

TWIN DISC

MARINE PROPULSION SYSTEMS



PUTTING HORSEPOWER TO WORK.



TWIN DISC

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WE GREW UP ON THE WATER.

It started with a love of boats and a visionary insight on how to make them run and work better. Over the course of 75+ years, Twin Disc has forged a reputation worldwide on our proven ability to design, develop and manufacture the most efficient, reliable marine propulsion products for a wide variety of applications.

First used in rigorous commercial fishing applications in the Great Lakes during the 1930s, Twin Disc marine transmissions proved themselves reliable under the most demanding conditions. Even war. Allied forces depended on Twin Disc marine transmissions to drive some 40,000 landing craft loaded with troops and supplies onto beaches during the Normandy invasion and throughout the South Pacific during World War II.

Today, you will find Twin Disc marine products – transmissions [including the revolutionary new QuickShift® transmissions], electronic controls, waterjets and Arneson Surface Drives – propelling all kinds of vessels, on all kinds of water, all around the world.



U P T O S P E E D



WATER COVERS 70% OF THE WORLD. WE COVER EVEN MORE.

Our worldwide distributor network puts Twin Disc marine products where they need to be. It's been our mission from the start to place Twin Disc performance and reliability in the hands of boat owners and operators no matter where they are located. And it goes beyond just providing the products. We know Twin Disc marine products are a critical component in the productivity and performance of a boat. That's why we have established a worldwide sales and service network to supply and support our products wherever they are used. Twin Disc is dedicated to achieving and maintaining optimum results for those who specify and use our products.

ENGINEERED TO WORK. REAL HARD.

Twin Disc marine products are designed, engineered and built to perform real tasks, really well, in the real world. Sometimes it's glamorous work, sometimes it's not so pretty. But it is always necessary. From luxurious pleasure craft to stealthy military vessels to hard working tugs, pushboats, fishing boats and crew boats, Twin Disc products optimize the use of the engine's horsepower contributing to the boat's overall performance, productivity, operating efficiency and cost-effectiveness.

WE KNOW. WE LISTEN. WE DELIVER.

Our array of marine propulsion products and their diverse applications are a reflection of our years of experience and expertise in the marine marketplace. Twin Disc has developed products based on what we know the market needs and wants. Our in-depth knowledge of all sorts of marine craft – pleasure and commercial – and the various owner, operator and task requirements provides us with both observations and feedback that leads to successful, relevant products.



**TWIN DISC OFFERS MORE THAN 30
DIFFERENT MARINE TRANSMISSION MODELS
IN A VARIETY OF CONFIGURATIONS RANGING
FROM 35 TO 3600 HORSEPOWER.**



MARINE TRANSMISSIONS

From mid-size and large diesel-powered pleasure craft to a myriad of commercial boat applications, Twin Disc has marine transmission systems that precisely fit the horsepower and operating needs of each.

Our standard marine transmissions feature helical gearing for quieter operation; hydraulic-controlled and oil-cooled clutches for smooth, fast shifting; identical reduction ratios in forward and reverse, in most cases full power forward and reverse and minimal external plumbing.

Some models are available with down angle output to provide near-level engine installation, a feature of particular interest to boat builders for optimizing space within the vessel. For additional space savings, remote mounted V-drive and direct-mounted V-drive models are available.

NEW QUICKSHIFT® — SO FAST, SO SMOOTH, YOU'VE GOT TO FEEL IT TO BELIEVE IT.

No other marine transmission in the world shifts as fast and smooth as the new Twin Disc QuickShift®, yet it provides amazing slow speed control at five knots or less. With its patented, completely internal and integrated clutch actuating system, QuickShift® instantly delivers cushioned torque to the driveline when shifting from neutral to anywhere from full ahead to full reverse. It eliminates driveline shock while optimizing power to the driveshaft. And all this happens literally within milliseconds. So you have a steep but smooth power curve, whether you go full out or just nudge the throttle.

It's difficult for a powerful diesel vessel to go very slow with a conventional transmission. Reducing engine rpms to get the vessel speed below five knots could stall the engine. Not so with QuickShift®. It regulates engine torque at extremely low speeds to slow propeller speed down to approximately 50 rpms – allowing you to maneuver at less than five knots and even accomplish zero boat speed, an incredible advantage in docking.



QUICKSHIFT®

IS TRULY THE ONLY SLOW SPEED SYSTEM

THAT CAN BE EFFECTIVELY USED FOR DOCKING AND MANEUVERING.

Docking under calm conditions can be a challenge with a conventional transmission. In the time it takes to shift from forward to reverse, boats traveling five knots can drift up to 13 feet. With QuickShift's immediate thrust and slow speed control, the movement of the vessel is contained more precisely and easily.

Motor Boating magazine had singled out QuickShift® to receive its 2003 Editor's Choice Award, calling our technology "an exciting breakthrough in slow-speed control for diesel-powered boats" that delivers "what trolling valves and two-speed transmissions can't: propeller speeds as low as 50 rpm."



MARINE CONTROL DRIVES (MCDs)

These unique variable speed drives provide boat operators with the capability to split and control engine power. Twin Disc MCDs incorporate a modulated clutch with slip control that allows precise control of propulsion and permits power-splitting capabilities between propulsion and other critical activities—bow thrusters, fire pumps and winches.

MARINE ELECTRONIC PROPULSION CONTROL SYSTEMS

Leading the industry in quality, style and performance, Twin Disc electronic control propulsion systems are designed to interface with all popular electronic engines and transmissions.

They are versatile, rugged and easy to install. With literally one finger on one lever, the operator can control the boat's speed and direction. Multiple drivetrains and multiple control heads can easily be accommodated. And multiple electronic control stations can be placed around the boat.



M O R E C O N T R O L



ARNESON SURFACE DRIVES

For the ultimate in speed, maneuverability, efficiency and dependability, nothing matches Twin Disc Arneson Surface Drives. Their surface-piercing propeller design reduces underwater drag by 50% compared to conventional submerged propeller drive systems. The only surfaces to contact the water are the propeller blades and a protective skeg. This results in higher overall speed, quicker acceleration and a better payload-to-power ratio. And 50% less drag significantly improves fuel economy while lowering operating costs.



ROLLA PROPELLERS

Rolla Propellers offers a wide variety of services for virtually every aspect of propeller design, manufacture and application. The Rolla families of stainless steel and NiBrAl surface piercing propellers range from 28 inches to 9.8 feet in diameter and include lines specifically designed for all major surface drive systems. With the addition of Rolla Propellers to Twin Disc's extensive line of propulsion equipment, engine manufacturers, boat designers, builders, owners and operators now have one source for the greatest combined propulsion technology.



WATERJETS

Our line of waterjets – from 300 to 2,000 horsepower – offer smooth, powerful acceleration and superior maneuverability with 100% of the available thrust directed into steering effort. Twin Disc Waterjets are transom mounted and readily installed in existing hull configurations. The lack of underwater appendages reduces drag and the modular design makes maintenance quick, simple and rare.



P R O P U L S I O N S O L U T I O N S

WE ARE HERE WHEN YOU NEED US.

With 129 distributors in 77 countries around the world, Twin Disc offers you *qualified* sales and service support for your Twin Disc marine transmissions and propulsion products wherever and whenever you need it. No other marine transmission manufacturer offers that kind of service support.



THE RIGHT PROPULSION PRODUCTS. RIGHT NOW. AND TOMORROW.

For more than three quarters of a century we've been innovating propulsion systems for marine applications. Today, no one in the world offers you more ways to make your craft move through the water more efficiently, more reliably, with more control. We are committed to the marine industry to develop even better propulsion solutions, while standing staunchly behind our existing product line.

You can rest assured that whenever you invest in a Twin Disc marine propulsion product, that product will support you and we will support that product for many years to come. So if you want to make the most of your boat, put Twin Disc aboard.



Discuss your Twin Disc propulsion options with your boat builder, dealer, engine supplier or a Twin Disc marine distributor. Or, visit Twin Disc at www.twindisc.com.



WE HAVE A HISTORY OF MAKING BOATS PERFORM BETTER AND MORE RELIABLY.

- 1923 — First Marine Transmission
- 1956 — First Hydraulic Marine Transmission
- 1960 — First use of Rubber Block Drives
- 1970 — Omega Transmission Introduced
- 1971 — Introduction of conical-helical involute gear design – Down Angle
- 1973 — Introduction of the Trolling Valve
- 1975 — Keyless taper joint design
- 1982 — Introduction of the Marine Control Drive (MCD)
- 1989 — Electronic Controls
- 1992 — Arneson Surface Drive acquisition
- 1996 — Water Jet Manufacturing and Marketing Agreement
- 2002 — Introduction of QuickShift® Marine Transmissions
- 2003 — Introduction of Zeta Drive
- 2004 — Acquisition of Rolla Propellers

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