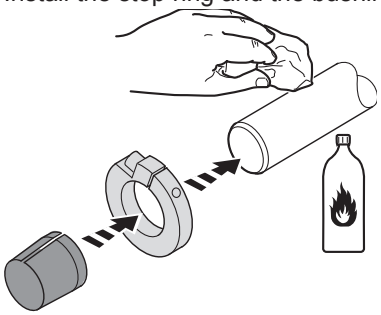
4.8 Shaft-mounted gear units with TorqLOC®

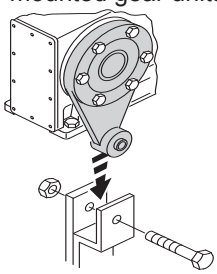
4.8.1 Installation notes for customer shaft without contact shoulder

1. Clean the customer shaft and the inside of the hollow shaft. Ensure that all traces of grease or oil are removed.
2. Install the stop ring and the bushing on the customer shaft.



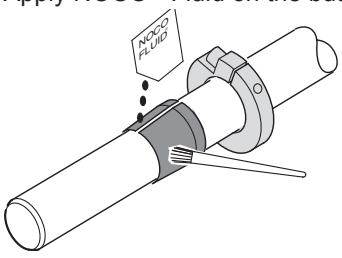
211941003

3. Mount the torque arm to the drive unit, observe chapter "Torque arms for shaft-mounted gear units" (page 28).



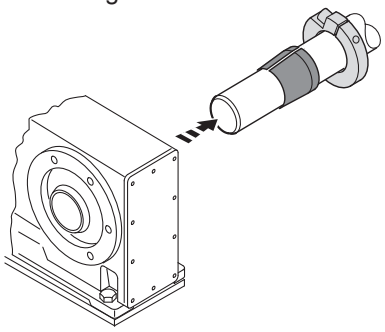
5128549131

4. Apply NOCO® Fluid on the bushing and spread thoroughly.



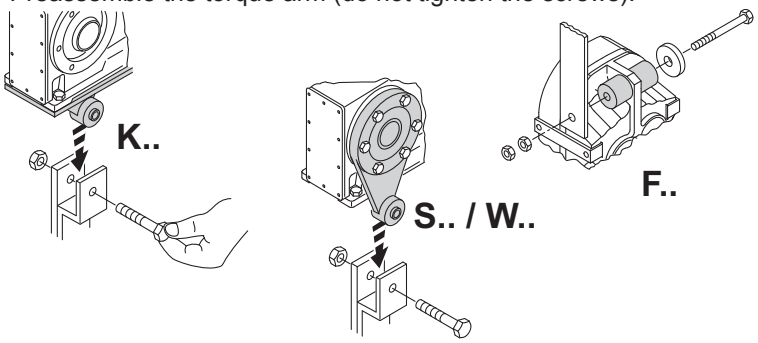
211938827

5. Push the gear unit onto the customer shaft.



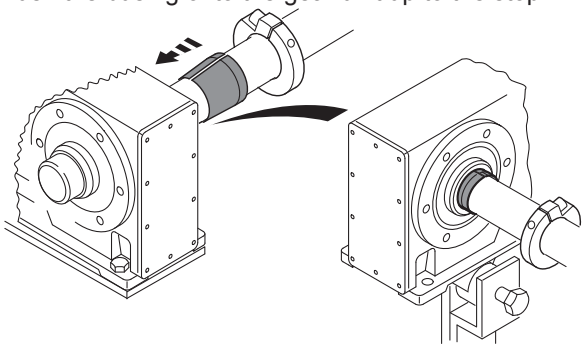
9007199466677643

6. Preassemble the torque arm (do not tighten the screws).



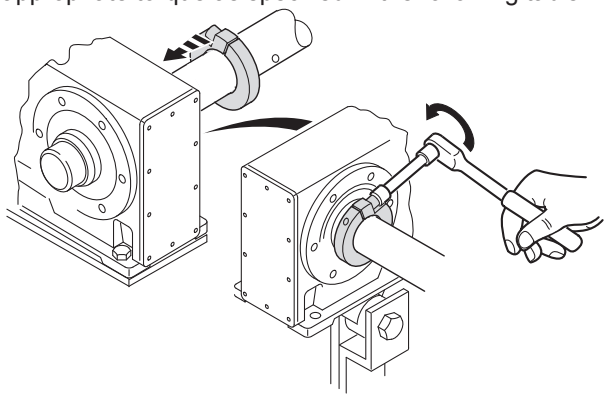
9007199466684171

7. Push the busing onto the gear unit up to the stop.



9007199466686347

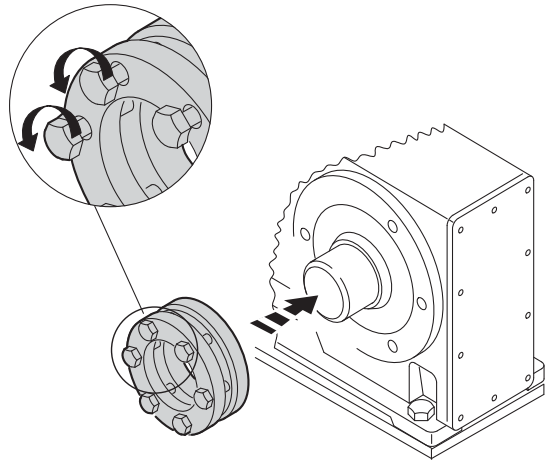
8. Secure the bushing with the stop ring. Tighten the split ring on the bushing using the appropriate torque as specified in the following table:



9007199466741899

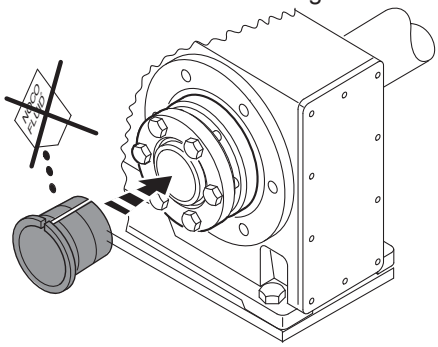
Type		Nickel-plated [Standard]	Stainless steel
KT / FT	ST / WT	Torque in Nm	
-	37	18	7.5
37	47	18	7.5
47	57	18	7.5
57, 67	67	35	18
77	77	35	18
87	87	35	18
97	97	35	18
107	–	38	38
127	–	65	65
157	–	150	150

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



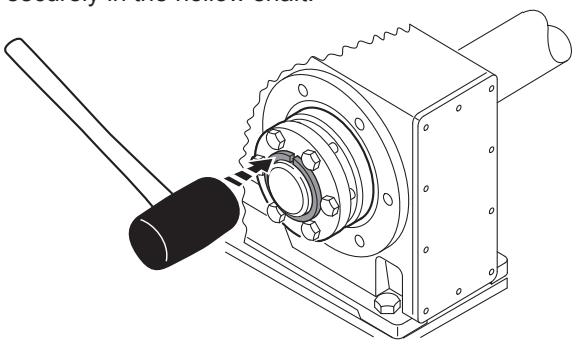
9007199466744075

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



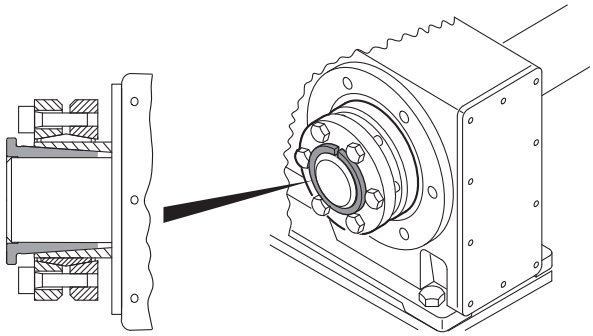
9007199466746251

11. until the shrink disk is properly seated.
12. Tap lightly on the flange of the counter bushing to ensure that the socket is fitted securely in the hollow shaft.



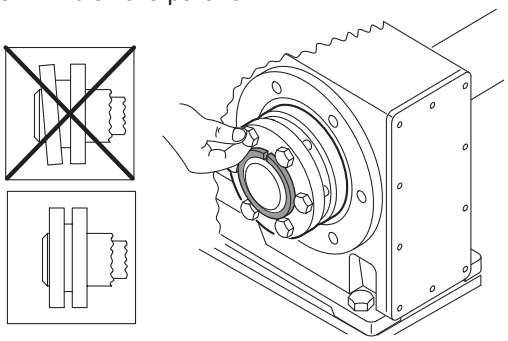
9007199466748427

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



9007199466750603

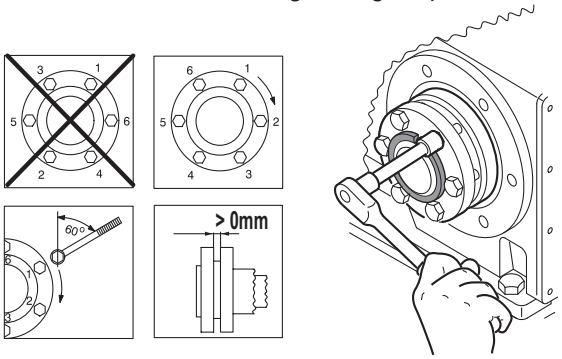
14. Manually tighten the screws of the shrink disk and ensure that the outer rings of the shrink disk are parallel.



9007199466752779

15. Tighten the locking bolts by working round several times from one bolt to the next (not in diametrically opposite sequence).

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



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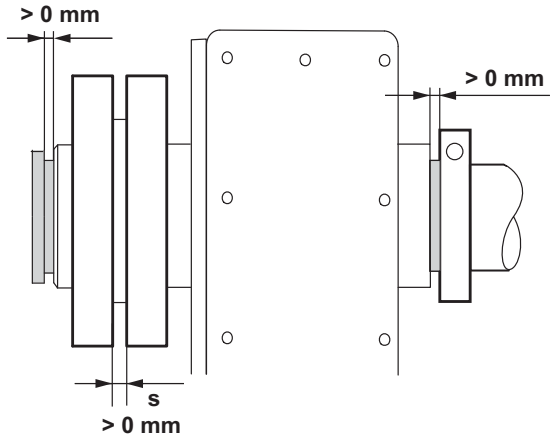
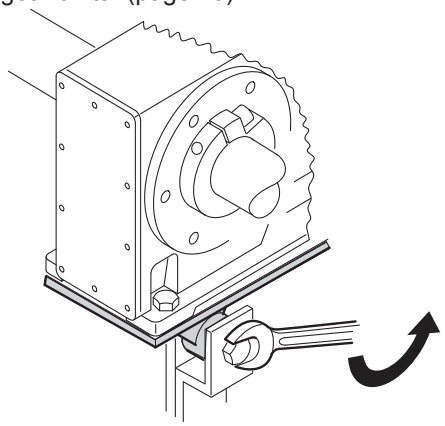
16. After the installation, make sure the remaining gap between the outer rings is > 0 mm.

17. The remaining gap between counter bushing and hollow shaft end as well as bushing and stop ring must be > 0 mm.



9007201603402123

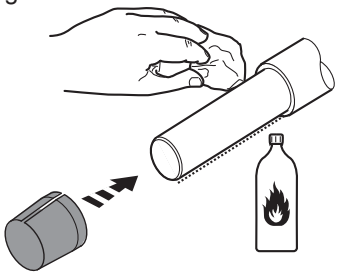
18. Securely tighten the torque arm; observe chapter "Torque arm for shaft-mounted gear units" (page 28).



5129142283

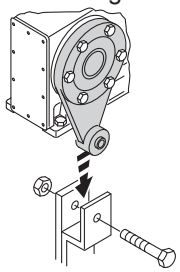
4.8.2 Installation notes for customer shaft with contact shoulder

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



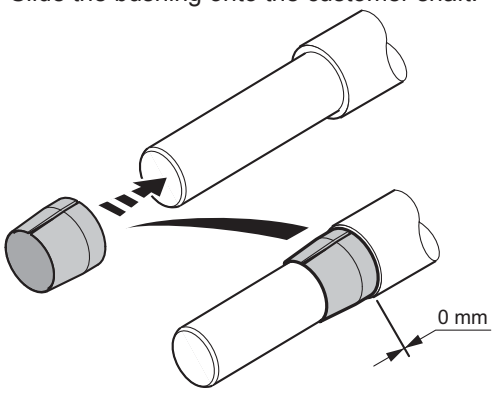
5129572875

2. Mount the torque arm to the drive unit, observe chapter "Torque arms for shaft-mounted gear units" (page 28).



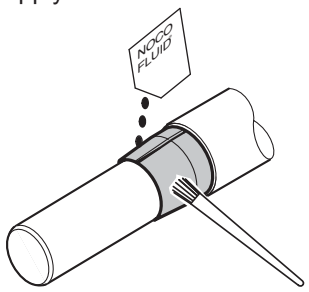
5128549131

3. Slide the bushing onto the customer shaft.



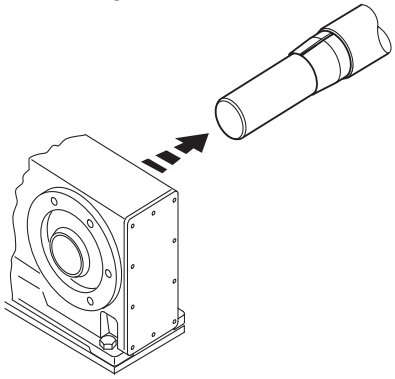
2349377035

4. Apply NOCO® Fluid on the bushing and spread thoroughly.



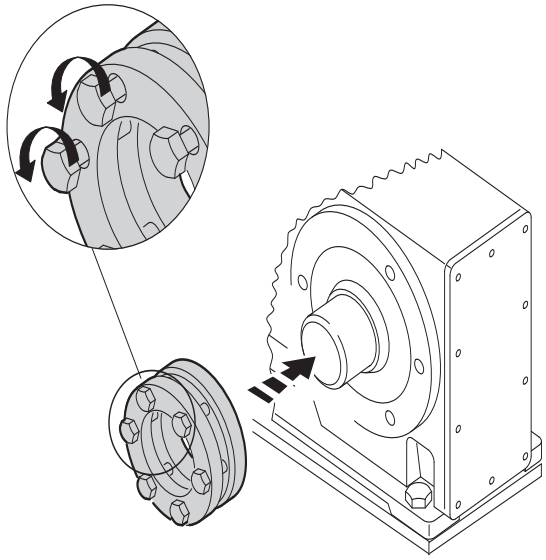
2349367435

5. Push the gear unit onto the customer shaft.



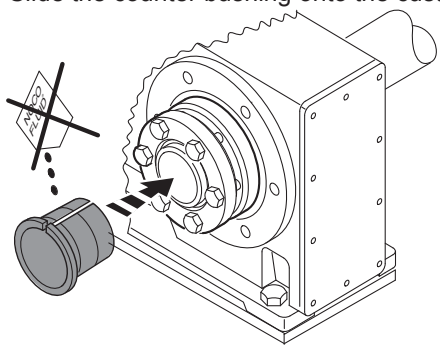
5129650443

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



212003083

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



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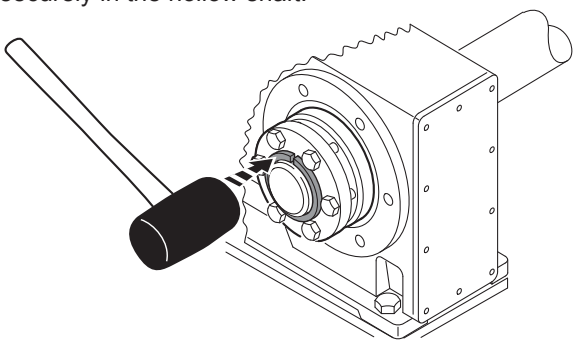
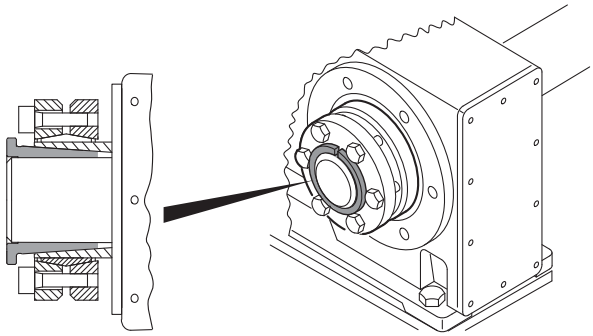
8. until the shrink disk is properly seated.
9. Tap lightly on the flange of the counter bushing to ensure that the socket is fitted securely in the hollow shaft.



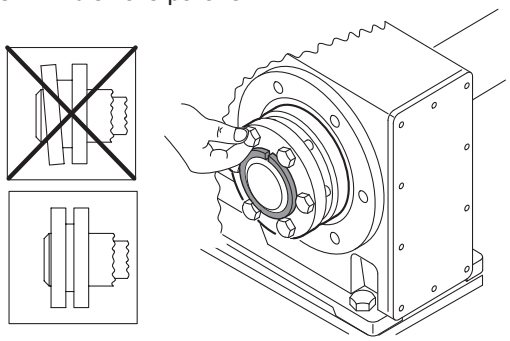
9007199466748427

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



9007199466750603

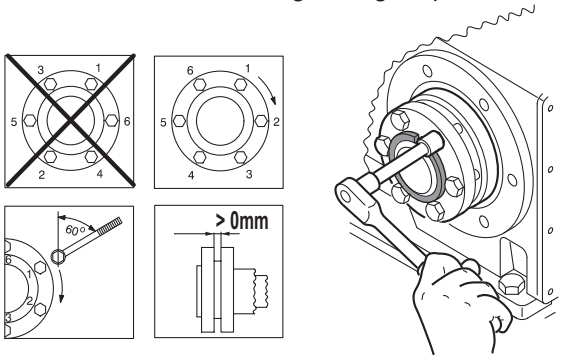
11. Manually tighten the screws of the shrink disk and ensure that the outer rings of the shrink disk are parallel.



9007199466752779

12. Tighten the locking bolts by working round several times from one bolt to the next (not in diametrically opposite sequence).

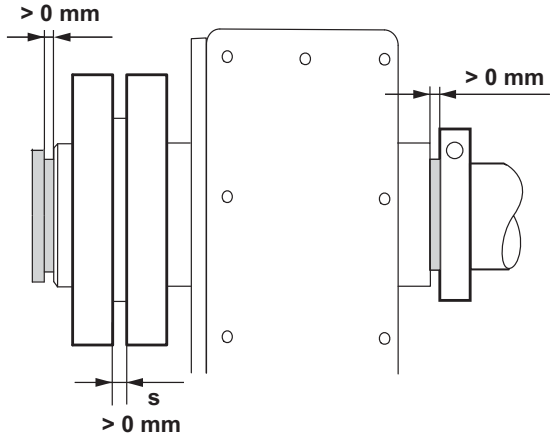
    The exact values for the tightening torques are shown on the shrink disk.



9007199466754955

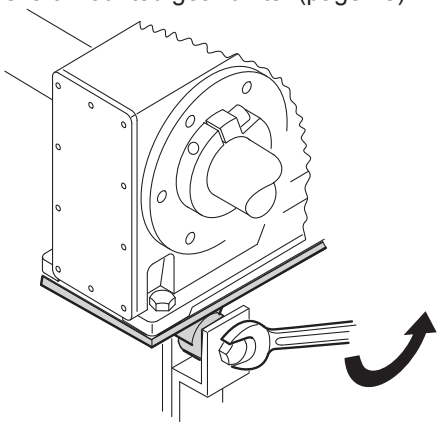
13. After the installation, make sure the remaining gap between the outer rings is > 0 mm.

14. The remaining gap between counter bushing and hollow shaft end must be > 0 mm.



9007201603402123

15. Mount the torque arm and tighten it securely; observe chapter "Torque arms for shaft-mounted gear units" (page 28).



5129142283

4.8.3 Removal notes

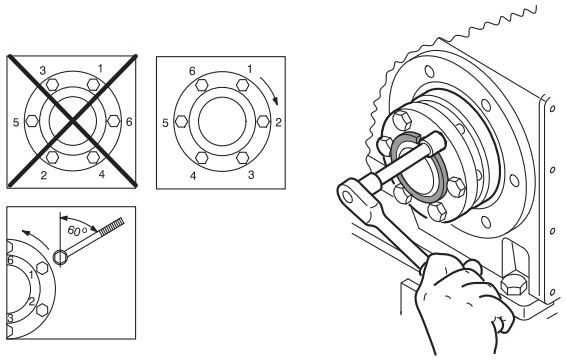
⚠ CAUTION

Burns caused by hot surfaces.

Severe injuries.

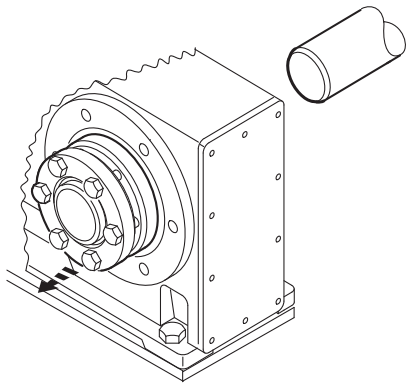
- Let the units cool down before touching them.

1. Loosen the locking screws one after the other by a quarter rotation to avoid tilting the outer rings.



212013963

2. Unscrew the locking bolts evenly one after the other.
   Do not remove the locking screws completely.
3. Dismantle the conical steel bushing.
   If required, use the outer rings as pullers as follows:
   - Remove all the locking screws.
   - Screw the respective number of screws in the tapped holes of the shrink disk.
   - Support the inner ring against the gear unit housing.
   - Pull off the conical steel bushing by tightening the screws.
4. Remove the gear unit from the shaft.



2903780235

5. Remove the shrink disk from the hub.

4.8.4 Cleaning and lubrication

There is no need to dismantle removed shrink disks before they are reinstalled.

Clean and lubricate the shrink disk if it is dirty.

Lubricate the tapered surfaces with one of the following solid lubricants:

Lubricant (Mo S2)	Sold as
Molykote 321 (lube coat)	Spray
Molykote spray (powder spray)	Spray
Molykote G Rapid	Spray or paste
Aemasol MO 19P	Spray or paste
Aemasol DIO-sétral 57 N (lube coat)	Spray

Grease the locking screws with a multipurpose grease such as Molykote BR 2 or similar.

4.9 Installing the protective cover

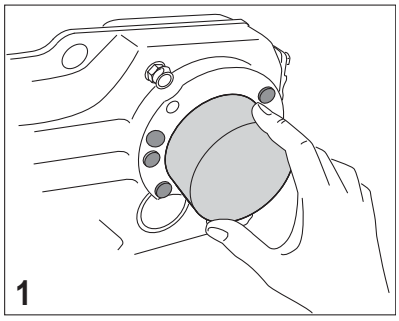
⚠ CAUTION

During operation, output components are in fast motion.

Risk of jamming and crushing.

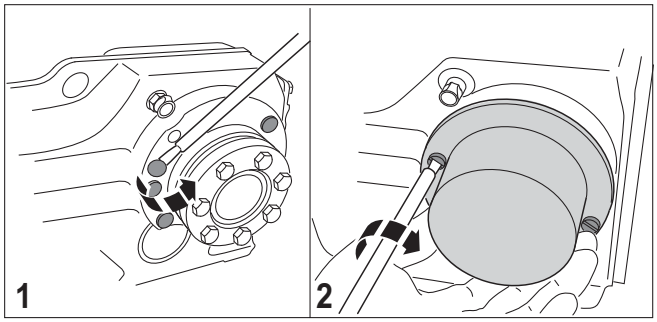
- Disconnect the motor from the power supply before starting work and safeguard it against accidental startup.
- Cover input and output components with a touch guard.

4.9.1 Installing the rotating cover



1. Slide the rotating cover onto the shrink disk until it snaps in.

4.9.2 Installing the fixed cover



1. To fasten the cover, remove the plastic plug on the gear unit housing (see figure 1)
2. Use the delivered screws to mount the cover to the gear unit housing (see figure 2).

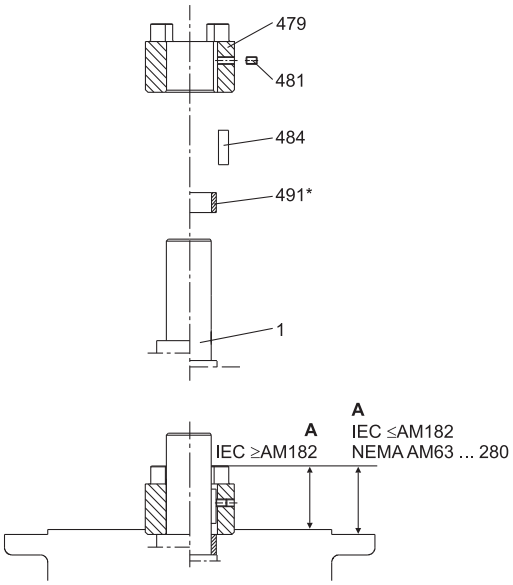
4.9.3 Installation without cover

In certain individual cases (e.g. through-shaft), you cannot install the cover. In such cases, the cover is not necessary if the system or unit manufacturer provides corresponding components to guarantee for the compliance with the required degree of protection.

If this results in additional maintenance, you have to describe this in the operating instructions for system/component.

4.10 Coupling of AM adapter

4.10.1 IEC adapter AM63 - 280 / NEMA adapter AM56 - 365



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[1] Motor shaft
[479] Coupling half
[481] Setscrew
[484] Key
[491] Spacer tube

1. Clean the motor shaft and the flange surfaces of the motor and the adapter.
2. Remove the key from the motor shaft and replace it with the supplied key [484] (not AM63 and AM250).
3. Heat the coupling half [479] to approx. 80 - 100 °C and push the coupling half onto the motor shaft. Position as follows:
   - IEC adapter AM63 - 225 Until stop at motor shaft shoulder.
   - IEC adapter AM250 - 280 to dimension **A**.
   - NEMA adapter with spacer tube [491] to dimension **A**.
4. Secure the key and coupling half using the setscrew [481] and tightening torque T_A according to the table on the motor shaft.