RT1330 | Tag Axle Suspension

Maintenance Instructions
Service Parts
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RT1330 SUSPENSION SERVICE MANUAL

Service Notes

This publication is intended to acquaint and assist maintenance personnel in the maintenance, service, repair and rebuild of the ReycoGranning® RT1330 Rear Tag Suspension. It is important to read and understand the entire Technical Procedure publication prior to performing any maintenance, service, repair, or rebuild of this product.

ReycoGranning® Air Suspensions reserves the right to modify the suspension and/or procedures and to change specifications at any time without notice and without incurring obligation. Contact customer service at 800-753-0050 for information on the latest version of this manual.

You must follow your company safety procedures when you service or repair the suspension. Be sure you read and understand all the procedures and instructions before you begin work on the suspension.

ReycoGranning® uses the following types of notes to give warning of possible safety problems and to give information that will prevent damage to equipment.

---

**WARNING**

A warning indicates procedures that must be followed exactly. Serious personal injury can occur if the procedure is not followed.

---

**CAUTION**

A caution indicates procedures that must be followed exactly. Damage to equipment or suspension components and personal injury can occur if the procedure is not followed.

---

**NOTE**

A note indicates an operation, procedure or instruction that is important for correct service.

Some procedures require the use of special tools for safe and correct service. Failure to use these special tools when required can cause personal injury or damage to suspension components.

The latest revision of this publication is available online at http://www.reycogranning.com/
INTRODUCTION

ReycoGranning Air Suspensions has developed this service manual to aid in the maintenance of ReycoGranning’s rear suspensions.

The following table lists the various models and their respective capacities and frame width dimensions.

<table>
<thead>
<tr>
<th>Model</th>
<th>Capacity (lbs)</th>
<th>Frame Width (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT1330-W</td>
<td>14,000</td>
<td>34.00</td>
</tr>
<tr>
<td>RT1330-TB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT1330-EF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT1401-EF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT1330-600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT1401-605EF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT1330-F</td>
<td>14,000</td>
<td>34.25</td>
</tr>
<tr>
<td>RT1330-SS</td>
<td>12,000</td>
<td></td>
</tr>
</tbody>
</table>

Overloading the suspension may result in adverse ride and handling characteristics.
Identification

The serial number is used by Reyco Granning® for control purposes and should be referred to when servicing the suspensions (See Figure 1). The suspension model and serial number are stamped on an aluminum tag that is riveted to the driver side upper hanger weldment (See Figure 2.1).
## Section 1
### Introduction

### RT1330 Tag Axle Parts List

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART NO.</th>
<th>DESCRIPTION</th>
<th>ITEM</th>
<th>PART NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>707444-01</td>
<td>Weldment, LH Hanger (-W)</td>
<td>24</td>
<td>2617</td>
<td>Plate-Serial No.</td>
</tr>
<tr>
<td></td>
<td>711283-01</td>
<td>Weldment, LH Hanger (-F,SS)</td>
<td>25</td>
<td>8103323</td>
<td>SLW 1/2&quot; .523 x .873 x .134, PL</td>
</tr>
<tr>
<td></td>
<td>711323-01</td>
<td>Weldment, LH Hanger (-TB)</td>
<td>26</td>
<td>118</td>
<td>FW 1/2&quot; .531 x 1.062 x .095, ZN</td>
</tr>
<tr>
<td></td>
<td>713212-01</td>
<td>Weldment, LH Hanger (-EF)</td>
<td>27</td>
<td>8120378</td>
<td>N 1/2-13, Gr. 5, ZN</td>
</tr>
<tr>
<td></td>
<td>713596-01</td>
<td>Weldment, LH Hanger (-600)</td>
<td>28</td>
<td>702516-02</td>
<td>HHB 1-1/8-12 x 7.75, Gr. 8, ZN</td>
</tr>
<tr>
<td></td>
<td>714573-01</td>
<td>Weldment, LH Hanger(1401-EF/-605EF)</td>
<td>29</td>
<td>168</td>
<td>HFW 1-1/8&quot;, ZN</td>
</tr>
<tr>
<td>2</td>
<td>707444-02</td>
<td>Weldment, RH Hanger, Adj. (-W)</td>
<td>30</td>
<td>708720-01</td>
<td>Axle Assembly (34&quot; Frame)</td>
</tr>
<tr>
<td></td>
<td>711282-02</td>
<td>Weldment, RH Hanger, Fixed (-F,SS)</td>
<td>31</td>
<td>713677-01</td>
<td>Axle Assembly Tag (-600)</td>
</tr>
<tr>
<td></td>
<td>711228-02</td>
<td>Weldment, RH Hanger, Fixed (-TB)</td>
<td>32</td>
<td>*708719-01</td>
<td>Weldment, Axle &amp; Seats (34&quot;)</td>
</tr>
<tr>
<td></td>
<td>713596-02</td>
<td>Weldment, RH Hanger(-600)</td>
<td>33</td>
<td>*708719-02</td>
<td>Weldment, Axle &amp; Seats (34.25&quot;)</td>
</tr>
<tr>
<td></td>
<td>714573-02</td>
<td>Weldment, RH Hanger (1401-EF/-605EF)</td>
<td>34</td>
<td>*708141-01</td>
<td>Hub &amp; Drum - Walther</td>
</tr>
<tr>
<td></td>
<td>708186-01</td>
<td>LFN 5/8-11, Gr. 8, ZN</td>
<td>35</td>
<td>*708141-02</td>
<td>Hub &amp; Drum - Mincer</td>
</tr>
<tr>
<td></td>
<td>707433-01</td>
<td>Assembly, Trailing Arm (LH)</td>
<td>36</td>
<td>708141-03</td>
<td>Hub &amp; Drum Pair - Walther</td>
</tr>
<tr>
<td></td>
<td>707433-02</td>
<td>Assembly, Trailing Arm (RH)</td>
<td>37</td>
<td>708141-04</td>
<td>Hub &amp; Drum Pair - Mincer</td>
</tr>
<tr>
<td>3</td>
<td>707448-01</td>
<td>Cross-Member</td>
<td>38</td>
<td>711882-01</td>
<td>Hub &amp; Disc</td>
</tr>
<tr>
<td>4</td>
<td>705453-01</td>
<td>Washer, Disk Spring</td>
<td>39</td>
<td>*708790-01</td>
<td>Bearing P-Spindle (Cone)</td>
</tr>
<tr>
<td>5</td>
<td>710513-01</td>
<td>Plate, Tension</td>
<td>40</td>
<td>*708152-01</td>
<td>Spindle Nut (PRO-TORQ®) w/ Keeper</td>
</tr>
<tr>
<td>6</td>
<td>24453-01</td>
<td>Coiled Spring Pin</td>
<td>41</td>
<td>700178-09</td>
<td>Hub Oil Seal</td>
</tr>
<tr>
<td>7</td>
<td>166</td>
<td>LN 1 1/8-12, GR. C, PO</td>
<td>42</td>
<td>700690-04</td>
<td>HHB M20x2.5x60 CL10.9 ZN CR</td>
</tr>
<tr>
<td>8</td>
<td>705454-02</td>
<td>Washer (Non-Flanged)</td>
<td>43</td>
<td>8120384</td>
<td>SLW 1/2&quot; .523 x .873 x .135 ZN</td>
</tr>
<tr>
<td>9</td>
<td>103008</td>
<td>HFW 3/4&quot; .812 x 1.475 x .150</td>
<td>44</td>
<td>702516-03</td>
<td>HHB 1-1/8-12 x 9, Gr. 8, ZN</td>
</tr>
<tr>
<td>10</td>
<td>100678-P1</td>
<td>HFB 3/4-10 x 3.5, GR. 8, ZN</td>
<td>45</td>
<td>713678-01</td>
<td>Assembly, Brake</td>
</tr>
<tr>
<td>11</td>
<td>208</td>
<td>LFN 3/4-10, Gr. G, ZN</td>
<td>46</td>
<td>89430598</td>
<td>HHB 7/8-9 x 8, GR.8</td>
</tr>
<tr>
<td>12</td>
<td>100122-P1</td>
<td>LN 7/8-9 UNC Stover, Gr. C, ZN</td>
<td>47</td>
<td>100690-04</td>
<td>HHB M20x2.5x60 CL10.9 ZN CR</td>
</tr>
<tr>
<td>13</td>
<td>188</td>
<td>Pop Rivet Ø1/8&quot; x .525&quot; Lg</td>
<td>48</td>
<td>104098</td>
<td>HFW 7/8&quot; .968 x 1.780 x .160, ZN</td>
</tr>
</tbody>
</table>
## Section 1
### Introduction

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>703903-05</td>
<td>Brake Linings, Q+ PL133 16.5 x 7</td>
<td>4</td>
</tr>
<tr>
<td>708155-16</td>
<td>Brake Air-Chamber Type 16</td>
<td>2</td>
</tr>
<tr>
<td>708155-20</td>
<td>Brake Air-Chamber Type 20</td>
<td>2</td>
</tr>
<tr>
<td>708140-01</td>
<td>Automatic Slack Adjuster</td>
<td>2</td>
</tr>
<tr>
<td>HM518410</td>
<td>Hub Bearing Race</td>
<td>4</td>
</tr>
</tbody>
</table>

708155-01 Superseded by 708155-20

---

**Figure 3.1: Parts Identification (RT1330-F Shown, others similar)**
Figure 3.2: Parts Identification - RT1330-600 Axle with Disc Brakes
## SUSPENSION SYSTEM - TROUBLESHOOTING

<table>
<thead>
<tr>
<th>SYMPTOMS</th>
<th>POSSIBLE CAUSES</th>
<th>REMEDIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tires wear out quickly or have uneven tire tread wear.</td>
<td>1) Tires have incorrect pressure</td>
<td>1) Put specified air pressure in tires</td>
</tr>
<tr>
<td>Note: Wear pattern will indicate possible cause(s). Consult tire</td>
<td>2) Tires out of balance</td>
<td>2) Balance or replace tires</td>
</tr>
<tr>
<td>manufacturer for guidance.</td>
<td>3) Incorrect ride height</td>
<td>3) Adjust ride height to specified setting</td>
</tr>
<tr>
<td></td>
<td>4) Incorrect rear axle alignment</td>
<td>4) Align rear axle to specified thrust angle</td>
</tr>
<tr>
<td></td>
<td>5) Improper (mismatched) tires and wheels</td>
<td>5) Install correct tire and wheel combination</td>
</tr>
<tr>
<td>Vehicle rolls side to side excessively</td>
<td>1) Front and/or rear shock absorbers worn</td>
<td>1) Replace shock absorbers as needed</td>
</tr>
<tr>
<td></td>
<td>2) Shock mounting loose</td>
<td>2) Check and tighten as required</td>
</tr>
<tr>
<td></td>
<td>3) Shock eye bushings worn</td>
<td>3) Check and replace as needed</td>
</tr>
<tr>
<td></td>
<td>4) Trailing Arm bushings worn</td>
<td>4) Inspect and replace as required</td>
</tr>
<tr>
<td></td>
<td>5) Check for air leak including the height control</td>
<td>5) Check height control valve and replace as required</td>
</tr>
<tr>
<td></td>
<td>6) Jounce bumper in air spring worn or broken</td>
<td></td>
</tr>
<tr>
<td>Vehicle ride is too harsh and/or suspension contacts stops excessively</td>
<td>1) Shock absorbers worn</td>
<td>1) Replace shock absorbers as needed</td>
</tr>
<tr>
<td></td>
<td>2) Incorrect ride height</td>
<td>2) Adjust ride height to specified setting</td>
</tr>
<tr>
<td></td>
<td>3) Vehicle overloaded</td>
<td>3) Check wheel loads and correct as needed</td>
</tr>
<tr>
<td></td>
<td>4) Air spring supply lines leaking or obstructed</td>
<td>4) Check air line connections and remove obstructions</td>
</tr>
<tr>
<td></td>
<td>5) Vehicle system air pressure below specification</td>
<td>5) Check air pressure and correct as needed</td>
</tr>
<tr>
<td></td>
<td>6) Jounce bumper in air spring worn or broken</td>
<td>6) Check and replace air spring as required</td>
</tr>
<tr>
<td>Vehicle ride is too soft</td>
<td>1) Shock absorbers worn</td>
<td>1) Replace shock absorbers as needed</td>
</tr>
<tr>
<td></td>
<td>2) Incorrect ride height</td>
<td>2) Adjust ride height to specified setting</td>
</tr>
<tr>
<td>Suspension does not maintain ride height</td>
<td>1) Air leak</td>
<td>1) Check connections with soapy water solution and repair or replace as needed</td>
</tr>
<tr>
<td></td>
<td>2) Internal leak in height control valve</td>
<td>2) Check height control valve and replace as required</td>
</tr>
<tr>
<td></td>
<td>3) Height control valve linkage loose</td>
<td>3) Check and tighten linkage as needed</td>
</tr>
<tr>
<td></td>
<td>4) Air spring chafed or worn</td>
<td>4) Check air spring and replace as needed</td>
</tr>
</tbody>
</table>


Section 3
Inspection & Maintenance

INSPECTION & MAINTENANCE

Perform a thorough visual inspection of the suspension to ensure proper assembly and to identify broken parts and loose fasteners each time the vehicle suspension is serviced. Do the following during an inspection.

- **Wheel Alignment** - Follow the guidelines in Section 5 for wheel alignment inspection intervals. Check wheel alignment if excessive steering effort, vehicle wander, or abnormal tire wear is evident.

- **Fasteners** - Check that all the fasteners are tightened to the proper tightening torque. Use a calibrated torque wrench to check torque.

- **Wear and Damage** - Inspect components of the suspension for wear and damage. Look for bent or broken components. Replace all worn or damaged components.

- **Operation** - Check that all components move freely through the complete jounce-rebound travel range.

**CAUTION: ReycoGranning® recommends replacing any damaged or out-of-specification components. Reconditioning or field repairs of major rear suspension components is not allowed.**

Note: Refer to Section 1 for identification of components.

Checking the Trailing Arm Bushings for Wear

**NOTE: ReycoGranning® recommends the use of a maintenance pit or full vehicle lift during the inspection of components.**

**Preparation**

1. Chock the front wheels to prevent vehicle movement.

2. Raise the rear of the vehicle until the wheels are off the ground. Support raised vehicle with safety stands. Do not place jacks or safety stands under the Trailing Arms to support the vehicle.

**WARNING: Never work under a vehicle supported by only a jack. Jacks can slip or fall over and cause serious personal injury. Always use safety stands.**

3. Remove the tires.
Section 3
Inspection & Maintenance

Inspection

1. Inspect rubber bushings for large splits, tears, and major wear. Replace bushings as needed.
2. Check that the Trailing Arm mounting bolts are tight. The recommended torque is **950-1050 Ft-Lb** (See Torque Table).

Checking the Shock Absorber

**NOTE:** ReycoGranning® recommends the use of a maintenance pit or full vehicle lift during the inspection of components.

Preparation

1. Set the parking brake and block the drive wheels to prevent vehicle movement.

**WARNING:** The shock absorbers are the rebound travel stops for the suspension. It is mandatory to keep the shock absorbers connected anytime the tag axle is suspended. If the shocks are not connected, then the air spring will separate from the piston under the weight of the axle.

Inspection

1. Check shock absorber for oil leakage, bent components, missing or broken components, excessive corrosion, or worn bushings. Replace shock if any of the above items is present.

**NOTE:** A film of oil/dust does not indicate oil leakage. Oil misting is a normal condition for this type of shock absorber. Consult shock manufacturer documentation.

Checking the Air Spring

Preparation

1. Set the parking brake and block the drive wheels to prevent vehicle movement.

**WARNING:** Ensure all personnel and equipment are clear from under the vehicle prior to and during the inflation and deflation of the air springs. Failure to do so can cause property damage and serious injury or death.
Section 3
Inspection & Maintenance

CAUTION: Slowly inflate the suspension to ensure the air spring rubber bladder inflates uniformly. Failure to do so can cause damage to the air spring and void the warranty.

Air Spring Inspection
1. Check the outside diameter of the air spring for irregular wear or heat checking.
2. Check air lines to make sure contact does not exist between the air lines and the outside diameter of the air spring. Re-secure air lines to prevent contact as needed. Check for air line and fitting leaks with soapy water solution.
3. Check to see that there is a minimum of 1-inch clearance around the circumference of the air spring while it is energized with air.
4. Check the air spring piston for buildup of foreign material. Remove any foreign material that is present. Check for chafing or pinched air lines. Check the height control valve linkage for damage or interference with peripheral components. Replace all worn or damaged parts.

Disc Brake Inspection(RT1330-600)
1. Refer Bendix Manual SD-23-7541

Wheel Bearings Lubrication
Review lubricant specification and interval requirements before servicing.
Vehicle suspension should be at ride height when checking the hub oil level. Park vehicle with the fill plug facing upward and allow at least 15 minutes for the oil to stabilize before checking oil level through hub cap window. If level is below the “ADD” level line then remove the fill plug and fill with recommended oil until “FULL” level is achieved. Add oil slowly since the heavy weight oil will settle slowly in the hub. (Note: The hub cap window can only be cleaned with mild soap and water. Aromatic solvents should not be used, as they will impair the transparency of the window.) DO NOT COVER THE VENT MECHANISM WITH LUBRICANT. Check the hub cap for external oil marks. The vent plug will normally seep a small amount of oil. Oil marks in other locations should be addressed by replacing the hub cap seal, window gasket, or tightening the pipe fill plug.
## MAINTENANCE SCHEDULE

<table>
<thead>
<tr>
<th>GENERAL MAINTENANCE</th>
<th>SERVICE TO BE PERFORMED</th>
<th>MILEAGE INThousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trailing Arm Bushings</td>
<td>Check bolt torque</td>
<td>12 24 36 48 60 72 84 96</td>
</tr>
<tr>
<td></td>
<td>Inspect for contact between Trailing Arm and mount</td>
<td>X X X X X X X X X1</td>
</tr>
<tr>
<td></td>
<td>Inspect for bushing wear</td>
<td>X X X X X X X X X1</td>
</tr>
<tr>
<td>Air Springs</td>
<td>Inspect for proper clearance (1” minimum all around)</td>
<td>X X X</td>
</tr>
<tr>
<td></td>
<td>Check upper mount nut and lower mount bolt torque</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Inspect for signs of chafing or wear</td>
<td>X X X X X X X X X1</td>
</tr>
<tr>
<td></td>
<td>Check for air line fitting torque</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Inspect for air leaks using soapy water solution</td>
<td>X</td>
</tr>
<tr>
<td>Shock Absorbers</td>
<td>Check stud mount and lock nut torque</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Inspect shocks for signs of fluid leak, broken eye ends, loose fasteners, or worn bushings</td>
<td>X X X X X X X X X1</td>
</tr>
<tr>
<td>Rear Alignment</td>
<td>Inspect (after first 1000-3000 miles)</td>
<td>X X X X X1</td>
</tr>
<tr>
<td>Air Fittings and Air Lines</td>
<td>Inspect for air leaks using soapy water solution</td>
<td>X X</td>
</tr>
<tr>
<td></td>
<td>Inspect for signs of chafing, cracking or wear</td>
<td>X X X X X X X X X1</td>
</tr>
<tr>
<td>Brake Components4</td>
<td>Inspect Air Chamber Stroke</td>
<td>X X X X X X X X X1</td>
</tr>
<tr>
<td></td>
<td>Inspect Auto Slack Adjuster Function</td>
<td>X X X X X X X X X1</td>
</tr>
<tr>
<td></td>
<td>Lubricate S-Cam Tube and Automatic Slack Adjuster</td>
<td>X2</td>
</tr>
<tr>
<td></td>
<td>Premium Multi-Purpose Chassis Grease NLGI Grade 2</td>
<td>X2</td>
</tr>
<tr>
<td>Wheel End</td>
<td>Inspect Hub for oil leaks</td>
<td>Every 1,000 miles</td>
</tr>
<tr>
<td></td>
<td>Check Oil Level</td>
<td>Every 1,000 miles</td>
</tr>
<tr>
<td></td>
<td>Change Oil</td>
<td>X3</td>
</tr>
<tr>
<td></td>
<td>Gear Oil SAE 80W/90 or equivalent</td>
<td></td>
</tr>
</tbody>
</table>

1. Continue to perform specified maintenance every 12,000 miles or at previous interval
2. Whichever comes first: Brakes Relined, 50,000 Miles, or Once a Year
3. Whichever comes first: Seals Replaced, Brakes Relined, 100,000 Miles, or Once a Year
4. For Disc Brake Maintenance, refer Bendix Manual SD-23-7541

**CAUTION:** Do not mix lubricants of different grades. Do not mix mineral and synthetic lubricants. Different brands of the same grade may be mixed.
# Section 3
## Inspection & Maintenance

### MAINTENANCE RECORD

<table>
<thead>
<tr>
<th>Name of Owner:</th>
<th>Address of Owner:</th>
</tr>
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<tbody>
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<table>
<thead>
<tr>
<th>Date of Purchase:</th>
<th>Name and Address of Dealer:</th>
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<table>
<thead>
<tr>
<th>Model of Vehicle:</th>
<th>Vehicle Identification Number:</th>
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<tr>
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<tr>
<td>RT1330-W, -TB, -EF, -600, -F, -SS, 1401-EF, -605EF</td>
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<thead>
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<th>Service Performed</th>
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16
Section 4
Adjustments and Alignments

Adjusting Suspension Ride Height

The ride height of the tag suspension is the distance from the bottom of the chassis frame rail to the center of the axle. Properly adjusted ride height of the drive axle results in correct suspension travel and alignment. The ride height should not be adjusted to adjust chassis rake angle.

Preparation
1. Park the vehicle on a level surface.
2. Exhaust or “dump” and re-inflate the air suspension. Allow the Suspension to settle.
3. Set the parking brake and block the drive wheels to prevent vehicle movement.
4. Check that the front suspension is adjusted to the correct ride height per the vehicle manufacturers specifications.
5. Check height control valve plumbing to ensure there are not any air leaks.
6. Make sure shock mounts are mounted securely and not bent.

Adjustment (Drive Axle)
1. Measure the distance from the bottom of the frame to the center of the axle. If the distance measured is not within manufacturers’ specifications, then adjust as follows.
2. Loosen the clamp on the vertical link of the height control linkage.
3. Adjust the length of the vertical link to achieve specified ride height. If the measured distance is less than manufacturers’ specification, then increase the length of the vertical link. If the measured distance is greater than manufacturers’ specification, then decrease the length of the vertical link. Exhaust or “dump” and re-inflate the air suspension. Allow the suspension to settle.

4. Tighten the clamp on the vertical link.

Inspection before Alignment

Check the following before conducting alignment measurements.

Inspection
See “General Inspection” in Section 3.

Wheels and Tires
1. Check that the rear tires are inflated to the appropriate pressure based on the wheel loading.
Section 4
Adjustments and Alignments

1. Check that all the wheel nuts are tightened to the specified torque.
2. Check that the wheels are balanced.
3. Check that all fasteners are tightened to the specified torque.
4. Check the drive suspension ride height and adjust as needed to defined height.
5. Check that all connection joints between the suspension and axle are secure.
6. Check for worn suspension bushings or damaged suspension components.
7. Check that the frame is not bent.

NOTE: Total vehicle alignment is recommended when aligning the rear suspensions.

Rear Axle Alignment
Measurement

1. Place the unloaded vehicle on a level floor area. Move it back and forth several times, slowly and without using the brakes, to free all suspension joints.
2. Chock the front wheels with the brakes released.
3. Position an 8-foot piece of straight bar stock or angle iron squarely across the frame and clamp it securely. The use of a carpenter’s square is recommended to be certain the bar is square to the frame.
4. The cross bar should be positioned as far forward of the drive axle as room will permit.
5. Beginning on the passenger side, measure from the bar stock to the centerline of the rear drive axle on both sides. Adjust the drive axle as necessary.
6. Using a Trammel Bar, determine dimensions and shown in Figure 4.
7. The difference of the and measurements must not exceed 1/8”. Adjust the tag axle as necessary.
Section 4
Adjustments and Alignments

Adjustment
1. Chock the front wheels.
2. Securely support the rear frame of the vehicle.

WARNING: Never work under a vehicle supported by only a jack. Jacks can slip or fall over and cause serious personal injury. Always use safety stands.

3. Exhaust the air from the air springs to remove the load to the Trailing Arm.
4. Loosen the Rey-Align nut but do not remove.
5. Rotate the adjusting fastener to move the tag axle fore and aft on Drivers’ (Left) side. Continue until you achieve the correct alignment.

NOTE: ±3/8” Total adjustment is available. (3/16” / Side with 2 adjustment points ‘-W’ only.)

6. Torque the Pivot Bolt to 950-1050 Ft-Lb (See Torque Table).
   - Step 1: 150 Ft-Lb
   - Step 2: 250 Ft-Lb
   - Step 3: 400 Ft-Lb
   - Step 4: 650 Ft-Lb
   - Step 5: 950-1050 Ft-Lb

Tag Axle Wheel Bearing Adjustment

WARNING: Failure to follow this instruction could result in the loss of the wheel assembly and cause bodily injury. The PRO-TORQ® Spindle Nut is sold as an assembly with the keeper in place. DO NOT attempt to place the nut on the spindle or tighten or loosen the nut on the spindle while the keeper is locked inside the nut. Doing so may deform the keeper and allow the nut to unthread during operation.

This procedure follows the guidelines of TMC RP 618.

Lubricate the bearing with clean axle lubricant of the same type used in the hub assembly.
Section 4
Adjustments and Alignments

Remove the Keeper

Use a small screwdriver to carefully pry the keeper arm from the undercut groove on each side until the keeper is released.

Seat the Bearing

With Hub or Hub/Drum only:

Using a torque wrench,

1. Tighten the nut to 200 ft-lb. Spin the wheel at least on full rotation.

2. Tighten the nut to 200 ft-lb. Spin the wheel at least one full rotation.

3. Tighten the nut to 200 ft-lb Back the nut off until it’s loose.

Highly Visible Adjustment Marks
Give mechanics precise control of nut backoff amount during installation.

Infinite Locking Positions
Nut and spring steel keeper mate and lock at any point on the axle spindle in .001” axial increments.

<table>
<thead>
<tr>
<th>Tools Required For Installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>708111-01</td>
</tr>
</tbody>
</table>
Adjust the Bearing

With Hub or Hub/Drum Only:
Using a torque wrench,

1. Tighten the nut to the adjusting torque. Spin the wheel at least one full rotation.

2. Tighten the nut to the adjusting torque. Spin the wheel at least one full rotation.

3. Tighten the nut to the adjusting torque.

Back the nut off one raised face mark (according to chart)

Install the Keeper
ORANGE SIDE FACING OUT

Insert the keeper tab into the undercut groove of the nut and engage the keyway.

WARNING: Failure to follow this instruction could cause the wheel to come off and cause bodily injury. Do not bend or manipulate keyway tang in any way. Doing so may cause the tang to break off in service.

<table>
<thead>
<tr>
<th>Adjusting Torque and Back-Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pro-Torq Nut</td>
</tr>
<tr>
<td>Parallel Spindle</td>
</tr>
</tbody>
</table>

WARNING: Failure to follow this instruction could cause the wheel to come off and cause bodily injury. Failure to back-off the nut will cause the bearing to run hot and be damaged.
Section 4
Adjustments and Alignments

Inspect the Installation:
Failure to follow this instruction could cause the wheel to come off and cause bodily injury. Make sure that the keeper tab and keeper arms are fully seated into the undercut groove. Inspect keyway tang to insure it does not contact the bottom of the keyway. If contact exists, immediately notify your customer service representative.

Verify Wheel End-Play:
Verify end-play with a dial indicator (See Figure 5). Wheel end-play is the free movement of the wheel assembly along the spindle axis.

a) Attach a dial indicator with its magnetic base to the hub.

b) Adjust the dial indicator so that its plunger or pointer is against the end of the spindle with its line of action parallel to the axis of the spindle.

c) Grasp the hub assembly at the 3 o'clock and 9 o'clock positions. Push and pull the wheel end assembly in and out while oscillating the wheel approximately 45°. Stop oscillating the hub so that the dial indicator tip is in the same position as it was before oscillation began. Read the bearing end-play as the total indicator movement.

NOTE: If end-play is not within specification of 0.001” to 0.004” re-adjustment is required

NOTE: This procedure will consistently produce a bearing setting of .001” to .003” end play

Figure 2: Wheel End-play Verification (Disc brake version similar)
REPAIRING OF PARTS

**WARNING:** The repair or reconditioning of rear suspension components is **NOT** allowed. Reyco Granning recommends replacing damaged or worn components. Several major components are heat treated and tempered. The components cannot be bent, welded, heated or repaired in any way without reducing the strength or life of the component and voiding the warranty.

**WARNING:** If you use cleaning solvents, hot solution tanks or alkaline solutions incorrectly. Serious personal injury can occur. To prevent injury, follow the instructions supplied by the manufacturer. **DO NOT** use gasoline to clean parts. Gasoline can explode.

Cleaning the Parts

Ground or Polished Parts

Use a cleaning solvent to clean ground or polished parts and surfaces. **DO NOT** clean ground or polished parts with hot solution tank or with water, steam or alkaline solutions. These solutions will cause corrosion of the parts.

Rough Parts

Rough parts can be cleaned with the ground and polished parts. Rough parts also can be cleaned in hot solution tanks with a weak alkaline solution. Parts should remain in the hot solution tanks until they are completely cleaned.

Drying Parts must be dried immediately after cleaning. Dry the parts with clean paper, rags, or compressed air.

Preventing Corrosion

Apply light oil to cleaned and dried parts that are not damaged and are to be immediately assembled. If the parts are to be stored, apply a good corrosion preventative to all surfaces and place them inside special paper or containers that prevent corrosion.

Removing and Installing the Trailing Arm Assemblies

Preparation
1. Chock the front wheels.
2. Firmly support the rear vehicle frame.

**WARNING:** Never work under a vehicle supported by only a jack. Jacks can slip or fall over and cause serious personal injury. Always use safety stands.

Removal
1. Exhaust the air from the air spring.
2. Detach the air spring from the Trailing Arm.
3. Remove the Cross Member.
4. Remove Axle Saddle Bolts.
5. Remove Shocks.
6. Loosen the pivot bolt nut.
Section 5
Repair

Installation

1. Slide the Trailing Arm assembly into the pivot hanger.
2. Insert the pivot bolt with all Rey-align components.
3. Check alignment per alignment section.
4. Torque the Pivot Bolt to 950-1050 ft-lb (See Torque Table).

Step 1: 150 ft-lb
Step 2: 250 ft-lb
Step 3: 400 ft-lb
Step 4: 650 ft-lb
Step 5: 950-1050 ft-lb

Replacing the Trailing Arm Bushings

1. Remove the Trailing Arm assembly as described above.
2. Press the bushing out using a properly sized bushing press.
3. Press in new bushing.
4. Reinstall as per the previous instructions.

Replacing the Shock Absorber

Preparation
1. Set the parking brake and block the front wheels to prevent vehicle movement.

Removal
1. Loosen and remove the upper shock absorber mount bolt from the upper Shock Mount.
2. Loosen and remove the lower shock absorber mount bolt from the Trailing Arm.

Installation
1. Install the upper shock absorber Fasten using the bolt.
2. Install the lower shock absorber bolt loosely to the Trailing Arm assembly.
3. Raise or lower the suspension to approximately ride height.
4. Torque both mount fasteners to 150-190 Ft-Lb (See the Torque Table).

Replacing the Air Spring

When replacing the air spring be sure that the correct replacement air spring is installed. The use of a substitute air spring that is not recommended by Reyco Granning may cause unequal load sharing between the air springs which may be detrimental to vehicle ride and handling.

Preparation
1. Set the parking brake and block the front wheels to prevent vehicle movement.
2. Firmly support the rear of the vehicle frame.

WARNING: Never work under a vehicle supported by only a jack. Jacks can slip or fall over and cause serious personal injury. Always use safety stands.

3. Deflate the air springs.
Removal

1. Disconnect the air line at the air spring and remove the connection fitting.

2. Remove the bolts that secure the air spring to the lower cross-member assembly.

3. Remove the nuts and washers from the upper frame rail mount.

4. Remove the air spring.

Installation

1. Assemble the bolts and washers that connect the air spring to the Trailing Arm. Tighten the bolts to 40-50 Ft-Lb (See Torque Table).

2. Assemble the air spring to the Hanger. Tighten the nuts to 20-30 Ft-Lb (See Torque Table).

3. Install the connection fitting into the air spring. Use Permatex sealant w/ Teflon or equivalent thread sealant.

4. Connect the air line to the air spring.

5. Lower the vehicle frame and inflate the air springs.

6. Check the air fittings for leaks.

Removal and Installation of Disc Brakes

1. Refer Bendix Manual SD-23-7541
TORQUE SPECIFICATIONS

Most threaded fasteners are covered by specifications that define required mechanical properties, such as tensile strength, yield strength, proof load, and hardness. These specifications are carefully considered in initial selection of fasteners for a given application. To assure continued satisfactory vehicle performance, replacement fasteners used should be of the correct strength, as well as the correct nominal diameter, thread pitch, length, and finish.

Torque Table

<table>
<thead>
<tr>
<th>Item</th>
<th>Assembly</th>
<th>Fastener</th>
<th>Torque (Ft/Lb)</th>
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<tbody>
<tr>
<td>1</td>
<td>Shock Absorber Mounting Bolts</td>
<td>HHB 3/4-10 x 3 1/2, Gr 8, ZN</td>
<td>150-190</td>
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<tr>
<td>2</td>
<td>Air Spring Mount Nut</td>
<td>N 1/2-13, Gr 5, ZN</td>
<td>20-30</td>
</tr>
<tr>
<td>3</td>
<td>Lower Air Spring Mounting Bolts</td>
<td>HHB M12-1.75 x 25, Gr10.9, PH</td>
<td>40-50</td>
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<td>4</td>
<td>Axle Seat to Trailing Arm</td>
<td>HHB 7/8-9 x 8, Gr 8, ZN</td>
<td>450-475</td>
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<td>5</td>
<td>Hanger to Cross-Member</td>
<td>FHB 5/8-11 x 1 3/4, Gr 8 PH</td>
<td>175-190</td>
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<td>6</td>
<td>Hub Cap</td>
<td>FHB 5/16-18 x 3/4, Gr 5 ZC W/LS</td>
<td>12-16</td>
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<td>7</td>
<td>Hanger to Trailing Arm</td>
<td>HHB 1 1/8-12 x 8 1/2, Gr 8, ZN</td>
<td>950-1050</td>
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<td>8</td>
<td>Axle Spindle Nut to Axle</td>
<td>PRO-TORQ®</td>
<td>**</td>
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<tr>
<td>9</td>
<td>Disc Brake Caliper Mount Screw</td>
<td>HHB M20x2.5x60 CL10.9 ZN CR</td>
<td>350-400***</td>
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</tbody>
</table>

**Follow procedure listed in Tag Axle Wheel Bearing Adjustment
*** Follow procedure recommended in Bendix Manual SD-23-7541

Note: Torque values listed above apply only if ReycoGranning® supplied fasteners are used. For information regarding component replacement or technical service call 1-800-753-0050
Section 5
Repair

Torque Specifications - Tag Axle
Recommended Torque Values (Foot Pounds)

- Torque to 175-190 Ft-Lb
  - 8 Places
- Torque to 950-1050 Ft-Lb
  - 2 Places
- Torque to 150-190 Ft-Lb
  - 4 Places
- Torque to 12-16 Ft-Lb
  - 12 Places
- Torque to 40-50 Ft-Lb
  - 4 Places
- Torque to 450-475 Ft-Lb
  - 4 Places
- Torque by Procedure
  - 2 Places

Figure 7: Exploded Assembly (RT1330-F Shown)

The components illustrated in Figure 7 are supplied by Reyco Granning. For information regarding component replacement or technical service call customer service at 1-800-753-0050.
Reyco Granning is committed to practicing environmentally friendly and sustainable procedures. We encourage you to do your part for our environment by properly disposing of or recycling any Reyco Granning materials that may be at the end of their service life while in your possession.