

★ 60163 *Tornado* ★ 60163 *Tornado* ★ 60163 *Tornado* ★

THE *A1* STEAM LOCOMOTIVE TRUST

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MAJOR STEP FORWARD AS NEW STEAM LOCOMOTIVE BECOMES A ‘PACIFIC’ *Coupling rods fitted to Tornado at Darlington Locomotive Works*

The A1 Steam Locomotive Trust, the registered charity that is building the first new mainline steam locomotive in Britain for over 40 years, today announced that No. 60163 *Tornado* is now a Pacific following the fitting of all four coupling rods to its six 6ft8in driving wheels (the name Pacific refers to the 4-6-2 wheel arrangement under the Whyte Notation of steam locomotive wheel arrangements) which now rotate freely together for the first time.

Each of the four 7ft 6in rods weighs around two hundredweight and after forging, extensive machining and heat treatment, the four cost around £22,000 to manufacture. These rods are vital components within the £150,000 valve gear and motion assemblies, which are now the focus of work on *Tornado* at the Trust's Darlington Locomotive Works.

The Trust has also started work on the fitting of the rest of the outside motion. The bushes for the connecting rods are currently being machined at Ian Howitt Ltd, Wakefield and one side of the locomotive has now been fitted with a mock-up of parts of its valve gear. This is to enable accurate measurements to be taken to set the length of the eccentric rod as the traditional method of heating the rod to stretch/shrink it used when the original Peppercorn A1s were built in 1948/9 is no longer recommended as it can affect the rod's metallurgical properties.

The A1 Trust is building Peppercorn Class A1 Pacific No. 60163 *Tornado* at its Darlington Locomotive Works and when complete it will be used on charter trains operating on Network Rail. Significant progress has been made on the construction of *Tornado*, with over £1m raised to-date through deeds of covenant and commercial sponsorship.

More follows...

Mark Allatt, chairman of The A1 Steam Locomotive Trust commented:

“*Tornado* becoming a Pacific is another major step forward for the Trust, following on the heels of the announcement of our boiler re-design and procurement decisions. Ten years after construction started, The A1 Steam Locomotive Trust is still the only organisation to have made significant progress towards building a brand new ‘modern’ steam locomotive following British Railway’s last one in 1960, rather than restoring or heavily rebuilding one into another class and we have now raised and spent in excess of £1m on the project.

“We are now looking to railway enthusiasts throughout the country to help us complete *Tornado* through taking part in our covenant scheme and/or our £500,000 bond issue.”

More progress

- Ufone Precision Engineers Ltd of Dudley, West Midlands, are machining most of the outside valve gear to a total cost of £33,000. This will be followed by case hardening of the working surfaces, which will cost around £3,000. The machining of the inside valve gear will also follow once the necessary £22,000 is available.
- All six valve chest liners are now fitted
- New drawings have been produced for the valve spindles and valve pistons, an order has been placed with North View Engineering Ltd, Darlington
- The foot-plating around *Tornado* is being finally fitted by volunteers following some time being temporarily fitted
- The cylinder drain cock gear has been completed by volunteers and is ready for fitting. In addition, the operating handle has been fitted to the fireman’s side of cab – the first of *Tornado*’s controls
- Approx £10,000 of orders for the reversing gear has been placed with North View Engineering Ltd and Ian Howitt Ltd and they should be delivered to Darlington Locomotive Works (DLW) by Christmas
- The cab has been riveted together at the Grosmont workshops of the North Yorkshire Moors Railway following its reduction in height and has been delivered to DLW.
- The Trust’s Director of Engineering, David Elliott, has produced new drawings of the 3½-inch Ross Pop 250psi boiler safety valves from an example lent to the Trust by the owners of Gresley class A4 *Sir Nigel Gresley*. The safety valves used on the Peppercorn class A1s were identical to those of the A4s and some of the necessary component drawings are missing from the National Railway Museum’s archives, hence the loan of the actual valve.
- The Trust has purchased and installed a two tonne gantry and electric hoist in Darlington Locomotive Works to speed erection.