

# Gas Turbine Boost Power: Higher Speed for Naval and Commercial Vessels

Performance boats in the 30 to 60 meter range can be simply transformed with the addition of a simple TF marine gas turbine boost package.

## CHALLENGE

Increasing vessel speed without making dramatic design changes or increasing vessel weight.

## SOLUTION

A single Vericor TF50 center boost marine gas turbine package.

## RESULTS

Additional 5000 hp of installed power and higher speed with addition of one shaft line. Power switched on when high speed is desired. Minimal added weight.

## OVERVIEW

As a designer or a builder you may be asked by a prospective client, whether it is a foreign navy or simply a performance minded yacht owner, "can 10 more knots be added to that top speed?" With a center boost Vericor Twin TF Marine Gas Turbine Package the answer to that can be "yes".

By adding a gas turbine center boost shaft line and reducing the size of the two diesel engines originally planned, a substantial amount of power can be added while decreasing the overall weight of the propulsion system. That translates to added speed.

For the naval architect and the operator, the advantages are numerous:

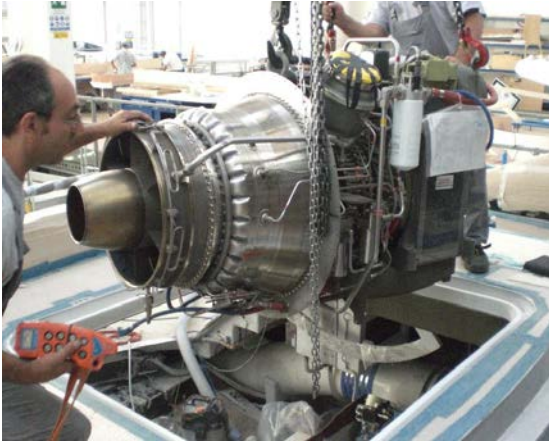
- Vericor marine gas turbines operate on diesel fuel and are controlled from the bridge just like conventional diesel engines.
- Gas turbines operate waterjets or props just like diesel engines.
- The gas turbine can be brought on line once underway and only used for high speed segment of the trip.

Gas turbine horsepower is lighter than diesel horsepower. It's that simple.

The ships below are a few that use a gas turbine center boost package to boost their performance.

Center boost packages are in service around the world.





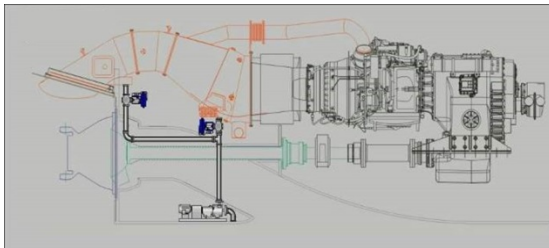
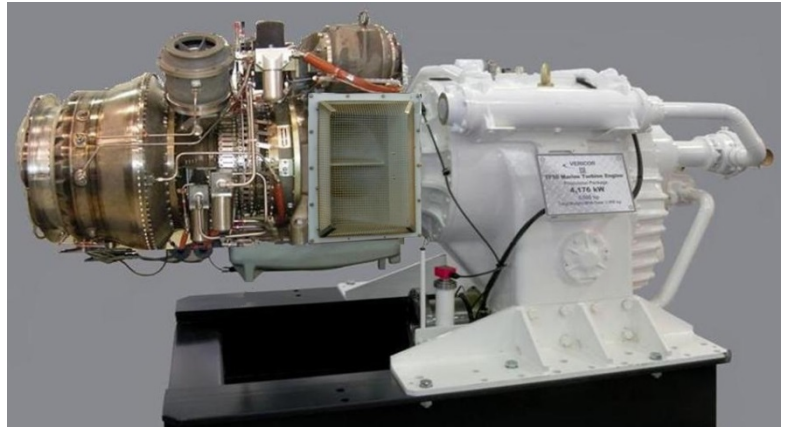
### Case Study Details and the Advantages of the Center Boost TF Gas Turbine Package.

The overwhelming advantage of the TF Package is the low weight and small size as compared to other marine powerplants. A single 5600 hp gas turbine engine with main reduction gear (MRG) weighs approximately 8400 lbs, one third the weight of a comparable diesel engine. Because the added power does not bring a heavy weight penalty and the installed volume is small, the package can be accommodated in most performance vessel designs.

A key design feature of the TF engine is full and direct mounting to the MRG. This design feature contributes significantly to the weight savings of the overall package by eliminating a heavy base frame or structural support for the engine. The entire line of TF series marine gas turbines were designed specifically to be full mounted to a MRG without further support for sea going applications.

The Vericor TF series are the only gas turbines available with this design feature.

TF marine gas turbines are proven in naval service with the US Navy, Japanese, Korean and Swedish navies.



Vericor is the Original Equipment Manufacturer for the TF and ASE Series marine and industrial gas turbines and provides engineered systems and packages using these engines to customers and operators worldwide. In addition to the US Navy LCAC hovercraft, TF engines power high performance fast ferries, megayachts, fast patrol boats and corvettes. There are more TF Series marine gas turbines engines in propulsion service than any other in this size class.

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