



## TTCF-9A

### Cooler Line Flusher



## Operations Manual

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# INTRODUCTION

Congratulations on the purchase of your TTCF-9A Cooler Line Flusher. The TTCF-9A is the only variable high-flow transmission component flusher on the market.

The Flo-Dynamics TTCF-9A Variable High Flow Hydraulic System Flusher will flush and clean transmission coolers and lines or any hydraulic system of contamination, sludge, varnish deposits, and particles from a failed transmission.

The TTCF-9A, with an adjustable flow rate from 1-8 GPM, was specially developed for heavy duty transmission cooling systems requiring high flow rates. Using the same hydraulic fluid as the hydraulic system being flushed and cleaned, a user can select from multiple flush cycles ranging from 15-120 minutes and verify system cleanliness by checking the reusable 60 micron cleanable filter screen.

Using the heating circulation mode, heating to a preset 140°F in 45 minutes is fast and easy. Two auto-selected GPM-dependent flush patterns designed to inject the optimal amount of air creating an agitating scrubbing action to remove trapped debris and solidified waxy varnish. Easily switch flow direction without removing service hoses during and between flush cycles with the reverser valve.

From the conveniently located control panel, the user can observe system flow, pressure, temperature, total hours run, filter timer, and easily select pump on/off, heater on/off, flush cycles, and manual air purge. PATENT PENDING.

**Please take time to read through this manual to familiarize yourself with the machine before performing your first component or transmission cooler and line flush.**

## CUSTOMER SERVICE CONTACT INFORMATION

For product information and tech support please call: **800-303-5874**  
or visit: **[www.flodynamics.com](http://www.flodynamics.com)**

# IMPORTANT SAFETY NOTICE

For your safety, read this manual thoroughly before operating this machine. This machine is intended for use by properly trained, skilled professional automotive technicians. The safety messages presented below and throughout this user's manual are reminders to the operator to exercise care when using this unit. Before using this machine, always refer to and follow the safety messages and applicable service procedures provided by the manufacturer of the vehicle being serviced.

## • Read All Safety Instructions

Read, understand, and follow all safety messages and instructions in this manual. Safety messages in this section of the manual contain a signal word with a three-part message and, in some instances, an icon.

## • Signal Words

The signal word indicates the level of the hazard in a situation:

### **DANGER**

*Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or to bystanders.*

### **WARNING**

*Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders.*

### **CAUTION**

*Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury to the operator or to bystanders.*

### **IMPORTANT**

*Indicates a situation which, if not avoided, may result in damage to the machine, or the vehicle being serviced.*

## • Safety Messages

Safety messages in this section contain three different type styles:

- Normal type states the hazard.
- **Bold type** states how to avoid the hazard.
- *Italic type* states the possible consequences of not avoiding the hazard.

## • Safety Symbols

A safety symbol, when present, gives a graphical description of the potential hazard, and how to avoid the hazard:



**Risk of Fire**



**Read Instructions Before Use**



**Risk of Explosion**



**Mandatory Eye Protection**



**Risk of Entanglement**



**Mandatory Protective Gloves**



**Dangerous Fumes**



**Mandatory Protective Clothing**



**Do Not Pull or Move**



**Risk of Burns**

# IMPORTANT SAFETY INSTRUCTIONS

## DANGER



Engine exhaust contains toxic gases.

- **Vent vehicle's exhaust away from work area.**
- **Do not breathe exhaust.**

*Exhaust gases will cause injury or death.*

## WARNING



Improper use and operation.

- **Read, understand and follow all safety messages and operational procedures in this manual before operating this machine.**
- **This equipment should be operated only by qualified personnel.**
- **Use this equipment only as described in this manual.**

*Improper use and operation of this product can result in injury.*

## WARNING

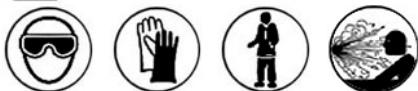


Engine systems can malfunction expelling fuel, oil vapors, hot steam, hot toxic exhaust gases and other flying particles.

- **Wear safety goggles and protective clothing, user and bystander. Everyday eyeglasses only have impact resistant lenses; they are NOT safety glasses.**
- **Do not position head directly over or in front of carburetor or throttle body. Engine backfire can occur when air cleaner is out of normal position.**
- **Make sure gauge reads zero before connecting or disconnecting hose connections to adapters.**
- **Make sure cooling system pressure has been relieved before connecting or disconnecting hose connections and adapters.**
- **Keep a dry chemical (Class B) fire extinguisher rated for gasoline, chemical & electric fires in the work area.**

*Fire, explosion, or flying particles may cause serious injury.*

## WARNING



Risk of expelling pressurized fluids.

- **Wear safety goggles and protective clothing, user, and bystander.**

- Engine systems can malfunction, expelling fuel, oil vapors, hot steam, hot toxic exhaust gases and other debris.
- Always unplug the machine from its power source when not in use.
- Keep the service hoses away from hot or moving engine parts. Hoses can split or burst causing fluid to be expelled.

- Avoid contact with engine coolant.

- Treatment methods are as follows:

**Eyes:** Flush eyes with plenty of water.

**Skin:** Wash with soap and water.

**Inhalation:** Move to uncontaminated area.

**Ingestion:** If large amount, get medical attention.

If any irritation persists, get medical attention.

- Dispose of used fluid according to environmental laws and regulations.

*Fuel, oil vapors, hot steam, hot toxic exhaust gases, pressurized fluid, and other debris can cause serious injury.*

## **WARNING**

Risk of unexpected vehicle movement.

- Block drive wheels before starting vehicle's engine to begin an exchange.
- Unless instructed otherwise, set parking brake and put gear selector in park.
- Do not leave a running vehicle unattended.
- If vehicle has an automatic parking brake release, disconnect release mechanism for testing and reconnect when testing is completed.

*A moving vehicle can cause injury.*

## **WARNING**



Risk of entanglement. Engine has moving parts.

- Do not place tools on fenders or other places in engine compartment.
- Keep yourself, clothing, battery cables and service hoses clear of moving parts such as fan blades, belts, pulleys, hood and doors.
- Barriers are recommended to help identify danger zones in test area.
- Prevent personnel from walking through immediate test area.

*Contact with moving parts can cause injury.*

## **WARNING**



Risk of fire or explosion.

- Do not operate in the vicinity of open containers of flammable liquids such as gasoline.
- Keep hoses and jumper cables away from heat sources and sharp edges.
- Do not operate equipment with damaged cords or hoses until they have been examined by a qualified serviceman.

*Fire or explosion can cause injury.*

## **WARNING**



Risk of fire or explosion. Gases produced by a battery are highly explosive.

- **Wear safety goggles and protective clothing, user and bystander.**
- **Do not smoke, place metal tools on battery or allow a spark or flame in vicinity of battery.**

*Battery explosion can cause injury.*

## **WARNING**



Risk of burns.

- **Wear gloves when handling hot engine components.**
- **Do not remove radiator cap unless engine is cold.**
- **Pressurized engine coolant may be hot.**
- **Do not touch hot exhaust systems, manifolds, engines, radiators, etc.**

*Hot fluid and engine parts may cause injury.*

## **WARNING**



Battery acid is a highly corrosive sulfuric acid.

- **Wear safety goggles and protective gloves, user and bystander.**
- **Have plenty of fresh water and soap nearby. If battery acid contacts skin, clothing, or eyes, flush exposed area with soap and water for 10 minutes.**
- **Do not touch eyes while working near battery.**

*Battery acid can burn eyes and skin.*

## **WARNING**



Risk of burns.

- **Wear gloves when working near hot engine components.**
- **Do not touch hot exhaust systems, manifolds, engines, radiators, etc.**
- **The fluid coming from the vehicle along with some of the machine's components that the fluid comes into direct contact with (i.e. hoses and fittings) may reach temperatures uncomfortable to the touch. Exercise caution in avoiding contact with these items.**

*Hot components can cause injury or discomfort.*



## CAUTION



Risk of injury.

- This equipment should be operated by qualified personnel only.
- Use this equipment only as described in this manual.
- Always disconnect the machine from air source when not in use.
- Loop the pressure hose loosely in its proper location when machine is not in use.
- Do not operate equipment with a damaged hose, or if the equipment has been dropped or damaged, until it has been examined by a qualified service representative.
- Care should be taken to arrange the service hoses so that they will not be tripped over or pulled.
- Never pull on the service hoses to transport the machine. Damage may occur to these components, or machine may tip over.
- Keep area of operation clear of unnecessary tools and equipment. Utilize recessed tool storage areas on the top of the machine.
- Never leave the machine running unattended.
- This machine is not designed for any other purpose than the servicing of automotive cooling systems.

*Operation of this machine by anyone other than qualified personnel may result in injury.*

## CAUTION

Misdiagnosis may lead to incorrect or improper repair and/or adjustment.

- Do not rely on erratic, questionable, or obviously erroneous test information or results. If test information or results are erratic, questionable, or obviously erroneous, make sure that all connections and data entry information are correct and that the test procedure was performed correctly. If test information or results are still suspicious, do not use them for diagnosis.

*Improper repair and/or adjustment may cause vehicle or equipment damage or unsafe operation.*

## IMPORTANT

Risk of equipment damage.

- Servicing, transporting, or storing this machine in an attitude other than the normal operating position can result in fluid spillage and/or component damage.
- Never pull on the service hoses to transport the unit. Damage may occur to these components, or machine may tip over. Always use the handle to move.
- Periodically clean the machine by wiping down with a clean, soft, dry cloth.

*Improper operation of equipment may result in damage to machine or components.*

**SAVE AND FOLLOW THESE INSTRUCTIONS!**

# MACHINE SPECIFICATIONS

**Dimensions:** 35L x 18W x 41H

**Weight:** 181 lbs.

**Power:** 20A or two separate 15A 110V circuits; 75-175 psi shop air

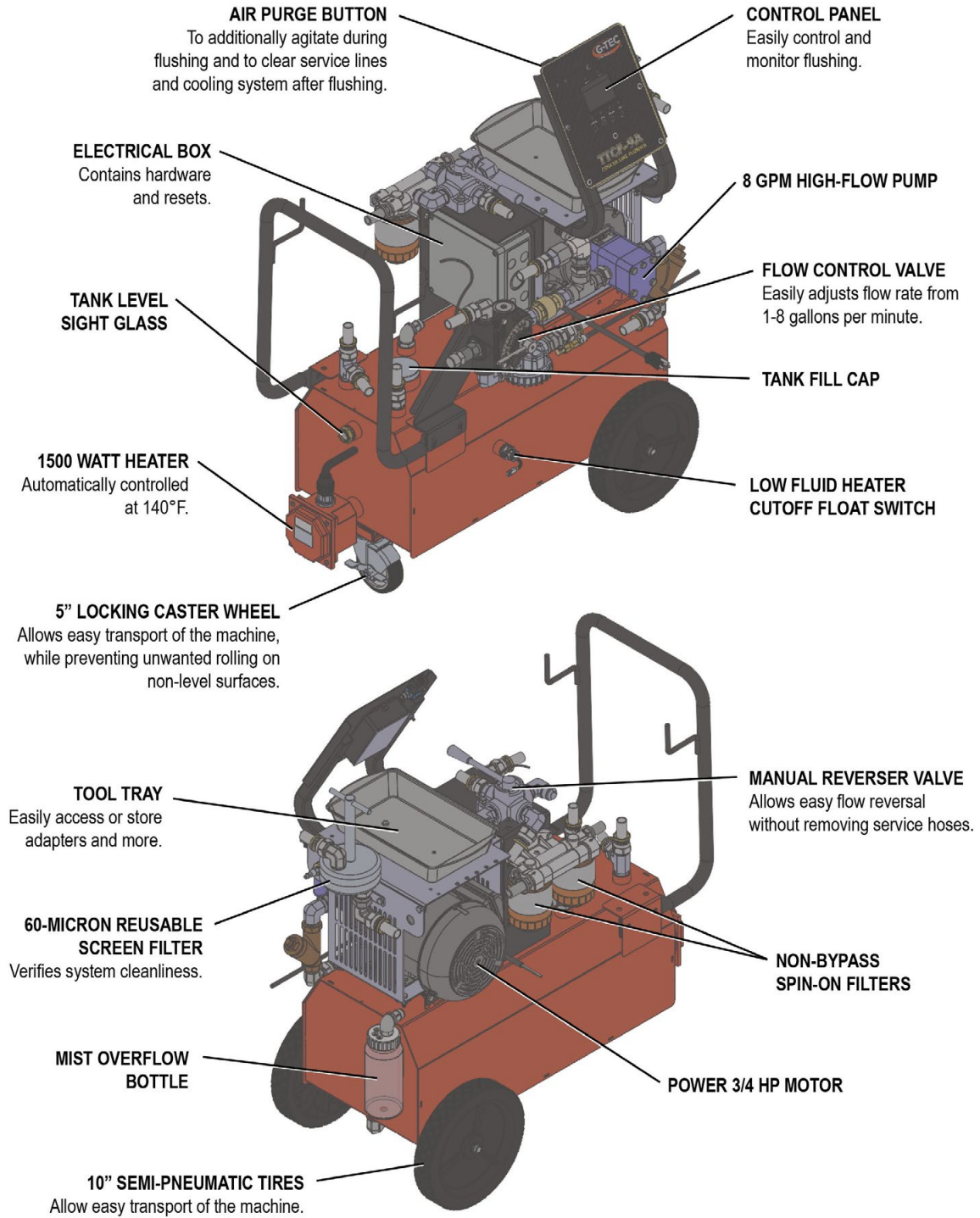
## FEATURES

- ✓ Powerful 3/4 HP motor
- ✓ Requires a dedicated 20-amp or two separate 15-amp circuits
- ✓ 13' heavy duty 3/4" service hoses
- ✓ 10 gallon transmission fluid capacity with easy to read level sight glass
- ✓ Adjustable flow rate of 1-8 GPM allows cleaning low to high flow hydraulic systems
- ✓ Low fluid sensor shuts off heater and pump
- ✓ 60 micron cleanable screen filter with "T" handle simplifies verification of cleanliness
- ✓ Reverser valve allows easy flow reversal without removing service hoses
- ✓ Two auto-selected GPM-dependent flush patterns designed to specifically inject the maximum amount of air creating an agitating scrubbing action to remove trapped debris and solidified waxy varnish
- ✓ Selectable flush times; choose from continuous or 15-120 minutes, with or without air injection
- ✓ Auto stop and alert at flush cycle end with flush cycle results displayed
- ✓ Air purge allows for easy fluid removal from system and service hoses
- ✓ Spin-on filter timer displays hours used
- ✓ Two non-bypass spin-on magnetic replaceable system filters (P/N 40300272)

## CONTROL PANEL FEATURES

- ✓ Observe system flow, pressure, temperature, total hours run and filter timer
- ✓ Select pump on/off, heater on/off, flush cycles, and manual air purge
- ✓ Choose from a variety of flush cycles:
  - » 15 to 120 minutes
  - » With or without automatic air injection
  - » With or without heater
- ✓ Automatic stop at flush cycle end with audible alert and flush cycle results displayed

# MACHINE OVERVIEW



# OPERATING INSTRUCTIONS

## SAFETY RECOMMENDATIONS

This machine uses hot hydraulic fluid under pressure. Check the security of all hoses and connections before operation.

Only use the same hydraulic fluid as used in the hydraulic system being flushed. DO NOT use mineral spirits, solvents, or any other volatile liquid.

Always wear safety glasses, protective gloves, and proper clothing when operating the flusher.

If hydraulic fluid gets in your eyes or on your skin, rinse with water immediately and seek medical attention if needed.

**WARNING:** Improper use of this machine can result in burns and other serious injuries. Always wear eye protection, protective clothing, and follow instructions to prevent potential injury.

## FLUSH PROCEDURE

Fill the tank with 10 gallons of hydraulic fluid or until fluid level is halfway in sight glass.

**WARNING:** DO NOT OVERFILL or run with fluid level higher than halfway in sight glass.

**CAUTION:** To prevent hydraulic fluid from overflowing during a flush cycle or when air purging, do not run with fluid higher than showing over halfway on the sight glass.

Plug the machine into a 20A grounded circuit without anything else plugged in or being used on the circuit. If a dedicated 20A circuit is not available, use two separate and dedicated 15A outlets.

Connect the flusher to 100-125 PSI shop air.

Move the reverser valve to the bypass (middle) position.

**CAUTION:** Make sure the reverser valve is in the neutral/bypass position prior to preheating.



Use the **MODE** button to select "START PREHEAT HEATER & PUMP" and select "CONT" using the **RUN TIME** button.

Check the following:

- Secure fill cap
- Secure filter screen
- Check fluid level
- Check all connections
- Set flow rate
- Set flow direction

Press the **START/PAUSE** button to begin heating the flusher while connecting the services hoses.



Connect the **red** service hose to the cooler inlet line and the **black** service hose to the return line of the cooling system.

Once the unit reaches 140 degrees, press the **STOP** button.

Press the manual air purge button to clean out the lines.

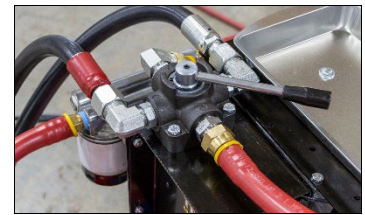
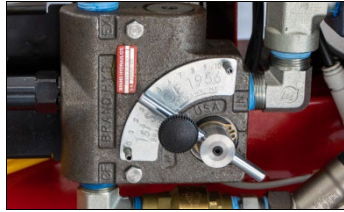
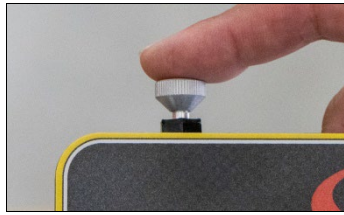
Remove the top half of the filter housing and place the screen filter into a waste bucket/container.

Move the **Flow Control Valve** to position 4.

Use the **MODE** button to select **"START PURGE"**. This will run the initial purge for 7.5 seconds to purge the cooler and line with clean fluid. Repeat until clean fluid is observed.

Clean the screen filter if needed and reassemble the filter housing.

Move the **reverser valve** toward the **black** hose coming from the cooling system's return line. This will backflush the cooling system.



Use the **MODE** button to select **"START FLUSH"**. Use the **RUN TIME** button to select the flush cycle time. It is suggested that the initial flush runs for 15 minutes to capture initial contaminants within the cooler system.

Press **START/PAUSE** and check the following:

- Secure fill cap
- Secure filter screen
- Check fluid level
- Check all connections
- Set flow rate
- Set flow direction

Press the **START/PAUSE** button to start the flush cycle.

At the end of a flush cycle, the flusher will stop and signal with an audible sound. The display will show **"FLUSH COMPLETE"** with before and after flush cycle results.

Press the manual air purge button to clean out the lines.

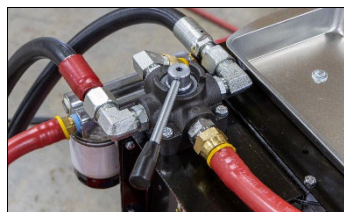
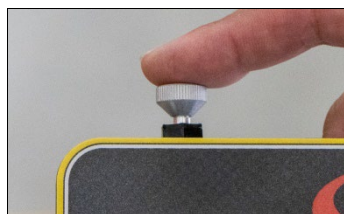
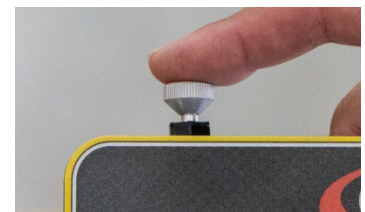
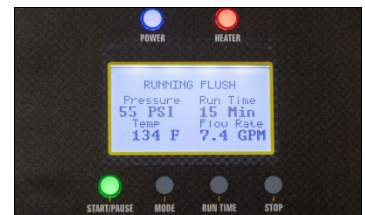
Remove the top half of the filter housing, note debris on filter screen, clean the screen, and reassemble the filter housing.

Repeat flush cycle selecting a desired time using the **RUN TIME** button from 15-120 minutes.

**NOTE:** With an initial flush completed, you can now run longer flush cycles along with switching the flow direction using the reverser valve between flush cycles.

Move the **reverser valve** toward the **red** service hose.

Use the **MODE** button to select **"START FLUSH"**.



Press **START/PAUSE** and check the following:

- Secure fill cap
- Secure filter screen
- Check fluid level
- Check all connections
- Set flow rate
- Set flow direction

Press the **START/PAUSE** button to start the flush cycle.

At the end of a flush cycle, the flusher will stop and signal with an audible sound. The display will show "**FLUSH COMPLETE**" with before and after flush cycle results.

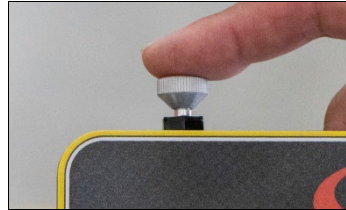
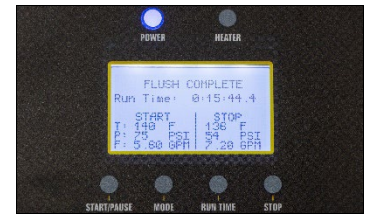
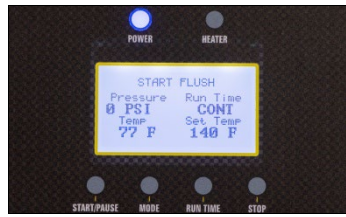
Press the manual air purge button to clean out the lines.

Remove the top half of the filter housing, note debris on filter screen, clean the screen, and reassemble the filter housing.

**NOTE:** Always use the manual air purge button prior to removing the top portion of the screen filter housing to clean out the cooler system and service hoses.

**NOTE:** A flush cycle time can be changed anytime by pressing the **RUN TIME** button to select a different flush cycle time.

Switch flow direction by using the reverser valve between flush cycles. Repeat flush cycles until desired system cleanliness is achieved.



After system cleanliness is achieved and to disconnect flusher from system cleaned perform the following:

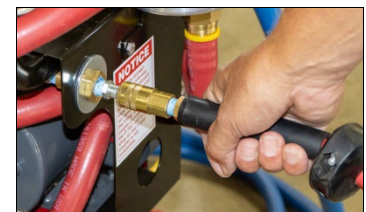
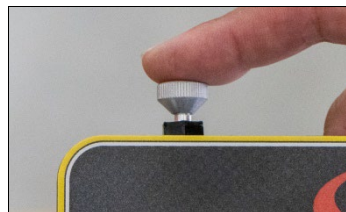
Use the manual air purge button to clean out the cooling system and service lines with the **reverser valve** in either flow direction, then place in **bypass** (middle) position.

Remove the service hoses from the system being cleaned and install service line plugs.

Clean the filter screen and reassemble for the next cleaning.

Move the **Flow Control Valve** to a minimal flow position.

Unplug the flusher and disconnect shop air.



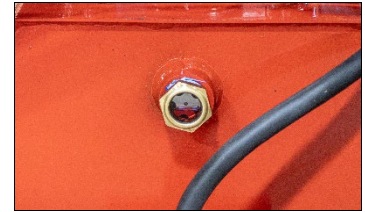
# ADDITIONAL FUNCTIONS

## FILL THE TANK

Remove the fill cap and add enough hydraulic fluid to bring the level to the middle of the sight glass.

**CAUTION:** To prevent hydraulic fluid from overflowing during a flush cycle or when air purging, do not run with fluid higher than showing over halfway on the sight glass.

Replace the fill cap when full level is reached.



## DRAIN THE TANK USING OVERRIDE LEVEL SENSOR MODE

**CAUTION:** To prevent burns, only drain tank when fluid is below 100 degrees.

Connect the drain hose adapter to the red banded service hose.

Move the reverser valve toward the red service hose.

Place the drain hose adapter into a suitable waste container.

Move the Flow Control Valve to position 3.

**CAUTION:** Make sure the flow rate is set to a low level to prevent a high fluid flow into the waste container.

Use the MODE button to select "START OVERRIDE LEVEL SENSOR".

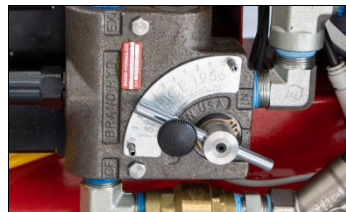
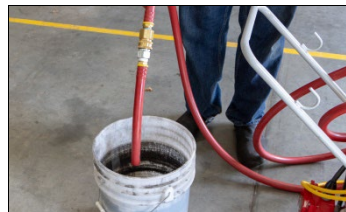
Press the START/PAUSE button.

Check the following:

- Secure fill cap
- Secure filter screen
- Check fluid level
- Check all connections
- Set flow rate
- Set flow direction

Press the START/PAUSE button to begin draining. The unit will run for 10 seconds. Repeat until the unit is drained.

**NOTE:** There is still approximately one gallon left in the tank. To completely drain, see "Completely Drain for Fluid Type Change" procedure below.



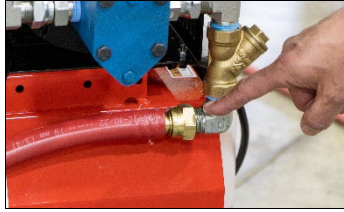
## COMPLETELY DRAIN THE TANK FOR FLUID TYPE CHANGE

Perform the "Drain Tank Using Override Level Sensor Mode" procedure above.

Remove pump inlet hose pictured.

Place hose in a suitable waste container to gravity drain remaining fluid in tank.

After draining replace inlet hose.



## MAINTENANCE

### To keep your machine working properly:

#### After Every Cleaning Cycle:

Clean Oberg filter screen with a degreaser. Trying to run the flusher with a filter screen full of debris can damage your pump and motor.

#### Daily:

Make sure the ATF level is halfway in the sight glass. Do not overfill or run with fluid level higher than halfway in the sight glass.

#### Monthly/Every 100 Flushes:

Replace the spin on filters. This is the most important maintenance you can do on your Heated Cooler Line Flusher. Change the filters every 100 flushes (approximately once a month).

#### Quarterly:

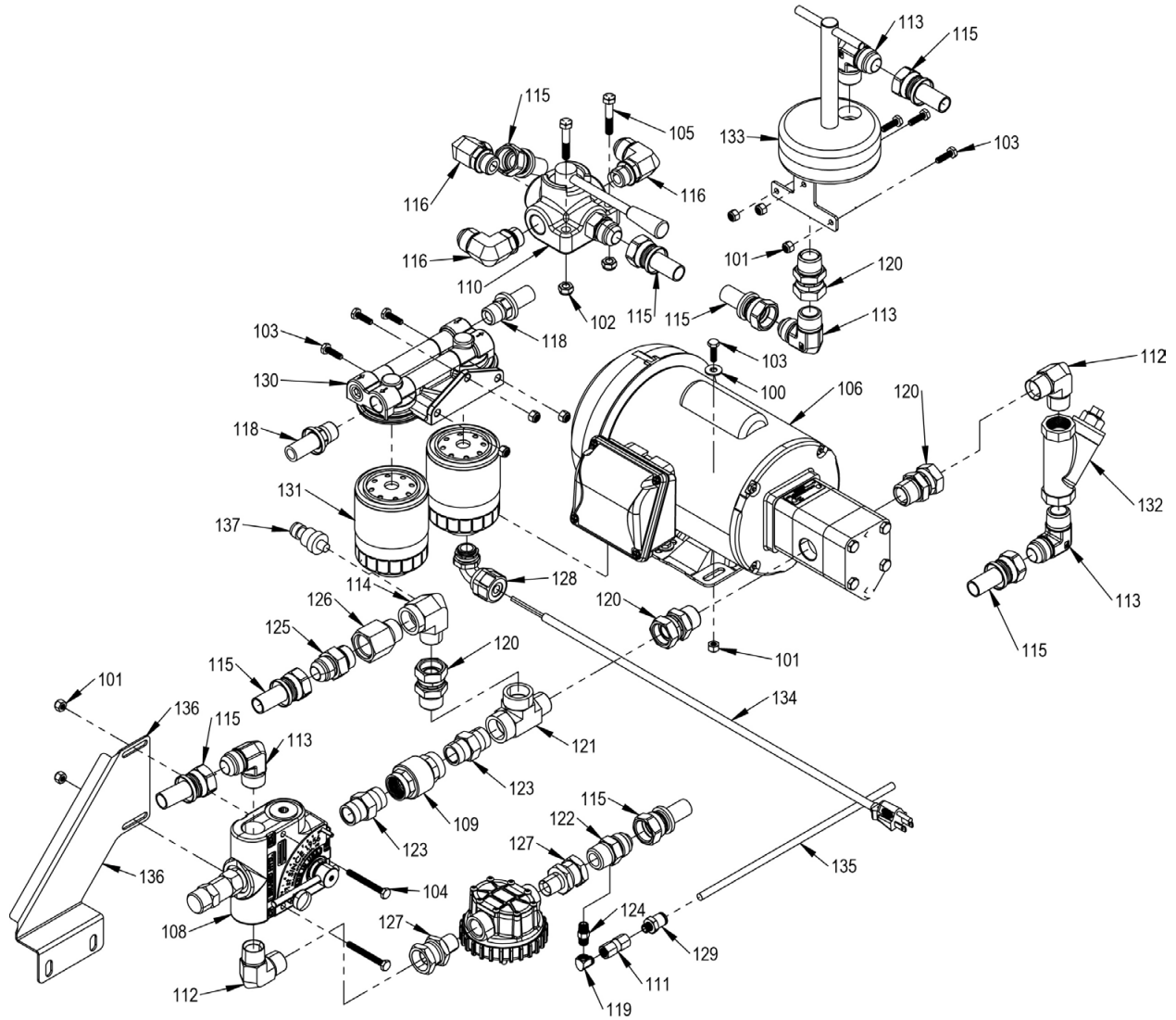
Replace the ATF - sooner if it's black.

#### Yearly:

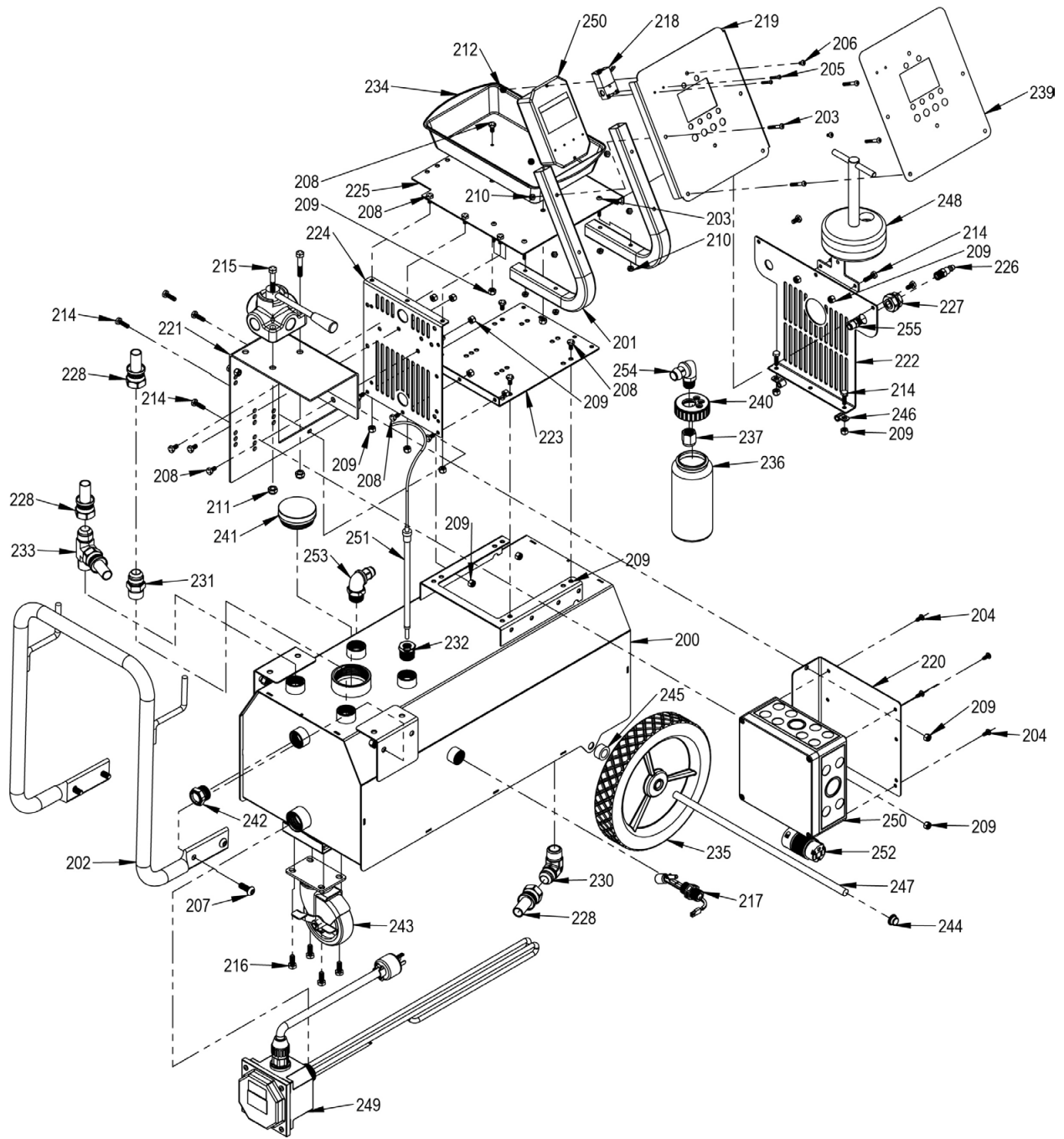
Unplug the heater from the electrical box, unscrew heater, and clean the heater's coils. Oven cleaner works very well for this.



# REPLACEMENT PARTS



ITEM NO.	PART NO.	DESCRIPTION	QTY.
100	502000	WASHER 1/4 FLT ZN ANSI18-22-1	4
101	40201289	NUT - SS-316 NYLON, 1/4-20	12
102	940503	NUT LK 5/16/18 NYLON INSRT GR2 Z	2
103	40201062	HEX BOLT 1/4-20 X 7/8" SS	10
104	40201288	SCREW - HEX SS-316, FT 1/4-20 X 2-1/4	2
105	501032	1/16-18 X 1-3/4 BOLT	2
106	40201337	PUMP / MOTOR ASSEMBLY - TTCF-9A	1
107	40200963	FLOW METER - GTEC DAQ	1
108	40201362	VALVE-FLOW CONTROL 0-10GPM -12 PORTS 150PSI RELIEF	1
109	40201371	CHECK VALVE - 3/4 NPT FEMALE	1
110	40201361	VALVE-REVERSING 4-WAY OPEN CENTER -10 PORTS	1
111	40201390	FITTING - ELBOW 1/8 NPT HIGH PRESSURE	1
112	40201348	FITTING - 3/4 NPTF MALE X 3/4 NPTF MALE 90	2
113	40201352	FITTING-.75 JIC MALE X .75 MPT 90 ELBOW	4
114	40201351	FITTING-90 DEG STRT ELBOW 3/4MPT X 3/4FPT	1
115	40201364	FITTING -12 PUSH LOK X -12 JIC SWIVEL FEM	8
116	40201358	FITTING -12 MALE JIC X -10 SAE ORB MALE	3
117	40201359	FITTING--12 MALE JIC X -10 SAE ORB	1
118	40201366	FITTING - 3/4 PUSH-LOCK X 1/2 MALE NPT	2
119	40201427	FITTING - ELBOW 1/8 NPTF FEM X 1/8 NPTF MALE	1
120	40201450	FITTING - 3/4" NPTF MALE X 3/4" NPSM FEMALE SWIVEL	4
121	40201479	FITTING-3/4 MALE RUN TEE	1
122	40201472	FITTING - 3/4" JIC MALE X 3/4" NPTF MALE PIPE WITH PORT	1
123	40201349	FITTING- 3/4 NPTF MALE X 3/4 NPTF MALE PIPE HEX NIPPLE	2
124	40201473	FITTING - 1/8 NPTF MALE STRAIGHT CONNECTOR	1
125	40201461	VALVE-3/4 MALE JIC X 3/4 MALE ORB 100PSI CHECK	1
126	40201480	FITTING-3/4 MALE NPT X 3/4 FEM ORB	1
127	40201492	FITTING - 1/2 NPTF MALE X 3/4 NPSM FEM SWIVEL	2
128	40201383	CORD GRIP 1/2" KNOCKOUT	1
129	40201389	FITTING - 1/8 NPT X 5/16 TUBE PTC	1
130	40200471	FILTER BRACKET - G TEC	1
131	40300272	FILTER ASSEMBLY-SPIN ON-GTEC	2
132	40201414	WYE STRAINER 3/4" BRONZE	1
133	40201294	FILTER ASSEMBLY HIGH FLOW GTEC	1
134	40201481	POWER CORD - 2 FT - GTEC 9	1
135	40201179	BLACK POLY TUBING 5/16 OD	1
136	40300456	BRACKET-POWER CORD	1
137	40201438	PRESSURE TRANSDUCER PT SERIES 150 PSI VITON	1



ITEM NO.	PART NO.	DESCRIPTION	QTY.
200	40300450	ASSEMBLY-GTEC TANK	1
201	40300352	TUBE-DAQ BOX BRACKET	2
202	40300479	ASSEMBLY-GTEC HANDLE	1
203	941362	SCREW 10-24 X 1.5 BHCS SS	8
204	40201290	SCREW ROUND HEAD PHIL 12-24 X 1/2" METAL CUTTING	4
205	40201395	SCREW - 6/32 X 1" BUTTON HEAD SOCKET BLACK OX PARTIAL THREAD	2
206	40200821	10-32 X 3/8 BUTTON HEAD SCREW STAINLESS	2
207	941271	BOLT 3/8-16 x 1 BUTTON SOCKET	4
208	40200544	1/4-20 X 1/2 HEX CAP SCREW UNC THREAD	16
209	40201289	NUT - SS-316 NYLON, 1/4-20	27
210	501143	NUT 10-24 NYLOCK ZINC	8
211	940503	NUT LK 5/16/18 NYLON INSRT GR2 Z	2
212	40200297	NUT-HEX 10-32 TOOTHED WASHER BLK OX	2
213	941390	NUT 3,8-16 STAR LOCK	4
214	40201062	HEX BOLT 1/4-20 X 7/8" SS	11
215	501032	1/16-18 X 1-3/4 BOLT	2
216	501352	BOLT HHCS 5,16-18-3,4 GR 2	4
217	40200576	FLOAT SWITCH - G TEC	1
218	40201343	VALVE - 24 VOLT DC AIR	1
219	40300351	BRACKET-DAQ BOX MOUNTING	1
220	40300430	BRACKET-MAIN CONTROL BOX	1
221	40300428	BRACKET-FILTER N VALVE MNT	1
222	40300458	PLATE-GTEC MOTOR BRKT REMOVABLE	1
223	40300461	BRACKET-GTEC MOTOR BASE	1
224	40300462	BRACKET-GTEC FRNT VERT	1
225	40300463	BRACKET-GTEC TOP HORZ	1
226	40200496	MALE PLUG WITH CHECK BALL - G TEC	1
227	40200339	1/4 BRASS BULKHEAD FTTG	1
228	40201364	FITTING -12 PUSH LOK x -12 JIC SWIVEL FEM	4
229	40201427	FITTING - ELBOW 1/8 NPTF FEM X 1/8 NPTF MALE	1
230	40201352	FITTING-.75 JIC MALE X .75 MPT 90 ELBOW	1
231	40201353	FITTING-.75JIC X .75MPT STRT	1
232	40201182	BUSHING ADAPTER, 3/4" MNPT x 1/4" FNPT	1
233	40201401	FITTING - TEE 3/4" JIC MALE X 3/4" NPTF MALE PIPE X 3/4" JIC MALE	1
234	40200493	TOOL TRAY - G TEC	1
235	40200458	WHEEL - G TEC	2
236	40200919	ROUND BOTTLE 16 OZ	1
237	40201373	BREATHER VENT 3/8 NPS FEMALE	1
238	40201126	STUD 5/16 TUBE 1/8NPT	2
239	40201381	OVERLAY - CONTROL PANEL G TEC HIGH FLOW TTCF-9A	1
240	40201406	CAP, BOTTLE	1
241	40201475	CAP-GTEC FILL	1
242	40201434	BRASS SIGHT GLASS FOR DARK LIQUID 3/4 NPTF	1
243	R942118	CASTER 4 W/BRAKE ATFX	1
244	40200476	HUB CAPS - G TEC	2
245	40200776	5/8 ID NYLON WHEEL SPACER - G TEC	2
246	40201454	CLAMP-STEEL LOOP	2
247	40201497	STEEL ROD- .5" DIA X 16.75" L	1
248	40201294	FILTER ASSEMBLY HIGH FLOW GTEC	1
249	40200466	HEATER CHROMALOX - G TEC	1
250	40201357	CONTROL ELECTRONICS - TTCF-9A	2
251	40201342	TEMPERATURE SENSOR EXTENSION - G TEC HIGH FLO	1
252	40201521	FEMALE ELECTRICAL SOCKET 3 SLOT NEMA 5-15	1
253	40201464	FITTING - PLASTIC ELBOW 3/4 NPT MALE X 3/4 BARB	1
254	40201465	FITTING - PLASTIC ELBOW 1/2 NPT MALE X 3/4 BARB	1
255	945004	FITTING-5/16 PUSH EP SEALS	1

# LIMITED ONE (1) YEAR WARRANTY

## G-TEC TTCF-9A by Flo-Dynamics

Flo-Dynamics warrants only to the original Purchaser that under normal use, care and service, the Equipment (except as otherwise provided herein) shall be free from defects in material and workmanship for one year from the date of original invoice. External hoses, remote control modules, adapters, and all other attachments, supplies and consumables (except as otherwise provided herein) are warranted for 90 calendar days from the date of original invoice. Filter elements are not warranted. Printed circuit boards purchased from, but not installed by Seller are not warranted.

**SELLER'S OBLIGATIONS UNDER THIS WARRANTY ARE LIMITED SOLELY TO THE REPAIR OR, AT SELLER'S OPTION, REPLACEMENT OF EQUIPMENT OR PARTS WHICH TO SELLER'S SATISFACTION ARE DETERMINED TO BE DEFECTIVE AND WHICH ARE NECESSARY, IN SELLER'S JUDGEMENT, TO RETURN THE EQUIPMENT TO GOOD OPERATING CONDITION. NO OTHER WARRANTIES EXPRESS OR IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY AND ALL SUCH WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED.**

This warranty does not cover (and separate charges for parts, labor and related expenses shall apply to) any damage to, malfunctioning, inoperability or improper operation of the Equipment caused by, resulting from or attributable to (A) abuse, misuse or tampering; (B) alteration, modification or adjustment of the Equipment by anyone other than Seller's authorized representatives; (D) improper or negligent use, application, operation, care, cleaning, storage or handling; (E) fire, water, wind, lightning or other natural causes; (F) adverse environmental conditions, including, without limitation, excessive heat, moisture, corrosive elements, or dust or other air contaminants, radio frequency interference, electric power failure, power line voltages beyond those specified for the equipment, unusual physical, electrical or electromagnetic stress, and/or any other condition outside of Seller's environmental specifications; (G) use of the Equipment in combination or connection with other equipment, attachments, supplies or consumables not manufactured or supplied by Seller; or (H) failure to comply with any applicable federal, state or local regulation.

Repairs or replacements qualifying under this Warranty will be performed on regular business days during Seller's normal working hours within a reasonable time following Purchaser's request. **All requests for Warranty service must be made during the stated Warranty period.** This warranty is non-transferable.