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Military Museum
Of Southern New England
125 Park Ave, Danbury, Connecticut 06810
GUIDE TO THE OUTDOOR EXHIBITS
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The American 37 mm anti-tank gun was based on the German 37 mm Rheinmetall gun, but it differed in many respects from the original. It was much lighter, due mainly to the carriage M4 and later, M4A1. Unfortunately, this gun was soon found to be very inadequate as a tank-killer. Anything bigger than a German Panzer III couldn’t be destroyed by the M3A1. It couldn’t penetrate more than 2 inches of armor at 1,000 yards. As a result, it was moved from Europe to the Pacific. In the Pacific theater, the M3A1 was used for infantry support, firing HE (High Explosive), and canister projectiles. It served throughout the war and proved a useful and efficient gun. In all, 18,702 were produced in WWII. Up until the 1970s the M3A1 continued to see service with various foreign nations.

DATA
Length: 6 ft. 10 in.
Traverse: 60 degrees
Weight: 912 lbs.
Muzzle Velocity: 2,900 ft. per second
Armor penetration: 2 inches at 1,000 yds.
Based on the British “6 pounder” anti-tank gun, the M1 57-mm served throughout the war, mainly on the western front of the European theater as the premier allied medium anti-tank gun. With a muzzle velocity of 2,700 ft. per second, this gun has the ability to penetrate 2 inches of armor plate at 1000 yds. This gun also has a high rate of fire. Due to its compact size and reliability, the 57-mm has continued service in many nations to this day.

DATA
Length: 9ft. 9in.
Traverse: 90 degrees
Weight: 2,700 lbs.
Muzzle Velocity: 2,800 ft. per sec.
Armor Penetration: 2 in. at 1,000 yds
Maximum Range: 5,000 yds
In late 1942, the US made an attempt to produce an indigenous anti-tank gun to replace the 57-mm M1. The result was a combination of existing components of other guns. The barrel came from the 3-inch anti-aircraft tube T9, part of the 3 inch anti-aircraft gun M3, and the breech mechanism from the M2A1 105-mm Howitzer. The carriage and recoil mechanism also came from the 105-mm Howitzer and became the 3 inch gun carriage M1, later modified into the M5. The result was a large and rather cumbersome weapon – but like other wartime improvisations, it was all that was available. It was used in all theaters of World War II and was a popular weapon. Fitted, in a modified form as the M7 to the M10 motor gun carriage, it was an effective tank destroyer. Another great thing about the M5 was the fact that it could destroy the ever-feared Tiger tank. The shield on the gun protected the crew from small-arms fire only. The crew was otherwise totally exposed to the dangers of the battlefield with far less mobility than an armored vehicle. A total of 2,500 M5s were produced plus 6,824 tubes that were mounted on the M10 Wolverine tank destroyer.

DATA
Length: 13 ft. 2 in.
Traverse: 46 degrees
Weight: 5,850 lbs.
Muzzle Velocity: 2,600 ft. per sec.
Armor Penetration: 3.85 in. at 1,000 yds.
Conceived as an all-terrain vehicle to transport cargo and personnel, prototypes were built in 1957 and production began in 1958. Nicknamed the “Husky”, it was a versatile, amphibious vehicle that could carry 3,000 lbs. of cargo or seat 12 combat-ready soldiers. A 5,000 lb. self-recovery winch was set in the nose between the headlamps. As a relatively inexpensive vehicle, it was best utilized in non-combat rear areas and for good reason too; it had no armor on it whatsoever and was a slow moving vehicle even on a road.

DATA
Length: 15 ft. 1 in. Width: 6ft 10 in. Height: 6 ft. 7 in.
Weight: 7,000 lbs. net, 10,800 lbs. gross.
Crew: 1
Power: Chevrolet Taskmaster V-8 water cooled gasoline engine, with 175 hp
Armament and Armor: None
Speed: 17 mph on the road and 4 mph in water
Range: 140 miles on road
EXHIBIT # 5
M-792 GAMMA GOAT AMBULANCE

For decades, the US Army searched for a high mobility truck to serve as a forward area cargo carrier. In the early 1960s the Mail Company in Switzerland built an articulated 1.5 ton, 6x6, which seemed to be just what the US Army wanted. It was a remarkable vehicle, as testing at the Aberdeen Proving Ground in May, 1961 verified. Mr. Roger L. Gamaunt (hence the “Gama” of “Gamma Goat”) designed the unique coupling which allows both articulation and transmission. The articulated design allows a roll of +/- 30 degrees and a pitch of +/- 40 degrees, which means that even in extremely rugged terrain all wheels, can probably keep contact with the ground. The aluminum body construction was intended to keep the weight down. An ambulance version as well as the cargo body was produced by Con Diesel in Greenwich, Connecticut.

DATA
Length: 18 ft. 11 in.
Width: 7 ft.
Height: 7 ft. 7 in.
Weight: 7,360 lbs.
Crew: 1
Power: General Motors 3 cyl water cooled Diesel engine, with 103 hp
Armament: N/A
Armor: None
Speed: 55 mph on road, 2.5 mph in water
EXHIBIT # 6
BA-64 LIGHT ARMORED CAR

Produced for the Soviet Army and replaced in the 1950s, the BA-64 was also used by the North Korean Army during the Korean War. Because it only had a machine gun on it, its ability in combat was severely limited. The BA-64’s armament meant that fighting an M3 halftrack would be too much for the BA-64. Known as “Bobby” to the American Army who confronted it, the BA-64 was destroyed very easily. This one on exhibit was captured by the soldiers of the 24th Infantry Division and returned to the United States for evaluation. Over 9000 were built in total between 1942 and 1946.

DATA
Length: 6 ft. 8 in.
Width: 4 ft. 4 in.
Height: 6 ft. 2 in.
Weight: 2,230 lbs.
Crew: 2
Power: GAZ-MM, 4 cyl water cooled gasoline engine, 50 hp
Armament: one 7.62-mm (30-cal) DP machine gun
Armor: 0.4 in.
Speed: 40 mph
Range: 130 miles
In the early 1960s, the West German Army requested development of a new series of wheeled combat vehicles to include a reconnaissance vehicle, troop carrier, and a cargo carrier. A consortium of German vehicle companies set about developing the specified range. While the Daimler-Benz Co began working separately on their own design, prototypes were delivered to test in 1968 and in 1973, a contract was awarded for delivery of 408 Luchs reconnaissance vehicles, the selected design having come from the consortium.

The Luchs is an eight-wheeled car with all wheels driven and steerable, though in normal use only the front four steer. The armored steel hull is surmounted by a two-man turret, which is surprisingly roomy and has a 20 mm cannon and a machine gun, together with infrared-sighting/vision equipment and a white-light searchlight. The main driver sits in the front, while the radio operator sits in the rear where he can drive the Luchs in reverse if needed. The interior is fully air-conditioned and has NBC (nuclear, biological, chemical) protection. The fuel system is bulletproof and the interior is fully protected with automatic fire-fighting equipment.

DATA
Length: 25 ft. 5 in, Width: 9 ft. 9 in, Height: 9 ft. 4 in, Weight: 42,990 lbs.
Power: Daimler-Benz, 10 cyl horizontally opposed, turbo-charged, multi-fuel, 290 hp (Diesel) or 300 hp gasoline engine
Armament: one Rheinmetall 20 mm Mk-20 Rh202 auto-cannon, one 7.62 mm MG3 machine gun
Crew: 4     Speed: 56 mph, forward/reverse     Range: 500 miles
Developed in 1951 as a reincarnation of the World War II M-19 twin 40 mm gun carriage. It went into production in 1953, based on the M-41 light tank chassis. A total of 3,700 were built. It was used in Vietnam as a sort of oversized scatter gun. It proved to be quick, agile and extremely durable. Because of its twin 40 mm cannons, the M-42A1 proved its worth against NVA troops in Vietnam. However, since it afforded only minimal protection for its crew and having a sighting system requiring visual aim (which reduced its range and operational effectiveness severely), it didn't meet the modern requirements very well. It has been replaced in the US Army by the Vulcan and Chaparral, but many have been exported to Austria, Italy, and at the time West Germany.

DATA
Length: 19 ft.         Width: 10 ft. 3 in.         Height: 9 ft. 4 in.
Weight: 48,000 lbs.
Crew: 4
Power: Continental A OSt 895-5.6 cyl, air cooled gasoline engine with 500 hp
Armament: two 40 mm Bofors cannons, one 30-cal MG machine gun or one 3.5 in rocket launcher
Armor: ½ inch to 1 inch
Speed: 40 mph         Range: 100 miles   - “Rolling Thunder!”
Developed in 1959 to replace the M-41 Walker Bulldog light tank (early 1950s), the Sheridan is a “mixed bag” which has proven to be quite efficient when used as intended. A lightweight, lightly armored reconnaissance vehicle (the AR above) and as an air-droppable and air-transportable assault vehicle (the AAV above), it doesn’t fit neatly into the classic definition of a tank. The weapon system is the same as the much more expensive MBT-70; a 152 mm gun that can shoot conventional 152 mm High Explosive rounds, or IR Shillelagh missiles (20 conventional rounds, 10 missiles). Constructed of aluminum, the Sheridan wasn’t well received by the US troops in Vietnam, as the light armor made it vulnerable to small arms, especially RPGs (Rocket Propelled Grenades). But light armor meant that the Sheridan could get out of trouble quickly as long as tracks and engines weren’t shot up. As an AR/AAV, the Sheridan failed to stay in the Army very long. Only the 82nd Airborne used them for a while, and retired them in the late 1990s.

DATA
Length: 20 ft. 7 in.  Width: 9 ft. 2 in.  Height: 9 ft. 7 in.
Weight: 34,826 lbs.
Crew: 4
Engine: Detroit Diesel 6V53T Diesel, 300 hp
Armament: one 152 mm gun launcher, one 50-cal and one 30-cal machine gun
Armor: classified
Speed: approx. 50 mph on road, 4 mph in water  Range: 375 miles
EXHIBIT # 10
PBV 302 APC                                                                                                                             SWEDEN

The Panzarbandvagn 302 entered service with the Swedish Army in 1966, and is its standard
armored personnel carrier. Fully amphibious, the vehicle is equipped with a Hispano-Swiza 20
mm cannon for use against ground and airborne targets. Inside the vehicle 9 fully armored
troops rode in the seats. The three crew people are the following: to the right, someone
operated the battle-hatches, the center crew-member drove the APC, and the crew member
to the left operated the 20 mm cannon. Many variants of the basic model exist, including a
command vehicle, an armored reconnaissance vehicle and a recovery vehicle.

DATA
Length: 17 ft. 6 in.  Width: 9 ft. 4 in.  Height: 8 ft. 2 in.
Weight: 29,700 lbs.
Crew: 3 – 9 soldiers
Power: Volvo THD100B, 6 cyl in-line turbo-charged Diesel, 290 hp
Armament: one Hispano-Swiza 20 mm cannon
Speed: 49 mph on road, 5 mph in water  Range: 186 miles on road
EXHIBIT # 11
5 INCH ANTI-AIRCRAFT GUN USA

The 5 inch mount Mk 39 is a single, enclosed, base-ring type mount for one 5 inch 54-caliber gun. The mount is operated by manual drive, or power-driven in local or remote control. The mount was installed on aircraft carriers and auxiliary ships. Our example doesn’t have the variable protective shield housing, so all of its features can be seen. This is one of 18 that were installed on Midway-class carriers in the 1940s. This one was specifically on the USS Franklin D. Roosevelt, the only Midway-class carrier to carry 5 inch 54 caliber guns, and was later scrapped on the East Coast of the USA. The gun is a cylindrical, monolock, radically expanded steel forging, bored rifled and chambered. It is designed for semi-fixed ammunition and for cold assembly in a breech housing. Its operation is semi-automatic in either of two alternate methods: single round fire or rapid automatic fire. Either way, the recoil of the gun was powerful enough to knock around any sailors who weren’t secured inside the housing.

DATA
Weight: 73,900 to 82,375 lbs.
Elevation: 86+ degrees
Depression: - 10 degrees
Muzzle Velocity: 2,500 + ft. per sec.
Maximum range at 45 degrees elevation: 25,183 yds
Maximum altitude at 85 degrees elevation: 45,557 ft.
First developed in 1944, the prototype failed to see service in World War II. Widely accepted as the best tank of the Korean war, the Centurion has distinguished itself throughout the world. There are a number of reasons as to why the Centurion was such a good tank. For one, its 105 mm main gun could take out a target about 1.5 miles away and penetrate approximately six inches of armor. Another advantage was the fact that its armor was between 0.67 in to 6 ins of armor. Because of these and other advantages, the tank’s life in the active military was over 20 years with 25 versions. It was replaced in the British Army by the Chieftain, but it is still in service with a number of armies around the world. The Centurion on exhibit is a Mark 5, manufactured in the late 1950s and donated by the Swiss government after being deactivated in May 1993. The Centurion was one of the most enduring NATO main battle tanks seeing action in: the Korean War (1950-1953), Suez Crisis (1956-1957), Indo-Pakistani War of 1965, the Six Day War between Israel and Jordan, Indo-Pakistani War of 1971, Yom Kippur War between Israel and Jordan, the Vietnam War, the Angolan Civil War and the Gulf War.

DATA
Length: 32 ft. 3 in. Width: 11 ft. 1 in. Height: 9 ft. 10 in.
Weight: 114,004 lbs. – a little over 57 tons.
Crew: 4
Power: Rolls Royce Meteor Mk IVB 12 cyl liquid cooled gasoline engine with 650 hp
Armament: one 105 mm cannon, one 50 cal and one 30-cal machine gun
Armor: up to 6.08 in
Speed: 21 mph Range 118 miles
The Spz 12-3 had a very short and unusual development. In 1955 Hispano-Swiza (a Swiss company) built a light, self-propelled anti-tank gun on a tracked chassis. As at that time the West German Army was being reformed, much of the original equipment came from the United States, including M-7 Priests and M-47 Pattons. At the same time, West Germany wanted to start building its own armored vehicle again. In 1956, Hispano-Swiza was awarded a contract to build prototypes of a tracked APC. One year later, production contracts were awarded to Leyland in England and Hanomag & Herschel in West Germany. Production began in 1958 and was completed in 1962. The Spz 12-3 was never liked by the West German Army as it was very cramped inside the turret and chassis. The Spz 12-3 was replaced in most units by the SP 1.A Spz Kurz and the Spz Marder in the 1970s and late 60s.

DATA
Length: 20 ft. 8 in.
Width: 8 ft. 3 in.
Height: 6 ft.
Weight: 32,120 lbs.
Crew: 3-6 soldiers
Power: Rolls Royce B8180F, 8 cyl gasoline engine, 220 hp
Armament: one Hispano-Swiza 20 mm cannon (the exact same cannon was put on the SP 1.A) sometimes a 106 mm Recoilless Rifle
Armor: 0.32 – 1.2 in
Speed: 36 mph
Range: 170 miles
The M-108 was developed in 1961 to replace the aging M-52; production of the M-108 began in 1964. It was capable of 360 degrees turret rotation versus the 60 degrees left/right of the M-52. It also moved the driver into the hull from the turret. Despite the 105-mm's ability to hit targets 6.5 miles away, it didn’t have the earth shattering ability of the army’s larger towed guns. Thus attention turned to putting a 155 mm tube in a slightly larger turret onto the M108 chassis. The M-109 Paladin is currently in service and is a direct improvement on the M 108 you see here.

DATA
Length: 20 ft. 1 in.
Width: 10 ft. 10 in.
Height: 10 ft. 4 in.
Weight: 35,000 lbs.
Crew: 5
Power: General Motors 8VA71 8 cyl water cooled Diesel engine, 425 hp
Armament: one 105 mm Howitzer with a 6.5 mile range, one 50-cal machine gun
Armor: ½ - 1½ in
Speed: 35 mph
Range: 230 miles
In many respects the M-47 tank is a modernized World War II M-26 Pershing. The M-46 Patton Medium tank, named after the famous George S. Patton, was a mixture of previous designs, and by the time it was fielded in 1949, it was already somewhat obsolete. Army ordnance decided to use the M-46 as the basis for the M-47. The urgent need for development of a new tank was becoming even more critical when war broke out in Korea in 1950. Although some M-26s and M-46s were available, they were already considered obsolete and a new medium tank was needed badly. Eight thousand, five hundred and seventy-six (8,576) M-47s were produced between June 1951 and November 1953. One of the disadvantages of the M-47 was that the turret could not be turned manually, which made the tank vulnerable if the turret’s motor broke down. Ironically, no M-47 saw any action in the Korean War. As a durable vehicle, most of them were exported under the US mutual aid program. The M-47 was also made famous in the movie “Full Metal Jacket”.

DATA
Length: 28 ft.
Width: 11 ft. 6 in.
Height: 9 ft. 1 in.
Weight: 98,355 lbs.
Crew: 5
Power: Continental Model AV-1790-5B, 7 or 7B, V-12 air cooled gasoline engine, 810 hp
Armament: one 90 mm cannon, one 50-cal machine gun, two 30-cal machine guns
Armor: 1 to 4 in.
Speed: 30 mph
Range: 80 miles.
The M-48 is an improved M-47, with a revised turret and a larger commander's capsule (which is a smaller turret on top of the main turret). 1,800 of these were built between 1952 and 1957 and were named the M-48A1. An additional 2,328 were built as the M-48A2, incorporating several improvements, but there were still two serious problems – high fuel consumption and a very bold IR (Infrared) signature. The Army then decided to use a Diesel engine in 1959 and started retrofitting earlier models which became the M-48A3s. In 1967 the intensity of the Vietnam War required the quick availability of more A3s. Over 1,600 tanks were modified. An attempt to improve the M-48 with a 105 mm main gun resulted in the M-48A4, but only a few prototypes were built. With the development of the M-60 in 1969, the M-48 benefitted from many advantages of the M-60 as the last, best equipped of the long line of M-48 tanks, designated the M-48A5, was fielded. Over 2,600 of the earlier model tanks were converted to the A5 configuration between October 1975 and December 1979. After December 1979 all upgrading was ceased. But no matter what model of the M-48 one finds, the M-48 and M-60 are almost identical in shape. But there is one noticeable difference – the M-48 is curved at the front of the chassis while the M-60 has a straight front.

DATA
Length: 28 ft. 5 in.  Width: 11 ft. 10 in.  Height: 10 ft. 7 in.
Weight: 98,793 lbs. (M-48A1 +A2); 103,781 lbs. (M-48A3, A4, A5)
Power: Continental AV-1790-5B/7/7B/7C, V-12 air cooled gasoline engine, 310 hp (A1 + A2)
Continental AVDS-1790-A2/D Diesel, 750 hp (A3, AA4, A5)
Armament: one 90 mm cannon – all models except the A4, one 105 mm cannon – A4, one 50-cal and one 30-cal machine gun
Armor: 2 in to 7 in
Range: 70 miles (A1, A2), 300 miles (A3, A4, A5)
Speed: 30 mph
The M-60A1 was developed from the M-47/M-48 family in 1959 as a main battle tank and was mounted with a British designed 105 mm cannon. The final version of the M-60, the M-60A3 was introduced in 1978, and was a far superior vehicle as it utilized a ruby laser rangefinder and a solid state ballistic computer which tremendously increased the probability of a first round hit. It also became one of the predecessors of the M-1 Abrams tank. The last M-60 rolled off the assembly line in 1988, seven years after the M-1 Abrams tank was introduced. It remains in service with some Marine Corps tank units for more than 40 years, after first appearing in 1959.

DATA
Length: 30 ft. 6 in Width: 11 ft. 10 in Height: 10 ft. 11 in
Weight: 101,785 lbs.
Crew: 4
Power: Continental AVDS-1790-A2, V-12, Diesel engine, 750 hp
Armament: A1 and A3 – one 105 mm cannon, A2 – 152 mm cannon/missile launcher, one 50-cal and one 30-cal machine gun
Armor: 1 in to 10 ins
Speed: 30 mph
Range: 300 miles
This tank was intended to be the “Tank of the Century”. It was under development as a joint project between West Germany and the United States since 1963. It was a grand idea and should have worked, but as an international effort it was a dismal failure. Each side wanted to protect its own defense industries and get as large a piece of the pie as possible. Having completed the first pilot models, the co-partners by 1970 had agreed to disagree and the project was dissolved. The MBT-70 was to have all kinds of features on it to make it ‘the tank of the century’, such as a 152 mm gun/missile launcher, a hydraulics system that would permit it to ‘squat’ so that the tank could make maximum use of cover. Our MBT-70 has been hit with armor piercing bullets and even a HEAT round. The HEAT round went through one side of the turret and melted a hole out the other end. One of the unique things about this tank is that the driver is in the turret rather than the chassis. The driver had a good view as long as the MBT-70 wasn’t in any combat, but as soon as the tank enters combat, the driver has to squeeze into a cramped little hole and look through periscopes. This didn’t make the test drivers happy and nausea could be induced because the driver’s seat moved with the turret.

DATA
Length: 29 ft. 8 in.     Width: 11 ft. 5 in.     Height: 7ft 5 in.
Weight: 110,000 lbs.
Crew: 3
Power: Continental AVCR 12 cyl air-cooled multi-fuel engine, 1475 hp
Armament: one 152 mm rifled, smoothbore gun/missile launcher, one 20 mm cannon, eight grenade launchers.
Armor: thickness unknown, prototypes were cast from mild steel
Speed: 40 mph     Range: 400 miles
The World War II American Halftrack was a Jack-of-all-trades. It was used not only as an Infantry transporter, but also as a scout vehicle, an artillery tractor and a command/communications vehicle. Furthermore, it provided the basic chassis for a wide range of tank destroyers, self-propelled artillery mounts, gun-motor-carriages, anti-aircraft mounts, and other special purpose vehicles. The tank destroyer version mounted a 3 inch (75 mm) M5 AT gun, which was very effective against most German tanks. There were two basic types of halftracks in two families: gasoline and diesel powered. The M-2 and M-3 were gas powered and utilized in the US service, while the M-5 and M-9 were diesel powered, manufactured primarily for lend-lease. The designation A1 indicates the addition of a 50-cal ring mount above the cab. These halftracks were the most common types or armored vehicles of WWII. Over 53,000 were produced by White Motor Co., Autocar, Diamond T., and International Harvester. After WWII most variations were quickly removed from service, leaving only two anti-aircraft types to see service in the Korean War.

DATA
Length: M-2 19 ft. 6 in, M-3 20 ft. 9 in. Width: 7 ft. 3 in. Height: 8 ft. 9 in.
Weight: 17,800 lbs. and 21,649 lbs. respectively
Crew: Up to 13 soldiers
Power: White 160 AX, 6 cyl water cooled gasoline engine, 147 hp/ International Harvester Red 450B, 6 cyl water cooled diesel engine, 130 hp
Armament: various, one 30-cal machine gun up to one 105 mm Howitzer/quad 50-cal machine guns (also known as the “meat chopper”)
Armor: ¼ in, ½ in on the windshield
Speed: 45 mph Range: 200 miles
Developed by Ford Motor Company in 1943 as an armored utility car, the M-20 “Utility” had a Browning M2 50-cal machine gun that rode on an M49A1 ring mount. Used by Tank Destroyer units along with the M8 Greyhound (mounted a 37 mm gun), it was considered a leading design for the role of reconnaissance. It still remains in service in many overseas countries.

The M8 Greyhound is also on display inside the museum.

DATA
Length: 16 ft. 4 in.
Width: 8 ft. 3 in.
Height: 7 ft. 4 in.
Weight: 14,000 lbs.
Crew: 2 to 7
Power: Hercules JXD, 6 cyl gasoline engine, 112 hp
Armament: Browning M2 50-cal machine gun
Armor: ¼ to ½ in
Speed: 55 mph
Range 347 miles
The Josef Stalin 2 was the heaviest Russian tank to fight in WWII. It featured a giant 122 mm high velocity gun which used two part ammunition that made reloading time consuming. In May 1945, this Josef Stalin tank was destroyed by a German 75 mm shell. In normal circumstances the shell would have been deflected by the Stalin 2’s heavy armor. But in this case, the German scored a lucky hit on the gunner’s optical sight. The round penetrated the armor killing the gunner instantly and then deflecting off the interior armor until it struck the ammunition storage. The resulting explosion sent this piece of the Stalin 2 flying through the air. The artifact was recovered by the United States Army shortly after the war and was secretly sent to the Aberdeen Proving Grounds in Maryland for intelligence purposes.

DATA
Shell weight: 55 lbs.
Maximum Range: 2,832 yds
Muzzle Velocity: 2,800 ft. per sec.
The first M110 was developed in the 1960s and used extensively in Vietnam. The hull and chassis are the same as the M-107 175 mm gun. The M110A1’s gun had a range of about 12 miles. The shell that this Howitzer fired weighed over 200 lbs. and could be loaded hydraulically via the equipped crane or manually. The velocity of the shell when launched is 1,935 ft. per sec. The suspension of the five road wheels per side is locked for firing so that the vehicle doesn’t rock when firing, but the weapon’s stability stems mainly from the huge hydraulically powered spade. The round holes on the side of the vehicle are for engine exhausts. The plow on the back of the vehicle helped to compensate for the massive recoil involved with firing a 200 lbs. shell.

DATA
Length: 26 ft. 6 in.  Width: 10 ft. 4 in.  Height: 9 ft. 7 in.
Weight: 53,600 lbs.
Crew: 13
Power: 8V71T Detroit Diesel with Alison XTG-411-3A cross-drive transmission
Armament: one M203 8 inch Howitzer tube
Range of gun: approx. 20 miles
 Builders:  FMC, San Jose, CA;  Pacific Car & Foundry Co., Renton, WA;
               Bowen-McLaughlin-York Inc., York, PA
Speed: 34 mph  Driving Range: 450 miles
In the mid 1940s the Army began work on a medium-weight tracked vehicle. The M578 was one of the models developed in this process, and was fielded in the 1970s. The M578 uses the same chassis as the M110 Howitzer. It was used on the battlefield to recover disabled tanks and other vehicles. The Wrecker could climb a 60 degrees grade, ford 42 inches of water, and go over a 3.5 ft. obstacle and cross an 8 ft. wide ditch. It was air-transportable and was routinely used by maintenance units for power pack replacement, and by artillery units to change gun tubes.

DATA
Length: 20 ft. 10 in.
Width: 10 ft. 4 in.
Height: 9 ft. 5 in. at the cupola
Weight: 54,000 lbs. fully loaded
Crew: 3
Power: Detroit Diesel model 8V71T, 2 stroke cycle, 564 cu in turbo-charged developing 425 hp at 2,300 rpm, Allison cross-drive transmission
Armament: one 50-cal machine gun on the crane cab roof
EXHIBIT # 24
M40A1 106 MM RECOILLESS RIFLE

The M40A1 recoil less rifle fires a high velocity perforated round which allows ignition gases to escape rearwards, while also pushing the round forward out of the barrel. The back blast virtually canceled out the recoil forces and was dangerous to a distance of 175 ft. It was first manufactured in 1953 to replace the smaller 57 mm model. It was mounted on a short legged tripod (M79) or a pillar mount on a mechanical mule (M92).

DATA
Caliber: 106 mm
Barrel Length: 11 ft. 4 in.
Weight: 266 lbs.
Armor Penetration: 6 in. at 1,100 yds
Traverse on Carriage: 360 degrees
This is a Soviet designed twin automatic towed AA gun, built by the Chinese and sold to Iraq. Its design and function are based on the very famous Swedish twin 40 mm Bofors cannon, which was introduced in 1936. It is also similar to the basic design of the AA guns used in the US Navy during WWII in a quad mount (both the 20 mm and 40 mm cannons).

This piece was captured by the 1st Marine Division during Desert Storm in 1991, when Kuwait was being liberated. It bears a dedicatory brass plate honoring a Marine casualty and reading as follows:

In memory of Sgt Aaron A. Peck
Killed in Action
While Serving His Country and Corps
February 23, 1991
Operation Desert Storm
Semper Fidelis
Counter Battery Radar Platoon
11th Marines

DATA
Caliber: 37 mm  Weight: 5,200 lbs.
Rate of Fire: 180 rounds per minute
Effective Vertical Range: 10,000 ft.
Traverse: 360 degrees
Maximum elevation: 85 degrees
Crew: 10
The BMP-1 IFV was developed in the early 1960s and was first seen in public in 1967. Since then, it has been built in large numbers and served in militaries all over the world. The design radically altered the concept of mechanized infantry combat vehicles for all time to come.

Further development has resulted in the improved BMP-2. In the Soviet Army (now the Russian Army) the BMP-1 was the replacement for the BTR-50 full tracked APC and compared to this vehicle, has significant increase in armor, mobility and firepower. The BMP-1 has a main turret with one 73 mm primary cannon fed by an automatic loader (as in the 73 mm, rounds are loaded and taken out with by electronic equipment) with a 7.62 mm co-axial machine gun and a launch rail for a Saaggar ATGM (Anti-Tank Guided Missile) over the 73 mm. The vehicle is fully amphibious, propelled in water by its tracks at a speed of 7 km/h. Standard equipment includes firing ports/vision devices (those small hatches seen on both sides of the vehicle), a fire detection and suppression system, an NBC (Nuclear, Biological, Chemical) system and night vision equipment (night vision equipment mainly in the turret, to the left of the cannon). It can also lay its own smoke screen by injecting diesel fuel into the exhaust outlet on the right side of the hull.

DATA
Length: 22 ft. 1 in.   Width: 9 ft. 6 in.   Height: 7 ft. 1 in.
Weight: 29,700 lbs.   Crew: 3 to 8 soldiers
Ground Clearance: 1.3 ft.   Maximum Trench: 7.2 ft.
Speed: 40.3 mph   Range: 372 miles
Power Pack: type UTD-206-cyl diesel, 300 hp coup.
Armament: one 73 mm cannon, one co-axial 30-cal machine gun, 1 Saggar ATGM
The Hotchkiss SP 1A was developed in France and sold to West Germany in the mid 1950s. It was supplied in many types, such as reconnaissance, observation and some even served as ambulances. Unlike other reconnaissance vehicles, this vehicle was armed with a 20 mm cannon, which enabled it to hold its own against most enemy light vehicles. The SP 1A has been replaced by more recent vehicles, but it is probably still held for reserve.

DATA
Length: 14 ft. 9 in.  Width: 7 ft. 5 in.  Height: 6 ft. 5 in.
Weight: 18,840 lbs. (loaded)
Crew: 5
Power: Hotchkiss 6 cyl, OHV, water cooled gasoline engine with 164 hp at 3,900 rpm
Armament: one 20 mm cannon (500 rounds)
Armor: 0.32 in to 0.59 in
Speed: 36 mph  Range: 242.24 miles
Like the SP1.A Reconnaissance vehicle the Observation SPZ was developed in the mid to late 1950s. This one on exhibit was specifically made in 1959. As you can see, this SPZ has an identical chassis to the SP 1.A. The most obvious difference is that this one doesn’t have a turret. Instead, there is a machine gun ring for a small machine gun, the 7.62 mm. This ring is different from most other machine gun rings because it was moved by simply pulling/pushing the ring around using the handle behind one of the shields. Most machine gun rings moved by the means of a hand-crank. Inside the SPZ there is a mount for an advanced periscope in the center of the vehicle, and just below it is a moving seat that permitted the observer to scan a terrain screen up to around 60 degrees. To the right of the chair is the commander’s/machine gunner’s chair and seat. The hatch above the seat is also very unique. Rather than opening like a can’s lid, the commander would have to pull down on two handles just beneath the hatch. He would pull until they could go no further, then pull on the bar just in front of the handles (only if the SPZ required heavy maintenance on the hatch, which applies to those Schutzenpanzers in the museum). After that the commander slid the hatch open using the rails, and then operate the machine gun before he fully exposed himself to enemy fire. This type of hatch is one of the lesser known hatches, but is certainly one of the safest when being fired upon by an enemy.

DATA
Length:  14 ft. 9 in.          Width:  7 ft.  5 in.
Height:  5 ft.  5 in.
Crew:  5 ( 3 operators and 2 soldiers)
Power:  Hotchkiss 6 cyl, OHV, water cooled gasoline engine with 164 hp, at 3,900 RPM
Armament:  7.62 mm machine gun    Armor:  0.32 in to 0.59 in
Speed:  36 mph on the road          Range:  242.24 miles
This SPZ was the very first armored vehicle built in West Germany after WWII. This cargo carrier was a model of the Cc-2-55 cargo carrier from France, made by the Hotchkiss Company. The big difference between this SPZ and the later ones, made for carrying infantry, is that this SPZ has only 4 castors (wheels) rather than 5. Made in 1958, it served as an early major combat supply vehicle for West Germany. In 1962 the production of these SPZ cargo carriers stopped and the SPZ 42-1 was kept in service until recently replaced by newer cargo carriers. Its military life has ended, but it is now being used by German civilians as a workhorse (back-hoes, excavators, trucks, etc.).

DATA
Length:  14 ft.   Width:  7 ft. 5 in.   Height:  6 ft. 5 in.
Crew:  2
Power:  Hotchkiss 6 cyl, OHV, water cooled gasoline engine with 164 hp at 3,900 RPM
Armament:  Not determined   Armor:  0.32 in. to 0.59 in.
Speed:  30 mph on the road
Range:  200 miles
This vehicle was made during the 1970s to 1980s. The turret, as you can see, does not belong on the chassis. The original turret did not carry two rocket launchers but carried a standard 20 mm cannon with one 7.62 mm machine gun. The average speed for this vehicle would have been around 30 to 40 mph on the road. The turret on this vehicle is a rocket launcher. There are two rocket tubes where two unguided rockets would be launched. The turret was also a predecessor of the turret on the M2 Bradley IFV of today.

DATA
Length: over 14 ft. Width: over 7 ft. Height: over 8 ft.
Power: Not determined
Crew: 2
Armament: one 20 mm cannon and one 7.62 mm machine gun
Armor: up to ¾ in
Speed: 30 mph
The Corbitt 5 ton truck was intended to be a prime mover for artillery guns such as the M50 90 mm, M52 155 mm and the M55 203 mm artillery guns. Most of the trucks of this style were built by White, but this is one of the few manufactured by Corbitt.

DATA
Length: 7.35 m
Width: 2.45 m
Height: 3.05 m
Weight: 36,300 lbs.
Engine: liquid cooled, 6 cyl Hercules HXD 855 cu. In. displacement with 205 hp at 2/15 RPM
Range: 300 miles
Crew: 1 to 2
This APC was designed in the late 1940s. The first prototype appeared in 1952. The Saracen takes full advantage of the shared components in the Saladin APC and the Stalwart high mobility load carrier. The Saracen was in production from 1952 to 1972. This particular APC was made in 1954 and served in Africa.

DATA
Length: 17.2 ft. Width: 8.4 ft. Height: 8.1 ft.
Weight: 22,374 lbs. loaded, 19,008 unloaded
Crew: 2 to 10
Engine: Rolls Royce B80 MK 6A, 8 cyl gasoline engine
Speed: 44 mph
Range: 400 miles
Armament: two 7.62 mm machine guns, 6 smoke dischargers
Armor: 8 mm to 16 mm
The M39 was manufactured between 1944 and 1952, with over 600 being produced. The M39 was the turret less version of its famous cousin; the M18 Hellcat used in WWII and the Korean War. It was used as an artillery tractor, transportation tank and an armored personnel carrier. The driver and radio operator sat in the front when the armor was at its thickest. Twelve soldiers sat in the middle of the tank, with the commander being in the very center of the 12 soldiers. The M39’s only weapon was a 50 cal M2 machine gun, which has a range of over 2,000 yds. The M39’s performance on cross country and on roadways easily exceeded the M48 and M47, thanks to its lightweight and powerful engine.

Some M39s were sent to West Germany, whose Army greatly enjoyed the vehicle and had little reason to greatly modify the M39. The only part that was modified was the floor.

DATA
Length: 17 ft. 4 in. Width: 9 ft. 2 in. Height: 6 ft. 5 in.
Weight: 33,000 lbs.
Armor: ¼ to ½ in.
Engine: Continental R975 air cooled, 400 hp
Speed: Approx. 65 mph
Crew: 3 operators and 11 soldiers
Armament: Browning 50 call M2 machine gun
The Schutzen Panzer Mortar Carrier originally carried an 81 mm mortar. The mortar carrier variant, that you see, was based on the Hispano-Swiza 30 SPZ with a 20 mm auto-cannon. Other variants were the combat vehicle for Tank Grenadiers, Command Vehicles, and Tank Hunters with 106 mm recoilless rifles, Fire Control Tanks (Forward Looking Observers), Tank Destroyers with an SS-11 anti-tank missile system. In 1966 the SPZ mortar carrier was upgraded to the 120 mm mortar - the carrier on exhibit is an example of the upgrade. The 120 mm wasn’t limited of ammo. In this exhibit, there is a mortar round rack capable of carrying up to 50+ rounds.

DATA
Length: 20 ft. 8 in. Width: 8 ft. 3 in. Height: 5 ft. 8 in.
Weight: 32,120 lbs.
Crew: 3 operators and 5 soldiers
Power: Rolls Royce B8180F, 8 cyl gasoline engine, 220 hp
Armament: one 81 mm machine gun with over 70 rounds or one 120 mm machine gun with over 50 rounds
Armor: 0.32 in. to 1.2 in.
Speed: 30 mph Range: 170 miles
EXHIBIT # 38
M114 155 MM TOWED HOWITZER
The M114 towed Howitzer was first made in 1942 as a medium artillery piece to use as long range support on the battlefield. Because of its long range, the M114 remained in service in the Army and the Marine Corps till the Vietnam War. The M114 had a maximum effective range of approximately 9 miles and could fire 40 rounds per hour. The M114 served in the US until it was replaced by the M198 Howitzer, and is still in service in 20 foreign countries.

DATA
Length: 7.315 m         Width: 2.438 m         Height: 1.803 m         Weight: 5,800 kg
Caliber: 155 mm
Elevation: 63 degrees     Depression: -2 degrees
Traverse: approx. 25 degrees in both directions
Crew: 11
Rate of Fire: 40 rounds per hour     Maximum Range: approx. 9 miles
The M-656 truck was manufactured in April 1969 by Ford Motors Co. (according to its data plate on the passenger side). One of the differences between this M-656 and our other M-656 is that this exhibit is longer and slightly slimmer than its counterpart. These new dimensions made the truck slightly easier to carry within the cargo bays of transport jets, such as the C-5 Galaxy and the C-17 Globemaster. These modified M-656s served in the US Army until post-Vietnam.

Special Note: This exhibit is going to be ‘converted’ into a Mobile Museum in the near future. This mobile museum will be able to visit various schools in the local area, and students and teachers will be able to go through the truck and see various exhibits within the cargo bay.

DATA
Towing weight: 6,000 lbs. Shipping Space: 2,700 cu. ft. Crew: 2
The M-274 was developed to serve infantry and airborne units. The Army needed it to weigh less than 750 lbs. (so that it could be transported by air easily) and carry a cross-country load of 1,000 lbs. and the driver. Willys Company developed a pilot model in the 1950s utilizing a 17 hp, air cooled engine to attain a speed of 13 mph, which could carry 850 lbs. on improved roads with either 2 wheel or 4 wheel drive. The driver’s seat could be removed and the steering column moved to accommodate more cargo.

Each wheel had shackles so that the Mule could be lifted by helicopter (making the Mule even more useful as an airborne vehicle, since helicopter transport was becoming very popular in the military) or dropped by parachute. If the Mule landed upside down, it was light enough to be turned over and driven away (demonstrating both its light weight and its durability).

The Mule’s versatility was amazing. The Mule could be fitted with cable reels for signal use, used as a boat for river crossing, equipped with a 106 mm recoilless rifle, a 30 or 50 cal Browning machine gun or an M60 30 cal machine gun, and tow missiles and launchers. The M-274 was very popular with the US Army and the Marine Corps during the Vietnam War, as it hauled troops and equipment from one location to another. Overall, the M-274 Mule was an excellent cross country vehicle and could be fitted with effective small arms weapons.

DATA
Driver’s Maximum Weight: 176 lbs.
Engine: Willys A 03 horizontal, opposed, air cooled
Maximum Speed: 25 mph Payload: 1,000 lbs.
The M886 Ambulance came out in the 1970s, and is based on the M880 Dodge Truck, which was in production for only one year. The M886 rolled off the assembly line in March 1977. It had a payload of 1,600 lbs., which included one driver, one or two medics, up to four wounded soldiers and all necessary medical equipment. The M886 was phased out just before Operation Desert Storm, and was replaced by US Army and Marine Corps Humvees that were converted to ambulances.
This tractor was used in WWII to pull B-17s out of their hangars, and push the B-17s back into the hangar after the mission was over. These useful little tractors also towed other heavy aircraft, such as the B-24 Liberator, the B-26 Marauder and the B-29s. These tractors stayed in service until the Korean War ended, when newer and more efficient tractors were brought into the US Air Force.
The M36 Jackson, formally called the “90 mm Gun Motor Carriage, M36”, was an American tank destroyer used during WWII. It was developed to counter the German Heavy armor, such as the Panther and Tiger tanks, which the previous tank destroyer – the M10 – had difficulty in successfully engaging at long range. The first prototype was completed in March 1943, but it did not appear in Europe until September 1944, and quickly became popular among American troops. The M36 uses the same hull as the M10, which itself was a modified Sherman tank, the primary American tank of World War II. Following the end of WWII, the M36 saw service in the Korean War before being retired. Nevertheless, it stayed in service in various other countries which had purchased it after WWII, and saw action in the first Indo-China War (1946-1954), the Indo-Pakistani War of 1965, the Iran-Iraq War (1980-1988), the Croatian War of Independence (1991-1995) and the Kosovo War (1998-1999).

**DATA**

Length: 19 ft. 7 in.  Width: 19 ft.  Height: 10 ft. 9 in.  Weight: 29 tons

Crew: 5

Armament: one 90 mm M3 cannon, one 50 cal Browning M2HB machine gun

Armor: 0.35 in. to 4.3 in.

Engine: Ford GAA V-8 gasoline engine, 450 hp

Speed: 26 mph on the road

Range: 150 miles on the road
The M-52 truck was used in Vietnam to carry cargo from a supply depot to troops in the field. In the early 1970s this was the only tractor truck in the US Army’s inventory.

The cargo on this truck could vary very widely. It could transport heavy ammunition, tank parts, parts for non-tracked vehicles, light vehicles, medical supplies, etc. If it could be fitted on the trailer, it could be transported.

DATA
Length: 22.75 ft.  Height: 7.42 ft. to 8.6 ft.)
Weight: 9.5 tons (empty), 17 tons (cross country), 22 tons (highway/maximum)
Payload: 7.5 tons (cross country), 12.5 tons (highway/maximum)
Maximum Speed: 60 mph
Engine: a 6 cyl gasoline-octane engine or a 220 CV turbo-diesel engine
Estimate Mileage: over 25,000 miles