

# CONVERSION FROM ZF 5M (HURTH HBW 50) TO TMC 40

The TMC 40 marine gear is an excellent replacement gear for the ZF 5M marine gear.

The TMC 40 is available in 1.45:1, 2:1 or 2.6:1 ratio and **must turn a right hand propeller.**

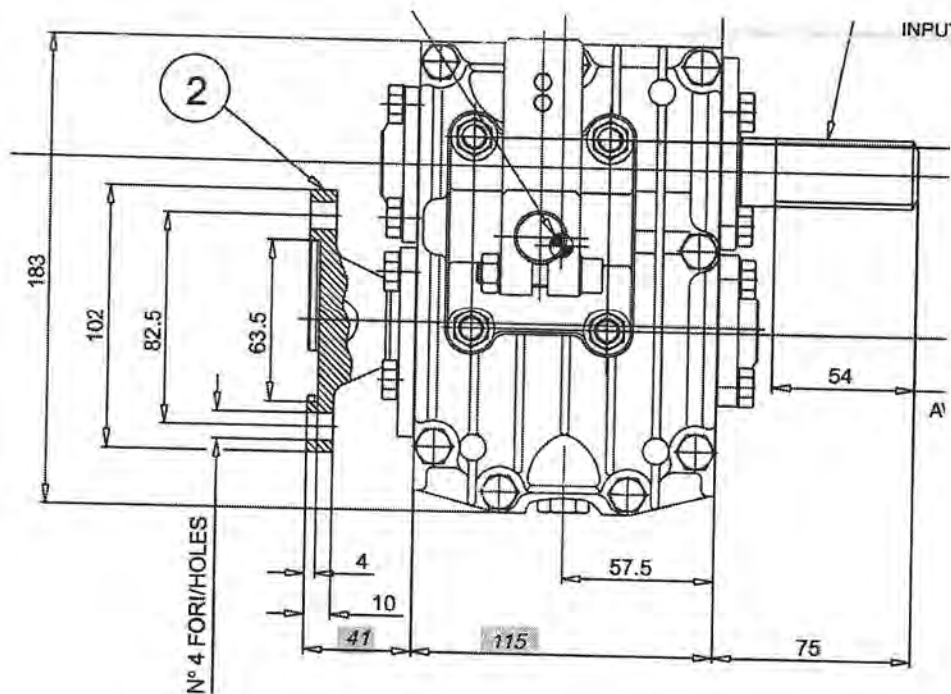
The shift lever of the TMC 40 is located on the opposite side of the gear housing as the ZF 5M.

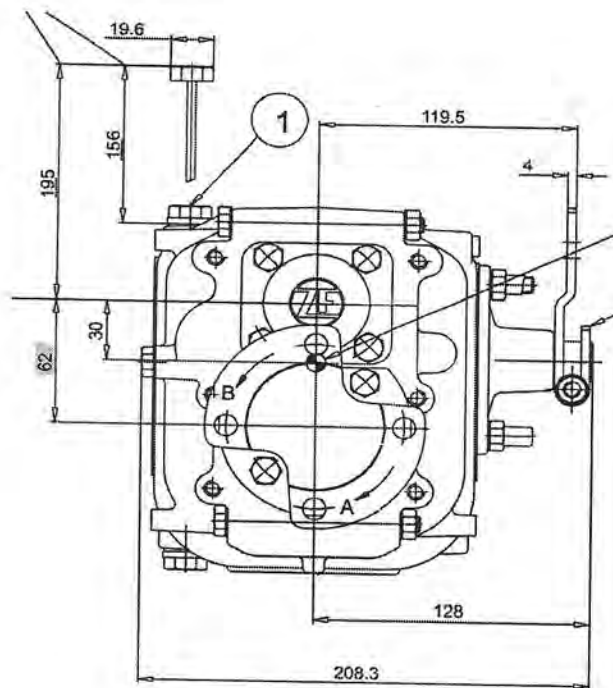
TMC 40 shift brackets can be provided that will enable a push cable motion or a pull cable motion to engage FWD gear.

The TMC 40 is not a “drop in replacement” for the ZF 5M. There are some dimensional differences between the two gears and this requires some adjustment in the engine and prop shaft positions. The dimensional differences are described below.

**THE ZF 5 M** is 156 mm long and has an offset of 62 mm.

The ZF 5M input spline has the same spline profile as the TMC 40. The output flange dimensions are the same as the TMC 40. The mounting face bolt pattern of these two gears are the same.

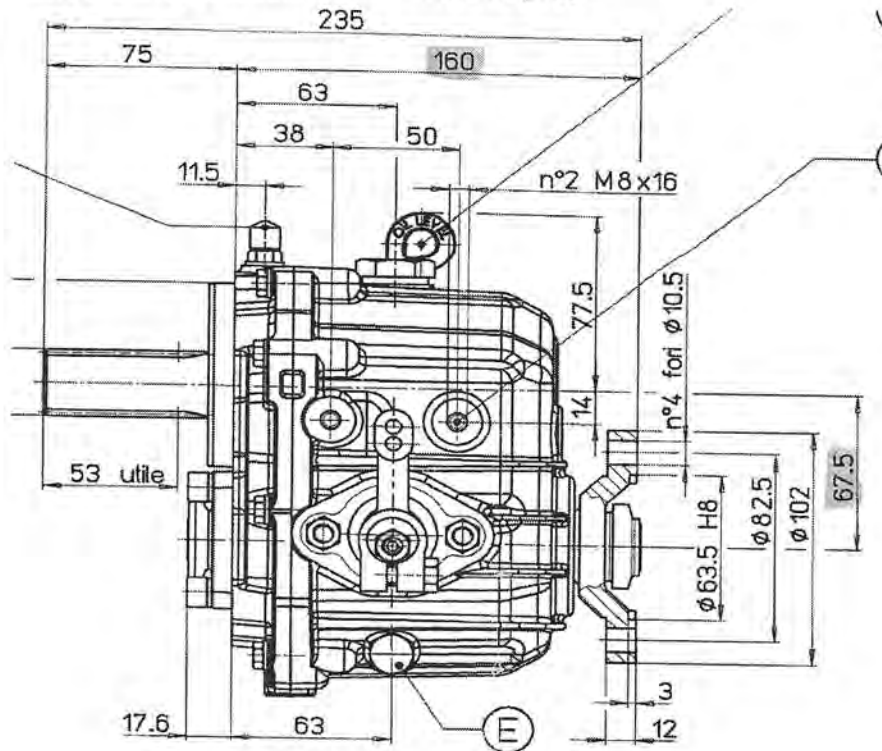




The TMC 40 is 160 mm long and has an offset of 67.5 mm.

The TMC 40 input spline profile and output flange dimensions are the same as the ZF 5M.

The output flange is only available with a female pilot.



## OFFSET:

The difference in offset between the ZF 5M and the TMC 40 is 5.5mm / .216" .

With the TMC 40 having 5.5mm / .216" **MORE OFFSET** than the ZF 5M.

This means the engine will need to be raised 5.5mm / .216" on the engine mounts or perhaps a .25" spacer placed under the old engine mounts before you perform shaft alignment.

## LENGTH:

The difference in length between the ZF 5M and the TMC 40 is 4mm / .157" .

With the TMC 40 being 4mm / .157" **LONGER** than the ZF 5M.

This means the engine will need to be pushed fwd 4mm / .157" on the engine beds, or the shaft must be moved aft 4mm / .157" .

It is a possibility that the prop shaft flange alone can be moved a portion of, or all of, this distance.

Before ordering the transmission, always check clearances at the stuffing box, prop hub and propeller tips. Particularly if the propeller is in an aperture.

NOTE REQUIRED GEAR SHIFT MOTION BELOW FOR TMC 40.

