

# Calipers with Service-Only Chambers

Calipers without parking brake actuator (i.e., steer, tag, pusher)



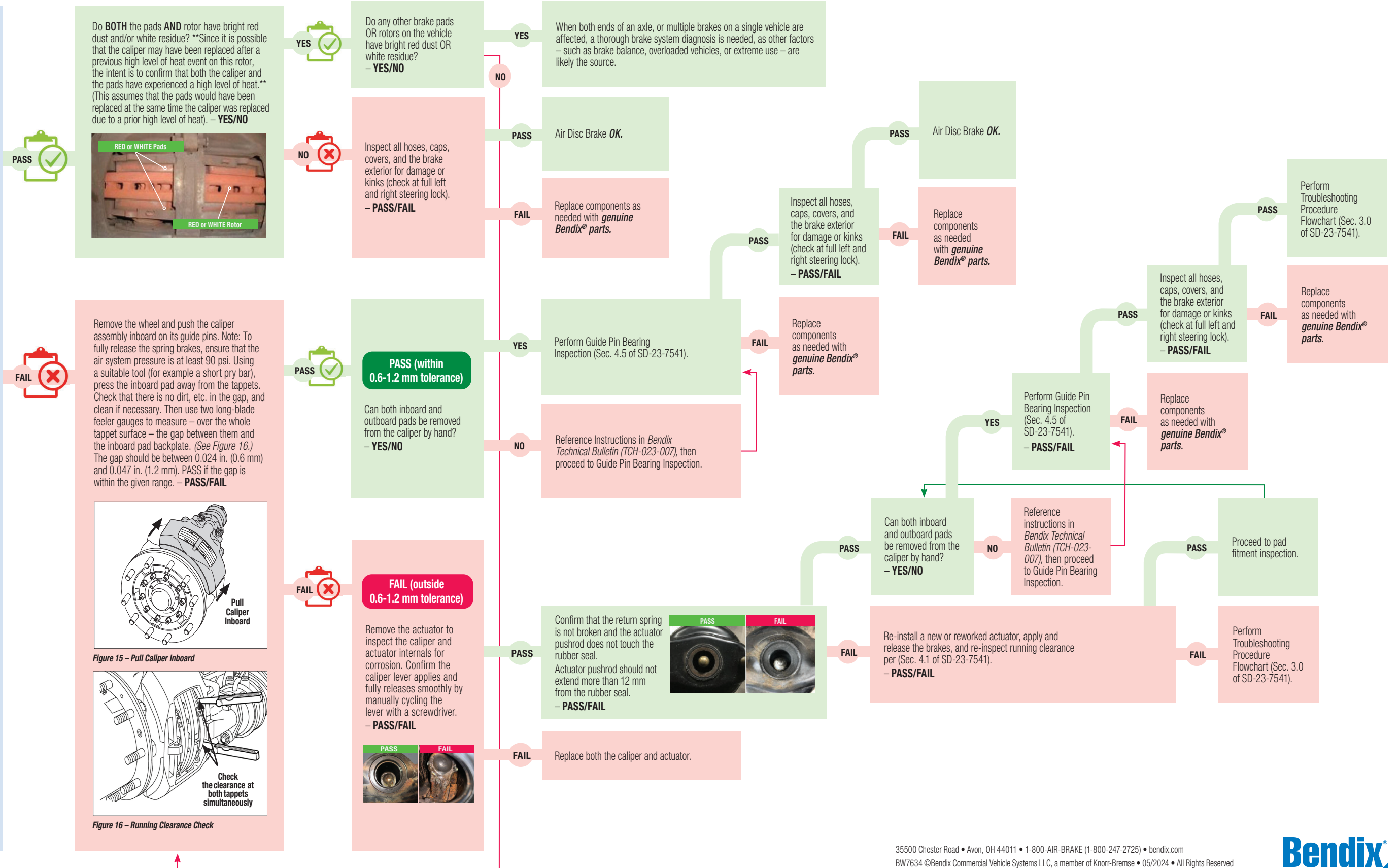
## RUNNING CLEARANCE QUICK INSPECTION

**CAUTION: FOLLOW ALL SAFE MAINTENANCE PRACTICES.**

On level ground, with the wheels chocked and the parking brake temporarily released, verify there is sufficient running clearance between the pads. Using hand pressure only (no tools), check for inboard/outboard movement of the brake caliper. Small movement of less than 0.08 in. (2 mm) – approximately the thickness of a nickel – indicates that there is sufficient running clearance and the caliper is sliding freely. For a more accurate reading, a dial indicator may be used to measure running clearance. The recommended running clearance range is 0.024-0.047 in. (0.6-1.2 mm). Fail if the caliper movement or running clearance are unable to be confirmed. – **PASS/FAIL**



Bendix technical documents (such as SD-23-7541) can be found at the online Document Library at B2Bendix.com.



Do **BOTH** the pads **AND** rotor have bright red dust and/or white residue? \*\*Since it is possible that the caliper may have been replaced after a previous high level of heat event on this rotor, the intent is to confirm that both the caliper and the pads have experienced a high level of heat.\*\* (This assumes that the pads would have been replaced at the same time the caliper was replaced due to a prior high level of heat). – **YES/NO**

**PASS**

Remove the wheel and push the caliper assembly inboard on its guide pins. Note: To fully release the spring brakes, ensure that the air system pressure is at least 90 psi. Using a suitable tool (for example a short pry bar), press the inboard pad away from the tappets. Check that there is no dirt, etc. in the gap, and clean if necessary. Then use two long-blade feeler gauges to measure – over the whole tappet surface – the gap between them and the inboard pad backplate. (See Figure 16.) The gap should be between 0.024 in. (0.6 mm) and 0.047 in. (1.2 mm). **PASS** if the gap is within the given range. – **PASS/FAIL**

**FAIL**

**Figure 15 – Pull Caliper Inboard**

**Figure 16 – Running Clearance Check**

Do any other brake pads OR rotors on the vehicle have bright red dust OR white residue? – **YES/NO**

**YES**

**NO**

**PASS (within 0.6-1.2 mm tolerance)**

Can both inboard and outboard pads be removed from the caliper by hand? – **YES/NO**

**PASS**

**FAIL (outside 0.6-1.2 mm tolerance)**

Remove the actuator to inspect the caliper and actuator internals for corrosion. Confirm the caliper lever applies and fully releases smoothly by manually cycling the lever with a screwdriver. – **PASS/FAIL**

**FAIL**

When both ends of an axle, or multiple brakes on a single vehicle are affected, a thorough brake system diagnosis is needed, as other factors – such as brake balance, overloaded vehicles, or extreme use – are likely the source.

**PASS**

Air Disc Brake **OK**.

**FAIL**

Perform Guide Pin Bearing Inspection (Sec. 4.5 of SD-23-7541).

**YES**

**NO**

Confirm that the return spring is not broken and the actuator pushrod does not touch the rubber seal. Actuator pushrod should not extend more than 12 mm from the rubber seal. – **PASS/FAIL**

**FAIL**

Inspect all hoses, caps, covers, and the brake exterior for damage or kinks (check at full left and right steering lock). – **PASS/FAIL**

**PASS**

**FAIL**

Can both inboard and outboard pads be removed from the caliper by hand? – **YES/NO**

**PASS**

**NO**

Re-install a new or reworked actuator, apply and release the brakes, and re-inspect running clearance per (Sec. 4.1 of SD-23-7541). – **PASS/FAIL**

**FAIL**

Perform Troubleshooting Procedure Flowchart (Sec. 3.0 of SD-23-7541).

**PASS**

**FAIL**

Replace components as needed with **genuine Bendix® parts**.

**PASS**

**FAIL**

Perform Troubleshooting Procedure Flowchart (Sec. 3.0 of SD-23-7541).

**FAIL**



# Calipers with *Parking Brake Chambers*

Calipers with parking brake actuator



## RUNNING CLEARANCE QUICK INSPECTION

**CAUTION: FOLLOW ALL SAFE MAINTENANCE PRACTICES.**

On level ground, with the wheels chocked and the parking brake temporarily released, verify there is sufficient running clearance between the pads. Using hand pressure only (no tools), check for inboard/outboard movement of the brake caliper. Small movement of less than 0.08 in. (2 mm) – approximately the thickness of a nickel – indicates that there is sufficient running clearance and the caliper is sliding freely. For a more accurate reading, a dial indicator may be used to measure running clearance. The recommended running clearance range is 0.024-0.047 in. (0.6-1.2 mm). Fail if the caliper movement or running clearance are unable to be confirmed. – **PASS/FAIL**



Bendix technical documents (such as SD-23-7541) can be found at the online Document Library at B2Bendix.com.



Do **BOTH** pads **AND** rotors have bright red dust and/or white residue? \*\*Since it is possible that the caliper may have been replaced after a previous high level of heat event on this rotor, the intent is to confirm that both the caliper and the pads have experienced a high level of heat event.\*\* (This assumes that the pads would have been replaced at the same time the caliper was replaced due to a prior high level of heat event). – **YES/NO**

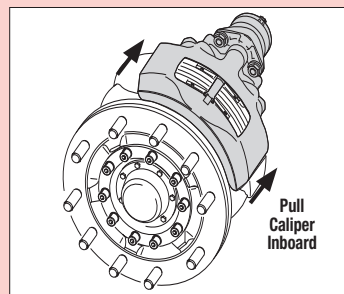
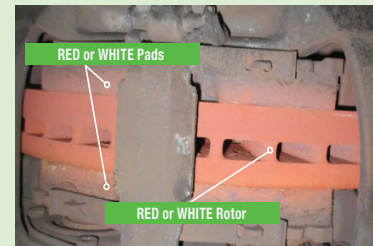


Figure 15 – Pull Caliper Inboard

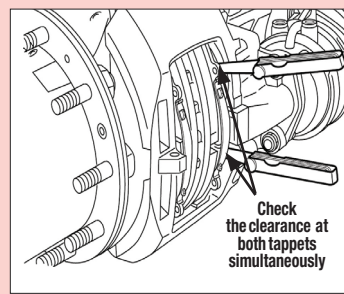


Figure 16 – Running Clearance Check

Remove the wheel and with the spring brakes released or caged, push the caliper assembly inboard on its guide pins. Note: To fully release the spring brakes, ensure that the air system pressure is at least 90 psi. Using a suitable tool (for example a short pry bar), press the inboard pad away from the tappets. Check that there is no dirt, etc. in the gap, and clean if necessary. Then use two long-blade feeler gauges to measure – over the whole tappet surface – the gap between them and the inboard pad backplate. (See Figure 16.) The gap should be between 0.024 in. (0.6 mm) and 0.047 in. (1.2 mm). PASS if the gap is within the given range. – **PASS/FAIL**



Do any other brake rotors OR pads on the vehicle have bright red dust OR white residue? – **YES/NO**



Inspect all hoses, caps, covers, and the brake exterior for damage or kinks. – **PASS/FAIL**



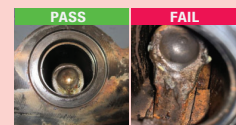
**PASS (within 0.6-1.2 mm tolerance)**

Can both inboard and outboard pads be removed from the caliper by hand? – **YES/NO**



**FAIL (outside 0.6-1.2 mm tolerance)**

Cage parking brake chamber before removing. Remove the actuator to inspect the caliper and actuator internals for corrosion. Confirm the caliper lever applies and fully releases smoothly by manually cycling the lever with a screwdriver. – **PASS/FAIL**



**YES**

When both ends of an axle, or multiple brakes on a single vehicle are affected, a thorough brake system diagnosis is needed, as other factors – such as brake balance, overloaded vehicles, or extreme use – are likely the source.

**NO**

Inspect for leaks in the parking system and broken spring brake chambers. – **PASS/FAIL**

**PASS**

Air Disc Brake **OK**.

**FAIL**

Replace components as needed with **genuine Bendix® parts**.

**YES**

Perform Guide Pin Bearing Inspection (Sec. 4.5 of SD-23-7541).

**NO**

Reference Instructions in *Bendix Technical Bulletin (TCH-023-007)*, then proceed to Guide Pin Bearing Inspection.

**PASS**

Inspect all hoses, caps, covers, and the brake exterior for damage or kinks (check at full left and right steering lock). – **PASS/FAIL**

**FAIL**

Repair leaks in the parking system or replace the suspect spring brake actuator per *Bendix Service Data Sheet (SD-23-7541)*.

**PASS**

Air Disc Brake **OK**.

**FAIL**

Replace components as needed with **genuine Bendix® parts**.

**PASS**

Can both inboard and outboard pads be removed from the caliper by hand? – **YES/NO**

**YES**

Perform Guide Pin Bearing Inspection (Sec. 4.5 of SD-23-7541). – **PASS/FAIL**

**NO**

Reference instructions in *Bendix Technical Bulletin (TCH-023-007)*, then proceed to Guide Pin Bearing Inspection.

**PASS**

Perform Troubleshooting Procedure Flowchart (Sec. 3.0 of SD-23-7541).

**FAIL**

Replace components as needed with **genuine Bendix® parts**.

**PASS**

Proceed to pad fitment inspection.

**FAIL**

Perform Troubleshooting Procedure Flowchart (Sec. 3.0 of SD-23-7541).

