

Component Descriptions

Electronic Control Unit (ECU)

- Controls the manifold to read and maintain tire pressure.
- Turns on warning lamp when tire pressure drops more than 10% (typical value) below target pressure.
- Detects and displays system service codes via warning lamp.
- Provides industry standard communications port.
- Stores historical data for future use.

Manifold

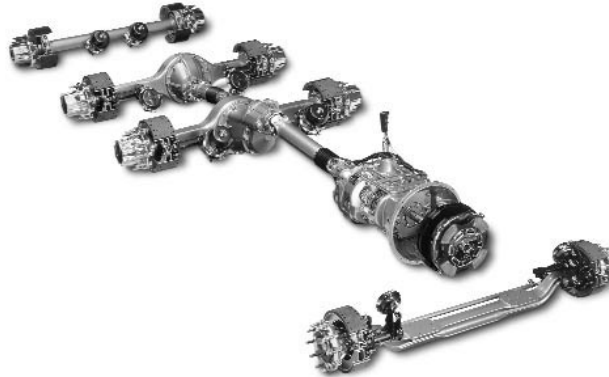
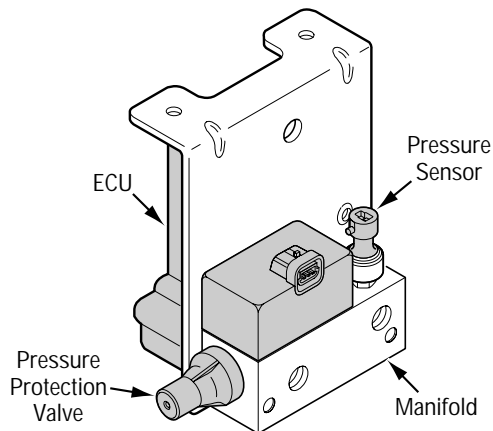
- Solenoids control flow of air to tires.
- Pressure Protection Valve ensures air supply is not used below 80psi.
- Pressure sensor reads tire pressures.
- Filter reduces internal contamination. Replace on a regular interval as required.

Rotary Joint (RJ)

- Rotary seal allows pressurized air to transfer from axle to hubcap.
- Vent path prevents air pressure build-up in hubcap.

Tire Hose and Check Valve

- Check valve prevents tire pressure loss back through the system.



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Dana[®] Spicer[®] Tire Maintenance System

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Operator Instructions



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System Overview

The Dana Spicer Tire Maintenance System is designed to automatically inflate tires that are below their cold tire pressure setting using compressed air from the brake supply tank. An integral brake priority valve ensures that the brake system always has sufficient air. Air seals and hoses remain non-pressurized when the system is not actively checking or inflating the tires. A warning lamp will turn on when one or more tire pressure(s) is low by 10% or more. The lamp will not turn on for minimal inflation requirements of less than 10%, thus avoiding operator distraction when no action is required.

If a tire is low, the remaining tires are protected from pressure loss by an integral check-valve located in each tire hose. In addition, should system or tire maintenance be required (i.e. leaky tire resulting in excessive inflation), the lamp will flash multiple times at power-up indicating service is required.

System Operation

To ensure that the system is functioning, the operator should verify that a 2 second warning lamp bulb check occurs when the unit is powered. The system is powered from the "blue circuit" on the 7 pin trailer connector.

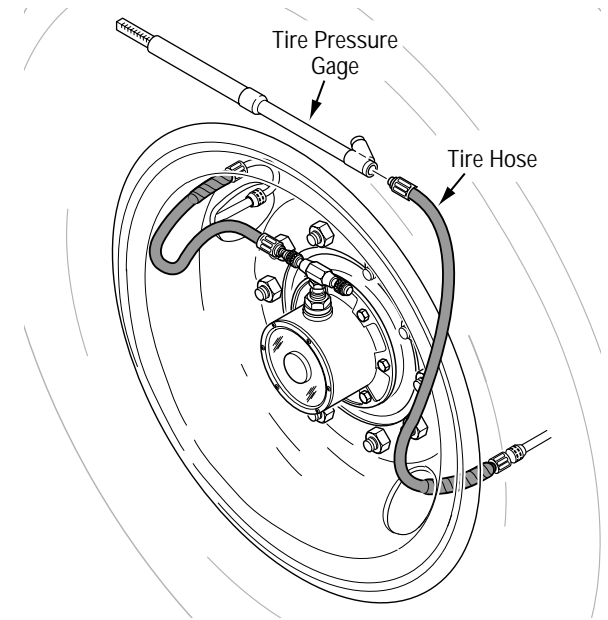
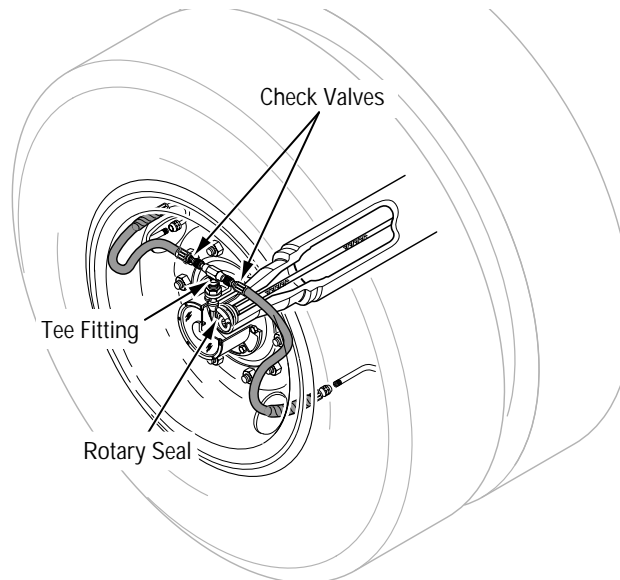
Once powered, the brake supply tank must be charged before the system will operate. The system will then pressurize the lines and measure the tire pressure. If one or more tires are low, the system automatically inflates the low tire(s) to the cold tire pressure setting. The remaining tires are protected from pressure loss by check-valves located in each tire hose. If one or more tires are low by 10% or more, the warning lamp will turn on and remain on until the tire(s) are re-inflated.

Once the tires are at the proper pressure, the seals and hoses will be de-pressurized, preventing unnecessary wear on the seals. The system re-checks tire pressure every 10 minutes by momentarily pressurizing the lines and measuring tire pressure as described above.

If the **warning lamp flashes multiple times on power-up**, the system has stored a service code and may be unable to properly check or maintain tire pressure. The operator should manually check tire pressures to ensure that it is safe to operate the vehicle and should seek service at the next opportunity.

If the **warning lamp remains on**, the system is attempting to inflate the tires but may not be able to adequately maintain proper tire pressure. The operator should stop and check the tires to determine if it is safe to continue to operate the vehicle and should seek service at the next opportunity.

⚠ CAUTION: All hoses must be connected for system to operate properly. If *any* of the hoses are removed or damaged, the system cannot inflate *any* low tire(s).



Manually Checking Tire Pressure

⚠ WARNING: To prevent injury, always wear eye protection when maintaining or servicing the vehicle.

NOTE: Check valves in the tire hoses prevent tire pressure loss when a tire hose is removed. You may, however, experience air flow at the open line and a low tire indication on the warning lamp if the tire hose is disconnected and the system is powered and attempts to check tire pressures.

To manually check tire pressure:

- Disconnect tire hose from tee or straight fitting at hubcap, or disconnect from valve stem.
- Use a conventional gage to measure tire pressure at hose end or at valve stem.
- Re-attach and firmly *hand-tighten* tire hose.

⚠ CAUTION: Do not over-tighten tire hose or the seal may be damaged! Ensure tire hoses are not stretched or rubbing on the wheel!