

How a swing cartridge strategy helped support fast turnaround, planned maintenance and long-term turbocharger reliability

Overview

A ferry operator required scheduled turbocharger support during a planned maintenance window. The vessel's port engine was fitted with a Napier NA357 turbocharger, and the service strategy centred on replacing the in-service cartridge with a prepared swing cartridge complete with volute casing and insert.

As authorised Napier agents, Royston supported the work by carrying out the cartridge exchange and helping maintain a continuous overhaul cycle for the customer's turbocharger assets.

The process followed a simple but effective loop:

Remove → Replace → Overhaul → Return to swing stock → Repeat

The Challenge

Marine operators rely on turbochargers for engine performance, vessel availability and reliable service schedules. When a turbocharger requires overhaul, completing the full remove, repair and refit process within a single maintenance window can create time pressure.

The customer's swing cartridge strategy helped avoid this. By having an exchange-ready unit available, the vessel could move through its planned maintenance schedule while the removed cartridge entered the overhaul cycle separately.

Royston's Approach

Royston attended the vessel during its planned maintenance period and removed the existing cartridge from the port engine turbocharger. The prepared swing cartridge was then fitted in its place, complete with associated casing and insert.

This allowed the vessel's maintenance programme to continue without waiting for the removed cartridge to be overhauled and returned within the same service window. The removed cartridge was then taken into Royston's workshop process for inspection, overhaul and preparation, ready to return to the customer's swing stock for future exchange.

As authorised Napier agents, the work also demonstrates Royston's capability to support Napier turbocharger operators with cartridge exchange, inspection, overhaul planning and lifecycle maintenance.



Why the Swing Cartridge Model Works

The swing set approach gives operators a more predictable way to manage turbocharger maintenance. Rather than treating each overhaul as a standalone event, the operator keeps serviceable assets moving through a planned cycle.

This supports:

- Faster turnaround during service windows
- Reduced downtime risk
- Better control of overhaul planning
- Improved turbocharger readiness
- A repeatable process for future maintenance intervals

Outcome

The customer's swing cartridge was successfully fitted, allowing the removed cartridge to enter Royston's overhaul process. Once inspected and overhauled, the unit can be returned to swing stock, supporting a continuous maintenance model that helps keep the vessel operational and ensures a serviceable turbocharger cartridge is available for future exchange.

