

For:  
Series  
410  
440  
450  
650  
735  
Flush  
Machines



**General Maintenance**

Transmission Flush Machines

Voltage	Hydraulic
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## FAQ's – Basic Troubleshooting

Below are some of the common issues that can surface over time with the transmission machines. Find your closest symptoms and the column they belong to then follow each page in the column.

If after completing all tests and the machine still doesn't function as desired, please contact Technical Support at 1-800-303-5874 ext. 2613 for further assistance.

### Common Symptoms:

- ☐ My Machine will not power on.
  - ☐ See Voltage Column
- ☐ My Machine will not prime.
  - ☐ See Hydraulic Column
- ☐ My Machine will not add fluid.
  - ☐ See Hydraulic Column
- ☐ My Machine will not remove fluid.
  - ☐ See Hydraulic Column
- ☐ My Machine will not drain the waste tank.
  - ☐ See Hydraulic Column



FIGURE GM-1



**\*\*450, 440 & 410\*\***

FIGURE GM-2



**\*\*650 & 650 Dual\*\***

# Filter Replacement

- ❑ Remove access panel (*I.A, 735 series have the filters exposed (Figure GM-3)*).
  - ❑ 410, 440 & 450 (Figure GM-1)
  - ❑ 650, Dual (Figure GM-2)
- ❑ Use a filter clamp to remove filters from manifold. **P/N: 940796A – Filters.** Only Hand Tighten the new filters back on, do not use the filter clamps. If too tight fluid will not move through them!
- ❑ Once replaced, reset the filter use counter to “0” by:
  - ❑ Pressing “0” on number pad to access main menu.
  - ❑ Arrow down twice
  - ❑ Select option “3” Filter use/reset
  - ❑ Selection option “2” to reset.
  - ❑ **Prime Machine once filters are reset**

FIGURE GM-3



**\*\*735\*\***

FIGURE GM-4



**\*\*TSD440 Only\*\***

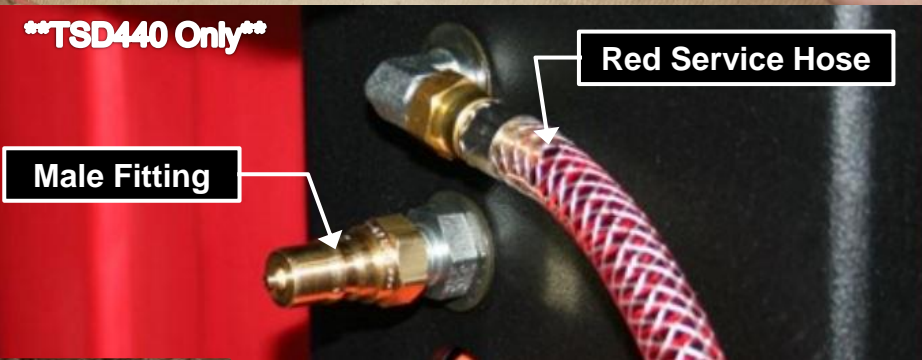


FIGURE GM-5



FIGURE GM-6



## Air-Purge Procedure

- ❑ Make sure there is at least **3qts** of fluid in the New Tank (**Figure GM-5**). If the Used Tank is empty as well make sure there's at least **6qts** in the New Tank. Connect the Red and Black service hoses together using any two mating adapters. (**Figure GM-4**)
- ❑ For the TSD440 Attach the Red service hose to the male fitting of the left side, facing the machine. (**Figure GM-4**)
- ❑ Press "0" on main menu, then press "5" to prime the machine.
- ❑ While unit is trying to prime, slowly open the left filter counter-clockwise on the Manifold until you hear a loud buzzing noise from machine or fluid moves through the lines. Then close immediately afterwards. (**Figure GM-6**)
- ❑ If fluid still didn't move through the lines (*filter completely off and no fluid movement*) contact Technical support. (1-800-303-5874 ext. 2613)



FIGURE GM-7



FIGURE GM-8



FIGURE GM-9



FIGURE GM-10



# Voltage Check

- ❑ Connect machine to power source. (*No Booster Pack, Battery Charger or Battery connected to Battery Charger.*)
  - ❑ Make sure the vehicle's AC is off, when the compressor kicks on it can temporarily rob voltage from the machine.
- ❑ Access main menu screen by pressing "0" on the number pad (Figure GM-7), then scroll down to option "8" voltage monitor. (Figure GM-8,9)
- ❑ Machine must have at least 12.6v to operate properly. (Figure GM-10).
- ❑ If power source is 12.6v or greater & was confirmed using a Voltmeter or Multimeter, but the display does not reflect the proper voltage then the machine is losing voltage in the circuit. Most common causes are:
  - ❑ Poor Battery Cable connection.
  - ❑ Poor Battery Cable condition.
  - ❑ Poor/Loose connections in the wire harness.



FIGURE GM-11

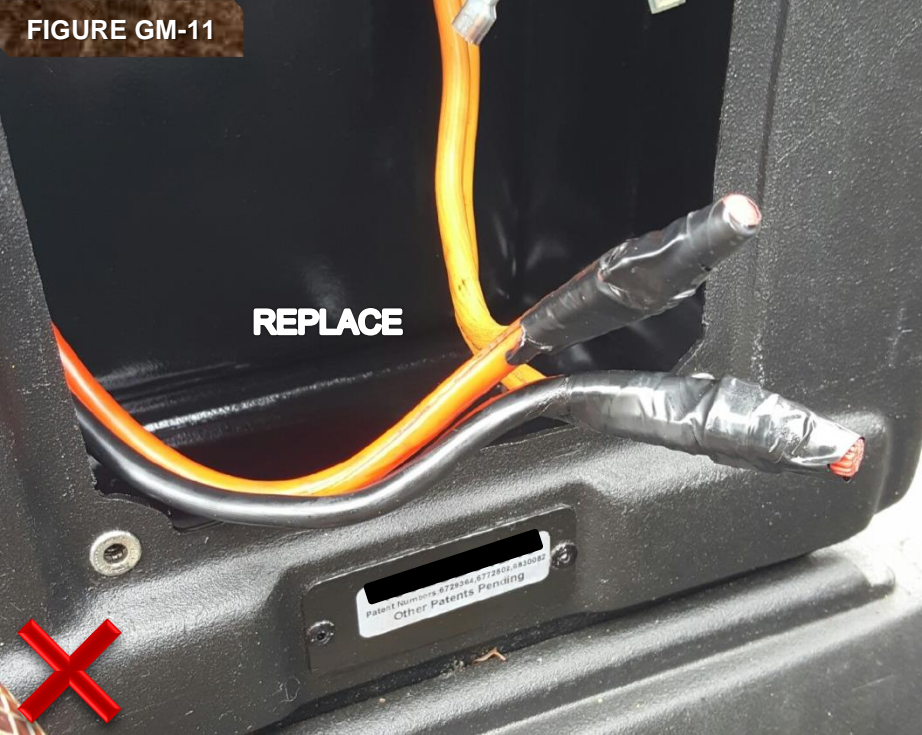
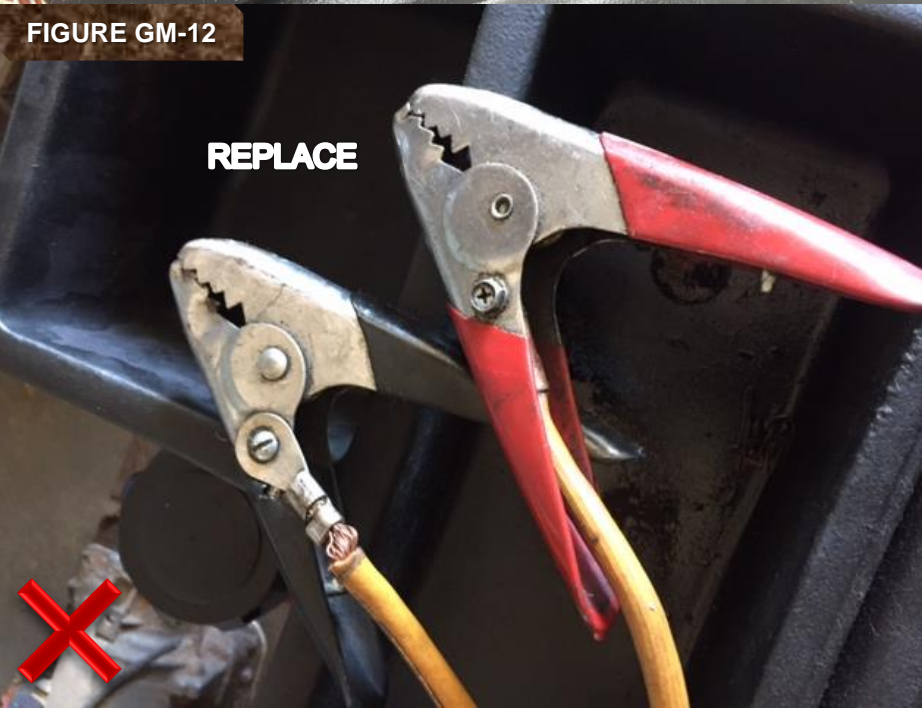


FIGURE GM-12



# Battery Cable Inspection

Battery Cables (P/N: 940307, 941210W-TS410 only) must be in good condition in order for the machine to operate properly. These are examples of when cleaning or replacing the Battery Cables will be necessary:

- ❑ Rusted or Corroded Battery Clamps.
- ❑ Frayed, Broken or exposed Cables. (Figure GM-11)
- ❑ Modified Battery Cables/Clamps. Too small of cable gauge (6ga) (Figure GM-12)
- ❑ Non-Factory Battery Cables, Below is the Factory Cables accepted on machines (Figure GM-13)

FIGURE GM-13

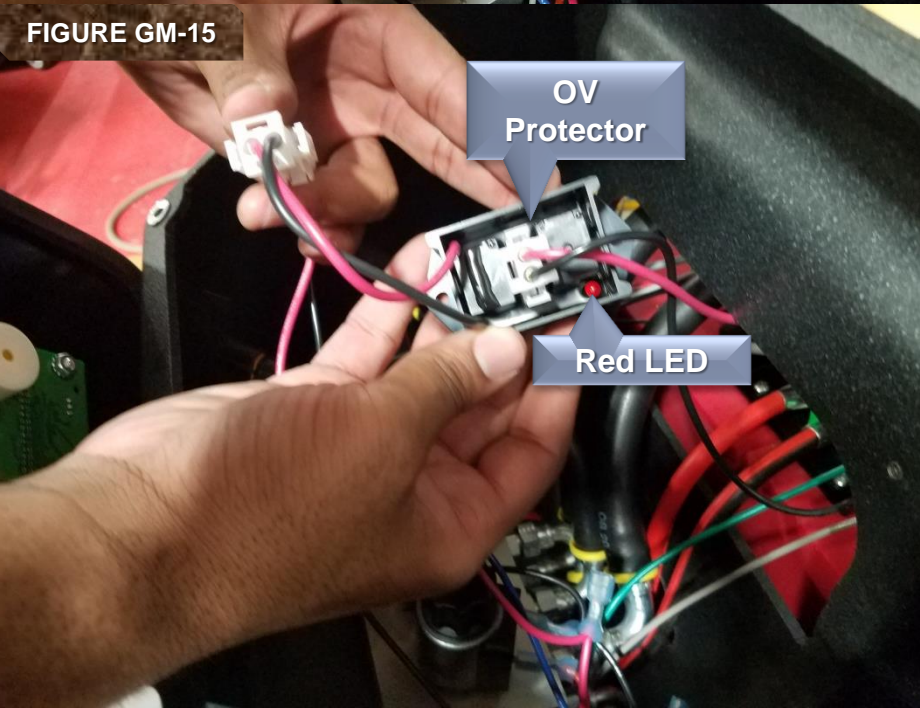




FIGURE GM-14



FIGURE GM-15



## Fuse & Overvoltage Protector

When the machine will not power on, check the Fuse and Over Voltage Protector:

- ❑ Remove the Control Panel.
- ❑ Follow the **RED** wire from the Main wire harness to find the Fuse (**Figure GM-14**) and Over Voltage (OV) Protector (**Figure GM-15**).
- ❑ Verify the 15A fuse is not blown.
- ❑ Verify the OV Protector doesn't have the red LED light on. (**Figure GM-15**) If the LED is seen the OV Protector it has been tripped and should reset itself automatically, if not it will need to be replaced. To verify, bypass the OV Protector (**Pg.8**) and connect the machine to a proper power source.

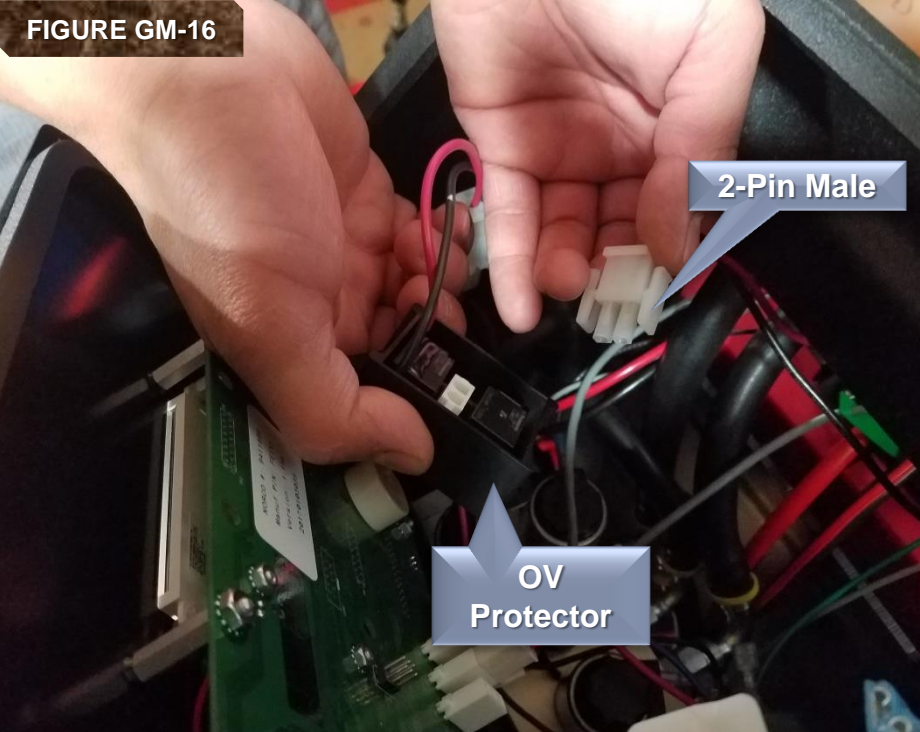
***\*\* Some models do not have an Over Voltage***

***Protector, call Technical Support for verification 1-***

***800-303-5874\*\****



FIGURE GM-16



# Overvoltage Protector Bypass

- ❑ Locate Overvoltage (OV) Protector.
- ❑ Disconnect the male 2-pin connector inside of the OV Protector. (Figure GM-16)
- ❑ Disconnect the Female 2-pin connector on the outside of the OV Protector. (Figure GM-17)
- ❑ Connect the remaining Male & Female 2-pin connection in the wiring harness. (Figure GM-18)

***\*\*For testing purposes only, component must be replaced to protect the Main Control Board\*\****

FIGURE GM-17

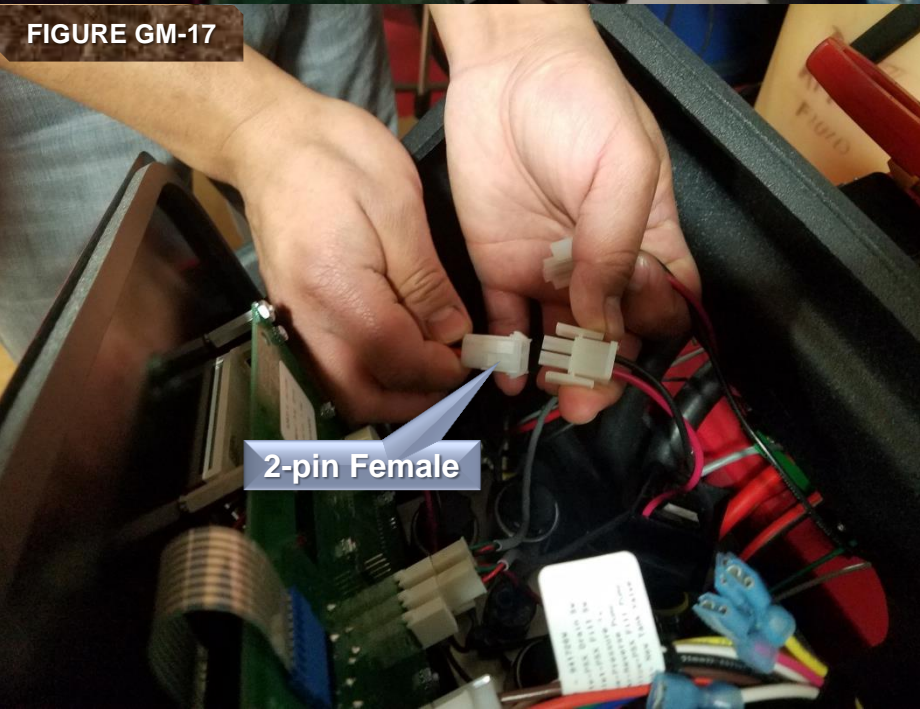


FIGURE GM-18

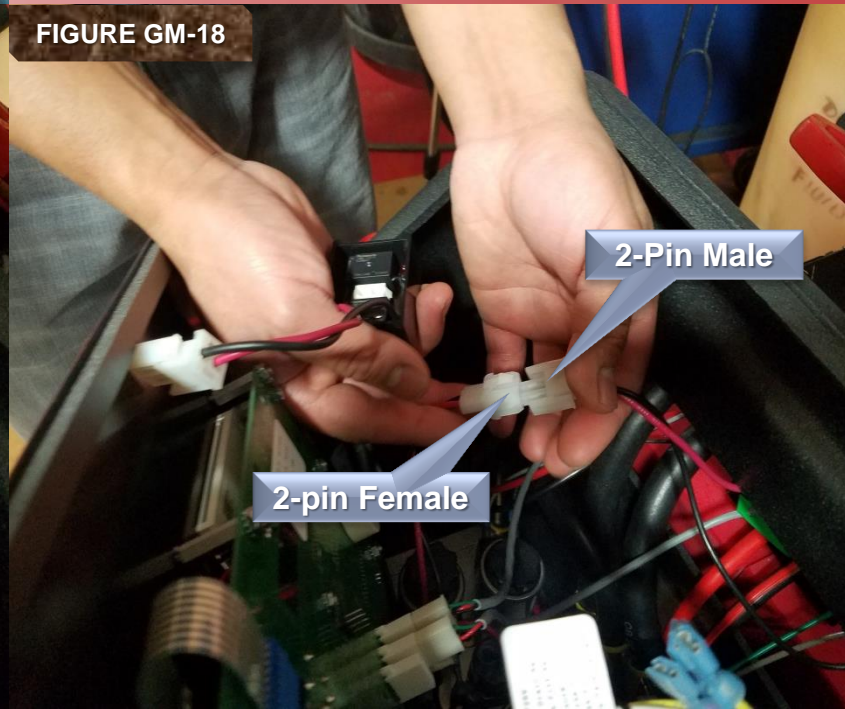
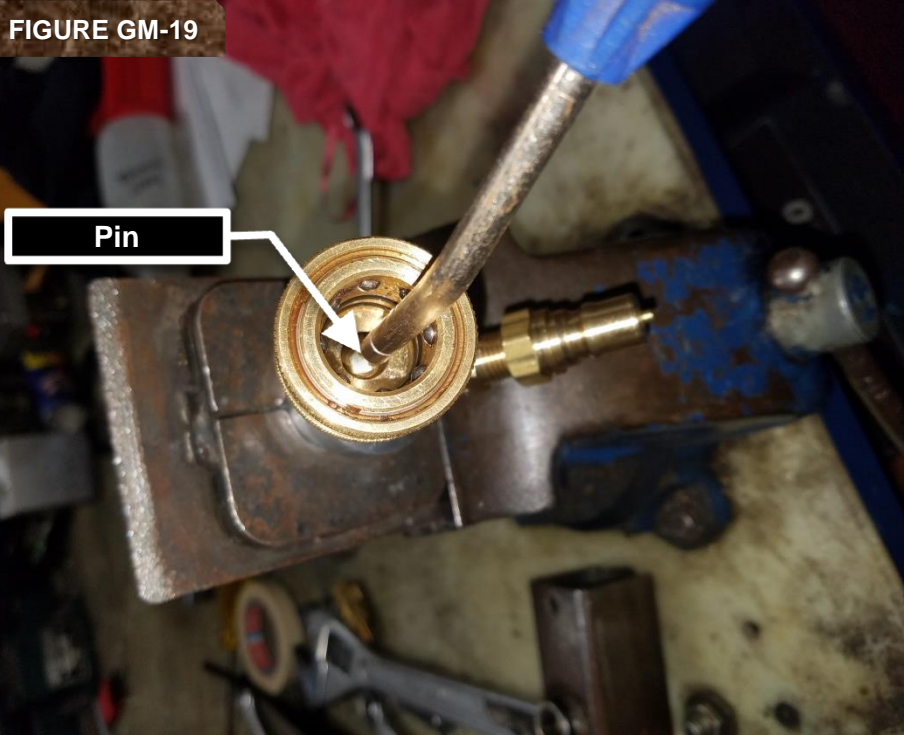




FIGURE GM-19

Pin



## Dipstick Y-Manifold Cleaning

- ❑ Use clean shop air to press the pins inside the service hose end of the dipstick manifold. (Figure GM-19, 20)
- ❑ Verify that the pins can move freely by depressing them repeatedly, checking for any debris. (Figure GM-19, 20)
- ❑ Inspect the Y-Manifold tube for kinks in the line. If kinks are found they become more dramatic as they are pushed through the dipstick tube and could be a good cause for fluid restriction. (Figure GM-21)
- ❑ Inspect the Y-Manifold itself for any stripped or broken components. Replace as needed, see [Dipstick Manifold Components](#) Pg. 9 for reference.

FIGURE GM-20

Pin

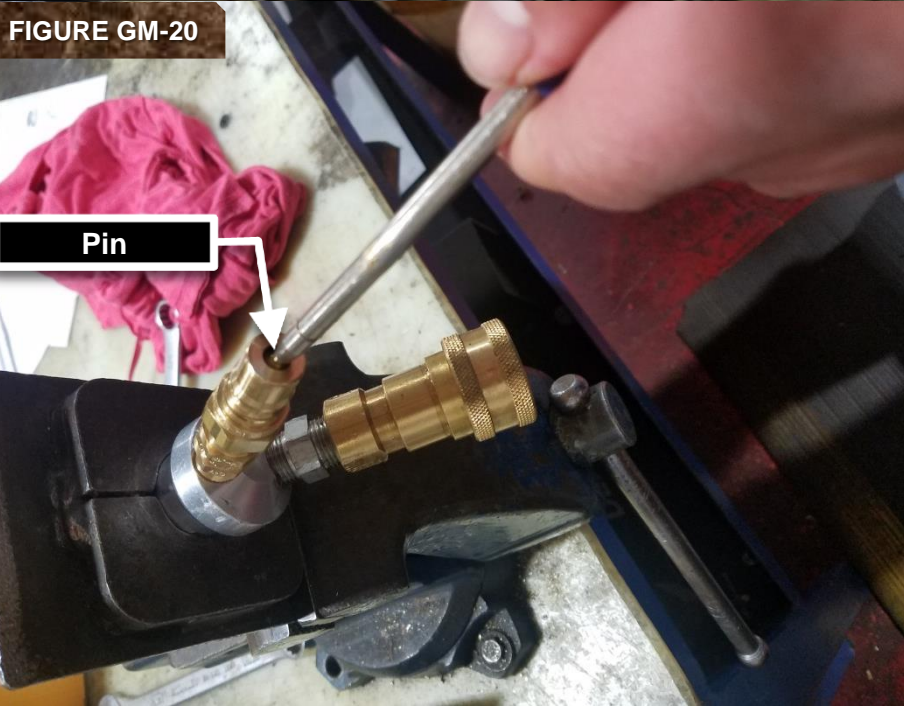


FIGURE GM-21



GOOD



# Dipstick Manifold Components

Part Numbers: 941716W – Dipstick Manifold Assembly

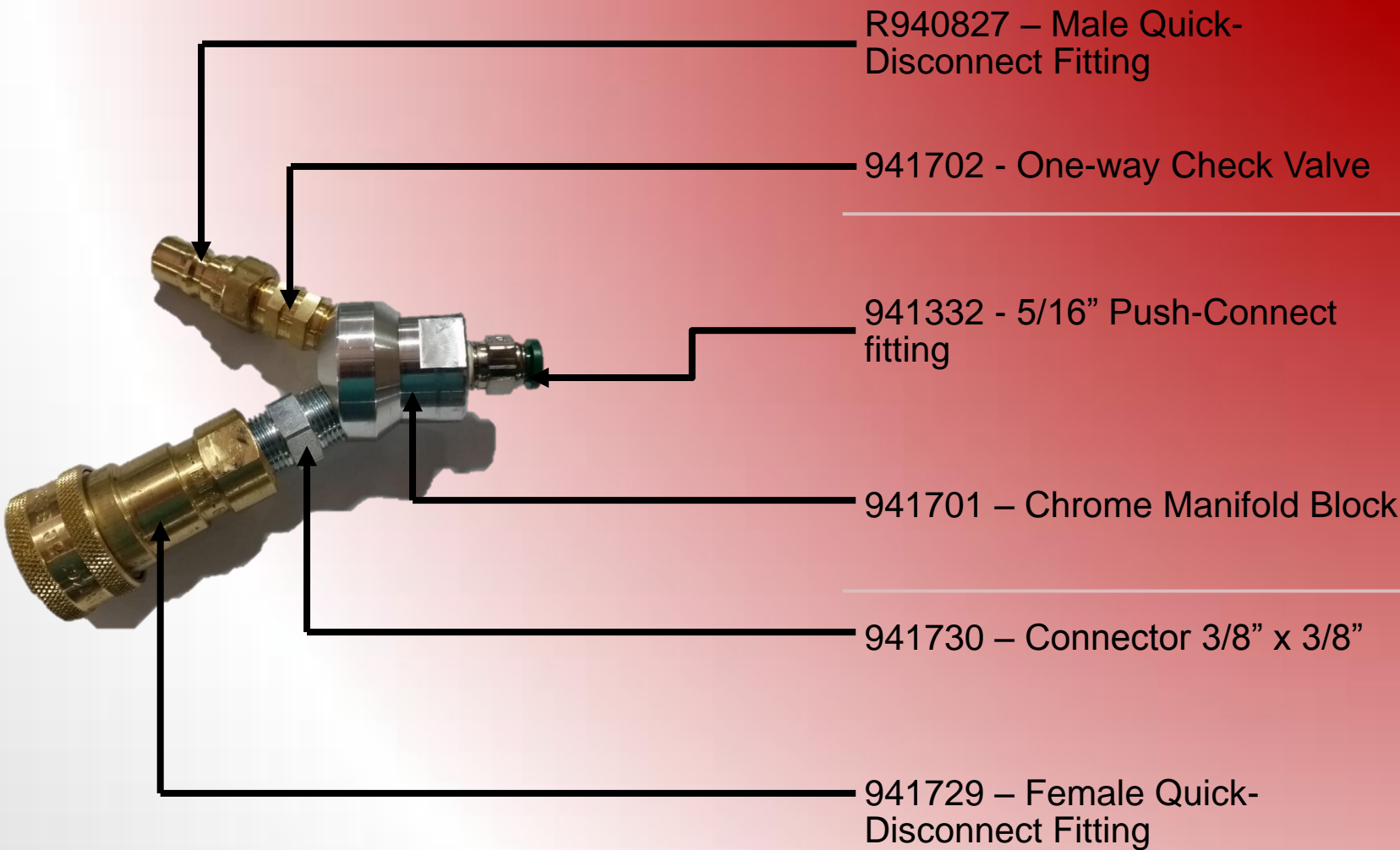




FIGURE GM-22

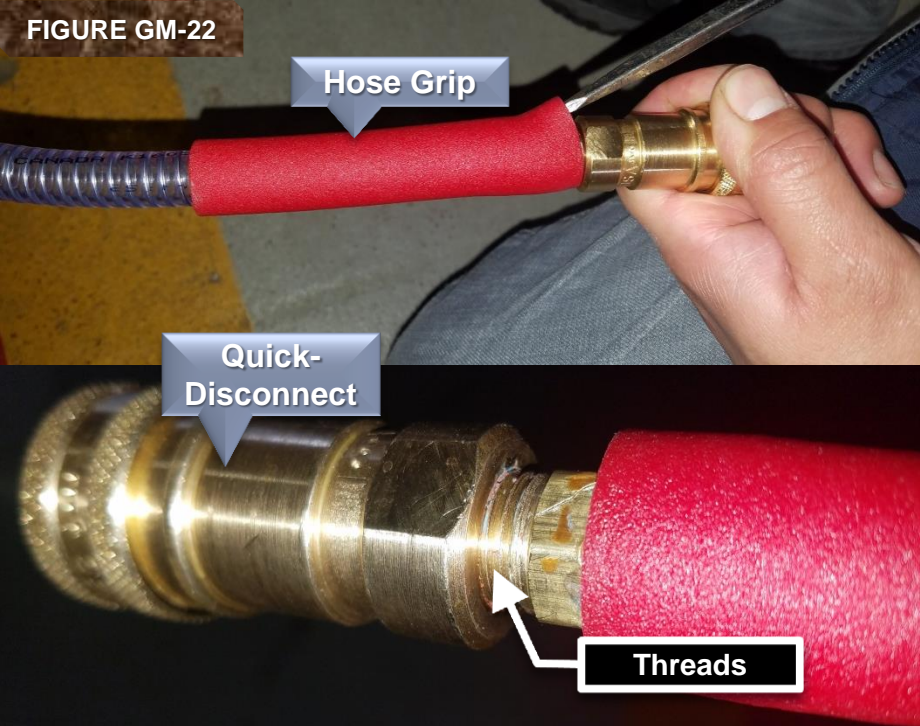


FIGURE GM-23



# Service Hose Cleaning

- ❑ Remove the service hose from the machine.
- ❑ Slide back the service hose grip to reveal the threaded quick-disconnect fitting. (Figure GM-22)
- ❑ Remove the quick disconnect fittings from the service hose. Use 2 wrenches to remove the quick-disconnect fitting. (Figure GM-23)
- ❑ Press the Pin inside repeatedly while using clean air to blow through the fitting. (Figure GM-24)
- ❑ Cleaning complete, reinstall on machine.

***\*\* To avoid misplacement of the service hoses, please remove the service hoses one at a time\*\****

FIGURE GM-24

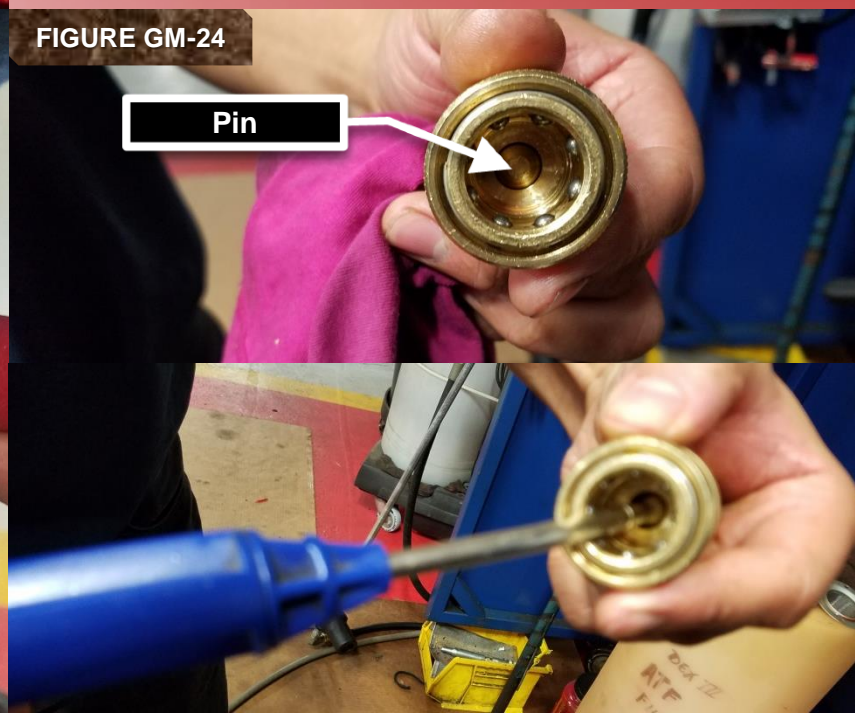




FIGURE GM-25



## ATF Tank Fluid Conditions

If you are getting erratic readings for the fluid levels in tanks or if adding & removing fluid is inaccurate.

- ❑ Verify there is no water/coolant in the New or Used tanks. A flashlight held against the tank will give a better view. (Figure GM-26)
- ❑ If the fluid is murky or pink and doesn't let light easily pass through (Figure GM-25), then water/coolant may be in the tanks. A full Manifold and Tank cleanout will need to be performed.

**\*\*Contact Technical Support @ 1-800-303-5874\*\***

FIGURE GM-26



FIGURE GM-27





FIGURE GM-28



FIGURE GM-29

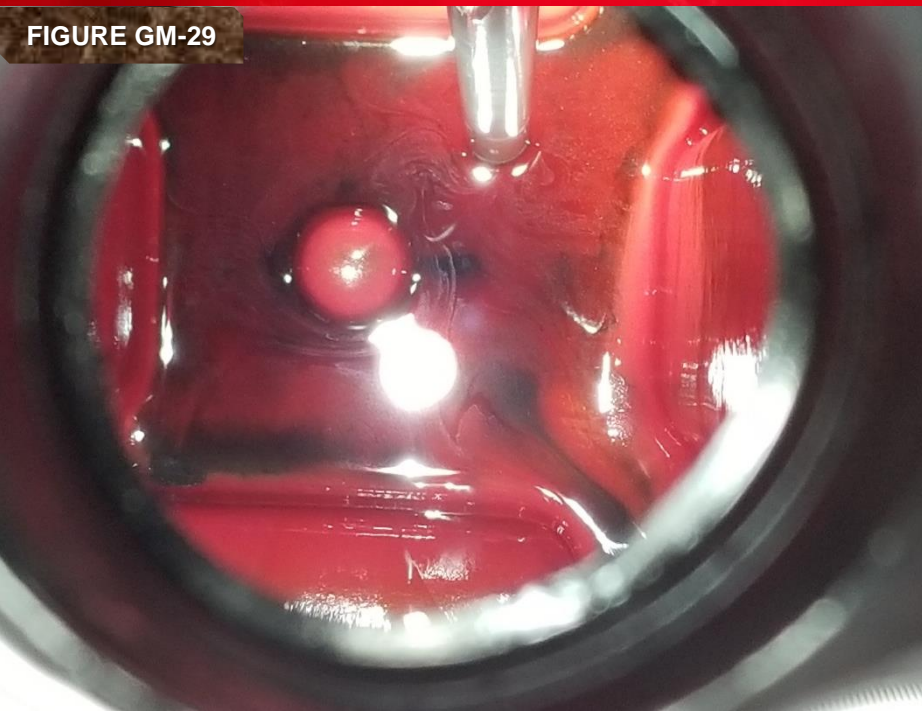


FIGURE GM-30



## ATF Tank Fluid Conditions

- ❑ These are some examples of what can be found in the Used (**Figure GM-27**) *and* New Tanks.
  - ❑ Dirt buildup (**Figure GM-28,29**)
  - ❑ Coolant or water (**Figure GM-29**)
  - ❑ Oil (**Figure GM-30**)
- ❑ If contamination has been discovered, a pump manifold cleanout will need to be performed as well as the tank cleanout procedure. This certifies all contamination has been removed and will not recirculate back in the machine or a customers vehicle.



FIGURE GM-31



## ATF Tank Fluid Conditions

- ❑ The new fluid tank uses a Tank Screen to protect it from any other debris that may enter unknowingly.
- ❑ If removed during filling it can cause the following debris to enter the new tank.
  - ❑ Transmission bottle rings. (**Figure GM-31**)
  - ❑ Foil (from new bottles), paper, dirt and even bugs. (**Figure GM-32,33**)
- ❑ When debris like this enters the new tank it can cause fluid restrictions in the manifold block.
- ❑ When the Debris is excessive in the tanks, it is recommended that the tank be removed in order to properly clean them. Contact Tech Support for instructions 1-800-303-5874 ext. 2613.

FIGURE GM-32



FIGURE GM-33





FIGURE GM-34



GOOD

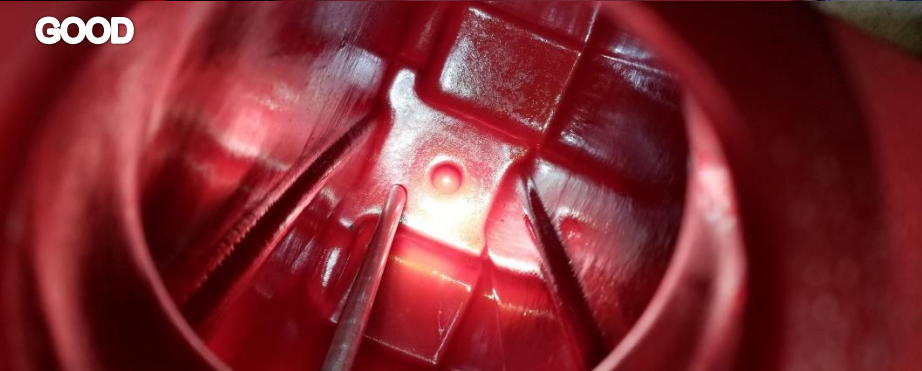
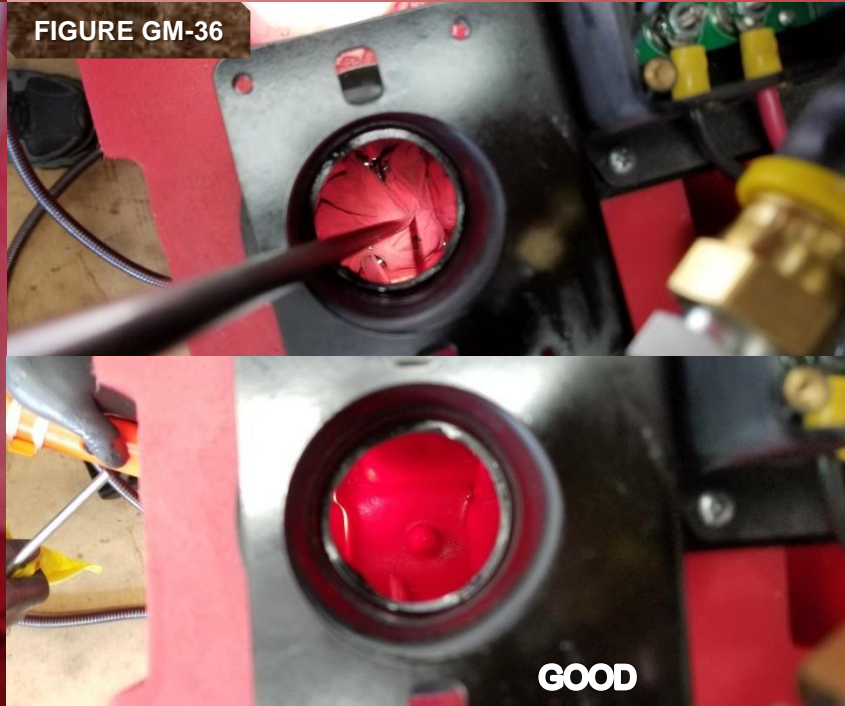


FIGURE GM-35



FIGURE GM-36



GOOD

## Tank Cleanout Procedure

- ❑ If possible, fully drain the tanks.
- ❑ Use a clean shop rag & long bar to clean the debris from the tank. A few passes with the rag will clean most of the debris. (Figure GM-34-36)
- ❑ After both New & Used Tanks are clean, fill the machine with some new Transmission Fluid and Prime the Machine.
- ❑ Check the Used Tank for any more signs of Contamination or Debris.
  - ❑ Some debris may still be present after the first prime, manually drain waste tank and clean the remaining debris.
  - ❑ If debris is still present, a pump manifold cleanout may be performed.

***\*\*Always change filters when debris is present\*\****