


# SERVICE MANUAL BULLETIN

This Service Manual Bulletin is prepared by the Publications Department of New Flyer Industries Canada ULC. Refer to details below.

## SMB-194

ISSUE DATE: May 10 2021

APPLICABILITY					
VEHICLE LENGTH	<input type="checkbox"/> 30ft.	<input type="checkbox"/> 35ft.	<input type="checkbox"/> 40ft.	<input type="checkbox"/> 60ft.	<input checked="" type="checkbox"/> ALL
VEHICLE TYPE	<input checked="" type="checkbox"/> Xcelsior®	<input type="checkbox"/> MiDi®	<input type="checkbox"/> Invero®		<input type="checkbox"/> ALL
	<input type="checkbox"/> Low Floor	<input type="checkbox"/> High Floor			
FUEL TYPE	<input checked="" type="checkbox"/> Diesel	<input checked="" type="checkbox"/> Diesel/Electric	<input checked="" type="checkbox"/> CNG	<input type="checkbox"/> LNG	<input type="checkbox"/> ALL
	<input checked="" type="checkbox"/> Fuel Cell	<input checked="" type="checkbox"/> Trolley/Electric	<input checked="" type="checkbox"/> Battery/Electric		
SUBJECT	Front Stabilizer Bar				
SECTION TITLE	PM - Preventive Maintenance & 1 - Front Axle & Suspension				
DETAILS	<p>This bulletin provides new information on the 6,000 Miles (9,600 km) Preventive Maintenance inspection for the Front Stabilizer Bar on your New Flyer vehicle by adding procedures to grease the stabilizer bar bearings.</p> <p>This bulletin also contains information on the complete Repair procedure for the Front Stabilizer Bar. The repair procedure information may be missing or incomplete in Section 1 - Front Axle &amp; Suspension in your New Flyer Service Manual.</p> <p> <b>NOTE:</b>  <i>Direct any questions on these procedures to the New Flyer Customer Service Department.</i></p> <p><b>Make this Service Bulletin available to service personnel to inform them of changed information.</b></p>				

## 1. FRONT STABILIZER BAR

### 1.1. Inspection

Inspect and lubricate the front stabilizer bar every 6,000 miles (9,600 km) as follows:

- ❑ Check for excessive play in the bearings at the stabilizer ends and link locations. See “Fig. 1: Stabilizer Bar Inspection” on page 2.
- ❑ Check for excessive play in the bearings at the two saddle clamps on the stabilizer bar. Replace worn bearings as required. Refer to 2.3. “Removal” on page 4 in this bulletin for replacement procedure.
- ❑ Visually inspect the torque witness marks on all fasteners to ensure the marks are

aligned. If the marks are not aligned, retorque the fasteners to specification. Refer to 2.4. “Installation” on page 4 in this bulletin for torque specifications. Reapply torque witness marks.

#### **NOTE:**

*The following inspection is only required on saddle clamps without a grease fitting.*

- ❑ Inspect the four 5/8" mounting bolts that attach the stabilizer bar to the vehicle frame for evidence of cracks or damage. Replace all four mounting bolts if any bolt is cracked. Refer to Section 1 of your New Flyer Parts Manual for correct fastener part numbers. Refer to 2.4. “Installation” on page 4 in this manual for installation procedure and torque.

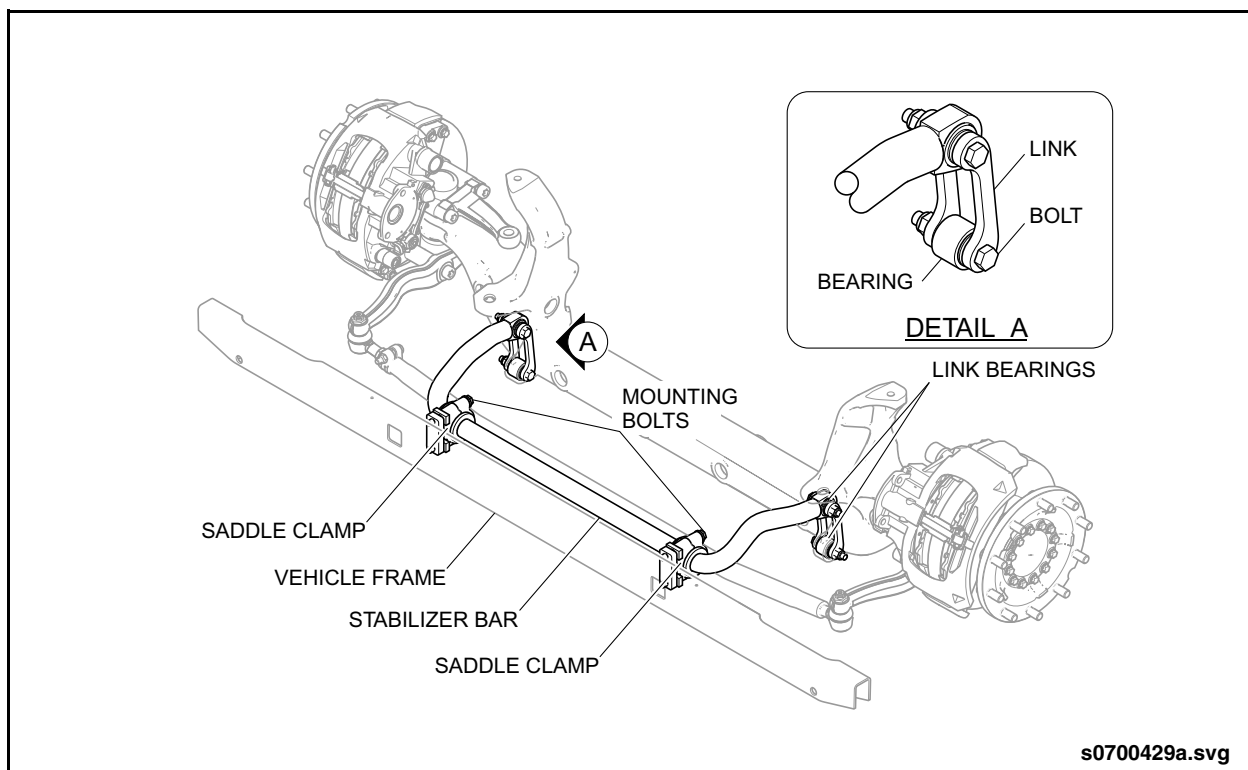


Fig. 1: Stabilizer Bar Inspection

## 1.2. Greasing Stabilizer Bar bearing (without grease fitting)

1. Raise the vehicle and support the front axle. Refer to the General Information Section of your New Flyer Service Manual for lifting procedure.
2. Disconnect the stabilizer bar from the chassis by removing the saddle clamps and rubber bearings that attach the stabilizer bar to the chassis mounting plate.

 **NOTE:**

*Take care to not lose the spacers that are assembled between the bearing housing and vehicle frame. The bearing housing mounting bolts thread into a tapped plate located behind the frame member.*

3. Pivot the stabilizer bar down.
4. Apply a generous amount of grease to the inside surface of the bearings. Use special purpose Houghton/AquaShield grease or equivalent.
5. Loosely assemble and position the bearing halves and the saddle clamps on the stabilizer bar.

6. Position the stabilizer bar so that the saddle clamps align with the mounting plate on the chassis.

 **NOTE:**

*Orient stabilizer bar bearing with the split line perpendicular to the vertical face of the axle before securing.*

7. Attach clamps to brackets using 5/8" bolts and spacers, apply NEVER-SEEZ® and torque bolts on saddle clamps to 160 ft-lb. (217 Nm).

## 1.3. Greasing Stabilizer Bar bearing (with grease fitting)

1. Raise the vehicle and support the front axle. Refer to the General Information Section of your New Flyer Service Manual for lifting procedure.
2. Lubricate the saddle clamp bearings at the grease fittings. Use special purpose Houghton/AquaShield grease or equivalent.

## 2. FRONT STABILIZER BAR

### 2.1. Description

The stabilizer bar is used in the front suspension to minimize vehicle body roll during cornering. The stabilizer bar is mounted to the axle at two locations using rubber bearings and links and is mounted to the vehicle chassis at two locations using rubber bearings and saddle clamps. Refer to Section 1 of your New Flyer Service Manual for the Stabilizer Bar Installation illustration.

### 2.2. Operation

Vehicle weight is transferred to the outside wheel during cornering, which causes that side of the suspension to compress. The stabilizer bar will move upward as the suspension is compressed and torsion will be applied to the stabilizer bar causing it to twist and apply an upward force to the suspension on the opposite side. This action will tend to compress the suspension on the inner wheel resulting in minimized body roll.

### 2.3. Removal

1. Raise the vehicle and support the front axle. Refer to the General Information Section of your New Flyer Service Manual for lifting procedure.
2. Disconnect the stabilizer bar from the axle by disconnecting the links at two locations. See [“Fig. 2: Disconnecting the Links” on page 4.](#)
3. Remove the rubber bearings from the axle. Refer to 2.5. [“Axle Bearing Removal from Axle” on page 5](#)
4. Disconnect the stabilizer bar from the chassis by removing the saddle clamps and rubber bearings that attach the stabilizer bar to the chassis mounting plate.

**NOTE:**

*DO NOT lose the spacers that are assembled between the bearing housing and vehicle frame. The bearing housing mounting bolts thread into a tapped plate located behind the frame member.*

5. Remove the stabilizer bar from the vehicle.

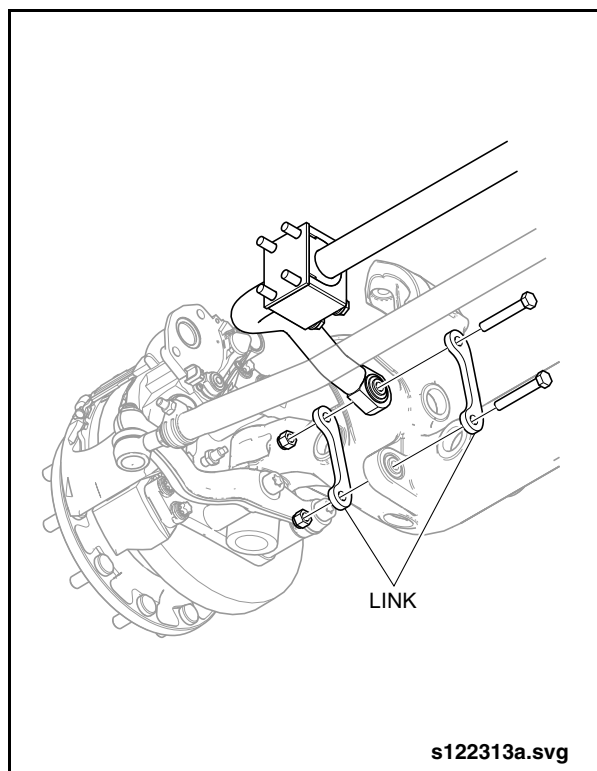


Fig. 2: Disconnecting the Links

### 2.4. Installation

#### 2.4.1. Installation (without grease fitting)

1. Apply a generous amount of AquaShield grease to the inside surface of the bearing.
2. Loosely assemble and position the bearing halves and the saddle clamps on the stabilizer bar.
3. Position the stabilizer bar so that the saddle clamps align with the mounting plate on the chassis. Attach clamps using 5/8" bolts and spacers but do not final tighten at this time.
4. Install new bearings at two locations on axle. Refer to 2.6. [“Axle Bearing Installation into Axle” on page 6](#) in this manual for procedure.
5. Assemble links to stabilizer bar and connect to bearings on axle using 5/8 bolts (washers if applicable) and lock nuts. Ensure lock nuts are facing outboard.
6. Apply NEVER-SEEZ® and torque nuts on links to 142 ft-lb. (193 Nm) if no washers are used or to 180 ft-lb. (244 Nm) if washers are used.

**NOTE:**

*Orient stabilizer bar bearing with the split line perpendicular to the vertical face of the axle before securing.*

7. Apply NEVER-SEEZ® and torque bolts on saddle clamps to 160 ft-lb. (217 Nm).

**2.4.2. Installation (with grease fitting)**

1. Apply a generous amount of AquaShield grease to the inside surface of the bearing.
2. Assemble and position the bearing and the saddle clamps on the stabilizer bar.
3. Position the stabilizer bar so that the saddle clamps align with the plate on the chassis. Attach clamps to brackets using 5/8" bolts and spacers but do not final tighten at this time.
4. Install new bearings at two locations on axle. Refer to 2.6. "Axle Bearing Installation into Axle" on page 6 in this manual for procedure.

5. Assemble links to stabilizer bar and connect to bearings on axle using 5/8 bolts (washers if applicable) and lock nuts. Ensure lock nuts are facing outboard.

6. Apply NEVER-SEEZ® and torque nuts on links to 142 ft-lb. (193 Nm) if no washers are used or to 180 ft-lb. (244 Nm) if washers are used.

7. Apply NEVER-SEEZ® and torque bolts on saddle clamps to 160 ft-lb. (217 Nm).

**2.5. Axle Bearing Removal from Axle**

1. Mark on the axle to show the position of the split in the bearing.
2. Push the worn bearing out with pressing and receiving tools. See "Fig. 3: Axle Bearing Removal" on page 5.
3. Remove both bearings and discard them.
4. Clean the bearing contact surface of the axle and remove any metal particles.

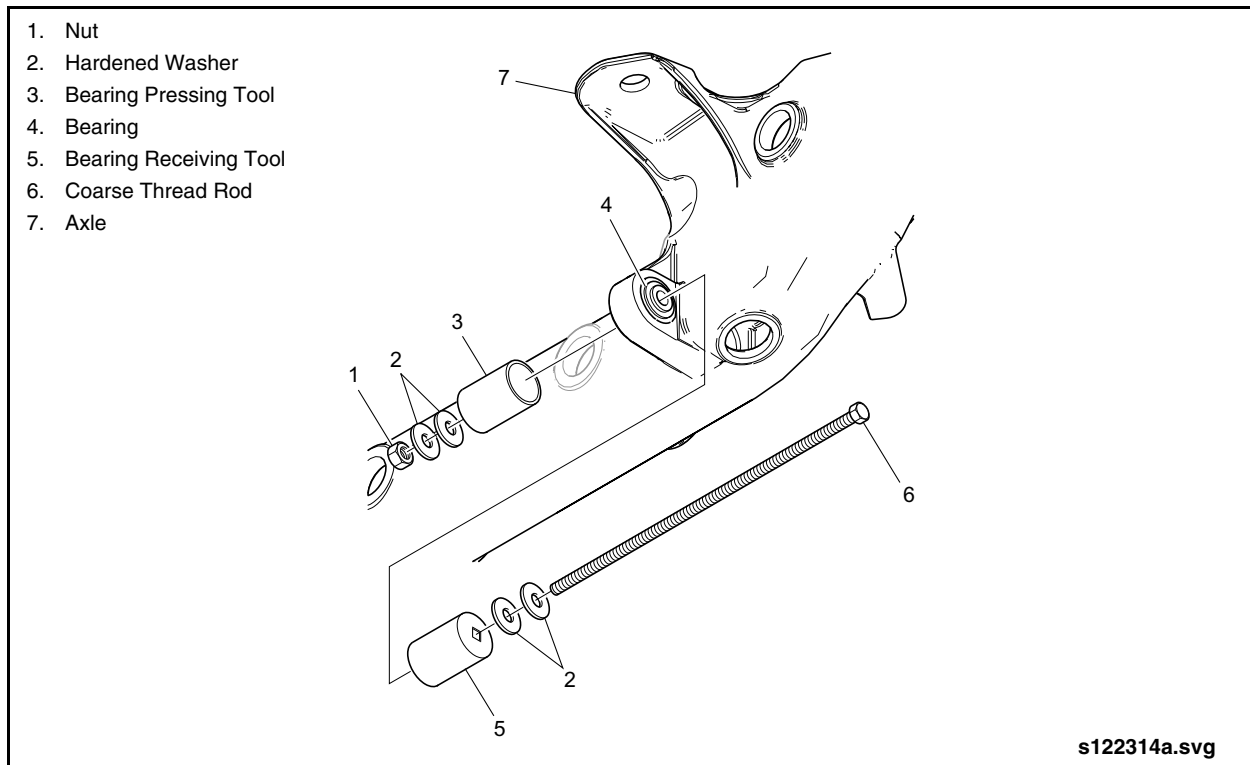


Fig. 3: Axle Bearing Removal

**2.6. Axle Bearing Installation into Axle**

1. Put the bearing pressing tool on the axle bearing opening with the flat side against the axle.
2. Put the bearing into the bearing pressing tool and align the split in the metal surrounding the bearing with the mark previ-

ously made on the axle. See "Fig. 4: Bearing Installation on Axle" on page 6.

3. Push the bearing into the opening with pressing and receiving tools. Refer to your New Flyer Parts Manual for tool part number.
4. The process is finished when the bearing is flush with the end of the bearing contact surface.

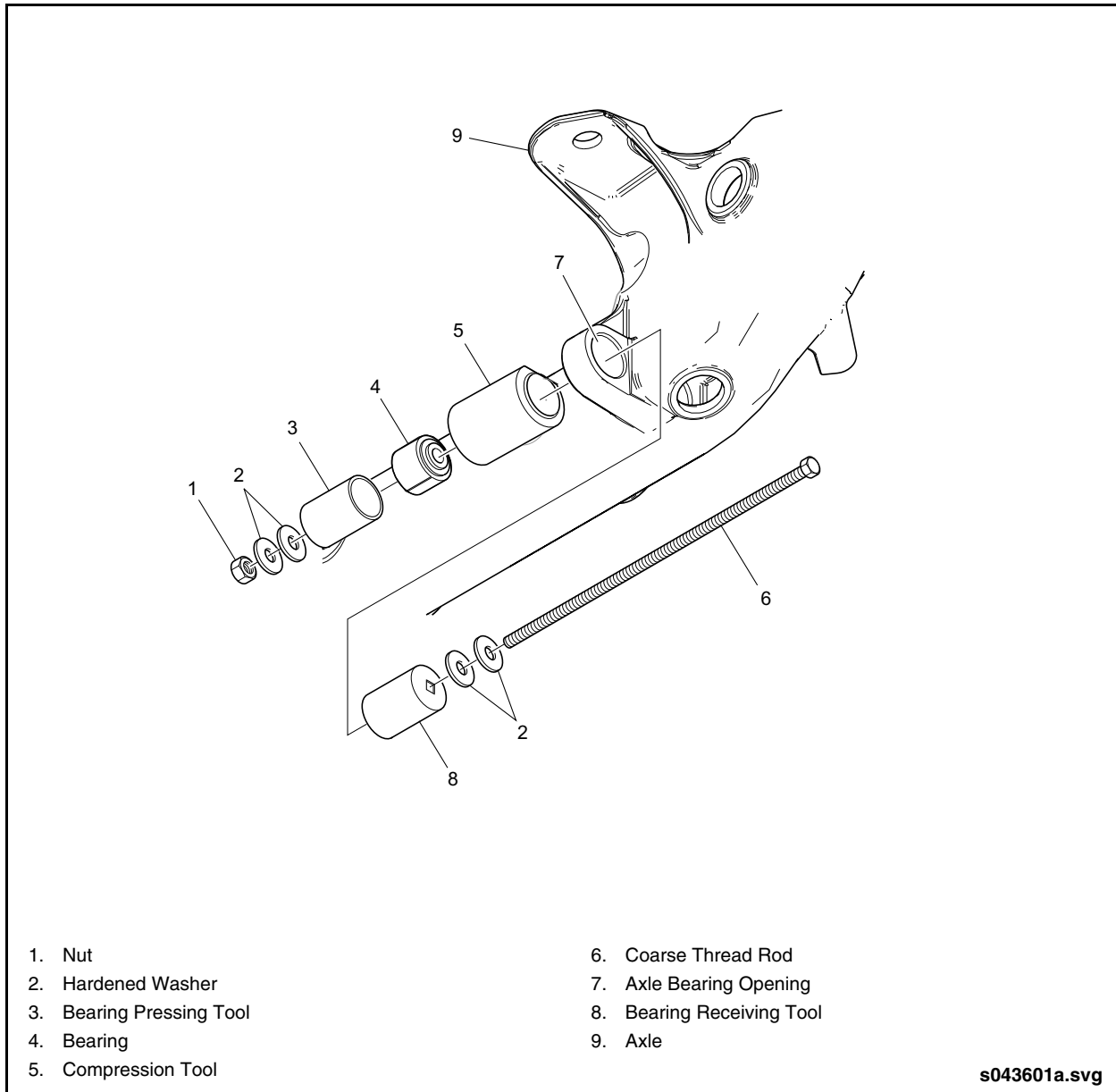


Fig. 4: Bearing Installation on Axle

## 2.7. Bearing Removal from Stabilizer Bar

1. Put a mark on the stabilizer bar to show the position of the split in the bearing.
2. Push the worn bearing out using a hydraulic press with pressing and receiving tools.

**NOTE:**

*These tools will need to be fabricated locally.*

3. Remove the bearings and discard them.
4. Clean the bearing contact surface of the stabilizer bar and remove any metal particles.

## 2.8. Bearing Installation into Stabilizer Bar

1. Put the bearing into the bearing compression tool.

**NOTE:**

*Refer to your New Flyer Parts Manual for tool part number and ordering information*

2. Put the bearing compression tool onto the stabilizer bar at the bearing opening. See “Fig. 5: Stabilizer Bar Bearing Installation” on page 7.
3. Align the split in the metal surrounding the bearing with the mark previously made on the stabilizer bar.
4. Push the bearing into the opening using a hydraulic press and appropriate pressing and receiving tools.
5. The process is finished when the bearing is flush with the end of the bearing contact surface.

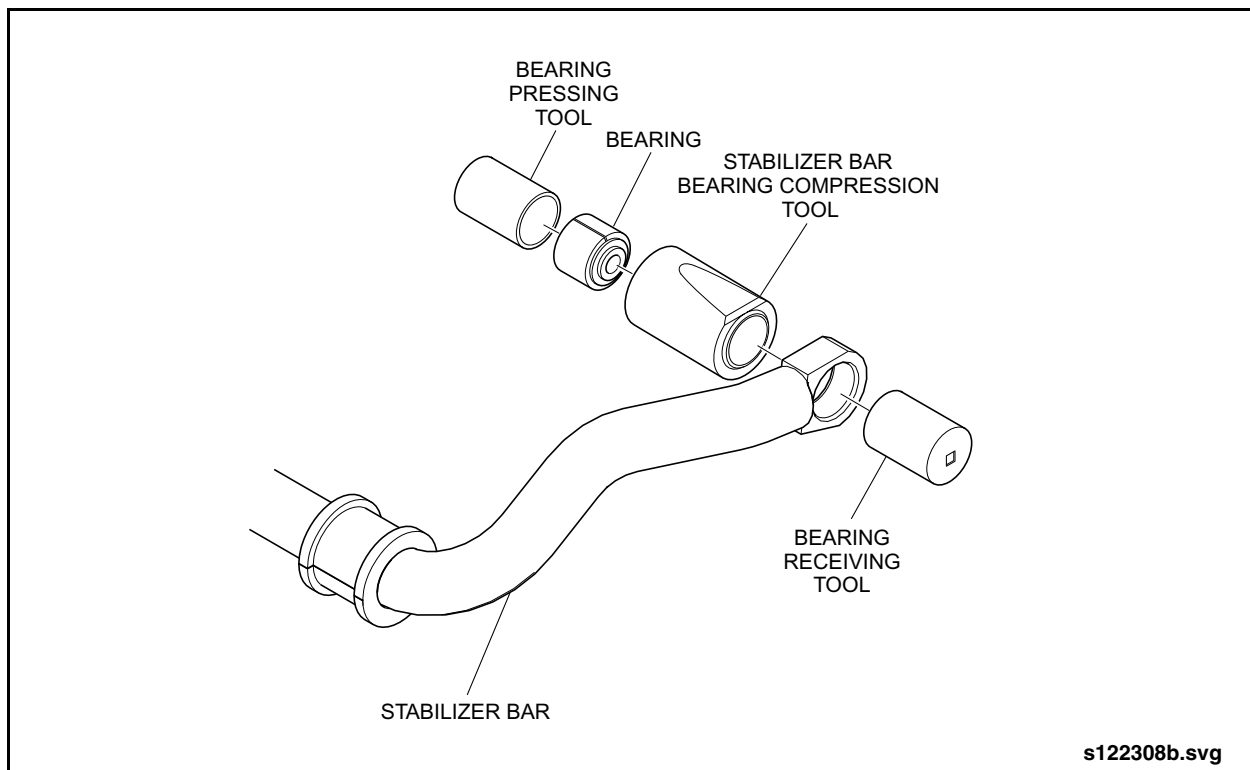


Fig. 5: Stabilizer Bar Bearing Installation