



# PRM 1750



## Full Hydraulic Operation Drop Centre Output Shaft - Two Stage Reduction Gearing

The PRM 1750 series marine transmissions are the ideal choice for pleasure and commercial craft applications with engines rated at up to 620hp (463kW). They are available in both shallow and deep case form - corresponding to reduction ratios ranging from 1.22:1 to 3.0:1 and 3.12:1 to 4.9:1 respectively - and are supplied with integral SAE housings as standard.

All PRM 1750 series transmissions feature a twin countershaft design compatible with left or right hand propeller rotations - making them equally suitable for both single or twin engine installations. In addition, the PRM 1750's two-stage reduction gearing enables maximum input torque of 1500Nm to be transmitted continuously in either direction at engine speeds of up to 2500 rev/min.

### Simple Operation

Operation is by a single lever compatible with proprietary remote control operating systems. The need for special purpose automatic transmission fluid is eliminated by the use of engine oil specification lubricant.

### Durable & Reliable

PRM 1750 utilises a maintenance-free oil-operated, self adjusting multi-disc clutches for consistent reliability and in-service performance. The gear case is manufactured from high grade cast iron and is internally ribbed for extra rigidity and strength. The oil pump, oil filter and hydraulic control valve on all PRM 1750 models are mounted externally for easy access and servicing.

### Optional Equipment

Two optional clutched power take-offs - compatible with SAE classification hydraulic pumps - are available to drive on-board machinery. Further ancillary equipment for PRM 1750 gearboxes include an oil pressure gauge, oil cooler kit and trolling valve.

**Nominal Power Ratings - PRM 1750 Deep Case Marine Gearbox** - 'D' denotes Deep Case: manufactured only with integral SAE 1 or SAE 2 adaptor housings. Ratings are based upon engines with a maximum operating speed of 2500 rev/min.

MODEL	GEAR RATIOS	Pleasure		Light Commercial		Heavy Commercial		Continuous	
		BHP	kW	BHP	kW	BHP	kW	BHP	kW
1750D31SAE1 1750D31SAE2	3.12:1	24.58	18.33	22.85	17.04	21.13	15.76	18.27	13.63
1750D39SAE1 1750D39SAE2	3.88:1	24.58	18.33	22.85	17.04	21.13	15.76	18.27	13.63
1750D45SAE1 1750D45SAE2	4.50:1	24.58	18.33	22.85	17.04	21.13	15.76	18.27	13.63
1750D49SAE1 1750D49SAE2	4.90:1	24.58	16.76	20.89	15.58	19.32	14.41	16.72	12.47

Ratings are based upon engines with a maximum operating speed of 2500 rev/min  
**D denotes Deep Case:** manufactured only with integral SAE1 or SAE2 adaptor housings



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**Nominal Power Ratings - PRM 1750 Shallow Case Marine Gearbox** - 'D' denotes Shallow Case: manufactured only with integral SAE3 adaptor housings. Ratings are based upon engines with a maximum operating speed of 2500 rev/min.

MODEL	GEAR RATIOS	Pleasure		Light Commercial		Heavy Commercial		Continuous	
		BHP	kW	BHP	kW	BHP	kW	BHP	kW
1750D31SAE1 1750D31SAE2	3.12:1	24.58	18.33	22.85	17.04	21.13	15.76	18.27	13.63
1750D39SAE1 1750D39SAE2	3.88:1	24.58	18.33	22.85	17.04	21.13	15.76	18.27	13.63
1750D45SAE1 1750D45SAE2	4.50:1	24.58	18.33	22.85	17.04	21.13	15.76	18.27	13.63
1750D49SAE1 1750D49SAE2	4.90:1	24.58	16.76	20.89	15.58	19.32	14.41	16.72	12.47

Ratings are based upon engines with a maximum operating speed of 2500 rev/min  
**D denotes Shallow Case:** manufactured only with integral SAE1 or SAE2 adaptor housings

#### Service Classification Definitions - Pleasure

Limited to planing hull pleasure craft with a maximum of 500 hours operating time per year, of which not more than 5% should be at full engine throttle, with the balance of usage at 90% or less of full throttle. The use of PRM marine gearboxes according to this classification in any commercial boat, or in sport-fishing charter boats or long-range pleasure cruisers, is not approved.

#### Service Classification Definitions - Light Commercial

Planing or semi-displacement craft used in pleasure or commercial application may qualify for light commercial rating if annual usage is less than 1500 hours and full throttle operation is limited, with most operating time at partial throttle.

#### Service Classification Definitions - Heavy Commercial

All displacement and semi-displacement craft used for commercial applications should be classified as heavy commercial duty. In this type of vessel (such as trawlers, purse seiners, lobster and crab boats, tugs, ferries, offshore supply boats etc.) the gearbox is expected to work at full governed engine speed. The power setting of the engine must be known and must be within the permitted heavy commercial rating of the gearbox.

#### **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 its rated speed appropriate to the relevant service classification without labouing.
- 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.



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#### Operating Pressure

Minimum - 2827kPa (410 lb./in<sup>2</sup>). Maximum - 3100 kPa (450 lb./in<sup>2</sup>). Two tapped holes, 1 hole 1/8" BSP on the top, and 1 hole M18 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 1/2" 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 out by the output shaft taper roller bearings which are of ample capacity for all factory approved ratings.

#### Approximate Weight and Oil Capacity

Gearbox Type	Approximate Dry Weight	Oil Capacity	
		litres	pints
PRM1750D (Deep Case)	300kg (663lbs)	8.0	(14)
PRM1720S (Shallow Case)	260kg (570lbs)	8.0	(14)

Note: Weight excluding drive coupling and cooler. Note: Oil capacity does not include amount to fill cooling circuit.

#### Flexible Input Couplings for PRM 1750

Manufacturer	Flywheel Size	Part No
Centa Transmission	SAE 11.5in / SAE 14in	MT8462 / MT8459
R & D Marine Ltd	SAE 11.5in / SAE 14in	MT8463 / MT8464
Vulkan Industries Ltd	SAE 11.5in / SAE 14in	MT8465 / MT8466

#### Other Accessories

Part No	Description
MT8330S/A	Oil Cooler for engines up to 340kW
MT8331S/A	Oil Cooler for engines over 340kW
MT0205-KIT	Clutched power take-off SAE for "B" hydraulic pump
MT0497-KIT	Adaptor ring for PRM1750S to SAE1 flywheel
MT0514-KIT	Adapter ring for PRM1750DSAE 1 to SAE2 flywheel
MT4992	12 Volt Trolling Valve
MT4993	24 Volt Trolling Valve



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