



PRM 150



Full Hydraulic Operation Lightweight, Compact & Rugged

The PRM 150 gearbox is designed for use in pleasure craft and commercial boats; it's twin countershaft design provides separate oil-operated multi-disc clutches (no adjustment required) for ahead or astern drive allowing full rated power to be transmitted continuously in either direction.

The reduction ratios offered (1.53:1, 2.09:1 and 2.82:1) are all available for left-hand or right-hand propeller rotation, making the PRM 150 particularly well suited to twin engine installations.

The heavy duty aluminium gear case is externally ribbed for rigidity & strength and consists of two separate halves to facilitate servicing.

The hydraulic operating system functions on normal multigrade engine oil, avoiding the need to use automatic transmission fluid and ensures rapid response to movements of the operating lever for good boat handling. The operating lever has a positive neutral detent and is suitable for use with proprietary single lever remote control operating systems.

Robust and reliable, the hydraulic system is provided with a mechanical lock up device for added security, so that in the unlikely event of a hydraulic failure the boat can be brought safely back to port. Access to this device is via the detachable manifold on the rear of the gear case which also houses the hydraulic control valve.

PRM 150 Marine Gearbox - Nominal Power Ratings

Pleasure	2.1 BHP (1.6kW) per 100 rev/min operating speed
Commercial	1.5 BHP (1.1kW) per 100 rev/min operating speed
Maximum Input Speed	5000 rev/min intermittent, 4500 rev/min continuous

Note: These powers are expressed in BHP and kW per 100 rev/min engine operating speed and are 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.



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Service Classification Definitions - Pleasure

Limited to craft used excessively for pleasure boating; operation at full throttle should not exceed 5% of total time with balance of usage at 90% of full throttle engine speed or less. Maximum operation 500 hours per year. The selection of PRM 150 according to this classification for any commercial boat is not approved by PRM Marine Ltd.

Service Classification Definitions - Commercial

PRM Marine Ltd recommends that when considering the PRM 150 in boats of whatever hull form used in commercial applications and semi-displacement hull boats for pleasure applications, these boats should be classed as commercial duty and the gearbox selected accordingly.

Important Note:

- 1) It is essential for the engine, transmission model, reduction ratio and propeller size to be correctly matched so that the engine can attain it's rated speed appropriate to the relevant service classification without labouring.**
- 2) It is also necessary to ensure the torsional compatibility of the complete propulsion system from engine through to propeller, since disregarding this may result in gear noise, particularly at low speed operation, and may even result in damage to the engine as well as the transmission components.**

Operating Pressure

Minimum - 2500kPa (370lb/in²). Maximum - 2850kPa (420lb/in²). A tapped hole 1/8" BSP is provided in the rear manifold so that a pressure gauge can be fitted if required.

Oil Cooling

The normal operating temperature should be in the range of 50°C to 80°C range and should not be permitted to exceed 90°C. An oil cooler is necessary to ensure that correct operating temperature are maintained, and the gearbox is provided with two 1/4" BSP connectors to allow it to be fitted. The size of the cooler depends on a number of factors including the transmission horsepower, operating speed, duty cycle, inlet water temperature and ambient.

Propeller Free Wheeling

The PRM 150 output shaft can be rotated continuously with the gearbox in neutral. It is therefore not necessary to fit a propshaft brake when running with the engine shut down, e.g. in multi-engine installations or when sailing.



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Approximate Weight & Oil Capacity

Approx. dry weight	2.1kg (46lb) excluding drive coupling, adaptor flange and oil cooler
Oil Capacity	1.4 litres / (2.5 pints) plus the amount necessary to fill the oil cooling circuit

Adaptor Flanges for PRM 150

Part Number	Description	Weight	
		kg	lb
MT4901S/A	SAE5 Adaptor	7.5kg	16.5lb
MT4902S/A	Special SAE4 adaptor, Volvo Penta 2000 series	10.0kg	22.0lb
MT44903S/A	Special SAE5 adaptor, Volvo Penta 2000 series	2.7kg	6.0lb
MTB8083S/A	B/W (Velvet Drive) Adaptor	1.4kg	3.1lb

Other Accessories for PRM 150

Part Number	Description	Weight	
		kg	lb
MT0149	Oil cooler, complete with pipes and bracket	1.5kg	3.3lb
MT3054	Tailshaft half coupling (pilot bored)	1.3kg	2.9lb
MT3056	Tailshaft flexible coupling	0.7kg	1.5lb
MT4733	Oil Pressure gauge, direct mounting	0.1kg	0.2lb
MT0156	Neutral safety start switch	0.04kg	0.1lb

Flexible Input Coupling for PRM 150

Part Number	Outside Diameter		Mounting Hole Pattern					Remarks
	in	mm	No.	Diameter		Pitch Circle Diameter		
				in	mm	in	mm	
MT4904	8.50	215.90	6	0.344	8.74	7.875	200.0	SAE 6 ½ in
MT4905	9.50	241.30	8	0.344	8.74	8.750	222.25	SAE 7 ½ in
MT4906	11.75	298.5	6	0.320	8.13	7.875	200.0	
			6	0.320	8.13	9.843	250.0	
			6	0.320	8.13	10.625	269.9	
			6	0.320	8.13	10.75	273.1	
MT4907	6.12	156.0	5	0.250	6.35	5.593	142.1	
MT4908	5.965	151.5	8	0.256	6.5	5.512	140.0	Hawker Siddeley Marine
MT4909	10.50	266.7	6	0.32	8.10	9.625	244.5	Mitsubishi
MT4910	7.48	190.0	6	0.32	8.10	6.693	170.0	Nanni/Yanmar



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