



ASSEMBLY INSTRUCTIONS FOR CENTAFLEX SERIES M FLEXIBLE PROPELLER SHAFT COUPLINGS

DESCRIPTION

The series M coupling has been specifically designed for applications in boats and yachts for the connection of reversing gears and propeller shafts.

Apart from the basic requirement of a physical connection between flange and shaft, the couplings offer the following features and advantages: -

- Torsionally elastic and backlash free. Potentially damaging torsional vibration produced by the engine is dampened, especially at low speeds.
- Additionally, noise is dampened by up to 5dBA (in effect up to a third). The rubber in the coupling prevents engine noise being transmitted to the hull. Reduced vibrations protect all components, particularly those in expensive electronic units.
- The coupling compensates for all types of misalignments, particularly angular, thus reducing wear on the shaft bearing and gearbox.
- The coupling is fastened to the plain cylindrical propeller shaft by means of a securely dimensioned clamping hub, therefore expensive machining of the propeller shaft is unnecessary, length adaptation is simple, and there is no weakening of the shaft caused by a bore or keyway.
- Simple assembly, with flange connection and hub supplied fully machined for immediate installation. When assembled the coupling is a “one-piece” unit. Adapter flanges are readily available for non-standard gearbox flanges.
- The coupling is electrically insulating, and therefore gives protection from electrolysis damage.

APPLICATION

With series M couplings, we prefer the use of an adjustable propeller shaft bearing. The propeller shaft can then adjust itself in relation to the gearbox, and the bearing will not be subject to radial forces. Only angular misalignments will then occur in the coupling, which can easily be accommodated.

TECHNICAL DATA

Coupling	Max. rev/min of propeller shaft	Nominal torque on propeller shaft (Nm) Commercial Pleasure		Max. axial force (kN)	Max. allowable angular misalignment (deg)*
CF-M-127	4500	175	250	10	2°
CF-M-160	3500	350	500	20	2°

*At max. 1500 rev/min

INSTALLATION

When assembly is carried out safely according to our instructions, the torque as well as the propeller thrust will be transmitted securely. To achieve this, all the bolts and nuts must be tightened to the correct torque, by means of a torque wrench. Tightening by “feel” will not give a satisfactory result.

- 1) Remove the clamping bush from the coupling
- 2) Degrease the propeller shaft and the bore of the clamping hub. Leave the special grease only in the tapered bore of the coupling hub, and on the outside of the clamping hub.
- 3) Mount the coupling on to the gearbox output flange. Note depth of M10 tapped holes in the coupling is 15/17mm, so care must be taken to use screws or studs of the correct length. We recommend the use of M10 x 25 screws or M10 x 40 studs. If using studs the shorter (10mm) screwed portion should be inserted into the coupling.

TIGHTENING TORQUE IS 45Nm

- 4) Push the clamping hub fully onto the propeller shaft.
- 5) Connect the clamping hub/propeller shaft onto the coupling. The connecting screws of the clamping bush must be tightened alternately in several steps until the required tightening torque is reached. Finally, the tightening torque of all fasteners must be checked all round.

TIGHTENING TORQUES:

SIZE 127 (M8 X 30): 23Nm

SIZE 160 (M12 x 40): 79Nm

CAUTION!

The tightening of the connecting screws between the clamping bush and the hub means that the clamping hub/propeller shaft will be dragged into the coupling by a few millimetres, thereby effectively shortening the installation length. Sufficient free space (minimum 10mm) should be available between the outer bearing and the propeller hub.

The propeller-thrust (or propeller-pull in reverse drive) is safely transmitted via the coupling from the propeller shaft to the gearbox, but the design of the coupling is such that the rubber must be compressed when sailing in the forward direction. The coupling is not suitable for use with vee-drive gearboxes having outputs of the quill-shaft arrangement where the coupling would be subject to a pulling force when sailing forward.

The coupling uses a bonded rubber element, and care should be taken not to contaminate the rubber by indiscriminate use of solvents or anaerobic liquids.