

VOYAGER™



Dive Propulsion Vehicle

owner's guide



WARNING: This Owner's Guide contains important information, warnings, and precautions. Do not attempt to use the Voyager before reading this manual in its entirety.

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INTRODUCTION

Congratulations and Thank You for choosing an AERIS Voyager, the finest Dive Propulsion Vehicle (DPV) available to today's recreational diver. A new dimension of freedom awaits you that cannot be experienced by divers who rely solely on fins to move about underwater.

To obtain maximum enjoyment from your Voyager it is very important to first read the entire contents of this Owner's Guide before attempting to use it. Along with instructions to prepare your Voyager for its first use and future pre-operational checks, this manual also provides instructions for regular maintenance, correct use underwater, and general instructions for DPV diving.

You will find a maintenance log on page 18 that you can use to record all chargings, inspections, and services performed. Your Voyager requires a complete inspection on an annual basis by an Authorized AERIS Dealer, regardless of its warranty status.

The Voyager is manufactured with pride in the USA, using the finest materials and components available. Given proper use and maintenance using the procedures outlined in this manual, it will provide you with many years of reliable service.

As you embark on your excursions, remember that with the added freedom that the Voyager can provide comes added responsibility. You alone are responsible for your safety and the safety of those who dive with you. Be a responsible diver at all times!

WARNING: Use of the Voyager Diver Propulsion Vehicle (DPV) requires special instruction that is not available from another source besides this manual. Failure to read these instructions in their entirety and to follow the procedures given for the correct operation and maintenance of the Voyager could result in serious damage to the vehicle, and/or serious injury or death to the user.

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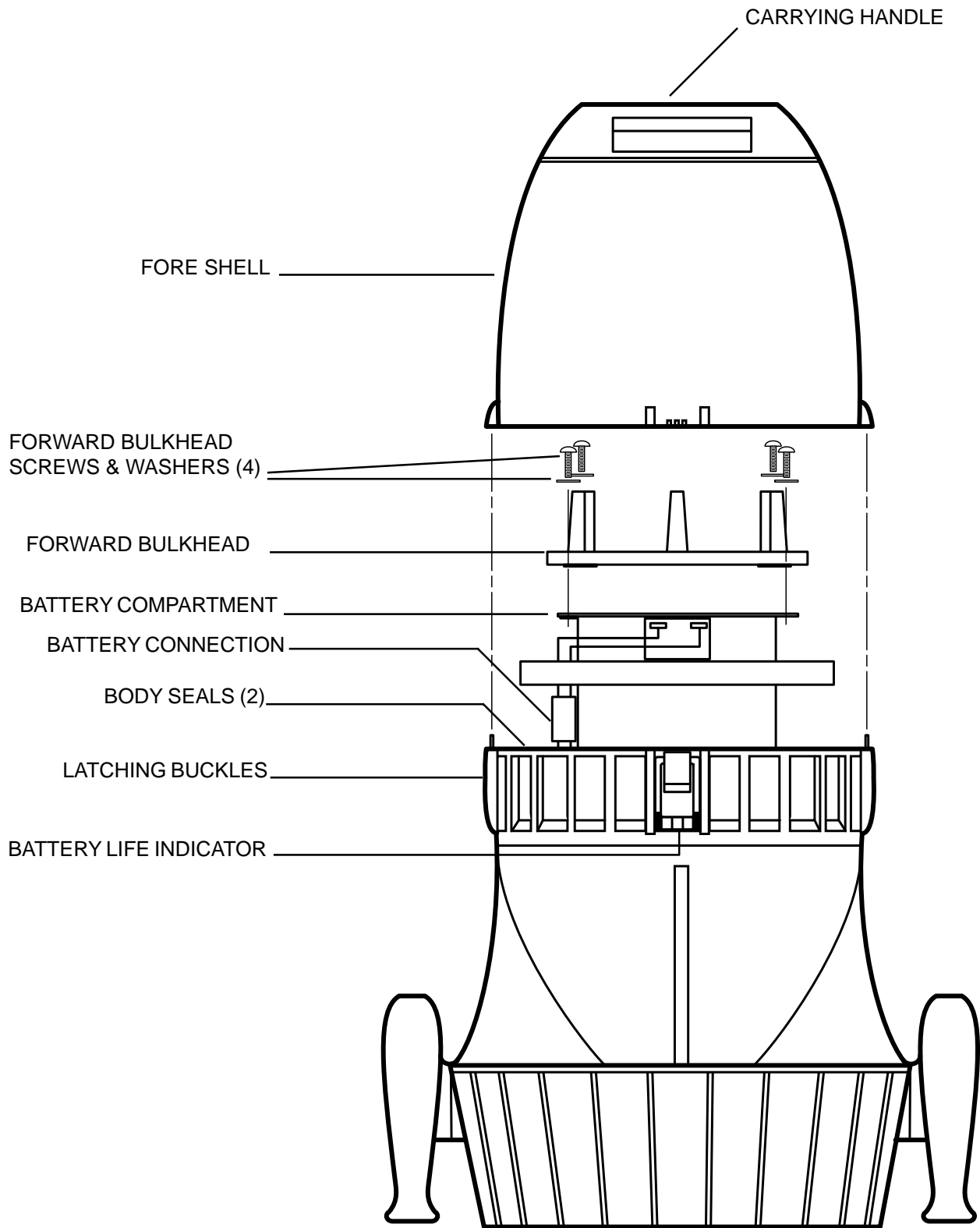
LIMITED ONE-YEAR WARRANTY

Refer to the Product Warranty Registration Card provided with the Voyager for details. The one-year warranty applies specifically to the fore shell, main housing, trigger mechanisms, motor, clutch, drive unit, propeller, propeller shroud, propeller shaft, rotary seal, and tail cone assembly.

The warranty does not extend to the Voyager's batteries or charging unit, which are covered by a separate, 90-Day warranty against defects.

Pay special attention to items marked with this WARNING symbol.

COMPONENTS





INITIAL BATTERY INSTALLATION

NOTE: All vehicles are delivered to the Authorized AERIS Dealer with their batteries packaged separately. The batteries must be properly charged and installed according to the procedures that follow before their first use.

1. To remove the vehicle from its packaging, remove the top piece of protective foam and set aside. Grasp the vehicle by the carrying handle at the end of the fore shell and lift the vehicle straight up and out of the carton. Set down gently on the propeller shroud. DO NOT attempt to drop it out of the carton, or lift the carton off and away from the vehicle.

NOTE: Be sure to save the original shipping carton, to use for transporting the Voyager to your Authorized AERIS Dealer or AERIS Customer Service department whenever service may be required in the future.

2. To remove the fore shell from the main housing, stand the vehicle upright on its shroud in a clean, dust free area, with the rubber bezel and carrying handle facing up.

NOTE: To release each latching buckle, it will be necessary to hold the safety lock depressed, using your thumb. (Fig. 1)

3. Release two of the four latching buckles which are opposite of each other first, and then release the other two.

Each pair should be opened simultaneously to relieve pressure equally on both sides of the shell.

CAUTION: DO NOT open the vehicle in an environment where sand, moisture, or salt air may be present. Doing so may cause serious damage to o-ring seals, motor, and other components.

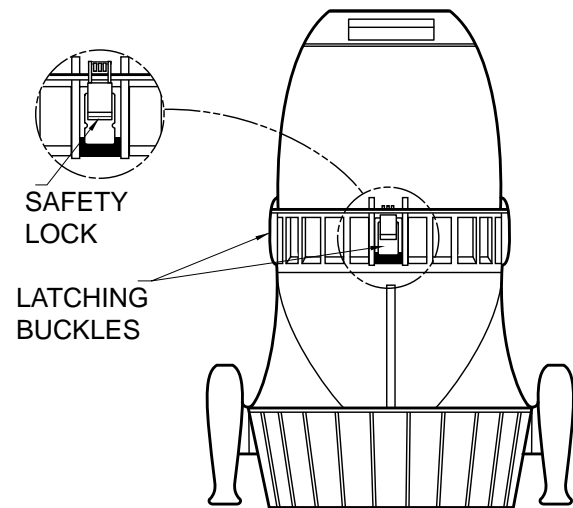


Fig. 1

4. Using firm, steady force, lift the fore shell straight up and off the main housing, while holding the main housing secure if necessary. DO NOT use impact or rock the fore shell back and forth to loosen from the main housing.
5. Place the fore shell on a clean, flat surface where it is not in danger of falling over, standing up on its rubber bezel.

CAUTION: DO NOT place the fore shell on its side or standing on its open end, which contains a delicate seating surface for the main seal o-ring. Contamination of, or damage to, this sealing surface will allow water to enter the unit, which may cause irreparable damage to the electric motor and other components.

6. Remove the four (4) screws (with washers) that hold the forward bulkhead attached to the battery case. Lift the bulkhead straight up and off, and set aside.
7. The batteries are held together by a nylon lift strap. To remove them from their packaging, grasp the center of the strap and lift the batteries straight up and out.
8. If necessary, turn the batteries to position them directly above the battery compartment with the terminals connected to the battery leads facing up and aligned with the opening in the top center of the battery compartment. The single wire that connects the two batteries must be facing directly down. (Fig. 2)

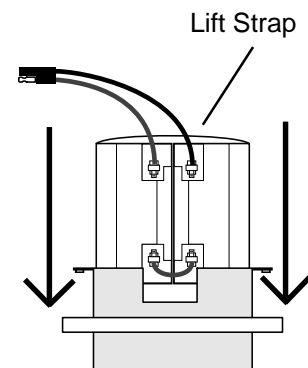


Fig. 2

9. Carefully lower the batteries into place inside the metal compartment. Guide the battery leads around the outside of the battery compartment and insert the connector through the opening in the middle bulkhead nearest to the connector of the motor leads.

CAUTION: DO NOT connect the battery leads to the motor leads until the unit has first been fully charged. Complete the reassembly of the forward bulkhead before charging.

- Place the forward bulkhead directly on top of the battery compartment, positioned with the openings for the four screws aligned exactly with the battery compartment. Install each of the screws with washers, rotating among each of them to tighten equally until secured.

You may now begin charging the vehicle, beginning with step 5 in the following procedure. If you will not be using the vehicle immediately, it is recommended that you fully charge the batteries to 100% of their capacity, and store the unit with the batteries disconnected. (See Warnings and Precautions.)

BATTERY CHARGING PROCEDURE

- If the fore shell has not been removed, stand the vehicle upright on its shroud in a clean, dust free area, with the carrying handle of the fore shell facing up, as previously illustrated.

CAUTION: DO NOT open the vehicle in an environment where sand, moisture, or salt air may be present. Doing so may cause serious damage to the o-ring seals, electric motor, and other components. If the vehicle is wet, wipe completely dry before opening - particularly around the area of the housing seals and latching mechanisms.

- Release two of the four latching buckles which are opposite of each other first, and then release the other two. Each pair should be opened simultaneously to relieve pressure equally on both sides of the shell.
- Using firm, steady force, lift the fore shell straight up and off the main housing, while holding the main housing secure if necessary. DO NOT use impact or rock the fore shell back and forth to loosen from the main housing.
- Place the fore shell on a clean, flat surface where it is not in danger of falling over, standing vertically on its rubber bezel.

CAUTION: DO NOT place the fore shell on its side or standing on its open end, which contains a delicate seating surface for the main seal o-ring. Contamination of or damage to this sealing surface will allow water to enter the unit, which may cause irreparable damage to the electric motor and other components.

- Examine the internal cavities of the fore shell and main housing to ensure that they are perfectly dry, and there is no evidence that moisture has entered the vehicle.

WARNING: If there is any evidence that moisture has entered the vehicle, DO NOT attempt to reassemble or operate it. Instead, take it directly to your nearest Authorized AERIS Dealer as soon as possible. DO NOT store the vehicle reassembled until the unit has received a factory authorized inspection and service.

- Determine what the voltage supply is for the electrical outlet you will be using to charge the unit (either 110 or 220 volts), and set the voltage switch of the charging unit to the appropriate setting.

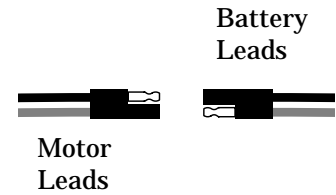
CAUTION: Failure to properly set the voltage setting of the charger to match the voltage of the electrical supply will result in serious damage to the charger, and possibly to the batteries as well.

- After inspecting the electrical cord to ensure it is undamaged, plug it into the outlet.

WARNING: DO NOT attempt to use the charger if the cord appears to be spliced, altered, or damaged in any way. Doing so may result in an electrical short, causing damage to the vehicle, or electrical shock, causing personal injury or death.

8. If the battery leads are connected to the motor leads, firmly grasp both connectors and pull apart to disconnect (Fig. 3). Lay the motor leads to one side.
9. Connect the battery leads to the charging connector.

CAUTION: DO NOT connect the charger to the motor leads connector. Doing so may cause permanent damage to the motor and the charger.



10. Depress the power switch to the “ON” position. This should cause the “Power On” and “High Rate” indicator lights to appear.
11. After 4 hours of charging, the batteries will be charged to 90% of their total capacity, and the “High Rate” indicator light will turn off. 24 hours of continuous charging is required to charge the batteries to their full capacity, however.

Fig. 3

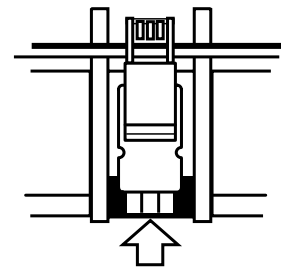
CAUTION: The charger contains a built-in charge sensor which automatically reduces the charge rate when the batteries are fully charged to prevent overcharging. Once fully charged, however, the batteries and charger should not be left plugged into an electrical source any longer than necessary.



NOTE: Recommended ambient temperature for charging is 34 to 100°F (2 to 38°C). The charger case will get very warm to the touch during the high rate phase of the charge cycle. This is normal. As the batteries become more fully charged, the case temperature will drop.

PRECAUTIONS AND WARNINGS

1. **DO NOT block the vents of the charger case, or charge the vehicle in a closed area. This will cause an extreme buildup of heat, which will result in damage to the charger and the batteries.**
2. **Avoid exposing the vehicle to heat exceeding 100°F (38°C), such as in the trunk of a car, furnace rooms, engine rooms, etc. Prolonged exposure to heat will shorten the life of the batteries and possibly damage them.**
3. **The battery life indicator (Fig. 4) should be continuously monitored whenever the vehicle is in use or the batteries are being discharged. Immediately STOP operating the vehicle or discharging the batteries any further whenever the flashing red battery indicator light appears. If the vehicle is in operation underwater when this light appears, abort the dive and surface to re-charge the batteries as soon as possible. Swim the vehicle to the surface, and DO NOT continue to operate.**
4. **DO NOT use any chargers other than a genuine AERIS charger to recharge your vehicle. Doing so may cause severe damage to the batteries, and will void the warranty.**
5. **DO NOT expose the charger to moisture, salt air, sand, or dust. Keep it clean and dry at all times.**
6. **DO NOT smoke or allow an open spark or flame near the batteries at any time.**
7. **DO NOT charge the batteries if they are frozen. Remove the fore shell and allow the unit to warm to room temperature (approximately 70°F (21°C) for at least one hour.**
8. **DO NOT attempt to operate a unit which has been only partially charged to less than 90% capacity. Whenever possible, the batteries should be charged to their total capacity for a full 24 hours before using the vehicle.**



**Battery Indicator
Fig. 4**

9. **DO NOT store the vehicle in a discharged state. Prior to storage, it is important to ensure that the batteries are charged to 100% capacity, and that the unit has stood open for a full hour afterwards to allow any hydrogen gas to vent completely.**
10. **DO NOT store the vehicle with the battery connected to the motor. Prior to storage for any length of time, it is critical to ensure that the power leads have been disconnected.**
11. **If moisture has entered the vehicle, DO NOT attempt to operate or store it with the housing and fore shell assembled. Take the vehicle to your Authorized AERIS Dealer immediately, where it should receive a factory authorized inspection and service.**

REASSEMBLY PROCEDURES

1. Depress the power switch of the charging unit to the “OFF” position.
2. Unplug the electrical cord from the outlet.
3. Disconnect the battery leads from the power leads of the charging unit.
4. Reconnect the motor leads to the battery only if the vehicle is intended to be used immediately .
5. Wait at least 30 minutes before proceeding further, to allow the batteries to finish discharging the hydrogen gas which can be produced during the charging cycle.
6. Closely examine the o-ring sealing surfaces of both the fore shell and the main housing, to ensure that they are perfectly clean, dry, and free of any scratches, distortion, or other damage.
7. Remove both body seal o-rings from the main housing and dress them with a very light film of silicone grease. Remove any visible excess by running the o-ring between thumb and forefinger.

NOTE: It is very important that these o-rings remain clean and free of any grit or debris prior to installation. Avoid applying excessive amounts of silicone grease, as this will attract grit and other debris that may interfere with the o-ring seal.

CAUTION: Aerosol spray silicone is to be strictly avoided. DO NOT attempt to use it as a substitute for silicone grease, or use it anywhere else on or near the vehicle.

8. To install the larger diameter body seal o-ring onto the lower sealing surface of the main housing, lay one side of the o-ring in place and hold secure while gently stretching the rest of the o-ring over the main housing and onto the sealing surface (Fig. 5).

CAUTION: DO NOT twist or roll the o-ring down onto the housing, as this will cause improper seating.

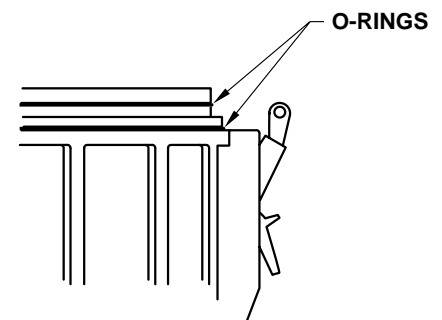


Fig. 5

9. Use the same procedure to install the smaller diameter o-ring onto the upper sealing surface of the main housing.
10. Look inside the fore shell and main housing to ensure that no moisture, dust, or other debris has entered. If found to be dry and clean, hold the fore shell above the housing and turn if necessary to ensure the carrying handle at the nose of the shell is facing up, even with the top of the main housing.
11. Align the latch ends of the fore shell with the buckles of the housing and carefully lower the fore shell into place until it is resting evenly over the top of the main housing. Fit the roller of each buckle into each latch end before securing any of the buckles.
12. When every buckle is correctly positioned, press two latches on opposite sides of the housing shut. Check to ensure that the housing and fore shell are mated evenly and the lower o-ring appears evenly seated between them before shutting the remaining two latches. This is necessary to prevent crimping of the o-ring seal.



- When all four buckles are secured, check the o-ring once again, which should be visible through a thin gap between the fore shell and main housing, to ensure that it is not crimped, and that it is evenly seated.

Your Voyager should now be fully charged and reassembled. A Pre-Operational check must be performed as outlined in the next section before it can be considered "Dive Ready."

PRE-OPERATIONAL CHECKS



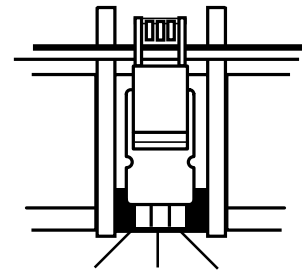
NOTE: It is important to check the following before each use.

Batteries:

- Batteries should be fully charged to at least 90% capacity before each use. (Refer to the charging procedure for instructions.)
- To check the battery life indicator on the vehicle, depress the activation trigger while the unit is standing on its shroud, and examine the battery life indicator which is located at the top center of the main housing, just below the seal. Release the trigger within ten seconds. **DO NOT** attempt to use the vehicle if the indicator light does not show a steady green (Fig. 6). Charge the vehicle according to the procedures previously described.



CAUTION: DO NOT allow the motor to run for more than 10 seconds out of the water. Doing so may cause damage to the propeller shaft seal. Keep hands, feet, and other objects away from the moving propeller.



Green Yellow Red
Fig. 6

Housing:

- Check all areas of the main housing and fore shell - especially near the seal - to ensure that they are clean and free of any signs of damage.
- Examine the o-ring seal around its entire circumference, to ensure that it is properly seated and does not appear to be crimped or extruding out between the fore shell and the main housing.
- Check all four latching buckles to ensure they are securely fastened.

Trigger Mechanisms:

- Stand the vehicle on its shroud, with the nose facing up. Depress the trigger in each handle and release.

CAUTION: DO NOT allow the motor to run for more than 10 seconds out of the water. Doing so may cause damage to the motor seal. Keep hands, feet, and other objects away from the moving propeller.

- Check to ensure that each trigger moves smoothly inside the handle, and returns completely to the OFF position when released. If trigger movement is not smooth, examine closely to check for any signs of sand or other debris inside the handle which may be obstructing the trigger's movement.
- If sand or debris is found, flush out with a pressurized stream of water, or low pressure air. If necessary, you may use a blunt, non-metallic instrument to dislodge the debris. Use water to flush out the handle and trigger assembly again to remove any hidden debris that might remain and repeat step 1.

CAUTION: DO NOT attempt to operate the vehicle if any abnormal noises are heard while the motor is running. Return the vehicle to your nearest Authorized AERIS Dealer, where it should receive a factory authorized inspection and service.

Propeller/Pitch Adjustment:

The Voyager's variable pitch propeller allows you to choose whether to run the vehicle at a slower speed, which will provide a longer running time, or at faster speeds, which will shorten the running time. Although the range of the vehicle will remain approximately the same, you may wish to consider other factors, such as air consumption, No-Decompression dive time remaining, currents etc. Unless you are really in a hurry with a lot of ground to cover, you may find it more relaxing and less fatiguing to operate the vehicle at a lower pitch setting.

1. You may select the desired pitch of the propeller by turning the adjustment knob located at its center. First, sight through the grooved slot at the outer edge of the knob to find the numbered pitch settings (1 through 9). You may need to rotate the propeller until the number comes into view (Fig. 7).



WARNING: DO NOT touch the activation triggers on either of the side handles while adjusting the propeller pitch, or allow them to otherwise be depressed. The motor must not be activated while performing this procedure.

2. To set the knob more precisely, hold the propeller secure with one hand while turning the knob with the other (Fig. 8). To select a higher setting with increased pitch, turn the knob clockwise. Or, turn it counter-clockwise to select a lower setting with less pitch.

Your Voyager is now dive ready. Before using the vehicle, however, you must first familiarize yourself with the following sections which explain its operation, and special instructions for diving with a Diver Propulsion Vehicle.

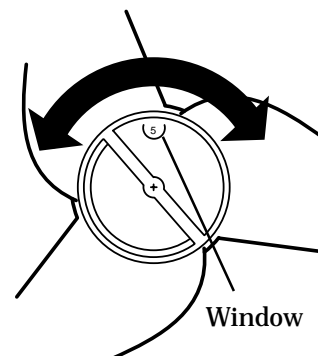


Fig. 7

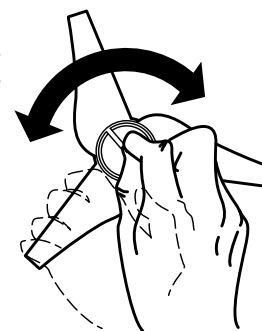


Fig. 8

OPERATING PRECAUTIONS AND WARNINGS



WARNING: The Voyager Diver Propulsion Vehicle is intended for use only by trained SCUBA divers who have received open water certification by a recognized training agency, and have maintained proficiency in their diving skills by remaining recently active in the sport. Knowledge of safe diving practices is therefore essential to safe operation.

1. **DO NOT descend faster than 75 feet (25 meters) per minute, or exceed any rate of descent that prevents you from clearing your ears and sinuses comfortably.**
2. **DO NOT operate the vehicle at a depth greater than 130 feet (43 meters).**
3. **DO NOT operate the vehicle while ascending. When you are ready to ascend, turn the vehicle off and swim it to the surface, being careful not to exceed a safe rate of ascent.**
4. **DO NOT allow straps, hoses, hair, hands, or other objects to enter the propeller shroud.**
5. **DO NOT continue to operate the vehicle when the low battery indicator appears, flashing red. Cease operation immediately and swim the vehicle back to your exit point. Continued operation is very harmful to the batteries.**
6. **DO NOT operate the vehicle out of the water. Doing so will damage the rotary propeller shaft seal, resulting in leakage.**
7. **DO NOT attempt to operate the vehicle before completing all steps outlined in the section titled, Pre-Operational Checks.**
8. **DO NOT operate the vehicle while swimming through kelp, sea grass, or other vegetation which may foul the propeller.**
9. **DO NOT leave the Voyager unsupervised in the presence of children.**

RECOMMENDED WATER ENTRY PROCEDURES

Preferred method to enter the water from a boat or dock:

1. Before entering the water, arrange for a divemaster or someone else to assist you by lowering the vehicle to you after you are already in the water. If necessary, tie a tether line through the handle of the vehicle, using a knot that will hold it secure without slipping, but which can also be easily untied, such as a bowline.
2. Enter the water with your regulator in your mouth and wait for the vehicle to be lowered to you. DO NOT remain directly below the vehicle while it is being lowered, but position yourself slightly off to one side.
3. When the vehicle has been lowered into the water, hold it by the carrying handle in the fore shell while untying the tether, if one is attached. DO NOT take hold of the vehicle by the side handles, as the motor may be accidentally activated.
4. When you are ready to begin your dive, turn the vehicle around so that the prop shroud is directly in front of you. Hold handles securely on both sides, below the activation triggers, until you are ready to move forward.
5. When exiting the water, ask for assistance as before, and hold the vehicle secure by the carrying handle until the tether line is passed down, if one is needed. Tie the vehicle on securely, or otherwise pass it up before exiting the water yourself. DO NOT remain directly below the vehicle while it is being pulled from the water, but position yourself off to one side.

Entering the water from shore:



CAUTION: Beach diving with the Voyager is not recommended in conditions where entry or exit through moderate to heavy surf may be necessary. It is very important to protect your Voyager from coming in direct contact with sand or gravel, that may cause damage to the propeller shaft seal, the trigger mechanisms in the side handles, and the o-ring seals.

1. When entering the water from shore, hold the vehicle securely by the carrying handle in the fore shell, and carefully walk backwards. When you are in water that is waist-deep, you may turn around and take hold of the vehicle by the side handles and begin operation immediately, provided that vegetation such as kelp or sea grass is not present.
2. To exit the water, be sure to make your final ascent before reaching the surf line. Cease operation of the vehicle and hold it securely by the carrying handle. Walk carefully backwards out of the water and continue carrying the vehicle until you are able to set it down on a blanket or tarp where it will be protected from any contact with sand or gravel. DO NOT attempt to swim the vehicle completely onto the shore under power.

HOW TO RIDE

To obtain maximum performance from your vehicle, it is essential that you position yourself correctly (Fig. 9) in order to minimize drag and fatigue and maximize comfort.

1. The vehicle should be held so that it is parallel to and slightly below your body. This allows the turbulence from the propeller to pass freely beneath you.
2. Your arms should be slightly bent at the elbows so that the shroud is below you as you look directly downward.
3. The side handles that contain the trigger mechanism should be held firmly with both hands while operating the vehicle.

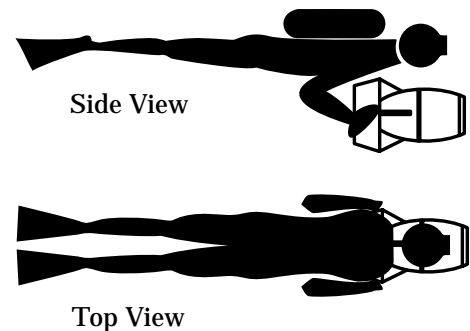


Fig. 9



WARNING: DO NOT attempt to operate the vehicle with only one hand. Doing so will result in a loss of control.

4. Keep your legs straight, your fins together, and your toes extended. Remember, there will be very little benefit gained by kicking while operating the vehicle, but fins should be worn in the event of a low battery situation.
5. DO NOT hold the vehicle ahead of your body (Fig. 10), which will cause excessive strain to your arms, and fatigue.
6. DO NOT hold the vehicle directly in front of you (Fig. 11), where you will feel propeller turbulence. Your body will block the thrust, reducing speed and efficiency. This position will also cause fatigue to your arms, and you will be chilled by the prop wash.



Fig. 10

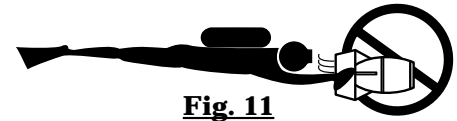


Fig. 11

Practice achieving and maintaining the correct position. You will notice a pronounced increase in speed and comfort.

Turning is very easy to do - just point the vehicle in the direction you would like it to go, and turn your body slightly to the same side to allow it to follow.



WARNING: DO NOT use the vehicle to ascend. Doing so could cause you to exceed the safe ascent rate. Following bottom topography as you normally would while swimming without the Voyager is suggested. Be careful to monitor your depth gauge to avoid rapid ascents.

DO NOT continue descending if you experience discomfort in your ears or sinuses. If necessary, ascend slightly to equalize first before continuing to descend.

SELECTING PROPELLER PITCH UNDERWATER

The pitch of the propeller can be adjusted at any time underwater as described in the Pre-Operational Check procedures, provided that the activation triggers in both side handles have been released, and the motor is turned off.

The best combination of speed, run time, range, and comfort is usually achieved at a setting between 3 and 5, but this will vary depending on your size, weight, and the drag created by your equipment. Presumably, you will be diving with a buddy who is also using a Dive Propulsion Vehicle, to avoid diving alone. Unless your buddy is the same weight and size as yourself, and wearing similar equipment with the same amount of drag, you will probably need to adjust the pitch of your vehicles accordingly to achieve the same cruising speed. This can easily be done, using the Voyager's variable pitch feature.

For example, a diver weighing 180 pounds with a large, high drag, game bag attached to his or her BC may need to set his or her propeller to a pitch setting of number 5 in order to match the speed of another diver who weighs only 140 pounds, is wearing very low drag equipment, and is using a pitch setting of number three. It is very important to remember, however, that there will be a difference in the running time provided by the batteries, and the dive should be planned according to the shorter battery life of the heavier diver.

WHAT TO DO IF THE VOYAGER BECOMES INOPERATIVE

For easy viewing, the battery life indicator is located in the center of the top surface of the main housing, and should be continuously monitored whenever the vehicle is in use; no less often than you check your depth and pressure gauges.

Each dive should be pre-planned according to no-decompression limits, anticipated air consumption, and anticipated battery running time. Whenever the yellow battery indicator light appears, however, you should immediately begin your return to the boat or exit point, and discontinue operation of the vehicle when the red low battery indicator appears.



WARNING: Immediately STOP operating the vehicle whenever the flashing red battery indicator light appears. If the vehicle is in operation underwater when this light appears, abort the dive and return to the surface to re-charge the batteries as soon as possible. Swim the vehicle to the surface, and DO NOT continue to operate.



If your vehicle becomes inoperative underwater for any reason, you must return to the surface as soon as possible to examine the cause. **DO NOT** attempt to operate the vehicle any further.

To exert the least amount of effort while swimming with an inoperative vehicle, it is recommended to hold it in its normal use position, being extremely careful to avoid depressing the activation triggers in either of the side handles. While making your final ascent to surface, hold the vehicle by the carrying handle in the top of the fore shell - especially when it is necessary to hold onto a line or decompression bar with one hand.

If the propeller has been fouled by an obstruction, the safety clutch will automatically disengage, and a loud clicking sound will be heard while the motor remains activated. When the obstruction is removed, the clutch may be re-engaged by depressing the activation switch briefly several times. When the clicking sound is no longer heard, the clutch has been re-engaged.

CAUTION: If a loud clicking sound is heard, indicating that the safety clutch is disengaged, immediately release the activation triggers in both of the side handles to stop the motor, and return to the surface to remove the obstruction. DO NOT attempt to remove the obstruction underwater.

WARNING: If air can be seen leaking from the housing, indicating that water has entered, the vehicle should be considered inoperative and returned to the surface immediately using the procedures described above. As soon as possible, remove the fore shell to open the housing and DO NOT re-seal until the vehicle has received factory authorized service by an Authorized AERIS Dealer.

MAINTENANCE

The batteries should be fully charged within 24 hours following each use, or immediately following use if the red (low) battery indicator appears. The charger should be kept in a waterproof container between uses to prevent exposure to moisture or salt air.

If properly stored and maintained, the batteries can be re-charged up to 250 times before requiring replacement. After 250 charging cycles, however, it becomes extremely important that the batteries are replaced with new by your Authorized AERIS Dealer before the vehicle is used or stored, due to the higher levels of hydrogen gas that can be thrown off by an older, deteriorated battery. It is therefore important to maintain an accurate log of all maintenance performed, including battery charge cycles, storage intervals, and Annual Inspections performed by an Authorized AERIS Dealer, along with other services performed by an Authorized AERIS Dealer.



NOTE: A Maintenance Log is provided on page 18 for your convenience.

Like any other piece of diving equipment, your Voyager should be rinsed with fresh water after every dive, particularly in the areas of the side handles, latching buckles, and the propeller hub. Ideally, it is recommended that you first immerse the vehicle in a large tub of fresh water and allow it to soak for several hours before giving it a final rinse.



CAUTION: DO NOT expose any parts or components of the Voyager to petroleum based substances (such as gasoline or oil), alcohol, toluene, methyl-ethylketone, acetone, strong detergents, or fluorocarbons (aerosol sprays). These substances are known to cause stress cracks and crazing to the thermoplastic materials from which many of the Mako's components are made.

Prior to storage, it is important to ensure that the batteries are charged to 100% capacity, and that the unit has stood open for a full hour afterwards to allow any hydrogen gas to vent completely. Before assembling the fore shell onto the main housing, it is extremely important to disconnect the motor from the battery. The vehicle should be stored standing upright on its propeller shroud.



WARNING: DO NOT store the vehicle in a discharged state, or with the batteries connected to the motor.

Regardless of warranty status, it is also very important to bring the Voyager to your Authorized AERIS Dealer on an annual basis for a complete, factory authorized inspection to determine what service may be needed, if any. Be sure to record the date of this inspection in your Maintenance Log, along with the name of the Authorized AERIS Dealer where the inspection was performed.

ADDITIONAL CONSIDERATIONS FOR DPV DIVING

Keep in mind, that you will be using less air than you have grown accustomed to, and no-decompression limits will often become the more limiting factor for planning your dive while using the Voyager.

In addition to planning the depth and duration of your dive according to the limitations of air consumption and nitrogen absorption, however, you must now also pay attention to the limiting factors of battery life and running time. This becomes especially critical whenever you are diving in conditions where currents may exist.



WARNING: ALWAYS begin your dive travelling against the current, and immediately begin your return to the boat or exit point if the yellow battery indicator appears.

Because performance can be affected by excessive drag, it is important to streamline your diving equipment as much as possible.

You will be moving much faster underwater and expending less energy, and will therefore require additional exposure protection. Whenever water temperatures permit, however, a wetsuit is generally preferred over a drysuit, due to its snugger, more streamlined fit. Always be sure to tuck your boots under your wetsuit, and wear your gloves over the cuffs of your sleeves.

Select a small, low volume mask. Be sure it provides a good seal and fits comfortably. Avoid larger masks, that may feel less comfortable and seat poorly when they are worn in strong currents.

Generally, a single bladder design BC is more streamlined when deflated, compared to most “double bag” designs.

If you use a gauge console that is attached to a high pressure hose, be sure to keep it closely secured to your BC to prevent it from dangling freely. This is also important to avoid fouling the propeller.

Like a gauge console, it is important to closely secure your octopus to your BC to prevent it from dangling freely. It is also important to use second stages that will not “self purge” in strong currents, as some high performance designs have a tendency to do.

ADJUSTABLE CRUISE SEAT

The Voyager adjustable cruise seat eliminates arm fatigue by automatically positioning the diver for maximum efficiency and range, and allows one handed operation.

Instructions:

To attach the adjustable cruise seat to your Voyager diver propulsion vehicle, clip each strap end onto the towbar brackets.

The cruise seat length may be adjusted to accommodate divers of different sizes. To shorten or lengthen the seat, loosen the 1” nylon webbing threaded through the 1” tri-glide and slide the tri-glide (toward the vehicle to shorten; or away from the vehicle to lengthen) to the desired position. Excess webbing should be looped back through the tri-glide for added security.

For optimal efficiency and comfort, the cruise seat should be adjusted to attain proper diver positioning as shown by Figure 9 on page 12. Arms should be slightly bent at the elbow and the diver’s head should be above and slightly behind the shroud.



TECHNICAL SPECIFICATIONS

| | |
|-------------------------------|--|
| LENGTH | 25 inches |
| WEIGHT | 54 lbs |
| SPEED | 1.5 - 2.7 mph* |
| RUNNING TIME | 40 - 120 min |
| CHARGING TIME | 4 hrs. to 90%, 16 hrs. to 100% |
| STATIC THRUST | 15 - 50 lbs |
| SERVICE INTERVAL | Every 250 charging cycles |
| BATTERIES | (2) 12 V, 17AH, Sealed, Rechargeable |
| RANGE | Approximately 3 miles* |
| MAXIMUM OPERATING DEPTH | 180 fsw |
| MOTOR | Permanent Magnet Direct Drive, 750 RPM |
| BODY | Advanced High-Impact Xenoy® |

*Based on average diver

Xenoy® is a registered trademark of General Electric Company.

TROUBLESHOOTING GUIDE

| PROBLEM | POSSIBLE CAUSE | TREATMENT |
|---|--|---|
| MOTOR DOES NOT RUN | 1. Batteries are discharged. | 1. Recharge batteries immediately. |
| | 2. Batteries are not connected to motor. | 1. Check battery connection. |
| | 3. Damaged reed switch. | 1. Test other trigger. 2. Return for service. |
| | 4. Damaged Relay. | 1. Return for service. |
| | 5. Loose Connection. | 1. Return for service. |
| MOTOR RUNS, BUT Propeller DOES NOT TURN | 1. Propeller is obstructed. | 1. Remove obstruction, and briefly depress the activation trigger several times as needed to engage the clutch. |
| | 2. Safety clutch will not engage. | 1. Return for service. |
| MOISTURE HAS ENTERED THE VEHICLE | 1. Housing o-rings are worn or damaged. | 1. Replace with new. |
| | 2. O-ring seating surface of housing or fore shell is damaged. | 1. Return for service. |
| | 3. Rotary propeller shaft seal is damaged. | 1. Return for service. |



WARNING: DO NOT attempt to disassemble or repair the internal components of your Voyager. Doing so will void the warranty, and may cause injury or death. Any service or repairs, other than replacement of the main seal o-rings or recharging of the batteries, should be performed exclusively by an Authorized AERIS Dealer, or by AERIS Customer Service.



NOTE: Be sure to save the original shipping carton, to use for transporting your Voyager to an Authorized AERIS Dealer or AERIS Customer Service whenever service may be required in the future.

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