White knights
Fast track damage limitation.

ABB is often called in to correct turbochargers where the poor dimensional tolerances of non original parts have prevented an overhauled or repaired turbocharger from functioning properly. Almost every ABB Turbocharging Service Station has its own particular story of a “white knight” emergency call out. Typically an ABB Service Station rapidly diagnoses problems due to non original parts, quickly obtains ABB Turbocharging Original Parts, fits them and returns the turbocharger to full working order with the shortest possible downtime.

Dateline Singapore
The ABB Turbocharger Service Station in Singapore was called in to diagnose problems with a repaired turbocharger aboard a bulk carrier. The rotor, nozzle ring, cover ring and diffuser had been replaced with non original parts, but on completion of the repair the turbocharger was subject to serious “surging”. This put the rotor bearings at serious risk of failure as well as preventing the engine from reaching its design output and design fuel consumption. As a result, the ship’s departure from Singapore was delayed for 5 days, incurring unnecessary harbor fees.

After dismantling the turbocharger, the ABB Turbocharging technicians established out-of-tolerance dimensions on the non original parts. Among other things, the rotor shaft was not machined in accordance with ABB specifications. Following exchange of these non original parts for ABB Turbocharging Original Parts, the engine immediately ran normally, without surging during a 10 hour sea trial and its performance was back to rated output.

Dateline South Coast UK
An engine user purchased a second-hand nozzle ring for his older turbocharger on the “gray market”. While an ABB Original Part, after basic cleaning the nozzle ring had been marked with the wrong part designation. After only a few hours the vessel reported performance problems and asked ABB Turbocharging to investigate. Measurements established the nozzle ring to be a different version to the designation shown on the specification.

ABB supplied and fitted the correct size of nozzle ring as a new Original Part – unfortunately incurring duplicated parts and labor costs for the owner – as well as engine downtime and a considerable delay in the vessel’s schedule.

Dateline Florida USA
During a standard overhaul on a TPL 77-A30 turbocharger, radial bearing bushes showed signs of severe wear on all 3 segments after just a short time in operation.

Close investigation revealed they were non original parts with serious deviations in geometry from the ABB Original Parts specification. The bushes were replaced with ABB Turbocharging Original Parts and gave excellent service with low wear.

Damage limitation: the non original parts were detected before the bearings could fail and cause damage to the shaft or a complete breakdown of the turbocharger with the vessel at sea.