

# RANGER BRAKE

JAN 2017

## TROUBLE FREE **BEST VALUE** **PROVEN SATISFACTION**

**(ASA), Automatic Slack Adjusters** are one of the more intricately complicated parts on a commercial vehicle today. Every SLACK contains extremely high tolerance gears, splines, clutch and surface mechanisms and any variance in tolerance will result in a FAULTY SLACK... and a potential DOT fine or even worse increase your vehicles stopping distance which will increase the risk of an accident.

### **WHY, RANGER BRAKE PRODUCTS, INC.**

RANGER BRAKE is an engineering based company with extensive automotive component knowledge in design, metallurgy, mold making, metal stamping, machinery and production automation. Our experience and technical knowledge far exceeds our competitors. Having the technical capability to accurately communicate part design upgrades and critical quality issues between our component suppliers and our In-House engineers, guarantees continuous improvement and assures FAULTY units are detected prior to shipping.

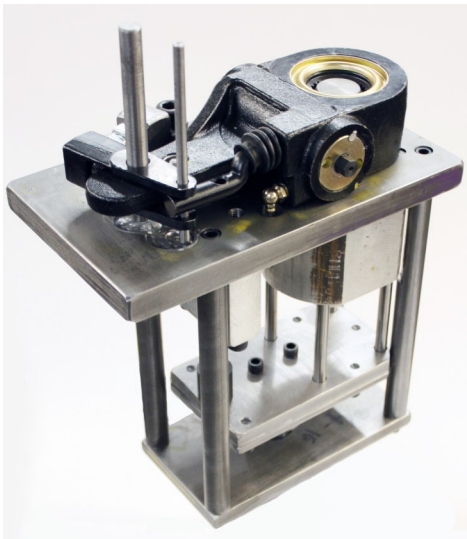
**THE ONLY MANUFACTURE / DISTRIBUTOR OF (ASA's) THAT  
GUARANTEE'S CUSTOMER SATISFACTION.**

### **WHY, THE BEST VALUE**

Our forty years of engineering and manufacturing of automotive/commercial parts components has taught us that a deep understanding of a parts design and function with unprecedented pre-package testing techniques assure our customers that they are getting the best **VALUE** and best **QUALITY** products on the road, today.



STATIC TEST FIXTURE



### **EVERY UNIT TESTED, 100%**

Customer Satisfaction is precisely the reason RANGER BRAKE is committed to **100% TESTING AND QC OF EACH and EVERY (ASA)**. These testing procedures are in-house designed and specific to EACH style or brand slack. Over the years, we have isolated each brands "area of weakness" and tailored our testing procedures to focus on those critical areas.

**ALL TESTING IS DONE IN ALEXANDRIA, TN: U.S.A.**

### **DYNAMIC AXLE PLATFORMS**

**EACH (ASA) IS PUT THROUGH OUR AGGRESSIVE  
10-POINT TEST PROCEDURE.**

The testing models have been designed using fully-functional dynamic axle platforms that simulate real-world driving conditions. This S-Cam dynamic testing laboratory is also part of our continuous improvement quality model and operates virtually 24/7.

### **Technical Support**

**(615) 536-5020**

### **Fitment Solutions**

**FOR EASE OF INSTALLATION**

**Program Support \_ Ask for MARK \_ (615) 536-5020 \_ MARK@RANGERBRAKE.NET**

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## FUNCTIONAL TEST PROCEDURE

**EACH (ASA) IS PUT THROUGH OUR AGGRESSIVE 10-POINT STATIC TEST PROCEDURE.**

These tests are designed to confirm that all aspects of the ASA's adjustment mechanism and available Stroke measurement have met our optimal standard. **EVERY (ASA) gets a...**

### 10 - POINT FUNCTIONAL TEST PROCEDURE

1. S-CAM FITMENT...
2. CW or CC ROTATIONAL TORQUE and RATCHET RESPONSE at HEX...
3. ADJUSTMENT-ARM AVAILABLE MOVEMENT...
4. HEX NUT ROTATION IN DEGREES RELATIVE to ADJUST-ARM MOVEMENT...
5. S-CAM GEAR MOVEMENT IN DEGREES RELATIVE to ADJUST-ARM MOVEMENT..
6. CLUTCH PRESSURE SETTING and PLATE FORCE OUTPUT...
7. DEGREE of HEX ROTATION REQUIRED for CLUTCH to ENGAGE RELATIVE to ADJUST-ARM MOVEMENT.
8. DEGREE of HEX ROTATION REQUIRED for CLUTCH to DIS-ENGAGE RELATIVE to ADJUST-ARM MOVEMENT.
9. CLEVIS ASSEMBLY INSPECTION of THREADS, FITMENT and YOKE HOLE LOCATION.
10. VERIFY TEMPLATE FORM and FIT...

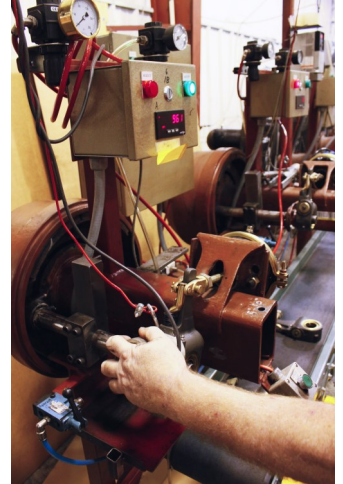
### Additional, PROCEDURES SPECIFIC TO STYLE

1. PAWL ASSEMBLY FUNCTION.. MERITOR STYLE
2. PAWL RELATIVE TO CONE LOCKING TOOTH ANGLES.. MERITOR STYLE
3. POINTER FUNCTION and POSITIVE STOP POSITION.. HALDEX STYLE
4. BRACKET ASSEMBLY COMPLETE and ENGINEERED CORRECTLY.. HALDEX STYLE

### BATCH TEST PROCEDURE

1. ROCKWELL HARDNESS REQUIREMENTS of ALL CRITICAL INTERNAL GEAR SURFACE AREA'S...
2. LUBRICATION CHANNEL for ALL INTERNAL COMPONENTS...
3. RIGIDITY of ALL MACHINED EXTERNAL SURFACES such as CLEVIS, SLACK HOUSING, ADJUSTMENT-ARM..

**AUTOMATED  
PRODUCTION  
TEST LINE**



## TROUBLE-FREE PERFORMANCE

Weather, sub-zero temperatures or desert heat, our slacks are truly the most trouble-free slack in the industry today. Each unit is designed to install with ease, maintain a uniform distance between the brake drum and lining and maximize service life. Our quality control testing process provides the foundation for this exceptional low-maintenance, high performing wheel-end.

### (ASA)-Benefits Comparison by Style

	RANGER STYLE <b>BENDIX</b>	RANGER STYLE <b>HALDEX</b>	RANGER STYLE <b>MERITOR</b>	RANGER STYLE <b>GUNITE</b>	RANGER STYLE <b>TRAMEC</b>
<b>DESCRIPTION</b>	<b>FEATURES</b>	<b>FEATURES</b>	<b>FEATURES</b>	<b>FEATURES</b>	<b>FEATURES</b>
SENSING TYPE:	CLEARANCE SENSING	CLEARANCE SENSING	STROKE SENSING	CLEARANCE SENSING	CLEARANCE SENSING
<b>SROKE ADJUSTMENT:</b>	<b>APPLIED</b>	<b>RELEASED</b>	<b>RELEASED</b>	<b>APPLIED</b>	<b>RELEASED</b>
POSITION:	NON-HANDED	NON-HANDED	NON-HANDED	NON-HANDED	NON-HANDED
<b>CLUTCH ASSEMBLY:</b>	<b>TORSION</b>	<b>CONE</b>	<b>RATCHET</b>	<b>CONE</b>	<b>CONE</b>
CLUTCH SPRING:	TORSION	COIL	RATCHET	COIL	COIL
<b>BOOT:</b>	<b>SEALED</b>	<b>N/A</b>	<b>SEALED</b>	<b>SEALED</b>	<b>SEALED</b>
BUSHING:	HEAT TREATED	HEAT TREATED	HEAT TREATED	HEAT TREATED	HEAT TREATED
<b>EXTERNAL HARDWARE:</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>
YOKE / CLEVIS: PIN TO PIN	STD_1.000"	NOT INCLUDED	STD_1.300"	STD_1.020"	STD_1.380"
<b>YOKE / CLEVIS: OPTIONAL</b>	<b>1.300"/TBA</b>	<b>NOT INCLUDED</b>	<b>1.380"</b>	<b>1.300"</b>	<b>N/A</b>
ADJUSTMENT CONTROL TYPE:	CONTROL ARM	LINKAGE PIN	LINKAGE PIN	LINKAGE PIN	LINKAGE PIN
<b>BACK-OFF ADJUSTMENT:</b>	<b>BACK-OFF HEX_1/4 TURN/CCW</b>	<b>BACK-OFF HEX_1/2 TURN/CCW</b>	<b>BACK-OFF HEX_1/2 TURN/CW</b>	<b>BACK-OFF HEX_1/2 TURN/CCW</b>	<b>BACK-OFF HEX_1/2 TURN/CCW</b>
GRADE OF GREASE:	NLGI GRADE 1, LITHIUM	NLGI GRADE 1, LITHIUM	NLGI GRADE 1, LITHIUM	NLGI GRADE 1, LITHIUM	NLGI GRADE 1, LITHIUM
<b>GREASE OPERATING TEMP:</b>	<b>HIGH +175° C, LOW -40° C</b>	<b>HIGH +175° C, LOW -40° C</b>	<b>HIGH +175° C, LOW -40° C</b>	<b>HIGH +175° C, LOW -40° C</b>	<b>HIGH +175° C, LOW -40° C</b>
S-CAM / WORM GEAR: GREASE	MANUAL & SELF LUBRICATING	MANUAL	SELF LUBRICATING	SELF LUBRICATING	MANUAL
<b>LUBRICATION_NEW:</b>	<b>PRE-GREASED</b>	<b>PRE-GREASED</b>	<b>PRE-GREASED</b>	<b>PRE-GREASED</b>	<b>PRE-GREASED</b>
LUBRICATION_INTERVAL:	6-MTH OR 50,000 MILES	6-MTH OR 50,000 MILES	6-MTH OR 50,000 MILES	6-MTH OR 50,000 MILES	6-MTH OR 50,000 MILES

**Coverage  
FOR TRACTORS TRAILERS,  
TRANSIT, BUS**



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## (ASA)-Benefits Comparison by Style

DESCRIPTION	RANGER STYLE	RANGER STYLE	RANGER STYLE	RANGER STYLE	RANGER STYLE
	<b>BENDIX</b>	<b>HALDEX</b>	<b>MERITOR</b>	<b>GUNITE</b>	<b>TRAMEC</b>
<b>SENSING TYPE:</b>	CLEARANCE SENSING	CLEARANCE SENSING	STROKE SENSING	CLEARANCE SENSING	CLEARANCE SENSING
<b>SROKE ADJUSTMENT:</b>	APPLIED	RELEASED	RELEASED	RELEASED	RELEASED
<b>POSITION:</b>	NON-HANDED	NON-HANDED	NON-HANDED	NON-HANDED	NON-HANDED
<b>CLUTCH ASSEMBLY:</b>	TORSION	CONE	RATCHET	CONE	CONE
<b>CLUTCH SPRING:</b>	TORSION	COIL	RATCHET	COIL	COIL
<b>BOOT:</b>	SEALED	N/A	SEALED	SEALED	SEALED
<b>BUSHING:</b>	HEAT TREATED	HEAT TREATED	HEAT TREATED	HEAT TREATED	HEAT TREATED
<b>EXTERNAL HARDWARE:</b>	NO	YES	NO	NO	NO
<b>YOKE / CLEVIS: PIN TO PIN</b>	STD_1.000"	NOT INCLUDED	STD_1.300"	STD_1.020"	STD_1.380"
<b>YOKE / CLEVIS: OPTIONAL</b>	1.300"/TBA	NOT INCLUDED	1.380"	1.300"	N/A
<b>ADJUSTMENT CONTROL TYPE:</b>	CONTROL ARM	LINKAGE PIN	LINKAGE PIN	LINKAGE PIN	LINKAGE PIN
<b>BACK-OFF ADJUSTMENT:</b>	BACK-OFF HEX_1/4 TURN/CCW	BACK-OFF HEX_1/2 TURN/CCW	BACK-OFF HEX_1/2 TURN/CCW	BACK-OFF HEX_1/2 TURN/CCW	BACK-OFF HEX_1/2 TURN/CCW
<b>GRADE OF GREASE:</b>	NLGI GRADE 1, LITHIUM	NLGI GRADE 1, LITHIUM	NLGI GRADE 1, LITHIUM	NLGI GRADE 1, LITHIUM	NLGI GRADE 1, LITHIUM
<b>GREASE OPERATING TEMP:</b>	HIGH +175° C, LOW -40° C	HIGH +175° C, LOW -40° C	HIGH +175° C, LOW -40° C	HIGH +175° C, LOW -40° C	HIGH +175° C, LOW -40° C
<b>S-CAM / WORM GEAR: GREASE</b>	MANUAL & SELF LUBRICATING	MANUAL	SELF LUBRICATING	SELF LUBRICATING	MANUAL
<b>LUBRICATION_NEW:</b>	PRE-GREASED	PRE-GREASED	PRE-GREASED	PRE-GREASED	PRE-GREASED
<b>LUBRICATION_INTERVAL:</b>	6-MTH OR 50,000 MILES	6-MTH OR 50,000 MILES	6-MTH OR 50,000 MILES	6-MTH OR 50,000 MILES	6-MTH OR 50,000 MILES



**Coverage**  
FOR TRACTORS TRAILERS,  
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