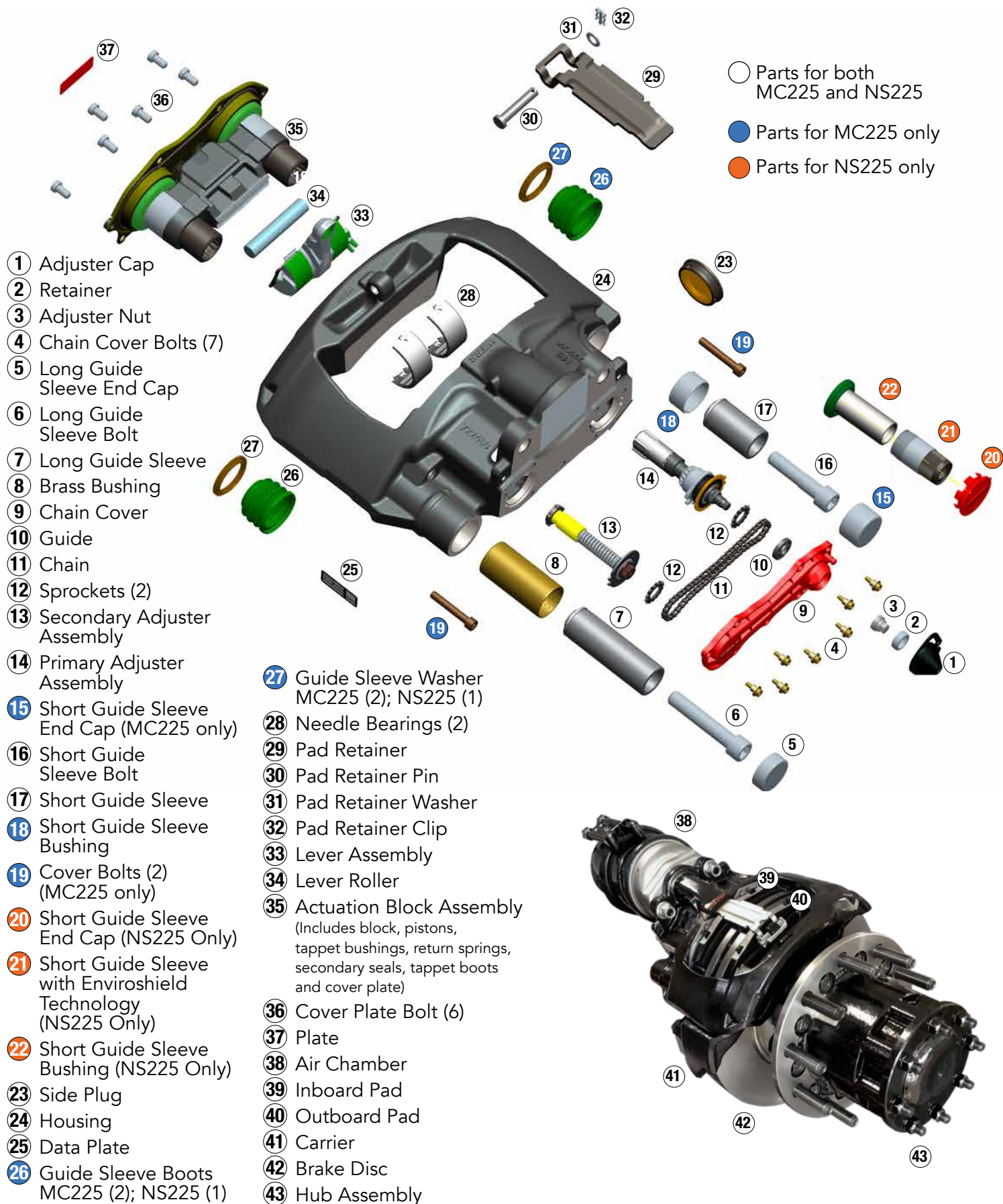


# GLOSSARY



# FITTING INSTRUCTIONS FOR MC225 & NS225 CALIPERS

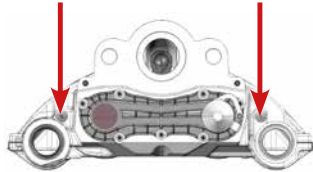
**Symbol Legend**

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

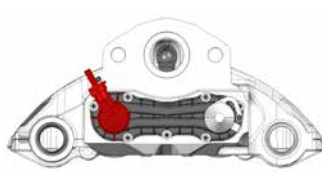
Please pay special attention to instructions in RED.

## Caliper Identification

MC225 both bolts visible

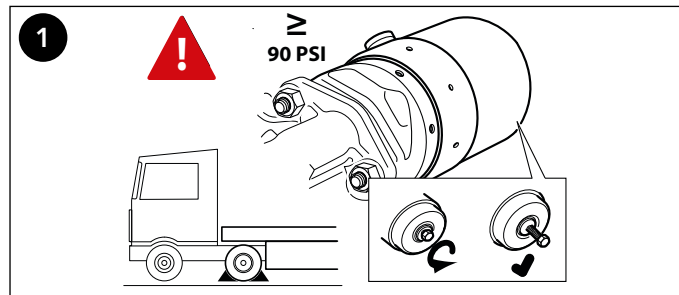


NS225: No bolts

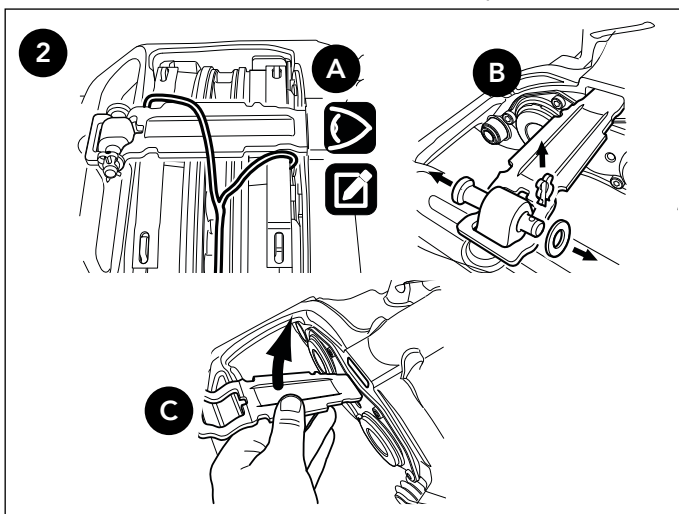


## Fitting Instructions Intro for MC225 & NS225

DO NOT use air wrenches or hammers. Their use will damage the product, prevent correct function and will void the warranty.



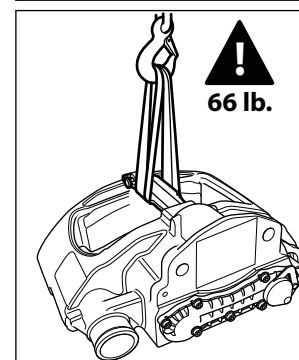
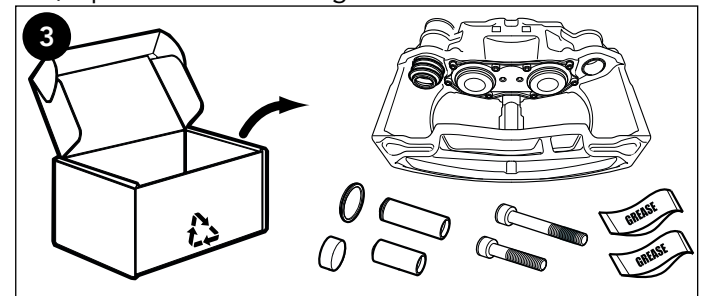
1 Ensure the vehicle is securely chocked before releasing the parking brake. Remove the wheel as recommended by the manufacturer. Cage the spring brake or use a minimum hold off pressure of 90 psi (6 bar). Remove the air chamber and disconnect the pad wear sensor cable (if fitted) from the caliper.



2 Make note of the pad wear warning indicator (PWWI) cable arrangement (if fitted) **A** and remove the pads and retainer. Remove the pad retainer by removing the clip, washer and pin. **B** Replace used parts with the new ones provided. Remove both pads and springs and visually inspect; replace if worn or damaged. Remove the guide sleeve protective caps, guide sleeves and bolts. **C**

**!** Before removing the guide sleeve bolts, ensure that the caliper cannot move or fall to avoid injury.

Replace used parts with the new ones provided. Remove the old caliper assembly using suitable lifting equipment for the caliper. Visually inspect and, if necessary, clean the carrier and disc; replace if worn or damaged.

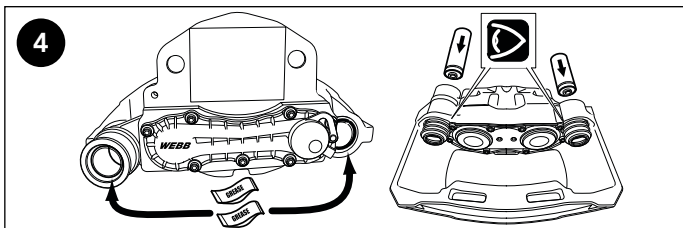


3 Remove the new caliper and guide sleeve kit from the packaging. Use suitable lifting equipment for the caliper.

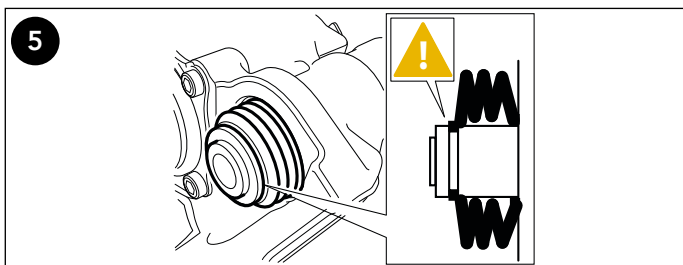
For MC225 see next page.  
For NS225 see page 15

# FITTING INSTRUCTIONS FOR MC225 & NS225 CALIPERS

## Fitting Instructions For MC225 Only (For NS225 see page 15)

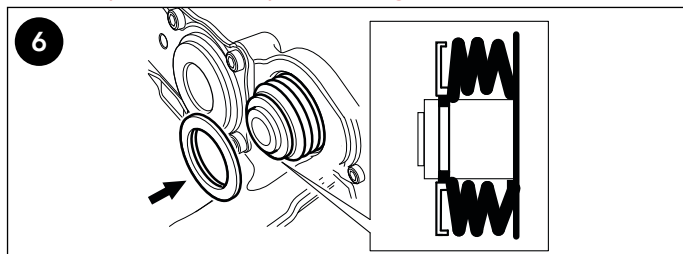


**4** Grease both guide sleeves using the grease packets provided. Slide the guide sleeves in to the bushings in the directions indicated above.

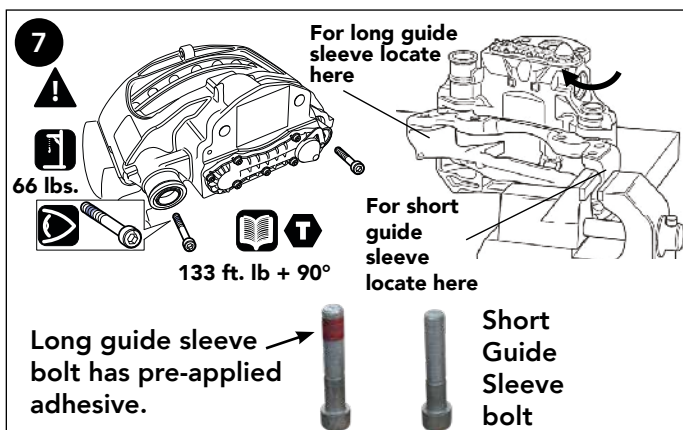


**5** Insert the boots into the sealing groove in the guide sleeves ensuring they seal correctly all around the sleeves.

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



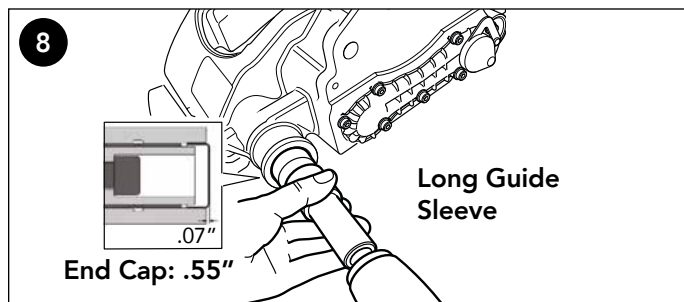
**6** Position the plastic washer over the boots to retain them in the sealing groove in the guide sleeves. Ensure that the washer is in the correct orientation.



**7** 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).

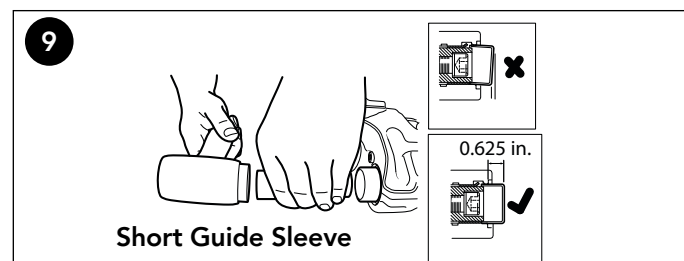
If the caliper is being fitted on the vehicle, lift the caliper over the carrier and insert the bolts into the carrier. Use suitable lifting equipment for the caliper. Ensure the correct new bolts are used for each guide sleeve. If the caliper is being fitted away from the vehicle, attach the carrier 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.



**8** 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.

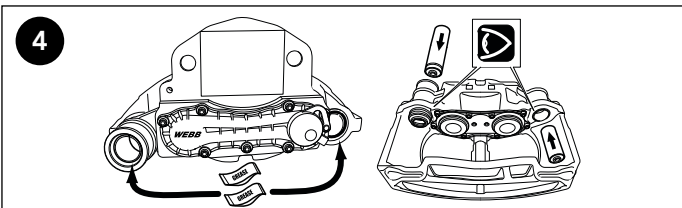


**9** Insert the protective cap for the short guide sleeve into the caliper bore – protective cap and bore must be clean and free from lubrication. Press the protective cap into the bore until the cap protrudes .625" from the cast boss, ensuring it is seated squarely.

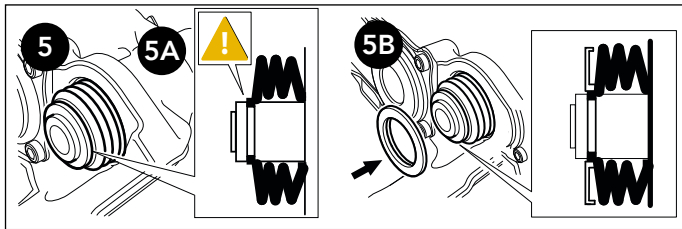
**This completes steps for MC225, skip to step 10 on page 16 to continue.**

# FITTING INSTRUCTIONS FOR MC225 & NS225 CALIPERS

## Fitting Instructions For NS225 Only (For MC225 see page 14)



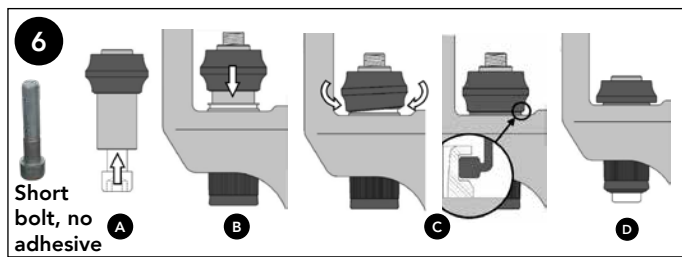
**4** Grease both guide sleeves using the grease packets provided. Slide the guide sleeves into the brass bushing in the directions indicated above



**5** 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.

**5B** 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.

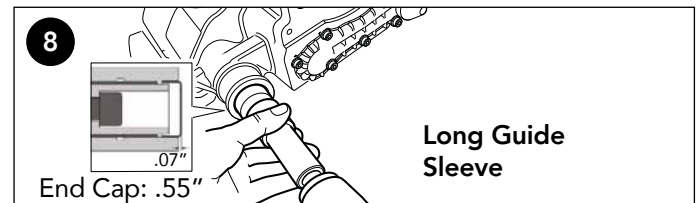


**6** **A** Fit the short bolt into the guide sleeve with pre-assembled rubber boot in the direction indicated.  
**B** Slide the guide sleeve and bolt into the rubber bushing in the direction indicated.  
**C** Insert the boot into the sealing groove in the housing retainer ensuring it seals correctly 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.



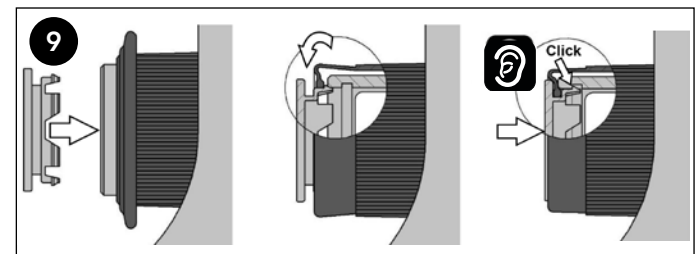
**7** Ensure the carrier threads are clean, dry and free of lubrication and/or residuals of pre-applied adhesive (the long guide sleeve bolt has a pre-applied adhesive). If the caliper is being fitted on the vehicle, lift the caliper over the carrier and insert the bolts into the carrier. Use suitable 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.



**8** 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.

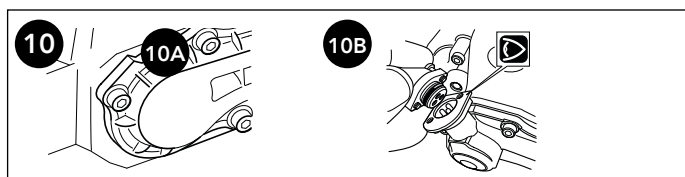


**9** Stretch the rubber bushing bellows over the short guide sleeve and position the plastic cap in the end of the guide sleeve bore – do not push into the bore yet. Slide the bellows back over the plastic cap, ensuring it locates correctly all around the groove, and then push the cap firmly into the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

This completes steps for NS225, skip to step 10 on page 16 to continue.

# FITTING INSTRUCTIONS FOR MC225 & NS225 CALIPERS

## Fitting Instructions Finish for MC225 & NS225

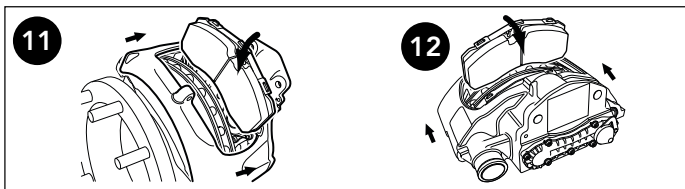


**10** If the carrier was removed from the vehicle, reinstall the caliper and carrier assembly in accordance with the vehicle manufacturer's recommendations. Reconnect the pad wear sensor cable connector (where applicable).

**10A** Chain cover without pad wear sensor - no action necessary.

**10B** 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.



**11** Slide caliper inboard and insert inner brake pad and spring.

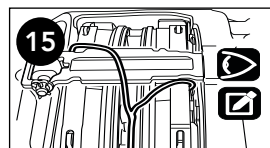
**12** Slide caliper outboard and insert outer brake pad and spring.



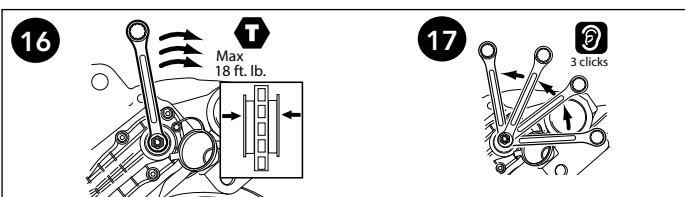
**13** Insert the new pad retainer in the slot in the caliper and depress to enable the insertion of the pad retainer pin. Position the washer over the pad retainer pin.

**14** 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.

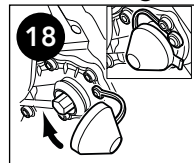


**15** Refit the pad wear warning indicator (PWWI) cable and clips in the same orientation as when removed. Reconnect the pad wear sensor cable connector (where applicable).



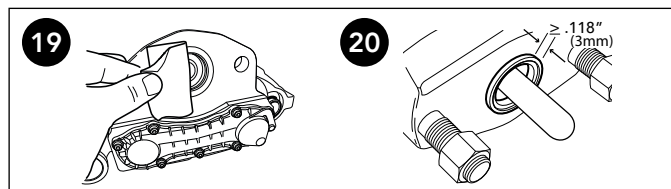
**16** Turn the adjuster clockwise until the pads come into contact with the disc - do not exceed 18 ft. lb. torque.

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



**18** Check for free rotation of the disc. Refit the adjuster cap.

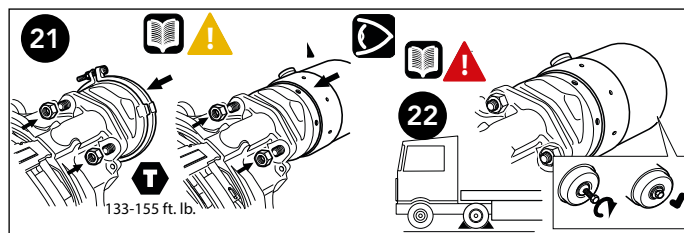
**!** Opening or dismantling of the caliper is not authorized and will void your warranty.



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

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

**!** If the air chamber seal protrudes less than .118" (3 mm) the brake chamber must be replaced.



**21** 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.

**22** 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](http://WebbADB.com)