Old Town®

Getting Started With Your ePDL+™ Drive

BigWater ePDL+™ 132 | ePDL+™ 120 PRO
Malibu ePDL+™ 120

ePDL+

For more information on features, specifications, processes, maintenance, and troubleshooting tips, visit

OLDTOWNWATERCRAFT.COM

⚠ WARNING

Read and review all safety warnings, instructions, illustrations, and specifications provided before any installation or operation of this watercraft and the ePDL+™ Drive System. Failure to do so could result in death or serious injury.

The images in this document may not look the same as your product but will function in a similar way.

03/2025

CONTENTS:

GETTING STARTED

IMPORTANT SAFETY INFORMATION

Paddling enables people of all ages and abilities to experience nature with unrivaled closeness and variety. Adventures range from brief outings to challenging treks, but even the simplest trip can quickly lead to danger if proper precautions are not taken.

SAFETY LABELING AND SIGNAL WORDS

DANGER, WARNING, and **CAUTION** are signal words used throughout this user manual to identify important safety and product information. It is important to recognize and understand the meaning of each signal word and its message before operation.

⚠ WARNING Indicates a hazardous situation, that if not avoided, **could** result in death or serious injury.

⚠ CAUTION Indicates a hazardous situation, that if not avoided, **could** result in minor or moderate injury.

NOTICE Indicates important product information, that if not followed, **could** result in product or property damage.

GENERAL OPERATING SAFETY WARNINGS

Read and review all safety warnings, instructions, illustrations, and specifications provided before operation. Keep this manual in a safe place for future reference if necessary. Failure to do so could result in product damage, death, or serious injury.

⚠ WARNING

You are responsible for the safe and prudent operation of your watercraft. You must avoid hazards to navigation and always maintain a permanent watch so you can respond to situations as they develop. You must always be prepared to regain manual control of your watercraft. Learn to operate your Old Town product in an area free from hazards and obstacles.

- **READ THE OWNER'S MANUAL** and follow the manufacturer's recommendations for the use of this product. Consult the manufacturer's information prior to adding aftermarket equipment, and never obstruct entry or exit to the craft.
- **DO NOT IMPAIR ENTRY OR EXIT ACCESS.** If additional outfitting is added to this watercraft, use the manufacturer's approved materials only.
- **WEAR U.S. COAST GUARD APPROVED LIFE JACKETS,** and where appropriate, wear a helmet.
- **CHECK WEATHER FORECAST BEFORE DEPARTING DOCK** and heed all weather advisories.
  - **DRESS APPROPRIATELY** for the weather conditions, as cold water and/or cold weather can cause hypothermia.
  - **DO NOT PADDLE IN FLOOD CONDITIONS.**
- **NEVER PADDLE WHILE UNDER THE INFLUENCE** of drugs or alcohol.

⚠ WARNING

- **BE AWARE OF THE WATER CONDITIONS,** including appropriate water levels, tidal changes, dangerous currents and other water hazards. Always scout unfamiliar waters, and portage where appropriate.
- **CONSULT WITH A PHYSICIAN** prior to beginning paddlesport training. Paddlesports can be very dangerous and physically demanding.
- **OBTAIN PADDLESPORT TRAINING** specific to this type of craft. Do not exceed your paddling ability - be honest with yourself.
- **BRING A PADDLE** when operating a powered watercraft.
- **NEVER PADDLE ALONE.**
- **KEEP A PROPER LOOKOUT AND SAFE DISTANCE** from other vessels and hazards at all times.
- **OBEY APPLICABLE BOATING LAWS.**
- **REGULARLY CHECK YOUR EQUIPMENT** prior to each use for signs of wear or failure.
- **OBTAIN CERTIFIED FIRST AID AND RESCUE TRAINING.** Be sure to carry first aid and rescue equipment with you.
- **ALWAYS CHECK WITH LOCAL REGULATIONS** for watercraft safety requirements in your area.

ePDL+™ WATERCRAFT PRODUCT SAFETY WARNINGS

⚠ WARNING

Failure to follow these warnings could cause death or serious injury.

- **THIS PRODUCT CONTAINS STRONG MAGNETS** located in the kill switch key, and ePDL+™ Drive console, which could interfere with pacemakers and other medical devices. To avoid any potential interaction with these devices, keep a safe distance away *(6in / 15cm)*.
- **CONSULT YOUR PHYSICIAN AND MEDICAL DEVICE MANUFACTURER** for specific information to your medical device.
- **LOOSE MAGNETS CAN PRESENT A CHOKING HAZARD.** Swallowed magnets can stick together through intestine walls, causing a severe health risk. Seek medical attention if magnets are swallowed or inhaled.
- **ALWAYS ATTACH THE KILL SWITCH KEY LANYARD** to yourself when on the water.
- **KEEP FINGERS AND FEET CLEAR** of all hinges, pivot points, and moving parts when stowing or deploying the motor or drive.
- **AVOID CONTACT WITH PROPELLER** when the ePDL+™ Drive propeller is in motion.

⚠ WARNING

- **DO NOT OPERATE IN THE VICINITY OF SWIMMERS** or others that could come in contact with the propeller.
- **ENSURE THE DRIVE IS COOL TO TOUCH BEFORE HANDLING.** The ePDL+™ Drive may become hot during use. Confirm the temperature of the drive head is acceptable before handling.
- **WEAR SAFETY GLASSES WHEN HANDLING TOOLS AND EQUIPMENT** to prevent injury.

ePDL+™ BATTERY SAFETY WARNINGS

⚠ WARNING

Failure to follow these warnings could cause death or serious injury.

- **ALWAYS DISCONNECT THE BATTERY BOX AND THE DRIVE** from the boat before cleaning or checking the propeller.
- **ALWAYS REMOVE THE BATTERY BEFORE TRANSPORT.** Transporting the watercraft with the battery installed may result in fire or electric shock. DO NOT transport the watercraft with the battery installed.
- **ALWAYS REMOVE THE BATTERY BEFORE CHARGING.** Charging the battery while it is installed in the watercraft may result in fire or electric shock. DO NOT charge the battery while it is installed in the watercraft.
- **DO NOT SUBMERGE CHARGER OR EXPOSE TO RAIN.** Submerging the charger underwater or exposing to rain may result in electric shock.
- **CHECK CABLE CONNECTIONS** when connecting the power-supply cables of the drive to the boat, or when connecting the power-supply cables of the battery box to watercraft. Ensure that they are not kinked, or subject to chafe and that the cable insulation is not damaged.
- **DO NOT USE A BATTERY OR CHARGER THAT IS DAMAGED OR MODIFIED.** Using a battery or charger that is damaged or modified may result in fire, electric shock, or noxious fumes.

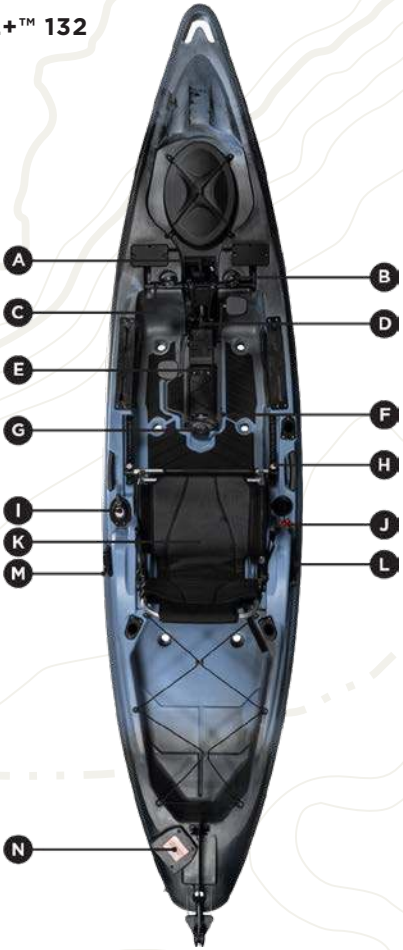
IMPORTANT PRODUCT INFORMATION

NOTICE

- **USE THE CORRECT BATTERY.** The supplied 36V lithium-ion battery is intended for use with the ePDL+™ Drive only. DO NOT use on the Old Town Sportsman 106 Powered by Minn Kota, Sonata 106 MK, AutoPilot 120, or AutoPilot 136.
- Store the battery between 40°F and 80°F *(between 4°C and 26°C)* in a dry location. If the battery is stored for extended periods of time in extremely hot or extremely cold environments, product damage may occur.
- ALWAYS store your ePDL+™ Drive above -40°F and below 160°F *(above -40°C and below 71°C)*. Leaving your ePDL+™ Drive subject to extreme heat or cold can severely limit the useful life of the drive and battery.
- Using the power modes of the ePDL+™ Drive *(Power-Assisted Pedal Mode and Cruise Control Mode)* below 25°F *(-3°C)* can result in inconsistent performance and frequent error codes. For best results, use power modes only when the drive and ambient temperature are above 25°F *(-3°C)*.
- DO NOT operate the drive with a battery that is not capable of delivering the correct voltages. Using a battery that is not capable of delivering the correct voltages may result in product damage.

PRODUCT OVERVIEW

BIGWATER ePDL+™ 132



A. ePDL+™ Drive Hull Power Socket *(watercraft connection)*

B. ePDL+™ Drive Thwart Lock Knobs

C. ePDL+™ Drive Thwart Tube

D. ePDL+™ Drive Power Socket *(drive connection)*

E. ePDL+™ Drive Display Screen and Buttons

F. ePDL+™ Drive Kill Switch Magnet *(drive console connection)*

G. ePDL+™ Drive Lock Knob

H. Seat Adjustment Shuttles

I. Rudder Steering Knob *(may need to be installed)*

J. Kill Switch Key and Base *(watercraft connection)*

K. In Hull Receptacle Inside Rectangular Click Seal Hatch *(under seat)*

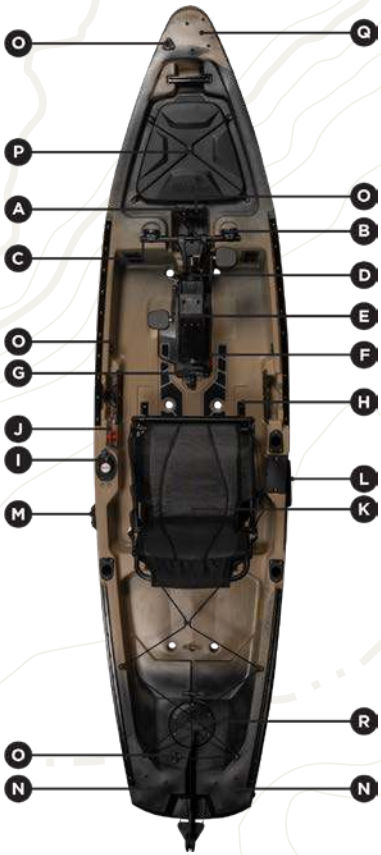
L. Rudder Stow/Deploy

M. Paddle Clip Location *(may need to be installed)*

N. Shallow Water Anchor Mount

PRODUCT OVERVIEW

ePDL+™ 120 PRO



A. ePDL+™ Drive Hull Power Socket *(watercraft connection)*

B. ePDL+™ Drive Thwart Lock Knobs

C. ePDL+™ Drive Thwart Tube

D. ePDL+™ Drive Power Socket *(drive connection)*

E. ePDL+™ Drive Display Screen and Buttons

F. ePDL+™ Drive Kill Switch Magnet *(drive console connection)*

G. ePDL+™ Drive Lock Knob

H. Seat Adjustment Shuttles

I. Rudder Steering Knob *(may need to be installed)*

J. Kill Switch Key and Base *(watercraft connection)*

K. In Hull Receptacle Inside Rectangular Click Seal Hatch *(under seat)*

L. Rudder Stow/Deploy

M. Paddle Clip Location *(may need to be installed)*

N. Shallow Water Anchor Mount

O. Thru Hull Wiring Port *(ePDL+™ 120 PRO model only)*

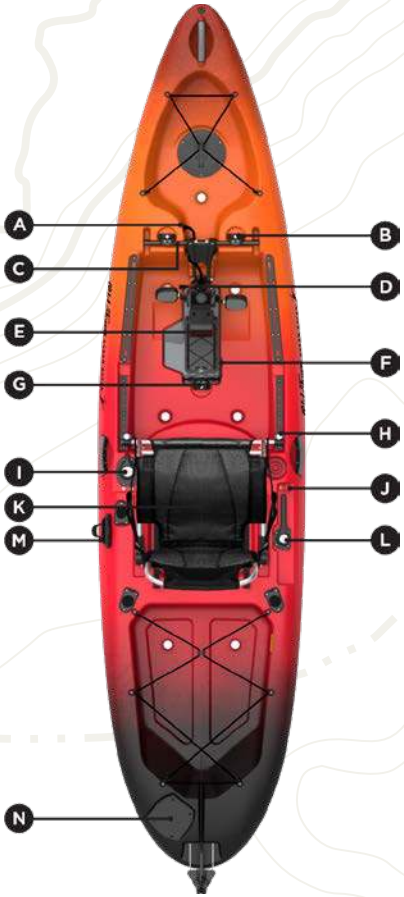
P. Hatch Prop Storage *(ePDL+™ 120 PRO model only)*

Q. Bow Mount Motor Inserts

R. Stern Access Hatch

PRODUCT OVERVIEW

MALIBU ePDL+™ 120



A. ePDL+™ Drive Hull Power Socket *(watercraft connection)*

B. ePDL+™ Drive Thwart Lock Knobs

C. ePDL+™ Drive Thwart Tube

D. ePDL+™ Drive Power Socket *(drive connection)*

E. ePDL+™ Drive Display Screen and Buttons

F. ePDL+™ Drive Kill Switch Magnet *(drive console connection)*

G. ePDL+™ Drive Lock Knob

H. Seat Adjustment Shuttles

I. Rudder Steering Knob *(may need to be installed)*

J. Kill Switch Key and Base *(watercraft connection)*

K. In Hull Receptacle Inside Rectangular Click Seal Hatch *(under seat)*

L. Rudder Stow/Deploy

M. Paddle Clip Location *(may need to be installed)*

N. Shallow Water Anchor Mount

WHAT'S INCLUDED?

36V LITHIUM-ION BATTERY

S. 36V Lithium-Ion Battery

T. 36V Lithium-Ion Battery Charger

U. 36V Lithium-Ion Battery Charger Power Cord

ePDL+™ KIT CONTENTS

V. Paddle Clip x 1

W. Paddle Clip Strap x 1

X. 10-32 x ½" Phillips Head Screw x 2

Y. Steering Ball Top x 1

Z. Steering Ball Base x 1

AA. ¼-20 x 1 Phillips Head Bolt x1

BB. Rudder Tension Control Knob x 1

CC. Prop Pin x 2

DD. 5/32 Hex Key — for tightening or replacing lock down knob shoulder bolts x 1

EE. Dielectric Grease Packet — for maintaining rust resistant connections at plugs/sockets x 1

FF. Kill Switch Key x 1

GG. Kill Switch Lanyard x 1

HH. ePDL+™ Drive Power Cable *(watercraft to drive power)* x 1

II. Battery Power Cable *(watercraft to battery power)* x 1

UNBOXING AND ASSEMBLY

TOOLS NEEDED

- Phillips head screwdriver *(#2 and #3)*
- Small adjustable wrench
- Scissors or wire cutters (*for removal of cable ties)*
- 5/32 Hex Key *(included in tackle box)*
- Dielectric Grease *(included in tackle box)*

RECOMMENDED TOOLS

- ¼" Drive Torque Wrench

UNBOXING

Batteries are not shipped with a full charge. Refer to the 36V Lithium-Ion Battery Use and Care Section (pg 24) for battery charging information.

Some watercraft models have wooden shipping braces installed.

1. Remove and set aside the screws taped to the wooden shipping brace(s). Unscrew the wooden shipping brace(s) from the watercraft. You can save the wooden shipping brace(s) and use when storing your watercraft during the off season to prevent the hull from warping.
2. Install the formerly taped Phillips head screws in the stern-most holes of the seat rails.
3. Locate the ePDL+™ Kit and set aside. The components inside will be used in the following assembly steps.
4. Remove and set aside the cardboard battery box located in the stern tankwell.

SEAT INSTALL

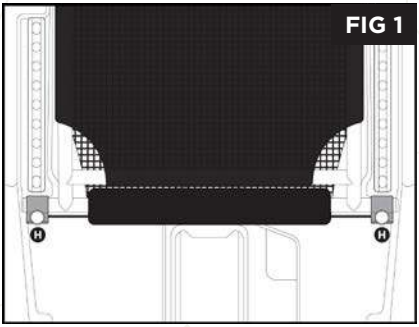
BIGWATER ePDL+™ AND MALIBU ePDL+™ MODELS

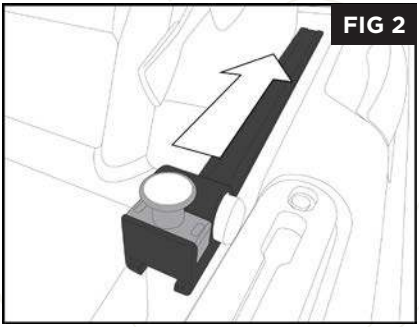
The Old Town seat is adjustable forward and backward to accommodate most leg lengths for a comfortable pedaling position. The front of the seat is anchored by two pin-adjustable seat shuttles, while the back of the seat rests on the top of the hull and is anchored by two straps. No tools are needed to install the seat.

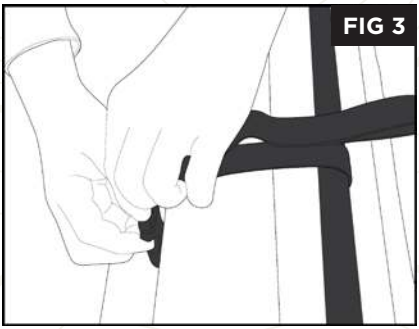
NOTICE

Seat adjustment shuttles **(H)** should be adjusted evenly to prevent damage and to keep seat aligned in rear tracks.

1. To install the seat, place a seat adjustment shuttle **(H)** onto one end of the cross tube at the front of the seat. The pull pin should be up and towards the front of the seat. Gently stretch the line between the bases to secure the second seat adjustment shuttle base onto the other end of the seat cross tube **(FIG 1).**
2. Check that the hook and loop strips under the front of the seat and across the top rear tube are firmly attached and the fabric is taut. Tuck the shuttle retention line into the flap using the hook and loop strips on the pocket. This retains the seat adjustment shuttles when the seat is removed.
3. Align the seat adjustment shuttles **(H)** with the front edge of the seat track. Keeping the front end of the seat tube even, start the seat adjustment shuttles on the track and slide them onto the rails at the same time **(FIG 2)**. Once both seat adjustment shuttles are started, the lock pins can be lifted, and the seat can be moved to the desired location.
4. Secure rear seat strap(s) over the rear seat tube. DO NOT overtighten as this may limit the seat adjustability **(FIG 3)**.
5. To recline the seat's backrest, use the straps on the sides of the seat. For transport, the seat may be left attached to the hull but securing the seat back is advised. This can be done by fully tightening the backrest straps to securely hold the backrest down against the seat base.







SEAT INSTALL

ePDL+™ 120 PRO MODEL ONLY

The Old Town seat is adjustable forward and backward to accommodate most leg lengths for a comfortable pedaling position. The seat is mounted to the seat adjustment shuttles, with the front of the seat anchored by two forward-opening clips, and the back of the seat rests on the seat risers, anchored by a strap. No tools are needed to install the seat.

NOTICE

Seat adjustment shuttles **(H)** should be adjusted evenly to prevent damage and to keep seat aligned in rear tracks.

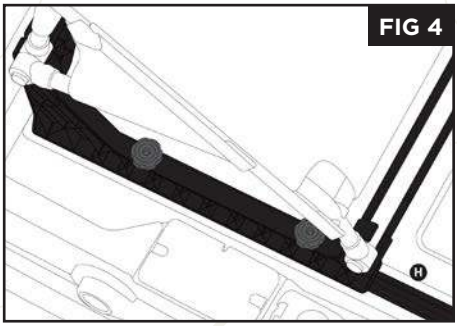


FIG 4

1. To install the seat, attach the front of the seat into the forward-opening clips and rest the back of the seat on the seat riser. With the rear seat strap loosened, loosen all 4 knobs located on the seat risers *(2 on the left and 2 on the right)* **(FIG 4)**.
2. Slide the seat forward or backwards to the desired pedaling position.
3. Tighten all 4 knobs located on the seat riser.
4. Secure rear seat strap(s) over the rear seat tube. Do not overtighten as this may limit the seat adjustability.
5. To recline the seat's backrest, use the straps on the sides of the seat. For transport, the seat may be left attached to the hull but securing the seatback is advised. This can be done by fully tightening the backrest straps to securely hold the backrest down against the seat base.

ACCESSORIES INSTALL

INSTALL PADDLE CLIP

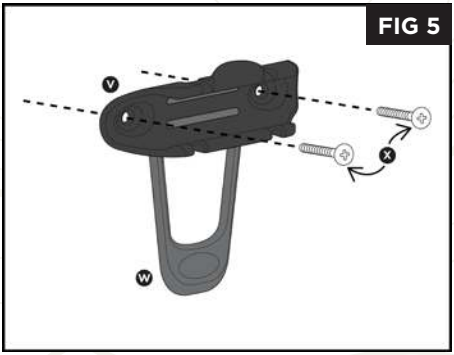


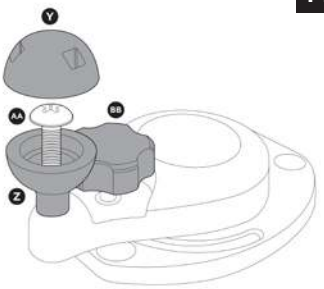
FIG 5

1. Locate the paddle clip **(V)**, paddle clip strap **(W)**, and the two 10-32 x 1/2" Phillips head screws **(X)** in the additional parts kit.
2. Line up holes and slots on paddle clip strap with features on backside of paddle clip.
3. Locate inserts on the side of the watercraft **(M)**. Using a #2 Phillips head screwdriver, attach the clip **(V)** and strap **(W)** to the inserts with the two supplied 10-32 x 1/2" Phillips head screws **(X)**. Orient with the strap below the clip for easy access *(however, it can be mounted in either orientation)* **(FIG 5)**.

INSTALL RUDDER CONTROL

1. Install the tension control knob **(BB)** to brass insert near the logo.
2. Locate the two halves of the rudder control knob **(Y)** and **(Z)** and the ¼ -20 x 1" Phillips Head bolt **(AA)** inside the kit. Thread the bolt through steering ball base **(Z)** and into rudder knob.
3. Tighten the ¼ -20 x 1" Phillips Head bold **(AA)** with a #3 Phillips head screwdriver, then loosen until steering ball spins freely. The pre-applied thread locker will cure and reach full strength in 72 hours.
4. Snap on the steering ball top **(Y) (FIG 6)**.

FIG 6



ePDL+™ DRIVE INSTALLATION AND OPERATION

BEFORE GETTING ON THE WATER

⚠ CAUTION

DO NOT use power modes of the ePDL+™ Drive *(Power-Assisted Pedal Mode and Cruise Control Mode)* if your ePDL+™ Drive has been exposed to temperatures below 25°F *(-3°C)* for an extended period of time. Product damage or personal injury could result.

If the ePDL+™ Drive has been exposed to temperatures below 25°F *(-3°C)* for an extended period of time *(i.e. in a trailer, barn, truck bed overnight, etc.)*, do not operate power modes until the air temperature has warmed significantly, or until the ePDL+™ Drive has warmed up *(i.e. moving into a heated room, car, etc.)*. For more technical information on storage and operating temperature ranges, refer to the Technical Data section of this manual.

PREP THE DRIVE FOR INSTALLATION:

1. Remove the drive thwart tube **(C)** at the front end of the cockpit. It is secured to the watercraft by the thwart lockdown knobs.
2. Place the ePDL+™ Drive on a flat work surface so that the screen and the propeller are facing upward.
3. Locate the two thumbscrews on the ePDL+™ Drive and loosen, but do not remove. Insert the drive thwart tube **(C)** into one opening and push it through until exiting the other opening.
4. Center the drive thwart tube on the drive using the two triangle markers on the drive thwart tube, but do not tighten the thumbscrews yet. Set the drive near the watercraft.

5. Place the thwart/drive assembly back into the thwart channel. Lock the two thwart lockdown knobs **(B)** by turning clockwise to keep the drive thwart in place **(FIG 7)**.
6. Check that the drive is still centered on the thwart tube and tighten the two thwart thumbscrews, being careful to keep the bolt heads recessed on the opposite side of the thumbscrews **(FIG 8)**. This is the parked position of the ePDL+™ Drive.
7. Using the flexible black handle on the console, raise, rotate, and lower the drive console into the deck opening. This is the operating position.

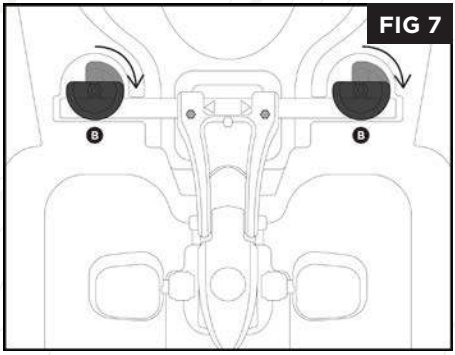


FIG 7

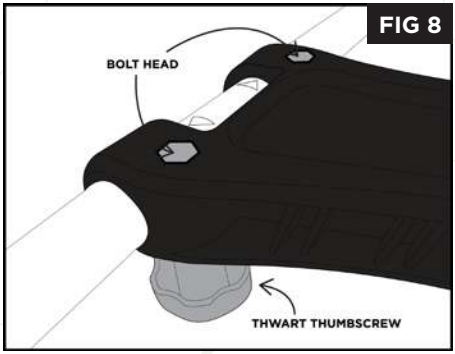


FIG 8

BATTERY INSTALLATION

⚠ WARNING

Failure to follow these warnings could cause death or serious injury.

- **ALWAYS REMOVE THE BATTERY BEFORE CHARGING.** Charging the battery while it is installed in the watercraft may result in fire or electric shock. DO NOT charge the battery while it is installed in the watercraft.
- **DO NOT SUBMERGE CHARGER OR EXPOSE TO RAIN.** Submerging charger underwater or exposing to rain may result in electric shock.
- **ENSURE PROPER BATTERY CABLE CONNECTION.** Connecting battery cables incorrectly can cause a large surge of electricity, potentially creating risk of fire or explosion.

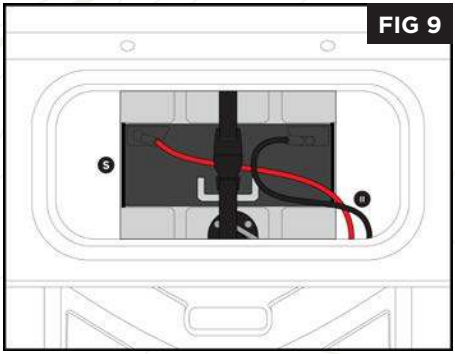
NOTICE

USE THE CORRECT BATTERY. The supplied 36V lithium-ion battery is intended for use with the ePDL+™ Drive only. DO NOT use on the Old Town Sportsman 106 Powered by Minn Kota, Sonata 106 MK, AutoPilot 120, or AutoPilot 136.

Batteries are **NOT** shipped with a full charge. Fully charge battery before first use. Fully charging the battery from empty takes less than 8 hours.

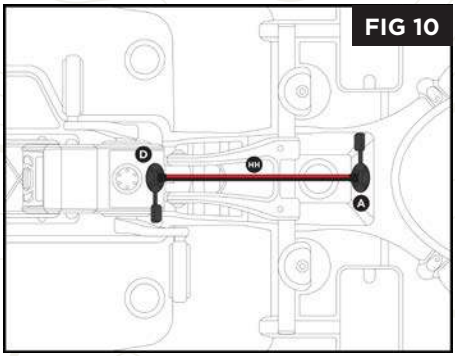
ON A STABLE WORK SURFACE

1. Remove the two 10-32 inch bolts from the battery using a 5/16-inch wrench or socket.
2. Connect the battery power cable **(II)** to the battery in the following way: Using the same bolts, connect the red battery cable wire to the positive (+) battery terminal surrounded by red on top of the battery. Connect the black battery cable wire to the negative (-) battery terminal surrounded by black on the top of the battery. Align the wires so they lay along the top of the battery and do not stick out **(FIG 9)**. Tighten the terminal bolts until snug *(4-5 ft-lb 5-7 N-m)*. You should not be able to wiggle or rotate the hardware when lightly pulling on the wires.



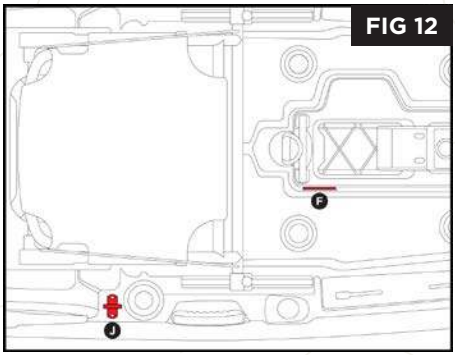
BEFORE LAUNCHING

1. Install your 36V lithium-ion battery **(S)**, terminal side up, into the battery cradle located inside the rectangular hatch **(K)**, underneath the seat. Secure the battery with the webbing strap, adjusting with the side release buckles to ensure the battery is securely in place.
2. Connect the battery power cable to the in-hull receptacle located within the under seat hatch **(K)**. Ensure the plug is fully seated in the receptacle and recheck with battery cable connections on the battery to confirm they did not loosen.
3. Tuck the battery wires down into the hull, put the hatch cover back in place and turn the latch to lock the hatch. The seat may now be installed or flipped back down into place.
4. The seat's backrest straps on the sides of the seat can be used to adjust the seatback to recline. For transport, the seat may be left attached to the hull but securing the seat back is advised. This can be done by fully tightening the backrest straps to securely hold the backrest down against the seat base.
5. Prior to placing the ePDL+™ Drive into the hull, inspect the connection socket on the watercraft and note the required orientation of the ePDL+™ Power Cable **(HH)** for easier installation during the next step.
6. With the drive in the stowed position, connect the ePDL+™ Power Cable **(HH)** to the drive **(D)** and to the connection location on the watercraft **(A)**, near the bow hatch **(FIG 10)**.



7. Ensure there is a tight, solid connection between the power cable, drive, and watercraft. Give the cables a slight tug to make sure they are connected and secure **(FIG 11)**. Check that the wires are not pinched.

8. There are two kill switches located on the ePDL+™ watercrafts, one in the drive console **(F)** and one to the side of the seat **(J)**. The ePDL+™ Drive will not power on until the battery is connected through the hull, the kill switch key is attached, and the drive is deployed **(FIG 12).**



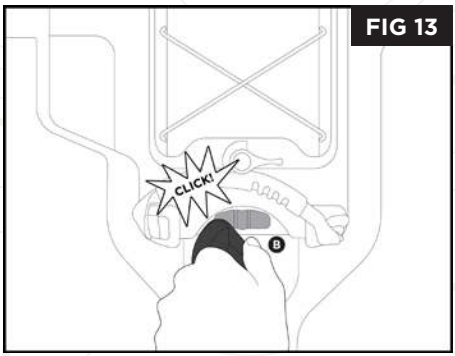
DEPLOYING THE ePDL+™ DRIVE

AFTER LAUNCH AND WHEN AT ADEQUATE DEPTH

NOTICE

Use caution in shallow water *(less than 16")* and avoid running the ePDL+™ Drive aground. This could cause damage to the drive and/or propeller.

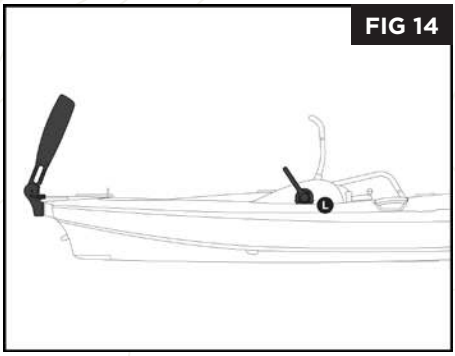
1. Attach kill switch key **(FF)** to kill switch base on the side of the seat **(J)**. Securely attach the lanyard to yourself.
2. Deploy the drive by pulling the handle on ePDL+™ Drive to release the stow clip. Guide the prop and lower unit through the console opening. Secure drive with the drive lock knob **(B) (FIG 13).**
3. The lock knob must be fully engaged to achieve proper sealing around console perimeter.

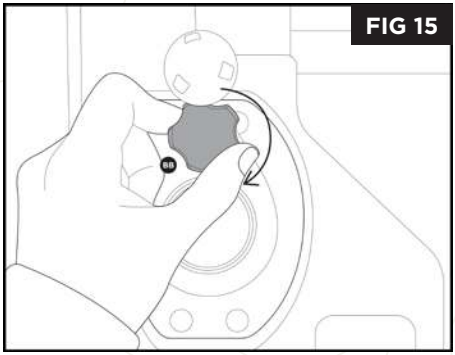


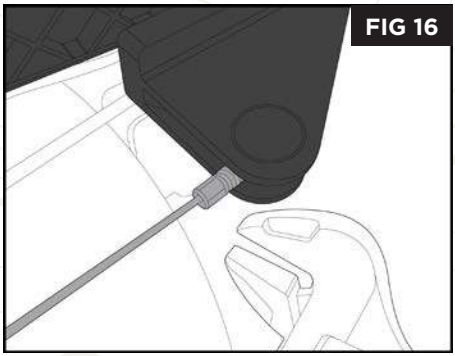
4. The lock knob is designed to limit drive damage. In the event of a high impact object strike, the lock knob should break into pieces. Use the supplied 5/32 Hex Key **(DD)** to tighten down or replace the lock knob shoulder bolts. Replacement knob kits are available through Old Town customer service. Always operate at safe speeds.

STEERING ePDL+™ DRIVEN WATERCRAFT

- Rudder Stow/Deploy is controlled using the long lever found next to the seat **(L)**. Remove the rudder bungee and use the lever to deploy and stow the rudder **(FIG 14)**.
- Steer the watercraft using the rudder steering knob installed earlier **(I)**. This can be locked down using the rudder tension control knob **(BB)** to hold direction or course **(FIG 15)**.
- Always check rudder hardware and cables are tightened before going out on the water. Rudder cable tension can be adjusted with the barrel adjusters found at the stern of the watercraft using an adjustable wrench or a 3/16" open end wrench **(FIG 16)**.
- These cables should not have slack but also not be taut. Excessive slack will result in decreased rudder response. Excessive tension will result in increased force required to operate the steering knob.
- If steering becomes more difficult while out on the water, check and ensure that the rudder is fully deployed to the vertical position, with the rudder lift handle all the way back. If the rudder blade gets pushed to the horizontal position, steering will become stiff and require greater force.







AFTER USE ON THE WATER

BATTERY DISCONNECTION

⚠ WARNING

Failure to follow these warnings could result in death or serious injury.

- **ALWAYS DISCONNECT THE BATTERY BOX AND THE DRIVE** from the boat before cleaning or checking the propeller.
- **ALWAYS REMOVE THE BATTERY BEFORE TRANSPORT.** Transporting the watercraft with the battery installed may result in fire or electric shock. DO NOT transport the watercraft with the battery installed.
- **DISCONNECT THE BATTERY PROPERLY.** DO NOT pull on the wires to disconnect the battery or charger. Pulling wires to unplug the battery or charger can damage the cable insulation, expose wires, and potentially cause shock or electrical fire. Product damage or serious injury could result.

1. After use and with the drive powered off, unlock, and open the rectangular hatch.
2. Squeeze to open the side-release buckles that secure the battery to the cradle.
3. Locate the battery power cable plugs and pull them apart by grabbing the plug and socket in each hand. DO NOT pull on the wires.
4. Remove the battery, with battery power cable attached, from the cradle and close and lock the rectangular hatch. The in-hull receptacle has a dust cover to protect the terminals from debris. For optimum life, close the dust cover when the plug is not attached to the battery.
5. ALWAYS check that battery plugs and terminals are free from debris and corrosion, and check that the battery connections are clean and tightened.
6. Apply the dielectric grease **(EE)** provided as needed to prevent corrosion.

DRIVE DISCONNECTION

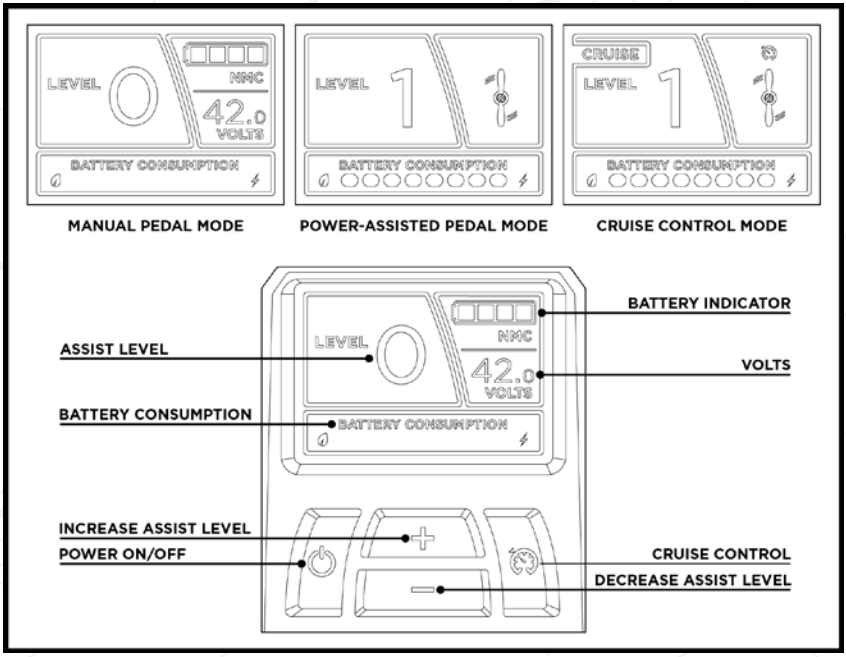
NOTICE

The ePDL+™ Drive mount was not designed to hold the drive during road transportation. Remove the drive from the hull prior to transport and for any extended storage periods. Failure to do so could result in product damage.

1. Once the battery is disconnected, unplug the ePDL+™ Drive Power Cable **(HH)** from the watercraft and the drive.
2. Unlock the two lock knobs located at the drive thwart, the lock knob located at the drive console, and remove the ePDL+™ Drive from the watercraft.

ePDL+™ DRIVE DISPLAY FUNCTION

DISPLAY KEY



3 MODES

A) **Manual Pedal:** No battery required *(screen will not illuminate without power)* or Level 0. Watercraft can be pedaled forwards and in reverse based on human power to the pedal drive.

B) **Power-Assisted Pedal:** Battery power required with 5 speed levels to aid user while pedaling.

C) **Cruise Control:** Battery power required with 5 levels of constant forward speed, removing the need to pedal.

- **Assist Level** = Indicates current level (0-5) in Power-Assisted Pedal Mode and Cruise Control Mode
- **Battery Indicator** = Each segment represents 25% of the battery capacity. When fully charged, all 4 segments are lit. The battery indicator will flash when the battery charge is extremely low and needs to be charged.
- **Volts** = Current battery voltage. Voltage reading will only display when the power pedal assist motor is not on.
- The ePDL+™ Drive is a 36V system designed to operate with the supplied battery that can provide 42V when fully charged, down to 30V at which point the system will power off due to low voltage.
- **Battery Consumption** = Indicates how many amps the motor is using in real time. The more power the drive is using, the higher the battery consumption.

POWER ON/OFF

The ePDL+™ Drive will not power on until the battery is connected through the hull, the kill switch key is attached, and the drive is deployed.

- To power on the ePDL+™ Drive Display, push and hold the power button for approximately 2 seconds.
- A warning message will appear on the screen that must be read and acknowledged before the drive can be operated with power. Push the '**+**' button to acknowledge and continue.
- To power off the ePDL+™ Drive Display, push and hold the power button for approximately 3 seconds, until the screen turns black.

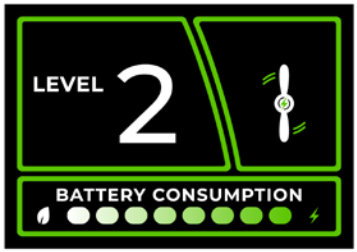
MANUAL PEDAL MODE

- Manual Pedal Mode can be accessed when the drive is not connected to battery power or when powered on and in Level 0.
- Once powered on, the drive will be in Manual Pedal Mode. The watercraft can be pedaled forward and in reverse. Power assist while in reverse is not available in any mode.
- When in Power-Assisted Pedal Mode and in Cruise Control Mode, pedaling backwards will revert you into Manual Pedal Mode.

POWER-ASSISTED PEDAL MODE

- Power-Assisted Pedal Mode allows you to pedal forward with power assist, enabling you to pedal further, faster, and with less effort than in Manual Pedal Mode.
- To enter Power-Assisted Pedal Mode, select a level (1-5) by pushing the '**+**' or '**-**' button and begin to pedal to activate. Once Power-Assisted Pedal mode is activated, a spinning prop icon will appear on the right side of the display to indicate power to the drive **(FIG 17)**.

FIG 17



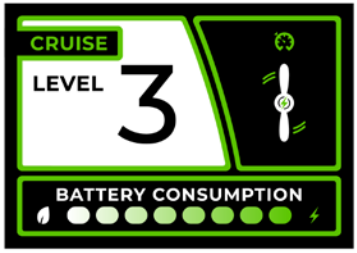
- While in Power-Assisted Pedal Mode, the motor is only active when pedaling forward. A pause in pedaling will cause the power assist to also pause but will resume at the same level when forward pedaling resumes.
- **To deactivate Power-Assisted Pedal Mode**, you can:
  - A. Push the '**-**' button until you are in level 0, or Manual Pedal Mode.
  - B. Pedal backwards. Pedaling backwards will take you out of Power-Assisted Pedal Mode and revert you into Manual Pedal Mode (Level 0).
  - C. Pull the kill switch key.
  - D. Lift the drive out of the operating position.
- C) and D) will power off the drive completely and a full restart is needed to power back on.

- **Note:** Rapidly shifting out of, then back into, a powered mode can result in a motor error that requires a restart to clear. To avoid this, simply wait 5 seconds after coming out of a powered mode before re-engaging a powered mode.
- Start out in lower levels of assist and cruise as you get used to operating the ePDL+™ Drive.

CRUISE CONTROL MODE

- Cruise Control Mode allows you to select a level and the motor will provide all propulsion without the need for continued pedaling.
- **To activate Cruise Control Mode**, push the Cruise Control button while in any level of Power-Assisted Pedal Mode. The assist level section of the display will turn white and 'CRUISE' will begin to flash on screen.

FIG 18



- Begin pedaling and continue pedaling until 'CRUISE' stops flashing. This indicates Cruise Control Mode is fully engaged and you no longer need to pedal. The battery meter and voltage display will be replaced by a spinning prop **(FIG 18)**.
- **To adjust your speed in Cruise Control Mode**, push the '**+**' or '**-**' buttons.
- **To deactivate Cruise Control Mode**, you can:
  A. Push the Cruise Control button. This will take you out of Cruise Control Mode and revert you into Power-Assisted Pedal Mode at the most recent level.
  B. Pedal backwards. Pedaling backwards will take you out of Cruise Control Mode and revert you into Manual Pedal Mode (Level 0).
  C. Pull the kill switch key.
  D. Lift the drive out of the operating position.
- C) and D) operations will power off the drive completely and a full restart is needed to power back on.
- Start out in lower levels of assist and cruise as you get used to operating the ePDL+™ Drive.
- **Note:** Rapidly shifting out of, then back into, a powered mode can result in a motor error that requires a restart to clear. To avoid this, simply wait 5 seconds after coming out of a powered mode before re-engaging a powered mode.
- While in Cruise Control Mode, your pedals may have minimal movement, subject to water conditions, etc. Over time, if you notice the pedals moving more than occasionally, please refer to the following maintenance tips.

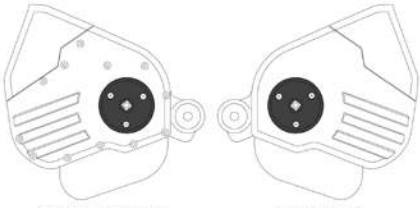
PEDAL STABILIZER

NOTICE

DO NOT tamper with the pedal stabilizer. Tampering with or removing this feature could result in the ePDL+™ Drive pedals to function incorrectly in Power-Assisted Pedal Mode and Cruise Control Mode and cause product damage. Tampering with or removing this feature will void the 2-year ePDL+™ Drive warranty.

The Pedal Stabilizer feature **(FIG 19)** prevents the pedals from moving on their own when in Power-Assisted Pedal Mode and Cruise Control Mode and is self-adjusting. Over time, if the pedals begin to move on their own while in Power-Assisted Pedal Mode and Cruise Control Mode the pedal stabilizers can be replaced. Please contact customer service for a replacement kit.

FIG 19



36V LITHIUM-ION BATTERY USE AND CARE

Battery Type	MAX Operating Voltage	MIN Operating Voltage
Amped Outdoors NMC (Lithium Nickel Manganese Cobalt)	42.0	28.0

BATTERY CHARGING

⚠ WARNING

Failure to follow these warnings could cause death or serious injury.

- **USE THE CORRECT BATTERY.** The supplied 36V lithium-ion battery is intended for use with the ePDL+™ Drive only. DO NOT use on the Old Town Sportsman 106 Powered by Minn Kota, Sonata 106 MK, AutoPilot 120, or AutoPilot 136.
- **ALWAYS DISCONNECT THE BATTERY BOX AND THE DRIVE** from the boat before cleaning or checking the propeller.
- **ALWAYS REMOVE THE BATTERY BEFORE TRANSPORT.** Transporting the watercraft with the battery installed may result in fire or electric shock. DO NOT transport the watercraft with the battery installed.
- **ALWAYS REMOVE THE BATTERY BEFORE CHARGING.** Charging the battery while it is installed in the watercraft may result in fire or electric shock. DO NOT charge the battery while it is installed in the watercraft.
- **DO NOT SUBMERGE CHARGER OR EXPOSE TO RAIN.** Submerging the charger underwater or exposing to rain may result in electric shock.
- **CHECK CABLE CONNECTIONS** when connecting the power-supply cables of the drive to the boat, or when connecting the power-supply cables of the battery box to watercraft. Ensure that they are not kinked, or subject to chafe and that the cable insulation is not damaged.
- **DO NOT USE A BATTERY OR CHARGER THAT IS DAMAGED OR MODIFIED.** Using a battery or charger that is damaged or modified may result in fire, electric shock, or noxious fumes.

NOTICE

DO NOT charge the battery in temperatures below 32°F or above 110°F *(below 0°C or above 43°C)*. This could result in damage to the battery.

NOTICE

ALWAYS use the supplied battery charger with the supplied battery. Using an incorrect charger could cause damage to the battery. DO NOT use the supplied charger on a different battery type.

- **To charge the supplied battery:** Remove the battery from the watercraft before charging. Use the supplied 36V charger **(T)** and plug the charger into the wall outlet. Connect the battery to the charger with the battery charger power cord **(U)**. The charging light will turn red when charging and turn green once the charge is complete. Once the charge is complete, remove the battery from the charger.
- Fully charging the battery from empty takes less than 8 hours.

BATTERY STORAGE

NOTICE

DO NOT store the battery fully discharged. This could result in damage to the battery.

- Always store the battery in a cool, dry location, in temperatures between 40°F to 80°F *(4°C to 26°C)*. For maximum storage life, do not store the battery fully charged or fully depleted. Storing the battery between 37V-38V is recommended.

LONG TERM BATTERY STORAGE

- Briefly charge the battery to 50% once every 2-3 months. DO NOT place the battery on the charger for extended periods of time when not in use. When stored as recommended, the battery will discharge at a typical rate of 3.5% per month.
- We recommend removing the battery from the hull for transport and any long term storage periods.

BATTERY INSPECTION

⚠ WARNING

DO NOT use if the battery case is damaged, i.e. cracks, holes from punctures, bulging, or splitting. Using a battery that is damaged may result in fire, electric shock or noxious fumes and could cause death or serious injury.

- Inspect your battery, battery case, battery plugs, terminals, cables, and connectors regularly.
- **Case:** Check the battery case integrity. DO NOT use if the battery case is damaged, i.e. cracks, holes from punctures, bulging, or splitting.
- **Connectors:** Ensure terminals and supplied hardware is free from corrosion.
- **Wiring:** Inspect the wiring for damage or exposed copper. Ensure the crimped connections are secure and free from damage and corrosion. Open the dust cover on the fuse and ensure it is clean, secure, and intact. Inspect each of the two-pin plugs and ensure they are clean and free from debris in the female plug.

- **Connections:** Ensure the red battery cable wire is connected to the positive (+) battery terminal and the black battery cable wire is connected to the negative (-) battery terminal. Tighten the terminal screws until snug *(4-5 ft-lb 5-7 N-m)*. You should not be able to wiggle or rotate the hardware when lightly pulling on the wires.

BATTERY DISPOSAL:

- Lithium-Ion batteries contain elements that could pose health risks to individuals if they are allowed to leach into the ground water supply. In some countries, it may be illegal to dispose of these batteries in standard household waste. Fortunately, many recycling facilities exist that process Lithium-Ion batteries, in part due to the value of the materials contained within the individual cells. In the United States and Canada, a large network of over 30,000 battery drop-off locations can be found at www.call2recycle.org.
- To render the battery safe, apply tape over any exposed connectors to prevent the accidental shorting of the positive and negative terminals of the battery during transport. Place each battery into its own plastic bag, seal the bag, and deposit the battery into the recycling container. NEVER dispose of the battery in a fire or incinerator, as the battery could catch fire and explode.

FREQUENTLY ASKED QUESTIONS

Q: Do I need to register my ePDL+™ watercraft with my state?

A: We recommend registering your ePDL+™ watercraft. Most states require that you register electric-powered canoes and kayaks. Always check with local regulations for watercraft registration and safety requirements in your area.

Q: Does the ePDL+™ Drive work in reverse?

A: Yes, the ePDL+™ Drive can pedal in reverse in Manual mode. Pedaling in reverse will revert you out of any power mode and will work like our other PDL drives. There is no power assist or cruise function when pedaling in reverse.

Q: My ePDL+™ Drive is deployed, why won't the screen power on?

A: Check that all power cable connections are secure. Ensure there is a tight, solid connection between the battery power cable and its terminals and between the two plugs.

- If the battery power cable and plugs are secure, check that the ePDL+™ drive power cable is securely connected to the drive and to the socket on the watercraft, near the bow circular hatch.
- If the ePDL+™ drive power cable is securely connected, check that the kill switch key is connected to the kill switch base to the right of the seat. Always attach the lanyard to yourself when on the water.
- If the kill switch key is connected, check that the ePDL+™ Drive is fully deployed and the center lock knob is fully engaged.

Q: What is the importance of the 'pedal stabilizer'?

A: While in Cruise Control Mode, your pedals will have minimal movement, subject to water conditions, etc. Over time, if you notice the pedals moving more than occasionally, the Pedal Stabilizer may need to be replaced. Please contact customer service for a replacement kit.

Q: Is the ePDL+™ Drive waterproof?

A: The ePDL+™ Drive display is waterproof up to 1 meter for 30 minutes.

Q: Will the ePDL+™ Drive work without the battery?

A: The ePDL+™ Drive is operational as a non-powered PDL Drive when not connected to the battery. This is referred to as Manual Mode. The display will not power on and the Power Assist/Cruise Control Modes will not function when not properly connected to the battery.

Q: Can I use this battery on my Old Town Sportsman 106 Powered by Minn Kota or AutoPilot 120/136?

A: No, the supplied 36V lithium-ion battery is intended for use with the ePDL+™ Drive only. DO NOT use on the Old Town Sportsman 106 Powered by Minn Kota, AutoPilot 120, or AutoPilot 136. Product damage or personal injury will result.

Q: How long will the supplied battery last?

A: A fully charged battery on the highest Cruise Control Mode setting with average load and calm conditions will last approximately 3 hours. Durations in Power-Assisted Pedal Mode are dependent on speed and manual pedaling input.

Cruise Control Mode 1: 46 hours*
Cruise Control Mode 3: 23 hours*
Cruise Control Mode 5: 3 hours*

**Based on a new, fully charged battery on flat water with a moderate load. Your run times may vary.*

Q: What is the proper size fuse for the battery cable?

A: The proper size is a 15 Amp, Low Profile Mini Fuse **(FIG 20)**.

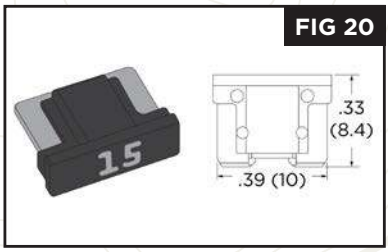


FIG 20

TECHNICAL DATA

IMPORTANT PERFORMANCE INFORMATION

Performance Specifications	General Parameters
Battery Charge Temperature	32°F to 110°F (0°C to 43°C)
Optimal Battery Storage Temperature	40°F to 80°F (4°C to 26°C)
Battery Dimensions	7.125" L x 3.03" W x 6.6" H
Battery Weight	8.5 lbs
ePDL+™ Drive Operating Temperature*	25°F to 110°F (-3°C to 43°C)
ePDL+™ Drive Storage Temperature*	-40°F to 160°F (-40°C to 71°C)
ePDL+™ Drive Weight	33.5 lbs

*If the ePDL+™ Drive has been exposed to temperatures below 25°F *(-3°C)* for an extended period of time *(e.g., in a trailer, barn, truck bed overnight, etc.),* do not operate power modes until the air temperature has warmed significantly, or until the ePDL+™ Drive has warmed up *(e.g., moving into a heated room, car, etc.).*

ERROR CODES

The ePDL+™ Drive continuously monitors critical system parameters. If an issue is detected, the display will automatically show an error code with troubleshooting instructions. Follow the instructions displayed and remember, the ePDL+™ Drive is still operational in manual mode, even without power. Some errors can be the result of unseen, underwater conditions that prevent the normal and safe operation of the motor.

Error Code	Description	Corrective Action
ERROR 22	MOTOR	Restart system
ERROR 23	MOTOR CONTROL	Restart System
ERROR 24	MOTOR SPEED SENSOR	Restart System
ERROR 26	LOW BATTERY VOLTAGE	'Use 36V Battery Only' will display when detected battery voltage is below 30V
ERROR 27	SYSTEM TEMPERATURE	Power Off and Allow Drive To Cool
ERROR 28	HIGH BATTERY VOLTAGE	'Use 36V Battery Only' will display when detected battery voltage is above 47V
ERROR 29	CONTROLLER HARDWARE	Restart System
ERROR 30	DISPLAY CONNECTION	Check All Power Cables and Restart System
ERROR 40	BUTTON CONNECTION	Check Buttons for Debris

MAINTENANCE AND CARE

⚠ WARNING

ALWAYS REMOVE THE BATTERY BEFORE TRANSPORT. Transporting the watercraft with the battery installed may result in fire or electric shock. DO NOT transport the watercraft with the battery installed.

NOTICE

The ePDL+™ Drive mount was not designed to hold the drive during road transportation. Remove the drive from the hull prior to transport and for any extended storage periods. Failure to do so could result in product damage.

Fight corrosion from day one
Use dielectric grease at all of the sockets and connections, including the battery terminals and fuse block, and electrical connectors.

- Battery terminals
- Battery cable with in-line fuse **(II)**
- ePDL+™ Drive Power Cable **(HH)**
- Hull socket located at the bow of the watercraft **(A)**
- Socket located on the back side of the drive head unit **(D)**
- In hull receptacle located inside the rectangular Click-Seal Hatch **(K)**

If any metallic elements of the drive and/or watercraft have been exposed to saltwater or brackish water, thoroughly rinse with freshwater upon return.

Develop good battery charge/discharge habits
Follow the battery charging and storage guidelines to extend the lifespan of the battery. Learn what the best possible habits are for extending its lifespan. Refer to the information provided in this manual for full instructions or go to **oldtownwatercraft.johnsonoutdoors.com/batteries** for more information.

Check equipment
Check that the propeller and surrounding area is clear from debris and that the prop hardware is secure. Inspect rudder hardware and cables and tighten before going out on the water. Test drive functionality on land before taking out on the water.

Support your watercraft
When storing your watercraft long term, store upside down on padded bars or straps. It can also be stored deck side up with straps or pads that conform to the hull's shape. For long term storage, we recommend storing the boat indoors and/or out of sunlight. If your watercraft arrived with packaging thwart(s) installed, you can reinstall the packaging thwart(s) for support.

For more information go to **oldtownwatercraft.johnsonoutdoors.com/us/blog/ultimate-kayak-storage-guide.**

Immediately address any damage that could lead to larger issues
Abrasions, nicks, and gouges on the watercraft are common. Address any of these on metallic or powder-coated surfaces as soon as possible. Tighten any elements that seem to be loosening or backing out of their factory condition.

The ePDL+™ Drive is backed by a limited 2-year motor warranty. Please register your craft at **oldtownwatercraft.johnsonoutdoors.com/us/register.**

⚠ WARNING

Operating, servicing and maintaining a recreational marine vessel can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, service your vessel in a well-ventilated area and wear gloves or wash your hands frequently when servicing this vessel. For more information go to www.P65warnings.ca.gov/marine.

Supplier's Declaration of Conformity
47 CFR § 2.1077 Compliance Information

Unique Identifier: E-PDL Drive
Responsible Party — U.S. Contact Information
Johnson Outdoors Inc. Watercraft
125 Gilman Falls Avenue
Old Town, Maine
04468
(800) 343-1555, feedback@oldtowncanoe.com

FCC Compliance Statement *(e.g., products subject to Part 15)*
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Old Town®

For more information on your ePDL+™ watercraft or ePDL+™ drive, visit

OLDTOWNWATERCRAFT.JOHNSONOUTDOORS.COM/US/SUPPORT/EPDL