

Thank you for purchasing an MED dog-engagement gear set. This kit is CNC machined from VAR S156 steel to precise tolerances, with a five-dog engagement for slick, confident gear changes. The gears are designed to run with very little backlash to eliminate gear tooth wear commonly associated with other dog-engagement gear kits.

Included in this gear kit is a pair of modular selector forks, CNC machined from 7075 aluminium, which retains the same tensile strength as steel.

Also supplied are the needle roller bearings for both ends of the laygear, the first / third needle roller bearing, and the first and third motion lock nuts, which are machined from EN24T steel.

The gear set is considerably stronger than a standard-style synchromesh Mini gearbox, however you **must still use the clutch**. Not using the clutch will considerably reduce the longevity of gears and selector hubs.

If you are new to using a dog box, be very mindful of gear selection, as you can potentially engage any gear regardless of the car's speed. Be especially careful when shifting from fourth to third, as unlike a synchro box, it may engage first gear if you get this wrong.

We would recommend using a high quality motorsport-grade 20w50 mineral or semi-synthetic oil that's designed for a shared engine and transmission application. Look for high levels of ZDDP additive.

Kit Contents

- Complete main shaft kit – fully assembled
- First motion gear (fourth gear)
- Laygear
- First to second gear modular selector fork
- Third to fourth gear modular selector fork
- Reverse gear
- Laygear needle roller bearings
- First motion gear needle roller bearing
- First and third motion lock nuts
- Pinion and first motion lock nuts

Gear Ratios

1st - 2.239:1
2nd - 1.568:1
3rd - 1.244:1
4th - 1:1

Assembly tips

Torque the first motion nut to 150lb.ft and the input third motion shaft nut to 120lb.ft.

Set the laygear end float to a minimum of 0.007-inch.

If building this into a rod-change gearbox, check that the gear selectors clear the casing internally, and machine the casing if necessary.

For a remote-change build, the supplied large washer sits to the right of the gear, with the differential facing towards you. This allows correct alignment of reverse gear.

We would advise the use of an MED pinion support housing alongside this gearset, to strengthen the crownwheel to pinion engagement and protect the housing.

Although partially assembled, it is good practice to strip and clean all components prior to installation. In rare cases, packing material or another substance can become caught up inside during transit.

If you are in any doubt, please speak to your local specialist or contact us direct for technical assistance. Phone +44(0)1455 618464 or email sales@med-engineering.co.uk