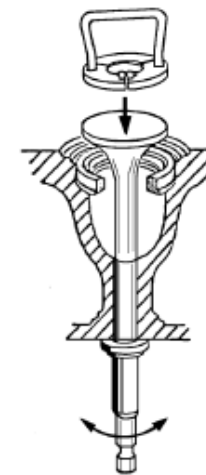
Mount supporting devices for the valve spindle heads.



Remove the cone rings

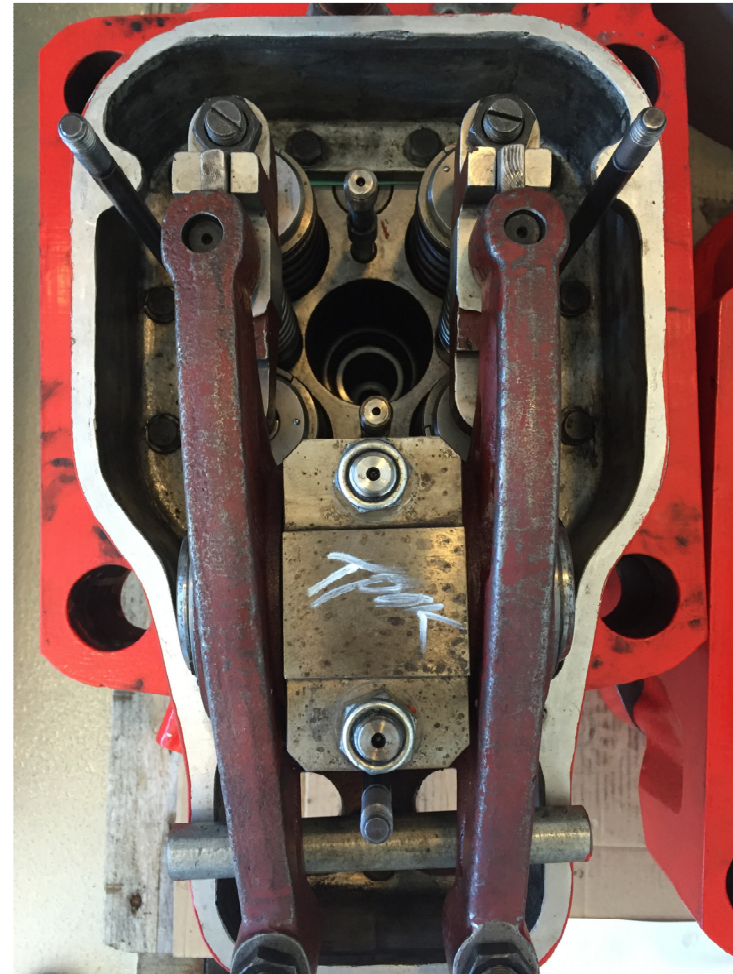
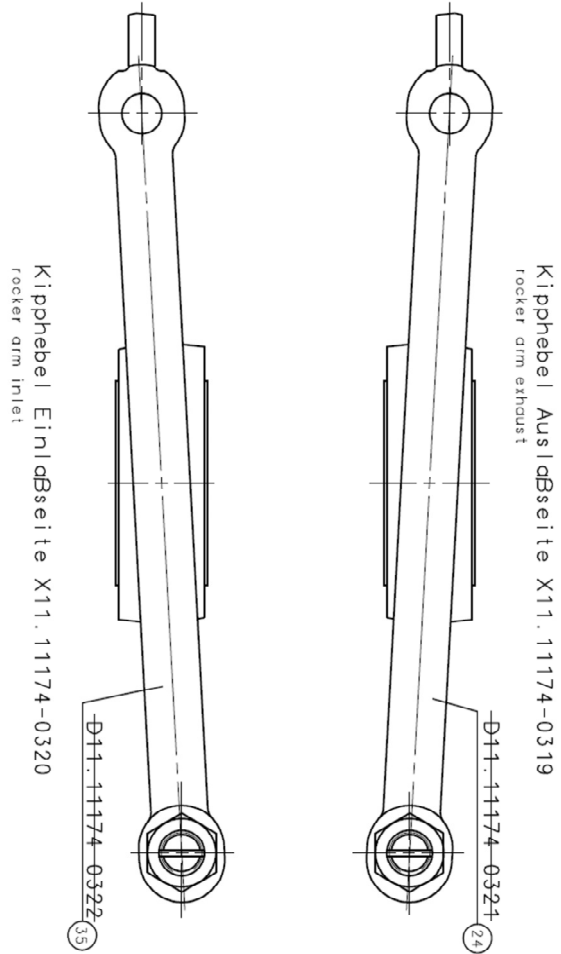


Slightly grind the seat
ONLY for check of contact areas!



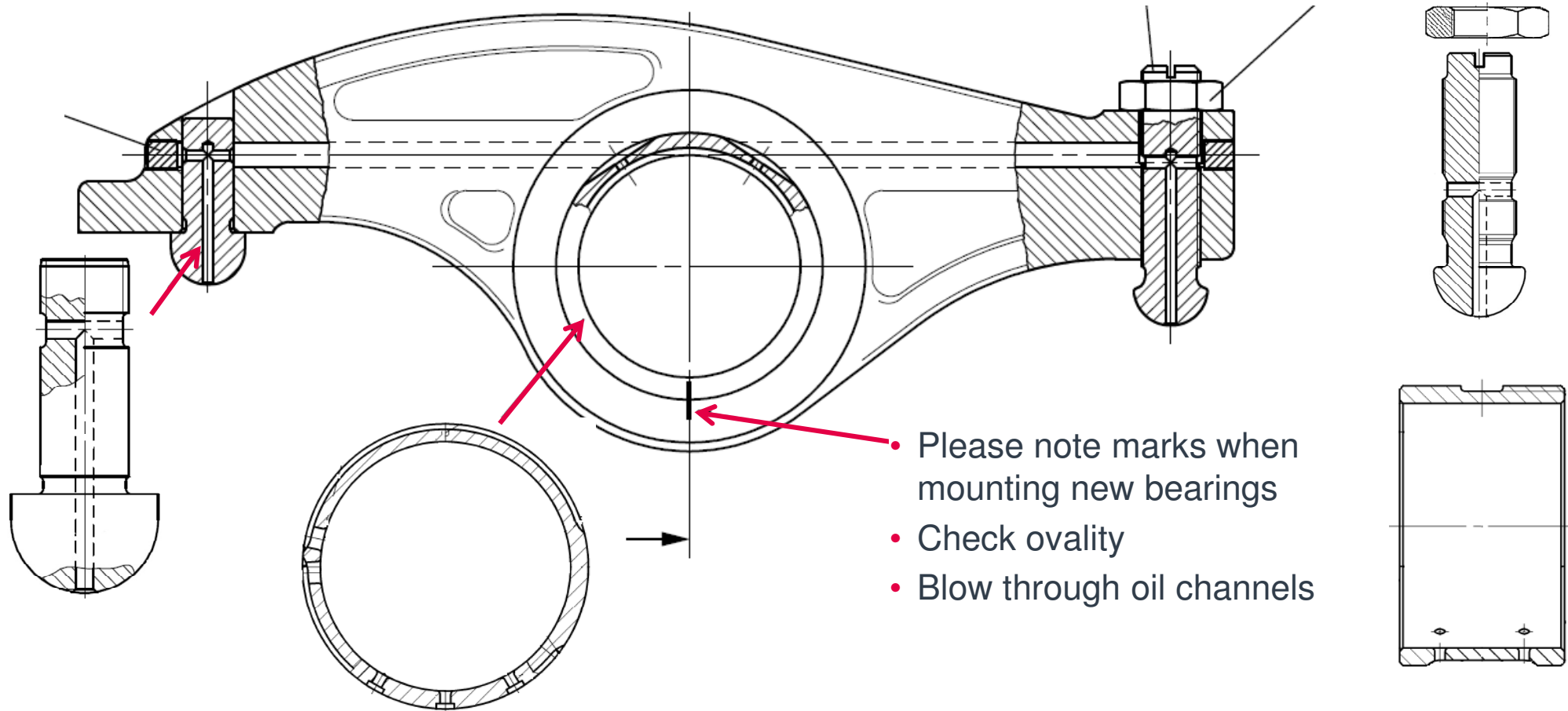
Check max. wear

L23/30H Cylinder head - Rocker arms

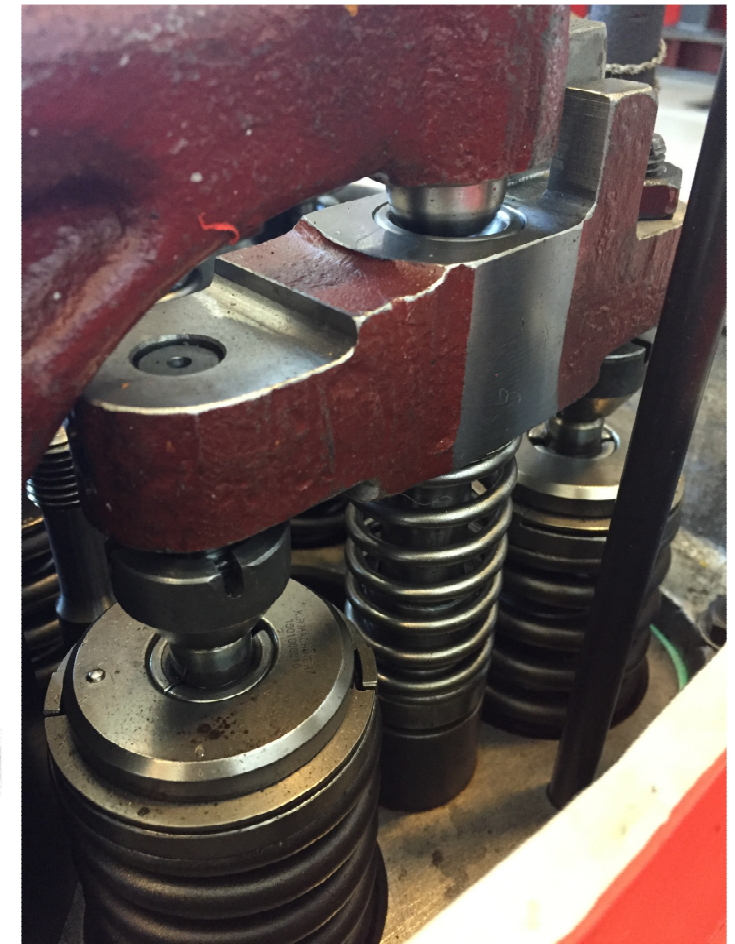
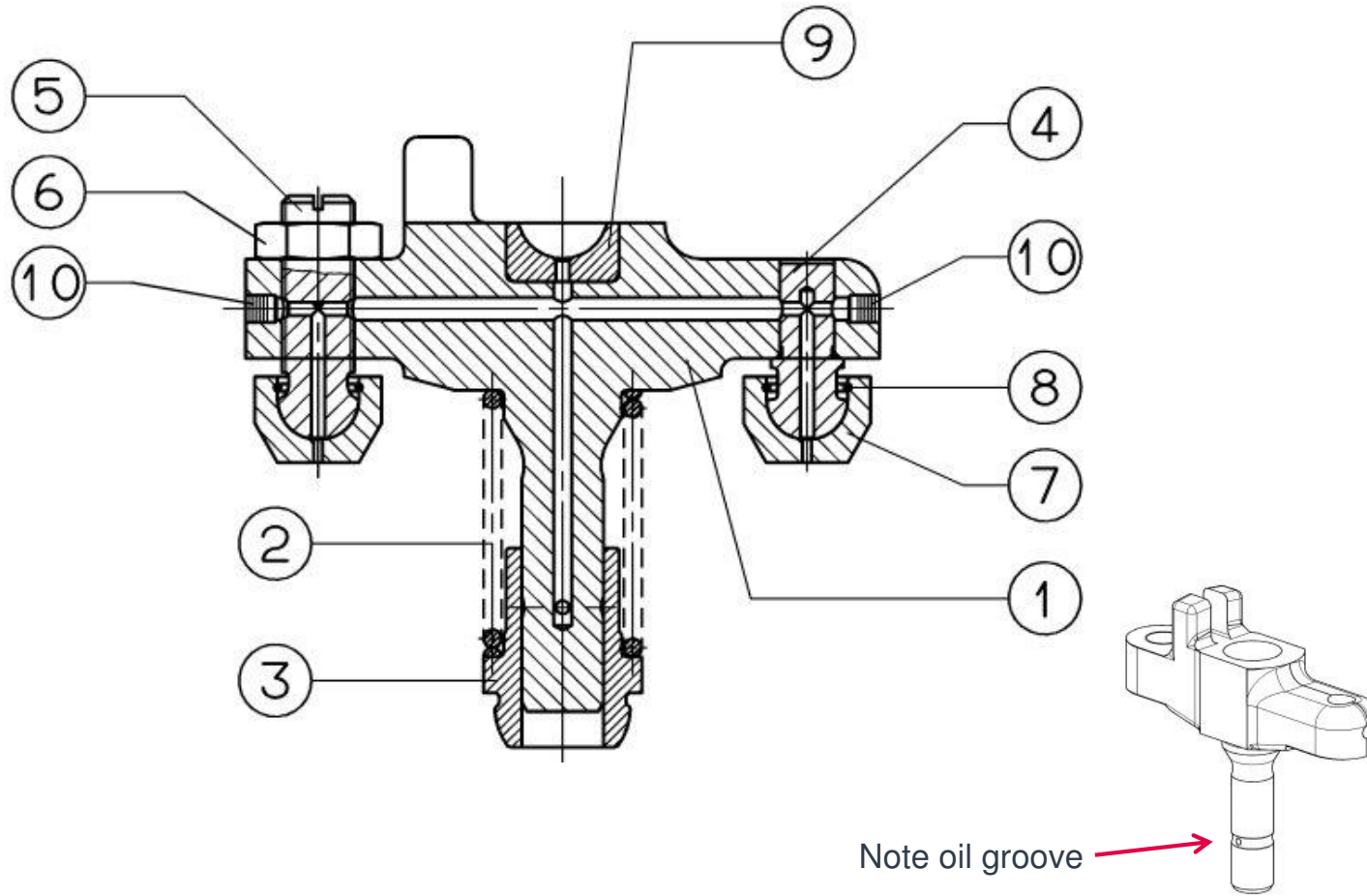


L23/30H Cylinder head

- Check of Rocker arms

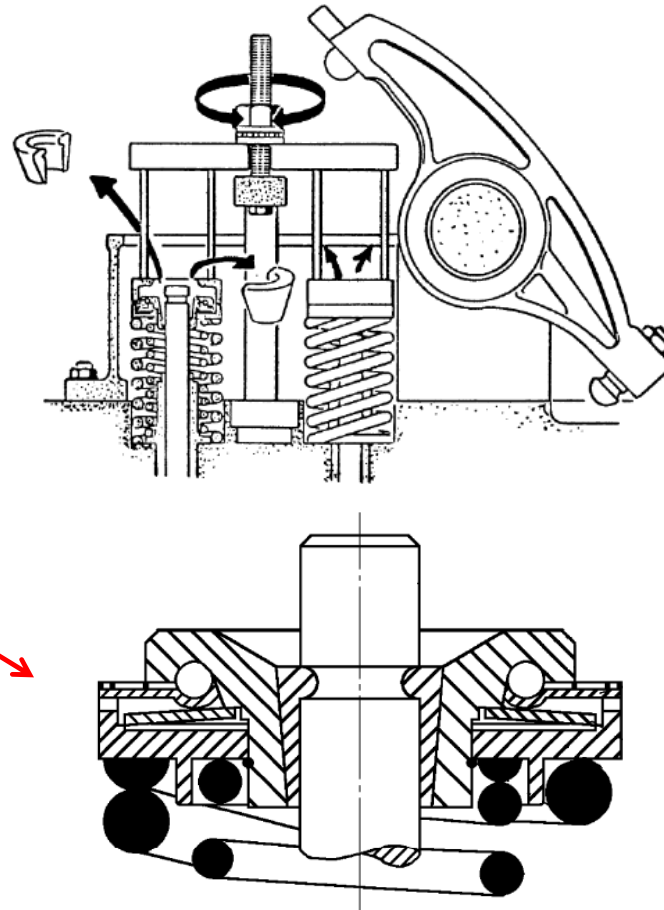
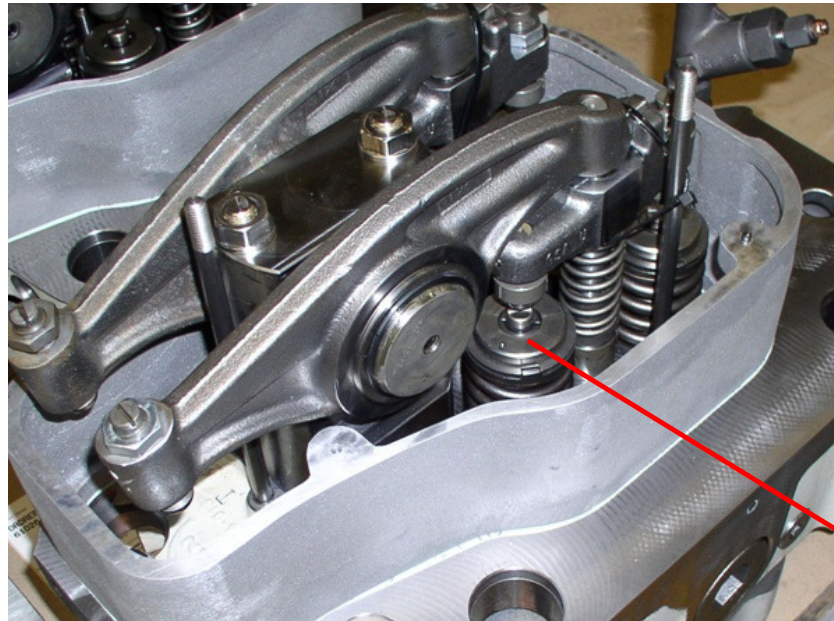


L23/30H Cylinder head - Valve bridge



L23/30H Cylinder head

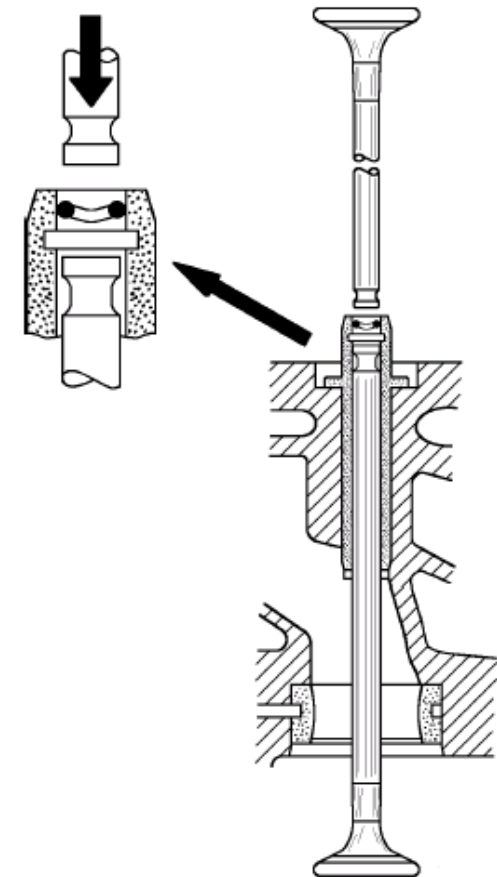
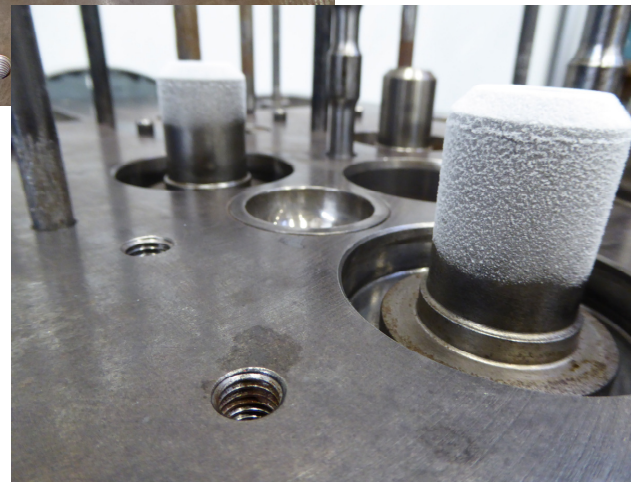
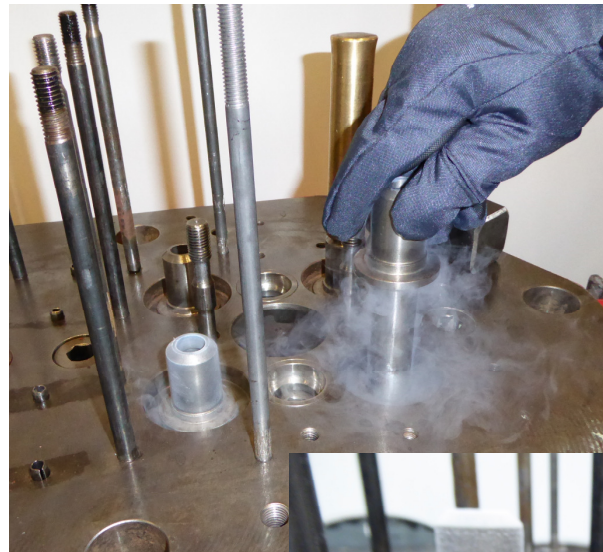
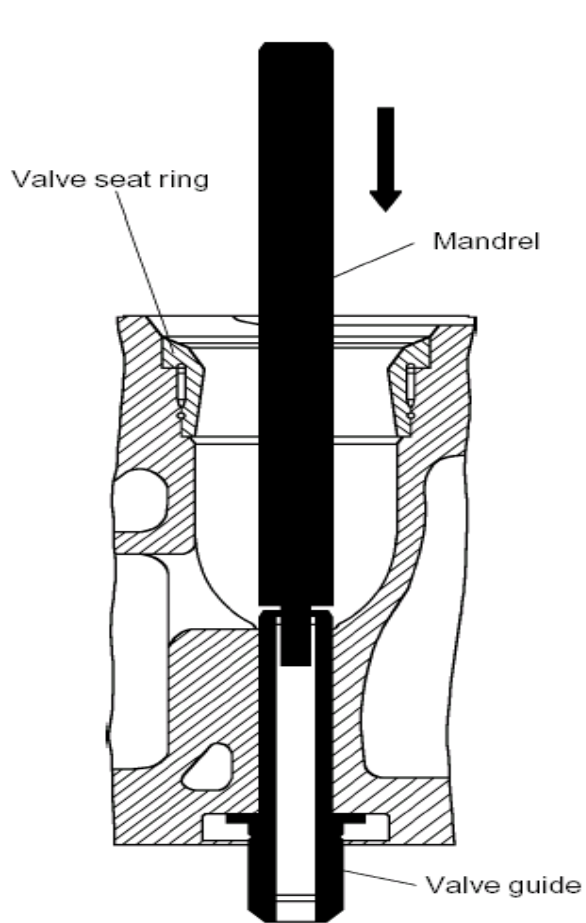
Dismantle of valves, Valve rotator



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...?

L23/30H Cylinder head - Machining of Valve Seats

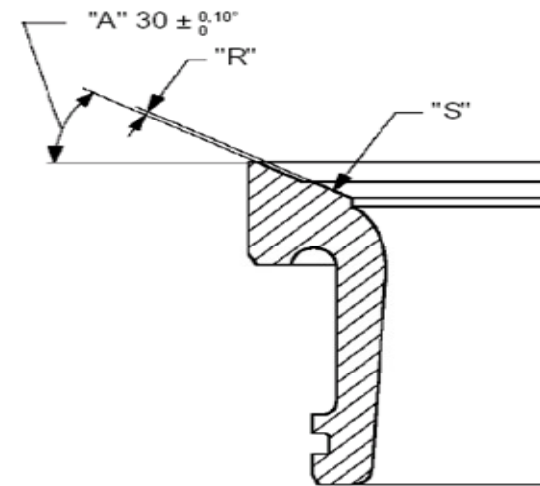


Correct tools must be used for machining

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

Ensure correct:

- Centering of valve seat
- Angle of the seat



Hunger



Chris-Marine

Important:

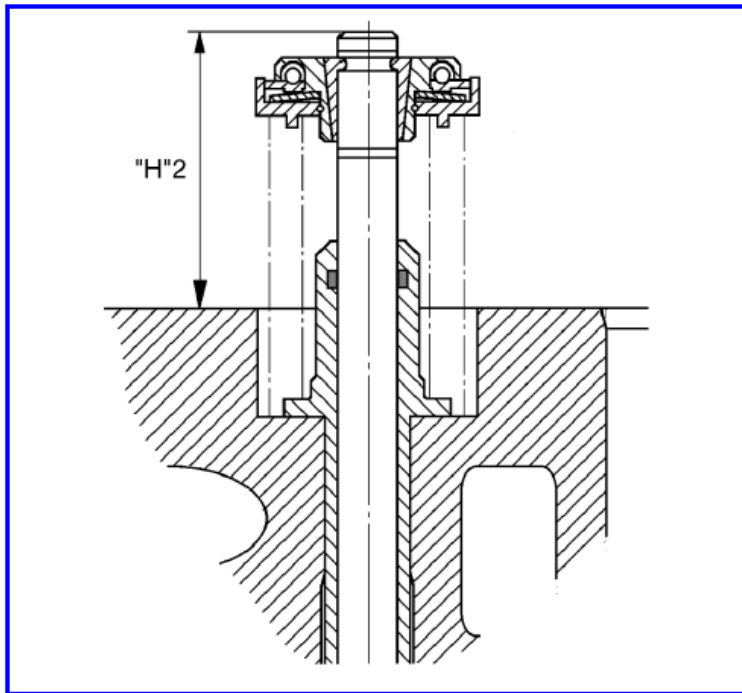
Lapping is not recommended by MAN

L23/30H Cylinder head

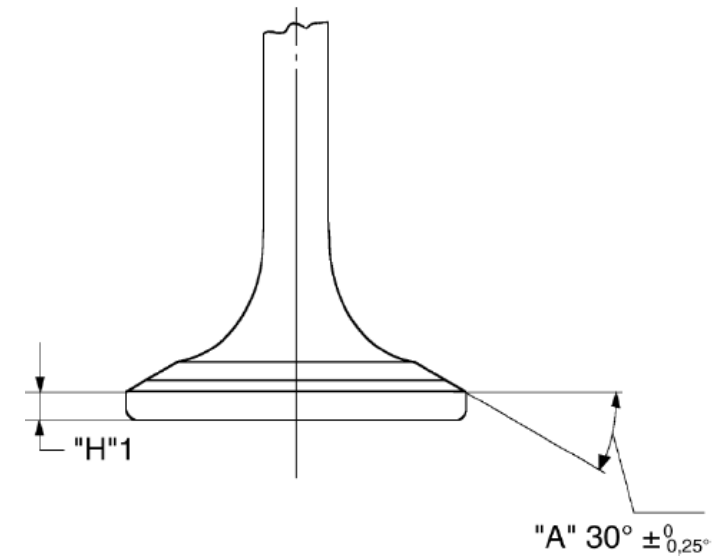
- Important measurement afterwards



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*.



| Section | Description | mm. / bar |
|---------|---|-----------|
| 505 | Maximum inner diameter, valve guide | 14.25 mm |
| | 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 | 5.0 mm |
| | Maximum height of spindle above cylinder head, "H" 2 | 83.3 mm |



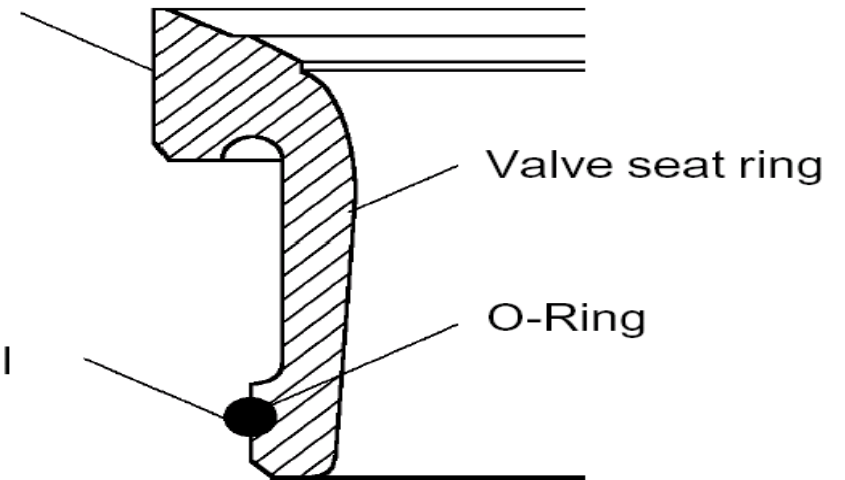
L23/30H Cylinder head

- Replacement of valve seats



Coat with
loctite 648

Coat with oil



L23/30H Cylinder head - Exhaust Valve Seat



New seat



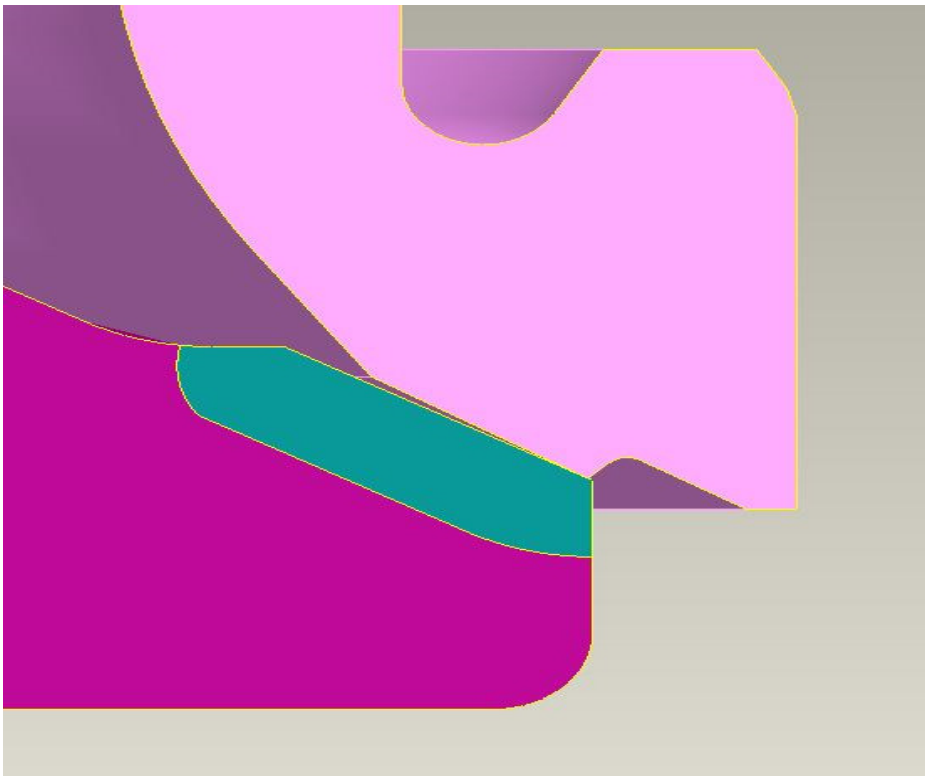
Impression marks from particles



Increasing exhaust temperatures

L23/30H - L28/32H Cylinder head

- Valve seat angle



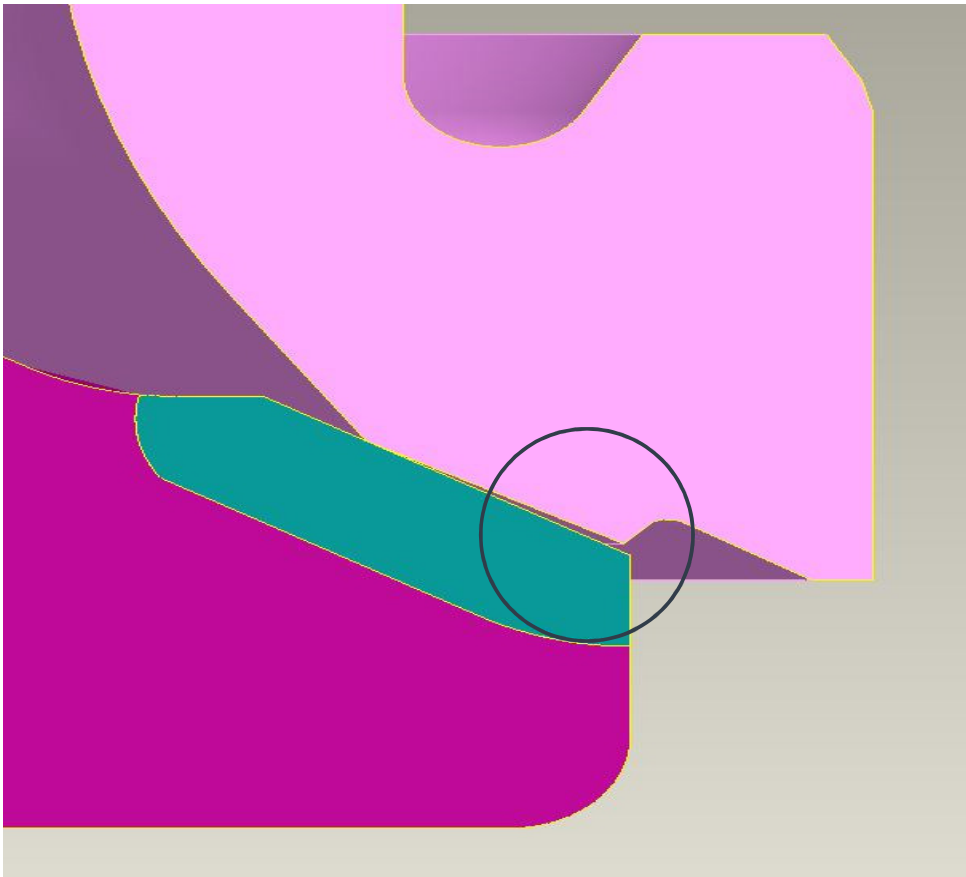
- After grinding of valve seat, the angle between seat and valve cone is correct.
- During operation, the valve cone will be deformed and the contact area between seat and valve cone will be complete.

(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!**