Technical Tip

Caliper Bushing Inspection & Replacement

Haldex DB 22 LT & DB 22 Modul-X Air Disc Brake

DB 22 Serial Number 10180001, DB 22 LT Serial Number 10180001, Manufactured after May 3rd, 2010

This Service Bulletin provides an inspection procedure for determining the amount of clearance between the caliper slide pins and bushings and the follow-up action that may be required based on the amount of clearance found. Step #1, Identify the caliper part number as shown below.

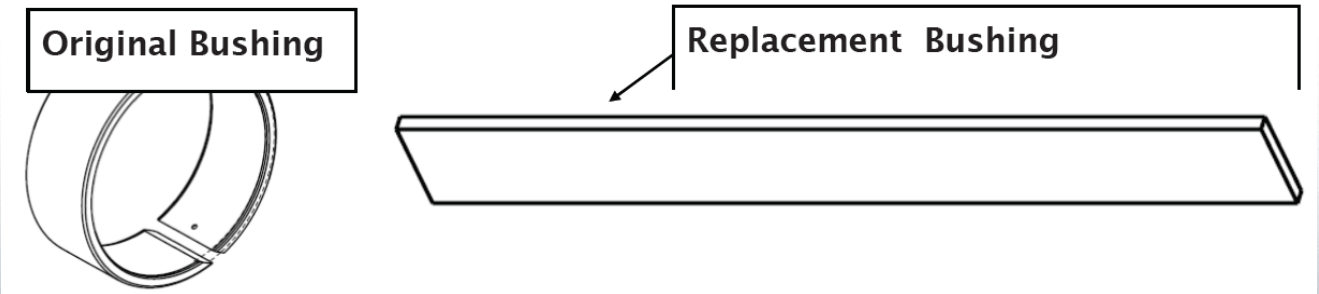
Product identification

Type and serial numbers are stamped on an identification plate fixed to the caliper.

1.	OEM/Haldex logo	5.	Haldex S/N 226123 (example)
2.	OEM P/N (if required)	2	= year, 2002
3.	Haldex (origin) assembled in the U.S.A.	26	= week number.
4.	Haldex P/N xxxxx	123	= sequential number

Background: In-service occurrences of excess clearance on DB 22 LT and DB 22 Modul-X caliper slide pins and bushings have been reported.

Action: Replace worn original bushings and slide pins with a replacement bushing kit (#790-95697), ***IF*** slide pin to bushing clearance exceeds specifications.



SAFETY: Use proper maintenance practices when working with commercial vehicle brakes. Always chalk vehicle wheels. Wear appropriate eye and hearing protection. Red Tag Vehicle while working under chassis.

Technical Tip

DB 22 LT & DT 22 Modul-X Air Disc Brake Caliper Bushing Inspection & Replacement

Release the vehicle Parking Brakes before inspecting pin/bushings.

Bushing Clearance Inspection (Wheels on): Use a measurement tool (magnet type base with a Dial Indicator gauge) and secure it to the trailer axle or carrier to measure the caliper slide pin/bushing clearance. Another acceptable method is to use a tripod with extendable rods to reach the caliper with the Dial Indicator.

1. Position the Dial Indicator on the top side of caliper above the caliper bushings as shown at right.

2. Set the dial indicator to zero.

3. Insert a pry bar (approximately 12" long) between the tire rim and caliper to move the caliper in an upward direction. Another acceptable method is to push up on the end of the actuator housing with your hand.

4. Repeat this check at least 3 times. Make sure all 3 readings are within .005" of each other.

5. Above .040" clearance, all the bushings and pins need to be replaced on the caliper. Note: You must always replace the slide pin bolts and torque the new bolts to 205 ft. lbs.

6. Above .050" clearance, tear down and inspect the bushing bores in the caliper for .040" clearance, all the bushings and pins need to be replaced on the caliper. Note: You must always replace the slide pin bolts and torque the new bolts to 205 ±15 ft. lbs.

7. The in-service inspection interval should be every 6 months. Inspection can be performed less often if the clearance is found to be significantly less than .040".

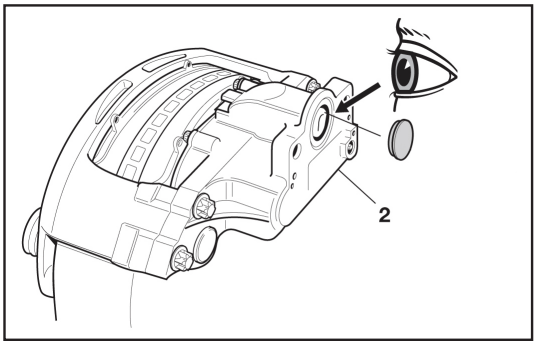
Haldex	Replace bushings/pins with clearance greater than	Inspect bushing bores with clearance greater than	Inspeciton Frequency
Modul X DB 22 LT	.040"	.050"	Starting @ 6 Months
Modul X DB 22	.040"	.050"	Starting @ 6 Months

Technical Tip

Replacing slide bearings and bellow

Check through the aperture in the brake chamber (25/26) attachment flange for moisture / corrosions. If present, replace the caliper housing (2) to avoid operating problems

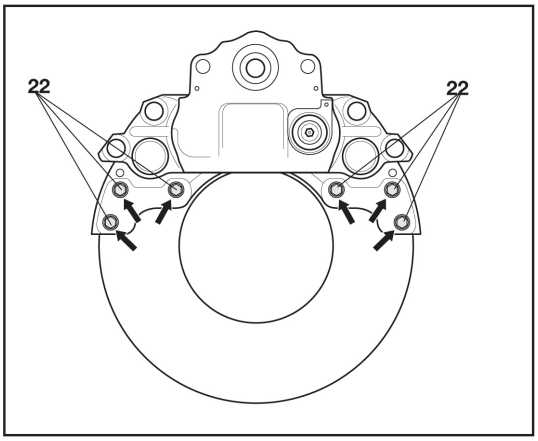
If action is required see section on "Replacing caliper housing".



Removing disc brake

Loosen the disc brake's retaining bolts(22)

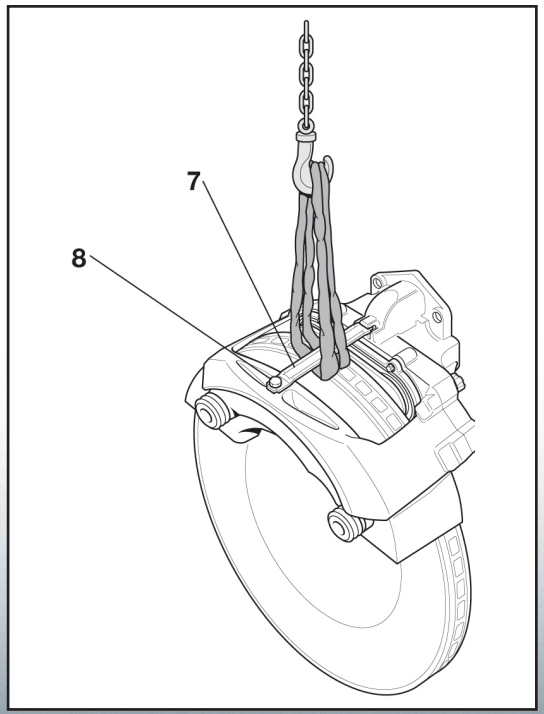
Bolt Torque - 350 ± 25 ft. lbs.



Fit pad retainer (7) and secure with bolt (8). Connect a lifting strap and a suitable lifting device.

Remove the retaining bolts (22), lift out the disc brake.

Remove the lifting strap, bolt(8) and pad retainer (7).

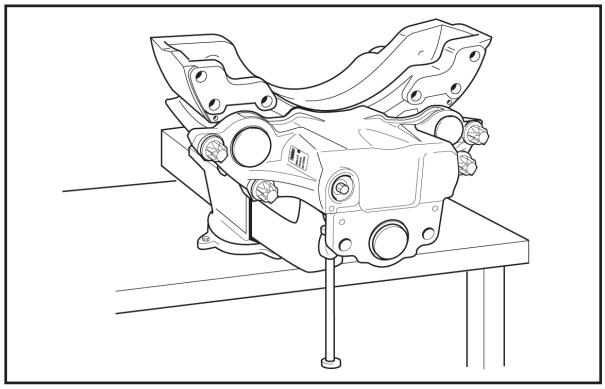


Technical Tip

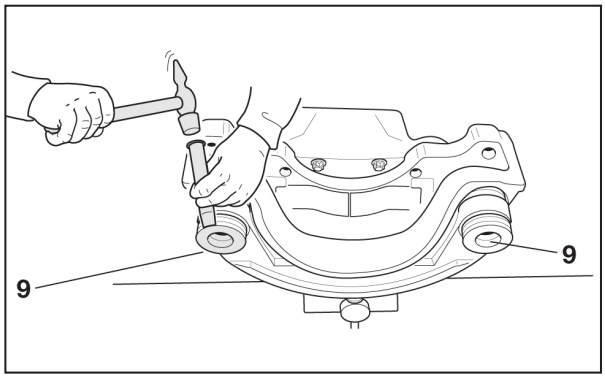
Replacing slide bearings and bellow

Removing slide pins, slide bearings and bellows

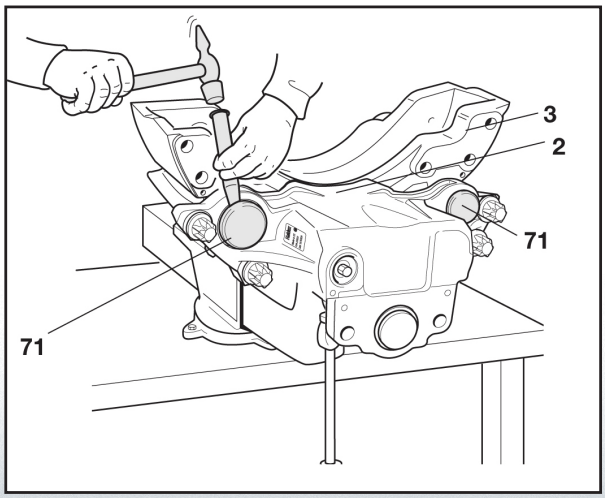
Position the disc brake in a vice. Use protection jaws.



Remove the two protection caps (9) and the two protection cups (71) using a hammer and chisel.



The protection caps (9) and protection cups (71) must not be re-used.



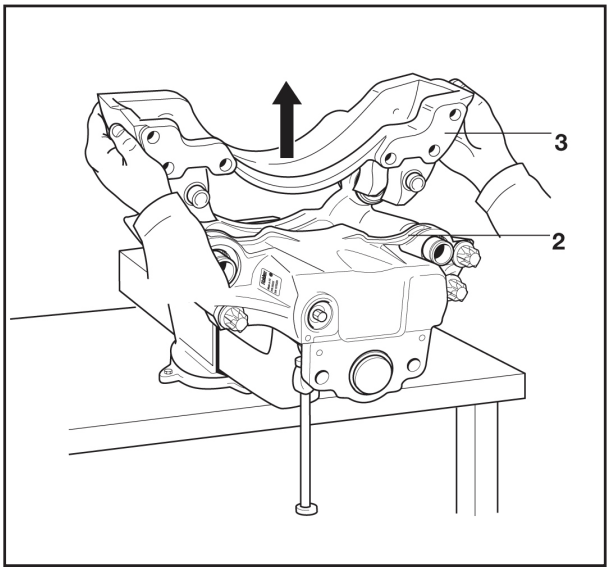
Technical Tip

Replacing slide bearings and bellow

Remove the four slide pin fixing bolts (10) using special tool (Torx E18 socket).
Press slide pins (13) back (enough to remove carrier (3) from caliper (2) by rocking carrier (3) to and fro.

> ⚠ Do not use gripping tools or similar - this will damage the slide pin sealing surface!

Remove arrier (3) from caliper (2).

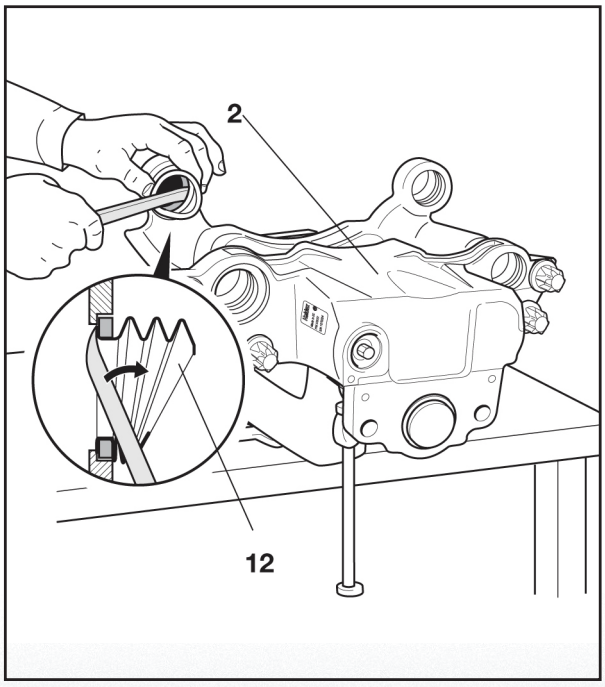


> ⚠ Only grip on external surfaces!

> ⚠ Clean the components, removing any dirt and dust. Use dust removal equipment or a vacuum cleaner, but do not use compressed air - inhaling dust particles may be harmful to your health

Remove the 4 slide pins (13) from caliper (2).
Remove the six bellows (12) by carefully levering them out.

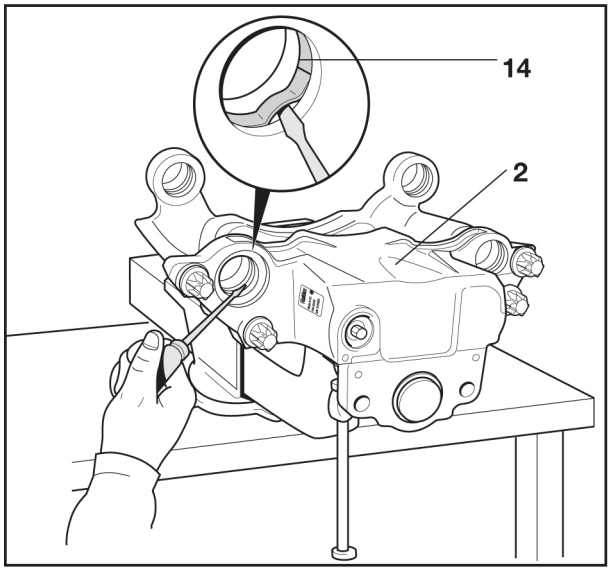
IMPORTANT! Avoid damaging the bellows' (12) mounting surfaces in the caliper



Technical Tip

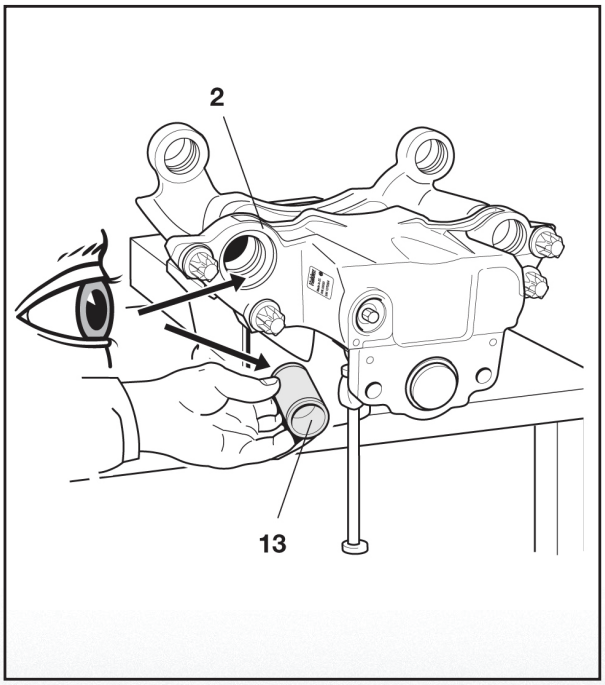
Replacing slide bearings and bellow

Remove the four side bearings (14) (which are of split design) using a small screwdriver. Begin at the split. IMPORTANT! Avoid damaging the slide bearings' (14) mounting surfaces in the caliper (2)!



Cleaning/Inspection

Clean and check the surfaces of the caliper (2) that mate with the slide bearings (14) and bellows (12) to ensure they are free from dirt and damage.



Technical Tip

Replacing slide bearings and bellow

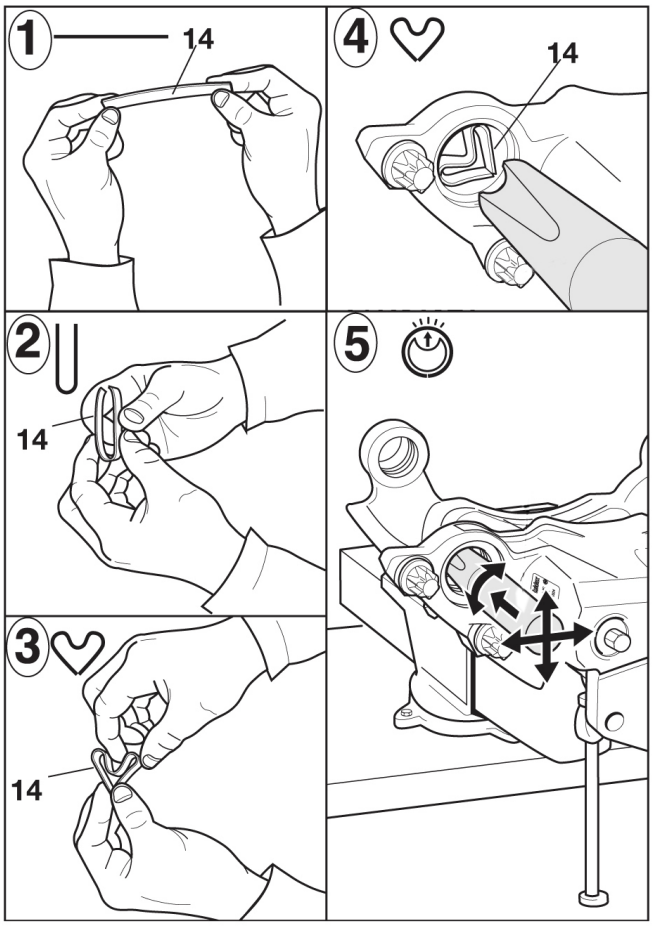
Fitting slide pins, slide bearings and bellows

There are two types of slide bearings, the old flat Teflon band design and the new circular Composite band design. Both types of slide bearings are fully interchangeable between all versions of Haldex ADB units , only the fitting instructions differ. The two types of slide bearings can be used together if required.

Fitting instructions for the old flat Teflon band:
Slide bearings (14) are supplied as a flat band. Shape four slide bearings (14) in two stages as shown (the ends of the bearing band must touch each other) and fit them in position in the caliper (2).

Expand the slide bearings (14) by pressing /twisting through special tool

Note: You must always replace the slide pin bolts and torque the new bolts to 205 ±15 ft. lbs.



NOTE: No grease on pins, busings or fasteners

Toolkit: There is a toolkit available for installing the replacement bushings (#791-1000)

If you have any questions regarding this bulletin please contact Technical Services at 800-643-2374