

Technical History: Blackstone TPT Diesel Engine #TT81003

The T.P series of engines went into production at Lister-Blackstone & Co. Ltd./Blackstone & Co. Ltd. of Stamford England in May 1939. The engine owned by the Club is a twin cylinder version of this horizontal 4-stroke diesel engine.

The year of manufacture is unknown, however it was installed at Hesso, north of Pt. Augusta, South Australia, in 1957.

Technical details are

Engine No.	TT81003	
Specification	71150	
Type	TPT	
Horsepower	154 @ 420rpm	
Cylinders	2	
Bore	11 3/4ins	298mm
Stroke	15 1/2ins	394mm
Compression Ratio	13.75:1	
Engine Weight	8892lbs.	4033kg.
Flywheel Weight	5612lbs.	2546kg.
Flywheel Diameter	66ins	1676mm

Operating manuals & spare parts lists are held by the Club, together with a large store of new & used spare parts.

We understand that by the end of 1954, production of the whole series of Blackstone P type diesel engines averaged 600 per year. Most of these engines were exported, mainly to the Middle East driving irrigation systems. The P type engine series continued in production till the demise of the Company in 1993.

Engine TT81003 is now fully restored and operational. For ease of movement and display, it has been mounted on a hydraulic drilling rig platform, together with other engines and pumps to supply hydraulic and compressed air power.

Starting air pressure is supplied by a Lister 3 1/2hp type CS diesel engine close coupled to a Hamworthy single cylinder air compressor. This Naval compressor unit was recovered from the Woomera Powerhouse, where it provided emergency compressor capacity for engine starting. It is understood that this type of unit was used for engine starting in the Royal Navy.

Hydraulic power is used to raise & lower the platform so that a truck can reverse under and move the unit. This power is provided by a Wisconsin 18hp twin cylinder petrol engine coupled to a Hydreco hydraulic pump.

The air receiver, also from the Hesso Pumphouse, together with hydraulic reservoir and cooling tower are mounted on the platform.

The engine is run without load when on display with the platform lowered onto the ground. It starts with air pressure of 150 psi.

Working History: Blackstone TPT Diesel Engine #TT81003

The complete working history of this engine is not known. We don't know when it was made, and are unsure about its earliest years. We do know that it spent from 1957 to 1992 pumping water to the town of Woomera and the Woomera Rocket Range & Nuclear Testing facility.

In the 1950's, Blackstone & Co. Ltd. was producing hundreds of the type P engines, mainly for export, and mostly for irrigation pumping. In South Australia, far from the "cold war" chills of Europe, frantic efforts were being made by Britain to enter the Nuclear Club, and to produce rockets capable of the delivery of nuclear weapons. This effort was centred on the outback facility near the purpose built town of Woomera.

Water was a major problem in this arid country, and a "crash" program was instituted to get water from the Morgan-Whyalla pipeline, which supplied River Murray, water to the city of Whyalla and many points between. The pipeline was tapped at Pt Augusta and connected to Woomera. We understand that to provide pumping capacity, a pair of Blackstone TPT engines each with a 6inch INDENG Multistage Spiroflow pump were "commandeered". They were installed on the pipeline at the then tiny railway siding of Hesso, 53km north of Pt Augusta. Engine #TT81003 is one of those engines. The other now stands at the Visitor Information bay outside Woomera.

These pumps delivered water at the rate of 650 gallons/minute (2955l/m) against a head of 473 ft. (144m). A former engine driver at Hesso told Members that when the engines were working hard, the ground around the pump house shook and it was difficult to stay in the pump house for long.

In 1996, the Defence Support Centre, Woomera, donated engine TT81003 to the Club. It was recovered by a group of volunteers, supported by the Australia Army and other sponsors.

During the recovery of the engine, Members were told that the engine had been commandeered from pumping duties on the River Murray, presumably on an irrigation or town water scheme. This throws some light on the early history, but has not been confirmed.

Thanks to the Defence Support Centre, and Members of Adelaide Hills Motor Restorers Club, engine TT81003 is now on regular display, mounted on a hydraulic boring platform, and running without load.

