



THE SANDSTONE HERITAGE TRUST

Military Vehicles in Preservation

Sherman Tank Mk IV

Not for nothing was the highly inflammable Sherman dubbed the 'Ronson' by the Allies, and the 'Tommy Cooker' by the Germans!

Nearly 50 000 Shermans were built during the Second World War, amounting to almost half of all American wartime tank production, and equal in numbers to the entire production of tanks in the UK and Germany combined! The tank appeared in many different configurations, from a basic gun carrier, via rocket launcher, engineer / recovery vehicles, armoured personnel carriers, mine clearers, self-propelled guns, howitzers, anti-aircraft guns to bridge-laying vehicles.

Originally it was fitted with the Continental R 975 radial engine, converted from use in aero applications. These compact engines were very powerful for their size (400 HP@ 2400 rpm and max torque @ 2200 rpm was 1250 nm.) but owing to the fact that some of the cylinders faced downwards, an accumulation of fuel built up in the lower cylinders while standing. This was normally cranked out, but in emergency situations the lower plugs were removed leading to a dangerous situation of unburned fuel in an enclosed space, waiting for a spark to ignite it! Owing to demands from the wartime Aero Industry, the radial engine was in short supply and no less than four other engines were used, both petrol and diesel, including the Chrysler multi-bank 30 cylinder petrol engine. Drivers of the original model with the crash box will tell you that it was not every driver who could manage the difficult double-declutching required to change gear smoothly. Replacement with an automatic, or at least a pre-select gearbox was the next sensible progression. After the War many of the Shermans were demilitarized by the removal of their turrets and weapons, and then sold as scrap. Some dealers then re-sold the chassis as 'agricultural equipment' and they were often fitted with bulldozer blades. A number of chassis ended up in Palestine, to be secretly restored into military vehicles. The Sherman was used by many armies across the globe, where modifications were made according to local conditions and availability of power units and spares.. The Israeli Defence Force was a prime example, fitting improved engines, armament and armour. They called their version the M51 Sherman. It was based on the M4A3 Sherman hull, which already had radiators, into which they fitted the Cummins 460 hp diesel engine. They also fitted the wide track E8 HVSS suspension as an aid to combat mobility. No alterations or additions were made to the armour, either in the M50 or the M51 modification programme. They kept to the original gearbox to save space for ammunition.

This example has been modified locally, by fitting a large V8 Mercedes Benz / Atlantis Diesel Engine 442 twin-turbo diesel engine, rated at 400 hp @ 2100 rpm. Max torque is 1600 nm @ 1100-1500 rpm. Fitted directly to the engine is an Allison AC740 CR (close ratio) 4-speed automatic gearbox with the prop-shaft running into the original gearbox which now acts as a transfer box. This in effect gives the vehicle a total of 24 forward and 6 reverse gears. Top speed is 45 kmh. Fuel consumption is now +/- 2.5 litres per km compared with 9 litres per km with the Continental engine!

Further modifications to this vehicle include the fitment of electronically operated turret turning motors (which were not standard on this specific type) and the fitment of modern optical equipment and sights.



