

# MERITOR® BRAKE CHAMBERS



**MERITOR®**

## FEATURES AND BENEFITS

### DESIGN

- Steel spring housing with aluminum center section
- Designed for cost conscious customers
- Sealed spring brake (rear section) for O.H.S.

### MAIN SPRING

- Corrosion protected standard performance main spring
- Designed and tested to meet performance requirements

### CORROSION RESISTANCE

- Steel end caps are e-coated for excellent corrosion protection

### QUALITY LEVEL

- Double o-ring and bushing structure

### SIZE/STROKE

- Size options from 2424 to 3636
- Standard (2.5") stroke options

### OPTIONS

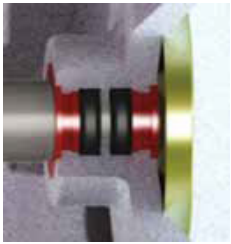
- Includes release tool and holder
- Tandem, piggyback and service chamber
- Available with clevis

### WARRANTY

- 1 year on-highway



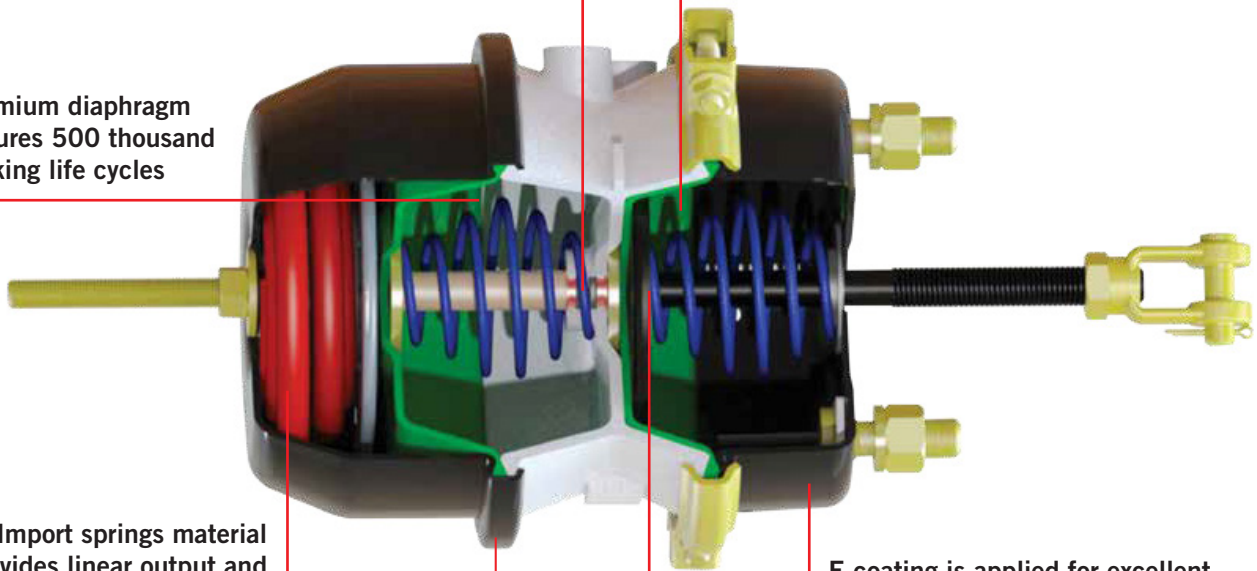
# CHOOSE MERITOR® BRAKE CHAMBERS



Double O-rings and bushings structure provides the best leak protection and wear resistance

Premium diaphragm ensures 1.2 million chamber life cycles specifications

Premium diaphragm ensures 500 thousand parking life cycles



Import springs material provides linear output and 500 thousand parking life cycles specifications

E-coating is applied for excellent corrosion protection

Sealed spring brake (rear section) for O.H.S.

Drawn arc stud welding is applied for pushrod plate forming a bond that is stronger than the surrounding metal



MERITOR PART NUMBER	DESCRIPTION
R872424C	2424 BRAKE CHAMBER
R872430C	2430 BRAKE CHAMBER
R873030C	3030 BRAKE CHAMBER
R873636C	3636 BRAKE CHAMBER

# MERITOR TROUBLE SHOOTING GUIDE FOR BRAKE CHAMBERS

The most common spring brake complaints, possible causes and how to correct them.

## The service brake is not applying adequate force:

### 1. Improper brake adjustment.

With brakes applied, check the brake chamber push rod to see if the orange Stroke Indicator band is showing. If so, readjust the slack adjuster in accordance with its manufacturer's instructions. Be certain that the spring parking brake chamber is fully released during this adjustment. (Please note, MERITOR along with most other spring brake manufactures, will have 2 separate orange stripes. Don't confuse the "Stroke Alert" band, which is located approximately 2" down the push rod. The stroke alert stripe indicates that your spring brake has a "Stroke Indicator.")

### 2. Available air pressure to brake chamber insufficient.

Is the system air pressure gage reading normal? If it's reading low, check compressor for proper operation. Look for kinked or blocked air lines. Check for defective valves.

### 3. Excessive brake lining or drum wear.

Handle in accordance with the manufacturer's inspection instruction. Check for incompatibility of truck and trailer valve system. Check brake chambers to insure they are fully released when brakes are not applied.

### 4. Improper slack adjuster operation or set-up.

The angle made by the brake actuator push rod with respect to the mounting surface should be perpendicular within plus minus 3 degrees from zero stroke to full stroke. The rod clearance hole in the non-pressure chamber (mounting plate) for the brake actuator push rod should not be elongated or show evidence of rubbing from the rod. With brakes applied, using 80/90 P.S.I., the angle between the push rod and slack adjuster should never be less than 90 degrees. Consult the slack adjuster manufacturer's literature for proper operation and set-up.

### 5. Damage to mounting bracket or non-pressure chamber.

Check bracket and non-pressure chamber for cracks or signs of damage. Verify that mounting nut torque is between 113 to 118 foot pounds. If structural damage is found, replace the defective parts immediately. Be sure to follow installation instructions for proper removal and reinstallation.

### 6. Brake chamber or air system (lines, fitting, valves) leakage.

There may be a system leak if the compressor comes on often, or pressure is unable to be maintained. Examine all lines, fittings and valves for proper connection and leakage. If no problems are found, inspect brake chambers for leakage. Listen for an audible sound, or spray the clamp bands with a soap/water solution. If leakage is found at the service side clamp area, check the torque on the clamp band ears and verify it is adequate, 25 to 28 foot pounds is recommended. If the leakage persists, replace the diaphragm and clamp band, or replace with new tandem spring brake unit.

## CAUTION:

### If leakage is found at:

- a) spring side clamp area (double clamp units only)
- b) end plug
- c) first valve in air line ahead of the spring brake (emergency release)

## DO NOT ATTEMPT TO REMOVE OR TIGHTEN SPRING CHAMBER CLAMP BOLTS.

Replace the valve if required, the entire piggyback or the entire spring brake chamber. Be sure to install the release bolt and cage the spring. **Never** attempt to work on any spring brake without first caging the spring brake.

### 7. Improper pushrod length.

This may be the problem if proper rod angularity is difficult to achieve, and/or frequent readjustment is necessary. Consult the vehicle manufacturer for proper rod length.

## MERITOR TROUBLE SHOOTING GUIDE FOR BRAKE CHAMBERS

### The parking brake is not holding. There is insufficient force:

**1. Refer to the possible causes just discussed under “Service brake not applying adequate force.”**

**2. Broken power spring.**

Remove the end plug from the release bolt access hole of the brake chamber. Use a flashlight to check for evidence of spring breakage. OR observe brake chamber stroke while applying and releasing the parking brake. If the expected range of motion is not observed, the spring may be broken. Also, the contents will rattle if the spring brake or piggyback is removed and shaken, indicating a probable broken spring.

### The parking brake will not stay released. (Dragging brakes)

**1. Available air pressure to brake chamber insufficient.**

Is the system air pressure gage reading normal? If it's low, check the compressor for proper operation. Look for kinked or blocked air lines. Check for defective valves.

**2. Service application air is not exhausting properly.**

Apply and release service brakes while listening to exhaust. If the sound is not normal, check for kinked or blocked air lines or defective valves.

**3. The spring brake piston is binding before the piston is fully retracted.**

Release the parking brake (Remove the end plug. Apply 90-100 P.S.I. air pressure.) Look to see if the top of the piston is approximately .200 inches from the head. If not, replace with a new spring brake assembly.

**4. Broken return spring in the service chamber.**

Remove piggyback and service diaphragm and inspect the return spring. If broken, replace with new return spring and new diaphragm or a new tandem unit. For best performance specify only new MERITOR parts.

**5. Ruptured diaphragm or damaged pushrod seal.**

Look for leakage at the parking chamber clamp bands. Remove release bolt access hole end cap and apply air to spring brakes (release). If you hear or feel air through the hole, the diaphragm is defective.

### WARNING:

### DO NOT ATTEMPT TO REPLACE THE DIAPHRAGM. REPLACE THE PIGGYBACK OR COMPLETE 3030T SPRING BRAKE.

If air applied to the spring chamber has a tendency to apply the service brake, or to cause the service exhaust valve to leak, the pushrod seal is leaking. (To verify, remove the service air line and apply air to the parking chamber. If air is detected coming through the open service air port, the pushrod seal is leaking.) Replace piggyback or new MERITOR 3030T spring brake chamber.

**6. Autoslack over-adjustment or camshaft linkage binding.**

Consult the manufacturer's service manual.

**7. Broken power spring or return spring in parking brake section.**

A broken power spring can be diagnosed as discussed in the previous section. A broken return spring in the parking chamber is difficult to diagnose. Either case requires the complete replacement of the piggyback or new tandem unit.

### Service brakes apply or the service exhaust valve leaks when air is applied to the parking brake:

**Air is leaking through the pushrod seal.**

Replace the entire piggyback unit or install a new tandem unit.



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