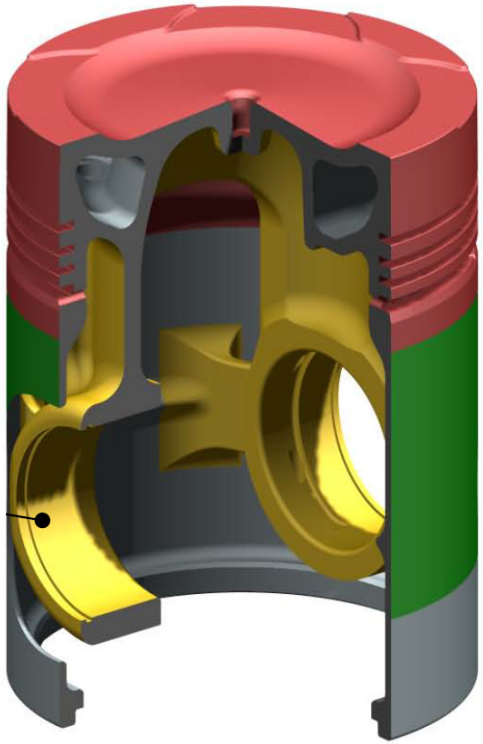
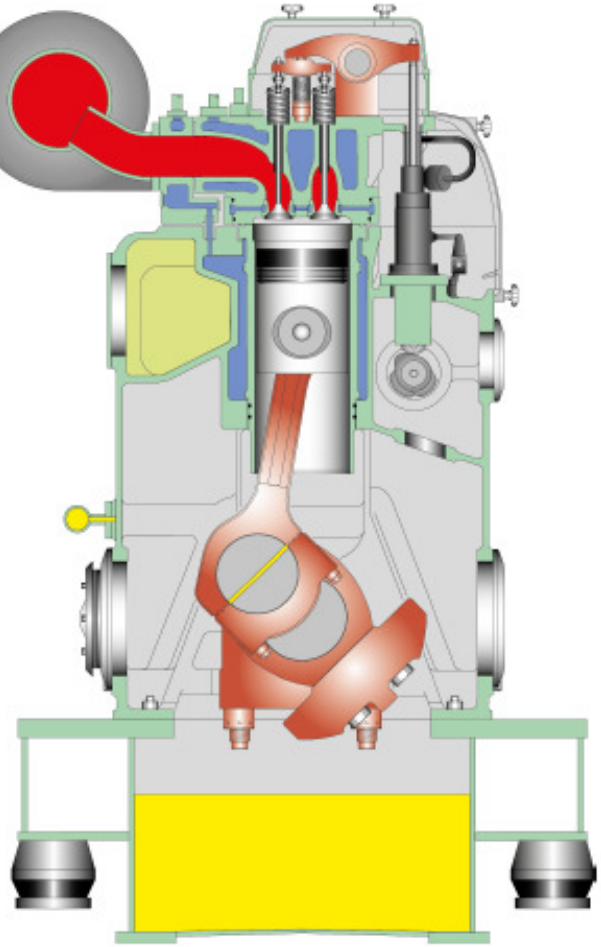
L23/30H, Piston, Con. Rod and Cyl. Liner
-*Piston*

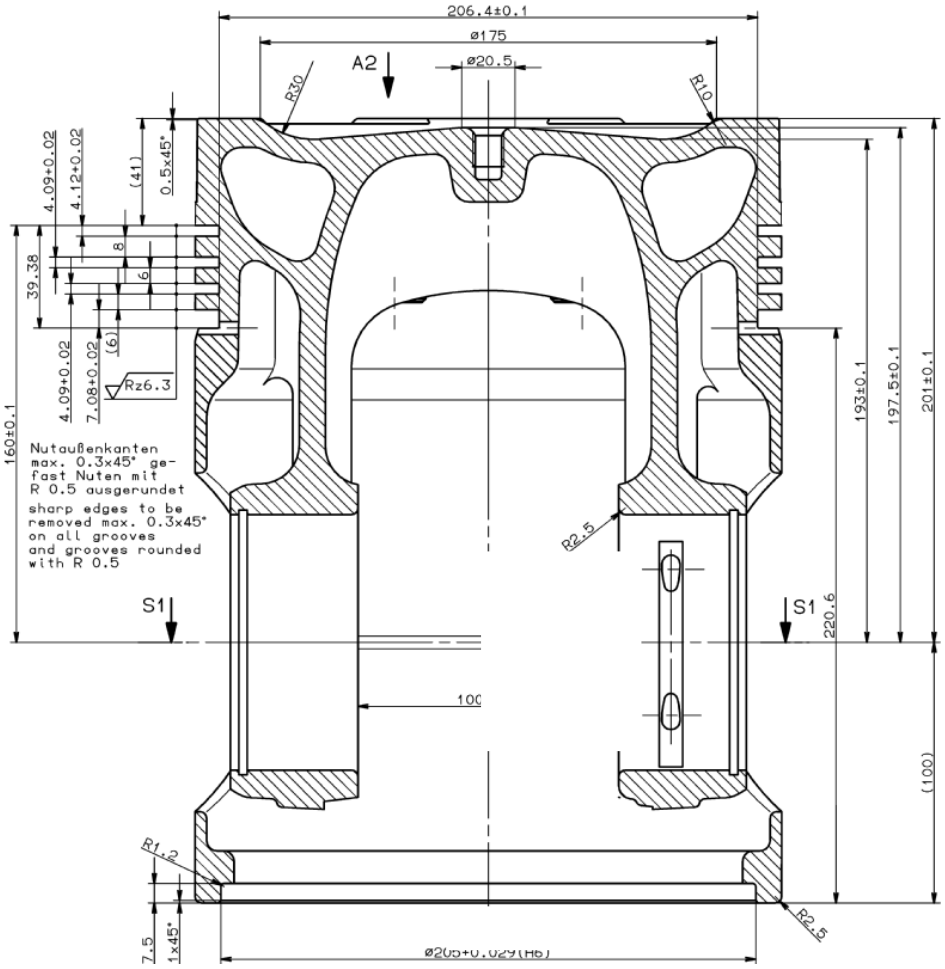
The MAN L23/30H engine is supplied with oil cooled nodular cast iron pistons which have

- 2 compression rings,
- 1 Minuten ring and
- 1 spring loaded oil scraper ring.

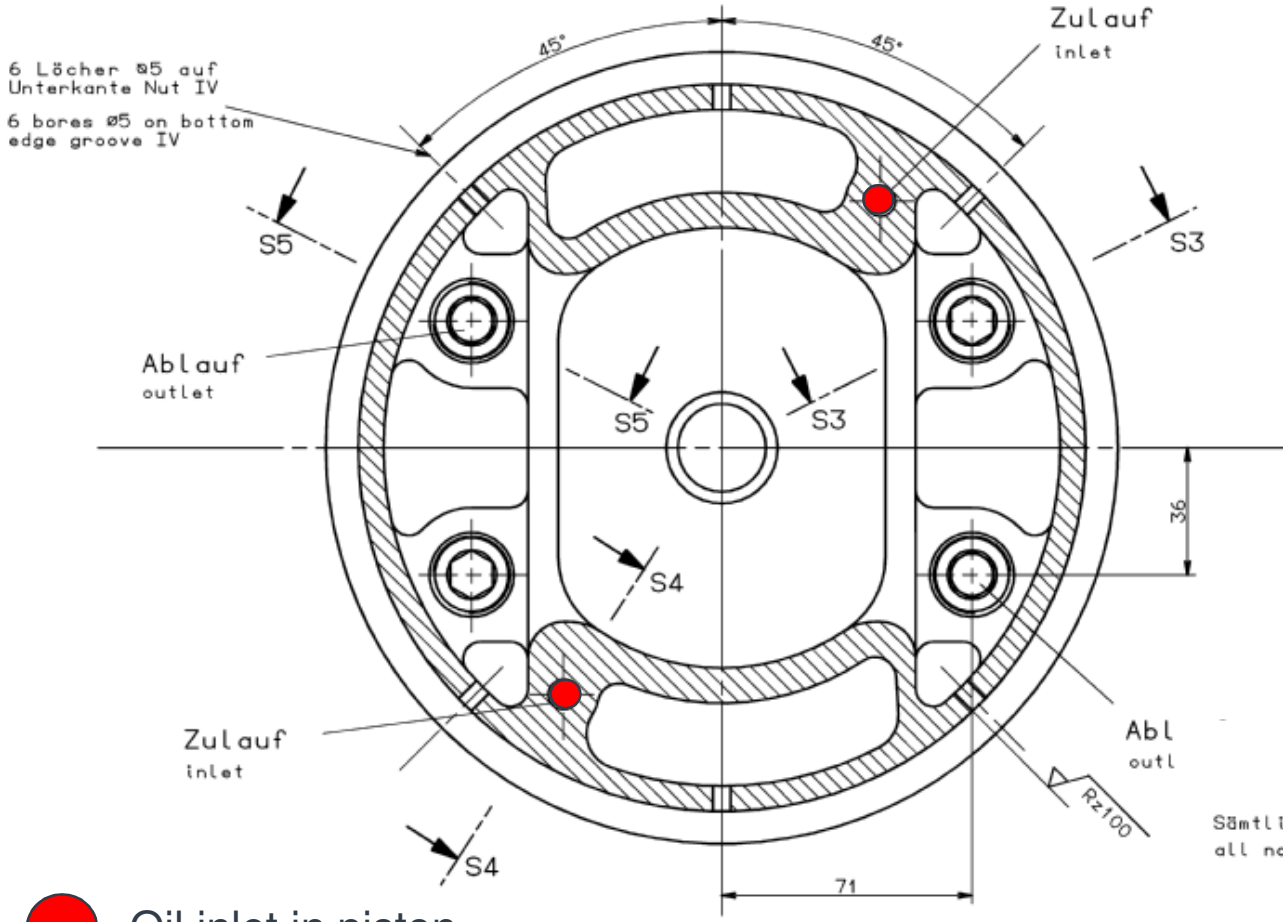




L23/30H, Piston, Con. Rod and Cyl. Liner
- Piston



L23/30H, Piston, Con. Rod and Cyl. Liner
- Piston cooling



=Oil inlet in piston

L23/30H, Piston, Con. Rod and Cyl. Liner
- Piston cooling

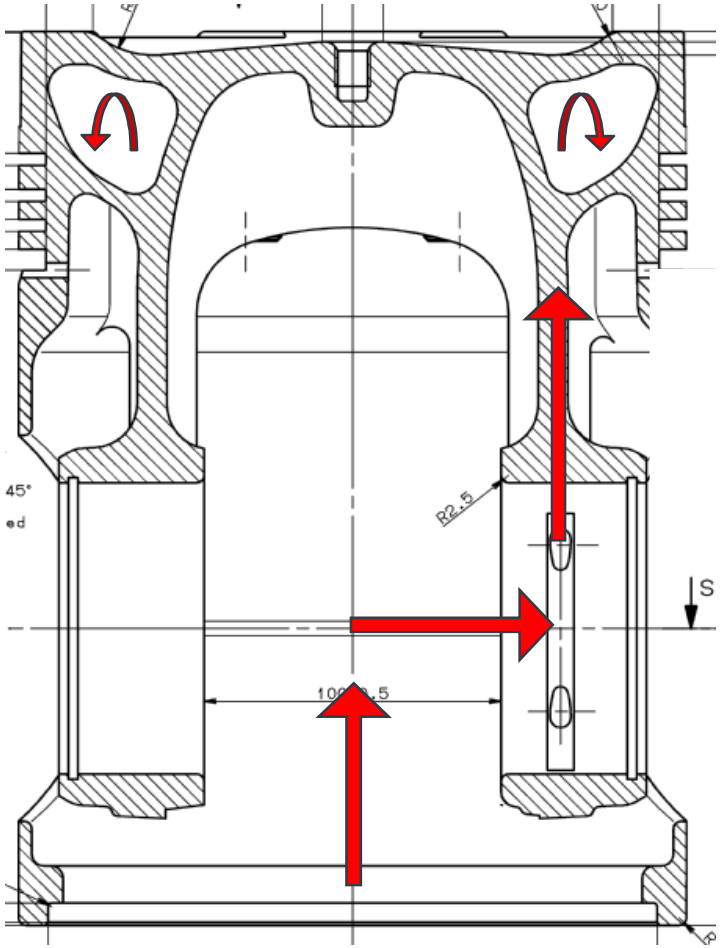
Piston cooling

•The piston has cooling oil space close to the piston crown and the piston ring zone.

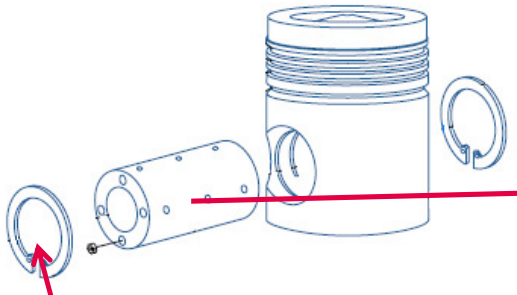
•The heat transport and thus cooling effect is based on the shaker effect arising during the movement of the piston. (8-9 G-force)

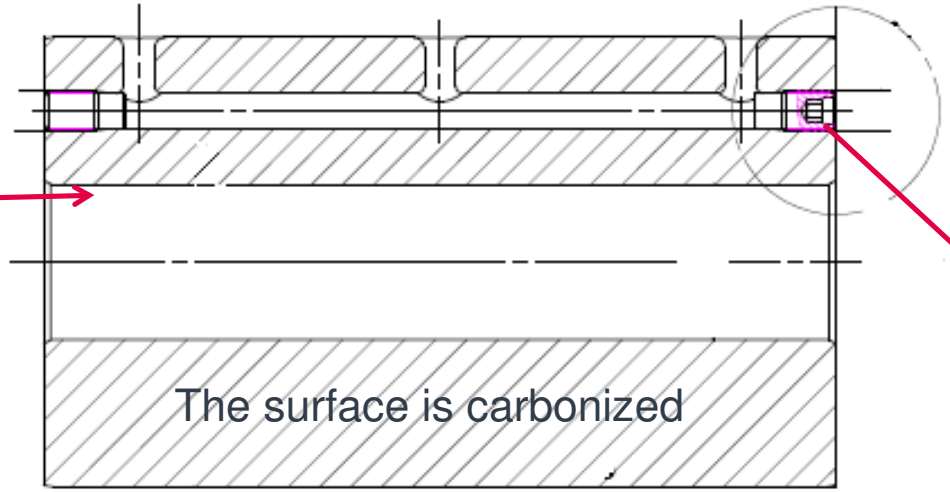
• As cooling oil, oil from the engines lubricating system is used. Oil is supplied to the cooling space through a bore in the connecting rod to the liner for the piston pin.

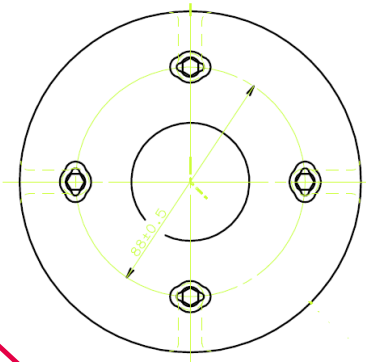
•The piston has a groove from which part of the oil lubricates the piston pin.

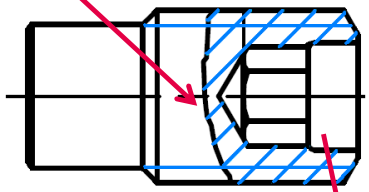


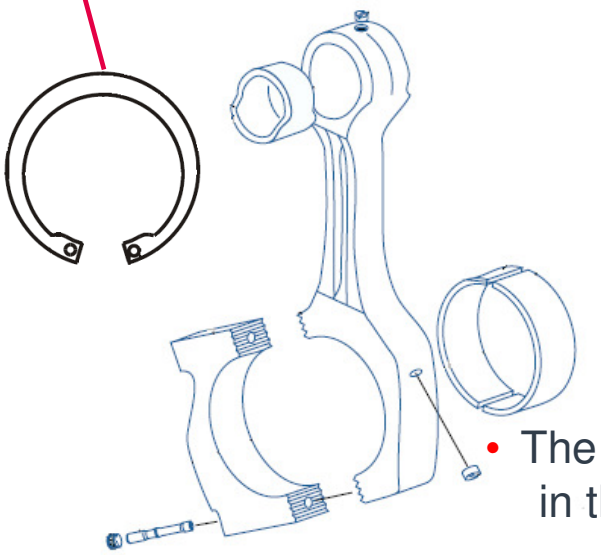
L23/30H Piston, Connecting Rod and Liner
- *Piston pin*











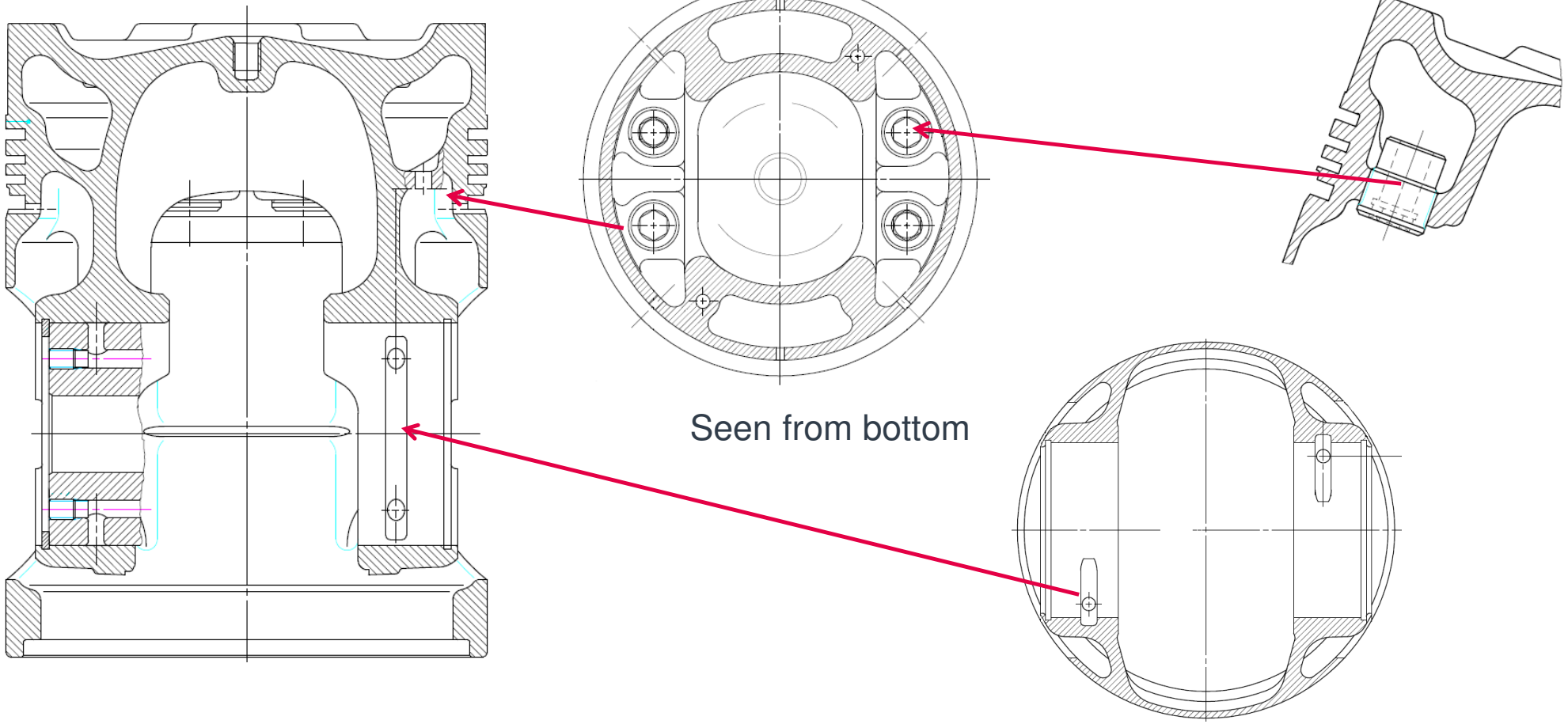
Threads in the piston pin and screw plugs degreased.

Screw plugs screwed in with Loctite 648
and caulked with special tool not later then 10 minutes after.

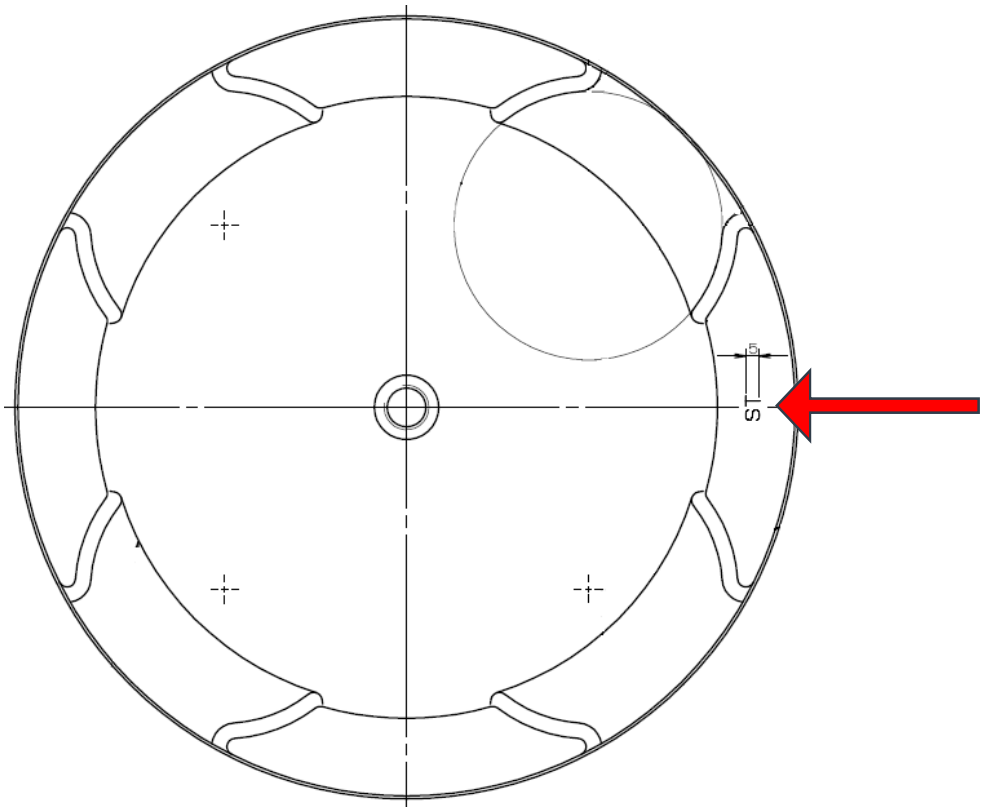
After a hardening time of at least 6 hours checked for tight fit.
Test moment = 40 Nm.

- The piston pin is fully floating which means that it can turn freely in the pin bosses of the piston as well as in the connecting rod bush, only kept in place by two circlips.

L23/30H Piston, Con. Rod and Cyl. Liner
- *Piston*

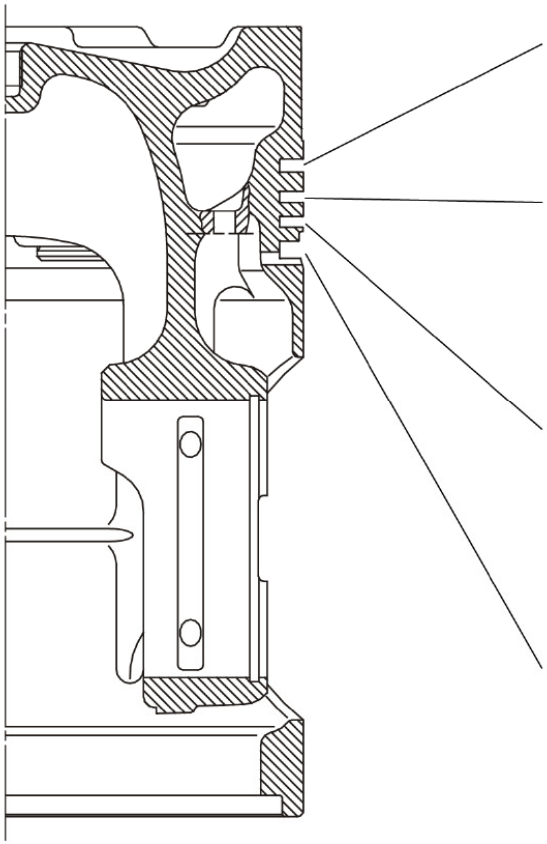


L23/30H Piston, Con. Rod and Cyl. Liner
- *Piston marking*

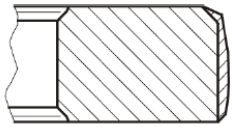


- ST = Steuer Seite = Maneuvering side

L23/30H, Piston, Con. Rod and Cyl. Liner
- *Piston rings*

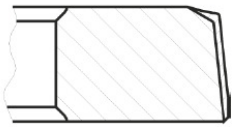


Piston Ring No 1:
marked with ident. no
"GOE CK36 TOP, 1678571-4".

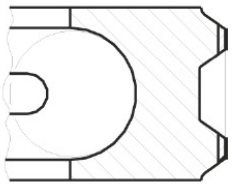


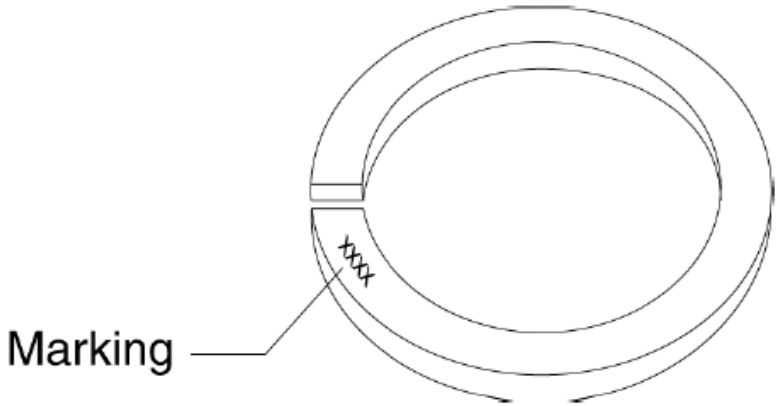
Piston Ring No 2:
marked with ident.
no "GOE TOP, 1678572-6".

Piston Ring No 3:
marked with ident. no
"GOE TOP, 1678573-8".



Scraper ring:
marked with ident. no
"GOE, 1678575-1".

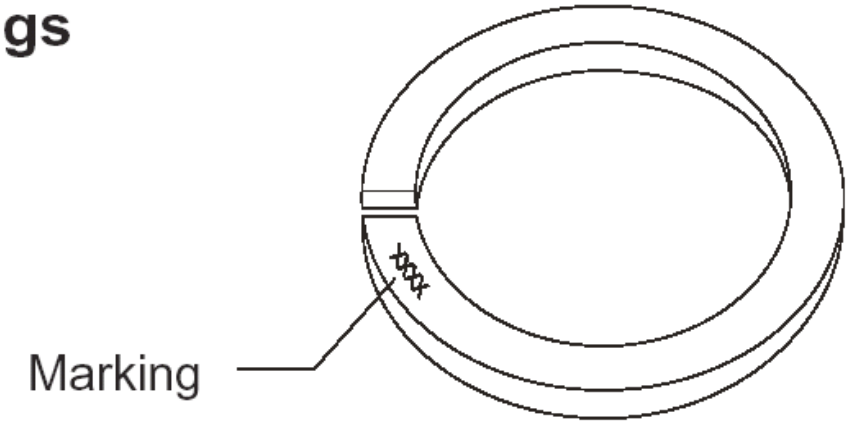




Identification marks to face upwards against the piston crown when mounted.

L23/30H Piston, Con. Rod and Cyl. Liner
- Piston ring

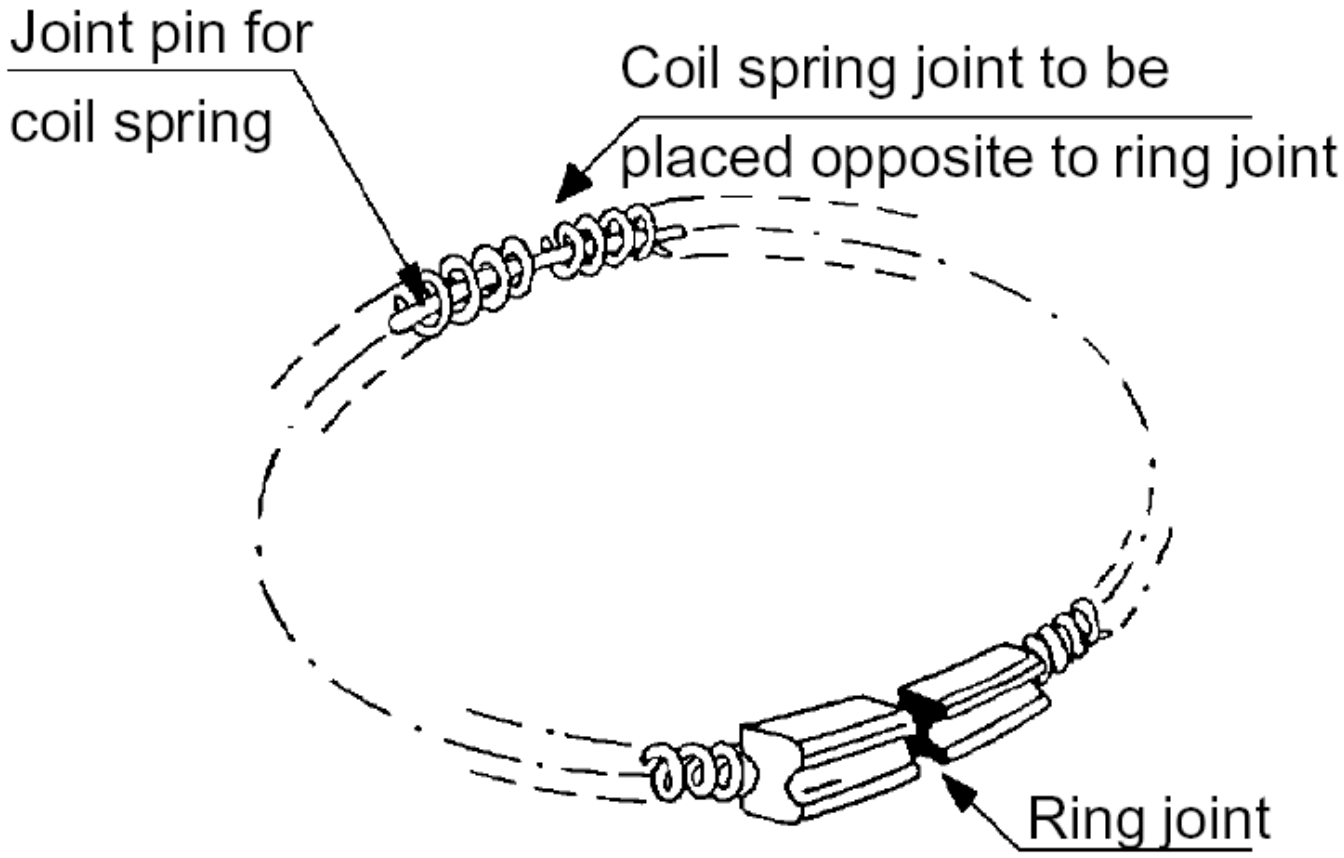
Marking of Piston and Scraper Rings



Identification marks to face upwards against the piston crown when mounted.

Note: The marking may include other figures than mentioned above, for instance trade mark and production codes.

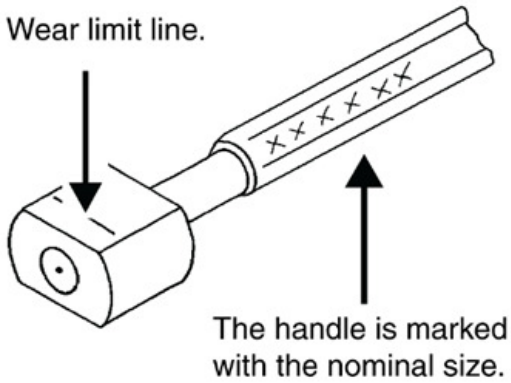
L23/30H , Piston, Con. Rod and Cyl. Liner
-Scraper ring



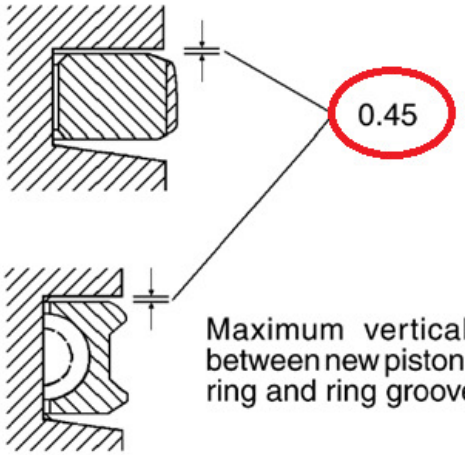
L23/30H Piston, Con. Rod and Cyl. Liner
- Testing mandrel

A) Testing Mandrel for Ring Grooves

If the wear limit (2 mm mark) on the testing mandrel is exceeded, the specified max. wear limits are exceeded, and the piston must be scrapped.



B) Clearance Ring/Groove



Maximum vertical clearance between new piston ring/scraper ring and ring groove: 0.45 mm.

	Piston and oil scraper ring. Nominal size.	New ring grooves. Tolerances.	Ring grooves. Max. wear limit.
Piston ring no 1	New 6.0 mm	6.0 mm +0.18, +0.16	6.43 mm
Piston ring no 2	New 5.0 mm	5.0 mm +0.14, +0.12	5.43 mm
Piston ring no 3	New 4.95 mm	5.0 mm +0.14, +0.12	5.43 mm
Scraper ring	New 8.0 mm	8.0 mm +0.12, +0.10	8.43 mm

L23/30H Piston rings

Note: At each piston overhaul:

- The piston and scraper ring must be exchanged.
- The cylinder liner must be honed according to the instructions.