

No Automatic Brake Adjuster can compensate for braking system deficiencies. The brake system should be in good operating condition and be well maintained. Excessive push rod stroke, or tight running brakes indicates that there is a problem with the foundation brake components, the ABA installation or the ABA. The proper way of checking an ABA to see if it is working within specifications is to measure the push rod stroke. Motor Wheel® supports TMC's recommendation of inspecting the ABA and air chamber performance every month, 8,000 miles or 300 operating hours, whichever comes first. When performing any type of maintenance or inspection on a vehicle, proper precautions must be taken to avoid serious injury. Always chock the vehicle's wheels and cage the spring brakes during all inspection and maintenance activities.

2 TECH TIP Automatic Brake Adjuster Inspection

The only time the ABA should be manually adjusted is during installation and reline. Constant manual adjustment of the ABA is a dangerous practice and may lead to reduced internal component life, or other more serious consequences. The Motor Wheel ABA unit must be installed with the appropriate Motor Wheel clevis and template.

Push Rod Power Stroke Measurement

Measure the power stroke (the difference between when the brake is released and when it is fully applied) at 90-100 psi application pressure. **(See Image 1)**

The distance must be less than or equal to the Legal Stroke Limit in the chart below:

Chamber Types	Legal Stroke Limit
9, 12	Less than or equal to 1-3/8"
16, 20, 24	Less than or equal to 1-3/4"
30	Less than or equal to 2"
36	Less than or equal to 2-1/4"
Long Stroke Chamber	Legal Stroke Limit
16, 20	Less than or equal to 2"
24 (3" MAX)	Less than or equal to 2-1/2"
30	Less than or equal to 2-1/2"

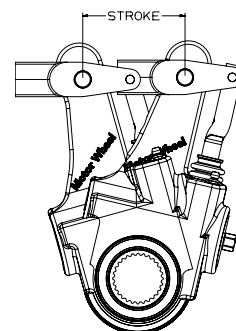


Image 1

Free Stroke

Free stroke is the distance the slack arm moves in order to make the brake shoes contact the drum with no air pressure applied. Move the slack arm with a small pry bar and measure the movement distance. This distance should be 3/8" to 5/8". If the free stroke is greater than 5/8", check the foundation brake components.

Repair and replace as needed. If both the Power Stroke and Free Stroke tests confirm the ABA is operating properly, no further action is necessary. Otherwise, proceed to the ABA Setup Verification.



For more information on Welded Clevis Automatic Brake Adjusters, call 855.743.3733 or visit www.motorwheel-intl.com



Automatic Brake Adjuster Inspection

Verify ABA Set-up

1. If the ABA has the AutoCheck pointer installed, the ABA is set-up correctly if the tip of the pointer is located within the white HOME box of the ABA label when the brakes are fully released. If the tip of the pointer is within the HOME area, proceed to the ABA Function Test. Otherwise go to Step 2. **(See Image 2)**
2. Select the correct Installation Template for the spline size and armhole locations.
3. Fit the Installation Template (with the appropriate sleeve, if necessary) over the S-cam and put the 1/2" pin into the clevis.
4. Swing the template to engage the 1/2" pin.
5. Rotate the clevis CW or CCW on Push Rod until the 1/4" pin holes in clevis and template line up and the 1/4" pin slides easily through both the template and clevis.
6. The template now indicates the correct set-up angle "A".
7. Remove the template and 1/2" pin. Install ABA onto the S-cam and turn the hex nut CW until both the 1/2" and 1/4" holes line up with the clevis.
8. Install and secure the clevis pins. Turn hex nut CW until the shoes contact the drum.
9. Back off the Hex nut 1/2 turn CCW to complete the set-up.

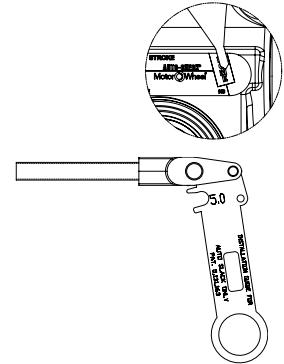


Image 2

ABA Function Test

1. Back off the brake adjustment (1) turn in the CCW direction.
2. Place a mark across the adjuster hex and ABA using chalk, paint marker or other suitable marking device as shown. **(See Image 3)**
3. Apply and fully release the brakes and observe if the 7/16" hex rotates in the CW direction. The 7/16" hex should rotate in small increments in the CW direction and will stop rotating when the brake adjustment cycle is complete. Apply and release the brakes until the 7/16" hex stops rotating. Re-measure Push Rod Power Stroke. If the Push Rod Power Stroke is within the Maximum Legal Stroke limit and the ABA passes the Free Stroke and ABA Function Test, the ABA is operating properly and no further testing of the ABA is necessary.
4. If the ABA fails any of these tests, contact the Motor Wheel® Warranty Center at motorwheelwarranty@motorwheel-intl.com to file a claim.

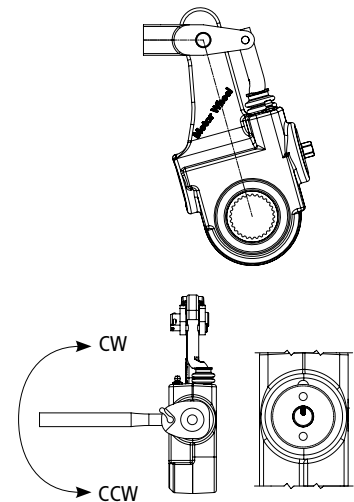


Image 3



ABA Field Inspection Procedures

IMPORTANT Before performing service on equipment, make sure the equipment is parked on a level surface and the wheels are chocked and cannot move. Some of the tests below involve moving parts and excessive noise from air releasing. Maintain a safe distance from moving components and wear appropriate personal protective equipment.

STEP 1. Match Replacement ABA Arm Hole Spacing

Many, but not all, air chamber mounting brackets use the mounting configuration shown in IMAGE 4. Be sure to match replacement ABA arm hole spacing with original equipment specified by the OEM. Mount air chamber using holes corresponding to the Brake Adjuster length. **(See Image 4)**

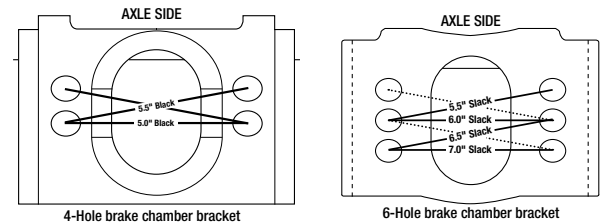


Image 4

STEP 2. Installation Check

Use a feeler gauge to check for a minimum clearance of .005" between s-cam washers and ABA. Ensure washers center the ABA to the air chamber and that there is adequate clearance between the ABA and other components. **(See Image 5)**

Insufficient clearance prevents ABA adjustment and proper functioning. Check s-cam washers for expansion due to rust. Remove washer(s) as needed to obtain minimum clearance.



Image 5

STEP 3. Check ABA Installation / Set-up

If equipped with AutoCheck, the tip of the AutoCheck pointer should be located within the "HOME" location when the brakes are fully released. **(See Image 6)**

If the pointer tip is not in the HOME location, use the appropriate Motor Wheel® Installation template to properly set up the ABA. **(See Image 7)**



Image 6



Image 7





Automatic Brake Adjuster Inspection

STEP 4. Check Free Stroke

Free stroke should be between 3/8" - 5/8". If less than 3/8", check ABA set-up and pre-adjustment. If greater than 5/8"; check clevis pins, clevis pin holes, and armhole bushings for wear, s-cam binding or loose bushings, weak or broken air chamber return spring, push rod binding on housing, air not exhausting, broken or weak shoe return springs, or the ABA. (See Image 8)



Image 8

STEP 5. Check Power Stroke at 90-100 psi.

Shop air pressure should be regulated to 90-100 psi when testing ABA power stroke. Truck air should be bled down to 90-100 psi. 2.0" Maximum for type 30 chamber. 2.5" Maximum for type 30 long stroke chamber. Standard stroke chambers have round ports. Long stroke chambers have either: square ports, a trapezoidal ID tag, or markings on the chamber body or clamp band indicating long stroke chamber. (See Image 9)



Image 9

STEP 6. Check ABA Function

Back-off the ABA adjustment by rotating the 7/16" hex (1) turn CCW. Place a mark on the hex and end cap or place cut off tool over 7/16" hex. Apply and fully release the brakes 10-15 times using 50-100 psi air pressure and check for CW hex rotation. If the hex does not rotate, replace ABA. Re-check that the ABA power stroke is below the maximum stroke limit after the ABA stops making adjustments. (May take more than 15 actuation cycles.) (See Image 10)



Image 10

If the ABA does not pass the function test or if the power stroke is over the maximum limit (2" for a type 30 chamber) after the proper ABA installation has been verified, the ABA should be removed and returned to Motor Wheel® for warranty consideration.

*Actual product performance may vary depending upon vehicle configuration, operation, service and other factors.
All applications must comply with applicable specifications from Motor Wheel and the respective vehicle manufacturer.
Contact Motor Wheel for additional details regarding specifications, applications, capacities, operation, service and maintenance instructions.*



Contact Motor Wheel at 855.RIDERED (743.3733) for additional information.

Motor  Wheel®

MOTOR WHEEL
2660 Sydney St.
Chattanooga, TN 37408 USA
855.743.3733

www.motorwheel-intl.com

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