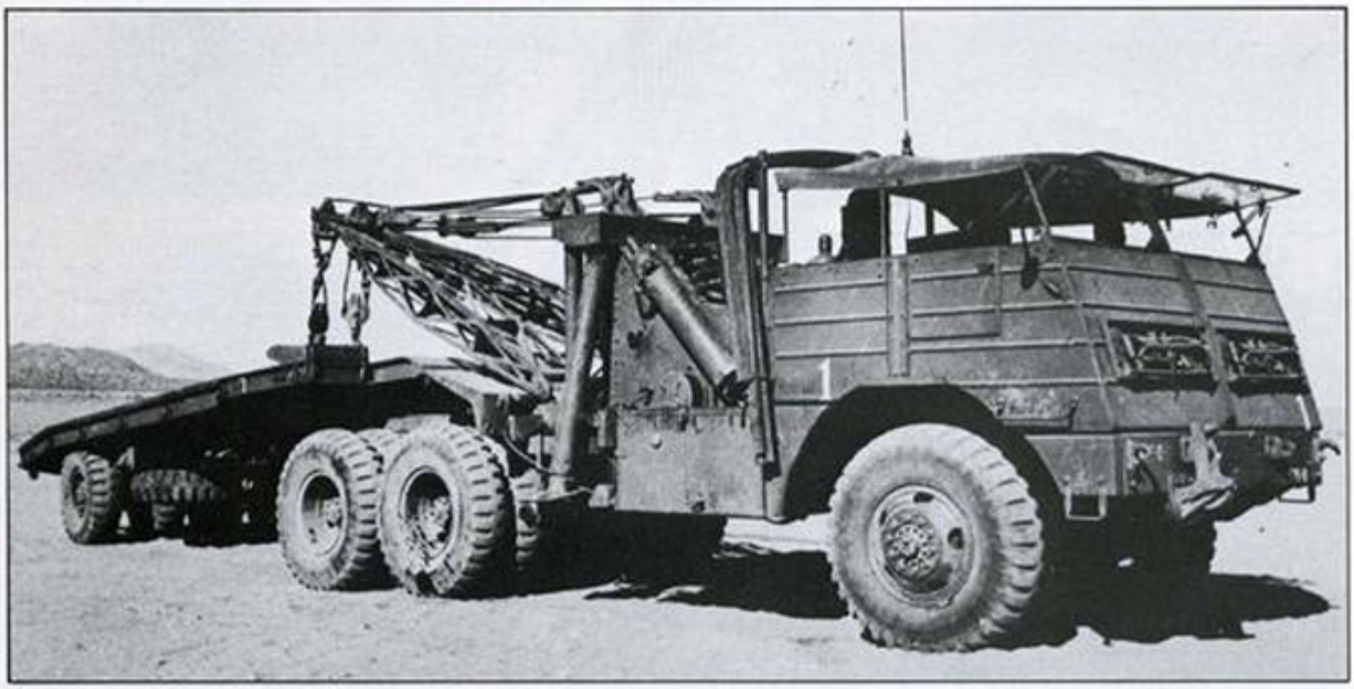
concerning the suitability of the equipment for military service. A formal test report of this project from the DWB was submitted to the Army Service Forces, recommending that further tests be conducted only on the Kenworth 580, the other vehicles to be relegated to wherever they could be put to good use. This, presumably, applied to the armour-cabbed Kenworth and Ward LaFrance models, the staffers clearly being more interested in recovery performance than armour protection for the crews. Certainly, a Ward LaFrance Model B was assigned for facility use at the Ordnance Desert Proving Ground at Camp Seeley, also in California. As to its ultimate fate; perhaps it is still out there somewhere, waiting to be discovered?

Also dispatched from Camp Young to Camp Seeley, albeit on a different

Testing the twin-boom Holmes equipment on the Kenworth. Note the M1 heavy wrecker in the background: a Kenworth 572: this was the only M1 type with full-power crane (100 produced, 1943).

Chassis/cab of the unarmoured Kenworth 580. Note the elevated position of the engine air cleaner.

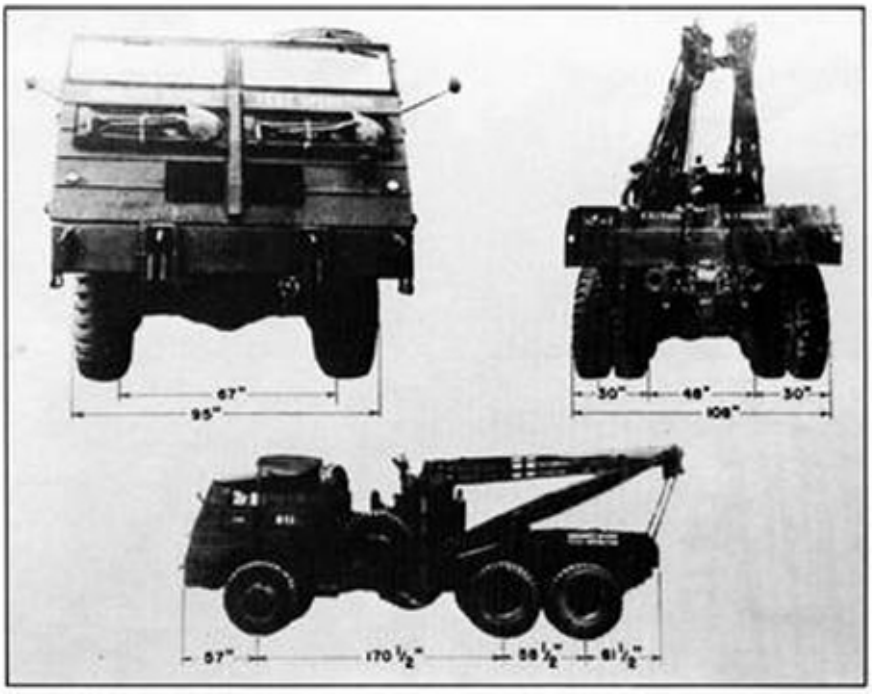
Front views, stages 1 and 2. The second picture also shows the double air intake grilles, a later modification.



The soft-skin Kenworth 580 complete with recovery semi-trailer. This picture shows the vehicle as originally delivered (with fifth wheel coupling) and was taken during the initial tests at the Desert Warfare Board, Camp Young, California. The large number '1' on front and sides probably correspond with the '2' on the Ward LaFrance (see page 18.)

mission, was the soft-skin Kenworth 580. It went there, on September 25, 1943, for what were known as technical tests. Upon completion of these extended trials, the Kenworth was returned to its makers for a number of modifications to the chassis, in conformance with the test recommendations. Almost exactly three months later, with the chassis alterations carried out, the vehicle was shipped to the Ernest Holmes Company at Chattanooga in Tennessee for modifications to the wrecker equipment which they had supplied. Holmes did their bit and in mid-February, 1944, the 580 went to Fort Knox, Kentucky, for further tests.

Exactly which modifications had been made at the Kenworth and Holmes factories is hard to establish now. Reinforcement of parts and improvements to various details seem most likely. Comparing before and after pictures it is clear that the originally plain cab front was provided with a double grille for improved engine cooling — no doubt as a result of the desert trials — and that redesigned winch cable guides were mounted on the front bumper. Also, the Holmes people had removed the fifth wheel coupling and replaced it with a platform body. Instead of the fifth wheel, the vehicle was now provided with a so-called Mack coupler. This device served as a heavy-duty pintle hook with which a special 20-ton low-bed Ordnance trailer could be towed, in the same fashion as a trailed piece of heavy artillery. The trailer's bogie and loading ramps looked like those of the Fruehauf 40-ton tank transport semi-trailer but it was lighter and had four instead of eight rear wheels.



With this trailer, the rig could salvage and transport a light tank like the M5A1. It is interesting to note that with a 31,460-lb M5A1 tank aboard, the load on the Mack coupler was a staggering

Technical Characteristics

Type: Truck, 10-ton 6 × 6 Heavy Wrecker
Make and model: Kenworth 580 (Open Cab)
Manufacturer: Kenworth Motor Truck Corp., Seattle, Washington, USA

ENGINE
Type: 6-cyl. in-line, gasoline (petrol), liquid-cooled
Make, model: Hercules
Piston displacement: 855 cu in (14013 cc)
Bore and stroke: 5.5 x 6 in (140 x 152 mm)
Power output: 202.5 bhp (150 kW) at 2,150 rpm
Torque: 640 lb ft (88 mkg) at 1,000 rpm
Compression ratio: 5.49:1

CLUTCH
Type: twin dry plate
Make, model: W.C. Lipe
Diameter: 15 in (381 mm)

MAIN GEARBOX
Type: 5-speed, manual
Make, model: Fuller 5A-920
Ratios: 1st 6.54:1, 2nd 3.27:1, 3rd 1.76:1, 4th 1.00:1, 5th 0.744:1, reverse 6.49:1

TRANSFER CASE
Type: 2-speed
Make, model: Wisconsin (Timken) T77-3-9
Ratios: high 1.00:1, low 2.55:1

FRONT AXLE
Type: double-reduction, with Rzeppa CV joints
Make, model: Wisconsin (Timken) F4700
Ratio: 9.32:1
Capacity: 22,000 lb (9988 kg)

REAR AXLES
Type: double-reduction
Make, model: Timken 78750W and 78751W
Ratio: 9.32:1
Capacity: 50,000 lb (22700 kg)

SUSPENSION
Type: semi-elliptic leaf springs, inverted at rear

CHASSIS
Type: ladder-type frame

STEERING
Type: with hydraulic booster
Make, model: Ross 780

BRAKES
Type, main: air-actuated, Timken-Westinghouse, size 17.25 x 5.5 in (438 x 140 mm); parking: mechanical

WHEELS AND TYRES
Wheel type: Budd disc, 10-hole
Tyres: 14.00-24, 18-ply, dual rear

ELECTRICAL SYSTEM
Make: Delco-Remy
Voltage: 12 (2 6-volt batteries)
Generator: 26 amp

BODYWORK
Type: soft-skin, soft-top 4-seat cab; Holmes twin-boom wrecker
Other body styles: armoured cab

WINCH
Capacity: 2 x 40,000 lb (18160 kg)

DIMENSIONS
Wheelbase: 200 in (5080 mm)
Track, front: 81 in (2075 mm), rear: 80 in (2032 mm)
Overall length: 358.5 in (9106 mm), width: 110 in (2795 mm), height: 126 in (3200 mm)
Height reducible to: 122 in (3100 mm)
Ground clearance: 25 in (635 mm) (amidships)
Angles of approach and departure: 42° and 45°

CAPACITIES (US)
Engine sump: 40 pt (18.8 lit)
Gearbox: 26 pt (12.2 lit)
Transfer case: 6 pt (2.8 lit)
Differentials: 16 pt (7.5 lit) front, 40 pt (18.8 lit) rear
Cooling system: 77 qt (73 lit)
Fuel tanks: 150 gal (568.5 lit)

WEIGHTS
Kerb: 47,886 lb (21740 kg)
Gross: 57,886 lb (26280 kg)

PERFORMANCE
Max. speed: 45 mph (72 km/h)
Cruising range: 400 miles (640 km) (on paved roads)
Gradability, high: 2.5%, low 65%
Max. fording depth: 40 in (1015 mm)
Turning circle: 100 ft (30 m)

Full right and left side views of the Kenworth 580, taken at Fort Knox. The vehicle carried USA registration 0064527. Of interest are the three bows, stowed at the rear of the cab; these could be fitted into pockets on the wrecker body sides to support a canvas cover, thus disguising the vehicle as a common cargo truck.

14,470 lb. How this affected the 580's steering is uncertain but in this configuration (grossing at 97,270 lb) the load on its front axle decreased from 18,140 to 11,490 lb.

The Armored Force Board at Fort Knox also carried out various other tests with this outfit but in spite of the large amount of time, effort and money spent (and possibly also due to changing requirements from the field forces) the vehicle was never approved for acceptance and thus quantity production. The pilot model was eventually retired to Aberdeen Proving Ground where in the late 1940s it was allocated inventory number MCV 293 ('Truck, 10-ton, 6×6, Heavy Wrecker'). Again, its fate is unknown but not hard to guess.

Meanwhile, in May 1943, Ordnance had received two experimental heavy wreckers from the Mack Manufacturing Company. These two vehicles, designated NO4 and NO5, were assembled using components from the current Mack NO-series 7½-ton 6×6 artillery prime mover. Apart of course from the wrecker equipment, they differed from the standard NO model chiefly in having a considerably longer chassis and wheelbase and the deletion of the front winch, which changed the NO's familiar frontal appearance rather drastically. Still every inch a Mack, it featured the series' typical elevated front axle in which the customary constant velocity universal joints were dispensed with and the drive to the front wheels was transferred through trains of spiral bevel gears, the intermediate members of which were mounted concentric with the steering knuckle pins.

Although the Mack NO4 and NO5 carried the same slewing single-boom crane, they varied in the following respects. The NO4 was intended for the US Army Air Corps and therefore had the fifth wheel coupling which was a feature of the Corps' existing Type C-2 wreckers. It was intended for towing a long low-bed recovery semi-trailer on which chunks of aircraft — in the event of crash recovery operations — could be carried. It had (as can be seen in the photos) a single winch, located just ahead of the forward rear axle. The NO5

At Fort Knox, the wrecker had fleet number 811, the trailer 816. Both are shown here, during loading of crated Continental R975 tank engines.

When tested with a dolly adaptor (turning a semi- into a full-trailer) it was found that the rig would all too easily jack-knife when attempting to reverse.

Loading a crawler-mounted crane onto the experimental 20-ton Ordnance trailer at Fort Knox. The trailer is attached by a Mack coupler.

The Kenworth heavy wrecker in retirement at Aberdeen Proving Ground, Maryland.