

# Gear Reducer

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Gear reducer  
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Your extruder gear reducer should be inspected and have the lubricating oil changed at regular intervals. A new reducer should have the oil changed after the first 500 hours and every 2500 hours thereafter. Use only Mobilgear 632 oil or equivalent A.G.M.A. lubricant No 6EP. The oil should be drained from the entire system when warm by removing the drain plugs. (Note: on old style reducers, there are two additional drain plugs beneath the thrust bearing. You will get approximately one cup of oil.) The gearbox should be flushed with solvent and the drain plugs reinstalled.

The reducer components that are most commonly subject to distress are the gears, shafts, bearings and seals, and should be inspected periodically. Misapplication (overloading) and poor maintenance could result in premature failure of any of these components. Keep an eye on your extruder drive amperage for the best indication of an overload condition.

Temperature can also be a factor causing failure. Maximum continuous operating temperature is 150°F and should not be operated above this temperature. Low temperatures (below 100°F) can also be harmful which could thicken oil restricting the flow and starving certain components. Make sure heat exchangers and cooling bundles are clean and operable and never circumvented if supplied with the equipment.

When inspecting the gears, look for excessive wear or pitting. Some pitting (initial or corrective pitting) may be observed in the early stages of service, but will polish out with increased running time. Severe or destructive pitting is usually the result of an overload condition and will eventually cause the gear to fail. Excessive wear is another indication of abnormally high loads, oil contamination or the incorrect oil viscosity which may eventually cause gear tooth breakage. Uneven wear, causing heavy contact on one side of the tooth face would indicate an alignment problem and should be investigated immediately.

A normal running gear reducer should not vibrate. Any of the problem conditions above can cause vibration or it could be as simple as an overfilled gear box. Check the oil for excessive foaming as this would indicate an overfilled condition.

Misapplication or overloading is most frequently the cause of gear reducer failure. Running tough materials that were not specified requirements when the equipment was supplied and cold start up and shutdowns can cause extreme overloads to the reducer. These conditions must be avoided.

See also:

- Drive overload
- Gearbox design ratings
- Gearcase maintenance
- Synthetic lubricants for extruders?
- Temperature control

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