

Technical Bulletin

Bulletin No: TCH-023-004

Effective Date: 5/17/2019

Cancels: N/A

Page: 1 of 6

Subject: Disc Brakes Exhibiting Noisy Operation and/or Abnormal Pad Wear

General

Bendix Spicer Foundation Brake LLC has discovered that some 22.5" Knorr-Bremse SB-7™ or SN-7™ brake assemblies may exhibit noisy operation and/or abnormal pad wear. The brake assembly models that exhibit these conditions and fall within specific dates of manufacture may be covered under an extended warranty. The following information will aid in determining if an air disc brake assembly falls within these guidelines.

Identifying Excessive Brake Noise

All disc brakes will make some noise during operation. Normal noises created by the brake are typically relatively quiet when compared to the ambient noise of the vehicle. One of the characteristics shown by parts impacted by this **issue** is a clunking or creaking noise coming from the caliper during brake applications. To test for this condition, make a gentle service brake application – with the vehicle stationary and the wheels chocked – and gradually increase the pressure until coming to a full pedal application. Be sure to apply at least 75 psi of application pressure. Listen for a creaking, groaning, or clunking noise coming from the suspect brake caliper. If this noise is detected, check the identification tag to identify if the brake assembly is the appropriate model and was manufactured during the suspect time period. Typically the noise can be heard from the driver's seat if it occurs on a steer axle brake. If observed directly at the wheel ends, the noise will be noticeably louder.

Identifying Abnormal Pad Wear

Another characteristic shown by parts impacted by this issue is abnormal brake wear. During a normal maintenance inspection, look for the following conditions:

1. The difference in pad thickness between inboard and outboard pads is greater than 3 mm; or
2. The difference in thickness on both ends (left to right) of the same brake pad is greater than 2 mm.

For the proper procedure to measure pad thickness, refer to Knorr-Bremse service document Y006471 (SN-7) or C16352 (SB-7) available on knorr-bremsecv.com. If either of these conditions exist, check the identification tag to identify if the brake assembly is the appropriate model and was manufactured during the suspect time period.

Identifying the Manufacturing Date of the Brake Assembly

The air disc brake assemblies that qualify for the extended warranty were manufactured between January 1, 2015 & January 16, 2017. To identify the date of manufacture, first locate the identification tag on the brake caliper as shown below. This information is presented differently between brake assemblies manufactured by Knorr-Bremse and those manufactured by Bendix.

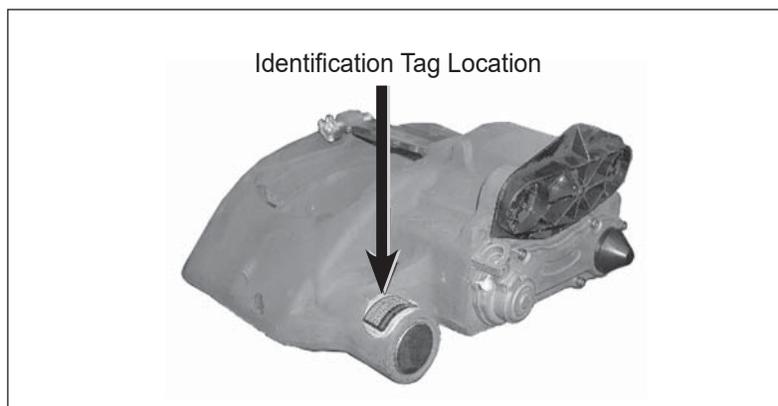


Figure 1 – Brake Assembly Identification Tag Location

Knorr-Bremse Air Disc Brake Identification Tag:

Verify the brake type. This is found in the third row of numbers on the tag. The brake type must be a Knorr-Bremse SB-7™ or SN-7™ brake to be covered by this bulletin. (Refer to Figure 2.)

Next, look for the first six (6) digits of the date code located on the bottom line of the identification tag. These six (6) digits of the date code can be interpreted as follows:

Digit	Description - (First six (6) Digits of the Date Code)
1	A, L, or C for the manufacturing location. (Assemblies with a letter C are not considered for the extended warranty).
2 & 3	Year of manufacture. E.g., 15 = 2015 (Assemblies with 15, 16, or 17 are considered for the extended warranty).
4 & 5	Production week. E.g., 36 = 36 th week in the year of manufacture. (01 through 52).
6	Day in the production week. E.g., 1 = Monday, 2 = Tuesday, etc. (1 through 7).

The range of date code values pertaining to this bulletin is A or L followed by 15014 through 17031, which represents the entire period between January 1, 2015 and January 16, 2017. An example of the Knorr-Bremse identification tag is shown in Figure 2.

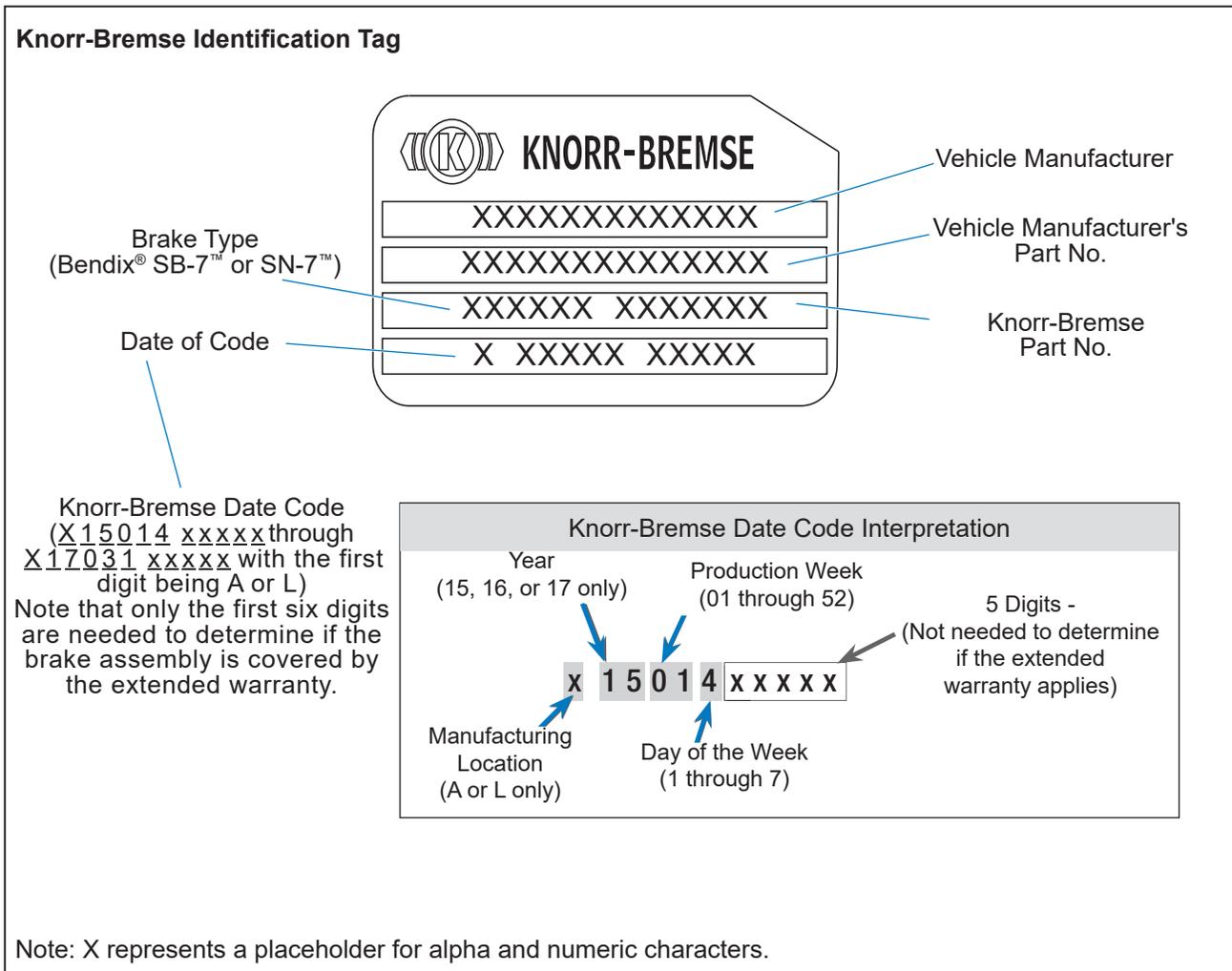


Figure 2 – Knorr-Bremse Identification Tag

Identifying Guide Pins Manufactured During the Suspect Time Period

It is possible that a brake assembly manufactured outside the suspect date range may have been serviced with guide pins manufactured within the suspect date range. If your brake assembly exhibits the same conditions identified on page 1 – such as noisy operation and/or abnormal pad wear – and if it was serviced with a guide pin kit purchased from Bendix Spicer Foundation Brake LLC or a Bendix supplier, the kit may be covered under the extended warranty.

To determine if the guide pin kit is covered by the extended warranty it is necessary to disassemble the caliper carrier assembly and visually inspect the guide pins. Be sure to have the appropriate replacement service kit on-hand before beginning disassembly, as it is not possible to re-use the old parts once they have been removed.

Once the caliper has been removed from the carrier, remove and inspect the fixed pin from the caliper assembly. The guide pin is accessible once the retaining bolt holding the caliper to the carrier has been removed.

Inspect the end of the guide pin. If there is a groove cut in the face of the pin it is covered by the extended warranty. If the pin does not contain a groove it does not fall within the range of suspected parts and is not eligible for the extended warranty coverage. (Refer to Figure 3.)

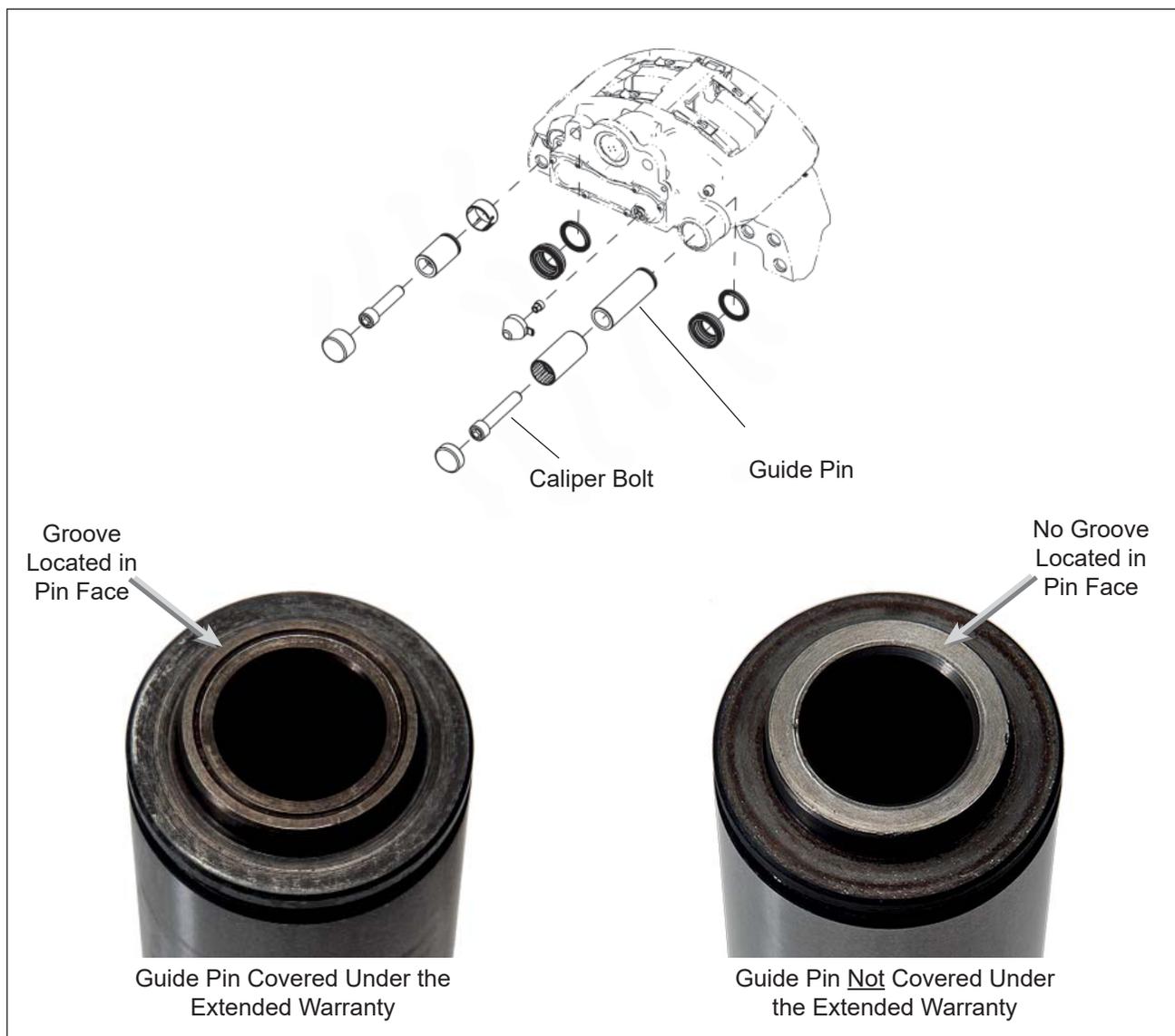


Figure 3 – Guide Pin Identification

Extended Warranty Coverage Details

Bendix Spicer Foundation Brake LLC ("Company") extends its warranty to the original retail purchaser of Bendix® SB-7™ and SN-7™ air disc brake products sold by the Company from two (2) years/unlimited mileage to three (3) years/unlimited mileage if the following conditions are met:

1. The brake must exhibit excessive noise or abnormal pad wear as defined in this document.
2. The brake was manufactured between January 1, 2015 and January 16, 2017 or the guide pin was replaced within the past 3 years.
3. Claim must be filed in the online webshop at bendix.biz.
4. Brake pads, guide pins, and bushings must be shipped to the Bendix Warranty Lab for inspection.
5. Inspection shows the guide pin is covered by the extended warranty and has led to the abnormal pad wear as defined in this document.

This limited warranty does not cover defects or damage caused by abuse, misuse, road debris, accidents or improper installation, maintenance or service, or use in non-standard vehicle applications that have not been approved by the Company or which do not meet Company specifications and guidelines (i.e. Bendix warranty coverage requires that the use or application of the products must be approved pursuant to standard OEM and Company engineering approvals). Normal wear and tear of brake pads or rotors (including the cast tone ring) is not covered under this limited warranty. Boot damage resulting from road hazards or use of improper replacement tools is not covered under this limited warranty. Any damages resulting from the use of non-OE approved replacement components, including brake pads, rotors, or brake chambers are not covered under this limited warranty.

Product:

Product claimed to be defective must be returned – freight prepaid – via the Original Equipment (OE) dealership or authorized company distributor within thirty (30) days after the date any defect is first discovered. Unauthorized repairs will void this limited warranty.

The Company will inspect the product and make the final determination as to whether the product is covered under the terms of this limited warranty. When a warranty claim is allowed, the Company's responsibility is limited – at the Company's sole option – to repair or replace the defective product with a remanufactured exchange unit. The replacement unit will be warranted for the remaining time period, mileage, or hours of the original warranty.

Labor:

For thirty-six (36) months, unlimited miles, the Company will reimburse (at its current labor rate) applied to the standard hours allowed in Removal and Replacement Schedule (BW1322) when the Company determines that a defective product was installed. Labor coverage is included only when Bendix brand brake pads, rotors, and brake chambers are used.

Refer to Figure 4 for a diagnostic flow chart that will aid in the proper identification and diagnosis of a suspected caliper.

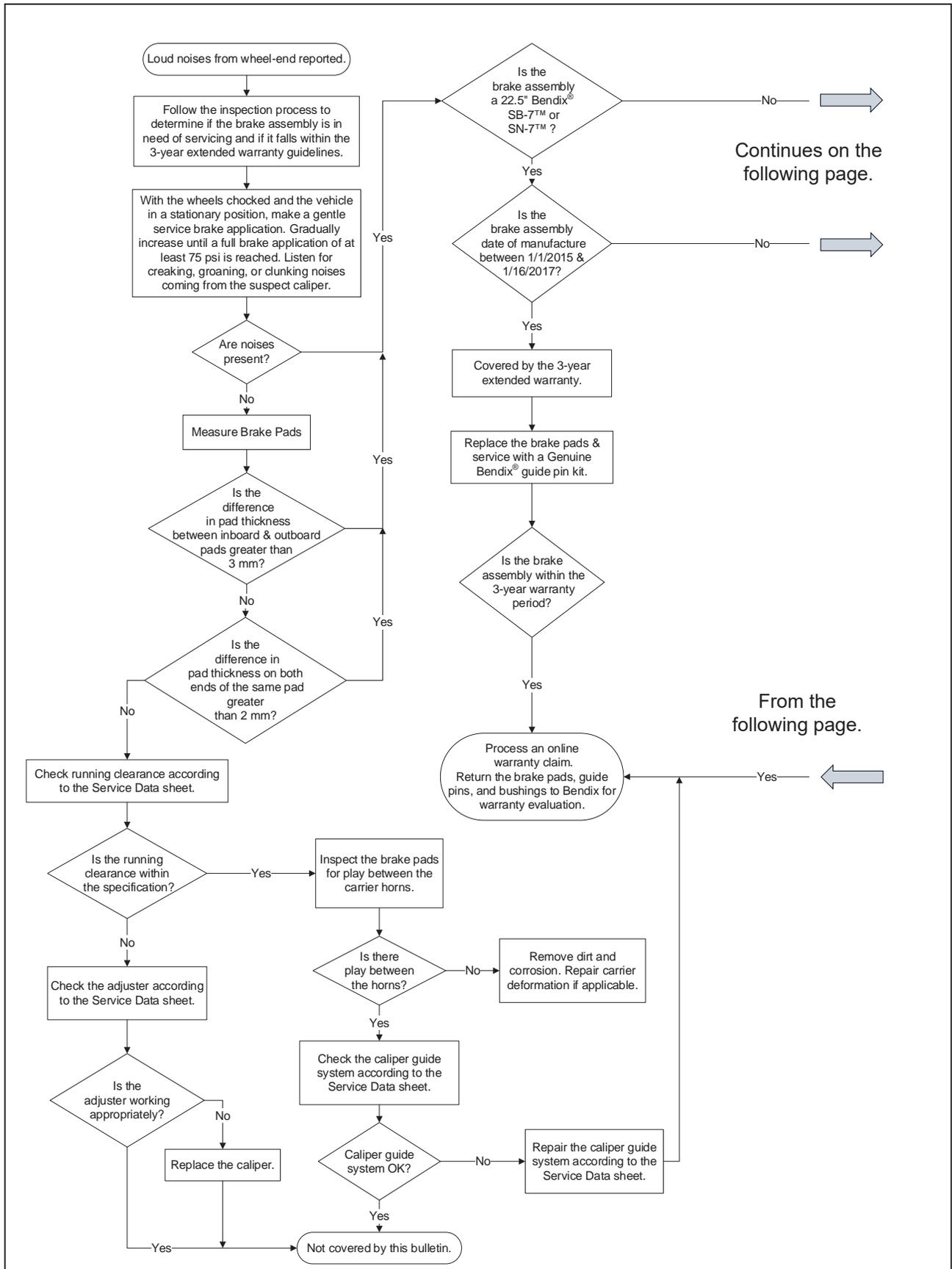
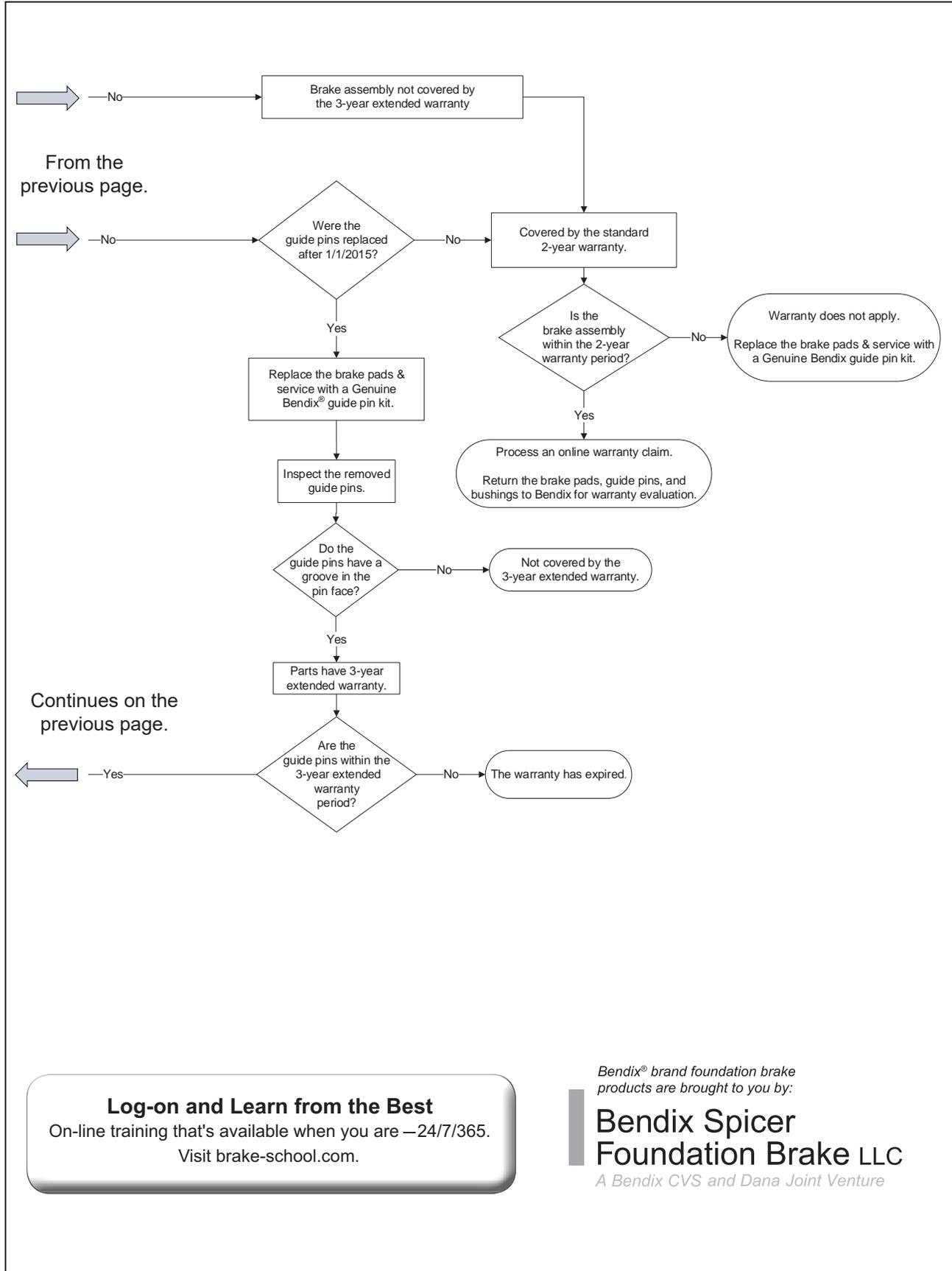


Figure 4 – Diagnostic Flowchart



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Figure 4 – Diagnostic Flowchart - (Continued)