QTAC
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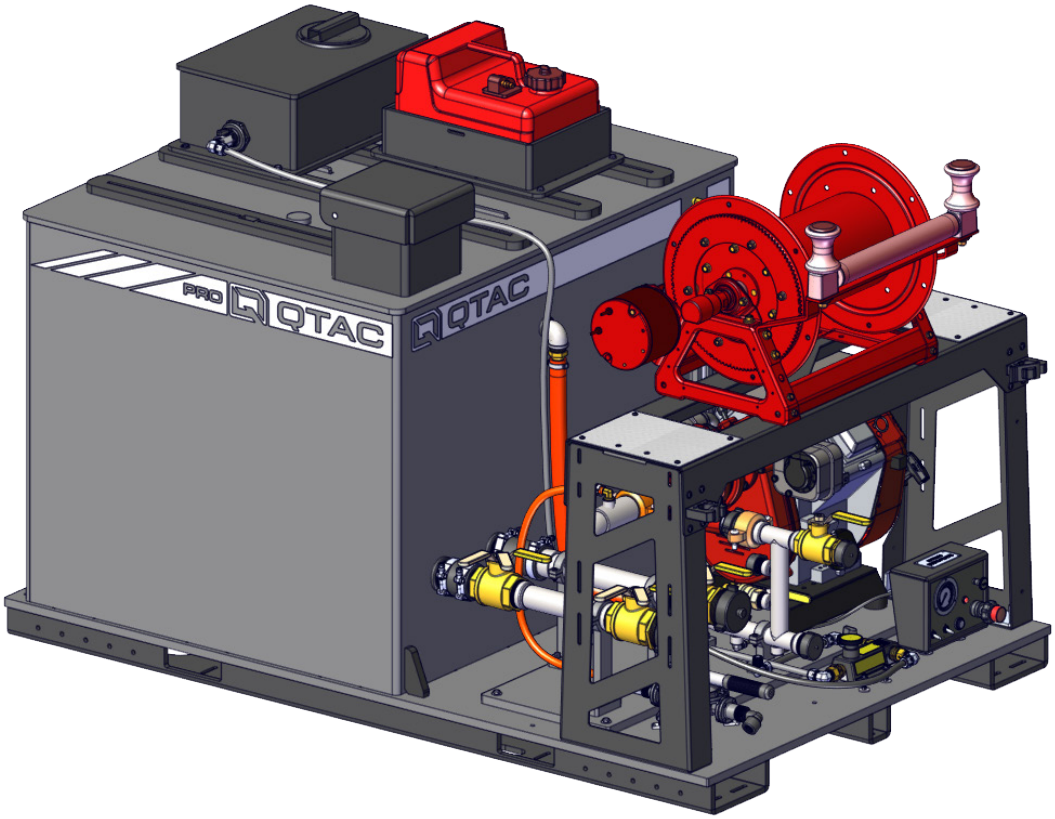
TSUNAMI

WATERAX BB4 PUMP



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IN THIS MANUAL

Thank you for the purchase of your QTAC skid system. This manual serves as an overview of the features of the system, as well as a guide to operating the pump. This manual is not meant to be a comprehensive overview of pump internals, valves and operations, but is instead designed to give basic information regarding pump operation and recommendations.

This manual assumes that you have been fully trained and certified to operate the pump, and that you have a basic understanding of water pump operation.

IMPORTANT: The valves and operation of this pumping system should be checked daily to ensure that any mechanical fault is found prior to going to an incident!

TECHNICAL SUPPORT

For technical support, contact QTAC
E-mail: sales@qtacfire.com
Phone: 866.308.6699

SKID FEATURES

Tank Construction: QTAC PolyTough™ Copolymer Polypropylene

- 150-400-gallon water tank (Tank capacity engraved into fill tower lid)
- Internal baffling in accordance with NFPA 1901 guidelines
- Fill tower with vent
- 2" FNPT tank -to-pump
- 1" FNPT pump-to-tank
- 1" FNPT d rain
- Clear sight level tube

Pump System: 18HP Briggs and Stratton Vanguard Engine

- Briggs and Stratton Vanguard 18HP 4 cycle engine with horizontal shaft, twin cylinder, OHV design
- Waterax BB4 centrifugal pump (Maximum 440 PSI, Maximum 104 GPM)
  - 2 inch NST suction and draft port
  - One 1 1/2 inch NST auxiliary discharge (optional second discharge available)
  - 1 inch gated pump to reel line
  - 1 inch gated pump to tank return
  - Guzzler hand primer
- Stainless steel manifold
- Hannay electric hose reel equipped with 100 feet of 3/4 inch I.D. booster hose rated to 800 PSI

Foam System (optional):

- Scotty 4171 Foam Proportioner
- PolyTough™ 10 Gallon Foam Tank

TANK CLEANING RECOMMENDATIONS

Copolymer polypropylene is an extremely durable, chemically-resistant material. When cleaning your QTAC tank, wash the outside with water and a mild detergent.

You can use water or chemicals on the polypropylene plastic. Windex, lacquer thinner, acetone and other similar chemicals will not harm the poly, but they will damage the decals and the finish on the plumbing components. However, certain chemicals, like lacquer thinner, can dull the finish slightly, so be aware of that prior to cleaning any portion of the raw, unpainted poly.

Any plastic polish, especially one with a U.V. inhibitor, is an excellent choice of chemical to help brighten and clean the poly material.

OVERVIEW: PUMP AREA

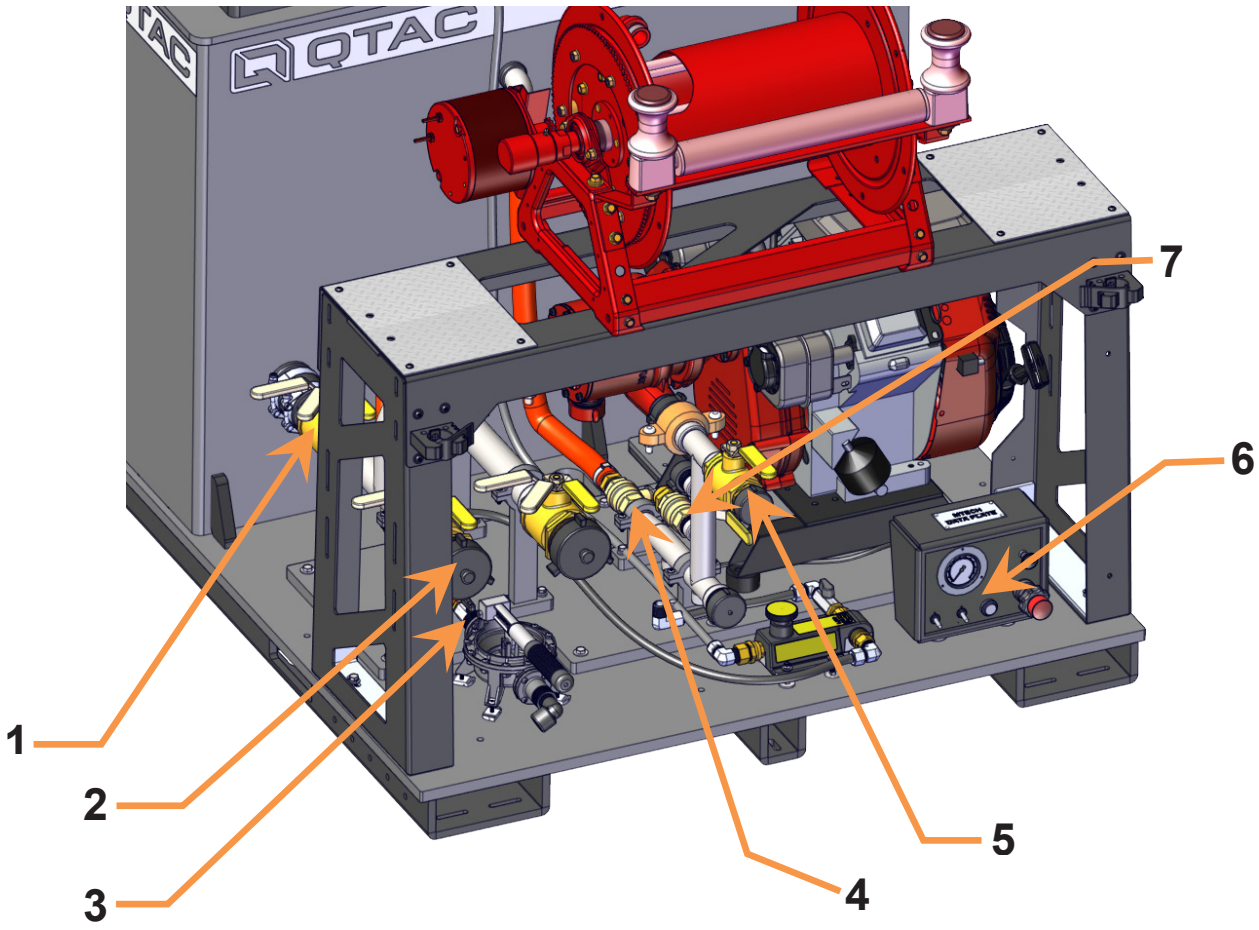

Figure 1 – Pump Area Close-Up

1	2” Tank-to-Pump Valve	5	1-1/2” Discharge
2	2” Draft Suction	6	Control Panel
3	Primer Shut Off Valve	7	1” Pump-to-Reel Valve
4	1” pump-to-tank Valve		

NOTE: All valves in Figure 1 are shown in the open position.

OVERVIEW: CONTROL PANEL

Figure 2 – Pump Panel

1	Hose Reel Rewind	5	Throttle
2	Master Power Switch	6	Choke Knob
3	Low Pressure Shutdown Switch	7	Low Oil Indicator Light
4	Engine Start Button	8	Pressure Gauge

OVERVIEW: TANK

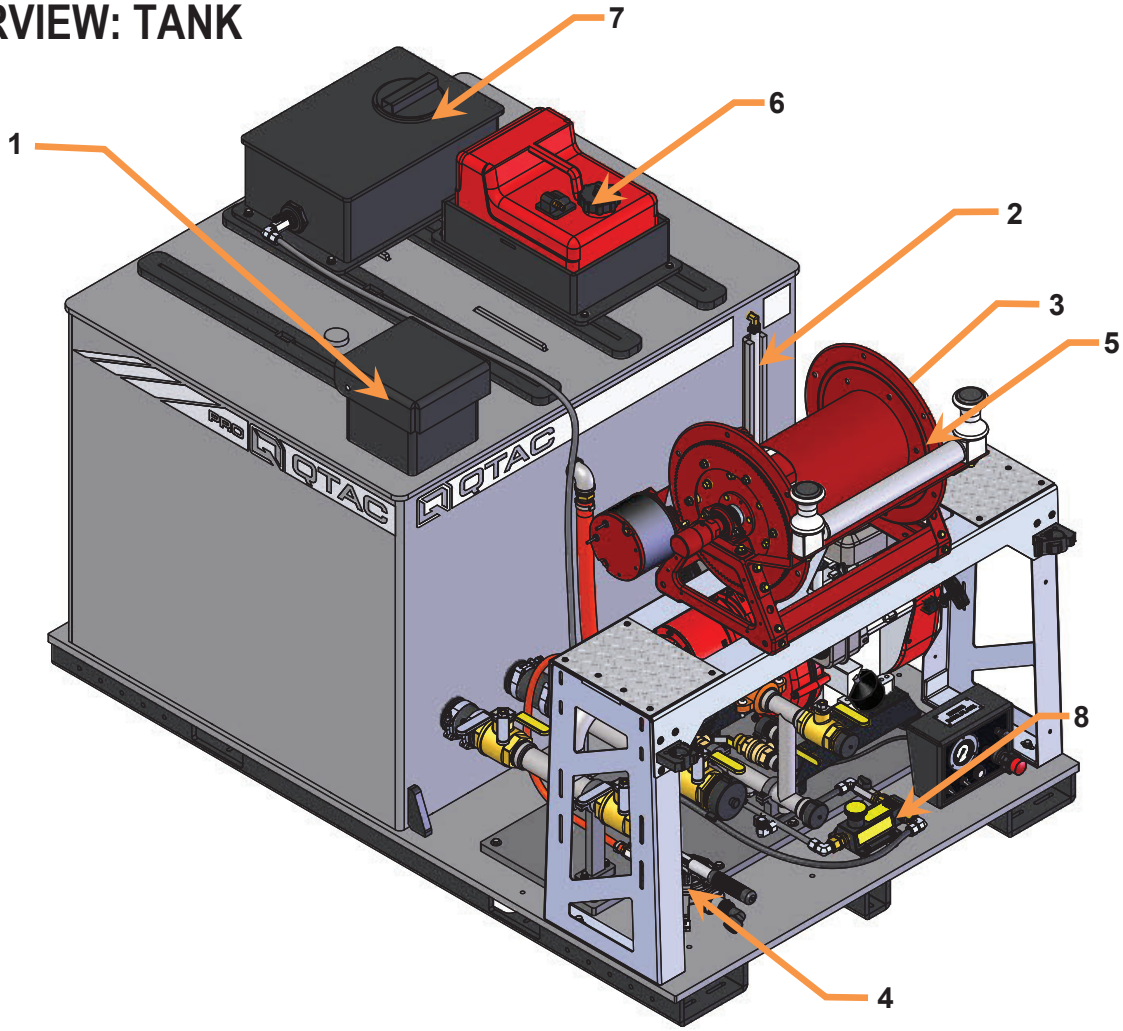

Figure 3 – Tank Overview

1	Water Fill
2	Sight Tube
3	1” Tank Drain
4	Guzzler Hand Primer
5	Hose Reel
6	Fuel Cell
7	Foam Cell
8	Foam Proportioner

PUMP OPERATION

WARNING! Before beginning any pumping operations, make sure you have followed your department's stationary vehicle guidelines, with regards to placement, emergency lighting activation, wheel stabilization (wheel chocks), and other safety procedures! Always wear appropriate eye, ear, and body protection when operating your skid unit.

STARTING THE PUMP WITH THE SUCTION FLOODED (FULL TANK, WATER LEVEL IS ABOVE THE PUMP HEAD)

1. Open the 2" tank-to-pump valve. *(Figure 1, Item* 1) All other valves are to be closed.
2. Remove the cap from the 1-1/2" discharge. *(Figure 1, Item 5).* Open the valve fully. After water begins to flow from the valve, close the valve, but do not install the cap.
3. Open the throttle on the control panel slightly. *(Figure 2, Item* 5)
4. If the engine is cold, pull the choke knob. *(Figure 2, Item* 6)
5. Set the Master Power Switch to on. *(Figure 2, Item 2)* set the low pressure protection to override. *(Figure 2, Item 3)* Use the start button to start the engine *(Figure 2, Item* 4), and close the choke as necessary as the engine comes up to temperature.
6. Open the 1-1/2" discharge. *(Figure 1, Item 5)*. After the pump primes open the 1" pump-to-tank valve slightly, *(Figure 1, Item 4)* then close the 1-1/2" discharge and install the cap.
7. Check that the water pressure gauge is indicating increased pressure in the pump head. *(Figure 2, Item 8)*

NOTE: If the pump does not prime the first time repeat the procedure.

STARTING THE PUMP WHEN THE SUCTION IS NOT FLOODED (WATER LEVEL IS BELOW THE TANK-TO-PUMP SUPPLY LINE)

1. Open the 2" tank-to-pump valve. *(Figure 1, Item* 1)
2. Close all other valves.
3. Open the Primer valve. *(Figure 1, Item* 3)
4. Operate the Guzzler Hand Primer* until water starts to exit the primer discharge hose.
5. Close the Primer valve. *(Figure 1, Item* 3)
6. Open the throttle on the control panel slightly. *(Figure 2, Item 5)*
7. If the engine is cold, pull the choke knob. *(Figure 2, Item* 6)

8. Set the Master Power Button to on. *(Figure 2, Item 2)* set the low pressure protection to off. *(Figure 2, Item 3)* Use the start button to start the engine *(Figure 2, Item* 4), and close the choke as necessary as the engine comes up to temperature.
9. Remove the cap from the 1-1/2" discharge. *(Figure 1, Item 5)* Open the valve to fully open. After the pump primes open the 1" pump-to-tank valve slightly, *(Figure 1, Item 4)* then close the 1-1/2" discharge. Fully opening the 1" pump-to-tank valve relieves the back-pressure on the pump by allowing water to pass through the pump.
10. To increase pressure, increase the throttle position, and close the pump-to-tank valve as needed.
11. Check that the water pressure gauge is indicating increased pressure in the pump head. *(Figure 2, Item 8*)

**Guzzler Hand Primer may be substituted with Waterax Hand Primer as a manual priming solution. In this case, instructions for primer valve opening and closure remain the same.*

NORMAL PUMPING PROCEDURE

1. Once the pump is running and flow has been established closing the pump-to-tank valve from fully open to ¼-open *(Figure 1, Item 4)* reduces the flow returning to the tank and increases pressure.
2. Open the corresponding valves for the outlets desired (pre-connect, hose reel, etc.)

CAUTION! During pumping operations, the operator should leave the pump-to-tank valve *(Figure 1, Item* 4) open slightly to bypass water through the pump. Doing so ensures that the pump will not overheat if the nozzle is closed completely. If the pump is run with the pump-to-tank valve completely closed, the operator MUST LEAVE THE NOZZLE RUNNING – at least partially – at all times. Closing the nozzle when the pump-to-tank valve is closed will result in overheating the pump!

TO SUPPLY WATER TO THE HOSE REEL ONCE THE PUMP IS STARTED

1. Open the hose reel supply valve *(Figure 1, Item* 7)

TO SUPPLY WATER TO THE 1-1/2" DISCHARGE ONCE THE PUMP IS STARTED

1. Connect your hose fitting to the 1-1/2" NST discharge outlet *(Figure 1, Item* 5).
2. Lay out the flat lay hose on the ground.
3. Open the discharge valve slowly.

TANK FILL REQUIREMENTS:

MAX FILL PRESSURE: 100 PSI

MAX FILL RATE: 500GPM

DRAFT FILL FROM AUXILIARY WATER SOURCE

1. Fill the draft hose with the foot valve full of water. Connect the drafting hose to the 2" draft valve and open the valve. *(Figure 1, Item 2)*
2. Close all other valves.
3. Open the Primer valve. *(Figure 1, Item* 3)
   Operate the Guzzler Hand Primer until water starts to exit the primer discharge hose.
4. Close the Primer valve. *(Figure 1, Item* 3)
5. Open the throttle on the control panel slightly. *(Figure 2, Item* 5)
6. If the engine is cold, pull the choke knob. *(Figure 2, Item* 6)
7. Set the Master Power Switch to on. *(Figure 2, Item 2)* set the low pressure protection to Override. *(Figure 2, Item 3)* Use the start button to start the engine *(Figure 2, Item* 4), and close the choke as necessary as the engine comes up to temperature.
8. Remove the cap from the 1-1/2" discharge. *(Figure 1, Item 5)* Open the valve to fully open. After the pump primes open the 1" pump-to-tank valve slightly, *(Figure 1, Item 4)* then close the 1 1/2" discharge. Fully open the 1" pump-to-tank valve to fill the tank. *(Figure 1, Item 4)*

Reference Caution! on page 10.

PUMPING WHILE DRAFTING FROM AN AUXILIARY WATER SOURCE

1. Follow the drafting procedures as described above.
2. Once flow has been established in the hose line, close the 1" pump-to-tank valve (*Figure 1, Item 4*) and open the corresponding valves for the outlets desired (1 ½" discharge, hose reel, etc.)

Reference Caution! on page 10.

NOTE: The 1" pump-to-tank valve may be left open during pump operation while drafting, however, unless it is closed the tank will eventually fill and overflow.

SHUT-DOWN PROCEDURE

1. Reduce the throttle setting to idle.
2. Use the Master Power Switch to turn off the engine (*Figure 2, Item 2*)

OPERATING YOUR OPTIONAL ATP FOAM SYSTEM

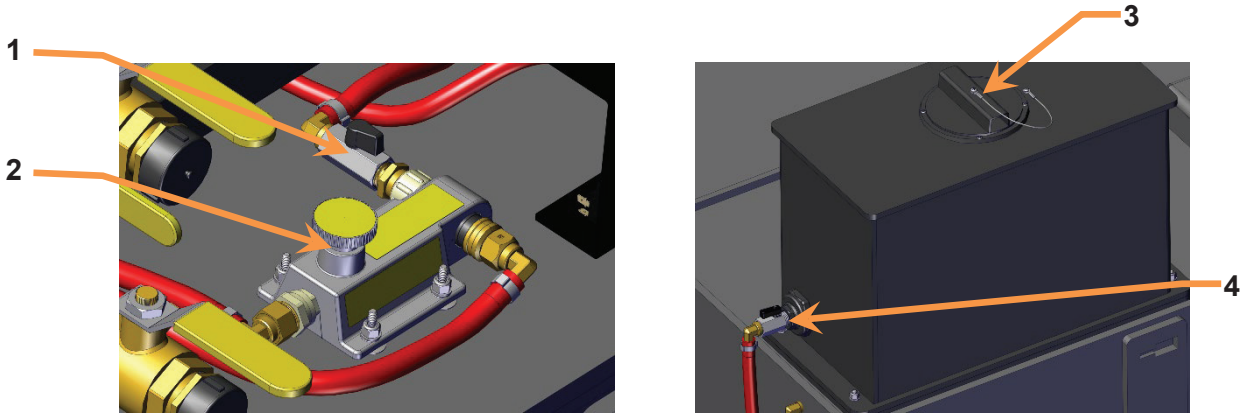

Figure 4 – Foam system

1	Foam Shut-Off Valve
2	Scotty 4171 ATP Foam Controller
3	Foam Fill
4	Foam Supply Valve

BEFORE USING YOUR ATP FOAM SYSTEM

Always wear appropriate PPE when operating your skid unit.

USING YOUR ATP FOAM SYSTEM

1. Ensure a proper amount of foam concentrate exists in the foam tank *(Figure 4, Item 3),* and the foam supply valve is open. *(Figure 4, Item 4)*
2. Start the engine. (*see Page 9*)
3. Set the foam controller to the desired concentrate percentage. *(Figure 4, Item 2)*
4. Once the pumping system has developed pressure, open the hose line valve to allow a slight flow.
    a. Close the pump-to-tank valve *(Figure 1, Item 4).* Remember that if this valve is closed, a discharge must be open to prevent pump head overheating
5. Open the foam shut-off valve. *(Figure 4, Item 1)*
6. Open the nozzle valve and discharge foam as desired.

NOTE: It may take several seconds before foam becomes visible in the discharge.

NOTE: If a foaming agent has recently been used in the skid, foam may interfere with the pump's ability to develop a prime. If you suspect this may be the case, you may need to repeat the priming sequence several times before the pump is clear of foam and the pump is able to develop suction.

STOPPING YOUR ATP FOAM SYSTEM

1. Close the foam shut-off valve. *(Figure 4, Item 1)* and the foam supply valve *(Figure 4, Item 4)*
2. Flush the discharge system as necessary by running fresh water until all traces of foam have been removed.

COLD WEATHER OPERATION AND / OR STORAGE

If the skid is going to be stored overnight during periods of freezing temperatures, perform the steps below to prevent damage to the pumping system.

1. If there is water in the tank, pump it down as far as possible, and remove the 1-inch tank drain.
2. Set all valves to the open position in order to drain water and foam from the system.
3. Unwind the hose reel with the nozzle open (or removed), then rewind to allow all the water to flow out of the hose.
4. Additionally, water can be purged from the pump system using compressed air.
5. While stored, leave all valves in the open position.

WARRANTY

GENERAL PROVISIONS

The warranty described below is provided by MTECH, Inc. (hereinafter "MTECH") to the original purchaser (hereinafter "Purchaser") of new QTAC fire suppression or rescue products (hereinafter "Product") purchased from MTECH. Under this warranty, MTECH will repair or replace, at its option, any covered part which is found to be defective in material or workmanship during the applicable warranty term. Purchaser shall provide MTECH with prompt written notice of the defect and allow reasonable time for replacement or repair. Warranty services must be performed by MTECH or an MTECH designee, which will use only new or remanufactured parts or components furnished by MTECH. Purchaser will be responsible for any service call and/or transportation of Product to and from MTECH, or MTECH's designee, for any premium charged for overtime labor requested by Purchaser, and for any service and/or maintenance not directly related to any defect covered under the warranties below.

WHAT IS WARRANTED

All parts of any Product are warranted for a period of 36 months to the original Purchaser, with the warranty term beginning on the date Product is delivered to Purchaser. Note that some components may carry a manufacturer's warranty. See the appropriate component documentation for details. Warranty statements required by law covering engine emission-related parts and components are found in the documentation delivered with the Product.

WHAT IS NOT WARRANTED

MTECH IS NOT RESPONSIBLE FOR THE FOLLOWING:
(1) Second-hand Products
(2) Any Product that has been altered or modified in ways not approved by MTECH
(3) Any Product that is used in conjunction with non-QTAC approved devices or equipment to perform tasks
(4) Any Product that is mounted or secured in ways not approved by MTECH
(5) The vehicle or device used to transport or house the Product
(6) Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow operating instructions, misuse, lack of proper protection during storage, or accident
(7) Normal maintenance parts, lubricants, and service
(8) Exposure of Product to non-approved contents and environments, including but not limited to fuel, chemical agents, industrial effluents, and extreme temperatures

SECURING WARRANTY SERVICE

To secure warranty service, Purchaser must:
(1) Report Product defect to MTECH and request repair within the applicable warranty term
(2) Present evidence of the warranty start date
(3) Make Product available to MTECH within a reasonable period of time as agreed upon with MTECH

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