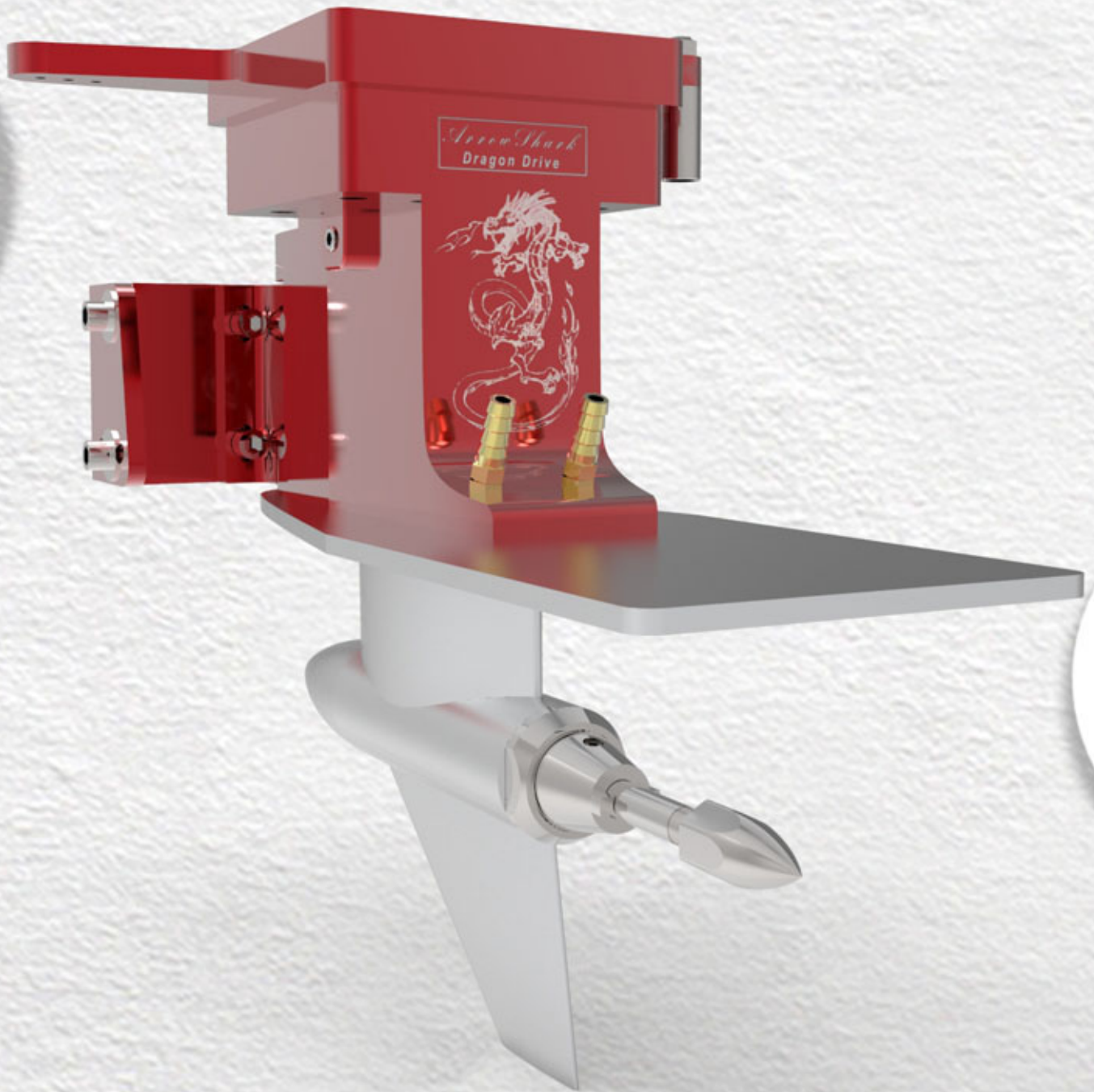


K A F E I S H G U A
Arrow Shark
Dragon Outboard Drive

Owner Manual



DESIGN FOR THE BEST

IF YOU WERE A TEARDROP IN MY EYE, FOR FEAR OF LOSING YOU I WOULD NEVER CRY. AND IF THE GOLDEN SUN SHOULD CEASE TO SHINE ITS LIGHT, JUST ONE SMILE FROM YOU WOULD MAKE MY WHOLE WORLD BRIGHT. IF YOU WERE A TEARDROP IN MY EYE, FOR FEAR OF LOSING YOU I WOULD NEVER CRY. AND IF THE IF YOU WERE A TEARDROP IN MY EYE, FOR FEAR OF LOSING YOU I WOULD NEVER CRY.

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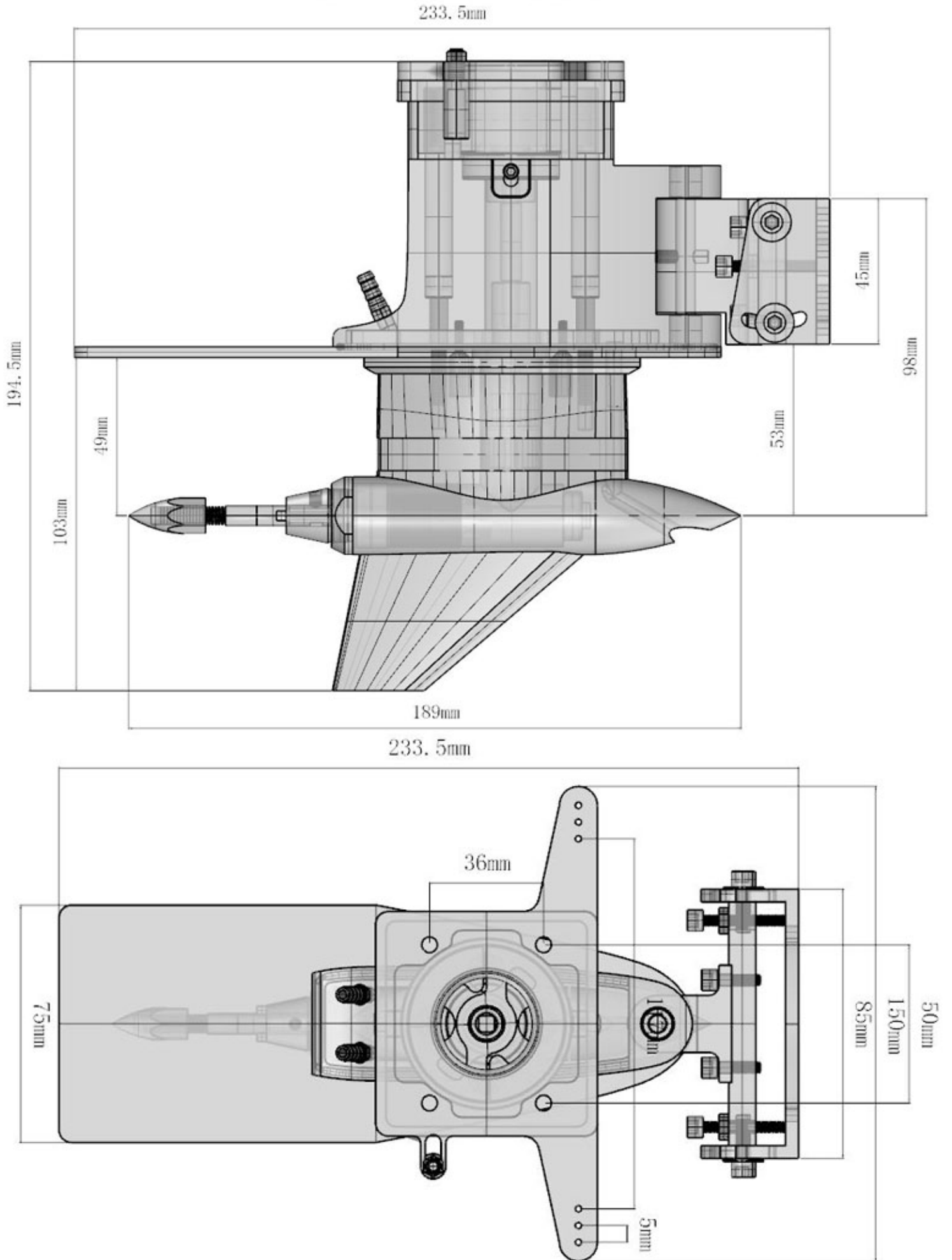
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Part List



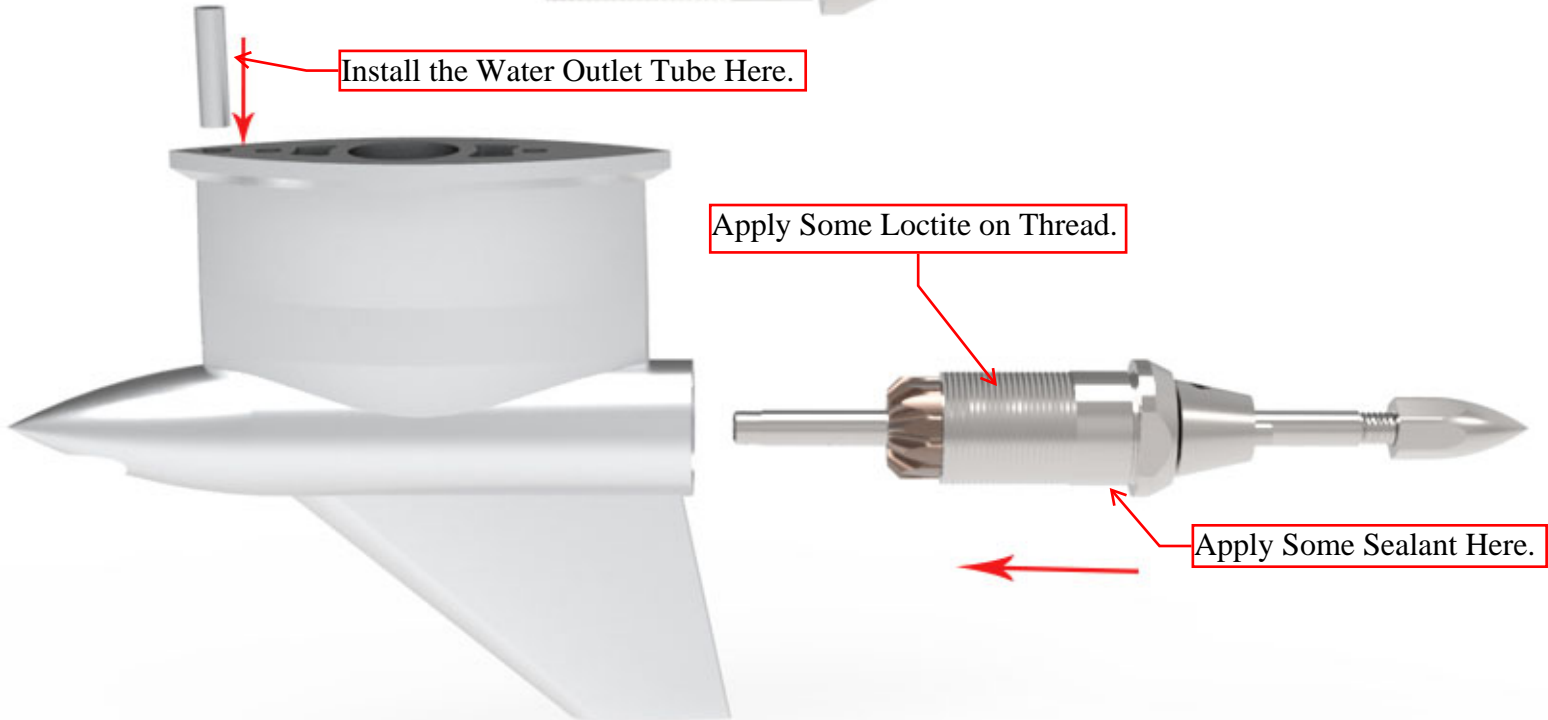
ODD#0001	Billet Main Body	ODD#0009	Square Insert Collet
ODD#0002	Top Cover & O-Ring Seal	ODD#0010	Middle Gear Barrel
ODD#0003	Steering Bracket Assembly	ODD#0011	Hardened Drive Shaft
ODD#0004	Billet Lower Unit	ODD#0012	Throttle Adaptor
ODD#0005	Riding Plate	ODD#0013	M4x10mm Bolts
ODD#0006	Prop-Shaft Housing Assembly	ODD#0014	M5x25mm Bolts
ODD#0007	Clutch Bell Assembly	ODD#0015	M5x40 Bolts
ODD#0008	Clutch Shoe		

Dimension Guide



Lower Unit Assembly

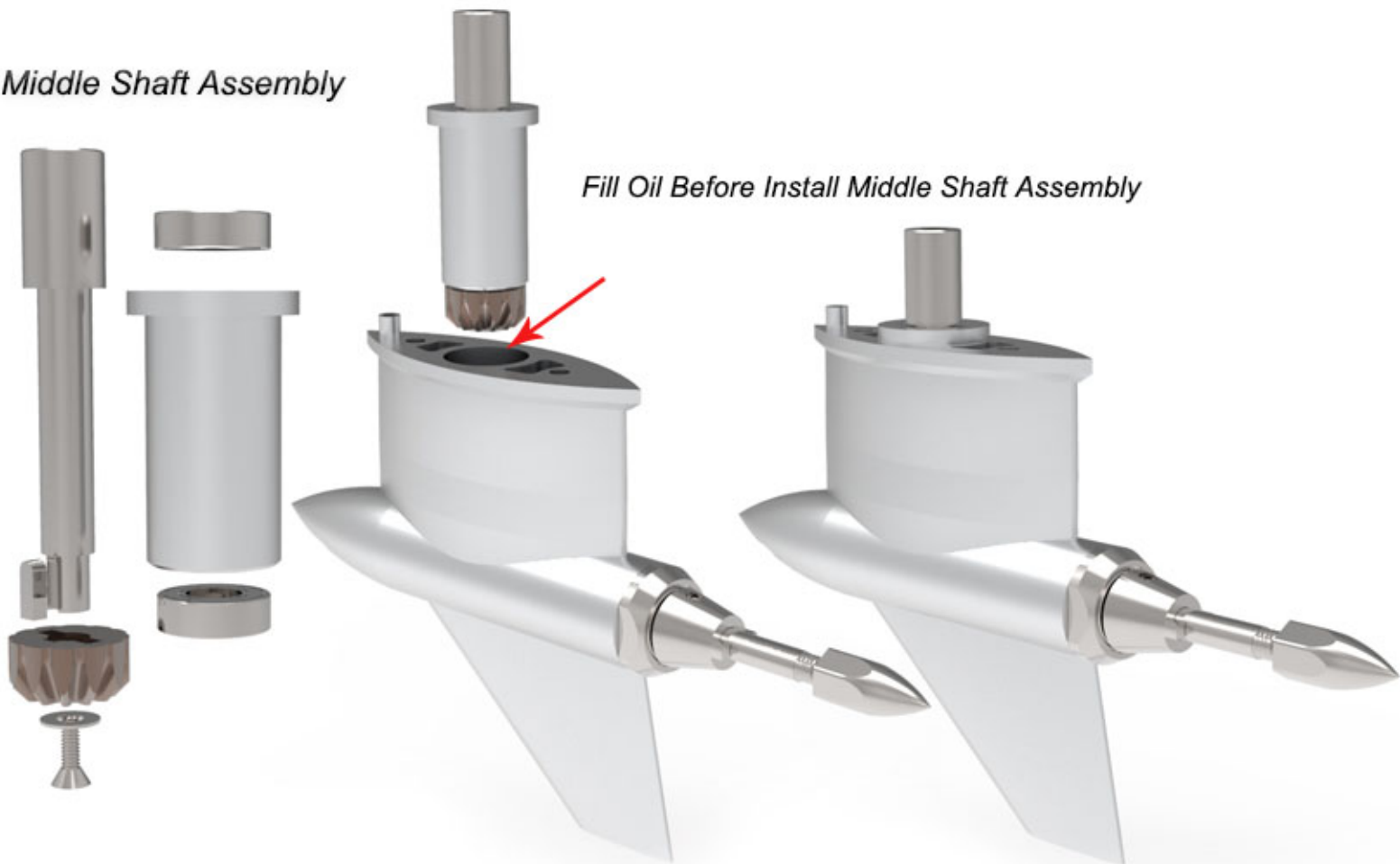
Propshaft Assembly



Apply some sealant on the flat part of the steel prop shaft housing, and apply some Loctite on the thread part of the housing. Using the 21mm wrench, screw the prop shaft housing assembly into the lower unit; please keep the front side pointed down until the sealant is dry.

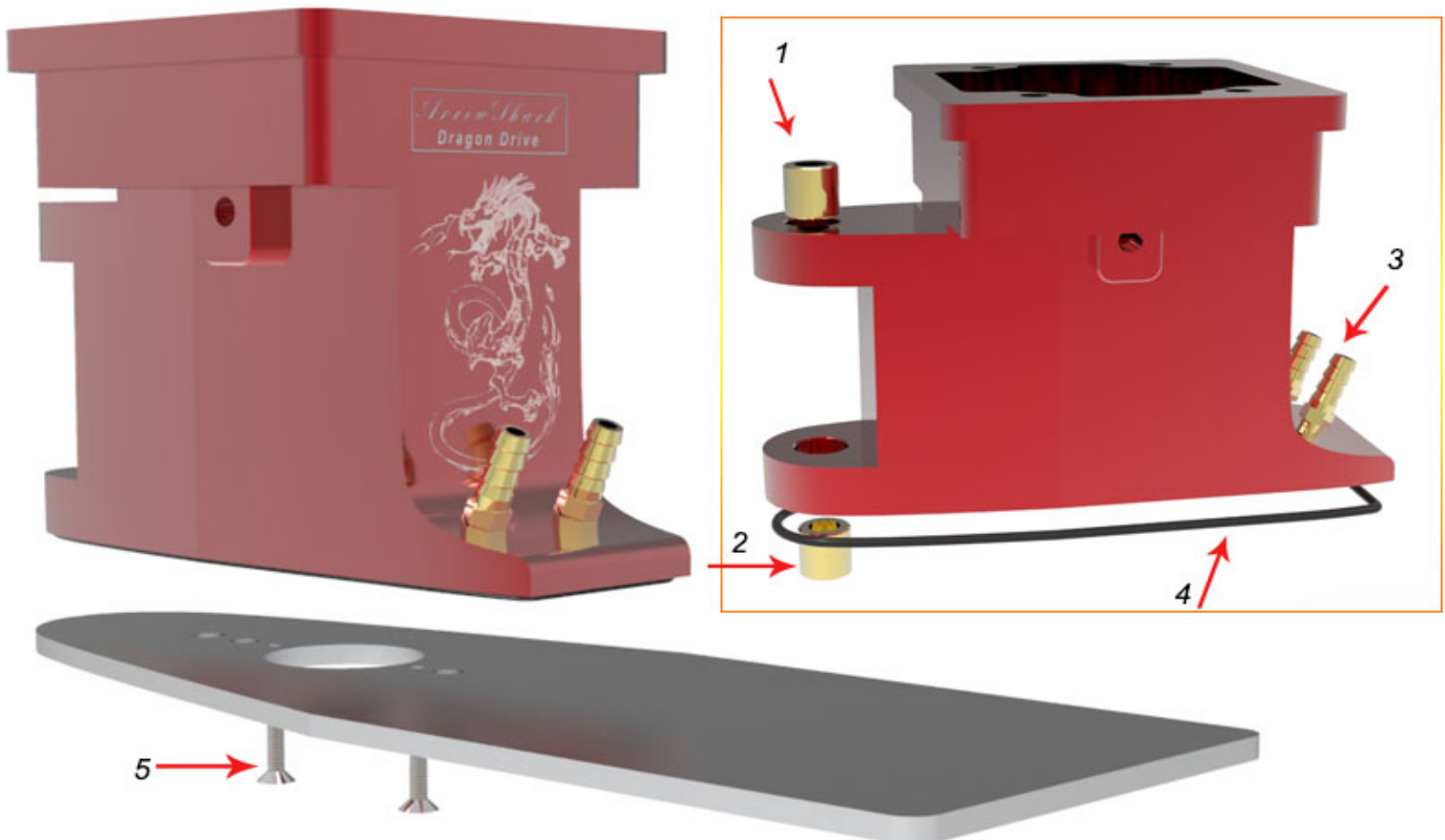
Note: The above sealing procedure is very important; without properly sealing, water might get into the lower unit or oil might leak out. As well, the Loctite on the thread part of the steel housing is very important, especially for the Dragon Drive with counter-rotation application; without Loctite on the thread, the housing might loosen during operation which could cause gears to become improperly engaged leading to wear and possible damage. However, when you plan to unscrew the housing for maintenance or changing the oil after having applied Loctite on the thread, you will first need to loosen the Loctite by heating the thread area from outside of the unit with a heat gun. This technique will avoid damaging the threads on the inside of the lower unit.

Middle Shaft Assembly



Fill the lower unit with gear oil ensuring that the bottom prop-shaft gear is completely immersed in oil. Insert the middle gear housing into the lower unit, the lower unit assembly is completed, put it to one side for the moment.

Main Body Assembly



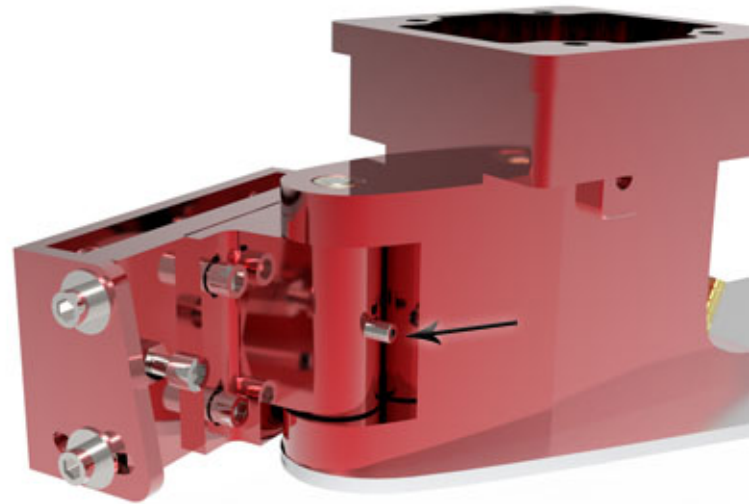
Install steering copper bushes, water outlet nipples and sealing O-ring to the main body unit.

Position the riding plate on the bottom of the main body and use M4x10mm bolts to tighten them together; make sure to apply Loctite on the bolts.

Main body unit assembly now is completed!

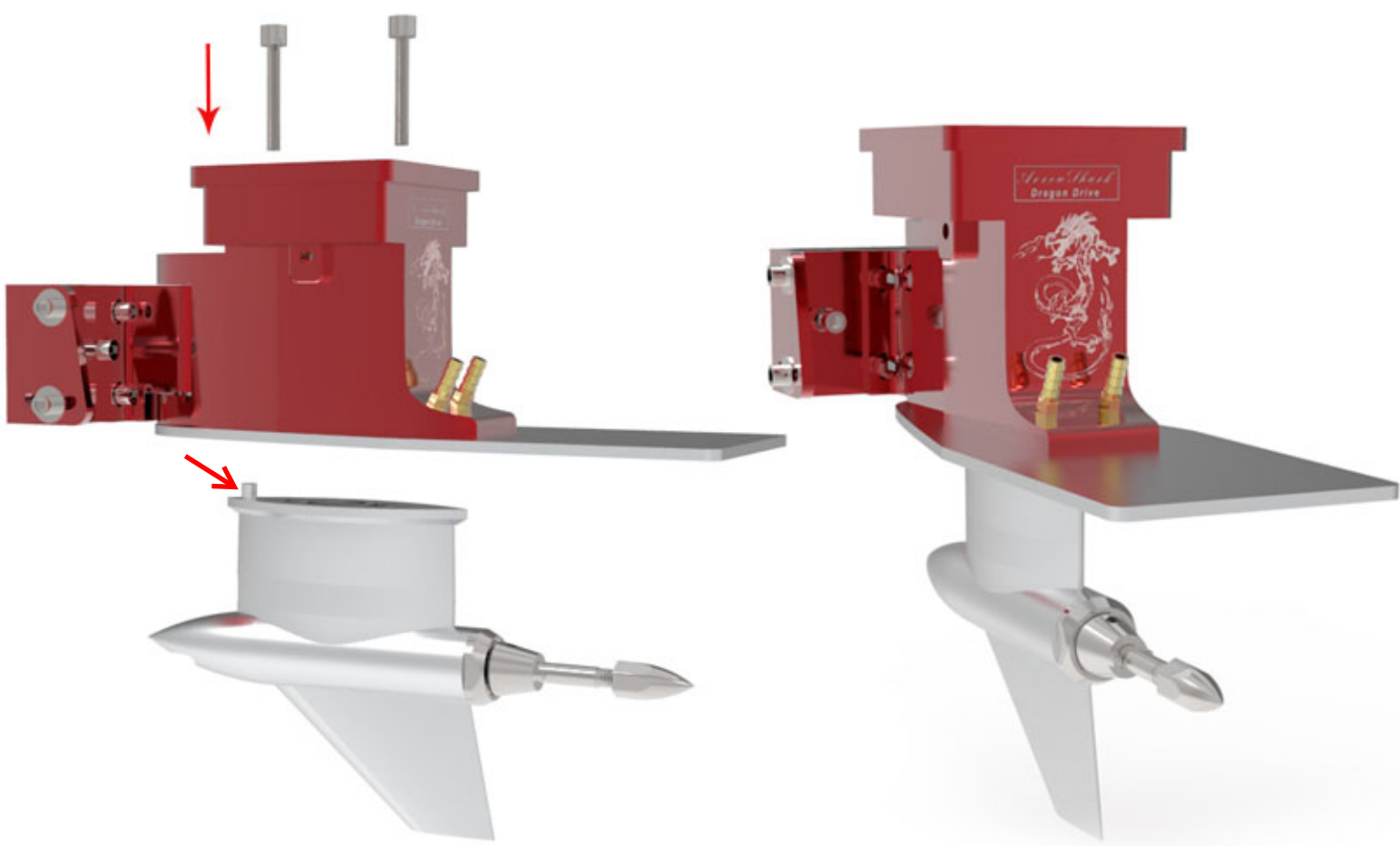


Mounting Bracket Assembly



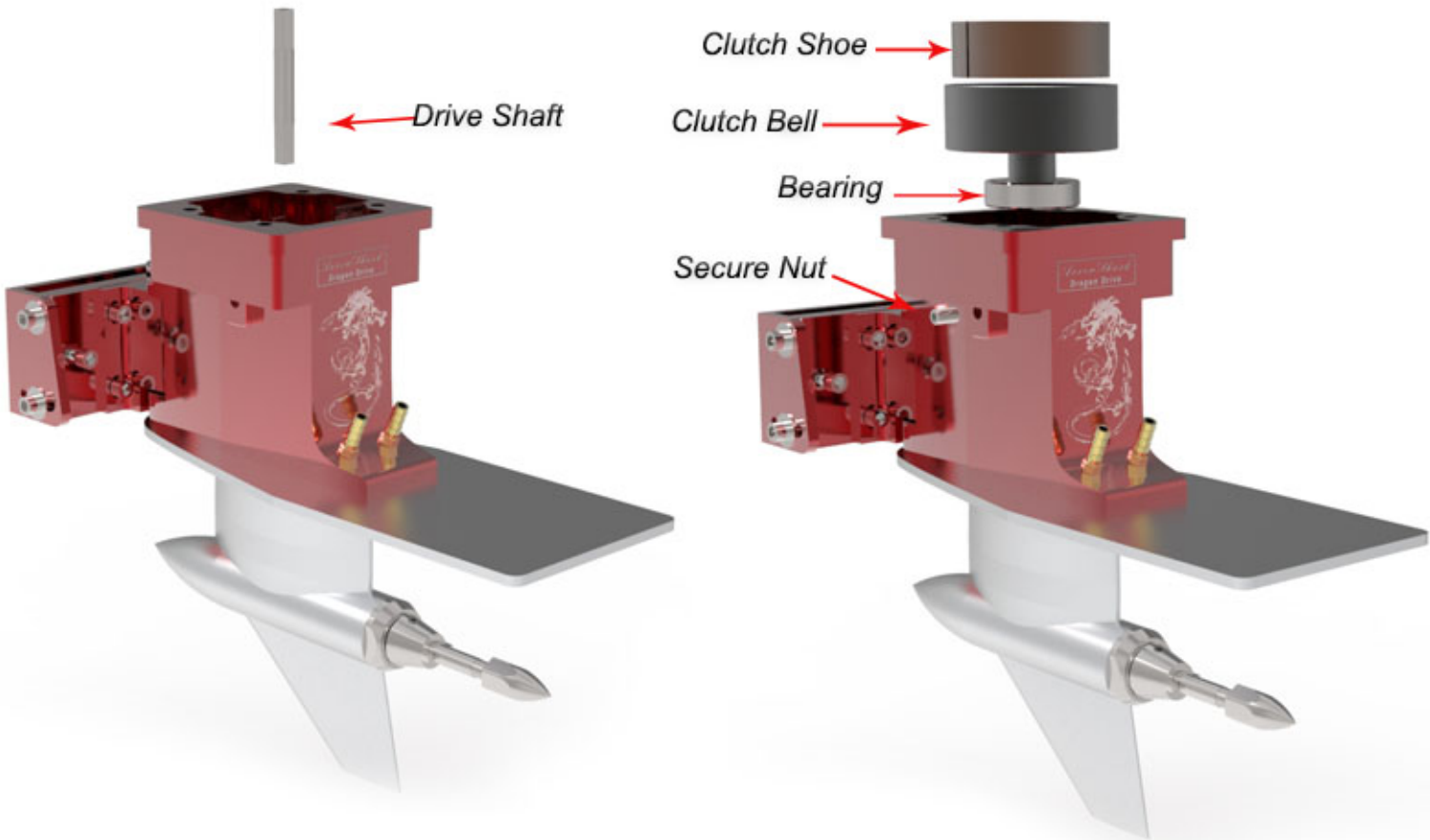
Connect the steering pivot pin via the steering pin holes on the top unit and the bracket assembly as shown on the above left picture.

Use an M4 hex nut to tighten via the thread on the mid section of the bracket to hold the pivot pin in place as shown in the above right picture.



Now get both upper and lower assembly units ready for Connecting these two parts together and make sure the water intake nipple on the lower unit is properly aligned into the matching hole on the riding plate. Using two M5x25mm bolts, tighten these two parts together as shown in the above right picture.

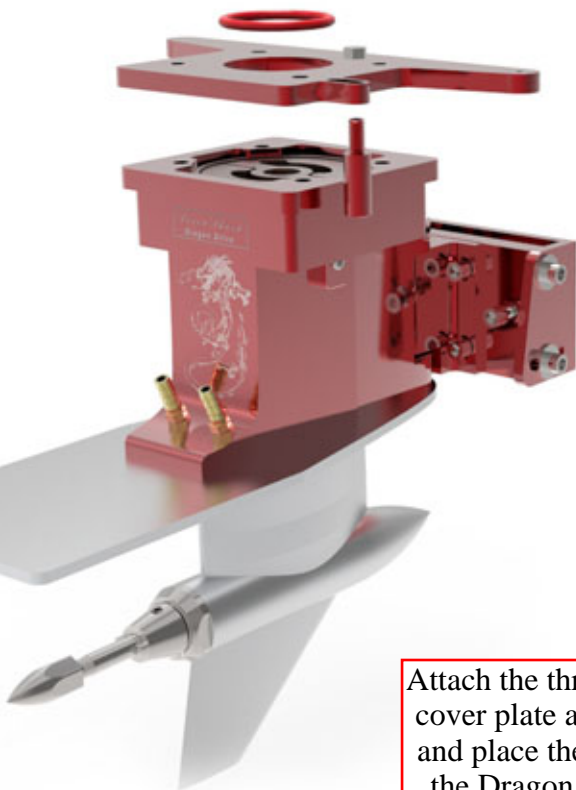
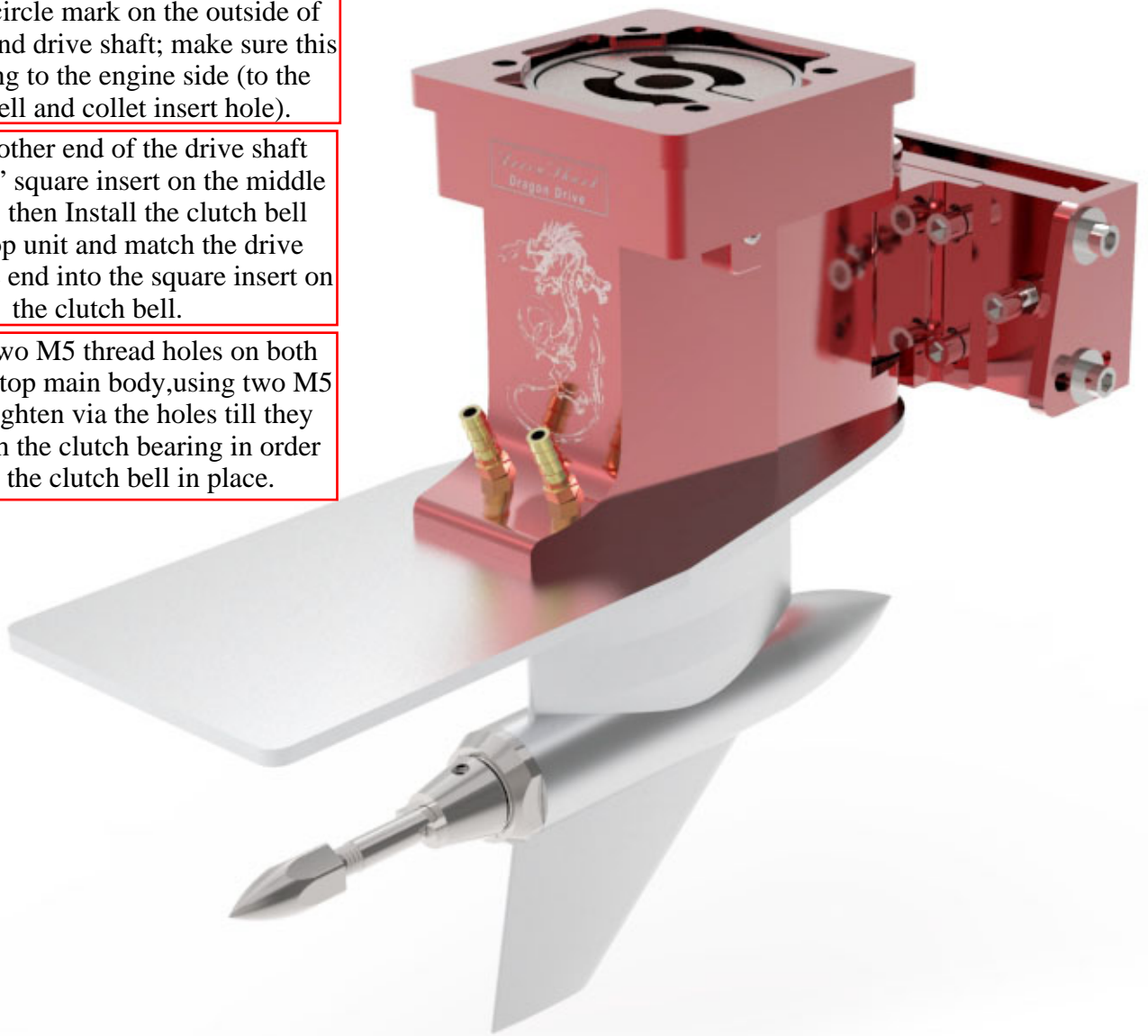
Clutch System Assembly



There is a circle mark on the outside of the square end drive shaft; make sure this end is going to the engine side (to the clutch bell and collet insert hole).

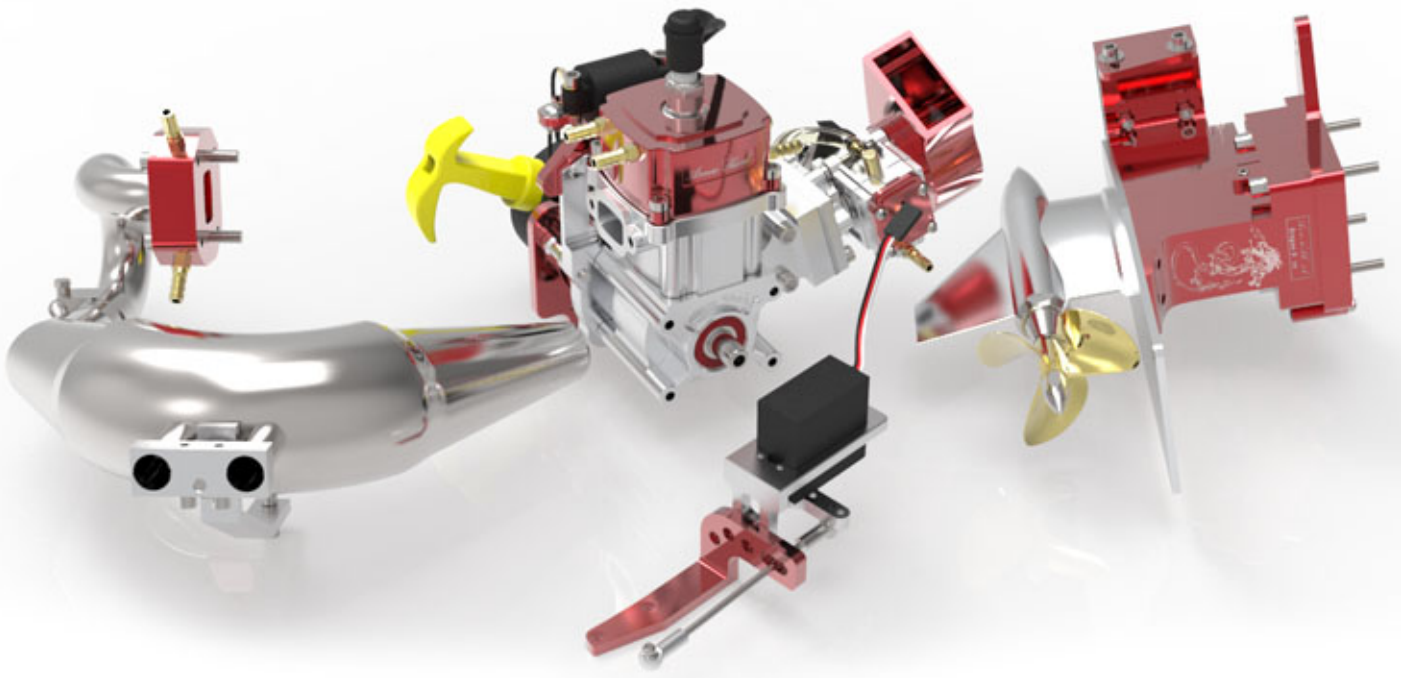
Insert the other end of the drive shaft into the 1/4" square insert on the middle gear shaft, then Install the clutch bell into the top unit and match the drive shaft square end into the square insert on the clutch bell.

There are two M5 thread holes on both sides of the top main body, using two M5 hex nuts, tighten via the holes till they gently touch the clutch bearing in order to hold the clutch bell in place.

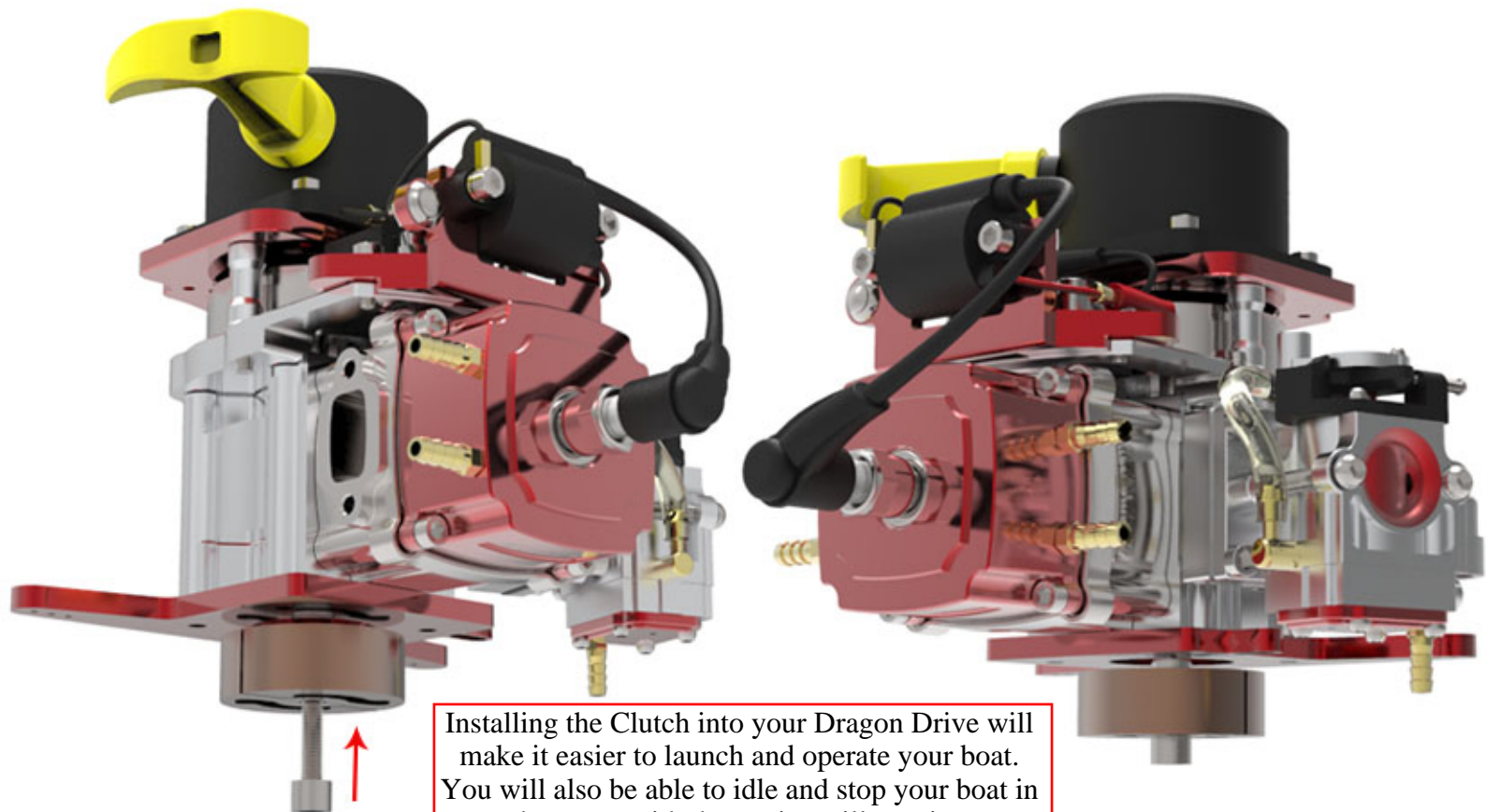


Attach the throttle cable adaptor into the top cover plate and tighten it with an M5 bolt. and place the top cover on the main body, the Dragon Outboard Drive assembly is now completed!

Installation of Dragon Drive & X-30

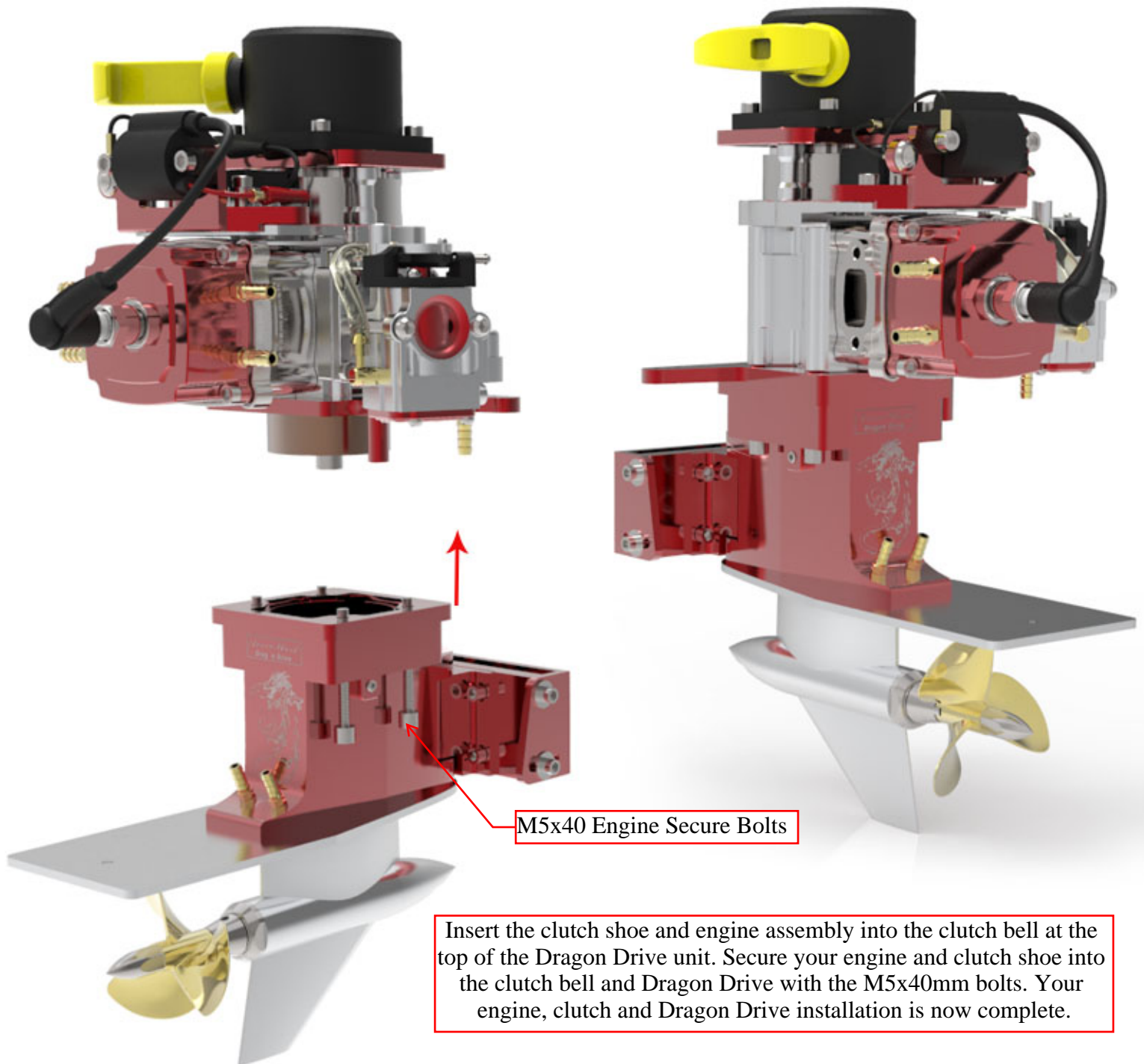


Set-Up Dragon Drive with Clutch



Installing the Clutch into your Dragon Drive will make it easier to launch and operate your boat. You will also be able to idle and stop your boat in the water with the engine still running.

Take out the spark plug from X-30 engine and screw a piston stopper into the spark plug hole, then, position the billet steering cover on the drive shaft end of the engine and install the clutch shoe on the engine crankshaft. Use the M6x18 bolt tighten it into the crankshaft.



Carburetor Protector V2 Installation

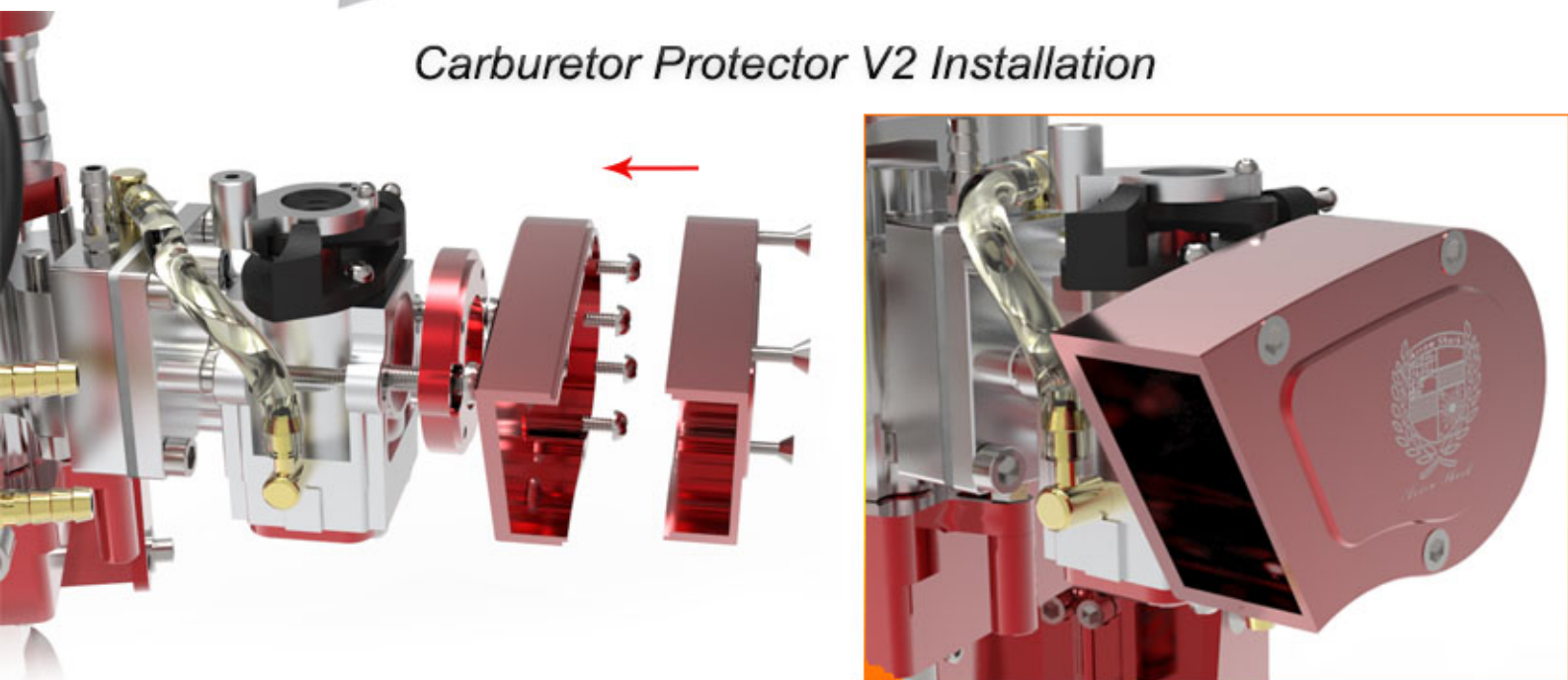


Diagram of Formula-S Tuned Pipe Kit Installation

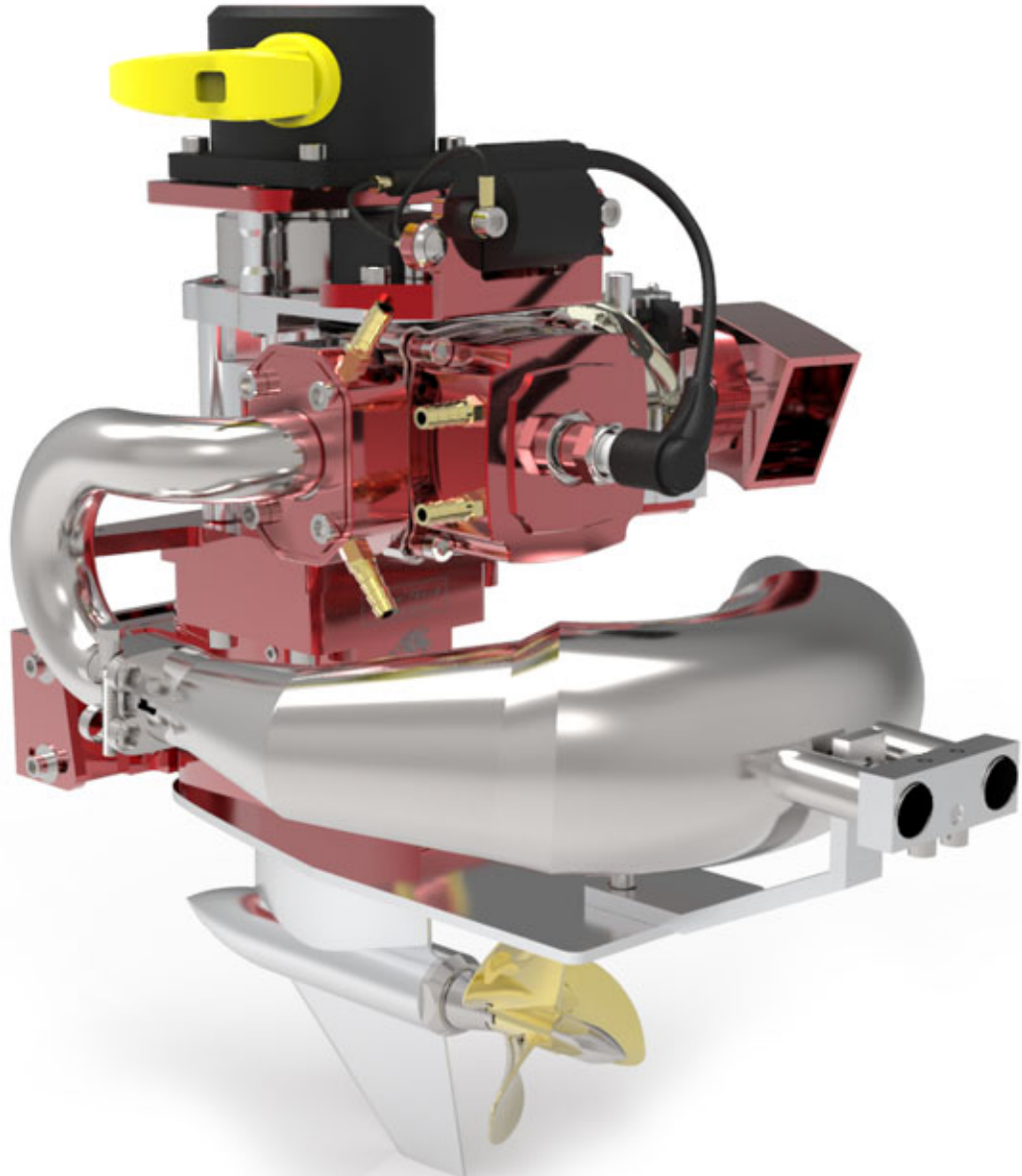
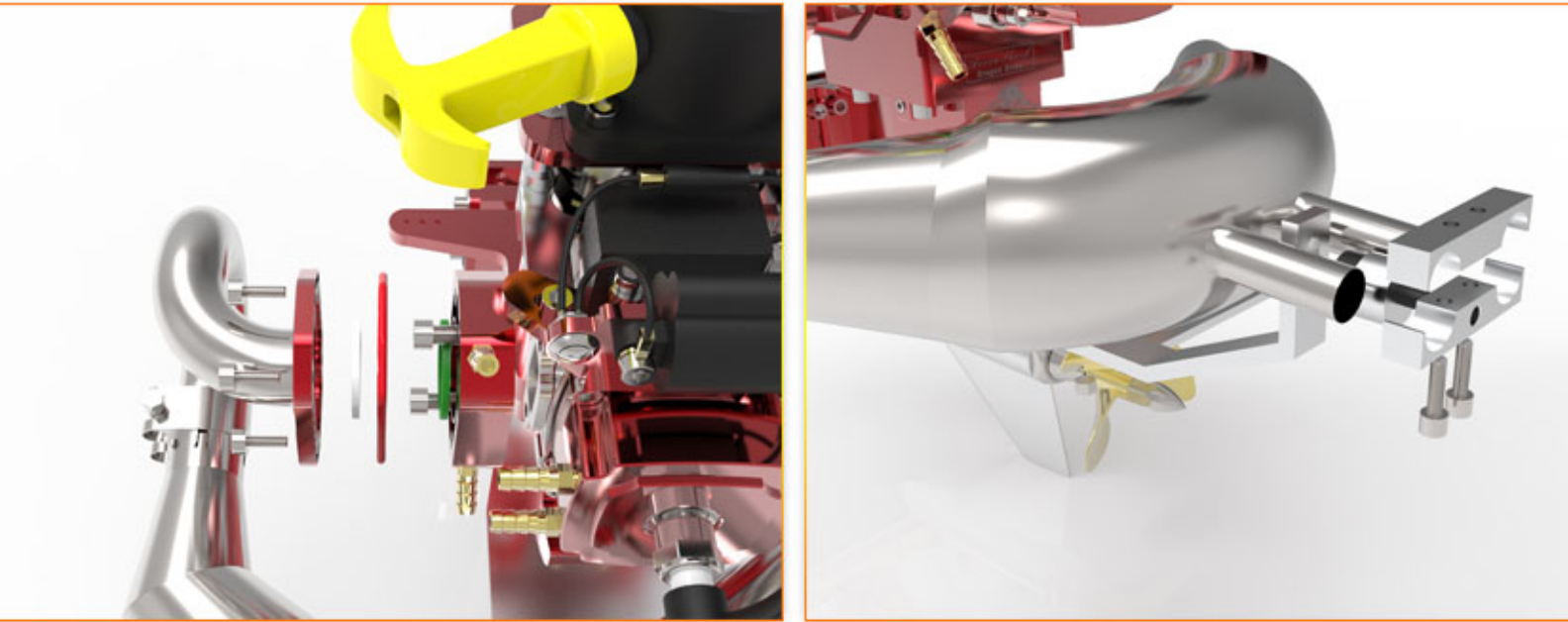
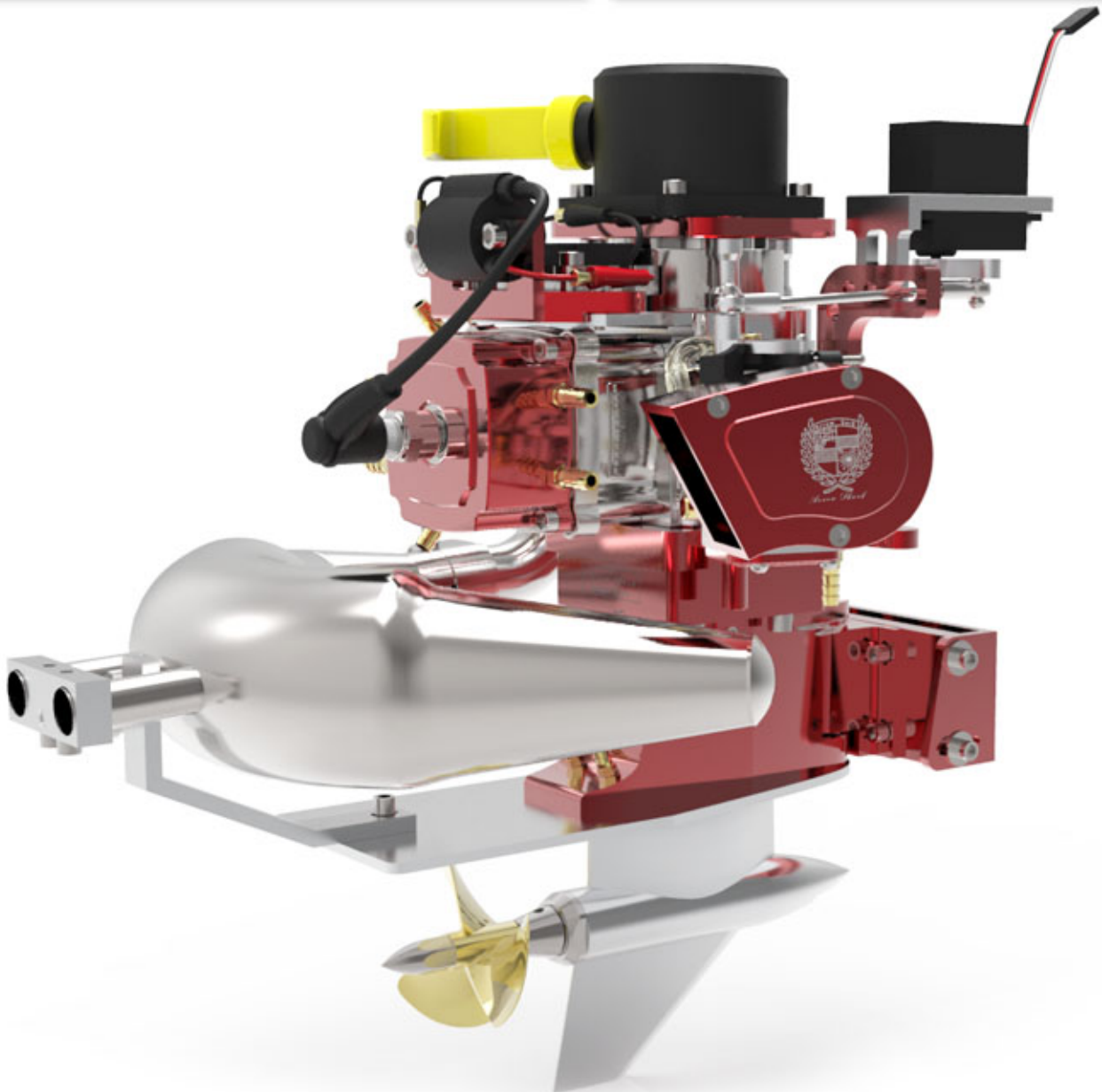
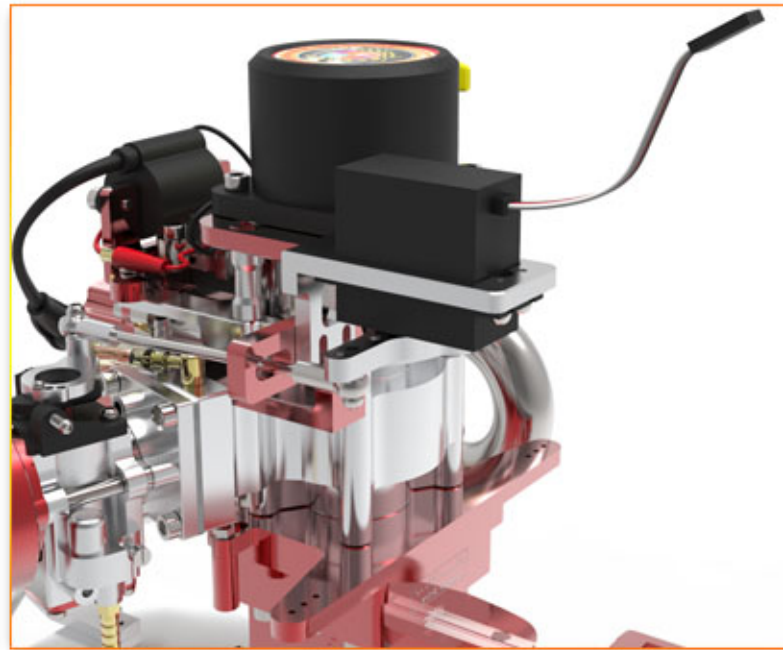
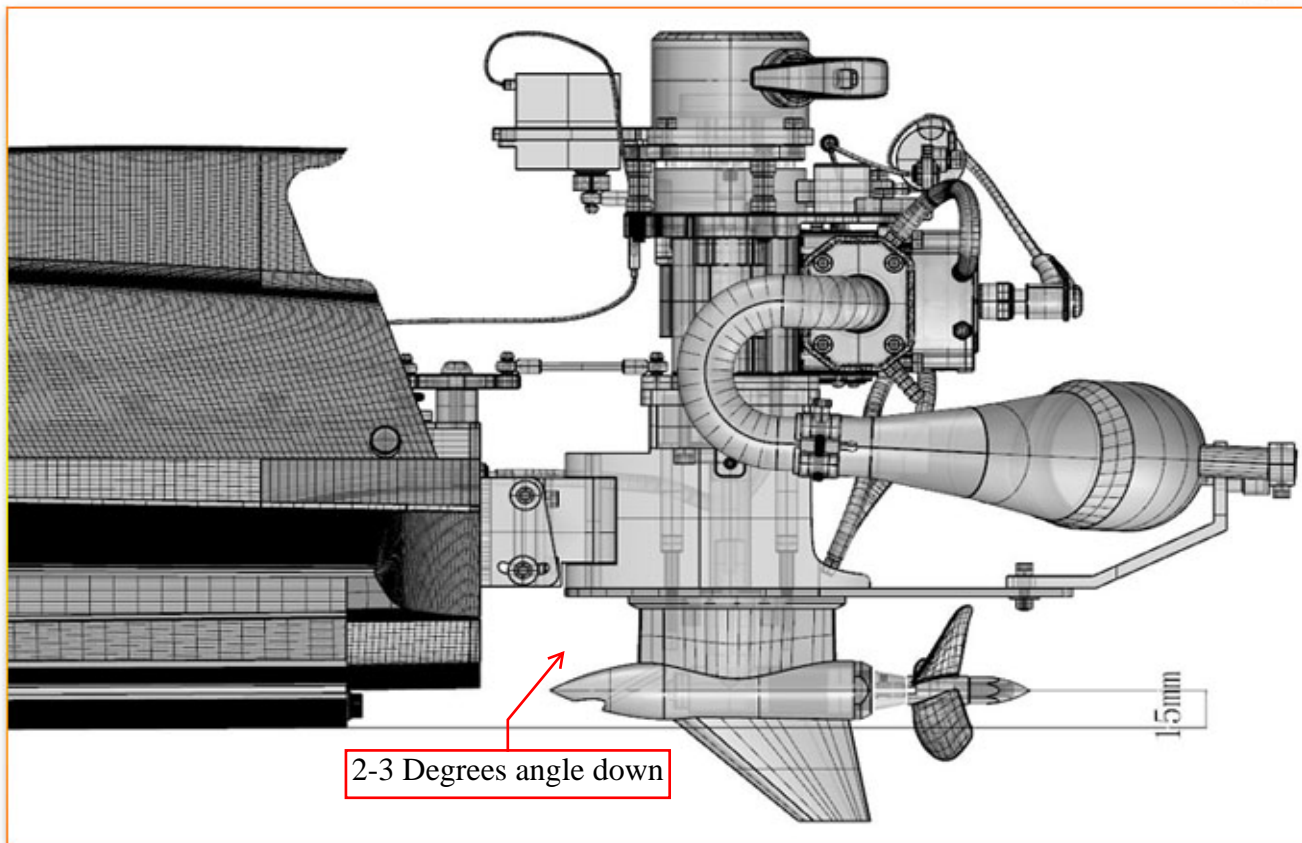
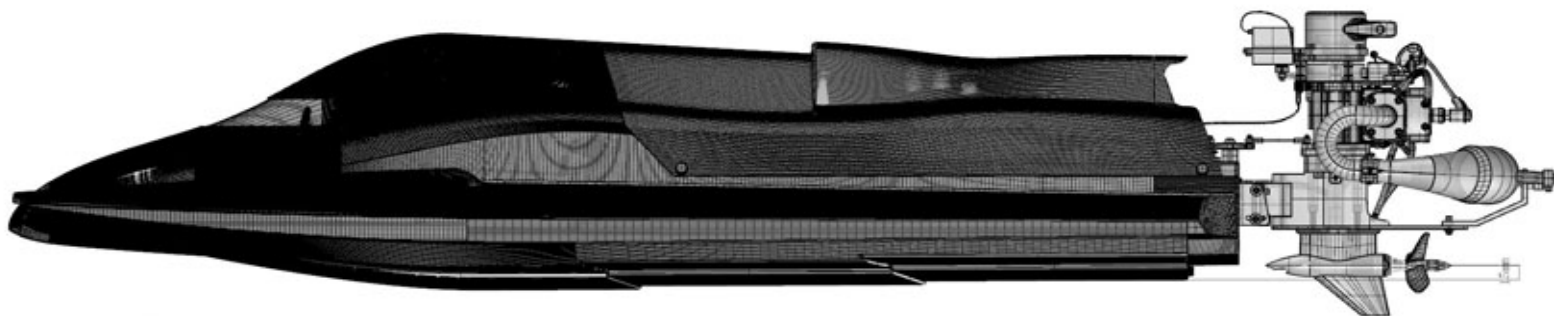


Diagram of Throttle Control Kit Installation

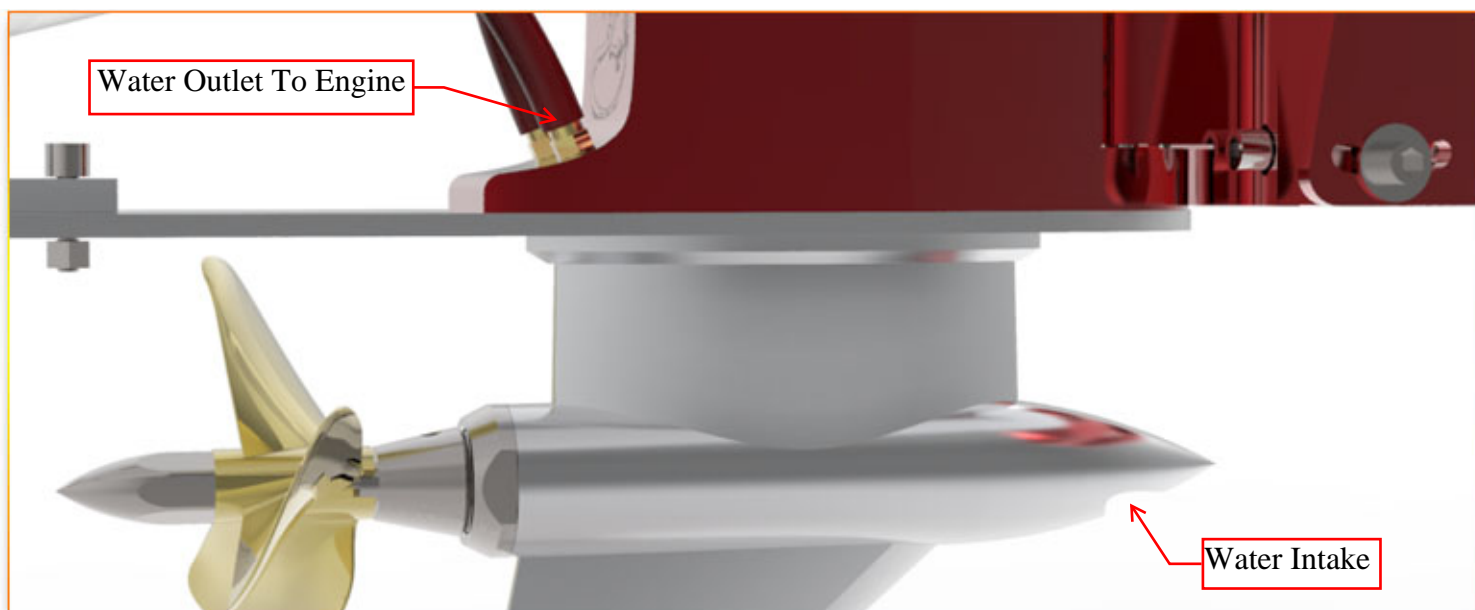


Hull Installation Set Up

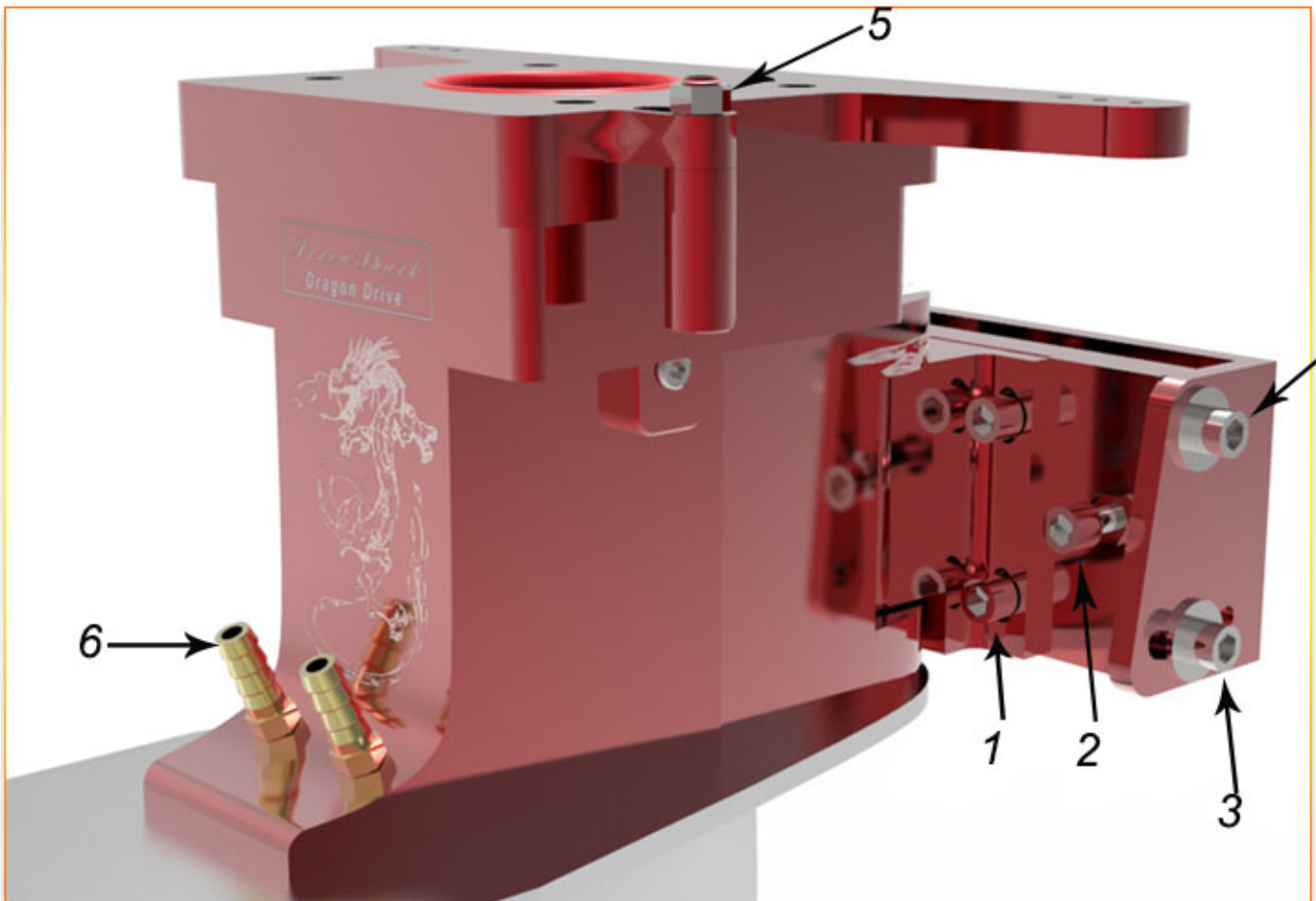


When installing the Outboard Dragon Drive onto your F1 tunnel hull, it is recommended that the prop shaft centerline be approximately 15 to 20mm above the level of the bottom of the sponsons.

Water Cooling Connection



Functions

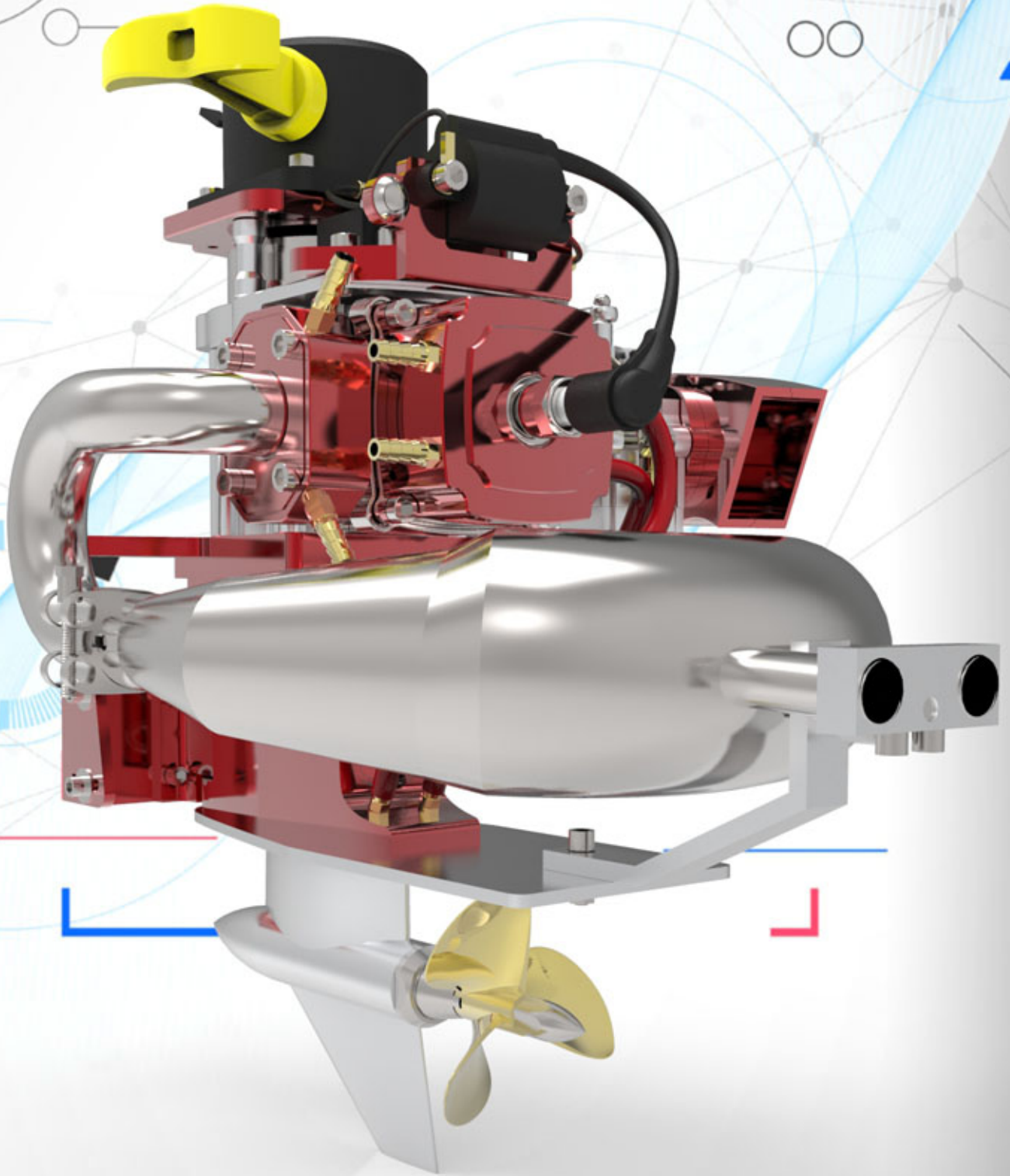


You can adjust the height and prop angle of your Dragon Drive as follows. Apply Loctite to all bolts and re-tighten after adjustment to keep them secure during operation.

- #1: These are the vertical height adjusting bolts. Loosen these 4 bolts to adjust the complete unit up or down.
- #2: This is the prop angle securing bolt. When you have set the prop angle at your preferred position, screw in this bolt against the base of the bracket to maintain the correct prop angle during operation even though the #3 adjusting bolts are loosened.
- #3: This is the prop angle adjusting bolt A. Loosen this bolt to slide the Drive in or out and so adjust the prop angle for optimum performance.
- #4: This is the prop angle adjusting bolt B. Loosen this bolt when adjusting the prop angle, and tighten it when finished.
- #5: Adjustable throttle cable adaptor makes it easy to link the flexible cable from your servo to the engine carburetor.
- #6: Water outlet nipples link to your engine water jacket with tubing for proper engine cooling.

Thank You! Enjoy your Outboard Dragon Drive!

There is no Best, only Better!



Arrow Shark
RC Marine