

Pacific Driveline and Henleys Propellers Overview

Following is an over view on what both Pacific Driveline and Henleys Propellers do. – as well as Thordon bearings of course.

In a nutshell Pacific Driveline (PDL) handles Twin Disc gearboxes and controls, while Henleys handles everything aft of the gearbox to back past the propeller to the rudder. Both Companies supply Thordon bearings and manufacture and repair, props, pump impellers and stirrers.



Gearbox on a test-bed at PDL



Henleys- from the half coupling back to the rudder.

At Henleys we design and build props, p- brackets, rudders, tiller arms, rudder ports, shaft seals, half couplings, shafts and shaft housings. We look after a range of sizes:-



Big stuff - Inter-Islander ferry blade.



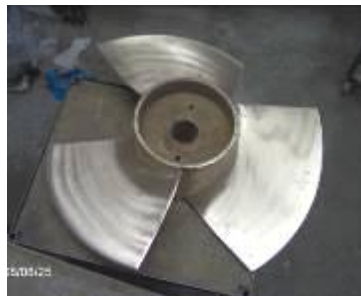
5 bladed launch propeller.



Screw conveyor bearings



Bearings for Pumps



Refurbished MacEwans 30" Ø Pump impeller.



Andrews & Bevan Pump impeller

The Andrews and Bevan impeller above is a brand new one copied by us from the original.



Peak cap bearing for Sedimentation Tank in Sewage treatment plant.



Engine Mounts

With the exception of the Inter-Islander ferry blade, all of the above props and impellers are scanned on our prop scanner.

We will Repair, Tweak and Balance to as good as new or better any prop or impeller

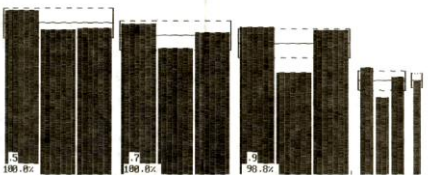
Prop and Impeller Scanning

See the typical 3 bladed “Prop Scan Before” example below on the left hand side of the page– note how each of the 3 blades measured at .5, .7 & .9 blade diameter are all well out of spec.

This prop as it is, will vibrate over the entire rev range and cavitate at much lower speeds and loads.

Prop or Impeller Scan Before

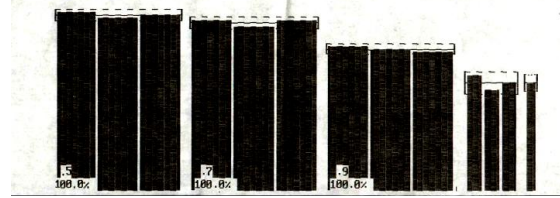
Job No. 6371	ISO 484	Measured Mean = 15.143	(a) 95.1%	GZ
Date 28/10/08	Class 1		(b) 98.8%	F3
Dia. 18.000	CTM		(c) 89.2%	*
Blades 3 x 3 RH				



Out of balance and out of Class

Prop or Impeller Scan After

Job No. 6371C	ISO 484	Measured Mean = 15.696	(a) 100.0%	GZ
Date 28/10/08	Class 1		(b) 100.0%	F1
Dia. 18.000	CTM		(c) 100.0%	*
Blades 3 x 3 RH				



In balance and in Class

In the graph on the right hand side the prop technician has brought the propeller into Class and into balance. The blades all conform to Class 1 and the vibration will be gone and cavitation will be much harder to induce. The motor, bearings and gearbox will have a much longer service life when the prop or impeller is kept in Class.

The prop above was off my boat and visually you wouldn't have thought there was anything wrong with it, but after being brought into class the speed went from 28 knots to 31 knots and best of all most of the vibration disappeared – so you could say 10% of the motor's horsepower before was used to shake the boat!

Henleys is the only company in New Zealand that uses scanning equipment, so all props, impellers, aerators and stirrer blades leave our workshop scanned and balanced conforming to Class 1 or better.

Hydro Turbine Generation

We also supply bearings to the Hydro Turbine Industry:-



Tuai G1 ThorPlas wicket gate bearings



Lake Coleridge ThorPlas Wicket Gate bearings



Thordon SXL Main Guide Bearings for Fereday Island Kaplan Generators.

Other ThorPlas bearing Applications

Forrestry – Handling & Transportation

End User

Timrick Slashers (Canada)

Application:

Slasher Grapple Bearing –Forestry

Installation Date:

March 2005

Note:

- Robotec Grapple (OEM) - Can pick up tree length at lengths up to 60'.
- Replaced bronze bearing.



Scrap Metal & Recovery

End User

Berman Brothers, FL. USA.

Application:

Grapple Bearing -Scrap Metal Recycling

Installation Date:

December 2003

Notes: Nylon bearings lasting only 2.5 weeks. ThorPlas bearings lasted 5 months before unit was sent for repairs (no issues with bearings).



Nylon Bearing replaced.
Note
ThorPlas® installed.



Mining – Truck Stabilizer

End User

Mining Facility Peru

Application:

Steady Axle 100 Ton truck

Installation Date:

March 2005

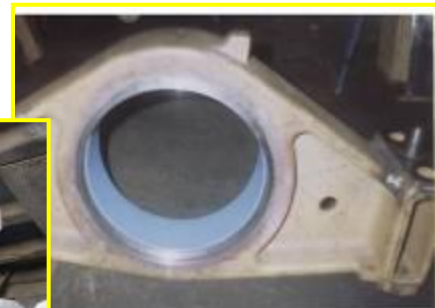
Note:

- Initial bearings were bronze, lasting 2500 hrs. Replaced it with Nylon that lasted 7000 hrs.

Currently, ThorPlas CONTINUES to operate without issues (>13,000 hours)

- Grease lubricated but can not guaranteed continuously.

- Large bearing sizes 348 mm (313.7") x 327.5 mm (12.9") x 101.6mm (4")



Forrestry – Kiln Drying

Application:

Sawmill carrying container- wheel bearings. Pulp & paper industry (Chile)

Installation Date:

January 2006

Notes:

- Bronze bearings lasting only 2 months. ThorPlas bearings inspected after 5 months. Minimal wear found – **expected service life of 10 months based on wear.**
- Hot temperatures & humidity in excess of 176°F (80°C) for short periods.
- Pressure >13.7 MPa (2000 psi).
- Anti-rotation pin placed on top of the bearing caused cracks yet bearings continued to operate without any issue.



For more information contact

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