

Installation  
Operation &  
Maintenance

# GES Drive Manual



















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- Switch off and lock out power at the main switch.
- Check for any live power at the motor.
- Unplug the power supply plug (1) from the motor.
- Open the brake cover (2).
- Unscrew the brake mounting screws (3).
- Check the brake type on the rating plate attached to the brake. Measure the thickness of the brake disc (4). Replace the brake disc if it has worn below the minimum thickness as shown in the table.

Brake type and size	Min. thickness of brake disc	Tightening torque for Brake mounting screws
NM38710NR#, 2 Nm	5.8 mm	2.5 Nm / 1.8 lbf.ft
NM38711NR#, 4 Nm	5.95 mm	2.5 Nm / 1.8 lbf.ft

- Reassemble in the reverse order.

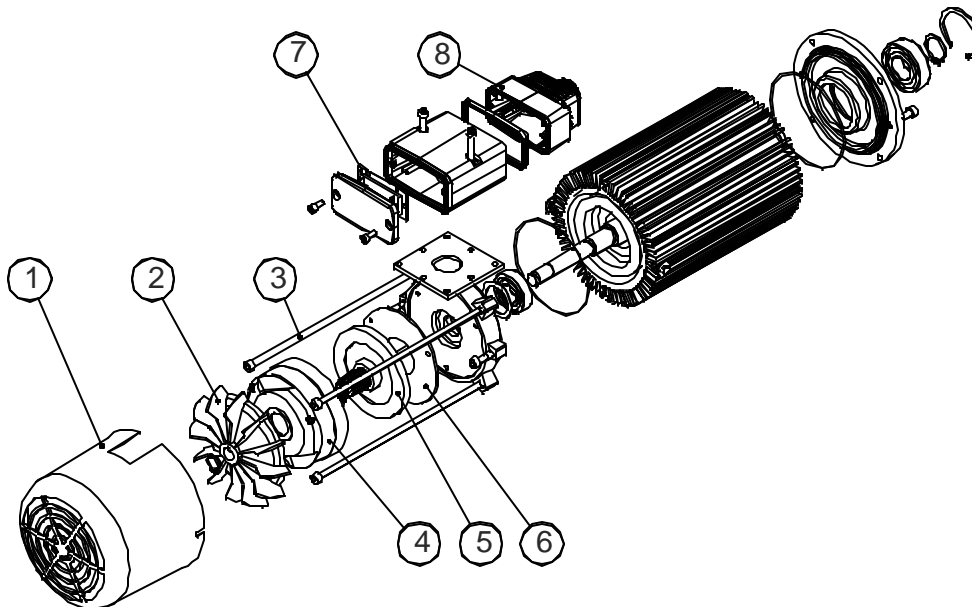


**Tighten the brake mounting screws to the tightening torque for the brake screws shown in the table above.**

#### 4.4 Removing the motor

- Switch off and lock out power at the main switch.
- Check for any live power at the motor.
- Unplug the power supply plug (8) from the motor.
- Remove the motor mounting screws (1).
- Detach the motor from the gearbox.
- Reassemble in the reverse order.

## 5 MF07 and MF10 motor



1. Fan cover
2. Fan / Flywheel
3. Motor mounting screws
4. Brake
5. Brake disc
6. Friction plate
7. Rectifier
8. Power supply plug



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## 5.1 Removing and inspection of DC brake

- Switch off and lock out power at the main switch.
- Check for any live power at the motor.
- Unplug the power supply plug (8) from the motor.
- Remove the fan cover (1).
- Remove the fan (2).
- Unscrew the brake mounting screws.
- Check the brake type on the rating plate attached to the brake. Measure the thickness of the brake disc (5). Replace the brake disc if it has worn below the minimum thickness as shown in the table below.

Brake type and size	Min. thickness of brake disc	Tightening torque for Brake mounting screws
NM38770NR#, 16 Nm	6.8 mm	5 Nm / 3.7 lbf.ft
NM38771NR#, 8 Nm	6.65 mm	5 Nm / 3.7 lbf.ft
NM38720NR#, 21 Nm	7.6 mm	9 Nm / 6.6 lbf.ft

- Reassemble in the reverse order.



**Tighten the brake mounting screws to the tightening torque for brake mounting screws shown in the table above.**

## 5.2 Removing the motor

- Switch off and lock out power at the main switch.
- Check for any live power at the motor.
- Unplug the power supply plug (8) from the motor.
- Remove the motor mounting screws (3).
- Detach the motor from the gearbox.
- Reassemble in the reverse order.

## 6 Lubricants



**Use of a low-grade or incompatible lubricant could damage the gearing or bearings. Use only the lubricants recommended by the manufacturer.**

Factory-installed lubricant unless otherwise specified:

Gear type	Trade name and number	Volume	Operating temperature °C
GES3	Mobilux EP 004	250 ml / 15 cu.in.	-30...+120
GES4	Mobilux EP 004	500 ml / 30 cu.in.	-30...+120
GES5	Mobilux EP 004	1000 ml / 61 cu.in.	-30...+120



If the transmission lubricant has to be topped off, make sure that the lubricant being added is compatible. If transmission oil has to be replaced, flush out the gearbox before filling it up.



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## 6.1 Alternative lubricants

Alternative lubricants:

Trade name and number	Operating temperature °C
Shell Alvania GC	-15...+80
Shell Alvania EP00	-15...+80
Shell Tivela Compound A S)	-20...+130
Neste Center Grease 00 EP	-35...+100
Castrol EPL 00	-35...+100
MOBILITH SHC 007 S)	-50...+230

S) Synthetic lubricant.

If the drive is operated for long periods in extremely cold conditions (colder than -25 °C) or extremely hot conditions (hotter than + 55 °C), it is recommended that a synthetic lubricant be used.

## 7 Recommended tightening torques

Recommended tightening torques for screws and nuts

Size	Tightening torque			
	Strength 8.8		Strength 10.9	
	Nm	Ft lb	Nm	Ft lb
M4	2.7	2.0	4.0	2.9
M5	5.4	4.0	7.9	5.8
M6	9.3	6.8	14	10.3
M8	23	17.0	33	24
M10	45	33.0	66	48.5
M12	77	56.6	115	84.6
M14	125	92	180	132
M16	190	206	280	206
M18	275	202	390	287
M20	385	283	550	404
M22	530	390	750	552
M24	660	485	950	699
M27	980	721	1400	1030
M30	1350	993	1900	1398

## 8 Inspection and servicing intervals

The inspection and servicing interval for a drive is 12 calendar months for a crane in an 8-hour per day, 5-day per week work period, under normal environmental conditions (free from excessive dust, moisture, and corrosive fumes). The inspection and servicing intervals of the drive could be defined by Safe Working Periods (SWPs) if it is being monitored. If the Safe Working Periods is being monitored, then the servicing interval must be carried out at the end of the Safe Working Period (SWP%) of the crane or hoist, or by the end of the stated number of calendar months, whichever comes first. If the drive is being used intermittently, it should be inspected before being used again.



If the duty is heavier, or the environment severe, service intervals should be shortened and more frequent.

Only authorized or adequately-trained personnel may carry out service or repair work. If any defects or abnormalities are observed, they must be investigated and corrective action must be taken in accordance with the instructions.