

# OWNER'S MANUAL

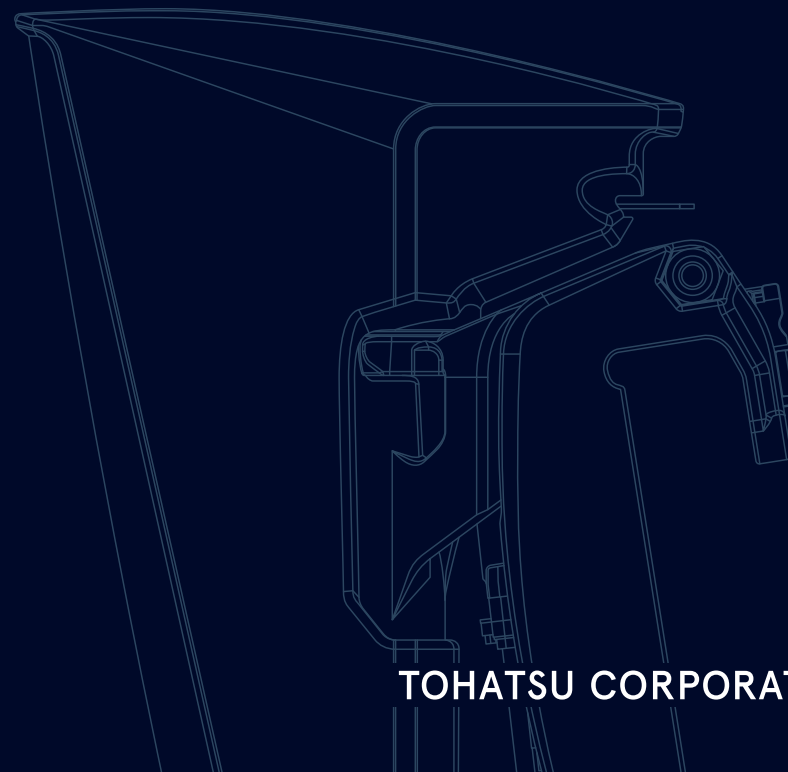


**TOHATSU**

Feel the Wind™

# A L A R I S™

## 6.0 *Electric Propulsion*



**TOHATSU CORPORATION**



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OWNER'S MANUAL

# TOHATSU ALARIS OUTBOARD MOTOR

READ THIS MANUAL BEFORE USING THE OUTBOARD. FAILURE TO FOLLOW THE INSTRUCTIONS AND SAFETY PRECAUTIONS IN THIS MANUAL CAN RESULT IN SERIOUS INJURY OR DEATH. KEEP THIS MANUAL IN A SAFE LOCATION FOR FUTURE REFERENCE.



**WARNING!** Operating, servicing and maintaining an outboard can expose you to chemicals including phthalates which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, wear gloves or wash your hands frequently when servicing this outboard. For more information go to [www.p65warnings.ca.gov/](http://www.p65warnings.ca.gov/)

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### YOUR TOHATSU ALARIS OUTBOARD MOTOR

To You, Our Customer

Congratulations on your purchase of the Tohatsu ALARIS Outboard Motor. You are now the proud owner of an excellent outboard that will serve you for many years to come. This owner's manual contains important safety, operational and maintenance information.

The efficiency and longevity of your outboard will depend heavily on your operating methods and periodic maintenance. Failure to operate and maintain your outboard according to the instructions in this owner's manual may void the limited warranty, as well as reduce the efficiency and reliability of the outboard.

Any person operating the Tohatsu ALARIS Outboard Motor must carefully read and fully understand the entire contents of this manual prior to operation. For safety, follow all safety warnings contained within the owner's manual and the labels applied to your outboard. If the outboard is resold, make sure the manual is passed on to the next owner. In case you encounter any problems, please contact an authorized Tohatsu dealer for assistance.

Tohatsu Corporation reserves the right to change, modify, add, or remove a part or whole of the owner's manual without prior notice and incurring any obligations.

We are excited to take part in your boating adventures and wish for your great and safe boating experience.

DECLARATION OF CONFORMITY (DOC)

This product conforms to certain portion of the EU directives and UK Regulations. The DoC contains the following information;

- Name and address of the manufacturer and EU – Authorized representative.
- Applied community directives and regulations
- Reference standards
- Product description (model name and serial number)
- Signature of the responsible person (name/title/date and place of issue)

OWNER REGISTRATION AND IDENTIFICATION

Upon purchasing this product, be sure that the WARRANTY CARD is correctly and completely filled out and mailed to the addressee noted there on. This WARRANTY CARD identifies you as the legal owner of the product and serves as your warranty registration.

TO THE EXTENT PERMITTED BY APPLICABLE LAW, YOUR OUTBOARD WILL NOT BE COVERED BY THE APPLICABLE LIMITED WARRANTY, IF THIS PROCEDURE IS NOT FOLLOWED.

PRE-DELIVERY INSPECTION

Make sure the pre-delivery inspection has been properly completed by an authorized Tohatsu dealer before operating your outboard.

SERIAL NUMBER

Your outboard has a unique serial number. The serial number is unique identification of your outboard and is located on the outboard as shown in the figures below. The serial number is required for warranty registration, filing a warranty claim, as well as making technical inquiries and may be required for other occasions. Therefore, please write down the serial number and date of purchase in the space below.

Serial Number		Date of Purchase	
---------------	--	------------------	--



Year Code	BD	BE	BF	BG	BH
Year of Manufacture	2024	2025	2026	2027	2028

### WARNINGS, CAUTIONS, AND NOTICES

WARNING, CAUTION, and NOTICE are used throughout this manual to highlight important information. Be certain that the meanings of these alerts are understood by all who work on or near the equipment. Specific safety information is highlighted with symbols designed to draw particular attention to specific information. A safety alert symbol appears with most safety statements. It is intended to call attention where situations involving personal safety is involved. Please read and abide by the message that follows the safety alert symbols.



**Warning!** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



**Caution!** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

**Notice:** Indicates a situation which can cause damage to the motor, personal property, and/or the environment, or cause improper operation of equipment.



## SAFETY INSTRUCTIONS

Prior to operating the boat for the first time, operators **MUST** read the entire Owner's Manual. Be certain to pay close attention to proper operation and safety concerns addressed within this publication. Review the Owner's Manual prior to the first outing of subsequent boating seasons.

It is the boat owner's and/or operator's responsibility to be aware of safety issues and concerns with the proper operation of the boat. All onboard passengers, regardless of age, physical limitations, and/or previous boating experience (or lack thereof), bear the full responsibility for determining the appropriate behavior and safety precautions required on the boat. These responsibilities also include, and are not limited to, taking proactive precautions around the outboard, battery compartment, and around any moving parts.

A properly prepared and maintained outboard is less likely to malfunction or otherwise operate in a manner that could place the boat occupants, as well as others on the same body of water, in unsafe situations. Safety and maintenance of the outboard are best described in this Owner's Manual. For additional information, contact your nearest authorized Tohatsu dealer.

The following safety precautions are published for information only. Tohatsu does not, by the publication of these precautions, imply or in any way represent that they are the sum of all dangers present. If installing, operating, or servicing a Tohatsu product, it is the owner's/operator's responsibility to ensure full compliance with all applicable safety codes and requirements. All requirements of the Federal Occupational Safety and Health (OSH) Act of 1970 (amended 2004)

must be met when Tohatsu products are operated in areas that are under the jurisdiction of the United States of America. Tohatsu products operated in other countries must be installed, operated, and serviced in compliance with any and all applicable safety requirements of that country. For details on safety rules and regulations in the United States, contact the local office of the Occupational Safety and Health Administration (OSHA).

Failure to adhere to and comply with safety warnings, cautions, and notices that appear in this manual can lead to serious illness, injury or death, and/or damage to the boat or property of others. Beyond these warnings, boaters have a personal responsibility to utilize a common-sense safety approach to the boating experience, including keeping individuals away from the stern area. Personal flotation devices (PFDs) save lives and ensure safer and more positive experiences.

Tohatsu offers many proactive, safe approaches to the boating experience, but the consumer is ultimately responsible for the safe operation of the boat.

Please note, safety information statements are categorized for information purposes only and are not presented in any relative order of importance. Each of the statements referenced below, and in other sections of this manual, provide important safety-related information and must be read and followed to avoid injury or damage, as applicable. The owner/operator is strongly encouraged to read the dangers, warnings, cautions, and notices in the context presented by reading and reviewing those sections.

### SAFE OPERATION

As the operator of a vessel, you are responsible for the safety of those aboard in addition to exercising due regard for other vessels and persons in the water around you. Familiarize yourself on safe boating practices and always review the regulations for the areas you will be operating your vessel.

Serious injury leading to death is likely if a person in the water makes contact with a moving boat, propeller, or gear. Always maintain an active lookout of your surroundings.

### LANYARD SAFETY SWITCH

The Lanyard Safety Switch will cut power to the outboard when the lanyard is detached from the Helm Throttle Control Box. The lanyard must be attached to the operator of the vessel to mitigate personal injury or property damage should the operator leave the helm.

### PERSONAL FLOTATION DEVICES

Consult your local regulations regarding the required possession and use of Personal Flotation Devices aboard your vessel.

### ROUTINE SAFETY INSPECTION

Regular inspection of the Tohatsu ALARIS Outboard Motor along with maintaining tight connections of all mounting hardware and electrical connectors will ensure confident, continued reliability on the water. It is the owner/operator's responsibility to perform all safety checks to the vessel prior to, during, and after operation. When properly followed, the maintenance schedules listed in this manual will ensure the long-term operation and performance of the Tohatsu ALARIS Outboard Motor. When service and maintenance are required, return the Tohatsu ALARIS Outboard Motor to an authorized Tohatsu dealer. Failure to follow the procedures outlined in this Owner's Manual or through published technical information at [www.tohatsu.com](http://www.tohatsu.com) may void the warranty.

### EMERGENCY SITUATIONS

Due to the inherent dangers of water recreation, always exercise extreme caution and be prepared to prevent avoidable emergency situations.

Never operate your vessel in weather and sea conditions that risk personal injury to the occupants or damage to the vessel.

Never operate your vessel in shallow water conditions that risk personal injury to the occupants or damage to the vessel. Physical damage to the Tohatsu ALARIS Outboard Motor due to underwater obstructions is not covered under the Limited Warranty.

Always provide information about your intended trip with a reliable person on shore. At a minimum, the information left should include the number of people on board the vessel, your intended destination(s), and when you expect to return.

## CLEANING & STORAGE

**Notice:** Outboards used in brackish or salt water environments must be rinsed with fresh water after every use. Although high quality, corrosion resistant components were selected in the production of the Tohatsu ALARIS Outboard Motor, it is the owner's responsibility to maintain optimum protection against future corrosion. Failure to rinse specified components regularly may result in corrosion related issues and consequently void product warranty. See the Cleaning and Care section of this Owner's Manual.

For short term storage, the Tohatsu ALARIS Outboard Motor should be raised above the water line, rinsed with fresh water and visually inspected after each use. Care must be taken to prevent environmental damages including corrosion and freeze damage.

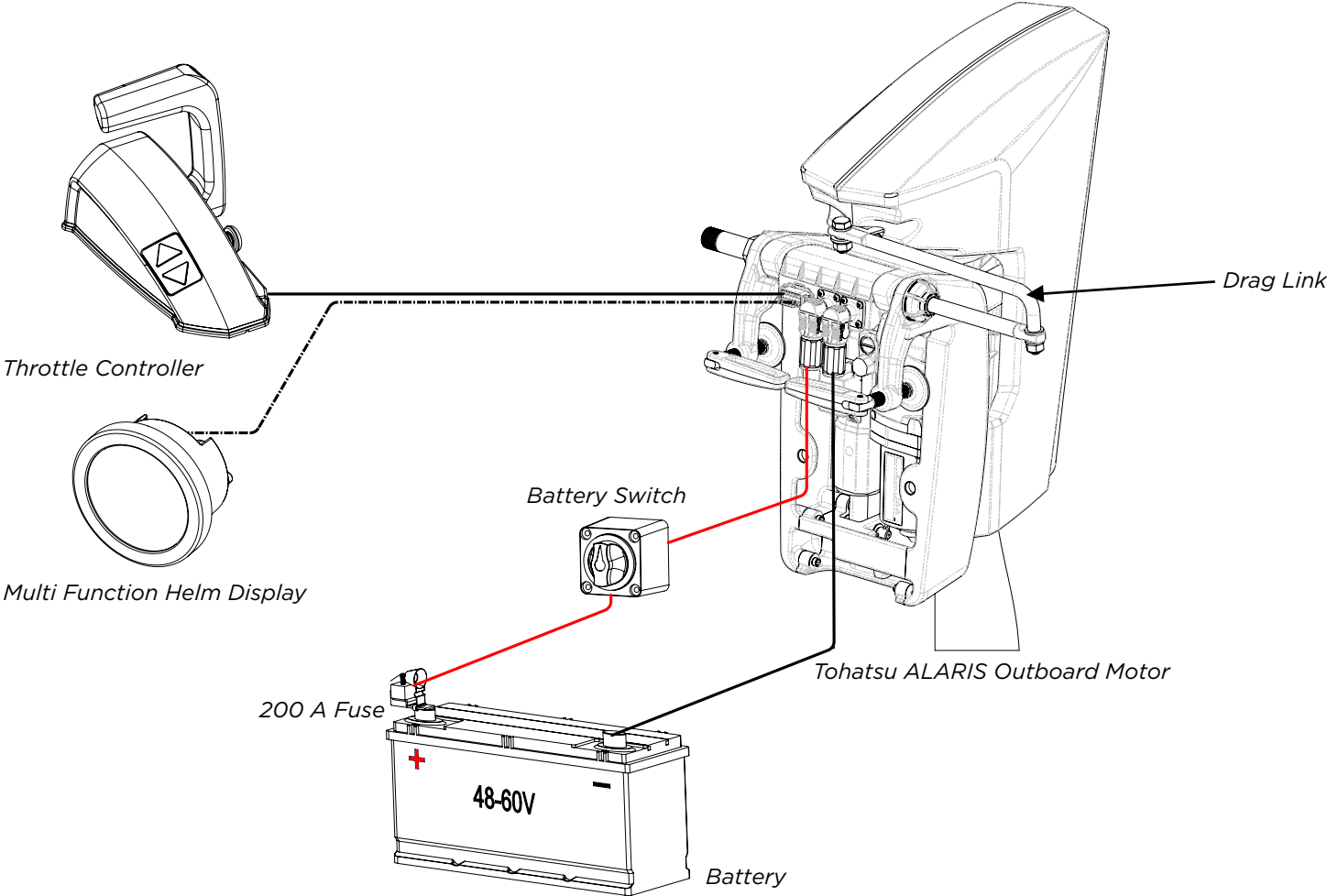
For longer term storage, the Tohatsu ALARIS Outboard Motor should be rinsed with fresh water, washed with a mild detergent, dried and thoroughly inspected prior to long term storage. Care must be taken to prevent accidental damage to the Tohatsu ALARIS Outboard Motor when not in use. It is recommended to save and utilize the original packaging materials for long term storage.

## DISPOSAL

To prevent further electrical waste in landfills, please contact your local electrical waste recycling facility for instructions on proper disposal. Never discard the Tohatsu ALARIS Outboard Motor or its electrical components with household waste. The EU mark of a trash receptacle with an X through it prohibits unlawful discarding of electrical waste.



TOHATSU ALARIS OUTBOARD MOTOR



Transom	Requirments
Minimum Opening	762mm (30in)
Thickness - MIN/MAX	38.1mm / 50.8mm (1.5in / 2in)

## MOUNTING THE OUTBOARD MOTOR ON THE BOAT

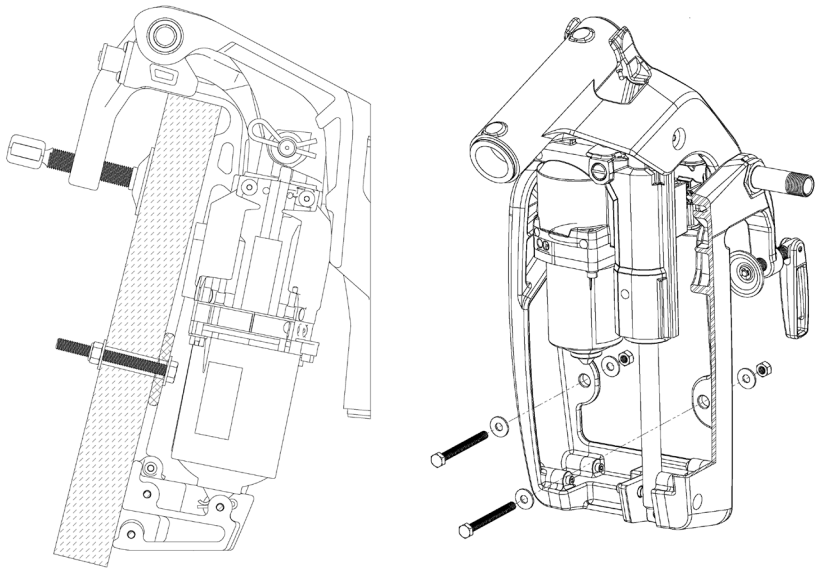
Please refer to Tohatsu ALARIS Electric Outboard Installation Guide for Detailed Installation Guidelines

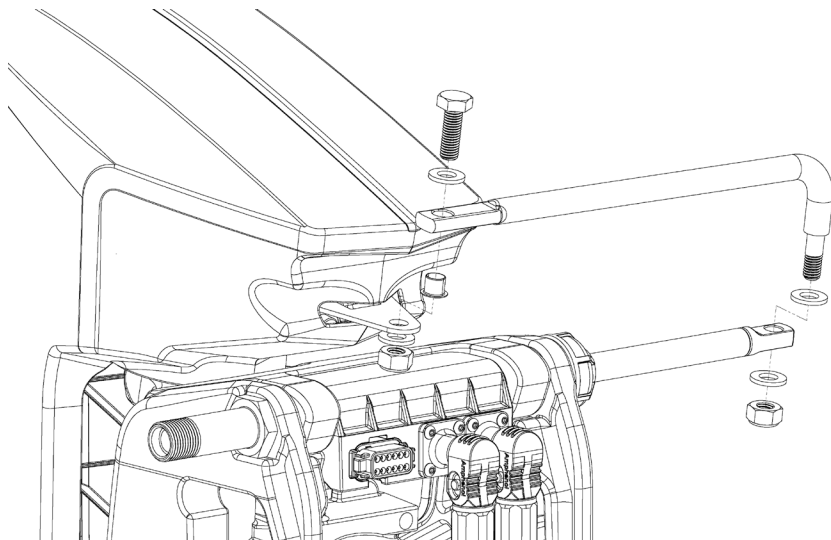
**Notice:** The information provided in this manual is intended to enhance your understanding and aid in identification. Installation should be carried out by an individual who is proficient in the ALARIS installation process.

Tohatsu advises utilizing through-transom bolting for the secure attachment of ALARIS to the boat Transom. This method not only enhances safety but also contributes to a reliable and enjoyable boating experience. Please use Transom Mount Kit 50Y-0222 and torque fasteners to 19Nm (14ft-lbs). Please be aware, it's recommended to use a marine sealant rated for underwater use to prevent water intrusion and potential transom damage.



**Warning!** Loose mounting hardware can lead to release or displacement of the outboard motor, possibly resulting in loss of control and/or serious personal injury. Be sure that fasteners are tightened to the specified torque. Check the fasteners for tightness before operating your outboard. Be sure to use outboard mounting hardware included in the outboard motor package or their equivalents in terms of size, material, quality and strength.





### DRAG LINK INSTALLATION

The steering cable is rigged through the Steering Tube, also known as the Tilt Tube. This setup allows the ALARIS to respond and turn as the steering wheel is manipulated. During the installation process, it's crucial to use marine-grade grease on steering cable and steering tube. This not only facilitates smooth operation but also provides protection against water intrusion and corrosion.

The fasteners on the Drag Link Bar should be tightened to a torque of 24Nm (18ft-lbs). It's important to note that over time, vibrations can cause these fasteners to loosen. Therefore, regular inspections are necessary to ensure they remain tight. Please adhere to the recommended maintenance schedule outlined in the Maintenance section of this Owner's Manual for optimal performance and longevity of your equipment.

## PROPELLER INSTALLATION

The propeller provides the primary thrust for the boat. Regular inspections are essential. Damaged blades can cause vibrations and potentially harm the ALARIS propulsion system. To install the propeller, follow the steps outlined below.

To Remove the propeller, follow the reverse procedure:

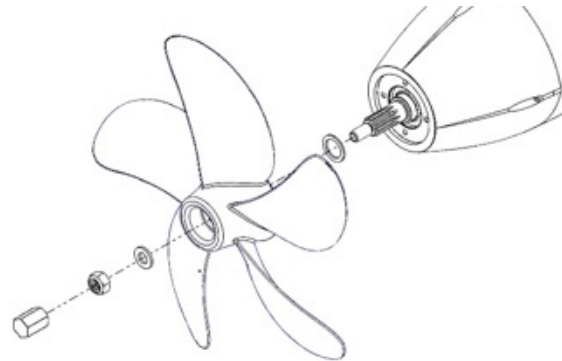
1. Apply marine grade grease to the spline area of the propeller shaft.
2. Place the Thrust Washer at the base of the Propeller Shaft Spline.
3. Slide the Propeller onto the Propeller Shaft, aligning with the Propeller Shaft Splines.
4. Slide the Washer onto the Propeller Shaft.

5. To tighten the Brass Lock Nut onto the Propeller Shaft, hold the Propeller with one hand and tighten the Brass Lock Nut with the other. Torque the Brass Lock Nut to 36Nm(27 ft-lbs).
6. Tighten the Anode onto the Propeller Shaft.
7. Rotate the Propeller by hand to ensure there is no contact with the Propeller and Housing.



**Warning!** The Lanyard Safety Switch must be disconnected from the throttle control box and the main battery switch "OFF" before attempting to install or remove a propeller or the outboard motor could accidentally start, leading to serious personal injury. The propeller blades are thin and sharp. Wear gloves while installing or removing a propeller to protect your hands.

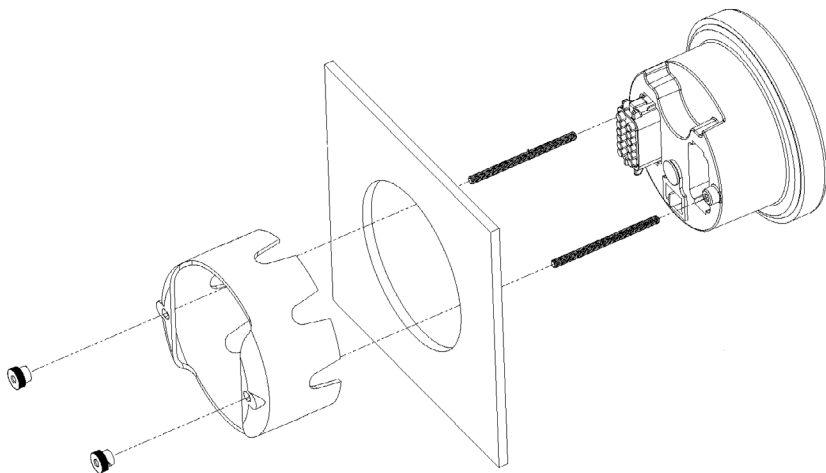
**Notice:** Do not reuse the Brass Lock Nut.



*Propeller Installation Diagram*

### MULTI-FUNCTION HELM DISPLAY INSTALLATION REQUIREMENTS

The Helm Display is a touchscreen interface for ALARIS and should be mounted in a location that is easily accessible to the operator's vision and operation. The Helm Display has been designed as a standard 3-3/8" gauge and mounted in the boat's dashboard or console with a standard 3-1/4" opening. Drilling into the boat's dash or console should be performed by a qualified individual familiar with using a hole saw and knowledgeable about the material being drilled into. The Helm Display is secured with Nylon Nuts (Provided) from the back of the display. For detailed instructions, please consult the Installation Guide.







**Warning!** Keep sparks, flames, and smoking materials away from battery charging area. When charging, batteries generate small amounts of dangerous, highly-explosive, hydrogen gas. Failure to follow the battery manufacturer's charging instructions may cause electrical shock or even explosion, which could result in serious injury or death.



**Warning!** Battery electrolyte fluid is dangerous. It contains sulfuric acid, which is poisonous, corrosive, and caustic. Avoid spilling battery electrolyte or allowing it to come into contact with skin. If exposed to battery electrolyte, flush the area with large amounts of clean water and immediately seek medical attention.



**Warning!** It is imperative that Positive (+) and Negative (-) connections are not reversed.



**Warning!** Lead Acid batteries can generate explosive hydrogen gas. Do not obstruct ventilator of battery hatch.



**Caution!** Prior to working with batteries or battery cables ensure the main battery switch is OFF and the lanyard safety switch is disconnected. Leave throttle control lever in neutral.



**Caution!** Battery connections must be clean and tight. Refer to section Cleaning and Care.



**Caution!** Battery bank design and installation should be carried out by qualified personnel only.

### BATTERY SELECTION

When designing and installing battery banks, local regulations regarding battery voltage and licensing must be observed. Any change from included power cable set must meet safety requirements for wire gauge, length, connectors, and fusing.

Tohatsu ALARIS Outboard Motor speed, runtime, and range will vary by vessel characteristics, load, ambient conditions, and battery supply. Operating at a slightly lower speed may significantly extend runtime without sacrificing too much performance.

Use the ALARIS “Power Mode” setting to adjust power consumption based on your needs and conditions.

Performance can also be optimized by using higher capacity batteries or investing in newer battery technologies. Take into consideration weight and balance limitations of the vessel and battery characteristics.

Tohatsu ALARIS Outboard Motor will operate at a nominal voltage of 48V or 60V.

Each battery must be capable of a continuous discharging rate of 150 amps or more.

Tohatsu ALARIS Outboard Motor is compatible with the following chemistries: Lead-acid, AGM, Lithium-Ion, and Lithium Iron Phosphate.



**Warning!** Do not mix and use batteries of differing chemistry, brand, capacity, age, or state-of-charge. Always choose batteries with consistent performance. Each battery must be fully charged separately before wiring. Failure to do so is a potential fire hazard.

**Notice:** As a safety, stability, and overall performance consideration, battery configurations and their storage location should not exceed the weight and balance limitations of the vessel. Consult your vessel's manufacturer for recommendations.

**Notice:** Never wire accessories or add-on equipment not approved by Tohatsu. Add-on equipment may adversely affect or overload the electrical system. Any damage caused as a result will not be covered under warranty.

**Notice:** Battery chargers must be matched to battery chemistry. Consult your battery supplier for proper recommendations. Ensure that the battery charger does not surpass the amperage limits of the shore power supply.

Diagrams of common battery configurations are provided on the following pages for reference purposes only. **We strongly advise engaging a qualified marine electrical professional to oversee system design and installation.**

## POWER CONNECTION

When installing or removing battery connections, ensure that the Main Battery switch remains in the OFF position. Failure to do so could result in harm to the outboard, boat, or personnel.

Pay close attention to polarity during installation. The battery cable connectors are color-coded to match the respective motor sockets. The power connectors on the Tohatsu ALARIS Outboard Motor are designed to be self-locking and waterproof.

When installing motor:

1. To install power connector to the motor, simply press the connectors onto the respective color-coded receptacle until they snap in place.
2. To remove the connector, press the button on the left side of the Battery Cable Connector and gently pull it from the motor connector.

When installing power cables:

1. Mount the included battery on/off switch in a dry, vertical location accessible to boat user.
2. Protect cables from chafing and properly secured per regulations.
3. Connections to battery must be secure and tight.



**Warning!** It is imperative that the Positive (+) and Negative (-) connections are not reversed.



**Caution!** Prior to working with batteries or battery cables ensure the main battery switch is OFF and the lanyard safety switch is disconnected. Leave throttle control lever in neutral.



**Caution!** Battery connections must be clean and tight. Refer to section Cleaning and Care.

**Notice:** Custom battery connectors may be required. Your Tohatsu ALARIS Outboard Motor includes ring terminal leads as shown in the following diagrams.

When installing batteries:

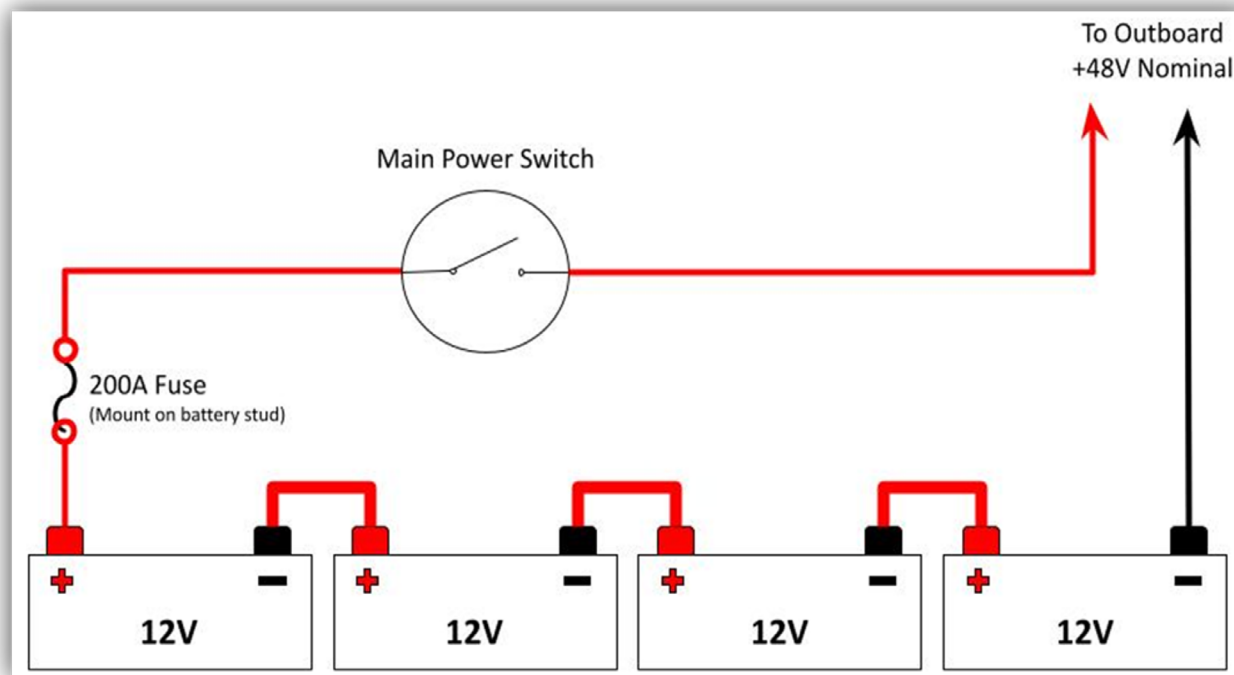
1. Bring each battery to full charge prior to installation.
2. The main power switch and fuse are mounted on the positive side of the battery terminal.
3. Ensure all batteries are organized neatly and in their own battery box.
4. Make sure battery boxes and hold-downs are properly fastened to the boat.

### CONFIGURATION WITH (4) 12V BATTERIES IN SERIES\*

Capacity example: (4) 100 Ah batteries at 48V = 4.8 kWh

Note: Ensure that all (4) batteries are of the same type and have consistent voltage levels. Mixing different battery chemistries or voltages can lead to hazardous conditions.

Please Refer to the ALARIS Installation Guide for more Information.



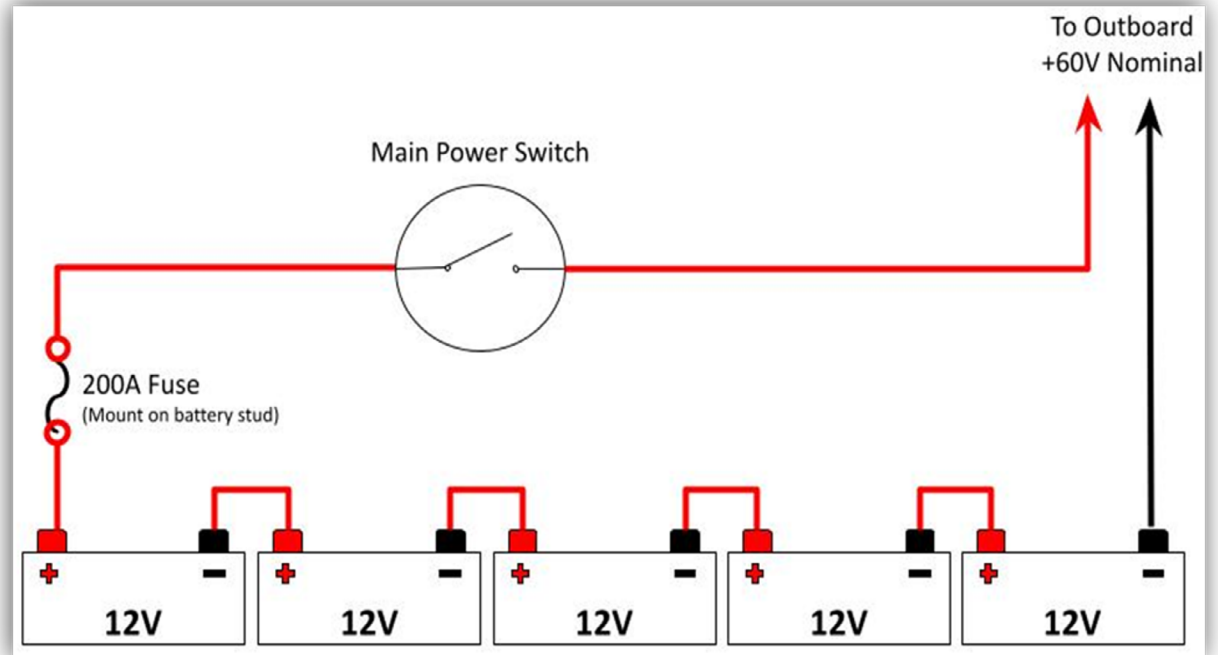
*\* For reference only*

## CONFIGURATION WITH (5) 12V BATTERIES IN SERIES\*

Capacity example: (5) 100 Ah batteries at 60V = 6.0 kWh

Note: Ensure that all (5) batteries are of the same type (lead-acid) and have consistent voltage levels. Mixing different battery chemistries or voltages can lead to hazardous conditions.

Please Refer to the ALARIS Installation Guide for more Information.



\* For reference only

### CONFIGURATION WITH A SINGLE BATTERY\*

Capacity examples:

(1) 100 Ah lithium battery at 48V = 4.8 kWh

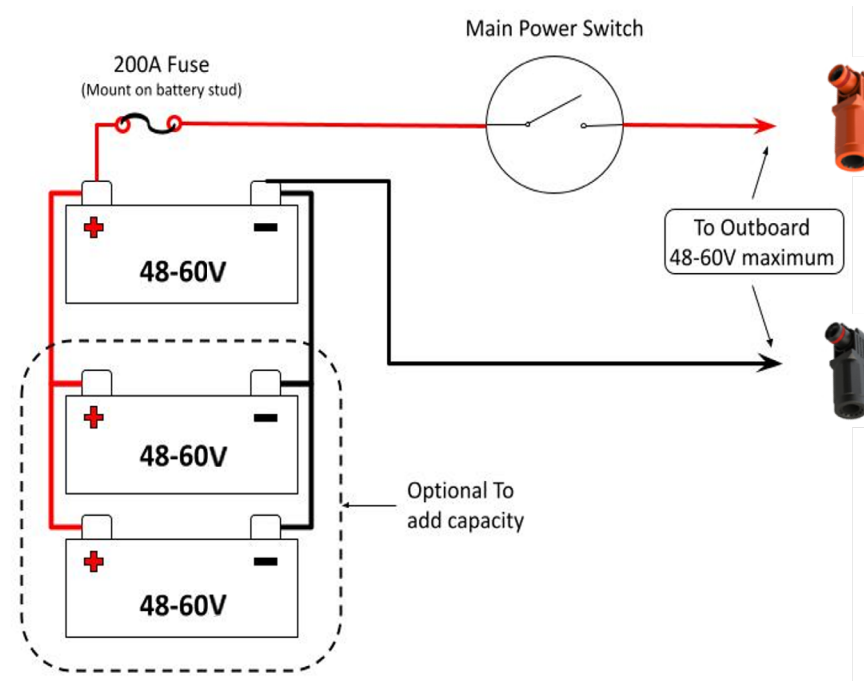
(1) 100 Ah lithium battery at 60V = 6.0 kWh

One Battery with a nominal voltage of 48V or 60V can be used to power Tohatsu ALARIS Outboard Motor.

For added capacity, up to (2) Additional batteries may be added. Additional 200Amp fuses are required.

If adding additional batteries, ensure that all batteries are of the same chemistry and have consistent voltage levels. Mixing different battery chemistries or voltages can lead to hazardous conditions.

Please Refer to the ALARIS Installation Guide for more Information.



*\* For reference only*

## INSPECTING, CLEANING & MAINTAINING THE BATTERY CONNECTIONS AND HOLD-DOWNS



**Caution!** Always wear protective glasses or goggles, high voltage rubber insulating gloves and protective clothing when working around batteries. Follow battery manufacturer's instructions on safety and maintenance procedures. Failure to do so may result in severe injury.

1. Check the battery post connections to ensure they are clean and tight.
2. If the battery connections are loose or dirty, loosen and remove the negative battery terminal connection first. Avoid metal contact between both battery connections at the same time. Tools such as wrenches and pliers may cause spark if the battery terminals are bridged.
3. Remove the battery hold-downs and remove the battery from the boat.
4. Clean any corrosion from the battery posts and connections with a battery terminal cleaning brush.
5. Remove all corrosion material from the battery, wipe clean, and dry with a disposable rag. Battery manufacturers may specify other methods of cleaning. Verify with the battery manufacturer's website their recommended cleaning method before undertaking this task.
6. Reconnect positive terminal first, and then the negative. Tighten the terminals.

**Notice:** It is imperative that the Positive (+) and Negative (-) battery connections are not reversed. Doing so may cause damage to electrical components. Take extreme care to ensure positive and negative connections are not reversed. Failure to do so may result in permanent damage to the Tohatsu ALARIS Outboard Motor and is not covered under warranty. Positive wires are red or orange and negative wires are black.

7. Coat both terminals completely with a thin layer of marine grade grease to protect against water or any potentially corrosive substance. Be sure the rubber boot covers the positive terminal completely.

**Notice:** Never install accessories or add-on equipment not approved by Tohatsu. Add-on equipment may adversely affect or overload the electrical system. Any damage caused as a result will not be covered by the warranty.

HOME SCREEN



Letter	Icon	Purpose
A	Shift Indicator	Displays Current Gear
B	Throttle Position Gauge	Displays Current Throttle Position
C	Trim Position Gauges	Displays Current Trim Angle
D	Speed Gauge	Displays Current Speed
E	GPS Signal	Displays GPS Connectivity
F	Fault Indicator	Tap for Current Faults
G	Trim	Changes Trim Position
H	Settings Button	Tap to Open the Settings Menu
I	Lock Button	Tap to Lock Display
J	Battery Level	Displays Remaining Charge



GENERAL SETTINGS MENU



Letter	Icon	Purpose
A	N/A	N/A
B	Service Button	Tap to Open the Service Screen
C	Fault Button	Tap to Open the Fault Screen
D	Back Button	Tap to Return to the Home Screen
E	Power Mode Button	Tap to Change the Power Mode
F	Touch to Trim Button	Tap to Enable or Disable
G	Next Page Button	Press to go to the Next Page
H	Page Navigation	Show the Active Page

GENERAL SETTINGS MENU CONT.



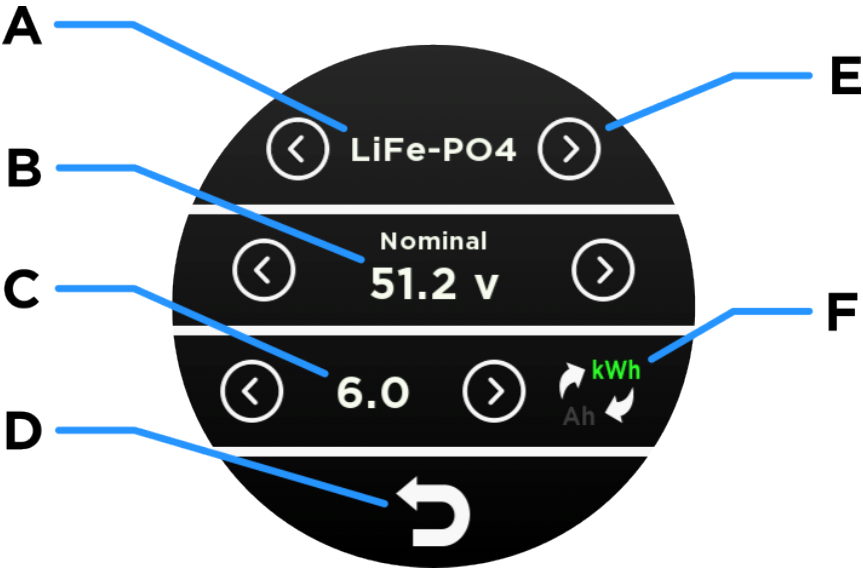
Letter	Icon	Purpose
A	Change Passcode	Tap to Change Passcode
B	Battery Settings Button	Tap to View the Battery Settings
C	Mute Button	Tap to Enable and Disable Sound
D	Speed Units Button	Tap to Change Speed Measurement
E	Sleep Timer Button	Tap to Enter Sleep Timer Settings

## GENERAL SETTINGS MENU CONT.



Letter	Icon	Purpose
A	Language Button	Tap to View the Language Menu
B	Service Settings Button	Tap to Lock and Unlock the Settings Menu
C	Propeller Wizard Button	Future Availability

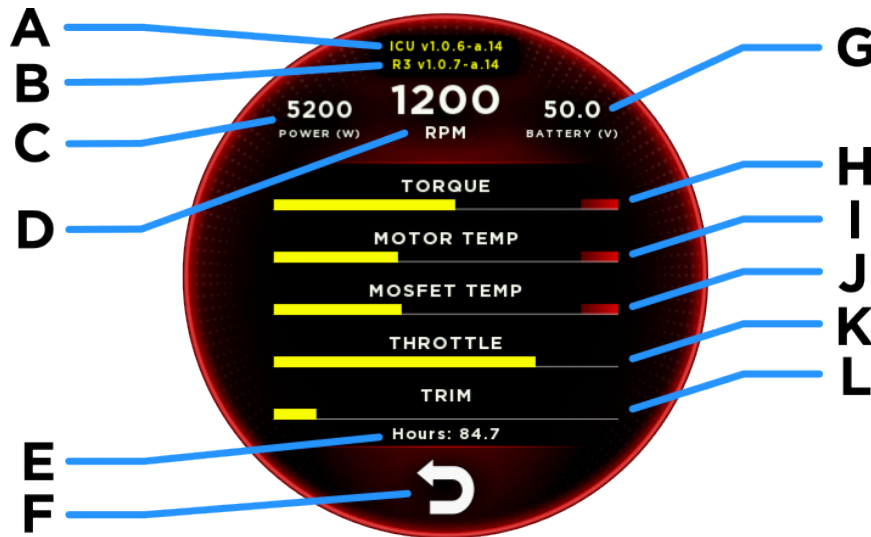
BATTERY SETTINGS



Letter	Icon	Purpose
A	Battery Chemistry	Tap to Change the Battery Chemistry
B	Nominal Voltage	Tap to Change the Nominal Value
C	Battery Charge Rating	Adjust to Battery MFG Charge Rating
D	Back Button	Tap to Return to the Home Screen.
E	Arrow Button	Tap to change battery chemistry
F	Battery Charge Rating Units	Tap to select kWh or Ah

**Notice:** For the ALARIS to make the most accurate State of Charge calculation, select the exact battery configuration installed on your vessel.

## SERVICE MENU



Letter	Icon	Purpose
A	ICU	Displays ICU firmware version
B	R3	Displays helm display software version
C	Power	Watts being consumed
D	RPM	Motor revolutions per minute
E	Hours	Motor run time
F	Back Button	Tap to go back to settings
G	Battery	Battery voltage
H	Torque	Amount of torque applied
I	Motor Temp	Motor temperature
J	Mosfet Temp	Inverter temperature
K	Throttle	Throttle position (handle)
L	Trim	Trim level

# OPERATING THE TOHATSU ALARIS OUTBOARD MOTOR

1. Disconnect all shore power battery charging cables.
2. Be sure to install the stop switch lock to the stop switch, and attach the lanyard securely to the operator.
3. Turn on the battery switch.

**Notice:** The Lanyard must be connected to the Lanyard Switch and the throttle must be in Neutral in order to unlock the display.

4. Tap the logo on the Helm Display. Enter the passcode to unlock the screen when prompted. The default passcode is 1234.
5. Verify the battery settings are correct in the battery settings menu.
6. Confirm the Battery Level indicator and percentage is sufficient for your journey.
7. Tilt the Tohatsu ALARIS Outboard Motor by using the TRIM UP or TRIM DOWN buttons on the Throttle Control. Visually ensure that the Tohatsu's propeller is completely submerged in the water before getting underway.
8. Check your surroundings as well as your intended direction of travel.

9. To move the vessel FORWARD, push the throttle handle slowly forward as the vessel begins to move and the desired speed is achieved. Return the throttle handle to neutral before shifting into reverse position.
10. To move the vessel in REVERSE, pull the throttle handle slowly back as the vessel begins to move. Return the handle to neutral before shifting into forward position.
11. To SLOW and STOP the vessel, move the throttle handle to NEUTRAL.
12. Raise the Tohatsu ALARIS Outboard Motor out of the water by pressing the TRIM UP button to its maximum position.
13. To turn off the Tohatsu ALARIS Outboard Motor, return the Throttle Control to NEUTRAL, then press the LOCK icon on the MFD.
14. Tap the LOCK icon again to confirm the lock request.
15. Turn off the battery switch.
16. Carry out the recommended Cleaning and Care items described in this manual.
17. Reconnect any shore powered battery charging cables.



**Warning!** Risk of death from electromagnetic radiation

If you have a cardiac pacemaker, please consult your doctor before using this product. Also, when using this product, make sure that there is ample distance between the unit and the pace maker.

Item	Part Number
Propeller Kit   P8-X   ALARIS	50Y-0206B
Propeller Kit   P11-X   ALARIS	50Y-0207B
Propeller Hardware Kit	50Y-0209
Anode Kit	50Y-0210
Skeg Kit	50Y-0205
Anti-Ventilation Plate Kit	50Y-0627
Shear Pin Kit	50Y-0202
Safety Lanyard	353-06821-0
Side Mount Throttle Adapter	50Y-0218
Top Mount Throttle	50Y-0600
ALARIS Touch Screen Display	50Y-1015
Replacement Cable Set	50Y-0800
Dashboard Harness	50Y-PL00716
Transom Handle Kit	50Y-0200
Fuse   200 Amp	50Y-PV08738
Battery Bridge Cable	50Y-PL00729
12' Lead, Lithium/Smart battery	50Y-0808

## MAINTENANCE SCHEDULE

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Component	Interval		
	Prior to Each Use	100 Hours (6 Months)	500 Hours (5 Year)
Anodes	Visually Inspect		
Batteries*	Visually Inspect		
Electrical Connections	Visually Inspect		
Propeller	Visually Inspect**		
Propeller Seals		Visually Inspect	Replace
Propeller Shaft		Visually Inspect	
Throttle Control	Check Mounting & Verify Operation		

\* Follow battery manufacturer's stated service and maintenance requirements

\*\* Remove any debris from the propeller



<b>Fault Code</b>	<b>Cause</b>	<b>Solutions</b>
2	Battery voltage outside of operational range.	Replace battery based on allowable battery types.
3	Battery SOC is low.	Charge battery.
4	Motor temperature is too high.	Reduce speed.
5	Motor controller temperature is too high.	Reduce speed.
6	Poor GPS signal.	Wait several minutes for ICU to get better reception. If under a bridge or similar structure, move to open water. If this fault does not clear itself, replace ICU.
7	Low satellite count.	Wait several minutes for ICU to get better reception. If under a bridge or similar structure, move to open water. If this fault does not clear itself, replace ICU.
8	Throttle position sensor error.	Service throttle.
9	Trim position sensor error.	Service trim actuator.
10	Trim driver circuit error.	Replace ICU.
11	Trim button hardware failure.	Turn on TTT mode for on-screen trim control. Service throttle.
12	Lanyard is disconnected.	Reconnect lanyard. If this does not clear the fault, service throttle.
13	Communication error with motor controller.	Service ALARIS.
14	Communication error with motor controller.	Service ALARIS.
15	Communication error with CAN battery.	Service ION and battery.
18	Communication error with ICU.	Service ALARIS.
19	GPS Hardware Error	Replace ICU.

### TOHATSU SPECIFICATIONS

<b>Motor Type</b>	6kW Direct Drive IPM Brushless DC Motor
<b>Cooling</b>	Passive
<b>Trim System</b>	Electro-Hydraulic Actuator
<b>Steering</b>	Remote Cable
<b>Max Motor Speed</b>	1300 RPM
<b>Available Propeller Pitch Types</b>	Tohatsu P8-X pitch 8.4" Tohatsu P11-X pitch 10.8"
<b>Propeller Diameter</b>	12.8" (32.5cm)
<b>Battery Operating Volts</b>	48 or 60 V DC
<b>Compatible Battery Types</b>	AGM Lead Acid Lithium Iron Phosphate Lithium Ion
<b>Helm Display</b>	3" Touch Screen Interface
<b>Torque</b>	33 Ft-Lb (45 Nm)
<b>Thrust</b>	223 Lbs (1169 N)
<b>Shaft Dimensions</b>	Short 15" 38.1 cm Long 20" 50.8cm Ultra Long 25" 63.5cm

**Notice:** All cleaning and care should be carried out after each use and prior to storage. Always perform these tasks with the battery switch in the OFF position.

**Notice:** Never use a high pressure stream of water to wash any part of the Tohatsu ALARIS Outboard Motor.

**Notice:** A Sacrificial anode on the propeller shaft protects the outboard from galvanic corrosion. Replace the Anode if it appears heavily corroded, pitted, or reduced to more than  $\frac{1}{2}$  of original size.

- Never Grease or paint the anode
- Regularly inspect anode, and tighten as necessary.

**Tohatsu ALARIS Outboard Motor Cowl:** Rinse the cowl with fresh water to remove dust and debris. Gently wipe up the water with soft clean cloth to dry.

**Tohatsu ALARIS Outboard Motor Vertical Shaft** With the outboard out of the water, rinse the vertical shaft with fresh water. A soft brush and mild eco-friendly detergent may be used to remove stuck on debris.

**Tohatsu ALARIS Outboard Motor Torpedo:** Carefully remove debris from the torpedo. Rinse the torpedo and visually inspect the torpedo and skeg for damage.

**Tohatsu ALARIS Outboard Motor Propeller:** Carefully remove debris from the propeller. Visually inspect the blades for damage and verify the presence of the prop nut and anode.

**Tohatsu ALARIS Outboard Motor Anodes:** Inspect and replace as necessary.

### TOHATSU ELECTRIC OUTBOARD WARRANTY PERIOD

Your Tohatsu ALARIS Outboard Motor is warranted to be free from manufacturer's defects for a period of two years from the date of purchase. For commercial usage, a period of one year from the date of purchase shall be the warranty period. Commercial usage is defined in the Tohatsu Warranty Terms and Conditions found at [www.tohatsu.com](http://www.tohatsu.com).

### OWNER'S WARRANTY RESPONSIBILITIES

The owner of the Tohatsu ALARIS Outboard Motor is responsible for performing the required maintenance listed in the owner's manual. Tohatsu recommends retaining all receipts covering maintenance on your Tohatsu ALARIS Outboard Motor.

Tohatsu may deny warranty coverage if your Tohatsu ALARIS Outboard Motor or related Tohatsu component has failed due to abuse, neglect, improper maintenance or unapproved modifications. When used in brackish or saltwater environments, failure to safeguard the Tohatsu ALARIS Outboard Motor against corrosion leading to a component failure, will not be covered by the limited warranty.

The owner is responsible for presenting the Tohatsu ALARIS Outboard Motor to an Tohatsu authorized dealer as soon as a problem occurs.

Date of Purchase
Dealer
Dealer Phone
Hull Identification Number (HIN)
Boat Manufacturer & Model
Tohatsu ALARIS Outboard Motor Model
Tohatsu ALARIS Outboard Motor Serial Number
Propeller Pitch

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ALARIS User Manual Part Number: 50Y-1016





| [www.tohatsu.com](http://www.tohatsu.com)



**TOHATSU**

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Propulsion*

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