



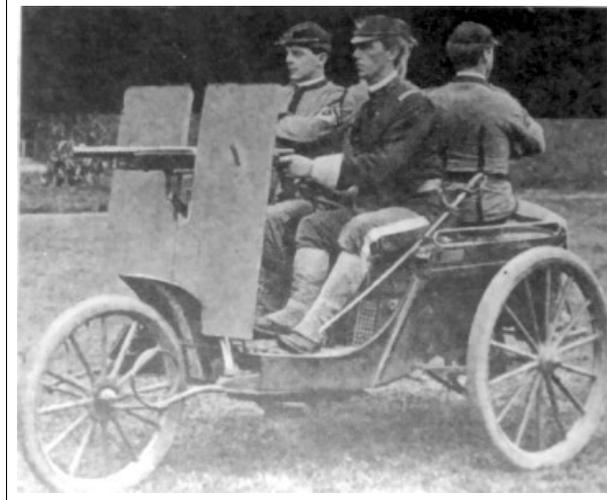
UNITED STATES OF AMERICA



Background: Britain's American colonies separated from the mother country in 1776 and were recognized as the new nation of the United States of America following the Treaty of Paris in 1783. During the 19th and 20th centuries, 37 new states were added to the original 13 as the nation expanded across the North American continent and acquired a number of overseas possessions. The two most traumatic experiences in the nation's history were the Civil War (1861-65) and the Great Depression of the 1930s. At the end of the 20th Century and the beginning of the 21st, the USA was faced with a long running occupation of Iraq and an open conflict in Afghanistan. Neither conflict had wide spread support by the general public.

Geography United States: Location: North America, bordering both the North Atlantic Ocean and the North Pacific Ocean, between Canada and Mexico. Area: total: 9,631,420 sq km (note: includes only the 50 states and District of Columbia). Area - comparative: about half the size of Russia; or South America (slightly larger than Brazil); almost two and a half times the size of the European Union. Land boundaries: total: 12,034 km. Border countries: Canada 8,893 km (including 2,477 km with Alaska), Mexico 3,141 km (note: US Naval Base at Guantanamo Bay, Cuba is leased by the US but part of Cuba; the base boundary is 29 km). Coastline: 19,924 km. Climate: mostly temperate, but tropical in Hawaii and Florida, arctic in Alaska, semiarid in the great plains west of the Mississippi River, and arid in the Great Basin of the southwest; low winter temperatures are ameliorated occasionally in January and February by warm chinook winds from the eastern slopes of the Rocky Mountains. Terrain: central plain, mountains in west, hills and low mountains in east; rugged mountains and broad river valleys in Alaska; rugged, volcanic topography in Hawaii. Natural resources: coal, copper, lead, molybdenum, phosphates, uranium, bauxite, gold, iron, mercury, nickel, potash, silver, tungsten, zinc, petroleum, natural gas, timber. Natural hazards: tsunamis, volcanoes, and earthquake activity around Pacific Basin; hurricanes along the Atlantic and Gulf of Mexico coasts; tornadoes in the midwest and southeast; mud slides in California; forest fires in the west. Environment - current issues: air pollution; the US is the largest single emitter of carbon dioxide from the burning of fossil fuels; water pollution from runoff of pesticides and fertilizers; limited natural fresh water resources in much of the western part of the country; desertification.

1899 Veh, Recce, Carr, Motor Gun, Davidson-Duryea.



Above: the three-wheel Davidson carriage with Colt machine gun. (Photo: Author's collection)

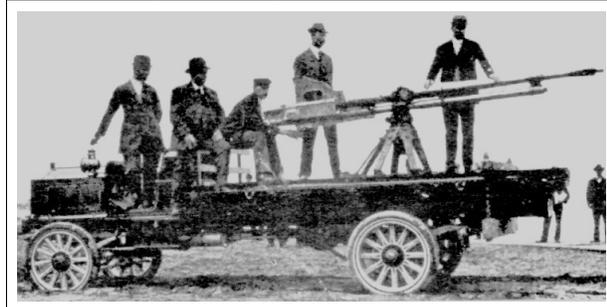
Remarks: The basic vehicle was made by the Rubber and Motor Vehicle Manufacturing Company of Peoria, Illinois, under a patent to Charles Duryea. The basic vehicle weighed approximately 1,000 pounds (454 kgs) and had a 6 horsepower 3-cylinder gasoline engine. Cooling was by a liquid radiator. The two rear wheels each measured 36 inches (914 mm) with wooden spokes, metal rims and pneumatic tires while the front wheel was 30 inches (762 mm) in diameter. Power was transmitted to the rear wheels through a chain drive with three different sprocket ratios. Armed with a Colt .30 caliber machine gun, a crew of four could be carried. As delivered the vehicle cost approximately \$1,500.

1900 Vehicle, Reconnaissance, Davidson Auto Battery 4x2 (Steam).

1900 Vehicle, Reconnaissance, Carriage, Motor Gun, Davidson-Duryea Mod 1900.

1909 Carriage, Anti-Aircraft. Destroyer, Balloon, Davidson-Cadillac

1909 Carr, Wpns. Carriage, Motor, Gun, 3-lb, McClean.



Above: McClean 3-lb auto-cannon on Packard 3-ton truck.

Remarks: Circa 1909-1910. Samuel McClean (aka MacLean) mounted his 3-pounder automatic cannon on a Packard 3-ton truck and demonstrated it to US Army and Department of Defense representatives. While the truck was mobile enough for the time, the cannon was far too complicated and none were ordered by the US. Mr. McClean later sold the rights to his design, which led to the development of the Lewis light machine gun.

Vehicle Data: Weight empty (est), 5,800 lbs (2633 kgs). Length (est), 220 in (5588 mm). Width (est), 69 in (1753 mm). Height (est) 100 in (2540 mm). Wheel base, 144 in (3658mm). Drive, 4x2. Armor, none. NBC protection, n/a. **Armament:** (1) McClean Automatic 3-lb Gun. Elevation & traverse, manual. Fire Control, optical. **Capacity:** Fuel, gasoline. Crew/Passengers, 1/4. Cargo Weight, 6,000 lbs (2724 kgs). **Engine:** Packard 24 hp (18 kW), 4-cylinder, water-cooled. Location, front. **Transmission:** Manual with 4-forward and 1-reverse gear through a chain drive to the rear wheels. **Suspension System:** Leaf spring. Wheels steerable, front pair. No of wheels, 4 w/duals at rear. Tire size, 3.5x34. **Performance:** Speed (est), 15 mph (24 km/h). Range (est), 150 mi (241 km). **Usage:** Trials vehicle only, no series production of the cannon. **Manufacturer:** Packard Motor Company

1911 Veh, Recce, Car, Scout, 4x2. Hupmobile

1912 Veh, Cmd, Car, Radio, Davidson-Cadillac

1914 Car, Armd, 4x2. Davidson-Cadillac Mod 1914.

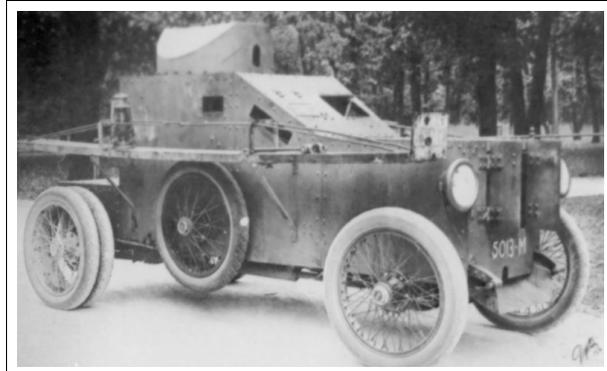


Above: The Davidson-Cadillac Model 1914 on maneuvers. Only the one car was completed. (Photo: Author's collection)

1915 Car, Armd, 4x4, Jeffery-Quad,

At least one vehicle was supplied to Canada, circa 1915, and after WWI, several vehicles were shipped to India.

1915 Car, Armd, 4x2. King AC Mod 1915.



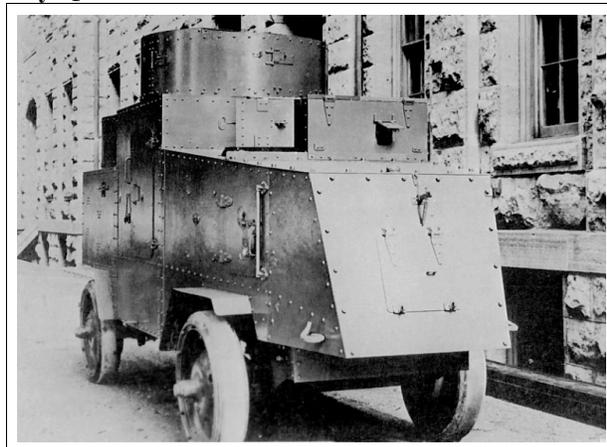
Above: King Armored Car. (Photo: Author's collection)

Remarks: Tested through 1915 and 1916 by the US Army and USMC, a few cars were acquired before the end of WWI. The cars with the Marines saw the longest service, with at least a couple being used in Haiti.

Vehicle Data: Weight empty, 5,280 lbs (2397 kgs). Armor: .25 in (6.35 mm). Drive, 4x2 (duals at the rear). **Armament:** (1) Benet-Mercier .30 cal. LMG. Elevation, manual. Traverse, 360 degrees, manual. **Capacity:** Fuel, gasoline. Crew, 2-3. **Engine:** V-8. Location, front. Cooling, liquid. **Transmission:** Type, manual. **Suspension System:** Type, leaf spring. Wheels steerable, front pair. No of wheels, 4. **Usage:** USMC (2) at \$10,000 each, and then (5) of the 1917 Model E the US Army buying (2) of that model. **Manufacturer:** Armored Motor Car Company, Detroit, MI.

1915 Carr, Pers, Armd, 4x4. Trk, Armd, Jeffery-Quad, USMC Mod 1915

1916 Car, Armd, 4x4. Car, Armored, No 1, Jeffery-Quad.



Above: The Armored Car No. 1 in its final layout just prior to the vehicle's retirement. (Photo: Library of Congress)

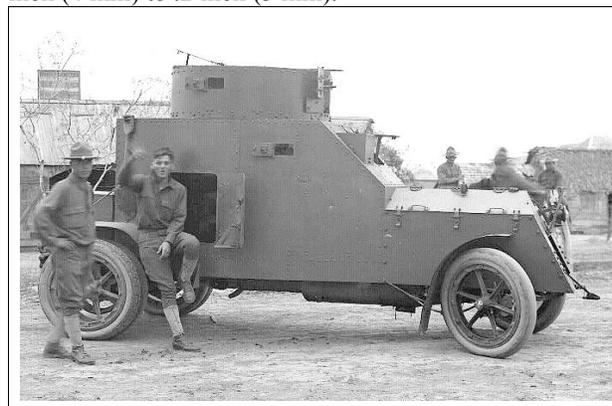
Remarks: The Armored Car No. 1, was the first armored car actually built by the U.S. Government for the Regular Army (several had been built for the various National Guard units prior to this) in 1916. The car was designed and built at the Rock Island Arsenal using the chassis,

running gear and power train of a Jeffery-Quad and armor plate provided by the Bethlehem Steel Corporation. The armor plate ranged from .15 inch (3.8 mm) to .2 inch (5.1 mm) in thickness and could stop a 30.06 caliber jacketed bullet at all but near point-blank range. The car was equipped with two manually operated turrets and three .30 caliber light machine guns (1 Bennett-Mercier and 2 Colt "Potato Digger's"). Only one car was actually completed although the front was modified for simplicity circa 1917 and the car itself retired after WWI.

Vehicle Data: Weight empty (est), 11,800 lbs (5357 kgs). Weight loaded, 12,600 lbs (5720 kgs). Length (est), 216 in (5486 mm). Width (est), 76 in (1930 mm). Height (est), 96 in (2438 mm). Ground clr (est), 16 in (406 mm). Wheel base, 124 in (3150 mm). Wheel tread (est), 70 in (1778 mm). Drive, 4x4. Armor, .15 to .20 in. (3.8 to 5.1 mm). NBC protection, individual. **Armament:** (1) .30 cal Bennett-Mercier and (2) Colt .30 cal. LMGs. Elev & traverse, -10 to +80 degrees, traverse manual. Fire control, optical. Aux wpns, crew side arms. **Capacity:** Fuel, Gas 20 gal (75.7 liters). Crew, 4-5. **Engine:** (1) Gasoline. HP at Rev/Min, 29 hp (21.4 kW). Model, H-U. Mfr, Buda. No. of Cyls, 4 in-line. Location, front. Cooling, liquid. **Transmission:** Manual w/two-speed transfer. Gears Fwd/Rev, 6/6. Mfr, Jeffery. **Suspension System:** Leaf spring. Steering, 4-wheel steering. Turning radius, 28 ft (8.5 m). No/wheels, 4. **General Data:** Elec voltage, 6V. **Performance:** Speed (est), 20 mph (32 km/h). Range (est), 150 mi (241 km). Fording (est), 16 in (406 mm). **Usage:** The Armored Car No. 1 was only used by the U.S. Army. **Manufacturer:** Rock Island Arsenal.

1916 Car, Armd, 4x2. No 2 Armored Motor Car.

Remarks: The No. 2 Armored Motor Car was based on a commercial White truck chassis in the (3/4 to 1-ton range). Only the single vehicle was completed and it was paid for by the 1st Armored Motor Battery, New York National Guard. It appears that the Rock Island Arsenal designed and built the armored body. Armor ran from .15 inch (4 mm) to .2 inch (5 mm).



Above: Armored Motor Car, No. 2. Photo was taken while on the Mexican Border. (Photo: Author's collection)

Vehicle Data: Weight empty (est), 8,000 lbs (3632 kgs). Weight loaded, (est), 9000 lbs (4086 kgs). Length, 172 in

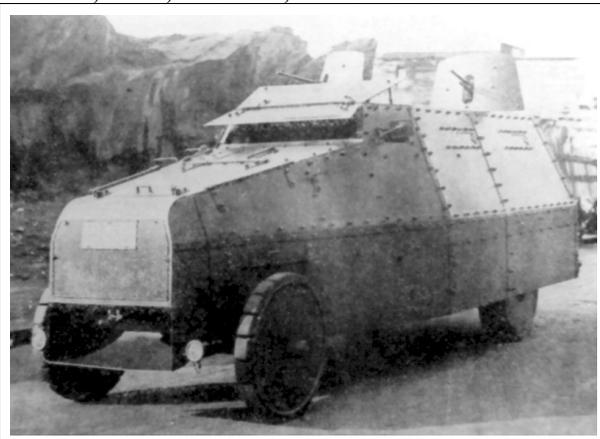
(4370 mm). Width, 64 in (1630 mm). Height, 80 in (2030 mm). Ground clearance (est), 8 in (203 mm). Wheel base, 130 in (3300 mm). Drive, 4x2. Armor, .15 to .2 in (4 to 5 mm). NBC protection, individual. *Armament:* (1) .30 cal LMG. Elevation & traverse, manual. Fire control, optical. *Capacity:* Fuel, gas. Crew, 4. Cargo Vol/Wgt (est), 1,000 lbs (454 kgs). Engine: (1) White, water-cooled, 4-cyl gasoline, producing 36 hp (26.6 kW). Location, front. *Transmission:* Manual with 4-fwd and 1-rev gears. *Suspension System:* Leaf spring. Steering, front axle. No/wheels, 4 (duals at rear). *Performance:* Speed/Land 40 mph (64 km/h). *Usage:* US Army/New York National Guard. *Manufacturer:* White Motor Company and Rock Island Arsenal.

1916 Car, Armd, 4x2. Car, Armd, Ford, MING

1916 Car, Armd, 4x2. Car, Armd, Pathfinder

1916 Car, Armd, 4x2. Locomobile, NYNG Mod 1916.

1916 Car, Armd, 4x2. Mack, NYNG Mod 1916.



Remarks: Privately built and financed for the New York National Guard, three chassis were used; a Mack 2-ton Model AC, a Locomobile and a White. All three vehicles had similar armored bodies produced and fitted by Carnegie Steel.

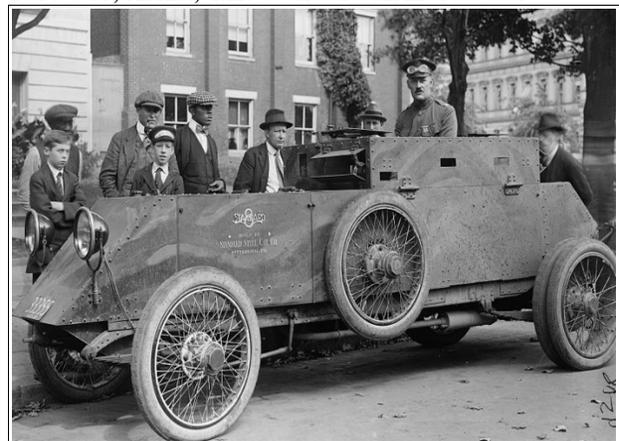
Vehicle Data: Weight loaded, 9,052 lbs (4110 kgs). Length, 236 in. (5994 mm). Width, 76 in (1930 mm). Height, 100 in (2540 mm). Wheel base, 144 in (3658 mm). Armor, .2 in (5.1 mm). NBC protection, No. *Armament:* Main, (2) .30 cal. LMG. Model, Benet-Mercer. Elevation, manual. Traverse, manual. *Capacity:* Fuel, gasoline. Crew/Passengers, 2/5. Engine, 45 hp. Location, front. Cooling, liquid. *Transmission:* Type, manual w/chain drive. *Suspension System:* Type, leaf spring. Wheels steerable, front pair. No of wheels, 4 (duals at rear). *Performance:* Speed/Land, 30 mph (48 km/h). *Usage:* Used by the 1st Armored Motor Battery, New York National Guard, from 1916 to approximately 1919. *Manu:* Local production.

1916 Car, Pers, Armd, 4x2. Truck, Armored, MG, 4x2. Simplex, MING



The above car was developed by and for the Michigan National Guard. (Author's Collection)

1916 Car, Armd, 4x2. Standard Armored Car



Evidently the Standard was a one-off prototype vehicle. (Author's Collection)

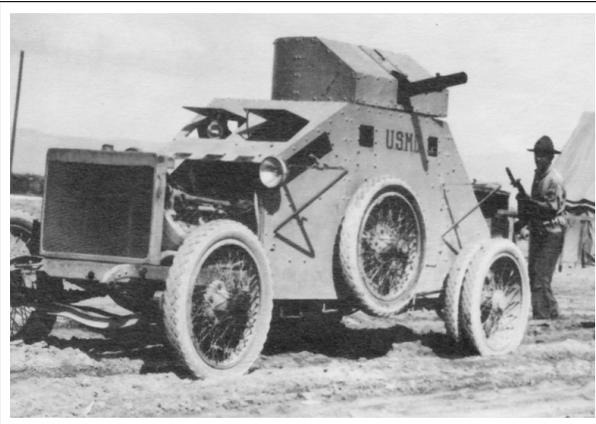
1916 Carr, Pers, Armd, 4x4. Trk, Armd, Jeffery-Quad, USMC Mod 1916

1916 Carr, Wpns, Trk, MG, 4x2. MING

1916 Carr, Wpns, Trk, MG, 4x2. MING

1917 Car, Armd, 4x2. King, Model E.

Remarks: Having tested the original King design in 1915, the USMC ordered five of the cars with a new turret in 1916 for delivery in 1917. Called the Model E, the original plan was to take the cars to France, but they ended up staying behind as the 1st Armored Car Squadron in Philadelphia and later Quantico. In 1919 the Squadron was sent to Haiti where it served until May of 1921 when the unit and vehicles were deactivated. US Army King armored cars had the headlights in armored boxes at the front of the vehicle.



Above: USMC King Armored Car, Model E during maneuvers. (Photo: USMC)

Vehicle Data: Weight empty, 5,500 lbs (2497 kgs). Drive, 4x2 (duals at the rear). Armor, .19 in (4.8 mm). Armament: (1) Lewis .30 cal. LMG. Elevation, manual. Traverse, 360 degrees, manual. Capacity: Fuel, gasoline. Crew, 2-3. Engine: Type, V8 producing 79 hp. Mfr, King Motor Cars. Location, front. Cooling, liquid. Transmission, manual. Suspension System: Type, leaf spring. Wheels steerable, front pair. No of wheels, 4. Performance: Speed/Land, 65 mph (105 km/h). Usage: USMC had five cars, and the US Army obtained two. Manufacturer: Armored Motor Car Company, Detroit, MI.

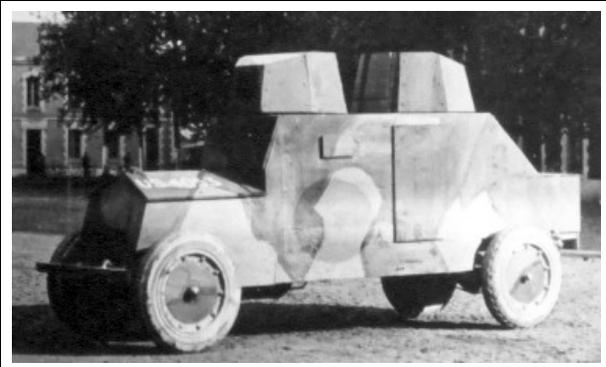
1917 Car, Armd, 4x2. White, Mod 1917.



Remarks: Typical of the state of development of the period was the White armored car of 1917. This vehicle had a road speed of 40 mph (64 km/h) and was powered by a White 4-cylinder engine of 46 horsepower. Its weight was 7,430 lb. (3373kgs) unloaded. The car had two-wheel drive, carried two caliber .30 light machine guns and a crew of three men. Protection was supplied by armor plate that varied from .15 to .2 inches (4 to 5 mm) in thickness and was of riveted construction. Tires were solid rubber and the car had a long sloping hood over the engine and radiator.

1918 Car, Armd, 4x2. Car, Armd, 4x2. Standard

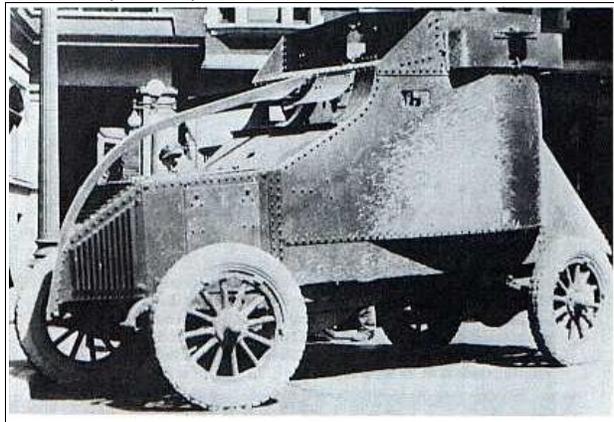
1918 Car, Armd, 4x2. White AEF.



Remarks: Dummy pilot car with wooden hull and turrets. Designed and built in France circa 1918 by headquarters, AEF. Design was tentative Ordnance Standard until 1921.

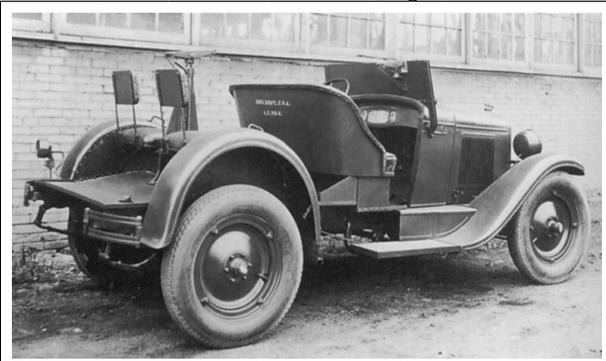
Vehicle Data: Weight of vehicle: Estimated, 11,000 lbs (4994kgs). Suspension, leaf spring. Transmission: manual. Engine: (1) White, liquid cooled. Horsepower, 45hp. Performance: Max. speed, 25 mph (40 km/h). Crew, 4.

1919 Car, Armd, 4x2. Reo Model F



1920 Carr, Wpns, Truck, Cargo, 4x2. Standard B
 1923 Veh, Recce, Tractor, Recce, 4x4, Ford
 1923 Veh, Recce, Veh, Recce, 4x2. Ford

1928 Car, Armd, 4x2. Car, Armored, Light, T1.

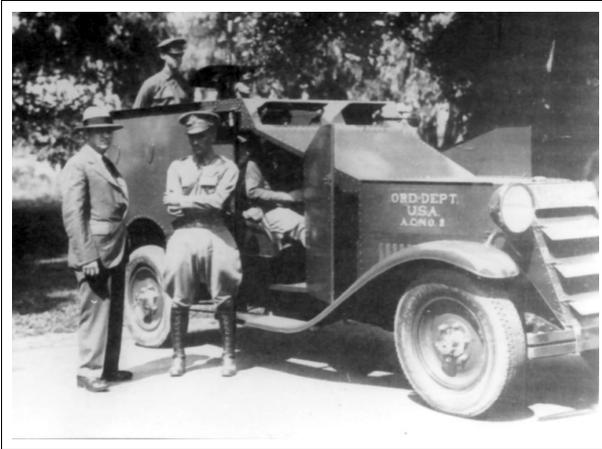


Remarks: As originally finished the car only had a plate of .25 in (6.35 mm) armor in front of the crew. While the

T1 Scout Car and the T1 Light Armored Car were essentially the same vehicle, the scout car was fitted with radiator armor from the start.

Vehicle Data: *Weight:* Empty, 2,500 lbs (1135 kgs). Wheel base, 108 in (2743 mm). Drive, 4x2. Armor, .25 in (6.35 mm). *Armament:* Main, (2) .30 cal LMG. Elevation, manual. Traverse, manual. *Capacity:* Fuel, gasoline. Ammo/Qty, .30 Cal (5,000 rds). Crew, 4. *Engine:* Pontiac, 6-cyl, in-line producing 57 hp. Location, front. Cooling, liquid. *Transmission:* Manual. *Suspension System:* Type, leaf spring. Wheels steerable, front axle. No of wheels, 4. Tire size, 6.20x32. *Performance:* Speed/Land, 45 mph (72 km/h). Cruising Rng, 150 mi (241 km). *Usage:* Two chassis were converted by the Ordnance Department in 1928. *Manufacturer:* Pontiac Div. of General Motors Corp. and US Army Ordnance Dept.

1928 Car, Armd, 4x2. T2 Medium Armored Car.

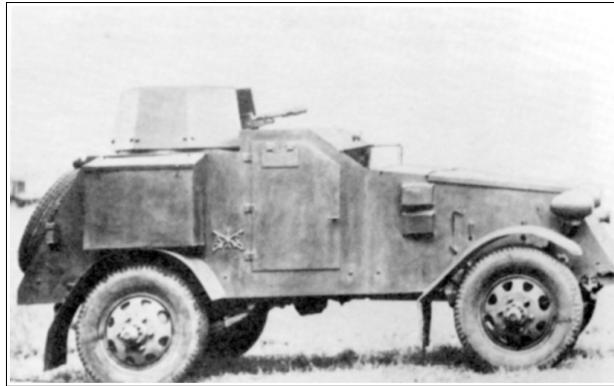


Above: T2 Medium Armored Car. (Photo: US Army)

Remarks: La Salle chassis, full side armor but, open top, circa 1927/28. A total of four vehicles were built, which were later modified by the 1st Cavalry Division to mount a turret. Further modifications to this vehicle were the T2E1, T2E2, T2E3 and the T2E4, all mounting various types of turrets. A total of four vehicles were completed (USA W 1300, USA W 1301, USA W 1302 and USA W 1303).

Vehicle Data: Weight empty, 4,850 lbs (2202 kgs). Loaded, 5,500 lbs (2497 kgs). Length, 185 in (4700 mm). Width, 68 in (1730 mm). Height, 80 in (2030 mm). Wheel base, 125 in (3175 mm). Drive, 4x2. Armor, .125 in (3.2 mm). *Armament:* (1) .30 Cal LMG. Elevation, manual. Traverse, manual. *Capacity:* Fuel, 15 gal (57 liters) gasoline. Ammo/Qty, .30 Cal (7200 rds). Crew, 4. *Engine:* La Salle 8-cyl producing 86 hp. Location, front. Cooling, liquid. *Transmission:* Manual. *Suspension System:* Type, leaf spring. Wheels steerable, front axle. No of wheels, 4. Tire size, 6.75x32. *Performance:* Speed/Land, 70 mph (113 km/h). Cruising Rng, 150 mi (241 km). *Usage:* The T2 Armored Car was only used by the US Army. *Manufacturer:* La Salle Div., of GMC and US Army Ordnance Dept.

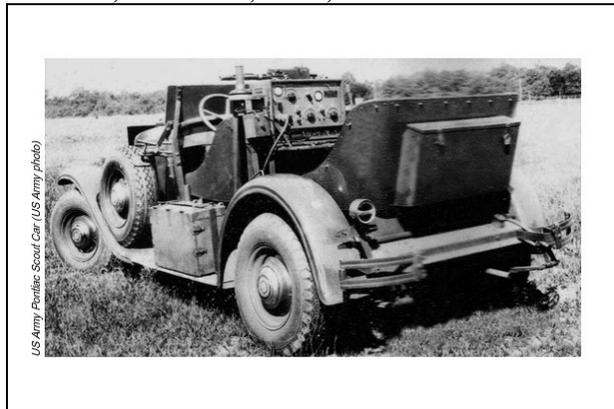
1928 Car, Armored, 4x2. T6 Armored Car, Model 1928.



Remarks: Fitted to a Franklin chassis with an air-cooled engine, the early T6 had a body very similar to that of the T2E3 Armored Car. Biggest visual difference is the set of dual tires at the rear.

Vehicle Data: Loaded weight for the T6 was 7,200 lbs (3269 kgs) Driven by a Franklin 6-cylinder engine the car could reach a maximum speed of 70 mph (113 km/h). Armor for the T6 was .19 inch (4.83 mm) while armament was (1) .30 Caliber LMG. *Usage:* The T6 (Model 1928) was replaced by a revised vehicle three years later, the T6 (Model 1931). *Manufacturer:* US Army Ordnance Dept.

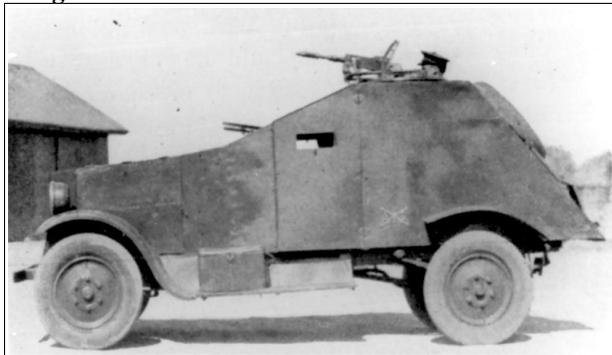
1928 Veh, Recce. Car, Scout, T1



Remarks: Pontiac chassis, open crew compartment with armored radiator and windshield. Later modified with pneumatic tires on passenger vehicle rims, wide, rather than bucket seats, and an SCR-163 Radio Set facing the rear seats. Circa 1928-1932.

1928 Veh, Recce, Car, Command, Armored, Light, T4. Pontiac, circa 1928.

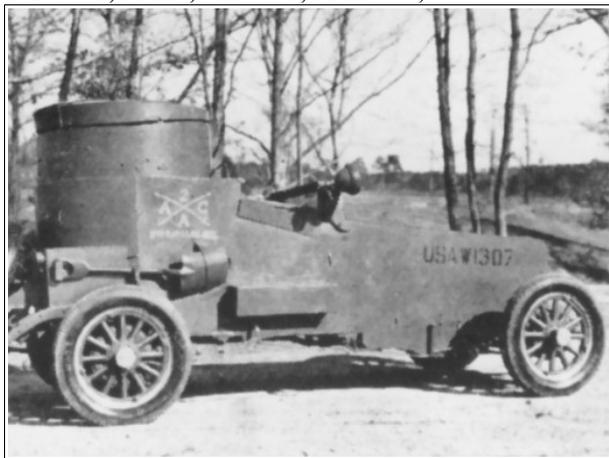
1929 Car, Armd, 4x2. Car, Armored, 4x2. 1st Cavalry, Dodge Model 1929.



Remarks: An independent project of Troop A, 1st Armored Car Squadron, 1st Cavalry Division, Fort Bliss, Texas.

Vehicle Data: *Armament:* (1) .30 cal. machine gun. Elevation, manual. Traverse, 360 degrees. Crew, 3-4. *Engine:* Type, gasoline. Mfr, Dodge. Location, forward. Cooling, liquid. *Transmission:* Type, manual. *Suspension System:* Type, leaf spring. Steering, front axle. No of wheels, 4. Wheelbase 116 in (2946 mm). Drive, 4x2. *Usage:* US Army, trial vehicle only.

1929 Car, Armd, 4x2. Car, Armored, T9.



Above: The T9 Armored Car from previous page. (Photo: US Army)

Remarks: Similar to the T8 Armored Car, but based on a Plymouth chassis, circa 1928. *Armament:* (1) .30 caliber LMG. Armor, 3/16th of an inch. Weight 3,700 lbs (1680 kgs), max. Speed 50 mph (80 km/h). Engine, (1) Plymouth gasoline, 4-cyl in-line. One vehicle built.

1930 Car, Armd, 4x2. Car, Armored, T2E1. Same as the T2, but with a flat top over fighting compartment and



relatively large multi-sided turret with a single machine gun, circa 1930.

1930 Car, Armored, 4x2. T2E2 Med Armored Car.

Remarks: The T2E2 was the same as the T2E1 with the exception that the sides of the machine gun turret had been lowered. Again the fighting compartment was covered and an air-cooled .30 caliber machine gun fitted. The T2E2 (USA W 1303) was the original T2 design with a closed top and a machine gun turret with lowered sides as compared to the T2E1. **Vehicle Data:** Length, 185 in (4700 mm). Width, 68 in (1730 mm). Wheel base, 125 in (3175 mm). Drive, 4x2. *Armament:* (1) .30 Cal LMG. Elevation, manual. Traverse, manual. *Capacity:* Fuel, 15 gal (57 liters) gasoline. Crew, 4. *Engine:* La Salle V8 producing 86 hp. Location, front. Cooling, liquid. *Transmission:* Manual. *Suspension System:* Type, leaf spring. Wheels steerable, front axle. No of wheels, 4. Tire size, 6.75x32. *Usage:* The T2 Armored Car series was only used by the US Army. *Manufacturer:* La Salle Div., of GMC and US Army Ordnance Dept.

1930 Car, Armd, 4x2. T2E3 Medium Armd Car.



Remarks: One vehicle (W-1300) was further modified to T2E3 status, with a revised turret and a stepped closed top at the rear. The machine gun mount allowed for a relatively high angle of fire. Armament was one .30 caliber air-cooled machine gun.

Vehicle Data: Length, 185 in (4700 mm). Width, 68 in

(1730 mm). Wheel base, 125 in (3175 mm). Drive, 4x2. *Armament:* (1) .30 Cal LMG. Elevation, manual. Traverse, manual. *Capacity:* Fuel, 15 gal (57 liters) gasoline. Crew, 4. *Engine:* La Salle V8 producing 86 hp. Location, front. Cooling, liquid. *Transmission:* Manual. *Suspension System:* Leaf spring. Wheels steerable, front axle. No of wheels, 4. Tire size, 6.75x32. *Usage:* The T2 Armored Car series was only used by the US Army. *Manufacturer:* La Salle Div., of GMC and US Army Ordnance Dept.

1930 Car, Armd, 4x2. Car, Armored, T2E4. The T2E4 had the same body with overhead protection for the fighting compartment, but the turret had been reduced in height.

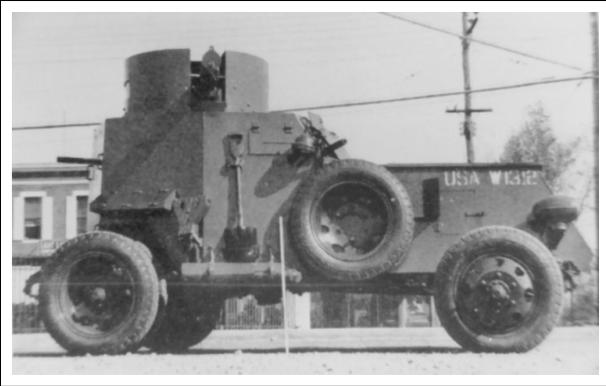
1930 Car, Armd, 4x2. T3 Armored Car.



Remarks: The T3 was a refined version of the T1 Armored Car and the T1 Cavalry Scout Car. Basically the rear seats were changed from two separate seats to a single bench; and radiator armor was added along with the armor plate in front of the driver and gunner. Additional changes included a 15-volt electrical system for the radio equipment, strengthening the front axle and installing a machine gun mount.

Vehicle Data: *Weight:* Loaded, 2,700 lbs (1226 kgs). Length, 165 in (4191 mm). Height, 60 in (1524 mm). Wheel base, 110 in (2794 mm). Drive, 4x2. Armor, .25 in (6.35 mm). *Armament:* (1) .30 Cal LMG. Elevation, manual. Traverse, manual. *Capacity:* Fuel, gasoline. Crew, 4. *Engine:* Pontiac in-line 6-cyl producing 57 hp. Location, front. Cooling, liquid. *Transmission:* Type, manual. Speeds Fwd/Rev, 3/1. *Suspension System:* Type, leaf spring. Wheels steerable, front axle. No of wheels, 4. Tire size, 7.50x15. *General Data:* Elec voltage, 15V. *Performance:* Speed/Land, 45 mph (72.4 km/h). Cruising Rng, 170 mi (274 km). *Usage:* Only used by the US Army. *Manufacturer:* US Army Ordnance Dept.

1930 Car, Armd, 4x2. T7 Armored Car (Franklin).



Remarks: QMC and Franklin, 4x4, interchangeable truck or armored bodies, 6 built. Armament (1) .50 caliber HMG and two .30 caliber light machine guns. Engine, Franklin 6-cyl. This car had an unloaded weight of 7,200 pounds, a road speed of 60 mph (64 km/h) an armor thickness of .19 inches (4.82 mm), carried a crew of four men and was armed with one .50 caliber and two .30 caliber machine guns. It had single front and dual rear wheels with front wheel drive.

1930 Car, Armd, 4x2. Car, Armored, T8.



Remarks: Built by QMC on Chevrolet chassis, armored hull and turret, one built, circa 1930. Armament one .30 caliber light machine gun. Armor 3/16th of an inch. Engine, Chevrolet 6-cyl. The T8, of 1930, used a Chevrolet chassis and engine. This vehicle weighed 3,800 pounds (2,079kgs) unloaded, carried a crew of three men, had a road speed of 55 mph (64 km/h), an armor thickness of .19 inches (4.82 mm), was driven from the rear axle only, and was armed with one .30 caliber machine gun in an open-top revolving turret located over the rear axle.

1930 Car, Armd, 4x2. Car, Armored, T10. The Armored Car, T10 was built by the Willys Overland Company. This vehicle had a road speed of 60 mph (64 km/h), had .125 inch (3.17 mm) armor, weighed 4,000 pounds (2,079kgs) unloaded, carried a crew of three and was armed with a .30 caliber light machine gun in a manually operated revolving open-topped turret at the rear of the vehicle. An Overland 4-cylinder engine powered the car. Based on Willys-Overland chassis with 1/8th inch armor plate, similar to T9 Armored Car, three

built, circa 1929. Armament, (1) .30 caliber LMG. Weight 3,800 lbs., max. Speed 55 mph. Engine, gasoline powered Whippet 6-cyl.

1930 Car, Armd, 6x4, Car, Combat, 10-Wheel, AAC

1930 Veh, Cmd, Car, Cmd, 4x2. Cadillac

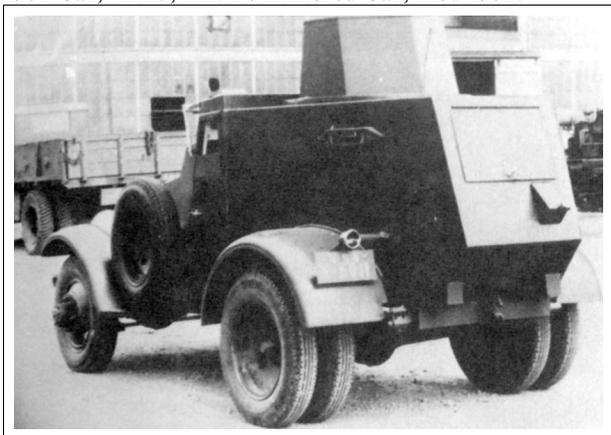
1930 Veh, Recce, Car, Scout, 4x2. Chevrolet USMC.

1931 Car, Armd, 4x2. Acme Armored Car, 1st Cav, Mod 1.



Remarks: An independent project of Troop A, 1st Armored Car Squadron, 1st Cavalry Division, Fort Bliss, Texas. An Acme 1-ton truck chassis was modified as a 4x2 scout car. Although the fighting compartment was armored, the engine didn't get an armored cover until sometime later. This vehicle was used only for training. *Armament:* (1) .30 cal. machine gun. Elevation, manual. Traverse, 360 degrees. Crew, 3-4. *Engine:* Type, gasoline, 4-cyl producing 29 hp. Location, forward. Cooling, liquid. *Transmission:* Type, manual. *Suspension System:* Type, leaf spring. Steering, front axle. No of wheels, 4. Wheelbase, 130 in (3302 mm). Drive, 4x2. *Usage:* US Army, trial vehicle only.

1931 Car, Armd, 4x2. T6 Armored Car, Mod 1931.

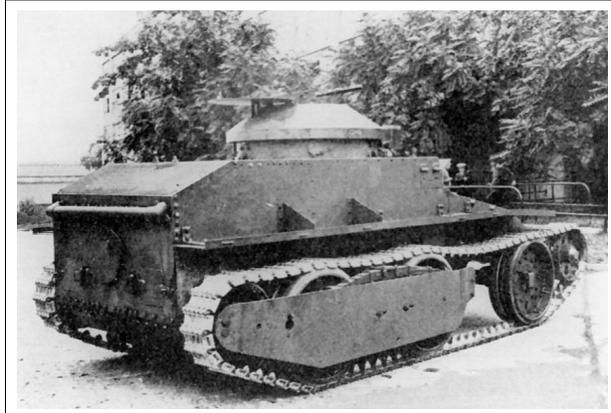


Remarks: Designed by US Army Quartermaster Corps, with Franklin air-cooled engine, 4x4, circa 1931. The third version of the T6 was actually modified from a T7 Armored Car. The Quartermaster developed T6 had the same general layout and characteristics as the T7 except

for the turret. Only one car was completed with the last documented service as late as 1934.

Vehicle Data: *Weight:* Empty, 7,200 lbs (3269 kgs). Loaded, 8,700 lbs (3950 kgs). Wheel base, 113 in (2870 mm). Armor, .25 inch (6.35 mm). *Armament:* (1) .30 Cal. LMG. Elevation, manual. Traverse, manual. *Capacity:* Fuel, 30 gal (113.5 ltrs). Crew, 3. *Engine:* Franklin, 6-cyl, gasoline producing 91 hp @ 3100 rpm. Location, forward. Cooling, air. *Transmission:* Manual with 4--fwd and 1 rev gear and 2 speed transfer. Model, Detroit. Mfr, GMC. *Suspension System:* Type, leaf spring. Steering, front axle. Turning radius, 39' 8" (12 m). No of wheels, 4 (duals at rear). *Usage:* Only used by the US Army. *Manufacturer:* US Army Ordnance Dept.

1931 Car, Armd, 6x4. Car, Armored, Convertible, T5.



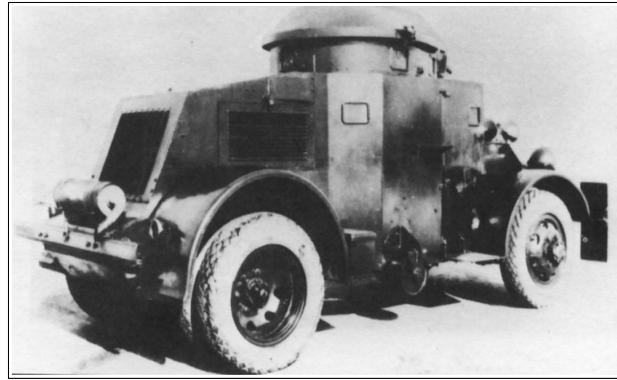
Above: The only T5 Convertible Armored Car as seen in 1931; a year later it became the Combat Car, T2. (Photo: US Army)

Remarks: A strategy to get around budget restraints in the early 1930s, the Ordnance Department at first listed their wheeled/tracked light tank as the Convertible Armored Car, T5. This ploy was good for a year, but in 1932 the vehicle was redesignated as the Combat Car, T2. Still the same vehicle, but with minor changes. Loosely based on the J. Walter Christie concept of a light weight, fast, armored vehicle able to run on either tracks or the road wheels, the T5 operated on wheels over firm surfaces and then switched to tracks for cross-country travel. When operating on the road the tracks were to be stored on the fenders. Steering while on tracks was through hydraulic boosted brakes, and while on wheels the front axle was steered as normal. Only the one vehicle was completed and after testing for a few years as the T2, development was dropped.

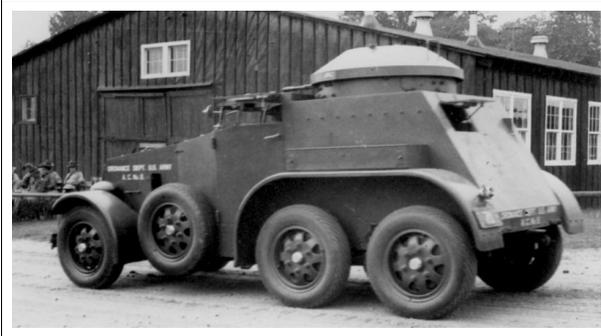
Vehicle Data: Weight empty, 15,570 lbs (7069 kgs). Weight loaded, 17,000 lbs (7718 kgs). Length, 177 in (4496 mm). Width, 89 in (2261 mm). Height, 75 in (1905 mm). Ground clr, 10 in (254 mm). Wheel base, 105 in (3667 mm). Wheel tread, 68.5 in (1740 mm). Drive, 6x2 (rear axle). Armor, .25 to .50 in (6.35 to 12.7 mm). NBC protection, individual. *Armament:* (1) .50 cal HMG M1921 and (3) .30 cal LMG M1919. Elev & traverse, manual. Fire control, optical. *Capacity:* Fuel, Gas 50 gal (189 liter). Crew, 3-4. *Engine:* (1) Continental, 7-cyl gas-

oline A-70 radial, producing 165 hp (121.8 kW) @ 2000 rpm. Location, rear. Cooling, air. *Transmission:* Manual with 4-fwd and 1-rev gear. *Suspension System:* Leaf spring. Steering, front axle (wheels), hydrolic brake (tracks). Turning radius, 52 ft 11 in (16 m) wheels and 21 ft 10 in (6.7 m) on tracks. No/wheels, 6. Tire Size, 32x3.5 (duals). *General Data:* Elec voltage, 6V. *Performance:* Speed, 41 mph (66 km/h) on wheels and 27 mph (43 km/h) on tracks. Range: 125 mi (201 km) wheels and 100 mi (161 km) tracks. Forging depth: 12.75 in (324 mm). *Usage:* US Army (1 built). *Manufacturer:* Ordnance Dept., U.S. Army, Rock Island Arsenal.

1932 Car, Armd, 4x4. T11 Armored Car.



1931 Car, Armd, 6x4. T4 Armored Car.



Above: T4 6x4 Armored Car. (Photo: US Army)

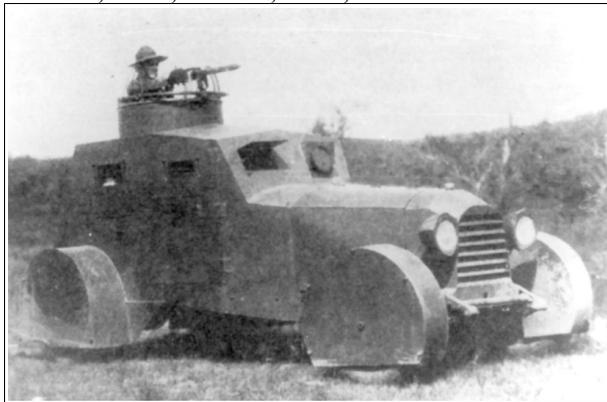
Remarks: Designed and built by James Cunningham Sons and Company, two T4 Armored Cars were completed and tested until 1934 when the design was type classified as the M1 Armored Car. After classification, an additional ten cars were completed. While the cars' performance on hard surfaces was adequate, the non-driving front axle and length of the vehicle (even with the spare wheels able to rotate on stub axles) made cross-country travel marginal at best.

Physical Data: Weight Empty, 9,835 lbs (4465 kgs). Loaded, 10,233 lbs (4646 kgs). Length, 180 in (4572mm). Width, 72 in (1829mm). Height, 83 in (2108mm). Grd Clearance, 7.85 in (199mm). Wheel base, 141 in (3581mm). Wheel tread, 59.75 in (1518mm). Drive, 6x4. Armor, .25 to .375 in (6.35 to 9.53mm). NBC Protection, individual. *Armament:* (1) .50 Cal HMG M1921. Elevation, manual. Traverse, 360 deg. Fire Control, optical. Aux wpn(s), (2) .30 Cal M1919. *Capacity:* Fuel, 30 gals (114 liters). Ammo/Qty, .50 cal (2000 rds), .30 cal (3750 rds). Crew, 4. *Engine:* Gasoline V8, producing 133 hp @ 2800 rpm. Model, 479.4 cu in. Mfr, Cunningham. No. of Cyls, 8. Location, front. Cooling, liquid. *Transmission:* Manual. Gears Fwd/Rev, 4/1. *Suspension System:* Leaf spring. Steering, front axle. Turning radius, right 56ft 3in (17m), left 48ft 4in (14.7m). No of wheels, 6. Tire size, 6.50x20. *General Data:* Electrics, 6 volt. *Performance:* Speed, 55 mph (89 km/h). Cruising Rng, 250 mi (402 km). Forging depth, 21 in (533mm). Max grade, 23 deg. *Usage:* Only used by US Army. *Manufacturer:* James Cunningham, Sons and Company, Rochester, NY.

Remarks: Ordnance design built by FWD/Marmon-Herrington, 4x4, circa 1932. The pilot T11 was tested at Aberdeen Proving Ground from January to July of 1933. As delivered by FWD, the car had several problems including mechanical failures due to insufficient strength of the rear end. Despite the problems, an order for six cars was issued which the Marmon-Herrington Company would complete, building five T11E1s and a single T11E2.

Vehicle Data: Weight Empty, 9,750 lbs (4427 kgs). Loaded, 11,250 lbs (5108 kgs). Length, 182 in (4623 mm). Width, 86 in (2184 mm). Height, 89 in (2261 mm). Ground clearance, 11.5 in (292 mm). Drive, 4x4. Armor, .19 to .25 in (4.83 to 6.35 mm). *Armament:* (1) .50 cal HMG, T2 and (1) .30 Cal LMG, T9 in the turret with the with Combination Gun Mount, T7. Elevation, manual. Traverse, 360 degrees manual. An additional .30 Cal LMG was in the bow. *Capacity:* Fuel, 40 gals (151 liters) gasoline. Crew, 4. *Engine:* Gasoline Cadillac V8 producing 115 hp @ 3400 rpm. Location, rear. Cooling, liquid. *Transmission:* Type, manual. Speeds Fwd/Rev, 5/1. Model, M325. Mfr, Brown-Lipe. *Suspension System:* Type, leaf spring. Wheels steerable, front axle. No of wheels, 4 (duals at rear). Tire size, 7.50x20 or 8.25x20. *General Data:* Elec voltage, 12V. *Performance:* Speed/Land, 69 mph (111 km/h). Forging depth, 24 in (610 mm). *Usage:* Only one Four Wheel Drive Auto Company T11 was completed, and the only service was with the US Army. *Manufacturer:* Four Wheel Drive Auto Company.

1932 Car, Armd, 4x2. Car, Armd, 4x2. 112th Cav.



Remarks: An independent project, the 112th Cavalry vehicle was designed and built by Cpt. John B. Dunlap. **Armament:** (1) .30 cal. machine gun. Elevation, manual. Traverse, 360 degrees. Crew, 3-4. **Engine:** Type, gasoline. Location, forward. Cooling, liquid. **Transmission:** Type, manual. **Suspension System:** Type, leaf spring. Steering, front axle. No of wheels, 4. **Performance:** Speed/Land, 70 mph (112 km/h). Drive, 4x2. **Usage:** US Army, trial vehicle only.

1932 Carr, Pers, Armd, 4x2. Trk, Armd, Imp, China

1932 Veh, Recce, 4x2. Car, Scout, T2. Chevrolet, 4x2.



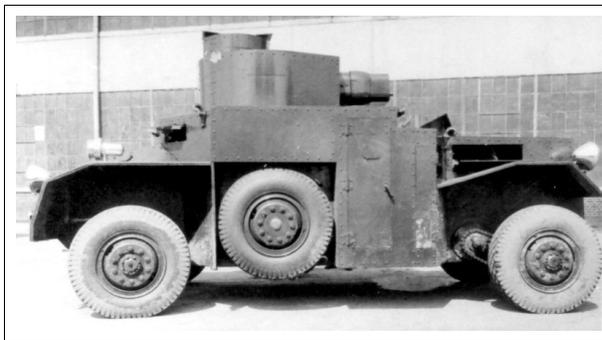
Remarks: Armored windshield and radiator. Tested at APG from May to September 1932, the vehicle was found satisfactory and a recommendation was put forward that light scout cars be made by modifying commercial phaeton models.

1932 Veh, Recce, Car, Scout, 4x2. Chevrolet

1933 Car, Armd, 4x4. American La France TK-6.

Remarks: Built in the U.S. by American La France for Persia (later Iran), the TK-6 had dual controls for forward or back movement. Chain drive was used to all four wheels, while the two spares (mounted in the middle on both sides) were free-wheeling to assist cross-country travel. The TK-6 was tested at Aberdeen Proving Ground

from August through September 1933 but no decision was made to acquire the car.



Vehicle Data: *Weight:* Loaded, 20,840 lbs (9461 kgs). Length, 180.5 in (4585 mm). Width, 72 in (1829 mm). Height, 96.5 in (2451 mm). Drive, 4x4. Armor, .25 to .375 in (6.35 to 9.53 mm). NBC protection, No. **Armament:** Main, (1) 37mm Cannon. Elevation, manual. Traverse, manual. Auxiliary wpns, (2) 7.9mm LMG. **Capacity:** Fuel, gasoline. Crew, 3. **Engine:** American La France, V-12 producing 240 hp @ 2800 rpm. Location, rear. Cooling, liquid. **Transmission:** Manual with 4-fwd and 4-rev gears. Model, reversible, Brown-Lipe. **Suspension System:** Individual sprung. Wheels steerable, front pair. Turning Radius: Right, 73' 10" (22.5m). Left, 81' (24.7m). No of wheels, 4. **Performance:** Speed/Land, Forward, 52.5 mph (84.5 km/h), Reverse, 23.7 mph (38 km/h). **Usage:** Only used by Persia (Iran). An unknown number of cars were completed. **Manufacturer:** American La France & Foamite Corp., Elmira NY.

1933 Car, Armd, 4x4, Car, Cmbt, Airborne, M1933

1933 Veh, Recce, 4x4, Veh, Recce, MH A30S-4.

The second vehicle, made by the Marmon-Herrington Company in 1934, followed the same general layout as the first but was protected with .25 inch (6.35 mm) armor throughout and was powered by a Hercules RXC gasoline engine.

1933 Veh, Recce, Car, Scout, T4. Design only.

1933 Veh, Recce, Car, Scout, Cavalry

1933 Veh, Recce, Car, Scout, T3. Design only.

1933 Veh, Recce, Car, Scout, T5.
Design study only, circa 1933.

1934 Car, Armd, 4x4, Car, Scout, T6. Design only.

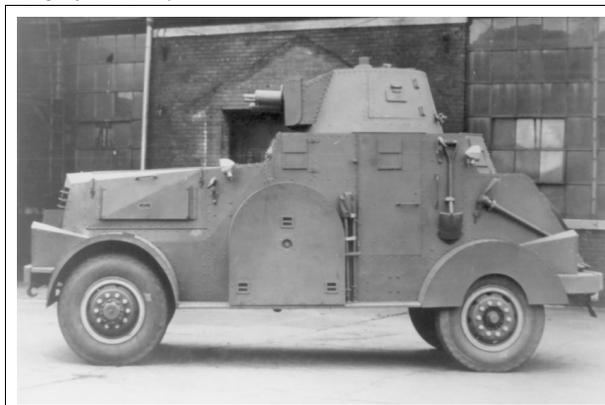
1934 Car, Armd, 4x4, T11E1 Armored Car.



Remarks: The T11E1 was the production version of T11 series with six vehicles built in 1934 (five as the T11E1 and one as the T11E2). Changes from the T11 included a new cooling system and larger tires and wheels. The new tires included a sponge rubber filling instead of inner tubes. Substantially the same designs as the T11 but with .375 inch (9.52 mm) armor replacing the .25 inch (6.35 mm) armor of the T11. Note that the vehicle now has free rotating spare wheels in place of the rollers at each side, and no longer uses dual wheels at the rear.

Vehicle Data: *Weight:* Empty, 11,145 lbs (5060 kgs). Loaded, 12,920 lbs (5866 kgs). *Length,* 183 in (4648 mm). *Width,* 79 in (2007 mm). *Height,* 88 in (2235 mm). *Ground clearance,* 11.5 in (292 mm). *Wheel base,* 116 in (2946 mm). *Drive,* 4x4. *Armor,* .375 in (9.52 mm). *NBC protection,* No. *Armament:* (1) .50 cal HMG M2 and (1) .30 cal LMG in the turret. *Model,* Combination Gun Mount T7E1. *Elevation,* manual. *Traverse,* manual. *Aux wpn* – Cal (1) .30 cal LMG in bow. *Capacity:* Fuel, 45 gals (170 liters) gasoline. *Ammo/Qty,* .50 cal. (1,000 rds), .30 cal (1,500 rds). *Crew,* 4. *Engine:* Cadillac V8 Model 355-B producing 118 hp @ 3200 rpm. *Location,* rear. *Cooling,* liquid. *Transmission:* Type, manual. *Speeds Fwd/Rev,* 5/1. *Mfr,* Spicer. *Suspension System:* Type, leaf spring. *Wheels steerable,* (2) Front axle. *No of wheels,* 4. *Tire size,* 9.00x20. *Performance:* *Speed/Land,* 66 mph (106 km/h). *Cruising Rng,* 230 mi (370 km). *Fording depth,* 30 in (762 mm). *Usage:* Only used by the US Army in the 1930s. *Manufacturer:* Marmon-Herrington Company.

1934 Car, Armd, 4x4, Marmon-Herrington TH310 ALF-1.



Remarks: Built by Marmon-Herrington for Persia about the same time as the American La France TK-6, the TH-310 was also tested by the US Army. One of the vehicles was tested from 10 to 11 May 1934 at Aberdeen Proving Ground, where the testing officer found that the performance of the car was excellent, but the size and weight would not receive favorable consideration. The original version of the car had a low flat turret similar to that used on the M1 Armored car, but this was replaced with a Swedish Bofors turret before delivery. Vehicles were shipped to Bandar Shahpur on the Persian Gulf where they were fitted with their new turrets and then driven overland to Teheran, Iran.

Vehicle Data: *Weight,* 17,590 lbs (7986 kgs) loaded. *Length,* 216 in (5486 mm). *Width,* 90.5 in (2299 mm). *Height,* 96.5 in (2451 mm). *Ground clearance,* 12.25 in (311 mm). *Wheel Tread:* Front, 67.25 in (1708 mm). Rear, 66.25 in (1683 mm). *Drive,* 4x4. *Armor,* .25 in (6.35 mm). *NBC protection,* No. *Armament:* (1) 37mm cannon and (1) 7.9mm LMG. *Elevation,* manual. *Traverse,* manual 360 degrees. *Capacity:* Fuel, gasoline 100 gals (378.5 liters). *Crew,* 3-4. *Engine:* Mfr, Hercules RXC 6-cyl producing 115 hp @ 2000 rpm. *Location,* front. *Cooling,* liquid. *Transmission:* Type, manual. *No of Speeds Fwd/Rev,* 4/1 w/2-spd trnsf. *Mfr,* Fuller-MRU. *Suspension System:* Type, leaf spring. *Wheels steerable,* front pair. *Turning Radius:* Right, 65' 3" (19.9m). Left, 63' 11" (19.5m). *No of wheels,* 4. *Tire size,* 10.50x20. *General Data:* Elec voltage, 12V. *Performance:* *Fording depth,* 37.25 in (946 mm). *Usage:* An unknown number of cars were completed for Persia (Iran). *Manufacturer:* Marmon-Herrington Co., Indianapolis, IN.



Above: An M1 transferred to the Pacific Command in 1941. (Photo: US Army)

1934 Car, Armd, 6x4, Car, Armd, M1.

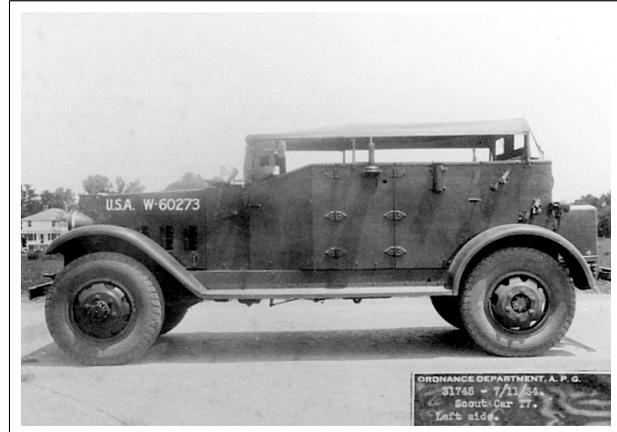
Remarks: Designed and built by James Cunningham Sons and Company, two T4 Armored Cars were completed and tested until 1934 when the design was type classified as the M1 Armored Car. After classification, an additional ten cars were completed. While the cars' performance on hard surfaces was adequate, the non-driving front axle and length of the vehicle (even with the spare wheels able to rotate on stub axles) made cross-country travel marginal at best. On the production M1, the headlights were larger and chromed. Also the turret had fittings for mounting an anti-aircraft machine gun and large storage boxes were mounted over the rear finders. A total of 12 M1s were completed with serial numbers running from USA W-60114 to W-60125.

Vehicle Data: Weight Empty, 9835 lbs (4465 kgs). Loaded, 10,233 lbs (4646 kgs). Length, 180 in (4572mm). Width, 72 in (1829mm). Height, 83 in (2108mm). Grd Clearance, 7.85 in (199mm). Wheel Base, 141 in (3581mm). Wheel Tread, 59.75 in (1518mm). Drive, 6x4. Armor .25 to .375 in (6.35 to 9.53mm). NBC Protection, individual. **Armament:** (1) .50 Cal HMG, Model M1921 and (2) .30 Cal M1919. Elevation, manual. Traverse, 360 degs manual. Fire Control, optical. **Capacity:** Fuel, 30 gals (114 liters). Ammo/Qty, .50 cal (2000 rds), .30 cal (3750 rds). Crew, 4. **Engine:** Gasoline V8. HP at Rev/Min, 133 hp @ 2800 rpm. Model, 479.4 cu in. Mfr, Cunningham and Sons. No. of Cyls, 8. Location, front. Cooling, liquid. **Transmission:** Manual. Gears Fwd/Rev, 4/1. **Suspension System:** Leaf spring. Steering, front axle. Turning Radius, Right 56ft 3in (17m) Left 48ft 4in (14.7m). No of wheels, 6. Tire Size, 6.50x20. **General Data:** Elec Voltage, 6 volt. **Performance:** Speed, 55 mph (89 km/h). Cruising Rng, 250 mi (402 km). Forging Depth, 21 in (533mm). Max Grade, 23 deg (40%). **Usage:** Only used by US Army. **Manufacturer:** James Cunningham, Sons and Company, Rochester, NY.

1934 Veh, Recce, Car, Scout, 4x4, MH A7

1934 Veh, Recce, Car, Scout, Ft Benning.

1934 Vehicle, Recce, Car, Scout, T7.



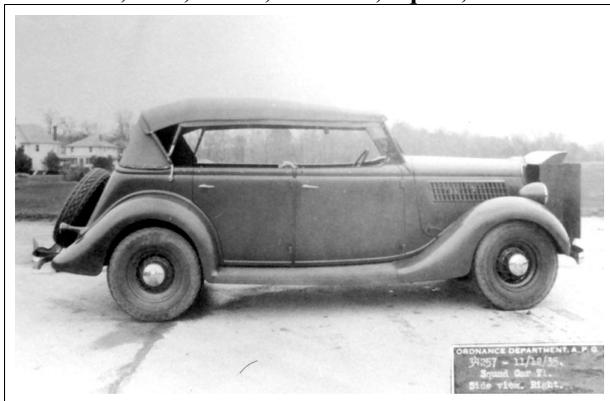
Remarks: The first of the line that would lead to the wartime M3A1 Scout Car, the T7 was type classified as the M1 Scout Car with an additional 73 being built to go along with the three T7s. The T7/M1 was based on the White Model 12x4 truck chassis built by the Indiana Motor Division. Using as many commercial parts as possible for the chassis and running gear the T7 weighed in at 8,860 pounds (4022 kg) when combat loaded. For a scout car the vehicle was well armed, with a running board mount on the right front for a .50 caliber heavy machine gun and two .30 caliber M1919s mounted near the rear doors on either side of the vehicle.

Vehicle Data: Weight empty, 7,700 lbs (3496 kgs). Weight loaded, 8,860 lbs (4022 kgs). Length, 192 in (4877 mm). Width, 80.5 in (2045 mm). Height, 79 in (2007 mm). Wheel tread, 64 in (1626 mm). Drive, 4x2 or 4x4. Armor, .25 to .5 in (6.35 to 12.7 mm). NBC protection, Individual. **Armament:** (1) .50 cal HMG on M4 Mount and (2) .30 cal LMG M1919 on M5 Mount. Elev & traverse, manual. Fire control, optical. **Capacity:** Fuel (est), 20 gals (75.7 liters). Crew, 4-5. **Engine:** (1) Hercules JXC 6-cylinder liquid cooled, gasoline producing 75.5 hp (55.7kW) @ 2400 rpm. Location, front. **Transmission:** Brown-Lipe, manual with 4-fwd and 1-rev gear. **Suspension System:** Leaf spring. Steering, front axle. Turning radius, 58 ft (17.7 meters). No/wheels, 4. Tire size, 8.25x20 (run-flat). **Performance:** Speed, 50 mph (80.5 km/h). Range, 200 mi (322 km). Forging depth, 30 in (762 mm). Max grade, 70%. **Usage:** Used by the U.S. Army only, three T7 Scout Cars were completed before production started as the M1 Scout Car. Serial numbers were: USA W-60214, USA W-60205 and USA W-60273. **Manufacturer:** White Motor Company, Indiana Motor Division and Rock Island Arsenal.

1935 Car, Armd, 4x4, Car, Armored, T12.

An Ordnance design, using a Franklin engine, only one vehicle (USA #W-6011) was built.

1935 Carr, Pers, Armd, 4x2. Car, Squad, T1.



Above: The only T1 Squad Car completed. (Photo: US Army)

Remarks: The single T1 Squad Car started life as a 1935 Ford Touring Car, manufacturers serial number 48750-2215. A standard 4-door convertible, a .5-inch armored dashboard, windshield and radiator had been added at the Rock Island Arsenal. The protection of the radiator was provided by armored louvers while scoops on four sides increased the flow of cooling air. Intended for high-speed transportation of personnel to and from the combat area, Goodyear 7.50x15 "Air Wheels" were fitted. Tested at Aberdeen Proving Ground from October to December 1935, the vehicle was found satisfactory as to speed, economy, comfort (when operating on paved roads) and acceptable cross-country mobility. The T1 was, however, inferior to the specially designed T2 Squad Car with four-wheel drive, regarding movement off-road. The radiator shield also proved unsatisfactory as it actually interfered with the engine cooling system.

Vehicle Data: Weight empty, 3,250 lbs (1476 kgs). Loaded, 4,500 lbs (2043 kgs). Length, 184 in (4674 mm). Width, 58 in (1473 mm). Height, 62 in (1575 mm). Ground clearance, 10 in (254 mm). Wheel base, 113 in (2870 mm). Drive, 4x2. Armor, .5 in (12.7 mm). NBC protection, individual. **Armament:** (1) .30 cal LMG on a bracket mount. Model, Browning. Elevation & traverse, manual. Fire Control, optical. Aux wpns, crew sidearms. **Capacity:** Fuel, gasoline. Crew/Passengers, 2/2. **Engine:** (1) Ford V8 gasoline water-cooled engine producing 83 hp (61 kW) @ 3800 rpm. Location, front. **Transmission:** Ford manual, single dry plate, with 3-forward and 1-reverse gear. **Suspension System:** Leaf spring. Wheels steerable, front pair. No of wheels, 4. Tire size, 7.50x15. **General Data:** Elec voltage, 6V (1 battery). Cargo Vol/Weight, 1,250 lbs (568 kgs). **Performance:** Speed/Land, 79 mph (127 km/h). Range (est), 200 mi (322 km). Fording Depth (est), 20 in (508 mm). **Usage:** One vehicle only tested at Aberdeen Proving Ground by the US Army. **Manufacturer:** Ford/Rock Island Arsenal

1935 Carr, Pers, Armd, 4x4. Car, Squad, T2. Ford/Marmon-Herrington B5-1 S.Q.C., three rows of seats, and armored radiator, circa 1935. This was a standard Ford 1935 truck chassis modified by MH. Tested at

APG from September to December 1935, found to have excellent mobility, but only one vehicle was completed.

1935 Carr, Pers, Armd, 4x4. Car, Squad, T3. Similar to T2 Squad Car, but with rear seats facing outward.

1935 Carr, Pers, Armd, 4x4. Car, Trng, T310 ALP.

1935 Veh, Cmd, Car, Artillery, T9.

This vehicle was the T9 Scout Car modified with artillery fire control equipment, circa 1935.

1935 Veh, Cmd, 4x2. Car, Command, T8.

Indiana, 4x4, rebuilt T7 Scout Car, with higher armor and open top hull.

1935 Veh, Cmd, 4x4, Car, Communications, T9.

T9 Scout Car with additional armor, similar to T8 Command Car, circa 1935.

1935 Veh, Recce, Car, Scout, 4x2. T12. IHC Model C-1 ½-ton chassis with five passenger body and armored radiator and windshield, open bucket type seats, 4x2. Tested at APG from April to May 1935, unsatisfactory due to lack of traction, and low gear ratio.

1935 Veh, Recce. Car, Scout, M1.



Remarks: The M1 Scout Car was type classified in 1935 from the T7 Scout Car. Three T7's had been completed, and an additional 73 were produced by White Motor Company, Indiana Motor Division. The T7/M1 was based on the White 1 ½-ton Model 12x4 truck chassis, using as many commercial parts as possible for the chassis and running gear. For a scout car the vehicle was well armed, with a running board mount on the right front for a .50 caliber heavy machine gun and two .30 caliber M1919s mounted near the rear doors on either side of the vehicle.

Vehicle Data: Weight empty, 7,700 lbs (3496 kgs). Weight loaded, 9,000 lbs (4086 kgs). Length, 192 in (4877 mm). Width, 80.5 in (2045 mm). Height, 79 in (2007 mm). Wheel tread, 64 in (1626 mm). Drive, 4x2 or 4x4. Armor, .25 to .5 in (6.35 to 12.7 mm). NBC protection, Individual. **Armament:** (1) .50 cal HMG on M4 Mount and (2) .30 cal LMG M1919 on M5 Mount. Elev

& traverse, manual. Fire control, optical. Aux wpns, crew side arms. *Capacity:* Fuel (est), 20 gals (75.7 liters). Crew, 4-5. *Engine:* (1) Hercules JXC water cooled, 6-cylinder in-line producing 75.5 hp (55.7kW) @ 2400 rpm. Location, front. Fuel, gasoline. *Transmission:* Type, manual. Gears, Fwd/Rev 4/1. Mfr, Brown-Lipe. *Suspension System:* Leaf spring. Steering, front axle. Turning radius, 58 ft (17.7 meters). No/wheels, 4. Tire Size, 8.25x20 (run-flat). *General Data:* Elec voltage, 6V. Radio, as fitted by user. *Performance:* Speed, 50 mph (80.5 km/h). Range, 200 mi (322 km). Forging depth, 30 in (762 mm). Max grade, 70%. *Usage:* Used by the U.S. Army only, besides the three T7 Scout Cars, and additional 73 M1 Scout Cars were completed. *Manufacturer:* White Motor Company, Indiana Motor Division and Rock Island Arsenal.

1935 Veh, Recce, Car, Scout, M2
 1935 Veh, Recce, Car, Scout, T10. Design only.
 1935 Veh, Recce, Car, Scout, T8. Design only.

1935 Veh, Recce, Car, Scout, T9.

Based on Corbitt 1 1/2-ton truck chassis, 4x4, 22 built, later became M2 Scout Car. Typical USA Number, W-60278. Armor .25 to .5 inches. Weight 9160 lb., max. Speed 58 mph. Lycoming 8 cyl.
 1935 Veh, Recce, Car, Scout, T11. Design only.

1936 Car, Armd, 4x4, T11E2 Armored Car.



Remarks: Only one of the T11 ordered from Marmon-Herrington was built as a T11E2. This version had several changes from the T11/T11E1. Changes included, the armored body was smoothed and simplified for easier production. What was then one of the US Army standard engines (the Hercules 6-cylinder in-line) was substituted for the original Cadillac V8. The rear end ratio gearing was changed from 7.36/1 to 6.6/1. The rear shutters used to cool the engine were changed to solid plates and the direction of airflow over the radiator changed. The turret was also replaced with the same design as on the M2 Combat Car. Even with these changes the car still had problems with a weak suspension and poor cooling.

Vehicle Data: *Weight:* Empty, 12,400 lbs (5630 kgs). Loaded, 13,025 lbs (5913 kgs). Length, 180 in (4572 mm). Width, 86 in (2184 mm). Height, 104 in (2642 mm). Ground clearance, 10.5 in (267 mm). Wheel base, 116 in (2946 mm). Drive, 4x4. Armor, .19 to .44 in (4.8 to 11.2 mm). NBC protection, No. *Armament:* (1) .50 and (2) .30 cal MG. Elevation, manual. Traverse, manual. *Capacity:* Fuel, 41 gals (155 liters) gasoline. Ammo/Qty, .50 cal (1,000 rds), .30 cal (2,000 rds). Crew, 4. *Engine:* Hercules WXLC-3, 6-cylinder in-line, producing 115 hp @ 2800 rpm. Location, rear. Cooling, liquid. *Transmission:* Type, Manual. Speeds Fwd/Rev, 5/1. *Suspension System:* Type, leaf spring. Wheels steerable, front axle. Turning radius, Right 54' 3" (16.6 m). Left 57' 8" (17.6 m). No of wheels, 4. Tire size, 9.00x20. *Performance:* Speed/Land, 53 mph (85 km/h). Cruising Rng, 250 mi (402 km). Forging depth, 33 in (838 mm). *Usage:* US Army only, one T11E2 completed. *Manufacturer:* Marmon-Herrington.

1936, Carr, Wpns, 4x4, Carriage, Motor, Mortar, 4.2-inch, T5. This was a standard 1936 Ford V-8 truck chassis converted to 4x4 by Marmon-Herrington. Tested at APG from Jun to Jul 1936, the mortar had too short a range. Six vehicles were built. Aka Carrier, Motor, Mortar, 4.2-inch, T5.

1936 Carr, Pers, Armd, 4x4. Car, Squad, T2E1.

The Squad Car T2E1 was identical to the T2, except an Ordnance pintle mount was provided in the rear. The Infantry and Field Artillery Boards and Ft Knox couldn't find any requirement for the vehicle.

1937 Veh, Cmd, Car, Command, Armored, T1.

Project initiated to develop an armored vehicle for use by Commander's of Horse Cavalry Regiments. The vehicle was to carry communications for reconnaissance, inspection and supervision. Project was disapproved due to similarity with the M2A1 Scout Car, circa 1937.

1937 Veh, Recce, 4x4, Car, Scout, T13.



T13 as delivered to the New Jersey Army National Guard in 1937. (Photo: US Army)

Marmon-Herrington armored car on a Ford 1 ½-ton chassis, designed for National Guard units, circa 1937. Thirty-eight soft steel vehicles built for training. Weight, 9300 lb., max. Speed 60 mph.

1937 Veh, Recce, Car, Scout, M2A1

1937 Veh, Recce, Car, Scout, M2E1

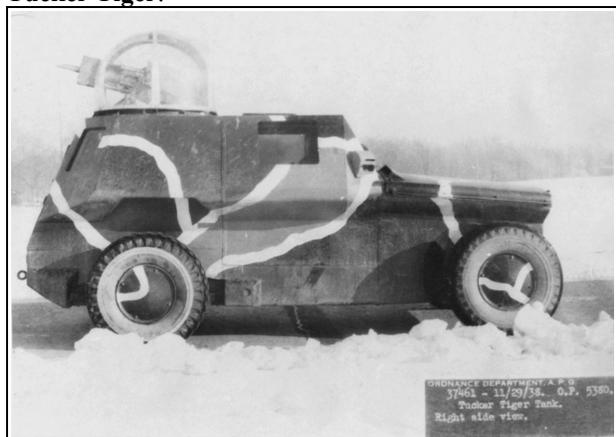
1937 Veh, Recce, Car, Scout, M3.

1937 Veh, Recce, Car, Scout, M4

1938 Car, Armd, 6x6. Car, Combat, Convertible, T7.

Designed at Rock Island Arsenal the car was based on the Combat Car M1, using the same engine and transmission. The six wheels could be run on either pneumatic or steel rim wheels as well as tracks, circa 1938.

1938 Carr, Anti-Aircraft, 4x2. Car, Combat, AA, Tucker Tiger.



Above: Tucker Tiger, designed by Preston Tucker. (Photo: US Army, Author's collection)

Remarks: A commercial development of the late 1930s, was the Tucker Tiger Tank, made by Preston Tucker in 1938. Designed as an anti-aircraft and general purpose armored car, the Tucker Tiger was tested at Aberdeen Proving Ground from 21 November to 3 December 1938. While the vehicle was found to have a good high speed performance on hard surface roads, it lacked cross-country ability.

Vehicle Data: Weight, 10,750 lbs (4881 kgs). Length, 166 in (4216 mm). Width, 75 in (1905 mm). Height, 96 in (2438 mm). Ground clearance, 10.25 in (260 mm). Wheel base, 109 in (2769 mm). Wheel tread, 63 in (1600 mm). Drive, 4x2. Armor, .28 to .56 in (7 to 14 mm). NBC protection, No. **Armament:** (1) 37mm cannon and (1) .50 cal and (2) .30 cal machine guns. **Capacity:** Fuel, gasoline. **Engine:** Packard, V-12 producing 175 hp @ 3400 rpm. Location, front. Cooling, liquid. **Transmission:** Manual, 5-fwd and 1 rev gear. **Suspension System:** Type, leaf spring. Wheels steerable, front pair. No of wheels, 4. Tire size, 10.50x16. **Performance:** Speed/Land, 74 mph (119 mm). **Usage:** Only one Tucker Tiger (US MUN LIC 222) was completed. **Manufacturer:** American Armament Corp.

1938 Carr, Wpns, 4x4, Carriage, Motor, Mortar, 4.2-inch, T5E1.

The follow on to the T5 MMC, the new T5E1 used a modified M2A1 Scout Car which required only minor modifications to the rear and interior to fit the 4.2-inch mortar and its moveable mount. Tested in 1937, six vehicles were delivered in 1938.

1938 Veh, Recce, Veh, Recce, 4x4, Ford (1938)

1938 Veh, Recce. Trk, ½-T, 4x4, Cmd Recce, Ford

1939 Veh, Recce. Trk, Utility, 4x4, Bantam.



1939 Carr, Wpns, 4x4, Carriage, Motor, 37mm Gun, T2.

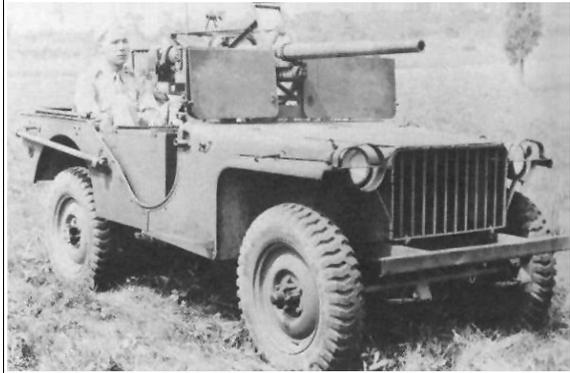


Above: Carr, Wpns, 4x4, Carriage, Motor, 37mm Gun, T2.

Remarks: Based on the "Bantam" ¼-ton Truck, Reconnaissance. A 37mm anti-tank gun with shield was moun-

ted at the rear of the striped down chassis. Curved rear fenders were fitted at first, but these were later removed. T2 had gun firing to the rear.

1939 Carr, Wpns, 4x4, Carriage, Motor, 37mm Gun, T2E1.



Remarks: The T2E1 used a Bantam chassis, but with out the major changes of the T2. On this vehicle, the 37mm gun was fitted to fire to the front. No production undertaken.

1939 Veh, Recce, Car, Scout, M3E1

1940 Car, Armd, 8x6. Trackless Tank, (TT Corp).



Remarks: A private venture by the Trackless Tank Corporation, the vehicle was tested by the Armored Board for use as an armored car, rather than as a tank. Chain drive was used to the last three axles, the front axle being used for steering. While no orders were awarded for the Trackless Tank, it did directly lead to the T13 Armored Car.

Vehicle Data: Weight, 20,150 lbs (9148 kgs) loaded. Length, 205 in (5207 mm). Width, 100 in (2540 mm). Height, 84 in (2134 mm). Drive, 8x6. Armor, .25 to .50 in (6.35 to 12.7 mm). NBC protection, No. *Capacity:* Fuel, diesel. Crew, 2-3. *Engine:* Type, Radial. Model, T-1020. Mfr, Guiberson. Location, rear. Cooling, air. *Suspension System:* Type, Coil Christie. Wheels steerable, front pair. No of wheels, 8. *Performance:* Speed/Land, 75 mph (121 km/h). Cruising Rng, 500 mi (805 km). *Usage:* Only one Trackless Tank prototype was completed. *Manufacturer:* Trackless Tank Corp.

1940 Car, Armd, 8x6. Car, Armored, T13.



Above: T13 Armored Car. (Photo: US Army)

Remarks: This vehicle was an 8-wheeled car, with drive on the three rear axles, and steering with the two front wheels as well as by an auxiliary differential steering system. All eight wheels, supported by pneumatic shock struts, had individual suspension, and were powered by a radial Guiberson Diesel engine. Procurement of two vehicles for test was authorized in April 1941 (a final total of 3 pilot T13 were delivered). At about the same date procurement of 17 vehicles from the Trackless Tank Corporation was directed by the Adjutant General. In June 1941 four armored car T13 chassis were diverted to make 3-inch gun motor carriages T7. Later two of these chassis were used for mounting 105mm howitzers. Agreement was reached 30 June 1941 upon a price of \$35,000.00 per car plus a tooling charge of \$70,000.00. In late October 1941, the Trackless Tank Corporation finally signed a subcontract with the Reo Motor Company for construction of the pilot models.

Vehicle Data: Weight, 32,000 lbs (14,528kgs). Length, 205 in (5207 mm). Width, 100 in (2540 mm). Height, 84 in (2134 mm). Armor, .5-in to 1-in (12.7 to 25.4 mm). *Armament:* (1) 37mm cannon and (2) .30 cal. machine guns. Crew, 4. *Engine:* Mfr, Guiberson, 250 hp, 9 cyl, diesel. Location, rear. Cooling, air. No of wheels, 8. Drive, 8x6.

1940 Veh, Recce, 4x4, Car, Scout, M3A1.

M3A1s were also supplied to: Brazil, Cuba, Dominican Republic, Paraguay (17), UK

1940 Carr, Wpns, 8x4, Carriage, Motor, 37mm Gun, T13.

Ford GP chassis, not completed, see also Carriage, Motor, 37mm Gun, T14.

1940 Veh, Util Truck, Util, 1/4-Ton, 4x4 Ford/Willys.



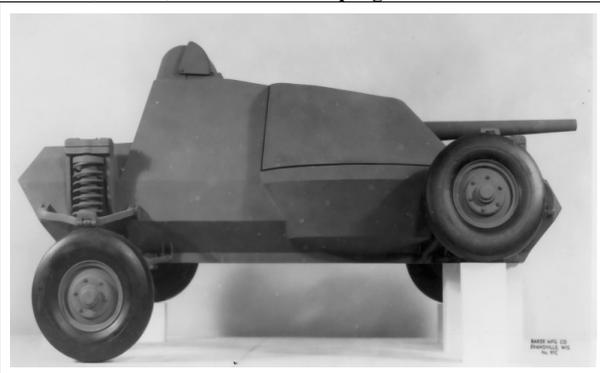
Above: Early Willys MA "Quad" during desert testing. (Photo: LoC)



1941 Car, Armd, 4x2. Car, Armd, Imp, Johnson (Blitzwagon)

1941 Car, Armd, 4x2. Car, Armd, Minuteman.

1941 Car, Armd, 4x4. Baker Jumping Tank 4x4.



Remarks: Design study only, no actual vehicle was completed.

1941 Car, Armd, 4x4, Car, Armored, T14.
Design study only, circa 1941.

1941 Car, Armd, 4x4, Car, Armored, T15.

Design study only, circa 1941.

1941, Carr, Wpns, 6x6. Carriage, Motor, 3-inch Gun, T15.

Ford, design only, circa 1941.

1941 Car, Armd, 4x4, Car, Armored, T16. Design study only, circa 1941

1941 Veh, Recce. Car, Scout, 4x4, 1/2-T, Chrysler.



Remarks: A private venture by Chrysler to produce an inexpensive and quick armored vehicle on an existing commercial chassis. The armored body was bolted to the top of a Dodge 1/2-ton 4x4 chassis. The vehicle proved to be too narrow and had a very high center of gravity. The same vehicle was later modified with an armored cab and a cargo body at the rear, but no orders were ever placed.

Vehicle Data: Drive, 4x4. *Capacity:* Fuel, Gasoline. *Engine:* Dodge, T202 6-cyl producing 79 hp @ 3,000 rpm. Location, front. Cooling, liquid. *Transmission:* Type, manual. Speeds Fwd/Rev, 4/1. *Suspension System:* Type, leaf spring. Wheels steerable, front pair. No of wheels, 4 (duals at rear). *Usage:* US Army, testing only. *Manufacturer:* Dodge Motor, Chrysler Corp.

1941 Car, Armd, 6x6. Car, Armored, T17.



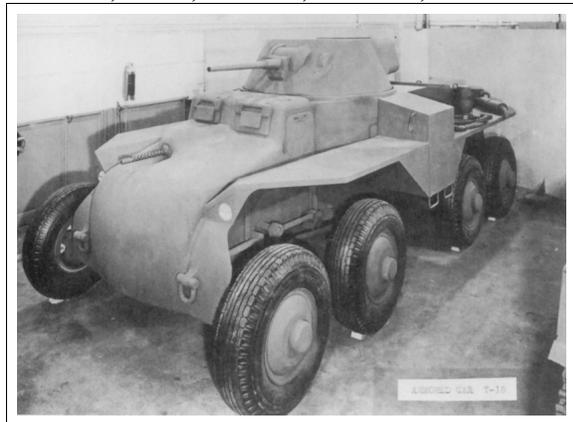
Remarks: The Ford, "Deerhound", 6x4, had a limited production run of 250 cars and was used internally in the U.S. during WWII. The Armored Car, T17, carried a crew of four and weighed in at 28,390 pounds (2,079kgs) unloaded. The frontal armor was from 1.25 to 2 inches

(31.75mm to 50.8 mm) thick, side armor was .75-.875 inches (17.8 to 22.2 mm), rear armor was .75 inches (17.8 mm) and the turret armor increased from .5 inches (12.7 mm) on the top to 2 inches (50.8 mm) on the turret front. The car carried a 37mm gun and a .30 caliber machine gun in Combination Mount, M24, in the turret, which also had a 360 degree traverse. Drive was on all six wheels and turret traverse was either by a hydraulic power mechanism or by hand. A gyro-stabilizer maintained gun position while the vehicle was in motion. A periscope with a telescope was mounted with the 37mm gun and two periscopes were provided for the driver and assistant driver. Tires were 12.00x20 and the speed of the vehicle was 55 mph (64 km/h). The original Ford design included two 90 horsepower Ford gasoline engines as a power plant and construction was based on the use of face-hardened rolled armor plate. In the interest of standardization the 110-horsepower Hercules JXD engine as used in the M3A1 Scout Car and contemporary 2-1/2 ton trucks was used instead of the Ford engine, and to permit welding of the plate, homogeneous armor plate was substituted for the face-hardened armor. The first pilot T17 was delivered in March 1942. The 250 T17s produced were at first assigned as International Aid to the British. On the basis of tests made by the Desert Warfare Board on six vehicles, the British decided that the T17 wasn't suitable for their use. The cars, minus their 37mm gun, were then assigned to military police units in the US and the project was finally terminated in February 1944.

1941 Carr, Wpns, 6x6. Carriage, Motor, 37mm Gun, T23.

Remarks: Design only, project redesignated Car, Armored, T23 on 14 March 1942 and a single car was completed. See Car, Armored, T23 of 1942.

1941 Car, Armd, 8x8. Car, Armored, T18.



Above: Yellow Truck & Coach T18 Armored Car. (Photo: US Army)

Remarks: Built and designed by Yellow Truck & Coach Co., the T18 was built concurrently with the Armored Car T17. Dual engines in rear. Project ended in 1942 on recommendation of the Special Armored Vehicle Board. Vehicle then modified into T18E2. One T18 was completed. The Armored Car, T18, resulted from the general

characteristics of the heavy armored car as projected in July 1941 in accordance with the desires of the Armored Force and the British. These characteristics were those of a wheeled armored vehicle with 360 degree traverse turret, a power operated and stabilized gun mount, carrying at least one 37mm gun (or heavier if possible) in combination with a .30 caliber machine gun, and an additional .30 caliber machine gun in the bow; proposed total weight for the vehicle was to be approximately 32,000 pounds (2,079kgs). The proposed armor basis for the new vehicle was for a 2-inch (50.8 mm) basis for the front of the hull and turret, and 1 to 1.25-inch (25.4-31.75 mm) on the sides and rear. A speed of 50 mph (64k/hr) was desired and a cruising range of not less than 300 miles (482km). The power plant was to be either diesel or gasoline, with a diesel unit preferred. Two pilot vehicles each of two different designs were procured from Yellow Truck and Coach Division, General Motors Corporation. The first, designated Armored Car, T18, was an 8x8 vehicle, conventionally sprung, with dual engines at the rear and mounting a 37mm light tank turret. The second vehicle, designated Armored Car, T18E1, was a 6x6 vehicle with individually sprung wheels. The project for this vehicle was, however, suspended in favor of the development of Armored Car, T19.

1941 Car, Armd, 6x6. Car, Armored, T18E1.

Remarks: Design only, this was a 6x6 version of the T18, circa 1941; the project was suspended in favor of the Armored Car T19 design.

1941 Veh, Recce. Truck, Cmd Recce, 1/4-ton.

1941 Carr, Wpns, 4x4, Carriage, Motor, 37mm Gun, T8.



Remarks: Ford, "Swamp Buggy", 37mm gun fired forward, 4x4, circa 1941. Fifteen vehicles were built and tested. Project ended in favor of the 37mm Gun Motor Carriage, M6. Two vehicles were later modified into the Observation Post Tender T1 & T2 and at least a few vehicles were bought by the Dutch for the Neatherlands East Indies.

1941 Carr, Wpns, 6x6. Carriage, Motor, 37mm Gun, T14.

Remarks: Willys MB chassis converted to a 6x6 configuration with a 4-cyl engine producing 60hp. Armament was a fully rotating 37mm cannon with an armored shield that came in to designs (with and without overhead cover). Pilot was produced in late 1941.

1941 Carr, Wpns, Tractor, MG, 4x2. John Deere

1941 Carr, Wpns, Trk, Machine gun, 4x4, LLDMG5-4 (For NEI)

1941 Veh, Recce, 4x4, Car, Scout, T25.

Remarks: This was a Willys Model MB "Jeep" which was armored as a commercial venture and tested at APG in Nov 1941. The vehicle was deemed unsatisfactory because of overloading of the suspension and maintenance problems.

1941 Veh, Util, 4x4, Tender, Observation Post, Armored, T2.



Remarks: Based on the 37mm Gun Motor Carriage T8, with the addition of an armored, open topped body, no production undertaken, circa 1941-42.

1941 Veh, Util, 4x4, Tender, Observation Post, T1.

Remarks: 4x4, artillery support vehicle with open top, circa 1941/42. Modified from a 37mm Gun Motor Carriage T8, only one vehicle was completed.

1941 Carr, Wpns, 4x4. Carriage, Motor, 37mm Gun, 2nd Cav Division.



Above: Modified Bantam BRC 40 firing to the rear. As well as the mount for the 37mm gun, the revised position for the steering wheel can also be seen.

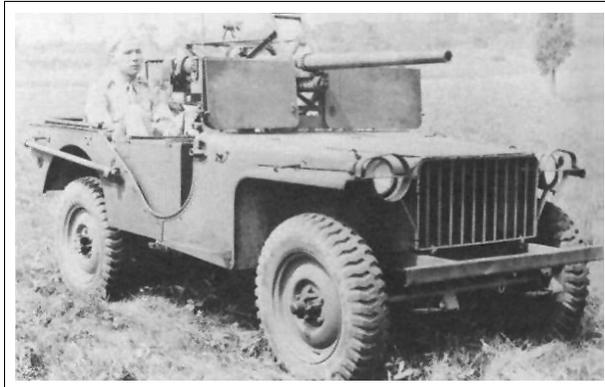
Below: the same vehicle with a shortened gun shield and partial covers for the debris from the rear wheels. (Photos: US Army)



Remarks: Developed by troops from the 2nd Cavalry Division, Fort Riley, Kansas, the design was a conversion from the Bantam 40 BRC "Jeep" in 1941. Tests of the vehicle in comparison with other 37mm Gun Motor Carriages then in development (including the T2 and T2E1 37mm GMCs) proved unsatisfactory in that the vehicle was unstable during firing of the cannon. Also the vehicle itself was too short requiring that the steering wheel be moved forward and up so the cannon barrel would clear when firing to the front. Also there was insufficient leg-room for the driver to safely maneuver the vehicle. The development project was ended in January 1942. The 37mm Anti-Tank Gun, M3 had a length of tube of 82.5 inches (2096 mm), a rate of fire of 25 rounds per minute and elevation limits of -10 to +15 degrees.

Vehicle Data: Weight empty (est), 2,100 lbs (953 kgs). Length, 126 in (3200 mm). Width, 54 in (1372 mm). Height, 49 in (1245 mm). Wheel base, 79.5 in (2019 mm). Drive, 4x4. Armor (est), .25 in (6.35mm) on gun-shield. NBC protection, individual. **Armament:** (1) 37mm Gun, M3. Elevation, -10 to +15 degs, manual. Traverse, 360 degs, manual. Fire Control, optical. **Capacity:** Fuel, 15 gals (57 ltrs) gasoline. Ammo/Qty, 37mm (40 rds). Crew, 2. **Engine:** (1) gasoline. Water-cooled, 4-cyl, in-line, Continental producing 45 hp (33 kW). Location, front. **Transmission:** Warner T84 manual with 3-fwd and 1-rev gear through a 2-speed transfer case. **Suspension System:** Leaf spring. Wheels steerable, front pair. No of wheels, 4. **General Data:** Elec voltage, 6V. **Performance:** Speed (est), 50 mph (80 km/h). Range (est), 250 mi (402 km). **Usage:** Test vehicle only with 2nd Cavalry Division, US Army, no series production. **Manufacturer:** US Army.

1941 Carr, Wpns, 4x4. Carriage, Motor, 37mm Gun, T2.



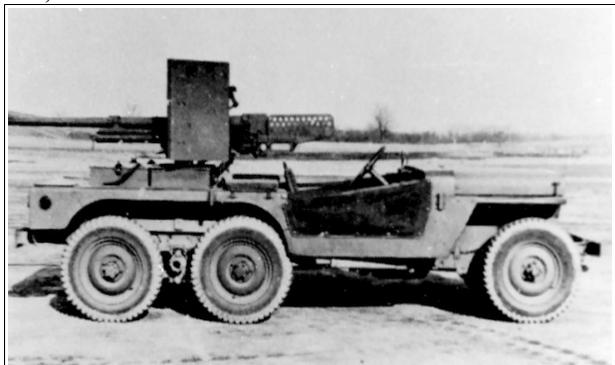
1941 Carr, Wpns, 4x4. Carriage, Motor, 37mm Gun, T2E1.



1941 Carr, Wpns, 4x4. Carriage, Motor, 37mm Gun, T6.

Remarks: 37mm anti-tank gun fitted to the rear of a Dodge 3/4-ton 4x4 weapons carrier.

1941 Carr, Wpns, 6x6. Carriage, Motor, 37mm Gun, 6x6, T14.



Above: One of the original two, T-14 37mm GMC with early Willys Model MB "slat" grille. Besides a change of angle in the steering wheel, the whole steering unit had been moved approximately 10-inches to the outside (left). (Photo: US Army)

Remarks: At least two slat-grille T-14s were completed

for testing as 37mm gun carriers. A few months later approximately five more T-14s were completed, this time using the pressed grill, Willys MB.

Vehicle Data: Weight loaded, 4,950 lbs (2247 kgs). Length (est), 168 in (4267 mm). Width (est), 69.5 in (1765 mm). Height (est), 62 in (1575 mm). Ground clr (est), 8.75 in (222 mm). Drive, 6x6. Armor, gun shield only. **Armament:** (1) 37mm AT Gun M3. Elev & traverse, manual. Fire control, optical. **Capacity:** Fuel, gas 15 gals (57 liters). Crew/Pass, 4. **Engine:** (1) Willys-Overland, 4-cyl F-head gasoline engine producing 54 hp (39.9 kW) @ 4,000 rpm. Location, front. Cooling, liquid. **Transmission:** Manual (mounted on the steering column). Gear Fwd/Rev, 3/1 w/2-spd transfer. Model, T-84. Mfr, Warner. **Suspension System:** Leaf spring. Steering, front axle. No/wheels, 6. Tire Size, 6.00x16. **General Data:** Elec voltage, 6V. Radio, as fitted by user. **Performance:** Speed/Land, 55 mph (88.5 km/h). Range, 300 mi (483 km). Forging depth, 21 in (533 mm). **Usage:** Test vehicle only with the US Army circa 1941/42. **Manufacturer:** Willys-Overland, USA.

1941 Carr, Wpns, 4x4, Carriage, Mo 37mm Gun, T21.

Remarks: Based on Dodge 3/4-ton 4x4 chassis, later to M4 and then M6 Motor Gun Carriage.

1941 Carr, Wpns, 4x4. Carriage, Motor, 75mm Gun, T27.

Remarks: Studebaker, 4x4 dual steering chassis with 75mm Gun M1897A4 firing forward, circa 1941.

1941 Carr, Wpns, 4x4. Carriage, Motor, 37mm Gun, T33.

Remarks: Ford, 3/4-ton 4x4, 37mm gun rear mounted, firing forward, circa 1941. Project dropped in favor of the M6 37mm Gun Motor Carriage.

1941 Carr, Wpns, 6x6. Carriage, Motor, 37mm Gun, T22/T22E1.

See Car, Armored, Light, T22.

1942 Car, Armd, 8x6. Car, Armored, T13E1.

Remarks: The T13E1 was introduced in 1942, and 1,000 production vehicles were authorized, but because of a lack of manufacturing capability, only two T13E1s were built and the project terminated in 1943. In March 1942, Headquarters, Armored Force, requested that the manufacture of 500 of the 1,000 vehicle authorized be held in abeyance pending development of a gas-electric vehicle later designated Armored Car, T20. Redesign of the T13E1 was delayed by uncertainty as to the transmission to be used and as to the responsibility for the engineering. The latter responsibility finally being placed with the Reo Motor Company.

Two models were demonstrated at the General Motors Proving Ground in May 1942 and accepted. The two pilot vehicles, one with manual and the other with an air shift, were then sent to Fort Knox, Kentucky, for testing. In a report dated 29 June 1942, the Armored Force

Board recommended that the two pilot models be returned to the Trackless Tank Corporation for reworking. Development of the vehicle was suspended on 23 July 1942, the rebuilt vehicles were tested at Aberdeen Proving Ground and the Special Armored Vehicle Board recommended in December of that year the termination of development and testing of the vehicles.

Not quite six months later on the 21st of January 1943 it was further recommended that all aspects of armored cars T13 and T13E1, the 3-inch Gun Motor Carriage, T7 and the 105mm Howitzer Motor Carriage, T39 also be dropped from further development.

To supplement the T13 Armored Car, development had begun in July 1941 of the Armored Cars, T17 and T18 to meet the composite requirements of the Armored Force and the British Army Staff. Procurement of one pilot model each was authorized.

1942 Car, Armd, 4x4, Car, Armored, T17E1.



Above: T17E1 Armored Car. (Photo: US Army)

Remarks: Chevrolet, 4x4, "M6" Staghound, of the over 3800 built, nearly all went to Great Britain as Lend Lease during WWII or as part of the post-war Military Assistance Program. Armor ranged from .5 to 1.75 in (12.7 to 44.5 mm). The Armored Car, T17E1, proposed by the Chevrolet Division of General Motors Corporation, was a 4x4 car powered by two GMC engines located at the rear of the vehicle. The procurement of one and later two pilot models was approved in October and November of 1941. Production of 2,000 vehicles was authorized in January 1942 and production of a further 1,500 vehicles was approved in April of the same year. Difficulties in obtaining machine tools and numerous engineering changes resulted in the acceptance of only 157 T17E1s by the end of 1942.

The Special Armored Vehicle Board recommended termination of the production of this vehicle in December 1942, since none of the using arms represented on that Board desired to be equipped with this vehicle. In consequence, all production of the T17E1 was taken over by the British, under International Aid. Production in 1943 was in accord with the schedule, and a total of 2,687 vehicles were accepted in that year. With the designation of T17E1 or (with the Frazier Nash ma-

chine gun turret) as the T17E2. 500 T17E1 vehicles were canceled and 500 T17E2 vehicles substituted in their place with an additional production order for a further 500 T17E2 cars issued, production of the base T17E1 being terminated in December 1943. With British agreement, cars from their production were also supplied to Australia, Belgium, and Canada during WWII.

Vehicle Data: Weight empty, 26,500 lbs (12031 kgs). Weight loaded, 29,000 lbs (13,166 kgs). Length, 212 in (5385 mm). Width, 106 in (2692 mm). Height, 93 in (2362 mm). Ground Clr, 13.3 in (337 mm). Wheel Base, 120 in (3048 mm). Armor, .47-1.25 in (12-32 mm). NBC Protection, individual. *Armament:* Main, (1) .37mm cannon M6. Elevation, -7 to +60°. Traverse, 360°. Aux, (2) .30 caliber LMG. *Capacity:* Fuel, 50 gal (190 ltrs). Ammo/Qty, 37mm (50 rds). Crew, 4. *Engine:* (2) Chevrolet GM 270 6-cylinder gasoline engines each producing 97 hp (71.6 kW) @ 3000 rpm. Location, rear. Cooling, liquid. *Transmission:* Hydromatic. No of speeds, 4 Fwd/1 Rev w/2spd trans case. Drive, 4x4. *Suspension System:* Leaf spring. Steering, front axle. Turning Radius, 55 ft (16.8 m). No of wheels, 4. Tire Size, 14.00 x 20 in. *General Data:* Electrics, 24V. Intercom, Yes. Night Vision, No. *Performance:* Speed, 56 mph (89.8 k/ph). Range, 199 mi (320 km). Fording, 31.5 in (800 mm). Max Grade, 57%. Trench, 35 in (900 mm). Step, 19.7 in (500 mm). *Usage:* Australia, Belgium, Canada, Cuba, GB, Israel, Lebanon, Nicaragua, Sudan, Syria, and Commonwealth forces during and after WWII. *Manufacturer:* Chevrolet Division, GMC.

1942 Car, Armd, 6x6, Car, Armored, T19.



Remarks: Chevrolet, 6x6, low silhouette, developed into T28 Armored Car. Two pilot models built, one as T19 and one as T19E1. Armament one 37mm cannon and two .30 caliber LMGs. Armor .25 to .5 inches. Weight 28,500 lb., max. Speed 55 mph. circa 1942. The Armored Car, T19, was a 6x6 car with independently sprung wheels and an attempt to provide improved rideability over the then current 4x4 and 6x6 designs. Construction of two pilot models by Chevrolets Division, General Motors Corporation was authorized on the 29th of January 1942. One pilot T19 was built using two GMC truck engines with hydramatic transmissions as used in the

T17E1 Armored Car. The second pilot T19 was modified to provide a vehicle not in excess of 28,000 pounds (2,079kgs) using 14.00x20 tires and with a power plant similar to that of the M5 Light Tank. The armor of the vehicle was to be .5-inches (12.7 mm) at a slope of 45° and side armor of .375-inches and top, bottom and rear armor of .25-inches (6.35 mm). The turret armor was to have the same basis as the hull armor. Armament was to consist of one 37mm gun and a coaxial .30 caliber machine gun along with an additional .30 caliber machine gun in the bow. The vehicle was simplified by having no turret basket, no gyro-stabilizer and traverse was by hand only. Top speed was to be 55 mph (64 km/h) and a radius of action of 300 miles (482km). This second car was later designated as the T19E1. The vehicles were subsequently tested at APG and at Camps Seeley and Young in California. The armored cars were scrapped after testing, but the T66 gun motor carriage was retained at APG but apparently later scrapped as well.

1942 Car, Armd, 6x6. T19E1 Armored Car.



Remarks: After testing, it was decided that the vehicle was too heavy for an efficient reconnaissance vehicle, so the pilot was modified and simplified to reduce weight. Later the T19E1 was further modified to mount the 75mm Gun M3 and redesignated 75mm GMC, T66. A further modification of the T19E1 (designated the T66 75mm Gun Motor Carriage), was developed at the request of the Armored Force. The report of the Special Armored Vehicle Board, in December 1942, recommended that further development of the T19 and T19E1 armored cars be terminated and that the Board did not consider the T19E1 suitable for development as a gun motor carriage.

Vehicle Data: Weight, 28,500 lbs (12,939kgs). Length, 220 in (5588mm). Width, 120 in (3048mm). Height, 95.5 in (2426mm). Wheel base, 126 in (3200mm). Armor, .375-.5 in (9.53-12.7mm). NBC protection, No. **Armament:** (1) 37mm gun in mount M23 with (1) coaxial .30 cal. machine gun M1919A4 and (1) .30 cal. machine gun in the bow. Elevation/traverse, power. Traverse, 360 degrees. **Capacity:** Fuel, gasoline. Crew, 5. **Engine:** Number, (2). Mfr, Cadillac. No of Cyls, 8. Location, rear. Cooling, liquid. **Transmission:** Automatic. No of speeds Fwd/Rev, 4/1. Mfr, GMC. **Suspension System:** Coil

spring. No of wheels, 6. Drive, 6x6. General: Elec voltage, 24. Intercom, Yes. Night Vision Devices, No. **Performance:** Speed/Land, 55 mph (88.5kph). Range, 300 mi (483km). Fording, 32 in. (813mm). **Usage:** Only developed by the US Army, no production. **Manufacturer:** Chevrolet Division (General Motors Corp.).

1942 Car, Armd, 6x4. Carriage, Motor, 37mm Gun, T43. Studebaker 6x4 chassis, became T21 Armored Car, circa 1942.

1942 Car, Armd, 6x4. T21 Armored Car.

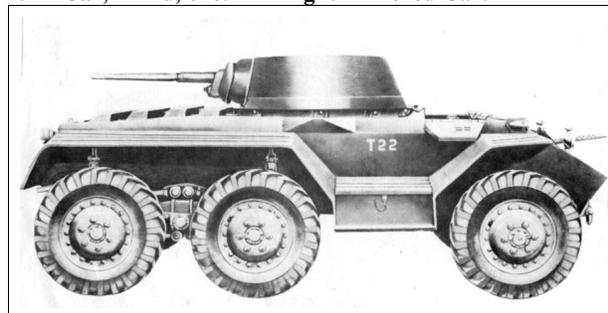


Above: The Studebaker T21 had a non-powered front axle so was actually a 6x4 vehicle. (Photo: US Army)

Remarks: Developed concurrently with the Ford T22 (which became the M8), the Studebaker T21 was a rear-engine design driving the rear two axles, making the car a 6x4. Had it been started earlier, the Studebaker design might have become standard, the Armored Vehicle Board judging the car satisfactory as a reconnaissance vehicle, but engineering problems delayed development and the T22 (M8) won out.

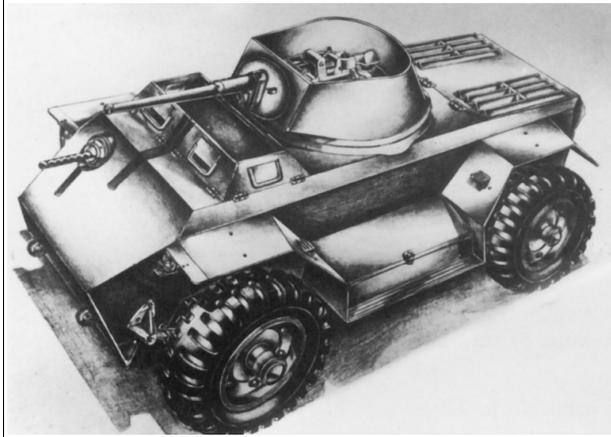
Vehicle Data: **Weight:** Loaded, 17,200 lbs (7809 kgs). Drive, 6x4. Armor, .375 to 1.125 in (9.5 to 28.6 mm). NBC protection, No. **Armament:** (1) 37mm Gun, M6 and (1) .30 cal. LMG M1919A5 in Combination Gun Mount, M23. Elevation, manual. Traverse, manual. **Capacity:** Fuel, gasoline. Crew, 4. **Engine:** Hercules, JXD, 6-cylinder in-line producing 112 hp. Location, rear. Cooling, liquid. **Transmission:** Manual, Speeds Fwd/Rev, 5/1. **Suspension System:** Wheels steerable, front axle. No of wheels, 6. **Usage:** Only one T21 was completed. **Manufacturer:** Studebaker Corp.

1942 Car, Armd, 6x6. T22 Light Armored Car.



Remarks: (Original designation Carriage, Motor, 37mm Gun, T22). development of the Ford, Greyhound, 6x6 started in July 1941 with the first pilot vehicle completed in early 1942.

1942 Car, Armd, 4x4. T22E1 Light Armored Car.



Above: Drawing of the proposed T22E1 Greyhound. (Photo: US Army)

Remarks: This 4x4 version of the Greyhound was started in late 1941, one vehicle may have been completed before the project was dropped.

1942 Car, Armd, 6x6. T22E2 Light Armored Car.



Above: M8 Light Armored Car pre-production vehicle. (US Army)

Remarks: Type classified as the M8 Light Armored Car, the T22E2 was the first production version (of three). The T22E2 included a redesigned driver's compartment, addition of armored sponsons to hold the required radios, the addition of sand shields over the wheels, and finally changes to the turret top to improve visibility for the commander and gunner. After a final redesign, this vehicle became the M8 Light Armored Car, circa 1942.

Vehicle Data: *Weight:* Empty, 14,500 lbs (6583 kgs). Loaded, 17,200 lbs (7809 kgs). Length, 197 in (5004 mm). Width, 100 in (2540 mm). Height, 100 in (2540 mm). Ground clearance, 11.5 in (292 mm). Wheel base, 104 in (2642 mm). Wheel tread, 76 in (1930 mm). Drive, 6x6. Armor, .875 in (22.2 mm). NBC protection, No. *Armament:* (1) 37mm Gun, M6 and (1) .30 cal. LMG M1919A4 in Combination Mount, M23A1. Elevation,

manual. Traverse, 360 degrees manual. *Capacity:* Fuel, 54 gals (204 liters) gasoline. Ammo/Qty, 37mm (50 rds) and .30 cal (1575 rds). Crew, 4. *Engine:* (1) Hercules JXP, in-line, water-cooled, 6-cylinder producing 86 hp @ 2800 rpm. Location, rear. Cooling, liquid. *Transmission:* Manual, Speeds Fwd/Rev, 4/1. *Suspension System:* Type, leaf spring. Wheels steerable, front axle. Turning radius, 28 ft (8.5 m). No of wheels, 6. Tire size, 9.00x20. *General Data:* Elec voltage, 12V. *Performance:* Speed/Land, 56 mph (90 km/h). Cruising Rng, 250 mi (402 km). Forcing depth, 32 in (813 mm). Max grade, 60%. Step, 12 in (305mm). *Usage:* The T22E2 was only used by the US Army, see the entry for the M8 for a listing of known countries to have used the series. *Manufacturer:* Ford Motor Company

1942 Car, Armd, 6x6. T23 Armored Car.

Remarks: Developed by the Fargo Division of Chrysler Corporation, the T23 was a 6x6 armored car based on a truck type frame. Development started in 1941 and completed in 1943 without an order for production. Original designation of the Car, Armored, T23 was, Carriage, Motor, 37mm, T23. One pilot vehicle of the 6x6 version was completed. *Armament:* (1) 37mm cannon and (1) .30 cal. machine guns. Elevation, manual. Traverse, manual. *Capacity:* Fuel, gasoline. Crew, 4. *Engine:* Location, rear. Cooling, liquid. *Transmission:* Type, manual. *Suspension System:* Leaf spring. No of wheels, 6. Drive, 6x6. *Usage:* US Army for testing. *Manufacturer:* Fargo Division, Chrysler Corp.

1942 Car, Armd, 4x4, Car, Armored, T23E1. Remarks: Shorter 4x4 version of the T23. Development started in July of 1941, with one pilot vehicle completed. *Armament:* (1) 37mm cannon and (1) .30 cal. machine guns. Elevation, manual. Traverse, manual. *Capacity:* Fuel, gasoline. Crew, 4. *Engine:* Location, rear. Cooling, liquid. *Transmission:* Type, manual. *Suspension System:* Leaf spring. No of wheels, 4. Drive, 4x4. *Usage:* US Army for testing. *Manufacturer:* Fargo Division, Chrysler Corp.

1942 Car, Armd, 6x6. M8 Light Armored Car.



Above: M8 Light Armored Car in NW Europe. (Photo: US Army)

Remarks: Before the beginning of production, and as a result of the recommendations of the Special Armored Vehicle Board, the traversing mechanism was redesigned to include two speed ratios; bullet-splash protection was improved; an interphone system was added; and a change was made from hand-firing of the turret guns to foot-firing. The front spring was strengthened. An armor floor plate of .25-inch (6.35 mm) thickness was designed for the driver's compartment for protection against mines. A folding pedestal type caliber .50 machine gun mount was installed on the turret for antiaircraft protection. Ford Motor Company was selected to build the light armored car M8 at their Chicago and Kansas City plants. A production of 5,000 vehicles was planned; a total later raised to a total of 8,460 under firm procurement. Delay in acceptance of contract by Ford, since the terms prohibited the inclusion of any sum for rehabilitation at the end of contract, and consequent delay in placing orders for machine tools, tooling, and components resulted in no production of vehicles in 1942. The Miller Printing Company of Pittsburgh, Pennsylvania was set up to manufacture 37mm mounts. Warner Gear Division of Borge Warner was chosen to provide transmissions and transfer cases. Engines were had from the Hercules Motor Co., Canton, Ohio. The final estimated cost per vehicle was \$18,000 plus a fixed fee of \$1,080 per vehicle [This amount did not include the costs of weapons and radios].

Vehicle Data: Weight w/l, 17,200 lbs (7809kgs). Wheel base, 128 in (3251 mm). Length, 197 in (5004 mm). Width, 100 in (2540 mm). Height, 88.5 in (2248). Ground Clr, 11.5 in (292 mm). Armor, .25 - .75 in (6.35 - 19 mm). NBC protection, No. **Armament:** (1) 37mm cannon and (1) .50 caliber HMG and (1) .30 cal. LMG. Elevation/traverse, manual. Traverse, 360 degrees. **Capacity:** Fuel, 54 gal (204 ltrs). Ammo/Qty, 37mm (80 rds), .50 cal. (400 rds), and .30 cal (1500 rds). Crew, 4. **Engine:** Hercules, JXD, 6 cyl, gasoline, producing 110 hp @ 2800 rpm. Location, rear. Cooling, liquid. **Transmission:** Type, manual. No of speeds Fwd/Rev, 4/1. Model,

T-95. Mfr, Warner Gear. **Suspension System:** Type, leaf spring. Steering, front axle. Turning radius, 56 ft (17m). No of wheels, 6. Tire size, 9.00 x 20 in. **Performance:** Speed/Land, 55 mph (88.5 km/h). Range, 300 mi (483km). Fording, 32 in (813 mm). Max grade, 60%. Step, 12 in (305 mm). Drive, 6x6. **Usage:** US and Austria, Bolivia, Brazil, Britain, Cambodia, Colombia, Cuba, France, Germany (West), Italy, Mexico, Paraguay (8) 2004, Sweden, Venezuela, Yugoslavia.

1942 Car, Armd, 6x6. T66 75mm Gun Motor Carriage.



Remarks: With the closing of the T19 Armored Car project, the only T19E1 pilot vehicle was modified at the request of Tank Destroyer Command. The 75mm gun M3 was mounted in an open circular turret and fitted to the chassis as the Carriage, Motor, 75-mm Gun, T66. The circular turret was later replaced with a more oval shape allowing extra room for the crew to function. Although the vehicle showed promise, Tank Destroyer Command lost interest and the project was canceled in November of 1942.

Vehicle Data: Weight, 31,500 lbs (14,301 kgs). Wheel base, 126 in (3200 mm). Armor, .25-.5 in (6.35-12.7 mm). NBC protection, No. **Armament:** (1) 75mm gun M3. Elevation & traverse, through 360 degrees, power. **Capacity:** Fuel, gasoline. Crew, 4. **Engine:** (2) Cadillac V8. Location, rear. Cooling, liquid. **Transmission:** Type, Automatic. No of speeds Fwd/Rev, 4/1. Mfr, GMC. **Suspension System:** Coil spring. Steering, front two axles. No of wheels, 6. **General Data:** Elec voltage, 12V. Intercom, Yes. Night Vision Devices, No. **Performance:** Speed/Land, 55 mph (88.5 km/h). Range, 300 mi (483 km). Fording, 32 in. (813mm). Drive, 6x6. **Usage:** Only tested by the US Army, no production. **Manufacturer:** Chevrolet Division (General Motors Corp.).

1942 Car, Armd, 6x6. Carr, Motor, 37mm Gun, T43.

1942, Carr, Wpns, 4x4, Carriage, Motor, 37mm Gun, T44.

Remarks: Ford, 4x4 chassis, gun fired to the rear, pilot models only, circa 1942. See Carriage, Motor, 57mm Gun, T44.

1942 Carr, Wpns, 4x4, Carriage, Motor, 57mm Gun, T44.

Remarks: Ford, 4x4 chassis, up-gunned version with shield, pilots only

1942 Car, Armd, 6x6. Trk, Armd, 6x6. Fargo

1942 Car, Armd, 8x8. Car, Armored, T18E2, Boarhound.



Above: T18E2 during testing at Aberdeen Proving Ground. (Photo: US Army)

Remarks: This is the production version of the Armored Car T18, armed with a 6-Pounder Quick Fire cannon, out of an original 2500 ordered, a total of 30 vehicles were completed and furnished to the British, circa 1943. Agreement was reached in May 1942, between the British Tank Mission and the US Tank Committee that the T18 design should be modified to provide for the mounting of the 57mm gun instead of the 37mm at first proposed. One T18 was to be completed without modification. The second pilot vehicle, designated Armored Car T18E2, was modified to mount the 57mm Gun, M1 with other changes required by this change in armament. These changes increased the weight of the vehicle from an estimated 36,000 pounds (13,620kgs) to approximately 50,000 pounds (22,700kgs) and made necessary a change from 12.00x20 tires to 14.00x20 tires. The hydraulic transmission intended for the lighter vehicle proved unsatisfactory and a torque converter type transmission was substituted.

Design changes delayed production of the T18E2 until December 1942. By recommendation of the Special Armored Vehicle Board, further development of armored cars T18, T18E1 and T18E2 was closed since these vehicles were too heavy for reconnaissance use.

The original production order of 3 February 1942 had covered 2,500 Armored Cars, T18, without armament, placed with Yellow Truck and Coach. On 18 March 1942 an additional production order 300 T18s was issued. The original schedule for production of the T18 for 1942 was projected as: June (5), July (10), August (15), September (50), October (100), November (200) and December (250) for a total of (630 vehicles) projected.

As of March 1942 the revised forecast for the production of the now to be standard T18E2 for 1942 was:

September (5), October (10), November (15) and December (50) for a total of 80 vehicles.

Because of difficulties in obtaining a source for

the 57mm gun mount, deliveries of the first vehicle was slowed. Further causes of delay were tool bottlenecks and difficulty in obtaining acceptable clutch throwout bearings.

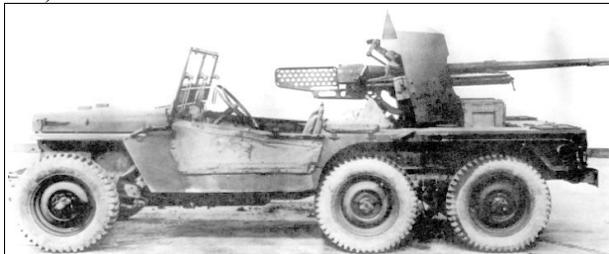
No requirement for this car appeared on the Army Supply Program in November 1942. Production had, however, progressed to the point where complete cancellation was inadvisable and procurement of 30 vehicles plus a 25% set of spare parts for concurrency and a further 25% set of spare parts for an all-time buy was authorized (for the 30 vehicles to be completed). All T18E2s completed under the program were furnished to the British under International Aid.

1942 Car, Armd, 8x8. Baker Jumping Tank, 8x8

1942 Car, Armd, 8x8. T20 Armored Car (Design Only). The T20 Armored Car was a gas-electric drive vehicle conceived by Mr. O.F. Quartullo. The Armored Force became interested in the vehicle as a possible substitute for the T13 Armored Car and the construction of four pilot T20 vehicles. The T20 as proposed was an 8x8 drive design with each wheel independently sprung and driven by a separate electric motor. The power train consisted of a gasoline engine driving a generator, which delivered, current to the wheel driving motors through a control mechanism. The vehicle, as planned, was to weigh about 26,000 pounds (11,804kgs), carry a crew of five and armor from .625 inches (15.87 mm) to .375 inches (9.52 mm) in thickness. It was also to carry a 37mm gun in combination mount. The vehicle was to have a road speed of 60 mph (64 km/h) and a radius of action of 500 miles (482km). The production contract with Midland Steel Products, Cleveland, Ohio for the construction of two armored cars was delayed by engineering difficulties. The Electric Individual Drive Company was then formed to carry on the project. A report on the engineering features of the vehicle, was made by the Westinghouse Electric and Manufacturing Company. The steering of the car was a questionable feature, and the total weight was now more than three tons over original estimates. It was estimated that it would take approximately 18 months to complete the pilot and start production. In June 1942 the Armored Force stated that it was interested only in a vehicle of this type that could be completed in 1942 or early 1943 at the latest, the project for the T20 was closed on 6 August 1942.

1942 Carr, Pers, Armd, 6x6. Truck, Armd, CCKW.

1942 Carr, Wpns, 6x6. Carriage, Motor, 37mm Gun, 6x6, T14A.

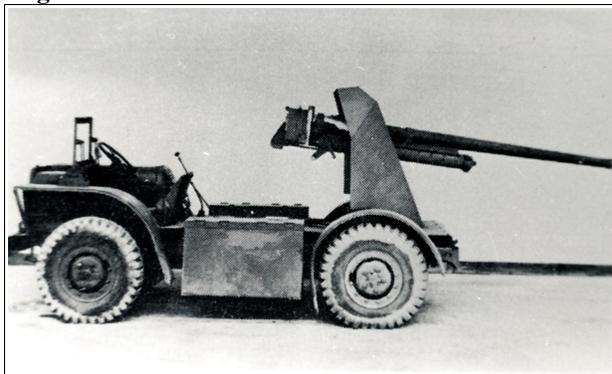


Above: One of the original five, T-14A 37mm GMC with Willys Model MB pressed steel grille. The canvas top was only fitted to the first T14A. (Photos: US Army)

Remarks: Up to five T14A 37mm Gun Motor Carriages may have been completed between late 1941 and early 1942. The new vehicles (which replaced the T14) had revised ammunition storage, fuel tank relocated to the rear, and the flat gun shield replaced with an angled welding. Apparently the canvas top with metal bows was applied to only the first T14A, the rest being delivered without a weather cover.

Vehicle Data: Weight loaded (est), 5,000 lbs (2270 kgs), Length (est), 168 in (4267 mm). Width (est), 69.5 in (1765 mm). Height (est), 70 in (1778 mm). Ground clr (est), 8.75 in (222 mm). Drive, 6x6. Armor, gun shield only. *Armament:* (1) 37mm AT Gun M3. Elev & traverse, manual. Fire control, optical. *Capacity:* Gas 15 gals (57 liters). Crew/Pass, 4. *Engine:* (1) Willys-Overland, water-cooled, 4-cyl (F-head) producing 54 hp (39.9 kW) @ 4,000 rpm. Location, front. *Transmission:* Manual. Gear Fwd/Rev, 3/1 w/2-spd transfer. Model, T-84. Mfr, Warner. *Suspension System:* Leaf spring. Steering, front axle. Turning radius, 45 ft (13.7 m). No/wheels, 6. Tire Size, 7.00x16. *General Data:* Elec voltage, 6V. Radio, as fitted by user. *Performance:* Speed/Land, 55 mph (88.5 km/h). Range, 300 mi (483 km). Forging depth, 18 in (457 mm). *Usage:* Test vehicle with the US Army circa 1942/43. *Manufacturer:* Willys-Overland, USA.

1942 Carr, Wpns, 4x4. T44 57mm-Gun Motor Carriage.



Remarks: Ford, 3/4-ton 4x4 chassis.

1942 Carr, Wpns, 8x8. T55 3-inch Gun Motor Carriage.



Above: The original "Cook's Cozy Cabin" (Photo: Author's collection)

Remarks: Cook Brothers, "Cook's Cozy Cabin" was a commercially developed design to fulfill the purpose of an armored car, tank destroyer or gun motor carriage. Tested in December of 1942, project was found inferior to the Half-track T49 57mm GMC. In order to complete the contract more satisfactorily, the pilot was redesigned as the T55E1 and subsequently tested at the Desert Proving Ground. The report confirmed the conclusions of the Special Armored Vehicle Board and the pilot vehicle was sent back to Aberdeen Proving Ground for historical record with the project formally closed on 1 April 1943.

Vehicle Data: Weight, 38,300 lbs (17,388 kgs) loaded. Length, 306 in (7772 mm). Width, 108 in (2743 mm). Height, 105.5 in (2680 mm). Drive, 8x8. NBC protection, No. *Armament:* Main, (1) 3-Inch Gun. Elevation, -11 to +18 degrees. Traverse, 30 degrees left or right. Aux wpn, (1) .50 cal M2HB. *Capacity:* Fuel, gasoline. Ammo/Qty, 3-inch (90 rds), .50 cal (400 rds). *Engine:* (2) Cadillac V8 water-cooled engines producing 130 hp each. Location, rear. Cooling, liquid. *Transmission:* Hydramatic, Speeds Fwd/Rev-4/1 w/a 4-speed trnsf case. *Suspension System:* Wheels steerable, front four. No of wheels, 8. *Performance:* Speed/Land, 50 mph (80.5 km/h). Forging depth, 48 in (1219 mm). *Usage:* Testing only by US Army. *Manufacturer:* Allied Machinery Manufacturing Company.

1942 Veh, Recce, 6x6. Car, Scout, T24.



Remarks: Using the same extended 1/4-ton chassis as on the 37mm Gun Motor Carriage, T14, development of the scout car started in early 1942. While the Tank Destroyer Command and the Special Armored Vehicle Board both recommended standardization late in the same year, there

wasn't enough firm requirement to justify fielding a new vehicle series. Despite the objections of the *Manufacturer*, Willys-Overland, the project was dropped in 1943. **Vehicle Data:** *Weight:* Empty, 5,100 lbs (2315 kgs). Loaded, 5,450 lbs (2474 kgs). Length, 168 in. (4267 mm). Width, 69.5 in (1765 mm). Height, 59 in (1499 mm). Wheel base, 110 in (2794 mm). Wheel tread, 49 in (1245 mm). Armor, .25 in (6.35 mm). NBC protection, No. *Armament:* Main, (1) .30 cal. LMG. *Capacity:* Fuel, 24 gals gasoline. Crew, 3. *Engine:* Type, Model 422 in-line 4-cyl, producing 60 hp @ 4000 rpm. Location, front. Cooling, liquid. *Transmission:* Manual, Warner, Model T84J with 3-fwd/1rev w/2-spd trnsf. *Suspension System:* Type, leaf spring. Steerable wheels, front pair. Turning radius, 42' 5" (12.9m). Number of wheels, 6. Tire size, 7.50x15. *General Data:* Elec voltage, 6V. *Performance:* Speed/Land, 58 mph (93 km/h). Cruising Rng, 380 mi (611 km). Forging depth, 18 in (457 mm). *Usage:* Testing only (by both the USMC and the Army), the single scout car chassis being modified several times for different radio installations. *Manufacturer:* Willys-Overland.

1942 Veh, Recce, 4x4, Car, Scout, T25E1.

Remarks: This vehicle was the Scout Car T25 re-modified with ¼" armor on the frontal surfaces and a .30 cal. LMG in a ball mount in the windshield. Reopened in June of 1942, the vehicle was still too heavy and the project was closed again in Sep 1943.

1942 Veh, Recce, 4x4, Car, Scout, 4x4, T25E2.



Above: T25E2 showing its small size, but well angled armor. (Photo: US Army)

Remarks: This was a further project of the T25 series to provide a light armored reconnaissance vehicle by adding 985 lb. of armor. The project was also terminated in Sep 1943 as being overload for the chassis.

1942 Veh, Util, 6x6. T26 Armored Utility Car. Remarks: The armored utility car M20 was developed from the light armored car M8 as a companion vehicle. The Tank Destroyer Command recom-mended that, for use of the M8 as a command car, the 37mm gun mount be removed and a caliber .50 machine gun be mounted in a ring mount on top of the turret, and that the turret and top plate of the vehicle be removed and the interior rearranged. For use of the basic M8 as a personnel, ammunition, and cargo carrier, the same changes were recommended. Recommendation was further made that pilot models of each of these variations from the original vehicle be constructed, and that the command vehicle be designated Armored Command Car, T26 and that the personnel and cargo vehicle be designated Personnel-Cargo Carrier, T20. It was later found possible to meet the requirements indicated for personnel carrier T20 and armored car T26 in one vehicle and the designation of this design, fulfilling both needs, was changed to Armored Utility Car T26. This was standardized in May 1943 as Armored Utility Car M10. To avoid confusion with the 3-inch gun motor carriage M10 the designation of this car was then changed again to Armored Utility Car, M20.

Vehicle Data: Weight empty, 12,250 lbs (5562kgs). Loaded, 15,650 lbs (7105kgs). Length, 197 in. (5004 mm). Width, 100 in (2540 mm). Height, 91 in (2311 mm). Ground clearance, 11.5 in (292 mm). Wheel base, 104 in (2642 mm). Wheel tread, 76 in (1930 mm). Armor, .25 - .75 in (6.35 - 19 mm). NBC protection, No. *Armament:* (1) .50 cal. HMG M2. Elevation, manual -20 to +85 degrees. Traverse, manual 360 degrees. *Capacity:* Fuel, 54 gals (204 liters) of gasoline. Ammo/Qty, .50 cal. (1000 rds). Crew, 6. *Engine:* Hercules, JXD, 6 cyl, in-line, producing 86 hp @ 2800 rpm. Location, rear. Cooling, liquid. *Transmission:* Manual. No of Speeds Fwd/Rev, 4/1 w/2-spd trnsf. *Suspension System:* Leaf spring. Wheels steerable, front pair. Turning radius, 28 ft (8.5m). No of wheels, 6. Tire size, 9.00x20. *General Data:* Elec voltage, 12V. *Performance:* Speed/Land, 56 mph (90 km/h). Cruising Rng, 250 mi (402km). Forging depth, 32 in (813 mm). Max grade, 60%. Step, 12 in (305 mm). *Usage:* Pilot vehicle for the M20 series. *Manufacturer:* Ford Motor Company.

1943 Car, Armd, 4x2. Car, Armd, 4x2. Ford S1.

1943 Car, Armd, 6x6. Car, Armored, T28.

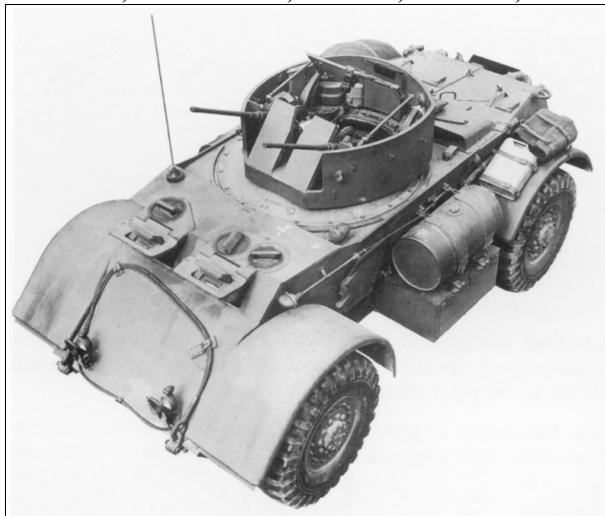


Above: T28 Light Armored Car at Fort Knox, Kentucky. (Photo US Army)

Remarks: The T28 was designed and built by the Chevrolet Division of GMC in response to a request by the Special Armored Vehicle Board in January 1943. After testing by the Cavalry Board in May of 1944 it was recommended that the vehicle be placed in early production to supplant the standard M8 Light Armored Car. The T28 was standardized as the Car, Armored, M38 on 7 December 1944 and was supposed to have the production vehicles built by Ford, but at most only a few were completed before the end of WWII.

Vehicle Data: Weight: Empty, 12,870 lbs (5843 kgs). Loaded, 15,300 lbs (6946 kgs). Length, 201in (5112 mm). Width, 102 in (2591mm). Height, 78 in (1981mm). Ground Clr, 14.25 in (362mm). Wheel Base, 118 in (2997mm). Wheel Tread, 80 in (2032mm). Armor, .25 to .50 in (6.35 to 12.7mm). NBC Protection, Individual. **Armament:** Main, (1) 37mm cannon M6 in Mount M3. Elevation and traverse, manual. Fire Control, manual foot pedal. Auxiliary wpn, (2) .30 cal LMG. **Capacity:** Fuel, gasoline 51 gals (193 liters). Ammo/Qty, 37mm (40 rds), .30 cal (1,750 rds). Crew, 4. **Engine:** (1) Cadillac V8, Model 42 producing 110 hp (81 kW). Location, rear. Cooling, liquid. **Transmission:** Hydromatic. Speeds Fwd/Rev, 4/1 w/2-spd transfer. **Suspension System:** Independent coil. Steering, front & middle axle. Turning Radius, 30.5 ft (9.3 m). No of wheels, 6. Tire Size, 12.50x20. **General Data:** Elec Voltage, 12V. Intercom, yes. **Performance:** Speed/Land, 54 mph (87 km/h). Cruising Range, 300 mi (483 km). Fording Depth, 48 in (1219 mm). Max Grade, 60%. Step, 24 in (610 mm). **Usage:** Probably no more than two or three T28s were completed before designation as the M38. **Manufacturer:** Chevrolet Division of GMC.

1943 Carr, Anti-Aircraft, 4x4. Car, Armored, T17E2.

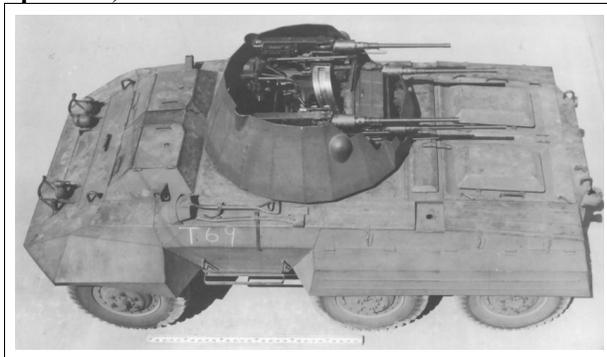


Above: Late production T17E2 without bow machinegun. (Photo: US Army)

Remarks: With the designation of the T17E1 with the Frazier-Nash turret as the T17E2, 500 T17E1 vehicles were canceled and 500 T17E2 vehicles substituted and an additional production order issued for 500 more T17E2 cars. The armored car T17E2 consisted of the Frazier-Nash twin caliber .50 turret, as manufactured by the Norge Division, Borge-Warner Corp, for British torpedo boats, installed in the T17E1 hull. Design studies were made by Chevrolet and a new turret race was completed as well as a redesign of the turret armor and turret basket. Tests showed the need of a power booster for the ammunition feed and a better gunsight. These were installed and the first production model was completed in September 1943. The prototype was tested at Fort Knox, where a few minor changes were completed and final tests made by the Antiaircraft Artillery Board at Camp Davis, North Carolina, in December 1943. Production of the T17E2 ended April 1944 with a total of 1000 vehicles.

Vehicle Data: Weight, 26,558 lbs (12,057 kgs). Length (oa), 214 in (5436 mm). Width (oa), 106 in (2692 mm). Height (oa), 95.4 in (2423 mm). Wheel Base, 120 in (3048 mm). Ground Clr, 15 in (381 mm). Armor, .38-1.25 in (9.65-31.75mm). NBC Protection, individual. **Armament:** (2) .50 cal. HMG HB M2. Elevation -10 to +70° & 360° traverse, power. **Capacity:** Fuel, 138 gal (512 ltrs). Ammo/Qty, .50 cal. (2610 rds). Crew, 3. **Engine:** (2) GMC Model 270 water-cooled 6-cylinder, gasoline engines producing 95 hp (66.5 kW) @ 3000 rpm (each). Location, rear. **Transmission:** Detroit Transmission Hydromatic, model F5207 with 4 forward and 1 reverse gear. **Suspension System:** Leaf spring. Steering, front axle. No of wheels, 4. Tire Size, 14.00 x 20 in. **General Data:** Elec Voltage, 24V. Intercom, yes in (3) positions. **Performance:** Speed, 55 mph (88.5 k/ph). Range, 500 mi (805 km). Fording, 32 in (813 mm). Max Grade, 57%. Step, 21 in (533 mm). Drive, 4x4. **Usage:** United Kingdom, Belgium and Commonwealth forces. **Manufacturer:** Chevrolet Div., GMC.

1943 Carr, Anti-Aircraft, 6x6. Carriage, Motor, Multiple Gun, T69.



Remarks: Based on M8 Armored Car 6x6 chassis. A quad .50 caliber HMG mount was fitted, but no improvement was found over the then standard M16 SPAA half-track. Because the M16 was already in production, no series order for the T69 was issued.

Vehicle Data: Wheel base, 128 in (3251 mm). Length, 197 in (5004 mm). Width, 100 in (2540 mm). Ground Clr, 11.5 in (292 mm). Armor .25 - .75 in (6.35 - 19 mm). NBC protection, No. **Armament:** (4) .50 caliber machine guns. Elevation - traverse, power. Traverse, 360°. **Capacity:** Fuel, 54 gal (204 ltrs). Crew, 3. **Engine:** Type, gasoline, with 110 hp @ 2800 rpm. Engine Model, JXD. Mfr, White. No of Cyls, 6. Location, rear. Cooling, liquid. **Transmission:** Type, manual. No of speeds Fwd/Rev, 4/1. Model, T-95. Mfr, Warner Gear. **Suspension System:** Type, leaf spring. Steering, front axle. Turning radius, 56 ft (17m). No of wheels, 6. Tire size, 9.00 x 20 in. **General Data:** Elec voltage, 24V. Intercom, Yes. Night Vision Devices, No. **Performance:** Speed/Land, 55 mph (88.5 km/h). Range, 300 mi (483km). Forging, 32 in (813 mm). Max grade, 60%. Step, 12 in (305 mm). Drive, 6x6. **Usage:** US Army testing only. **Manufacturer:** Ford Motor Company.

1943, Carr, Pers, Armd, 6x6. Willys.



(Photo: US Army)

1943, Carr, Wpns, 8x8. Carriage, Motor, 105mm Howitzer, T39. Remarks: Trackless Tank Corp., 105mm howitzer mounted on T13 Armored Car, Trackless Tank, circa 1943.

1943 Carr, Wpns, 8x8. T55E1 3-inch Gun Motor Carriage.



Remarks: By the time the T55 had been rebuilt and modified to the T55E1, and then delivered for evaluation in 1943, the US Army had decided that any new anti-tank vehicles would be based on a tank chassis and tracked. Whatever good points it may have had, the wheeled tank destroyer project was dropped in 1943.

Vehicle Data: **Weight:** Empty, 28,000 lbs (12,712 kgs). Loaded, 30,200 lbs (13,711 kgs). Length, 281 in (7137 mm). Width, 108 in (2743 mm). Height, 76 in (1930 mm). Ground clearance, 17.25 in (438 mm). Wheel base, 192 in (4877 mm). Wheel tread, 92 in (2337 mm). Drive, chain 8x8. Armor, proposed .25 in (6.35 mm) - pilot soft steel. NBC protection, No. **Armament:** (1) 3-inch Gun, M7. Elevation, -10 to +15 degrees manual. Traverse, 20 degrees left or right manual. Aux wpn, (1) .50 cal M2HB. **Capacity:** Fuel, 50 gals (189 liters) gasoline. Crew, 4. **Engine:** (2) Cadillac V8 Model 42 each producing 110 hp @ 3400 rpm. Location, rear. Cooling, liquid. **Transmission:** Hydramatic. Speeds Fwd/Rev, 4/1 w/2-spd trnsf. **Suspension System:** Leaf spring. Wheels steerable, front four (turn-table). Turning radius, 98.6 ft (30 m). No of wheels, 8. Tire size, 14.00x20. **General Data:** Elec voltage, 12V. **Performance:** Speed/Land, 60 mph (96.5 km/h). Cruising Rng, 150 mi (241 km). Forging depth, 48 in (1219 mm). Max grade, 60%. Trench Crossing, 36 in (914 mm). Step, 40 in (1016 mm). **Usage:** Only a single T55E1 pilot was completed and tested by the US Army. **Manufacturer:** Allied Machinery Manufacturing Corp.

1943 Veh, Recce, 4x4. Car, Scout, T25E3.



(Photo: US Army)

Remarks: This final design project ended up with an extra 1025 lb. of armor on a "Jeep" chassis. Too heavy, the T25E3 was terminated in Sep 1943.

1943 Veh, Util. Truck, 1/4-Ton, 4x4, Extra Light, Chevrolet PMT.

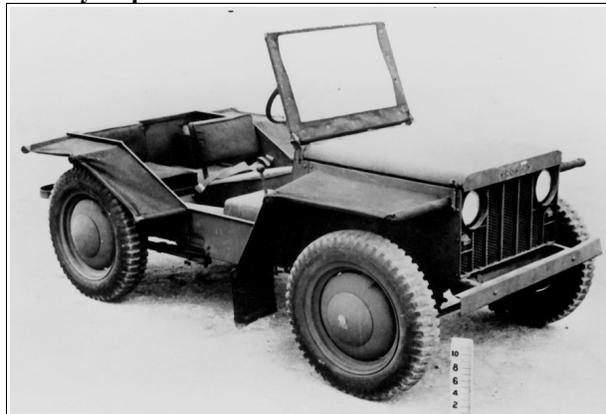


Above: Chevrolet Extra Light at Aberdeen Proving Ground. (Photo: US Army)

Remarks: Two vehicles of the same design were completed by Chevrolet for the 1943 extra-light vehicle requirement, but only one vehicle was actually tested. None of the vehicles submitted by any manufacturer completed the 10,000-mile (16,090-km) testing.

Vehicle Data: Weight empty, 1,062 lbs. (482 kgs). Weight loaded, 1,562 lbs (709 kgs). Length, 106 in. (2692 mm). Width, 49 in. (1245 mm). Height, 38.75 in. (984 mm). Wheel base, 64 in (1626 mm). Drive, 4x4. Armor, none. NBC protection, individual. **Armament:** None. **Capacity:** Fuel, gasoline. Crew, 2. Cargo Vol/Weight, 500 lbs (227 kgs). **Engine:** (1) Indian air-cooled 2-cyl, gasoline engine producing 21 hp (15.5 kW). Location, front. **Transmission:** General Motors manual with 3-forward and 1-reverse gear through a 2-speed transfer case. **Suspension System:** Independent. Wheels steerable, front pair. No of wheels, 4. Tire size, 5.00x16. **General Data:** Elec voltage, 6V. Radio, none. **Performance:** Speed (est), 45 mph (72 km/h). Range, 200 mi (322 km). Max grade, 60%. **Usage:** Only two prototypes were completed and tested by the US Army. No series production was authorized. **Manufacturer:** Chevrolet Motor Div., of General Motors Corp., USA.

1943 Veh, Util. Truck, 1/4-Ton, 4x4, Extra Light, Crosley Pup.

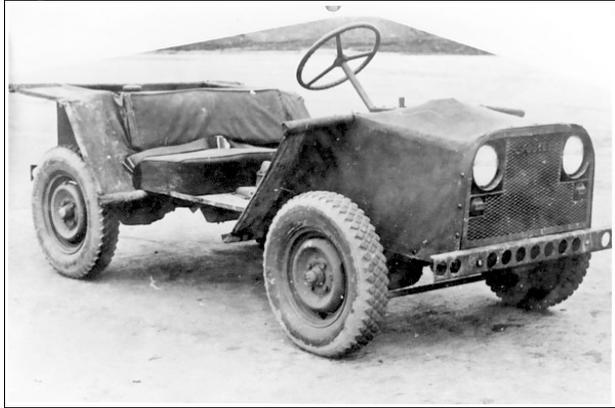


Above: Two passenger extra-light Crosley Pup. This vehicle was one of five designs for an airborne cross-country vehicle. (Photo: US Army)

Remarks: This was the Crosley design for an extra light jeep able to carry two passengers for airborne operations. The dash contained a minimum of instruments, that being ammeter, oil pressure gauge and a combined speedometer/odometer. Because of the short wheel base and small travel of the suspension (less than 4 inches - 102 mm) the evaluators found that the Crosley design had a very poor ride. In addition, the draw bar pull was less than 800 lbs (363 kgs) instead of the 1,000 lbs (454 kgs) required. **Vehicle Data:** Weight empty, 1,110 lbs (504 kgs). Weight loaded, 1,625 lbs (738 kgs). Length, 99 in (2515 mm). Width 51 in (1295 mm). Height, 36 in (914 mm). Ground clearance, 7.75 in (197 mm). Wheel base, 65 in (1651 mm). Drive, 4x4. Armor, none. NBC protection, individual. **Armament:** None. **Capacity:** Fuel, gasoline. Crew/Passengers, 2. Cargo-Towed, 2000 lbs (908 kgs). **Engine:** (1) Waukesha, air-cooled, Gasoline 2-cylinder producing 13 hp (9.6 kW). Location, front. **Transmission:** Crosley manual with 3-forward and 1-reverse gear through a 2-speed transfer case. **Suspension System:** Leaf spring. Wheels steerable, front pair. No of wheels, 4. Tire size, 5.00x16. **General Data:** Elec voltage, 6V. Radio, none. **Performance:** Speed, 40 mph (64 km/h). Range, 200 mi (322 km). Forging depth, 22.5 in (572 mm). Max grade, 40%. **Usage:** Only two prototype vehicles were completed by Crosley, no series production was authorized. **Manufacturer:** The Crosley Corporation, USA.

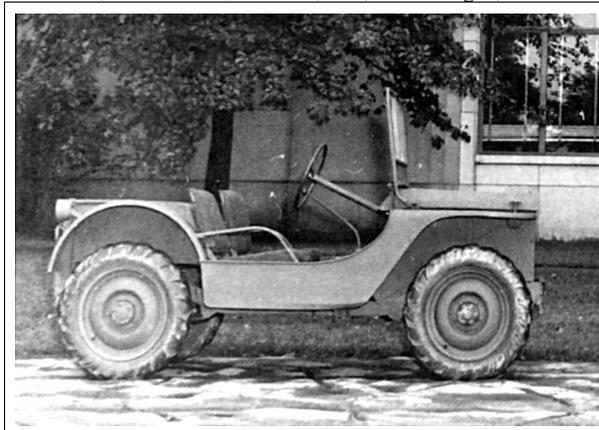
1943 Veh, Util. Truck, 1/4-Ton, 4x4, Extra Light, Crosley Stripped.

Remarks: Using a minimum of strategic materials, and weighing in at 885 pounds (402 kgs) the stripped Crosley had little going for it other than basic transportation for two people. Even the safety of the passengers would have been in doubt. Only the one prototype was completed and no production order was issued.



Above: An even lighter version of the Crosley found nearly all metal removed from the vehicle, even the hood cover was canvas. (Photo: US Army).

1943 Veh, Util. Truck, 1/4-Ton, 4x4, Extra Light, Ford.



Above: The single Ford extra light 1/4-ton completed. Ford ended up withholding the vehicle from testing. (Photo: US Army)

Remarks: Although designed for the extra lightweight 1/4-ton requirement, the Ford vehicle wasn't submitted for evaluation. Only the single prototype was completed. Fitted with a Ford tractor engine, the little vehicle would have been badly under powered.

Vehicle Data: Ground Clr (est), 8 in (203 mm). Drive, 4x4 (permanent). Armor, none. NBC protection, individual. *Armament:* None. *Capacity:* Fuel, gasoline. Crew/Passengers, 2. Cargo Vol/Weight, 500 lbs (227 kgs). *Engine:* (1) Ford 4-cylinder, water-cooled, gasoline tractor engine. Location, front. *Transmission:* Manual. Speeds Fwd/Rev, 3/1. Mfr, Ford. *Suspension System:* Leaf spring. Wheels steerable, front pair. No of wheels, 4. Tire size, 5.00x18. *General Data:* Elec voltage, 6V. *Performance:* Speed (est), 55 mph (88 km/h). Range

(est), 200 mi (322 km). Fording depth, 18 in (457 mm). Max Grade (est), 65%. *Usage:* Single prototype completed by Ford. *Manufacturer:* Ford Motor Company.

1943 Veh, Util. Truck, 1/4-Ton, 4x4, Extra Light, Kaiser #5.



Above: Kaiser #5, the only one of the two prototypes to be tested. (Photos: US Army)

Remarks: Kaiser completed Two vehicles of the light-weight design for the 1943 extra-light vehicle requirement. As it was, only one of the extra lightweight vehicles was actually tested, but it failed to completed the 10,000-mile (16,090-km) testing. Although not selected, testing personnel found that it had an excellent engine and good ride characteristics.

Vehicle Data: Weight empty, 1,100 lbs. (499 kgs). Weight loaded, 1,600 lbs (726 kgs). Length, 104 in. (2642 mm). Width, 52 in. (1321 mm). Height, 35 in. (889 mm). Wheel base, 68 in (1727 mm). Drive, 4x4. Armor, none. NBC protection, individual. *Armament:* None. *Capacity:* Fuel, gasoline. Crew, 2. Cargo Vol/Weight, 500 lbs (227 kgs). *Engine:* (1) Continental, water-cooled, gasoline, 4-cyl horizontal opposed engine producing 30 hp (22 kW). Location, front. *Transmission:* Warner, manual with 3-fwd and 1-rev gear w/2-spd trnsf. *Suspension System:* Coil spring. Wheels steerable, front pair. No of wheels, 4. Tire size, 5.00x14. *General Data:* Elec voltage, 6V. Radio, none. *Performance:* Speed (est), 40 mph (64 km/h). Range (est), 200 mi (322 km). *Usage:* Only two prototype extra lightweight Kaiser's were completed. *Manufacturer:* Henry J Kaiser Co., USA.

1943 Veh, Util. Truck, 1/4-Ton, 4x4, Extra Light, Willys MB-L.

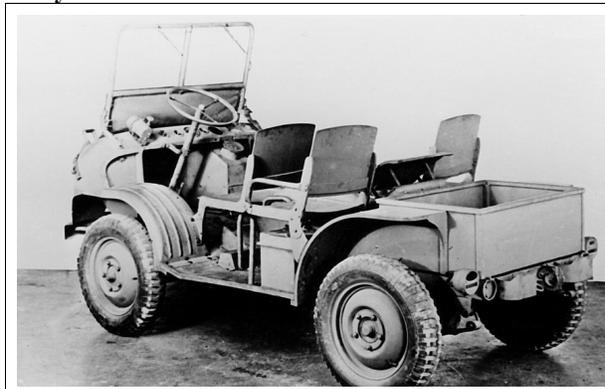


Above: The second version of the Willys MB-L with windshield. (Photo: US Army)

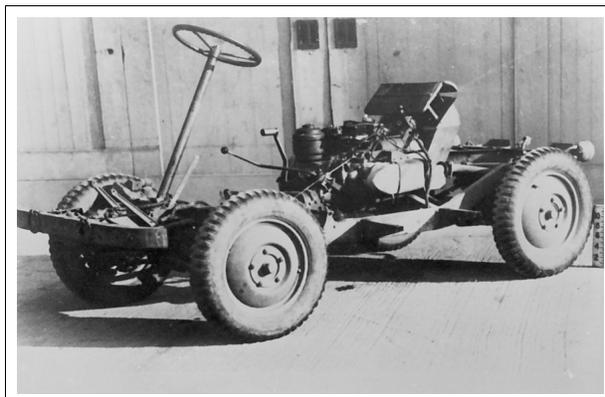
Remarks: In 1943 the US Army established a requirement for an extra-light utility vehicle to supplement the 1/4-ton 4x4 truck (jeep) in missions where low weight and simplicity were a prime requirement. An example would be airborne operations where even the jeep strained the airlift capabilities of existing aircraft. Three companies, Crossley, Chevrolet and Kaiser completed new designs for the requirement, while Willys-Overland offered a stripped down version of the standard MB as well as a mid-engine air-cooled vehicle, the WAC. Only two of the Willys MB-L were completed, the first version being delivered without a windshield and the second with a windshield composed of tubing, canvas and plastic.

Vehicle Data: Weight empty, 1,662 lbs (754 kgs). Weight loaded, 2,162 lbs (982 kgs). Length, 125.5 in (3190 mm). Width, 53.5 in (1360 mm). Height, 39 in (1000 mm). Ground clearance, 8 in (200 mm). Wheel tread, 46.5 in (1180 mm). Drive, 4x4. Armor, none. NBC protection, individual. *Armament:* None. *Capacity:* Crew, 2. Cargo Vol/Weight, 500 lbs (227 kgs). *Engine:* (1) Willys, liquid cooled, L134 4-cylinder gasoline engine producing 63 hp (46 kW) @ 4000 rpm. Location, front. *Transmission:* Warner T84-J manual with 3-forward and 1-reverse gear through a 2-speed transfer case. *Suspension System:* Leaf spring. Wheels steerable, front pair. Turning radius, right 17.1 ft (5.2 m) and left 18.5 ft (5.6 m). No of wheels, 4. Tire size, 5.00x16. *General Data:* Elec voltage, 6V. *Performance:* Speed (est), 55 mph (88 km/h). Range, 225 mi (362 km). Max grade, 92%. *Usage:* Prototype testing only by US Army, two vehicles were completed. *Manufacturer:* Willys-Overland, USA.

1943 Veh, Util. Truck, 1/4-Ton, 4x4, Extra Light, Willys WAC.



Above: First prototype of the Willys Air Cooled (WAC). (US Army)



Above: Chassis of the 2nd WAC prototype showing the frame and position of the air-cooled mid-engine. (Photo: US Army)

Remarks: Also known as the Willys "Jeeplet". The WAC was a mid-engine, air-cooled vehicle able to carry three personnel or 500 pounds (227 kgs). Two vehicles were completed, with the first version having a front cowl made from aluminum, which proved too weak. The second prototype used steel but otherwise vehicle details and performance were the same. The vehicle proved to be under powered and the location of the engine in the middle of the vehicle made it difficult to service.

Vehicle Data: Weight empty, 986 lbs. (448 kgs). Length, 108 in. (2743 mm). Width, 51 in. (1295 mm). Height, 40 in. (1016 mm). Wheel base, 65 in (1651 mm). Drive, 4x4. Armor, none. NBC protection, individual. *Armament:* None. *Capacity:* Fuel, 5 gals. (19 liters) gasoline. Crew/Passengers, 1/2. *Engine:* (1) Harley-Davidson, gasoline, 2-cylinder air-cooled, producing 24 hp (18 kW). Location, middle. *Transmission:* Manual. Speeds Fwd/Rev, 3/1. Mfr, Harley-Davidson. *Suspension System:* front coil spring and rear leaf spring. Wheels steerable, front pair. No of wheels, 4. Tire size, 5.00x15. *General Data:* Elec voltage, 6V. Radio, none. *Performance:* Speed, 45 mph (72 km/h). Range, 200 mi (322 km). Forging depth, 22 in (559 mm). *Usage:* Only two prototypes of the WAC were completed, both were tested by the US Army, but no production order was issued. *Manufacturer:* Willys-Overland, USA.

1943 Veh, Util. Truck, 1/4-Ton, 4x4, Light, Ford (Wooden).



Above: The single Ford "wooden" GPW. No series production was authorized. (Photos: Author's collection)

Remarks: Similar to the Willys MB-L (light weight) prototypes, Ford completed their own light version as well. Whenever possible plywood was substituted for metal, which may have been a savings in critical materials, but probably didn't save much in the way of weight. Only one non-functional prototype was completed with the project dropped by the end of 1944.

Vehicle Data: No reliable data is available on the vehicle. *Usage:* Prototype only for US Army. *Manufacturer:* Ford Motor Co.

1943 Veh, Util. Car, Util, Armd, 6x6. M20. The chassis, running gear, and lower hull of the armored utility car M20 were identical with those of the light armored car M8. The turret of the M8 was removed and the sidewalls extended upward about 15 inches (381 mm) to form a crew compartment. Above this compartment was mounted the Caliber .50 Ring Mount, M49. Provision was made for carrying a crew of from five to seven men. Crew compartment seats and a bulkhead between driving and crew compartment could be removed, providing space to carry about 3,000 pounds (1362kgs) of cargo. All improvements found needed on the M8 were incorporated simultaneously on the M10/20. Production of the armored utility car, M20 was begun in July 1943 at the Chicago plant of the Ford Motor Company and ran through 1945. A total of 1,624 cars were accepted in 1943 with shortages being carried forward and added to the requirements for 1944. This being, 1337 vehicles in 1944 and 806 for 1945. The M20 and the M8 armored car tended to be used in pairs with the US Army in Europe, the additional firepower of the M8 (37mm cannon), adding to the personnel carrier capability of the M20. Both cars were for their time relatively agile and reliable vehicles.

Vehicle Data: *Weight:* Empty, 12,250 lbs (5562kgs); Loaded, 15,650 lbs (7105). *Length,* 197 in. (5004 mm). *Width,* 100 in (2540 mm). *Height,* 91 in (2311 mm). *Wheel base,* 104 in (2642 mm). *Wheel tread,* 76 in (1930 mm). *Armor,* .25 - .75 in (6.35 - 19 mm). *NBC protection,* None. *Armament:* (1) .50 cal. HMG. Model, M2 HB. *Elevation,* manual -20 to +85 degrees. *Traverse,* manual 360 degrees. *Capacity:* Fuel, 54 gals (204.4 liters) Gasoline. *Ammo/Qty,* .50 cal. (1000 rds). *Crew,* 6. *Engine:* Hercules, JXP, 6 cyl, in-line producing 110 hp @ 2400 rpm. *Location,* rear. *Cooling,* liquid. *Transmission:* Type, manual. No of Speeds Fwd/Rev, 4/1 w/2-spd trnsf. Model, T-95. Mfr, Warner Gear. *Suspension System:* Type, leaf spring. *Wheels steerable,* front pair. *Turning radius,* 28 ft (8.5m). *No of wheels,* 6. *Tire size,* 9.00x20. *General Data:* Elec voltage, 12V. *Intercom,* No. *Performance:* Speed/Land, 56 mph (90 km/h). *Cruising Rng,* 300 mi (483km). *Fording depth,* 32 in (813 mm). *Max grade,* 60%. *Step,* 12 in (305 mm). *Usage:* Besides use with the US Army, the M20 was widely used around the world after WWII. *Manufacturer:* Ford Motor Company.

1944 Car, Armd, 4x4, Car, Armd, Air-Transportable, 4x4, Baker.

1944 Car, Armd, 6x6. Car, Armored, M38.



Photos (Above): M38 Wolfhound with original 37mm armed turret. The dome shaped armored hatch over the driver's compartment was hinged and moved as a unit to the driver's right. A canvas hood with plastic windshield could be used with the armored hatch in the open position. (Photos: US Army)

Remarks: The U.S. Army Cavalry Board in May of 1944, recommended that with suggested modifications the T28 Armored Car be placed in early production to replace the M8 Armored Car. This new vehicle developed by GMC, was to be standardized as the M38 and produced by Ford. As it was, WWII ended before full production could begin. Photographic evidence suggests that there never may have been more than the single prototype completed by GMC. Only a few vehicles were completed and used for tests.

Vehicle Data: *Weight empty,* 12,870 lbs (5843 kgs). *Loaded,* 15,300 lbs (6946 kgs). *Length,* 201 in (5112 mm). *Width,* 102 in (2591 mm). *Height,* 78 in (1981 mm).

mm). Ground Clr, 14.5 in (368 mm). Wheel Base, 118 in (2997 mm). Wheel Tread, 80 in (2032 mm). Drive, 6x6. Armor, .25-.5 in (6.35-12.7 mm). NBC Protection, individual. *Armament:* (1) 37mm Gun M6, in Combination Mount M3. Auxiliary, (2) .30 cal. LMG. Elevation, -10 to +20°. Traverse, 360°. *Capacity:* Fuel, 51 gals (193 ltrs). Ammo/Qty, 37mm (93 rds), .30 cal. (1750 rds), .50 cal. (440 rds). Crew, 4. *Engine:* (1) Cadillac V8 gasoline Model 42, producing 110 hp (81 kW). Location, rear. Cooling, liquid (side mounted radiator). *Transmission:* Hydromatic with 4 fwd and 1 rev gear with 2-spd transfer case. *Suspension System:* Coil spring. Steering, front 2 axles. Turning Radius, 50 ft (15.25 m). No of wheels, 6. Tire Size, 12.50 x 20 in. *General Data:* Elec System, 12V. Intercom, yes. *Performance:* Speed/Land, 60 mph (96.5 km/h). Range, 300 mi (483 km). Forging, 48 in (1219 mm). Max Grade, 60%. Step, 24 in (610 mm). *Usage:* US Army only. *Manufacturer:* Chevrolet Division of GMC.

1944 Car, Armd, 8x6. Car, Armored, Light, T27.



Remarks: Studebaker, 8x6 with hydramatic transmission, circa 1944, Cadillac engine. One pilot vehicle was completed before the project was dropped in favor of the M8 Armored Car. The T27 was 204 in. (5182 mm) long, 78 in. (1981 mm) high and 90 in. (2286 mm) wide, with a ground clearance of 14 inches (356 mm), a wheelbase of 132 inches (3352 mm) and a safe fording depth of 48 in. (1219 mm). Armor was .375-inches (9.5 mm) on the front, sides and rear, while turret armor was .75-inches (19 mm) with .25-inches (6.35 mm) on the top. Weight 15,200 lbs (6900kgs) loaded, had a road speed of 61mph (98 km/h) and was an 8x6 vehicle incorporating 9,00x16 combat tires. Power was a Cadillac V8 engine of 130 horsepower located at the rear. Transmission was hydramatic with eight speeds forward and four in reverse. Steering was mechanical through the four front wheels. The car was armed with a 37mm gun, turret-mounted with a weapon elevation of from -10° to +20° and a traverse of 360°. A .30 caliber machine gun was mounted above the turret for anti-aircraft use and another .30 caliber machine gun was mounted coaxial with the main armament in the turret. The car was designed to carry a crew of four.

1944 Carr, Wpns, 8x6. Carriage, Motor, 75mm Howitzer, T46.

Remarks: Studebaker T27 Armored Car chassis with 37mm Gun, engine front, gun at rear.

1944 Carr, Wpns, 4x4. Carriage, Motor, 75mm Howitzer, T17E3.



Above: The single prototype T17E3. (Photo: US Army)

Remarks: Chevrolet, 4x4, Staghound chassis with turret from 75mm Howitzer Motor carriage M8. The T17E3, was built at the request of the British for a large caliber gun on the Armored Car T17E1 chassis to overcome road blocks. This new vehicle was to consist of a turret from the 75mm Howitzer Motor Carriage, M8, mounted on a standard T17E1. The same turret race was used on both vehicles. The trial installation in October 1943 proved successful, as were proof-firing tests conducted in December 1943. As the British request for 100 vehicles lacked final approval by Army Service Forces, only one pilot model was completed. The requirement for this vehicle was withdrawn in late December 1943.

Vehicle Data: Weight (est), 29,500 lbs (13393 kgs). Length, 214 in (5436 mm). Width, 106 in (2692 mm). Height (est), 100 in (2540 mm). Wheel Base, 120 in (3048 mm). Tread, 89 in (2261 mm). Ground Clr, 15 in (381mm). Armor, .38-1.25 in (9.65-31.75 mm). NBC Protection, individual. *Armament:* (1) 75mm Howitzer and (2) .30 cal. LMG. Elevation, manual. Traverse, 360° power. *Capacity:* Fuel, 138 gal (512 ltrs). Ammo/Qty (est), 75 mm (50 rds). Crew, 5. *Engine:* Type, Gasoline. Engine Model, (2) GMC Mod 270. HP, 95 hp (each) @ 3000 rpm. Mfr, GMC (Chevrolet). No of Cyls, 6 (each). Location, rear. Cooling, liquid. *Transmission:* Hydromatic. Models, F5207 & F5208. Spds Fwd/Rev, 4/1. Mfr, Detroit Trns. Drive, 4x4. *Suspension System:* Leaf spring. Steering, front axle. Turning Radius, 27.5 ft (8.4 m). No of wheels, 4. Tire Size, 14.00 x 20 in. *General Data:* Elec Voltage, 24V. Intercom, yes. Night Vision Dev, No. *Performance:* Speed, 55 mph (88.5 km/h). Range, 450 mi (724 km). Forging, 32 in (813 mm). Max Grade, 57%. Step, 21 in (533mm). *Usage:* Prototype only.

1944 Carr, Wpns, 6x6. Car, Chemical, T30. 7.2-inch multiple rocket launcher on turretless M8 6x6 Armored Car.

1944 Veh, Util, Carrier, Lt Weight, Convertible

1945 Carr, Pers, Armd, 6x6. Trk, Cgo, Armd, 2 ½-T, 6x6. CCKW

1948 Veh, Util, Trk, ¼-T, 4x4, Universal Jeep (CJ2A).

1950 Car, Armd, 6x6. M38 Wolfhound w/M24 LT Turret.



Above: M38 with new turret being tested at Aberdeen Proving Ground. (Photo: US Army)

Remarks: With the close of World War II, the US Army had just decided to start production of the M38 Armored Car to replace the M8 Light Armored Car. Before the contract was completely cancelled the turret from an M24 Light Tank was experimentally fitted to the M38 chassis. Despite a good performance and the ability to field a 75mm gun on a relatively light vehicle budget cuts won out and the project was dropped.

Vehicle Data: Weight empty (est), 14,000 lbs (6356 kgs). Weight loaded (est), 16,000 lbs (7264 kgs). Length (est), 210 in (5334 mm). Width (oa), 102 in (2591 mm). Height (est), 90 in (2286 mm). Ground Clr, 14.5 in (368 mm). Wheel Base, 118 in (2997 mm). Wheel Tread, 80 in (2032 mm). Drive, 6x6. Armor, .25-.5 in (6.35-12.7 mm). NBC Protection, individual. **Armament:** Main, (1) 75 mm Gun. Auxiliary, (2) .30 cal. LMG. Elevation (est), -10 to +20°. Traverse, 360°. **Capacity:** Fuel, 51 gal (193 ltrs). Ammo/Qty (est), 75 mm (50 rds). .30 cal. (1750 rds), .50 cal. (440 rds). Crew, 4. **Engine:** Type, Gasoline V8. HP, 110 hp (81 kW). Engine Model, GMC 42. Mfr, Cadillac. No of Cyls, 8. Location, rear. Cooling, liquid (side mounted radiator). **Transmission:** Type, Hydromatic. Speeds Fwd/Rev, 4/1 w/2-spd trnsf. Mfr, GMC. **Suspension System:** Coil spring. Steering, front 2 axles. Turning Radius, 50 ft (15.25 m). No of wheels, 6. Tire Size, 12.50 x 20 in. **General Data:** Elec System, 12V. Intercom, Yes. **Performance:** Speed, 60 mph (96.5 km/h). Range, 300 mi (483 km). Forging depth, 48 in (1219 mm). Max Grade, 60%. Step, 24 in (610 mm). **Usage:** US Army only. **Manufacturer:** Chevrolet Division of GMC.

1950 Vehicle, Util. Truck, Cargo, ¾-ton, 4x4, M37.



Above: First series M37 ¾-ton (Photo: US Army)

Remarks: The standard medium weight load carrier for over 30 years (from 1950 to 1980), the M37 replaced the WWII WC-51 and was exported widely around the world. Although a little under powered, the M37 was one of the most reliable trucks in the US Army inventory. Prototypes were delivered to the Army early in 1950, and the first production vehicles in December of the same year. During 1951 through 1954 over 63,000 vehicles were produced. By 1957, cumulative changes to the design resulted in the designation M37B1 for deliveries starting in 1958. From 1958 through 1968, almost 47,600 M37B1 series vehicles were produced. In addition, a Canadian version (the M37CDN) was produced from 1951-1955, for an additional 4500 vehicles.

Vehicle Data: Weight empty 5,917 lbs (2686 kg). Weight loaded, 7,917 lbs (3594 kg). Length 189.5 in (4813 mm). Width 72.75 in (1848 mm). Height 89.5 in (2273 mm). Ground clr, 10.75 in (273 mm). Wheel base, 112 in (2845 mm). Wheel tread, 62 in (1575 mm). Drive, 4x4. Armor, n/a. NBC protection, individual. **Armament:** Main – Cal , n/a. Aux wpns, crew side arms. **Capacity:** Gas 24 gals (91 liters). Crew, 2. Cargo Vol/Wgt, 2,000 lbs (908 kg). **Engine:** Dodge T-245 6-cyl, water-cooled gasoline engine producing 78hp (57.6 kW). Location, front. Cooling , liquid. **Transmission:** Manual. Gear Fwd/Rev, 4/1 w/2-spd transfer. Mfr, Dodge. **Suspension System:** Leaf spring. Steering, front axle. Turning radius, 25 ft (7.6 m). No/wheels, 4. Tire Size, 9.00x16. **General Data:** Elec voltage, 24V. Radio, as fitted by user. **Performance:** Speed, 55 mph (88.5 km/h). Range, 215 mi (346 km). Forging depth. 63.5 in (1613 mm). Max grade, 65%. Step, 18 in (457 mm). **Usage:** Used by the US, Canadian, and South Vietnamese Army as well as many others. **Manufacturer:** Dodge Motors, USA.

1950 Veh, Util, Truck, Util: ¼-ton 4x4 CJ-3A

1950 Veh, Util, Truck, Util: ¼-ton 4x4 M38 W/E

1950 Veh, Util. Trk, PU, 1-ton, 4x4 (Power Wagon).



Above: Truck, Pickup, 1-ton, 4x4 (Dodge, Model B2PW126).
(Photo: Dodge Motor Company)

Remarks: A civilian vehicle derived from the WC 3/4-ton trucks of WWII. Dodge used their experience to produce a 1-ton 4x4 truck capable of off-road service. With the US Army and other countries needing new vehicles to replace their aging WWII vehicles the Power Wagon was taken into service as the Dodge, Model B2PW126. A later version became the M601 circa 1960. Vehicles were supplied to foreign military both from US Army stocks and bought directly from the factory (Usually as a chassis and cab with bodywork added when delivered).

Vehicle Data: Weight empty, 5,295 lbs (2404 kgs). Weight loaded, 8,700 lbs (3950 kgs). Length, 208.6 in (5298 mm). Width, 74.75 in (1899 mm). Height, 77.75 in (1975 mm). Ground clearance, 10.75 in (273 mm). Wheel base, 126 in (3200 mm). Wheel tread, 64.75 in (1645 mm). Drive, 4x4. **Capacity:** Fuel, 18 gals (68 l). Gasoline. Crew, 2. Cargo Vol/Weight, 68 cu ft (1.9 cu m) or 3,405 lbs (1546 kgs). **Engine:** (1) Type, gasoline. HP at Rev/Min, 94 hp (70 kW) @ 3200 rpm. Model, T-137. Mfr, Dodge. No. of Cyls, 6 in-line. Location, front. Cooling, liquid. **Transmission:** Manul. Speeds Fwd/Rev, 4/1 w/2-spd transfer. Mfr, Dodge. **Suspension System:** Leaf spring. Wheels steerable, front pair. Turning radius, 27.5 ft (8.4 m). No of wheels, 4. Tire size, 9.00x16. **General Data:** Elec voltage, 6V. **Performance:** Speed, 55 mph (88 km/h). Range, 144 mi (232 km). Forging depth, 28 in (711 mm). Max grade, 65%. **Usage:** US military and several foreign countries including Canada, France and the Netherlands. **Manufacturer:** Dodge Motor Co.

1952 Veh, Util, Truck, Util: ¼-ton 4x4 M38A1



Left below: M38A1 as received at Detroit Arsenal in 1952.
(Photo: US Army)

Remarks: In 1952, Willys introduced the M38A1 and the flat fenders of the M38 would to be seen in declining numbers from then on. Interestingly, the suffix -A1, etc., usually denoted a minor revision to an already existing model. But the M38A1 was a completely new vehicle. The body was different, easier to fabricate and stronger; the engine was the new Hurricane overhead valve four-cylinder, and the Spicer axles were heavy-duty model 25s in the front and 44s in the rear. It also had a stronger frame, reversed shackles, and a 24-volt electrical system. The ambulance version was the M170, (the basis for the CJ-6) and was able to carry three stretcher or six seated patients.

Vehicle Data: Weight empty, 2,660 lbs (1208 kgs). Weight loaded (max) 3,860 lbs (1752 kgs). Length (OA), 139 in (3531 mm). Width (OA), 61.5 in (1562 mm). Height (top down), 55.5 in (1410 mm). Ground clearance, 9 in (229 mm). Wheel base, 81 in (2057 mm). Wheel tread, 49 in (1245 mm). Drive, 4x4. NBC protection, individual. **Armament:** Main – Cal .30 cal/7.62mm LMG or .50 cal/12.7mm HMG. Elevation & traverse, manual. Fire Control, optical. Aux wpn – Cal, Crew sidearms. **Capacity:** Fuel, Gasoline 17.5 gals (66 liters). Crew/Passengers, 1/3. Cargo Vol/weight (max), 1200 lbs (545 kgs). **Engine:** Gasoline. HP at Rev/Min., 72 hp (53 kW) @ 4000 rpm. Model, F-head. Mfr, Willys. No. of Cyls., 4. Location, front. Cooling, liquid. **Transmission:** Manual. Speeds Fwd/Rev, 3/1 w/2-spd transfer. Model, synchromesh. Mfr, Willys. **Suspension System:** Leaf spring. Wheels steerable, front pair. Turning radius, 18 ft 11.5 in (5.8 m) left and 19 ft 9.5 in (6 m) right. No of wheels, 4. Tire size, 7.00x16. **General Data:** Elec voltage, 24 Volt. **Performance:** Speed/Land, 60 mph (97 k/ph). Range, 364 mi (586 km). Forging depth, 79.5 in (2019 mm) w/wading gear. Max Grade 60%. **Usage:** The M38A1 was used by the US from 1952 until the early '70s. Other countries that used the M38A1 included: Belgium, Canada, Denmark, Greece, Israel, Japan, Jordan, The Netherlands, Mexico, Spain, S. Korea, S. Vietnam, Turkey and Uganda. There was also a series of civilian jeeps (i.e. the CJ-5) which were paid for by US Military Assistance Program, these were part of the M606 series. **Manufacturer:** Willys-Overland, later Willys Motor Inc. (owned by Kaiser), Ford Motor Company (Canadian Army production) and Nederlandse Kaiser-Frazer (NEKAF) for the Dutch military.

1952 Truck, Utility, 1/4-Ton, 4x4, w/106mm RR, M38A1C.



Above: M38A1C with Rifle: 106mm, M40A1 with Mount Rifle: 106mm M79. This combination was to become the standard for the M38A1C. (Photo: US Army)

Remarks: The introduction of the M38A1 in 1952 was soon followed by the M38A1C fitted with at first a 105mm recoilless rifle, the M27A1 and then soon after the improved 106mm recoilless rifle the M40A1. Despite the difference in caliber, both weapons could actually fire the same round. The standard Battalion Anti-Tank weapon in the US Army, the M38A1 soldiered on from the mid 1950s to the early 1970s by which time it was replaced by the M151A1C and M825 Ford Mutt. While replaced in the US, the M38A1C could be found later than that in several armies in the mid-East and South America.

Vehicle Data: Weight empty, 2,660 lbs (1208 kgs). Weight loaded (max), 4,500 lbs (2043 kgs). Length (OA), 154 in (3912 mm). Width (OA), 61 in (1549 mm). Height, 73 in (1854 mm). Ground clearance, 9 in (229 mm). Wheel base, 81 in (2057 mm). Wheel tread, 49 in (1245 mm). Drive, 4x4. NBC protection, individual. Armament: (1) 106mm Recoilless Rifle. Elevation & traverse, manual. Fire Control, optical. Aux wpns, crew sidearms. Capacity: Fuel, gasoline 17.5 gals (66 liters). Crew/Passengers, 1/3. Engine: Type, gasoline. HP at Rev/Min, 72 hp (53 kW) @ 4000 rpm. Model, F-head. Mfr, Willys. No. of Cyls, 4. Location, front. Cooling, liquid. Transmission: Type, manual. Speeds Fwd/Rev, 3/1 w/2-spd transfer. Model, synchromesh. Mfr, Willys. Suspension System: Leaf spring. Wheels steerable, front pair. Turning radius, 18 ft 11.5 in (5.8 m) left and 19 ft 9.5 in (6 m) right. No of wheels, 4. Tire size, 7.00x16. General Data: Elec voltage, 24 Volt. Performance: Speed/Land, 55 mph (88.5 k/ph). Range, 350 mi (563 km). Forging depth, 37.5 in (953 mm) w/o kit, 79.5 in (2019 mm) w/wading gear. Max grade, 60%. Usage: The M38A1C was used by the US from 1952 until the early '70s. Other countries that used the M38A1C included: Australia, Brazil, Canada, Iran, Israel, Jordan, Pakistan, Peru, Morocco, Republic of the Congo, Spain and Uganda. Manufacturer: Willys-Overland, later Willys Motor Inc. (owned by Kaiser).

1953 Veh, Util, Trk, Util, 1/4-ton, 4x4, XM151

1954 Veh, Util, Trk, Util, 1/4-t, Lt Weight, Fletcher

1955 Truck, Utility, 1/4-ton, 4x4, w/Battle Group Atomic Weapon System M28 (or M29), M38A1D.



Above: M38A1D with BGAWS M29. Note weapon group was usually mounted on the vehicle right hand side. (Photo: US Army)

Remarks: The M38A1D with the "Davy Crockett" Battle Group Atomic Delivery System, has to be the ultimate 1/4-ton mounted, recoilless rifle system. Fielded in the mid-1950s and replaced by the M151 with an improved weapon's system in 1965, for at least 10 years the M38A1 was able to drive softly and carry a big stick. There were actually two systems fitted to the M38A1D although both had a warhead yield of around 1-kiloton fired out to a maximum range of 1.25 miles (approximately 2,000 meters). The first system was the: Battle Group Atomic Weapon System: M28 (Gun, Recoilless, 120mm: M63 w/Gun 20mm, Spotting: M69) on Mount Assembly M131 on Truck, Utility, 1/4-ton, 4x4, M38A1D. One way to recognize this system is that the barrel of the rifle is relatively short and the pivot for the mount is near the barrel end of the weapon. The second system was the: Battle Group Atomic Weapon System: M29 (Gun, Recoilless, 155mm: M64 w/Gun 35mm, Spotting). Both systems had a crew of two and carried two warheads. Only fifty or so of the M38A1D series was put into service. (See M38A1 entry for vehicle details).

1955 Veh, Util, Trk, Util, 1/4-ton, 4x4, XM151E1

1957 Veh, Util, Trk, Util, 1/4-ton, 4x4, XM151E2

1957 Veh, Util Trk, 1/2-ton XM274 Mule



CARRIER, LIGHT WEAPONS, INFANTRY, 1/2-TON, 4X4, XM274

1959 Car, Armd, 4x0, Car, Armored, Air Cushion
1960 Carr, Pers, Armd, 6x6. Truck, Gun, M54A2

1960 Truck, Util, 1/4-ton, 4x4, M38A1 W/SS10 Missiles.



Above: M38A1 fitted with three French SS10 Anti-tank Missiles.
(Photo: US Army)

Remarks: The SS-10 missile system was only in service with the US Army for approximately three years being replaced in 1963 by the ENTAC missile system.

1960 Veh, Util. Trk, Util, 1/4-ton, 4x4, M151.



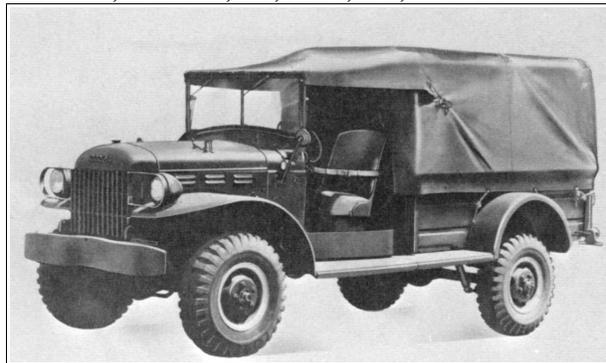
Above: Original M151 series with M60 LMG on pedestal mount.
(Photo: US Army)

Remarks: The M151 series of vehicles was as close as the US Army came in the 1960s to a true, "throw away vehicle". The M151 had a predetermined fixed life, and much of the repair parts inventory was intended to be supplied from the cannibalization of older or damaged vehicles. This process was carried out even if it meant washing out and stripping down a serviceable, but older vehicle to support the rest of the fleet. The sequence of production for the series was the first M151 prototype in 1952, the second prototype in 1954 and a third series in 1956. Actual production started in 1960, with the M151A1 series starting in 1964 and the M151A2 in 1970. By 1978 all production of new M151s had ceased. Equipment options for the M151 included, Deep Water Fording (to 60 in 1524 mm), 100 Amp alternator, Heater,

Winterization kit, Hardtop, Door side curtain and top, Machine gun mounting for 7.62 mm or .50 cal. and rifle mountings for either the M14 or M16 rifle. With the beginning of American involvement in the Vietnam war, it also became apparent that some sort of armored protection was going to be necessary as the vehicle went from a utility vehicle to being used as a scout, patrol and weapons carrier.

Vehicle Data: Weight, empty, 2,440 lbs (1108 kgs). Loaded, 3,240 lbs (1471 kgs). Length, 132 in (3353 mm). Width, 63 in (1600 mm). Height (windshield up) 71 in (1803 mm). Ground clearance, 9.4 in (239 mm). Wheel base, 85 in (2159 mm). Wheel tread, 53 in (1346 mm). Drive, 4x2 or 4x4. Armor, armor kit available. NBC protection, individual. *Armament:* (1) M60 7.62mm LMG or (1) M2 .50cal HMG. Elevation & traverse, manual. *Capacity:* Fuel, 17.7 gals (67 liters) Gasoline. Ammo/Qty, depends on wpns carried. Crew/Passengers, 1/3. *Engine:* (1) front mounted, liquid cooled, Continental 4-cyl in-line gasoline engine producing 71 hp (52.5 kW) @ 4,000 rpm. *Transmission:* Manual with 4-fwd and 1-rev gear along with selective 4wd. *Suspension System:* Independent coil spring. Wheels steerable, front pair. Turning radius, 17 ft (5.2 m). No of wheels, 4. Tire size, 7:00x16. *General Data:* Elec voltage, 24V w/(2) 12V batteries. Radio, as fitted by user. Cargo Vol/Weight, 1,200 lbs (545 kgs). Night Vision Devices: Individual. *Performance:* Speed/Land, 60 mph (96.5 km/h). Range, 300 mi (483 km). Fording depth, 21 in (533 mm). Max Grade (est), 30%. Trench Crossing (est) 28 in (711 mm). Step (est), 8 in (203 mm). *Usage:* Besides the US military, the M151 series has been used by Argentina, Bahrain, Bolivia, Brazil, Cambodia, Canada, Chad, Chile, Nationalist China, Colombia, Den-mark, Dominican Republic, Egypt, El Salvador, Ethiopia, Fiji, France, Ghana, Greece, Guatemala, Haiti, Honduras, Indonesia, Iran, Israel, Jamaica, Jordan, Korea (South), Kuwait, Laos, Lebanon, Liberia, Libya, Luxembourg, Morocco, Pakistan, Panama, Paraguay, Peru, Philippines, Portugal, Saudi Arabia, Senegal, Singapore, Somalia, Spain, Sudan, Thailand, Tunisia, Turkey, Uruguay, Venezuela, Vietnam (N & S), Yemen and Zaire. *Manufacturer:* Ford, Kaiser Jeep Corp., and American Motors General.

1960 Veh, Util. Trk, PU, 1-ton, 4x4, M601.



Above: Truck, Cargo, 1-ton, 4x4, M601. (Photo: US Army)

Remarks: The M601 series was a military version of the commercial 1-ton payload 4x4 Dodge Power Wagon. The main difference between the two was in the cab; a fully enclosed cab was standard on the commercial version, and an open canvas cab with folding front windshield on the military M601. Body styles ranged from a simple cargo bed to command car or various locally produced weapons carriers.

Vehicle Data: Weight empty, 8,700 lbs (3950 kgs). Weight loaded, 9,400 lbs (4268 kgs). Length, 198 in (5029 mm). Width, 79 in (2007 mm). Height, 82 in (2083 mm). Ground clearance, 10 in (254 mm). Wheel base, 126 in (3200 mm). Wheel tread, 64.75 in (1645 mm). Drive, 4x4. **Armament:** As fitted by user. **Capacity:** Fuel, 18 gals (86 l) gasoline. Crew/Passengers, 2. Cargo Vol/Weight. 103,680 cu in. **Engine:** (1) Type, gasoline in-line. HP at Rev/Min, 115 hp (85 kW) @ 3600 rpm. Model, 251. Mfr, Dodge. No. of Cyls, 6-cyl L-head. Location, front. Cooling, liquid. **Transmission:** Manual. Speeds Fwd/Rev, 4/1 w/2spd trnsf. Model, 420. Mfr, New Process. **Suspension System:** Leaf spring. Wheels steerable, front pair. Turning radius, 55 ft (16.8 m). No of wheels, 4. Tire size, 9.00x16. **General Data:** Elec voltage, 12/24V. Radio, as fitted by user. **Performance:** Speed, 55 mph (88 kp/h). Range, 171 mi (275 km). Forging Depth (est), 20 in (508 mm). Max Grade (est), 60%. **Usage:** Although a few M601 series vehicles were used by the US military (mostly US Navy, USMC and US Air Force) over 20,000+ vehicles in several different body designs were supplied under the Department of Defense, Military Assistance Program (MAP). Dates for issue of the M601 series ran from 1960 to 1971. Several thousands more were bought by foreign governments directly from Dodge as the Dodge Power Wagon WM300. Many of these direct buys were for vehicles with fully enclosed metal cabs (although the rest of the bodywork was usually fitted locally). M601 users include: Denmark, Mexico and The Netherlands. **Manufacturer:** Dodge Motor Company, USA

1961 Car, Armd, 4x4, Car, Armd, USMC, Mowag

1961 Car, Armd, 4x4, Commando V100.

Remarks: V100s were supplied to: Bolivia, (6) vehicles were supplied to Haiti under US Military Aid.

1961 Veh, Util, Truck, 1/4-ton, 4x2 Util (Int Scout)

1961 Carr, Light Wpns, Inf, 1/2-ton 4x4 M274 Mule



DETROIT ARSENAL NEG. NO. C.67427 DATE 10 Oct 61
Carrier, Light Weapons, Infantry, 1/2 Ton, 4x4, M274, "Mule"

1962 Car, Armd, 4x4, Car, Armd, Cadillac-Gage

1962 Car, Armd, 4x4, Car, Armd, Light, 4x4, Chrysler

1962 Car, Armd, 4x4, Chrysler MAC-1 (supplied to Mexico)

1963 Veh, Util, Truck, 1/4-ton, 4x4, Util M606 (CJ-3B).



Top: A Willys/Kaiser M606 straight off the production line. This M606 includes the fender mounted blackout light. (Photo: Kaiser Jeep International)

Remarks: The M606 was basically the Willys CJ-3B straight off the assembly line, with heavy-duty options such as; larger tires and springs, a blackout lamp on the left front fender, blackout tail-light covers, a military standard trailer hitch and other minor changes. The M606 used the standard F-head Hurricane 4-cylinder engine, and although an M606 model number was assigned, serial numbers came from the regular CJ-3B series. The M606 designation itself was used almost exclusively for Jeeps built for overseas military aid or sale. A four-page Service Manual Supplement (SM-1018 R1) to the Universal Jeep Service Manual (SM-1002-R5) describes and illustrates "special equipment items as installed on Jeep model M606 (CJ-3B modified)". Photographic evidence shows CJ-3B type Jeeps in use in joint U.S. and ARVN military operations during the Vietnam war. Many of these vehicles were Mitsubishi CJ3B-J4 and J4C models, manufactured under license in Japan, as well as

M606 Jeeps built in the U.S. by Kaiser. Although the U.S. Army also used the J4 and J4C, these Jeeps appear primarily in support rather than combat roles. The U.S. Army did issue an "Armor Adaptation Kit" for the Mitsubishi Jeeps, consisting of steel plates for windshield, sides and back. The kit was fielded with Modification Work Order J9-601-10 from U.S. Army Depot Command, Japan, in January 1968. The manual estimates installation time as 12 man-hours.

Vehicle Data: Weight empty, 2,418 lbs (1098 kg). Weight loaded, 3,500 lbs (1589 kg). Length, 129.9 in (3300 mm). Width, 68.9 in (1750 mm). Height, 68.5 in (1740 mm). Ground clr, 8.8 in (224 mm). Wheel base, 80 in (2032 mm). Wheel tread, 49 in (1245 mm). Drive, 4x2 or 4x4. Armor, when fitted, proof against 7.62mm Ball. NBC protection, individual. *Armament:* As fitted by user. *Capacity:* Fuel, gasoline 10.5 gals (40 liters). Crew/Pass, 1+3. Cargo Vol/Wgt, 1,082 lbs (491 kg). *Engine:* Type, gasoline. HP at Rev/Min, 71 hp (52.4 kW) @ 4000 rpm. Model, F4-134. Mfr, Willys/Kaiser Jeep. No. of Cyls, 4. Location, front. Cooling, liquid. *Transmission:* Manual. Gear Fwd/Rev, 3/1 w/2-spd transfer case. Mfr, Willys. *Suspension System:* Leaf spring. Steering, manual, front axle. Turning radius, 16 ft 11 in (5.15 m). No/wheels, 4. Tire Size, 7.00x16. *General Data:* Elec voltage, 12 or 24V as fitted. Radio, as fitted by user. *Performance:* Speed/Land, 55 mph (89 km/h). Range, 175 mi (282 km). Fording depth, 20 in (508 mm). Max grade 60%. *Usage:* Used by US, South Vietnam, Argentina, Brazil, Japan and other MAP countries. *Manufacturer:* Willys/Kaiser Jeep International Corp, Oakland, CA USA.

1964 Veh, Util. M151A1, Trk, Util, 1/4-ton, 4x4.

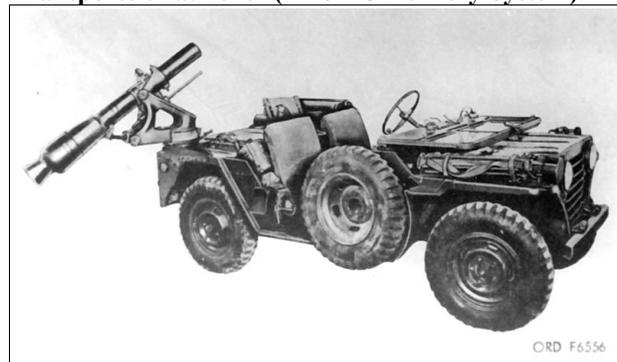


Above: M151A1 in Vietnam with M60 7.62mm Light Machine Gun and wire cutter. (Photo: Author's collection)

Remarks: Production of the re-placement for the M151 "MUTT" began in 1964 with the introduction of the M151A1. Still using the original independent coil suspension with minor improvements, the vehicle was felt to still have a tendency to roll over in a sharp turn. This drawback didn't prevent a production run of six years until 1970 when the M151A2 was introduced. The main physical difference that can be noted from the outside, was the introduction of a small turn signal on the top of each forward fender.

Vehicle Data: Weight empty, 2,273 lbs (1032 kgs). Loaded, 3,473 lbs (1577 kgs). Length, 132 in (3353 mm). Width, 63 in (1600 mm). Height (windshield up), 71 in (1803 mm). Ground clearance, 9.4 in (239 mm). Wheel base, 85 in (2159 mm). Wheel tread, 53 in (1346 mm). Drive, 4x2 or 4x4. Armor, armor kit available. NBC protection, individual. *Armament:* (1) M60 7.62mm LMG or (1) M2 .50 cal HMG. Elevation & traverse, manual. *Capacity:* Fuel, 17.7 gals (67 liters) gasoline. Crew/Passengers, 1/3. *Engine:* (1) Continental, water-cooled, 4-cyl, in-line gasoline engine producing 71 hp (52.5 kW) @ 4000 rpm. Location, front. *Transmission:* Manual. Speeds Fwd/Rev, 4/1 w/selective 4wd. *Suspension System:* Indep coil spring. Wheels steerable, front pair. Turning radius, 18.5 ft (5.6 m). No of wheels, 4. Tire size, 7:00x16. *General Data:* Elec voltage, 24V w/(2) 12V batteries. Cargo Vol/Weight, 1,200 lbs (545 kgs). *Night Vision Devices:* Individual. *Performance:* Speed/Land, 65 mph (105 km/h). Range, 300 mi (483 km). Fording depth, 21 in (533 mm). Max Grade (est), 30%. Trench Crossing, 60 in (1524 mm) w/crossing kit. Step (est), 8 in (203 mm). *Usage:* US Armed Forces and several other countries (see M151 data sheet for list). *Manufacturer:* Kaiser Jeep Corp.

1964 Carr, Wpns. M151 4x4 Tactical Transporter/Launcher (M28 BG Delivery System).



Above: M151 modified to carry the M28 Battle Group Delivery System "Davy Crockett". (Photo: US Army)

Remarks: Toward the end of 1964 and the beginning of 1965, a few M151 and M151A1 vehicles were converted to carriers of the M28 BGDS (Davy Crockett) M-28, 120 mm Launcher. The new vehicles replaced the earlier M38A1Ds which had reached the end of their service life. As it was, the Davy Crockett system was withdrawn from service and all systems had been retired by 1966/67. The M28 recoilless gun and system, was designed to provide the U.S. Infantry with a short-range nuclear delivery system. The gun weighed 116 pounds (53 kgs) and had a range of one and one-half miles. It was manned by a three man crew and only required the single carrier (see M151 entry for vehicle details).

1965 Car, Armd, 4x4, Car, Armd, Light, 4x4, XM706

1965 Carr, Pers, Armd, 4x4. Truck, Cargo, M37B1 (Armored).



Above: M37B1 3/4-ton Truck with Materials Research Agency designed armored panels. (Photo: US Army).

Remarks: The standard medium weight load carrier for over 30 years (from 1950 to 1980), the M37 and M37B1 replaced the WWII WC-51 and were exported widely around the world. When studies in Vietnam showed that armor for troop carriers would be a plus, the Materials Research Agency recommended the use of .25 inch Titanium for the vehicles. Studies were made as to the level of protection needed and the perceived threat. The first shipment of armoring kits for the 3/4-ton truck were made from a titanium alloy with 6% aluminum and 4% vanadium. Later high-hardness steel plate was used. From 1958 through 1968, almost 47,600 standard M37B1 series vehicles were produced.

Vehicle Data: Weight empty, 6,720 lbs (3151 kg). Weight loaded, 7,720 lbs (3505 kg). Length, 189.5 in (4813 mm). Width, 72.75 in (1848 mm). Height, 89.5 in (2273 mm). Ground clr, 10.75 in (273 mm). Wheel base, 112 in (2845 mm). Wheel tread, 62 in (1575 mm). Drive, 4x4. Armor, .25 in (6.35 mm) Titanium Plate. NBC protection, individual. **Armament:** (1) .50 cal HMB or (1) 7.62mm LMG. Elev & traverse, manual. Fire control, optical. Aux wpns, crew side arms. **Capacity:** Gas, 24 gals (91 liters). Crew/Pass, 2/4. Cargo Vol/Wgt, 1,000 lbs (2205 kg). **Engine:** (1) Dodge T-245 6-cyl, water-cooled engine providing 78 hp (57.6 kW) @ 3200 rpm. Location, front. Cooling, liquid. **Transmission:** Manual. Gear Fwd/Rev, 4/1 w/2-spnd transfer. **Suspension System:** Leaf spring. Steering, front axle. Turning radius, 25 ft (7.6 m). No/wheels, 4. Size, 9.00x16. **General Data:** Elec voltage, 24V. Radio, as fitted by user. Night Vision: as fitted by user. **Performance:** Speed/Land, 45 mph (72.5 km/h). Range, 225 mi (362 km). Forging depth, 63.5 in (1613 mm). Max grade, 65%. Step, 18 in (457 mm). Usage: Used by the US and South Vietnam. Manufacturer: Dodge Motors, USA.

1966 Carr, Pers, Armd, 8x8. Trns, Armd, Spec Warfare, 8x8

1966 Carr, Wpns, Trk, Cgo, 1/2-ton, 4x2. Chevy

1966 Carr, Wpns. Trk, Util, 1/4-ton, M151A1C.



Above: M151A1C in Vietnam circa 1966. (Photo: US Army)

Remarks: The 106mm recoilless rifle was first officially mounted on the M151A1 (which then became the M151A1C) in the spring of 1965, replacing any M38A1C jeeps still in service. The converted vehicles were fitted with heavy-duty springs to accommodate the weight of the M40A1 Rifle (251lbs - 114 kgs) and the M79 Mount (196 lbs - 89 kgs). Elevation for the rifle was from +65 to -17 degrees. Storage for six rounds of ammunition was also provided in the rear of the vehicle. Special training was needed for the driver as the center of gravity was much higher than the standard M151A1, and maximum speed of the A1C was lowered to 50 mph (80.5 km/h). Any speed over 20 mph (32 km/h) required extreme caution. Even more care was needed when the vehicle was operated without the weapon as balance and steering were thrown off.

Vehicle Data: Weight empty, 2,400 lbs (1088 kgs). Loaded, 4,500 lbs (2043 kgs). Length (OA), 143.5 in (3645 mm). Width (w/spare), 70 in (1778 mm). Height (top of rifle), 77 in (1956 mm). Ground clearance, 8 in (210 mm). Wheel base, 85 in (2159 mm). Wheel tread, 53 in (1346 mm). Drive, 4x2 or 4x4. Armor, n/a. NBC protection, individual. **Armament:** Main - Cal, (1) M40A1 106mm RR on Mount M79. Elevation & traverse, manual. Fire control, optical. **Capacity:** Fuel, 16 gals (60 liters) gasoline. Ammo/Qty, 106mmRR (6-8 rds). Crew / Passengers, 1/3. **Engine:** (1) White L-142 liquid cooled, gasoline 4-cylinder engine producing 71 hp (52.5 kW) @ 4000 rpm. Location, front. **Transmission:** Manual with 4-forward and 1-reverse gear and selective 4wd. **Suspension System:** Indep coil spring. Wheels steerable, front pair. Turning radius, 18.5 ft (5.6 m). No of wheels, 4. Tire size, 7:00x16. **General Data:** Elec voltage, 24V w/(2) 12V batteries. Speed, 50 mph (80.5 km/h). Range, 300 mi (483 km). Forging depth, 21 in (533 mm). Max Grade (est), 50%. Trench Crossing, 60 in (1524 mm) w/crossing kit. Step (est), 8 in (203 mm). Usage: US Army and several other countries. At least some A1Cs were adapted to carry searchlights or locally fabricated armor protection. Manufacturer: AM General.

1967 Car, Armd, 4x4, Car, Armd, Bauer Ordnance

1967 Carr, Pers, Armd, 6x6. Gun Truck, Armd, 2 1/2-T, 6x6. M35

1967 Carr, Pers, Armd, 6x6. Gun Truck, Armd, 5-T, 6x6. M54

1967 Veh, Util, 4x4. Trk, Util, M151A1 Armored.



Above: Typical of the field improvised armor fittings used on the 1/4-ton, this conversion used salvaged armor plate and ingenuity, along with almost no protection from the front. (Photo: US Army)

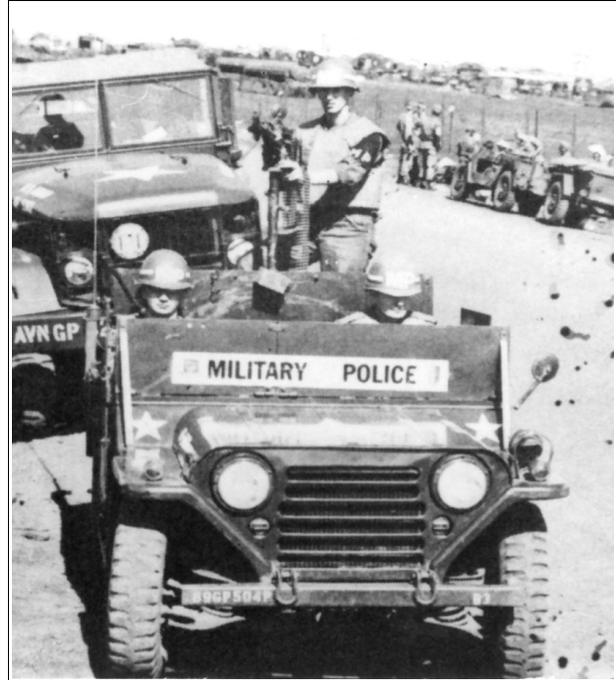
Remarks: In Vietnam, the various Military Police units, along with those in transportation were among the first to add armor protection to their 1/4-ton trucks. The biggest drawback was that when carry a full crew, weapons, ammunition, and personal gear, the vehicle was already close to maximum load even before adding the armor plate.

1967 Veh, Util. Trk, Cgo, Pers, 3/4-t M37 (Armd)

1968 Car, Armd, 4x4, Car, Armd, Light, 4x4, XM706E1

1968 Car, Armd, 4x4, Car, Armd, Light, 4x4, XM706E2

1967 Veh, Util, 4x4. Trk, Util, M151A1 Armored.



Above: M151A1 with the first semi-standard armor kit as specified and supplied from the states. (Photo: US Army)

Remarks: The first "standard" armor kit was a simple box of .25 inch (6.35mm) armor plate cut to be welded/bolted to the actual vehicle body. A low plate across the front of the vehicle protecting the driver and passenger, plus a simple box was the first attempt under the, "something is better than nothing" approach.

1969 Carr, Pers, Armd, 6x6. XM800.

1970 Car, Armd, 4x4. Commando V150.

1970 Car, Armd, 4x4. M151A1C Armored.



Above: M151A1C recoilless rifle carrier converted to an armored car by the 98th Military Police Group, Vietnam. (Photo: Author's Collection)

Remarks: With the increasing attacks and confrontations with Viet Cong (VC) elements and North Vietnam Army (NVA) regulars, the necessity of an armored M151 became more apparent. While a kit to provide an armored

vehicle would finally be designed and introduced by the Army, in the meantime local solutions of various qualities were tried. The 98th Military Police Group in Saigon completed the above modification circa 1970. And, while it did add some protection than was common at the time, there were several gaps in the armor. *Usage:* US Army in Vietnam.

1970 Car, Armd, 8x8. XM808 Twister. The XM808 had two hulls with four wheels each, separately powered and hinged to each other. Very steady, very agile platform. Only one prototype was ordered. *Dimensions:* Length, 220 in. (5588 mm). Width, 105 in. (2667 mm). Height, 97 in. (2464 mm). *Weight of vehicle:* Empty, 21,400 lbs. (9716kgs). *Armor:* Aluminum and high-hardness steel plate. *Transmission:* automatic, 6-forward, 1-reverse. *Engine:* (2) Chrysler 440, diesel, water-cooled. *Performance:* Max. speed, 65 mph (104.6 km/h). Cruising range, 225 miles (362km). *Armament:* (1) 20mm automatic cannon M139. *Manufacturer:* Lockheed Missiles & Space Co. Crew, 3.

1970 Veh, Attack, Light. FMC, 4x4, XR311.

1970 Veh, Util. M151A1 Armd (3rd Model).



Above: An M151A1 with what became the standard armored kit for the M151 series. (Photo: Author's Collection)

Remarks: The final version of the semi-standard armor kit for the M151 series had raised frontal and side armor that now protected the crews head when seated plus raised protect at the rear of the vehicle. Armor for the conversion was still .25 inch (6.35mm) but 2.5 inch (63.5mm) armored glass had been added to the front and sides. As there were no firing ports, any return fire to be from over the top of the vehicle (for standard vehicle details see M151A1 entry).

1970 Veh, Util. M151A2 Trk, Util, ¼-ton, 4x4.

Remarks: The last of the M151 1/4-ton series, the M151A2 was in production from 1970 to 1978. The major difference from the previous two models was a final change in the rear suspension to decrease possible rollover. A Roll-Over Protective Cage (ROP) modification also became common in the later years on nearly all



Above: M151A2 fitted as a scout vehicle with Troop E 82d Cavalry. (Photo: Author's Collection)

vehicles still in service. Able to climb a forward grade of up to 75% a simple White four cylinder water-cooled engine was coupled to a manual transmission and selective 4x2 or 4x4 drive. With a payload capability of 1200 pounds, the vehicle was able to handle weapon loads up to a 106mm recoilless rifle or a TOW launcher. Optional equipment included a personnel heater, arctic winterization kit, deep water fording kit for depths up to 60 inches (1.5 meters) and an electric brake kit for towing trailers equipped with electric brakes.

Vehicle Data: Weight empty (w/o armor), 2,273 lbs (1032 kgs). Loaded, 3,473 lbs (1577 kgs). Length, 132 in (3353 mm). Width, 63 in (1600 mm). Height (windshield up), 71 in (1803 mm). Ground clearance, 9.4 in (239 mm). Wheel base, 85 in (2159 mm). Wheel tread, 53 in (1346 mm). Drive, 4x2 or 4x4. Armor, armor kit available. NBC protection, individual. *Armament:* Main – Cal, (1) M60 7.62mm LMG or (1) M2 .50 cal HMG. Elevation & traverse, manual. *Capacity:* Fuel, 17.7 gals (67 liters) gasoline. Crew/Passengers, 1/3. *Engine:* (1) White L-142 water-cooled, 4-cylinder, gasoline engine producing 72 hp (53 kW) @ 4000 rpm. Location, front. *Transmission:* Manual with 4-Fwd and 1-Rev gear. *Suspension System:* Independent coil spring. Wheels steerable, front pair. Turning radius, 18.5 ft (5.6 m). No of wheels, 4. Tire size, 7:00x16. *General Data:* Elec voltage, 24V w/ (2) 12V batteries. Cargo Vol/Weight, 1200 lbs (545 kgs). *Performance:* Speed/Land, 65 mph (105 km/h). Range, 300 mi (483 km). Forging depth, 21 in (533 mm). Max grade, 75%. Trench Crossing, 60 in (1524 mm) w/crossing kit. Step (est), 8 in (203 mm). *Usage:* US Armed Forces and several other countries (see M151 data sheet for list). *Manufacturer:* AM General.

1971 Car, Armd, 4x4, Car, Armd, M706

1971 Veh, Util. M825, Trk, Util, 1/4-ton, 4x4, Carrier for 106mm Rifle W/E.



Above: M825 with 106mm RR. (Photo: Author's coll)

Remarks: In 1971 the M825 started coming off the production line, and to at first supplement and then replace the M151A1C. While many received new recoilless rifles and mounts, many (particularly in the field) simply switched weapon and mount from the old vehicle to the new. While having a better ride and suspension, the M825 still suffered from a high center of gravity and a tendency to roll. Maximum speed for the M825 was limited to 50 mph (80.5 km/h) and as on the older vehicle, any speed over 20 mph (32 km/h) required caution and an experienced driver. Even more care was needed when the vehicle was operated without the weapon and mount, as balance and steering were thrown off. The 106mm recoilless rifle remained the M40A1 Rifle and the M79 Mount. The whole unit could be dismounted and fired as a ground weapon. Elevation for the rifle was from +65 to -17 degrees. Storage for six rounds of ammunition was also provided.

Vehicle Data: Weight empty, 2,590 lbs (1176 kgs). Loaded, 4,320 lbs (1961 kgs). Length (w/RR), 143.5 in (3645 mm). Width (w/spare tire), 76.5 in (1940 mm). Height (w/RR), 77 in (1956 mm). Ground clearance, 8 in (210 mm). Wheel base, 85 in (2159 mm). Wheel tread, 53 in (1346 mm). Drive, 4x2 or 4x4. NBC protection Individual. *Armament:* (1) M40A1 106mm RR on Mount M79. Elevation & traverse, manual. *Capacity:* Fuel, 17.7 gals (67 liters) gasoline. Ammo/Qty, 106mmRR (6-8 rds). Crew / Passengers, 1/3. *Engine:* (1) White L-142 water-cooled, 4-cylinder, gasoline engine producing 72 hp (53 kW) @ 4000 rpm. Location, front. *Transmission:* Manual with 4-Fwd and 1-Rev gear. *Suspension System:* Coil spring. Wheels steerable, front pair. Turning radius, 18.5 ft (5.6 m). No of wheels, 4. Tire size, 7:00x16. *General Data:* Elec voltage, 24V w/(2) 12V batteries. Cargo Vol/Weight, 1,730 lbs (785 kgs) (including crew). *Performance:* Speed, 50 mph (80.5 km/h). Range, 300 mi (483 km). Forging depth, 21 in (533 mm). Max grade, 50%. Trench Crossing, 60 in (1524 mm) w/crossing kit. Step (est), 8 in (203 mm). *Usage:* US Army and several other countries including, Ecuador,

Lebanon, Saudi Arabia, Somalia, South Vietnam, and Venezuela. *Manufacturer:* AM General.

1972 Car, Armd, 4x4. M151A2 Modified.



Above: M151A2 Modified with one of the very similar standard armor kits as developed by the U.S. Army. Another version had armored glass windows instead of vision slits but both used the same .25 inch (6.35mm) armor plate. (Photo: Paul Bird)

Remarks: The use of armor kits by the U.S. Army ended soon after withdrawal from Vietnam. Those vehicles that weren't scrapped were eventually converted back to the standard M151A2 configuration (see M151A2 for standard vehicle details).

- 1972 Veh, Recce, Veh, Scout, Recce, AAI
- 1973 Car, Armd, 4x4, Chrysler MAC-2
- 1974 Veh, Attack, Light, Veh, Attack, Fast, 4x4
- 1975 Veh, Recce, Car, Scout, Commando, 4x4
- 1975 Veh, Util, Truck, Util: 1/4-ton, 4x4, CJ-6
- 1977 Veh, Recce, Teledyne Continental, Cheetah, 4x4
- 1978 Car, Armd, 4x4, AM331, w/25mm cannon
- 1978 Car, Armd, 4x4, Car, Armd, 20mm Gun, AM330
- 1978 Carr, Pers, Armd, 4x4. Carr, Pers, Armd, AM301

1980 Carr, Pers, Armd, 4x4. Commando Ranger (Peacekeeper)



Above: US Air Force Commando Ranger, circa 1980. (Photo: USAF)

1980 Carr, Pers, Armd, 6x6. Carr, Pers, Armd, Hydracobra

1980 Veh, Attack, Light, FAV, 4x2. Sandaيرة

1981 Car, Armd, 6x6. Vought Wolverine

1982 Car, Armd, 6x6. Commando 6x6 V300.



Above: Cadillac-Gage V300 with 90mm Cockerill turret and gun. (Photo: Cockerill Sambre)

Remarks: Developed to compliment the Cadillac-Gage 4-wheeled Commando V100 and V150 series, the first prototypes were ready for testing in 1979 and the first production vehicles available in 1982. The 90mm Fire Support Vehicle used the Cockerill 90mm Gun Mk III and turret and carried a crew of three. The APC version carried either a twin 7.62mm turret, or a turret fitted with a single 7.62mm light machine gun and one .50 caliber heavy machine gun. Besides the two-man crew, the APC could carry up to ten soldiers in the rear. A pair of doors at the rear of the vehicle as well as a pair of hatches in the roof over the crew compartment. The Panamanian V-300s got caught up in the fighting during the US invasion of Panama in 1989 and most were destroyed.

Vehicle Data: Weight loaded, 31,570 lbs (14318 kgs). Length, 252 in (6400 mm). Width, 100 in (2540 mm). Height (top of turret), 106 in (2700 mm). Ground clearance, 15 in (381 mm). Wheel base, 183 in (4640 mm). Drive, 6x6. Armor, steel. NBC protection, as fitted by user. **Armament:** (1) Cockerill Mk III 90mm cannon and (2) 7.62mm LMG. Elevation & traverse, manual. Fire Control, optical. **Capacity:** Fuel, 70 gals (265 liters) diesel. Ammo/Qty, 90mm (est 30+ rds), 7.62mm (est 500+ rds). Crew/Passengers, 3 w/90mm turret and 3+9 as an APC. **Engine:** (1) Liquid-cooled, Cummins VT-504 V8 turbo diesel, producing, 270 hp (200 kW) @ 3000 rpm. Location, front right. **Transmission:** Allison, manual with 4-fwd and 1-rev gear through a 2-spd transfer case. **Suspension System:** Trailing arm front, coils rear. Wheels steerable, front pair. No of wheels, 6. **Night Vision Devices:** As fitted by user. **Performance:** Speed/Land, 57 mph (92 km/h). Speed/Water, 3 mph (5 km/h). Range, 435 mi (700 km). Forging depth, amphibious. Max grade, 60%. Step, 24 in (609 mm). **Usage:** The V-300 was only

put into service with two armies, Kuwait (which were lost during the Iraqi invasion) and Panama which ordered a total of 12 vehicles (four 90mm FS and eight machine gun armed APCs). Several years later the Philippines took a delivery of the LAV-300 Mk I series for their Marine Corps. *Manufacturer:* Cadillac-Gage Company, Warren, MI USA (later became part of Textron Marine, New Orleans,).

1982 Car, Armd, 8x8. LAV-90

1983 Car, Armd, 4x4, Commando V150S. Also used by Botswana (?) 2005.

1983 Car, Armd, 8x8. Car, Armd, LAV, XM1047

1983 Car, Armd, 8x8. Veh, Armd, Light, LAV-25



Above: USMC LAV-25 unloading in Iraq 2005. (Photo: USMC)

1983 Carr, Anti-Aircraft, HMMWV RED-T w/Setter Msl Sys

1983 Carr, Anti-Aircraft, Sys, AD, 35mm Gun, 8x8, Standard Mfg

1983 Carr, Pers, Armd, 4x4. Emergency One, Mk 44

1983 Carr, Wpns, LAV-AT, 8x8

1983 Carr, Wpns, LAV-M, 8x8

1983 Carr, Wpns, Trk, Util, Arm Carr w/splarm, w/w, M1044

1983 Carr, Wpns, Trk, Util, Arm Carr w/splarm, wo/w, M1043

1983 Carr, Wpns, Trk, Util, Arm Carr, Armd, w/w, M1026

1983 Carr, Wpns, Trk, Util, Arm Carr, Armd, wo/w, M1025

1983 Carr, Wpns, Trk, Util, TOW, 1 ¼-T, 4x4, w/w, M1036

1983 Carr, Wpns, Trk, Util, TOW, 1 ¼-T, 4x4, wo/w, M966

1983 Carr, Wpns, Trk, Util, TOW, w/spl armor, wo/w, M1045

1983 Veh, Attack, Light, Emerson Electric 4x2

1983 Veh, Attack, Light, FAV, 4x2. NMC-40

1983 Veh, Util, LAV-L, 8x8

1983 Veh, Util, Trk, Util, Cgo/Trp Carr, w/w, 4x4, M1038

1983 Veh, Util, Trk, Util, Cgo/Trp Carr, wo/w, 4x4, M998

1984 Car, Armd, 4x4. Arrowpointe Drogoon 300/90mm.



Remarks: The Drogoon 300 series as market by Arrowpointe included a low recoil 90mm gun option. Without any formal interest from the US military, sales were focused on overseas customers in Central and South America as well as Asia. The Drogoon had been previously marketed by AM General without much success.

Vehicle Data: *Weight:* Empty, 20,000 lbs (9072 kgs). Loaded, 26,000 lbs (11,791 kgs). *Length,* 220 in (5588 mm). *Width,* 96 in (2438 mm). *Height,* 104 in (2642 mm). *Ground clearance,* 15 in (381 mm). *Wheel base,* 100 in (2794 mm). *Wheel tread,* 78 in (1981 mm). *Drive,* 4x4. *Armor,* 250 gauge XAR 30 Alloy plate. *Armament:* (1) 90 mm/46. Model, Mecar Kenerga. *Elevation, Power.* Traverse, power 360 degrees. *Fire Control,* M36 optical sight. *Aux wpn,* (1) 7.62mm LMG. *Capacity:* Fuel, 90 gals (341 liters) diesel. *Ammo/Qty,* 90mm (50 rds), 7.62mm (3,000 rds). *Crew/Passengers,* 2/5. *Engine:* Detroit Diesel Model 6-V-53T, turbo-charged V6 producing 270 hp @ 2800 rpm. *Location,* rear. *Cooling,* liquid. *Transmission:* Allison MT 653 DR automatic with 5-fwd and 1-rev gear. *Suspension System:* Leaf spring. *Wheels* steerable, power to front pair. *Turning radius,* 28.8 ft (8.8 m). *No of wheels,* 4. *Tire size,* 14.50x21. *General Data:* Elec voltage, 24V. *Intercom,* Yes. *Night Vision Devices:* Driver, Commander and Gunner, active or passive. *Performance:* *Speed/Land,* 72 mph (116 km/h). *Speed/Water,* 3.4 mph (5.5 km/h). *Range,* 650 mi (1045 km). *Fording depth,* amphibious. *Max grade,* 60%. *Usage:* Used by the Venezuela Army and possibly others. *Manufacturer:* Arrowpointe Corp., Southfield, MI (distribution) and Verne Corp., Culpepper, VA (manufacture).

1984 Carr, Wpns, TOW Carr Armd, Downlink (Prototype)

1984 Veh, Cmd, LAV-C2, 8x8

1984 Veh, Util, LAV-R, 8x8

1984 Veh, Util, Veh, Multi-Purpose, Rapid (RAMP-V)

1985 Carr, Anti-Aircraft, Carrier, 4x4, Avenger (prototype)

1985 Carr, Anti-Aircraft, Carrier, 4x4, GE Defender 2

1985 Carr, Anti-Aircraft, LAV-AD, 8x8

1985 Veh, Attack, Light, FAV, 4x4, Shadow-Terex

1985 Veh, Recce, Veh, Light Force, Teledyne

1986 Carr, Wpns, Platform, Support, All-Purpose, 8x8

1986 Veh, Recce, LAV-MARV, USAF, 8x8

1986 Car, Armd, 6x6. Commando V-600.



(Photo: Author's collection)

1988 Car, Armd, 8x8. LAV-75

1988 Veh, Attack, Light, Chenoweth 4x2

1989 Carr, Anti-Aircraft, LOS-R, Avenger, 4x4 (M998)

1990 Car, Armd, 6x6. Textron LAV-300 Mk I.



Above: Philippine Marine LAV-300 90mm Fire Support Vehicle. (Photos: Philippine Marine Corps)

Remarks: An upgrade from the original Commando V300 developed in 1978, the LAV-300 was chosen by the Philippine Marines when they couldn't get the tracked LVTP7A1. The LAV-300 was chosen because of its amphibious capability and the factory willingness to modify the design to meet their unique needs. Among the changes were the installations of two external waterjets for amphibious propulsion, the addition of a rear ramp to the passenger compartment for quicker exit and entry and the addition of a bow trim vane for prolonged water operations. The Philippine Marines now field two variants, the 90mm armed fire support vehicle and the personnel carrier with 7.62mm/.50 cal machine gun turret.

Vehicle Data: *Weight empty,* 27,104 lbs (12292 kgs). *Loaded,* 32,404 lbs (14696 kgs). *Length,* 252 in (6400

mm). Width, 100 in (2540 mm). Height (hull top), 78 in (1980 mm). Ground clearance, 14 in (356 mm). Drive, 6x6. Armor, CADLOY steel. NBC protection, central unit. *Armament:* (1) 90mm/36 Cockerill Mk 3 and (2) 7.62mm LMG. Fire Control, optical. *Capacity:* Fuel, diesel. Ammo/Qty, 90mm (39 rds) 7.62mm (600 rds). Crew/Passengers, 3/9 (depending on weapons fit). *Engine:* (1) Cummins liquid-cooled VT-504 turbocharged V8 diesel, producing 270 hp (200 kW). Location, right front. *Transmission:* Allison MT-643 manual with 4-fwd and 1-rev gear through a 2-spd transf case. *Suspension System:* Front solid beam w/trailing arm, rear coil springs. Wheels steerable, front pair. No of wheels, 6. Night Vision Devices: As fitted by user. *Performance:* Speed/Land, 65 mph (105 km/h). Speed/Water, 2 mph (3 km/h). Range, 435 mi (700 km). Fording depth, amphibious. Max grade, 60%. Step, 24 in (610 mm). *Usage:* Only user of the LAV-300 is the Philippine Marine Corp. *Manufacturer:* Cadillac-Gage Textron Marine, USA.

1990 Veh, Recce. Veh, Patrol, Desert, 4x4
1990 Carr, Pers, Armd, 8x8. LAV-APC, ARNG, 8x8

1990 Carr, Wpns, Trk, Util, Arm Carr, Heavy, 4x4, XM1097

1990 Veh, Util, Veh, Patrol, Viking, 4x4
1991 Veh, Recce, Veh, Strike, Light, 4x4 (LSV)
1992 Veh, Util, Transport, All-Terrain, Rapid, USAF
1993 Veh, Recce, HTMMMP, 4x4, USMC
1993 Carr, Wpns, LAV-105, 8x8

1994 Carr, Pers, Armd, 4x4. Dragoon ASV, AV Technology

1994 Carr, Wpns, Trk, Util, Arm Carr, 4x4 XM1109
1994 Veh, Cmd, LAV-MEWSS, 8x8
1995 Car, Armd, 4x4, Veh, Sec, Armd-150
1996 Carr, Wpns, Trk, Util, Arm Carr, 4x4 M1114
1996 Veh, Recce, NBC, TRW
1998 Carr, Wpns, Trk, Util, Arm Carr, 4x4 XM1116

1999 Car, Armd, 4x4, Veh, Security, Armd, 4x4 XM1117

1999 Carr, Pers, Armd, 6x6. AGMS Pandur
1999 Veh, Recce, Veh, Fast Attack, Interim, USMC
2000 Carr, Wpns, LW SP155, 8x8
2000 Carr, Wpns, Trk, Util, TOW Carr, 4x4 XM1121

2000 Carr, Pers, Armd, 4x4. Veh, Security, Armd, M1117. Ten cars were supplied to Iraq Security Forces in late 2004 and early 2005 to help re-equip the units. These cars were evidently paid for through US redevelopment funds for Iraq.

2002 Car, Armd, 6x6. Light Armored Vehicle (LAV)-300 Mk II.



Above: LAV-300 Mk II with 90mm cannon turret with optional water jets. (Photo: Textron Systems Marine & Land Operations)

Remarks: Circa 2002, Textron introduced a new Mark-II variant of its LAV-300 6x6 armored car aimed at the export market. The LAV-300 Mk II has several improvements over the Mark I including better handling, fire-power and armor protection. Main propulsion in the water is by wheel spin, but it is possible to mount internal waterjets (these are not standard equipment). For the basic (turretless version) three hatches have been provided on the roof, one for the commander and two for the infantry squad in back. The Mark-II also has a power-operated rear ramp with a built-in door and the Mark I individual troop seats have been replaced by benches. Weapons fits include, 7.62mm/.50 cal MG turret, 25mm and 30 mm cannon, 40mm grenade launcher/.50 cal turret, 81mm and 120mm mortar, 90mm cannon turret and 20mm anti-aircraft turret. Besides run-flat inserts, a central tire inflation system can be fitted. The LAV-300 Mk II can also be carried in a C-130 or larger aircraft.

Vehicle Data: Weight empty, 36,007 lbs (16330 kgs). Length, 264 in (6700 mm). Width, 100 in (2540 mm). Height (hull top), 78 in (1980 mm). Ground clearance, 21 in (533 mm). Drive, 6x6. Armor, proof against 7.62mm NATO ball. NBC protection, Vehicle over pressure. *Armament:* 7.62mm LMG to 90mm cannon as fitted by user. *Capacity:* Fuel, 115 gals (435 liters) diesel. Crew & Passengers, 3/9 (depending on armament fitted). *Engine:* (1) Cummins QSC turbo-charged, water-cooled, 6-cyl diesel producing 250-300 hp (185 to 222 kW). Location, front right. *Transmission:* Allison MD3560 automatic with 6-fwd and 1-rev gear. *Suspension System:* Individual trailing arm w/coil springs. Wheels steerable, front pair. Turning radius, 68 ft (20.7 m). No of wheels, 6. Tire size, 14.00x20R w/run flat inserts. *General Data:* Radio, as fitted by user. *Night Vision Devices:* As fitted by user. *Performance:* Speed/Land, 65 mph (105 km/h). Speed/Water, 2 mph (3 km/h). Range, 575 mi (925 km). Fording depth, amphibious. Max grade, 60 %. Step, 24 in (610 mm). *Usage:* A remodel of the previous Commando V00/LAV-300 series, as of 2005, prototypes only. *Manu-*

facturer: Textron Systems Marine & Land Operations, New Orleans, LA USA.

2002 Carr, Pers, Armd, 8x8. Stryker, APC. 8x8, M1126
2003 Veh, Recce, Stryker, NBC Recce, 8x8 M1135
2003 Veh, Recce, Stryker, Recce Veh, 8x8 M1127
2003 Carr, Pers, Armd, 4x4. Trk, Util, Car, Pers, Up-Arm, 4x4 M1145

2003 Carr, Pers, Armd, 4x4. RG-31 Mine-Protected Vehicle. South Africa delivered four of these vehicles to support operations in Iraq during 2003 (see South Africa for vehicle details).

2003 Carr, Pers, Armd, 6x6. Escort, Convoy, Armd
2003 Carr, Pers, Armd, 8x8. Stryker, Eng Sqd Veh, 8x8 M1132
2003 Carr, Pers, Armd, 8x8. Stryker, Med Evac Veh, 8x8 M1133
2003 Carr, Wpns, Stryker, AT Guid Msl Car, 8x8, M1134
2003 Carr, Wpns, Stryker, Fire Spt Veh, 8x8 M1131
2003 Carr, Wpns, Stryker, Mobile Gun Sys, 8x8 M1128
2003 Carr, Wpns, Stryker, Mortar Carr, 8x8, M1129
2003 Veh, Cmd, Stryker, Cdr's Veh, 8x8, M1130

2004 Carr, Pers, Armd, 4x4. Casspir MPV. South Africa supplied the US forces in Iraq with 13 Casspirs in 2004 and a further 15 Casspir APCs in 2005 (see South Africa for vehicle details).

2004 Carr, Pers, Armd, 4x4. RG-31 MPV. South Africa supplied the US forces in Iraq with five vehicles in 2004 and a further 146 RG-31 APCs in 2005 (see South Africa for vehicle details).

2005 Carr, Pers, Armd, 4x4. RG-31 Mk 5.
A little over 300 RG-31 Mk 5 MPVs were ordered by and delivered to the US Army and directly to SOCOM (Special Operations Command).

2005 Carr, Pers, Armd, 4x4. Mamba MPV. South Africa supplied the US forces in Iraq with 12 Mamba APCs in 2005 (see South Africa for vehicle details).

2006 Carr, Pers, Armd, 4x4. Force Protection Cheeta.



Above: *Prototype Force Protection Cheeta. (Photos: Force Protection Industries, Inc.)*

Remarks: One of a series of mine protected vehicles developed as private ventures, the Force Protection Cheeta is a 4x4 multi-mission light armored protected vehicle of conventional design with four-wheel drive, engine at the front and the crew encased in a monocoque V shaped hull. External lightweight armor, internal spall liners and blast suppression material provide additional protection. The vehicle is designed to protect against heavy mines (16.5-33 lbs {7.5 to 15 kg} of explosives) detonated under the vehicle body or wheels. Protection is also provided against improvised explosive devices (IED). The basic vehicle is bullet resistant to 7.62 cal. weapons, although it can be up-graded to protect against larger calibers, including .50 cal Armor Piercing. Two vehicles can be transported inside a C-130 Hercules.

Vehicle Data: Weight empty, 14,000 lbs (6356 kgs). Weight loaded, 24,000 lbs (10896 kgs). Length (est), 212 in (5381 mm). Width, 88 in (2235 mm). Height, 89 in (2260 mm). Wheel base, 138 in (3510 mm). Wheel tread, 73 in (1853 mm). Drive, 4x4. Armor, proof -7.62mm AP. NBC protection, central. *Armament:* As fitted by user. *Capacity:* Fuel, diesel. Crew/Passengers, 2/4. Cargo Vol/Weight, 10,000 lbs (4540 kgs). Engine: Cummins, OSB diesel producing 275 hp (203 kW) @ 2500 rpm. Location, front. Cooling, liquid. *Transmission:* Allison, Model 2500 automatic. *Suspension System:* Coil & leaf-spring. Wheels steerable, front axle. Turning radius, 30 ft (9.2 m). No of wheels, 4. Tire size, 3.65x80/R20. *General Data:* Elec voltage, 24V. Radio, as fitted by user. *Performance:* Speed/Land, 89 mph (143 km/h). Range, 700 mi (1126 km). Fording depth, 36 in (914 mm). Max grade, 70%. *Usage:* Prototype only, no production orders as of early 2007. *Manufacturer:* Force Production Industries, Inc. Ladson, SC 29456.

2006 Carr, Pers, Armd, 4x4. RAFAEL/PVI Golan.



Above: RAFAEL/PVI Golan Heavy Wheeled Armored Vehicle introduced in September of 2006. (Photo: PVI)

Remarks: Responding to a perceived need for wheeled armored vehicles for use in asymmetric warfare, RAFAEL teamed with US based PVI and the Merkava program Office (Mantak), to develop the Golan Heavy Wheeled Armored Vehicle. Golan has been proposed for the IDF and USMC. The vehicle uses an armored monocoque structure. The integrity of this structure provides the strength to absorb deformations generated by mines and IED blasts. The hull uses a V shaped formation and a "floating floor" panel to mitigate the blast effects of mines. This approach enabled the designers to dedicate 50% of the vehicle's weight to protection. The passive armor utilizes a combination of protection technologies including metals, composites, slat and transparent armor. The maximum protection level includes reactive modular armor tiles while the medium and light levels are based on passive modular armor. The vehicle can be equipped with remotely controlled weapon station mounting a machine gun, and optronic equipment, as well as a gunshot detection system. *Usage:* Prototypes issued in the fall of 2006. *Manufacturer:* RAFAEL, Israel and Protected Vehicles Inc. (PVI), USA (see Israel for Vehicle Data).

2007 Carr, Pers, Armd, 4x4. Lasco Gridiron.



Above: The Lasco Group Gridiron Security Vehicle. Gridirons are protected to NATO Level B-6 (able to withstand up to 7.62mm rounds). (Photos: Lasco International Group)

Remarks: The Lasco Group Gridiron is one of a new series of heavy-duty commercial trucks converted to armored tactical vehicles. Most, but not all, of these vehicles are purchased and used by commercial and contract security personnel in high danger level areas. Able to carry six passengers within its protective envelope the Gridiron is based on the Ford F550 Super Duty crew cab pick-up and converted by Lasco. With windows up and doors sealed, the Gridiron provides a full NATO B-6 level of protection including passenger cabin, sides and roof. Base armor ballistic specification is defeat of up to a high power rifle round of 7.62mm. The armor package includes: 1.5-inch (39mm) multi-layer transparent armor, .26-inch (6.6mm) armor steel, Dyneema™ UD fiber composite armor, Kevlar™ aramid fiber explosion resistant floor protection and run-flat inserts in the tires.

Vehicle Data: Weight empty, 13,005 lbs (5898 kgs). Weight loaded, 17,958 lbs (8144 kgs). Length, 261 in (6629 mm). Width, 93.5 in (2377 mm). Height, 90 in (2286 mm). Ground clearance, 7.5 in (190 mm). Wheel base, 156.2 in (3967 mm). Drive, 4x4. Armor, proof against 7.62mm. NBC protection, as fitted by user. *Armament:* As fitted by user. Elevation & traverse, manual. Fire control, optical. *Capacity:* Gasoline 40 gals (151 liters). Crew/Pass, 2/4. Cargo Vol/Wgt, 4,952 lbs (2246 kgs). *Engine:* Ford Triton V-10 gasoline water-cooled producing 362 hp (267 kW). Location, front. Cooling, liquid. *Transmission:* Ford Torqshift automatic with 5-fwd and 1-rev gear. *Suspension System:* Coil. Steering, power to front axle. Turning radius, 51.5 ft (15.7 m). No/wheels, 4. Tire size, LT225/70R19.5. *General Data:* Elec voltage, 12V. Radio, as fitted by user. *Performance:* Speed, (est) 75 mph (121 km/h). Range, (est) 400 mi (644 km). Forging depth, (est) 18 in (457 mm). *Usage:* Delivery started to undisclosed buyer. *Manufacturer:* Lasco International Group. <http://www.lascointl.com>

2007 Carr, Pers, Armd, 4x4. RG-31 Mk 5E MRAP.

Over 600 RG-31 Mk 5E Mine Resistant Ambush Protected (MRAP) vehicles have been ordered by the US Marine Corps to be delivered no later than March of 2008. To meet the production push, three manufacturers will be involved; General Dynamics Land Systems-Canada, Demmer Corporation (USA) and BAE Systems Land Systems South Africa. The new Mk 5E vehicle is based on an extended version of the RG-31 Mk 5.