



# TTCF-9B

Variable High Flow Heated  
Hydraulic Component Flusher

40201507

## QUICK START INSTRUCTIONS

### OPERATION

#### 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 and protective clothing and follow instructions to prevent potential injury.

#### CONTROL PANEL OVERVIEW

##### HEATER:

LED Solid Red = HEATER STATE OFF

A press of the switch will turn the Heater on and change the LED color to Solid Green.

LED Solid Green = HEATER STATE ON

A press of the switch will turn the Heater off and change the LED color to Solid Red.

LED Flashing Red = Low Fluid Level Fault

The first press of the switch will change the LED to solid red only if the low fluid level fault has been corrected.

If the fluid level fault has not been corrected, the LED will remain flashing red.

##### PUMP:

LED Solid Red = PUMP STATE OFF

A press of the switch will turn the Pump on and change the LED color to Solid Green.

LED Solid Green = PUMP STATE ON

A press of the switch will turn the Pump off and change the LED color to Solid Red.

##### AUTO AIR AGITATE (if equipped):

LED Solid Red = AIR VALVE DISABLED

A press of the switch will turn the Air valve LED to Solid Green and load in Parameter 1 settings.

LED Solid Green = AIR VALVE PARAMETER 1

A press of this switch will turn the air valve LED to Solid Blue and load in Parameter 2 settings.

LED Solid Blue = AIR VALVE PARAMETER 2

A press of this switch will turn the air valve LED to Solid Red and disable the air valve operation.

LED Off = All Air Valve Functionality Disabled

You can enter and exit this state by holding the switch for 20 seconds.

While in this state the LED will be off, and all other air valve functionality is disabled.

## 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.

**PRIOR TO STARTING PREHEAT**

- o Secure fill cap
- o Secure filter screen
- o Check fluid level
- o Check all connections
- o Ensure the reverser valve is in the bypass (middle) position

Turn the Heater and Pump **ON** to begin heating the flusher while connecting the services hoses to the component or system being flushed.



Connect the **red** banded service hose to the component or cooler Outlet line and the **black** service hose to the Inlet line of component or cooling system.

Once the unit reaches 135-140 degrees perform component or cooling system **Initial Purge** using the following steps:



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**NOTE:** To extend life of the flush tank fluid, it's always good to purge existing dirty fluid from component or cooling system prior to flushing. Follow initial purge procedure below.

### INITIAL PURGE PRIOR TO FLUSHING

- Turn the motor/pump **OFF**.
- Remove the top half of the filter housing and place into a waste bucket/container.
- Move the reverser valve toward the red banded hose.

**CAUTION:** When purging, the fluid will be **HOT** with a high flow rate! Wear protective gloves, clothing and safety glasses and ensure top half of filter housing is held into waste container being used.

- Turn the pump **ON** and purge approximately 1-2 quarts of fluid or until cleaner fluid is observed.
- Turn motor/pump **OFF**.

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



### SETTING UP A FLUSH

With component or cooling system connected and initially flushed move the reverser valve toward the red banded hose connected to the component or cooler system outlet.

Select Air Agitation flush pattern by pressing the Air Agitate button.

- Red – Off, no air agitation
- Green – Low, single air pulse for low flow system
- Blue – High, two air pulses for high flow systems

**NOTE:** Air pulsing does not start until 1:30 minutes into flushing

Prior to starting flush:

- Secure fill cap
- Secure filter screen
- Check fluid level
- Check all connections

Turn motor/pump and heater **ON** to begin flushing.

Suggested to flush **initially** for 15 minutes.



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### When Initial 15 Minute Flush is Completed

Turn the pump OFF.

Press the **manual air purge** button to clear out the lines.

**NOTE:** Prior to removing the top portion of the screen filter housing, always use the manual air purge button to clear out the component or cooler system and service hoses.

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

Continue flushing, switching the flow direction between each flush using the reverser valve until there is no debris on the filter screen after flushing.

Depending on debris collected on filter screen after a flush it is suggested each flush be 30-60 minutes until 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.

Unplug the flusher and disconnect shop air.



## ADDITIONAL FUNCTIONS / FEATURES

### 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 THE MOTOR / PUMP

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

Ensure the heater is OFF.

Connect the drain hose adapter to the red banded service hose and place into a suitable waste container.

Move the reverser valve toward the red banded hose.

**CAUTION:** Fluid will drain at a high flow rate.

Turn the motor/pump ON and drain into waste container until the unit stops flowing.

Turn the motor/pump OFF.

**NOTE:** After draining, there is still approximately one gallon remaining in the tank. To completely drain, see "Completely Drain the Tank for Fluid Type Change" procedure below.



### COMPLETELY DRAIN THE TANK FOR FLUID TYPE CHANGE

Perform "Drain the Tank Using Motor/Pump" procedure above.

Remove pump inlet hose pictured.

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

Replace inlet hose after draining.



### FLUID LEVEL SENSOR

An open state of the fluid level sensor signals low fluid level.

The fluid level sensor if triggered will lock in the fault state and display the fault by flashing the RED HEATER LED on and off.

**AIR VALVE PARAMETER SETTINGS**

<p align="center"><b>PARAMETER 1:</b></p> <p align="center"># of pulses = 1</p> <p>Pulse on time = 0.05 seconds Pulse off time = 0.10 seconds Time between = 15 seconds</p>	<p align="center"><b>PARAMETER 2:</b></p> <p align="center"># of pulses = 2</p> <p>Pulse on time = 0.05 seconds Pulse off time = 0.10 seconds Time between = 12 seconds</p>
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**FUSES**

20A FUSE - 5 x 20mm - Qty 2

To access the fuses, remove the (2) bolts securing the control panel to the flusher, and remove the (4) screws securing the back of the control panel.

The upper horizontal fuse is for the pump.

The lower vertical fuse is for the heater.

A spare fuse is attached to the inside of the back cover.

