

Hero of the Red Ball Express

The military truck
is an unsung hero
of the battlefield,
says David
Garden



A CCKW 353 with a camouflage net shelters under a tree during the Vintage Days show in Perigueux.



A CCKW delights the crowds during the circuit round Perigueux town centre. The crew are dressed in US World War Two uniforms



consider trucks to be the shaft of the military lance. The spear point consists of the armoured fighting vehicles but the trucks support this by bringing up ammunition, fuel, rations, spare parts and other necessities of the battlefield. One of the most successful in World War Two was the US CCKW series.

The CCKW saw extensive service mostly as cargo trucks in World War Two and later in Korea. The 'Deuce and a Half' (two-and-a-half ton) were one of the best performers in the famed 'Red Ball Express' that kept allied troops supplied in Normandy and the subsequent battles.

The term CCKW comes from General Motors Corporation (GMC) terminology: C - designed in 1941, C - conventional cab, K - all-wheel drive and W - dual rear axle.

'The CCKW saw extensive service mostly as cargo trucks in World War Two'

In 1939 the US Army Ordnance Corps wanted to develop two-and-a-half ton 6x6 trucks that could operate in different weather conditions off-road. General Motors adapted a design built for the French Army into the CCKW.

It was chosen by the US Army and went into production at GM's plant in Pontiac, Michigan alongside the 6x4 CCWs and later at GM's Chevrolet plant at St Louis Missouri.

The CCKW came in several variants including open or closed cab versions. The long-wheelbase (LWB) version was designated CCKW-353 and the short wheelbase (SWB) as the CCKW-352. Some were built with front-mounted winches and one in four had a ring mounted 0.5 calibre Browning machine gun above the co-driver's position. The US was a giant

Left rear view of the CCKW 353 showing the size of the cargo bed. The vehicle rear is well marked with authentic period stencils





A very different CCKW. This truck is fitted with a steel cab body as used by signals troops

Ford nor Willys built as many vehicles as the GMC CCKW.

The GMC CCKW remained in service until the mid-1960s but were gradually phased out by the M35 series of trucks introduced in the 1950s. The REO Motors produced M35 series finally replaced the CCKW as the US Army's standard two-and-a-half ton, 6x6 cargo truck.

The CCKW was given the GMC 270 engine of 4.4-litre capacity. This was an overhead-valve inline six-cylinder unit and could deliver 104hp (78 kW) at 2,750rpm. It was fuelled by petrol and was originally designed for commercial trucks. It proved to be a highly reliable power-plant in service.

The transmission was a Warner T93 five-speed gearbox with a direct fourth gear and an overdrive fifth gear. The transfer case contained low and high gears, engaging the front axle.

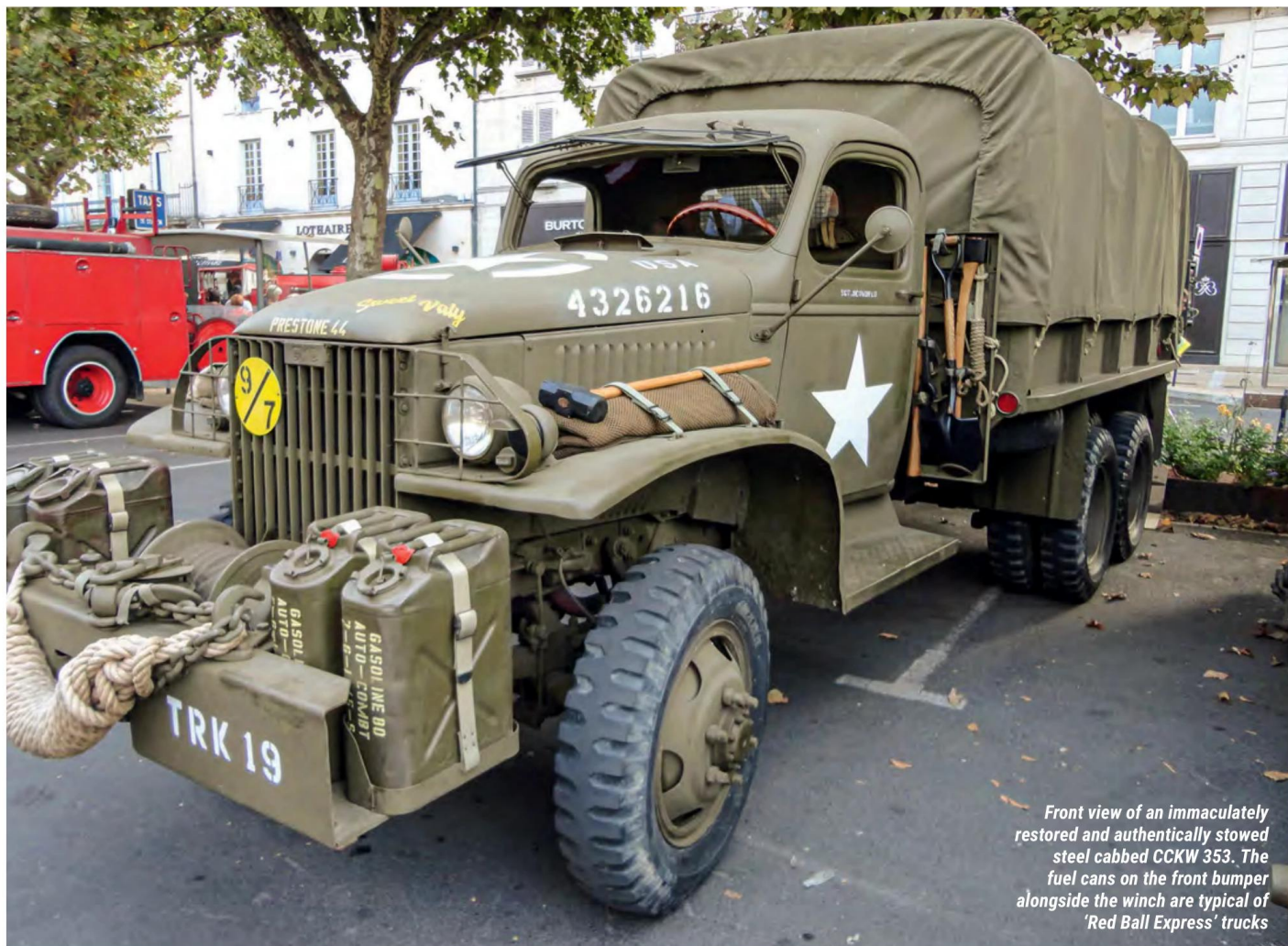
Early trucks' axles were Timken split-types, later trucks were equipped with GM 'Banjo'-type axles. CCKW chassis was of the ladder-type with three driven beam axles. The front rested on leaf springs and the rear tandem on leaf springs with locating arms.

Two wheelbases were produced, the short Model 352 and the long Model 353. Measurements were taken from the centreline of the front axle to the centreline of the rear bogie. The short, 145in (368cm) was used with a short cargo bed as an artillery prime mover for 75mm and 105mm howitzers. The longer trucks had a 164in (417cm) wheelbase. Tyres were 7.50-20 and brakes were of the vacuum

in truck manufacture in World War Two with almost 2.4 million produced of all payload weight classes.

Of this nearly 812,000 were two-and-a-half ton trucks, nearly a third of total production. GMC produced 550,000 examples of the CCKW and its variants including the two-and-a-half ton amphibious DUKW. This made up the largest majority of the 675,000 two-and-a-half ton trucks and only 100,000 short of the 650,000 Jeeps produced during World War Two. Neither

'CCKW trucks formed a considerable part of the Red Ball Express'



Front view of an immaculately restored and authentically stowed steel cabbled CCKW 353. The fuel cans on the front bumper alongside the winch are typical of 'Red Ball Express' trucks



Alain Chaussade's restored CCKW 352. A former French army artillery tractor

SPECIFICATIONS

Make GMC
Model Type 2 two-and-a-half ton 6x6 cargo truck
Origin United States
Manufacturer Yellow/GMC and Chevrolet
Production 1941 to 1945
Number Built 518,000 of all variants
Engine GMC 270 straight-six developing 104hp at 2,750rpm
Suspension Beam axles on leaf springs
Fuel Capacity 40 US gallons (150-litres)
Operational range 300 miles (482.8km)
Speed 45 mph (72 km/h)

Dimensions (overall)
Mass 8,800lb (4,000kg) empty 16,400lb (7,400kg) loaded
Length 270in (6.86m)
Width 88in (2.2 m)
Height 93in (2.36m) to top of the cab, 109 in (2.77m) to top of the tarp

assisted hydraulic type. Some vehicles were fitted with a 10,000lb (140kg) winch. The winch added 300lb (14 kg) to the weight and 14in (36cm) to the length of the vehicle.

At first, all versions were fitted with a modified commercial closed cab with metal roof and doors. In 1944 an open cab version was introduced equipped with canvas roof and doors. This was easier to build, and the roof could be removed to lower the height for shipping purposes. Some open cab versions had the chassis cut in half behind the driver's cab to facilitate transport by aircraft. When the vehicle arrived at its service area the halves could be bolted together. About a quarter of the cabs had a machine gun mounting ring platform for a 0.5 calibre Browning HB machine gun.

The CCKW was fitted with the greatest range of truck bodies in World War Two. The 12 ft (3.7 m) cargo version was the most common. The cargo bed was ordinarily steel but as this got scarcer and therefore rationed during the war and the steel bed was replaced by a wooden one. However, wooden beds proved unsatisfactory, so a 'composite' bed of steel sides and framing and a wooden floor was developed. This also proved poor in service, so the cargo bed returned to all-steel construction. All standard cargo trucks had beds with fixed sides, a drop tailgate and folding troop seats. For communications, medical, workshop and other specialist roles a standard rectangular van body was fitted. Also, bespoke built van bodies were fitted for specialist roles.

At least 22 specialist variants of the CCKW 6x6 were made, some in small numbers and some being field conversions. Some of the main variants included; dump trucks, fire engines, fuel tankers, radio vans, surgical vans, water tankers, welder's trucks, air compressors, chemical decontamination and handling, general-purpose repair vans, semi-trailer tractors and ponton transport, bomb disposal and dental operating vehicle.

A unique variant of the CCKW was the



Alain Chaussade's CCKW in a line up with a Jeep marked as belonging to Free French forces



Bringing the Red Ball Express back to life, Alain's CCKW 352 alongside an open-topped CCKW 353. Interesting to see the different heights of the vehicles



amphibious truck given the nomenclature DUKW (D 1942 design, U utility, K all-wheel drive and W tandem rear axles.) However, it was and is always known as the 'Duck'. It shared the CCKW's driveline, but it had a boat-like body suitable for travel on water. The body was designed by an America's Cup winner which gave the vehicle a reasonable performance on the sea and over inland water crossings. It was first produced at Yellow's Pontiac plant, but demand was so great that it was also built at Chevrolet's St Louis factory.

CCKW trucks formed a considerable part of the 'Red Ball Express'. This was a truck convoy system that brought supplies to Allied Forces after D-Day as they advanced through Europe after the breakout from Normandy in 1944. The term 'Red Ball' came from a US express railway freight transport system on the Santa Fe railroad at the end of the 19th Century. Trains were marked with red balls and tracks were cleared for their passage. The system came about after an emergency 36-hour high-level meeting and started operation on August 25, 1944. At its height, it operated 5,958

vehicles and delivered 12,500 tons of supplies a day. Trucks marked with a red ball followed roads marked with the same device that were closed to civilian vehicles. The Red Ball trucks had priority on all roads and specialist units of Military Police (MP) made sure this was so.

After the Allied breakout from Normandy and the fast advance to the river Seine, 28 Allied Divisions needed supplies. While engaged in combat operations each division needed 750 tons a day, giving a total of 21,000 tons and the only way to deliver this was by truck.

Convoys had to have a minimum of five trucks, and these were escorted by a Jeep at the front and another at the rear. Trucks departed as soon as they were loaded at Cherbourg.

Often engine governors were disabled to enable speeds faster than 56mph (90Km/h).

Col Loren Albert Ayers nicknamed 'Little Patton' was the senior officer in charge. He secured two drivers for each truck including port battalion drivers and soldiers whose duties were not a combat priority. Almost 75% of Red Ball drivers were black, a resounding

endorsement of the contribution made by African-Americans.

A major concern was that truck convoys would be a priority target of the Luftwaffe but by August 1944 the German Air Force was so weakened that even these easy targets were rarely attacked. More pressing problems were the shortage of drivers, maintenance of hardworking trucks and the fatigue due to lack of sleep for the overworked drivers.

To ensure the constant flow of supplies without any delays, two routes were used from Cherbourg to the forward logistics base at Chartres. The northern one was used for delivering supplies and the southern one for the returning trucks. Both routes were closed

'The GMC CCKW remained in service until the mid-1960s'

to civilian vehicles and traffic. The Red Ball Express operated for 83 days until November 16, 1944, when the port of Antwerp in Belgium was opened, and many French railways were repaired and reopened with the deployment of portable gasoline pipelines.

Variants of the CCKW are commonly seen at military vehicle rallies. I have enjoyed photographing them and speaking to the happy owners who enjoy possessing and driving such powerful and reliable vehicles.

One of these is Alain Chausse, who has renovated several military vehicles and displayed them at shows throughout France, including the GMC 352 pictured here.

"After spending 20 years under a tarpaulin the truck started first time after changing the battery and adding a little petrol," said Alain. "However, the engine needed careful tuning before running any distance. Afterwards, we had to take stock to find out if we had all the parts to renovate the vehicle. We had sweat and tears but always with patience, we got the vehicle into running condition."

After sanding the last paint coat, the original markings were discovered on the left side of the bonnet. This was 4208687-S. The letter



S showed that it was made to receive an on-board radio. This number showed it almost certainly served in the French Army and a grenade marking found on the doors confirmed its service in the artillery branch. The grenade markings were white with six flames and had the number '2' in red on the centre. On the right door, a white 'D' within an orange lozenge was found. Markings on the wooden body were indistinct and not possible to identify.

The engine data plate was covered in grease, which was subsequently completely cleaned off. Alain was able to tell the engine had not undergone any transformation or repair. The original company label on the oil filter was found to be intact and well conserved. The crew compartment had US markings, not French. This was in good condition including the fabric

covering the ceiling. New fabric needed along with windscreen wipers were sourced from the firm Jeep Est. The crew compartment was completed, cleaned and repainted before taking to the road.

From December 16, 2018, the GMC 352 has taken part in many shows. Alain said it was mechanically reliable and this included – much to his satisfaction – the braking system.

If you are looking to buy one of these truly classic vehicles you can do no better than read the pages of this magazine. While it is not the most practical vehicle to own, many happy users can't be wrong. They are also one of the most affordable ways to get into a World War Two truck. The March edition of CMV reported that a 'lovely example' of a GMC CCKW 352 was to be had for £15,000 while a 'running' open cab

GMC CCKW 352 had a price of £11,000. A third GMC 352 in 'drive away' condition complete with winch and machine gun ring was for sale for £13,500. Even better, Nigel Hay reported in his Military Vehicle Market column that a 'runner' restoration project GMC CCKW 353 was on sale for a modest £5,500.

However, if like me you cannot afford the real thing, or your interest is in modelling military vehicles, then there is a reasonable choice of models. In 1/35th scale, Italeri and Hobbyboss offer kits of the steel closed cab version of the GMC 352. Tamiya in the same scale has produced the open-topped version with a special edition 'Red Ball Express' truck (no. 89648). If you prefer 'braille scale' in 1/72, Academy has a steel cab version and Heller makes the GMC CCKW 353 'Red Bull Express'. ◀



CCKW trucks driven by African Americans on the supply route from India to Burma 1944. NARA / WIKICOMMONS



Red Ball express convoy on the route. Note the disabled transport has been moved to the side of the road. WIKICOMMONS



Red Ball Express trucks taking on fuel. The fuel point is reinforced by metal standings for better traction. SGT. HARRISON NO.5 ARMY FILM AND PHOTOGRAPHIC UNIT / WIKICOMMONS



CCKW trucks drive through snow and ice in Belgium, January 19, 1945. The nearest truck is equipped with snow chains SGT BILL AUGUSTINE / WIKICOMMONS



Post-war use of a CCKW, a B29 bomber is tested for radioactive decontamination, Indian Springs Nevada April 1952. NUCLEAR SECURITY ADMINISTRATION / WIKICOMMONS



Used in all theatres of the war, CCKW trucks motor through the jungles of New Guinea 1944. JOHN ORCLEY LIBRARY / WIKICOMMONS