



## **Dive Xtras X-Scooter Series Owner's Manual**

### **Models Covered:**

Sierra Std Body

Sierra Long Body

Sierra CSI

Cuda 550

Cuda 850

The Dive Xtras X-Scooter series is a range of tow behind diver propulsion vehicles designed to enhance a diver's under water experience. This owner's manual is not a training manual and should not be substituted for a proper training course. It is the diver's personal responsibility to seek proper training in the use of the X-Scooter and to dive within the limits of their training, experience and X-Scooter limits as described in the specification.

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# Cautions & Warnings!

## **Never ascend using the x-scooter to pull you towards the surface.**

This will cause a rapid ascent, as explained in basic diver training and should be avoided at all times. A rapid ascent can cause serious injuries such as, but not limited to, lung over expansion injuries, decompression illness, rupture of the ear drum, and in extreme cases, even death.

## **Never allow the x-scooter to put you at risk.**

If at any time during your diving activity with an X-Scooter you feel you are at risk, immediately unclip the X-Scooter tow cord and release the X-Scooter.

## **Placing your hands in the way of the propeller blades can cause damage and/or injury.**

Inadvertently getting your hands or other objects caught in the spinning propeller blades can cause damage to your X-Scooter as well as to you. The X-Scooter has a built in safety feature to minimize this danger, but some damage/injury may still occur.



## **Be careful not to entangle hair, equipment, line and/or seaweed etc, in the propeller.**

This may cause the X-Scooter propeller to slow or even stop. Ensure you stop, releasing the trigger, and untangle whatever has caused the entanglement.

## **Always ensure whenever connecting any electric connectors, to connect like colors.**

Always connect red to red, black to black and white to white. Failure to do so will result in damage to your X-Scooter, battery or charger.

## **Always ensure correct operation of the on/off trigger prior to use.**

Always ensure you check the trigger action prior to use of the X-Scooter to ensure correct operation.

## **Never charge the batteries in a sealed environment.**

This can cause a buildup of heat and flammable gases leading to the possibility of an explosion. Batteries should be charged in a cool and well ventilated area.

## **Always allow batteries to cool before charging or using.**

The batteries may heat up during use or charging. Overheating reduces the efficiency, capacity and may even damage the battery pack.

## **A low voltage cutoff protects the batteries from over discharge.**

The X-Scooter will shut down once the batteries have reached a minimum (low) voltage. This protects the batteries from being over discharged which may cause permanent damage to the battery. During use in the final few minutes before the battery reaches its minimum voltage, the cutoff will activate intermittently, with increasing frequency until complete cutoff at low voltage. At this point the X-Scooter will not function until the batteries have been recharged.

## **Do not leave the batteries connected for extended periods of time. Battery damage may occur. Always disconnect the battery after a dive.**

The X-Scooter uses a very small amount of power whenever the batteries are connected. This slowly discharges the battery. Connecting for extended periods (greater than several hours) prior to diving will result in reduced burn times. Leaving the battery connected after the dive may over discharge the battery, damaging it. The low voltage cutoff does not protect against this small power draw.

## **An X-Scooter is considered a heavy object. Use caution when lifting.**

Always use safe lifting practices when lifting X-Scooter. Bend from your knees keeping your back straight.

## **When transporting with your x-scooter, on a boat, car or airplane, always ensure the X-Scooter is safe and restrained from movement.**

The X-Scooter is a heavy object, always safely restrain your X-Scooter when transporting to avoid damage to the X-Scooter or bystanders.

## **Always check the latches are fastened correctly and nothing has got pinched in the seal between the tail and body of the X-Scooter.**

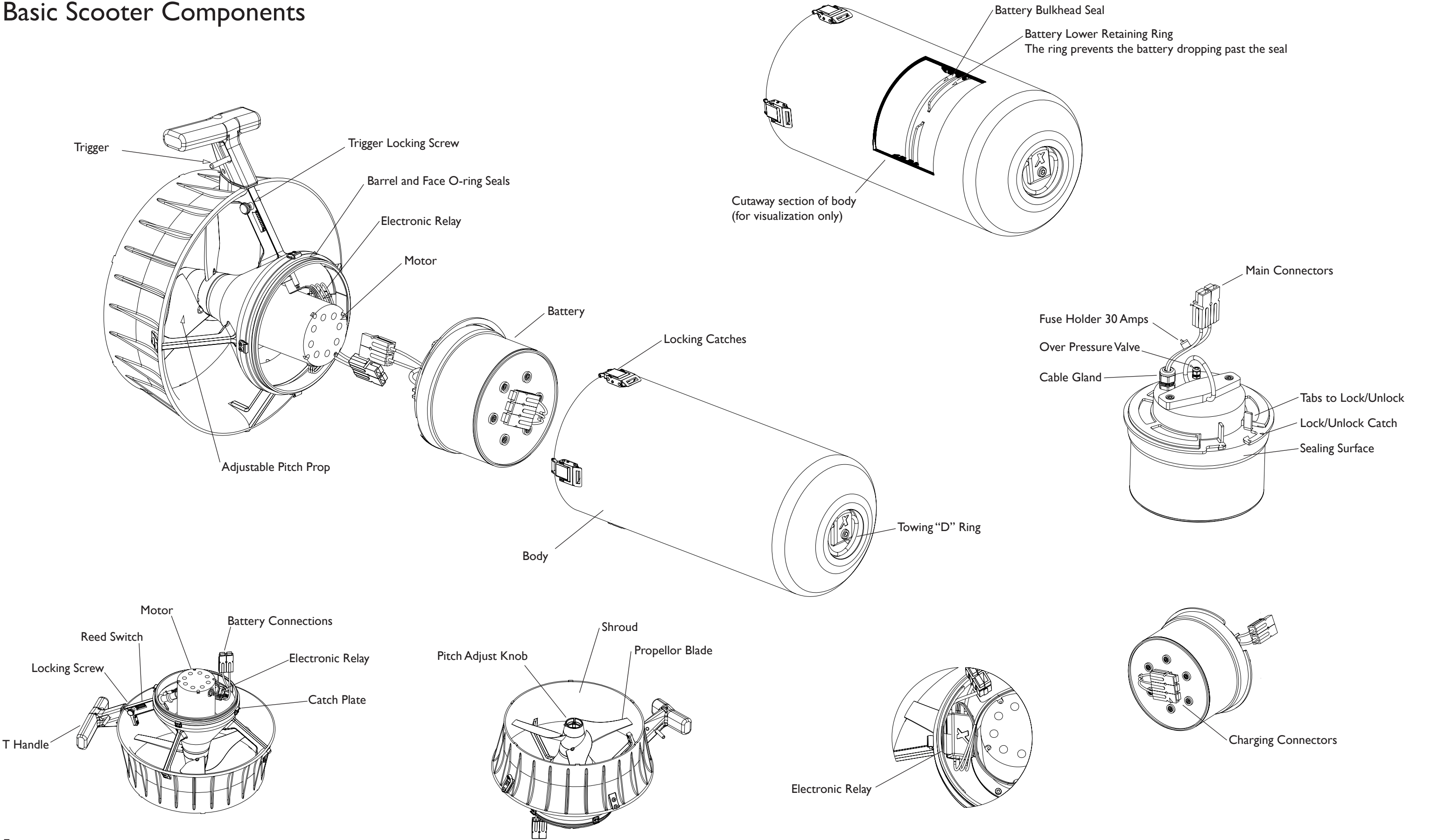
When assembling the tail to the body it is important to ensure that nothing is caught in the seal and none of the o-rings are protruding to minimize risk of flooding.

# Specifications

Model /Specification	Sierra Std Body	Sierra CSI	Sierra Long Body	Cuda 550	Cuda 850
Depth Rating	600ft/180m	600ft/180m	600ft/180m	600ft/180m	600ft/180m
Max Speed *	182ft/min; 55m/min	182ft/min; 55m/min	192ft/min; 55m/min	254ft/min; 77m/min	254ft/min; 77m/min
Weight (Ready to Dive)	35lbs/16kg	37.5lbs/17kg	50lbs/23kg	50lbs/23kg	60lbs/27kg
Battery	1x 24V 300Wh NiMh	1x 24V 300Wh NiMh	2x 24V 300Wh NiMh	1x 42V 550Wh NiMh	1x 42V 850Wh NiMh
Charger	110/240V	110/240V	110/240V	110/240V	110/240V
Charge Time (Hours)	4	4	2x 4	5	8
Run Time at 150ft/min; 45m/min *	65 min	65 min	131 min	184 min	284 min †
Run Time at Full Speed/Max Drag *	39 min	39 min	74 min	35 min	54 min †
Range at 150ft/min; 45m/min *	1.9 miles; 3.1km	1.9 miles; 3.1km	3.8 miles; 6.1km	4.9 miles; 7.9km	7.6 miles; 12.2km †
Range at Full Speed/Max Drag *	1.4 miles; 2.3km	1.4 miles; 2.6km	2.6 miles; 4.2km	1.7 miles; 2.7km	2.6 miles; 4.2km †
* Data from 2008 “Tahoe Benchmark” Independant Testing    † Estimated Data					



# Basic Scooter Components



# X-Scooter Setup

After receiving your X Scooter and prior to the first dive the following procedure should be followed. Details of the task can be found later in the manual.

## Watertight Testing

Each X-Scooter is tested before it leaves the factory but you should test for water tight integrity after shipping and delivery. This should be done before your first dive.

Test Method:

- 1) Attach body and tail without installing the batteries. (Put a bunch of paper towels inside to help identify possible leaks)
- 2) Submerge in shallow fresh water (5 -10’/2-3m) for 10 min.
- 3) Remove and check hull and paper towel for signs of a leak.

Contact your Dealer or Dive Xtras Inc. if there is a problem.

## Balance and Trim

Balance the scooter to be slightly positive for open water, neutral for cave. Trim to be flat and level. Use weighting table to the right as a starting point.

- 1) Fill Velcro trim pouches with lead shot.
- 2) Install weight pouches on Velcro pads in nose and tail.
- 3) Install battery and all other accessories.
- 4) Attach body and tail. - Include all bolt snaps.
- 5) Submerge X-Scooter and observe balance and trim.
- 6) Add or remove small amounts of lead shot as needed.

# Trim Weight Table (NiMh batteries)

Scooter Type	Fresh Water		Salt Water	
	Front	Rear	Front	Rear
Sierra Std Body	21.09oz/599g	4.55oz/129g	27.05oz/767g	12.95oz/367g
Sierra CSI	TBA	TBA	TBA	TBA
Sierra Long Body	22.9oz/651g	14.25oz/404g	33.69oz/955g	24.66oz/699g
Cuda 550	10.02oz/284g	0oz/0g	17.28oz/490g	7.23oz/205g
Cuda 850	TBA	TBA	TBA	TBA





# Diving

Before diving your X-Scooter for the first time the following procedure should be followed. Details of the task can be found later in the manual.

Ensure you have a suitable attachment point for the tow cord on your regular diving equipment. This attachment point is ideally a D-ring in the crotch area. If not, see your equipment supplier or Dive-Xtras.

- 1) [Charge battery](#)
- 2) [Install battery](#)
- 3) Connect like colored (red to red/black to black) battery connectors.  
*Once connected, the scooter continuously uses a very small amount of power, connecting and disconnecting the battery should be done as close to the dive as possible.*
- 4) Test trigger and motor are working correctly.  
*Adjust reed switch if needed.*
- 5) Attach body and tail as described above ensuring nothing is caught in the O-Rings.
- 6) Tighten trigger locking screw to avoid accidental activation. (Release just prior to use).
- 7) Connect tow cord bolt snap to your tow cord attachment point.
- 8) Adjust tow cord length using slip knot provided to obtain optimum riding position.
- 9) Go diving following your conventional practice, using the scooter for propulsion as required.

## After diving

The following procedure should be followed after each dive:

- 1) Rinse and soak X-Scooter in bucket of fresh water for 15 min.  
*Run for 2 min. – 3 min. in water.*
- 2) Remove and stand the X-Scooter on nose. Run briefly to dry propeller area.
- 3) Lubricate trigger and spring section (Pull trigger up/down).
- 4) Detach Tail from body (Carefully, plugs are still connected).
- 5) Disconnect battery from motor.  
*This should be done as soon after the dive as possible to prevent over-discharging the battery from the small continuous power draw.*
- 6) Remove battery and recharge.
- 7) Store X-scooter tail and body separated in a warm dry place.



# Assembling / Disassembling the Scooter

## Assembly

- 1) Always stand the X-Scooter on its nose.
- 2) Check O-rings for dirt and excessive grease.
- 3) Remove, clean and lightly lube O-rings if needed.
- 4) Place the tail over the body and align the locking catches.
- 5) Push body and tail together in one smooth, firm movement.
- 6) Check O-ring for extrusions prior to locking latches.
- 7) Close locking latches.

## Disassembly

- 1) Always stand the X-Scooter on its nose.
- 2) Unclip locking latches.
- 3) Carefully place left hand under lower shroud then with right hand hit the T-handle upwards in a sweeping motion.  
*When motor is connected to the battery, be careful not to stress the connecting wires!*





# Batteries

X-Scooter Battery Packs use Nickel Metal Hydride cells arranged in series. The pack is fitted with several safety features:

- 1) The housing is designed to form a waterproof bulkhead when installed in the X-Scooter body. This provides an extra barrier to prevent damage in the event of flooding.
- 2) 30 Amp (standard automotive) fuse.

There are no user serviceable parts inside the battery pack. In the event of problems contact the manufacturer.

Batteries manufactured and warranted by:

Rabbit Tool-West  
130 N. Sherman Ave  
Corona, CA 92822  
951-898-3718  
951-582-9366 (Fax)  
[www.rabbittool.com](http://www.rabbittool.com)



## Installing and Removing Batteries

The pack is held in the X-Scooter using the battery retaining ring (built into the battery pack body). This retaining ring has a locked and unlocked position that is changed by squeezing the two tabs. Well lubricated sealing surfaces and O-Rings can significantly ease installation and removal of the battery pack.

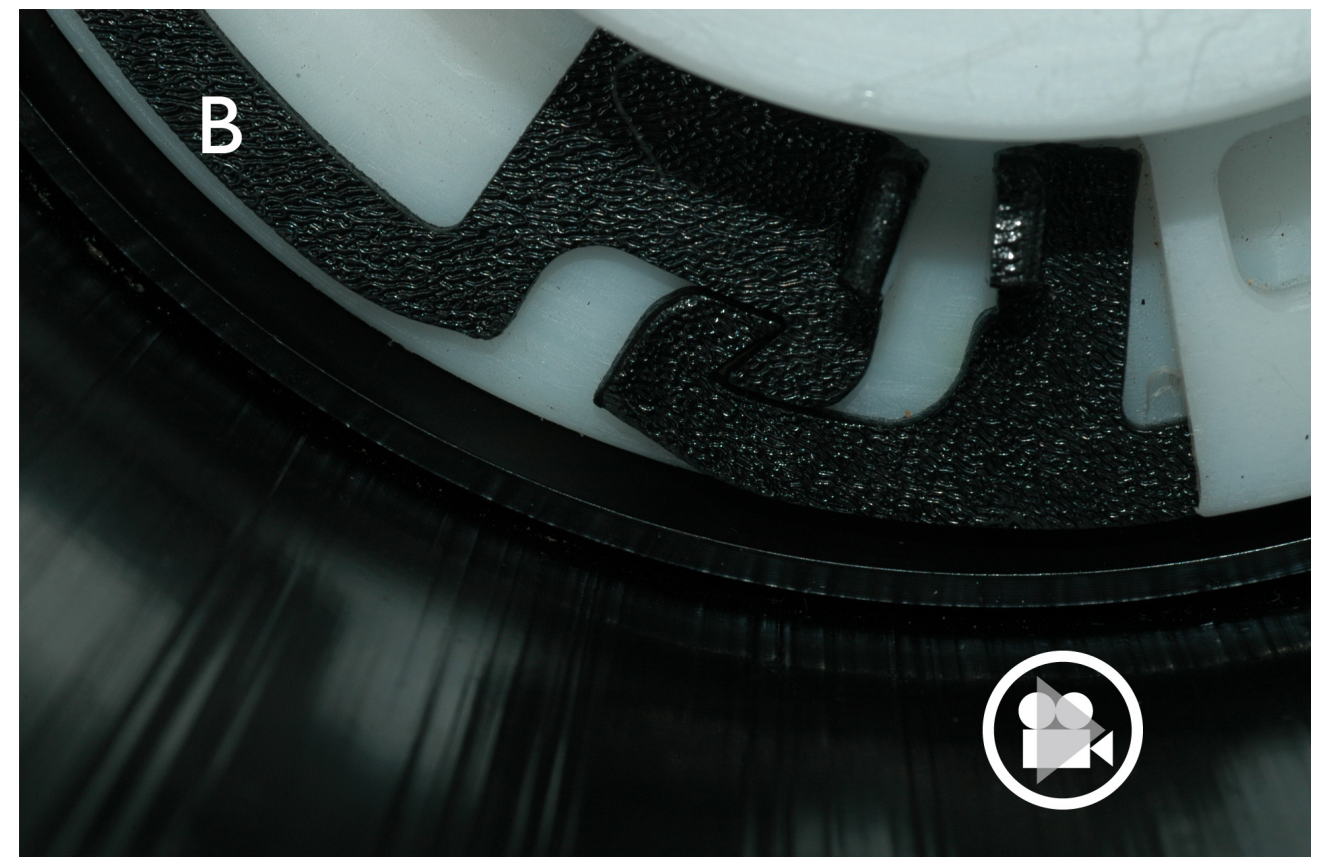
*Note: Installing and removing the pack can be difficult at first. It does however become much easier as you learn the technique and the surfaces wear in.*

### Installing

- 1) Check that the lower battery retaining ring is in place in the body.
  - 2) Check battery bulkhead seal o-ring is in place in the middle groove.
  - 3) Lightly lubricate the battery sealing surface and bulkhead o-ring.
  - 4) (CSI model only: Connect the CSI Camera connections to the bottom of the battery)
  - 5) Compress battery retaining ring tabs (figure A).
  - 6) Fit battery in body, pushing down firmly keeping battery level.
  - 7) Release battery retaining ring tabs, pushing them apart (figure B).
- If battery retaining ring tabs do not expand, then joggle battery up and down.*
- 8) Pull up firmly on D-Ring to test.

### Removal

- 1) Compress battery retaining ring tabs.
  - 2) Slowly pull up on battery. Ensure battery retaining ring is not interfering, hold back with finger if necessary (figure C).
- If battery retaining ring tabs do not expand, then joggle battery up and down.*



# Batteries Continued

## X-Scooter Sierra Long Bodies

Installing the batteries for the X-Scooter Sierra Long Body is the same as described above for the X-Scooter Sierra Standard Body with two exceptions. The front battery must first pass through the rear battery mounting position. To achieve this, the rear batteries mounting hardware (O-ring and retaining ring) is removed and replaced after the front battery is installed. Top leads of the front battery are connected to the base leads of the back battery and then the back battery connects to the motor.

*Caution: Ensure you connect like color connectors: Red to Red and Black to Black.*

## Charging Batteries

Charge batteries with approved charger only. Follow all instructions supplied with the charger. Note: The charger must be manually switched between 115V and 230V depending on your country’s power supply. Check for local power restrictions. Battery should be cool before connecting to the charger. Connect battery to charger before turning charger on. The charger connects to the battery using three connectors on the base of the pack. Again, please be sure to connect white to white, black to black, and red to red.





# Diver Position

The X-Scooter should tow the diver via the tow cord which is attached via the bolt snap to the diver's tow cord attachment point. The diver should always endeavor to maintain a horizontal body position.

Only one hand (normally at 1 o'clock position) is used to activate the X-Scooter trigger and steer via the T-Handle. Two hands on the X-Scooter are not needed and the diver should not be pulled via the arms. Adjust length of tow cord to match drawing. If the diver is pulled by the arms and not the tow cord, fatigue will occur.



# On/Off Trigger and Speed Control

## Basic Operation

Pulling and holding the trigger will start the scooter propeller. Releasing the spring loaded trigger will allow the trigger to return and stop the scooter.

## Speed Control

The scooter has two methods of speed control: trigger shift “on the fly” and/or by adjusting the propeller pitch.

### Trigger shift on the fly

Your scooter has several motor speeds (Sierra: 5 Cuda: 8) When you initially pull the trigger the X-Scooter will always start in speed 3.

To adjust motor speeds up or down simply release and pull the trigger quickly (There should be no pause between the release and pull action). Performing this release and pull action twice (like double clicking a computer mouse) will make the X-Scooter motor go faster. Performing this release and pull action once will make the X-Scooter motor go slower. The speed of this action should be fast enough so the X-Scooter does not stop running but not fast that it does not recognize the command. Once you have reached the top or bottom speed, further attempts to increase or decrease speeds respectively will be ignored by the scooter controls

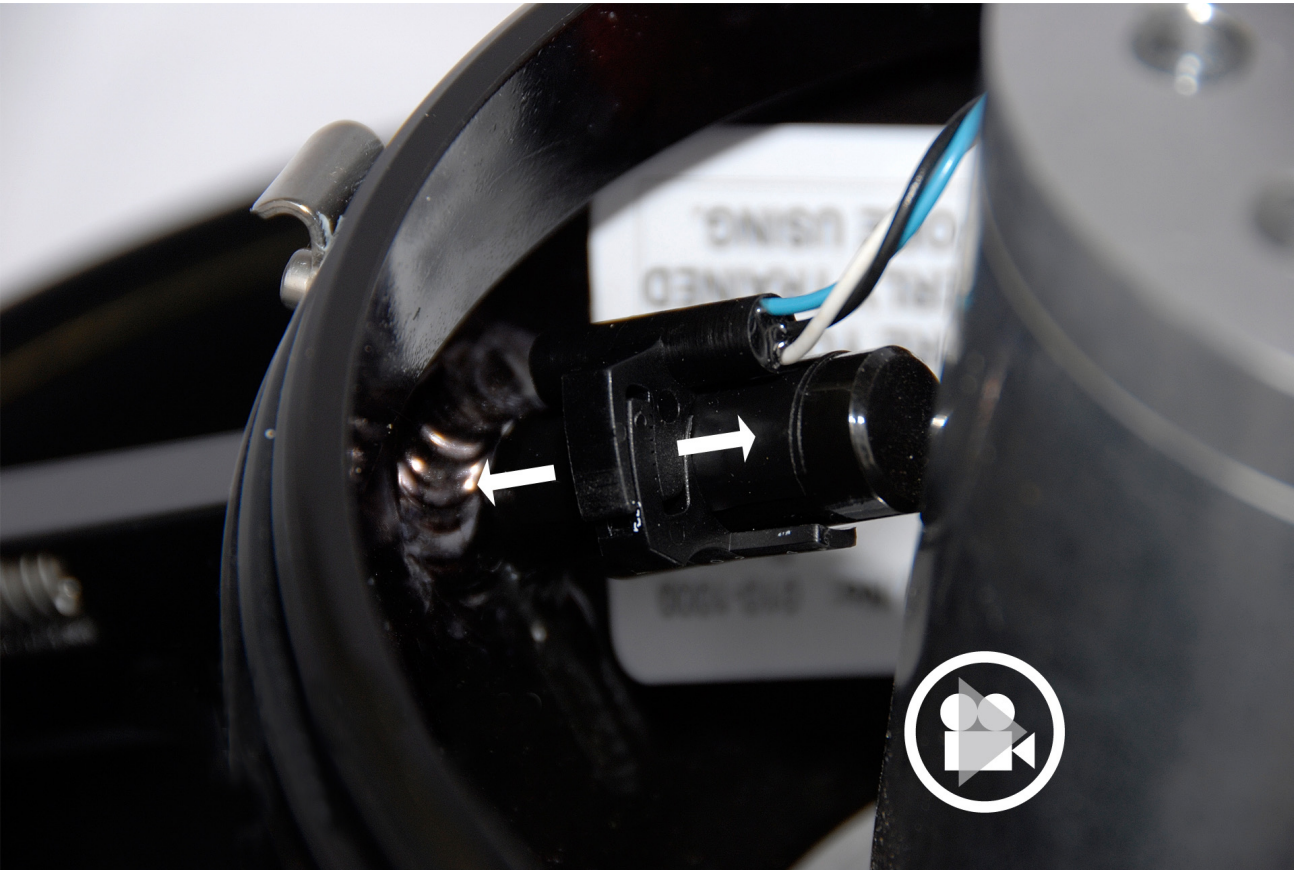
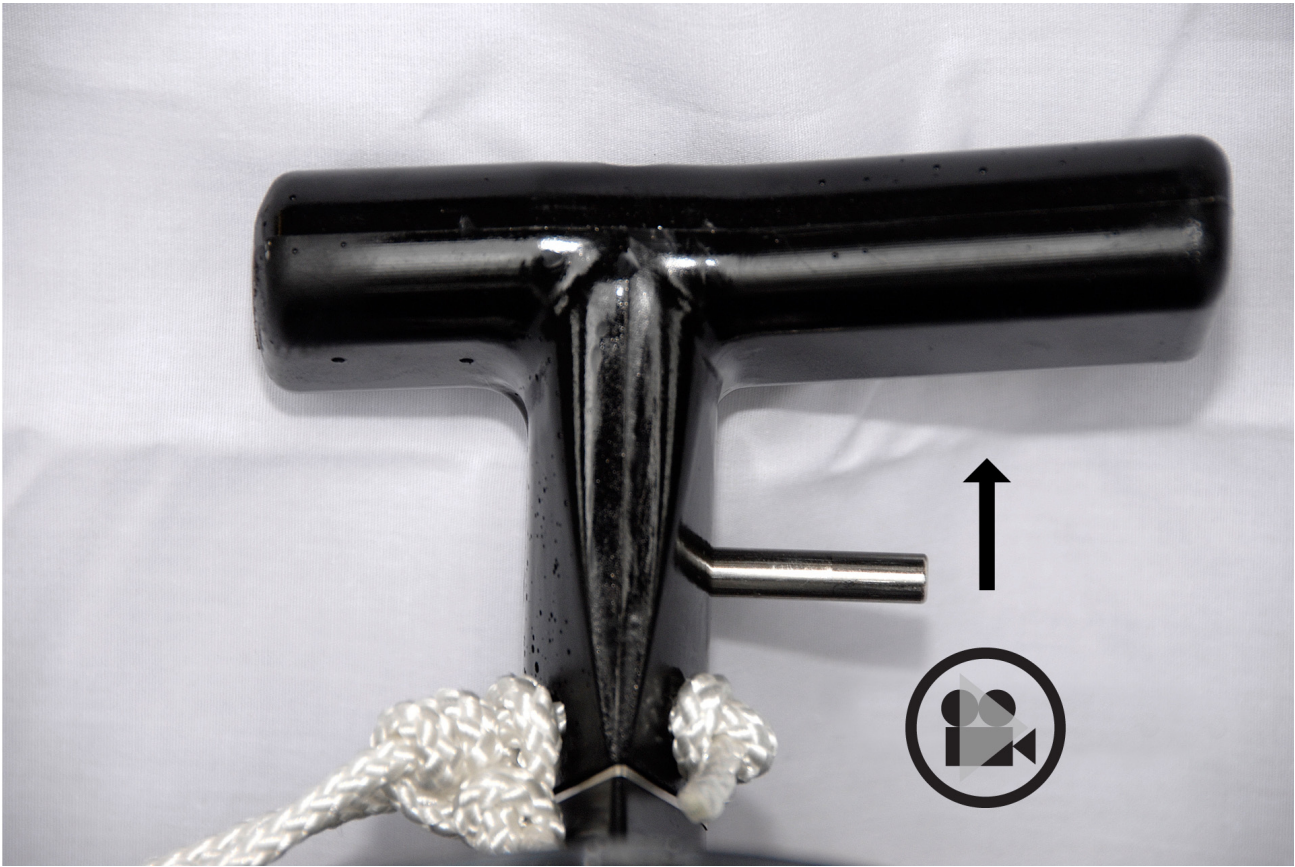
### Adjusting Propeller Pitch

Your X-Scooter comes with an adjustable pitch propeller. This system is designed so the user can adjust the amount of thrust produced by the propeller. The propeller can be set anywhere from zero to maximum thrust.

Typically this should be set to maximum pitch (See picture) and the trigger shift on the fly used for speed control. Knowledgeable users may adjust the pitch to suit their diving.

### Reed Switch

Correct trigger operation is dependent on the position of the reed switch. The position is set in the factory but it may require adjustment over the life of the X-Scooter due to accidental movement. The reed switch position may be adjusted up or down on it’s mounting for correct operation. The reed switch should be adjusted so that the X-Scooter motor turns on at 50% of full trigger pull distance, and remains on while you continue to pull to 100% full trigger pull.





# Dive Planning Considerations

The X-Scooter travels much faster than normal swimming speeds. If the user is diving in a buddy pair, they should be more vigilant of their buddy to avoid losing track of them at the increased speeds. These speeds may also increase the risk of collisions with objects and/or other divers especially in limited visibility situations. Always pay close attention to your buddy, where you are traveling, and to your speed to reduce the risk of these incidents occurring.

## Distance and Run Time

The X-Scooter is capable of traveling great distances. Therefore, if it is required that you have to return to the same point as you started the dive (the exit), and swimming out or ascending to the surface is not an option, then one should pay close attention to run times of the X-Scooter. Users should empirically calculate their max run times from actual dives and plan accordingly using adequate safety margins.

## Scooter Failures

The X-Scooter is extremely reliable; however divers should always be prepared to deal with failures.

### Flooding

If the scooter floods on the dive, it may become significantly negative and become a risk to the user. The best option is to unclip the X-Scooter via the tow cord bolt snap and release it. This will eliminate the risk and you can safely exit.

### X-Scooter no longer runs

If your X-Scooter were to fail and stop running during the dive, you have several options:

- 1) **Swim the X-Scooter**  
If the X-Scooter is not flooded you can simply stow the X-Scooter by locking down the trigger and clipping it onto your person (in a low drag area if possible such as a chest d-ring) and then swimming it back.
- 2) **Getting a tow from your buddy**  
If the X-Scooter is not flooded your buddy can tow you and your failed scooter. The X-Scooter is capable of propelling 2 people but for distances and speeds.
- 3) **Release the X-Scooter.**  
If the above techniques are unsuitable or increase risk to the user, the best option is to unclip the X-Scooter via the tow cord bolt snap and release it.

### X-Scooter won’t stop running

A runaway X-Scooter can be hazardous as it is a powerful vehicle. If improperly managed, a continuously running X-Scooter might initiate an uncontrolled ascent or decent. It is important to reduce the possibility of a runaway scooter by properly maintaining your X-Scooter and performing the pre dive checks as discussed previously.

If your X-Scooter were to fail during the dive, you have several options:

- 1) **Grabbing the Propeller**  
The X-Scooter is equipped with an electronic clutch that allows you to simply grab the propeller without suffering injury. This will stop the propeller, allowing you to gain control of the scooter.
- 2) **Turn down the pitch**  
You can turn down the X-Scooter propeller pitch while the propeller is spinning by firmly placing your palm up against the pitch knob on the rear of the propeller assembly. This will turn the pitch down, eliminating the thrust, allowing you to gain control of the x-scooter.
- 3) **Release the X-Scooter.**  
If the above techniques are unsuitable or increase risk to the user, the best option is to unclip the x-scooter via the tow cord bolt snap and release it.



# Flood Recovery

The X-Scooter is designed to be highly resistant to water ingress of any kind, however as life is unpredictable, these instructions have been provided to help you minimize the damage done in the unlikely event a flood occurs.

In any flooding event, time is of the essence so if you do inadvertently flood your X-Scooter, be sure to find and fix the problem ASAP and certainly before attempting to dive with it again. The faster you can get everything rinsed and dry, the less damage will be done. Keep in mind that these instructions are intended for dealing with ‘real flooding’ only, not for condensation or drops from wet dive gear!

## Salt Water in Body Compartment

- Dunk entire tail in fresh water and agitate well for 5 min.
- Drain and leave in a warm dry place until 100% dry.
- Wipe body and battery dry, clean fuse holder and electrical connectors.
- Damage will be minimal. (Motor bearings may become noisy and require changing)

## Fresh Water in Body Compartment

- Drain and leave in a warm dry place until 100% dry.
- Wipe body and battery dry, clean fuse holder and electrical connectors.
- Damage will be negligible.

## Salt Water in Battery Compartment

- Dunk entire battery in fresh water and agitate well for 5 minutes.
- Drain and leave in a warm dry place until 100% dry.
- Damage will be severe. Most likely the pack will be unusable. At best it will still function, but with a dramatically reduced cycle life.

## Fresh Water in Battery Compartment

- Drain and leave in a warm dry place until 100% dry.
- Damage will be severe. Most likely the pack will be unusable. At best it will still function, but with a dramatically reduced cycle life.

# Maintenance

## After Each Dive

- Clean and lubricate o-ring seals with silicone lube.
- Rinse X-Scooter in fresh water after all salt-water dives.
- Set prop pitch to zero and run in fresh water for 5 minutes.
- Lubricate the trigger.
- Store scooter in a warm dry location in a broken down configuration.

## Monthly

- Check o-ring sealing surfaces for damage.
- Apply silicone to trigger mechanism and locking screw.
- Check tightness all fasteners, most importantly, propeller, handle and motor.
- Check electrical connectors for corrosion and clean if necessary.

## Yearly

- Service at your Premiere Partner or approved service center

## Standard Spare Kit

Dive Xtras recommends all users carry a basic spares kit. Spares kits are available from Dive Xtras. Minimum spares kit should contain:

- O-Rings
- Fuse
- Prop Seal
- Trigger Locking screw





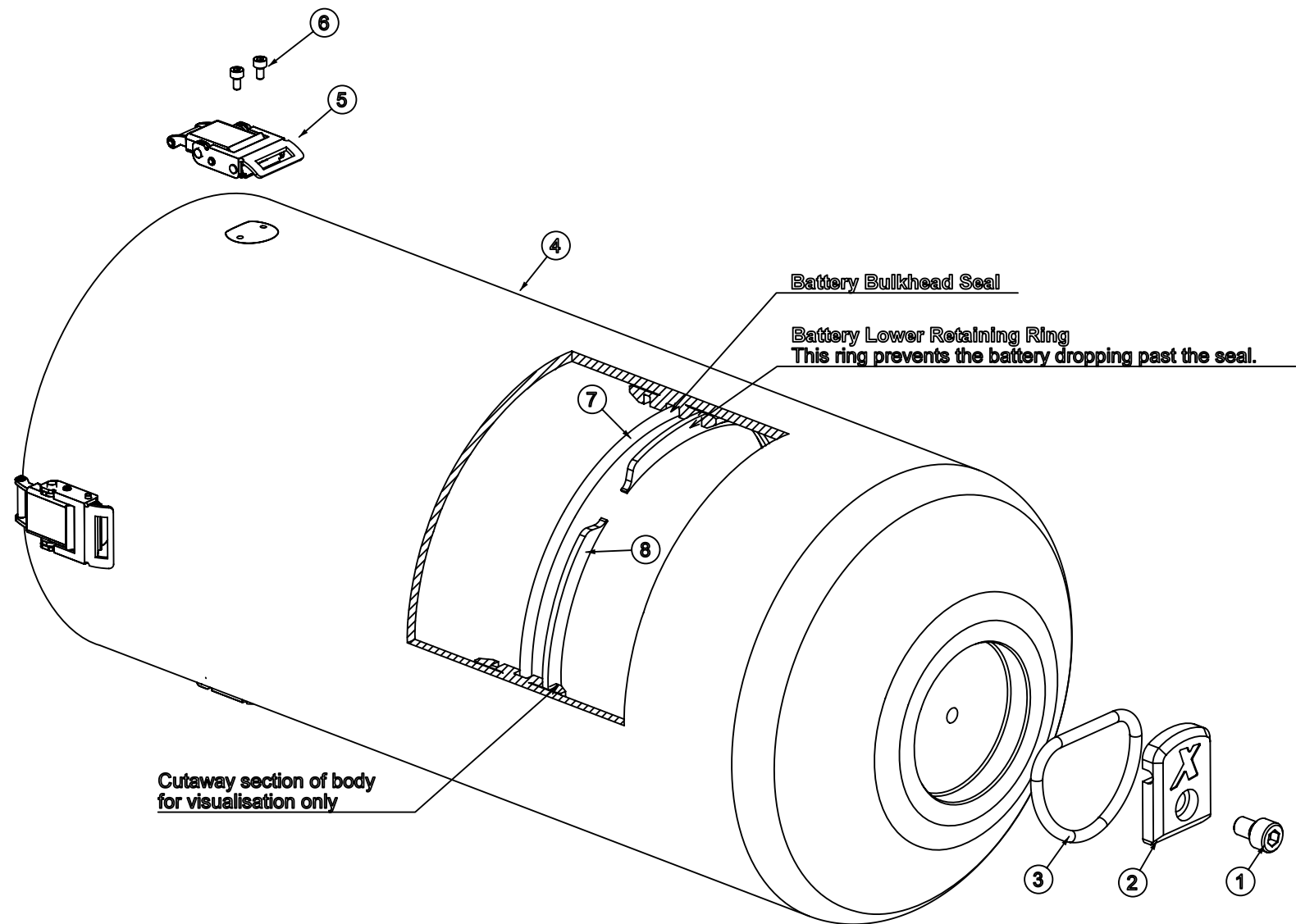
## X-Scooter Parts Lists

The following drawings show exploded views of the entire X-Scooter including a list of all parts. These drawings can be used as a guide for assembly/disassembly or repair\* as required. If you require a replacement part, contact Dive Xtras with the part number.

*Note: All disassembly or repair of the X-Scooter is undertaken at your own risk.*



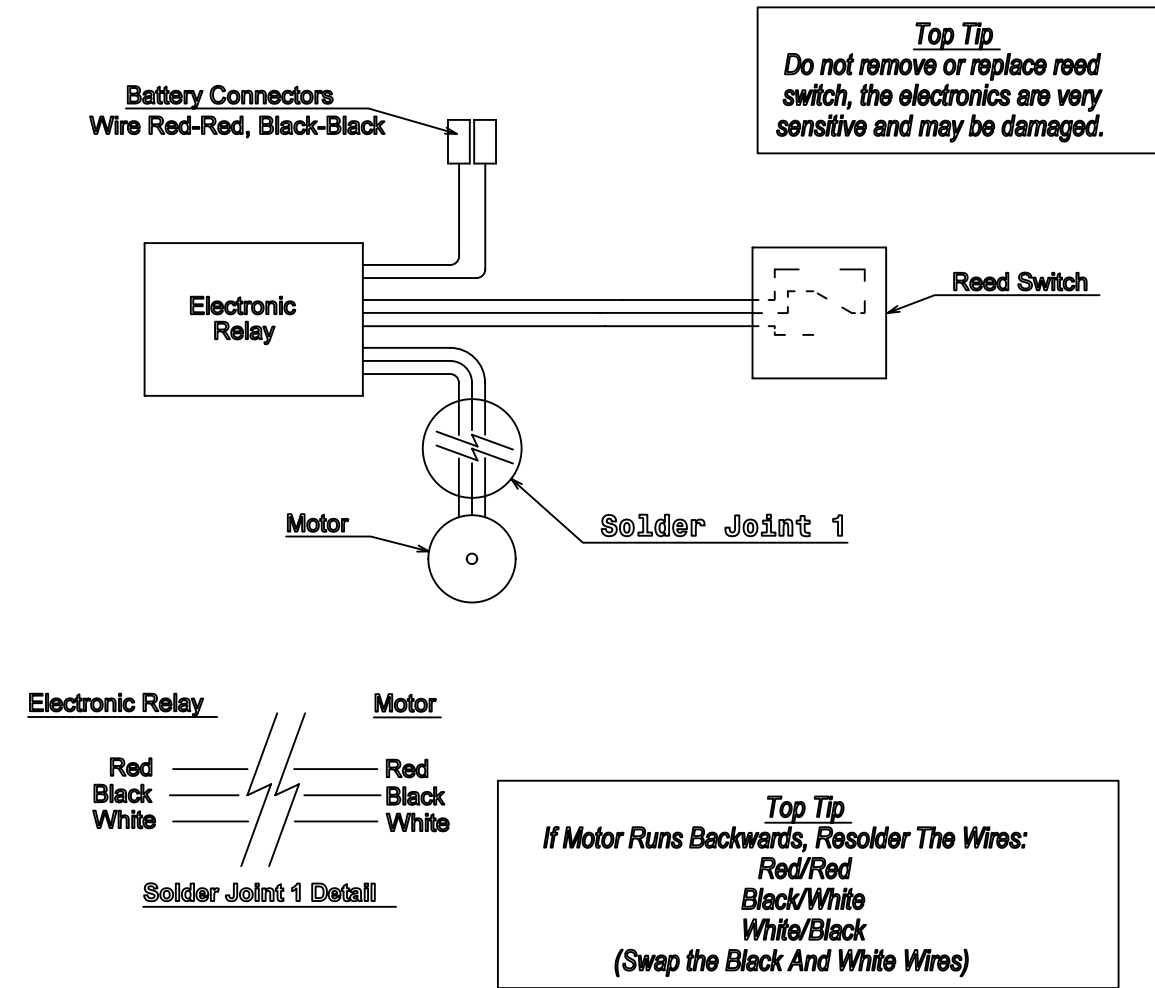
long and extra-long body assemblies are similar, just having an extra one or two battery mounting positions



The diagram below shows the electrical circuit. Replacement electronics come complete requiring only the connection of solder joint 1

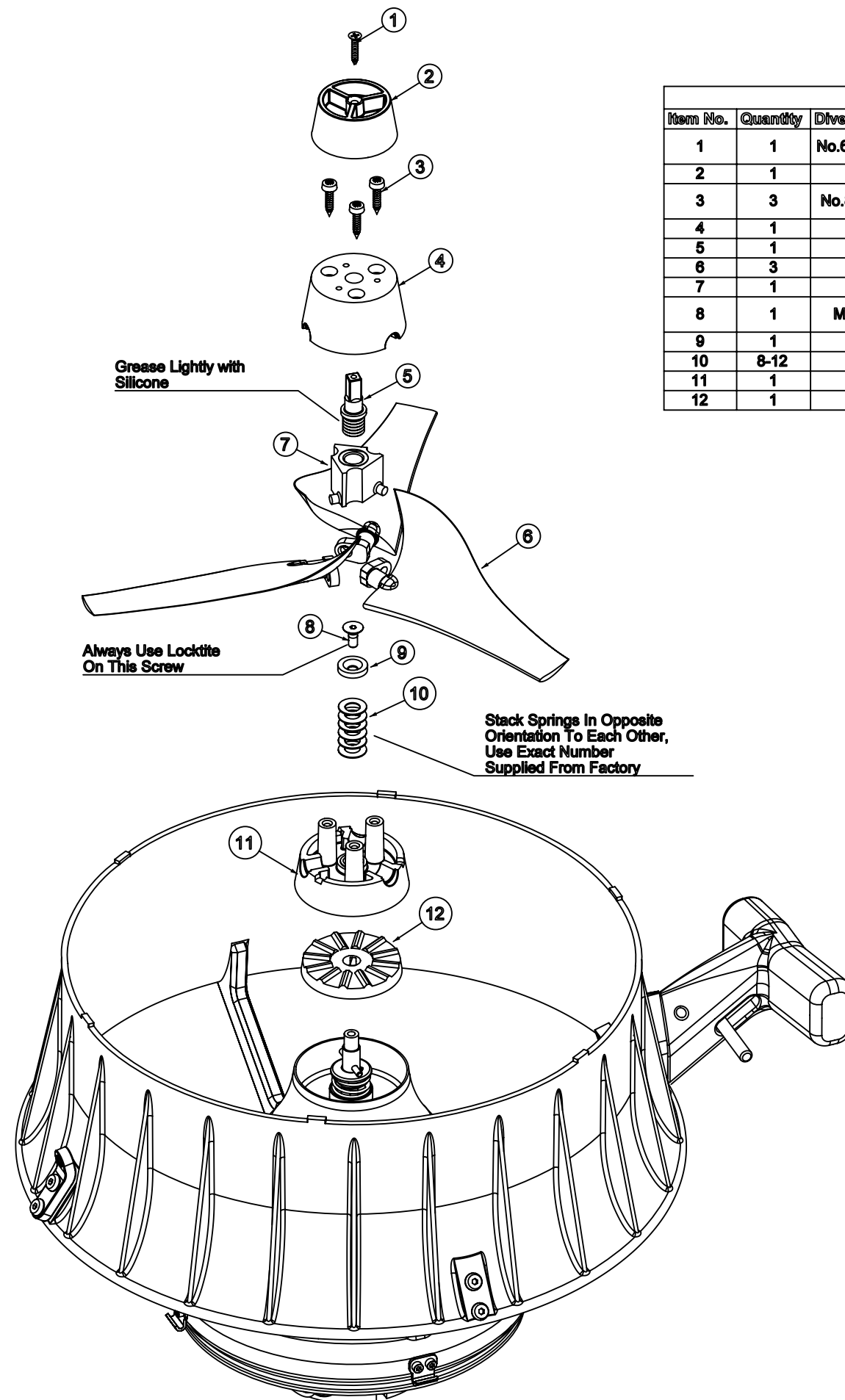
**Solder Joints**

- 1) Solder wires as shown, matching colors
- 2) Cover bare joints with heat shrink.



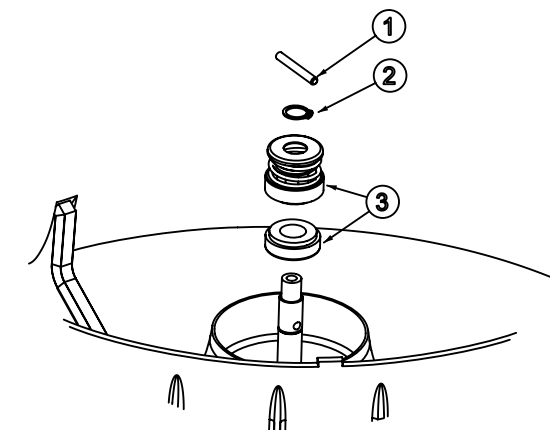
Body Assembly			
Item No.	Quantity	Dive Xtras Part No.	Description
1	1	M8x12-SHCS	M8 x 12 Metric Socket Head Cap Screw 316 Stainless steel
2	1	010-2001	Zinc Bracket, D-Ring, Body
3	1	000-0120-SST-2"	2" Stainless D-Ring
4	1	010-2101	Body Weldment, Stock, 13AH
5	4	HC-83314-LALB-SS	Catch
6	8	M3x6-SHCS	M3 x 6 Metric Socket Head Cap Screw, 316 Stainless Steel
7	1	2-365-O-RING	O Ring, 2-365, Nitrile
8	1	010-1011	Lower Retaining Ring, Battery

Sierra Standard Body Exploded View and Electrical Diagram

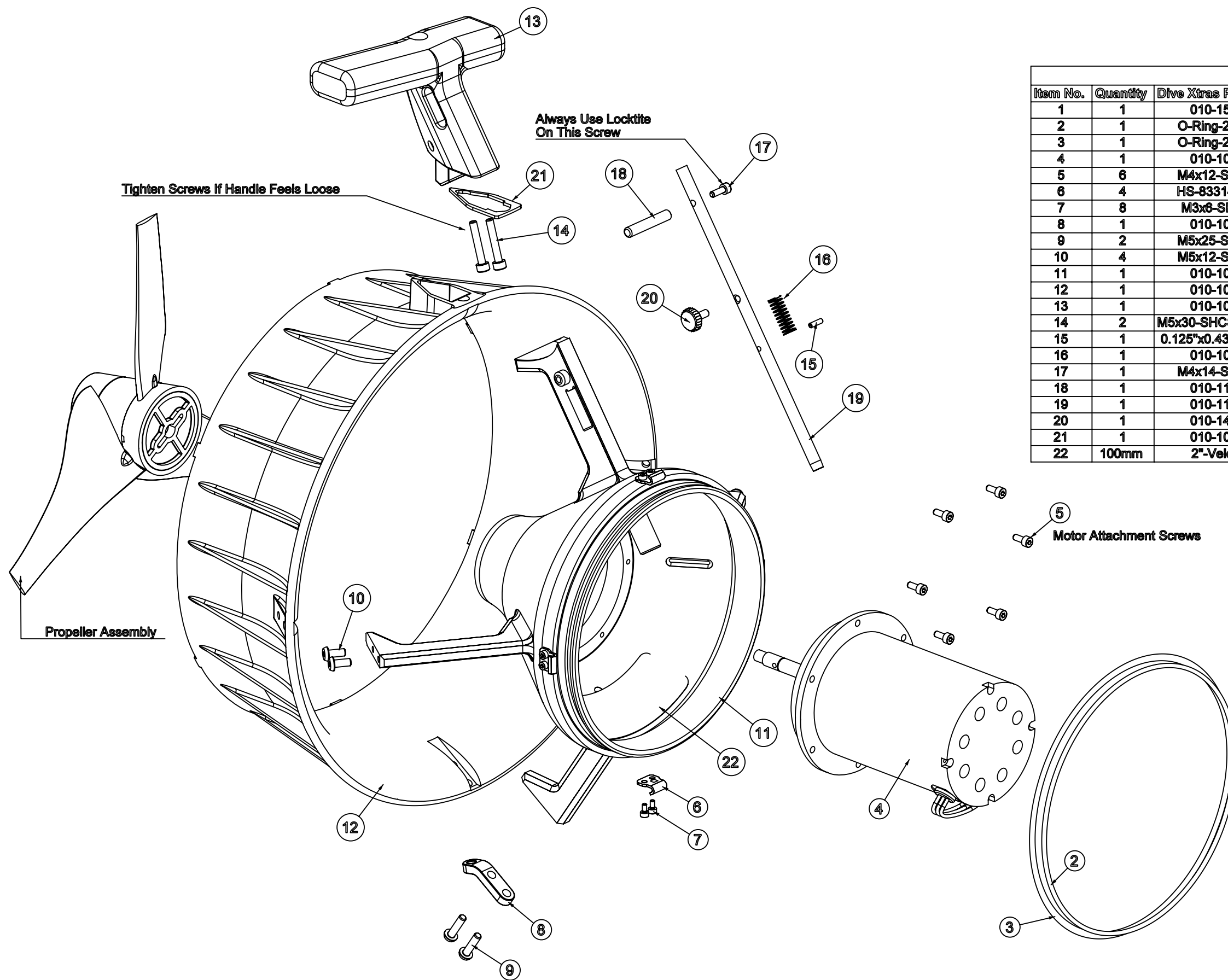


Propeller Assembly			
Item No.	Quantity	Dive Xtras Part No.	Description
1	1	No.6x0.75"-FHSMS	No. 6 x 0.75" Flat Head Phillips Sheet Metal Screw 316 SS
2	1	010-1303	Knob, Variable Pitch.
3	3	No.8x.75"-PHSMS	No.8 x 0.75" Pan Head Phillips Sheet Metal Screw 316 SS
4	1	010-1304	Hub, Outer
5	1	010-1305	Shaft, Yoke.
6	3	010-1301	Blade, Propeller.
7	1	010-1306	Yoke, Prop Blade.
8	1	M5x12-FHSCS	M5 x 12 Metric Flat Head Socket Cap Screw 316 Stainless steel
9	1	010-1308	Washer, Clutch.
10	8-12	010-1309	WASHER, CLUTCH SPRING
11	1	010-1310	Hub, Inner.
12	1	010-1311	Plate, Clutch.

Rear Seal Assembly			
Item No.	Quantity	Dive Xtras Part No.	Description
1	1	010-1315	Dowel pin. 0.125" Dia. 1" Long. SS
2	1	010-1314	Retaining Ring. 0.375" Dia Shaft. SS
3	1	010-1008	Seal, Shaft.



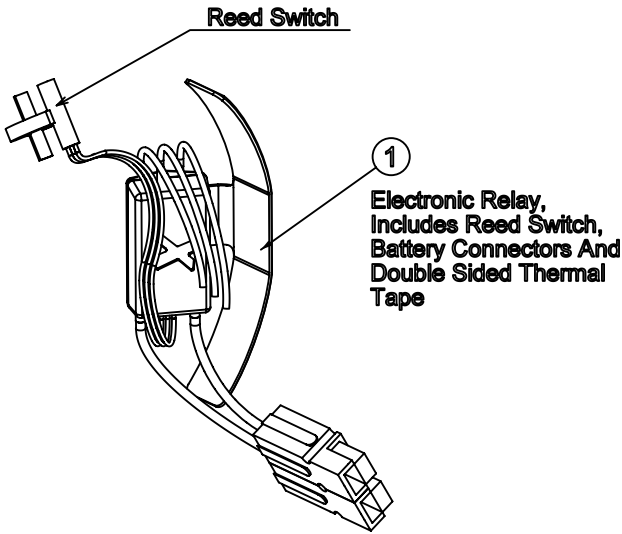
Sierra Propeller Assembly Exploded View



Tail Assembly			
Item No.	Quantity	Dive Xtras Part No.	Description
1	1	010-1500	Electronic Relay Assembly. Sierra
2	1	O-Ring-2-261	O Ring, 2-261, Nitrile
3	1	O-Ring-2-263	O Ring, 2-263, Nitrile
4	1	010-1007	Motor.
5	6	M4x12-SHCS	M4 x 12 Metric Socket Head Cap Screw, 316 Stainless steel
6	4	HS-83314-SS	Strike Plate.
7	8	M3x6-SHCS	M3 x 6 Metric Socket Head Cap Screw, 316 Stainless Steel
8	1	010-1003	Lower Handle, Tail.
9	2	M5x25-SHCS	M5 x 25 Metric Socket Head Cap Screw, 316 Stainless Steel
10	4	M5x12-SHBS	M5 x 12 Metric Socket Head Button Screw, 316 Stainless Steel
11	1	010-1001	Weldment Tail
12	1	010-1004	Shroud, Prop.
13	1	010-1002	Handle, Tail.
14	2	M5x30-SHCS	M5 x 30 Metric Socket Head Cap Screw, 316 Stainless Steel
15	1	0.125"x0.4375"-SP	Stainless Spring Pin, 1/8" Dia, 7/16" Lg, 18-8 Stainless Steel.
16	1	010-1005	Compression Spring.
17	1	M4x14-SHCS	M4 x 14 Metric Socket Head Cap Screw, 316 Stainless steel
18	1	010-1103	Trigger, Trigger.
19	1	010-1150	Control Rod Assembly, Trigger.
20	1	010-1400	Locking Screw, Trigger.
21	1	010-1013	Handle, Shim
22	100mm	2"-Velcro	Adhesive Velcro Strip 2"

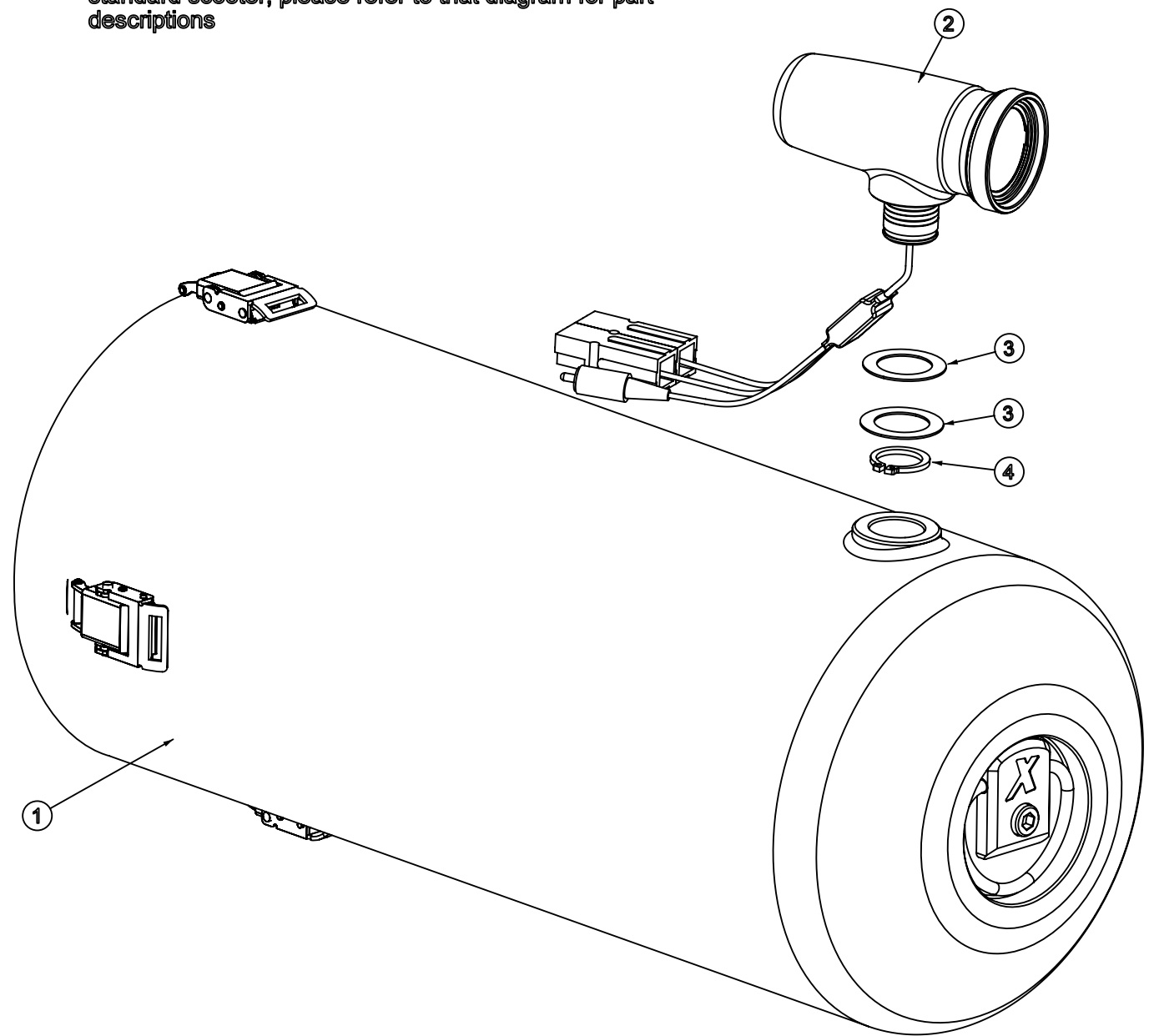
#### Reed Switch Positioning.

The position of the reed switch on its shaft is important to ensure correct operation of the trigger. When repositioning, ensure trigger activates at about 50% travel and that it stays activated at 100% travel.



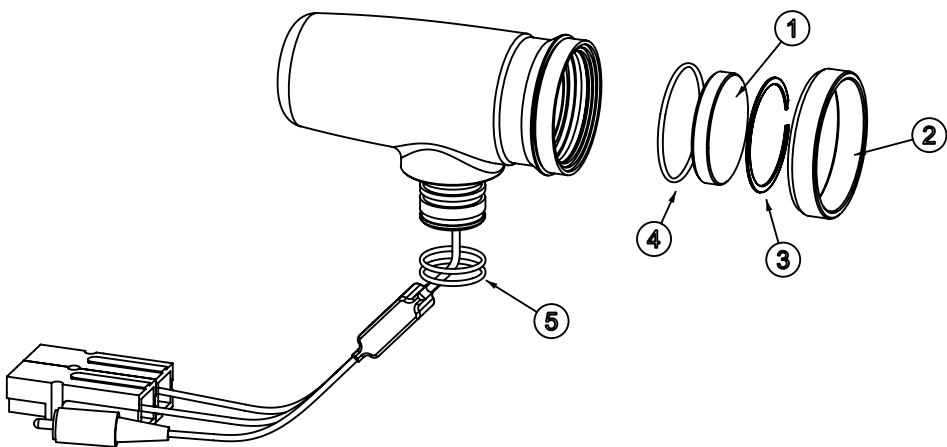
Sierra Tail Assembly Exploded View

The body minus the camera is the same as the standard scooter, please refer to that diagram for part descriptions



CSI Body Assembly			
Number	Quantity	Part Number	Definition
1	1	010-2100-CSI	CSI Body Assembly
2	1	CSI-1000	Body Assembly, CSI Camera
3	2	CSI-1003	PTFE Washer, CSI Camera
4	1	0.875" HD-EX-RR	0.875" DIA HEAVY DUTY EXTERNAL RETAINING RING

The diagram below shows the exploded view of the CSI camera body, It is not recommended that the user disassemble this item and the diagram is provided for illustration only.

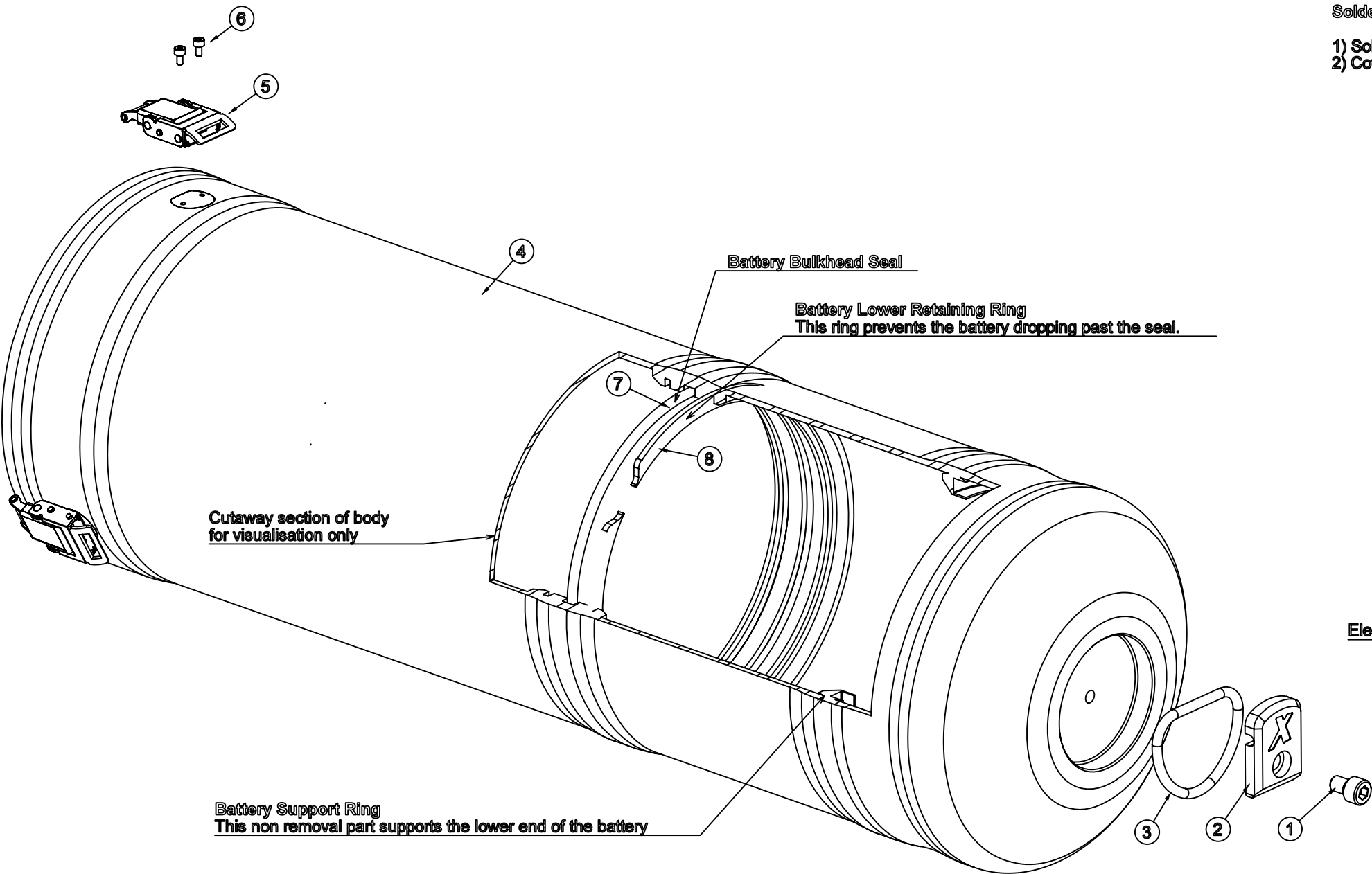


CSI Camera Assembly			
Number	Quantity	Part Number	Description
1	1	CSI-1004	Port, CSI Camera
2	1	CSI-1005	Bumper Ring (Fits 46mm Filter), CSI Camera
3	1	VH-150	Smalley Retaining Ring, SS.
4	1	2-029-O-RING	O-Ring, 2-029, Nitrile
5	2	2-018-O-RING	O-Ring, 2-018, Nitrile

CSI Body and Camera Assembly Exploded View



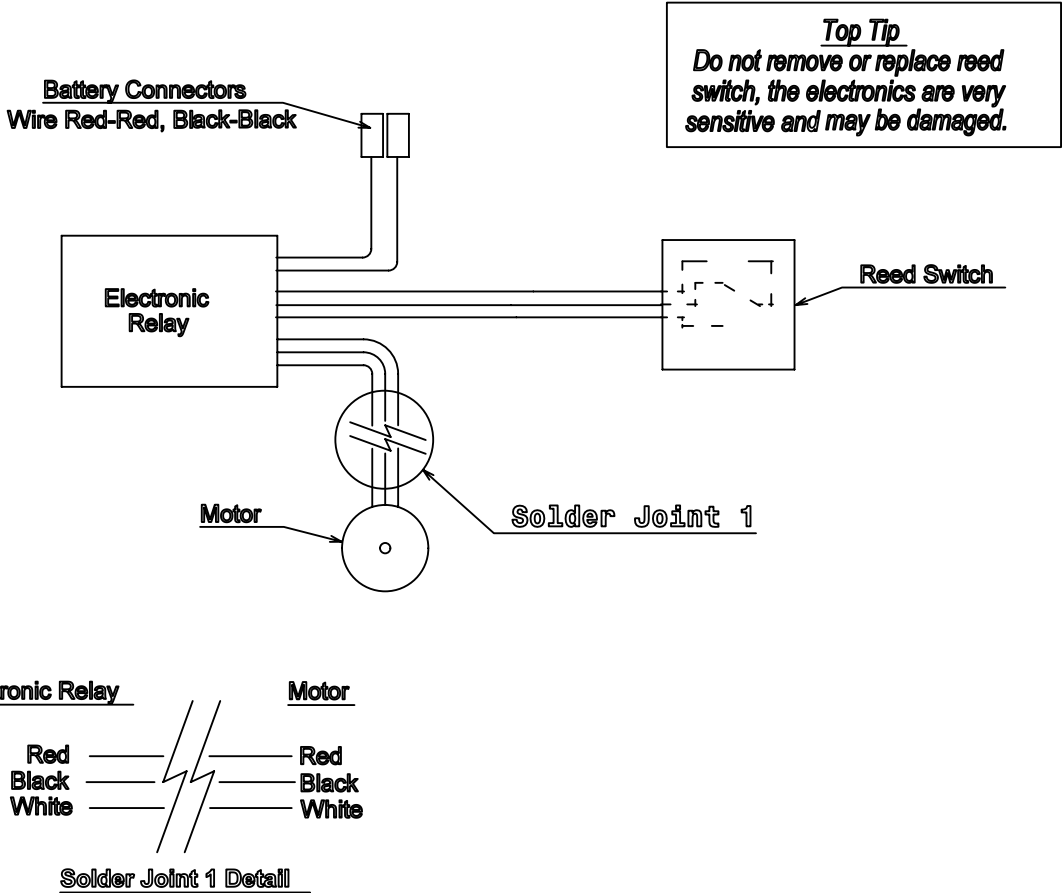
CUDA 550 and 850 body assemblies are similar, just having a different length



The diagram below shows the electrical circuit. Replacement electronics come complete requiring only the connection of solder joint 1

Solder Joints

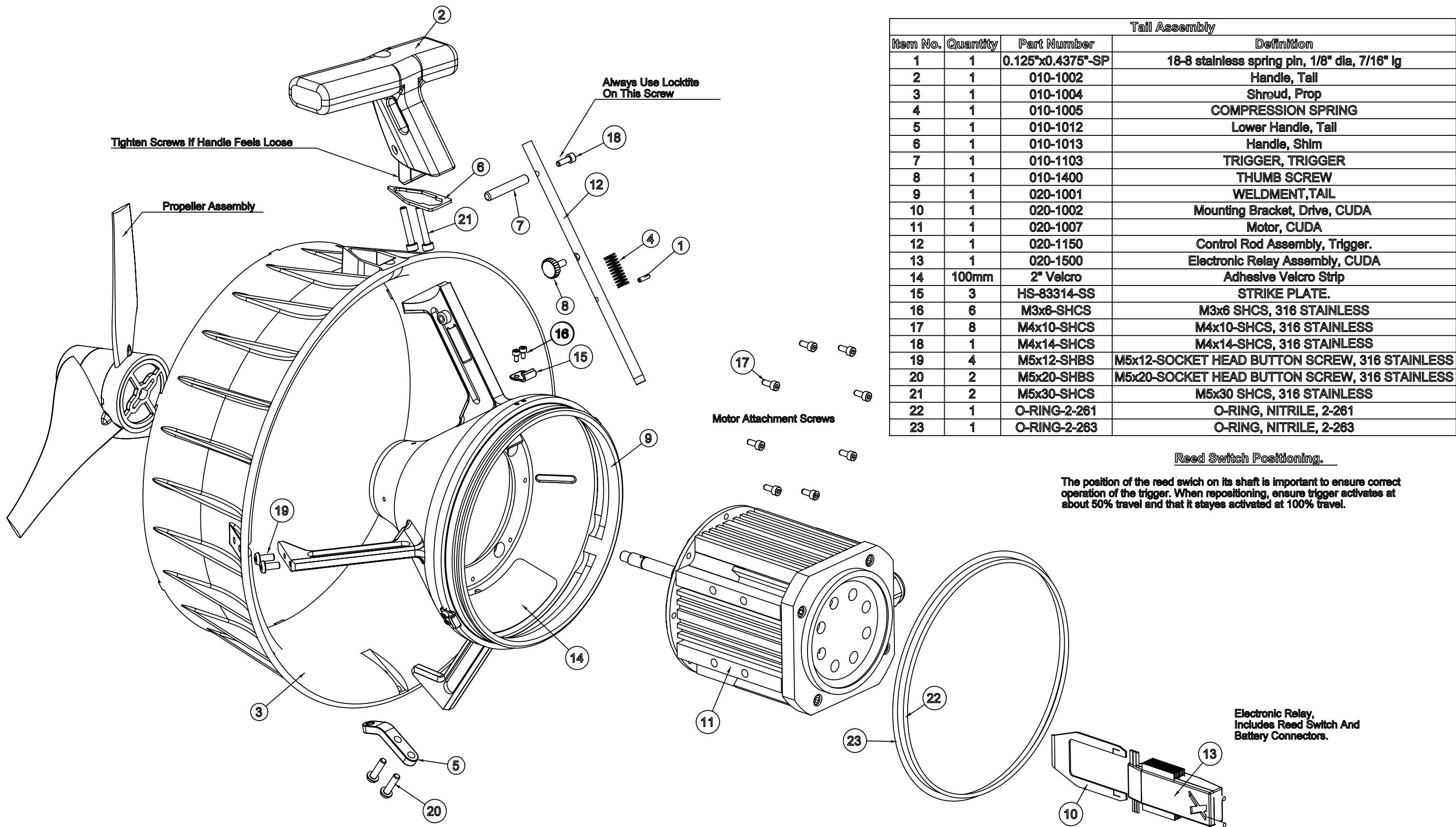
- 1) Solder wires as shown, matching colors
- 2) Cover bare joints with heat shrink.



Body Assembly			
Item No.	Quantity	Dive Xtras Part No.	Description
1	1	M8x12-SHCS	M8 x 12 Metric Socket Head Cap Screw 316 Stainless steel
2	1	010-2001	Zinc Bracket, D-Ring, Body
3	1	000-0120-SST-2"	2" Stainless D-Ring
4	1	020-2101-13Ah	CUDA Body Weldment, 13Ah
5	3	HC-83314-LALB-SS	Catch
6	6	M3x6-SHCS	M3 x 6 Metric Socket Head Cap Screw, 316 Stainless Steel
7	1	2-365-O-RING	O Ring, 2-365, Nitrile
8	1	010-1011	Lower Retaining Ring, Battery

Cuda Body Assembly Exploded and Electrical Diagram





Tail Assembly			
Item No.	Quantity	Part Number	Definition
1	1	0.125"x0.4375"-SP	18-8 stainless spring pin, 1/8" dia, 7/16" lg
2	1	010-1002	Handle, Tail
3	1	010-1004	Shroud, Prop
4	1	010-1005	COMPRESSION SPRING
5	1	010-1012	Lower Handle, Tail
6	1	010-1013	Handle, Shim
7	1	010-1103	TRIGGER, TRIGGER
8	1	010-1400	THUMB SCREW
9	1	020-1001	WELDMENT, TAIL
10	1	020-1002	Mounting Bracket, Drive, CUDA
11	1	020-1007	Motor, CUDA
12	1	020-1150	Control Rod Assembly, Trigger.
13	1	020-1500	Electronic Relay Assembly, CUDA
14	100mm	2" Velcro	Adhesive Velcro Strip
15	3	HS-83314-SS	STRIKE PLATE.
16	6	M3x6-SHCS	M3x6 SHCS, 316 STAINLESS
17	8	M4x10-SHCS	M4x10-SHCS, 316 STAINLESS
18	1	M4x14-SHCS	M4x14-SHCS, 316 STAINLESS
19	4	M5x12-SHBS	M5x12-SOCKET HEAD BUTTON SCREW, 316 STAINLESS
20	2	M5x20-SHBS	M5x20-SOCKET HEAD BUTTON SCREW, 316 STAINLESS
21	2	M5x30-SHCS	M5x30 SHCS, 316 STAINLESS
22	1	O-RING-2-261	O-RING, NITRILE, 2-261
23	1	O-RING-2-263	O-RING, NITRILE, 2-263

Cuda Tail Assembly Exploded View

# CE Approval

All X-Scooters are CE marked for diving to 180m/600’ and demonstrate conformity to the European Machinery Directive 98/37/EC and EMC Directive 2004/104/EC.



# Sound Levels

Equivalent continuous A-weighted sound pressure levels do not exceed 70 dB(A).  
Peak C-weighted instantaneous sound pressure value do not exceeds 63Pa (130 dB in relation to 20 µPa).

# Vibration Levels

The weighted root mean square acceleration value does not exceed 2.5m/s2.

# RoHS and WEEE Compliance

## RoHS Statement (Restriction of Hazardous Substances)

Dive Xtras Inc. is committed to complying with all applicable laws and regulations, including the European Union Restriction of hazardous Substances (RoHS) Directive that restricts the use of hazardous materials in electronics products. The company continues to work toward the reduction of RoHS materials in our products which are subject to the RoHS Directive, expect where it is widely recognized that there is no technically feasible alternative.

## WEEE Compliance (Waste Electrical and Electronic Equipment)

On January 27, 2003 the European Parliament and the Council of the European Union authorized Directive 2002/96/EC or WEEE (Waste Electrical and Electronic Equipment). The aim of the directive is to halt the growing volume of electric and electronic (EEE) waste disposed of in landfill sites. Dive Xtras Inc has evaluated its product lines against the criteria set forth in the WEEE directive. As required by the legislation, any Dive Xtras product covered by the directive and sold in the EU after August 13, 2005 is marked with the Wheeled Bin symbol, inserted in the owner’s manual or on the packaging. Dive Xtras Inc. uses the symbol based on the EN 50419:2005 CENEL-EC standard.

## Disposal of Electrical and Electronic Waste

At the end of the products life, customers should return their electrical and electronic waste in Dive Xtras Inc. products back to the appropriate company. The appropriate company will be marked on the label. (Example below: NiMH battery from Rabbit Tool Inc.) Where it can be recycled and treated appropriately. Alternatively a local disposal option may be used if appropriate. Any EEE replaced during a factory repair will be handled appropriately by the company.



# Warranty & Returns

## Standard Warranty

Dive Xtras provides a limited warranty to the original purchaser against all defects in original workmanship and material under normal use and service as outlined in the owners manual for 3 years from the date of purchase, with the following exceptions:

- Any flood or damage, for any reason, that is caused from flooding an O-ring sealed or water tight area will not be covered under warranty. All O-ring sealed products undergo extensive factory pressure testing before being shipped and delivered and are therefore guaranteed to be sealed and functioning when shipped from factory.
- All batteries and chargers are warranted by Rabbit Tool Inc., Deep Sea Supply Inc. or the original battery manufacturer.
- Dive Xtras will not be liable for any further loss, damages, or expenses including incidental or consequential damages directly or indirectly arising from the sale or use of the product.
- All paint finishing, powder coating, material stitching that is chipped, damaged, or unthreaded through customer use in not covered under warranty.
- Dive Xtras does not warranty any product for aesthetic finishes. Issues with surface finish that do not affect function of the product are not covered under warranty.
- A 1 year warranty on all electronics.

Should your X-Scooter prove to be defective within the terms of this warranty, it will be repaired or replaced (at Dive Xtras discretion) free of charge with the exclusion of shipping and handling charges. Dive-Xtras will not be responsible for any shipping charges to or from Dive-Xtras Inc.

## Return and Replacement Policy

MERCHANDISE MAY NOT BE RETURNED WITHOUT AUTHORIZATION.

A Return Authorization Number from our Customer Service Department must be obtained before returning goods. Items returned without an RA will be subject to inventory charges and fully inspected.

All returns will undergo evaluation. Dive Xtras reserves the right to determine if work falls under warranty. If we determine your return is not covered under warranty, we will contact you regarding any repair charges. All shipping charges, along with non-warranty repair work, are paid for by the equipment's owner.

Returned merchandise will be repaired or replaced at our discretion.

Unauthorized returns or refused shipments of sellable merchandise will be subject to a 15% restocking fee.

Orders of customized product (custom logo merchandise) are generally not returnable. If an RA is issued for a customized product, the order is subject to a 40 - 60% restocking fee, depending on product.

All returns must be freight prepaid