

GM300 4-POINT CLAMPING SET ASSEMBLY INSTRUCTIONS

GM 300 4-point clamping set, Guhring no. 4958

Assembly instructions

1. Draw off ejector via thread G_A (table 1).
2. Rotate threaded spindle until the hexagon key SWs can be axially lead through to the hexagon socket of the retention screw.
3. Completely screw-in the retention screw into the basic body.

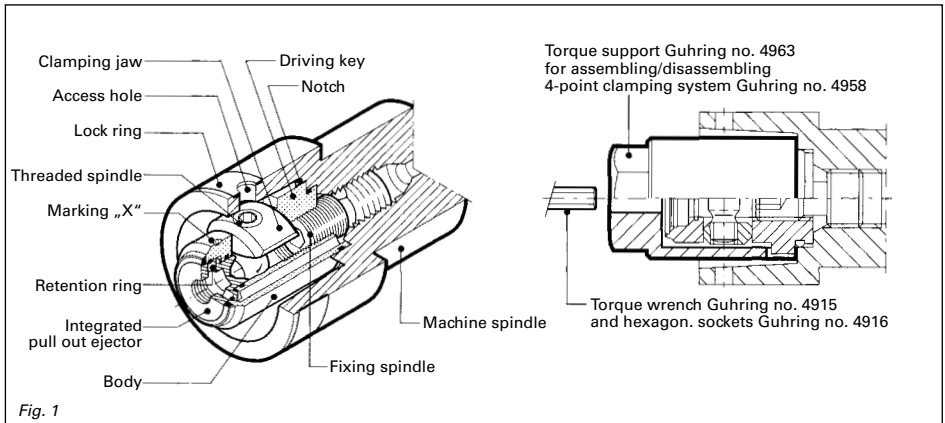
Hint:

With central internal cooling, the fine thread of the retention spindle must be sealed in the clamp (recommended: Loctite no. 222).

Grease the coarse-pitch thread (recommended: Copper assembly paste OKS 240).

Without internal cooling, grease both threads.

4. Screw the 4-point-clamping set manually into the spindle until the drivers hit the spindle bottom.
5. Manually turn back the 4-point clamping set until the "red point" marker and the spindle groove (heart) align with groove.
6. Insert the hexagon clamping key axially through 4-point clamping set and turning clockwise tighten the retention screw to the torque M_D (table 1) specified below (if required, we recommend the torque support Guhring no. 4963, see figure 1).
7. Insert ejector. Ensure the circlip engages in the recess. The clamping jaws must not be screwed in completely.
8. Insert O-Ring 1 laterally.
9. Check function! See operating instructions.



Disassembly instruction:

1. Draw off ejector via thread G_A (table 1).
2. Rotate threaded spindle until the hexagon key can be axially lead through to the hexagon socket of the retention screw.
3. Loosen the retention spindle anti-clockwise (if required, we recommend torque support Guhring no. 4963) and unscrew the 4-point clamping set from the spindle.

Operating instruction:

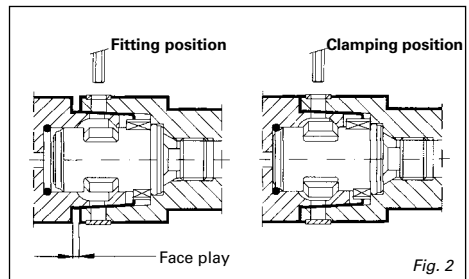
Clamping the HSK interface

1. Prior to connecting the HSK shank ensure the joining surfaces of the holder and the spindle are clean, apply conical wiper, Guhring no. 4914 or HSK wiper, Guhring no. 4947.
2. Turn the locking ring, Guhring no. 4953 until the access bore to the clamping screw is open.
3. Turn back the clamping jaws over the threaded spindle with hexagon key SW_S (table 1, Guhring no. 4912) until limit stop is felt.
4. Install HSK shank (Connecting position see fig. 2).
5. With the hexagon key (Guhring no. 4912) or the torque wrench (Guhring no. 4915) tighten the clamping screw SW_S clockwise to the torque M_A (table 1) specified below.
6. Withdraw the clamping key, close the access bore with lock ring to protect against contamination.



Hint:

4-point clamping sets must only be rotationally operated or supplied with coolant with a fully clamped HSK shank. When not in use machine spindles should be fitted with a HSK-C sealing plug (Guhring no. 4985).



HSK-C size	SW _S	max. permissible torque M _A [Nm]	max. draw-in force [kN]	max. draw-in force to DIN [kN]	SW _B	Torque M _{D max} [Nm]	GA	Torque Guhring no. 4957 [Nm]	SW _{FS}
25	2.5	1.5	4.5		3	5	M 4	7	10
32	2.5	3.0	7.0	5.0	4	10	M 5	14	13
40	3.0	6.0	12.0	6.8	5	20	M 6	30	16
50	4.0	14.0	20.0	11.0	6	42	M 8	60	18
63	5.0	27.0	28.0	18.0	8	82	M 10	110	24
80	6.0	54.0	40.0	28.0	10	135	M 12	180	24

Maintenance

Guhring's manual HSK clamping sets are designed for optimal accuracy, clamping force and tool life. However, care and maintenance is required in order to preserve these attributes. A criterion for a perfect function is the draw-in force in kN. Guhring's clamping force instrument, Guhring no. 4974, is used to measure and determine this value.

If the draw-in force falls below the minimum value according to DIN 69893-1, appendix 1 or higher minimum values are required due to increased load, it is paramount to replace the clamping set or to service it to regain its functionality. In this case, the threaded spindle and the threads of the clamping jaws must be lubricated with MoS₂ paste (Guhring material no. 400 118 396).

For maximum load, we recommend to apply the maximum torque permissible. For less load the torque may be reduced by up to 30%. As a rule, a torque wrench must be applied with the clamping sets.

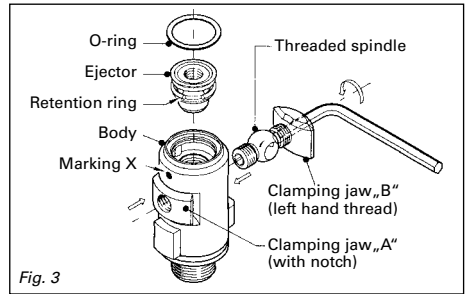
The draw-in force may be approximately 15% lower dependent on temperature and lubrication.

Guhring oHG

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1. Lubricate the threaded spindle, clamping jaws and ejector (recommended: OKS 240 copper assembly paste).
2. Push the clamping jaw "A" (with notch) from the side at mark "X" into the basic body.
3. Screw the threaded spindle into the clamping jaw "B" (left-hand thread) by 1-2 rotations, insert the hexagon key and screw into clamping jaw "A" (right-hand thread) through the basic body by 1-2 rotations. The clamping jaw "B" must also turn.
4. Hold fast clamping jaw "B" and screw in the threaded spindle completely.
5. Attention: The clamping jaws must be positioned symmetrically and the threaded spindle projecting to the left and right of the clamping jaws must be equal.



Check function

1. It must be possible to connect the tool shank via the clamping set without applying any force.
2. When inserting the ejector ensure the circlip engages in the recess. The clamping jaws must not be screwed-in completely.
3. Insert O-Ring 1 laterally.

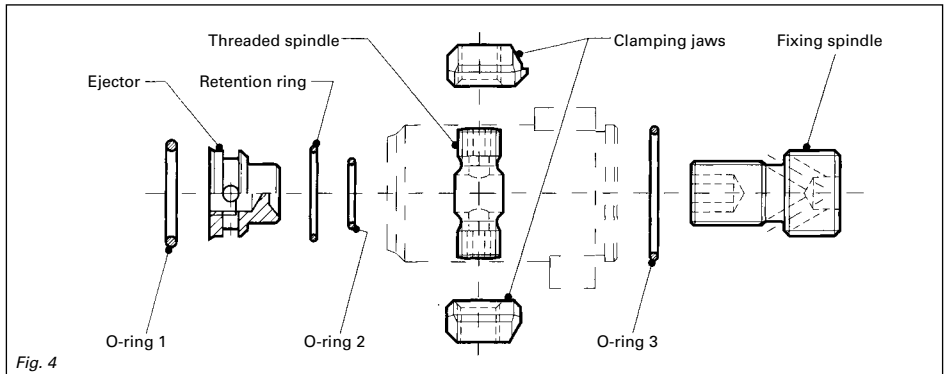


Fig. 4

HSK-C	25	32	40	50	63	80
	Code no. for Guhring no. 4957					
Clamping jaws	01.019	01.024	01.030	01.038	01.048	01.060
Threaded spindle	02.019	02.024	02.030	02.038	02.048	02.060
Fixing spindle	03.019	03.024	03.030	03.038	03.048	03.060
Ejector	04.019	04.024	04.030	04.038	04.048	04.060
Retention ring	05.019	05.024	05.030	05.038	05.048	05.060

O-ring, dimensions

O-ring 1	9.0 x 1.2	11.0 x 1.5	13.0 x 1.5	16.0 x 2.0	20.3 x 2.4	24.2 x 3.0
O-ring 2	6.0 x 0.8	7.0 x 1.0	9.0 x 1.0	11.0 x 1.0	14.0 x 1.0	17.0 x 1.0
O-ring 3	11.0 x 1.0	14.0 x 1.0	17.0 x 1.0	22.0 x 1.5	28.0 x 1.5	35.0 x 1.5