

# Troubleshooting Guide

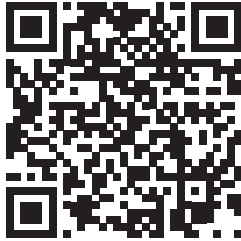
## All Trailer Axles



### SAF® Tire Pilot Plus™ Pressure Management System

March, 2019

Refer to the link here for a troubleshooting video.



<https://vimeo.com/user82815417/review/262250351/e88ebf4fc5>

#### Symptom:

Warning Light on

#### Problem:

System air pressure low between 10-20 PSI of regulator setting.

#### Solution:

Check for system air leaks. Connect air supply and pressurize air tank. Open Tire Pilot Plus air system valve on the regulator box as illustrated in **Figure 1**. If the leak is audible, use soapy water to pin point the leak. If the leak is not audible, disconnect all tire hoses from the hubcaps as illustrated in **Figure 2**. If after removing tire hoses light stays on, the leak is present between the hubcap and the air tank. Check the axle vents, hubcap fittings, air tank fittings, pressure protection valve, and airline external to the axle for leaking air with soapy water. If after removing the tire hoses the light shuts off, the leak is at the tire or tire hose. Reconnect each tire hose until the light comes back on to pin point the leak. Once the leaking wheel is found, use soapy water to discover the source including wheel hoses, valve stems, rim to tire, and tire tread. Repair or Replace leaking component as necessary or move to the next appropriate troubleshooting section below.

Figure 1

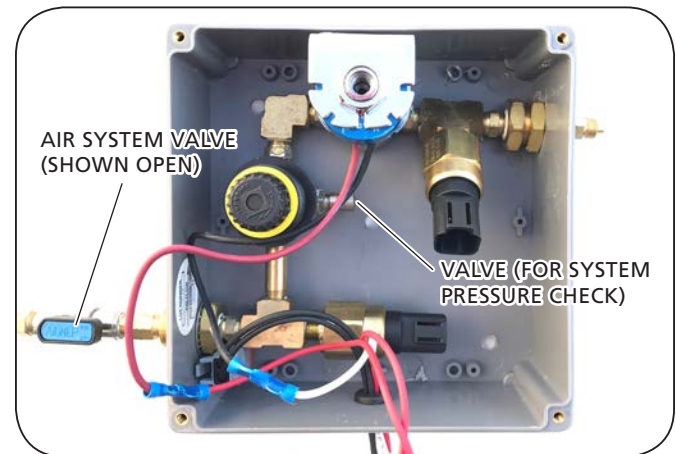


Figure 2



**Symptom:**

Air leaking from axle vent

**Problem:**

Air leak inside the axle or air leak inside the hubcap.

**Solution:**

Try to listen for the air leak on each side of the axle, and start with the side that is the loudest. Relieve system pressure by shutting off the air system valve. Relieve the system pressure at the tire hose or hubcap. Remove the hubcap and the rotating shaft from the hub cap and wire it to the hub using two hubcap bolts as illustrated in **Figure 3**. Cap the rotating shaft end with a 1/8" NPT cap as illustrated in **Figure 3**. Turn air system valve on and allow pressure to build. Spray soapy water on the spindle plug to rotating shaft seal. Replace spindle plug and rotating shaft if leak is present around seal. If bubbles are present around the two holes in the spindle plug for the vent, then the leak is internal to the axle. Proceed with removing the spindle plug. The spindle plug can be removed by using an appropriate size pipe inside the hex of the spindle plug and applying force up and down until free. Check connections and check airline. Repair or replace as per procedures below.

**Symptom:**

Air leaks at spindle plug fittings.

**Problem:**

Fitting nut not tight, tubing cut by the fitting nut, or tubing not pushed into the fitting far enough.

**Solution:**

If compression type fitting, tighten nut to 6-10 in-lbs or hand tight plus two wrench flats if loose. For damaged tubing, remove tubing from fitting and cut off just above leaking cut. If damage is not present, re-insert tubing into fitting. For a loose connection, loosen fitting nut and push tubing further into fitting then retighten nut to 6-10 in-lbs or two wrench flats. If push-to-connect type fitting, remove by pushing outer ring toward fitting and pull air line free. Inspect air line end. Recut square and push firmly into fitting until air line bottoms out.

**Symptom:**

Brake air tank de-pressurized or low pressure.

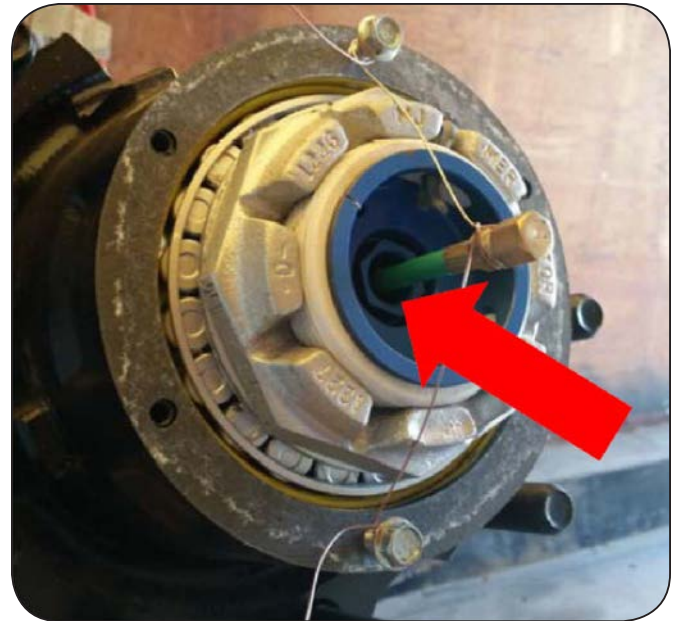
**Problem:**

No pressure protection valve installed, defective pressure protection valve, or leaking connection between air tank and pressure protection valve.

**Solution:**

Replace pressure protection valve or dis-assemble connection, apply pipe sealant and re-assemble with the direction of flow arrow in the correct orientation.

**Figure 3**

**Symptom:**

Tire/System Pressure reading low/high

**Problem:**

The regulator setting could be set low or high. The system could have an air leak. Another potential problem is insufficient air tank pressure.

**Solution:**

Check the regulator setting by using a good quality digital tire gauge to check the pressure at the valve located at the regulator as illustrated in **Figure 1**. Reset regulator setting to required pressure. Using a good quality digital tire gauge check pressure at tank valve located adjacent to the regulator. Pull up on the regulator knob and turn counter-clockwise until system pressure is at least 20 psi less than desired system pressure. While pulling up on regulator knob, slowly turn knob clockwise until desired system pressure is achieved. If pressure reading is greater than desired system pressure repeat adjustment procedure above.

If the regulator setting is at the desired tire pressure, proceed to check the system for leaks per the procedure for the warning light on.

Verify the trailer system air tank pressure is higher than the regulator setting. Follow procedure for Brake air tank de-pressurized or low pressure above.

If no system leaks are found and regulator cannot be reset. Replace regulator assembly.

**Symptom:**

No air flow through regulator

**Problem:**

Air system valve, located at regulator, is closed. Pressure protection valve is installed backwards. The regulator could also be leaking.

**Solution:**

Make sure the air system valve is open as illustrated (**Figure 1**). Make sure the flow arrow on the pressure protection valve is pointing in the correct direction, correct as necessary. If the regulator is damaged and leaking air replace with recommended regulator.

**Symptom:**

Hose leaking at valve stem or hubcap connection.

**Problem:**

Hose fittings need to be tightened or hose fittings have been over tightened.

**Solution:**

Hand tighten fittings. No wrenches are necessary. Check fitting and o-rings for damage. Replace o-rings/hose as necessary.

**Symptom:**

Water in hubcap.

**Problem:**

Potential problems for this symptom are: Hubcap oil plug loose or damaged, hubcap gasket missing or damaged, condensation, axle vent mounted too close to road surface, axle airline fittings loose or not sealed, axle vent fitting loose or not sealed.

**Solution:**

Make sure the hubcap oil plug is pushed into hubcap properly. Replace oil plug if damaged. Install new hubcap gasket if the gasket is missing or damaged. Check for system air leaks per the procedure in warning light on. Repair leaks as required. Check axle vent fitting and re-install as necessary.

**Symptom:**

Tire Pressure Low or Flat.

**Problem:**

The system has an air leak which could include a hole in the braided tire hose or a hole in the tire.

**Solution:**

Refer to the section about the warning light on to identify the location of a system leak. Replace the tire hose if it is the cause. Repair the tire if it is the source.

**Symptom:**

Warning light does not come on when system pressure is low.

**Problem:**

Pressure switch is defective or the pressure switch improperly sized.

**Solution:**

Replace with the recommended Pressure Switch. Verify that the pressure switch is the correct pressure setting by reading the switch setting on the side of the pressure switch body. For example PMF-80F is an 80 psi pressure switch.

Refer to the chart below for the correct pressure switch setting based on your regulator setting.

Regulator Setting (psi)	Valve Pressure Switch Pressure (psi)	Control Light Pressure Switch (psi)
80	70	70
85	70	70
90	80	80
95	80	80
100	90	90
105	90	90
110	90	100
115	90	100
120	90	100



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