



PRM750C Gearbox

Full hydraulic operation: in-line output shaft

This inline variant of the PRM750 gearbox can be used to directly replace the Velvet Drive 72C transmission with the addition of coupling MT5030 to keep the overall length the same so complete interchangeability is simple.

The PRM750C marine gearbox is purpose built for use in both pleasure craft and commercial boats; its twin countershaft design provides separate oil-operated multi-disc clutches (which need no adjustment) for ahead and astern drive allowing full rated power to be transmitted continuously in either direction.

A choice of reduction ratios available are 1.09:1, 1.459:1, 1.935:1, 2.565:1 and 2.904:1 all of which can provide either left-hand or right-hand propeller rotation in "ahead", making the gearbox particularly well suited to twin engine installations.

The robust and reliable hydraulic system uses lubricating oil of the same viscosity as that used in the engine, and helps ensure good boat handling by its rapid response to movements of the operating lever.

The operating lever has a positive neutral detent which assists the setting-up of the remote control operating unit whilst for added security, to guard against the unlikely event of hydraulic failure all gearboxes incorporate a mechanical lock-up device so the boat can be brought safely back to port.

The gearcase is constructed of high grade cast iron, internally ribbed for rigidity and strength, and consists of two separate halves to facilitate servicing, the oil pump and hydraulic control valves being externally mounted for easy accessibility.

A special feature of the PRM750C is the direct drive power take-off which is available as an optional extra; this will power a hydraulic pump to SAE J744C type 'B' specification, thus providing an economical and space efficient means of driving on-board machinery.

An electronically operated trolling valve can be fitted, which will allow variable speed of the propeller to zero whilst allowing a maximum engine speed of up to 1200 rpm.

Nominal Power Ratings, PRM750C In-Line Marine Gearbox

Model	Ahead Ratio	Pleasure		Light Commercial		Heavy Commercial	
		kW	BHP	kW	BHP	kW	BHP
750C1	1.09:1	7.85	10.52	6.07	8.13	5.86	7.85
750C1.5	1.459:1						
750C2	1.935:1	7.07	9.48	5.86	7.85	5.55	7.43
750C2.5	2.565:1						
750C3	2.904:1	5.96	8.00	5.60	7.50	5.24	7.02

Maximum operating speeds: 4500 rev/min intermittent, 4000 rev/min continuous

Note: These powers have been measured at the engine flywheel. Ratings have been established to ensure the long trouble free life of the gearbox which should not, therefore be used at powers in excess of those shown.

Operating Pressure

Minimum – 30.34 bar (440 lb./in²), Maximum – 33.44 bar (485 lb./in²). Two tapped holes 1/8" BSP on the top, and M18 x 1.5 on the side of the valve block are provided so that the pressure gauge can be fitted if required.



Oil Cooling

The normal operating temperature of the oil should be in the 50°C - 80°C range and should not be permitted to exceed 90°C. An oil cooler is necessary to ensure that correct operating temperatures are maintained, and two 3/8" BSP connections are provided on the valve block to allow it to be fitted. The size of the cooler required depends on a number of factors including the transmitted horsepower, operating speed, duty cycle, inlet water temperature and ambient temperature.

Propeller Thrust

Both ahead and astern thrust is carried by the output shaft bearings which are of adequate capacity for all factory approved ratings.

Approximate Weight & Oil Capacity

Gearbox	Approximate dry weight		Oil capacity	
PRM750C	93kg (205lb)	excluding adaptor, drive coupling and oil cooler.	3.0 litres (5.28 pints)	plus the amount required to fill the cooling circuit

Flexible Input Couplings for PRM750C In-Line

Part Number	Outside Diameter		Mounting Hole Pattern					Remarks
	mm.	in.	No.	Diameter		Pitch Circle Dia.		
				mm	in	mm	in	
MT1469	362.0	14.25	6	8.13	0.320	200.0	7.875	PRM750C only

Other Accessories for PRM750C In-Line

Part Number	Description	Weight	
		kg	lb
MT4613S/A	Oil cooler kit: PRM750C engines up to 105 kW	1.00	2.20
MT4611S/A	Oil cooler kit: PRM750C engines over 105 kW	1.70	3.75
MT915	Oil pipes (pair)	0.50	1.10
MT784	Oil cooler mounting bracket	0.20	0.50
MT783	Tail shaft half coupling (pilot bored)	5.60	12.30
MT1105	Tail shaft flexible coupling	2.50	5.30
MT0193	Live PTO, for SAE 'B' hydraulic pump	6.90	15.20
MT0214	Neutral safety switch	0.04	0.10
MT5036	Oil pressure gauge (direct mounting)	0.10	0.20
MT0210	8° Angle drive unit (supplied loose)	17.70	38.94

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