



# Automatic Brake Adjusters

## Design Features:

1. Clearance sensing adjustment
2. Adjustment completed on the return stroke
3. Reduced wear clutch design
4. Non-handed packaging layout
5. Lift rod actuation, no external mounting bracket
6. Positive locating, easy to use set-up guide
7. Easy manual adjustment without component disassembly
8. Fewer part numbers required for product coverage
9. Rugged Heavy-Duty internal components
10. High durability gear and worm
11. Powder coated finish for long term protection
12. High integrity seal design for excellent sealing
13. "Auto-Check" stroke indicator option
14. "Cam-Guard" Longer life for your S-Cam splines
15. Long life adjuster system

# TRAMEC AUTOMATIC BRAKE ADJUSTERS

TRAMEC offers a wide variety of heavy-duty brake components. Headquartered in Iola, KS, we utilize our strong base in North America to develop markets for our products both domestically and overseas.

Started in Buffalo, NY in 1984, our expertise in the design, manufacture, and assembly of Automatic Brake Adjusters has been built on our strong research and development and design teams. These teams have collaborated in order to offer innovations to the industry.

These innovations have manifested into ABA features such as “**Auto-Check**,” our patented stroke indicator; “**Cam-Guard**,” a highly effective S-Cam spline greasing system; and our patented hands-free plastic installation template, providing a perfect installation every time. Furthermore, TRAMEC has researched and developed a Generation II ABA. Each of these innovative features, to name a few, have contributed to TRAMEC’s competitive edge in the industry.

The best way to tell you about our product is to explain its features. There are two things that any ABA must be able to do:

1. Must maintain proper shoe-to-drum clearance in all braking modes (i.e., not over or under adjust).
2. Must be very easy to correctly install in the field, or on the shop floor (i.e., no brackets, no parts to remove, no paper line-up guides).

The TRAMEC ABA accomplishes both of these needs by design innovations, not by offering just a “me too” product.

For ease of installation, we supply a patented installation guide (structurally rigid, not a flexible plastic or paper guide). The guide takes the place of the ABA during installation to correctly and quickly locate the clevis yoke on the chamber push rod.

When the ABA is later placed on the S-Cam, there are no trial and error set-ups needed. Just slide the ABA on the S-Cam, rotate it to line up with the clevis, and install the clevis pins – a perfect job

every time. **It’s fool-proof for the first time user and the brake professional alike**

## **OUR STROKE INDICATOR ATTACHES TO THE ABA, AND ELIMINATES THE NEED TO CRAWL UNDER VEHICLES TO DETERMINE AIR CHAMBER STROKE**

TRAMEC introduced the Truck Industry’s first brake stroke indicator that is directly mounted on an automatic brake adjuster. It shows both the correct home/set-up position, and the air chamber stroke without crawling under the vehicle.

All heavy-duty vehicle builders, users, and inspectors spend considerable time under vehicles measuring brake stroke to ensure compliance to the trucking industry’s brake readjustment limits.

TRAMEC’s patented “**AUTO-CHECK™**” is designed to provide a method of determining if the brake stroke is within acceptable limits without going under the vehicle. This patent also covers comparable designs on competitor’s ABAs. “**AUTO-CHECK™**” is installed on the ABA facing the center of the vehicle. This allows someone to look past the opposite side tires to determine if the brake stroke is in a normal range.

“**AUTO-CHECK™**” consists of a bright yellow pointer and an indicator divided into three colors for easy use.

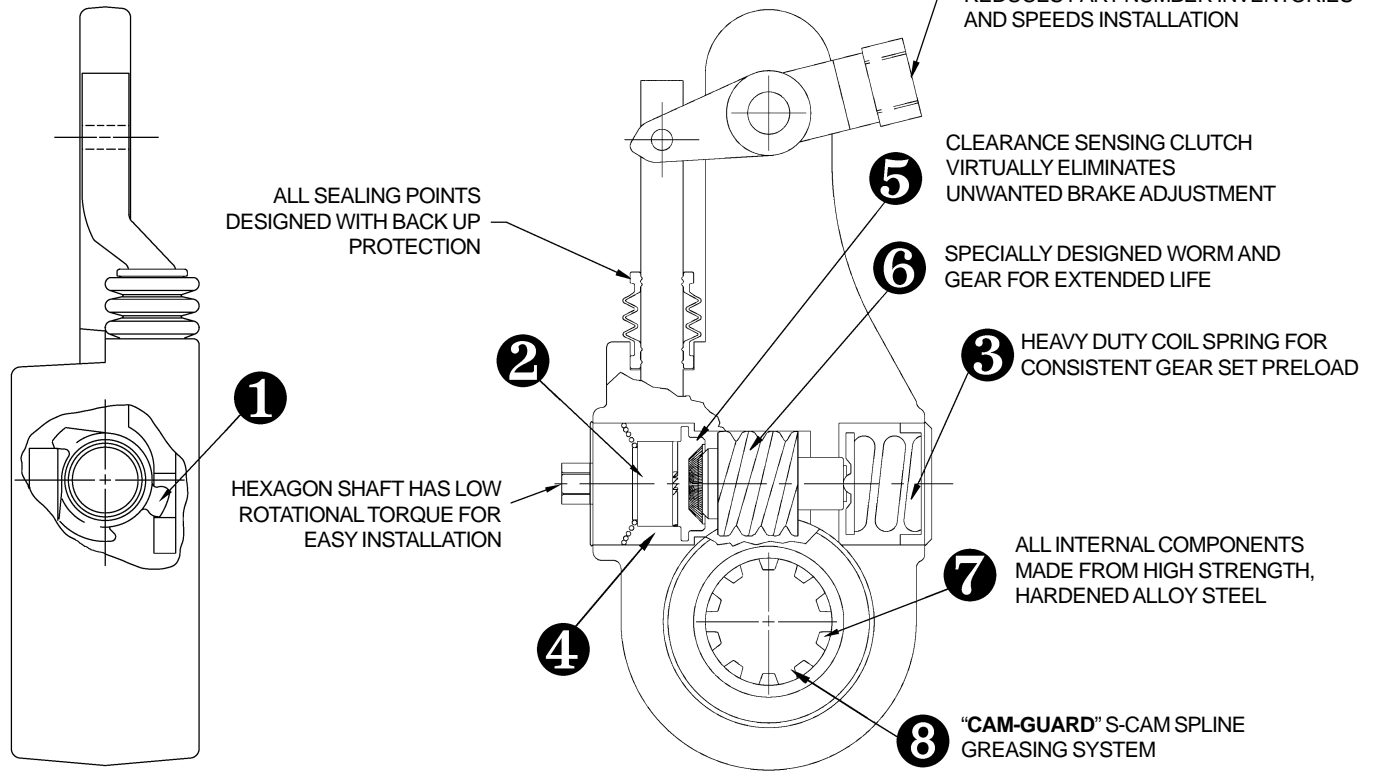
1. White area – Correct home/set-up position
2. Green area – Normal working stroke
3. Red area – Brake stroke is past re-adjust limit

In addition to determining brake stroke integrity, “**AUTO-CHECK™**” also offers the installer, factory floor or repair shop an extra quality control check to confirm the ABA’s correct set-up position. The “**AUTO-CHECK™**” pointer will be in the area marked “HOME” if the TRAMEC automatic brake adjuster has been properly installed.

“**CAM-GUARD**” is a specially designed spline gear, with a groove in the center that allows grease to flow onto the S-Cam spline when the ABA is greased.

# ABA Operation

( Shown in Normal Running Configuration )

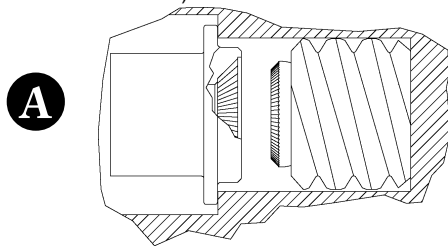


As the brakes are applied, the automatic brake adjuster's rotation moves the shoes and linings into contact with the brake drum. This movement also lifts the actuation rod through a pre-set, free travel dimension that is normal lining to drum clearance **1**. Continuing the brake application rotates a one-way clutch **2** in its overriding mode, and at the same time causes the large coil spring **3** to deflect at a specific force. This spring deflection allows the worm to move axially **4**. The clutch movement is restricted by a machine step **5**. This movement fully disengages the drive clutch from the worm **6** and prevents unwanted

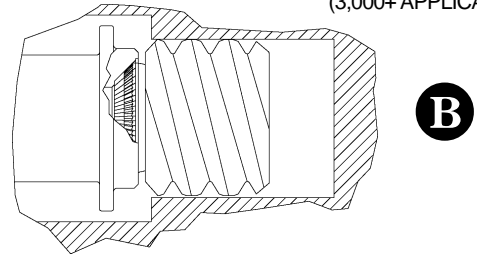
brake adjustment from occurring. As the brakes are released, the large coil spring resumes its original load and position, which allows the drive clutch to re-engage. Simultaneous to drive clutch re-engagement, if any lining wear has occurred, the actuation rod rotates the one-way adjuster clutch an amount proportional to lining wear. This motion rotates the worm **6**, worm wheel **7**, and the S-Cam shaft resulting in adjustment of the brakes. **8** "CAM-GUARD" comes standard on all TRAMEC ABA's. A great way to protect your camshaft splines for longer life.

## "Long Life" Adjuster System

IF NO BRAKE ADJUSTMENT IS NEEDED:  
CLUTCH WILL DISENGAGE, REDUCING INTERNAL WEAR  
(2,000,000+ APPLICATIONS)



IF BRAKE ADJUSTMENT IS NEEDED:  
CLUTCH WILL ENGAGE TO MAKE THE ADJUSTMENT  
(3,000+ APPLICATIONS)

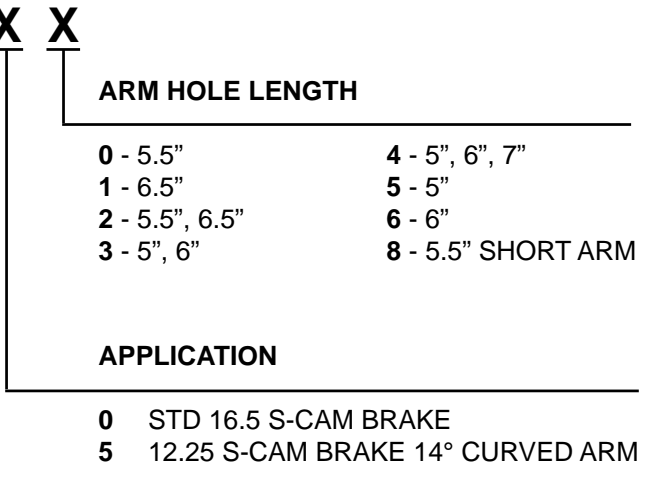
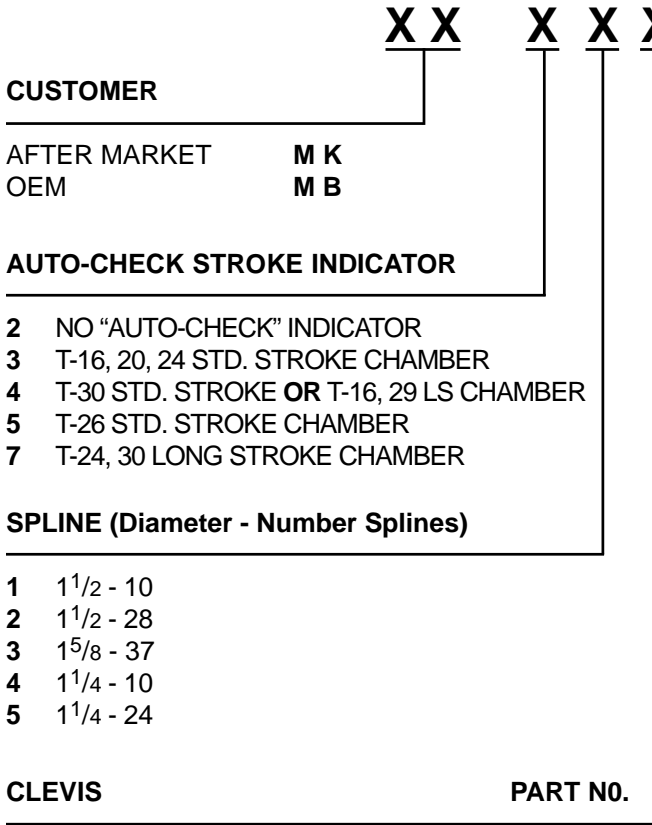


This patented TRAMEC design protects the adjusting components during normal brake applications where brake adjustment is not required. Over 90% of all brake applications do not require adjustment – so why subject the adjusting components to continuous wear.

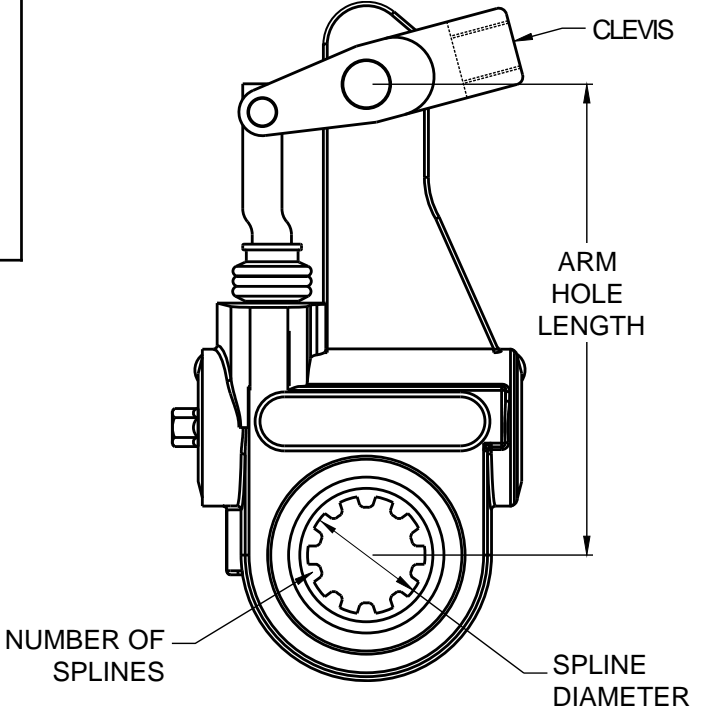
The TRAMEC Adjustment System operates like the windshield wipers on your car – it is utilized only when needed, not continuously when the car is running.

- A typical highway vehicle will make about 2,000,000 brake applications in a 5-year span.
- This same vehicle will require the ABA to adjust the brake about 3,000 times.
- Figure A shows components separated to reduce wear (over 90% of the time).
- Figure B shows components connected during brake adjustment (less than 10% of the time).

# Part Numbering System:



0	NO CLEVIS	
1	5/8 - 18 STRAIGHT	8420
2	1/2 - 20 STRAIGHT	8410
3	5/8 - 18 OFFSET	8425
4	1/2 - 20 OFFSET	8415
5	16 x 1.5MM STRAIGHT	8490
7	5/8 - 18 STRAIGHT EXTENDED	8480
8	5/8 - 18 SHORT THROAT	8485
9	5/8 - 18 SHORT THROAT 5/8 OFFSET	8435
A	3/4 - 16 STRAIGHT	8430
E	1/2 - 20 STRAIGHT EXTENDED	8411
G	3/4 - 16 STRAIGHT EXTENDED	8431
L	16 x 1.5MM OFFSET	8495



All TRAMEC ABA's are warranted for replacement due to defects in material or workmanship as specified in the following chart.

Warranty Period (Whichever occurs first)	6 years / 1 million miles	2 years / 200,000 miles	1 year / 100,000 miles
ABA's used for	On-Highway Trucks, Tractors, and Trailers	Off-Highway applications (e.g., construction vehicles)	Severe Service ABA's (e.g., refuse pickup, school buses, or city deliveries)

This warranty is not applicable to failures caused by improper installation, repair, alteration, accidents, abuse, improper use, normal wear and tear. It also does not apply if failure is due to other components or lack of required maintenance according to instructions from vehicle or components manufacturer. TRAMEC is not liable for special, incidental, indirect or consequential damages (including, but not limited to towing expense or labor to replace defective parts) which the customer incurs because of the defective component. This warranty is in lieu of all other warranties or conditions, express, implied or statutory, including any implied warranty of merchantability or fitness for particular purpose. No employee or agent of TRAMEC is authorized to make any additional warranty, or offer any additional remedy, or to alter or vary the terms of the warranty of any disclaimers or warranties or limitations contained herein. The above is only a partial copy of the warranty. For a complete copy of the warranty, please contact your local TRAMEC distributor. TRAMEC reserves the right to modify our warranty policy without notice.

