

My Journey – converting an old compound into a recurve

Building a WARF recurve bow for bowfishing



Photo credit: Storm Usrey

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Things to consider when building a WARF recurve bow

- This is a great project for converting that old compound into a traditional bow (only certain models are good candidates, see below).
- Having a compound that is “warfable” such as Hoyt Spectra, Hoyt Rambo, Hoyt TD3, Bear Black Bear, Jennings Black Lightning or some of the older Proline bows. These are a few models that may/might be converted into a WARF recurve bow.
- Research how to build and where you can obtain all of your parts before beginning this fun project. Just search for information on WARF recurves.
- Join a forum such as TradTalk where they have a Warfin’ Wall forum to get advice and there is a Facebook page WARFBOW Public Group too.
- Research the internet for build alongs, there might not be a lot of information out there, but there is some for sure. I researched quite a bit before I began this project.
- When using paint stripper or any other toxic substance wear your PPE such as safety goggles, respirator, proper gloves, apron or any other equipment the manufacturer suggests. And do so in a well ventilated area free of flames. Please follow manufacturer’s safety recommendations.

Removing old paint & taking compound limbs off



I opted to take the old paint off the two risers I obtained using paint stripper. Make sure to wear the appropriate safety equipment and do this in a well ventilated area. It's a good idea to keep old limb bolts to use during painting. I used a Dremel with wire and nylon brush attachments to assist in paint removal.

Risers are stripped and polished



Photo credit: Storm Usrey

After I stripped the paint from the risers with a quality paint stripper I polished them up with 0000 steel wool. It's important to wear gloves at every stage to keep oils from your hands from getting on the risers. I cleaned limb bolt holes with pipe cleaners and paint thinner too. I also obtained some International Limb Fit (ILF) bow limbs from an online archery store. The ILF limbs I ordered can be purchased in short, medium and long lengths. The mediums I purchased will be 60" on a 17" riser. Since my risers are 21" my bows will both be 64" in length.

Additional WARF bow notes

- I ordered 40lb. limbs on a 28" draw length, but since my bow is 64" I will likely lose up to 4 lbs. (since the limbs are rated for a 17" riser) . This can depend on the angle of the limb pocket & possibly the make of limbs too. You will reversely gain draw weight on risers shorter than what the limbs are rated for.
- I will gain approximately 2 lbs. for a 29" draw length. For every inch over 28" you can add approximately 2lbs. per inch and for every inch under 28" you can subtract approximately 2lbs. per inch. I measured the draw weight on my Hoyt after assembly and it was approximately 36lbs. at 28", which is adequate for bowfishing. I had my limb bolts one turn out when I measured the draw weight.
- I will try to tune both bows I have with the following brace heights for starters: Spectra: 8" & Black Bear 8 1/2" (based on research). I may need to go more or less depending on how each bow tunes. This is easily accomplished by twisting or untwisting the string. You measure the brace height from the deepest throat of the grip back to the string. I'll tune with properly spined carbon, aluminum or wood arrows. ILF systems allow you to use limbs, or even risers, from different companies as they are interchangeable.

Additional archery & bowfishing notes

- For great information on shooting traditional bows, including tuning, feel free to watch *The Push - A Traditional Archery Film* on YouTube. It's informative and free to view. <https://www.youtube.com/watch?v=1E1vKkSSoNs>
- An ideal bow weight for bowfishing can be between 30-40lbs. Compounds or traditional bows can all be used for bowfishing. You don't have to build a WARF recurve to be able to bowfish.
- Make sure bowfishing is legal where you want to go and have the appropriate fishing licenses and stamps. Talking with local conservation officers and land management agencies is a great idea too to answer any questions you might have for the area.

ILF plates & ILF limb bolt kits



Photo credit: Storm Usrey

I found some ILF plates & ILF 2 ¼" limb bolt kits (blue arrows) on eBay, but at the time of making this piece (December 2020) I was not able to find them anymore. Plates are made for specific older compounds and not one size fits all. I recommend going to TradTalk or WARFBOW Public Group for advice in finding the appropriate gear for your bow (in particular finding ILF limb bolt kits and ILF plates or a machinist to work on your bow). The two bow risers I was working with were a Bear Black Bear and a Hoyt Spectra. The Hoyt Spectra was my first "real" bow I had as a teenager and it's neat to make it a "shooter" again.

To caulk or not



Photo credit: Storm Usrey

I ended up using some caulk in voids of the limb pockets as some of the research I found said many folks building these bows utilize caulk as a dampening material to make the bows quieter. Some even add a little bird shot with the caulk in the bottom limbs to add a little weight, but I did not do this. Make sure to have the limb pockets free of paint and oil/grease before this step and use paint thinner, acetone or another good degreaser. I roughed up surfaces where the caulk was placed with sandpaper.

Again, wear your PPE and when using toxic materials such as paint thinner do so in a well ventilated area free of heat or flames. Follow manufacturer's safety protocols for use.

JB weld time



Photo credit: Storm Usrey

It is imperative that you make sure all paint and oil is removed from the limb pockets before utilizing an epoxy like JB Weld (standard for this project). I also sanded surfaces for better adhesion of the epoxy to the limb pocket and plates. After sanding surfaces I cleaned them again. Once I put the JB Weld on the areas to adhere to the plates I strung the bow and left it like this for 24 hours to give the epoxy time to cure. I stayed clear of the bolt holes when using the epoxy. Some use clamps along with the limb bolts to keep the plates in place upon utilizing their epoxy and some don't use epoxy on their plates and just bolt the limbs down. I chose to make my plates permanent.

Use clamps or string the bow during cure



Photo credit: Storm Usrey

I strung my bow to give the plates time to become secure while the epoxy dried. You can use clamps too. The plates I ordered fit properly and the limbs appeared they would be straight once I strung the bow using a bow stringer. I also used the new ILF limb bolts I purchased and I greased threads up with white lithium grease and ran the limb bolts in and out a couple of times. Make sure you are using ILF system limb bolts. You can get ILF limb bolts as a kit.

Appearance before painting after ILF plates are installed



Photo credit: Storm Usrey

This is what the bow looked like after I strung it up. Again, I left it strung for 24 hours to give the epoxy time to cure. Make sure the plates are properly aligned during this process. When you string a traditional bow always use a bow stringer so you don't twist your limbs. Do not attempt drawing it during this stage as the epoxy is not cured.

Epoxy is dry

The epoxy has dried and my ILF plates are secure. I am ready to paint the risers. I would degrease everything again before painting using a lint free rag. There are lots of great information on TradTalk Warfin' Wall for how to paint and types of paint to use. I am fortunate as I had access to a body shop and utilized their services to paint my two risers. A lot of folks just use a quality primer, matte spray paint color of choice and a matte spray clear coat on their risers. Multiple coats during each process will be needed. Some folks may use truck bed spray liner or they may have their riser camo "dipped". Just research projects online that have already been completed and go from there.



Photo credit: Storm Usrey

Degrease and paint



Make sure to degrease the riser before painting and use a lint free cloth to wipe down. I recommend putting in the older limb bolts and any bolts in any of the holes to protect your threads. Primer, paint and clear coat your riser (several coats will be required). I used a matte paint as I may choose to hunt with my recurve too. After the paint cures you are ready to put your bow back together and shoot.

Riser #2 is all painted up



My Black Bear riser is all painted and parts put back on. I just need to add a rest and put on the limbs and string.

Photo credits: Storm Usrey

Finished product



After putting your bow back together, getting your brace height, nocking point and rest of choice go shoot and tune your bow with properly spined arrows. From there do a little research to find out what bowfishing gear would work best for you. There are several reels, arrows, heads and bowfishing line out there so feel free to talk to experts at these several companies and research the internet. Have some fun!

Bowfishing gear



There are several companies making bowfishing gear to include reels, arrows, heads and even rests. Spend sometime talking with reps from companies that are out there and try some bowfishing in the future!

Note: Bowfishing bows are also produced nowadays so talk to some of the reps on these too.

Top six bowfishing tips from Eric Frey, the Department's Sportfish Program Manager



Mr. Frey's tip #1

The simpler the better - there's several moving parts and strings associated with bowfishing. Using a simple system to minimize tangles will save frustration and arrows! Nothing's worse than snagging your arrow string during a shot, having your string snap and watching your expensive fiberglass arrow sink into the abyss. I like the AMS bottle type system. Its simple, clean and keeps string away and tangle free.

Mr. Frey's tip #2

Bring extra arrows - related to the first tip, if you shoot enough you will loose arrows. Bring an extra arrow or two so you're day isn't cut short. Most local tackle shops don't carry bowfishing arrows so it may be a long drive from the lake for more arrows.



Mr. Frey's tip #3

Keep arrowheads/points sharp - missing is part of bowfishing and hitting rocks/substrate is inevitable. This will dull the arrowhead quickly and making it impossible to penetrate large scaled fish, like carp. I usually carry a sharpening stone or small metal file to sharpen points after hitting rocks. It's also a good idea to keep a couple extra points.

Mr. Frey's tip #4

Wear polarized glasses - a good pair of polarized glasses reduces surface glare and makes it much easier to see fish.



Photo credit: Shaler Wells

Mr. Frey's tip #5

Aim low, shoot even lower - due to light refraction fish appear higher than they actually are, so aim low. The further out the fish, the more light refraction and the deeper the fish. If fish are directly below you don't aim as low. Instinctive shooters are typically more accurate and better bowfishers. I would recommend not using any type of site system since the aiming point and site picture will be different depending on distance and light refraction.

Mr. Frey's tip #6

Be mindful of length limits-in New Mexico bowfishing is a legal method to take game fish species (at the time of this educational piece in December 2020). Be aware that some fish, such as black bass and walleye, have length limits. Judging fish length while the fish is underwater is near impossible so be extremely selective if bowfishing for fish with length limits. There's no catch-and-release with bowfishing! Also, be mindful of other regulations such as bowfishing is prohibited in Trophy Bass Waters (for largemouth bass) and rivers/streams statewide. Also, there may be other areas that prohibit bowfishing such as boat ramps, marinas or boat docks.

Thank you and good luck!



Please enjoy nature responsibly