

1 Lubrication chart

Edition: 2024-01, replaces edition 2022-10





Marine gearboxes without built-in disc clutch

Lubricant type

Marine diesel engine oil
Gear oil

Requirements











- **SAE 40 (ISO VG 150)**
- **FZG ≥ 11**

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|---|---|--|---|
|  <ul style="list-style-type: none"> • Shell Gadinia AL 40^a • Shell Gadinia S3 40 • Shell Rimula X 40 • Shell Rimula R3+ 40 • Shell Argina S2 40 • Shell Argina S3 40 • Shell Omala S2 GX 150 • (Shell Omala 150) • Shell Omala F 150^a • Shell Omala S4 GXV 150^b • (Shell Omala HD 150^{a b}) |  <ul style="list-style-type: none"> • Mobil DTE 10 Excel 150 • Mobilgear 600 XP 150^a • Mobil Delvac 1340 • Mobil Delvac 1640 • Mobilgard ADL 40 • Mobil SHC 629^b • Mobilgard 1 SHC^b • Mobilgear XMP 150^a • Mobilgear SHC XMP 150^{a b} • Mobilgard 412 |  <ul style="list-style-type: none"> • Delo 1000 Marine 40^a • Taro 20 DP 40 / 40X • Taro 30 DP 40 / 40X • Taro 40 XL 40 / 40X • Taro 50 XL 40 / 40X • Meropa 150 • Meropa MG 150^a • Meropa XL 150^a • Meropa Synthetic EP 150^b • Clarity Synthetic EA Gear Oil 150^c |  <ul style="list-style-type: none"> • Castrol MHP 154 • Castrol Alpha SP 150 • Hyspin AWH-M 150^a • Castrol TLX PLUS 204/304/404/504 • Castrol HLX 40^d • Alphasyn HG 150^b • Alphasyn T 150^b • Alphasyn EP 150^b |
|---|---|--|---|

a. Oil with greystaining test result "high"

b. Synthetic oil (PAO only)

c. Biologically degradable oils (EAL)

| | | | |
|--|---|--|---|
|  <ul style="list-style-type: none"> • Titan Universal HD 40 • Titan Universal XT 40 • Titan EM 4461 • Renolin CLP 150^a • Plantogear 150 S^c |  <ul style="list-style-type: none"> • Multi Fluid SAE 40 • Turbo Diesel MD 407^a • Eco Gear 150 M^a • Eco Gear 150 S^{a b} • Gear Oil 150 F^a • Eco Craft 4015 |  <ul style="list-style-type: none"> • Caprano Special Plus 40 • Rubia S 40 • Carter EP 150 • Caprano M 40 • Caprano MT 40 • Disola M 4015 • Epona Z 150 |  <ul style="list-style-type: none"> • GulfSea Gear 150 • GulfSea Power MDO 4015/4020 • GulfSea Synth Gear 150^{a b} |
|  <ul style="list-style-type: none"> • Valmarin TP-1240 |  <ul style="list-style-type: none"> • Cepsa Petrel HDL 40 |  <ul style="list-style-type: none"> • Klüberoil GEM 1-150 N^b • Klüberoil MEG 1-150 US • Klübersynth GEM 4-150 N^{a c} • Klüberbio EG2 150^{a c} |  <ul style="list-style-type: none"> • Envirologic GO 150^d |
|  <ul style="list-style-type: none"> • Marino 3 SAE 40 • Super Tauro 150 • Super Tauro Sintético 150^{a b} | |  <ul style="list-style-type: none"> • 112M Marine HTC 150 | |

a. NATO approval O-278

b. Oil with greystaining test result "high"

c. Synthetic oil (PAO only)

d. Biologically degradable oils (EAL)

Observe when selecting oil for use in REINTJES gearboxes:

- If the oil temperature is lower than
 - + 10 °C / 50 °F (SAE 30)
 - + 15 °C / 59 °F (SAE 40)
 a sump heating installation is required (special equipment must be fitted to the gearbox).
- Lubricants approved by REINTJES meet all operational requirements and need no further additives. Further additives may even be harmful.
- Observe the manufacturer's safety data sheet for safely handling the lubricant.

Observe when changing oil:

- Observe the oil change intervals and oil analysis intervals specified in the operating manual.
- Replace filter elements when changing oil. Clean the venting filter thoroughly. Carry out a first check for contamination approx. 12 hours after commissioning.
- The oil level must be between the dipstick markings. The operating oil volume indicated on the type plate or the drawing of installation is a reference value.
- For flushing and cleaning of the gearbox use the operating oil. Remove cleaning oil from gearbox, oil filter and heat exchanger as thoroughly as possible.
- The gearbox is filled with VCI preservation oil when delivered. When the gearbox is put into operation, drain the VCI preservation oil and fill in operating oil. Any small amount of VCI preservation oil remaining may be mixed with the operating oil.

NOTICE

- ▶ The oil types listed in the lubrication chart are defined by the responsibility of the oil companies. The oils are suitable for the use in gearboxes and are in accordance with the REINTJES specification. The oil companies are responsible to keep the compositions of the oils identical as specified for this oil chart.
- ▶ REINTJES is neither liable for correctness of these data nor for any amendments occurring.
- ▶ If other oils shall be used please contact REINTJES first.
- ▶ REINTJES does not accept responsibility for any damages due to use of unsuitable oil.

NOTICE

Danger of hydrolysis

EAL lubricants are as a rule based on synthetically produced esters. There is always a danger of the used EAL lubricants to hydrolyse.

- ▶ Minimise the water content of the EAL lubricant for example by using adsorb-ers (special equipment).
- ▶ Observe the special information for EAL lubricants on oil change, flushing, and shutdown periods in the REINTJES operation description BV2379 "Guidelines for changing oil".
- ▶ Contact REINTJES service when using EAL lubricants for the first time.