

## Oil change and flushing of gears

Oil-lubricated gears require from time to time an exchange of lubricant since the oil changes its characteristics more than what is acceptable due to the working and ambient conditions, e.g. ageing, abrasion and contamination.

The objective of the oil exchange is to ensure continued reliable lubrication.

The same objective is pursued when replacing a gear oil that is basically still fit for use, but not under the prevailing operating conditions.

When an oil change of this type is performed, some residual amount of old oil will always remain in the gearbox.

In many cases, these residues cannot be tolerated and some way of removing them must be found.

The simplest method is flushing the gears. If possible, the old gear oil is drained while still warm, i.e. immediately after the gears are stopped.



**Clean gears after flushing**

Draining is followed by flushing to remove residues. The oil container and inside walls of the gearbox can also be cleaned by non-fraying cloth – do not use cleaning wool – and/or a rubber wiper.

## Useful information on scuffing load tests

A bigger problem is more profound contamination in the form of deposits caused by strongly aged oil.

In such cases it is inevitable that the gears are cleaned by means of cleaning oil and manual cleaning, as far as accessible.



### Gears with sticky deposits

A suitable oil for cleaning gears is Varnasolv, which quickly dissolves residues when added at a concentration of 10 %.

At first, approx. 10 % of the gear oil fill is drained, and then the same quantity of Varnasolv is added.

After 24 to 48 hours of operation, the oil can be drained. Any remaining residues can be removed mechanically.

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## Oil change procedure

### Gear inspection

#### Clean gears

- Drain oil while warm
- Inspect teeth
- Replace filters
- Fill new oil
- Put gears into operation, stop again
- Check oil level
- Take reference oil sample, if required

#### Contaminated gears

- Drain oil while warm
- Fill flushing oil
- Operate gears for 30 – 60 min. without load
- Drain flushing oil
- Inspect teeth
- Replace filters
- Fill new oil
- Put gears into operation, stop again
- Check oil level
- Take reference oil sample, if required

#### Strongly contaminated gears

- Drain approx. 10 % of oil fill while warm
- Top up with Varnasolv
- Operate gears for 24 - 48 hours
- Drain oil while warm
- Fill flushing oil, if required
- Operate gears for approx. 30 – 60 min without load
- Drain flushing oil
- Inspect teeth
- Replace filters
- Fill new oil
- Put gears into operation, stop again
- Check oil level
- Take reference oil sample, if required