

INSTALLATION INSTRUCTIONS FOR THE NEW SUPER ULTIMATE “AK – 19” STEERING SYSTEM

Designed for single-engine Yamaha 2019 and newer 19-foot jet boats



The new SUPER ULTIMATE A K-19 SYSTEM is spring loaded, adjustable & selectable. You may choose to keep the fins in the water at a variety of different influence levels –OR- you may set the fins to rise up on plane and deploy for idle speeds and docking when off plane.

Parts breakdown, from the bottom up first is the side force stabilizer and hardware. You install this first by removing the original bolt on the nozzle that slides on top of the end of the factory rudder; there may also be some washers between the nozzle and the U-shaped nozzle attachment. Be sure to re install them during the install process and be sure to use thread locking compound on both ends of the threaded insert.



The new super ultimate ak system removes the original bolt and uses a stainless 10mm threaded insert in it's place. Once you have the bolt removed and the u shaped part with any washers removed by pulling them straight out , now you can move the rudder to the side and install the 10mm rod from the bottom upward .

While doing this take note that some nozzles have threads in the end hole and some do not. If it has threads you need to screw the insert up into the nozzle hole and place the side force stabilizer on the insert as it protrudes through the top along with the washer .

Then return the rudder to it's proper position under the nozzle and place the u shaped part back on top of the rudder and screw the threaded insert down into the part securing it in it's proper place, note the threaded insert will have an allen wrench opening , be sure that end is facing up when you install it so you can tighten the insert into the u shaped part before adding the nut also use thread locking compound on the insert before adding the U shaped attachment . You can use the allen wrench to secure the insert. You should use thread lock compound on both ends of the threaded insert to keep it from loosening during use. Yes I have said it more than once for a reason. Next is the actuator again a specially designed dual purpose actuator that will keep the fins down at speed in a variety of settings of your choice , or have the fins rise up at speed and only deploy at slow docking speeds, however most people love the full time setting. As it fills in the voids of the original keel and rudder at all speeds .

The next parts on the picture are the latest specially designed Super Ultimate Fins made for the 2019 and newer nozzles and reverse gates, plus all the hardware for installing them.

Now that you have the side force stabilizer installed you can install the right side fin "the spring side.

First remove the bolt that holds the right side of the reverse gate. "first picture below"

Take care not to lose the small stainless standoff that is in the reverse gate where that bolt is as this protects the reverse from the bolt and allows it to move freely. "Second picture". Next locate the hardware for installing the fin and spring etc. "Third and fourth pictures".



The arrow shows the position of the fin on the standoff in the progression of the washers and spacers.

Start with the long 8mm hex bolt, place the large thin washer on that bolt first followed by the large aluminum shim to support the spring, now take the spring and slide it on to the shim taking care to have the straighter arm go on FIRST, this places the arm with all the bends in it in the correct location closest to the fin. These bends lock on to the steering arm of the nozzle when the spring is loaded at the end of this process.

Now place a regular 8mm flat washer on after the spring followed by the .218 thick stainless standoff indicated by the arrow, now place the right side fin on to the standoff followed by another 8mm washer, the aluminum spacer and another flat washer.

Now place a drop of thread locking compound on the threads and slide the bolt loaded with all the parts on it" shown in last picture above" into the small standoff in the reverse hood shown in second picture above. You may need to move the bolt a bit to align the threads with the hole in the inner nozzle but once you feel it match up tighten the bolt taking care that as you tighten the bolt the fin is positioned on the standoff and floating freely if not, loosen the bolt and position the hole of the fin with the stainless standoff so it sits on that part correctly, this allows the fin to float and it should feel loose at this time. Also leave the spring loose for now we will "activate it" at the end of the process.

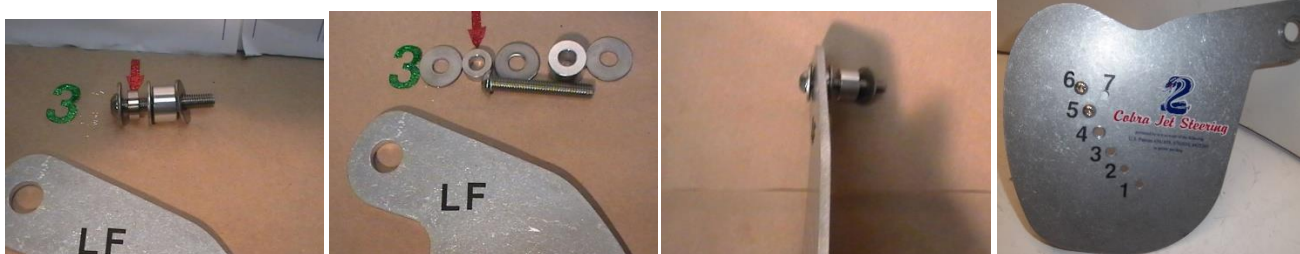
Next we will install the left side fin, this one has less parts.

Start with the long 8mm button cap bolt, then place a flat washer on it followed by the .218 stainless standoff that the fin will pivot on, now place the fin on followed by another flat washer the aluminum spacer and a final flat washer.

Place some thread locking compound on the bolt. Now remove the original bolt from the left side of the reverse hood taking care to have the original standoff remain in the reverse.

Slide the bolt into the reverse hood & align the bolt with the hole in the inner nozzle then tighten this bolt and be sure the fin floats on the standoff when you install it as you did on the other side.

If you installed this correctly the fin should also float free like the other fin.



Now we can move on to the actuator. The actuator attaches the two fins and tightens up the system. Each Ultimate fin has 7 holes see picture above. The holes numbered 1 through 6 are for full time steering assistance the higher the setting the more effect the fins will have at speed. The suggested setting is shown in the picture #5 & #6

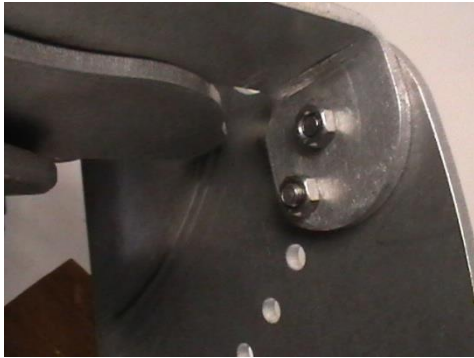
The actuators have two holes and the fins also have a 7th hole if you wish to have the fins retract at speed and only work at slow off plane speeds you set the lower actuator bolt in to the 7th hole with the upper hole at the number 6 this tilts the actuator up and allows the water from the nozzle to gradually lift the fins as the engine r p m's increase. That being said most people like all the influence for rough conditions, water sports, strong currents and great high speed tracking as well as off power handling during deceleration. So they set the fins in the position shown #5 and 6.



Actuator angled up on #6 and #7

Actuator flat on #5 and #6 to #1 & #2

Note: your actuator ends have a flat side and round side so be sure to mount the actuator with the flat side facing forward as shown in this picture. Using the small button cap bolts with the nuts on the inside to secure it to the fins.



Now we have two things left to do before we are finished with this installation.

Number 5 on the front page is very important!

We must reposition the anode on the left side of the jet pump so the fins can move freely without contacting that part.

First remove the two original hex bolts that are holding the anode to the side of your pump. "See first picture below".

Now take the anode and place the rough side out just the opposite of how it was originally attached to the pump. Using the original bolts place them through the brackets and out the rough side of the anode attaching the nuts to the bolts, do not use any washers, the nuts will attach to the ends of the original bolts sufficiently to secure the anode. Now use the shorted bolts and flat washers to secure the brackets to the pump housing. The anode will now be sitting at an angle and allow the nozzle to turn without obstructing it. Anodes are made to corrode so the pump and other parts don't.

I suggest you also add a ZINC anode if you run in salt water as the original anodes are magnesium and better suited for fresh water.

The size and shape of the anode does not matter just that it is attached to the metal parts you are protecting from corrosion. Also never paint the anodes. Note pictures show the anodes reversed with rough side out.



And finally, we need to load the spring on the right-side fin. This is really simple; there are two arms on the spring.



The first arm is closest to the nozzle and it has numerous bends to allow it to hook on to the nozzle steering arm, see first picture, the second arm is furthest away from the nozzle and has less bends, take that arm, pull it out slightly away from the steering arm of the nozzle while you rotate the spring arm clockwise and bring it up over the top of the fin where it will catch the top of the fin to provide tension on the system. The second picture shows the spring being loaded by hand and the third shows it loaded and operational the arrow shows the proper direction when loading always clockwise!

And now the newest option to the Super Ultimate AK-19 steering system. The Planning Side Force Stabilizer, this option can be added to previous super ultimate ak-19 systems or the newest versions. This option replaces the regular side force stabilizer with an extra-large version that will help your boat get upon plane faster, provide a more stable ride in chop and provide a cleaner wake.



bottom is the original and the top is the new planning surface side force stabilizer. The only difference in the install is to reverse the small button cap bolts that attach the side force stabilizer so the nylock nuts are on the outside of the fins for extra clearance.