

# Bendix SR-5 Trailer Spring Brake Relay Valve Recall

July 2016



- Issue Description
- Symptoms on Affected Trailers
- Root cause
- Production & Field Solutions
- Status – Timing of remedy



# Issue Description

## From NHTSA Web Portal

### **Describe the defect:**

Certain SR-5 Trailer spring brake valve bodies were machined without a radius (Internal check valve seat)

### **Describe the cause:**

During transition to a new valve body supplier, a radius dimension was inadvertently omitted from a revised engineering drawing.

### **Describe the safety risk:**

Under certain conditions (primarily off-highway or in trailer yards) there can be a delay in the application of the spring brakes to park the trailer after the operator pulls the dash valve button.  
This slow to park condition could lead to trailer roll away after decoupling from the tractor.

### **Impacted Product**

This recall includes all Bendix SR-5 trailer spring brake valves manufactured between January 1, 2014 and March 4, 2016.

**No Accidents or Injuries Reported or Claimed**



## Symptoms on Affected Trailers

If the internal leakage develops in the SR-5, a leak can be heard or observed. This leakage will continue until the trailer reservoirs & spring brake chambers are depleted of air pressure.

If coupled to a tractor, a leak may be heard from the exhaust of the dash valve (Bendix® MV-3™ dash control valve) or from the tractor protection valve.

If uncoupled, a leak may be heard at the supply (red) gladhand on the trailer.

Additionally, if uncoupled & the internal leakage is present, there will be a loss of air pressure in the trailer reservoir, resulting in the eventual parking of the brakes. ‘Slow to apply’ condition can range from 30 seconds to several minutes depending on the severity of the leak (compared to <3 second compliance requirement)

Lastly, empty reservoir may impact the function of other air powered features on the trailer, such as slider locking pins, if so equipped.

### Bendix observations from discussions @ Impacted Fleet Customer

- Driver reported trailer “following switcher tractor” during de-couple
- Fleet reported one event at dock where trailer moved, causing dock plate bridge (used by tow motor to enter trailer) to marginally contact trailer.
- Fleet owner viewed issue as a safety concern - Risk of tow motor dislodging bridge.
- Common switcher operator practice is to only set the trailer brakes to minimize cycle time
- Switcher trailer combinations vulnerable to roll prior to landing gear touchdown if SR5 is from date range & certain other conditions (system pressures, etc.) are present & tractor (yellow button) is not used.

#### Interim Recommended Actions:

1. **Ensure use of Power unit parking during decoupling (Yellow Button)**
2. **Ensure Landing Gear contact with Ground prior to Pull away.**
3. **Usage of Wheel Chocks**
4. **Park on Level Ground**



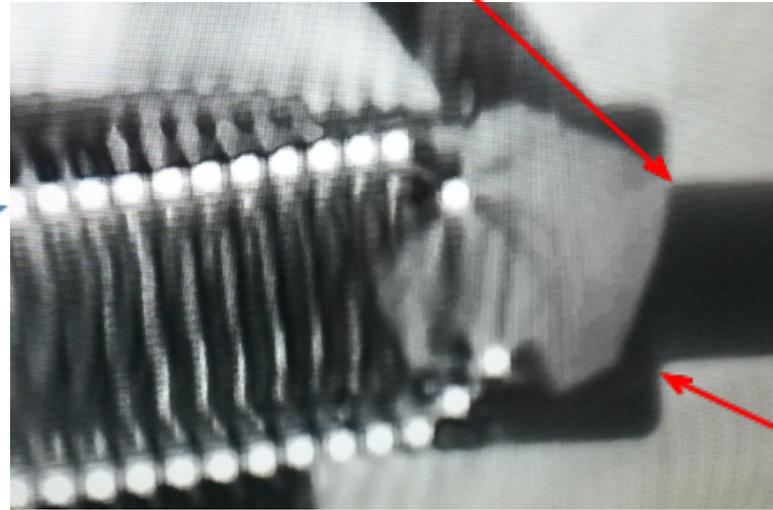
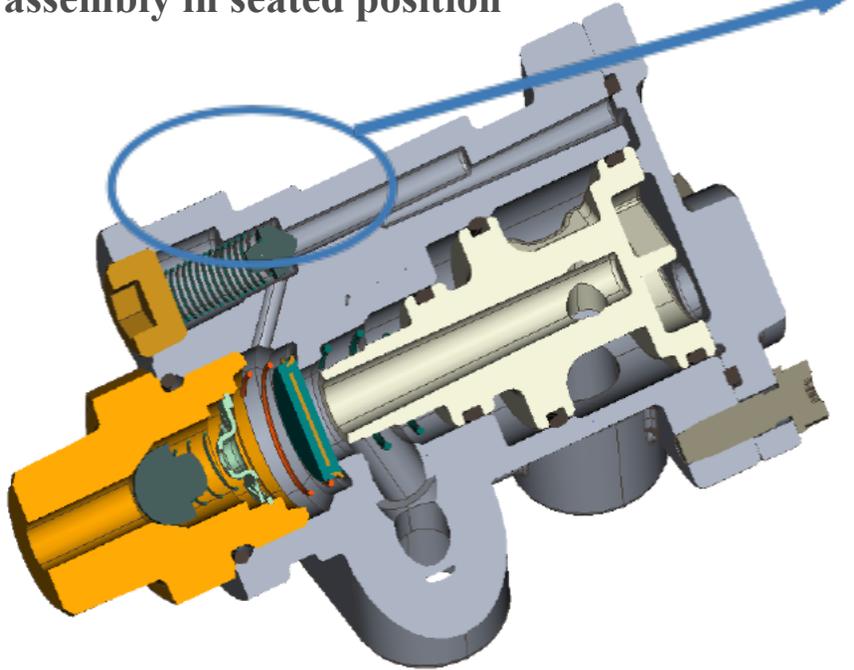
# Root cause

## Missing Radius on Aluminum valve Body

When combined with certain field conditions – causes misalignment of internal Check Valve

**Caught on Sharp Edge**

Sectional view of check valve assembly in seated position



**Missing Radius on Valve Body**



**Check Valve seat**  
(Radius Present / Radius Not Present)

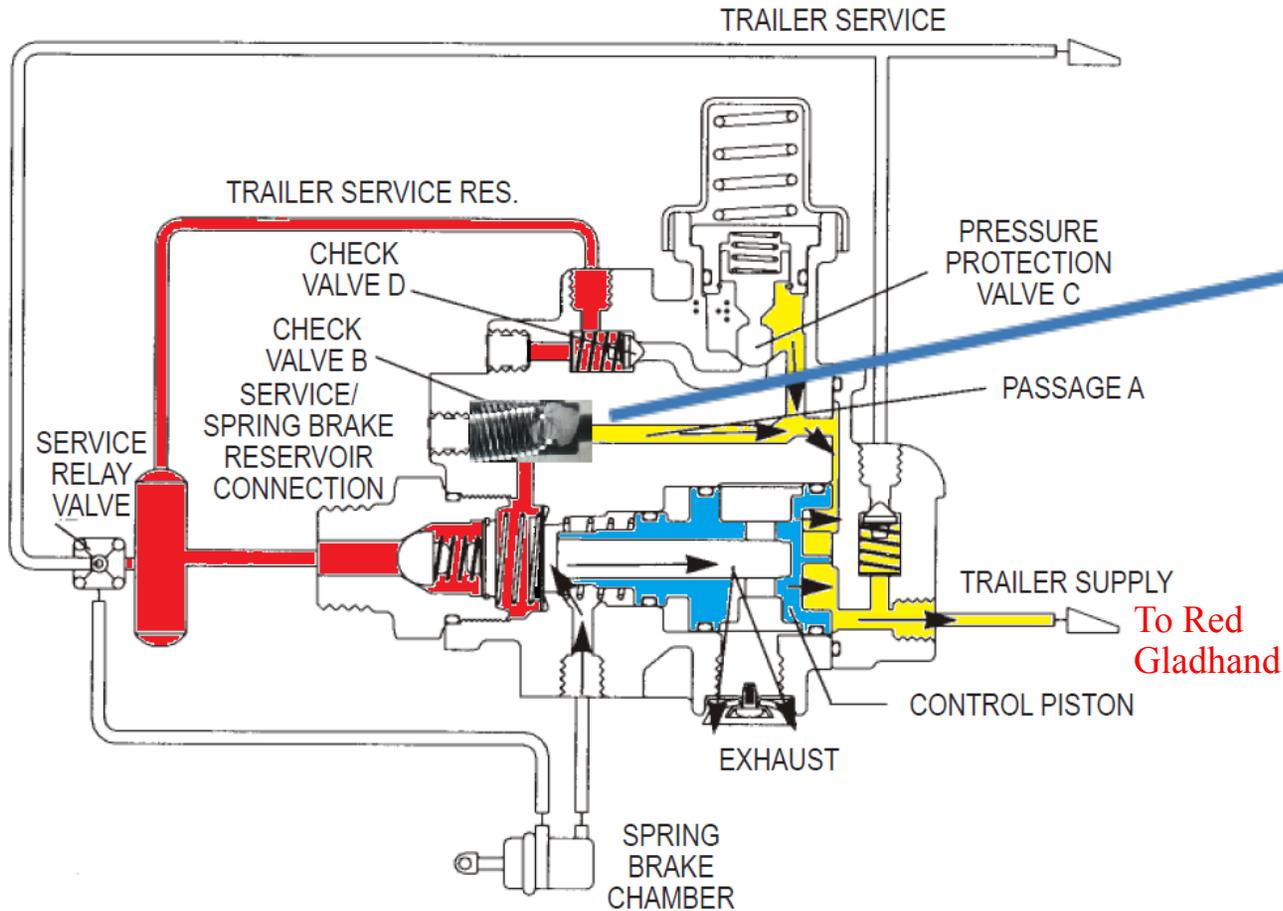
**If Valve becomes Misaligned, Leakage can be Large enough to cause 'Slow to Park'**



# Root cause

## Missing Radius on Aluminum valve Body

When combined with certain field conditions – causes misalignment of internal Check Valve



If Leakage is present (& large enough), the leaking air provides enough back pressure on the main control piston (**BLUE**) to prevent normal movement.

If the main piston does not move, immediate exhaust (<3 seconds) cannot happen.

This is how the leakage from the check valve is causing the 'slow to park' condition.

Once leakage fully exhausts tank pressure, the backpressure drops, the main piston moves & the trailer parks.

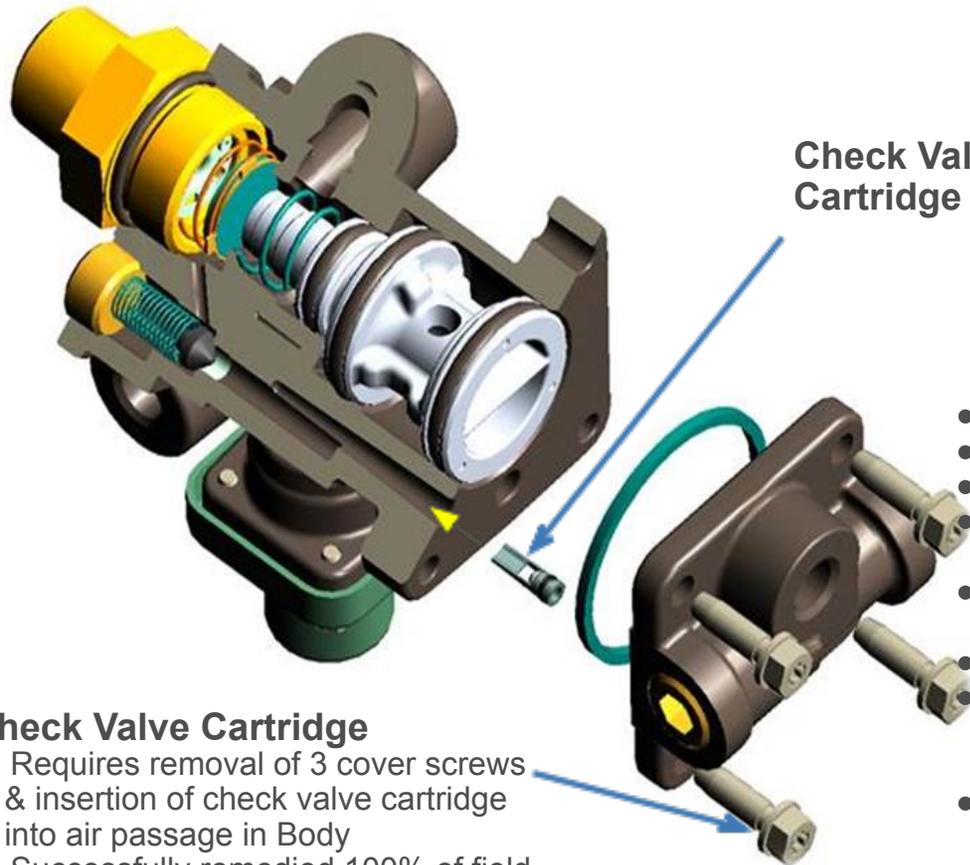
Missing Radius (combined with other conditions) can cause leakage – preventing immediate parking



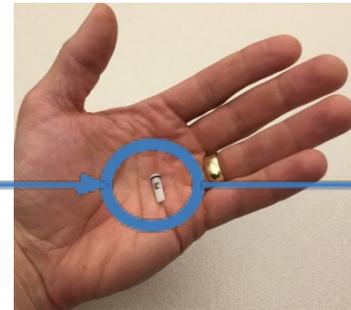
# Solution

## Production Remedy - Re-introduce Radius on Valve Body (Began on Mar 4, 2016)

Field Remedy – Field Rework Procedure to insert a Redundant Check valve cartridge in air passageway. Procedure will not require removal & replacement of SR-5.



Check Valve Cartridge



### Check Valve Cartridge

- Requires removal of 3 cover screws & insertion of check valve cartridge into air passage in Body
- Successfully remedied 100% of field returns w/ issue.

### Field Remedy Kit

- Fully Validated as of June 15 2016
- Bendix is in process of production ramp up of kit
- Target Kit Release Date – August 2016
- Follow-up Recall letters for both OE & AM customers will be mailed in late July, early August & will include:
  - Details on Identification of affected valves (Date codes)
  - Details for Kit ordering
  - Recall claim form – to track Trailer VIN's per NHTSA recall requirements & ensure reimbursement
  - Installation instructions (Including Video on website)
  - Post installation Identification (tie wrap on valve)

