



# MODELS 23AR, 25AR, 30AR

## TRAILER AIR-RIDE SUSPENSION SYSTEMS

### IMPORTANT

This booklet  
*MUST ACCOMPANY*  
the trailer when  
delivered to the  
end user.



## MAINTENANCE INSTRUCTIONS

# MODELS 23AR, 25AR, 30AR

## TRAILER AIR-RIDE SUSPENSION SYSTEMS

### MAINTENANCE INSTRUCTIONS

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It is the responsibility of the installer that the installation is correct and to verify that this Maintenance Manual is the current version, prior to the installation of this suspension.

Please contact TUTHILL Transport Technologies in Canada at 1-800-811-4011 or the Customer Service Manager in the US at 1-800-753-0050.

**Properly installed and correctly maintained, your suspension will provide optimum service therefore rewarding your decision to use a Reyco™/Granning™ suspension. Should you have any further questions regarding your new suspension, please contact TUTHILL Transport Technologies in Canada at 1-800-811-4011 or the Customer Service Manager in the U.S. at 1-800-753-0039 and we will be glad to assist you.**

# SAFETY PROCEDURES

## **SAFETY IS FIRST**

*Be sure to read and follow all installation and maintenance procedures.*

## **WARNING**

*If these procedures and specifications are not followed damage to the suspension or axle could occur. Failure to follow these procedures could result in accident with consequent injury.*

## **WELDING**

When welding, be sure to wear all personal protective equipment for face and eyes, and have adequate ventilation. When welding, protect air springs from weld spatter and grinder sparks. Do not attach "ground" connection air spring support.

### **Welding Specs**

To perform the welding, the welder must be qualified for 2G position per ANSI / AWS D1.1-94 Section 5 Part C "Welder Qualification".

All welds must be performed in a flat, horizontal position. Suspension components and their mating parts must be free of dirt, scale, paint, grease and moisture.

Any deviation from these welding specs must be reviewed and approved by TUTHILL Transport Technologies Engineering in writing prior to commencement of any work.

### **Standard Electrode**

AWS E-7018 (oven dried)  
.125 DIA. 120-140 amps D.C. electrode positive  
.156 DIA. 120-160 amps D.C. electrode positive

### **Standard Wire**

AWS ER-70S-6 .045 DIA.

### **Optional Wire**

AWS ER-70S-3 .045 DIA.

### **Volts**

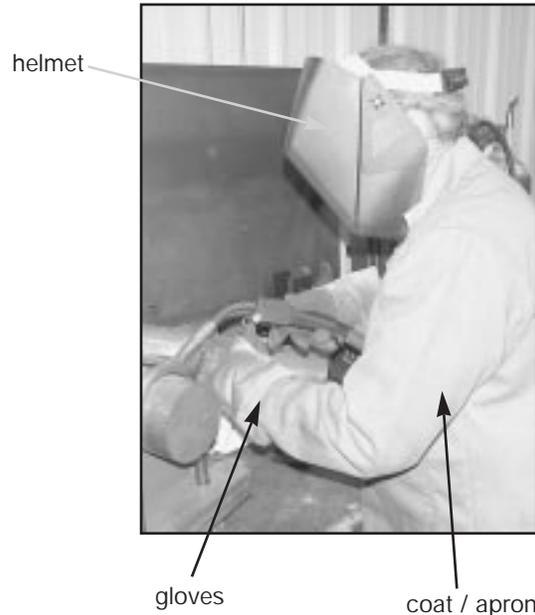
26-30 DCRP

### **Current**

275-325 amps

### **Gas**

92% AR 8% CO2 @ 30 to 35 CFH (OR)  
90% AR 10%CO2 @ 30 to 35 CFH



## **NOTE**

Normally, prior to any major repairs or maintenance procedure, contacts between companies have been made, and all necessary information to perform the maintenance has been exchanged. However, the following general steps are listed in the interest of all involved and should be included in an overall maintenance program.

## PERSONAL LIFTING

Practice safe lifting procedures. Consider size, shape, and weight of assemblies. Obtain help or the assistance of a crane when lifting heavy assemblies. Make sure the path of travel is clear.

## OVERLOADING

Overloading of the suspension system or its components is the practice of transporting cargos that surpass the specified vehicle's ratings. Overloading can cause component failure, resulting in accidents and injuries.

## TORQUE

To comply with warranty and safety requirements, check torque values during pre-delivery inspection, after 1,600 kms (1,000 miles) of operation and each additional 80,000 kms (50,000 miles) or annually, whichever is first.

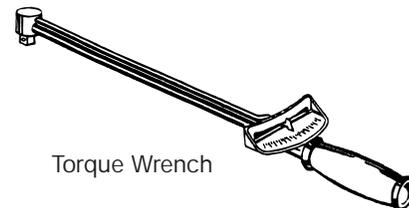
## AIR SUPPLY

Check that supply air pressures and flow are adequate to supply system. Check height control valve and linkages to ensure unit is operating at correct ride height.

## AIR SPRINGS

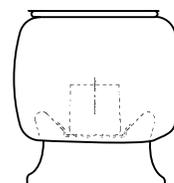
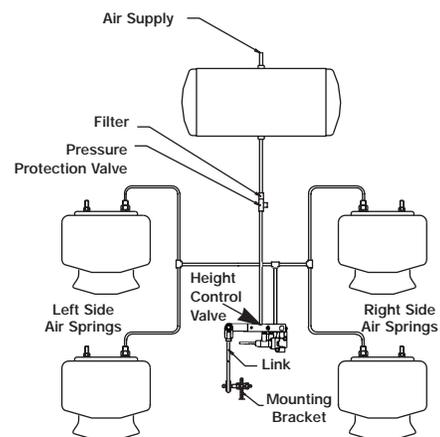
The air springs are equipped with internal bump stops for safety. However, do not operate the loaded unit on the bump stops for any extended periods of time, except to move the unit to a repair facility.

Please ensure that you are matching the correct air spring to the suspension model.

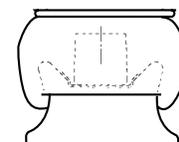


Torque Wrench

Compatible Model: Proto, Model #6020  
(call factory for details)



Normal Operation Air Spring



Under-Inflated Air Spring

# U-BOLT INSTALLATION

## U-BOLT

1. U-BOLT installation and torquing should be done only after completion of axle weld. Be sure to provide sufficient cooling time before applying torque wrench.

2. Do not apply any lubricants to the u-bolts.

3. Be sure that the u-bolt spacer is located centrally under the u-bolt.

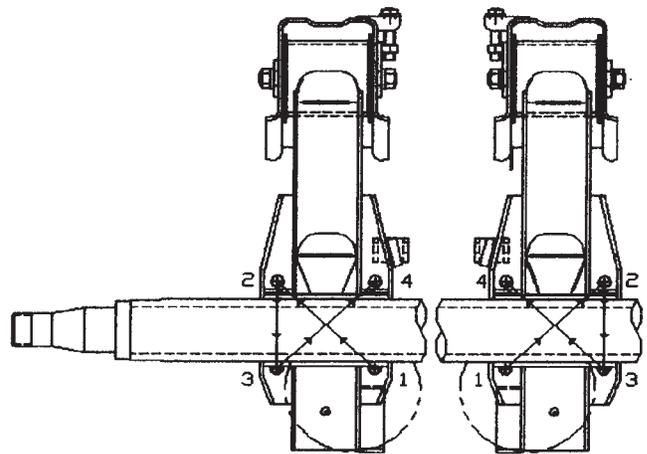
4. Snug u-bolts evenly before applying torque.

5. Torque u-bolts by following 3 step sequence shown. Deviation from this sequence could result in an improperly installed clamp assembly which could cause damage to the axle connection.

FIRST .....	205 NM (150 ft lbs)	1*2*3*4
SECOND .....	410 NM (300 ft lbs)	4*3*2*1
THIRD.....	650 NM (480 ft lbs)	4*3*2*1

## Torquing Sequence

FIRST .....	205 NM (150 ft lbs)	1*2*3*4 (shown below)
SECOND .....	410 NM (300 ft lbs)	4*3*2*1
THIRD.....	650 NM (480 ft lbs)	4*3*2*1



It is important to follow this 3 step sequence for every installation.



# AIR CONTROL

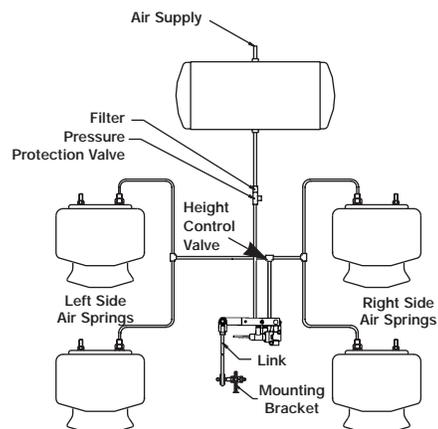
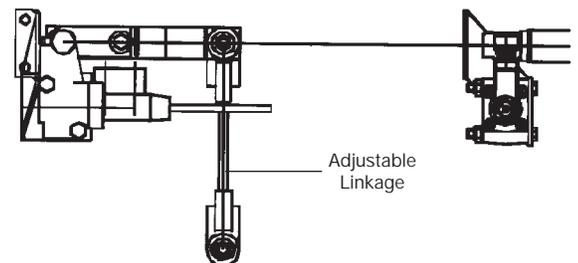
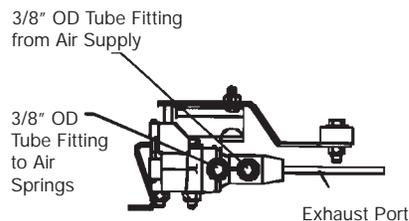
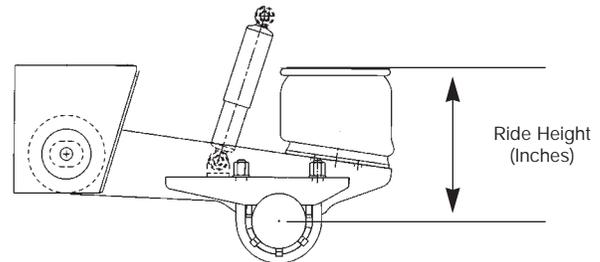
## HEIGHT CONTROL VALVE

*Height Control Valves regulate the mounting height (ride height) of the suspension.*

1. One height control valve (HCV) is used, regardless of the number of axles. The air springs on each side of the trailer are connected by 9.5 mm (3/8") minimum diameter tubing (customer supplied). Care must be taken to ensure the HCV is positioned as shown on the installation drawing for the model being installed.
2. Care must be taken when installing HCV to ensure correct ride height is attained.
3. To set/adjust ride height, simply assemble the linkage to the desired length to attain the required ride height.

For maximum strength, it is recommended that the linkage set screws 16 mm (5/8") be placed in the end holes of both links.

4. This suspension uses a height control valve (HCV) which utilizes a short delay.
5. Ensure that the air springs and all valves are plumbed as shown.
6. The pressure protection valve (PPV) and filter are installed between the HCV and the air reservoir.
7. Using customer supplied materials, connect the HCV to all air springs using 9.5 mm (3/8") diameter tubing. As with any pressure system, check for leaks and eliminate leakage, if present.



# ALIGNMENT

## ALIGNMENT

1. Release the brake system and pull the trailer forwards and backwards several times in a straight line to free the suspension from binding and tension.

**NOTE:** This procedure must be performed on a smooth level surface.

2. For best results, the use of axle extensions and a "BAZOOKA" type king pin post, or a suitable optical alignment device are recommended.
3. **NOTE:** Prior to commencing alignment, ensure that the trailing beam is installed to centre line of hanger. Align the front axle with the king pin as shown.
4. Align the remaining axles to the front axle as shown.
5. Torque the hanger clamp bolts if REY-ALIGN™ or if huck bolted, weld the alignment washers as shown.
6. (REY-ALIGN™ feature) torque 22 mm (7/8") alignment clamp bolt to 815 Nm (600 ft lbs) using only a torque wrench.

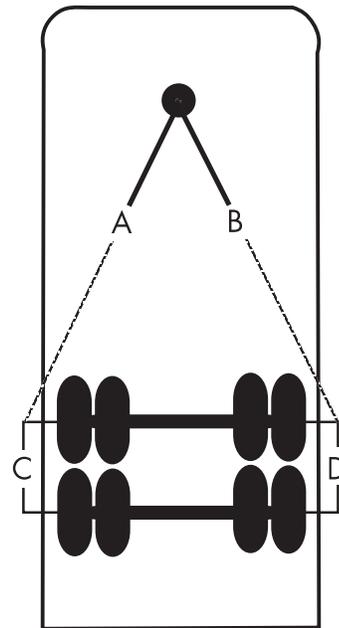
**NOTE:** 1) Refer to page M-14 for details.  
2) Run nut up very slowly.

7. Torque the adjustment shaft (REY-ALIGN™ feature) **clockwise** to 80 Nm (60 ft lbs) or, if Huck® Bolt, weld the alignment washers as shown on the right.
8. (If replacing Huck Bolted) torque 28 mm (1-1/8") replacement pivot bolt to 1110Nm (820 ft lbs). Run nut up very slowly.
9. Optional: Weld along top of "TAB" to secure alignment in position.

**NOTE:** By removing welds carefully, you should be able to re-align up to 3 or 4 times with minimal or no cleaning.

10. Verify that torque is correct on all fasteners.
11. After initial 1,600 kms (1,000 miles), the alignment should be re-checked and corrected if necessary, torque on the clamp nuts should also be checked.

Alignment Procedure

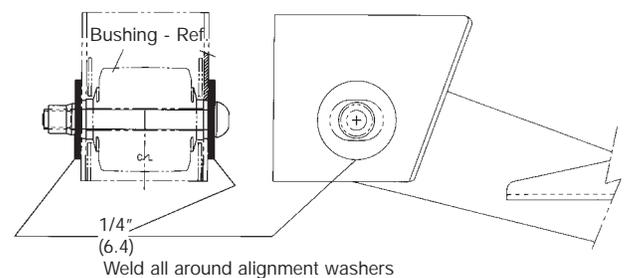


$$A=B \pm 1/8" (3.2)$$

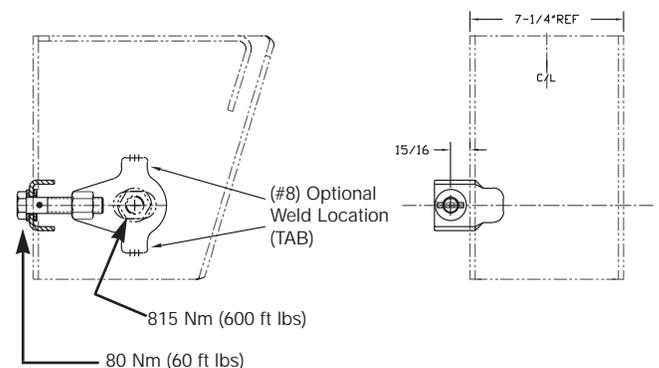
$$C=D \pm 1/16" (1.6)$$

**NOTE:** Figures in brackets are shown in millimeters.

STANDARD HUCK® BOLT ASSEMBLY



OPTIONAL REY-ALIGN™ SYSTEM



# REY-ALIGN™ DETAILS

Care must be taken to ensure that the Rey-Align™ option is installed correctly.

**NOTE: IMPORTANT!** When installing the disc spring washers, the "CONCAVE" side MUST FACE the surface of the hanger, and the "CONVEX" side MUST FACE the nut. There are two of these washers per hanger, one for each side.

## HARDWARE COMPONENT LIST (per beam)

(1) pivot shaft	#23948-01
(1) nut	#24403-01
(2) disc spring washers	#23952-01
(1) flange washer	#23656-01
(1) pivot shaft sleeve	#23674-01
(1) sleeve cover	#23432-01
(2) beam spacers	#23427-01
(1) REY-ALIGN™ assembly	#23673-01

1. Assemble the hardware as shown, ensuring correct installation of disc spring washers and ensuring that the flange washer is installed on the opposite side to the alignment assembly.
2. To align the suspension, turn the 19 mm (3/4") adjustment shaft found on the front of the hanger. This will either pull the beam/axle forward or push it rearward, until you find the correct alignment.
3. Tighten and torque the hanger clamp bolt to 815 Nm (600 ft lbs), **using only a torque wrench.**

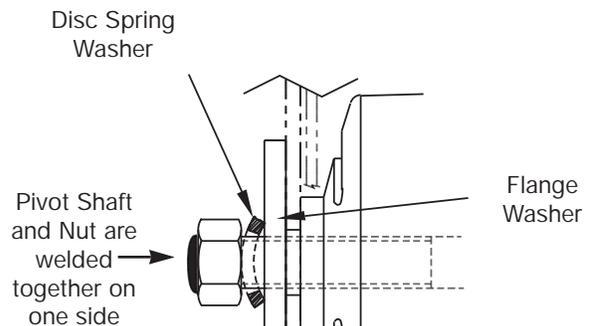
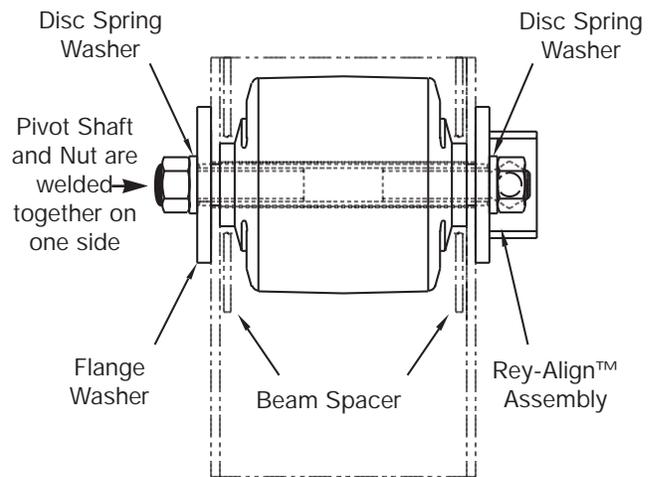
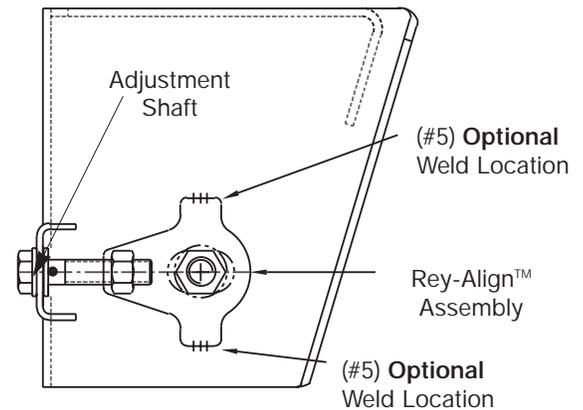
**NOTE: 1) Refer to page M-14 for details.  
2) Run nut up very slowly.**

4. Optional: Weld along top of "TAB" to secure alignment in position.

**NOTE: By removing welds carefully, you should be able to re-align up to 3 or 4 times with minimal or no cleaning.**

5. Lastly, torque the 19 mm (3/4") adjustment shaft to 80 Nm (60 ft lbs) **by turning clockwise.**

6. Verify that torque is correct on all fasteners.



EXAGGERATED VIEW OF DISC SPRING WASHER POSITION

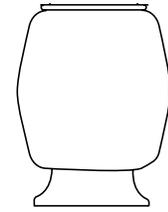
# TROUBLE SHOOTING GUIDE

## ROUGH RIDE

Check the suspension ride height. Be sure the suspension is operating at the proper height. If too high, over inflation of the bags will be evident. Ensure the opposite is not occurring (no air in air springs) and correct as required.



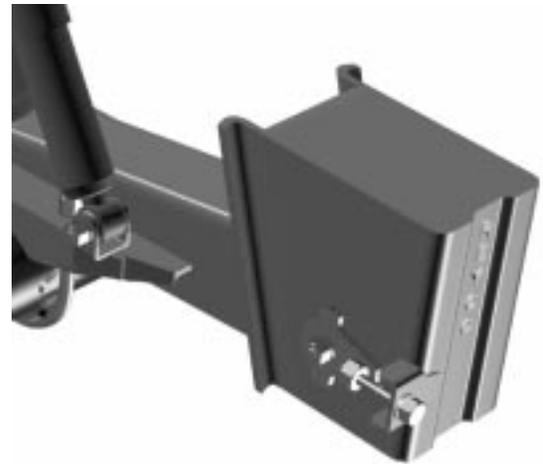
Normal Operation Air Bag



Over-Inflated Air Bag

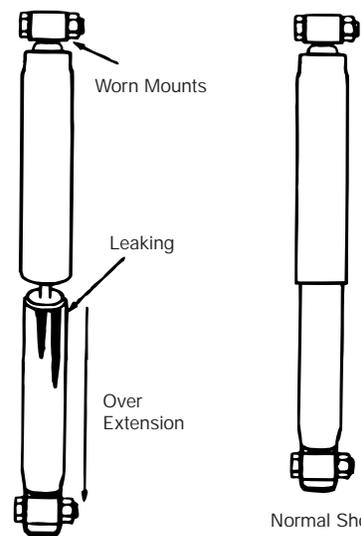
## LOOSE PIVOT CONNECTION

A properly torqued pivot connection is the key to a long life of a suspension. It is crucial to ensure sufficient clamp load through the bushing to prevent premature failure. With Rey-Align™ hangers, ensure all components are included and that proper installation/torque procedures are followed.



## SHOCKS

Shocks may fail due to over extension. Check the mounting bolts to be sure no damage to the mounts has occurred. Shock replacement must be done with shocks recommended by Reyco or shock manufacturer. Leaking (dripping) shocks need to be replaced. Shocks with a slight mist of oil on them need to be checked, not necessarily replaced. Ensure that the correct shock has been installed.



Replace Shock

Normal Shock

# TROUBLE SHOOTING GUIDE

## AIR

1. Bags won't inflate (A) Check air supply at the height control valve. If supply is good, (B) check to see if air is going thru the valve when it is actuated. A majority of problems are found at this point. If air is going thru the valve, (C) check for blockage or a pinched airline to the air bags.
2. Be sure that height control valve is set properly.

## TRAILER NOT PULLING STRAIGHT

Check alignment. Recheck alignment at annual inspections. Ensure suspension is square to the axles.

## IRREGULAR TIRE WEAR

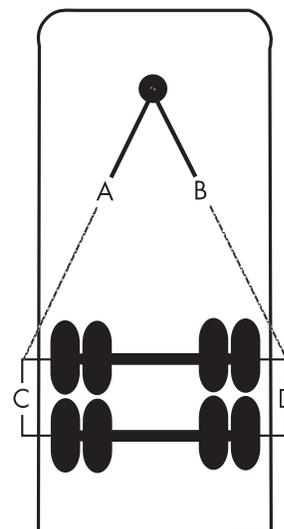
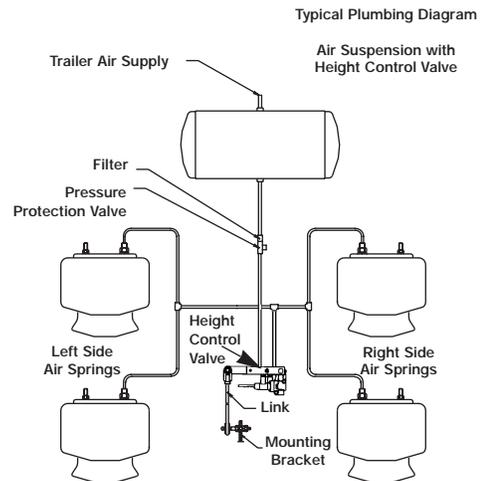
Check the alignment. Recheck alignment at annual inspections.

## FASTENERS

Loose fasteners need immediate attention. Check components for wear and be sure holes are not worn or egg shaped. When replacing, be sure threads are clean, lubricated and not deformed. Consult the maintenance section for the correct torque specifications and replace any fastener which is damaged or will not stay torqued. If bolts need to be replaced, be sure to use the same grade of fastener.

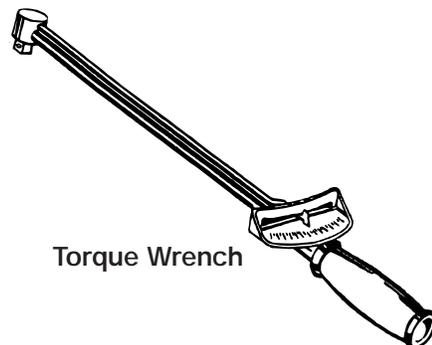


Specific Torque requirements needed.



$$A=B \pm 3.2 \text{ mm (1/8")}$$

$$C=D \pm 1.6 \text{ mm (1/16")}$$



Torque Wrench

Compatible Model: Proto, Model #6020  
(call factory for details)

# TROUBLE SHOOTING GUIDE

## DUMP VALVE PROBLEMS

**CAUTION:** Due to the geometry of all trailing beam air ride suspensions, the trailer will move forward when the air is exhausted.

If the trailer brakes are locked, do not exhaust the suspension. The resulting movement may cause damage to or collapse the landing legs.

Always exhaust the suspension BEFORE locking the brakes.

## AXLES NOT EQUALIZING

Mounting height may be incorrect due to sloping trailer or frame deflection.

The height control valve may be improperly adjusted. Correct as required.

Check for correct air springs and change if required.

Check for restrictions in airlines and correct as required.

## TRAILER LEANS TO ONE SIDE

Check axle welds, could be missing or broken.

Trailing beams could be installed out of parallel.

Pivot bushing could be faulty or require replacement.

Alignment washer welds could be broken or missing.

## BUSHING WALK

This is indicated by the trailing beams shifting off of the bushings.

Check alignment.

Trailing beams could be installed out of parallel.

Hangers are not centered to the trailing beams.

Application related and may be caused by none of the above.

## BREAKING / CRACKING HANGERS

See bushing walk.

Insufficient support and/or gusseting.

Missing channel supports and/or gussets.

Alignment washer welds could be broken or missing.

Application related and may be caused by none of the above.



# MAINTENANCE INSTRUCTIONS

*Model 23AR/25AR/30AR Suspensions, by design, require a minimum of maintenance. All suspension systems require periodic checks to assure continued, trouble-free performance.*

## REYCO RECOMMENDED MAINTENANCE SCHEDULES

1. Pre-service inspection.
2. First service inspection, after 1600-4,800 km, (1,000-3,000 miles).
3. PM inspections, concurrently with required annual inspection.
4. During replacement of any service parts.
5. Upon discovery of any loose components.

## TORQUE REQUIREMENTS-

**(Verify with each scheduled inspection.)**

1. Tighten 22 mm ( $\frac{7}{8}$ " ) u-bolt nuts—645-715 Nm, (475-525 ft lb).
2. Tighten 19 mm ( $\frac{3}{4}$ " ) shock absorber end nut—205-240 Nm, (150-175 ft lb).
3. Tighten 13 mm ( $\frac{1}{2}$ " ) upper and lower air spring mount nuts —28-40 Nm, (25-30 ft lb).
4. Tighten 19 mm ( $\frac{3}{4}$ " ) upper air spring mounting nuts—55-60 Nm, (40-45 ft lb).
5. Tighten 6 mm ( $\frac{1}{4}$ " ) air valve and linkage nut—4 Nm, (8 ft lb).
6. Tighten 28 mm (1  $\frac{1}{8}$ " ) replacement bushing pivot bolt\* nut—1030-1110 Nm, (760-820 ft lb).
7. Tighten 22 mm ( $\frac{7}{8}$ " ) alignment clamp bolt—780-815 Nm, (575-600 ft lb).

*\* Replacement fastener for huck bolt assembly only. Not to be used with Rey-Align™ fastener.*

## VISUAL INSPECTION

1. Loose or missing fasteners, especially U-bolt nuts and shock nuts.
2. Damaged hangers or axle connection brackets and welds.
3. Axle and trailing beam alignment.

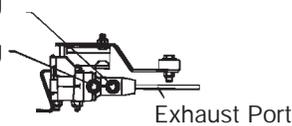
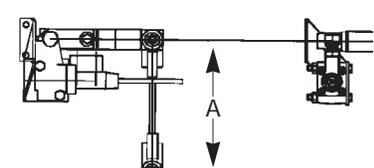
All torque values are with clean and dry fasteners; and should only be verified with a quality calibrated wrench of known accuracy. Failure to follow these recommendations could void the warranty. Failure to maintain the specified torque values and/or to replace worn parts, can cause component and/or system failure resulting in an accident with consequent injury.

*Nm = Newton-Meters; ft lb = Foot-Pounds*

## COMMON PARTS

MODEL	BUSHING	REY-ALIGN™ NUT	DISC SPRING WASHER	REY-ALIGN™ BOLT	SHOCK BOLT	SHOCK NUT	U-BOLT	U-BOLT SPACER	U-BOLT NUT
23AR	23421-01	24403-01	23952-01	23948-01	24539-01	11010-01	23423-01	23939-01	20688-02
25AR	23421-01	24403-01	23952-01	23948-01	24539-01	11010-01	23423-01	23939-01	20688-02
30AR	23421-01	24403-01	23952-01	23948-01	24539-01	11010-01	23423-01	23939-01	20688-02

## PLUMBING

H.C.V.	LINKAGE LENGTH (A)	HOW TO MEASURE LINKAGE LENGTH (A)
23756-20	330 mm (13")	<p>3/8" OD Tube Fitting from Air Supply 3/8" OD Tube Fitting to Air Supply</p>  <p style="text-align: right;">Exhaust Port</p>
23756-10	165 mm (6.5")	

## 23ART

RIDE HEIGHT	LEFT RIGHT	BEAM	AIR SPRING	HUCKBOLT® HANGER	REY-ALIGN™ HANGER	UPPER SHOCK ASSEMBLY	SHOCK
356 mm (14")	LEFT	23759-01	23433-01	23960-11	24001-211	23662-01	23523-01
	RIGHT	23759-02	23433-01	23960-21	24001-22	23662-02	23523-01
381 mm (15")	LEFT	23759-01	23433-01	23960-311	24001-311	23662-01	23523-01
	RIGHT	23759-02	23433-01	23960-31	24001-32	23662-02	23523-01
406 mm (16")	LEFT	23759-01	23433-01	23960-411	24001-411	23986-01	23523-01
	RIGHT	23759-02	23433-01	23960-42	24001-42	23986-02	23523-01
432 mm (17")	LEFT	23759-01	23433-01	23960-411	24001-411	24777-01	23523-01
	RIGHT	23759-02	23433-01	23960-42	24001-42	24777-02	23523-01

## 25ART

RIDE HEIGHT	LEFT RIGHT	BEAM	BAG	HUCKBOLT® HANGER	REY-ALIGN™ HANGER	UPPER SHOCK ASSEMBLY	SHOCK
305 mm (12")	LEFT	23968-01	23521-02	23960-11	24001-11	25044-01	24392-01
	RIGHT	23968-02	23521-02	23960-11	24001-12	25044-02	24392-01
330 mm (13")	LEFT	23968-01	23521-02	23960-21	24001-21	25026-01	24392-01
	RIGHT	23968-02	23521-02	23960-21	24001-22	25026-02	24392-01
356 mm (14")	LEFT	23968-01	23521-02	23960-211	24001-211	24763-01	24392-01
	RIGHT	23968-02	23521-02	23960-21	24001-22	24763-02	24392-01
381 mm (15")	LEFT	23968-01	23521-02	23960-311	24001-311	25045-01	24392-01
	RIGHT	23968-02	23521-02	23960-31	24001-32	25045-02	24392-01
406 mm (16")	LEFT	23968-01	23521-02	23960-411	24001-411	25033-01	24392-01
	RIGHT	23968-02	23521-02	23960-41	24001-42	25033-02	24392-01
432 mm (17")	LEFT	23968-01	23521-02	23960-511	24001-511	25037-01	24392-01
	RIGHT	23968-02	23521-02	23960-51	24001-52	25037-02	24392-01

## 25ARU

RIDE HEIGHT	LEFT RIGHT	BEAM	AIR SPRING	HUCKBOLT® HANGER	REY-ALIGN™ HANGER	UPPER SHOCK ASSEMBLY	SHOCK
165 mm (6.5")	LEFT	23764-01	12882-01	23960-11	24001-11	23926-01	23553-01
	RIGHT	23764-02	12882-01	23960-11	24001-12	23926-01	23553-01
191 mm (7.5")	LEFT	23764-01	23521-01	23960-213	24001-213	23639-01	23553-01
	RIGHT	23764-02	23521-01	23960-214	24001-224	23639-01	23553-01
229 mm (9")	LEFT	23764-01	23521-01	23960-315	24001-315	23639-01	23553-01
	RIGHT	23764-02	23521-01	23960-316	24001-326	23639-01	23553-01
279 mm (11")	LEFT	23764-01	23521-01	CALL	CALL	CALL	23553-01
	RIGHT	23764-02	23521-01	CALL	CALL	CALL	23553-01
305 mm (12")	LEFT	23764-01	23521-01	23960-619	24001-619	25039-01	23553-01
	RIGHT	23764-02	23521-01	23960-618	24001-628	25039-01	23553-01
356 mm (14")	LEFT	23764-01	23521-01	23960-717	24001-717	25042-01	23553-01
	RIGHT	23764-02	23521-01	23960-718	24001-728	25042-01	23553-01

## 30ART

RIDE HEIGHT	LEFT RIGHT	BEAM	AIR SPRING	HUCKBOLT® HANGER	REY-ALIGN™ HANGER	UPPER SHOCK ASSEMBLY	SHOCK
381 mm (15")	LEFT	23554-01	23631-01	23960-31	24001-311	25038-01	23524-01
	RIGHT	23554-02	23631-01	23960-31	24001-32	25038-02	23524-01
406 mm (16")	LEFT	23554-01	23631-01	CALL	CALL	CALL	23524-01
	RIGHT	23554-02	23631-01	CALL	CALL	CALL	23524-01
432 mm (17")	LEFT	23554-01	23631-01	23960-511	24001-511	25041-01	23524-01
	RIGHT	23554-02	23631-01	23960-51	24001-52	25041-02	23524-01

## 30ARU

RIDE HEIGHT	LEFT RIGHT	BEAM	AIR SPRING	HUCKBOLT® HANGER	REY-ALIGN™ HANGER ASSEMBLY	UPPER SHOCK	SHOCK
229 mm (9")	LEFT	23782-01	12883-02	23960-313	24001-313	23926-01	23524-01
	RIGHT	23782-02	12883-02	23960-314	24001-324	23639-01	23524-01
305 mm (12")	LEFT	23782-01	12883-02	23960-613	24001-613	23639-01	23524-01
	RIGHT	23782-02	12883-02	23960-614	24001-624	23639-01	23524-01
356 mm (14")	LEFT	23782-01	12883-02	23960-717	24001-717	25051-01	23524-01
	RIGHT	23782-02	12883-02	23960-718	24001-728	25051-01	23524-01
381 mm (15")	LEFT	23782-01	12883-02	23960-719	24001-719	24749-01	23524-01
	RIGHT	23782-02	12883-02	23960-710	24001-720	24749-01	23524-01
432 mm (17")	LEFT	23782-01	12883-02	23960-917	24001-917	24748-01	23524-01
	RIGHT	23782-02	12883-02	23960-918	24001-928	24748-01	23524-01

# INSTALLATION SUPPLEMENT

## INSTALLATION SUPPLEMENT #IS-CA121599 (rev b)

**DATE:** December 15, 1999

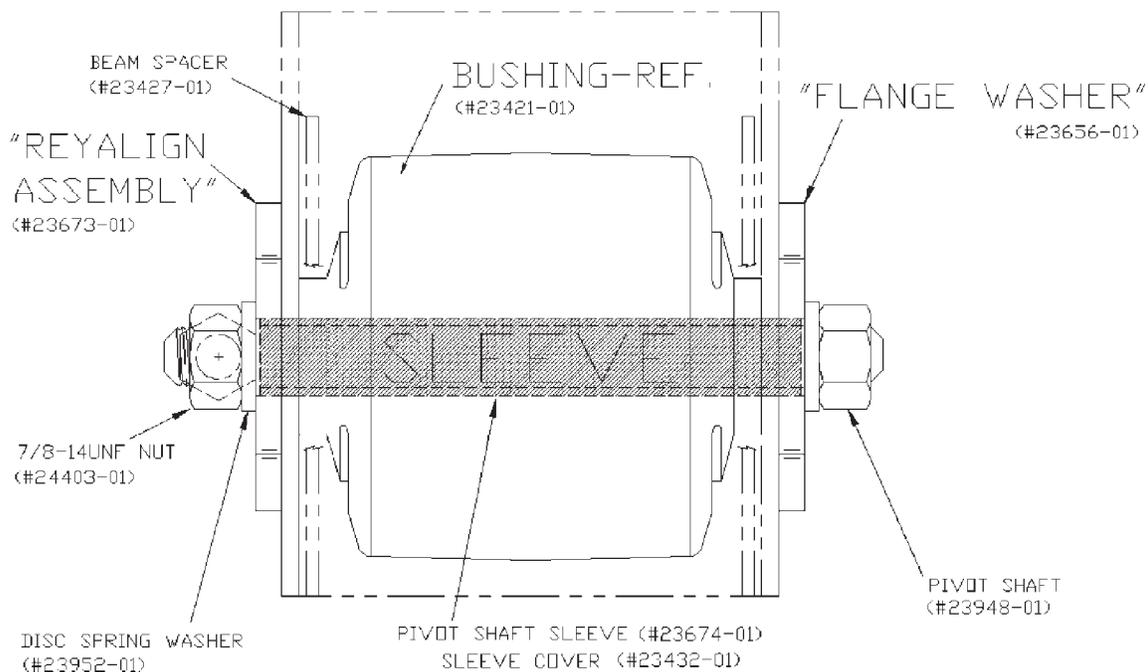
**REF: 23/25/30 AR  
SUSPENSIONS**

**SUBJECT: Rey Align™ Pivot Shaft Sleeve  
Part Number 23674-01**

**EFFECTIVE:** Immediately

Tuthill Transport Technologies is continuing to improve their products. Through continued testing of components to improve their effectiveness and integrity, Tuthill Transport Technologies recommends the following procedure be followed before assembly and final torque of all Rey Align™ components.

- 1) Ensure the inside of the sleeve (part number 23674-01) is completely "debris free" from transit or handling before inserting the pivot shaft (part number 23948-01) through the sleeve.
- 2) Inspect the threads on the pivot shaft to make certain they are clean and debris free from transit or handling before running up the nut.
- 3) Make certain that the sleeve fits "INSIDE" of the flange washer and the Rey Align™ assembly.
- 4) When tightening up the assembly, use a torque wrench which is compatible to a fl" drive, manufactured by Proto, Model # 6020 (call factory for more details), and bring up to 600 ft. lbs.





**LIMITED WARRANTY  
REYCO-GRANNING 23AR/25AR/30AR SERIES  
AIR SUSPENSION SYSTEMS AND COMPONENTS**

Tuthill Transport Technologies (The Company) warrants suspension products manufactured by it to be free from defect in material and workmanship which occur under normal use and service subject to the following conditions and limitations:

- Coverage is per below in months or in kilometers/miles depending upon which occurs first.

COMPONENT	MONTHS	KILOMETERS/MILES	COVERAGE PROVIDED
Air Controls	0 - 60	800,000/500,000	Parts and Labour Allowance
Air Springs	0 - 60	800,000/500,000	Parts and Labour Allowance
Shock Absorbers	0 - 12	160,000/100,000	Parts and Labour Allowance
Hangers, Trailing Arms	0 - 24	320,000/200,000	Parts and Labour Allowance
	25 - 60	800,000/500,000	Parts Only
Bushings for Trailing Arms 52"	0 - 60	800,000/500,000	Parts and Labour Allowance
Spacing or Less Van Type Application	61 - 84	1,200,000/750,000	Parts Only
Bushings for Trailing Arms	0 - 36	480,000/300,000	Parts and Labour Allowance
All other applications**	0 - 60	800,000/500,000	Parts Only

\*\* For Off Road Applications Coverage Will Be For 24 Months Parts and Labour or 48 Months Parts Only

- This warranty shall not apply and no warranty of any kind shall exist as to any product which has been subject to abuse, misuse, neglect, misapplication or accident of any type or cause or which has been repaired, replaced, substituted or used with parts other than genuine parts of The Company or altered by anyone.
- The Company shall not be liable for the loss of any product, loss of time, inconvenience, commercial loss or any other indirect consequential, special or incidental damages due to breach of the above warranty or any other failure to comply with the terms of the contract between The Company and the Buyer. The Company makes no warranties of any kind, express or implied, other than as herein expressly provided, and specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.
- With respect to parts manufactured by others, The Company shall have no duty except to assign to the buyer any claim which The Company may have against the manufacturer thereof. (The Company Warrants purchased components to the same extent as the Warranty extended by the original manufacturer to The Company).
- The determination of the reasonable cost of labour as required in paragraph one (1), shall be made in accordance with The Company shop standard times. Maximum hourly allotment for labour cost is as determined by The Company annually. Shop standard times and maximum hourly allotment for labour cost may be revised periodically at the sole discretion of The Company.
- The Company is not responsible for damage from improper installation or operations beyond design capability. The Company, in its sole discretion, shall determine whether or not any product is defective or otherwise covered, or not covered by, this warranty. No action for breach of this warranty may be commenced more than one year after the occurrence of alleged breach. This warranty is not transferable.

7. Retention of possession or use of the product for the warranty period shall constitute an unconditional acceptance thereof and fulfillment of all warranties and obligations of The Company and no assistance rendered by The Company in operating the product or remedying any defect either before or after that time shall operate to extend the warranty period.

#### Product Installer Responsibilities

8. Installer is responsible for installing the product in accordance with the The Company specifications in Installation Instructions.

Installer is responsible for providing proper vehicle components and attachments as well as required or necessary clearance for suspensions, components, axles, wheels, tires, and other vehicle components to ensure a safe and sound installation and operation.

Installer is responsible for advising the owner of proper use, service and maintenance required by the product and for supplying maintenance and other instructions as readily available from The Company.

#### Product Owner Responsibilities

9. Owner is solely responsible for pre-operation inspection, periodic inspections, maintenance and use of the product as specified in the particular Company instructions available by product model, except as provided in this warranty, and for maintenance of other vehicle components. Of particular importance is the 1,600 km/1,000 miles retorque of fasteners required on all suspensions manufactured by The Company.

#### Warranty Claim Procedures

10. For a claim to be considered, it must contain adequate documentation which states vehicle mileage, starting date, product model, where and how used, and a Return Material Authorization Number. This claim must be made within one year of failure of the component. Such part or parts must be returned to The Company, **transportation charges paid**. The Company reserves the right to inspect any returned components to determine cause of defects.

For information pertaining to warranty claims or procedures, please contact:

## TUTHILL TRANSPORT TECHNOLOGIES

2715 North Airport Commerce  
P. O. Box 2268  
Springfield, MO 65801-2268  
Phone (800)753-1095  
(417)862-4343  
FAX (800) 753-1095 USA Only  
International Sales (417) 837-0423  
FAX (417) 837-0485

9098 West 800 South  
P. O. Box 600  
Brookston, IN 47923  
Phone (219) 279-2801  
FAX (219) 279-2390

241 South Service Road  
Grimsby, Ontario L3M 1Y7  
Phone (905)945-2234 (800)811-4011  
FAX (905) 945-5906



**TUTHILL**  
Transport Technologies Inc.  
Technologies de Transport Tuthill Inc.



**CANADA**

**USA**

**INTERNATIONAL**

**Tel: 1.800.811.4011 Fax: 905.945.5906**

**Tel: 1.800.753.0050 Fax: 417.837.0404**

**Tel: 417.837.0423 Fax: 417.837.0485**