NEW TO THE VETS MEMORIAL

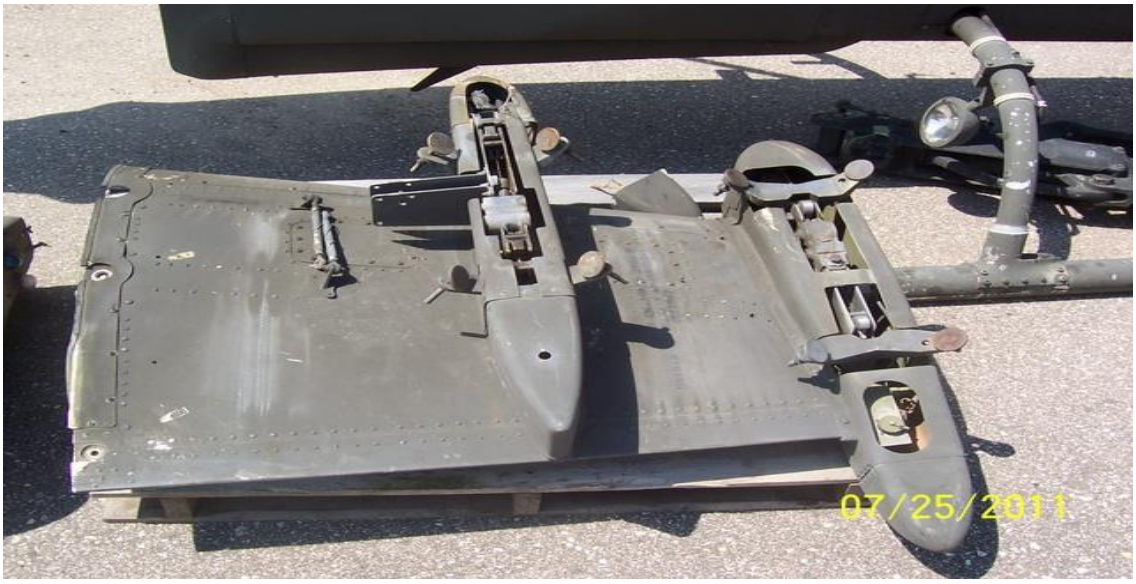
The Veterans Memorial has acquired an AH-1F Bell Cobra Helicopter on a loan from the National Museum of the United States Air Force. However, as you see in the picture below we needed to find a number of parts that were missing in order to make this a complete aircraft. The offer was “as is” surplus from the GSA

The plane was located at the Department of Natural Resources in the state of Washington by the South Dakota Federal Surplus Agency.

The line of helicopters at the DNR in Washington

The South Dakota National Guard delivered the helicopter from Washington to the Lake Area Technical Institution Aviation Hangar at the Watertown Airport.

The helicopter was unloaded from the National Guard truck with a crane.



A closer look shows we are in for a lot of work, putting the pieces together and getting them all painted. This is the underside of one of the wings where the rocket pods are attached. There are two pods to each wing. One has 7 rockets and the other has 19 rockets.

As you can see we are missing an engine, which is the way we wanted it anyway. Sorry to say we were also missing a main mast that attaches to the rotor head and also the tail rotor and 90 degree gear box. Finding missing parts will be priority.

We are missing a lot of instruments, but who cares. Below is where the gun turret goes, which we'll have to improvise in making our own.

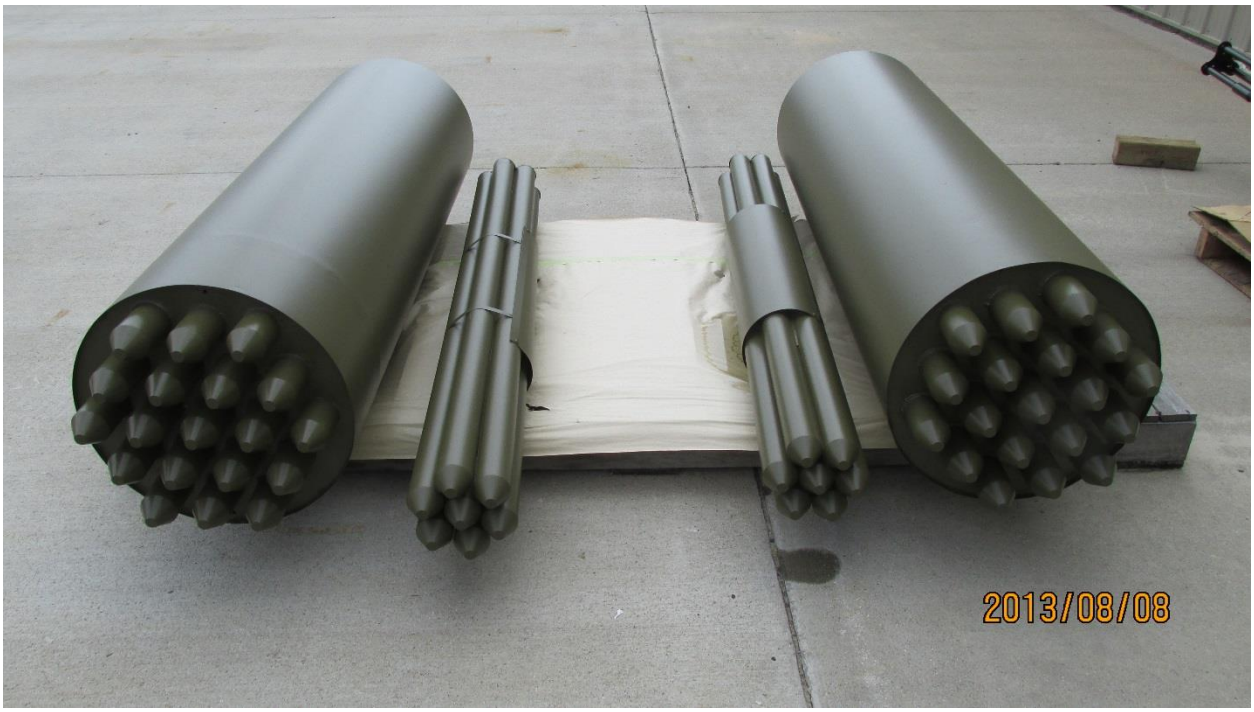
It will take some ingenuity to figure this one out. But we have some good people.

The realization of the fact that we actually have a helicopter has set in but there is a lot of work to be done. First of all we need to find the parts that are missing and where do we go for them. The plane had been demilitarized before it was offered for screening by the Federal General Service Organization. Besides trying to locate these items, we needed them at a low cost or a donation, missing was the tail rotor, tail rotor gear box, and the main mast which holds the main rotor hub and blades on to the helicopter. Total cost slightly used: $55,000.

The Veterans Memorial Corporation employed Nick's Paint and Sandblasting as the company to paint the helicopter and do some restoration. We were very fortunate to locate Nick as he had a paint booth large enough to accommodate the length of the aircraft. Below is the "olive drab" paint used for the Army helicopter during the Vietnam period. It's amazing what a coat of paint will do.

Paint was also donated locally by ABS Paints.

The plane was de-militarized so we had to prefab everything from pictures that we had. The LATI machine division along with the weld division built us a facsimile of a 3 barrel 20 mm gatling cannon and gun turret. JMS Precision built us the two 7 – 70mm rocket pod units and the two 19 – 70mm rocket pod units, one set for each stub wing.



After the completion of painting all the external parts, Nick focused on the lettering and sharks mouth located on the main fuselage. This is very articulate work and takes a steady hand.

Nick preparing the sharks mouth for paint

We are now ready to move to the LATI hangar for further assembly. The parts to be installed are the machine gun, rocket pods, main mast, rotor head, main rotors and tail rotor assembly.

Loading the helicopter on a flat bed with a crane

A group of motorcycle riders belonging to various clubs in this area were anxious to escort us from Nicks Paint shop to the LATI hangar at the airport across town. A police and motorcycle escort was exciting because we went through all red lights and stop signs.

Before unloading the helicopter at the airport, the motorcycle clubs consisting of the Patriot Riders, Legion Riders, Redleg Riders, U.S. Military Vets, and Northeast A.B.A.T.E, posed for a milestone picture. They were the group that escorted us across town from the paint shop to the LATI hangar at the airport.

The next exercise is to unload with the crane to a holding area. The helicopter will be moved inside the hangar when it time to assemble.

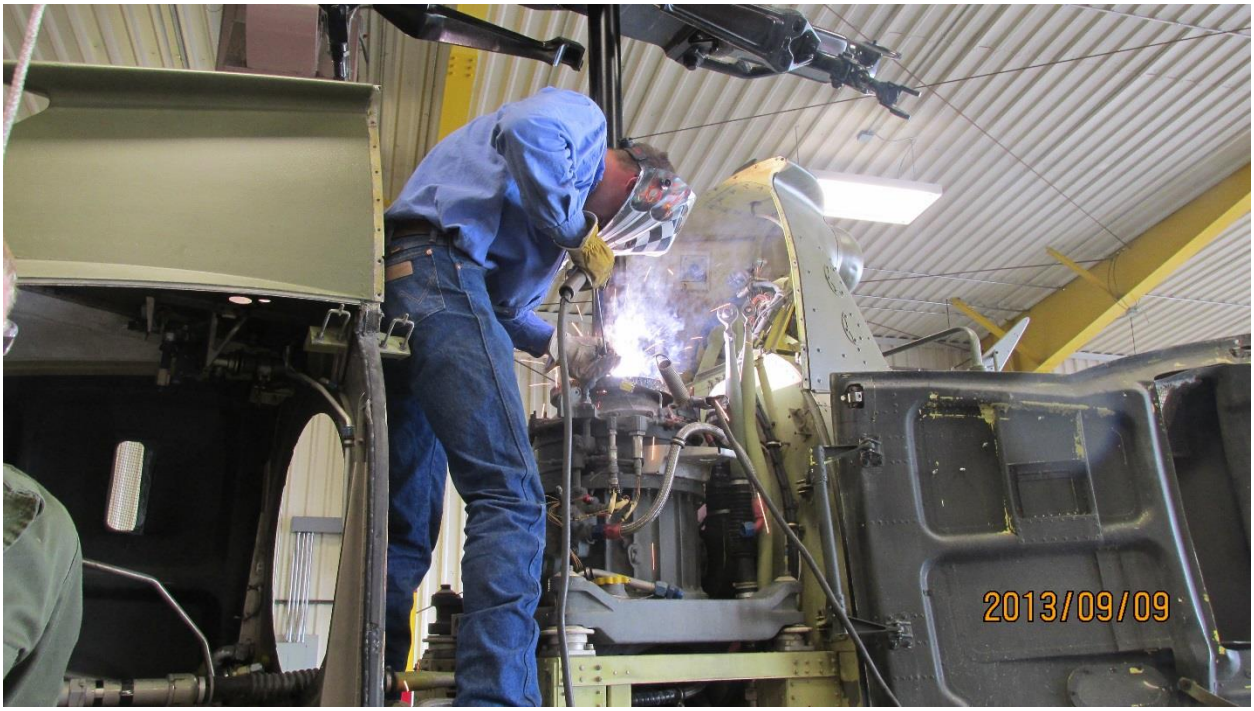
Our General Contractor Mike Davis is guiding the helo by the tail for a gentle soft landing for its temporary location until time for assembly of rest of the parts.

We are now ready to move the helicopter into the hangar to put on the gun and gun turret, rocket pods, tail rotor and gear box, main mast, main rotor hub and

blades. As you can see it takes a steady hand to guide the main mast with the rotor hub down into the transmission of the helicopter. Dalton Stearns, from Stearns Welding, will weld the bottom of the main mast to the transmission.

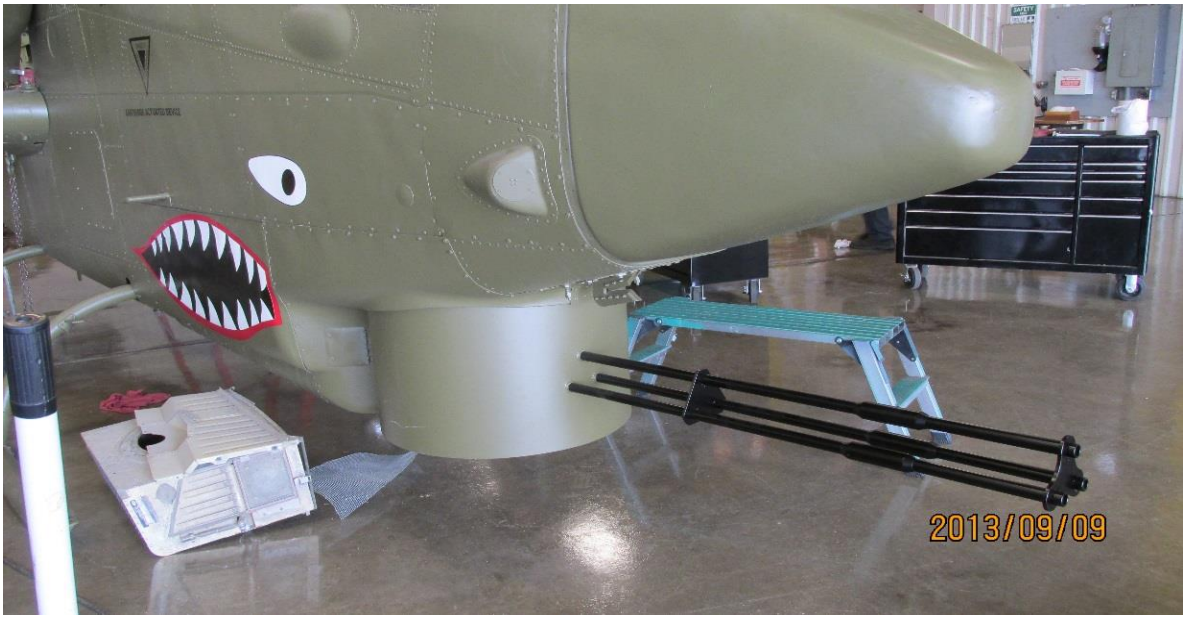
This kind of welding is strictly for the professionals because it needs to lift the weight of the helicopter plus the platform used for setting the helicopter on the pedestal. In the screening of the helicopter from the government, the main mast was missing. I searched the internet looking for one. A nearly new one in Fargo North Dakota was priced out at over eleven thousand dollars. A piece of solid steel gets pretty expensive. We got two pieces of heavy duty pipe from Macksteel and with some welding, we made our own main mast with just a few dollars. It has worked very well. We also hope it continues to work for years to come.

Greg Klein and Tony Wiegman, instructors at LATI Aviation Division, were very receptive to the opportunity of putting the helicopter together with the help of the Aviation students. They really did a fantastic job. Solved problems as they were confronted with them. Not having done this before, there were a number of those discouraging small challenges. They solved them all. A big **thank you**!



Dalton Stearns doing some stick welding on the transmission and the main mast.

Below shows the gun turret and the gun that the Machine Division of LATI came up with just looking at a photo. A new nose was also prefabricated by Nick Spiedel, from Nicks Painting and Sandblasting. Also with ingenuity.



The gun is a 20mm gatling gun operated by the front man of a two man crew, he also operates the rockets in the two pods on each wing.

Trying to line up the blade with the rotor hub does create somewhat of an acrobatic maneuver and still maintain balance and good footing. An overhead crane is a necessity and need additional people to help coordinate the assembly.

While some of the crew were working on the main rotor, there was part of the crew working on the tail rotor. We had to immobilize the tail fins so they do not move in any direction. Not a big task, but a tricky one as most of the plane is either aluminum alloy or magnesium alloy. Either one is not easy to weld too.

The main rotors have now been installed with some additional welding to prevent movement in any direction.

At the memorial the main rotor direction should line up with the POW flag and the American Flag. Hopefully we won't have a problem with that. Now we are ready for the installation of the rocket pods on each of the stub wings.

The rocket pods are being installed by the Lake Area Technical Aviation students. The small set is a facsimile of 7 – 70mm rockets and the large one has 19 – 70mm rockets on each stub wing. This will complete the entire armament for this helicopter. The plane is manned by a pilot and a gunner. The gunner has control of the gun as well as the rocket pods. Total communication is necessary between the two. The wheels shown in this picture is strictly for moving the plane for short distances and are removed when not warranted.

We are almost ready to go out to the Memorial and set it on the pedestal. But first we need to bring the "H" frame to the site. The 'H' frame will be put up first on the pedestal and then the helicopter on top of it and clamp it down. Paint touch up and some minor details are yet to be solved or completed before we can call the motorcycle clubs that we are about to move again.

We have to tie down the main rotor blades so the wind doesn't wipe it up and down and to stabilize the tail rotor from moving in all directions. A few openings needed to be screened to prevent the birds from making a nest.

Since the location site is not ready the helicopter was moved from inside the hangar to a position outside the hangar but still inside the fence on LATI's property.

I feel like I could just climb into the cockpit and start it up for take-off. Dreaming of course.

I think we are ready to set her up on the pedestal at the Memorial.

A front view showing the armament on each wing. The rotor looks huge at this angle. Too bad the sun wasn't shining.

It is all assembled except for the frame that connects it to the concrete pedestal.

Looks a lot better when the sun shines.

Our focus is now at the Memorial where the pedestal is to be constructed. Mike Davis is the concrete contractor. He has been working on the circle of steel reinforcing. That needs to be done early so when he starts digging, he'll have to pump water out of the hole, drop the reinforcing steel and pour the concrete, all in one smooth operation.

This is the "H" that fits on the skids and will be attached to the pedestal.

The white tape is where the pedestal should set. Spiral re-enforcing steel.

Digging in this area needs planning because at a certain level water flows in. Now we need to make the hole the right size, place the steel into the hole and then the concrete, meanwhile pumping out any water that flows in the hole from Lake Kampeska. As you can see, this needs organization and coordination.

This is Mike Davis' equipment for digging the hole for the concrete. It takes a big hole and a lot of concrete. A steel grid of re-inforced steel bars will be placed into the hole and the circular steel bars will be set vertically while the concrete is being poured. This will create the pedestal for the helicopter which will be about ten feet above ground.

Five feet down and we have water. That's because we are close to the lake. He needs to go down another 2 feet, so he'll start pumping the water out when he gets ready to pour the concrete. Looks like a tricky job with things timed just right.

This is a grid system of reinforcing steel that goes into the hole. Setting on sawhorses is a grid system in a circle for the pedestal going 10 ten feet in the air.

We thought we would have some fun with the water in the hole, so Laurel Foss used his cane as a fishing pole. Notice the fish on his line.

The concrete forms are held in place by cement blocks.

This is as far as we got this fall. Next spring we will start from here and hopefully finish the project.

Okay, we are now in spring and getting ready to do the job.

Mike brought in a fork lift machine to lift the circular bar reinforcement portion above the steel square grid for fastening together. This will then be placed in the hole into the concrete forms that were placed last fall.

Another picture of the rigging.

We getting ready to move the cover off the hole, place the steel grid down in the forms and call for the concrete trucks. The concrete trucks came!!!!!

The water pump has a hard time keeping up as the water seeps in from the lake. They will pour the concrete in the forms displacing the water as they go.

Looks like they are having fun, playing in the mud. Obviously the water will not stop the concrete from setting up and hardening.

It will take 10 yards of concrete to fill the forms, and then we wait.

The process continues until the form is filled to the very top. They will now wait a few days before moving onto the next step, filling the column.

Here is the machine you need to fill the column. It is a concrete pump which moves concrete through its long tube to the site it needs to fill.

The 10 foot column on the left looks very small in comparison to the pumping machine. The men on top of the column is eliminating the air pockets that accumulate as you pour the concrete.

A close up picture of the column filled with concrete. They poured this 3 foot at a time then viberating and pounding on the outside to eliminate air pockets.

A close look at the column and its base. The base is about 10 foot square and 3 foot thick. Next is to back fill with gravel and then another circular concrete 5 inch pad about 12 feet in diameter on the surface.

This is the day we've been waiting for. The day of putting the helicopter on the pedestal. The helicopter is escorted by the motorcycle club from the LATI hangar into the City Park camping grounds towards the helicopter pedestal.

The helicopter is brought in by a low-boy pulled by a pickup truck.

This is the crane that loaded the helicopter on the low-boy and will be used to pick up the helicopter and put it on pedestal. Below, putting on the 'H' frame.

The “H” frame that we saw earlier is lifted and placed on the pedestal. The frame weighs about a thousand pounds. After that is in place the helicopter is next.

Picking up the helicopter by the rotor head as that is the center of gravity and is well balanced. We need to swing it around and place it on the pedestal.

Bringing it to the “H” frame to be clamped on by the skids.

The skid is fastened at the rear then the plane is lowered and the forward end of the skid it clamped to the “H” frame. This competes the installation.

Ropes and slings need to be removed, the one on the tail and the one on the rotor head. Thank goodness for young agile workers.

Our general contractor Mike Davis now has some sidewalks to finish and a stand for the helicopter plaque which goes under the tail between the helicopter pad and the POW/MIA pad. This plaque explains the characteristics of the plane. Saturday, May 17th at 3 p.m. was the Dedication of the helicopter honoring the Vietnam Veterans, because this is the type of plane used at that time. Also we will feature the Glacial Lakes Harmonizers for entertainment. We were very fortunate to have the Fagan Freedom Flyers from Granite Falls Minnesota honoring us with a fly over. They had a rejuvenated P-40 that was Impressive.

This is the biggest time of my life to see the helicopter land on it's permanent location here at the Veterans Memorial in Stokes-Thomas City Park. This is a tremendous addition to Watertown. One of the many sites to see when you come to visit.

This is truly a pretty picture of our Army AH-F Cobra Helicopter. The pedestal, base and side walk, all brand new. It also has a plaque with most of the helicopter information on it. It is a loan from the U.S. Air Force Museum. So we have to make sure it stays in good condition. Come see us sometime.