TRAX3™

OWNER’S MANUAL

Fuel Monitoring System For Your Transfer Flow, Inc. Auxiliary Fuel Tank

TRANSFER FLOW, INC.
The Leader in Aftermarket Fuel Tank Systems™
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Important Safety Information

Manual operation of the TRAX 3™ Liquid Crystal Display (LCD) while driving could lead to unsafe driving conditions which can cause an accident or a serious injury. Observing the screen should only be done when it is safe to do so. Mounting the TRAX 3™ LCD and routing the wire harness should be done where the driver’s view or operation of the vehicle cannot be obstructed.

Filling The Fuel Tank:
- Never fill a fuel tank near a flame or ignition source which might ignite the fuel vapors.
- Never fill the OEM or Transfer Flow auxiliary fuel tank with the engine or ignition turned on.
- Avoid breathing fuel vapors or allowing fuel to contact the skin.
- Always fill fuel tanks while the vehicle is on a flat level surface.
- Always open the fuel cap slowly to allow any pressure to escape.
- Never overfill or “top-off” any fuel tank. Overfilling the fuel tank may cause damage to the emissions system, cause dangerous spills and possibly result in a fire. The Transfer Flow TRAX 3™ system may also shut down in the event of a “top-off” condition.
- Never siphon fuel using the mouth, as this practice is dangerous and potentially fatal. Use an appropriate pump.
- Never allow fuel to contaminate soil or waterways. Properly contain and dispose of spilled fuels and cleanup materials.

Other Important Safety Information:
- Use only Transfer Flow, Inc. replacement parts. Many parts of our fuel system appear common, but are actually special parts which are critical for safe operation. See page 9 for more information.
- Disconnect the battery before working on Transfer Flow fuel systems.
- Never modify or over-pressurize a fuel tank.
- Do not grind, torch, weld, cut, or modify a fuel tank.
- Do not sleep, or let pets stay in a pickup with a camper shell that contains an in-bed fuel tank system.
- NEVER connect a TRAX 3™ system to a previously modified fuel system.
- Do not smoke near a fuel tank.
- TRAX 3™ is designed to work only with Transfer Flow auxiliary fuel tanks. Under no circumstance should TRAX 3™ be used in conjunction with a modified fuel tank system, or other aftermarket fuel tank systems.
TRAX 3™ is a computer controlled, self-diagnosing auxiliary fuel system that automatically transfers fuel from the auxiliary tank to the main tank. The TRAX 3™ system also monitors the vehicle’s fuel system status and the fuel levels of each tank. TRAX 3™ transfers fuel as needed with an electric fuel pump at a rate of one gallon every three minutes.

**Fuel System Overview:**
Based on the individual vehicle fuel system calibration and size of the Transfer Flow auxiliary fuel tank, the TRAX 3™ system will transfer fuel at predetermined fuel levels while the vehicle is in use. The fuel level in the main tank and auxiliary tank will decrease at similar rates and the LCD will display the fuel level percentages in each tank and the operational status of the fuel system.

When the system is not transferring fuel and all is normal, the message, “SYS OK” will be displayed. When the fuel system is transferring fuel, the message, “PUMP ON” will be displayed on the right side of the LCD. If there is an issue with the fuel system, the LCD will display a Diagnostic Trouble Code (DTC). The TRAX 3™ computer module does all the work independent of the LCD. If the LCD is disconnected, the computer module will still monitor and transfer fuel normally.

**Liquid Crystal Display (LCD) Overview:**

- **AUX Tank Fuel Level**
- **MAIN Tank Fuel Level**
- **Fuel Level Percentage**
- **Operation Status**

Each black bar on the LCD display is equivalent to 10%. As fuel is consumed, the number of bars illuminated will decrease.
After both tanks are at 85%, the system will maintain the same fuel level percentage until the AUX tank reaches 25%. For example, when the MAIN tank is at 55%, the AUX tank will also be at 55%.

When both fuel tanks are full, the LCD will display 100% for both tanks.

When the MAIN is at 85%, the pump will go through several transfer cycles until both tanks are at 85%.

After both tanks are at 85%, the system will maintain the same fuel level percentage until the AUX tank reaches 25%. For example, when the MAIN tank is at 55%, the AUX tank will also be at 55%.

When both tanks reach 25%, fuel in the AUX tank will be transferred to the MAIN tank, keeping the MAIN tank at 25% until the AUX tank reaches 0%.

The AUX tank is now empty. The only fuel left is in the MAIN tank.
Computer Module Overview:

TO TFI WIRE HARNESS
POWER CONNECTION

RED (POWER)
BLACK (GROUND)

TO IN-LINE FUEL PUMP

BLACK (GROUND)
ORANGE (AUX PUMP POWER)
PLUG

1. PINK = Display Signal +
2. GREY = Display Signal -
3. WHITE = Main Sender Signal
4. BLK/WH = Main Sender Ground
5. VIOLET = Aux Sender Signal
6. BLACK = Aux Sender Ground
7. XXX = XXX
8. XXX = XXX
9. YELLOW = Gauge Signal
10. GREEN = Gauge Ground

7 SEGMENT DISPLAY
Displays when the TRAX3 system has connected and has control of the fuel gauge.
- Red Dot ON = Connected
- Red Dot OFF = Disconnected

TO TFI WIRE HARNESS 10-PIN CONNECTOR

Pin 1

6 PSI PUMP LED
Green: Power & Pump Connected
Orange: Pump Disconnected
Red: Power & Pump On

TRAX3 COMPUTER MODULE
(Located on top or side of the fuel tank)
How accurate is my main tank fuel gauge after installing TRAX 3™?
The accuracy of the main fuel gauge will not change. The TRAX 3™ computer module is wired into the truck’s main wire harness, in between the main fuel tank and the fuel gauge. The TRAX 3™ module monitors the level of fuel in the main tank, and then sends that same information to the fuel gauge on the dash. The stock in-dash fuel gauge displays the level of fuel in the main tank as it did before installing the TRAX 3™ auxiliary fuel system.

How do I adjust the contrast and brightness of my screen?
The two buttons on the front of the TRAX 3™ LCD module can be used to adjust the contrast and backlight of the LCD display.

Steps to adjust the contrast or backlight setting:
1. With the ignition in the ON position the TRAX 3™ module should be operational. Press the RIGHT button on the front of the display until you reach “LCD Adjust” screen. Select with the LEFT button.
2. Press the LEFT or RIGHT buttons to adjust the contrast or backlight respectively.
3. To exit the “LCD Adjust” mode and save your settings, do not press any more buttons; The display will automatically default back to the fuel level screen in approximately 3 - 4 seconds.

I typically keep trucks for one or two years and then get a new one. Do I need a new Transfer Flow auxiliary fuel system?
It depends on the truck you are buying. You may need to purchase a re-installation kit.

Why do I see my fuel level percentage fluctuate ± 10% in the first two minutes of operation?
The module is rapidly calculating the fuel level in each tank to determine the accurate value.
The fuel levels displayed on the LCD change when cornering hard or during other rapid motions. Is this normal?
Yes, your Transfer Flow fuel tank system has been designed to keep fuel sloshing to a minimum. However, it is not possible to completely eliminate all fuel sloshing. Many times, you will find that fuel sloshing will be greater in the main tank compared to the Transfer Flow tank. This is because the Transfer Flow tank is fully baffled while most main tanks are not. In either case, you should not see a fuel level change of more than ± 10%, except under periods of high cornering, braking, or acceleration loads. If your main tank is close to empty you may see the low fuel light turn ON and OFF.

If the TRAX 3™ system develops a problem, what do I do?
If a problem develops with the TRAX 3™ system, you can use the troubleshooting table on page 8, or you can deactivate the system by disconnecting the power to the computer module, located on the top or side of the auxiliary tank. Reference the “TRAX 3™ Computer Module Overview” diagram on page 4; disconnect the three pin connector with the red and black wire that goes to the TFI wire harness. The LCD will display, “TRAX 3™ Connecting.....” when the power is disconnected and the ignition is cycled. The vehicle will now operate from the main tank only and the main tank gauge will read the fuel level in the main tank just as though the Transfer Flow system was never installed.

Why is the TRAX 3™ LCD displaying “CHK FLTR” when my system is brand new or the filter is clean?
This may be due to an individual’s driving habits or driving conditions because of fuel sloshing in the main or auxiliary tank. The “Check Filter” condition will reset after 20 minutes or by cycling the ignition (turning it off then on).
Filter Maintenance
To replace the auxiliary fuel tank filter, remove the cover box to access the in-line filter and fuel hoses. Be certain that the filter is in the right direction. Replace the filter with one listed in Filter Replacement Options.

Replacement after initial installation:
The fuel filter should be replaced within 3 - 6 months. Transfer Flow includes an extra filter with your initial purchase.

Routine filter replacement:
Transfer Flow recommends the filter be replaced every 12 months on vehicles that see normal use. If the vehicle is operated in dusty conditions or driven more than 20,000 miles per year, the filter should be changed every 6 months. Vehicles traveling outside the United States and Canada may be exposed to filling stations containing elevated levels of contaminants. It may be wise to carry spare filters when traveling outside of the country.

Filter Replacement Options:
FRAM G3, WIX 3303, NAPA 23003, TFI 070-FL-32861
NAPA 3270 for cold weather and biodiesel up to B-20

“Critical Failure/Disconnect Power”
If the LCD displays, “CRITICAL FAILURE/DISCONNECT POWER” the user should deactivate the system by disconnecting the power to the computer module, located on the top or side of the auxiliary tank. Reference the “TRAX 3™ Computer Module Overview” diagram on page 4; disconnect the three pin connector with the red and black wire that goes to the TFI wire harness. The LCD will display, “TRAX 3™ Connecting.....” when the power is disconnected and the ignition is cycled. The vehicle will now operate from the main tank only and the main tank gauge will read the fuel level in the main tank just as though the Transfer Flow system was never installed.
<table>
<thead>
<tr>
<th>TRAX 3 Display</th>
<th>Symptom</th>
<th>DTC Definition/Possible Cause</th>
<th>Possible Remedy/Repair</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRITICAL FAILURE DISCONNECT POWER</td>
<td>OEM fuel gauge fluctuates</td>
<td>Aux pump on, outside of transfer range</td>
<td>Disconnect main power at module</td>
</tr>
<tr>
<td>MSL (MAIN &amp; AUX fuel level at 0%)</td>
<td>OEM fuel gauge at empty</td>
<td>Main sender low/sending unit bad or a wire shorted to ground</td>
<td>Call original installer</td>
</tr>
<tr>
<td>MSH (MAIN &amp; AUX fuel level at 0%)</td>
<td>OEM fuel gauge at empty</td>
<td>Main sender high/malfunctioning sender</td>
<td>Call original installer</td>
</tr>
<tr>
<td>MSO (MAIN &amp; AUX fuel level at 0%)</td>
<td>OEM fuel gauge at empty</td>
<td>Main sender open/severed main sender wire, defective sender, improper electrical connection</td>
<td>Call original installer</td>
</tr>
<tr>
<td>ASL &amp; AUX fuel level at 0%</td>
<td>Pump not transferring</td>
<td>Aux sender low/sending unit bad or a wire shored to ground</td>
<td>Call original installer</td>
</tr>
<tr>
<td>ASH &amp; AUX fuel level at 0%</td>
<td>Pump not transferring</td>
<td>Aux sender high/malfunctioning sender</td>
<td>Call original installer</td>
</tr>
<tr>
<td>ASO &amp; AUX fuel level at 0%</td>
<td>Pump not transferring</td>
<td>Aux sender open/severed auxiliary sender wire, defective sender, improper electrical connection</td>
<td>Call original installer</td>
</tr>
<tr>
<td>CHK FLTR</td>
<td>Pump not staying on</td>
<td>Filter clogged/flow rate not adequate, kinked line, broken electrical connection, or excessive fuel sloshing</td>
<td>Replace filter/call original installer</td>
</tr>
<tr>
<td>Blank</td>
<td>Display not turning on</td>
<td>Display not getting power</td>
<td>Check for 12V @ TRAX 3™ LCD, check fuse/call original installer</td>
</tr>
</tbody>
</table>
Transfer Flow Replacement Parts

Transfer Flow, Inc. fuel systems are designed to work only with specific components which have been selected for their unique properties. Years of design work have produced the finest auxiliary fuel system available that relies on relatively few, but critical parts. The components used in Transfer Flow fuel systems are not generic or “off-the-shelf” parts and cannot be replaced with parts that appear to be similar.

For example, the in-line fuel pump used with our TRAX 3™ system appears to be a normal fuel pump, but it is actually a high quality solenoid pump with a critical forward and reverse check feature. **Under no condition should any other pump be substituted for the provided pump.**

This auxiliary fuel system has been outfitted with a replaceable fuel filter that requires periodic service. The filter is available through automotive parts retailers and is not covered by Transfer Flow’s warranty. The filter should be inspected/replaced every 3 - 6 months depending on the conditions that the vehicle is operated in and the quality of fuel purchased. Transfer Flow will not honor warranty claims from diagnosis or replacement of obstructed filters.