



MOTOR POOL MESSENGER

the official monthly newsletter of the
MILITARY TRANSPORT ASSOCIATION

visit us online at www.MTAofNJ.org

Issue: MAY 2020

Editor: Dave Steinert



In this issue...

RARE MILITARY VEHICLE PROTOTYPES



THEN-The Hafner Rotabuggy (formally known as the Malcolm Rotaplane) and as the "M.L. 10/42 Flying Jeep" was a British experimental air craft that was essentially a Willys MB combined with a rotor kite, developed with the intention of producing a way of air-

dropping off-road vehicles.

It was designed by Raoul Hafner of the Airborne Forces Experimental Establishment (AFEE) after their development of the Rotachute enjoyed some success.

The prototype was built by the R. Malcolm Ltd (also producer of the Malcolm hood) at White Waltham in 1942. Air Ministry specification 10/42 for a "Special Rotating Wing Glider" was used to identify the project.

Initial testing showed that a Willys MB could be dropped from heights up to 7.7 feet without damage to the vehicle. A 40 foot and 8.2 inches diameter rotor was attached, along with a tail fairing and directing fins, but no rudders. Two men were required to pilot the aircraft: one to drive it as an automobile, and one to pilot it in the air using a control column. Initially it was named the "Blitz Buggy", but that was soon dropped for the "Rotabuggy".

The first trial was conducted on 16 November 1943, with the unit being towed behind a Diamond T lorry, but the lorry could not get enough speed to put the Rotabuggy in the air. A more powerful vehicle, a supercharged 4.5-litre Bentley automobile, was used on 27 November to finally allow the machine to become airborne and in test could obtain glide speeds of 45 mph. Later tests were made towed behind an Armstrong-Whitworth Whitley bomber.

Although initial tests showed that the Rotabuggy was prone to severe vibration at speeds greater than 45 miles per hour, with improvements the Rotabuggy achieved a flight speed of 70 mph on 1 February 1944. The last test flight occurred in September 1944, where the unit flew for 10 minutes at an altitude of 400 feet and a speed of 65 mph, after being released by a Whitley bomber, and was described as "highly satisfactory". However, the introduction of gliders that could carry vehicles (such as the Waco Hadrian and Airspeed

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Horsa) made the Rotabuggy superfluous and further development was cancelled.

A replica of the Rotabuggy can be found at the Museum of Army Flying in Middle Wallop, England. Hafner also came up with the idea of a similarly outfitted "Rotatank" using a Valentine tank, but that was never built.

NOW-The Boeing-Sikorsky Comanche Helicopter was a stealth armed and attack helicopter designed also for reconnaissance for the United States Army. Following decades of development and designated as the RAH-66 Comanche Helicopter. The program was eventually canceled prior to mass production commencing, by which point nearly \$7 billion dollars had been already spent on the program.

A pair of RAH-66 prototypes were constructed and underwent flight testing between 1996 and 2004. On 1 June 2000, the program entered its \$3.1 billion design and engineering plus manufacturing development phase. However, during 2002, the Comanche program underwent heavy restructuring; the number of Comanches that were to be purchased was cut to 650. At the time, the projected total cost for the full production of the Comanche in such numbers stood at \$26.9 billion.

As early as the late 1990s, the Government Accountability Office (GAO) had reported that it had "serious doubts" about the program, observing that the Comanche would "consume almost two thirds of the whole Aviation budget by Fiscal Year 2008". Multiple

government agencies had acted to cut the number of Comanches on order, but, as a consequence of the heavy reductions to the numbers to be procured, the unit costs soared.



The first RAH-66 prototype during its maiden flight on 4 January 1996

On 23 February 2004, the U.S. Army announced the termination of the Comanche program, stating they had determined that the RAH-66 would require numerous upgrades to be viable on the battlefield and that the service would instead direct the bulk of its rotary systems funds to renovating its existing attack, utility, and reconnaissance helicopters. The Army also announced new plans to accelerate the development of unmanned aerial vehicles (UAVs), which could also perform the scouting role intended for the Comanche, but with less risk. Since program cancellation, both of the prototypes have been placed on public display.

THE MAY MTA MEETING HAS BEEN CANCELLED!



Military Transport Association

Confucius says:..."No Meeting..No Minutes!"

Military Transport Association, Inc. Summary of Funds Activity For the Month Ending March 31, 2020	
	All Funds
Beginning balance from last month	\$ 48,692.94
Income	2,378.84
Expenditures	(2,246.15)
Closing balance	\$ 48,825.63

President's Message
(Not Donald Trump)

"Members, during these difficult times, it is very important that our members adhere to all state mandated social distancing guidelines. While things are slowly improving in NJ, I seriously doubt that the separation requirements will be lifted by our next meeting so I am cancelling the May meeting. This is unfortunate as its the meeting before our parade season starts. Speaking of parades, we sent contracts to 10 towns. Two have executed and returned them - Parsippany and W. Caldwell. Two have cancelled - New Milford and Morris Plains. The others are probably watching the news for guidance. The table of parades is included below in this newsletter.

Please contact Ken at kenneth.gardner@yahoo.com to sign up. If the parades go forward, we NEED to be ready with vehicles. Ken will keep you in the loop on future cancellations. In the meantime, stay well and protect your families. Please reach out to our fellow enthusiasts if you need help.

Best regards,
Al
Albert Mellini
President



MTA Parades 2020

Memorial Day 2020

Town & Meetup	Event	ParadeCaptain & Town Contact #
Secaucus 1203 Paterson Plank Road	Memorial Day Parade Saturday, May 16 Kick-off @ 12:00	Jack Shuart () - TC: TBA
Morris Plains Franklin Place & Speedwell Ave	CANCELLED	Pat Dolan (973) 585-4208 TC: (973) 919-7378
Midland Park 280 Godwin Ave.	Memorial Day Parade Saturday, May 23 Kick-off @ 10:00 *1	Art Swain (201) 387-8961 TC: (201) 647-8597
New Milford Cecchino Drive & River Road	CANCELLED	Art Swain (201) 387-8961 TC: (201) 954-0198
Madison 31 Kings Road	Memorial Day Parade Monday, May 25 Kick-off @ 9:30 *1	Pat Dolan (973) 585-4208 TC: (973) 277-2820
West Caldwell Bloomfield Ave & Forest Ave	Memorial Day Parade Monday, May 25 Kick-off @ 9:30 *1	Dennis Vecchiarelli (973) 338-9497 TC: (973) 713-7921
East Hanover 411 Ridgedale Ave	Memorial Day Parade Monday, May 25 Kick-off @ 10:00 *1	Pat Dolan (973) 585-4208 TC: (973) 322-0574
Nutley The Nutley Oval on Franklin Ave.	Memorial Day Parade Monday, May 25 Kick-off @ 11:00 *1	Dennis Vecchiarelli (973) 338-9497 TC: Unknown
Wyckoff Cornerstone Church 495 Wyckoff Avenue	Memorial Day Parade Monday, May 25 Kick-off @ 11:00 *1	Art Swain (201) 387-8961 TC: (201) 206-7160
Parsippany North Beverwyck Road Lake Hiawatha	Memorial Day Parade Monday, May 25 Kick-off @ 12:00 *1	Pat Dolan (973) 585-4208 TC: (973) 322-0574

RARE MILITARY VEHICLE PROTOTYPES

By Dave Steinert

I have to be honest with you, I was really dreading the thought of beginning this month's newsletter. With being confined to my home because of the pandemic and with the cancellation of this year's MTA Swap meet and MTA meetings, not to mention no MTA events at all...what would I have to fill the pages of the *Motor Pool Messenger* with? There was always hope...perhaps one or two MTA members, that are also locked-down in their homes would now have the time to write a unique article that would entertain our readers, enlighten our knowledge and hopefully contribute it to the newsletter.

While waiting I made face masks out of paper towels and rubber bands, to prevent me from getting the coronavirus when I journeyed into enemy territory. Every day, when I wasn't washing my hands, I disinfected the house with Lysol, baked ten dozen chocolate chip cookies and walked around the block twenty times or so while listening to a mantra of "Don't worry, be happy" on my iPhone to calm me down.

But as the deadline for the newsletter grew closer, with no hope in sight from a fellow MTA member, my mind brainstormed for ideas that would be appropriate to print in this month's *Motor Pool Messenger*, especially during the current pandemic. I thought briefly of writing an article about the evolution of gas masks during wartime, with accompanying photos showing WWI soldiers relaxing in some trench in France wearing gas masks, or WWII U.S. soldiers wearing gas masks in basic training. And how about an additional photo showing civilians wearing gas masks in food lines during WWII? But with the current state of affairs, readers of the newsletter could just visit their local Walmart and observe customers wearing everything from the CDC approved N95 face masks to a homemade one made out of paper towels and rubber bands...which would probably be me shopping for bags of chocolate chips!



Finally, I was inspired by watching the weekly videos on *YouTube* of MTA Member Pat Tipton's restoration of his WWII T-24 Weasel, so much so, that even though the stock market is currently volatile, I bought some stock in sheet metal and welding rods. I have to commend Pat on the quality of his videos and his grit to recreate a WWII Weasel that will someday resemble one that rolled out of the Studebaker factory in 1943. I also noticed that Pat has been bulking up in his arms and chest areas from all the hammering he has been doing.

But in the end, it WAS a MTA member that gave me the idea for an article in this month's newsletter. After watching these videos that Pat was producing each week, I thought about the ingenuity of American manufacturing, especially during wartime. Most of us, who are members of the club know something about all the different military vehicles that were produced over the years to fight and conquer our enemies. We've seen in the military vehicles that we now own the advancement in technology that continues to evolve in the design of these machines.

But how about all the prototypes that were created and presented to the war department that never made it to the frontlines? Only a handful of each, if that, were built. In most cases, after once being presented and rejected without a contract forthcoming from the government, these prototypes were discarded or destroyed. So, *this is their story...*

During WWII John Deere (*you know, the tractor company*) built two prototype military tractors and presented them to the United States War Department for evaluation for mass producing them. These were modified 1940 Model A Crop Tractors. They were built at John Deere factory in Waterloo, Iowa. They were designated the Armored A1 and Armored A2. They were the concoction of a great grandson of John Deere, C.D. Wiman in 1940.



The John Deere Armored A1

The Armored A1 had the narrow tricycle front wheels of its civilian counterpart and anyone who has driven a tractor with this front wheel arrangement knows the instability of these machines and how terrible they handle in mud and sand. Imagine driving the A1 with 9,500 pounds of armor with a top speed of

13 MPH on a hard surface road...*I don't think so!*

In addition to armor plate the Armored A1 and A2 had two machine gun turrets, one on each side of the vehicle. These were cramped boxes intended to house one gunner and a .30 caliber M1919 machine gun. Unfortunately, John Deere's engineers had no experience with the M1919 and the turret didn't have room to mount its ammo box. This led to feed problems. The turrets were cranked manually rotated and had very poor visibility. Early in the design, the guns had no travel stops, which allowed the gunners to shoot their own vehicle on occasion. Both the turrets and the driver's compartment were ice boxes in the winter and ovens in the summer, but that was not uncommon in armored vehicles.



The John Deere Armored A2

After the first test in January of 1941 the Army asked for a second test vehicle, the Armored A2. The most noticeable were wide front wheels. Even with these improvements the Armored A's were slow moving, high profile beasts any enemy

gunner would have considered a birthday present. The Army also requested a third prototype without the machine gun turrets to act as a front line prime mover, but that too was rejected.

The original two Armored A1 and A2 were scraped years ago. Unfortunately, there was no effort to preserve the original documentation they were built from. All that remained of their existence was a few old photographs. It seemed these two armored John Deere's were doomed to be a footnote in history until some Iowa Antique Tractor collectors got on their trail and reproduced them from the surviving photographs.



The two reproduced John Deere Armored A2 and A1 military tractors

Another prototype that was very different and futuristic for its time was the Hiller Aircraft's flying platform VZ-1 Pawnee. It was a unique direct-lift rotor aircraft, using contra-rotating ducted fans for lift inside a platform upon which a single pilot shifted body weight for directional control. The platform was developed starting in 1953 under an Office of Naval Research (ONR) contract to Hiller Aircraft, and flew successfully beginning in 1955.

The original concept was developed by Charles H. Zimmerman in the late 1940s. Further development followed, both by Hiller Aircraft and the De Lackner Company. There were two main models, the ONR model 1031-A-1, and the somewhat larger VZ-1 Pawnee model produced in 1956 for the U.S. Army. Three of each model were built as prototypes. Neither of the variants was put into production.



The smaller ONR model used two 44 horsepower Nelson H-59 piston engines, coupled to the propellers by a modified helicopter transmission built by the Industrial Power Division of Hall-Scott. The larger Pawnee model used three of those engines and had an extended duct area. The Pawnee had ineffective "kinesthetic control" and instead had the operator seated on a platform controlling the flight with conventional helicopter controls.

Due to aerodynamic effects in the duct within which the propellers rotated, the platform was dynamically stable, even though the pilot and center of gravity of the platform were fairly high up. In testing, the prototypes flew well, but the U.S. Army judged them to be impractical as combat vehicles as they were small, limited in speed and only barely flew out of the ground cushion effect.

Two of the six prototypes are known to survive; both are ONR 1031-A-1 models. One is located at the Hiller Aviation Museum in San Carlos, California.

In the early 1960s, as the United States began escalating its military presence in Vietnam, the Chrysler Corporation engineers were developing an amphibious vehicle intended for the Navy Riverine Squadron. The design of this vehicle used twin helical screws powered by a 225 CID Chrysler Slant Six engine that could travel on land, swamp, or water with fair speed and impressive maneuverability. The Chrysler Marsh Screw Amphibian could carry a half ton of people or payload and traverse water, mud, and virtually every other soft surface. It was able to move forward, backward, and laterally and was tested by the military in 1964. The vehicle was tested in Louisiana and Virginia.



Its top speed in liquefied mud was 12.5mph and it went down from there. Fully loaded and in muck it was capable of going about 4mph. That speed was not very good for what was presented as an attack vehicle. Looking at the technical data, we can see that the Marsh Screw Amphibian weighed 2,860 pounds unloaded, had 116hp and actually used a Torqueflite transmission behind it that powered the screw like pontoons that propelled the vehicle. It used one of the very rare all aluminum slant sixes that Chrysler built.



Archived military testing documents mention that the steering was erratic and the vehicle was inefficient on hard surfaces. The military also called the required maintenance on the vehicle "excessive". So, I'm guessing that the slant six was not the maintenance problem but rather the drive systems.

Needless to say, it didn't really get the kinds of reviews that Chrysler wanted.

As many as 10 units were built, and at least one is still in existence, apparently, mothballed at the U.S. Army Corps of Engineers Waterways Experiment Station in Vicksburg, Mississippi.

In the early 1960s, as part of an extensive study by the Lockheed Missile and Space Company (LMSC) to evaluate the current requirements and limitations of U.S. military combat vehicles came the creation of the Lockheed Army XM808 Twister Tank.



The study revealed with the M113 Armored Personnel Carrier (APC), introduced in 1960, the United States Army was given an ultimately proven workhorse that also went on to see considerable sales and service with foreign parties the world over. It was highly adaptable and used in a myriad of roles - such was its success that many remain in service until 2018.

The M114, looking every bit the part of the M113, was developed as a dimensionally larger, squatter, and air-droppable tracked system for the armed reconnaissance role and adopted a short time later in 1962. However, the M114 was deemed a failure by the Army for its time in the Vietnam War (1955-1975) as soon as 1973. With the poor showing given by the M114 in service, a successor for the reconnaissance role was sought during the mid-1960s resulting in the "MICV-65" program intended to produce a family of related fighting vehicles to undertake various battlefield roles. One of the products of this program became the XM800 Armored Reconnaissance Scout Vehicle (ARSV) which, itself, produced two key vehicles in the "XM800W" and the "XM800T". From this



platform the idea of a larger and more maneuverable vehicle was born with the creation of the XM808 Twister Tank.

Around 1970, LMSC began building a prototype of the XM808 that was designed as two bodies or hulls joined with a



pivotal yoke. This gave the front part three degrees of freedom in pitch, roll and rotation. Steering was done by a combination of front wheel and yaw steering. The two connected hulls were each built from 6mm thick aluminum alloy. The hulls had four wheels per hull. The suspension, yoke and other stressed components were made from 4130 steel. Each hull was separately driven by a water-cooled Chrysler 440cu-in., 291 horse power, V8 diesel engine. Combine 582 horse power between the two connected hulls. It was designed for a crew of three with an armament of one 20mm M139 automatic cannon.

Overall the XM808 performed well in tests, but as a scout vehicle it was considered overkill, and the maintenance and cost aspects associated with the dual power train



arrangements were impractical as far as the U.S. Army was concerned. Only one prototype of the XM808 was built and never went to production. It's reported that the prototype still exists, on display at the Detroit Arsenal in Warren, Michigan. From a financial point of view, a lot of the engineering that went into the XM808 was not wasted by Lockheed when the military terminated the project: Much of the technology went into Lockheed's Dragon Wagon 8x8 cab-over truck.

Here is a sneak preview of a prototype military vehicle for the near future. It is one of many that Mega Engineering, a global aerospace and defense company in Huntington Beach, California is currently working on. Mega Engineering and its affiliated companies offers engineering services to most advanced vehicles (UGV, UAV) to wheeled combat vehicles to Armored Vehicles using high-technology systems ranging from

transportation, entertainment, aerospace and defense in their designs.

In today's ever-evolving battlefield, the need for heavy tactical vehicles to keep pace – with the terrain, the environments, the threats, the demands and the troops – is critical to mission success and is integrated into their innovative designs. Here is a concept preview of their Trooper II UAV... will it be just a one-off prototype that will someday collect dust in a remote museum somewhere or will it fill the ranks of future battlefields?



Military Vehicle Preservation Association
Since 1976

www.mvpa.org

MILITARY VEHICLE PRESERVATION ASSOCIATION
HISTORY IN MOTION
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CLASSIFIEDS

To add or remove listings from the Classifieds, please email Dave Steinert at dsteinert@mtaofnj.org or call 973-347-9091.

Parts For Sale- 230 CI M725 motor, ran when pulled, burns oil \$200, M725 litter racks-best offer, M725 Rear doors, some dents, no rust \$200 for the pair, M715 windshield frame, minor surface rust \$150, NOS in packing Southwind heater for M725 possible M-43 best offer, M37 windshield frame outer only \$75, M725-M715 rims with lock rings –make offer. Many more items available, too many to list. Call for more information. Call Matt Ziegler, cell 973-445-3890, email : Matrziegler@gmail.com

For Sale: 1964 Ford M151, current Odometer: 34252. Currently registered and inspected in New York State. Comes with Army radio, mounted machine gun (disabled firearm) w/ mount and cartridges, trailer, plastics to go over vehicle (no photo included, but available at request) as well as two large boxes of extra parts. Vehicle has always been garage kept. Buyer is responsible for pick-up or to arrange for shipment for out of town sales. This vehicle has not been cut. Asking \$18,000. Located in Pine Island NY. Please contact Lodzia - 845-258-4493 or Vince - 845-728-9191.

For Sale: Replica 81mm mortar. M1 tube and bi-pod. M4 sight. Has incorrect M23A1 two-piece base (Nam era?). The tube is original with 1 pin cross welded and a dummy cup welded on. Comes with one practice round (inert) in a newer tared tube. And a wooden ammo crate. Asking \$3000.00 . Will take a M35a2 ring mount in trade. Kirk Stinson 862-209-0933

For Sale: I have many Jeep and M37 parts for sale, call Tom Weaver @ 973-627-9448.

End of Rehearsal...

While the Axis rehearsed in China and Europe for this war, America's aircraft industry rehearsed too...expanded...and completed U.S.-approved warplane orders for Britain and others in the front line of our defense. In a dead serious dress rehearsal for today, we designed greater, tough-muscled warplanes, and geared for greater mass production. That's why American 'planes are this war's hard-boiled babies. That's why we are building more of them today—and will build yet more of them tomorrow. That's why air mastery inevitably will be with the United Nations. For this mastery, Lockheed...first American mass producer for Britain...builds the P-38 "Lightning" interceptor and the Hudson bomber. Lockheed Aircraft Corporation, Burbank, California.

LOOK TO Lockheed FOR LEADERSHIP

Military Transport Association

P.O. Box 391
Budd Lake, NJ 07828

The next MTA monthly meeting
HAS BEEN CANCELLED!



a chapter of the Military Vehicle Preservation Association

The Military Transport Association is dedicated to the education and preservation of historic to present military vehicles. Members enjoy restoring, displaying, and operating military vehicles of all types, from bicycles to tanks.

But trucks and Jeeps aren't all we do! Join today and participate with us at our annual Toys for Tots train ride and toy drive, help at our annual Swap Meet at the Sussex County Fairgrounds, or attend our special events for veterans. Our lively, informative monthly meetings are held in Whippany, NJ.

You do not have to own a military vehicle to be part of this exciting and active hobby - you just need a desire to do your part in keeping our military history alive. All you need to join the MTA is to fill out the the form below, include your dues payment, and mail it to the address below. Alternately, you can give your form and dues to any MTA member you meet at any of our events.

for more information, visit our website at www.MTAofNJ.org

Name: _____

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MTA Membership Level: Single (\$30) Family (\$35)

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Military vehicles owned: _____

Return form with \$ _____ annual dues and \$ _____ donation to:

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