Webb ADB Caliper Service Guide

WEBB ULTRA GRIP™

From your wheel end experts

WEBB®

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WEBB ADB CALIPER SERVICE GUIDE

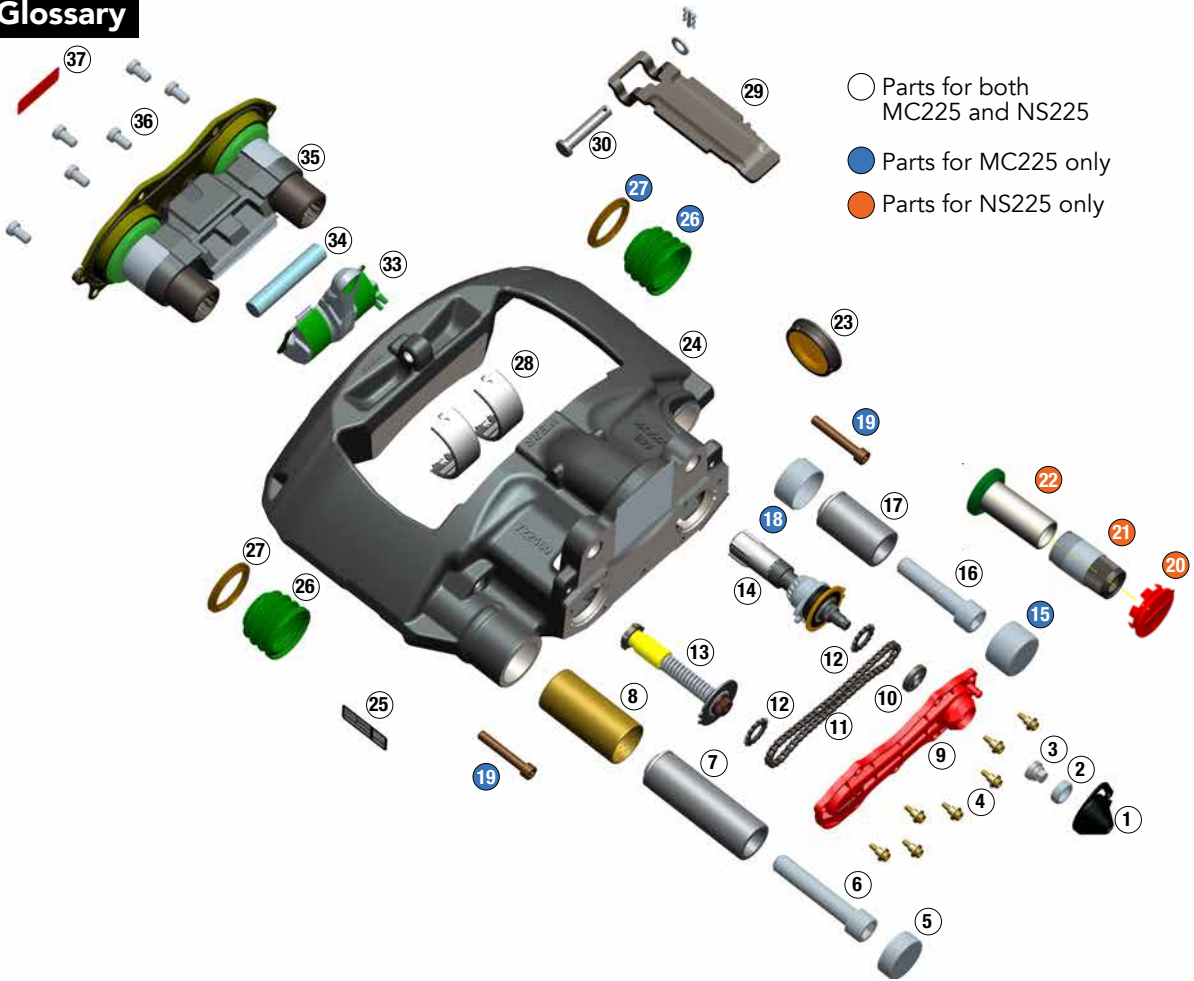
Contents	Page

Only use genuine Webb replacement parts. The parts used in this guide are shown on the following page. For a full list of Webb parts please visit our website - www.webbADB.com.

Webb highly recommends service tool kit KS0010 for caliper service. This tool kit is designed for use with both Webb MC225 and NS225 Calipers.

Webb Caliper Service Tool Kit part number: **KS0010**

Glossary


Parts for both MC225 and NS225
Parts for MC225 only
Parts for NS225 only

Glossary

1. Adjuster Cap
2. Retainer
3. Adjuster Nut
4. Chain Cover Bolts (7)
5. Long Guide Sleeve End Cap
6. Long Guide Sleeve Bolt
7. Long Guide Sleeve
8. Brass Bushing
9. Chain Cover
10. Guide
11. Chain
12. Sprockets (2)
13. Secondary Adjuster Assembly
14. Primary Adjuster Assembly
15. Short Guide Sleeve End Cap (MC225 only)
16. Short Guide Sleeve Bolt
17. Short Guide Sleeve
18. Short Guide Sleeve Bushing
19. Cover Bolts (2) (MC225 only)
20. Short Guide Sleeve End Cap (NS225 Only)
21. Short Guide Sleeve with Enviroshield Technology (NS225 Only)
22. Short Guide Sleeve Bushing (NS225 Only)
23. Side Plug
24. Housing
25. Data Plate
26. Guide Sleeve Boots MC225 (2); NS225 (1)
27. Guide Sleeve Washer MC225 (2); NS225 (1)
28. Needle Bearings (2)
29. Pad Retainer
30. Pad Retainer Pin
31. Pad Retainer Washer
32. Pad Retainer Clip
33. Lever Assembly
34. Lever Roller
35. Actuation Block Assembly (Includes block, pistons, tappet bushings, return springs, secondary seals, tappet boots and cover plate)
36. Cover Plate Bolt (6)
37. Plate
38. Air Chamber
39. Inboard Pad
40. Outboard Pad
41. Carrier
42. Brake Disc
43. Hub Assembly

Service Kits

KS0200 Guide Sleeve Kit
NS225

KS0215 Guide Sleeve Kit
NS225
Enviroshield Technology

KS0205 Guide Sleeve Kit
MC225

KS0400 Tappet Boot Kit
MC225, NS225

KS0130 Pad Retainer Kit
MC225

KS0120 Pad Retainer Kit
NS225

Service Kits

KS0140 PWWI Pin

NS225

KS0300 Plain Chain Cover Kit

NS225, MC225

KS0340 Stepped sensor fitted

NS225

(Use with screw-on or clip-on connectors)

KS0350 Adjuster Cap Kit

MC225, NS225

KS0500 Cap & Grease Kit

NS225

KS0505 Cap & Grease Kit

MC225

Service Introduction

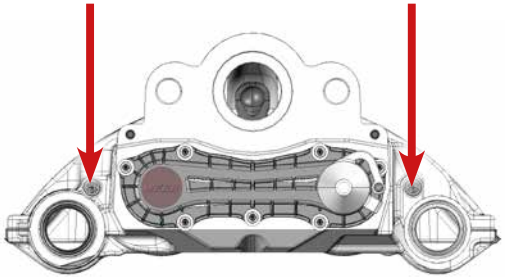
Symbol Legend

Warning | Important Hint | Important Specification | Visual Inspection Required | Take Notes | Use suitable lifting equipment | Read Carfully | Important Torque Spec | Listen for Clicks

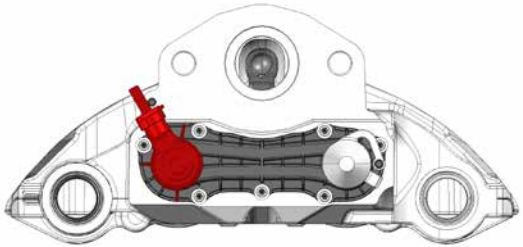
Please pay special attention to instructions in RED.

Caliper Identification

MC225 both bolts visible

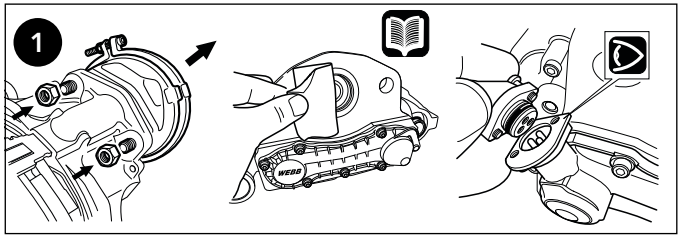


NS225: No bolts



Guide Sleeve Seal and Bushing Replacement

For Webb MC225 & NS225 Calipers

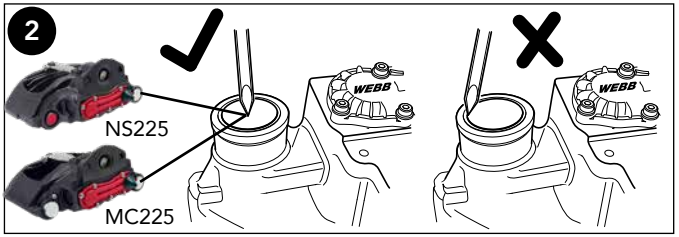


❶ Remove the brake pads and air chamber from the caliper in line with the vehicle manufacturer's recommendations.

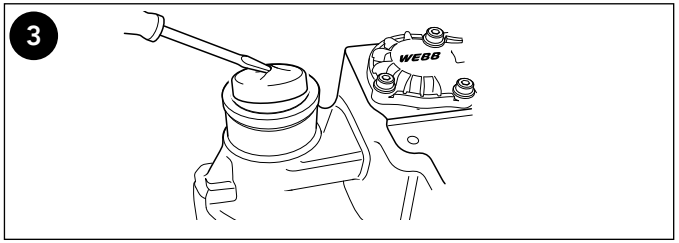
Do not touch the electrical contact points – there is risk of static discharge.

Cover the exposed air chamber & wear sensor openings with adhesive tape to prevent debris entering. Support the air chamber so that it does not interfere with brake removal or cause strain on the air hose.

In some cases it may be necessary to remove the caliper *and* the carrier from the axle – refer to vehicle manufacturer's recommendations.

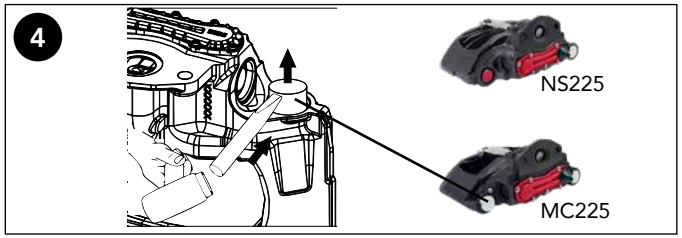


❷ Pierce the middle of the protective cap on long guide sleeve using a suitable tool. Do not drive the tool between caliper bore and cap, as this might damage the caliper bore.

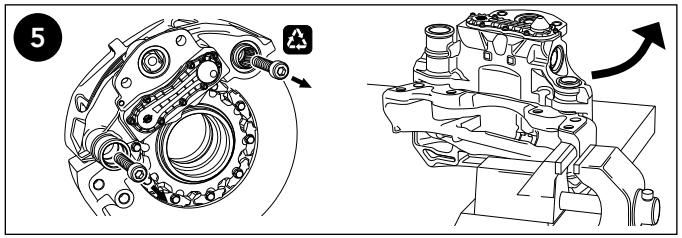


❸ Remove the guide sleeve protective cap by inserting a suitable tool into the created hole and levering it out.

Guide Sleeve Seal and Bushing Replacement



❹ The longer protective cap covering short guide sleeve (MC225 models) should be removed from the side and in an upward direction. Do not hit the protective cap in the direction of the caliper as this might damage the caliper. For NS225 models with a sealed short guide sleeve, gently pry out the plastic guide sleeve end cap using a flat head screwdriver.



❺ Remove and discard the guide sleeve bolts and remove the caliper from the carrier. If the brake is removed from the vehicle ensure the carrier is securely located to resist the bolt torque, at a location close to the bolt being tightened, to prevent damaging the carrier.

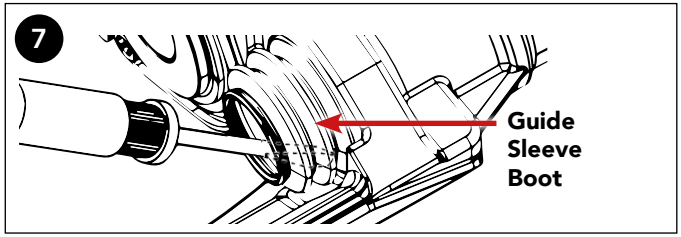
⚠ Before removing the guide sleeve bolts ensure that the caliper cannot move or fall causing injury.

⚠ If necessary carefully release the guide sleeves from their location on the carrier using a rubber hammer.

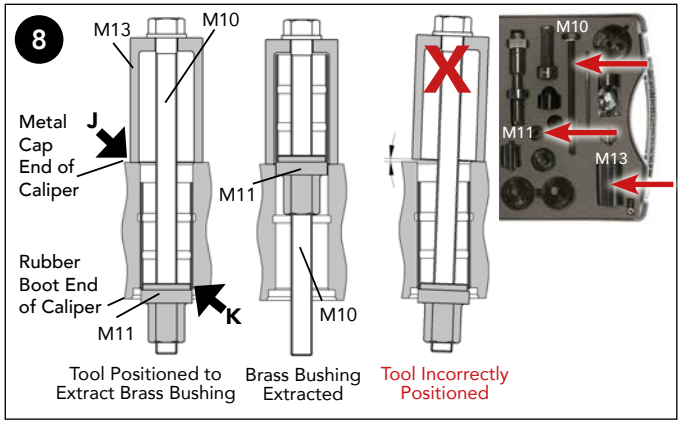
❻ Only use genuine Webb replacement parts. Service kits for Webb caliper part numbers are available at webbADB.com.

⚠ The Webb brake assembly number – from the identification plate located on top of the brake housing – should be referenced in order to obtain the correct repair kit.

Guide Sleeve Seal and Bushing Replacement



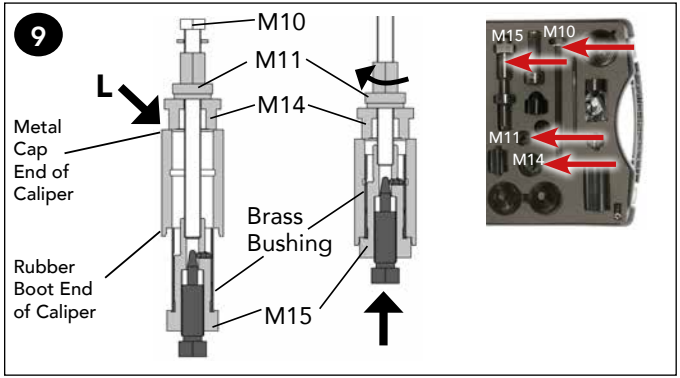
❼ Remove and discard the guide sleeves and plastic washer and ease out guide sleeve boot with a suitable tool (e.g. screwdriver). Check the inside area of the caliper bores and seal interfaces. In case of damage or excessive corrosion the caliper must be replaced.



❽ To extract the long guide sleeve brass bushing, use tool combination M10, M11 & M13 from the Webb Caliper Service Tool Kit (ref. KS0010 or equivalent).

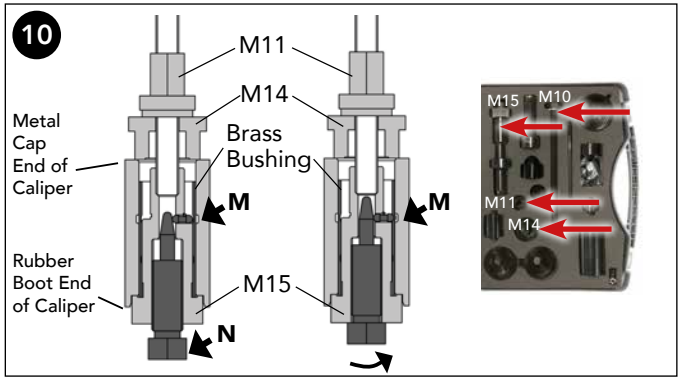
⚠ Note that the use of impact drivers / air wrenches is not permitted with the service tools.

Clean the brass bushing and the tool contact areas (arrows J and K), then position the tool as shown. Ensure M11 seats correctly into the brass bushing. Extract the brass bushing by turning the bolt (M10) using a 24mm wrench, using another 24mm wrench to prevent M11 rotating. Make sure that M13 remains seated squarely on the caliper housing surface and does not tilt during extraction.



Guide Sleeve Seal and Bushing Replacement

❾ To fit a new brass bushing (ref. Webb kit KS0200/KS0205/KS0215) use tool combination M10, M11, M14 & M15. First screw M11 onto the bolt (M10) and then fit M14 onto M10. Push the new brass bushing onto M15, then assemble the prepared parts through the caliper bore from opposite ends and screw M10 into M15 by hand until it stops. Check that M14 is seated squarely on the surface (arrow L), then pull the brass bushing into the bore by turning M11 until it stops.



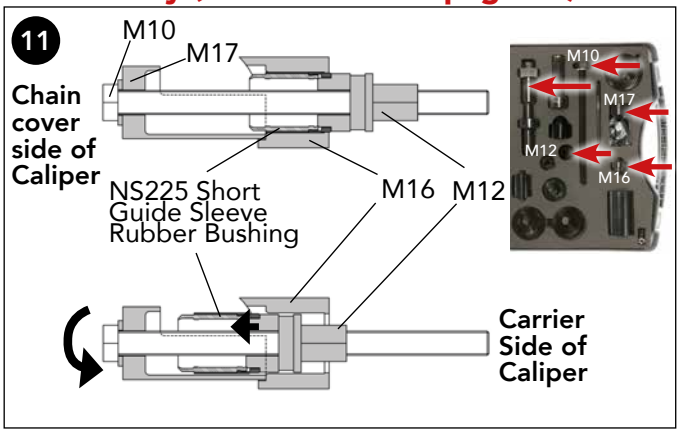
❿ To prevent axial movement of the brass bushing it must be "staked" into the bore (arrow M). The hexagonal bolt of tool M15 (arrow N) must be screwed in up to its stop to deform the brass bushing into place.

Wind back the hexagonal bolt (arrow N) of tool M15 approximately 15mm. Back off nut M11 and rotate tool M15 approximately 60°. Re-tighten nut M11 and screw in M15 to repeat the "staking" process.
The brass bushing is now secured against axial movement.

The hexagonal bolt of tool M15 must be screwed out again approximately 15mm before removing the tool and checking the contact area of the brass bushing and removing any burrs (if necessary).

Grease the brass bushing with WHITE grease (ref. KA1500) provided in the Webb repair kit.

NS225 Only (For MC225 see page 14)



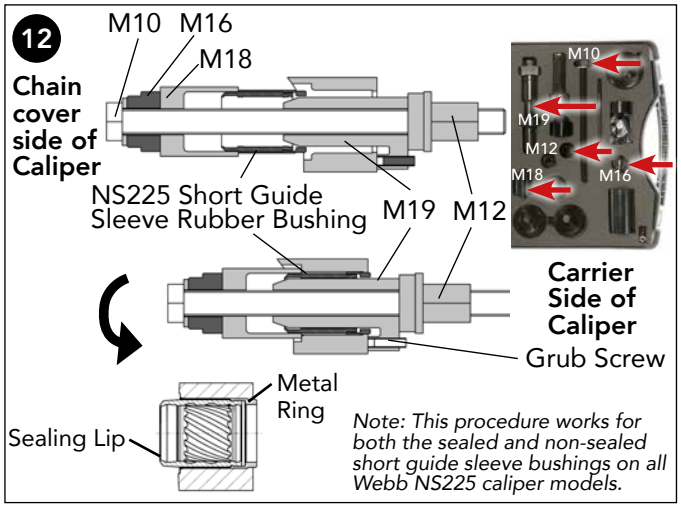
⓫ To extract the short guide sleeve rubber bushing (ref. Webb kit KS0200/KS0215) use tool combination M10, M12, M16 & M17 from the Webb caliper service

Guide Sleeve Seal and Bushing Replacement

tool kit (ref. KS0010 or equivalent). Position the tool as shown and hand tighten M12 ensuring M16 seats correctly into the steel ring.

Extract the rubber bushing and steel ring by turning the bolt (M10) using a 24mm wrench, also using another 24mm wrench to prevent M12 rotating.

⚠ Apply grease to the bolt thread (M10) to reduce the effort required to remove the bushing. Ensure M10 is rotated and M12 remains stationary to prevent damaging the tools.



⓬ To fit a new NS225 short guide sleeve rubber bushing (ref. Webb kit KS0200/KS0215) use tool combination M10, M12, M16, M18 & M19. The grub screw on M19 should be wound in so that it does not contact the caliper surface, and M19 is aligned with the guide sleeve bore.

Push the new rubber bushing into tool M18. Assemble the prepared parts through the caliper bore from opposite ends and screw M12 onto M10 by hand until it stops. Take care not to tilt the rubber bushing when winding it in.

Pull the rubber bushing into the bore until it stops by turning the bolt (M10) using a 24mm wrench, using another 24mm wrench to prevent M12 rotating.

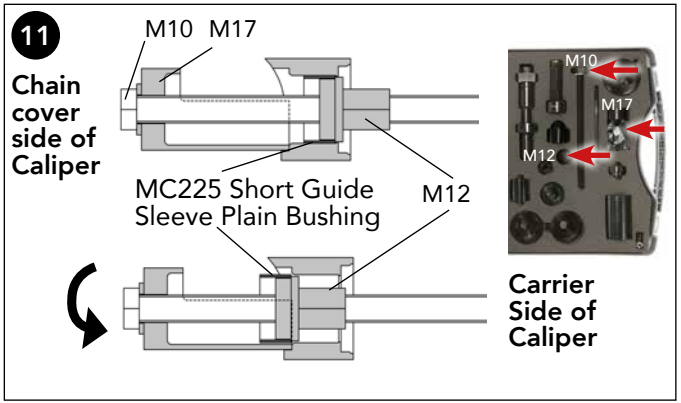
Remove the tool and check that the rubber bushing metal ring does not move.

⚠ When checking the metal ring ensure that the sealing lip is not damaged.

Grease the rubber bushing with WHITE grease (ref. KA1500) provided in the Webb service kit.

Guide Sleeve Seal and Bushing Replacement

MC225 Only (For NS225 see page 12)

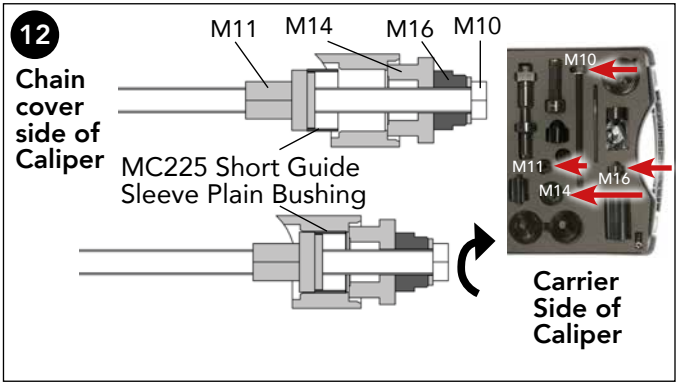


⓫ To extract the short guide sleeve plain bushing on Webb MC225 models (ref. Webb kit KS0205) use tool combination M10, M12 & M17.

Position the tool as shown and hand tighten M12 ensuring it seats correctly into the bushing.

Extract the bushing by turning the bolt (M10) using a 24mm wrench, while using another 24mm wrench to prevent M12 from rotating.

Apply grease to the bolt thread (M10) to reduce the effort required to remove the bushing. Ensure M10 is rotated and M12 remains stationary to prevent damaging the tools.



⓬ To fit a new short guide sleeve plain bushing on Webb MC225 models (ref. Webb kit KS0205) use tool combination M10, M11, M14 & M16. Note that M16 is used as a spacer in order to provide clearance for M10 with the housing.

Fit the new plain bushing onto tool M11. Assemble the prepared parts through the caliper bore from opposite ends and screw M11 onto M10 by hand until it stops. Take care not to tilt the plain bushing when winding it in.

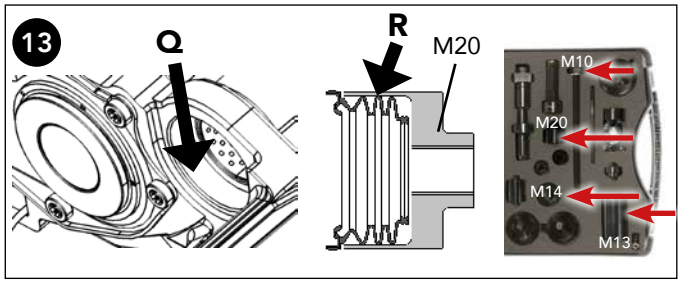
Pull the plain bushing into the bore until it stops by turning the bolt (M10) using a 24mm wrench, using another 24mm wrench to prevent M11 rotating.

Grease the plain bushing with WHITE grease (ref. KA1500) provided in the Webb repair kit.

Guide Sleeve Seal and Bushing Replacement

⚠ The plain bushing is round & does not require staking to prevent it rotating, unlike alternative "non-round" bushings.

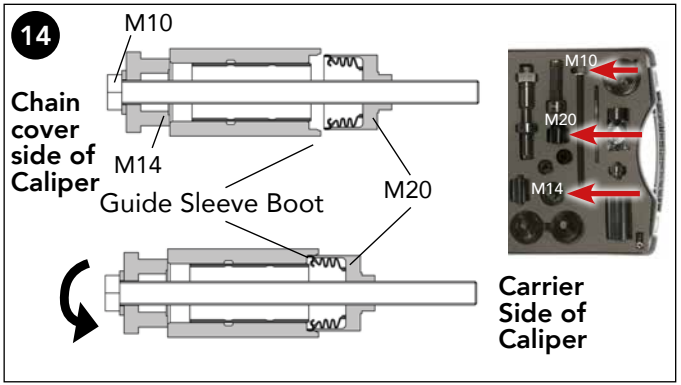
NS225 and MC225 Continue



⓭ To fit a new guide sleeve boot (ref. Webb Kit KS0200/KS0205/KS0215) for the long guide sleeve use tool combination M10, M14 & M20. The assembly process for the guide sleeve boot for the short guide sleeve (for Webb Kit KS0205) is the same method as for the long guide sleeve **but for MC225 short guide sleeve boot add tool M13 between M10 and M14** to act as a spacer (MC225 has 2 boots and the spacer is not required for the long guide sleeve boot).

Clean the seal interface of the caliper bore (arrow Q) – in case of damage or excessive corrosion the caliper must be replaced.

Fit the new guide sleeve boot into tool M20, ensuring that the rubber bellows sit inside the tool (arrow R).



⓮ Assemble the prepared parts, with the new guide sleeve boot fitted into M20, through the caliper bore from opposite ends and screw M20 onto M10 by hand until it stops. Take care not to tilt the guide sleeve boot when winding it in.

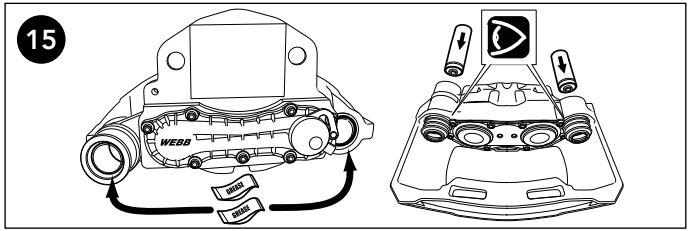
Pull the guide sleeve boot into the bore until it stops by turning the bolt (M10) using a 24mm wrench, using another 24mm wrench to prevent M20 rotating.

Be careful not to damage the boot by over-tightening – apply 70 in-lb force (8 N-m) maximum torque.

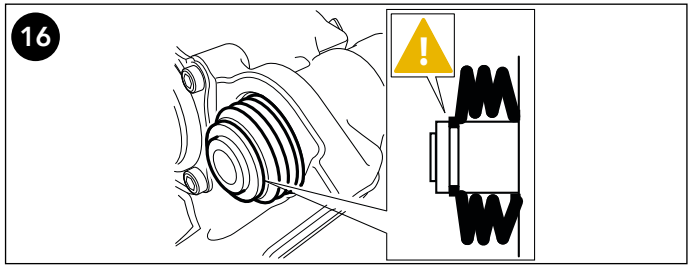
Remove the tools and check for correct fitment of the guide sleeve boot by gently pulling the boot away from the bore and checking it does not move.

Guide Sleeve Seal and Bushing Replacement

For MC225 Only (For NS225 see page 18)

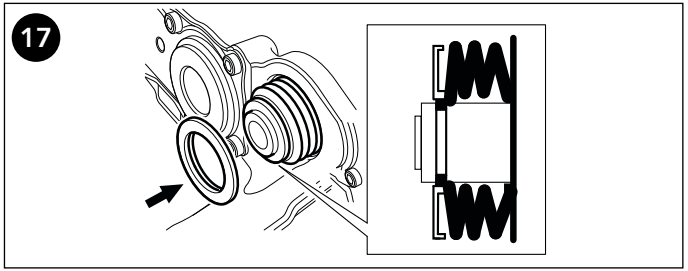


15 Grease both guide sleeves using the grease packets provided. Slide the guide sleeves in to the bushings in the directions indicated above.

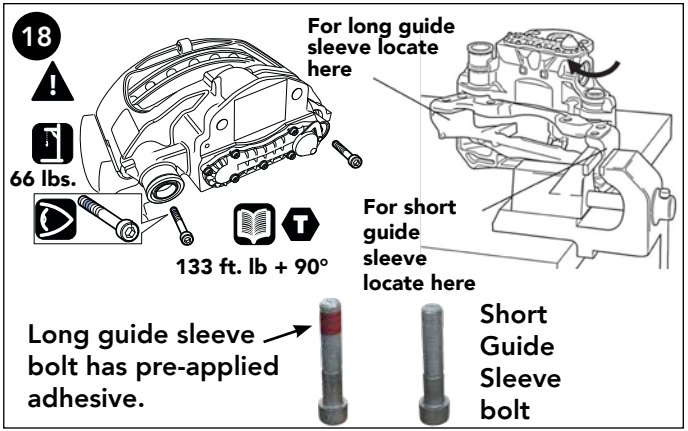


16 Insert the boots into the sealing groove in the guide sleeves ensuring they seal correctly all around the sleeves.

⚠ Apply a small amount of grease to help the boot slip into the groove.



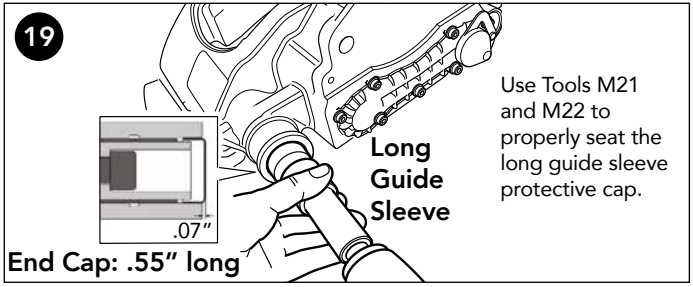
17 Position the plastic washer over the boots to retain them in the sealing groove in the guide sleeves. Ensure that the washer is in the correct orientation.



Guide Sleeve Seal and Bushing Replacement

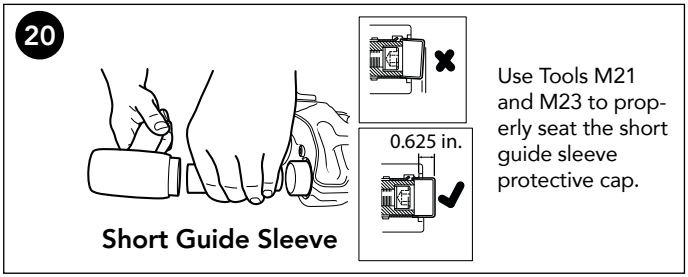
⓲ Ensure the carrier threads are clean, dry and free of lubrication and/or residuals of pre-applied adhesive (the long guide sleeve bolt has a pre-applied adhesive). If the caliper is being fitted on the vehicle, lift the caliper over the carrier and insert the bolts into the carrier. Use suitable lifting equipment for the caliper. Ensure the correct new bolts are used for each guide sleeve. If the caliper is being fitted away from the vehicle, attach the carrier to the caliper by hand tightening each bolt into the carrier. Then, move the assembly to a vice and ensure the carrier is securely located to resist the bolt torque. Tighten both bolts to 133 ft. lb., then tighten by a further 90 degrees. Check that the caliper slides easily on the guide sleeves.

⚠ The pre-assembled pad retainer can be used to lift the caliper if done with care. Never hold the caliper with your fingers between the caliper and the carrier - there is a risk of injury.



⓳ Insert the protective cap for the long guide sleeve into the caliper bore – protective cap and bore must be clean and free from lubrication. Press the metal protective cap into the long guide sleeve bore ensuring it is seated squarely until the cap is flush with the cast boss.

⚠ Fitting the protective cap(s) can only be done after the caliper has been fully bolted to the carrier. The guide sleeve boot(s) must be in a compressed condition or the caliper's freedom of movement will be limited.

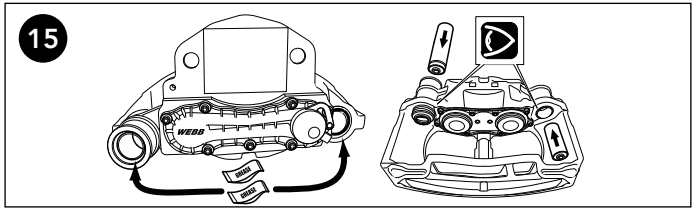


⓴ Insert the protective cap for the short guide sleeve into the caliper bore – protective cap and bore must be clean and free from lubrication. Press the protective cap into the bore until the cap protrudes .625" from the cast boss, ensuring it is seated squarely.

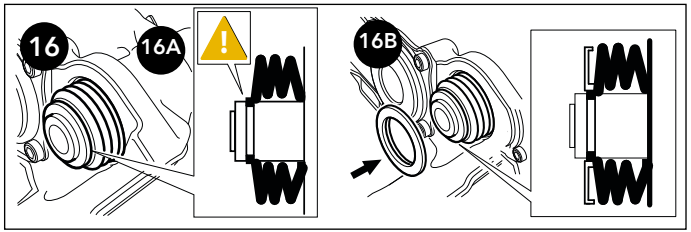
This completes steps for MC225, skip to step 21 on page 20 to continue.

Guide Sleeve Seal and Bushing Replacement

NS225 Only (For MC225 see page 16)



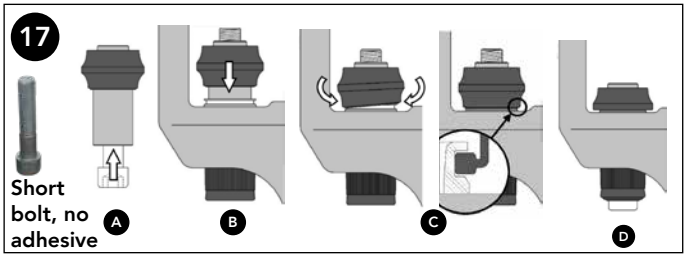
15 Grease both guide sleeves using the grease packets provided. Slide the guide sleeves into the brass bushing in the directions indicated above



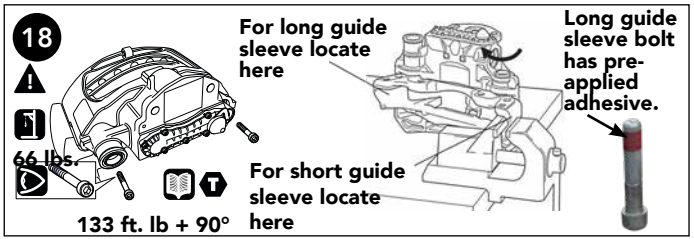
16a Insert the boot into the sealing groove in the long guide sleeve ensuring it seals correctly all around the sleeve.

⚠ Apply a small amount of grease to help the boot slip into the groove.

16b Position the plastic washer over the boot to retain it in the sealing groove in the long guide sleeve. Ensure that the washer is in the correct orientation.



17 A Fit the short bolt into the guide sleeve with pre-assembled rubber boot in the direction indicated.
B Slide the guide sleeve and bolt into the rubber bushing in the direction indicated.
C Insert the boot into the sealing groove in the housing retainer ensuring it seals correctly all round the groove.
D Roll the guide sleeve boot bellows back against the housing and push the bolt back into the rubber bushing to provide clearance with the carrier during assembly.

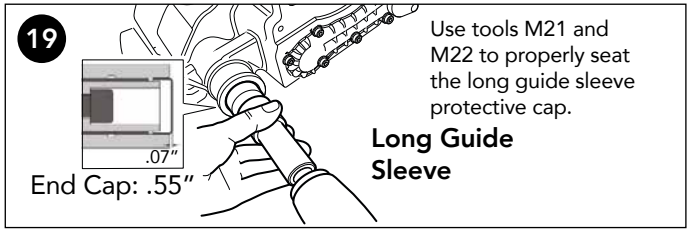


18 Ensure the carrier threads are clean, dry and free of lubrication and/or residuals of pre-applied adhesive (the

Guide Sleeve Seal and Bushing Replacement

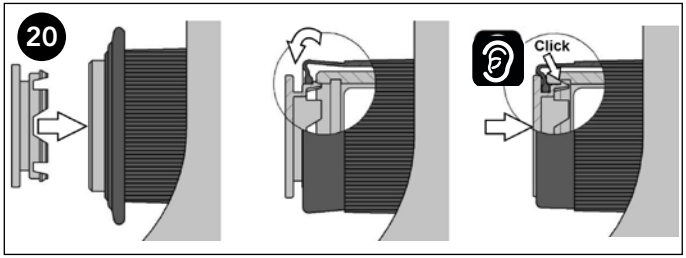
long guide sleeve bolt has a pre-applied adhesive). If the caliper is being fitted on the vehicle, lift the caliper over the carrier and insert the bolts into the carrier. Use suitable lifting equipment for the caliper. Ensure the correct new bolts are used for each guide sleeve. If the caliper is being fitted away from the vehicle, attach the carrier to the caliper by hand tightening each bolt into the carrier. Then, move the assembly to a vice and ensure the carrier is securely located to resist the bolt torque. Tighten both bolts to 133 ft. lb., then tighten by a further 90 degrees. Check that the caliper slides easily on the guide sleeves.

⚠ The pre-assembled pad retainer can be used to lift the caliper if done with care. Never hold the caliper with your fingers between the caliper and the carrier - there is a risk of injury.



⓳ Insert the protective cap for the long guide sleeve into the caliper bore – protective cap and bore must be clean and free from lubrication. Press the metal protective cap into the long guide sleeve bore ensuring it is seated squarely until the cap is flush with the cast boss.

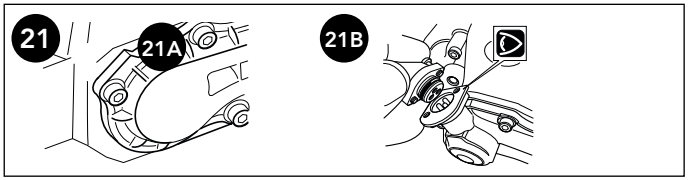
⚠ Fitting the protective cap(s) can only be done after the caliper has been fully bolted to the carrier. The guide sleeve boot(s) must be in a compressed condition or the caliper's freedom of movement will be limited.



⓴ Stretch the rubber bushing bellows over the short guide sleeve and position the plastic cap in the end of the guide sleeve bore – do not push into the bore yet. Slide the bellows back over the plastic cap, ensuring it locates correctly all around the groove, and then push the cap firmly into the guide sleeve so that it clicks into place.

This completes steps for NS225, go to step 21 on next page to continue.

Guide Sleeve Seal and Bushing Replacement

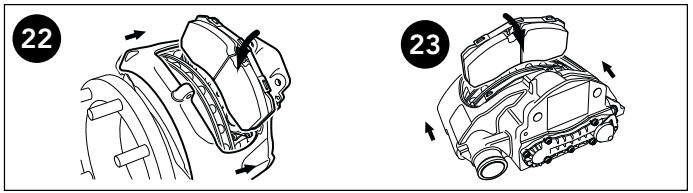


21 If the carrier was removed from the vehicle, reinstall the caliper and carrier assembly in accordance with the vehicle manufacturer's recommendations. Reconnect the pad wear sensor cable connector (where applicable).

21A Chain cover without pad wear sensor - no action necessary.

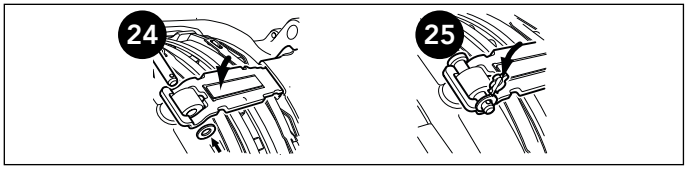
21B Chain cover with screw/clip type connector - engage the connector and then clip or tighten the 2 screws.

⚠ Ensure the pad wear sensor cable connector is clean and free from grease, dirt and moisture.



22 Slide caliper inboard and insert inner brake pad and spring.

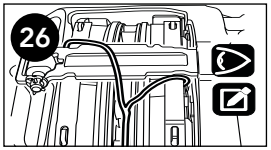
23 Slide caliper outboard and insert outer brake pad and spring.



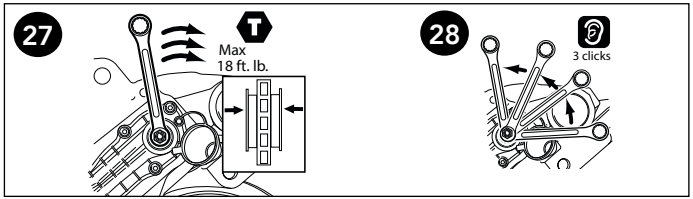
24 Insert the new pad retainer in the slot in the caliper and depress to enable the insertion of the pad retainer pin. Position the washer over the pad retainer pin.

25 Press the clip through the pad retainer pin to secure.

⚠ It is recommended that the pad retainer pin, where possible, is installed with pin head uppermost.



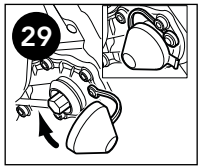
26 Refit the pad wear warning indicator (PWWI) cable and clips in the same orientation as when removed. Reconnect the pad wear sensor cable connector (where applicable).



27 Turn the adjuster clockwise until the pads come into contact with the disc - do not exceed 18 ft. lb. torque.

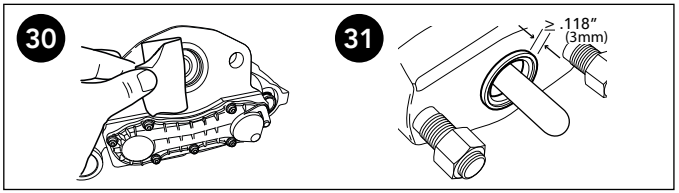
Guide Sleeve Seal and Bushing Replacement

28 Turn back the adjuster 3 clicks and check the pad-to-disc running clearance.



29 Check for free rotation of the disc. Refit the adjuster cap.

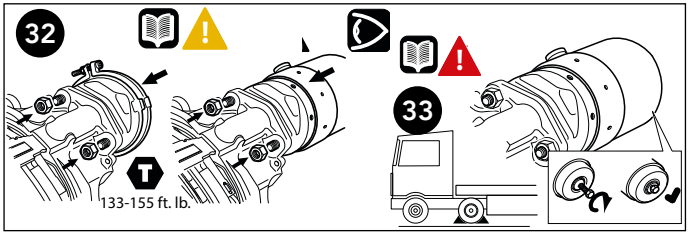
Opening or dismantling of the caliper is not authorized and will void your warranty.



30 Remove the adhesive tape in the area of the air chamber attachment. Take care that no dirt enters the brake caliper.

31 Visually inspect and, if necessary, clean the air chamber mounting and sealing surface. Replace if damaged.

If the air chamber seal protrudes less than .188" (3 mm) the brake chamber must be replaced.



32 Reinstall the air chamber in the same orientation as when removed, in accordance with the vehicle manufacturer's recommendations. Tighten the nuts to 133-155 ft. lb. (unless specified differently in the vehicle manufacturer's recommendations).

In order not to tilt the air chamber during its attachment, the nuts must be gradually tightened symmetrically with a suitable tool.

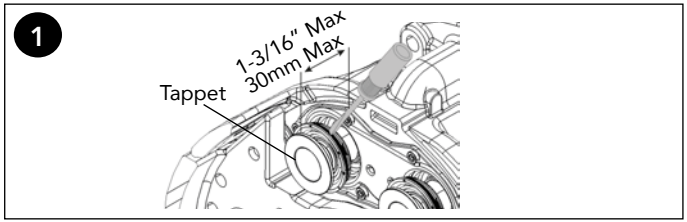
33 Replace the wheel as recommended by the vehicle manufacturer. Uncage the spring brake and apply the parking brake prior to removing the chocks from the vehicle. After releasing the parking brake, apply the brake 10 times and then road test the vehicle.

For additional information, please visit us at WebbADB.com

Tappet Boot Seal Assembly Replacement

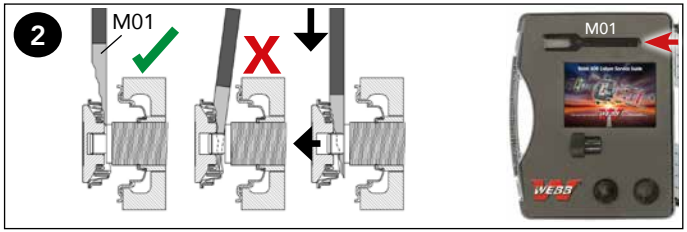
Replacement of the tappet boot seal assemblies (ref. Webb kit KS0400) can be done with the brake fitted to, or removed from, the vehicle using the Webb caliper service tool kit (ref. Webb kit KS0010 or equivalent).

⚠ Note that the use of impact drivers / air wrenches is not permitted with the service tools.

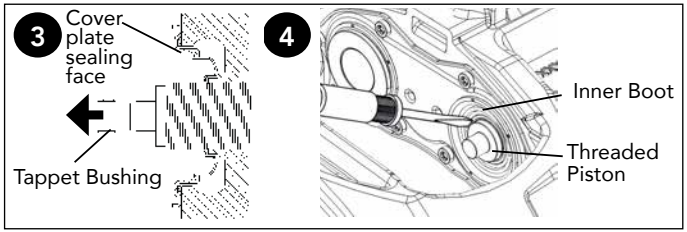


❶ Remove the brake pads. Adjust the tappets forwards using a 10mm socket or wrench on the adjuster (do not exceed 18.5 ft-lb torque) until the tappet boots are easily accessible. The tappets must not be extended more than 1-3/16" (30mm) from the caliper face to ensure the pistons remain synchronized. With a suitable lever (e.g. screwdriver) carefully pry the tappet boot out. Take care not to damage the sealing surface on the caliper cover plate.

⚠ As the tappet boot is being replaced it may aid visibility and access to cut the rubber material away.



❷ Position the forked wedge tool (M01) between the threaded piston and the tappet boot seal assembly with the stepped side towards the tappet boot. Carefully drive it down with a hammer to release the tappet boot seal assembly from the threaded piston. Keep the tool perpendicular to the piston – do not lever the tappet or damage the piston thread.

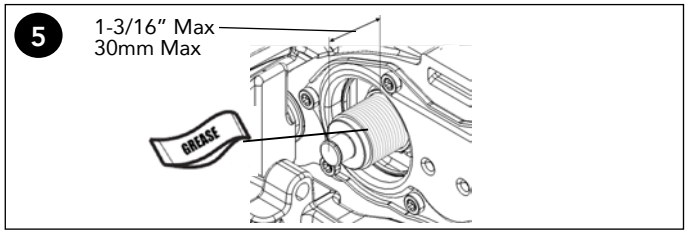


❸ Remove the tappet bushing from the end of the threaded piston. Clean and check the cover plate sealing face and the threaded pistons for damage or corrosion. **The pistons and cover plate cannot be replaced and if damaged the caliper should be replaced.**

Tappet Boot Seal Assembly Replacement

❹ Wind back the threaded pistons using a 10mm socket or wrench on the adjuster (do not exceed 18 ft-lb torque). Clean the area of the inner boot and carefully remove the inner boot using a suitable lever (e.g. screwdriver). Take care not to damage the sealing face on the caliper cover plate.

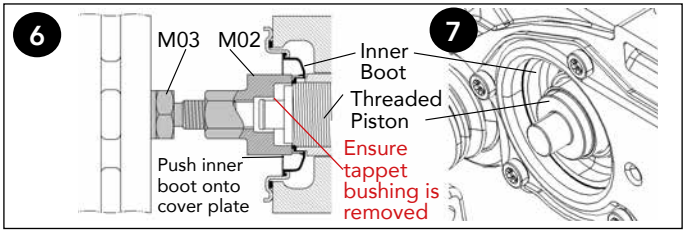
⚠ Opening or dismantling the caliper any further will invalidate the warranty.



❺ Wind out the threaded pistons using a 10mm socket or wrench (do not exceed 18 ft-lb torque) to a maximum extension of 1-3/16" (30mm). Check the pistons for damage or corrosion. If there are signs of water ingress beyond the inner boots the caliper must be replaced.

Lubricate the piston threads with WHITE grease (ref. KA1500).

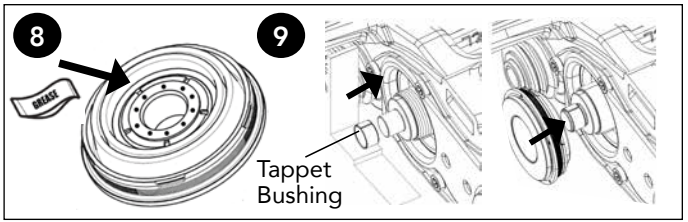
Fully wind back the pistons and fit new inner boots over the threaded pistons carefully pushing them into position in the cover plate.



❻ Ensure that the old tappet bushing is removed. Position tool combination M02 & M03 over the boss of the threaded piston and wind out until M03 touches the brake disc. **If the caliper is removed from the vehicle add tool M04 (between M02 & M03)** and wind out until M03 touches the outboard pad abutment face of the caliper.

❼ Press the inner boot over the threaded piston. Use a 27mm wrench to turn M03 against the brake disc until it stops whilst stabilizing M02 using a second wrench. Ensure tool M02 stays square and centered about the threaded tube so that the seal is pressed in evenly. Remove the tool and repeat for the second piston. Check for correct fitting of the inner boots: wind out the threaded pistons approximately 3/8" (10mm) by turning the adjuster with a 10 mm wrench. Check that the inner boots do not rotate with the threaded pistons. If the inner boot rotates, then the boot must be removed and the procedure repeated using a new inner boot.

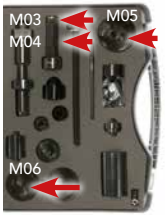
Tappet Boot Seal Assembly Replacement



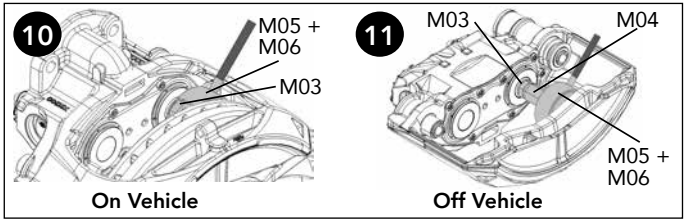
❽ Clean and check the **cover plate sealing face and the threaded pistons for damage or corrosion – these cannot be replaced and if damaged the caliper must be replaced.** Lubricate the inner abutment face of both tappet heads with BLACK grease (ref. KA1505) being careful not to transfer the grease to other components.

⚠ Only use the correct grease provided in the Webb repair kit.

❾ Fully wind back the threaded pistons using a 10mm wrench on the adjuster until they stop – do not exceed 18 ft-lb torque – and then wind forward one full turn of the adjuster. Fit a new tappet bushing onto the boss of both of the threaded pistons. Fit the new tappet boot seal assemblies over the tappet bushings on the threaded pistons, pushing them into position.



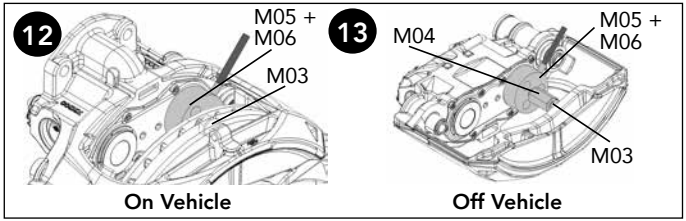
To complete the fitment of the tappet boot seal assemblies, use tool combination M03, M05 & M06 for fitment on the vehicle, adding tool M04 (between M03 & M05) if the brake is removed from the vehicle.
Tool M07 in Webb Caliper Service Tool Kit KS0010 is not required for Webb calipers.



❿ If **on vehicle** position tool combination M03, M05 & M06 so that the closed side of M06 touches the brake disc. Wind out M03 using a wrench to press the tappet boot seal assembly until it stops.

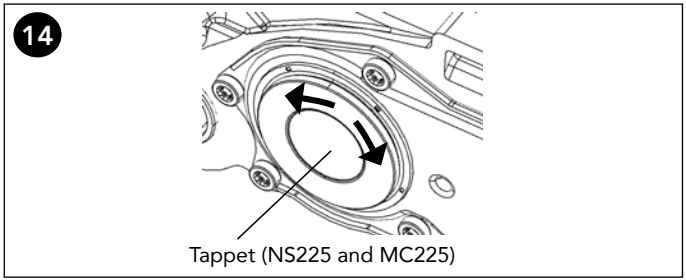
⓫ If the caliper is **removed from the vehicle then add tool M04** (between M03 & M05) so that the closed side of M06 touches the outboard pad abutment face and wind out M03 using a wrench to press the tappet boot seal assembly until it stops.

Tappet Boot Seal Assembly Replacement



⓬ If **on vehicle** release the tool and turn tool M06 over, within M05, so that the open side of M06 makes contact with the tappet boot seal. Ensure it is centered on the tappet.

⓭ If the caliper is **removed from the vehicle then add tool M04** (between M03 & M05). Press the tappet boot seal into place by winding out M03 against the brake disc, or the outboard pad abutment face if the caliper is removed from the vehicle, until it stops. Repeat the process for both tappets.



⓮ After assembly check that the tappet boot seal assemblies are securely attached by pulling them lightly by hand. Check that the tappets are free to rotate slightly in each direction, taking care not to over-stress the tappet boots.

⓯ If the caliper has been removed from the vehicle then replace as detailed in the GUIDE SLEEVE SEAL AND BUSHING REPLACEMENT section.

⚠ If the brake is removed from the vehicle then new axle mounting bolts should be used for re-installation.

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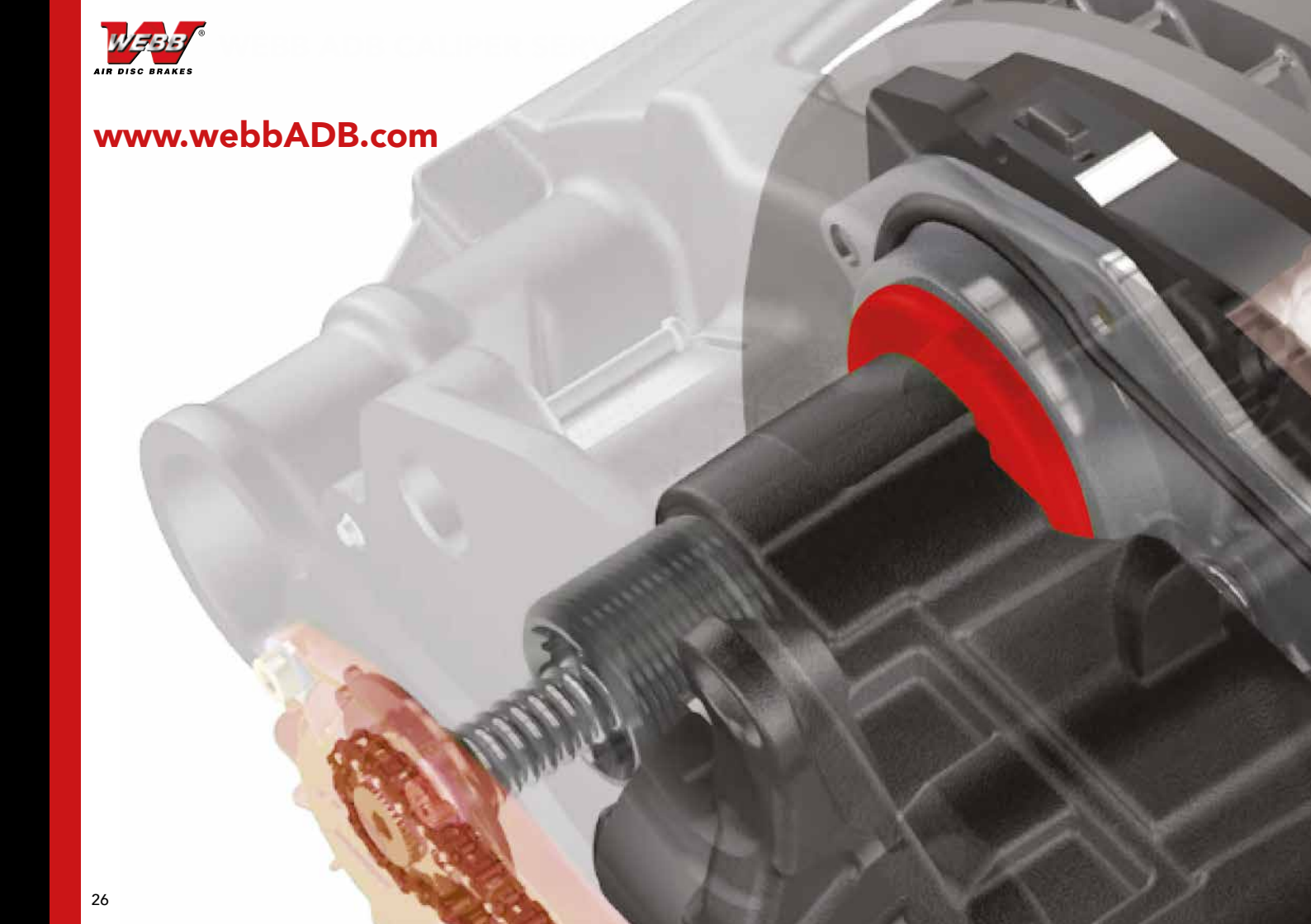

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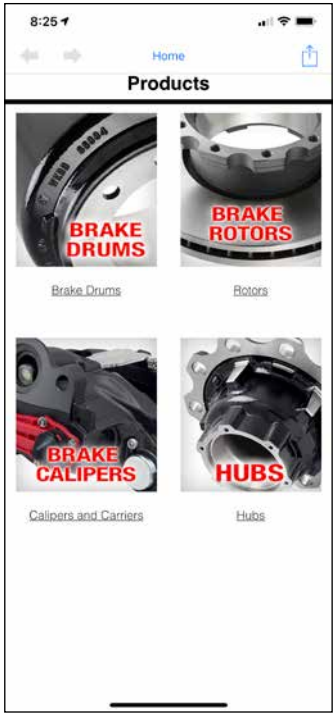

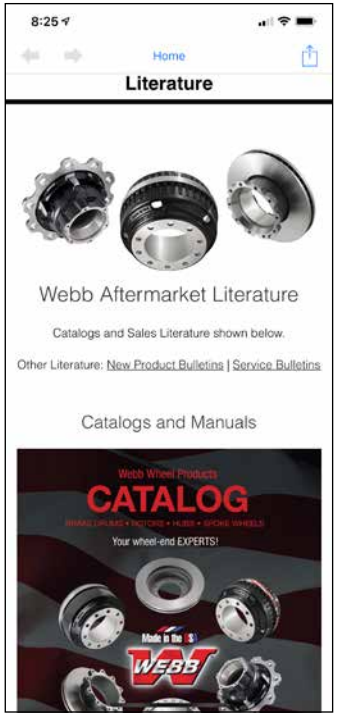

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