

# Webb Wheel Products – Common Caliper Issues

Note: Webb Wheel Products recommends ADB inspections be conducted every 3 months. This frequency should be considered a minimum and depending on the vehicle application, more frequent checks may be required. Refer to the vehicle manufacturer's instructions with regard to service intervals for brake calipers, brake pads, brake rotors, and air chambers. Below are some of the most common warranty issues for air disc brake calipers.

**Air Chamber Inspection** - A common entry point for water to enter the caliper is thru the air chamber. It is critical that the air chamber be properly installed and maintained to prevent water from damaging the brake components.

- Check the flange seal that is visible on the air chamber mounting face. The seal should protrude at least .12" (3mm) past the face of the air chamber. (Figure 1). The seal should be free of any nicks or damage
- After checking the flange seal, carefully inspect the visible part of the pushrod. If water or rust staining is present on the pushrod, it is a clear sign that the pushrod seal/boot has split or is not seating correctly (Figure 2)
- Ensure the air chamber vent holes are free and clear of any dirt or debris (Figure 3)
- To ensure proper sealing to the caliper, install the air chamber retaining nuts in an alternate sequence per the vehicle manufacturer's recommendations

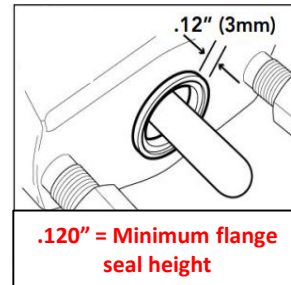
**Guide Sleeve Inspection** – The guide pin boots can be an entry point for water to enter the caliper. During regular vehicle inspection, always inspect the guide sleeve boots for tears or heat damage.

- First, remove the brake pads and verify the caliper floats freely on its guide pins
- Ensure the guide pin boots are correctly fitted into the recessed section on the guide pin (Figure 4) and the plastic retaining washer is installed correctly
- Fully inspect the guide pin boots for heat damage and/or nicks and tears (Figure 5)
- Water and corrosion in the guide pin bores can lead to a seized guide pin, uneven brake wear, brake drag, or thermal damage

**End Cap Inspection** - On MC225 calipers, both guide pins are sealed using metal caps and inner boots. On NS225 calipers, one metal protective cap and one plastic cap are used in conjunction with inner boots. It is critical these caps are properly installed to prevent water/corrosion from entering the guide sleeve bores

- Missing end caps will allow water/debris to enter the guide pin bore resulting in corrosion (Figure 6)
  - This can lead to the caliper not floating correctly or seizing up
- Improperly fitted or angled end caps may also allow water entry (Figure 7)
- Proper installation tools help correctly install the end caps
  - Webb Wheel offers a toolkit to help with end cap installation – Part number KS0020 (Figure 8)

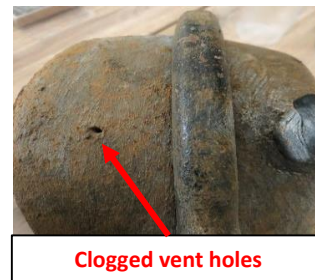
**Figure 1**



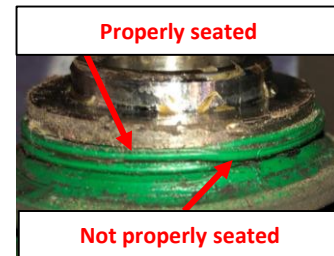
**Figure 2**



**Figure 3**



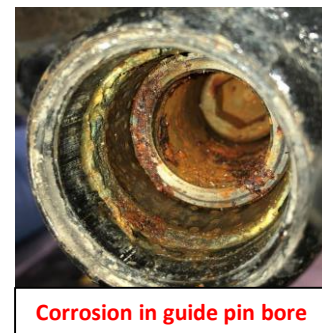
**Figure 4**



**Figure 5**



**Figure 6**



**Figure 7**



**Figure 8**

