

Technical Bulletin

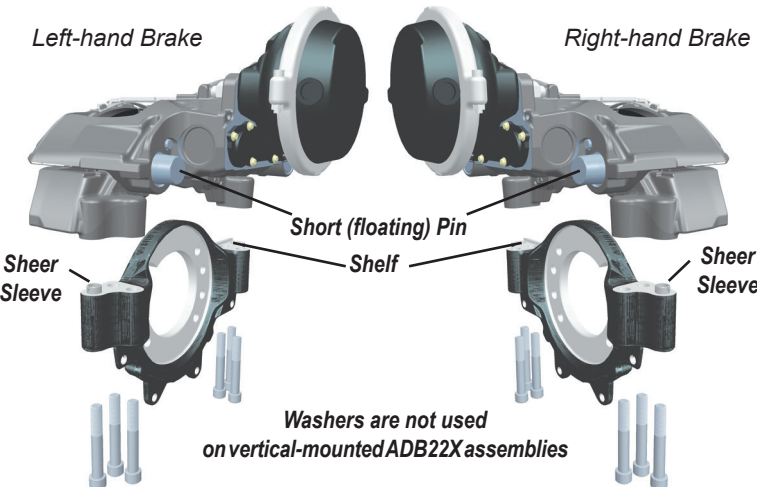
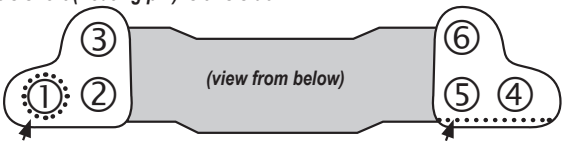
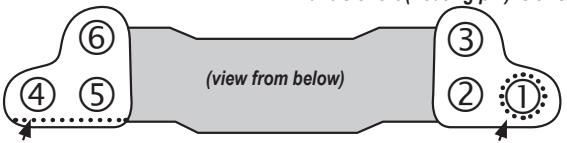
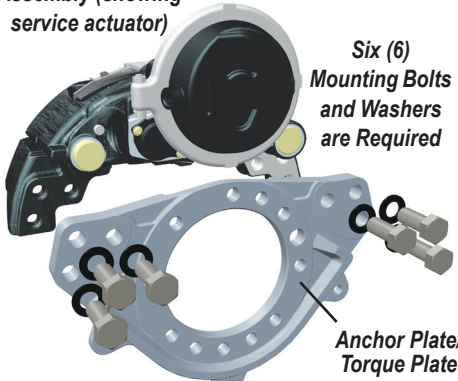

Bulletin No: TCH-023-002

Effective Date: 10/16/2018

Cancels: Same dated 01/31/2017 Page: 1 of 2

Subject: Installation of Bendix® ADB22X™ Air Disc Brakes – Best Practices

UPDATED: This bulletin is to inform technicians installing Bendix® ADB22X™ air disc brakes that when mounting a caliper/carrier assembly, Bendix recommends the fasteners, washers, torque, and torque sequences shown below. Not following these procedures can result in a brake caliper that is loose and/or not sliding freely which can lead to premature brake pad wear from pads that remain in contact with the rotor.

Vertical Mount	Fastener & Torque
<p style="text-align: center;">Service Actuators Shown</p>  <p style="text-align: center;"><i>Washers are not used on vertical-mounted ADB22X assemblies</i></p>	<p>Fastener: M16 x 2.0 x 110 mm, Class 12.9. Use the manufacturer's recommendations, but if unavailable, use a plain- and oil-finish fastener. Bendix strongly recommends using new fasteners each time.</p> <p>Washer: None used.</p> <p>Torque: Using the torque pattern below, pre-torque to between 40-50 ft-lbf [54-68 Nm], with a final torque of 202-247 ft-lbf [274-335 Nm].</p>
<p>Left-Hand Brake Torque Pattern (Viewed from Below)</p>	<p>Right-Hand Brake Torque Pattern (Viewed from Below)</p>
<p>Brake's short (floating pin) is this side</p>  <p style="text-align: center;">(view from below)</p> <p>Sheer sleeve above, in this location Shelf above, in this location</p>	<p>Brake's short (floating pin) is this side</p>  <p style="text-align: center;">(view from below)</p> <p>Shelf above, in this location Sheer sleeve above, in this location</p>
<p>Axial Mount</p>	<p>Fastener & Torque</p>
<p>Caliper/Carrier Assembly (showing service actuator)</p>  <p style="text-align: right;"><i>Six (6) Mounting Bolts and Washers are Required</i></p> <p style="text-align: right;">Anchor Plate/Torque Plate</p>	<p>Fastener: M20 x 2.5 x 60 mm Class 10.9. Use the manufacturer's recommendations, but if unavailable, use a phosphate- and oil-finish fastener. Bendix strongly recommends using new fasteners each time.</p> <p>Washer: Requires a HARDENED 3 mm (minimum thickness) washer for each bolt. If the vehicle is using a Bendix-manufactured axial anchor plate—with a thickness of 1.14 in. (29 mm) at the point where these bolts are inserted—then a bolt with an overall length of 2.36 in. (60 mm) will meet the requirements. CAUTION: The washer outside diameter must be less than 1.5 in. (37.5 mm).</p> <p>Torque: Pre-torque to 20-60 ft-lbf [27-81 Nm], with a final torque of 350-400 ft-lbf [475-542 Nm].</p>
	<p style="text-align: center;">Torque Pattern</p>
	<p style="text-align: center;"><i>Any cross-pattern, see the example below:</i></p> 



GENERAL SAFETY GUIDELINES

WARNING! PLEASE READ AND FOLLOW THESE INSTRUCTIONS

TO AVOID PERSONAL INJURY OR DEATH:

When working on or around a vehicle, the following guidelines should be observed **AT ALL TIMES**:

- ▲ Park the vehicle on a level surface, apply the parking brakes and always block the wheels. Always wear personal protection equipment.
- ▲ Stop the engine and remove the ignition key when working under or around the vehicle. When working in the engine compartment, the engine should be shut off and the ignition key should be removed. Where circumstances require that the engine be in operation, **EXTREME CAUTION** should be used to prevent personal injury resulting from contact with moving, rotating, leaking, heated or electrically-charged components.
- ▲ Do not attempt to install, remove, disassemble or assemble a component until you have read, and thoroughly understand, the recommended procedures. Use only the proper tools and observe all precautions pertaining to use of those tools.
- ▲ If the work is being performed on the vehicle's air brake system, or any auxiliary pressurized air systems, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle. If the vehicle is equipped with a Bendix® AD-IS® air dryer system, a Bendix® DRM™ dryer reservoir module, or a Bendix® AD-9si® air dryer, be sure to drain the purge reservoir.
- ▲ Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in a manner that safely removes all electrical power from the vehicle.
- ▲ Never exceed manufacturer's recommended pressures.
- ▲ Never connect or disconnect a hose or line containing pressure; it may whip and/or cause hazardous airborne dust and dirt particles. Wear eye protection. Slowly open connections with care, and verify that no pressure is present. Never remove a component or plug unless you are certain all system pressure has been depleted.
- ▲ Use only genuine Bendix® brand replacement parts, components and kits. Replacement hardware, tubing, hose, fittings, wiring, etc. must be of equivalent size, type and strength as original equipment and be designed specifically for such applications and systems.
- ▲ Components with stripped threads or damaged parts should be replaced rather than repaired. Do not attempt repairs requiring machining or welding unless specifically stated and approved by the vehicle and component manufacturer.
- ▲ Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.
- ▲ For vehicles with Automatic Traction Control (ATC), the ATC function must be disabled (ATC indicator lamp should be ON) prior to performing any vehicle maintenance where one or more wheels on a drive axle are lifted off the ground and moving.
- ▲ The power **MUST** be temporarily disconnected from the radar sensor whenever any tests **USING A DYNAMOMETER** are conducted on a vehicle equipped with a Bendix® Wingman® system.
- ▲ You should consult the vehicle manufacturer's operating and service manuals, and any related literature, in conjunction with the Guidelines above.



WARNING: Not all wheels and valve stems are compatible with Bendix® air disc brakes. Use only wheels and valve stems approved by the vehicle manufacturer to avoid the risk of valve stem shear and other compatibility issues.



WARNING: AVOID CREATING DUST. POSSIBLE CANCER AND LUNG DISEASE HAZARD.

While Bendix Spicer Foundation Brake LLC (BSFB, Bendix) does not offer asbestos brake linings, the long-term effects of some non-asbestos fibers have not been determined. Current Occupational Safety and Health Administration (OSHA) Regulations cover exposure levels to some components of non-asbestos linings, but not all. The following precautions must be used when handling these materials.

- ▲ Avoid creating dust. Compressed air or dry brushing must never be used for cleaning brake assemblies or the work area.
- ▲ Bendix recommends that workers doing brake work must take steps to minimize exposure to airborne brake lining particles. Proper procedures to reduce exposure include working in a well-ventilated area, segregation of areas where brake work is done, use of local filtered ventilation systems or use of enclosed cells with filtered vacuums. Respirators approved by the Mine Safety and Health Administration (MSHA) or National Institute for Occupational Safety and Health (NIOSH) should be worn at all times during brake servicing.
- ▲ Workers must wash before eating, drinking or smoking; shower after working, and should not wear work clothes home. Work clothes should be vacuumed and laundered separately without shaking.
- ▲ OSHA & EPA Regulations regarding testing, disposal of waste, and methods of reducing exposure for asbestos are set forth in 29 & 40 Code of Federal Regulations §1910.1001 & 61.150, respectively. These Regulations provide valuable information which can be utilized to reduce exposure to airborne particles.
- ▲ Safety Data Sheets on this product, as required by OSHA, are available from Bendix. Call 1-800-247-2725 and speak to the Tech Team or e-mail techteam@bendix.com.

**Bendix Spicer
Foundation Brake LLC**

A Bendix CVS and Dana Joint Venture