

BRAVE

M1158293A.1

Hydraulic cooler kit for
HBHS600GXE, HBHS610GXE, and HBHS620GXE

Owner's Manual

Instructions for Assembly

Hydraulic Cooler Kit: Accessory for Brave Hydraulic Power Packs

About your Hydraulic Cooler Kit

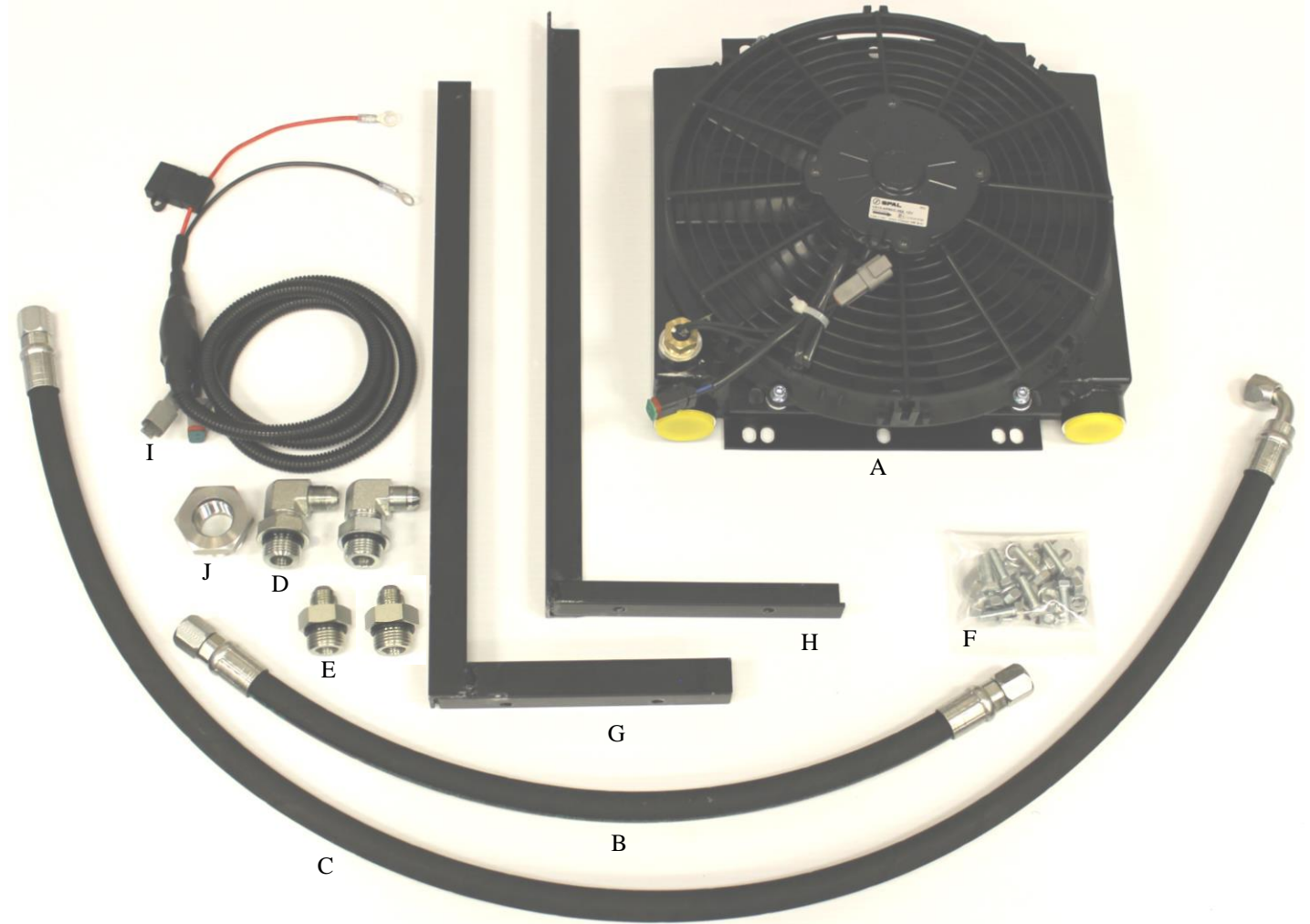
This Hydraulic Cooler Kit is ideal for applications that are more continuous and demanding. The hydraulic cooler kit is designed to remove heat from the hydraulic oil utilizing a 12 VDC fan and special wire harness that turns the fan on when the oil temperature reaches 145 deg. F. Any application where hydraulic oil reaches 180 deg. F. for any amount of time should consider a hydraulic cooler kit. After installing a hydraulic cooler kit, it is recommended to monitor the hydraulic oil temperature during a typical run cycle to ensure the oil temperature stabilizes and never exceeds 180 deg. F. The Hydraulic Cooler is only recommended to be installed in the return line. Hydraulic Coolers are sensitive to pressure and can be damaged if greater than 150 PSI is exceeded.

Any Questions, Comments, Problems or Parts Orders

Call Brave Product Support 1-800-350-8739

Installation Instructions

Kit Contents



REF	ITEM #	DESCRIPTION	QTY
A	1056683	Cooler	1
B	1157989	Valve to Cooler Return Hose (only used with valve kit)	1
C	1157988	Cooler to Filter Return Hose	1
D	1014313	Elbow Fitting	2
E	1013940	Small Adapter Fitting	2
F	1010305	Nut	8
	1015066	Flat Washer	4
	1079083	Lock Washer	8
	1010741	Bolt	8
G	1158716	L Bracket, Right	1
H	1158715	L Bracket, Left	1
I	1159886	Fan Harness	1
J	1102606	Large Adapter Fitting	1

Installation Instructions

Step 1 – Engine off / relieve pressure

Perform all installations with the engine off and hydraulic system pressure relieved.

- Make sure engine is off and cool.
- Disconnect the spark plug.
- Relieve system pressure by moving Valve Control Lever back and forth several times (if applicable).
- Disconnect any installed implements and accessory kits so that unit is configured as it was when originally purchased (do not uninstall parts required for initial assembly).

Tools Needed

- None

WARNING

ALWAYS shut off the engine, disconnect the spark plug, and relieve system pressure before inspecting, cleaning, adjusting, or repairing the unit. Relieve system pressure by moving Valve Control Lever back and forth several times (if applicable).

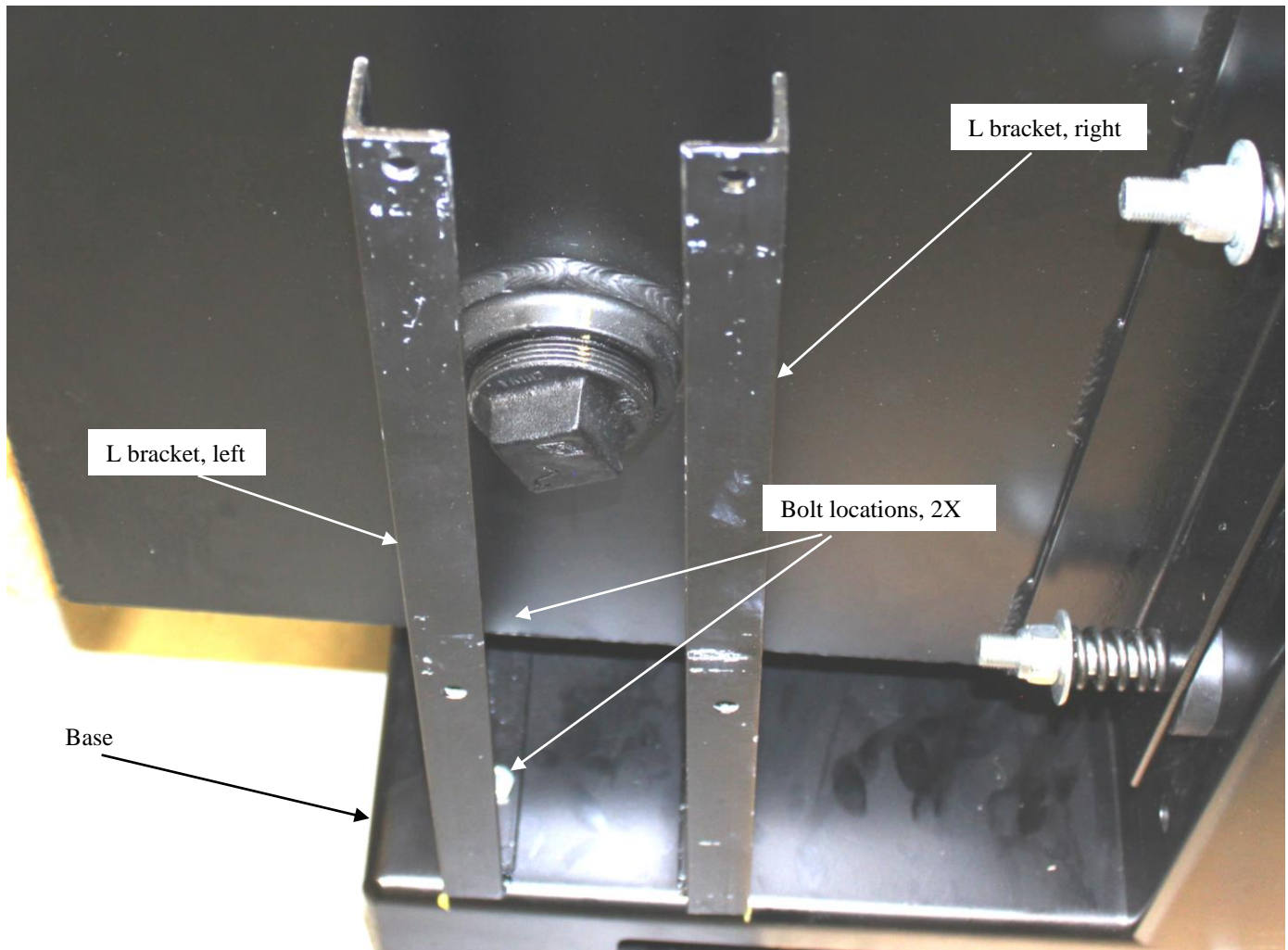
Installation Instructions

Step 2

- Install L Brackets with (4) 5/16" x 1" bolts from the top down through the base with nuts and lock washers on bottom.
- Torque nuts to 12 ft-lbs.

Tools Needed

- Ratchet
- Torque wrench
- 1/2" socket
- 1/2" wrench



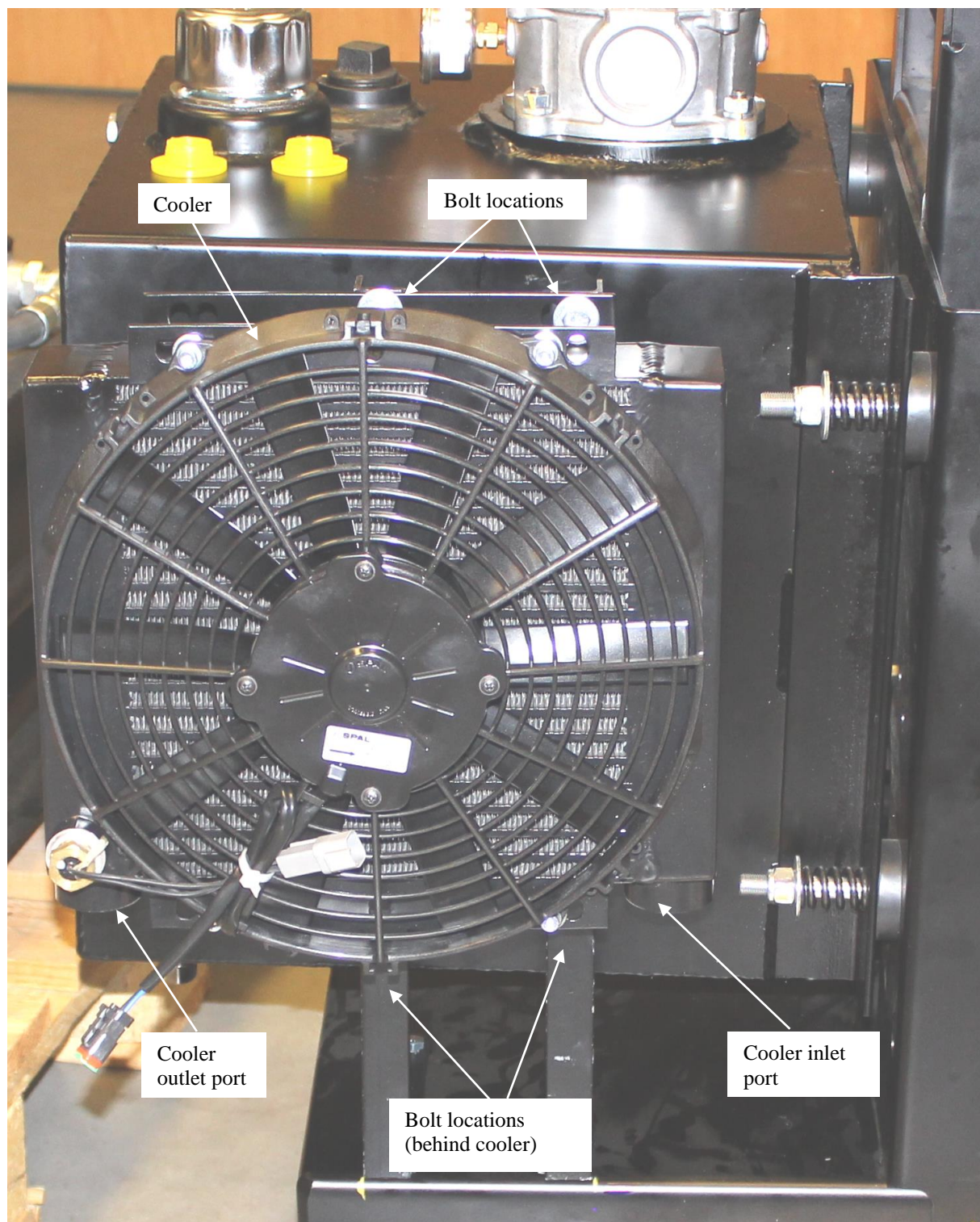
Installation Instructions

Step 3

- Before installing, make sure ports are facing down.
- Install cooler to L brackets with (4) 5/16" x 1" bolts and flat washers from the front with nuts and lock washers on back.
- Torque nuts to 12 ft-lbs.
- Remove yellow cooler caps from cooler ports.

Tools Needed

- Ratchet
- Torque wrench
- 1/2" socket
- 1/2" wrench



Installation Instructions

Step 4

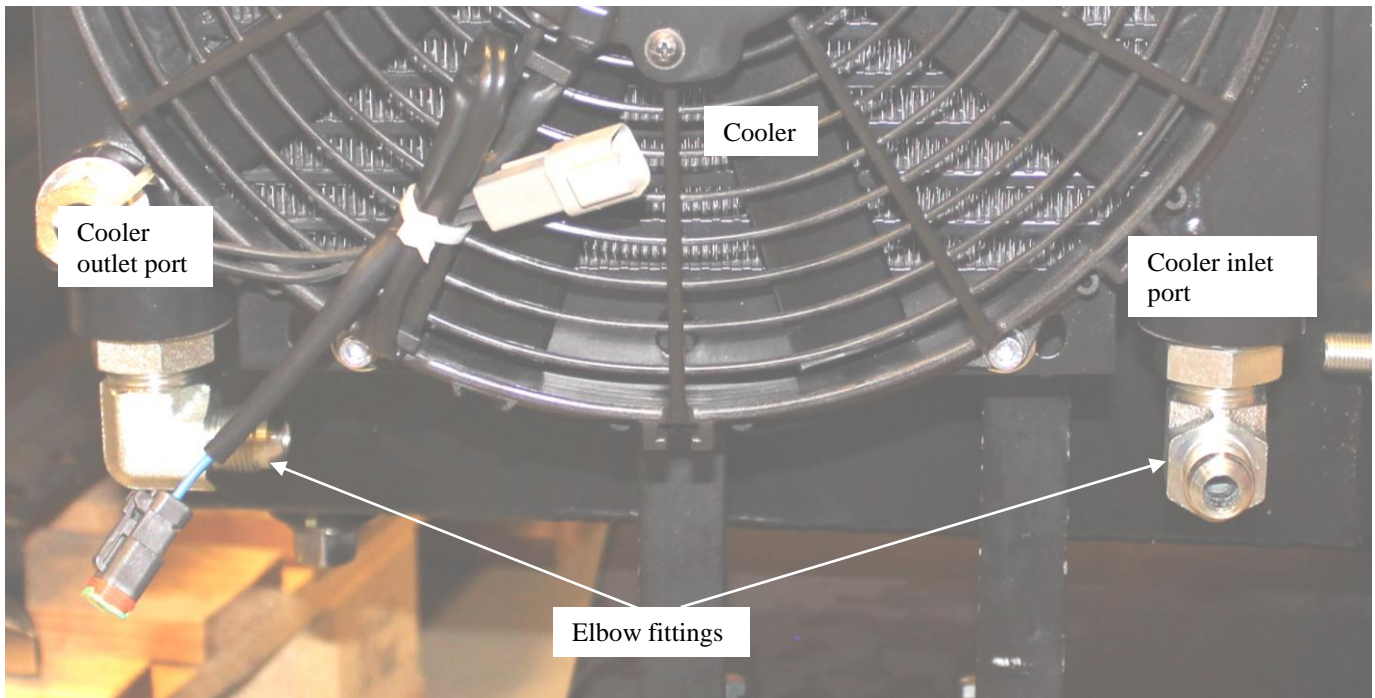
Note: if installing valve kit or quick disconnect kit, install small adapter fitting in place of elbow fitting in cooler inlet port.

- Lubricate O-ring and threads on elbow fittings with clean oil.
- Looking at fittings from end with nut/washer/O-ring assembly, turn nut clockwise as far as possible.
- Using wrench, turn elbow fittings into the cooler. Continue turning until washer touches thread nearest wrench pad.
- Back off fittings counterclockwise not exceeding one revolution until they are oriented as shown.
- Place wrench on the wrench pad of fitting to prevent fitting from turning and torque nuts to 45-57 ft.-lb.

Note: The elbow fitting in the cooler outlet port will now serve as the return port for the unit. This port is a male 3/4 JIC fitting.

Tools Needed

- Adjustable Wrenches
- 1-1/4 Crowfoot Wrench
- Torque Wrench



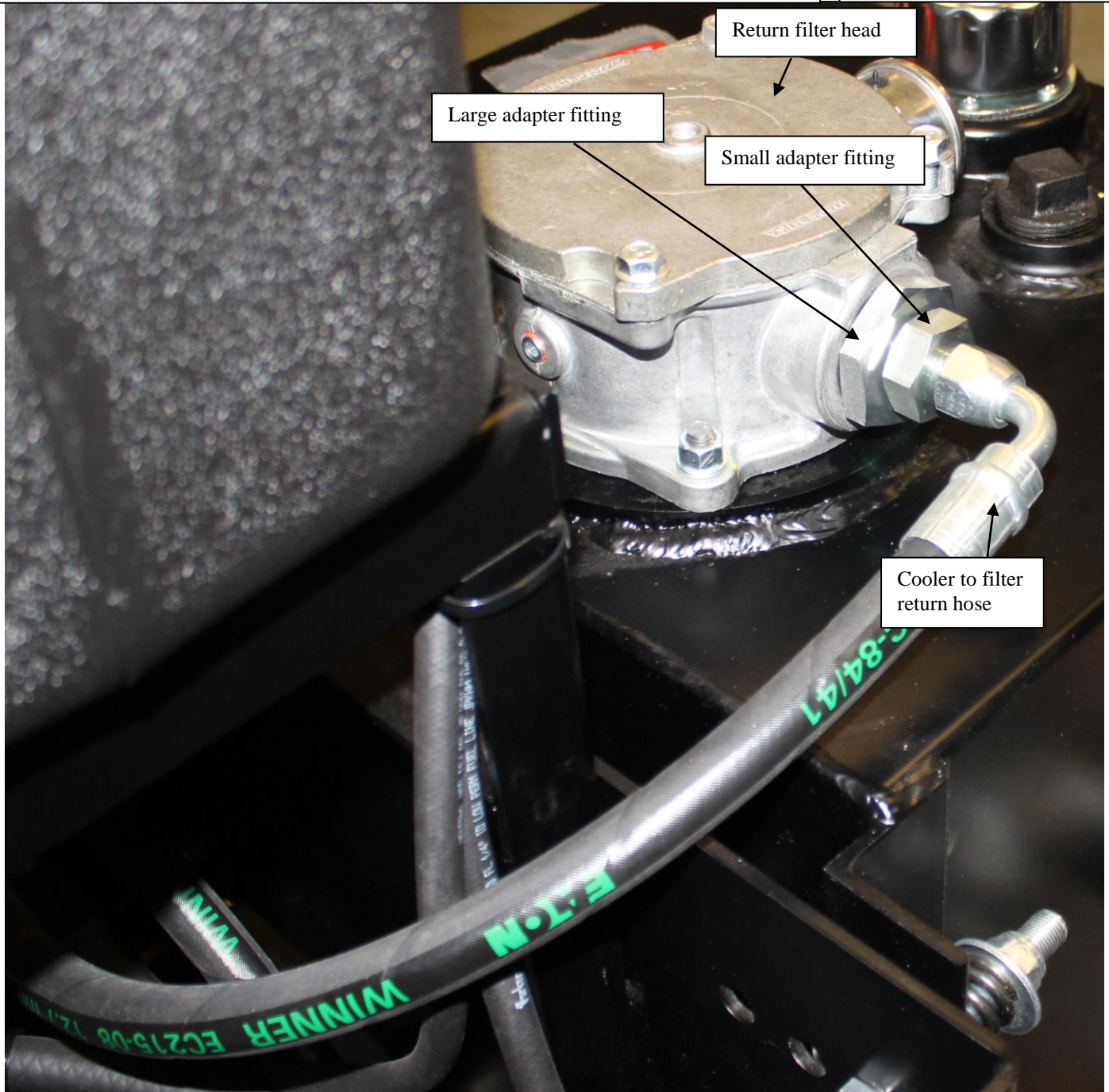
Installation Instructions

Step 5

- Install large adapter fitting and torque to 100-133 ft.-lb.
- Hold large adapter fitting and install small adapter fitting. Torque to 70-87 ft.-lb.
- Thread 90 degree end of cooler to filter return hose by hand onto small adapter fitting. Hold small adapter fitting and wrench tighten 1/4 turn past hand-tight.

Tools Needed

- Adjustable Wrenches
- 1-7/8 Socket
- Torque Wrench
- 1-1/4 Deep Socket
- Ratchet



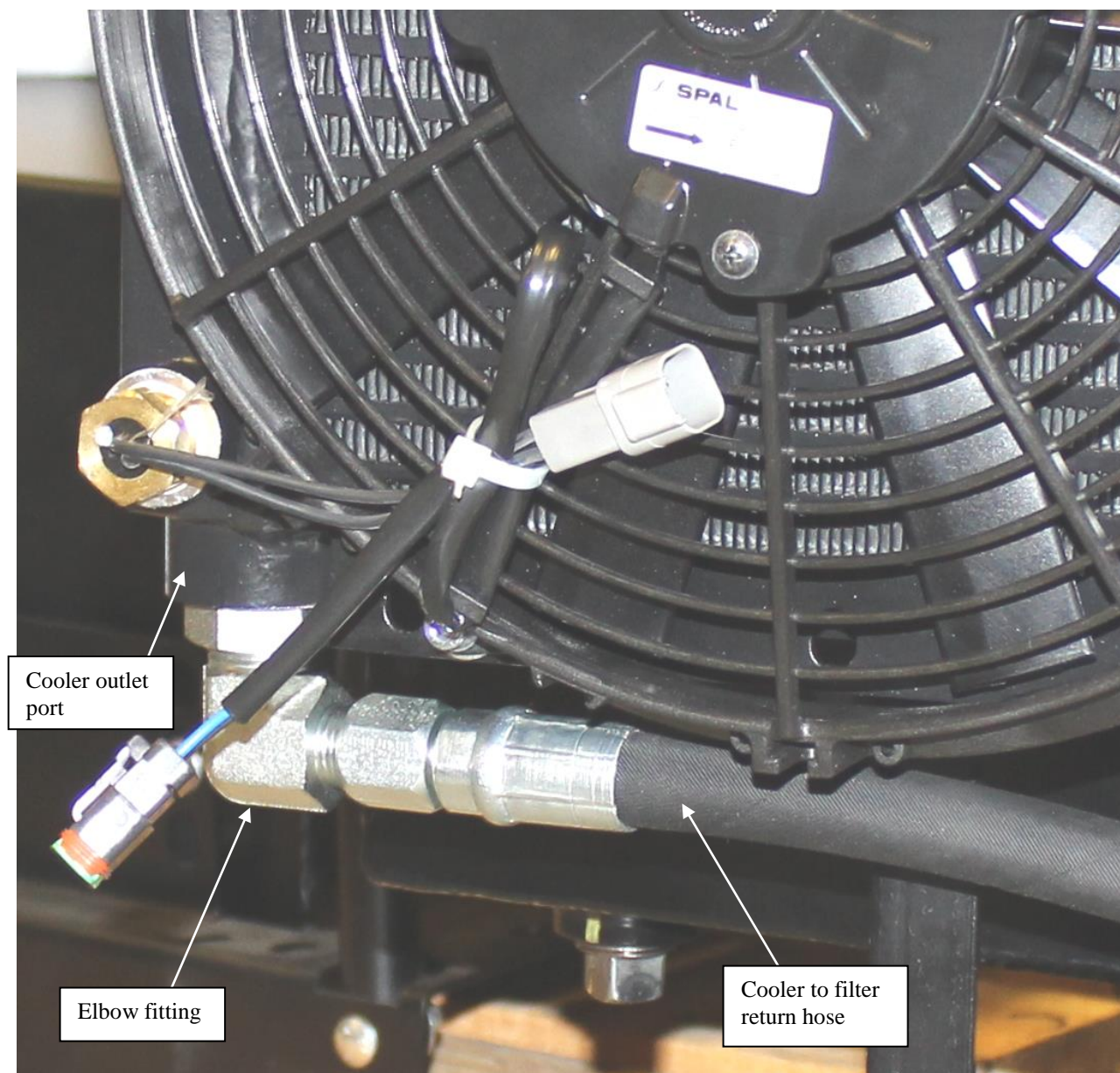
Installation Instructions

Step 6

- Route return hose between frame and battery under tank to cooler outlet port.
- Thread return hose by hand onto elbow fitting. Wrench tighten 1/4 turn past hand-tight.

Tools Needed

- Adjustable wrench



Installation Instructions

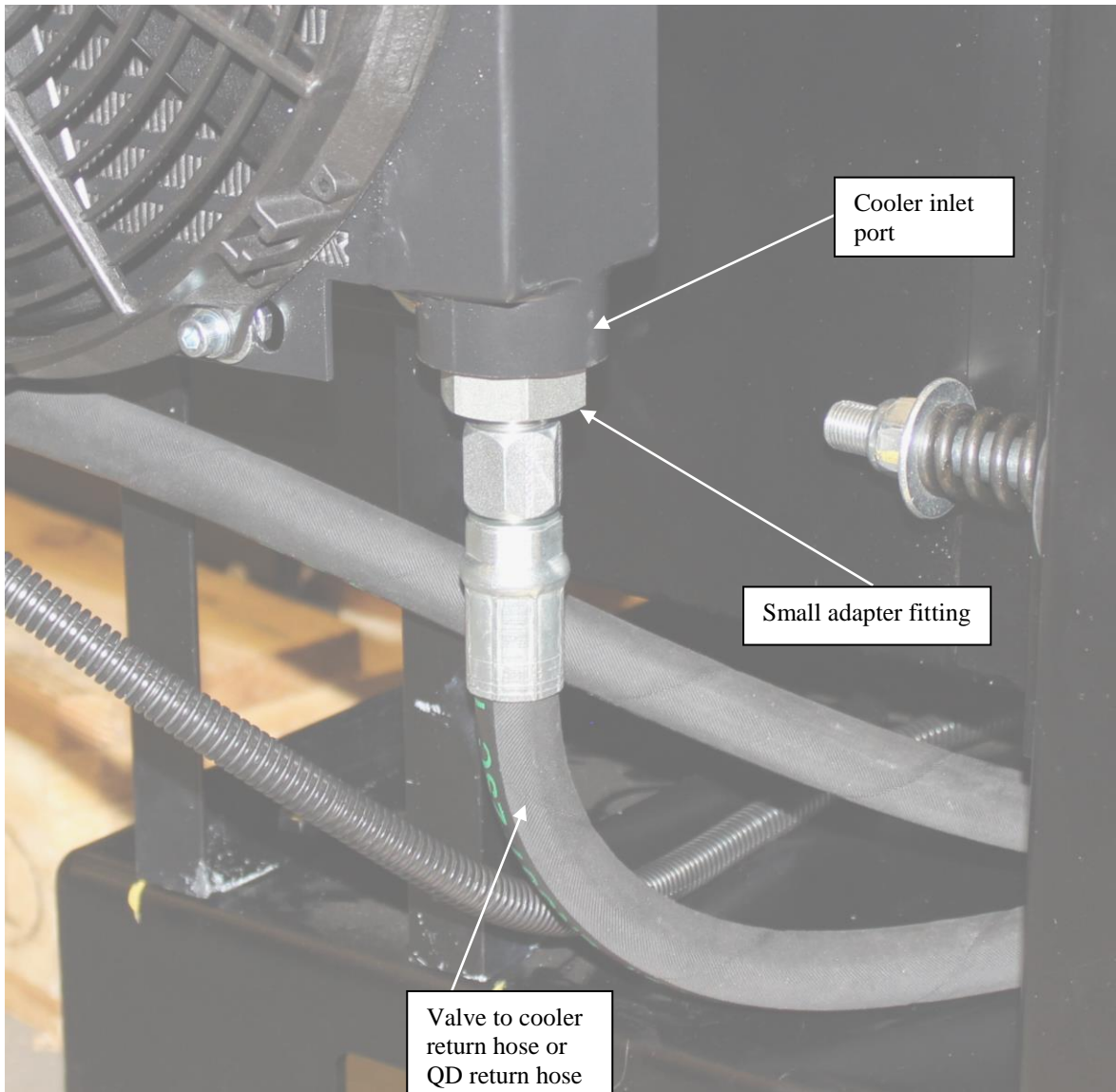
Step 7

Note: only complete step 7 if installing the valve kit or quick disconnect kit.

- Thread valve to cooler return hose by hand onto small adapter fitting in cooler inlet port if installing the valve kit. Thread QD return hose from quick disconnect kit by hand onto small adapter fitting in cooler inlet port if installing the quick disconnect kit.
- Hold small adapter fitting with wrench and wrench tighten hose fitting 1/4 turn past hand-tight.

Tools Needed

- Adjustable wrench



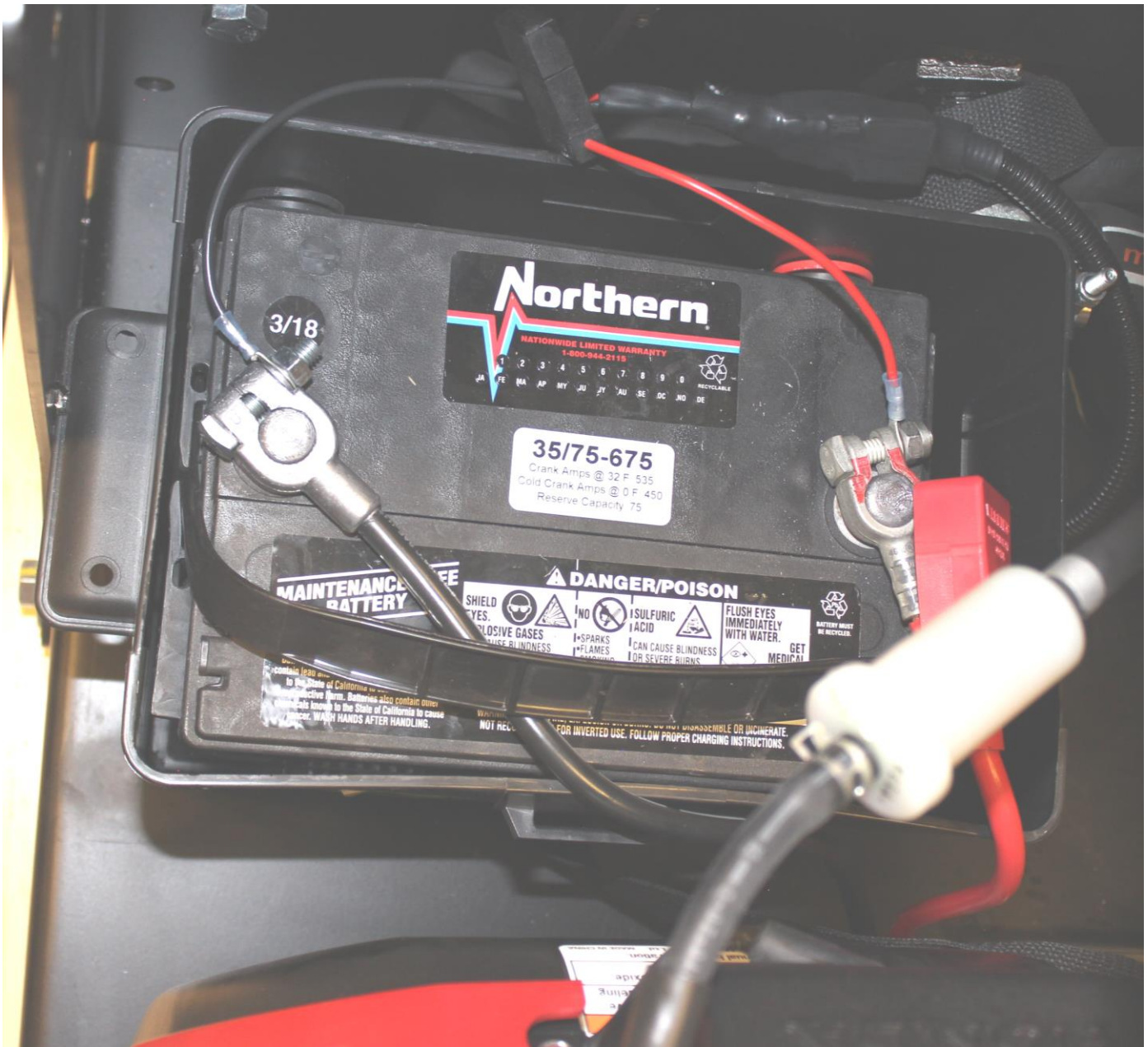
Installation Instructions

Step 8

- Remove strap on battery box cover and connect red wire of the fan harness to terminal(+) and black wire of the fan harness to the (-) terminals on battery. Cover with the supplied protectors.

Tools Needed

- ½" wrench



Installation Instructions

Step 9

- Plug in fan harness wires and secure all wiring and hoses away from abrasive areas and framework.

Tools Needed

- Side cutters



Limited Warranty

Dear Valued Customer:

The Brave product you just purchased is built with the finest material and craftsmanship. Use this product properly and enjoy the benefits from its high performance. By purchasing a Brave product, you show a desire for quality and durability. Like all mechanical equipment this unit requires a due amount of care. Treat this unit like the high quality piece of machinery it is. Neglect and improper handling may impair its performance.

Thoroughly read the instructions and understand the operation before using your product. Always contact Brave Product Support at 1-800-350-8739 prior to having any service or warranty work performed, as some services performed by parties other than Brave approved service centers may void this warranty. This limited warranty is in lieu of any other warranty expressed or implied, written or oral and Brave assumes no other responsibility or liability outside that expressed within this limited warranty.

Limited Warranty for Brave and Brave Pro Hydra Buddy Models:

1158284	1158285	1158286
1158287	1158288	1158289
1158290	1158292	1158293

	Consumer Warranty Period	Commercial Warranty Period
Weldments		
	2 years from date of purchase by user	2 year from date of purchase by user
Valves and Pumps		
	2 years from date of purchase by user	1 year from date of purchase by user
Wear Parts		
	In addition to the normal warranty, Brave shall warrant some normal wear items from defects in material or workmanship for a period of 30 days from the date of purchase by user. Normal wear items covered under this warranty are limited to: clamps, couplers, filters, mounts, hoses, hardware. Routine maintenance items such as lubricants, clutch adjustments, tune ups are not covered under warranty.	
Engines		
	The engine warranty is covered under the terms and conditions as outlined by the engine manufactures warranty contained herein and is the sole responsibility of the engine manufacturer. Normal engine maintenance such as spark plugs, oil changes, air filters, adjustments, fuel system cleaning and obstruction due to build up is not covered by this Brave limited warranty.	

“Consumer use” means personal residential household use by a consumer. “Commercial use” means all other uses, including, but not limited to, use for commercial, income producing or rental purposes or when purchased by a business.

This limited warranty applies to the original purchaser of the equipment (verification of purchase, in the form of a receipt, is the responsibility of the buyer), is non-transferable, and covers parts and labor. Parts will be replaced or repaired at no charge, except when the equipment has failed due to lack of proper maintenance. If a part is no longer available, the part may be replaced with a similar part of equal function. Any misuse, abuse, alteration or improper installation or operations will void warranty. Determining whether a part is to be replaced or repaired is the sole decision of Brave. Brave will not provide for replacement of complete products due to defective parts. Any costs incurred due to replacement or repair of items outside of a Brave approved facility is the responsibility of the buyer and not covered under warranty. Transportation costs to and from service center and/or service calls are the responsibility of the customer.

This limited warranty specifically excludes the following; failure of parts due to damage caused by accident, fire, flood, windstorm, acts of God, applications not approved by Brave in writing, corrosion caused by chemicals, use of replacement parts which do not conform to manufacturer’s specifications, damage related to rodent and/or insect infestation and damage caused by vandalism. Additional exclusions: loss of running time, inconvenience, loss of income, or loss of use, including any implied warranty of merchantability of fitness for a specific use. Also, outdoor power equipment needs periodic parts and service to perform well, and this limited warranty does not cover instances when normal use has exhausted the life of a component or the engine.

This limited warranty does not cover any personal injury or damage to surrounding property caused by failure of any part, misuse or inability to use the product. Alteration of the product, including safety features, shall void this limited warranty.

Repair or replacement of parts does not extend the warranty period. This limited warranty gives you specific legal rights. You may also have other rights that vary by state.

Please have model number, item number and serial number on hand prior to making a warranty claim or inquiry.

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BRAVE

HYDRA BUDDY™

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