

# Freedom Launcher ® Sportsman Kayak Edition

Assembly and Installation Manual V3.8 02 JULY 2024



If you should experience a problem with your Wilder Side Purchase,

# CALL 1-833-949-4222 8A-6P M-F CST or 1-309-220-3947 (International)

In many cases, a Wilder Side representative can resolve your problem over the phone.

## Safety Instructions:

When wheels are extended, intended solely for human manipulation of watercraft.

DO NOT TOW WITH ANY MECHANIZED VEHICLE.

Do not allow humans or pets to sit in or on watercraft while wheels are extended.

To be used to transport watercraft and gear via human power between a land point (such as a parking lot) and waterside landing location only.

When in doubt about your ability to manipulate the watercraft on wheels, ask a friend to assist when operating on an incline as hand loads increase due to gravitational pull, uneven terrain, or obstacles. Requires physical strength, coordination, and balance to safely launch watercraft using landing gear. Only use on inclines that you are able to safely navigate and control.

<u>WARNING</u>: Keep children, pets, and operator hands and fingers out of the Freedom Bracket channel during use. Neglecting this may cause pinches or cuts to fingers or hands.

### Preparing for Assembly

Thank you for purchasing your Freedom Launcher from Wilder Side. We hope you are delighted with the product, and it provides you with years of easier maneuvering of your kayak.

There are several small assemblies you will need to complete to prepare for installation onto your kayak. Most require simple hand tools and getting these ready will assist you on your adventure.

#### **Tools Recommended:**

- 1. Socket drive with 7/16" socket
- 2. 7/16" box end wrench
- 3. Flat bladed screwdriver
- 4. 3/8" nutdriver or socket
- 5. 1/2" socket
- 6.  $\frac{1}{2}$ " box end wrench
- 7. Drill
- 8. <sup>1</sup>/<sub>4</sub>" & 5/16" drill bits
- 9. Rubber mallet
- 10. Torque wrench set to 18 ft-lb.
- 11. Jig saw or miter saw equipped with non-ferrous blade

# Unpacking your Landing Gear

It is recommended to place your large box on a sturdy surface such as a worktable as you begin the unpacking process. Your Freedom Launcher<sup>®</sup> from Wilder Side<sup>®</sup> should arrive in one long rectangular box containing the entire kit. Take the large rectangular box and open it and begin to inspect the parts. Your particular Bill of Materials (BOM) is contained in your owner packet (large manila envelope). A representative BOM is included below to support assembly instructions, which will include common parts to many versions of Freedom Launcher.

WS-2N3331	2	Freedom Launcher Axle - Standard Length
WS-7P6657	1	Wheel post 8 degree LEFT - natural Aluminum
WS-1N1235	1	Wheel post 8 degree RIGHT - natural Aluminum
WS-2Q1288	2	Railblaza CTUG Wheel Assembly w/ WS Hub
		MG01 Gorilla Mount Bracket with Backing Cushions & SS
WS-9Q9943	1	Hdwr
WS-1Q6394	1	Small Parts Combo Kit - Gen 3 Tan on Black PCB
WS-2N4838	1	Crossbar 8 degree assembly w endcaps and tool - natural AL
WS-7N7487	2	Wheel Post End Cap
		Welcome Packet: Welcome letter; BOM listing; Assembly
WS-1Q4597	1	Instr.
		KIT & ASSEMBLY CONTENTS FOLLOW
		MG01 Gorilla Mount Bracket with Backing Cushions & SS
WS-9Q9943		Hdwr
WS-7H3358	1	Gorilla Mount Kayak Bracket w Crossbar Hdwr
WS-5Q1632	1	Gorilla Mount Thru Hull Hardware Kit
WS-7H3358	Qty	Gorilla Mount Kayak Bracket w Crossbar Hdwr
WS-5H9562	2	Gorilla Mount Kayak Bracket
WS-2H5669	4	Hex Head Cap Screw 5/16" by 3"L Gr 8 Aluma-coat
WS-9H4772	8	Washer 5/16" SAE Grade 8 Aluma-coat
WS-2Q7935	4	Lock washer 5/16" Grade 8 Aluma-coat
WS-9T9595	4	Nut 5/16" Grade 8 Aluma-coat
WS-5Q1632	Qty	Gorilla Mount Thru Hull Hardware Kit
WS-1P8344	4	Round Load Cushion 1.2"D
1	1	
	WS-7P6657   WS-1N1235   WS-2Q1288   WS-9Q9943   WS-1Q6394   WS-2N4838   WS-2N4838   WS-7N7487   WS-1Q4597   WS-1Q4597   WS-1Q4597   WS-1Q4597   WS-5Q1632   WS-5H9562   WS-2H5669   WS-9H4772   WS-9T9595   WS-9T9595	WS-7P6657 1   WS-1N1235 1   WS-2Q1288 2   WS-9Q9943 1   WS-1Q6394 1   WS-2N4838 1   WS-7N7487 2   WS-1Q4597 1   WS-7N7487 2   WS-1Q4597 1   WS-9Q9943 -   WS-7N7487 2   WS-1Q4597 1   WS-7N7487 2   WS-9Q9943 -   WS-9Q9943 1   WS-9H4772 8   WS-9T9595 4   WS-9T9595 4   WS-5Q1632 Qty

#### Example Parts Listing (See your insert pack for your specific BOM)

189	WS-7N8463	4	Oblong Cushion LRG
190	WS-1Q7798	4	Half Moon Washer 0.75" 0.375 tall
191	WS-9T7763	4	Hex Head Cap Screw Fully Threaded 1/4"-20 x 3L SS
192	WS-7Q5372	4	Hex Head Cap Screw 1/4" by 2.5"L Stainless
193	WS-1N6682	4	Locknut 1/4" Stainless
194	WS-1N6997	8	Washer 1/4" Stainless SAE
195	WS-5N3443	4	1/4" Fender washer Stainless 7/8" dia
196	WS-1P5541	4	Silicone seal 1.2"OD x 0.2"ID
51	WS-1Q6394	QTY	Small Parts Combo Kit - Gen 3 Tan on Black PCB
	WS-5N8859	2	Freedom Bracket Air Lite - Black Powder Coat
53	WS-5N9555	2	Tension Spring 6 in 0.360 OD Stainless
53A	WS-7Q4481	2	Spring Sleeve 9" Black
54	WS-5N9284	4	Side Handles
55	WS-1T1133	2	Freedom Handle
56	WS-9N5397	1	Handle Hardware Kit - Stainless Pins
57	WS-5P2637	1	Axle Kit
58	WS-7N1663	1	Gen 3 Freedom Bracket Mounting Hdwr Kit
	WS-9P6546	1	Freedom Launcher ™ Decal - Gen 3 BLK on Tan
	WS-7P2426	1	Wilder Side <sup>™</sup> Decal - Gen 3 BLK on Tan
	WS-2N4838		Crossbar 8 degree assembly w endcaps and tool - natural AL
	WS-7Q6848	1	Crossbar 8 degree one side finished - natural AL
	WS-1N2782	1	LH 8 deg end cap
	WS-7P9297	1	RH 8 deg end cap
	WS-1N5539	2	Crossbar end cap acetal insert V3
	WS-5N9274	1	Crossbar 8 degree user tooling
REF #			
	WS-9N5397	1	Handle Hardware Kit - Stainless Pins
561	WS-9Q9256	2	Hex Head Cap Screw 1/4" by 2"L Stainless
562	WS-1N6682	2	Locknut 1/4" Stainless
563	WS-9T7117	2	Machine Screw 10-24 by 1.0"L Flat Head
564	WS-1P7674	2	Locknut 10-24 Stainless
565	WS-2N9519	4	Hex Head Cap Screw 5/16" by 3"L Stainless
566	WS-7T2367	4	Locknut 5/16" Stainless
567	WS-1N3935	8	Washer 5/16" Stainless SAE
568	WS-5N7614	2	Clevis Pin 3/8"D x 2-1/4"L Stainless
FC0	WS-7H8845	2	Cotter Pin 1/8"D by 2-3/8"L Stainless
569	W3-7R6645		
569	WS-9P8115	2	Clevis Pin 5/16"D x 3-1/2"L Stainless
		2 2	Clevis Pin 5/16"D x 3-1/2"L Stainless Clevis Pin 5/16"D x 3"L Stainless

573	WS-2P1576	4	Tapered Washer for Lockpin
57	WS-5P2637		Axle Kit
571	WS-1H1821	2	Axle Lock
572	WS-5P6634	2	Machine Screw 10-24 by 1.5"L Stainless Round Head
573	WS-1P7674	2	Locknut 10-24 Stainless
574	WS-2N3182	2	Wheel Spacer Washer
575	WS-7H5363	2	Wheel Keeper Pin 1/4" by 1.75L Stainless Steel
58	WS-7N1663		Gen 3 Freedom Bracket Mounting Hdwr Kit
581	WS-7T7864	4	Hex Head Cap Screw 5/16" by 1.75"L Gr 8 Aluma-coat
582	WS-9T9595	4	Nut 5/16" Grade 8 Aluma-coat
583	WS-2Q7935	4	Lock washer 5/16" Grade 8 Aluma-coat
584	WS-9H4772	8	Washer 5/16" SAE Grade 8 Aluma-coat

## Leg Assembly

The first step in the Leg assembly is to complete the left and right Freedom Handle subassembly. Reference numbers in the **Example Parts Listing** correspond to the following diagrams. **TIP**: Leave hardware in bags until indicated.

Open the Small Parts Combo Kit and remove the contents onto a flat surface. It is helpful at this point to dispense item #56, the **Handle Hardware Kit** into a shallow tray. Lay a Side Handle **#54** on a flat surface as shown in **Fig 1**. Then orient the Freedom Handle **#55** as show so that the push pad **#55X** faces away from the single hole end of Side handles **#54**. Lay the other Side handle on top of **#**55. Orient the side handles so that faces **54A** are on the side closest to the Freedom Handle **#55** as shown.

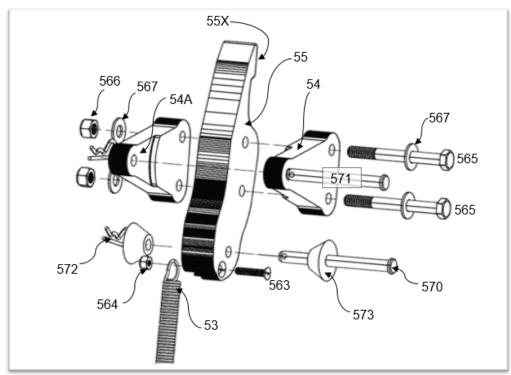


Figure 1. Exploded Left Side Handle Assembly

Place a **#567** (5/16" washer) on each **#565** cap screw as shown. Referring now to **Fig. 1**, take one of the **#565** cap screws and press it into one of two holes on the double-hole end of the Side Handle **#54**, ensuring that each notched end (**54A**) of single hole end of part **#54** face each other as shown in **Fig 1**. This notch provides clearance for the leg post.

Continue pressing bolts **#565** through Freedom Handle **#55** and through the far Side Handle **#54**. You may want to put a piece of plywood shim under the lower side handle so you can drive the threads through the bottom hole. A light tap from a rubber mallet may be required. It is recommended now to brush out any plastic debris from the threads before placing a washer **#567** and locknut **#566** on ends of cap screw threads. Before tightening the locknuts, insert Pin **#571** through the single hold end of Side Handles **#54** as shown in **Figure 1**. This will ensure the bores of both side handles are aligned. Now tighten locknuts **#566** onto cap screws **#565** hand tight.

Place spring **#53** into the spring pocket in bottom of Handle **#54**. Your spring should have arrived with a spring sleeve **#53A** installed. This device is to reduce chances of fishing line entanglement with the spring. Insert machine screw **563** into bore and through spring loop. Thread locknut **#564** onto screw and tighten until end of screw is flush with end of nut. Leave play in joint so spring can move freely in pocket.

Slide tapered washer **#573** onto Locking pin **#570**, ensuring the big end of taper is toward the end of the pin as shown. Now press the pin assembly through the lower 5/16" hole in Freedom Handle **#54** as shown. Insert a second tapered washer **#573** on the opposite end of pin **#570**, leaving clearance for the cotter pin. Now insert a cotter pin **#572** onto pin **#570**. The subassembly should now be complete and look like **Figure 2.** 

Repeat the steps for the left side handle assembly, <u>except that you will flip the assembly</u> <u>180 degrees before inserting the hardware</u>. See **Figures 3 & 4** for reference. Using this convention will put the heads of the handle hardware facing the outside of the kayak and keep your left/right legs straight should you wish to remove them for transport and reinstall correctly at a later time.

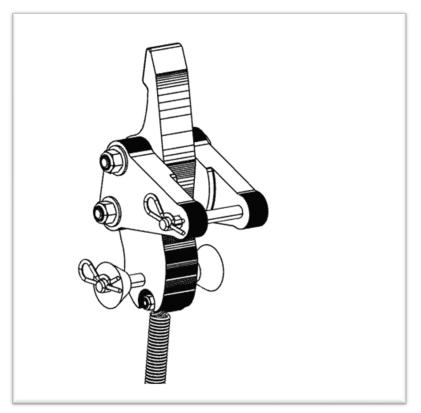


Figure 2. Completed Left Side Handle Assembly

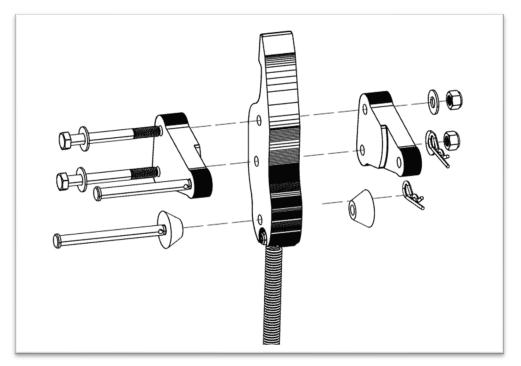
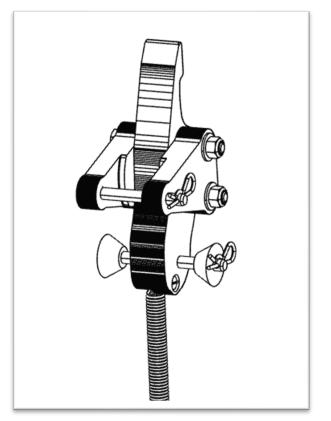


Figure 3. Exploded Right Side Handle Assembly



#### Figure 4. Completed Right Side Handle Assembly

#### **Completing the Leg Assembly**

Find the left-hand leg #15 by looking at the open end; on the inside you should see both a number and a letter. The number represents the degree offset between the leg pivot pin hole and the axle hole when looking down the barrel of the leg. This offset allows the wheels to track straight when deployed. The letter will either be "R" for right or "L" for left.

Now, release pin 571 from the left freedom handle sub-assembly, and glide the side handles between the leg as shown and insert pin 571 back into the side handles and through the handle pivot hole of the leg. Reattach the cotter pin to secure the clevis pin. Find a 561 bolt and insert into the open end of the tension spring. Slide the spring sleeve over the spring. Now stretch the spring and twist slightly so that bolt 561 can be inserted in the lower spring tension hole which is located around mid-point on the leg. Secure bolt position with locknut 562, leaving play in the spring. DO NOT OVER TIGHTEN.

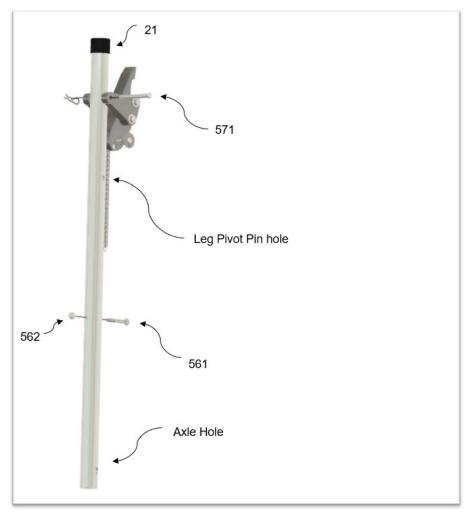


Figure 5. Left Side Leg Assembly



Figure 6. Completed Left Side Leg Assembly

Follow a similar procedure to install the right-side freedom handle assembly to the right leg.

There are multiple styles of mounting solutions we have developed for customer installation of the Freedom Launcher, including:

- A. Gorilla bracket with Thru hull backing cushions
- B. Hobie PA bracket with blind gunwale bracket
- C. Gorilla bracket with Rail mount hardware
- D. Gorilla bracket with blind gunwale bracket

Please refer the appropriate section below for the specific mounting solution provided.

#### A. Installing Gorilla bracket on a through-hull with backing cushions

Three additional resources are available to assist you in completing the crossbar installation. Please refer to the following:

- 1. See Youtube video of thru-hull installation click here or use QR.
- 2. See document of mounting kit hardware click here.
- See written documentation of installation process companion to YouTube video click <u>here</u>.

#### B. Hobie PA bracket with blind gunwale bracket

Three resources are available to assist:

- 1. See pictures of install on short YouTube video here.
- 2. Narrated install from first Hobie PA 12 customer here.
- 3. There are also helpful tips on crossbar completion at approx. 8:09 YouTube <u>here</u>.

#### C. Gorilla Bracket with Rail Mount

See Thru Hull mount documentation. Rail mounts are a little easier in that there are no under cushions and the orientation of Gorilla mount is somewhat dictated by the rail slots.



#### Notes on Finishing the Crossbar

Your crossbar is delivered with three items attached: 1) crossbar tooling; 2) opposite side end cap; and 3) end cap insert pre-installed in the finished end. The crossbar is delivered with approx. 2" excess length, depending on your kayak model.

There are two methods of finishing the crossbar demonstrated on YouTube. User decides which will be best for their particular situation.

- 1) Using a miter saw with non-ferrous blade: Click here to see demo#1.
- 2) Using a **jig saw** to cut aluminum crossbar: Click <u>here</u> to see demo#2.

Fit up one side of the crossbar using the machined holes to temporarily install a Freedom bracket. Then install a leg assembly. Ensure that all existing accessories allow for free travel of your Freedom Launcher leg & wheel on both sides of your watercraft at the desired crossbar projection outboard your kayak. Test in the stowed and deployed states. Determine the length of crossbar necessary to fit your boat. Under no circumstances should you cut the crossbar less than a total width of 6.5" + total width of hull at mounting location. Typical crossbar projection is 3.5"-4.0" on each side, meaning your crossbar will be 7.0"-8.0" wider than your kayak at the mounting location. Cutting the crossbar too short may cause the axle locks to bump against the hull. Once the overall length is determined; use a miter saw, jig saw, hacksaw or bandsaw to cut the crossbar to desired length and angle, and then **use the included tooling** to drill the two Freedom Bracket mounting holes in the appropriate location. Note: You <u>may need to drill with the crossbar upside down</u> to get the right angle on the crossbar engagement with the tooling. Ensure that both edges of the crossbar form a "V" with the point angling in towards the rear of the hull.

**IMPORTANT NOTICE:** The crossbar should be a bare end when installing the drill tooling as shown in figure to the right. **DO NOT** install the opposite endcap insert until the drilling operation is complete.



# Drilling the crossbar mounting holes

Four center holes are required to connect the crossbar to the kayak mount which will be either a Gorilla mount or a PA style angle bracket. Use a 5/16" drill bit; a bit stop comes in handy to drill through the bottom of the crossbar. Use the Gorilla mount holes as drill guides. Center the Gorilla mount on the crossbar fore and aft. Two equal thickness of packing cushion works well to temporarily keep the crossbar centered in between the



Gorilla bracket. See video for details. Quick release wood clamps also come in handy to secure crossbar temporarily in relation to the Gorilla bracket.

#### Final mount of the cross-member assembly

186 WS-5Q1632 Qty Gorilla Mount Thru Hull Hardware Kit

Open item #186 found in your mounting group.

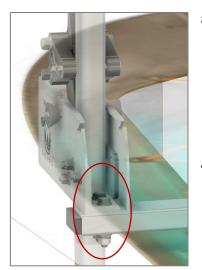
Use the included 5/16" x 3"L Aluma-coat bolts included to secure the cross-member to the Gorilla bracket. Do not over tighten, as the hollow tube and or plastic may yield. Snug hand tight only, ensuring that the lock washers fully compressed. Because this joint isn't torqued tightly, it is good idea to use blue loc-tite on this bolted joint.

#### Mounting Freedom Brackets onto the cross-member assembly

58 WS-7N1663 1 Gen 3 Freedom Bracket Mounting Hdwr Kit

Find **item #58** in the Small Parts Combo Kit. Use the included 5/16" x 1.75" hex bolts. Assemble using the following illustration.

See Illustration below. As an aide, the product labels for the Freedom Launcher will



also be on the outboard face(s) of the Freedom Bracket.

Tighten the bolted joint to 18 ft-lb of torque.

#### Installing the Leg Assembly



NOTE: <u>There is a Left and Right Leg</u>. Legs should arrive be marked on the inside or outside of the axle end with a "R" for right side or "L" for left side. Do not interchange. **Installing legs on opposite sides will result in the axles not being parallel when deployed.** Slide the Axle end of the leg assembly into the top of the Freedom Bracket. Rest the position locking pin into the front restraining slots. Note: The Freedom Handle should be on top of the leg

when the leg is laying horizontally in the Freedom Bracket. The leg will hang there. Gently pull on the leg back; and wiggle up or down until the 3/8" holes in the Freedom Bracket align with the pivot pin hole in the leg. Find item #568 3/8" Clevis pin found in the Handle Hardware kit. Insert the clevis pin into the pivot holes; convention is to start from the outboard side and push in. I prefer to have all the clevis pin heads outboard and all the cotter pins inboard. USE THE LARGE COTTER PIN on the 3/8" leg pivot pin. It is there to make it easier to remove if you need to remove the leg.

Note: Your crossbar and legs should form a matched set. A 5 degree leg sweep crossbar only fits with 5 degree legs. If for some reason, you received a set with mismatched angles, please call us to rectify the situation before proceeding with installation!! We offer four different leg sweep angles to match a wide variety of kayak and canoe hull shapes. Your configuration was selected to best fit your particular hull shape with legs that neatly fit up near the gunwale when stowed.

#### Assembling the Axle

#### 57 WS-5P2637 1 Axle Kit

Open item #57 found in your Small Parts Combo Kit.

Slide the plastic "C" shaped axle lock onto the axle such that the "C" shape faces towards the center of the axle and the hole in the axle lock is over the smaller hole in the axle. Insert the 1.5" 10-24 screw into the axle lock and through the axle and secure the screw with a 10-24 locknut. Repeat procedure for the second axle.

## Mounting the axles and wheels

Insert the free end of the axle assembly completely into the inboard axle hole of leg until the axle lock engages with the leg as shown. Next slide the wheel spacer washer onto the axle; then the wheel; and finally hold the assembly in place with the 1⁄4" stainless steel safety pin.

Note: Ignore wheel orientation in the diagram, have the nicer looking side of wheel facing outboard!!

# **Transportation Tips**



Wheels can be left on the watercraft for short trips if under 30 mph. For longer trips or higher speeds, it is recommended to **remove the wheels and axle assembly** and store in a storage compartment of your watercraft or vehicle. Another option is to use a bungie cord to secure legs and wheels from bouncing during travel. Either way, Leg assemblies travel well and can remain in the Freedom Brackets under most circumstances.