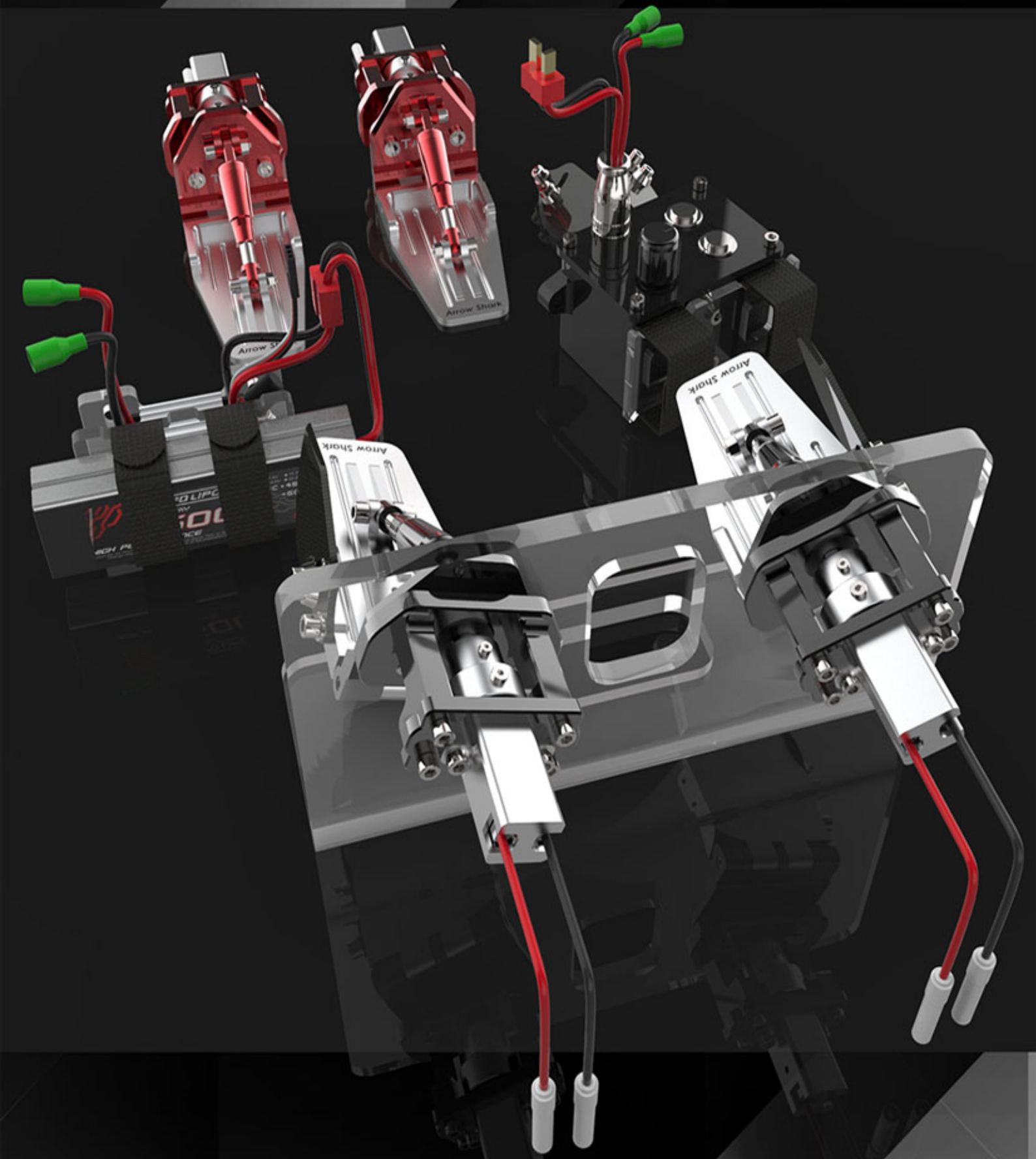
TAB-X



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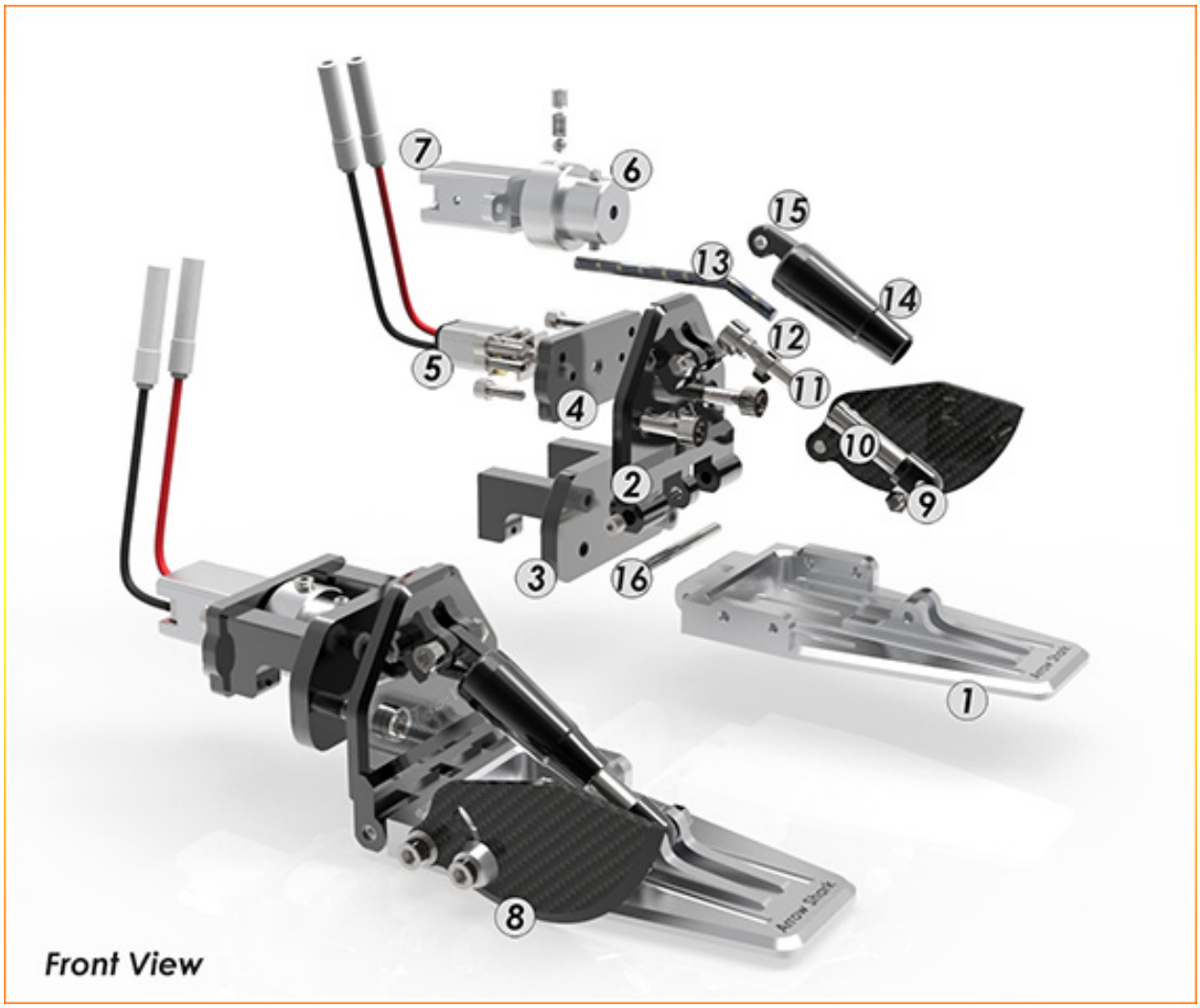
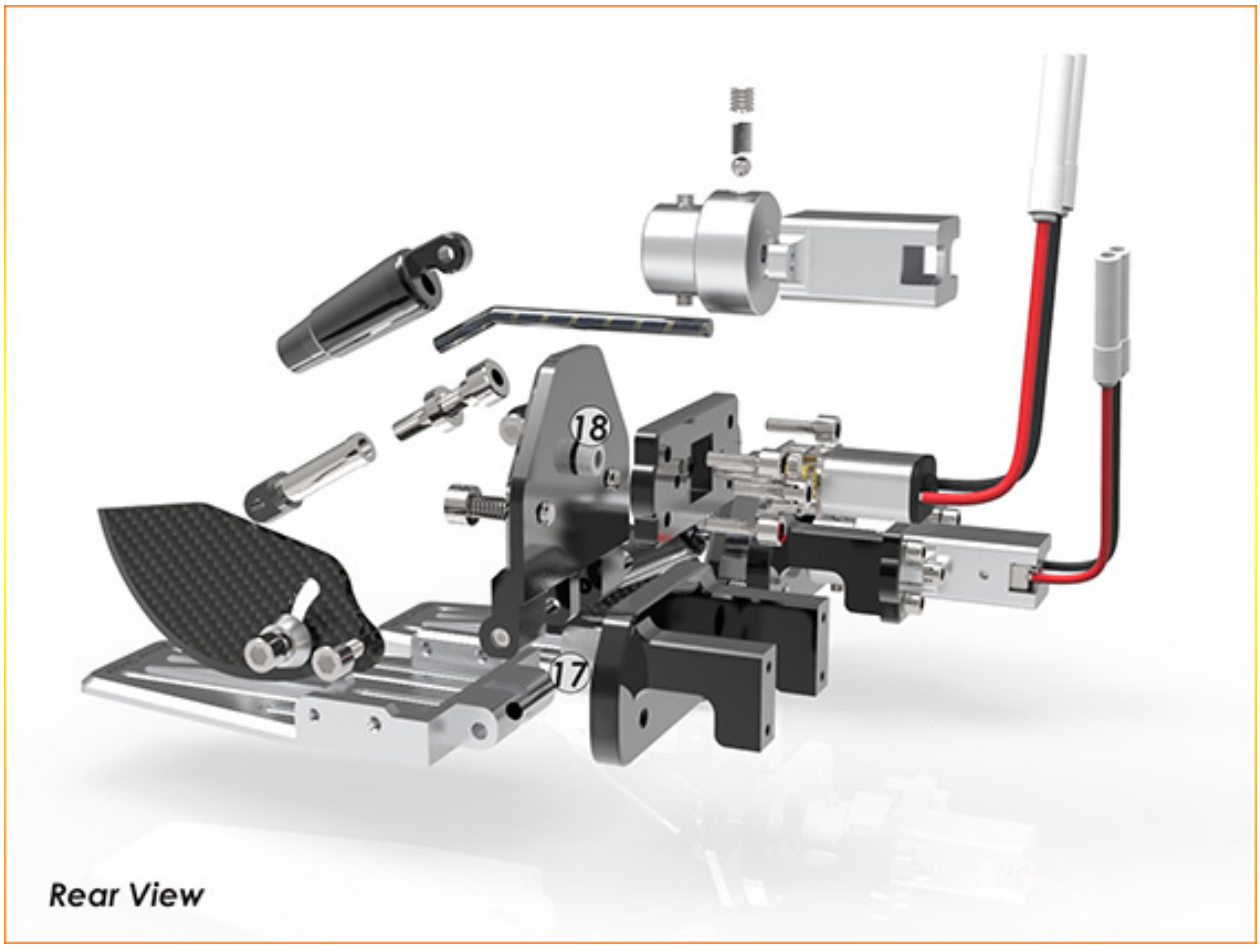
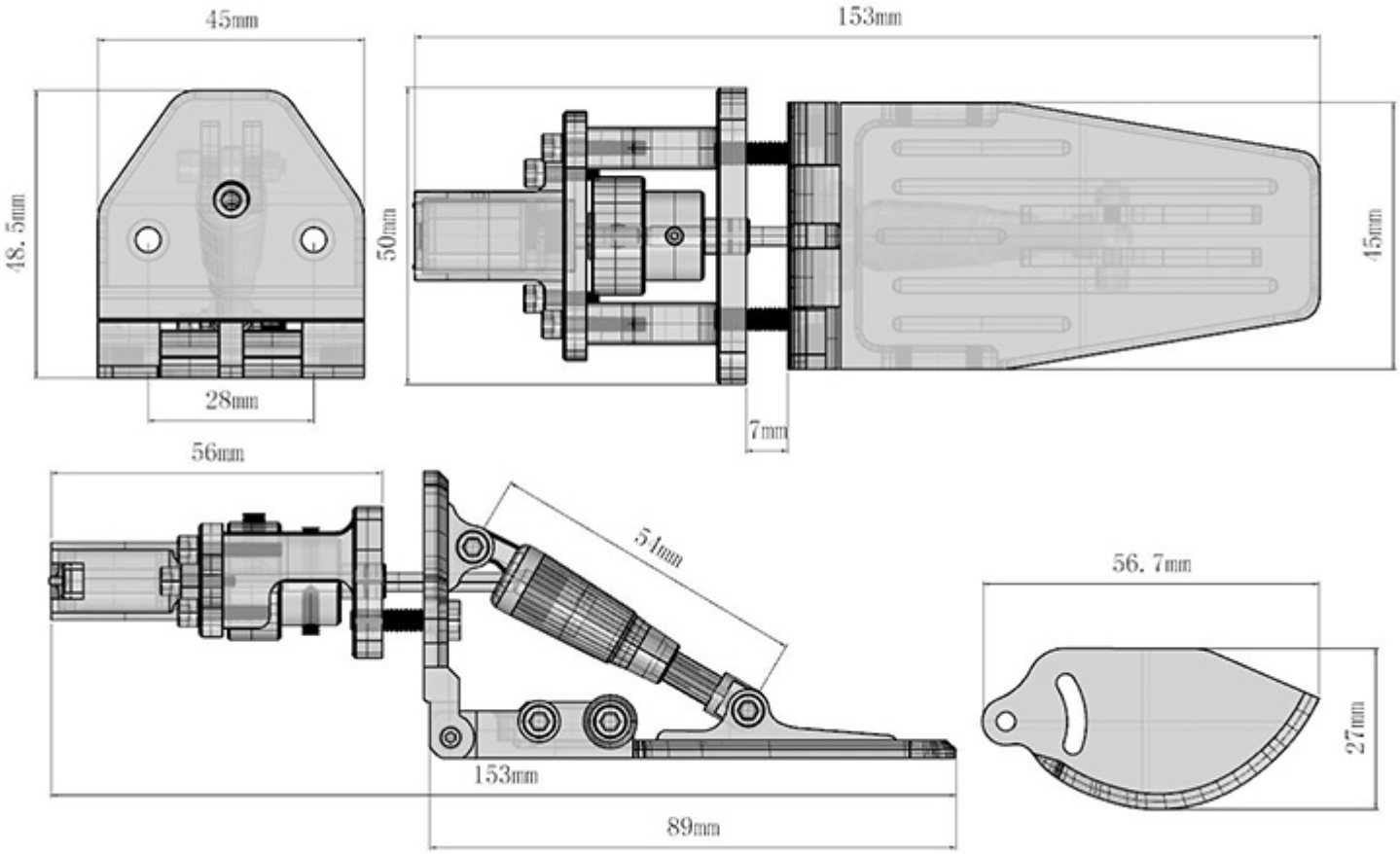
Tab-X: Exploded View & Parts List





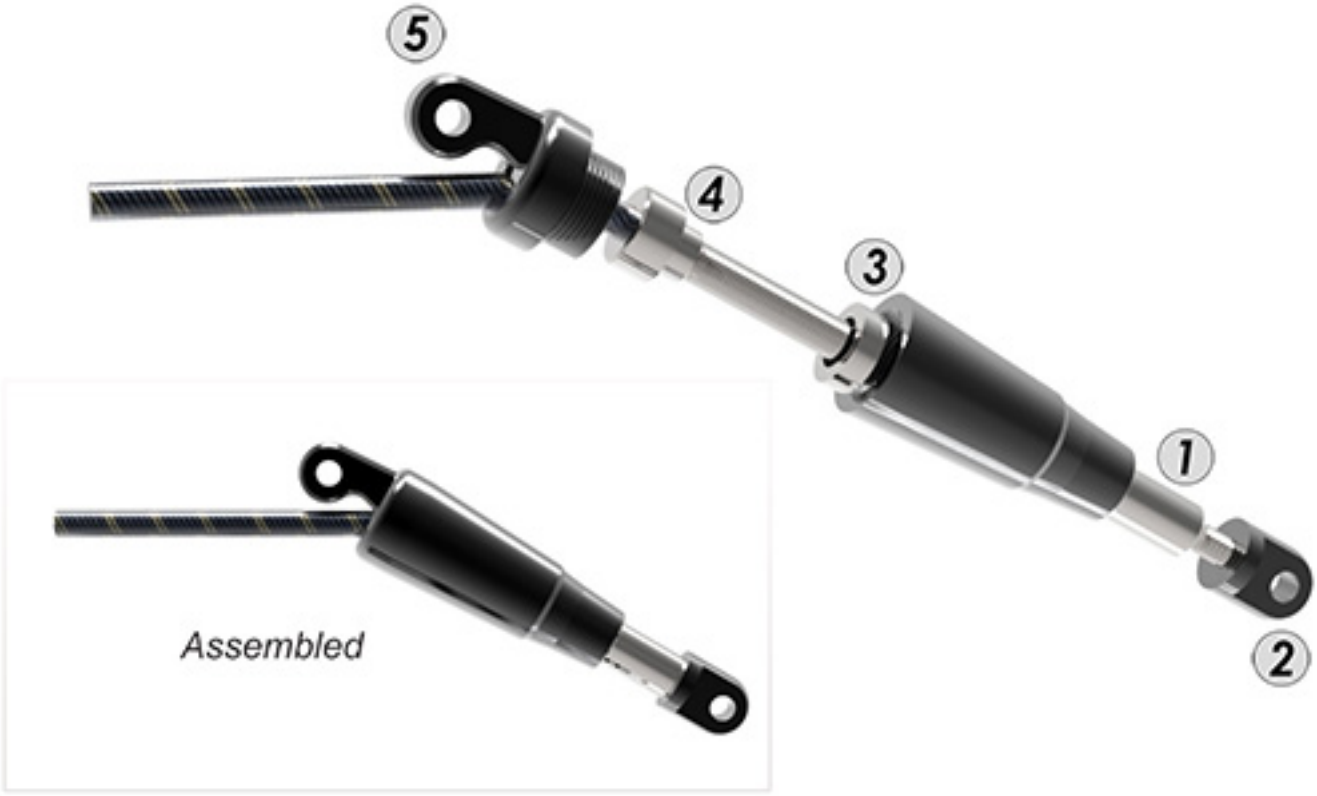
1	CNC Tab Main Plate	10	Steel Ram Sleeve
2	CNC Tab Mounting Plate	11	Steel Threaded Shaft
3	CNC Inside Transom bracket	12	Ball Bearing
4	CNC Motor Plate	13	Flexible Drive Shaft
5	Micro Gear Motor & Wires	14	CNC Actuator Cylinder Body
6	Micro Two Way Clutch Kit	15	CNC Actuator Cylinder Cap
7	CNC Motor Box	16	Connection Pin
8	Carbon-Fiber Turn Fin Kit	17	Teflon Bush-Inside
9	CNC Ram Base Adaptor	18	Teflon Bush-Outside

Dimensions Guide

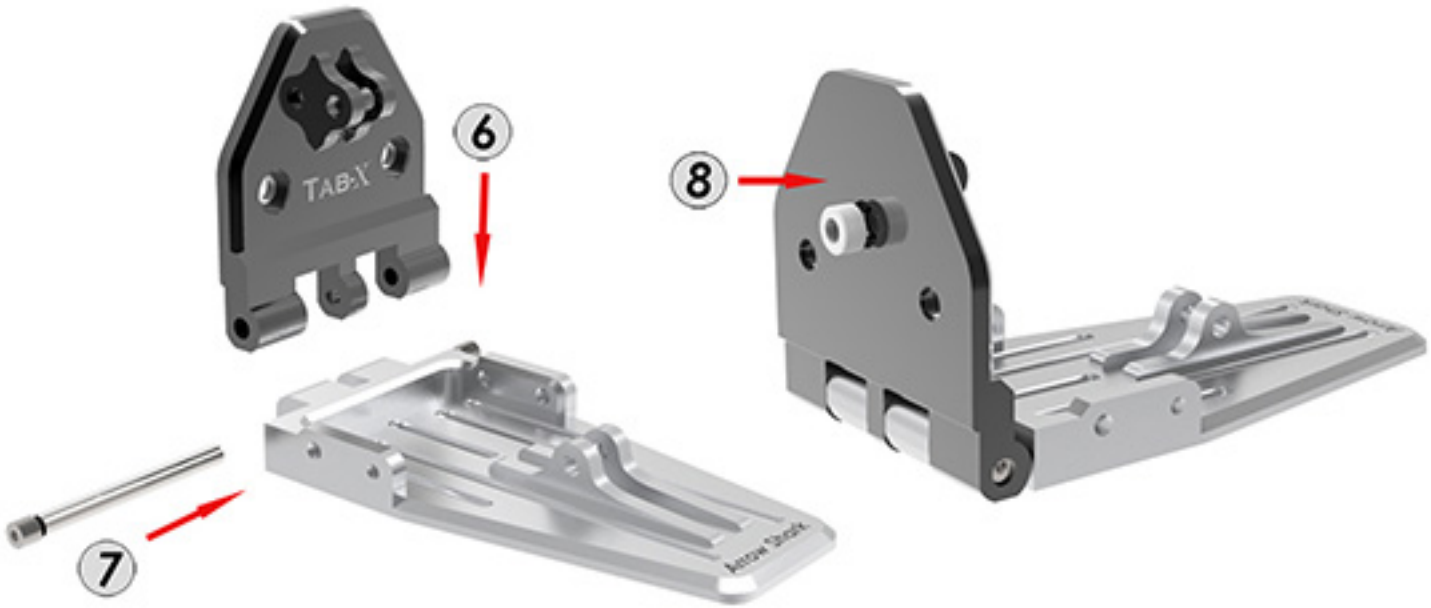


Assembly Procedure

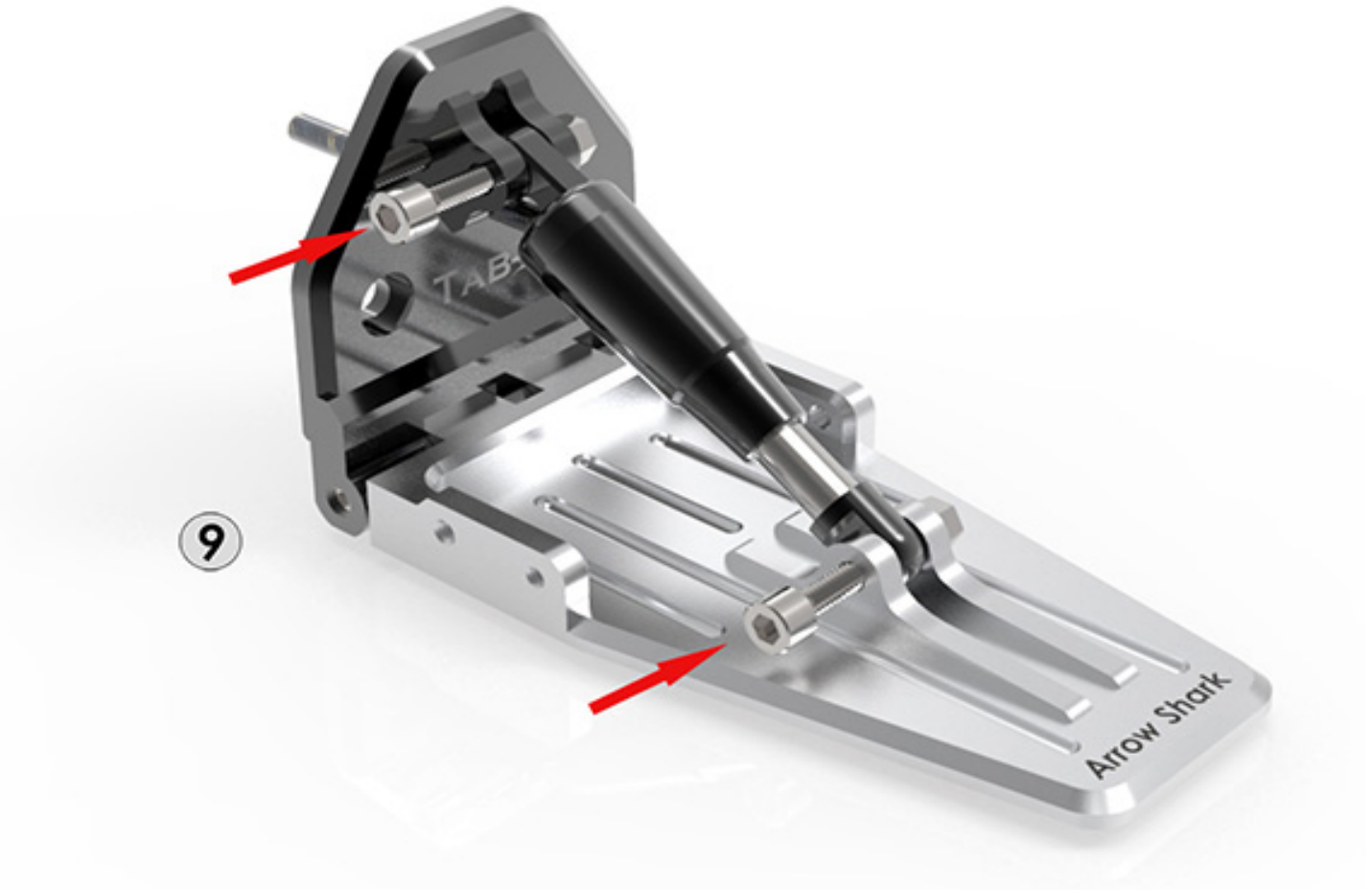
Use Epoxy AB glue to secure the flexible shaft into the threaded shaft.



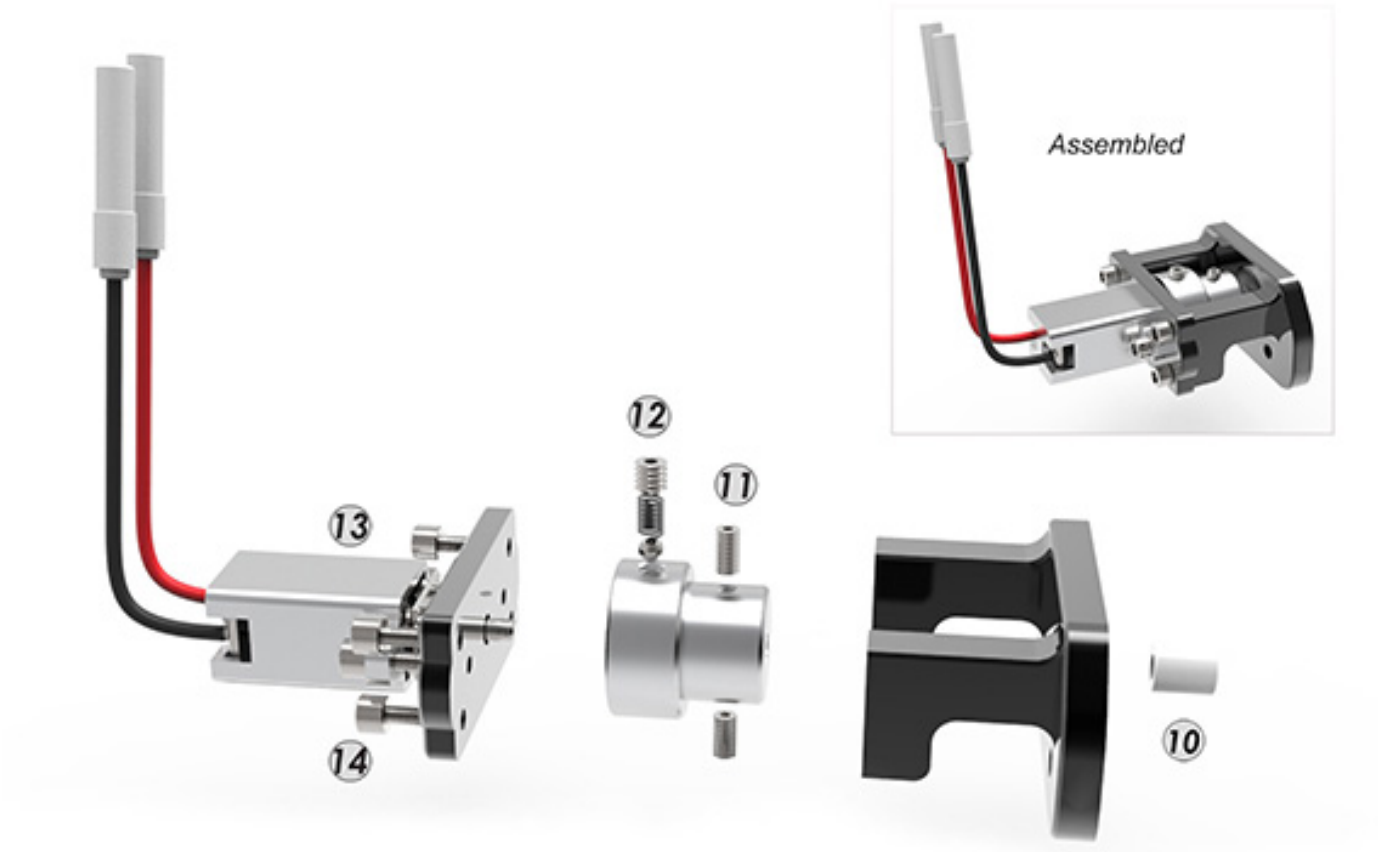
#1: Insert the steel ram sleeve through the CNC cylinder until it projects out the other end.
#2: Screw the ram base adaptor onto the bottom end of the ram sleeve.
#3: Install the micro bearing into the cylinder.
#4: Apply some grease onto the threaded shaft, and screw it into the ram sleeve.
#5: Pass the flexible shaft through the hole in the cylinder cap, and screw the cap onto the cylinder.



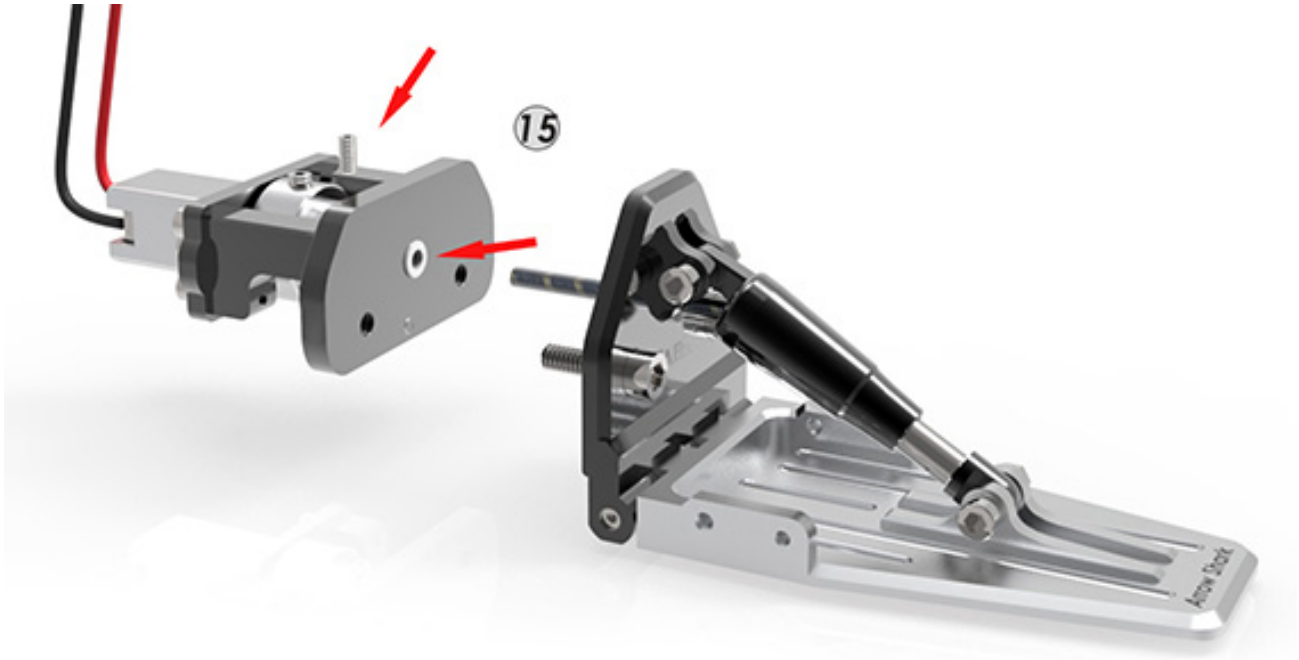
#6: Match the slots on the main plate to the slots on the mounting plate.
#7: Insert the steel pin through the hole in both plates and secure it with the Allen screws from both ends.
#8: Install the teflon bush in the back of mounting plate.



#9: Insert the flexible shaft back through the hole in the mounting plate. Match the mounting holes on the plate with those at the end of the ram, then secure them with M3 bolts and nuts.

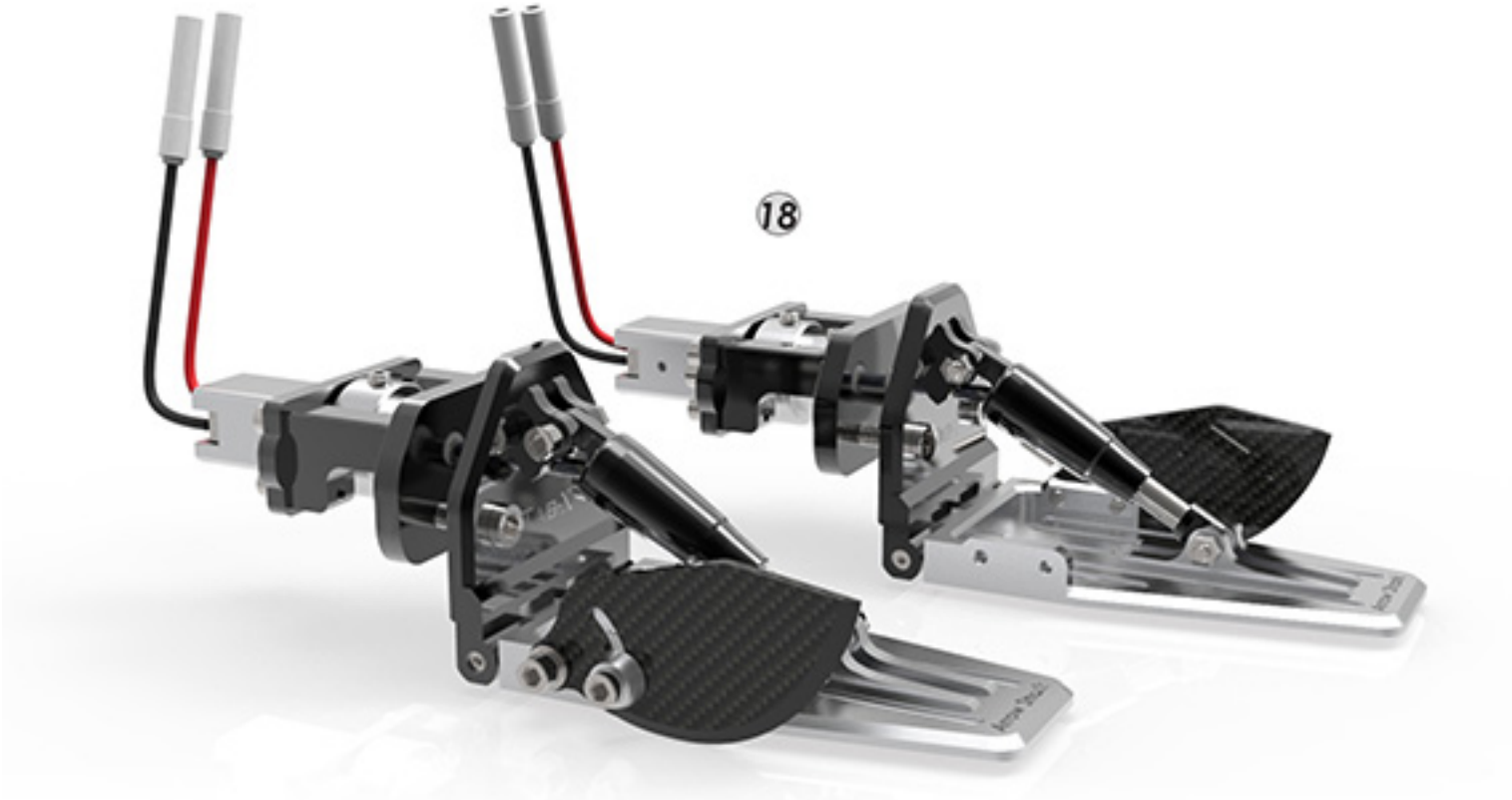


#10: Install the teflon bush into the center hole on the inside transom plate.
#11: Install the M3 Allen screws into both sides of the two way clutch block.
#12: Install the tension adjustment parts into the two way clutch block.
#13: Install the CNC motor box onto the micro gear motor and secure it on the motor plate.
#14: Push the two way clutch block assembly onto the micro gear motor shaft, then secure them all together onto the transom plate with four M2.5 bolts.



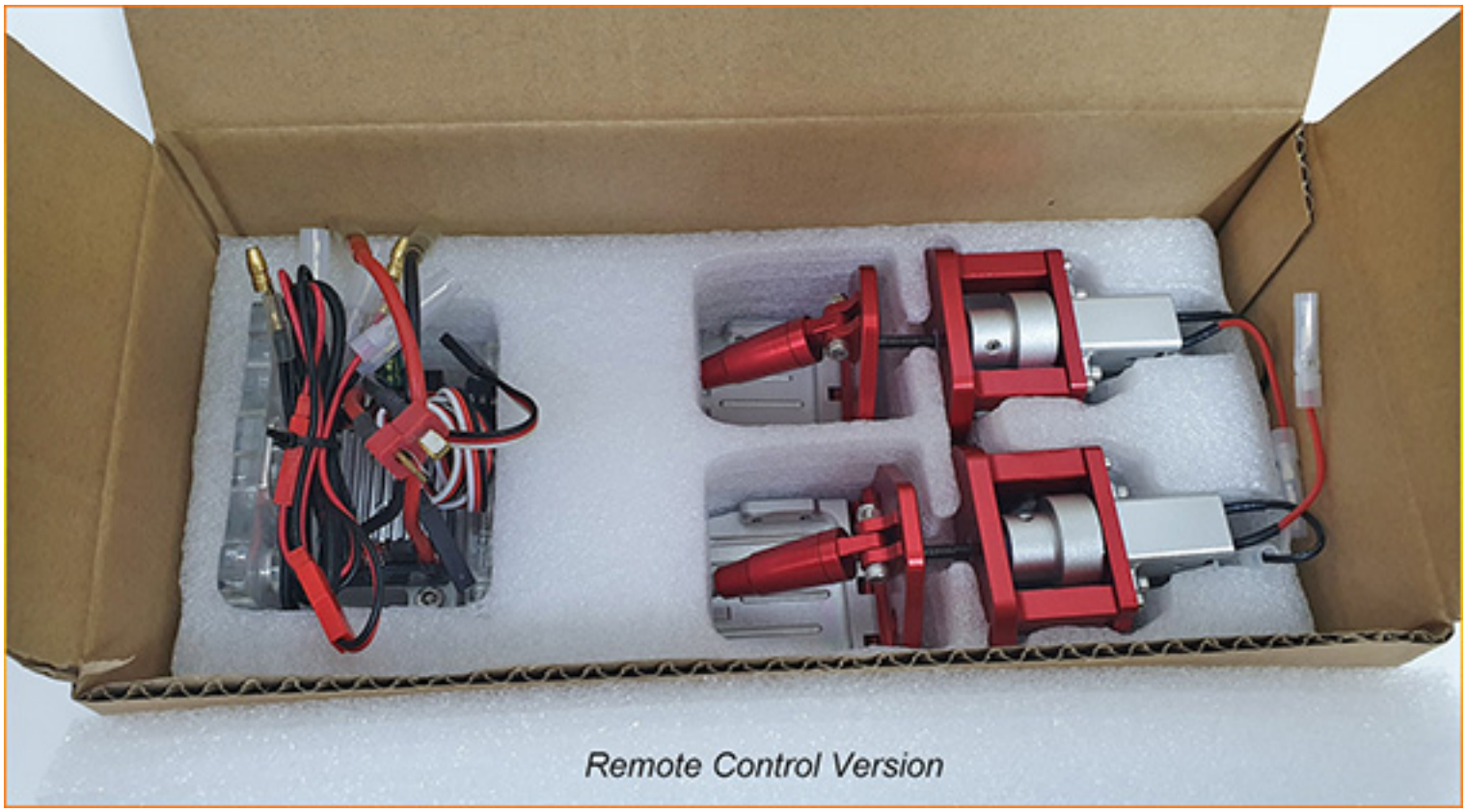
#15: Insert the flexible shaft via the teflon bush on the transom plate into the two way clutch block, and secure the flexible shaft with two M3 Allen screws.

#16: Install the (optional) turn fin onto the side of the tab plate, and secure it with the supplied bolts and washers.

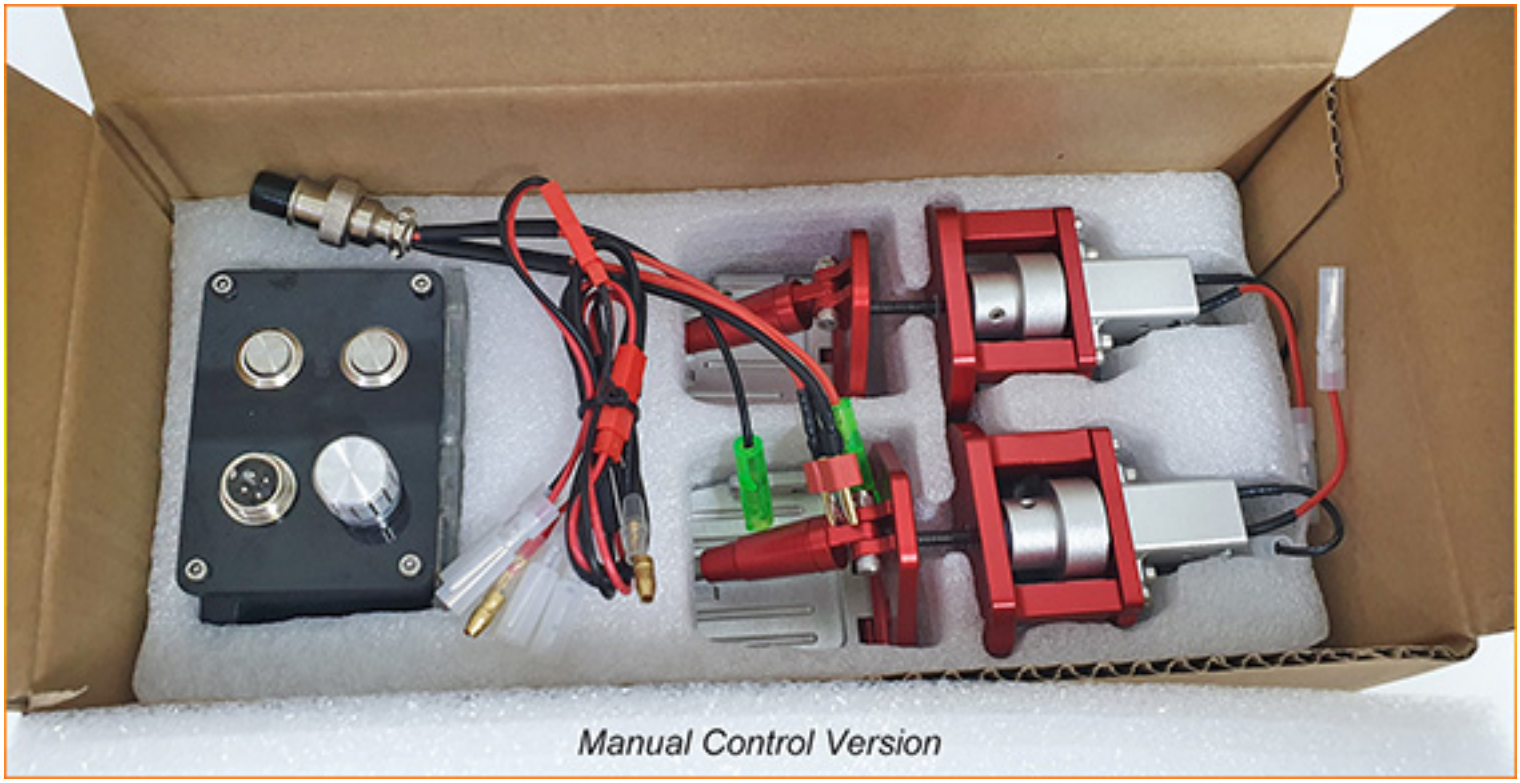


#18: Repeat the same procedure for the other tab, then - job completed!

Product Packing

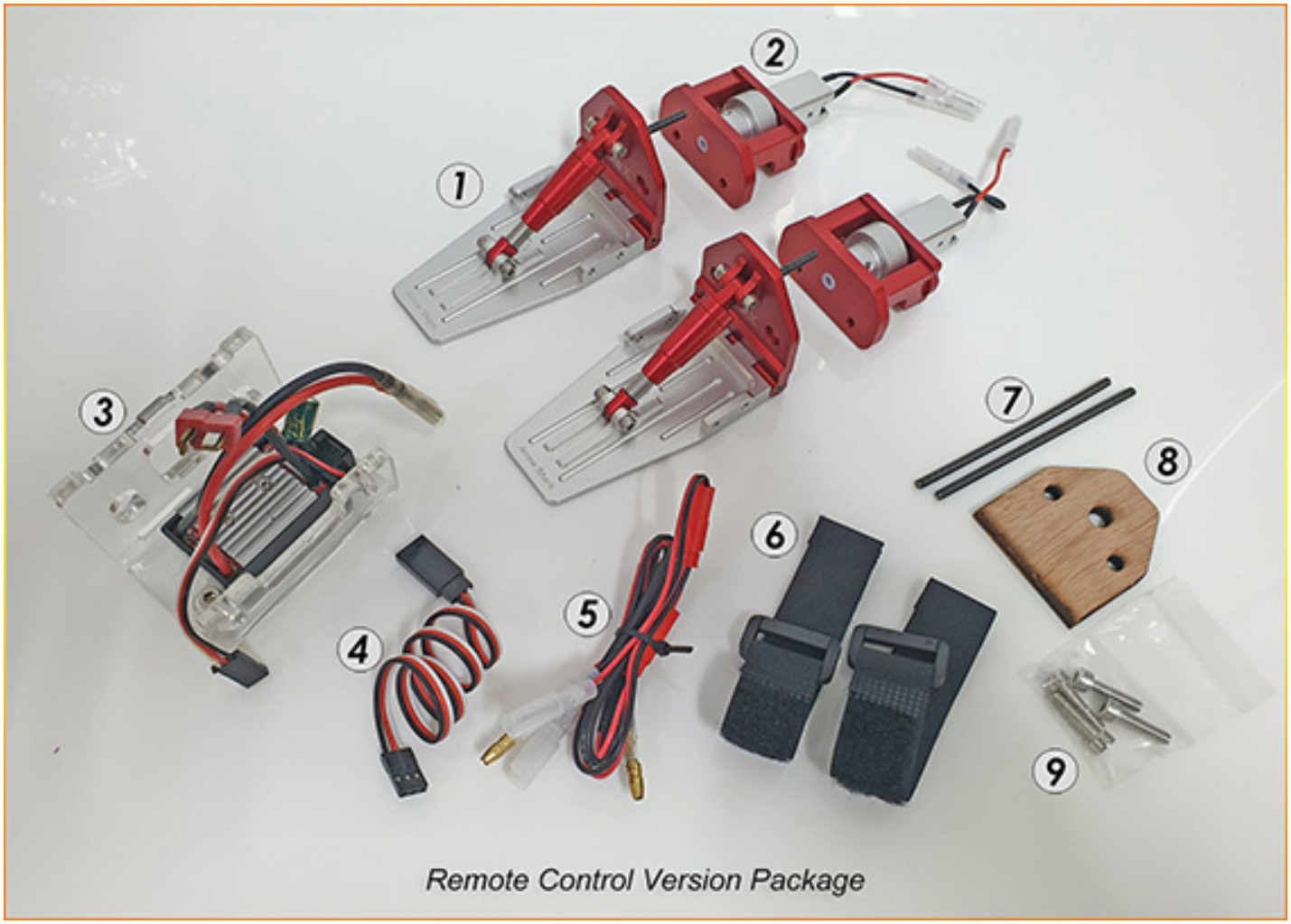


Remote Control Version

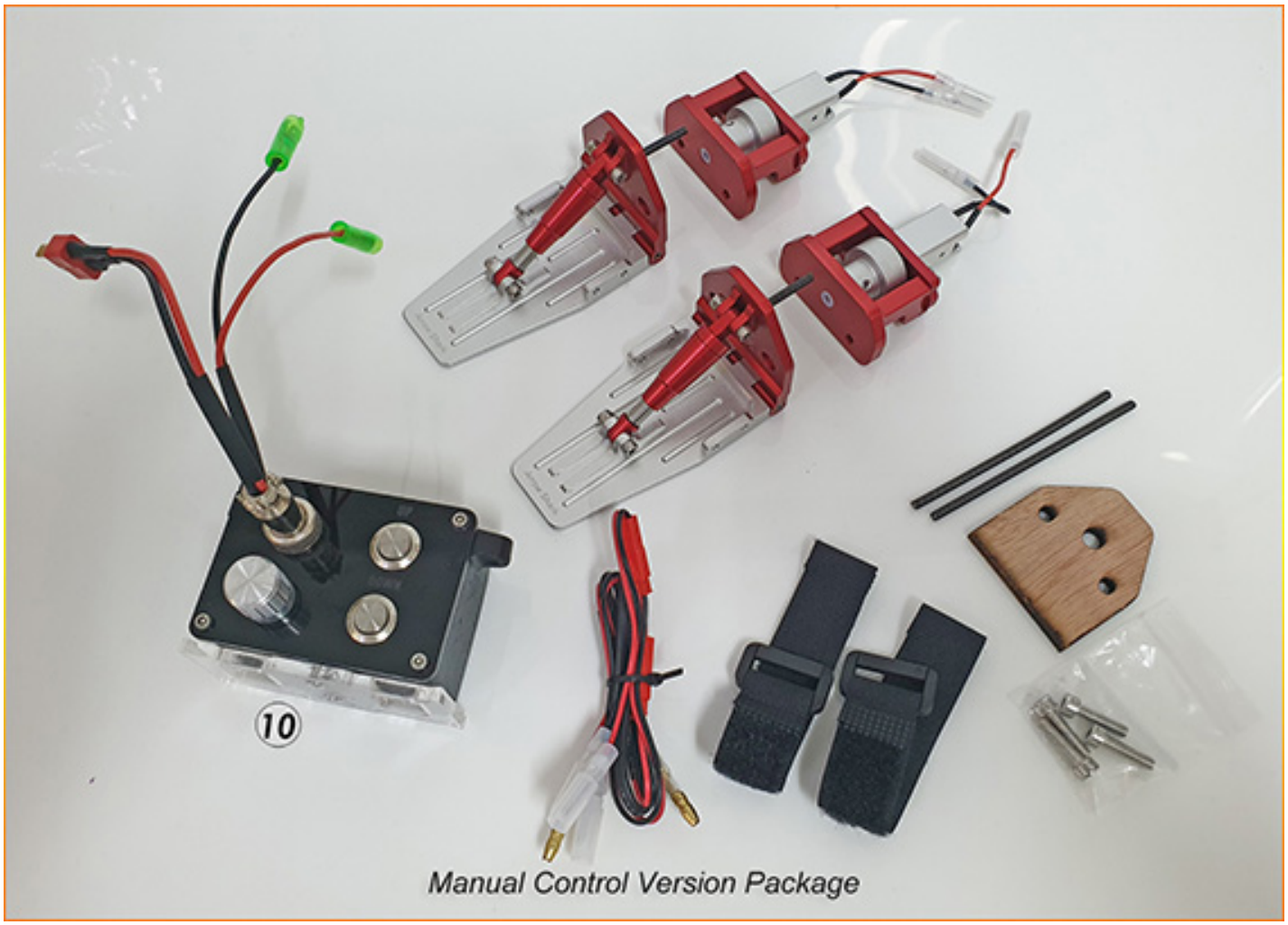


Manual Control Version

Package Contents



Remote Control Version Package



Manual Control Version Package

1	Tab Main Body Assembly	6	LIPO Battery Straps
2	Power Control Kit Assembly	7	80mm Spare Flexible Shafts
3	Remote Device & Mounting	8	Transom Drilling Template
4	300mm Extension Receiver Wire	9	Installation Bolts
5	Power Connection Wire	10	All-In-One Manual Control Box

Battery Recommendation

We recommend the use of a 2S LIPO (7.4V) battery with Deans connectors and a discharge rate between 15c-25c plus a capacity of 2200+mAh.

Note: Any higher than a 2S battery might damage the remote control device.

Radio System Recommendation

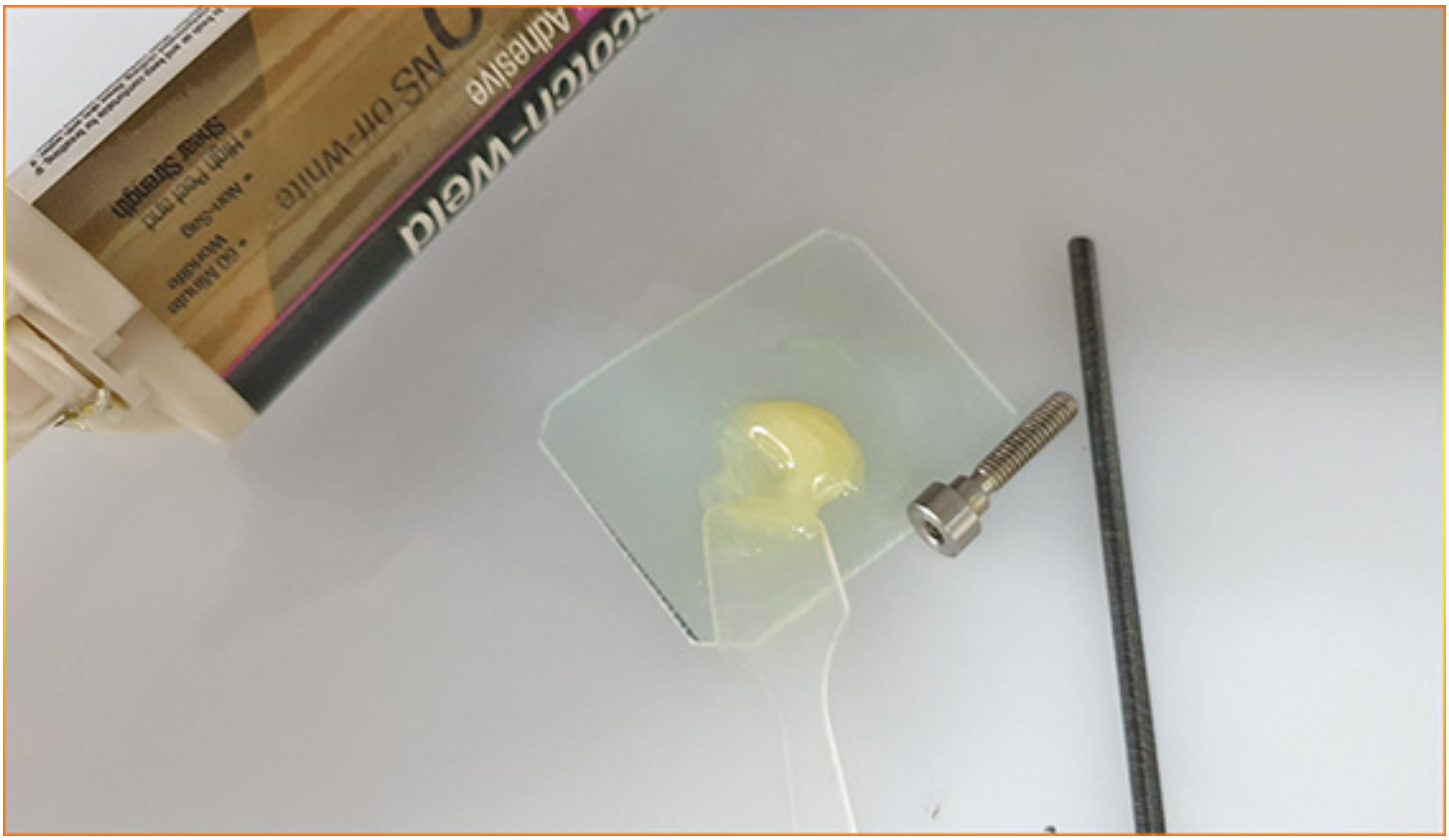
The Tab-X remote control version requires a 6CH or 8CH transmitter and receiverthat has a built-in VR rotate switch or a 3-Position switch that controls both left and right direction.

Spare Flexible Shaft Installation Guide

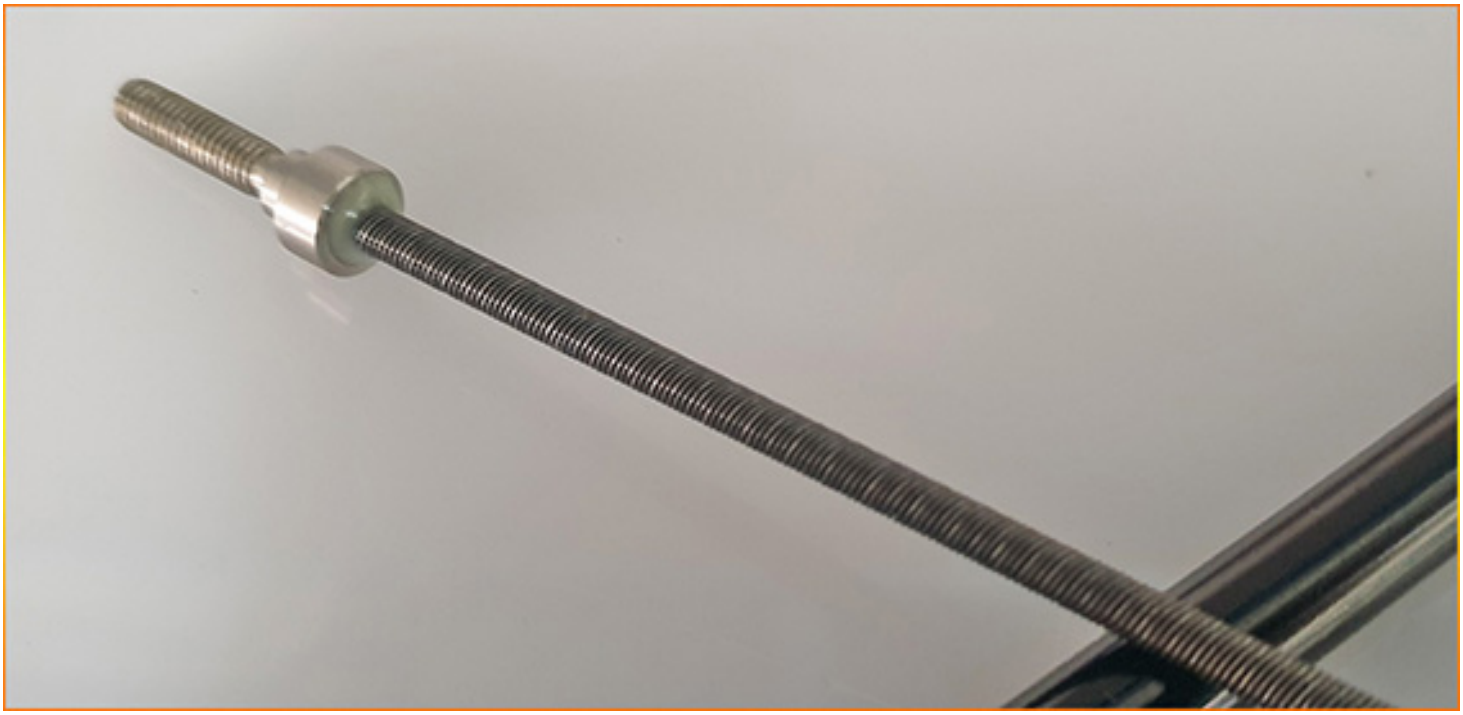
There are two spare 80mm long flexible shafts included with the Tab-X package in both remote and manual control versions. These are just in case the original shafts are not long enough for your project; those original shafts will suit a transom thickness of 7mm-8mm. If your transom's thickness is greater than that, you might need to replace the Tab-X with these supplied longer flexible shafts. Just cut them to the right length that suits your project, and please follow the instructions below to install them.

Before starting the new flexible shaft installation, you will need to prepare the following items for the procedure: Heat Gun, Epoxy AB Glue, the longer 80mm shaft and the original shaft.

Use the heat gun to heat up the threaded shaft in the glue area that secures the original flex shaft; the heat will soften the glue and allow the flex shaft to be pulled out. With the flex shaft out, use a 3.2mm drill to clean out any remaining glue inside the shaft hole.



Mix the Epoxy AB glue parts together and rotate one end of the longer flexible shaft in the glue, then insert it into the thread shaft hole.

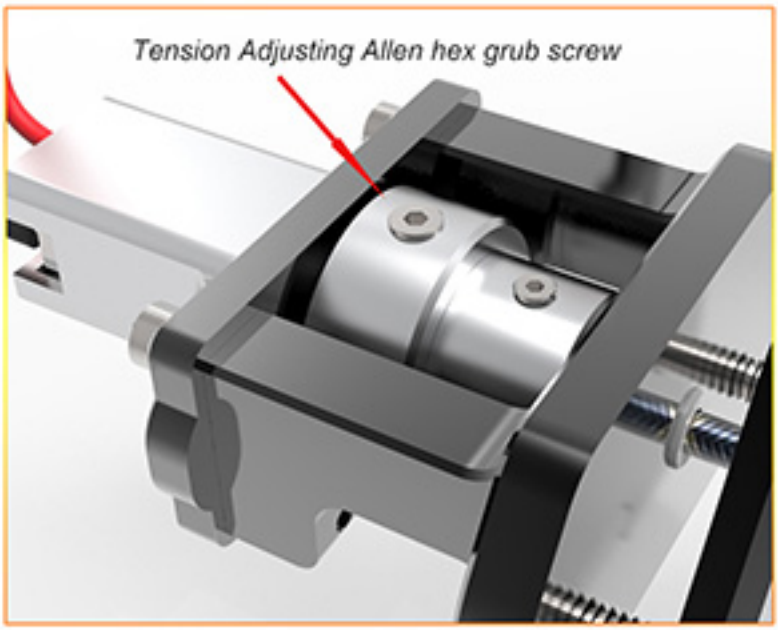


Leave the flexible shaft there for 24 hours till the glue is complete dry.

Clean any excess glue around the flexible shaft with a sharp knife; excess glue could affect the operation of the completed assembly.

The replacement flexible shaft installation is now complete!

Two Way Clutch Operation Tips



The design purpose of the two way clutch block is to prevent both the micro gear motor and the flexible shaft from damage past the limits of the trim tab travel. The two way clutch block combines a steel ball, a spring and an Allen grub screw to adjust the tension. When the Tab-X ram sleeve reaches its movement limit at both ends, the micro gear motor shaft will push up the steel ball and spin freely inside the block to stop the flexible shaft from rotating further and so prevent it from twist damage as well to prevent the gear motor from damage when stalled. Therefore, setting up the correct tension adjustment for the two way clutch block is very important!

If the set-up is too loose - the gear motor shaft will too easily push up the steel ball and the two way clutch block will barely or not engage to spin the flexible shaft.

If the set-up is too tight - the gear motor shaft will push up the steel ball too strongly causing twisting damage to the flexible shaft and damage to the motor as it stalls when the ram sleeve reaches the end of its effective travel range.

How to adjust the ball tension

The ball tension on every two way clutch block has been pre-adjusted in the factory; however, it might need fine tuning before or after you install the Tab-X on your hull. Using an Allen screw drive, turn the hex grubscrew clockwise for higher tension, and counter-clockwise for lower tension.

Troubleshooting & Solution

There is a possibility when the ball tension is set a little too high that the threaded shaft might become stuck inside the ram sleeve if the gear motor goes out of range for too long. If that happens, the gear motor might not be able to rotate the flexible shaft in the opposite direction. The solution for this issue is to use your finger torotate the two way clutch block to release the threaded shaft out of the ram sleeve, then use the control device to again control it.

Install Tab-X to Your Hull

For the proper installation of Tab-X to your hull transom, you will need to prepare the following tools before you start the procedure:

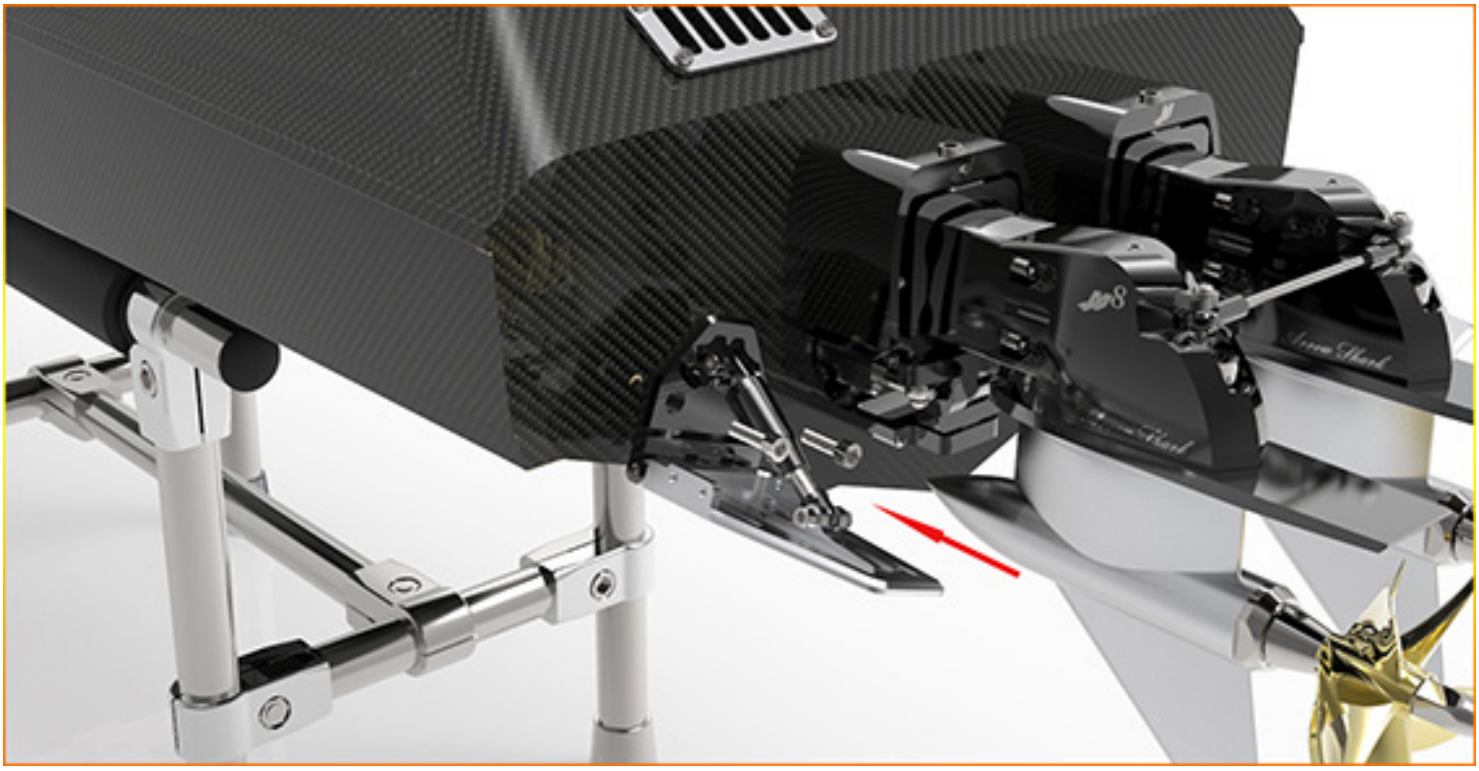
#1: Cordless Drill,

#2: 4.2mm and 6mm Drill Bits,

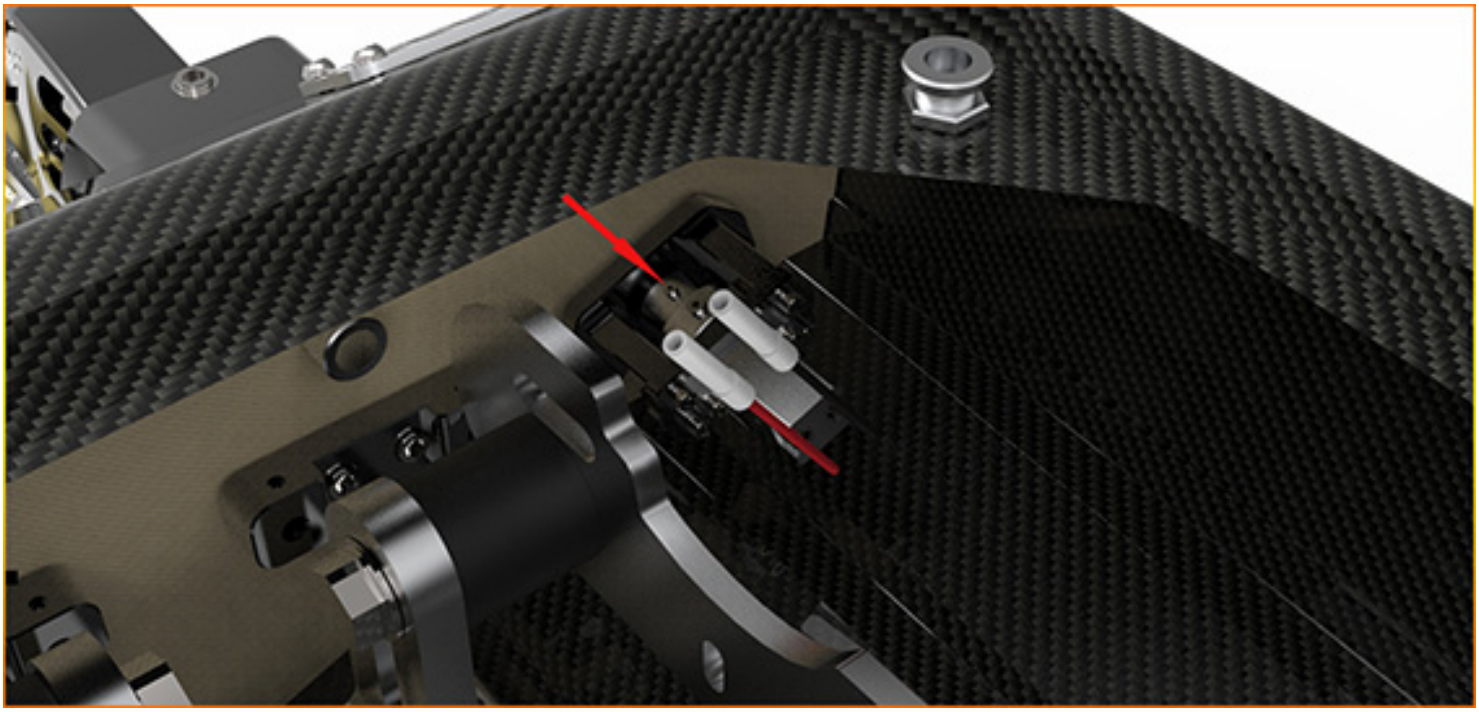
#3: M3 and M4 Allen Screwdrivers

#4: The Wooden Drilling Template that comes with the Tab-X package.

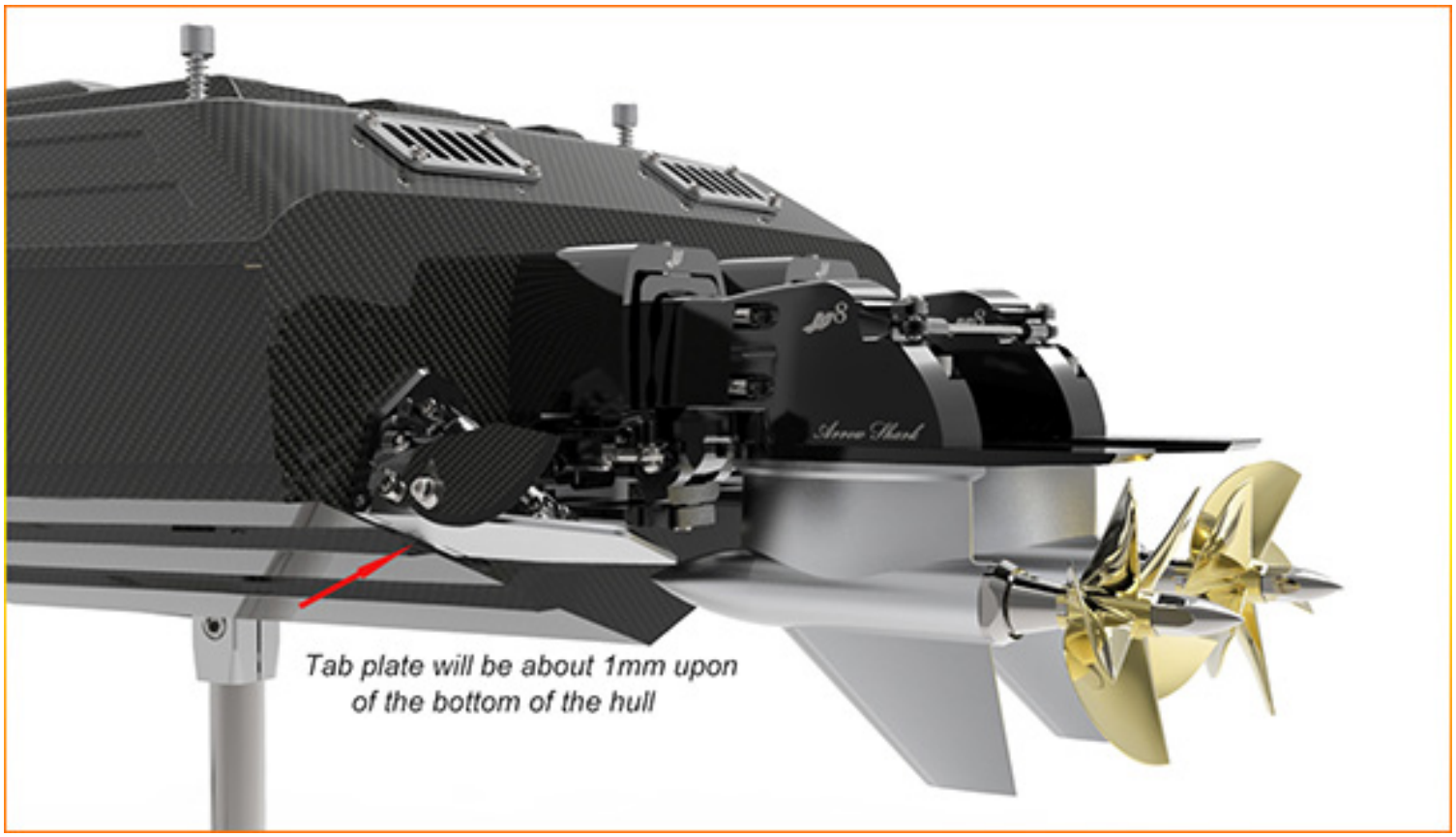
Match the bottom of the drilling template to the bottom of the hull, and drill three holes according to the holes in the template (two of 4.2mm holes and one of 6mm hole).



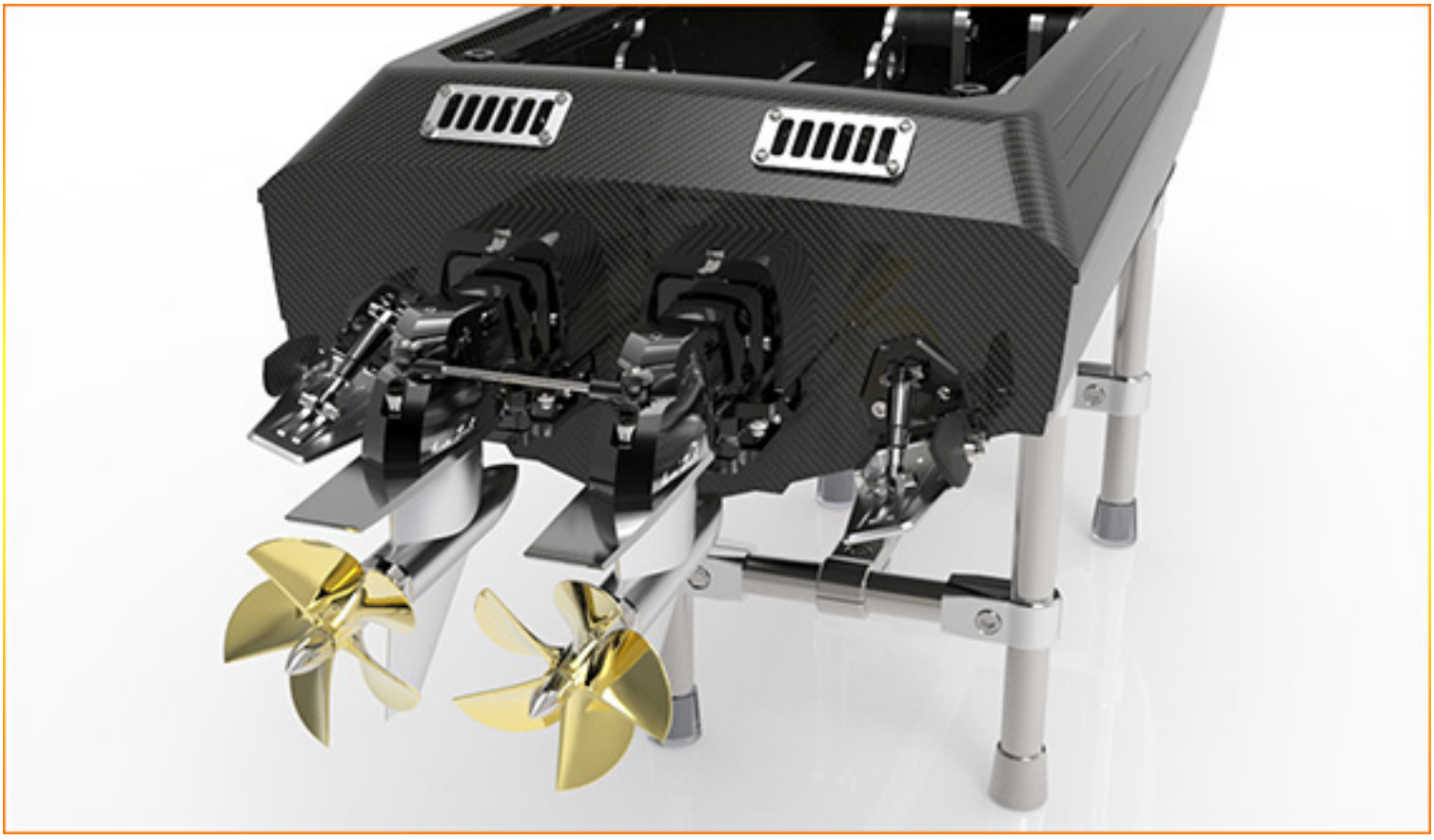
Match the flexible shaft in the back of the Tab-X assembly into the upper hole in the transom, as well as the two mounting holes in the bottom, then pass the mounting bolts through the holes.

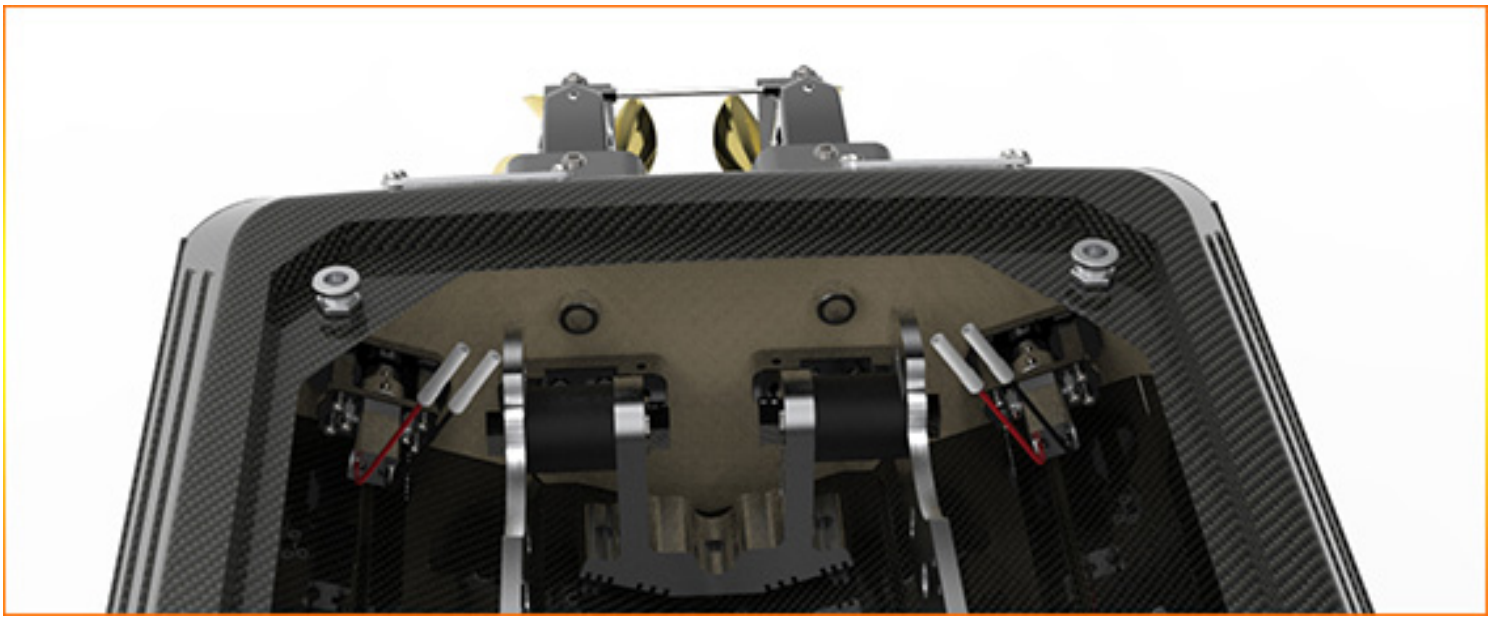


Place the power control assembly kit inside the hull, and match the flexible shaft into the two way clutch block. Also, match the two mounting bolts into the CNC transom bracket and tighten the mounting bolts from outside the hull. Then use an M3 Allen screwdriver to tighten these two M3 Allen screws in the two way clutch block from inside the hull in order to secure the flexible shaft in place.

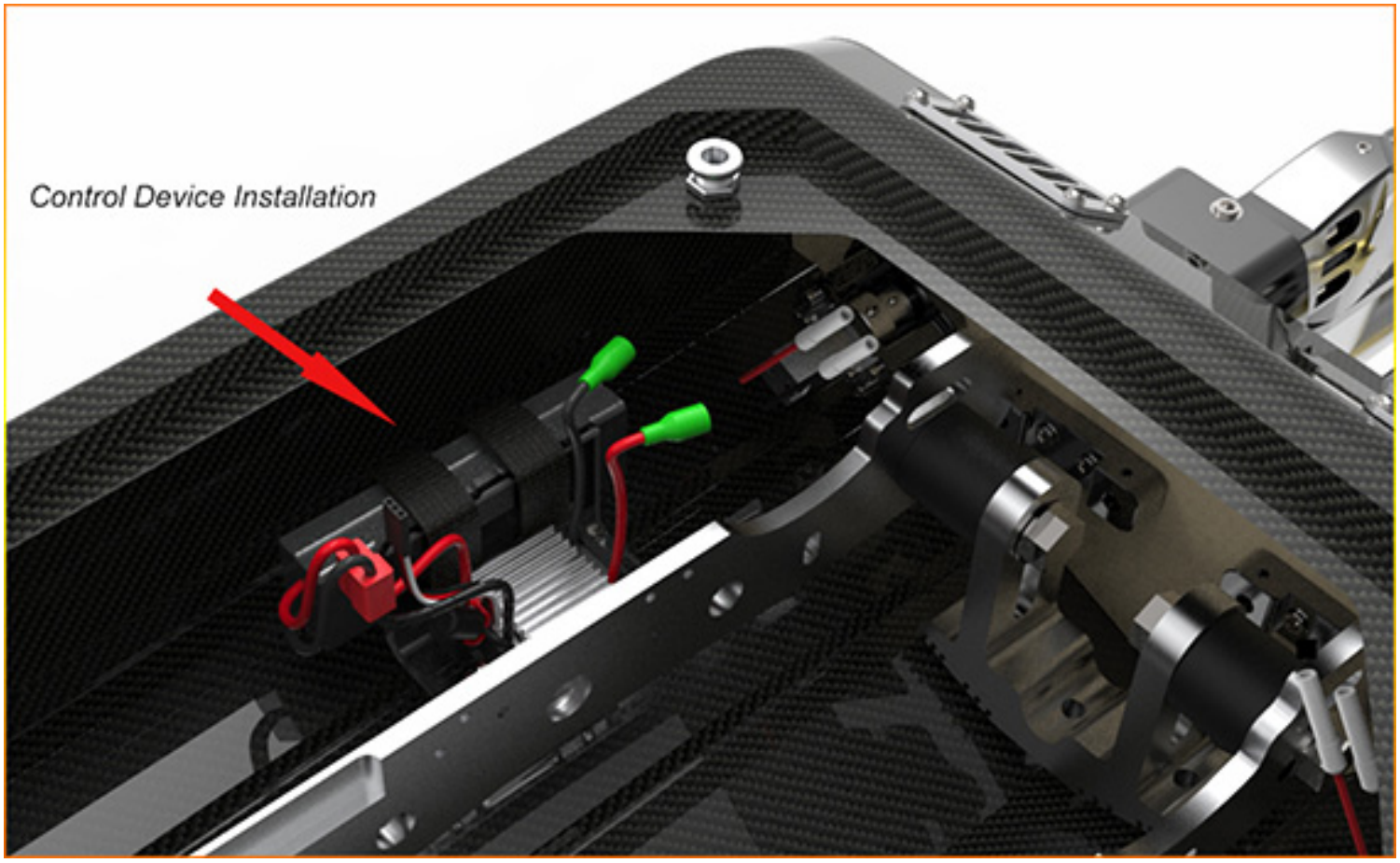


Note: The wooden template is set up to make the Tab-X install about 1mm upon the bottom of the hull which is considered the correct placement. However, if you wish to install the Tab-X completely level with the bottom of the hull, you will need to cut 1mm off from the bottom of the template before drilling the holes.



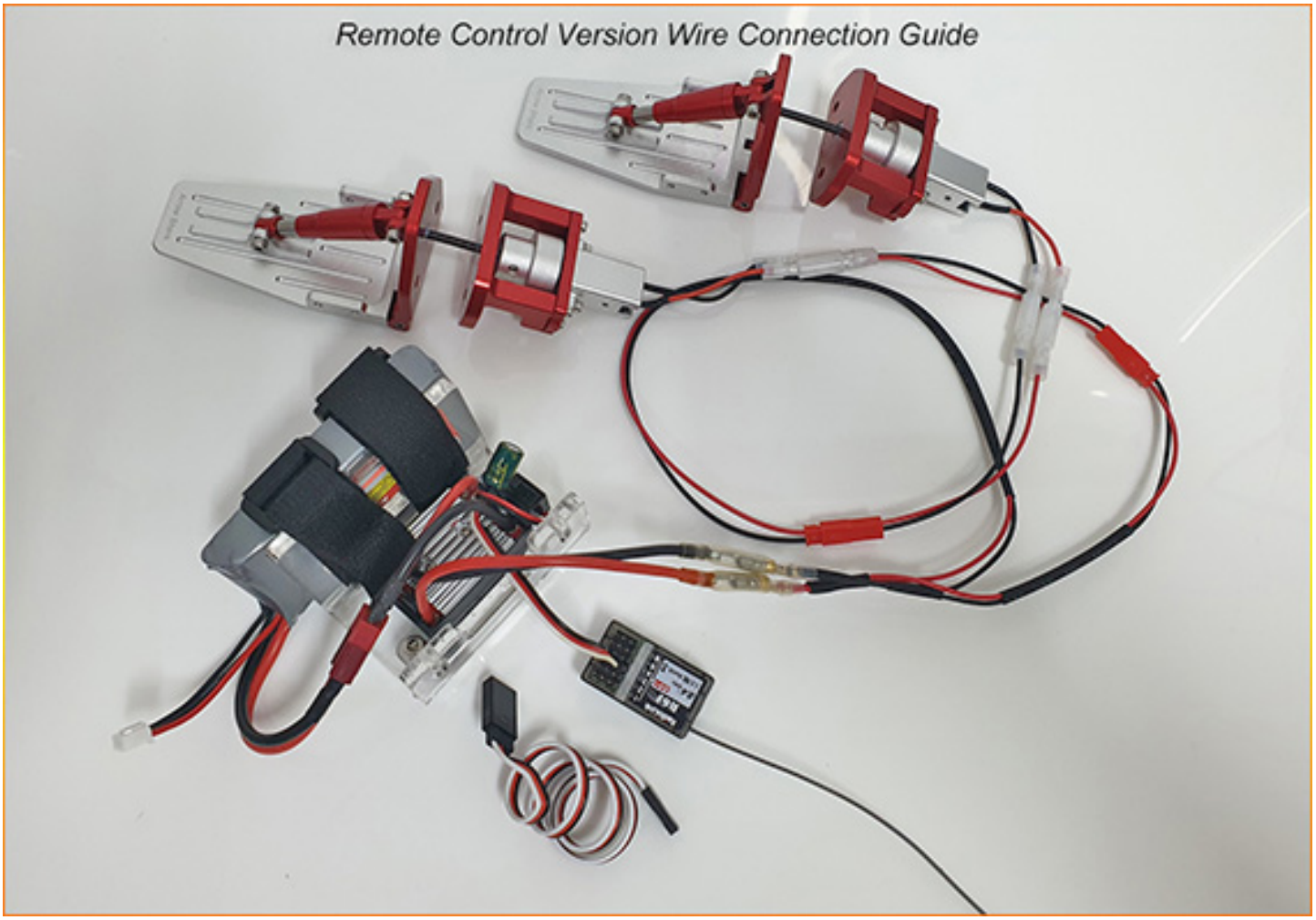


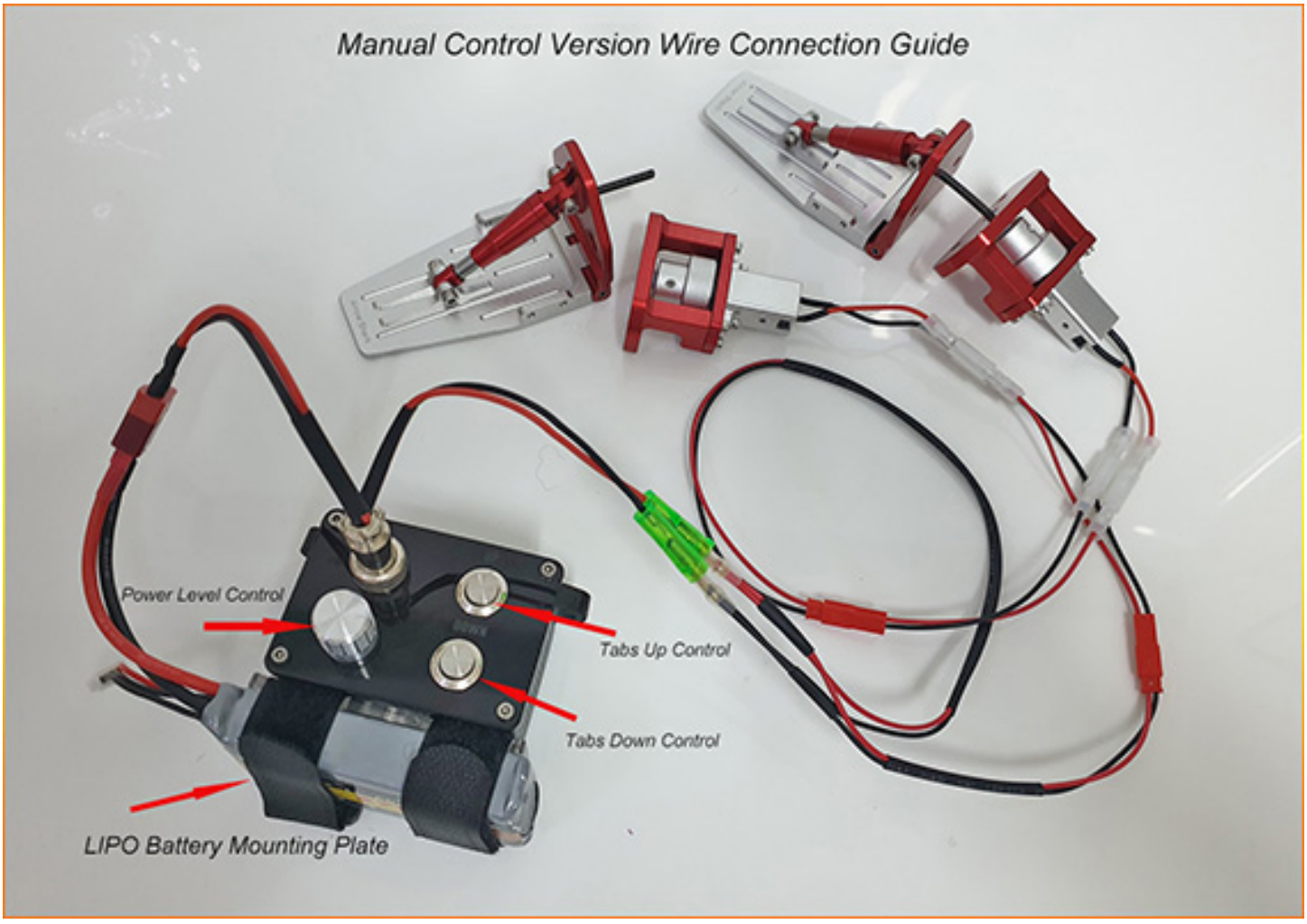
Repeat the same procedure for the other side Tab-X installation.



The remote control device can be bolted on the side of the stringer for easy wire connections as shown in the picture above. The Tab-X installation to your hull transom is now complete!

Wire Connections

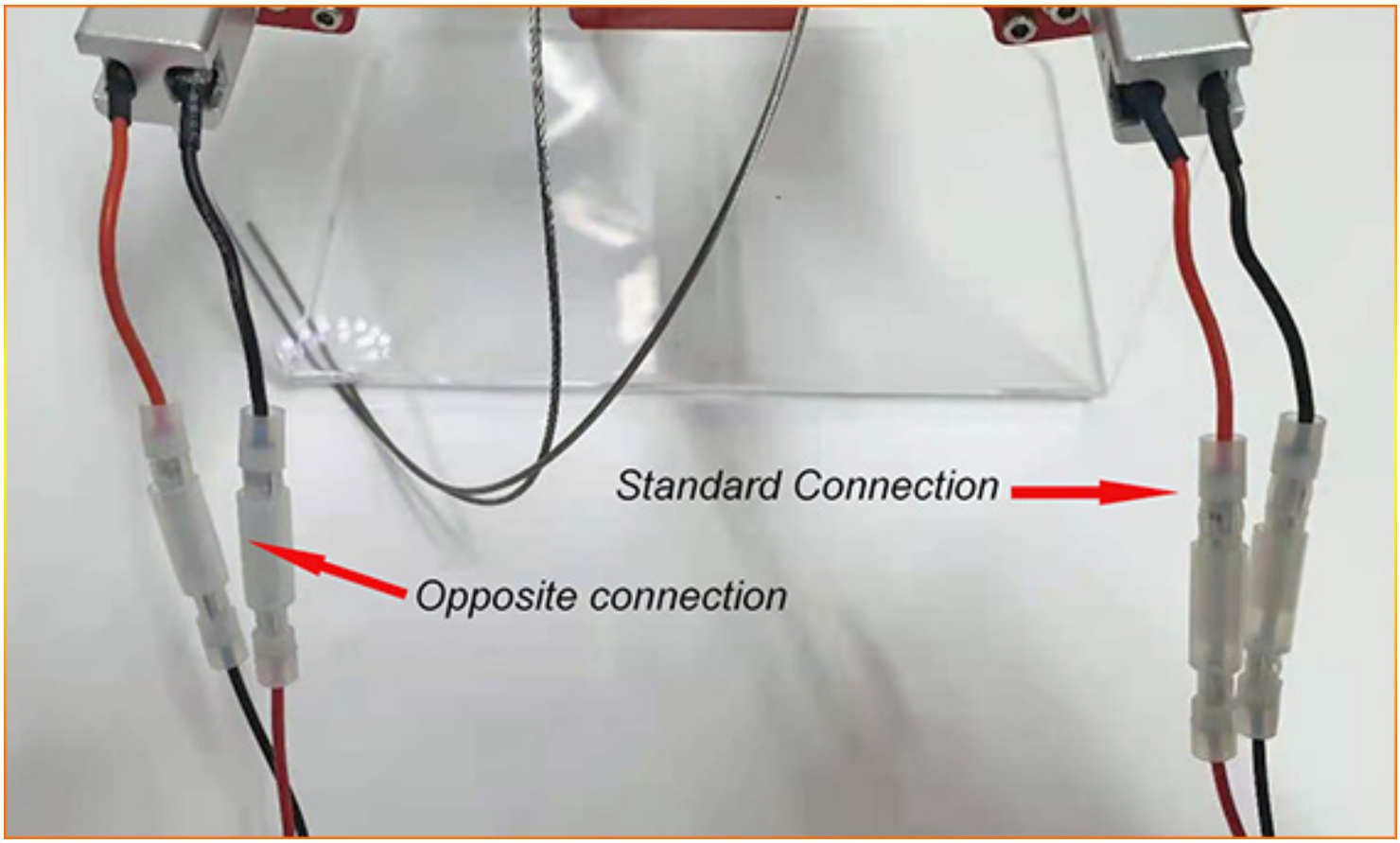




Once you have completed the installation of the Tab-X to your hull transom, connect the wires between the gear motors to the control device as shown in the picture above. To test the installation, first raise both the tabs to their upper limits, and make sure that they will start at an identical level in the next control movement to ensure that they will be at an identical angle when your boat is running.

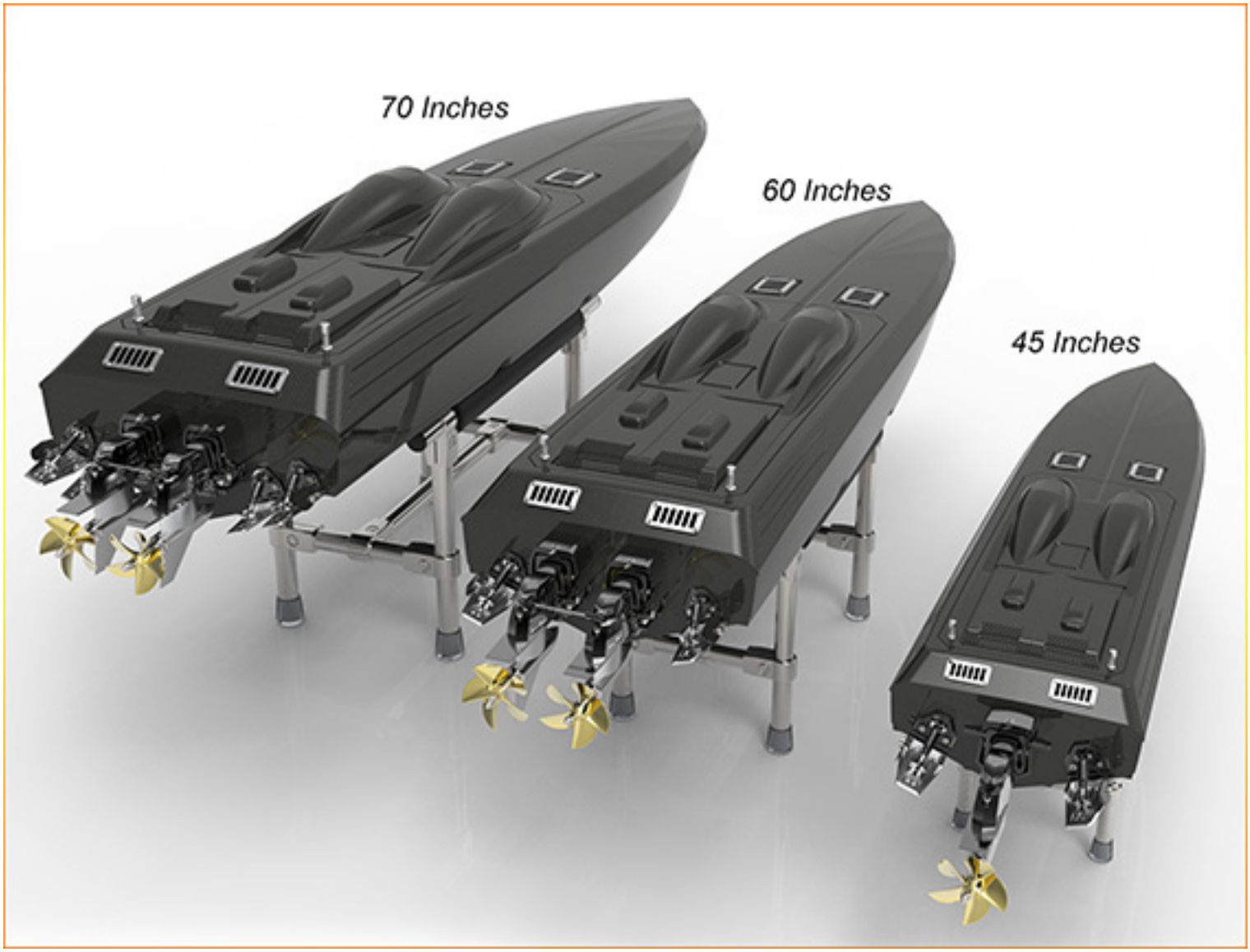
The above wiring will operate both tabs up/down together so you can adjust the fore-aft trim and running angle of your boat. This is most useful in rougher conditions when you may want your boat to have more hull in the water for stability when heading into the wind and waves (so tabs down as needed), but have less hull in the water when running down wind for greater speed (so tabs back up up).

Side To Side Trimming Wire Connection

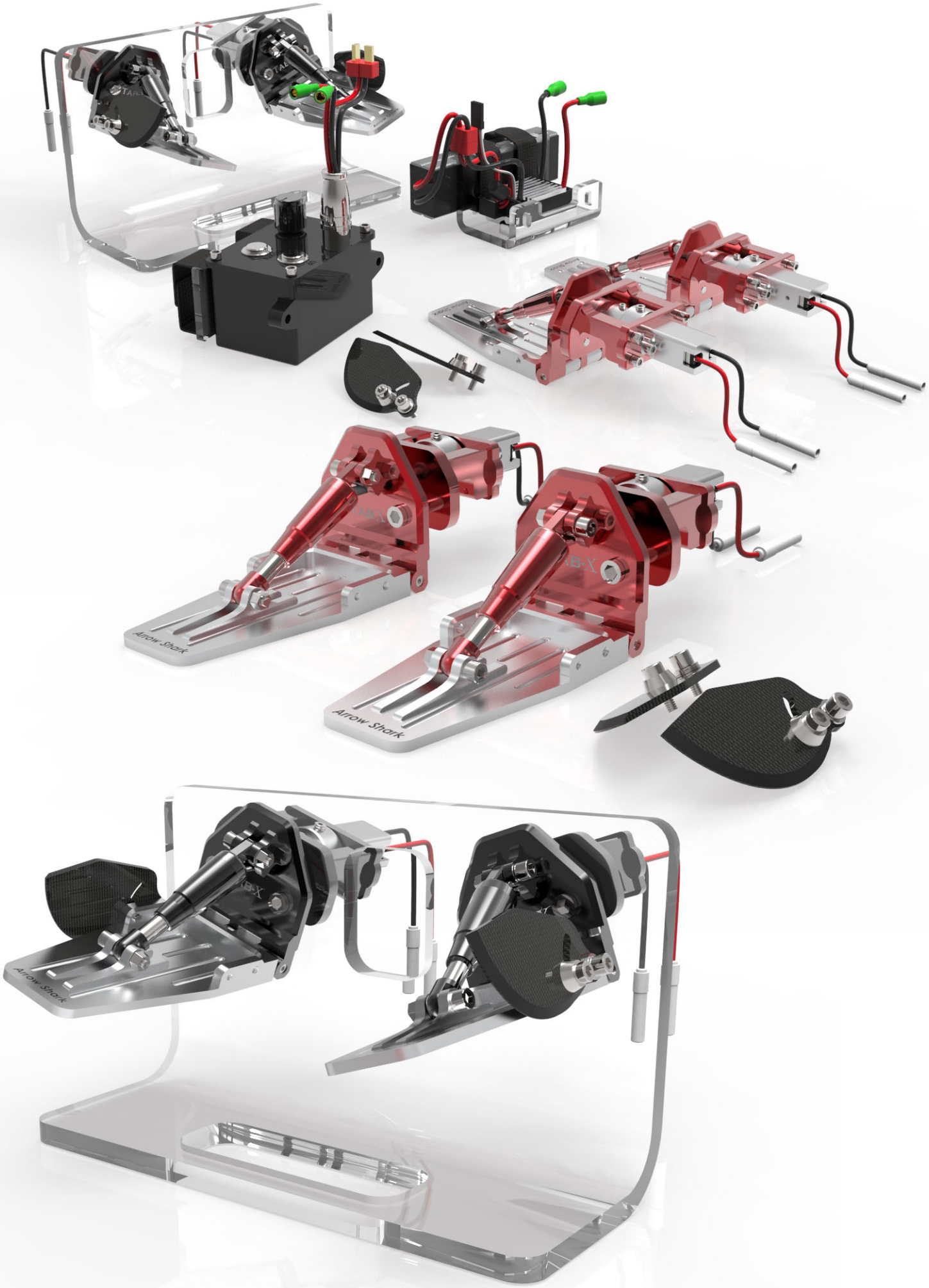


If you want to be able to adjust the side-to-side lateral trim of your boat such as if it is running with a list to one side because of a weight imbalance or being affected by cross-winds, you need to change the wiring so that one tab goes up when the other goes down. To do this, first set up the wiring as in the diagram and align both tabs at the same neutral setting. Then reverse the positive and negative wires to one of the gear motors. Again check that the tabs are level when at their neutral position.

Comparison of the Tab-X on Different Size Hulls



The Tab-X is best suited in a single-tab-each-side arrangement for mono hulls between 45” and 60”. For hulls over 70”, we recommend installing paired sets of Tab-X for better performance and for a more realistic appearance (as on the left hull in the above photo).



Thanks for choosing an Arrow Shark Product; we hope the creativedesign of our ArrowShark Tab-X kit will bring a higher level ofenjoyment to your experienceof RC gas boats!

There is no Best, only Better!

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