

PRM302 MARINE GEARBOX BY NEWAGE

FULL REVERSIBLE OPERATION: OFFSET OR DOWN-LANGUE OUTPUT SHAFT

The PRM302 marine gearbox is purpose built for service both astern and independent bow thrusters. Its non-conventional design provides superior operational flexibility - custom shafts need no adjustment to shaft and gear clearances for total power to be transmitted continuously in either direction.

To cater for the wider available variety of boats, the PRM302 is offered with a choice of reduction ratios: 1.409:1, 1.90:1, 2.667:1 and 3.64:1. An oil pump driven either from an in-line shaft or parallel mounting (or "tailshaft"), enables the gearbox to be fully self-actuated to meet engine requirements. An oil pump drive is also available as an optional option. The shafts to the front of the gearbox, mounting an "in" shaft, are made on the output shaft.

The gearbox is constructed of high grade cast iron, internally ribbed for rigidity and strength, and consists of two separate main shafts. In order to ensure the maximum use of hydraulic power, the shafts are hydraulically mounted for easy servicing.

The hydraulic operating system functions on normal seawater or oil of the same viscosity as that used in the engine, enabling the most basic, reliable maintenance. The oil pressure is kept below 10 bar to ensure the maximum life of the gear teeth. The gear oil pump has a positive displacement motor and is suitable for use with proprietary engine oil or with other gear oils.

Should you require, the hydraulic system is alternatively provided with a mechanical pump - giving full shaft rigidity, so that on the unlikely event of a shaft failure the boat can be manoeuvred back to port. Access to this feature is also desirable once the boat is in the water for that period.

A special feature of the PRM302 is the input shaft "break-off" which is available as an optional extra. The input shaft hydraulic pump is of the "A" type "B" specification, thus providing an excellent and very efficient means of driving on board machinery.



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NOMINAL POWER RATING, FRESH WATER MARINE-CESSION

RATED	PLEASURE		LIGHT COMMERCIAL		HEAVY COMMERCIAL	
	HP	kW	HP	kW	HP	kW
1,400 L, 1,900 T	4.70	4.70	5.70	4.42	5.90	4.42
2,000 L, 2,900 T	5.70	4.42	5.90	4.40	5.90	4.40

Maximum operating speed: 4000-rpm/minute maximum, 3600-rpm/minute continuous

Note: These ratings refer to diesel engines operating at maximum continuous output (MCO) at 3600-rpm/minute operating speed, and are measured at the engine flywheel. Ratings have been established to maximize long and trouble-free life of the gearbox which should not therefore be expected to operate at power levels of those shown.

GEARBOX IS APPLICATION DEFINED

PLEASURE: Limited speed/limited displacement/limited operational full-throttle throttle was recommended. If total time with selected output of 3000 or less of full throttle engine speed, and maximum operating RPM/minute per year. The selection of P/HP based transmission according to the manufacturer for any commercial boat, or in gear ratings shown based on rating range structure shown, is not assumed.

LIGHT COMMERCIAL: pleasure or semi-commercial craft used in structure or commercial applications may qualify for light commercial rating if annual cumulative run 1000 hours and full throttle operation limited, with most operating time at partial throttle.

HEAVY COMMERCIAL: Strong Transmission also recommends that all displacement and semi-displacement craft used in commercial applications should be fitted primary gearbox at 3600, in cases of this type including transient gear shifts between adjacent gears, high thrust, efficient supply lines and the marine gearbox is expected to work at full governed engine speed. The power output of the engine will be limited and must be within the gearbox's permissible heavy-commercial rating.

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 for the relevant service classification without lugging.

(2) It is also necessary to ensure the rotational compatibility of the complete propulsion system from engine through to propeller, since disrupting this may result in gear noise, porpoising or low speed operation, and may even result in damage to the engine as well as to transmission components.

Strong Transmission also will provide all possible information and assistance to help find solutions for potential technical problems, but it is the ultimate responsibility of the person selecting the drive and other equipment to ensure that they are technically compatible.

OPERATING PRESSURE: Maximum 1700 kPa (240 psid), Minimum 2100 kPa (300 psid). Test temperature 10°C (50°F) or below, and below the size of the watercraft are provided. (Note pressure gauge set to read 100 kPa).

Oil Cooling: The normal operating temperature of the oil should be in the 80°C - 90°C range and should not be permitted to exceed 100°C. An oil cooler is necessary to prevent hot oil operating temperatures are maintained and hot 80°C - 90°C conditions are permitted the watercraft to allow it to be used.

The size of the water cooled machine depends on a number of factors including the transmission horsepower, operating speed, duty cycle, inlet water temperature and ambient temperature.

PROPELLER THRUST: Each shaft and water flow is carried by the output shaft with bearing which are of adequate capacity for all factory-approved ratings.

PROPELLER FREE WHEELING: The P/HP rated output shaft can be rotated continuously with the gearbox in neutral. It is not therefore necessary to fix propellers in the stern compartment. (See engine and gear, eg on each engine installation or installation).

APPROXIMATE WEIGHTS AND OIL CAPACITIES

Oil Weight	FRIGIDOL SAE 15W/40, including oil filter, unrefined motor
Oil Capacity	22 litres (6.0 gallons), plus the amount required to fill the oil filter(s)

ACFT USE FOR PARTS

PART NUMBER	DESCRIPTION	APPLICABLE	
		kg	lb
MT 12-026A	Oil Filter Adapter	11.0	24.3
MT 12-019A	SAE Oil Adapter	11.0	24.3
MT 12-026AA	SAE Oil Adapter - Flaring, used for 1/2" oil filter	11.0	24.3
MT 12-019AA	SAE Oil Adapter	11.0	24.3
MT 12-026AB	Oil Filter Adapter	11.0	24.3

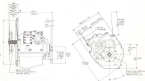
PLEASANT INPUT COMPLIANCE FOR PARTS

PART NO.	OUTPUT QUANTITY	MECHANICAL WEIGHT PER ITEM		REMARKS
		kg	lb	
MT 12-026	1.0 Oil Filter Adapter	1.0 12-026AA	11.0	24.3
		1.0 12-026AB	11.0	24.3
		1.0 12-026AC	11.0	24.3
		1.0 12-026AD	11.0	24.3
		1.0 12-026AE	11.0	24.3
MT 12-019	1.0 Oil Filter Adapter	1.0 12-019AA	11.0	24.3
		1.0 12-019AB	11.0	24.3
		1.0 12-019AC	11.0	24.3
		1.0 12-019AD	11.0	24.3
		1.0 12-019AE	11.0	24.3
MT 12-026	1.0 Oil Filter Adapter	1.0 12-026AA	11.0	24.3
		1.0 12-026AB	11.0	24.3
		1.0 12-026AC	11.0	24.3
		1.0 12-026AD	11.0	24.3
		1.0 12-026AE	11.0	24.3
		1.0 12-026AF	11.0	24.3
		1.0 12-026AG	11.0	24.3
		1.0 12-026AH	11.0	24.3
		1.0 12-026AI	11.0	24.3
		1.0 12-026AJ	11.0	24.3

OTHER ACCESSORIES FOR PARTS

PART NUMBER	DESCRIPTION	WEIGHT	
		kg	lb
MT 12-026	Oil cooler - FRIGIDOL engine oil for 1200cc FRIGIDOL engine (also 1200cc)	1.00	2.20
MT 12-019	Oil cooler - FRIGIDOL engine oil for 1200cc FRIGIDOL engine (also 1200cc)	1.00	2.20
MT 12-026	Oil cooler (also 1200cc)	0.50	1.10
MT 12-026	Oil cooler mounting bracket	0.20	0.45
MT 12-026	Flare nut (also 1200cc) (also 1200cc)	0.80	1.75
MT 12-026	Flare nut (also 1200cc)	0.50	1.10
MT 12-026	Oil pressure gauge (also 1200cc)	0.50	1.10
MT 12-026	Low PTO, for 1200cc (also 1200cc)	0.80	1.75
MT 12-026	Flare nut (also 1200cc)	0.54	1.20

30-Ton Instrument cranes



Technical drawing
Technical drawing of a 30-ton instrument crane
angle perpendicular to a 1°

Adapters	30°		45° (optional)	
	mm	inches	mm	inches
3000	4000	157.5	4000	157.5
3000	4000	157.5	4000	157.5
3000	4000	157.5	4000	157.5
3000	4000	157.5	4000	157.5

ADVANTAGE 30-TON

30-ton instrument crane is the perfect instrument crane for applications. It offers a wide range of options, including various jibs, cranes, and cranes. It is designed to be used in a variety of applications, including in a general purpose, and also in applications of your own. The 30-ton instrument crane is designed to be used in a variety of applications, including in a general purpose, and also in applications of your own.

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