

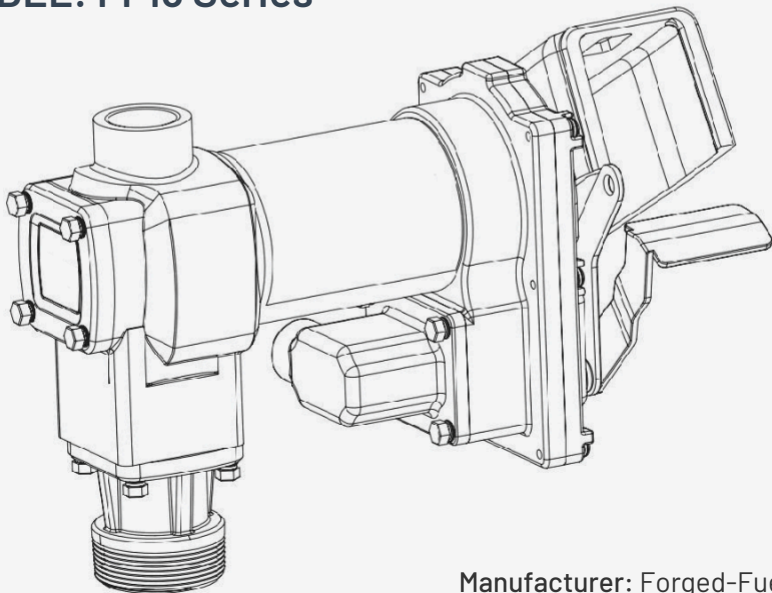
FORGED-FUEL

FUEL TRANSFER PUMP

With CAT 1R-0750 Filter System

OWNERS INSTALLATION,
OPERATION,
AND SAFETY MANUAL

MODEL: FF15 Series



Please read the instruction
manual carefully before use!

Manufacturer: Forged-Fuel

For any support or technical
questions

Email - support@forgedx.info

SUPPORT & RETURNS

If you need technical assistance, have installation questions, or would like to request a replacement or return, our team is here to help.

Please contact: support@forgedx.info

When reaching out, include a brief description of the issue, and any photos if applicable.

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SAFETY INFORMATION

WARNING!

Electrical wiring should be performed ONLY by a licensed electrician in compliance with local, state, and national electrical code NEC/ANSI/ NFPA 70, NFPA 30, and NFPA 30A, as appropriate to the intended use of the pump. Threaded rigid conduit, sealed fittings, and conductor seal should be used where applicable. The pump must be properly grounded. Improper installation or use of this pump can result in serious bodily injury, or death!

WARNING!

To ensure safe and proper operation of your equipment, it is critical to read and adhere to all of the following safety warnings and precautions. Improper installation or use of this product can cause serious bodily injury or death!

- NEVER smoke near the pump, or use the pump near open flames when pumping a flammable liquid! Fire can result!
- A filter should be used on the pump outlet to ensure no foreign material is transferred to the fuel tank.
- Threaded pipe joints and connections must be sealed with the appropriate sealant or sealant tape to minimize the possibility of leaks.
- Storage tanks must be securely anchored to prevent shifting or tipping when full or empty.
- To minimize static electricity build up, use only static wire conductive hose when pumping flammable fluids, and keep the fill nozzle in contact with the container being filled during the filling process.
- The pump motor is equipped with thermal overload protection; if overheated, the motor will shut off to prevent damage to the windings.

WARNING!

This product shall not be used to transfer fluids into any type of aircraft.

WARNING!

This product is not suited for use with fluids intended for human consumption or fluids containing water.

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INSTALLING THE CAT 1R-0750 FILTER ADAPTER SYSTEM

⚠ IMPORTANT – PREVENT LEAKS

Use thread seal tape (PTFE tape) on every threaded connection. This is essential to ensure a proper seal and to prevent fuel leaks. Wrap the tape in the direction of the threads (clockwise when viewed from the end) before tightening each fitting.

If any leaks occur during testing, ensure the connection is snug and that thread seal tape was applied. If the leak continues, remove the fitting, reapply fresh thread tape, and reinstall.

Parts Overview

Use the reference diagrams below during assembly:

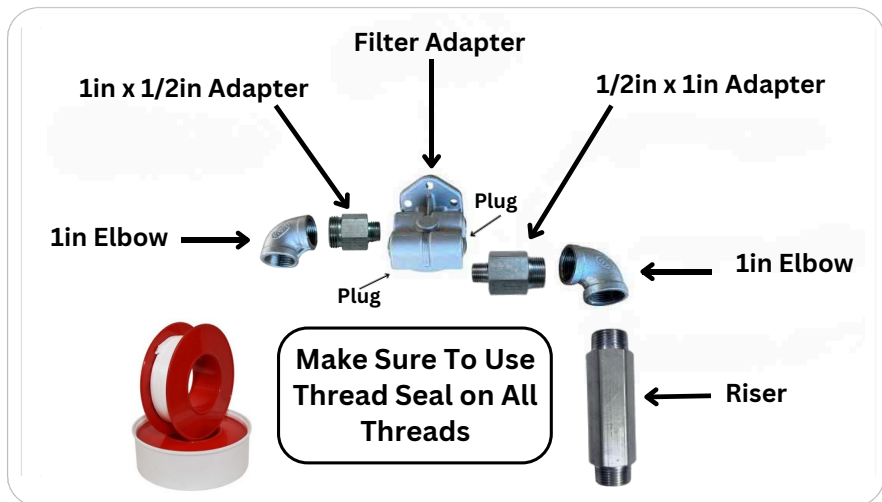


Figure 1



Scan me!

Scan for Installation Video



YouTube

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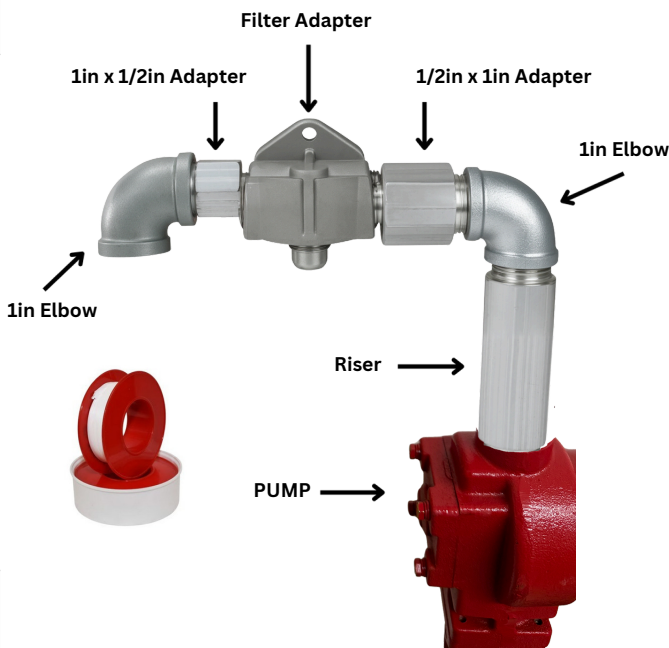


Figure 2

Step-by-Step Assembly

1. Prepare the Pump Place the pump on a stable work surface. Ensure all ports are clean and free of debris before installation.

2. Attach the Riser

Thread the riser (male-to-male nipple) directly into the pump outlet port. Apply thread tape and tighten securely with a wrench.

3. Install the 1-Inch Elbow

Connect the 1 in. elbow to the top of the riser using thread tape. Tighten until snug and correctly oriented for the next fitting.

4. Connect the 1/2 in x 1 in Adapter

Apply thread tape and screw the 1/2 in x 1 in adapter into the 1-inch elbow.

5. Mount the Filter Adapter

Attach the filter adapter to the 1/2 in x 1 in adapter. Ensure the filter adapter's flow direction (inlet/outlet) matches your fuel flow path. Tighten securely with thread tape applied.

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6. Install the 3/4 in × 1/2 in Adapter (Outlet Side)

On the outlet side of the filter adapter, install the 3/4 in × 1/2 in adapter using thread tape. Tighten with a wrench to ensure a leak-free connection.

7. Connect the 3/4-Inch Elbow

Attach the 3/4 in. elbow to the 3/4 in × 1/2 in adapter. Verify orientation for your hose connection and secure tightly with thread tape.

Final Check

- Confirm all fittings are tight and properly aligned. Ensure thread tape was applied to
- every connection. Check flow direction before operating the pump. During initial
- use, inspect all joints for leaks. If any are present, snug the fitting and
- confirm thread tape is applied correctly. If leaks persist, remove, reapply new tape, and reinstall.

Hose Connector Swivel

The included 360-degree swivel fits between the dispensing nozzle and fuel hose. It helps reduce hose twisting and kinking while making nozzle handling easier.

Installation Order - Actual Parts



1. Apply fuel-compatible PTFE tape to the male pipe threads; keep tape out of the fuel path.
2. Connect swivel to nozzle, then hose to swivel.
3. Tighten fittings and check for leaks.

INSTALLED VIEW



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INSTALLATION

15 GPM fuel transfer pump is designed to be mounted on a skid tank using the threaded inlet flange supplied with the pump. Your pump features an integral bypass valve to recirculate the fluid when the pump is operating with the nozzle closed.

⚠ WARNING!

This product is not suited for use with fluids intended for human consumption or fluids containing water.

⚠ CAUTION!

Do not use additional check valves or foot valves unless they have a proper pressure relief valve built into them. Note that additional check valves will reduce rate of flow.

⚠ CAUTION!

A pressure retaining fill cap can be used to reduce fuel loss through evaporation, but note that it will reduce the flow rate.

⚠ CAUTION!

Threaded pipe joints and connections must be sealed with the appropriate sealant or sealant tape to prevent the possibility of leaks.

⚠ WARNING!

15 GPM fuel transfer pumps are designed for use with stationary and mobile tank applications. While DC powered units are an excellent choice for mobile applications, anchoring the tank to which the pump is mounted is paramount to ensure no movement in transit. Failure to secure the tank to the vehicle can cause uncontrolled movement, resulting in damage, injury, and potential fire.

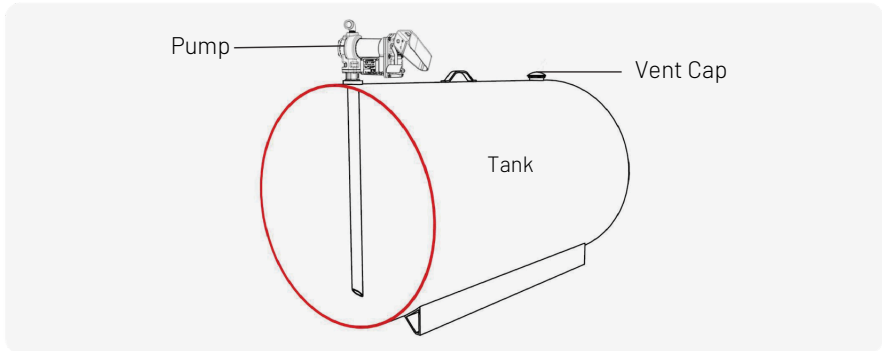


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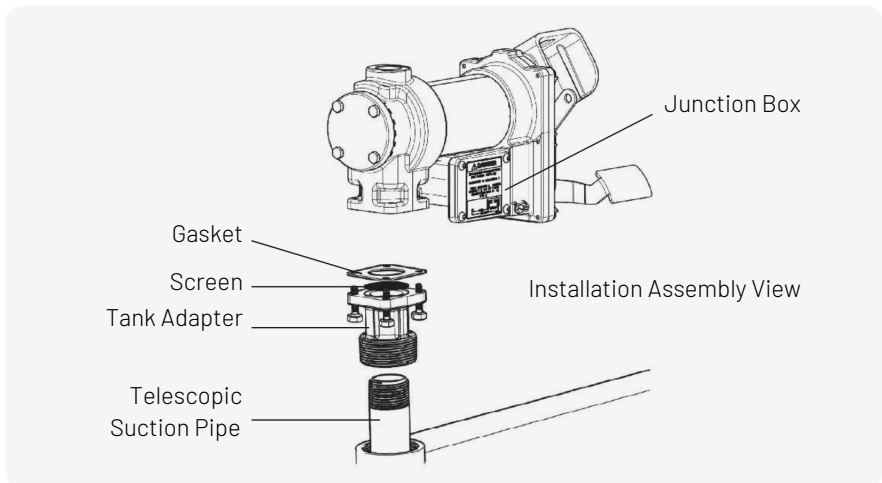
Typical Skid Tank Installation

The pump mounts to the bung of a skid tank by way of the inlet flange. The suction tube threads into the bottom of the inlet flange, and must extend to a length that positions it at least 3" from the bottom of the tank. The skid tank should be equipped with a vent cap.



Materials:

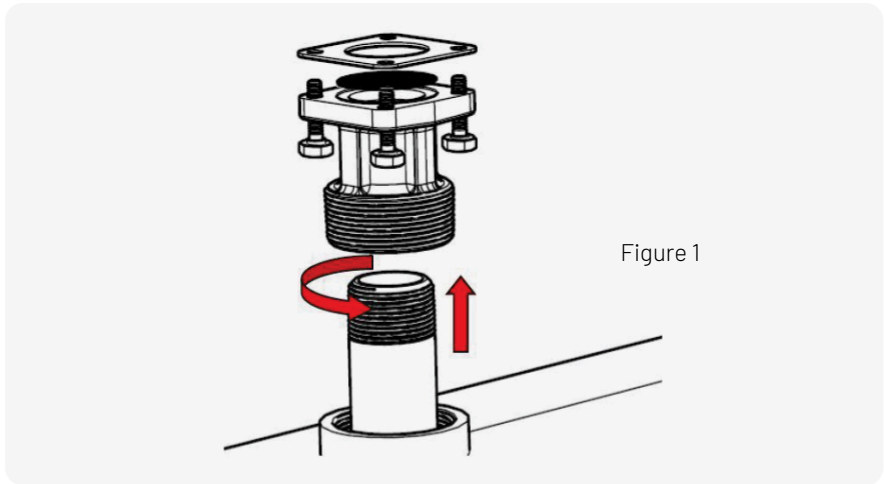
- 1" telescoping suction pipe extended to a length that will extend to within 3" of the bottom of the tank when screwed into the tank adapter with the tank adapter screwed into the tank flange (see SKID TANK INSTALLATION diagram).
- Threaded pipe joint sealant appropriate for application.



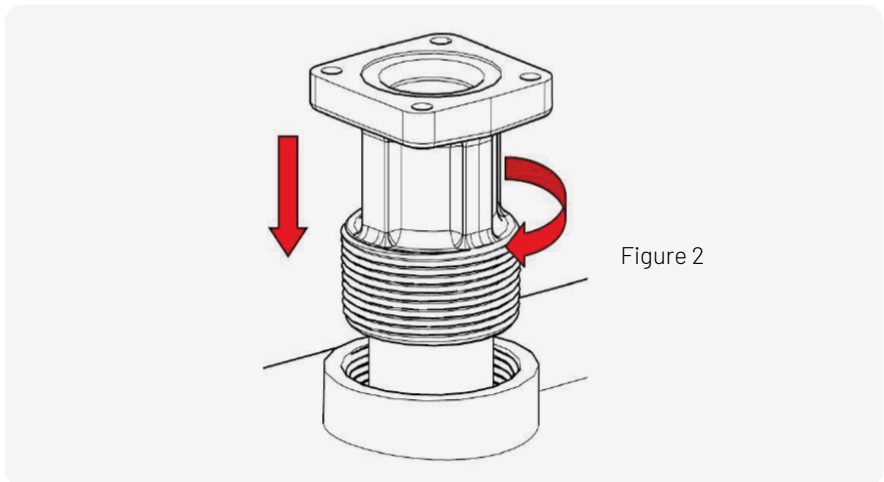
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Installation Procedure:

1. Thread the 1" pipe into the tank adapter. Seal threads liquid tight with appropriate sealant. (Figure 1)

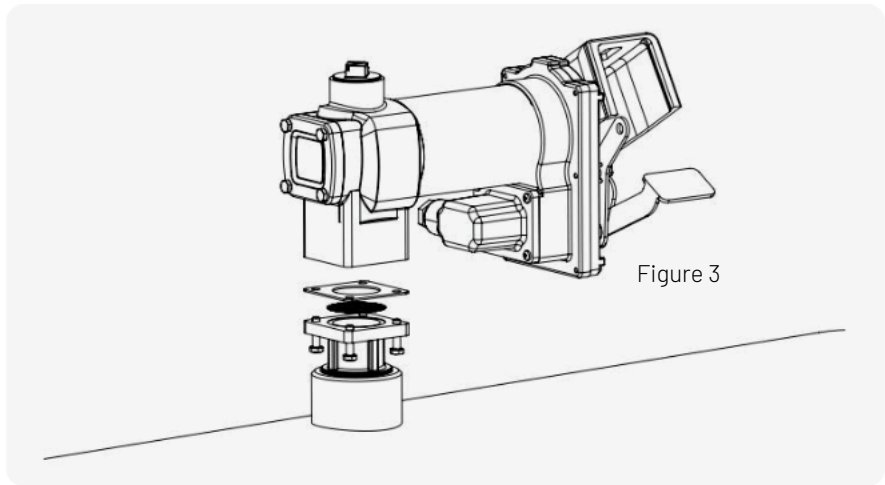


2. Screw the inlet flange (with suction pipe) into the tank bung; seal threads liquid tight with appropriate thread sealant (Figure 2).



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3. Mount the pump on the adapter; making sure the seal and screen are installed as shown. (Figure 3)



ELECTRICAL WIRING

⚠ CAUTION!

DC powered pumps are designed to operate on either 12 or 24 VDC (depending on model). Where applicable, use the supplied battery cable to supply power to the pump from a 12 or 24 VDC battery. A 30 amp fuse (20 amp fuse on 24 VDC motors) should be installed on the battery cable to protect the wire in case of electrical short. (ONLY APPLICABLE WHEN DIRECTLY HARD WIRED TO VEHICLE BATTERY)

⚠ CAUTION!

Voltage drop in wiring varies depending on the distance from the battery to the pump and the gauge of the wire used. If the distance is greater than 20', refer to national, international, or local electrical codes to ensure the wire is of the correct size for this application.

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Instructions Before Proceeding With DC Wiring

The pump needs to be electrically bonded to supply tank or vehicle frame. To electrically bond pump, remove green bonding screw located next to junction box cover. Insert this screw through eyelet of furnished green bonding wire assembly and refasten it securely to the pump. The other end of the wire is to be stripped of insulation and the bare wire securely bonded to the vehicle / trailer frame or skid tank.

WARNING!

Do not connect the positive or negative power to the green screw or wire as this could cause a fire.

Wiring Instructions For Pump

Your Forged Fuel Transfer Pump comes factory-preassembled with heavy-duty alligator clamp connectors for quick attachment to a 12V battery source. Follow the steps below to complete installation and ensure safe, reliable operation.

Step 1: Access and Prepare the Junction Box

Remove the pump's electrical junction box cover.

Straighten the two internal wires so that the stripped wire ends are accessible outside the box.

Confirm that the gasket is in place and clean before reassembly later.

Step 2: Install the Cable Connector

Screw the supplied cable connector into the NPT conduit opening on the pump's junction box.

Make sure it is snug and properly aligned to prevent water or dust entry.

Step 3: Prepare the Power Cable

Using the furnished electrical cable, strip about 6 inches of the outer jacket from one end, being careful not to damage the insulation on the internal red and black wires.

Loosen the cable connector nut and pass the stripped end of the cable through the connector into the junction box.

Tighten the connector nut securely so the cable is held firmly in place.

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Step 4: Wire the Pump

Strip about ½ inch of insulation from the ends of the red and black wires.

Connect the red (positive) wire from the power cable to the red (positive) wire on the pump.

Connect the black (negative) wire from the power cable to the blue (negative) wire on the pump.

Use the supplied wire nuts or cable connectors to secure each connection. Ensure no bare wire is exposed.

Step 5: Install the Ground Wire

Locate the separate ground wire included in your kit.

Attach one end to the pump's ground terminal.

Secure the other end to a clean, unpainted metal surface on the vehicle chassis or tank frame.

Confirm the connection point is free of paint, rust, or debris for optimal conductivity.

Step 6: Reassemble and Final Check

Carefully fold the wires back into the junction box.

Replace the cover, ensuring the gasket is properly seated.

Tighten all screws evenly so the cover seals flush against the box.

Double-check all connections:

Red to Red (Positive)

Black to Blue (Negative)

Ground wire properly mounted

Keep all wiring away from sharp edges, heat sources, and moving parts.

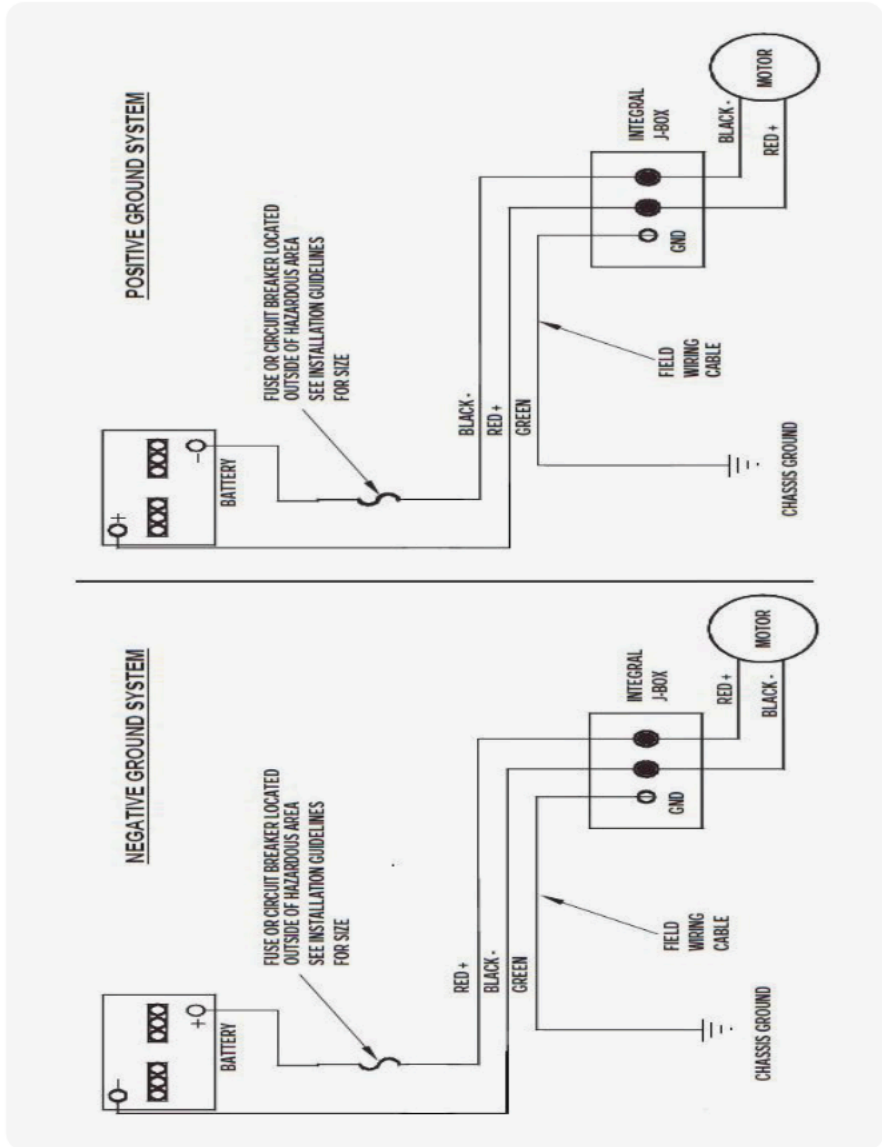
⚠ WARNING!

Do not attempt to power the pump from vehicle wiring smaller than 12 gage such as the cigarette lighter wire because these thin wires could overheat and cause a fire.

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DC Wiring Diagram

For direct wiring from motor to vehicle battery (**WITHOUT BATTERY CLIPS**)



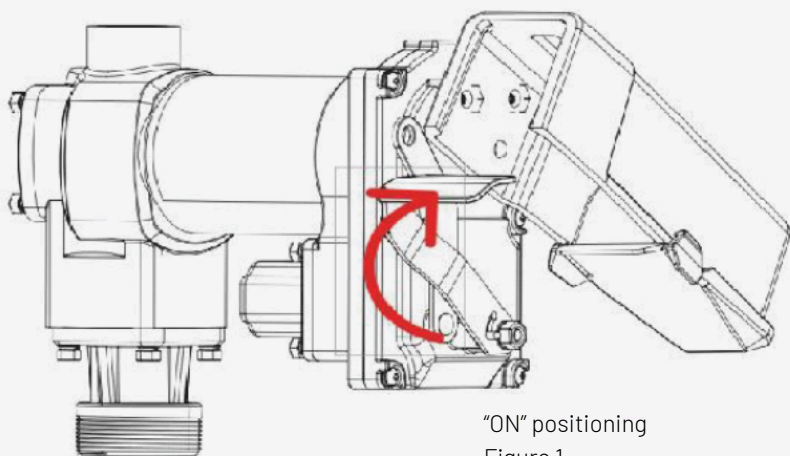
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OPERATING INSTRUCTIONS

WARNING!

Always keep the nozzle in contact with the container being filled during the filling process to minimize the possibility of static electricity build up.

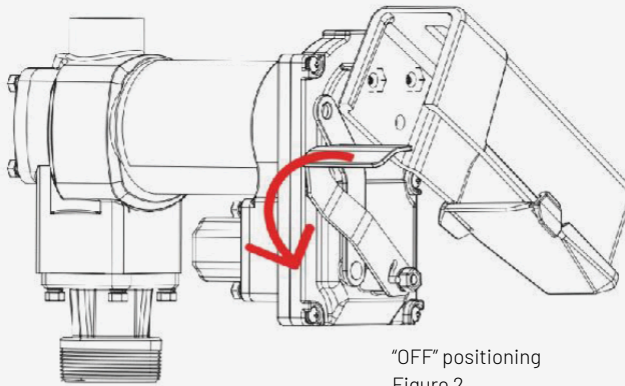
1. Remove dispensing nozzle from nozzle boot.
2. Move the switch lever to the "ON" position to power the pump (figure 1).
3. Insert the dispensing nozzle into the container to be filled.
4. Operate the nozzle to dispense fluid; release nozzle when the desired amount of fluid has been dispensed.



"ON" positioning
Figure 1

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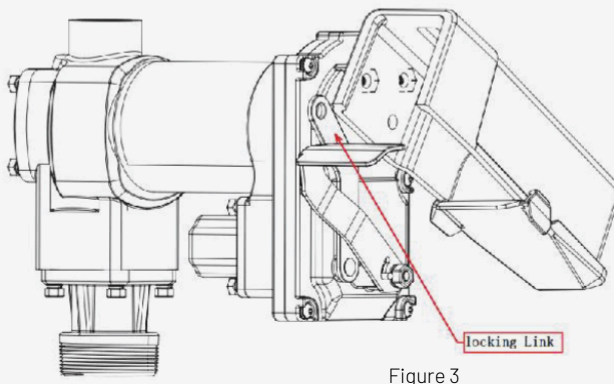
5. Move switch lever to the “OFF” position (Figure 2) to turn off the pump.
6. Remove the dispensing nozzle from the container being filled and store it in the nozzle boot.



Padlocking

Your pump nozzle can be padlocked to the pump for added security. With the pump turned off, and the nozzle in the stored position, a padlock can be inserted through the locking link and the nozzle handle.

The locking link is located on the nozzle side of the pump, and can be pivoted into position to work with a variety of nozzles (Figure 3).



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TROUBLESHOOTING

The following troubleshooting guide is provided to offer basic diagnostic assistance in the event you encounter abnormal service from your 15 GMP fuel transfer product.

⚠ WARNING!

DO NOT open or attempt to repair the motor on your pump. Return it to the place of purchase for service. Opening the motor case can compromise the integrity of the Explosion Proof construction and will void any existing warranty and certification.

⚠ WARNING!

Be certain all power to the pump is disconnected prior to performing any service or maintenance.

Symptom	Cause	Cure
Pump won't prime.	1. Suction line problem.	Check for leaks or obstructions in suction line.
	2. Bypass valve open.	Remove and inspect valve; must move freely & be free of debris. Check vanes and slots for nicks, burrs and wear.
	3. Vanes sticking.	Inspect rotor & vanes for excessive wear or damage; replace if necessary.
	4. Excessive rotor or vane wear.	Reduce vertical and horizontal distance from pump to liquid; remove automatic nozzle.
	5. Vapor Lock.	
Low capacity.	1. Excessive dirt in screen.	Remove and clean screen.
	2. Suction line problem.	Check suction line for leaks or restrictions; it may be too small, too long or not airtight.
	3. Bypass valve sticking.	Remove and inspect valve; must move freely & be free of debris.

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Symptom	Cause	Cure
	4. Outlet blocked.	Check pump outlet, hose, nozzle & filter for blockage.
	5. Vanes sticking.	Check vanes and slots for wear.
	6. Excessive rotor or vane wear.	Inspect rotor & vanes for excessive wear or damage; replace if necessary.
	7. Hose or nozzle damage.	Replace hose or nozzle.
	8. Plugged filter.	Replace filter.
	9. Low fluid level.	Fill tank.
Pump won't prime.	1. Incorrect voltage.	Check incoming line voltage while pump is running.
	2. Vanes sticking.	Inspect vanes and slots for nicks, burrs and wear. Check for loose connections.
	3. Wiring problem.	Return to place of purchase.
	4. Motor problem.	Remove and inspect valve; must move freely
Motor stalls / fuse blows or thermal protectors trips repeatedly.	1. Bypass valve sticking.	& be free of debris. Check incoming line voltage while pump is running.
	2. Low voltage.	Check rotor & vanes for excessive wear or damage.
	3. Excessive rotor or vane wear.	
	4. Debris in pump cavity.	Clean debris from pump cavity.

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Symptom	Cause	Cure
Motor overheats.	1. Pumping high viscosity fluids.	These fluids can only be pumped for short periods of time (less than 30 minutes duty cycle).
	2. Clogged screen.	Remove and clean screen.
	3. Restricted suction pipe.	Remove and clean pipe.
	4. Motor failure.	Return to place of purchase.
	5. Pump rotor lock-up.	Clean and check pump rotor and vanes.
Motor Inoperative.	1. No power.	
	2. Switch failure.	Check incoming power.
	3. Motor failure.	Replace switch.
	4. Thermal protector failure.	Return to place of purchase.
	5. Incorrect/loose wiring.	Return to place of purchase.
Fluid leakage.	1. Bad o-ring gasket.	Check wiring.
	2. Dirty shaft seal.	Check all o-ring gaskets.
	3. Bad shaft seal.	Clean seal & seal cavity.
	4. Incompatible fluid.	Replace seal.
	5. Loose fasteners.	Refer wetted parts list to fluid manufacturer.
Pump hums but will not operate.	1. Motor failure.	Tighten fasteners.
	2. Broken rotor key.	Return to place of purchase.
		Remove all debris & replace key.

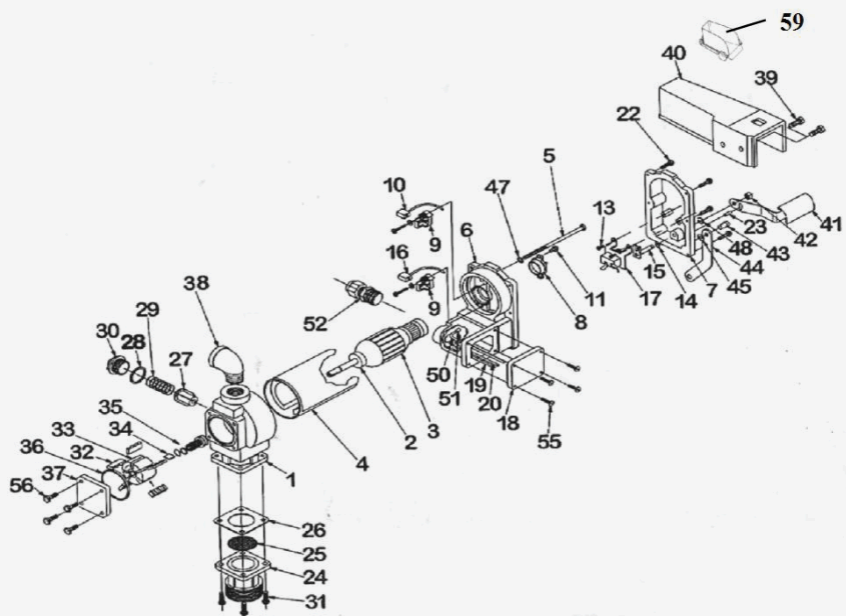
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SPECIFICATIONS

Category	Specification
Pump type	12V DC rotary vane transfer pump
Flow Rate	Up to 15 GPM (57 LPM)
Max Vertical Lift (Head)	Up to 37 ft
Duty Cycle	30 Minutes (Thermally Protected)
Filter Type	CAT 1R-0750 Premium Diesel Filter
Filtration Rating	2 Micron Ultra-Fine Filtration
Compatible Fuels	Gasoline · Diesel · Kerosene · Ethanol blends up to E15 · Methanol blends

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PARTS LIST



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REF#	DESCRIPTION	QTY	REF#	DESCRIPTION	QTY
1	Pump housing	1	19	Negative wire lead	1
2	Ball bearing	2	20	Positive wire lead	1
3	Armature assembly	1	21	-	-
4	Motor frame/magnet assembly	1	22	10-24×3/4 Torx	6
5	1/4-2×5 thru-bolt	2	23	5/32×1/2 Pin	1
6	Motor casting assembly	1	24	Inlet flange	1
7	Switch plate with bus hing	1	25	Screen	1
8	Thermal protector	1	26	Inlet gasket	1
9	Brush holder assembly	2	27	Bypass valve	1
10	Negative brush assembly	1	28	Bypass valve gasket	1
11	#8-32×1/2 Torx	1	29	Bypass spring	1
12	-	-	30	Bypass cap	1
13	#8-32×3/8 Torx	2	31	1/4-20×3/4 HHCS	1
14	5/16 Spring washer	1	32	Vane	4
15	Switch shaft assembly	1	33	Rotor	5
16	Positive brush assembly	1	34	Rotor key	1
17	Line switch	1	35	Rotor cover	1
18	Junction box cover	1	36	Rotor cover gasket	1

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REF#	DESCRIPTION	Seal	QTY	REF#	DESCRIPTION	QTY
37	assembly	Steel	1	49	Ground wire	1
38	elbow	5/16-18×3/4	1	50	-	-
39	HHCS	Nozzle cover	1	51	#832×3/8 Ground Screw	1
40	Switch lever	5/15×18	2	52	Cable connector	1
41	Lovk nut	#14×S/8	1	53	-	-
42	DRVE Screw	Locking	1	54	-	-
43	link	1/4 Spring	1	55	10-24×.50 Torx	4
44	washer	ECT Lock	1	56	1/4-20×.5 HHCS	4
45	washer		1	57	-	-
46			1	58	-	-
47	-		-	59	Oil receiving box	1
48	5/16 Retaining ring		2			

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