

Constant Contact Side Bearings



*Shop and Field
Inspection
Pocket Guide*

Amsted Rail

THE SYSTEM IS THE SOLUTION

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1.0 Introduction and Model Selection

This guide serves as a convenient reference for the complete line of ASF-Keystone Side Bearings. Various sections cover installation, maintenance and inspection procedures.

ASF-Keystone Side Bearings use steel spring technology, which provides performance equal or better to elastomer designs when new. After the car has been in service, steel springs maintain performance with little or no preload decay.

For proper operation, it is necessary to identify the correct side bearing for your application.

Spring Control™ Side Bearings*

- 3800 LT for intermodal or articulated car applications
- 4500 LT for cars with lightweights of 50,000 lbs. or less
- 5600 LT for cars with lightweights greater than 50,000 lbs.

**5600 LT is recommended for most applications. Alternate applications may be based on individual customer requirements.*

Ride Control® Side Bearings*

- 98-5-10152 for cars with lightweights greater than 50,000 lbs.

**Ride Control® side bearings are no longer in production. This is provided as reference for existing owners only.*

2.0 Model Identification

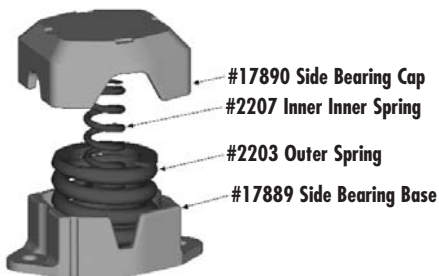


Figure 1:
Spring Control™ 3800 LT Side Bearing



Figure 2:
Spring Control™ 4500 LT Side Bearing



Figure 3:
Spring Control™ 5600 LT Side Bearing

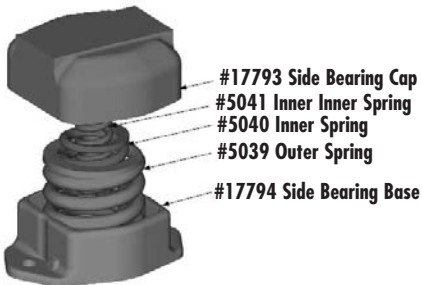


Figure 4: Ride Control®
98-5-10152 Side Bearing

3.0 Installation

3.1 Set Up Height

The distance between the side bearing pad and the wear plate on the car body, or the set up height, must be adjusted until it is equal to $5\text{-}\frac{1}{16}\text{''} \pm \frac{1}{16}\text{''}$ before side bearings are installed. If an elastomeric horizontal bowl liner is used, it is recommended that the set-up height be adjusted to $5\text{-}\frac{1}{8}\text{''} \pm \frac{1}{16}\text{''}$. (Some cars may vary. Refer to owners' instructions.) This procedure must be performed with an empty car body located on level track. ASF-Keystone recommends using an inside caliper and steel rule for measurement accuracy.

3.2 Wear Plate Guidelines

The surface of the car body wear plate must be free of weld spatter, heavy rust, and other irregularities. If irregularities do exist, a grinding wheel may be used to remove them. Fasteners must be adequately tightened with their heads recessed below the surface of the plate. Surface height variations can be detected by holding a steel straight edge perpendicular to the plate.

Any plate with variations between fastener holes greater than $\frac{1}{8}$ ", or greater than $\frac{1}{16}$ " over any 4" space between holes, must be replaced. Also, the plate surface must be reasonably parallel to the side bearing pad. Overall, variations should not exceed $\frac{1}{16}$ " across width or $\frac{1}{8}$ " end to end.

3.3 Bolt Down and Assembly

The side bearing base must be secured to the pad using fasteners supplied by the user as shown. Bolts should be torqued to a minimum of 300 - 350 ft. lbs. if lubricated, 400 - 450 ft. lbs. if dry. For **Spring Control™ bearings only**, a thin coat of #2 lithium grease should be applied to the surfaces indicated using a brush or rag. Refer to section 2.0 for the spring arrangement of each particular bearing and assemble the springs and cap. Lastly, check to see that all springs are seated properly and are not leaning from correct vertical orientation.

Bolster Thickness		Bolt Length	Thread Length
Min	Max		
.625	1.125	3.25	2.25 max
1.125	1.500	3.50	2.50 max

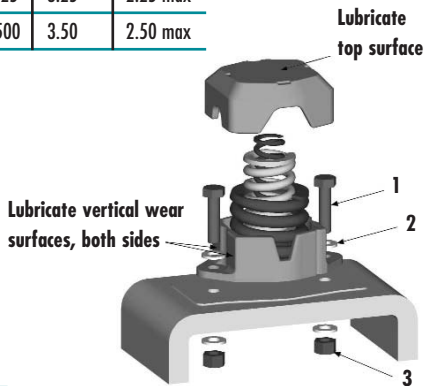


Figure 5:
Bearing Assembly (5600 LT Shown)

Item	Qty.	Description
1*	2	.875-9 UNC-2A HEX HEAD BOLT, SAE GRADE 5 OR ASTM A-449
2	4	.938 I.D. X 1.75 O.D. HARDENED STEEL PLAIN WASHER
3	2	.875-9 UNC-2B SELF LOCKING HEX NUT SAE GRADE 5

*Please refer to bolt length chart

4.0 Yard Inspection

4.1 Set Up Height

The distance between the side bearing pad and the wear plate on the car body, or the set up height, must be equal to $5 - \frac{1}{16}'' \pm \frac{1}{8}''$. (Some cars may vary. Refer to owners' instructions.) While it is preferable to make measurements while the car is on level track, it is acceptable to average the two measurements on one end of a car if it is tilted.

In general, a measurement should never be less than $4 - \frac{7}{8}''$ for a single bearing. When reasonably level track conditions cannot be obtained, the sum of the pairs measurement may be used. This is done by adding the two side bearing measurements on each truck. The sum of the measurements on each truck may be as low as $9 - \frac{7}{8}''$ or as high as $10 - \frac{3}{8}''$. ASF-Keystone recommends using an inside caliper and steel rule for measurement accuracy.

4.2 General Inspection

All parts of the side bearing including springs should be free of cracks. The bolster side bearing pads should be relatively flat and nominally $4 - \frac{1}{2}''$ wide, with a minimum of $4 - \frac{1}{4}''$. The bearing base should be securely bolted to the bearing pad. Check that all springs appear to be properly seated and aligned.

5.0 Shop Inspection

5.1 Set Up Height

The distance between the side bearing pad and the wear plate on the car body, or the set up height, must be adjusted to $5 - \frac{1}{16}'' \pm \frac{1}{16}''$.

(Some cars may vary. Refer to owners' instructions.)

This procedure must be performed with an empty car body located on level track. ASF-Keystone recommends using an inside caliper and steel rule for measurement accuracy.

5.2 Wear Plate Guidelines

The surface of the car body wear plate must be free of weld spatter, heavy rust, and other irregularities. If irregularities do exist, a grinding wheel may be used to remove them. Fasteners must be adequately tightened with their heads recessed below the surface of the plate. Surface height variations can be detected by holding a steel straight edge perpendicular to the plate. Any plate with variations between fastener holes greater than $\frac{1}{8}''$, or greater than $\frac{1}{16}''$ over any 4" space between holes, must be replaced. Also, the plate surface must be reasonably parallel to the side bearing pad. Overall, variations should not exceed $\frac{1}{16}''$ across width or $\frac{1}{8}''$ end to end.

5.3 Parts Inspection and Gauging

All parts of the side bearing including springs should be free of cracks. For Spring Control™ bearings only, check the vertical interlock feature on the interior of the cap for severe wear and replace cap if needed. In addition, refer to figures 6 and 7 for the wear indicator condemning limits for both Spring Control™ and Ride Control® bearings.

If 2 or more indicators are obscured, cap is not acceptable for use

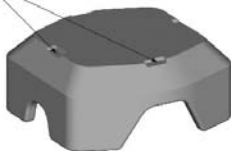


Figure 6:
Spring Control™ Cap
Wear Indicators

If surface A meets, or becomes parallel to surface B, cap is not acceptable for use

Surface A Surface B

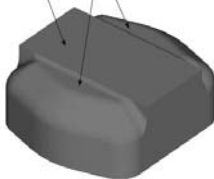
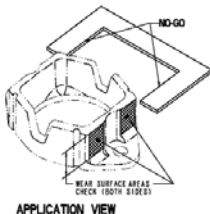


Figure 7:
Ride Control® Cap
Wear Indicators

Apply the gauges in figures 8 and 9 as shown.
The gauges **must not** go.



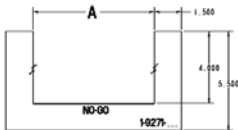
APPLICATION VIEW

Part No. 1: Spring Control™
Bearings

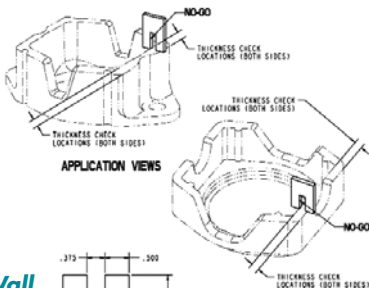
Part No. 2: Ride Control®
Bearings

Insert number from
“part no.” column to complete
“1-9271-” above

Figure 8: Side Bearing
Base Width Gauge

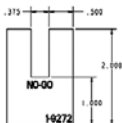


PART NO.	A
1	6.750
2	6.438



APPLICATION VIEWS

Figure 9:
Side Bearing Wall
Thickness Gauge



5.4 Spring Condemning Limits

When the free heights of side bearing springs no longer meet the minimums in the following chart, they are not acceptable for use in service.

Spring	Ride Control® Springs	Spring Control™ Springs
Outer	6.0"	5.5"
Inner	6.1"	5.4"
Inner Inner	6.1"	5.5"

An alternative spring evaluation method is based on force for an entire bearing, not free height of individual springs. When bearings at specified compressed heights fall below the minimum force levels in the chart below, they are no longer acceptable for use.

Ride Control®		Spring Control™	
Bearing	Force at 4.5"	Bearing	Force at 5.1"
98-5-10152	4000 lbs.	3800 LT	3200 lbs.
		4500 LT	3800 lbs.
		5600 LT	4700 lbs.

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