



**SEW**  
**EURODRIVE**

## Addendum to the Operating Instructions



**Gear Unit Series R..7, F..7, K..7, K..9, S..7, SPIROPLAN® W**  
**TorqLOC® Hollow Shaft Mounting System with Flange**



# 1 Description

## INFORMATION

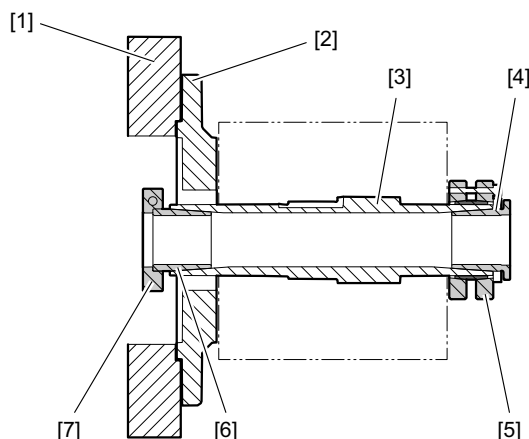


This addendum to the operating instructions contains additional information about the design "TorqLOC® hollow shaft mounting system with flange".

Use the data specified in this addendum. This document does not replace the "R..7, F..7, K..7, K..9, S..7, SPIROPLAN® W Series Gear Units" assembly and operating instructions.

For parallel-shaft helical, helical-bevel and helical-worm gear units, the TorqLOC® hollow shaft mounting system design is available with B5/B14 flange. SPIROPLAN® gear units are only available with B5 flange-mounted design.

In this design, the hollow shaft is used with shrink disks at both ends as in output AB. The hollow shaft design is longer and thus enables attaching the clamping ring at the output end without colliding with the flange.



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- [1] Customer screw contact surface
- [2] Flange
- [3] Hollow shaft
- [4] Counter bushing
- [5] Shrink disk
- [6] Bushing
- [7] Clamping ring

Two Variants are permitted for mounting the customer shaft. For other system designs, please contact SEW-EURODRIVE.

### Variant 1

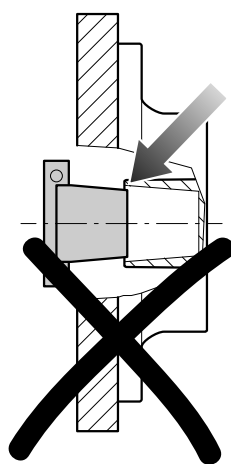
The customer shaft is supported externally in 2 bearings. The flange is only used to support the torque without overhung load. Bushing and clamping ring are not required.

### Variant 2

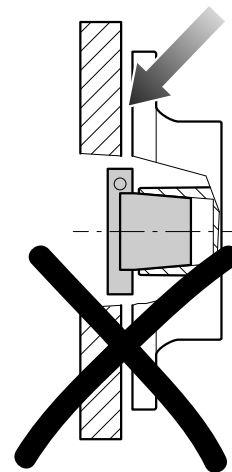
The customer shaft without overhung load is supported externally in 1 bearing. The gear unit serves as the second bearing position. To ensure the correct position of the conical bushing in the hollow shaft, it must be accessible by the customer.

The following prerequisites must be fulfilled to ensure a correct function:

- The conical bushing must fit tightly in the hollow shaft.
- The flange contact surface must lay flat at the customer screw contact surface.



[A]



[B]

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A gap between bushing and hollow shaft [A] is not permitted, otherwise the customer shaft is not sufficiently supported.

A gap between flange contact surface and customer screw contact surface [B] is not permitted as otherwise the gear unit is axially strained when the customer's flange screw fitting is tightened.

## 2 Installation

### 2.1 Variant 1

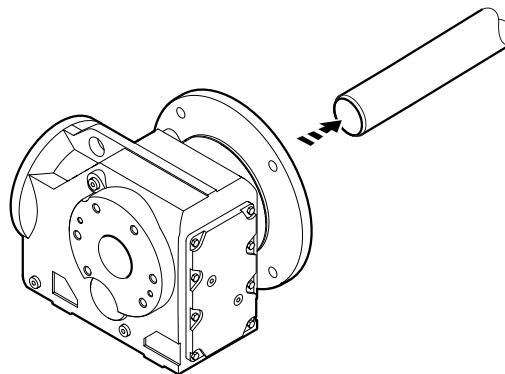
Proceed as follows:

1. Clean the customer shaft and the inside of the hollow shaft. Ensure that all traces of grease or oil are removed.



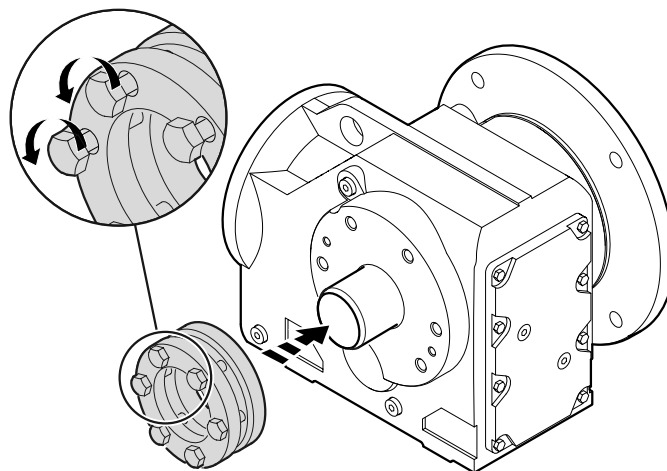
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2. Push the gear unit onto the customer shaft.



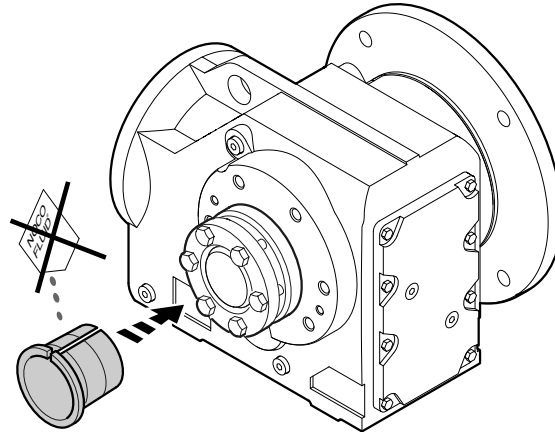
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3. Fasten the gear unit via the output flange to the customer system. Avoid axial distortion.
4. Make sure that all screws are loosened and slide the shrink disk onto the hollow shaft.



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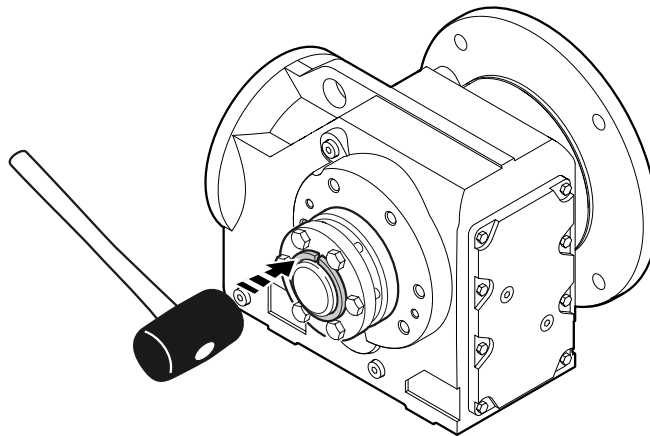
5. Slide the counter bushing onto the customer shaft and into the hollow shaft.



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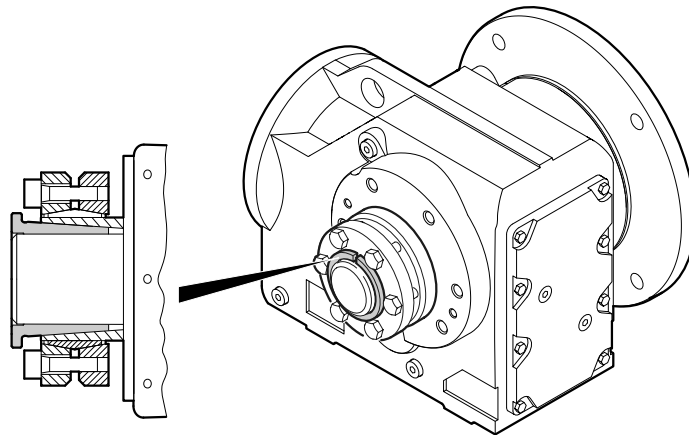
6. Mount the shrink disk as follows:

- ⇒ **Gear unit with shaft shoulder:** Mount the shrink disk onto the shaft shoulder as far as the stop. However, the outer ring of the shrink disk facing the gear unit must have a minimum distance of no less than 2 mm from the gear unit housing.
  - ⇒ **Gear unit without shaft shoulder:** Mount the shrink disk at a distance of 2 to 3 mm from the gear unit housing.
7. Tap lightly on the flange of the counter bushing to ensure that the bushing is fitted securely in the hollow shaft.



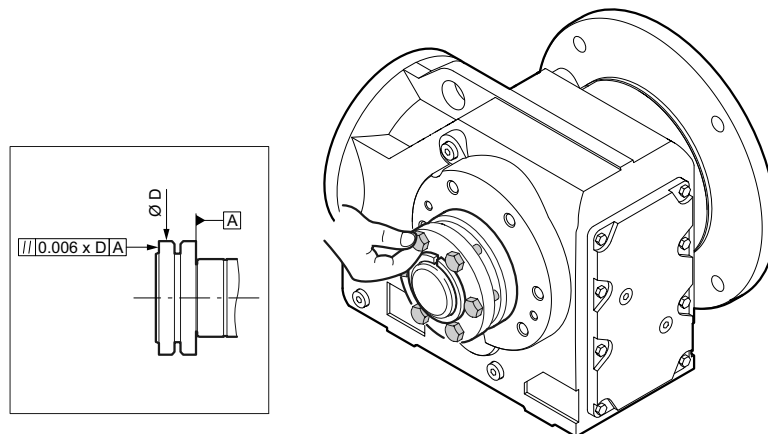
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8. Make sure that the customer shaft is seated in the counter bushing.



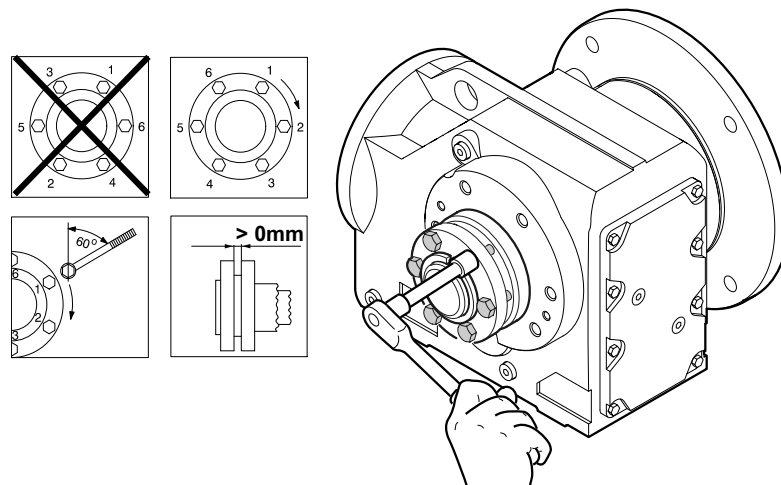
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9. Tighten the locking screws of the shrink disk manually. Make sure that the outer rings of the shrink disk are plane-parallel.



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10. Tighten the locking screws with the specified tightening torque according to the following table. Tighten the screws by working round several times from one screw to the next (not in diametrically opposite sequence).



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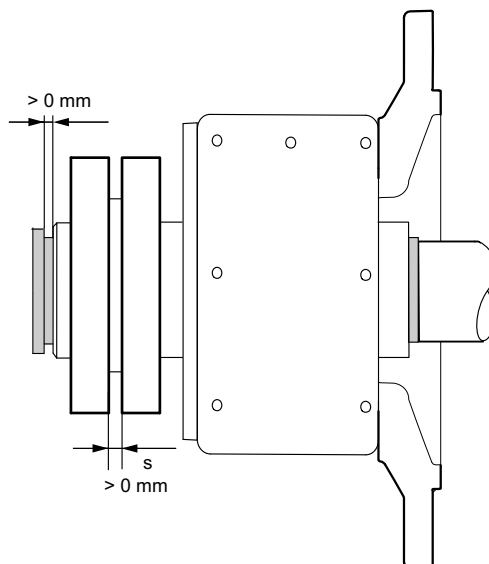
## INFORMATION



The exact values for the tightening torques are shown on the shrink disk.

Gear unit type				Locking screw	Tightening torque $\pm 4\%$
FT..	KT..	ST..	WT..	ISO 4762	Nm
–	–	37	37	M5	4
37	37	47	47	M6	12
47/57/67	39/47/49/57/67	57/67	–	M6	12
77/87/97	77/87/97	77/87/97	–	M8	30
107	107	–	–	M10	59
127/157	127/157	–	–	M12	100

11. Make sure that the remaining gap between counter bushing and hollow shaft end, as well as between both outer rings of the shrink disk is  $> 0$  mm.



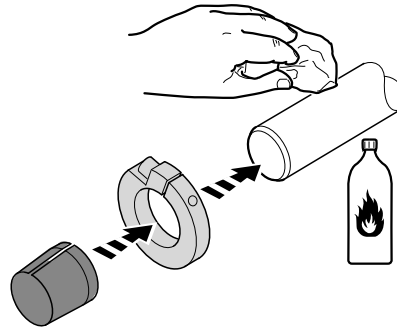
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## 2.2 Variant 2

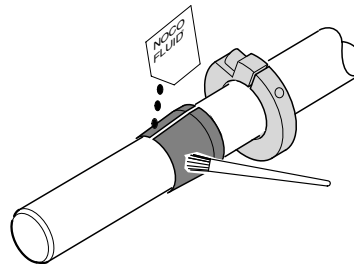
Proceed as follows:

1. Clean the customer shaft and the inside of the hollow shaft. Ensure that all traces of grease or oil are removed.
2. Push the clamping ring and the bushing onto the customer shaft.



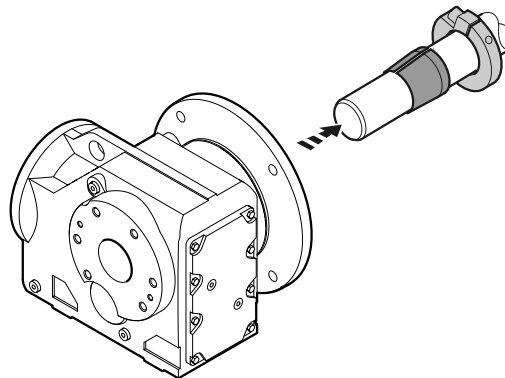
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3. Apply NOCO® fluid to the bushing. Thoroughly spread the NOCO® fluid.



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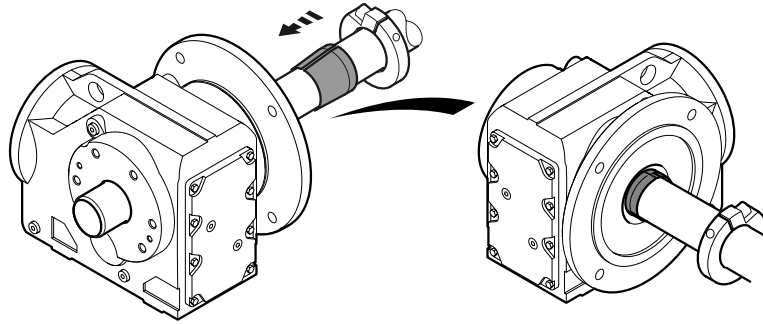
4. Push the gear unit onto the customer shaft.



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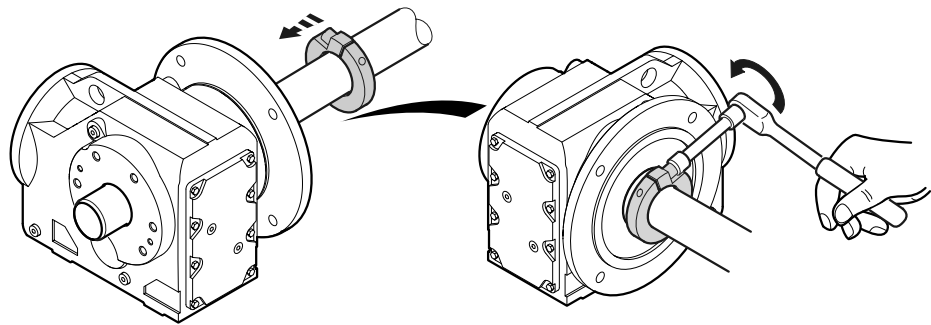
5. Fasten the gear unit via the output flange to the customer system. Avoid axial distortion.

6. Push the bushing into the gear unit up to the stop.



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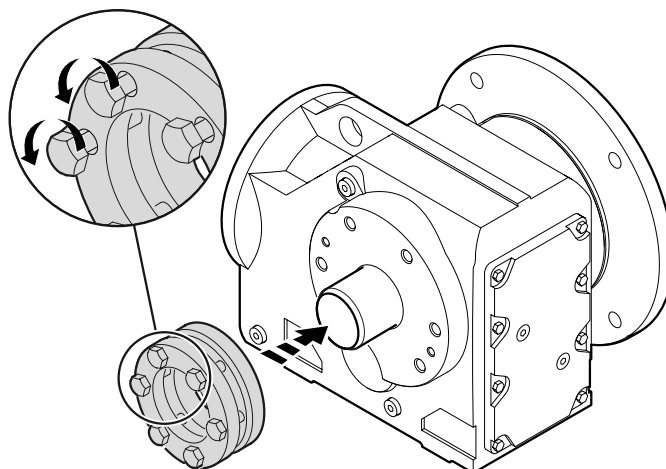
7. Secure the bushing with the clamping ring. Fasten the clamping ring to the bushing using the appropriate torque as specified in the following table:



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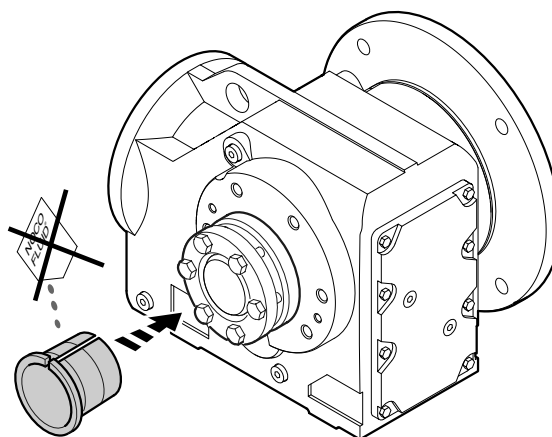
Gear unit type				Tightening torque Nm	
FT..	KT..	ST..	WT..	Default	Stainless steel
–	–	37	37	10	10
37	37	47	47	10	10
47	39/47	57	–	10	10
57/67	49/57/67	67	–	25	25
77	77	77	–	25	25
87	87	87	–	25	25
97	97	97	–	25	25
107	107	–	–	38	38
127	127	–	–	65	65
157	157	–	–	150	150

8. Make sure that all screws are loosened and slide the shrink disk onto the hollow shaft.



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9. Slide the counter bushing onto the customer shaft and into the hollow shaft.

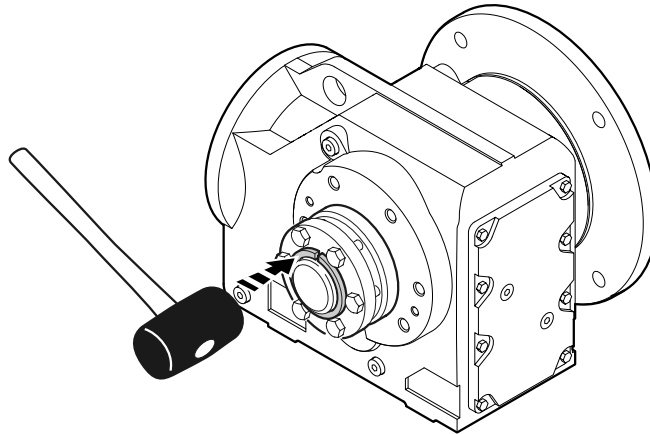


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10. Mount the shrink disk as follows:

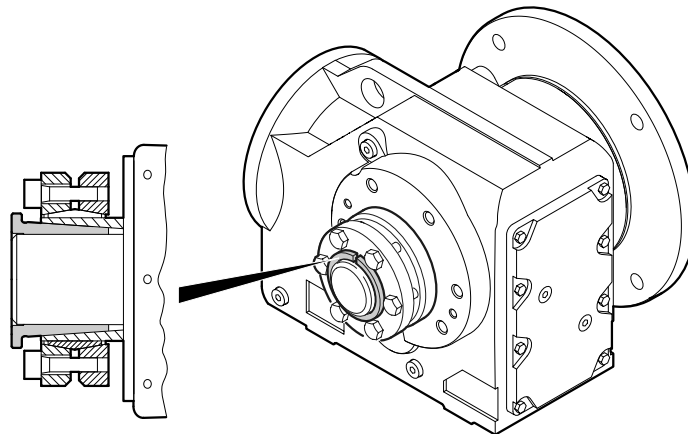
- ⇒ **Gear unit with shaft shoulder:** Mount the shrink disk onto the shaft shoulder as far as the stop. However, the outer ring of the shrink disk facing the gear unit must have a minimum distance of no less than 2 mm from the gear unit housing.
- ⇒ **Gear unit without shaft shoulder:** Mount the shrink disk at a distance of 2 to 3 mm from the gear unit housing.

11. Tap lightly on the flange of the counter bushing to ensure that the bushing is fitted securely in the hollow shaft.



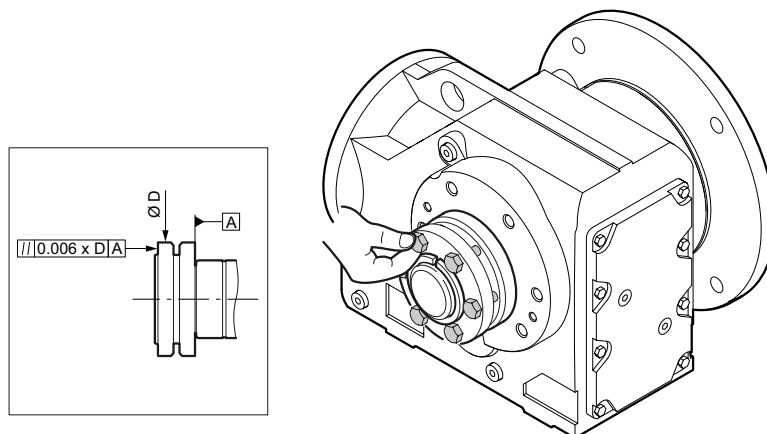
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12. Make sure that the customer shaft is seated in the counter bushing.



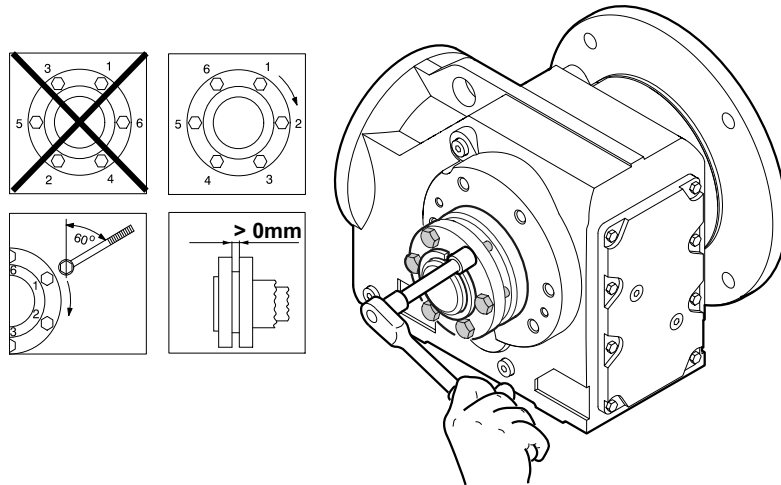
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13. Tighten the locking screws of the shrink disk manually. Make sure that the outer rings of the shrink disk are plane-parallel.



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14. Tighten the locking screws with the specified tightening torque according to the following table. Tighten the screws by working round several times from one screw to the next (not in diametrically opposite sequence).



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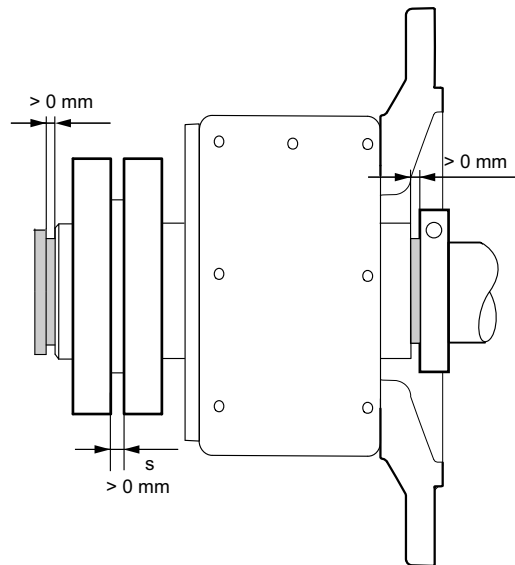
## INFORMATION



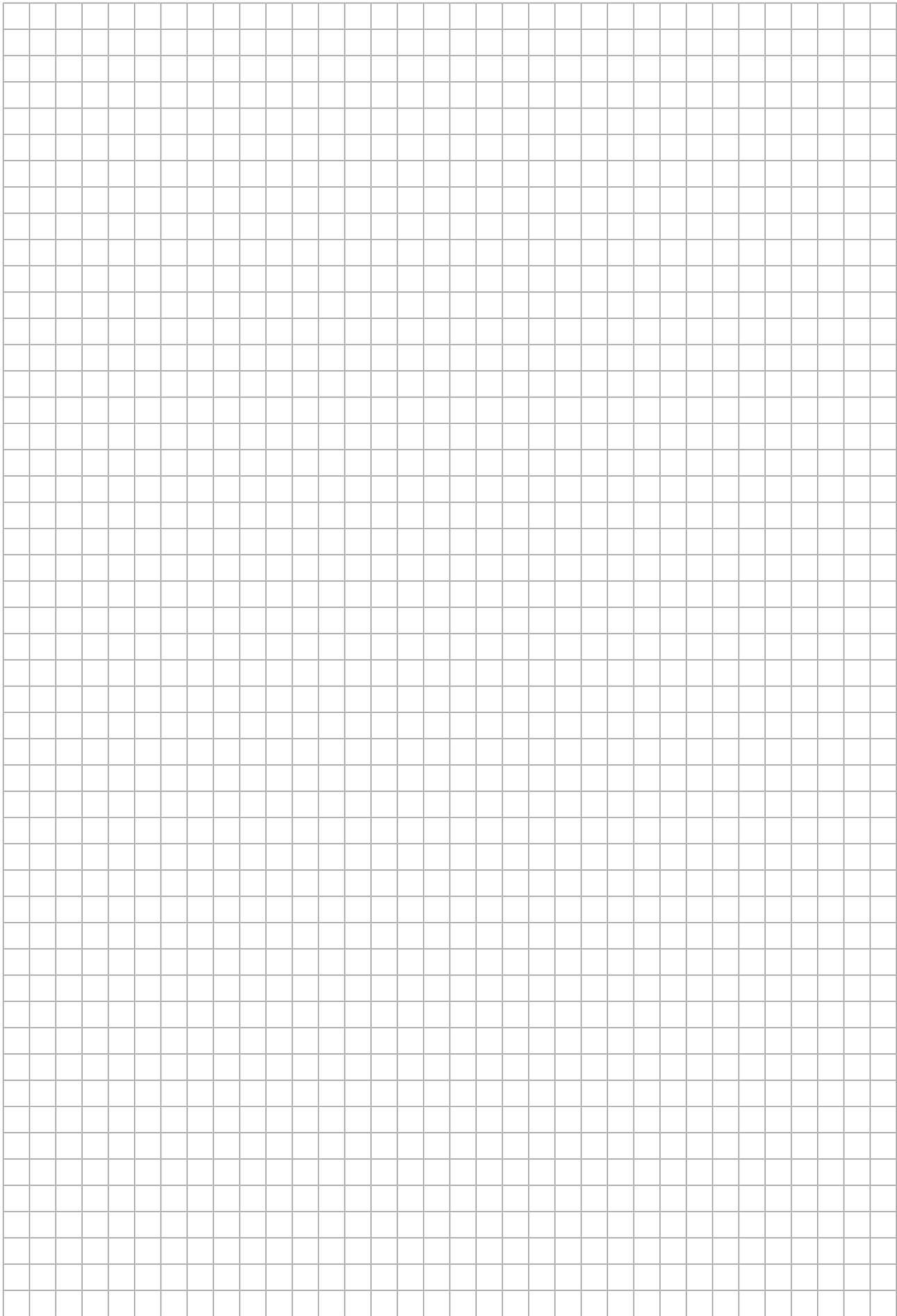
The exact values for the tightening torques are shown on the shrink disk.

Gear unit type				Locking screw	Tightening torque $\pm 4\%$
FT..	KT..	ST..	WT..	ISO 4762	Nm
–	–	37	37	M5	4
37	37	47	47	M6	12
47/57/67	39/47/49/57/67	57/67	–	M6	12
77/87/97	77/87/97	77/87/97	–	M8	30
107	107	–	–	M10	59
127/157	127/157	–	–	M12	100

15. Make sure that the remaining gap between counter bushing and hollow shaft end, between both outer rings of the shrink disk and between hollow shaft end and clamping ring is  $> 0 \text{ mm}$ .



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