

# AIR BRAKE SERVICES TRAILQUIP

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## CONVERTER DOLLY OPERATORS MANUAL

## AIR SUSPENSION ROBUST SERIES

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[WWW.ABSTRAILQUIP.COM](http://WWW.ABSTRAILQUIP.COM)

## **PREFACE**

**ABS Trailquip does not guarantee that the goods purchased will be suitable for customer's operational requirements.**

**It is the purchaser's obligation to clarify any exceptional conditions of use.**

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## 1.0 Overview

Thank-you for purchasing an ABS Trailquip Converter Dolly.

This Manual provides the specifications for the set-up and ongoing maintenance of an ABS Trailquip Converter Dolly (referred to hereafter as 'the dolly'). The specifications are provided to ensure the structural integrity and safe operation of the dolly are maintained.

Failure to operate and maintain the dolly in accordance with this specification will void the ABS Trailquip Warranty.

The Manual comprises specifications for the following dolly components:

- TP/Parallel Bearing TQA Trailquip Axle;
- TQA Robust Air Suspension 360mm Ride Height;
- 50mm Bolt-on Tow Eye;
- Fifth Wheel Greaseless;
- Ball Race; and
- Load Scales.

## **2.0 ABS Trailquip Pty Ltd Dolly Warranty**

### **Definitions**

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Buyer means the customer detailed on the Order submitted by the Buyer to ABS. ABS means ABS Trailquip Pty Ltd.

Goods means the Dolly and Spare Parts jointly and severally. Manufacturer means ABS Trailquip Pty Ltd (ACN 126 053 521).

Order means the document completed by the Buyer to Order the Goods. Repairs means the repairs which are undertaken by ABS for the Buyer.

Spare Parts means spare parts manufactured by ABS and supplied by ABS to the Buyer. Dolly means the dolly supplied by ABS to the Buyer.

Warranty means the warrant provided by ABS on the terms set out below.

### **Warranty**

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1. ABS warrants that the Dolly and Repairs are of an acceptable quality, fit for purpose, and free from defect for the following applicable periods:
  - a) In the case of the Structural component, three (3) years *or* 300,000km;
  - b) In the case of Axles and Suspensions, two (2) years *or* 200,000km;
  - c) In the case of a Full Product warranty, one (1) year *or* 100,000km;
  - d) Component parts may vary according to the different manufacturers.

NOTE: Dollies running 24 hours a day reduces the warranty period by 50%

2. This Warranty is subject to the limitations and qualification set out below. Please read these limitations and qualification carefully. If you have any questions, please contact ABS.

### **Rights of Consumers under Australian Consumer Law**

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3. Clause 2 applies to the Buyer if:
  - a) The amount paid or payable for the Goods does not exceed \$40,000.00 (except where the Goods are not of a kind ordinarily acquired for personal, domestic or household use or consumption, and ABS has limited its liability in a manner permitted by the Australian Consumer Law, in which case the Buyer's rights are limited to that extent); or
  - b) The Goods are a Dolly acquired for use principally in the transport of goods on sealed public roads;
  - c) Unless the Buyer acquired the Goods for the purpose of re-supply or the purpose of using it up or transforming it in trade or commerce.

4. The Goods come with guarantees that cannot be excluded under the Australian Consumer Law. The Buyer is entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. The Buyer is also entitled to have the Goods repaired or replaced if the Goods fail to be of acceptable quality and the failure does not amount to a major failure.
5. The benefits given to the Buyer by this Warranty are in addition to other rights and remedies that it may have in relation to the Goods.

### **Limitations on Warranty**

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6. The Warranty will not apply to any claim arising out of:
  - a) Misuse, including but not limited to using a Dolly with a load in excess of its structural or legal capacity as specified at the date of purchase;
  - b) Failure to maintain and service the Goods at appropriate intervals by an appropriate professional as per our maintenance manual, including (but not limited to):
    - (i) Regular maintenance and service;
    - (ii) Regular greasing of all components on the goods which require grease (including greaseable hinges, wheel bearings and grease nipples etc.);
    - (iii) Inspection of wheel nuts and U-bolts after the first 50km of travel;
    - (iv) Regular inspection of wheel pressures;
    - (v) Regular inspection of all fittings and fasteners;
    - (vi) Regular inspection of dolly ride-height in order to maintain 360mm at all times.
  - c) Maltreatment, inattention, or interference including but not limited to rust, or coating with any preparation not approved in writing by ABS;
  - d) Wear and tear of components that require regular replacement including but not limited wheel bearings, seals, couplings, brakes, tyres, rims, dock rubbers and scuff strips;
  - e) Fair wear and tear, damage caused by improper use, misuse or abuse, defects due to modifications, accidents, damage caused by vandalism, rusting, acts of nature or any other event beyond the control of ABS;
  - f) Wear and tear of tyres;
  - g) Cosmetic appearance, including the galvanized surface and the paint becoming dull, faded or chipped and scratching, scuffing or natural breakdown of materials, including rust on the dolly;
  - h) Use or improper use, adjustment, calibration or operation by the Buyer or any person on behalf of the Buyer;
  - i) Any modification which was not authorized in writing by ABS and/or not performed by an authorized service representative;



## **2.0 ABS Trailquip Pty Ltd Dolly Warranty**

- j) Use that is not in accordance with any instructions given by ABS including loading the Dolly in excess of its structural capacity as designated by ABS or exceeding the recommended speed limit;
- k) Inadequate or improper storage, maintenance or transportation;
- l) Exposure to heat and moisture, outside of standard operating conditions;
- m) Damage caused by the continued use of damaged Goods; or
- n) Accidental or intentional damage by a person or animal.

**Note:** ABS Trailquip reserves the right to sight records of scheduled maintenance to verify maintenance to specification has been conducted, prior to honoring the warranty.

- 7. Subject to ABS's obligations under applicable law that cannot be excluded, modified or restricted, including as described in clause 2 and 3 ABS's liability:
  - a) In relation to Goods is limited to ABS's choice of one of the following options:
    - (i) Repair the Goods;
    - (ii) Replace the Goods; or
    - (iii) Refund the price paid for the Goods;
  - b) In relation to Repairs is limited to ABS's choice of one of the following options:
    - (i) Providing the Repair again; or
    - (ii) Refund the price paid for the Repair (the value as agreed and pre-approved by ABS Trailquip); and
  - c) Does not include or extend to costs associated with the transportation of defective Goods or Repaired goods, or resulting downtime.
- 8. Goods presented for repair may be replaced by refurbished goods of the same type rather than being repaired. Refurbished parts may be used to repair the Goods.
- 9. ABS makes no representation or warranty in relation to any Goods not manufactured by ABS, including but not limited to tyres, axles, suspensions, brakes, shock absorbers and hydraulics. The Buyers agrees to look solely to the warranties provided by ABS of those goods.
- 10. Replaced parts become the property of ABS. If parts are returned under this Warranty, the Buyer is not entitled to make any deduction from remittances or current accounts without ABS's consent.
- 11. Nothing in this Warranty is intended to have the effect of excluding any applicable provisions of the Australian Consumer Law.

## 2.0 ABS Trailquip Pty Ltd Dolly Warranty

## **2.0 ABS Trailquip Pty Ltd Dolly Warranty**

12. ABS will, under no circumstances, be liable for any damage, whether direct, indirect, special or consequential, arising in any way out of the use of or in relation to the Products, whether as a result of ABS's negligence or otherwise. This includes loss of freight, loss of earnings or loss of contracts.

Goods Purchased for the Purpose of Resupply

**The following provisions apply to Goods purchased for the purpose of resupply by the Buyer.**

13. If the Goods are sold to the Buyer's customers, the Buyer must ensure there has been no reliance by its customers on any promise or representation as to the nature, quality or quantity of the Goods, contrary to the Warranty.
14. If the goods have been altered, modified, adjusted, converted, transformed or altered in any way whatsoever, the Warranty will not apply.
15. The Buyer acknowledges that:
- If the Buyer sells the Goods to any person by reference to a sample, that sample is not supplied by ABS; and
  - Any sale by sample by the Buyer to any person is not referable to the sale or supply of the Goods by ABS to the Buyer.

Making a Claim

16. The Buyer must:
- Contact ABS by phone or email with a description of the issue or defect;
  - Return the Goods to ABS as directed at the Buyer's cost and risk; Provide satisfactory proof of purchase in the form of a copy of the Order, delivery docket, tax invoice or a copy of the receipt;
  - Not use the Goods once a claim is notified by the Buyer to ABS and prior to the Buyer returning the Goods to ABS for an inspection; and
  - Bear the expense of claiming under the Warranty.
17. Please note that any claim under this Warranty must be notified to ABS within a reasonable time (and in any event within 14 days) after the Buyer first noticed or ought reasonably to have noticed the issue or defect. If ABS is not notified of the claim within a reasonable time of the Buyer first noticing the issue or defect, ABS may in its absolute discretion deny the claim.
18. Where the Goods comprise a Dolly, the Buyer acknowledges and agrees that the Dolly is designed for use on sealed roads only and use of the Dolly on an unsealed road voids this warranty.



### **3.0 Dolly Pre-Start Up Checklist**

- Check Drawbar A-Frame for signs of cracking;
- Check Drawbar pivot points for wear, damage and tension;
- Check towing eye for wear;
- Visual check on dolly chassis for signs of cracks;
- Check for loose wheel nuts;
- Check tyre condition;
- Check for correct axle alignment (wheel spacing);
- Check all lights are working;
- Check for correct brake adjustment;
- Check for air leaks on air suspension and brake system;
- Carry out inspection as listed in Axle Service Maintenance where applicable; and
- Carry out inspection as listed in Suspension Service Maintenance where applicable.



**If any problems should arise as per the checklist, the Dolly should not be operated and the problems need to be rectified immediately.**

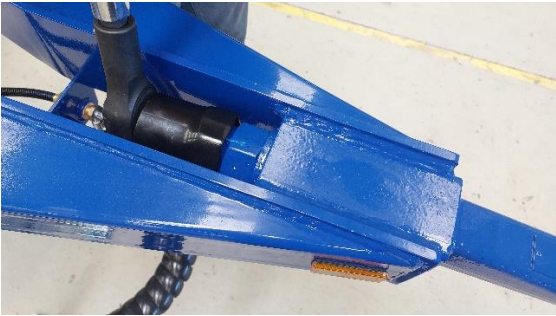
**Contact ABS Trailquip at 07-3274 6046 if further assistance is required.**

## 4.0 Dolly Torque Settings & Quick Service Reference

### 4.1 Dolly Torque Settings Information Overview

Axle Torque Setting: Description	ft-lbs	Nm
Flanged Wheel Nut (M22x1.5)	425 - 465	570 - 630
Rim Clamp Nut (¾ UNC) for Spider Axles	200 - 250	270 - 340
Camshaft Related Nuts M10	40	50
Hub Cap (Screw On) <b>Spanner P/N: TQA-HC07</b>	55 - 75	70 - 100
Brake Chamber Nut	130 - 150	180 - 205

Air Suspension Torque Setting: Description	ft-lbs	Nm
U-Bolt (M22x1.5)	445 - 480	600 - 650
Spring Eye Bolt (M27x1.5) <b>Spanner P/N: TQA-TOOL003</b>	410 - 445	550 - 600
Shock Absorber Bolt (M24x3)	295 - 310	400 - 420
Airbag Top Mounting Bolt (¾-16UNF)	80 - 100	110 - 135
Airbag Bottom Mounting Casting (M16x2)	170 - 185	230 - 250
Airbag Bottom Mounting Bolt (½-13UNC)	30 - 40	40 - 50

Auxiliary Parts Torque Setting: Description	ft-lbs	Nm
Drawbar Pivot Bolts (M24x3)	215 - 260	290 - 350
Bolt-On Tow Eye Locking Nut <b>Socket P/N: TQA-TOOL001</b>	370 - 740	500 - 1000
		

## 4.0 Dolly Torque Settings & Quick Service Reference

### 4.2 Quick Service Reference Guide

#### AIR BRAKE SERVICES TRAILQUIP

#### QUICK SERVICE REFERENCE FOR 10 TON TRAILER RUNNING GEAR

##### TRAILER PRE-START UP CHECKLIST

- Check Drawbar A-Frame for signs of cracking;
- Check Drawbar pivot points for wear, damage & tension;
- Check towing eye for wear;
- Visual check on trailer chassis for signs of cracks;
- Check for loose wheel nuts;
- Check tyre condition;
- Check for correct axle alignment (wheel spacing);
- Check all lights are working;
- Check for correct brake adjustment;
- Check for air leaks on air suspension & brake system;
- Carry out inspection as listed in Axle Service Maintenance where applicable; &
- Carry out inspection as listed in Suspension Service Maintenance where applicable.



If any problems should arise as per the checklist, the Trailer should not be operated & the problems need to be rectified immediately.

##### 10 TON DRUM BRAKE AXLE SERVICE INTERVALS

**After Break-In Period of 1 Week or 50km (whichever comes first) & thereafter Weekly:**

- Check torque setting on all wheel nuts (425–465ft-lb, 570-630Nm); &
- Laser wheel-alignment must be carried out & documented.

**After first 5,000km:**

- Check all wheel bearings' end float & adjust as required.

**Every 5,000km:**

- Check & adjust brakes; &
- Check brake lining wear.

**Every 25,000km:**

- Grease all grease nipples;
- Inspect camshafts & related components for wear & damage;
- Check torque settings on all camshaft related components; &

**Every 25,000km (Continued):**

- Lift axle ends & Check wheel bearing free play & adjust as required. Replace bearings if noise is detected during rotation.

**Every 100,000km:**

- Inspect all wheel bearings for correct lubrication, repack if insufficient & replace if contaminated;
- Inspect all wheel bearings' end float & adjust as required;
- Inspect wheel seals & replace if worn or damaged;
- Check axle nuts for correct torque setting;
- Check for sufficient grease at hub ends & adjust as required;
- Check axle & brake components for wear, repair or replace as required; &
- Check brake system is functional & all brake system related valves operates correctly.

REFER TO ABS TRAILQUIP MANUAL FOR ALL TORQUE SETTINGS AND ANY ADDITIONAL INFORMATION

##### 10 TON MECHANICAL SUSPENSION SERVICE INTERVALS

**After Break-In Period of 1 Week or 50km (whichever comes first):**

- Check all torque settings & re-torque; &
- *Standard Spring Plate U-bolts (500-550Nm)*
- *U-Shaped Spring Retainer Plate U-bolts (325-375Nm)*
- *Torque arm bolt nuts (150-200Nm)*

Laser wheel-alignment must be carried out & documented.

**Every 5,000 km or every 3 weeks.**

- Check all torque settings (Especially U-bolt & torque arm bolt nut);

**Every 50,000 km or every 6 months.**

- Check all torque settings as for 5,000 km service;
- Check the torque arm bushes & equaliser shaft bushes for wear or deterioration & replace as necessary;
- Check the leaf springs for wear, cracks or corrosion & replace as necessary;
- Inspect the remainder of the suspension for wear or deterioration & replace any suspect parts as necessary; &
- Check tyre wear & adjust the axle alignment as necessary.

REFER TO ABS TRAILQUIP MANUAL FOR ALL TORQUE SETTINGS AND ANY ADDITIONAL INFORMATION

##### 10 TON AIR SUSPENSION SERVICE INTERVALS

**After Break-In Period of 1 Week or 50km (whichever comes first):**

- Check torque settings on all fasteners (Especially the following);
- *U-bolts (445-480ft-lb, 600-650Nm)*
- *Shock absorber bolt nuts (295-310ft-lb, 400-420Nm)*
- *Spring eye bolts - Cast arm (535-595ft-lb, 720-800Nm)*
- *Spring eye bolts - Parabolic arm (410-445ft-lb, 550-600Nm)*
- Check suspension ride height & adjust to manufacturer's ride height specification as required; &
- Laser wheel-alignment must be carried out & documented.

**Every 25,000km or Quarterly:**

- Check torque settings on all fasteners;
- Check suspension ride height & adjust to manufacturer's ride height specification as required; &
- Visual inspection of suspension components, including suspension bushes, trailing arms, suspension hangers, suspension air bags & shock absorbers for wear, damage & cracking. Repair & replace as required.

**Every 100,000km or Yearly:**

- Check torque settings on all fasteners;
- Check suspension ride height & adjust to manufacturer's ride height specification as required;
- Thorough inspection of all suspension components. Repair & replace as required;
- Check suspension bushes for wear & excessive movement. Repair & replace as required;
- Check trailing arms for wear & damage. Repair & replace as required;
- Check suspension hangers for wear & damage. Repair & replace as required;
- Check suspension air bags for leaks & wear. Repair & replace as required;
- Check shock absorbers & shock absorber bushes for leaks, wear & excessive movement. Repair & replace as required; &
- Check axle alignment & adjust as required.

REFER TO ABS TRAILQUIP MANUAL FOR ALL TORQUE SETTINGS AND ANY ADDITIONAL INFORMATION



Loose suspension fasteners & worn parts may cause vehicle instability resulting in loss of control & damage.

Over-torquing can result in fastener failure. **Always use a torque wrench, never a rattle gun when tightening fasteners.**

Depending on the suspension service application, shorter service intervals may be required to maintain trailer suspension in working order. In extreme service conditions, weekly or daily service inspections may be required.

**Axle alignment must be done when severe kerb contact or accidental damage occurs. Suspension bushes must be checked for damage. Replace if required.**

Failure to maintain & document the trailer as per the running gear specifications will void any warranty.

If in doubt, please contact ABS Trailquip at sales@abstrailquip.com.



## **5.0 TP / Parallel Bearing TQA Trailquip Axle**

### **5.1 Recommended Service Intervals**

**After Break-in Period of 1 Week or 50km (whichever comes first) and thereafter Weekly:**

- Check torque setting on all wheel nuts.

**After first 5,000km:**

- Check all wheel bearings' end float and adjust as required.

**Every 5,000km:**

- Check and adjust brakes; and
- Check brake lining wear.

**Every 25,000km:**

- Grease all grease nipples;
- Inspect camshafts and related components for wear and damage;
- Check torque settings on all camshaft related components; and
- Lift up axle ends and check wheel bearing free play and adjust as required. Replace bearings if noise is detected during rotation.

**Every 100,000km:**

- Inspect all wheel bearings' lubricant, repack if insufficient and replace if contaminated;
- Inspect all wheel bearings' end float and adjust as required;
- Inspect wheel seals and replace if worn or damaged;
- Check axle nuts' torque setting;
- Check amount of grease at hub ends and adjust as required;
- Check axle and brake components for wear, repair or replace as required; and
- Check brake system is functional and all brake system related valves operates correctly.

## 5.0 TP / Parallel Bearing TQA Trailquip Axle

### 5.2 Wheel Bearing Adjustments

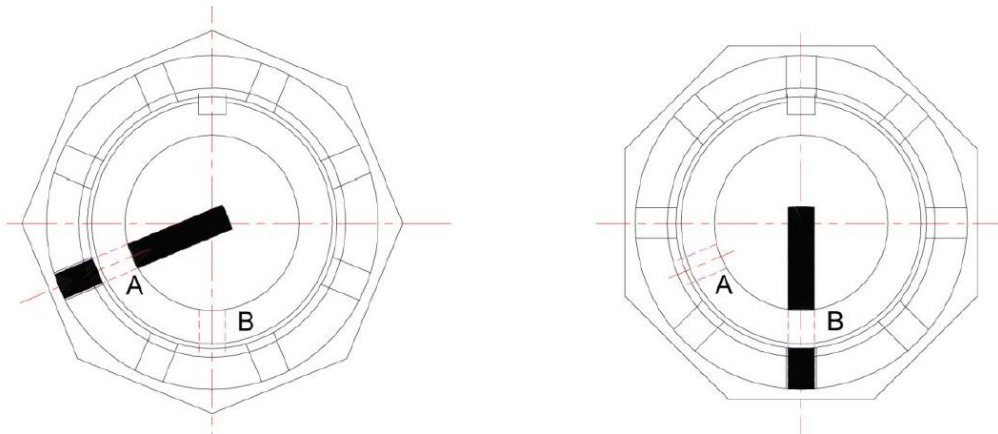
All axles are recommended to have the wheel bearings adjusted after the first 5,000km and then inspected at 25,000km and 100,000km intervals as per the **Recommended Service Intervals**. Depending on the axle service application, shorter service intervals may be required to maintain the axle in working order.

Recommended wheel bearing adjustment procedure:

1. Make sure that the hub revolves freely and if necessary, temporarily slacken off the brake adjustment to ensure complete freedom from brake binding (drag);
2. Rotate the hub in both directions while tightening the axle castellated nut and torque till 270 Nm (200 ft-lbs);
3. Back off the castellated nut one turn;
4. Tighten the castellated nut to 68 Nm (50 ft-lbs) while rotating the hub in both directions;
5. Rotate the hub clockwise 3 turns; and
6. Slacken the nut back by ONE slot (or by 45deg). If there is no slot, line up with any pin hole ('A' or 'B', the angle between 'A' & 'B' is 67.5deg), loosen the nut slightly until the nearest pin hole is reached. Insert new split pin through the hole and bend the pin.

**AFTER ADJUSTMENT, BEARING END PLAY SHOULD BE BETWEEN 0.025 – 0.13MM, OTHERWISE REPEAT WHEEL BEARING ADJUSTMENTS PROCEDURE.**

Ensure hub rotates freely, otherwise repeat **Wheel Bearing Adjustments** procedure.



#### **IMPORTANT**

Re-adjust if too tight or too loose.  
Recommended Lube:  
Mobil grease (model XHP222)

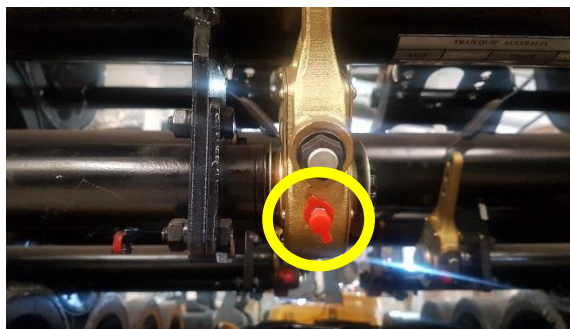
## 5.0 TP / Parallel Bearing TQA Trailquip Axle

### 5.3 Axle Component Lubrication

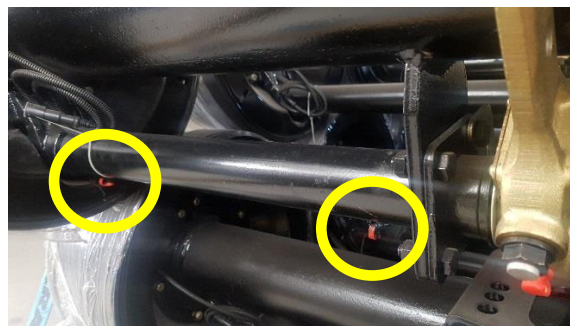
When installing a new axle, ensure all grease channels are filled with grease.

Lubricate all the grease nipples on the axle. This includes lubrication points at the slack adjusters, camshaft tubes or camshaft bushes.

#### 5.3.1 Lubricating the Slack Adjusters, Camshaft Tubes and Camshaft Bushes



Slack adjuster grease points



Camshaft tube grease points



Camshaft bushes grease points

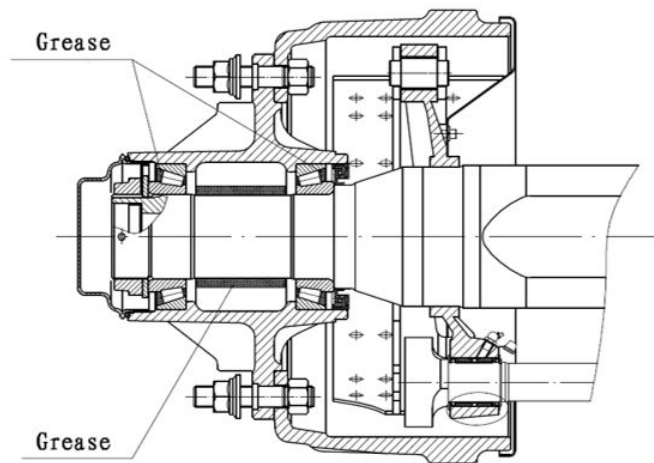


## 5.0 TP / Parallel Bearing TQA Trailquip Axle

### 5.4 Greasing the Hubs and Wheel Bearings

Mobil grease model XHP222 or equivalent is recommended for greasing the hubs and wheel bearings.

Ensure all components are clean before applying grease to avoid contamination.



Drawing showing grease points at the hub and wheel bearings



Photo showing the bearings packed with grease



Photo showing a greased bearing fitted on to a greased spindle

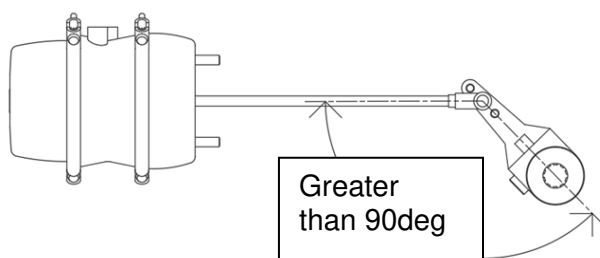
## 5.0 TP / Parallel Bearing TQA Trailquip Axle

### 5.5 Brake Adjustments

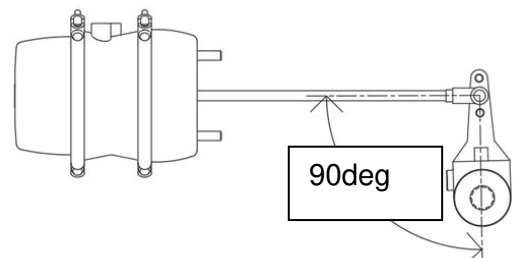
#### 5.5.1 Manual Slack Adjuster

1. Chock the wheels to prevent the vehicle from moving during the procedure and release the trailer parking brakes.
2. Adjust the slack adjuster at the adjusting mechanism until the brake shoes come into contact with the brake drum. Common adjusting mechanism includes a 19mm Hex Head with no locking sleeve or a Hex Nut with a locking sleeve, where the locking sleeve has to be depressed before the Hex Nut can be rotated to adjust the brakes.
3. Back off the slack adjuster one quarter of a turn to allow just enough clearance between the brake drum and the brake shoes to enable the hub to rotate freely without any brake drag.
4. Check that the angle between the brake chamber push rod and the slack adjuster is greater than 90deg when the brakes are released, and that the angle is at 90deg when the brakes are applied. This angle can be adjusted by screwing the pushrod clevis backwards or forwards along the threaded pushrod. Once the angle has been adjusted, tighten the pushrod clevis' lock nut.

All brake actuators on a trailer should be adjusted to have a similar amount of pushrod travel. The pushrod travel of the left brake should be similar to the pushrod travel of the right brake on the axle.



Drawing of an adjusted slack adjuster when the brakes are released



Drawing of an adjusted slack adjuster when the brakes are applied



## 5.0 TP / Parallel Bearing TQA Trailquip Axle

### 5.5.2 Automatic Slack Adjuster



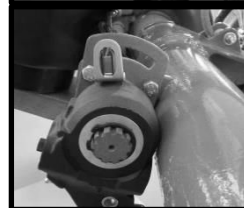
**STEP 1:**

Chock the wheels to prevent vehicle from rolling. Ensure system tank pressure is above 100 PSI. Check that the pushrod is fully retracted. Apply air to release spring brake. If air is not available, spring brake must be manually caged back. Install anchor bracket loosely as illustrated. Some strap brackets have two mounting holes. Proper mounting location is determined by the length of adjuster arm. 5" and 5 1/2" adjuster arm lengths utilize the shorter hole location while 6" and 6 1/2" length adjusters utilize the longer hole locations. Do not tighten anchor bracket fasteners at this time. Apply "Anti-Seize" type lubricant to camshaft splines.



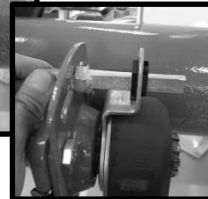
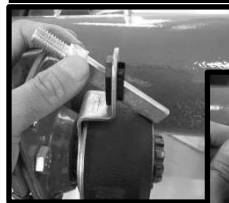
**STEP 6:**

The control arm position can be set anywhere within the slotted area of the bracket and the adjuster will function properly. Recommendation is a "common position" for all installations—all the way towards the axle, until the control arm comes to the end of the slotted bracket.



**STEP 2:**

Place at least one inner cam washer on shaft. Install adjuster with the 7/16" adjusting hex pointing away from the spring brake or service chamber.



**STEP 7:**

Insert the flat end of the anchor stud through the control arm bushing. Push the threaded end into the anchor plate slot and loosely install flange nut. Installation of different style anchor brackets and attachment methods follow a similar procedure.



**STEP 3:**

Secure adjuster to shaft with snap ring. Install enough washers to reduce end play to less than .060".



**STEP 8:**

After positioning control arm and anchor pin to desired location, tighten the flange nut to 40-50 ft. lbs. Note: control arm position is all the way toward the axle. AA1 control arm position is such that the installation indicator falls within the control cover slot. These common positions work well for most applications.



**STEP 4:**

Rotate the 7/16" adjusting hex until the clevis hole lines up with the brake adjuster arm hole. Do not pull pushrod out to meet clevis.



**STEP 9:**

The adjuster must be manually adjusted at this time. Adjust brakes by rotating the 7/16" adjusting hex clockwise until the lining lightly contacts the drum.



**STEP 5:**

Apply "Anti-Seize" type lubricant to clevis pin, install and secure with cotter pin.



**STEP 10:**

Back-off the adjuster by rotating adjusting hex counter-clockwise 1/2 turn. A ratcheting sound will occur, which is normal. Never use an impact wrench or internal damage will occur.

**Final Inspection:** - Recheck all fasteners for proper installation. Before releasing vehicle, activate brakes several times assuring no binding or partial release. Full pushrod travel and release is necessary for proper brake adjustment.



**5.0 TP / Parallel Bearing TQA Trailquip Axle**

**5.6 Torque Settings Table**

Description	ft-lbs	Nm
Flanged Wheel Nut (M22x1.5)	425 - 465	570 - 630
Rim Clamp Nut (¾ UNC) <i>for Spider Axles</i>	200 - 250	270 - 340
Camshaft Related Nuts M10	40	50
Hub Cap (Screw On) <b>Spanner P/N: TQA-HC07</b>	55 - 75	70 - 100
Brake Chamber Nut	130 – 150	180 - 205

## 6.0 TQA Robust Air Suspension 360mm Ride Height

### 6.1 Recommended Service Intervals

#### After Break-In Period of 1 Week or 500km (whichever comes first):

- Check torque settings on all fasteners and U-Bolts; and
- Check suspension ride height, and if out of manufacturer's ride height specification, adjust to manufacturer's ride height specification.

#### Every 25,000km or Quarterly:

- Check torque settings on all fasteners;
- Check torque settings on all U-Bolts;
- Check suspension ride height, and if out of manufacturer's ride height specification, adjust to manufacturer's ride height specification; and
- Conduct visual inspection of suspension components, including suspension bushes, trailing arms, suspension hangers, suspension air bags and shock absorbers for wear, damage and cracking. Repair and replace as required.

#### Every 100,000km or Annually:

- Check torque settings on all fasteners;
- Check torque settings on all U-Bolts;
- Check suspension ride height, and if out of manufacturer's ride height specification adjust to manufacturer's ride height specification;
- Conduct thorough inspection of all suspension components for wear, damage and cracking. Repair and replace as required;
- Check suspension bushes for wear and excessive movement. Repair and replace as required;
- Check trailing arms for wear, damage and cracking. Repair and replace as required;
- Check suspension hangers for wear, damage and cracking. Repair and replace as required;
- Check suspension air bags for leaks and wear. Repair and replace as required;
- Check shock absorbers & shock absorber bushes for leaks, wear and excessive movement. Repair and replace as required; and
- Check axle alignment and adjust as required.

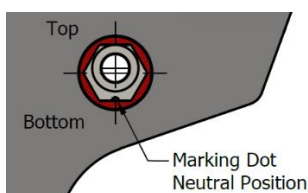
Depending on the suspension service application, shorter service intervals may be required to maintain trailer suspension in working order. In extreme service conditions, weekly or daily service inspections may be required.

Axle alignment must be done when severe kerb contact or accidental damage occurs. Suspension bushes must be checked for damage. Replace if required.

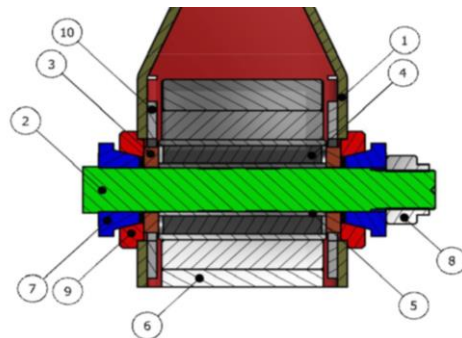
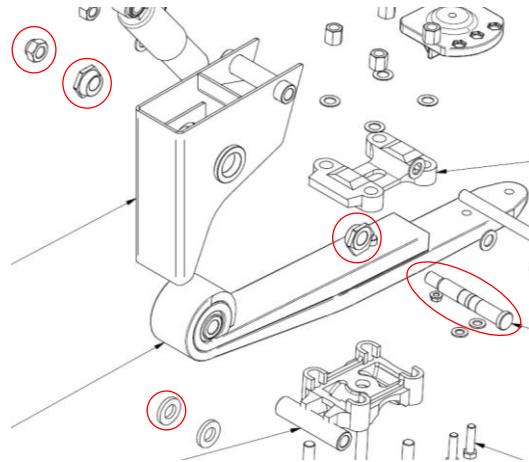
## 6.0 TQA Robust Air Suspension 360mm Ride Height

### 6.2 Replacing Trailing Arm Spring Eye Bush

1. Loosen the locknut and remove spring eye bolt, locknut, eccentric washer;
2. Lower the Spring;
3. Check the inner wear washer & wear plate and replace if necessary;
4. Push the spring eye bush out;
5. Clean the link eye of the inner spring;
6. Press in replacement spring eye bush with an appropriate tool;
7. Slide the inner wear washers onto the spring eye bush;
8. Lift the spring and insert a new spring eye bolt with the eccentric washer fitted;
9. Install the eccentric washer and locknut;
10. Align the eccentric washer marking to point to the ground. If the marking is not visible, align the eccentric washers as per the drawing below;



11. Pre-tighten the locknut to 200Nm;
12. Do a wheel Alignment (Laser wheel alignment recommended);
13. Once wheel alignment is done, tighten the spring eye bolt to 550-600Nm.



1. Hanger Bracket
2. Spring Eye Bolt
3. Inner Wear Washer
4. Rubber Insert in Spring Eye Bush
5. Spring Eye Bush
6. Parabolic Spring
7. Eccentric Washer
8. Locknut
9. Weld-on Collar
10. Wear Plate

**IMPORTANT:** The threaded connection of the spring eye bolt and seating surfaces must be free of grease or any lubricant. Failure to comply may cause the locknut to come loose.



## 6.0 TQA Robust Air Suspension 360mm Ride Height

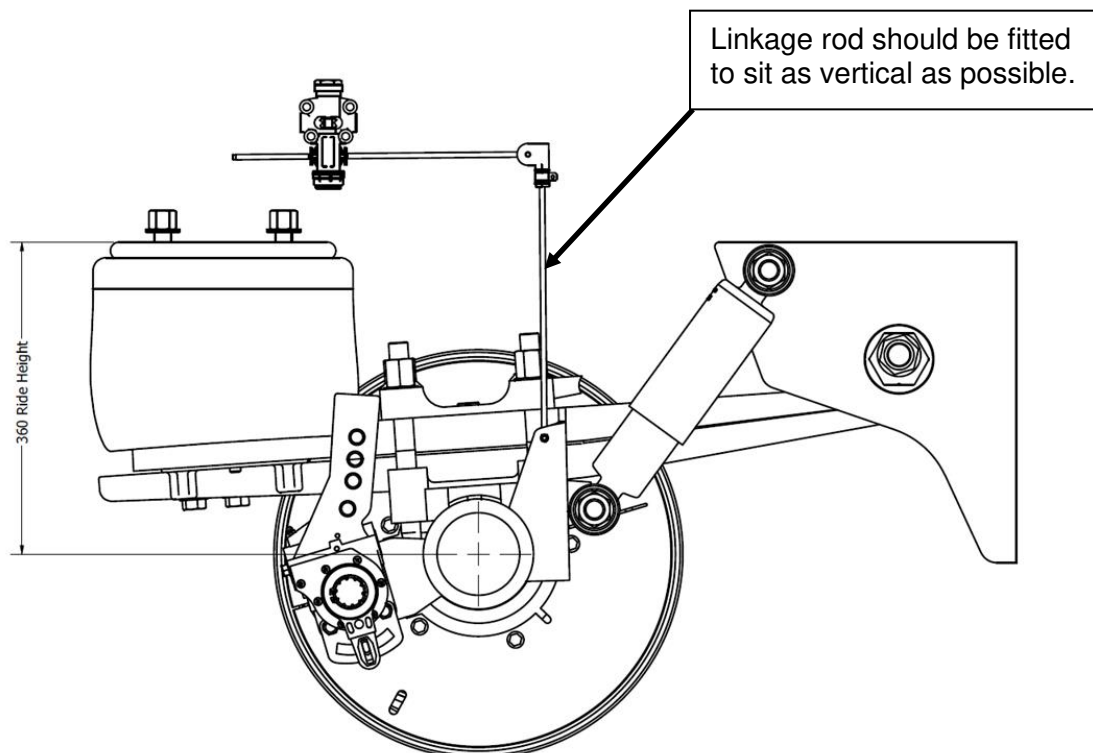
### 6.3 Height Control Valve Adjustment

#### **IMPORTANT**

There is only one correct ride height for each vehicle. (Refer to manufacturer's suspension drawing). Improper ride heights will lead to component failures, including: poor ride, excessive vibration, cracking of suspension components, and shock absorber failure.

Before setting the height control valve, park the trailer on smooth level ground.

1. Fully charge the air reservoir tanks.
2. Disconnect the linkages to the lower brackets, then lift the control arm to the 'up' position to raise the air bags or move the control arm to the 'down' position to dump the air bags.
3. Ride height adjustments are made by adjusting the valve or length of the vertical linkage.
4. Rotate the control arm to the neutral position when the correct ride height is obtained. At neutral position, the air bags will neither raise nor lower.
5. After the ride height has been set, check all adjustments and linkage connections are retightened to the manufacturer's recommended level of torque tightness.
6. To recheck the adjustment, disconnect the linkage and exhaust the air bags to about half full.
7. Reconnect the linkage, which will inflate the air springs, then check that this is now at the correct setting height.

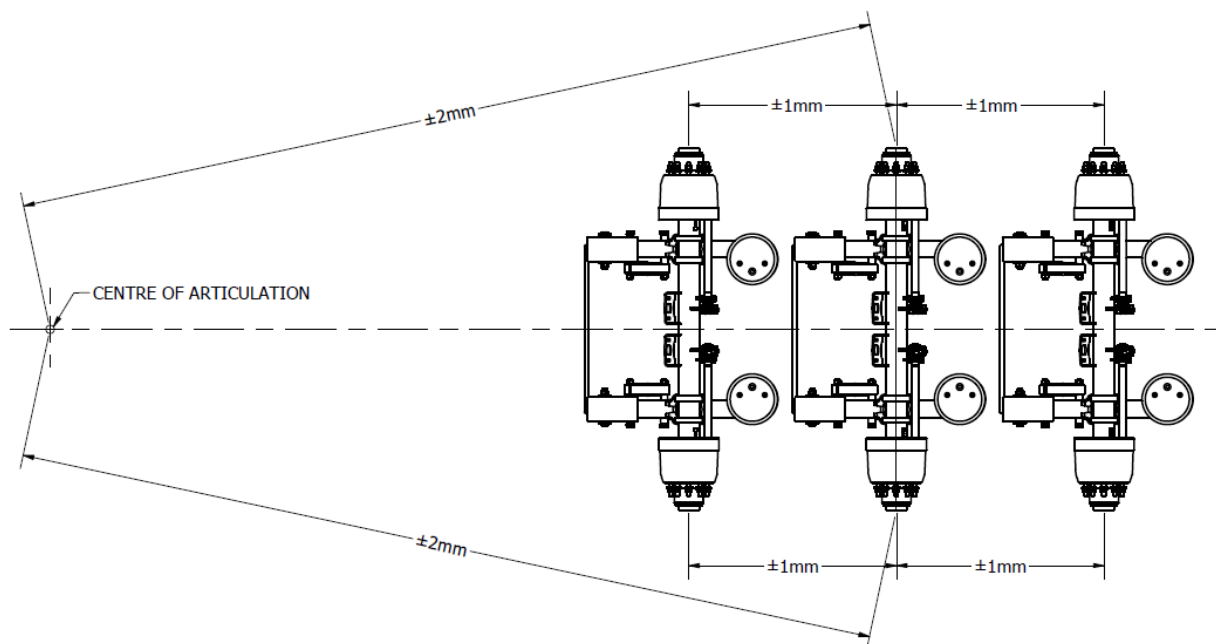


## 6.0 TQA Robust Air Suspension 360mm Ride Height

### 6.4 Axle Alignment

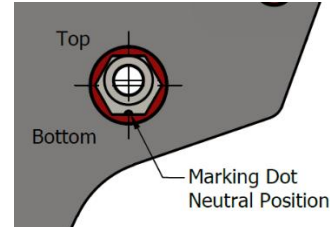
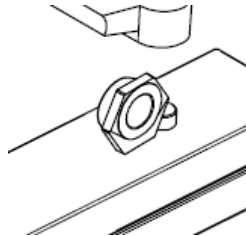
A trailer that is properly aligned will have improved drivability and fuel economy, and minimised tyre wear. The following steps are to assist in carrying out a proper wheel alignment on a Tri Axle trailer:

1. Park the trailer on smooth level ground;
2. Check all the tyres are of the same size and have equal air pressure in them. Adjust air pressure accordingly as required;
3. Check trailer suspension ride height against manufacturer's specification and adjust as required;
4. Release the trailer parking brakes;
5. Align the wheel as per diagram below, measuring from the trailer articulation point to the centre of each end of the middle axle, then moving on to the 1<sup>st</sup> axle and 3<sup>rd</sup> axle;



**6.0 TQA Robust Air Suspension 360mm Ride Height**

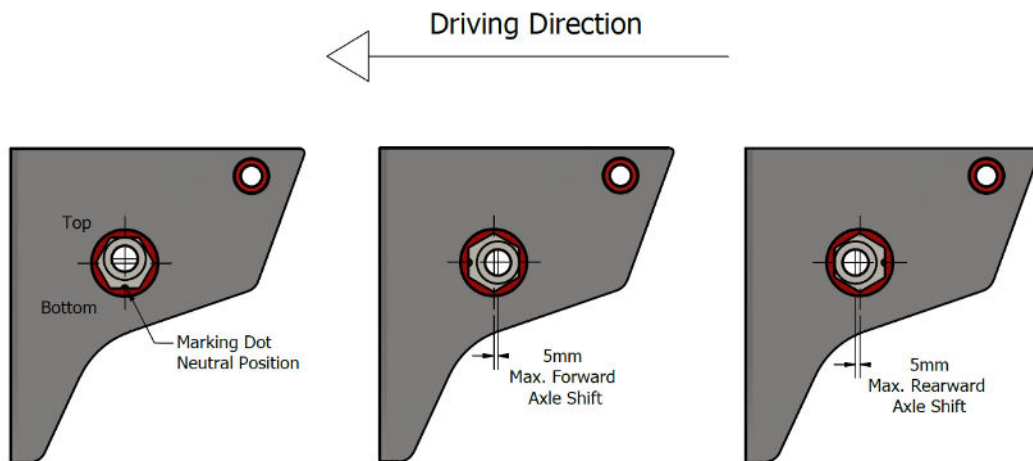
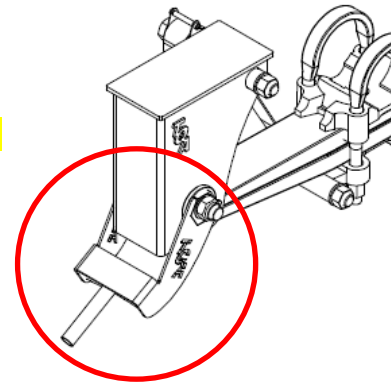
- To align the axles, loosen the spring eye bolt locknut and align all the eccentric washers marking to point to the ground. If the marking is not visible, align the eccentric washers as per photo & drawing below:



- Tighten the locknut to 200Nm
- Make adjustments via the eccentric washer until desired axle alignment is achieved.

**Please note both eccentric washers on the same hanger must be adjusted together at the same time and make sure they have the same angular position. Markings must be exactly opposite each other.**

Contact ABS Trailquip for more information on the special tool available to do the adjustment.  
P/N: TQA-TOOL003, Robust Suspension Spring Eye Alignment Bolt Spanner



- Tightened the spring eye bolt to 550-600Nm;

Whenever possible, carry out axle alignment with a wheel alignment laser or optical aligning device for accurate measurements.

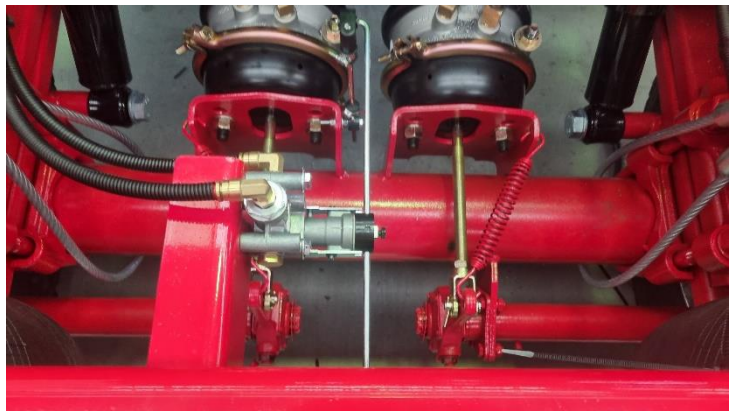
**IMPORTANT: The threaded connection of the spring eye bolt and seating surfaces must be free of grease or any lubricant. Failure to comply may cause the locknut to come loose.**



## 6.0 TQA Robust Air Suspension 360mm Ride Height

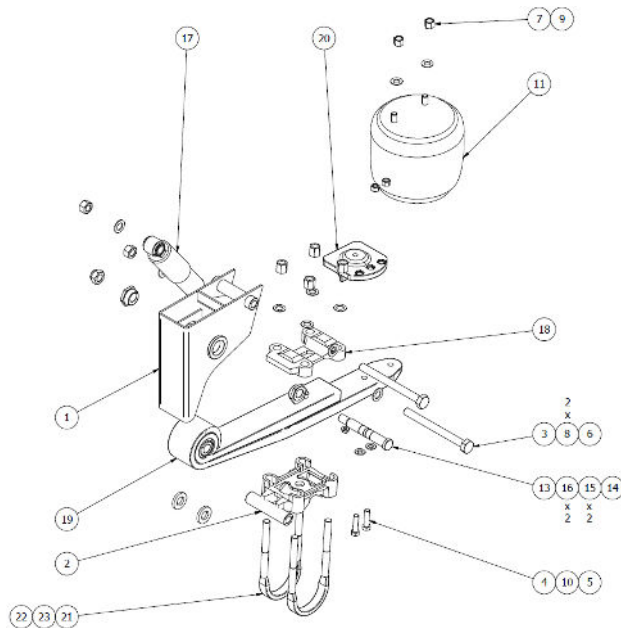
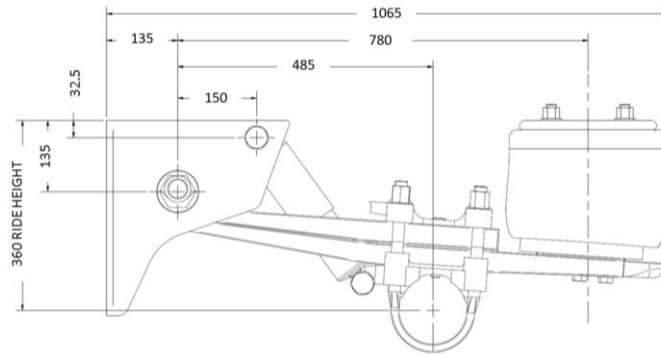
### 6.5 Axle Safety Catch Strap

Axle Safety Catch Straps help prevent the suspension from over extension, which can cause breakage to the shock absorber mounting componentry. The catch straps also assist in preventing the axle from rolling away during impact, or breakage of connection points, eg. axle saddle, pivot bolts. If the catch straps are missing from the dolly, please contact ABS Trailquip for more information on how to purchase them.



**6.0 TQA Robust Air Suspension 360mm Ride Height**

**6.6 Air Suspension Drawing**



**6.7 Torque Settings Table**

Description	ft-lbs	Nm
U-Bolt (M22x1.5)	445 - 480	600 - 650
Spring Eye Bolt (M27x1.5) <b>Spanner P/N: TQA-TOOL003</b>	410 - 445	550 - 600
Shock Absorber Bolt (M24x3)	295 - 310	400 - 420
Airbag Top Mounting Bolt (3/4-16UNF)	80 - 100	110 - 135
Airbag Bottom Mounting Casting (M16x2)	170 - 185	230 - 250
Airbag Bottom Mounting Bolt (1/2-13UNC)	30 - 40	40 - 50

















## 8.0 Drawings – Robust Air Suspension 360 Ride Height

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	FAB-SUSP-165D	Robust Dolly Hanger Weldment
2	1	FAB-SUSP-295	Robust Axle Saddle Weldment
3	2	FAST-0001	M24 x 270 Z/P Cl.8.8 Hex Bolt
4	2	FAST-0008	M16X60 Z/P Cl.10.9 Hex Bolt
5	2	FAST-0016	M16 Conelock Nut
6	2	FAST-0018	M24 Conelock Nut
7	2	FAST-0019	3/4" UNF ZP Nyloc Nut
8	4	FAST-0021	M24 Z/P High Tensile Washer
9	2	FAST-0023	3/4 ZP Round Washer
10	2	FAST-0026	M16 Z/P GR8 Flat Washer
11	1	TQA-AB17	Air Bag 1V8709
12	1	TQA-AB17-3	Flange Nut (Part of Air Bag)
13	1	TQA-PB006A-1	M27 Bolt (Part of TQA-PB006 Kit)
14	1	TQA-PB006A-2	M27 Conelock Nut (Part of TQA-PB006 Kit)
15	2	TQA-PB006-4	Inner Washer (Part of TQA-PB006 Kit)
16	2	TQA-PB006-5	Eccentric Washer (Part of TQA-PB006 Kit)
17	1	TQA-SA08	Shock Absorber Powerdown P684
18	1	TQA-SP5029	Saddle Spring Plate - Air Suspension
19	1	TQA-SPA07	Parabolic Spring Straight Type 500
20	1	TQA-SPA76	Air Bag Seat Casting
21	2	TQA-UB010-1	Forged U-Bolt 320mm (Part of TQA-UB010 Kit)
22	4	TQA-UB010-2	U-Bolt Nut (Part of TQA-UB010 Kit)
23	4	TQA-UB010-3	Washer (Part of TQA-UB010 Kit)

REV	DESCRIPTION OF CHANGE	DATE	INITIALS	APPROVED

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## 8.0 Drawings – Robust Air Suspension 360 Ride Height

PARTS LIST		DESCRIPTION	
1	FAB-SUSP-165D	Robust Dolly Hanger Weldment	
2	FAB-SUSP-295	Robust Axle Saddle Weldment	
3	FAST-0001	M24 x 270 Z/P Cl.8.8 Hex Bolt	
4	FAST-0008	M16X60 Z/P Cl10.9 Hex Bolt	
5	FAST-0016	M16 Conelock Nut	
6	FAST-0018	M24 Conelock Nut	
7	FAST-0019	3/4" UNF ZP Nyloc Nut	
8	FAST-0021	M24 Z/P High Tensile Washer	
9	FAST-0023	3/4 ZP Round Washer	
10	FAST-0026	M16 Z/P GR8 Flat Washer	
11	TQA-AB17	Air Bag 1V8709	
12	TQA-AB17-3	Flange Nut (Part of Air Bag)	
13	TQA-PB006-1	M25 Bolt (Part of TQA-PB006 Kit)	
14	TQA-PB006-2	M25 Conelock Nut (Part of TQA-PB006 Kit)	
15	TQA-PB006-4	Inner Washer (Part of TQA-PB006 Kit)	
16	TQA-PB006-5	Eccentric Washer (Part of TQA-PB006 Kit)	
17	TQA-SA08	Shock Absorber Powerdown P684	
18	TQA-SP5029	Saddle Spring Plate - Air Suspension	
19	TQA-SPA07	Parabolic Spring Straight Type 500	
20	TQA-SPA76	Air Bag Seat Casting	
21	TQA-UB010-1	Forged U-Bolt 320mm (Part of TQA-UB010 Kit)	
22	TQA-UB010-2	U-Bolt Nut (Part of TQA-UB010 Kit)	
23	TQA-UB010-3	Washer (Part of TQA-UB010 Kit)	

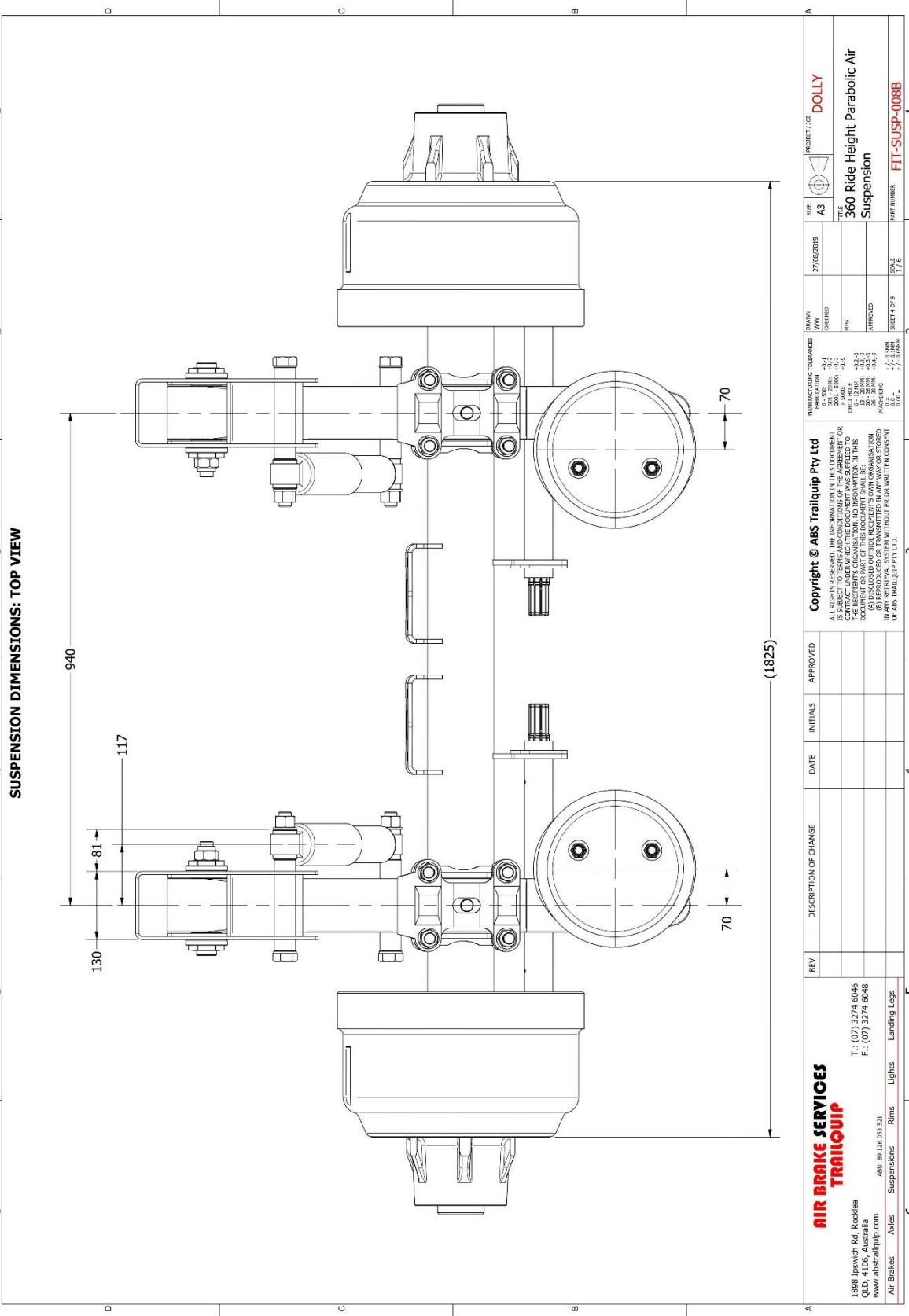
  
  

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**8.0 Drawings – Robust Air Suspension 360 Ride Height**

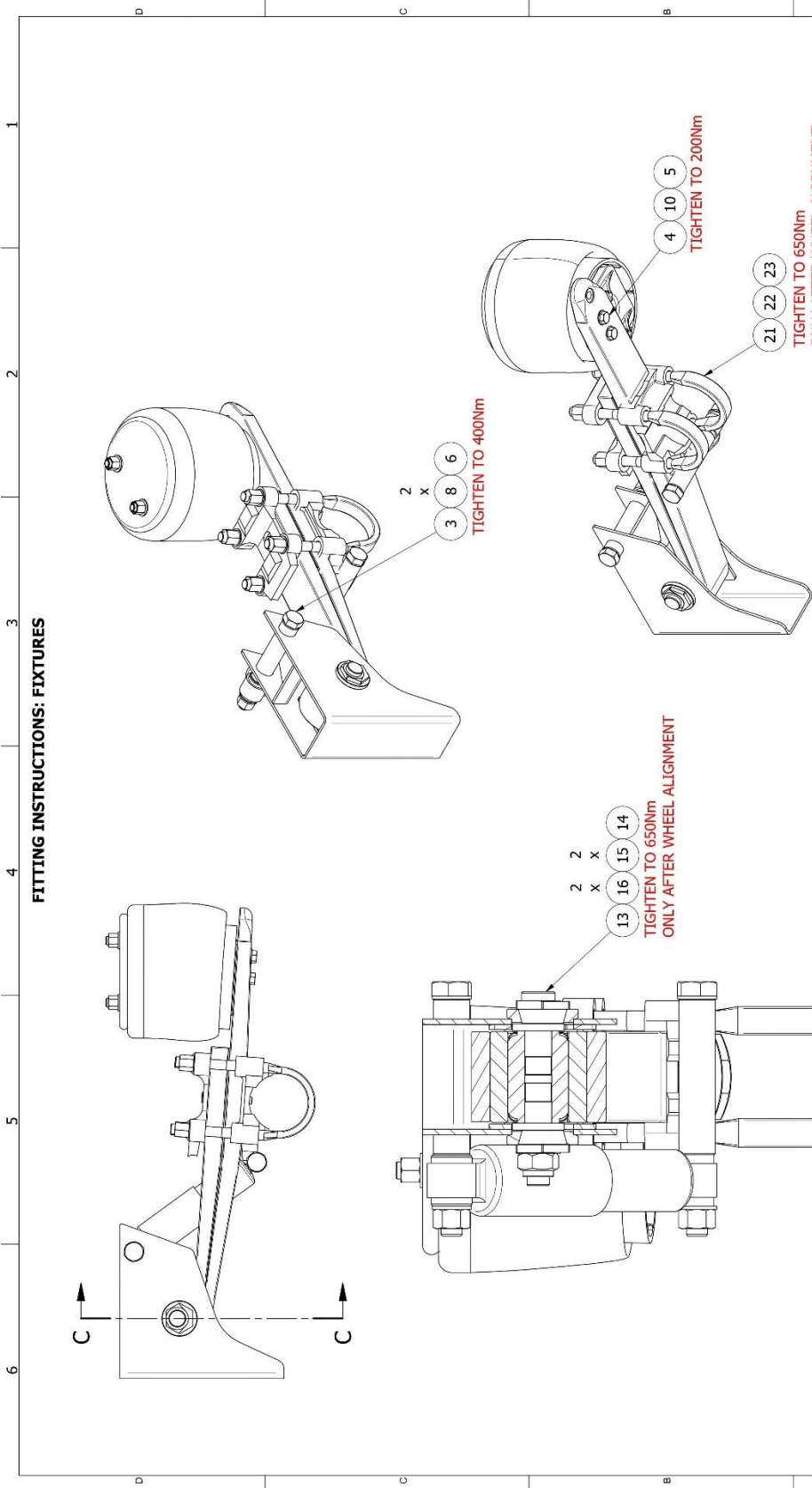


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## 8.0 Drawings – Robust Air Suspension 360 Ride Height



SECTION C-C  
SCALE 1 / 4

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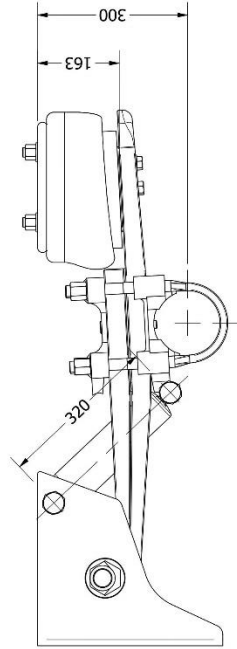
SIZE: A3  
PROJECT FOR: DOLLY  
TITLE: Robust Suspension 360RH Overlung  
PART NUMBER: FIT-SUS-008B-LH

NOTE: TORQUE SETTINGS MUST BE CHECKED AFTER FIRST 1000km AND EVERY 5000km THEREAFTER

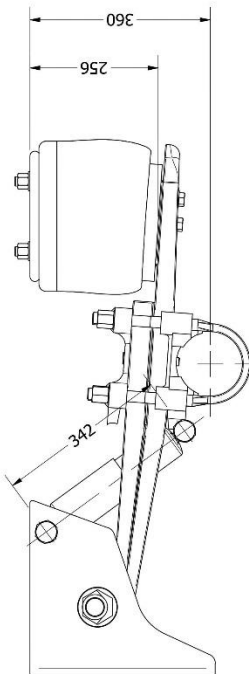
## 8.0 Drawings – Robust Air Suspension 360 Ride Height

FITTING INSTRUCTIONS: SHOCK & AIR BAG TRAVEL CHECKS

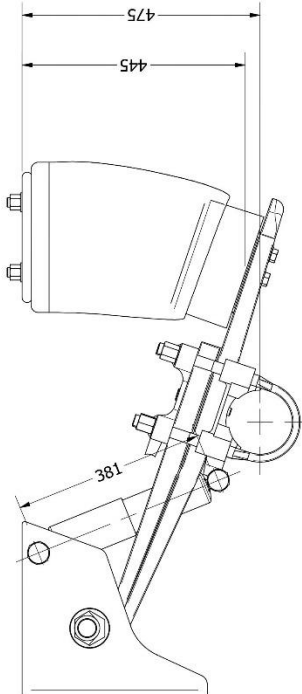
SUSPENSION TOPPED OUT



SUSPENSION AT RIDE HEIGHT



SUSPENSION AT MAXIMUM TRAVEL



JOUNCE: 360 - 300 = 60mm  
REBOUND: 445 - 360 = 85mm

RIDE AIR BAG: 1V8709 (TRAVEL: 153 - 492)  
SHOCK ABSORBER: POWER DOWN P684 (TRAVEL: 297 - 436)

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## 8.0 Drawings – Robust Air Suspension 360 Ride Height

REV	DESCRIPTION OF CHANGE	DATE	INITIALS	APPROVED	DRAWN BY	CHECKED BY	DATE	SIZE	PROJECT / JOB
1					WHS			A3	DOLLY
2					WHS				Tri Axle Dolly
3									
4									
5									
6									

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MANUFACTURING TOLERANCES  
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APPROVED: \_\_\_\_\_  
 DATE: 17/15  
 SHEET 8 OF 9  
 PART NUMBER: FIT-DOL-040A





## 9.0 Drawings – Tandem Dolly Brake Systems

### 9.1 Standard Tandem B/D-R/T Semi, No ABS, No EBS

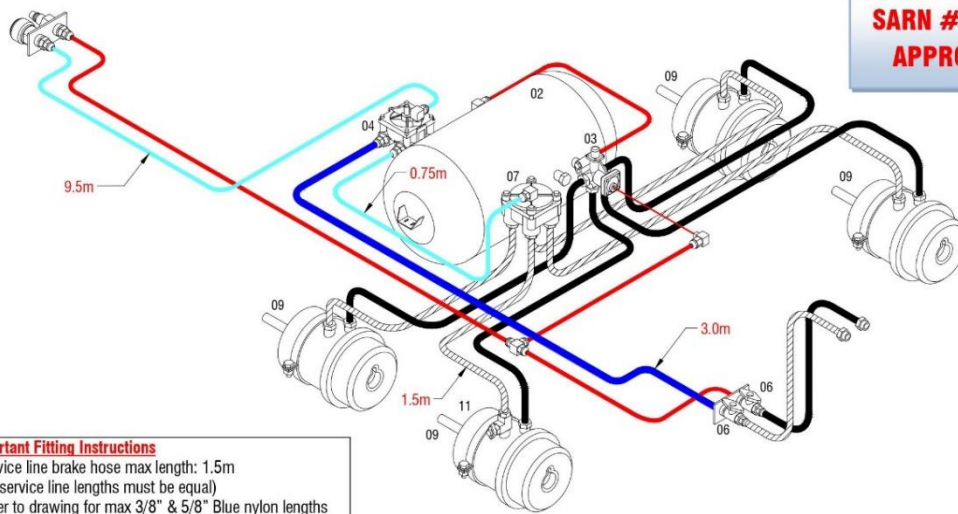
## AIR BRAKE SERVICES TRAILQUIP



**SBX114**

**TANDEM AXLE B/D - R/T SEMI**

**SARN #26489  
APPROVAL**



**Important Fitting Instructions**

- Service line brake hose max length: 1.5m (All service line lengths must be equal)
- Refer to drawing for max 3/8" & 5/8" Blue nylon lengths
- No restrictions on all Maxi supply rubber hose & 3/8" Red nylon

	1/2" Maxi supply rubber hose
	1/2" Service brake rubber hose
	3/8" Red nylon pipe
	3/8" Blue nylon pipe
	5/8" Blue nylon pipe

**BRAKETEC  
AUSTRALIA**

**BILL OF MATERIALS FOR KIT SBX114**

No.	PART NO.	DESCRIPTION	QTY	No.	PART NO.	DESCRIPTION	QTY
02	Jumbo	60LT RESERVOIR	1	73325-12-8S	3/4" x 1/2" NIPPLE STEEL	2	
03	AA3802	SR38 SPRING BRAKE CONTROL	1	73220-12-6	3/4" x 3/8" REDUCING BUSH	1	
04	AA065476	R12P PILOT RELAY VALVE	1	125-8-6	1/2" x 3/8" HOSE BARB MALE	12	
06	23-FMT08	1/2" MALE x FEMALE BALL VALVE	2	125-8-8	1/2" x 1/2" HOSE BARB MALE	4	
07	AA102626	R12 RELAY VALVE	1	12250	1/2" RUBBER HOSE	10	
	968-6PXDOT	3/8" x 1/4" MALE CONNECTOR	1	6-500BU	3/8" BLUE NYLON	10	
	968-6-6PXDOT	3/8" x 3/8" MALE CONNECTOR	1	6-500RD	3/8" RED NYLON	10	
	968-6-8PXDOT	3/8" x 1/2" MALE CONNECTOR	3	10-250BU	5/8" BLUE NYLON	5	
	968-10PXDOT	5/8" x 1/2" MALE CONNECTOR P/IN	1	41-022	HOSE CLAMPS	16	
	968-10-6PXDOT	5/8" x 3/8" MALE CONNECTOR	1	145	1/4" AIR TANK DRAIN COCK	1	
	964-6PXDOT	3/8" UNION TEE P/IN	1	11	PWM2076	3/8" TEST POINT	1
	969-6PXDOT	3/8" x 1/4" BSP MALE ELBOW	3	33-A420	1/2" MOUNTING BRACKET	2	
	969-6-6PXDOT	3/8" x 3/8" MALE ELBOW	1	CA93-20	1/2" MALE ADAPTER	2	
	73750-6	3/8" STREET TEE	1	CA93-85	1/2" MALE COUPLING	2	
	73152-6	3/8" PLUG	2	220TMP	MOUNTING TANK PAD	2	
	73152-8	1/2" PLUG	3	09	SB30/30	SPRING BRAKES	4

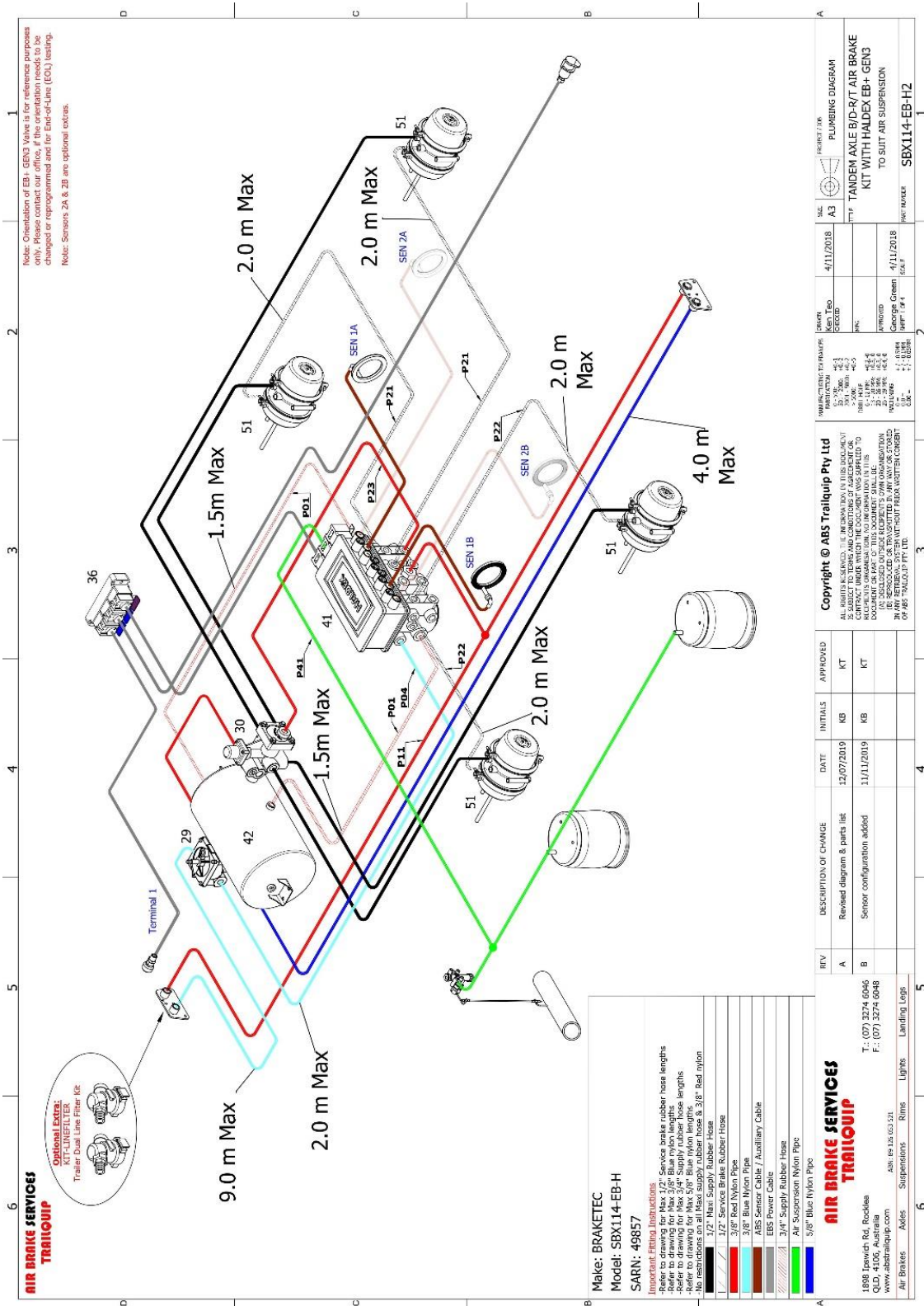
**NOTE:** ANY DEVIATION FROM THIS DRAWING OR KIT CONTENTS AS SUPPLIED MAY INVALIDATE ADR COMPLIANCE. RELATIVE POSITION OF VALVE/S & TANK/S ON DRAWING IS FOR GUIDANCE ONLY. VALVES MUST BE POSITIONED TO KEEP AIR LINE LENGTHS WITHIN LIMITS INDICATED.





## 9.0 Drawings – Tandem Dolly Brake Systems

### 9.3 Tandem B/D-R/T Semi with Haldex EB+ GEN3



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## 9.0 Drawings – Tandem Dolly Brake Systems

### 9.4 Tandem B/D-R/T Semi with Haldex EB+ GEN3

SI.No.	Part #	Description	QTY
1	10-250BU	Nylon Blue 5/8"	4
2	12250	Air Brake Rubber Hose 1/2"	10
3	125-12-12	Hose Barb 3/4" x 3/4"	2
4	125-12-8	Hose Barb 3/4" x 1/2"	2
5	125-8-6	Hose Barb 1/2" x 3/8" NPT	12
6	125-8-M16	Hose Barb 1/2" x M16x1.5	4
7	145	Drain Valve 1/4"	1
8	220TMP	Tank Mounting Pad	2
9	23-FMT08	Ball Valve 1/2" MkF	2
10	33-A420	Manifold Mounting Plate 1/2"	2
11	34050	Air Brake Rubber Hose 3/4" ID	3
12	41-022	Hose Clamps S/Steel	16
13	41-SCW1-031	Hose Clamp 3/4"	4
14	6-500BU	Nylon Blue 3/8"	10
15	6-500RD	Nylon Red 3/8"	10
16	73152-6	3/8" Pipe Plug	2
17	73152-8	1/2" Pipe Plug	2
18	73325-12-85	3/4" x 1/2" Nipple Steel	1
19	73400-8	1/2 Street Elbow 90 Degree	2
20	73750-6	3/8" Pipe Street Tee Brass	1
21	964-6PXDOT	3/8" Union Tee Push In	1
22	968-10PXDOT	5/8" x 3/8" Male Connector P/In	1
23	968-10PXDOT	5/8" x 1/2" Male Connector P/In	1
24	968-6-6PXDOT	3/8" x 3/8" Male Connector P/In	1
25	968-6-8PXDOT	3/8" x 1/2" Male Connector P/In	3
26	968-6PXDOT	3/8" x 1/4 Male Connector P/In	1
27	969-6-8PXDOTS	3/8" x 1/2" Male Elbow 90 Deg sw	1
28	969-6PXDOTS	3/8" x 1/4" BSP Male Elbow sw	2
29	AA065476	R-12P Pilot Relay Valve	1
30	AA3802	Spring Brake Control Valve - SR38	1
31	CA93-20	1/2" Male Adaptor non sealing	2
32	CA93-85	1/2" Male Coupling non sealing	2
33	EBS006700045M	Haldex EB+ GEN3 Label	1
34	EBS028042409	Haldex Load Plate Data Label For EB+ & EPV	1
35	EBS028526209	Haldex EBS / ABS Info Label	1
36	EBS364609001	Haldex EBS Cable Junction Box For R/T	1
36A	TBA	EBS CAN Router	1
37	EBS814003112	Haldex 24V ISO Power Cable For Semi Trailer 16mtr	1
38	EBS814003152	Haldex 24V ISO Power Cable For Semi Trailer 6mtr	1
39	EBS814004401	Haldex Wheel Speed Sensor Extension Cable 3mtr	2
40	EBS814042031	Haldex 24V ISO Power Cable Blue/Blue For R/T	1
41	EBS823034001	Haldex EB+ GEN3 Master Assembly	1
42	Jumbo	Large Trailer Air Tank 60lt	1
43	MF12P	Plug - M12	1
44	MF12S	Washer - 12mm	1
45	MF16P	Plug - M16	7
46	MF16S	Washer - M16	7
47	MF22-12R	Adaptor 22-1/2"	2
48	MF22S	Washer - M22	2
49	MFQ69DOTS6116M	3/8" x 16mm Elbow	4
50	PWM2076	Test Point 3/8"	1
51	SB30/30SB	30/30 Spring Brake Seal Back	4

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REVISIONS

REV	DESCRIPTION OF CHANGE	DATE	INITIALS	APPROVED
A	Revised diagram & parts list	12/07/2019	KB	KT
B	Senior configuration added	11/11/2019	KB	KT

MANUFACTURE INFORMATION

ITEM	ITEM NO	DATE	REV
MANUFACTURE	Ken Teo	4/11/2018	A3
DESIGN	Ken Teo	4/11/2018	A3
APPROVED	George Green	4/11/2018	
DATE	4/11/2018		

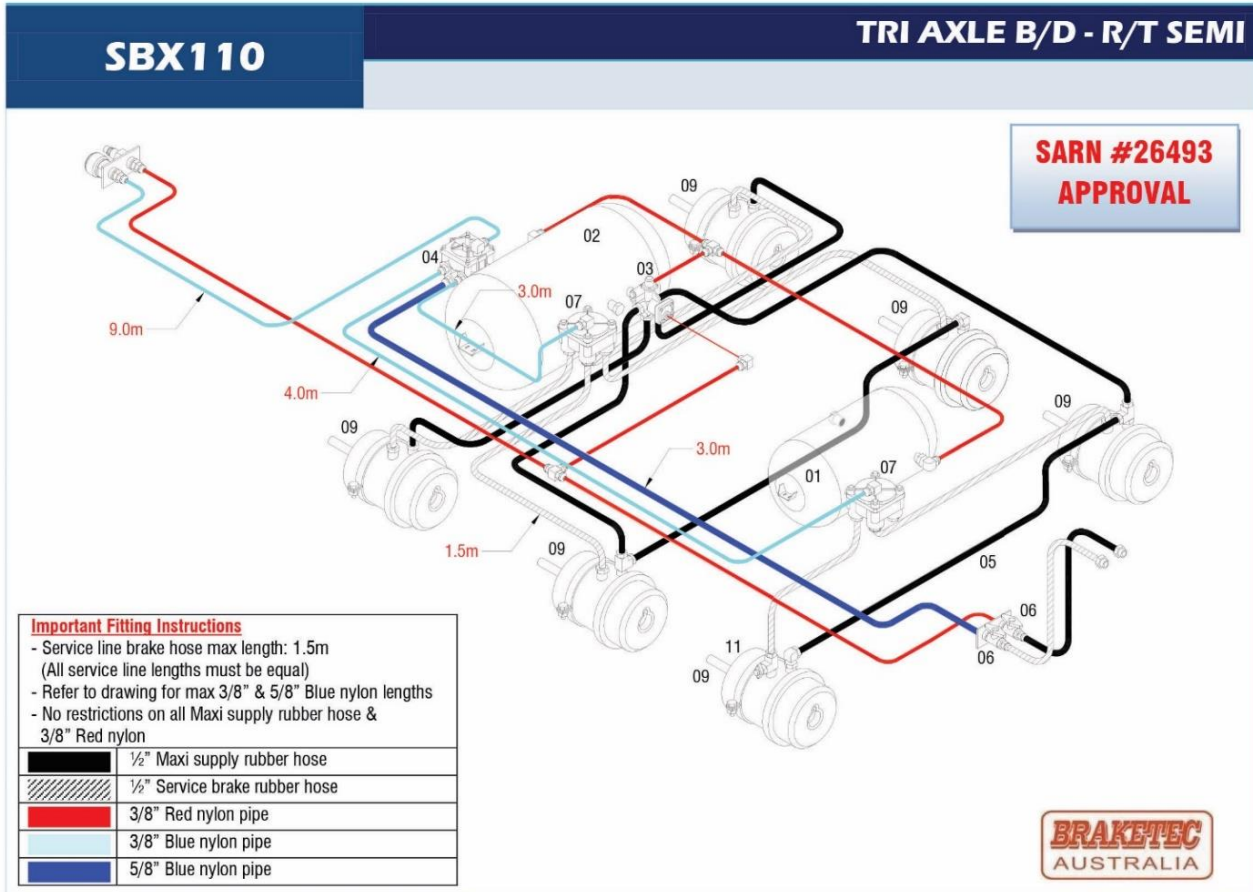
USE: PLUMBING DIAGRAM  
KIT WITH HALDEX EB+ GEN3 TO SUIT AIR SUSPENSION  
PART NUMBER: SBX114-EB-H2





## 10.0 Drawings – Triaxle Dolly Brake Systems

### 10.1 Standard Tri Axle B/D-R/T Semi, No ABS, No EBS



#### BILL OF MATERIALS FOR KIT SBX110

No.	PART NO.	DESCRIPTION	QTY	No.	PART NO.	DESCRIPTION	QTY
01	RES25LT	25LT RESERVOIR	1		73152-12	3/4" PLUG	1
02	Jumbo	60LT RESERVOIR	1		73325-12-8S	3/4" x 1/2" NIPPLE STEEL	3
03	AA3802	SR38 SPRING BRAKE CONTROL	1		73220-12-6	3/4" x 3/8" REDUCING BUSH	2
04	AA065476	R12P PILOT RELAY VALVE	1		125-8-6	1/2" x 3/8" HOSE BARB MALE	18
06	23-FMT08	1/2" MALE x FEMALE BALL VALVE	2		125-8-8	1/2" x 1/2" HOSE BARB MALE	6
07	AA102626	R12 RELAY VALVE	2		12250	1/2" RUBBER HOSE	15
	968-6PXDOT	3/8" x 1/4" MALE CONNECTOR	1		6-500BU	3/8" BLUE NYLON	15
	968-6-6PXDOT	3/8" x 3/8" MALE CONNECTOR	1		6-500RD	3/8" RED NYLON	15
	968-6-8PXDOT	3/8" x 1/2" MALE CONNECTOR	3		10-250BU	5/8" BLUE NYLON	5
	968-10-6PXDOT	5/8" x 3/8" MALE CONNECTOR P/IN	1		41-022	HOSE CLAMPS	24
	968-10PXDOT	5/8" x 1/2" MALE CONNECTOR P/IN	1		145	1/4" AIR TANK DRAIN COCK	2
	964-6PXDOT	3/8" UNION TEE P/IN	2	11	PWM2076	3/8" TEST POINT	1
	969-6PXDOT	3/8" x 1/4" BSP MALE ELBOW	4		33-A420	1/2" MOUNTING BRACKET	2
	969-6-6PXDOT	3/8" x 3/8" MALE ELBOW	3		CA93-20	1/2" MALE ADAPTER	2
	73152-6	3/8" PLUG	1		CA93-85	1/2" MALE COUPLING	2
	73750-6	3/8" STREET TEE	3		220TMP	MOUNTING TANK PAD	4
	73152-8	1/2" PLUG	7	09	SB30/30	SPRING BRAKES	6

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## 10.0 Drawings – Triaxle Dolly Brake Systems

### 10.4 Tri Axle B/D-R/T Semi with Haldex EB+ GEN3

SI.No:	Part #	Description	QTY
1	10-250BU	Nylon Blue 5/8"	4
2	12250	Air Brake Rubber Hose 1/2"	15
3	125-12-12	Hose Barb 3/4" x 3/4"	2
4	125-12-8	Hose Barb 3/4" x 1/2"	2
5	125-8-6	Hose Barb 1/2" x 3/8" NPT	18
6	125-8-M16	Hose Barb 1/2" x M16x1.5	6
7	145	Drain Valve 1/4"	2
8	220TMP	Tank Mounting Pad	4
9	23-FMT08	Ball Valve 1/2" Mx F	2
10	33-A420	Manifold Mounting Plate 1/2"	2
11	34050	Air Brake Rubber Hose 3/4" ID	3
12	41-022	Hose Clamps 5/Steel	24
13	41-SCW1-031	Hose Clamp 3/4"	4
14	6-500BU	Nylon Blue 3/8"	15
15	6-500RD	Nylon Red 3/8"	15
16	73152-12	3/4" Pipe Plug	1
17	73152-6	3/8" Pipe Plug	1
18	73152-8	1/2" Pipe Plug	5
19	73220-12-6	3/4" x 3/8" Reducer	2
20	73225-12-8S	3/4" x 1/2" Nipple Steel	1
21	73400-8	1/2 Street Elbow 90 Degree	2
22	73750-6	3/8" Pipe Street Tee Brass	3
23	964-6PXDOT	3/8" Union Tee Push In	2
24	968-10-6PXDOT	5/8" x 3/8" Male Connector P/in	1
25	968-10PXDOT	5/8" x 1/2" Male Connector P/in	1
26	968-6-6PXDOT	3/8" x 3/8" Male Connector P/in	1
27	968-6-8PXDOT	3/8" x 1/2" Male Connector P/in	3

SI.No:	Part #	Description	QTY
28	968-6PXDOT	3/8" x 1/4 Male Connector P/in	1
29	969-6-6PXDOTS	3/8 x 3/8 Male Elbow 90 Deg sw	3
30	969-6PXDOTS	3/8 x 1/4 NPT Male Elbow sw	2
31	AA065476	R-12P Pilot Relay Valve	1
32	AA3802	Spring Brake Control Valve - SR38	1
33	CA93-20	1/2 Male Adaptor non sealing	2
34	CA93-85	1/2 Male Coupling non sealing	2
35	EBS006700045M	Haldex EB+ GEN3 label	1
36	EBS028042409	Haldex Load Plate Data Label For EB+ & EPV	1
37	EBS028526209	Haldex EBS / ABS Info Label	1
38	EBS364609001	Haldex EBS Cable Junction Box For R/T	1
38A	TBA	EBS CAN Router	1
39	EBS814003112	Haldex 24V ISO Power Cable For Semi Trailer 16mtr	1
40	EBS814003152	Haldex 24V ISO Power Cable For Semi Trailer 6mtr	1
41	EBS814004401	Haldex Wheel Speed Sensor Extension Cable 3mtr	4
42	EBS814042031	Haldex 24V ISO Power Cable Blue/Blue For R/T	1
43	EBS823034001	Haldex EB+ GEN3 Master Assembly	1
44	Jumbo	Air Tank 50lt	1
45	MF12P	Plug - M12	1
46	MF12S	Washer - 12mm	1
47	MF16P	Plug - M16	5
48	MF16S	Washer - M16	5
49	MF22-12R	Adaptor 22-1/2	2
50	MF22S	Washer - M22	2
51	MFQ69DOTS616M	3/8 x 16mm Elbow	4
52	PWM2076	Test Point 3/8	1
53	RES25LT	Air Tank 25lt	1
54	SB30/305B	30/30 Spring Brake Seal Back	6

**AIR BRAKE SERVICES  
TRAILQUIP**

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REV: A  
DESCRIPTION OF CHANGE: Revised diagram & parts list

DATE: 12/07/2019

INITIALS: KB

APPROVED: KT

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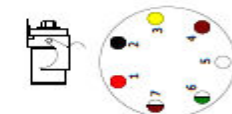
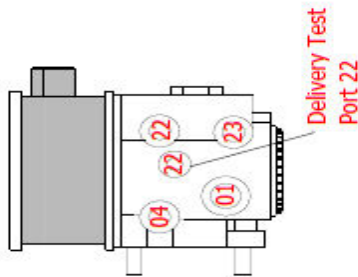
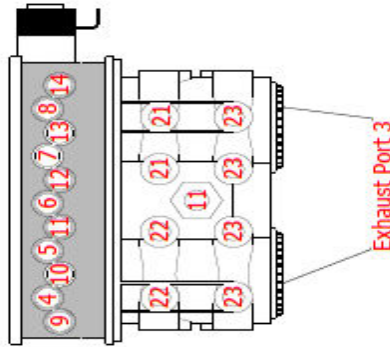
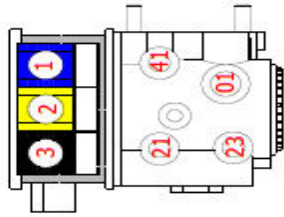
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## 10.0 Drawings – Triaxle Dolly Brake Systems

### 10.5 Tri Axle B/D-R/T Semi with Haldex EB+ GEN3



PIN 1 = POWER (RED)  
 PIN 2 = IGNITION (BLACK)  
 PIN 3 = ECU GROUND (YELLOW)  
 PIN 4 = GROUND (BROWN)  
 PIN 5 = FAULT LAMP (WHITE)  
 PIN 6 = CAN HIGH (WHITE WITH GREEN TRACE)  
 PIN 7 = CAN LOW (WHITE WITH BROWN TRACE)

View from the back of the plug and socket where the pins are inserted.



**Port Identification and Sizes**

01	Reservoir Port	M22 x 1.5mm
03	Exhaust Port	M16 x 1.5mm
04	Control Port	M16 x 1.5mm
11	Anti-Compounding Port	M16 x 1.5mm
21,22	Delivery Ports	M16 x 1.5mm
22	Test Port	M12 x 1.5mm
23	Spring Brake Port	M16 x 1.5mm
41	Air Suspension Port	M16 x 1.5mm

**ECU Connections - 3M**

Terminal 1	Power Supply - ISO7638
Terminal 2	3M Line Cable
Terminal 3	ISO1209250108 (CAN)
Terminal 4	AUX 1
Terminal 5	AUX 2
Terminal 6	AUX 3
Terminal 7	AUX 4
Terminal 8	AUX 5
Terminal 9	Sensor S2B
Terminal 10	Sensor S1B
Terminal 11	DIAGN
Terminal 12	DIAGN
Terminal 13	Sensor S1A
Terminal 14	Sensor S2A

Note: Orientation of EB+ GEN3 Valve is for reference purposes only. Please contact our office. If the orientation needs to be changed or reprogrammed and for End-of-Line (EOL) testing.

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APPROVED: [Signature] INITIALS: KB DATE: 12/07/2019

REV: A DESCRIPTION OF CHANGE: Revised diagram & parts list

MANUFACTURING TOLERANCES:  
 FRACTIONAL DECIMALS  
 F - 1/32 0.03125  
 1/16 0.0625  
 1/8 0.125  
 3/16 0.1875  
 1/4 0.25  
 5/16 0.3125  
 3/8 0.375  
 7/16 0.4375  
 1/2 0.5  
 9/16 0.5625  
 5/8 0.625  
 11/16 0.6875  
 3/4 0.75  
 7/8 0.875  
 1 1.0  
 1 1/8 1.125  
 1 1/4 1.25  
 1 3/8 1.375  
 1 1/2 1.5  
 1 5/8 1.625  
 1 3/4 1.75  
 1 7/8 1.875  
 2 2.0

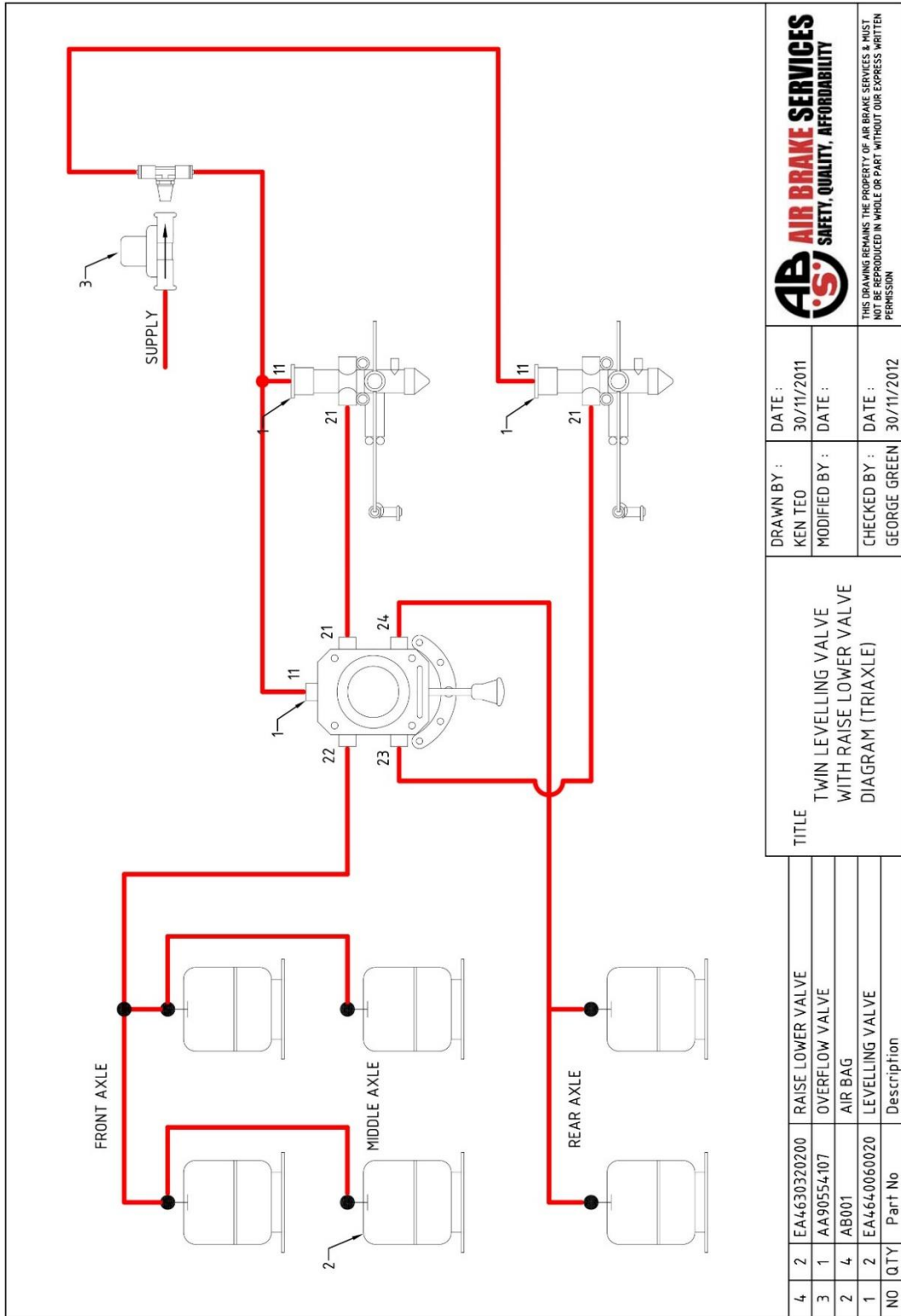
REVISIONS:  
 NO. DATE BY  
 1 18/07/2017 AJ  
 2 18/07/2017 GCH

PROJECT / JOB: PLUMBING DIAGRAM  
 TO: TRI AXLE B/D-R/T AIR BRAKE KIT WITH HALDEX EB+ GEN3  
 FROM: TO SUIT AIR SUSPENSION  
 PART NUMBER: 59X110-EB-H2



## 11.0 Drawings – Pneumatic Air Systems on Dolly

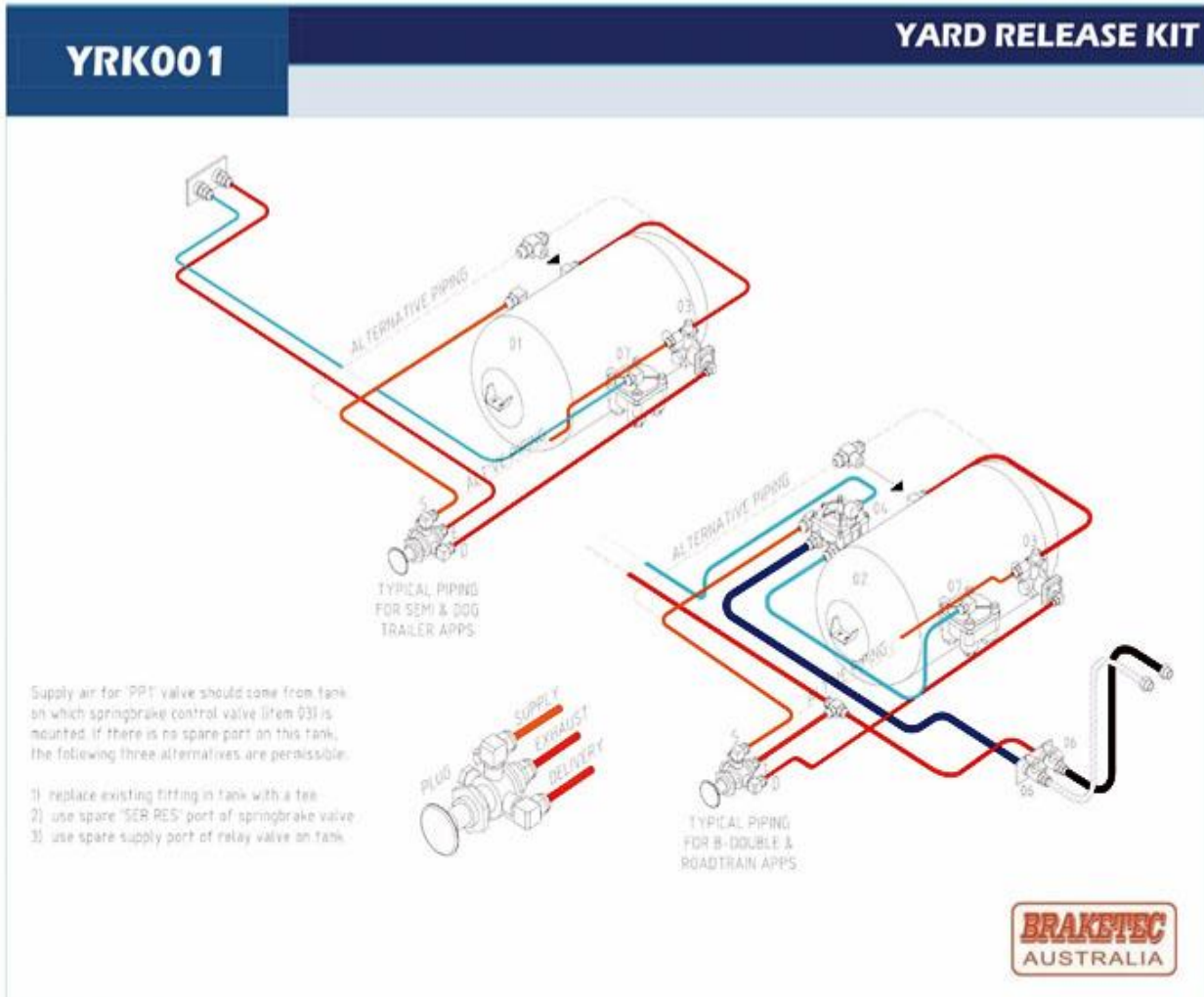
### 11.1 Air Suspension with Raise and Lower System



Sales office 1898 Ipswich Rd, Rocklea QLD | sales@abstrailquip.com | 07 3274 6046 | abstrailquip.com | FB: @abstrailquip

## 11.0 Drawings – Pneumatic Air Systems on Dolly

### 11.2 Yard Release System



#### DASH VALVE – PP1 STYLE



Part Number	Description	Price List
AA274171	WITH BUTTON	

**12.0 V'Orlandi Bolt-On Tow Eye Manual**

2 - controllo delle usure / Contrôle des usures / Kontrolle tragen / wear check / Seguimiento del desgaste  
 ПЕРИОДИЧЕСКИЙ КОНТРОЛЬ / kontrola zużycia / kontroll slitage / ارتداء السيطرة

ISO TS 20825

Ø int (mm)	Ø max (mm)	A min (mm)
40	41.5	28
45	46.5	67
50	51.5	41.5
57.5	59.5	19
70	71.5	74

ISO TS 20825

Type	Ø min (mm)
45T	32
68T	37
76T	37

Sostituzione bussola - Bush replacement

400°C

Nm	kgm
Km 3000	km 15000
Km 60000	km 75000
km 30000	km 90000
km 45000	km .....

Cod.	Nm
OC40R02	500-1000
OC45R01	480-550
OC45R02	410-480
OC45R03	410-480
OC45R04	410-480
OC45R07	500-1000
OC45T01	410-480
OC50R01	410-480
OC50R02	480-550
OC50R03	410-480
OC50R04	410-480
OC50R05	410-480
OC50R09	500-1000
<b>OC50R10</b>	<b>500-1000</b>
OC68R05	500-800
OC68R10	500-1000
OC68R20	500-1000
OC68R30	500-1000
OC76R10	500-1000

7/8

Contact ABS Trailquip for more information on the socket available to do tighten the nut.

**P/N: TQA-TOOL001, Tool - Socket 2-3/4" Suit Dolly Tow Eye Nut**



**13.0 V'Orlandi Fifth Wheel RP10 Greaseless Manual**



**RP10**

- (IT) Istruzioni di montaggio e uso
- (DE) Einbau und Bedienungsanleitung
- (FR) Instructions de montage et d'utilisation
- (GB) Installation and operating instructions
- (ES) Instrucciones de montaje y uso
- (RU) Руководство по установке и эксплуатации
- (PL) Instrukcja montażu i eksploatacji
- (SE) Monterings- och bruksanvisningar
- (SA) لطريقة تعليم التركيب والاستعمال



Serrare con chiave dinamometrica  
Anziehen mit einem Drehmomentschlüssel  
Serrage avec clé dynamométrique  
tightened with torque wrench  
Apriete con llave dinamométrica  
Затяжка с помощью динамометрического ключа  
Åttridning med momentnyckel  
Przykręcanie przy pomocy klucza dynamometrycznego  
حركى مقاح مع قفل



Implica attenzione e cautela.  
Achtung und Vorsicht.  
Implique attention et précaution.  
Attention and caution.  
Implica la atención y la precaución  
Требує внимания і остражності  
Postępować z uwagą i ostrożnością  
Kräver uppmärksamhet och försiktighet  
الاحترام والحذر



Possibilità di schiacciamento degli arti.  
Gefahr einer Gliedmaßenverletzung.  
Risque d'écraser les membres.  
Risk of a limb injury  
Posibilidad de aplastamiento de los miembros  
Опасность повреждения суставов  
Niebezpieczeństwo uszkodzenia stawów  
Risk för klämning av armar eller ben  
الاطراف سحق امكانية



Controllo visivo  
Sichtprüfung  
Contrôle visuel  
Visual check  
control visual  
Визуальный контроль  
Kontrola wizualna  
Synkontroll  
المجردة بلعين الكشف



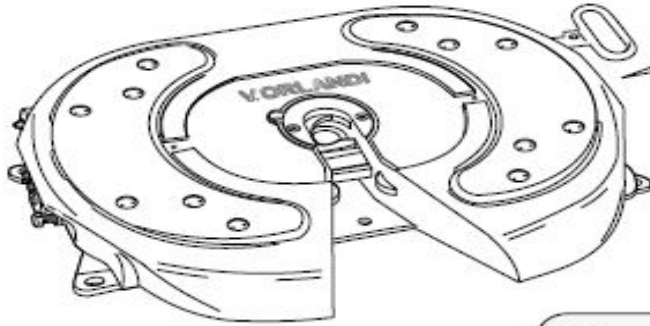
Lubrificare  
Schmieren  
Lubrifier  
Lubricate  
para lubricar  
Смазка  
Smarowanie  
Smörja  
التزيت



Controllo dimensionale  
Dimensional Control  
Contrôle dimensionnel  
Dimensional check  
Control dimensional  
Контроль соответствия размеров  
Kontrola prawidłowych wymiarów  
Dimensionskontroll  
دالسيطرة الأبعاد

**13.0 V'Orlandi Fifth Wheel RP10 Greaseless Manual**

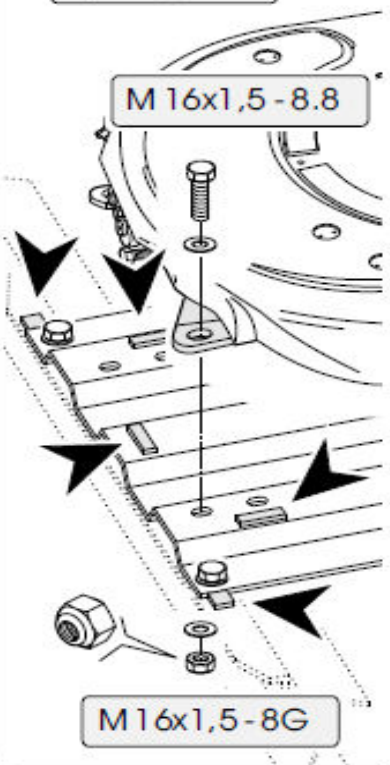
1 - Montaggio / Einbau / Montage / Installation/ Montaje / MOHTAJK / Montaz / Montering / تصاعد



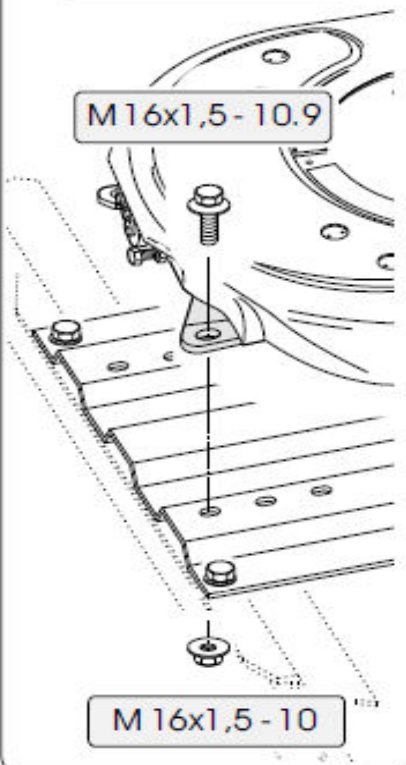
**V.ORLANDI** SpA. BRESCIA ITALY  
 FIFTH WHEEL RP10 -   
 650-X D = 152 MM U = 20 t  
 e11   
 00 - 4649 XX YYYYYY MADE IN ITALY



➤ 200 Nm

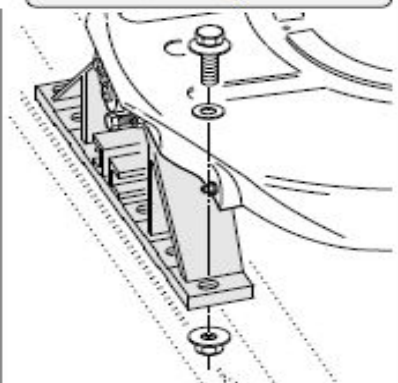


➤ 270-300 Nm

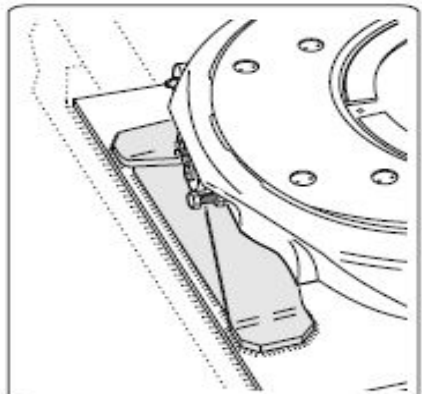


➤ 270-300 Nm

M 16x1,5-6g DIN692



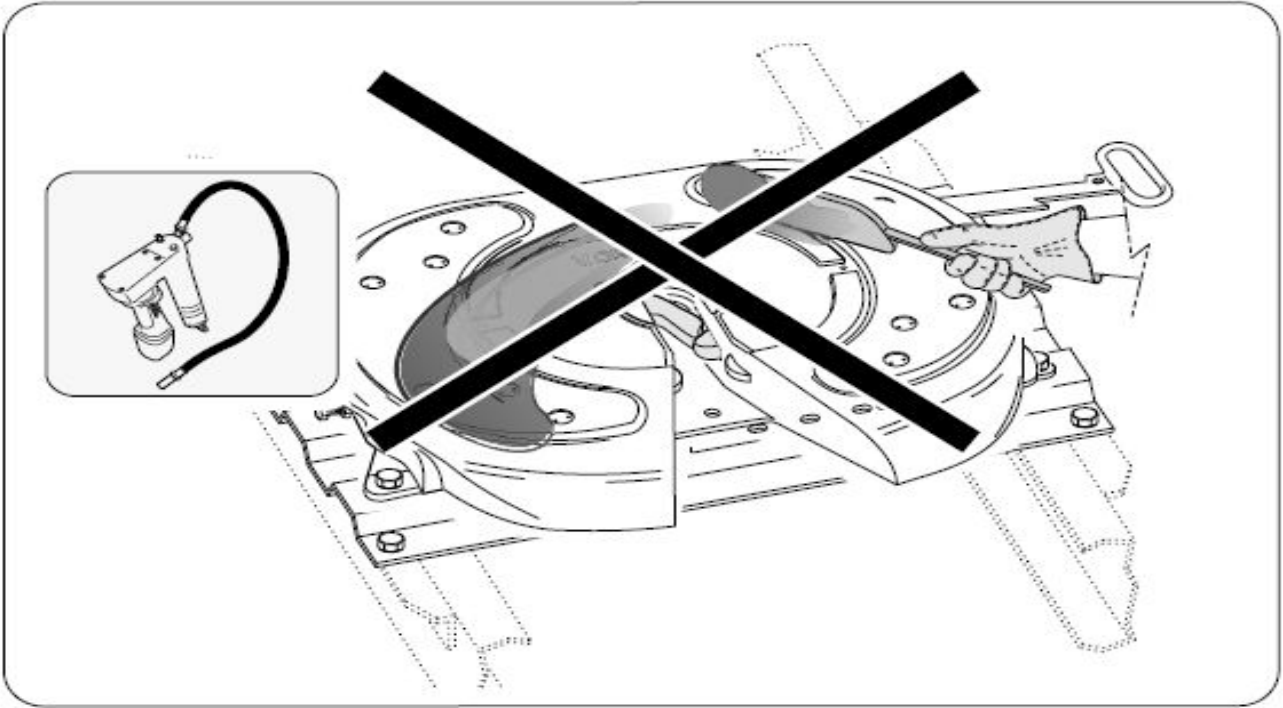
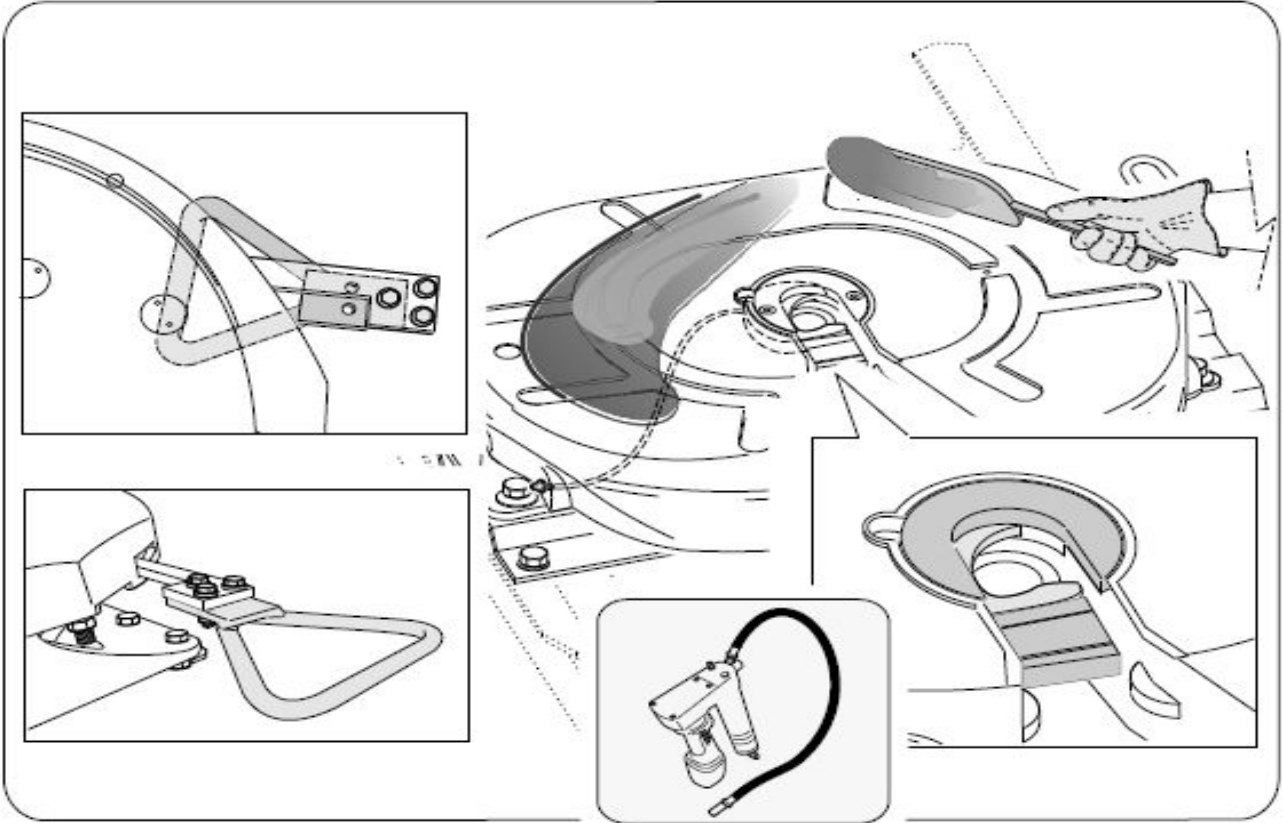
M 16x1,5-6H DIN 6923





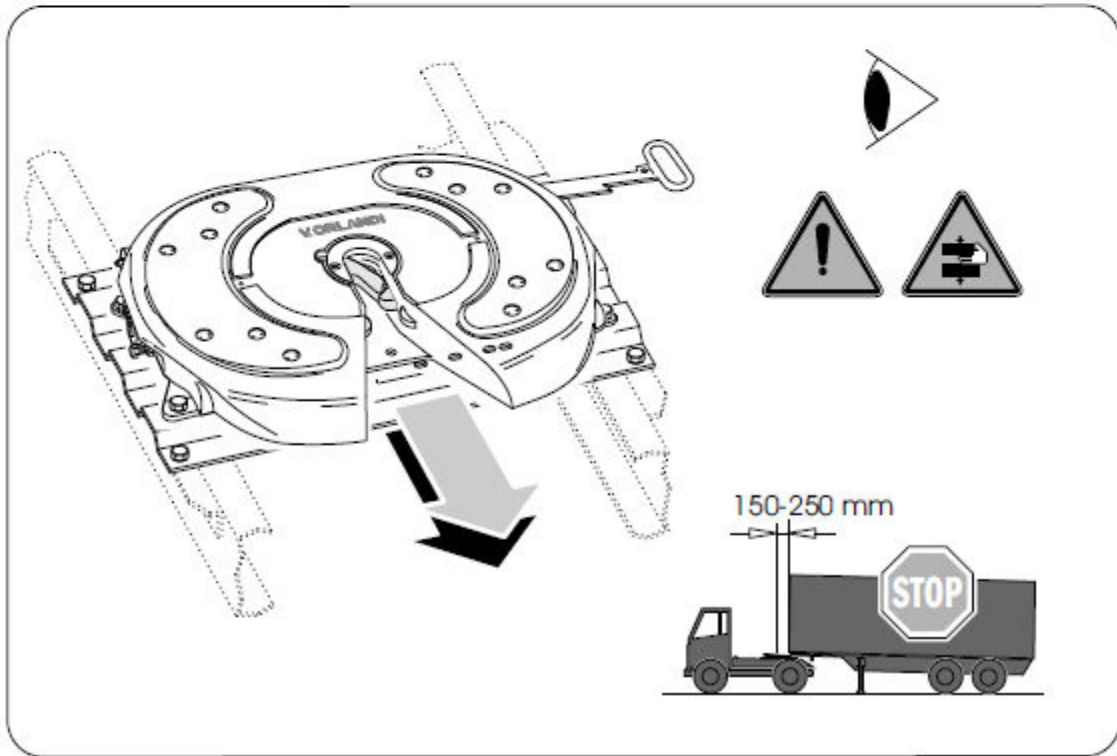
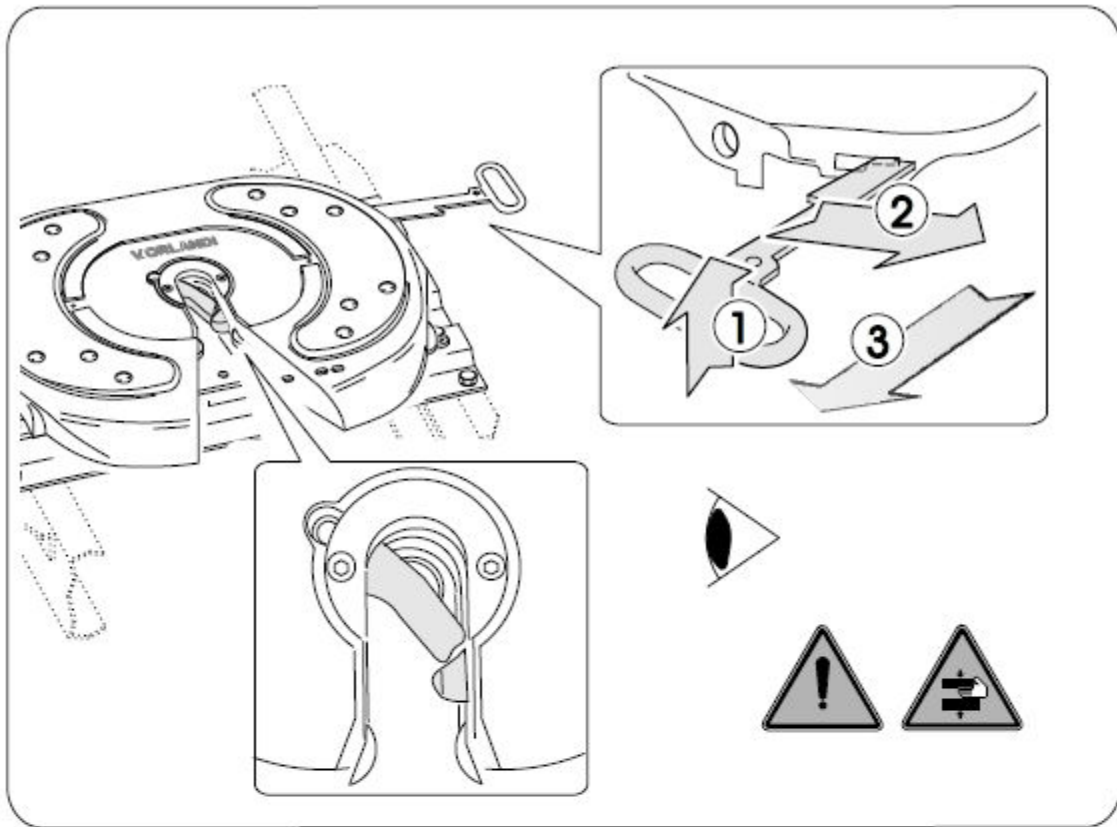
**13.0 V'Orlandi Fifth Wheel RP10 Greaseless Manual**

1 - Montaggio / Einbau / Montage / Installation/ Montaje / MOHTAJ / Montaz / Montering / تصاعد



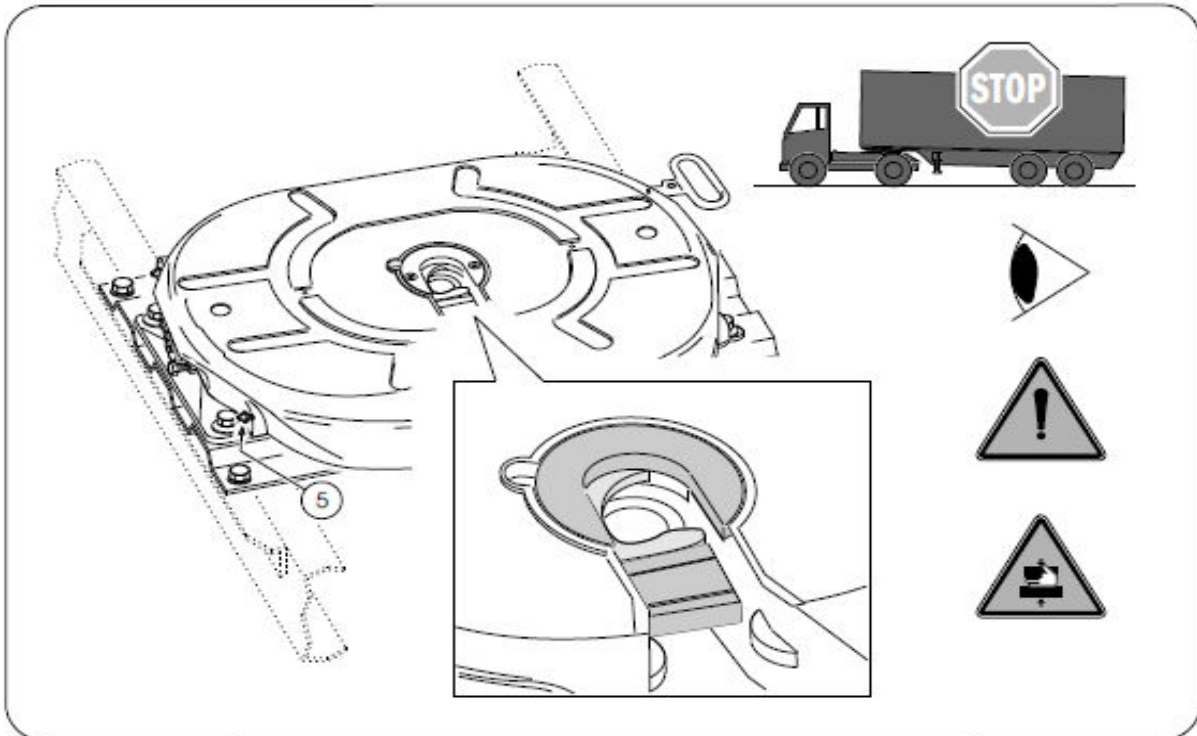
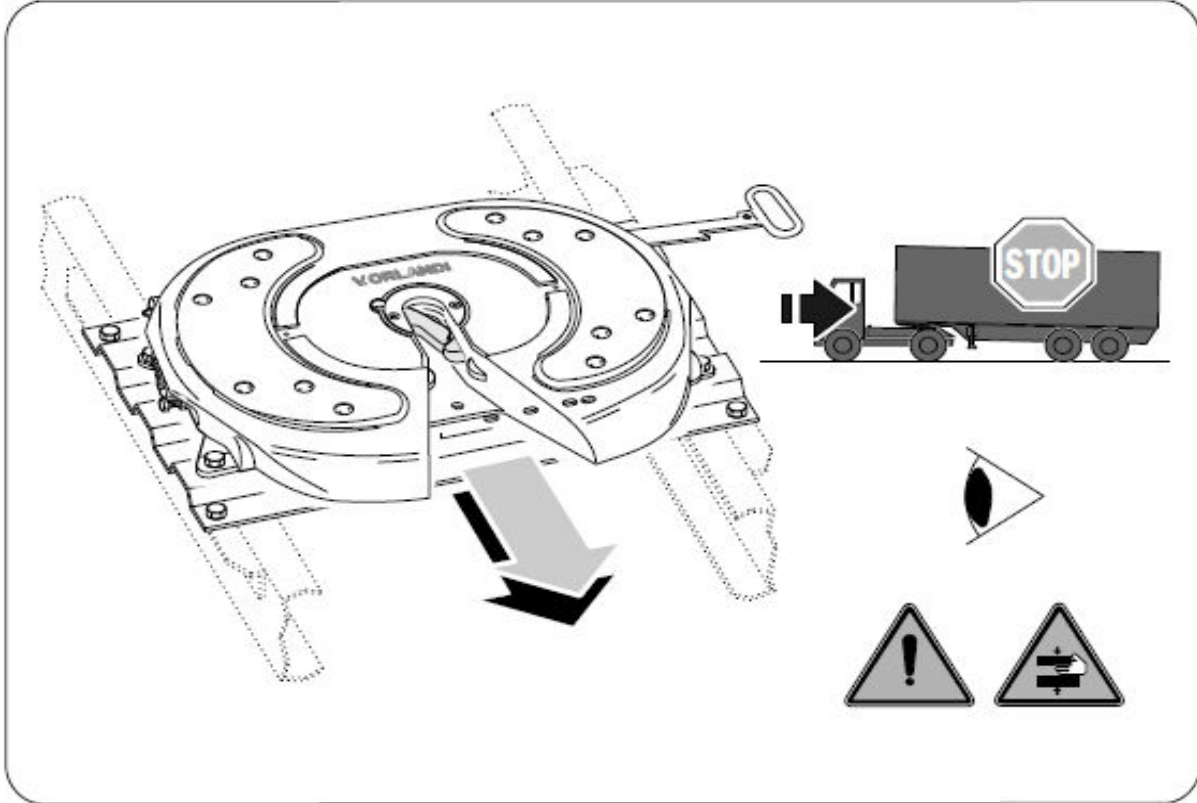


**13.0 V'Orlandi Fifth Wheel RP10 Greaseless Manual**



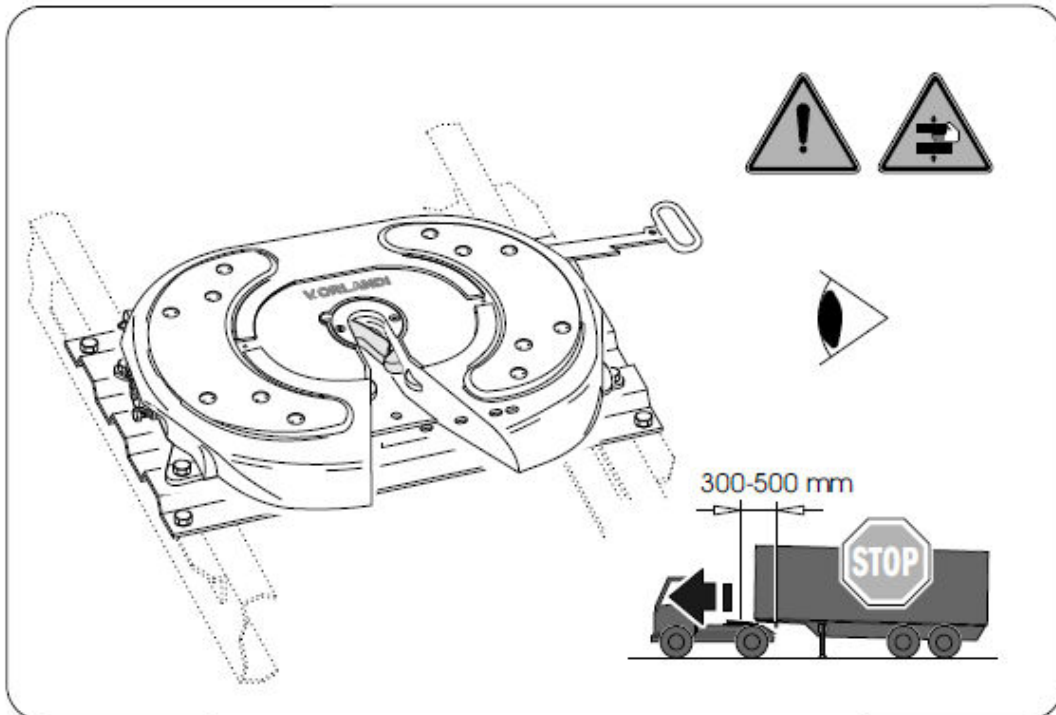
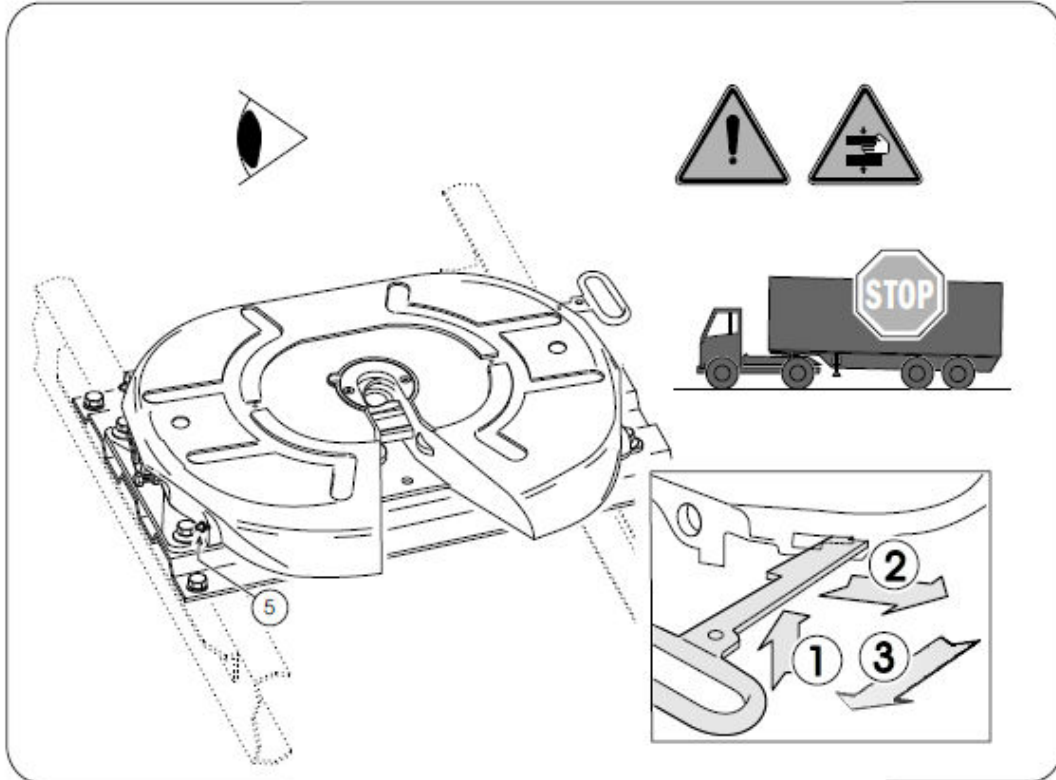
**13.0 V'Orlandi Fifth Wheel RP10 Greaseless Manual**

2 - Uso / Verwenden / utiliser / utilisier / Usage/ ЭКСПЛУАТАЦИЯ / uzyc / använda / الاستخدام



**13.0 V'Orlandi Fifth Wheel RP10 Greaseless Manual**

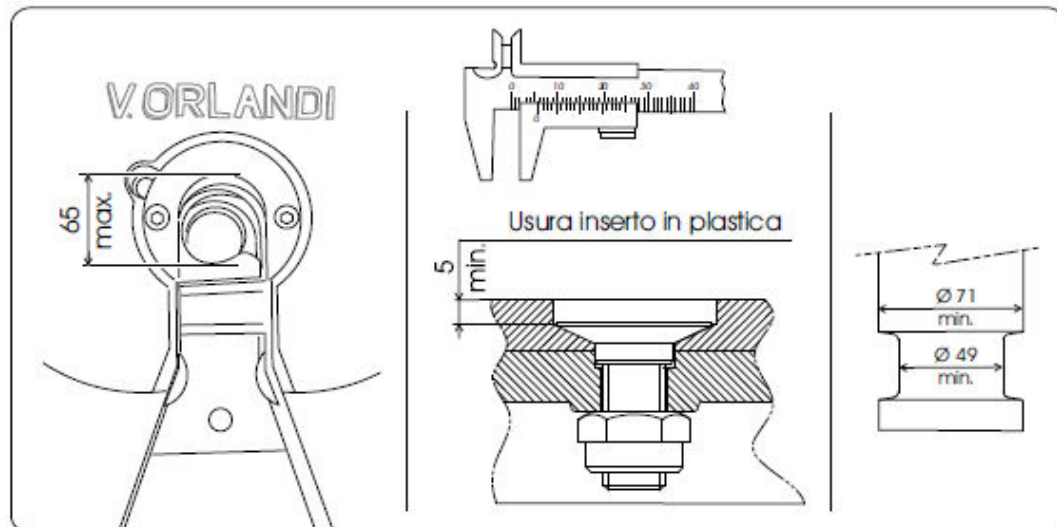
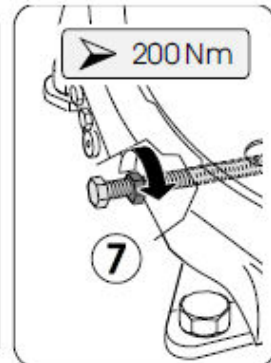
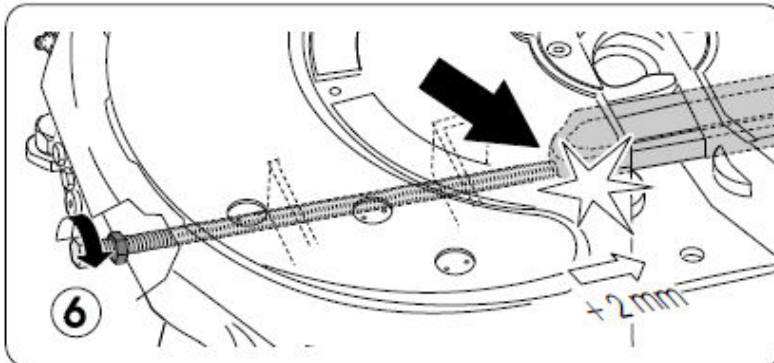
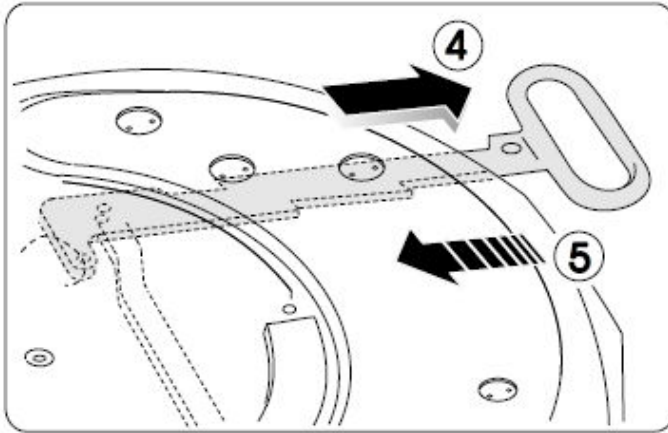
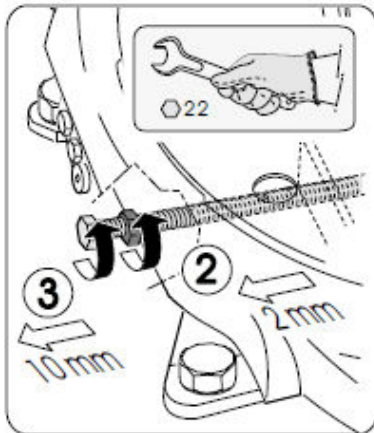
2 - Uso / Verwenden / utiliser / utilisier / Usage / ЭКСПЛУАТАЦИЯ / uzyc / använda / الاستخدام





**13.0 V'Orlandi Fifth Wheel RP10 Greaseless Manual**

3 - controllo delle usure / Contrôle des usures / Kontrolle tragen / wear check / Seguimiento del desgaste  
 ПЕРИОДИЧЕСКИЙ КОНТРОЛЬ / kontrola zuzycia / kontroll slitage / ارتداء السيطرة



### 13.0 V'Orlandi Fifth Wheel RP10 Greaseless Manual

IT

La V.Orlandi S.p.A. ringrazia la clientela per la scelta del prodotto.  
Per avere informazioni sul Concessionario Ufficiale e/o Centro Assistenza più vicino, consultare il nostro Sito Internet:

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يُدعى على تموة ناتاوزير قد نامز عتبا ربتا لالاتصل تاستفسر تولا انتھ تمنج تاختيار تشكر کم  
شذشالانتر شبكة

[www.orlandi.it](http://www.orlandi.it)

Via Quinzano, 3  
25020 Flero -BS- Italy  
tel. +39-0303582722  
fax +39-0303582262  
e-mail: [orlandi@orlandi.it](mailto:orlandi@orlandi.it)  
http: [www.orlandi.it](http://www.orlandi.it)



Subject to technical changes without prior notice codice: 1990216-C



**13.0 V'Orlandi Fifth Wheel RP10 Greaseless Manual**



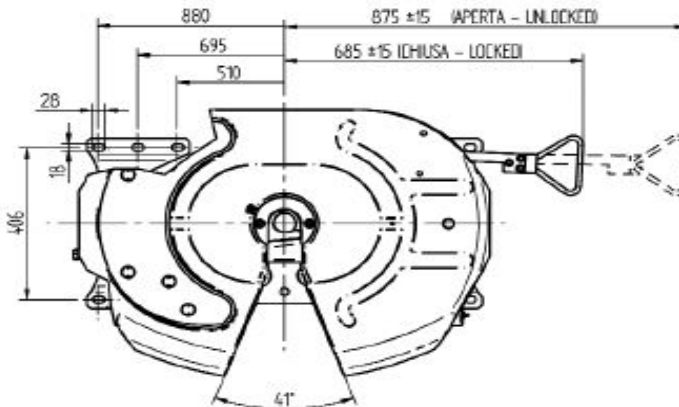
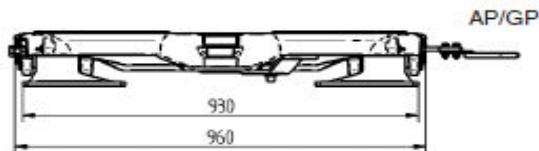
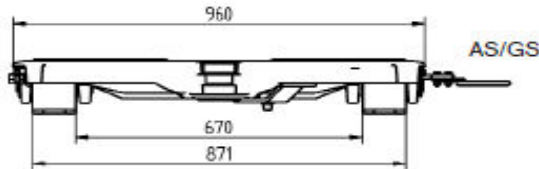
**RP50 - AP/GP/AS/GS**

Ralla su perni  
Fifth wheel with pivot bearings  
Sattelkupplung mit Bolzenlagerung  
Sellette d'attelage avec articulation à boulons

<b>2"</b>	Omologazione - Homologation Genehmigung - Homologation	94 / 20 / CE
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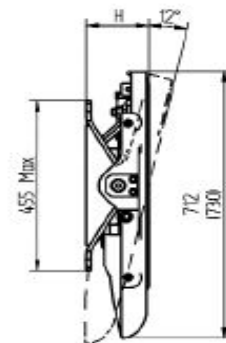
Dati tecnici - Technical data - Technische Daten - Données techniques								
Tipo Type Typ	Codice Article number Artikelnummer Numero d'ordine	Altezza H H-Height H-Bauhöhe Hautour H mm	Valore D D-Value D-Wert Valour D KN	Carico verticale U Vertical load U Sattelast U Charge verticale U Ton	Peso Weight Gewicht Poids kg	CRN		
						Omologazione Homologation Genehmigung Homologation		
ALPINO ISO ISO PEDESTAL	RP10	F2P1A10	140	200	20	139	37747	
		F2P1A20	150	200	20	141	37747	
		F2P1A30	185	200	20	143	37747	
		F2P1G10	140	200	20	139	37747	
		F2P1G20	150	200	20	141	37747	
		F2P1G30	185	200	20	143	37747	
APPOGGIO A SALDARE WELDABLE PEDESTAL	RP10	F2S1A10	140	200	14	139		
		F2S1A20	150	200	14	141		
		F2S1A30	185	200	14	143		
		F2S1G10	140	200	14	139		
		F2S1G20	150	200	14	141		
		F2S1G30	185	200	14	143		

**A** = Piatto autolubrificante / Autolube plate **S** = a saldare / weldable  
**G** = Ralle con lubrificazione standard / Standard greasing plate **P** = a perni / on pivot



**Kit complementari - Complementary kits  
Aufsätze - Kits complémentaires**

RR 00 083	Protunga leva di apertura Extension for action lever Verlängerung für Handhebel Prolonge pour levier d'ouverture
-----------	---

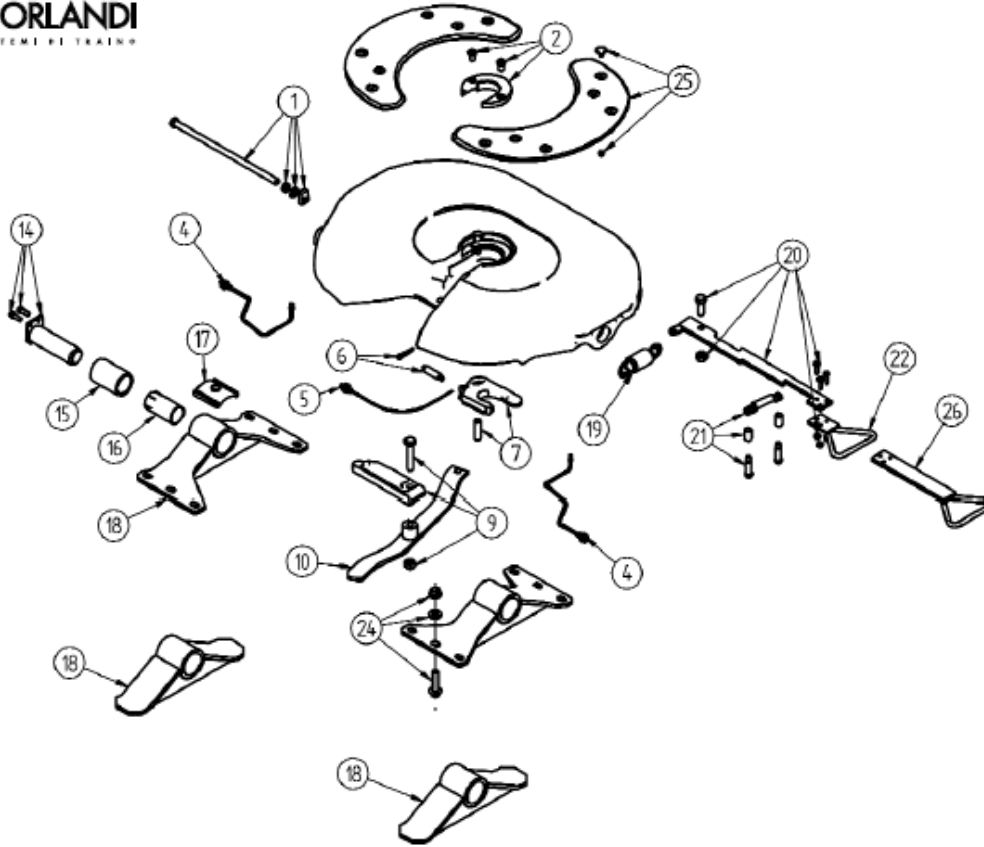




## 13.0 V'Orlandi Fifth Wheel RP10 Greaseless Manual



Ricambi - Spare parts  
Ersatzteile - Pièces de rechange



POS.	Tutti i tipi All types Alle Typen Tous les types	Tipo - Type - Typ - Type											
		F2P1A10	F2P1A20	F2P1A30	F2P1G10	F2P1G20	F2P1G30	F2S1A10	F2S1A20	F2S1A30	F2S1G10	F2S1G20	F2S1G30
1	RR00054												
2	RR00050												
4					RR00058	RR00056	RR00056				RR00056	RR00056	RR00056
5	RR00057												
6	RR00058												
7	RR00059												
9	RR00060												
10	RR00061												
14	RR00062												
15	RR00063												
16	RR00064												
17	RR00065												
18		RR00069	RR00070	RR00071	RR00069	RR00070	RR00071	RR00068	RR00067	RR00068	RR00066	RR00067	RR00068
19	RR00037												
20	RR00078												
21	RR00048												
22	RR00079												
25		RR00081	RR00081	RR00081				RR00081	RR00081	RR00081			
KIT													
24		RR00050	RR00050	RR00050	RR00050	RR00050	RR00050						
26	RR00083												
2-6-7	RR00082												
15-16-17	RR00084												

**14.0 JOST Fifth Wheel JSK 37 Greaseless Manual**



**JSK 36 & JSK 37**

EN Installation and operating instructions

**14.0 JOST Fifth Wheel JSK 37 Greaseless Manual**

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**NE**

JSK 36 & JSK 37

MUB 002 004 M01 (REV-C) 04-2019

2



**14.0 JOST Fifth Wheel JSK 37 Greaseless Manual**

EN

**1 Explanation of symbols**



**WARNING!**

Means that death, serious physical injury or significant material damage can occur if the relevant safety instructions are not followed.



**ATTENTION!**

Means that slight physical injury or material damage can occur if the relevant safety instructions are not followed.



**ADVICE!**

Contains additional important information.

JSK 36 & JSK 37

MUB 002 004 M01 (REV-C) 04-2019

3

**14.0 JOST Fifth Wheel JSK 37 Greaseless Manual**

**2 Safety information**



**ATTENTION!**

The safety instructions are summarised in a single section. Where the user of the fifth wheel coupling is in danger, the safety information is repeated in the various sections and marked with the danger symbol shown here to the side.

The relevant safety regulations in your country (for example Health & Safety at Work) apply for working with fifth wheel couplings, tractor units and semi-trailers. The appropriate safety information in the operating manual for the tractor unit and the semi-trailer continues to remain valid and must be followed. The following safety information applies to the installation, servicing and mounting work. Items of safety information directly linked to the activity are listed again individually.

**2.1 Safety information for operation**

- ▶ The fifth wheel coupling may only be operated by authorised personnel.
- ▶ Only use the fifth wheel coupling and skid plate on the semi-trailer if they are in perfect technical condition.
- ▶ The front edge of the skid plate must not be sharp, otherwise it may damage the fifth wheel coupling or the top plate liners.
- ▶ Comply with the relevant safety regulations when connecting a semi-trailer, for example the Health and Safety at Work Regulations. Only couple up a semi-trailer on firm, flat ground.
- ▶ When coupling up a semi-trailer, the skid plate must be at the same height as or ideally max. 50 mm lower than the coupling plate on the fifth wheel coupling. Pressure losses in the air suspension may change the height of the semi-trailer.
- ▶ Check the locking mechanism before starting your journey to ensure that it is properly locked. Only drive the vehicle with the locking mechanism locked and secured, even when driving without a semi-trailer (solo driving).

**2.2 Safety information for servicing**

- ▶ Only use the specified lubricants for servicing work.
- ▶ The servicing work should only be conducted by skilled personnel.

## 14.0 JOST Fifth Wheel JSK 37 Greaseless Manual

EN

### 2 Safety information

#### 2.3 Safety information for installation

- ▶ The installation area defined by the manufacturer of the tractor unit may not be changed.
- ▶ The installation work may only be conducted by authorised specialists.
- ▶ Refer to the instructions issued by the vehicle manufacturer, for example the method of fastening, fifth wheel position, fifth wheel height, axle load, cavity, mounting plate, slider, etc.
- ▶ Follow the installation instructions supplied by the mounting plate and slider manufacturers.
- ▶ An earth connection must be provided between the fifth wheel coupling and the vehicle chassis in vehicles that are used for transporting hazardous substances.

In general, bolt connections are to be tightened to the tightening torque specified as a setpoint for torque wrenches as per DIN ISO 6789 in classes A or B.

The fifth wheel coupling must be installed on the vehicle in accordance with the requirements of Annex 7 of Regulation ECE R55-01. It may also be necessary to comply with the licensing regulations of the appropriate country.

All welding on fifth wheel couplings and their parts is strictly prohibited and will render the type approval void.

JSK 36 & JSK 37

MUB 002 004 M01 (REV-C) 04-2019

5



**14.0 JOST Fifth Wheel JSK 37 Greaseless Manual**

**3 Proper usage**

**3.1 Application**

JOST fifth wheel couplings are mechanical connection devices and establish the connection between the tractor unit and semi-trailer. They are designed for mounting on a tractor unit.

Fifth wheel couplings, mounting plates and king pins are connecting parts that must comply with very high safety requirements and must also undergo design approval tests. Modifications of any kind will render both the warranty and the design approval void and therefore also cancel the vehicle's operating licence.

JOST fifth wheel couplings are specified to comply with Regulation ECE R55-01 Class 50 and are exclusively to be used in combination with king pins of Class H50 and Class J steering wedges and mounting plates or with comparable licensed equipment.

JOST fifth wheel couplings are suitable for use with power steering systems.



**ADVICE!**

Technical modifications reserved. The latest information can be found at [www.jost-world.com](http://www.jost-world.com)

**3.2 Unintended use**

The following will be deemed to be unintended use:

- ▶ Use of king pins which do not comply with the ISO 337 or DIN 74080 standards
- ▶ Use of defective king pins. Defects may include, for example, damage to the king pin, incorrect dimensions and installation on uneven or damaged skid plates
- ▶ Use with plastic discs mounted on the semi-trailer
- ▶ Use with an imposed load or D value above the maximum permitted values
- ▶ Incorrect towing procedures which adversely affect the smooth functioning of the fifth wheel coupling
- ▶ Attachment or fastening of lifting equipment
- ▶ Other applications which do not comply with the manufacturer's recommendations

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JOST catalogue sheets and stamped on the type plate. This load data is applicable for proper usage pursuant to regulation ECE R55-01.

**3 Proper usage**

**3.3 Design**

The fifth wheel coupling is designed in combination with the vehicle by the vehicle manufacturer (the design must comply with Regulation ECE R55-01, Annex 7).

In addition to the imposed load, the D value is a criterion for the load capacity of fifth wheel couplings and mounting plates.

It can be calculated using the following formula:

- D = Drawbar value [kN]
- g = 9.81 m/s<sup>2</sup>
- R = Permissible gross weight of the semi-trailer [t]
- T = Permissible gross weight of the tractor unit including U [t]
- U = Maximum imposed load [t]
- D =  $g \times \frac{0.6 \times T \times R}{T + R - U}$  [kN]

Sample calculation:

- R = 33 t
- T = 17 t
- U = 10.5 t

$$D = 9,81 \times \frac{0,6 \times 17 \times 33}{17 + 33 - 10,5} = 83,6 \text{ kN}$$

Please see the adjacent table for the permitted load data for JOST fifth wheel couplings. This information is also listed in the relevant

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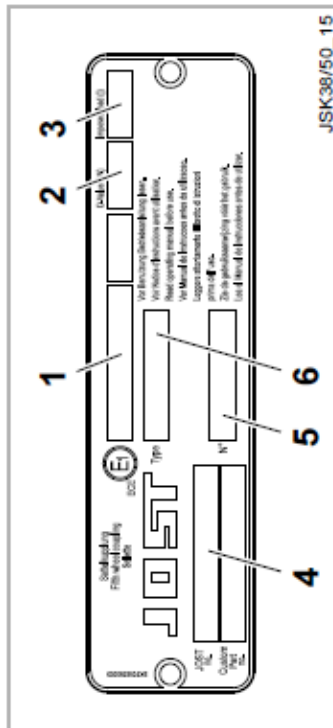
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## 14.0 JOST Fifth Wheel JSK 37 Greaseless Manual

### 3 Proper usage

If they are subject to additional dynamic forces, for example if they are used on uneven road surfaces or on construction sites, do not use the complete fifth wheel load and D value, or use a heavier fifth wheel coupling. Alternatively, consult JOST.

Every fifth wheel coupling has a serial number, which is embossed on the type plate. This gives the coupling a unique identity.



Example of a type plate

- 1 ECE approval
- 2 Maximum D value in kN
- 3 Maximum imposed load U in t
- 4 Article no.
- 5 Factory number
- 6 Type

### Permissible load data

ECE Test symbol and approval number	Type	Fifth wheel coupling	Imposed load U [t]	D value [kN]
(E) 55R-01 0116	JSK37C	JSK37C, JSK37CW	20	152
(E) 55R-01 0294	JSK37E	JSK37E, JSK37EW, JSK37ER, JSK37ERW	20	152
		JSK37EA, JSK37EAW	18	135
(E) 55R-01 1929	JSK37CX	JSK37ME140, JSK37ME140W	15	126
		JSK37CX	24	170
(E) 55R-01 1927	JSK37CX-1	JSK37CX-1	20	152
(E) 55R-01 0301	JSK36D	JSK36D	20	152

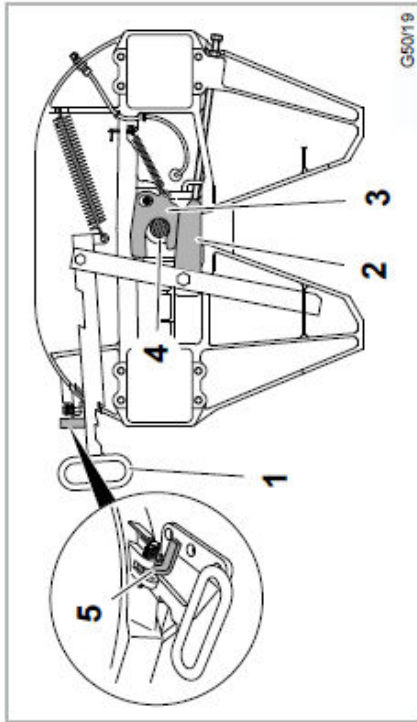


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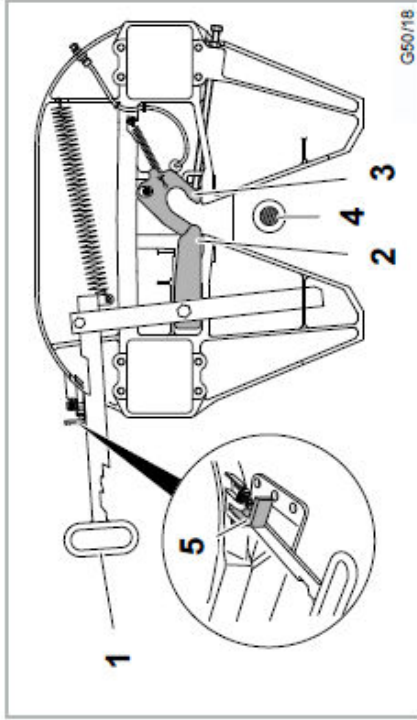
**4 Operation**

**4.1 Fifth wheel coupling closed and locked**



- 1 Handle
- 2 Locking bar
- 3 Lock jaw
- 4 King pin
- 5 Safety catch

**4.2 Fifth wheel coupling ready for engagement**



- 1 Handle
- 2 Locking bar
- 3 Lock jaw
- 4 King pin
- 5 Safety catch

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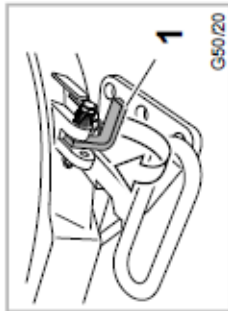
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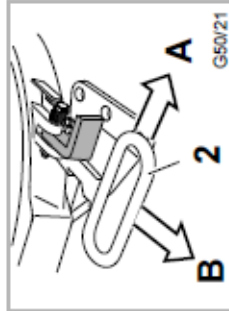
## 14.0 JOST Fifth Wheel JSK 37 Greaseless Manual

### 4 Operation

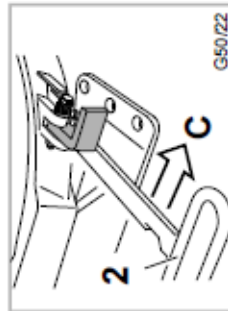
#### 4.3 Opening the fifth wheel coupling



- ▶ Lift the catch (1).



- ▶ Swing the handle (2) towards the front into position **A** (to release the lock).
- ▶ Pull out the handle (2) as far as possible into position **B**.



- ▶ When opening the fifth wheel coupling without a semi-trailer engaged, the fifth wheel coupling is to be opened as per Figures G50/20 and G50/21.

- ▶ The fifth wheel coupling must be ready to engage before coupling up (see section 4.2).
- ▶ When opening the fifth wheel coupling with a semi-trailer engaged, the fifth wheel coupling is to be opened as per Figures G50/20, G50/21 and G50/22.

#### 4.4 Coupling up a semi-trailer

- ▶ Secure the semi-trailer to prevent it rolling away.
- ▶ The fifth wheel coupling must be ready to engage (see section 4.2). If it is not, open the fifth wheel coupling (see section 4.3).
- ▶ Check the height of the semi-trailer. The skid plate must ideally be at the same height as or no more than 50 mm lower than the fifth wheel coupling plate.
- ▶ Drive the tractor unit under the semi-trailer.
- ▶ The locking mechanism will close automatically.
- ▶ Perform a moving-off test in a low gear.
- ▶ Check the locking mechanism (see section 4.6).
- ▶ Connect the supply lines.
- ▶ Retract the landing gear as described in the operating manual.
- ▶ Release the parking brake and remove the chocks.



#### ATTENTION!

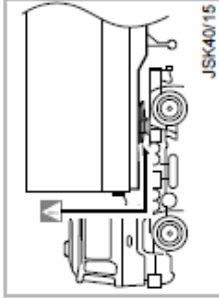
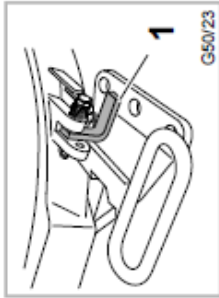
Check that the locking mechanism is closed before starting any journey (see section 4.6).

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### 4.6 Checking the locking mechanism

- ▶ The catch (1) must be down as shown.



#### ATTENTION!

The skid plate must rest on the fifth wheel coupling without a gap.



#### ADVICE!

To prevent the fifth wheel coupling being opened without authorisation, a security device (for example a padlock) can be inserted into the hole of the catch holder in the handle as shown.



## 4 Operation

### 4.5 Uncoupling a semi-trailer

- ▶ Park the vehicle on flat, firm ground.
- ▶ Secure the semi-trailer to prevent it rolling away.
- ▶ Extend the landing gear as described in the operating manual until the fifth wheel coupling has almost no strain on it.
- ▶ Disconnect the supply lines.
- ▶ Open the fifth wheel coupling (see section 4.3).
- ▶ Drive the tractor unit out from under the semi-trailer.
- ▶ The fifth wheel coupling is automatically ready for engagement again (see section 4.2).

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**14.0 JOST Fifth Wheel JSK 37 Greaseless Manual**

**5 Installation**

**5.1 General installation instructions**

To fasten the JOST fifth wheel coupling (pursuant to Regulation ECE R55-01) on the mounting plate or on the auxiliary frame, **at least** 8 M16 bolts, ideally M16 x 1.5 of strength class 8.8, must be used.

These must be positioned in a symmetrical pattern to the longitudinal and lateral axes of the fifth wheel coupling.

If the coupling is used in harsh conditions (for example on construction sites), with trailers with forced steering or with trailers that use the full D value and/or imposed load, we recommend that you use all 12 bolts.

Fifth wheel couplings with a design height of over 250 mm and a D value of over 133 kN must be secured with 12 bolts with strength class 10.9. This also applies to fifth wheel couplings with a D value of more than 152 kN or an imposed load of more than 20 t.

We recommend that you use JOST fastening kits (see JOST catalogue for order numbers).

The pedestals should make contact with the mounting plate over as wide an area as possible. With undulating mounting plates, it is necessary to have a support in the middle area as well as the contact in the screw connection area. We recommend securing the pedestals in the longitudinal and lateral directions and the mounting plates in the longitudinal direction using pre-welded thrust plates with zero play. Use the welding methods set out by the manufacturers of the vehicle and mounting plate for this purpose (see section 5.2).

There is no need to use thrust plates, however, if it can be ensured that the correct tightening torque for the bolts and therefore the perfect friction contact can be generated and maintained at all times.

The bolt connections are therefore to be designed so that the prescribed tightening torque values or pre-stressing forces can be applied permanently.

The general rule is that the coating thickness of the paintwork around the securing area of the bolts must be no more than 120 µm per component.

The bolt connections are to be secured using state-of-the-art methods to prevent them coming loose.

Appropriate reinforcement must be made in accordance with the application. The fifth wheel coupling must be able to move freely and must not be in contact with either the mounting plate or parts of the chassis or auxiliary frame when the vehicle is being driven. If you use a different installation method (for example chassis installation), follow the instructions supplied by the vehicle manufacturer.



**ATTENTION!**

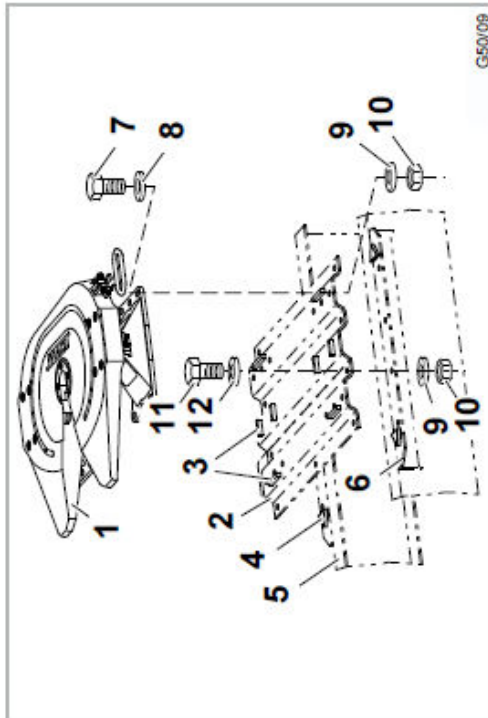
The fifth wheel coupling must be able to move freely and must not be in contact with any parts of the frame or fitch when the vehicle is being driven.

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**5 Installation**

**5.2 Assembling the fifth wheel coupling on the mounting plate**



- 1 Fifth wheel coupling
- 2 Mounting plate
- 3 Thrust plate to secure the pedestals
- 4 Thrust plate to secure the mounting plate
- 5 Vehicle chassis
- 6 Vehicle auxiliary frame
- 7 Hexagonal bolt DIN EN 28765/28676 (DIN 960/961) M16 x 1.5-8.8
- 8 Washer 17 DIN7349 6 thick (min. HV295)
- 9 Optional washer (min. HV295) or disc spring
- 10 Hexagonal nut DIN980 M16 x 1.5-8.8 or M20 x 1.5-8.8
- 11 Hexagonal bolt DIN EN 28765/28676 (DIN 960/961) M16 x 1.5-8.8 or M20 x 1.5-8.8
- 12 Optional washer/disc spring



**ADVICE!**

Tightening torques must absolutely be adhered to; see section 5.3

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**14.0 JOST Fifth Wheel JSK 37 Greaseless Manual**

**5 Installation**

**5.3 Fastening material and tightening torques**

Fastening material	Strength class 8.8	Strength class 10.9
Hexagonal bolt DIN EN 24014/24017 (DIN 931/933) standard thread	210 Nm 410 Nm	260 Nm 500 Nm
Hexagonal bolt DIN EN 28765/28676 (DIN 960/961) fine thread	225 Nm 460 Nm	280 Nm 500 Nm
Hexagonal bolt DIN 7991	170 Nm 330 Nm	250 Nm 400 Nm



**ADVICE!**

The values shown above are guide values for a coefficient of friction  $\mu$  tot. = 0.14. Further information is available in VDI 2230.



## 14.0 JOST Fifth Wheel JSK 37 Greaseless Manual

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### 6 Servicing and testing

#### 6.1 Servicing instructions

The skid plate on the semi-trailer that engages with the fifth wheel coupling must meet the following conditions to provide a long service life and trouble-free function:

- ▶ Max. 2 mm unevenness
- ▶ Adequate reinforcement must be assured
- ▶ Smooth and groove-free surface if possible, without weld bumps (smooth existing groove burr)
- ▶ Rounded or chamfered front and side edges
- ▶ Complete coverage of the fifth wheel coupling support area.



#### ATTENTION!

Effective lubrication of the top of the fifth wheel coupling plate (apart from on the W version), the locking mechanism, the pivot bearings (only for the D version) and the king pin (before using for the first time and after cleaning) is essential to ensure their long service life. In the W version, we recommend applying a thin coat of grease to the skid plate.



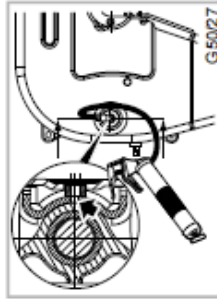
#### ADVICE!

Before installation, the skid plate must be checked to ensure it is even, and the skid plate thickness must also be checked. The unevenness of the skid plate must be no more than 2 mm in the load-bearing section of the fifth wheel coupling. The skid plate must cover the fifth wheel coupling's set-down surface in every position.

#### 6.1.1 Fifth wheel coupling with manual lubrication

At short intervals, at the latest every 5,000 km:

- ▶ Uncouple the semi-trailer
- ▶ Clean the fifth wheel coupling and the skid plate.
- ▶ Grease the fifth wheel coupling plate, locking mechanism parts and king pin with high-pressure grease (EP), JOST high-performance lubricant (article no. SKE 013 440 000).
- ▶ Grease the pivot bearing of version D via the hole on the top part of the plate (see Figure G50/27) with **paste-like** high-pressure grease (EP), JOST high-performance lubricant (article no. SKE 013 440 000).



- ▶ Grease the pivot bearing of version D on both sides (lubrication adapter SKE 013 440 000).



#### ADVICE!

The pivot bearings on the C and E versions require no servicing. The grease nipples on the edge of the fifth wheel coupling plate are only designed for additional greasing of the locking mechanism between service intervals.

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**14.0 JOST Fifth Wheel JSK 37 Greaseless Manual**

**6 Servicing and testing**

**6.1.2 Fifth wheel coupling with central lubrication connection (version Z)**

Depending on the conditions in which it is used, the grease specification and metering, at the latest every 50,000 km or every six months:

- ▶ Uncouple the semi-trailer
- ▶ Clean the fifth wheel coupling and the skid plate.
- ▶ Check the function of the central lubrication system as described in the manufacturer's instructions.
- ▶ Lightly grease the fifth wheel coupling plate, locking mechanism parts and king pin with high-pressure grease (EP), JOST high-performance lubricant (article no. SKE 013 440 000).
- ▶ Grease the pivot bearing of version D via the holes on the top part of the plate (see Figure G50/27) with paste-like high-pressure grease (EP), JOST high-performance lubricant (article no. SKE 013 440 000).

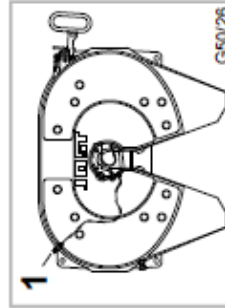
**i** **ADVICE!**  
The pivot bearings on the C and E versions require no servicing.

**6.1.3 Low-maintenance fifth wheel coupling with top plate liners (version W)**

At the latest every 50,000 km or every six months, in harsh conditions every 25,000 km:

- ▶ Uncouple the semi-trailer
- ▶ Clean the skid plate and the king pin.
- ▶ Lightly grease the king pin and the locking mechanism parts with high-pressure grease (EP), JOST high-performance lubricant (article no. SKE 013 440 000).
- ▶ Check the top plate liners for signs of wear and damage (see section 6.6).

**i** **ADVICE!**  
The pivot bearings on the C and E versions require no servicing.



- ▶ In addition, grease the locking mechanism – **with a trailer attached** – every 10,000 km using the grease nipple (1) on the edge of the fifth wheel coupling plate.

## 14.0 JOST Fifth Wheel JSK 37 Greaseless Manual

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### 6 Servicing and testing

You can also install automatic lubricant dispensers. To prevent corrosion on the skid plate, we recommend that the skid plate is greased lightly during the above service intervals.



**ADVICE!**

When you clean the fifth wheel coupling, you may produce waste products that contain polluting substances. We would like to point out that you must comply with the various national waste regulations for the disposal of this waste.

#### 6.1.4 Grease specification

We recommend high-pressure grease (EP), e.g. JOST high-performance lubricant (article no. SKE 013 440 000).

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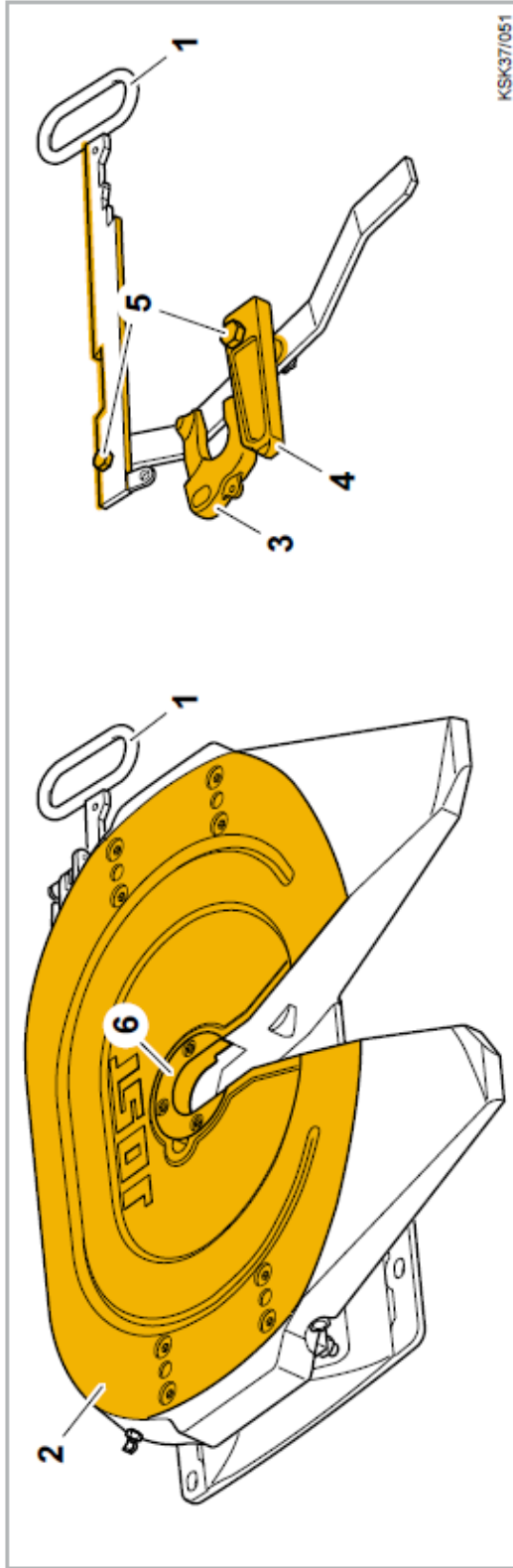
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**14.0 JOST Fifth Wheel JSK 37 Greaseless Manual**

**6 Servicing and testing**

**6.2 Lubrication instructions**



- 1** Handle
- 2** Fifth wheel coupling plate
- 3** Lock jaw
- 4** Locking bar
- 5** Hinge joints and lever guide
- 6** Wearing ring

Lubricate areas marked in yellow:

- ▶ Side of handle (1), hinge joints and lever guides (5).
- ▶ Generously lubricate the top side (2) and completely fill the lubricating groove (except W version – the top plate liners do not have to be greased; JOST top plate liners are resistant to lubricating greases).
- ▶ Lubricate lock jaw (3) and locking bar (4) with the fifth wheel coupling closed.
- ▶ With the standard version (not the low-maintenance version), the centre area around the wearing ring (6) must be completely filled with grease (see marked area).

**Grease specification: We recommend JOST high-performance lubricant (article no. SKE 013 440 000).**

## 14.0 JOST Fifth Wheel JSK 37 Greaseless Manual

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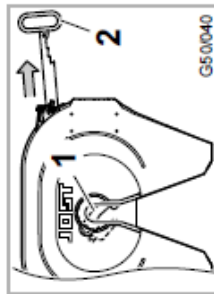
### 6 Servicing and testing



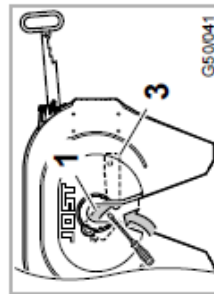
#### ATTENTION!

A second person is needed to close the lock.

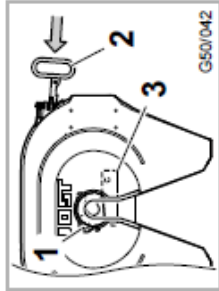
A tool such as a large slotted screwdriver can be used to swivel the lock jaw (1). The lock jaw (1) must never be swivelled by hand. There is a risk of crushing.



- ▶ Have a second person pull handle (2) until the lock jaw (1) is free.
- ▶ Hold handle (2) in this position.



- ▶ Swivel lock jaw (1) forward, e.g. with a large slotted screwdriver, until the locking bar (3) is free.



- ▶ Slowly move handle (2) into closed position.
- ▶ Grease all sides of lock jaw (1) and locking bar (3).



#### ATTENTION!

Open the fifth wheel coupling before it is next coupled up (see section 4.3).

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**6 Servicing and testing**

**6.3 Test instructions**

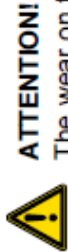
Depending on the conditions of use, but no later than every 50,000 km or every six months, the fifth wheel coupling, the mounting plate, the slider and the king pins should be checked for:

- ▶ Function
- ▶ Wear
- ▶ Correct position of the fastening elements (check prescribed torque values)
- ▶ Damage or distortion
- ▶ Cracks
- ▶ Corrosion
- ▶ To ensure adequate lubrication
- ▶ To ensure the smooth running of the mechanisms

and repaired where necessary (see the appropriate JOST repair instructions at [www.jost-world.com](http://www.jost-world.com)).

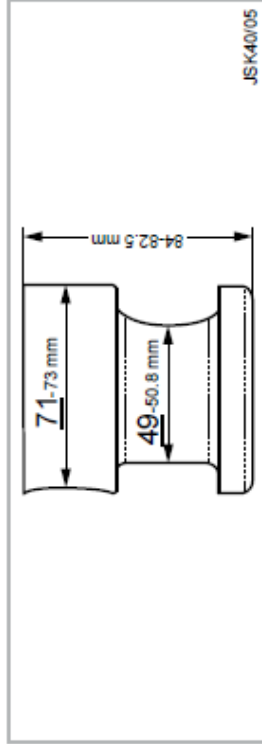
**6.4 Wear test**

Fifth wheel couplings and king pins are subject to more or less wear depending on the conditions in which they are used, and this wear is noticeable by play towards the front of the vehicle. Excessive play causes shocks and may lead to instability on the road and damage to the fifth wheel coupling, mounting plate, sliders and vehicle chassis. JOST fifth wheel couplings have a manual infinite adjustment facility for the locking mechanism to extend their service lives.



**ATTENTION!**

The wear on the king pin must not be compensated for through adjustment.



When the wear limit on the king pin has been reached, it must be replaced. After the king pin has been replaced, the locking mechanism must be adjusted again.

Play caused by wear on the king pin should either be accepted if within the permitted wear limit for the king pin (see Figure JSK40/05) or should be rectified by fitting a new king pin.



**ADVICE!**

After work on the locking mechanism or after replacement of the lock jaw, wearing ring or locking bar, the locking mechanism must always be readjusted in order to ensure the base clearance of 0.3 mm.

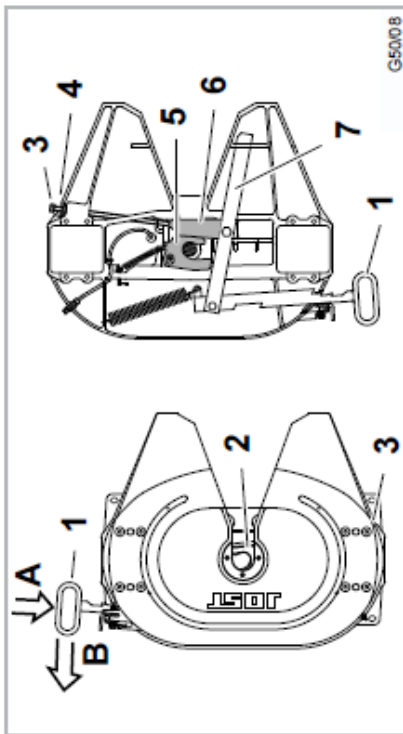


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### 6 Servicing and testing

#### 6.5 Adjusting the locking mechanism



- |   |                   |   |             |
|---|-------------------|---|-------------|
| 1 | Handle            | 5 | Lock jaw    |
| 2 | Locking mechanism | 6 | Locking bar |
| 3 | Adjusting screw   | 7 | Lever       |
| 4 | Lock nut          |   |             |

The locking mechanism must be adjusted using a semi-trailer without forced steering with an unworn king pin as described below:

- ▶ Park the vehicle on flat, firm ground and uncouple the trailer
- ▶ Undo the lock nut (4)
- ▶ Unscrew the adjusting screw (3) by approx. 15 turns
- ▶ Couple the semi-trailer up, if necessary lightly tapping the handle (1) in the closing direction **A** to bring the locking bar into its limit position
- ▶ Release the handle (1) (lift the safety latch - see figure G50/20 in section 4.3) swing into position **B** and hold (get someone to assist).
- ▶ Tighten the adjusting screw (3) again until the handle (1) starts to move (have an assistant check this)
- ▶ To set the recommended basic play of 0.3 mm, tighten the adjusting screw (3) by a further 1½ turns and secure it with the lock nut (4)
- ▶ Apply the semi-trailer brake
- ▶ Move off with the tractor and check the maximum play in the locking mechanism.



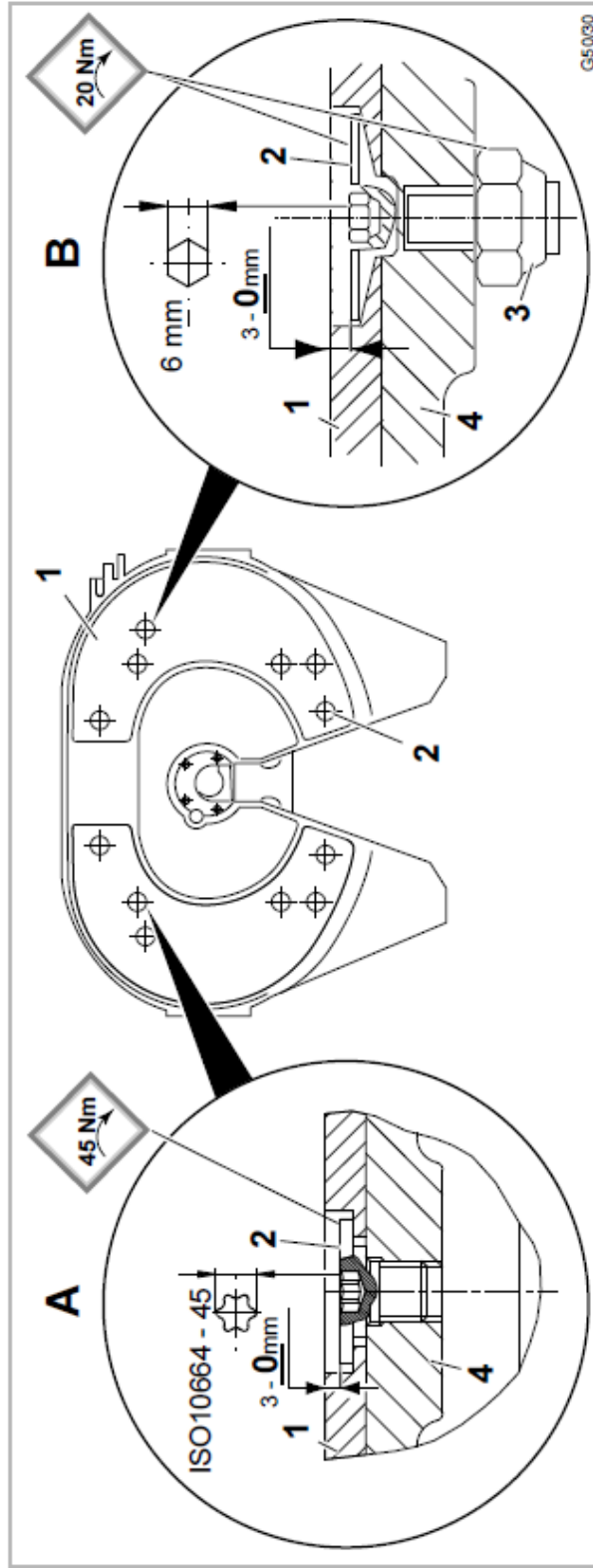
#### ADVICE!

If there is still excessive play, the wearing ring and the lock jaw must be replaced as described in the repair instructions.

**14.0 JOST Fifth Wheel JSK 37 Greaseless Manual**

**6 Servicing and testing**

**6.6 Wear limit – top plate liners**



- 1** Top plate liner
- 2** Fastening bolt
- 3** Lock nut
- 4** Fifth wheel coupling plate

The top plate liners (1) must be checked for signs of wear and damage at regular intervals that depend on usage, but at least every 50,000 km or every six months.  
The top plate liners (1) must be replaced when they have worn to the top of the fastening bolts (2).



**ATTENTION!** When removing the top plate liners (1), the lock nuts (3) must be removed first on version B.

**14.0 JOST Fifth Wheel JSK 37 Greaseless Manual**

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**15.0 JOST Ball Race Service and Maintenance**



**Ball Race (Slew Ring) Service and Maintenance Bulletin**

**Note:** JOST ball races are initially lubricated before they leave the factory. Before they are put into operation for the first time however they must be adequately re-lubricated with ball bearing grease.

**Recommended grease types –**

Jost ball races – Lithium Saponified, NLGI class 2. (Use class 1 grease if a central lubrication system is to be used)

BPW Double Row – BPW special long life grease ECO-Li 91 Lithium Complex Grease.

The grease must not be mixed with other calcium base or sodium base lubricants.

Ball races should be lubricated at least every 25,000km or every 3 months, or sooner depending on the application. Under extreme or arduous operating conditions greasing may be required weekly. The ball race should be rotated during greasing to ensure that the grease is distributed evenly.

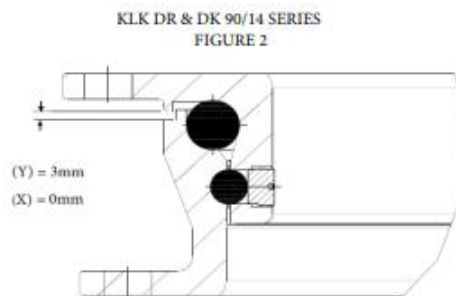
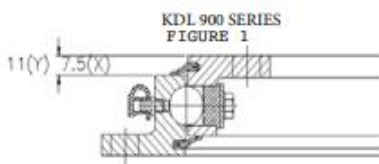
The tightness of the mounting bolts should also be checked at regular service intervals.

Ball races are subject to wear. It is recommended that the ball race be replaced when the wear limits are reached.

Jost KDL 900/6	Radial Play max 3.0mm – Axial Play max 3.5mm	(< 01.2010)
Jost KDL 900/6W	Radial Play max 3.0mm – Axial Play max 3.5mm	(> 01.2010)
	Refer to Figure 1: (Y New Ball Race 11mm) (X Measurement = 7.5mm has reached wear limit)	

BPW DK 90/14	Radial Play max 2.0mm – Axial Play max 3.0mm	(< 06.2012)
Jost KLK DR Series	Radial Play max 2.0mm – Axial Play max 3.0mm	(> 06.2012)
	Refer to Figure 2: (Y New Ball Race 3mm) (X Measurement = 0mm has reached wear limit)	

Note: X and Y measurement pictured below refer to axial movement



Dated 30.04.2014

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 TELEPHONE: (02) 9838 8100  
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 501 MT DERRIMUT ROAD  
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 WINGFIELD SA 5013  
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 FACSIMILE: (08) 8260 4011

**16.0 JOST Fifth Wheel LubeTronic Manual**



- Ⓒ Installation and operating instructions for LubeTronic
- Ⓕ Instructions de montage et d'utilisation pour LubeTronic
- Ⓘ Istruzioni per il montaggio e l'uso del LubeTronic
- Ⓔ Instrucciones de montaje y funcionamiento para el LubeTronic

Aktivierungsdatum:  
Activation date :  
La date d'activation:  
Data di attivazione:  
Fecha de activación:

**Foreword**

In the development of the JOST LubeTronic, a great deal of importance was attached to ensuring that the components used for it met the high standards that are expected from JOST in terms of their mechanical properties and reliability.

To install the JOST LubeTronic, the existing lock jaw must be replaced.

To replace the lock jaw, the applicable installation and operating instructions together with the repair instructions for the relevant fifth wheel coupling must be consulted.

All the mechanical functions and the control of the individual fifth wheel coupling components are retained. Further information about this can be found on our website: [www.jost-world.com](http://www.jost-world.com).

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English



## 16.0 JOST Fifth Wheel LubeTronic Manual

### 1 Safety information

The relevant safety regulations in your country (for example Health & Safety at Work) apply for working with fifth wheel couplings, tractor units, semi-trailers and the JOST LubeTronic.

The appropriate safety information in the owner's handbook for the tractor unit and the semi-trailer are valid and must be followed. The safety information set out below must be observed when assembling the JOST LubeTronic. Safety information directly linked to the activity is listed again individually.

**⚠ Safety information in the following sections is shown with the warning triangle symbol. You must comply with this safety information!**

#### 1.1 Safety information for installation

- ▶ The JOST LubeTronic must be attached to the fifth wheel coupling as shown in section 4.
- ▶ The JOST LubeTronic must be installed by trained personnel in suitable workshops. Follow the installation directive supplied by the vehicle manufacturer, the requirements of Directive 94/20 EC, Appendix VII and/or ECE R55-01 Appendix 7 and, if applicable, Sections 19, 20 and 21 of the Road Traffic Act and the installation instructions.
- ▶ If the equipment is not installed correctly, all warranty claims against the manufacturer and the supplier of the JOST LubeTronic will be rendered void.
- ▶ For ADR/GGVs vehicles, the regulations and country-specific legislation must be observed.  
The ADR report can be viewed at [www.jost-world.com](http://www.jost-world.com).

### 2 Correct use

**⚠ When equipping a fifth wheel coupling with LubeTronic, take care to ensure that the fifth wheel coupling is placed on the vehicle using a suitable lifting tool. Lifting a fifth wheel coupling with LubeTronic with a forklift truck, for instance, could cause damage to the LubeTronic.**

The JOST LubeTronic is an automatic lubricating system for lock jaws that comprises a fully-automatic lubricant dispenser and specially-coated lock jaw.

The JOST LubeTronic is designed for attachment to low-maintenance fifth wheel couplings of type JSK 37 W, JSK 40 W and JSK 42 W.

The JOST LubeTronic also permits the lubrication of articulated connections and bearings on fifth wheel coupling components, such as on lifting equipment for fifth wheel couplings.

The system must not be installed in tractors that are operated on building sites.

The permissible operating temperatures of the lubricant dispenser lie between -20°C and +70°C.

At operating temperatures below -20°C, the lubricant dispenser will not dispense any lubricant. The specially-coated lock jaw allows the system to continue operating without problems even without lubricant. As soon as the temperature returns to the operating temperature range specified, the lubricant dispenser will resume working as normal.

The system is not suitable for continuous use at temperatures below -20°C.

The LubeTronic's service life is around 3 years.

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LubeTronic

### 3 General information

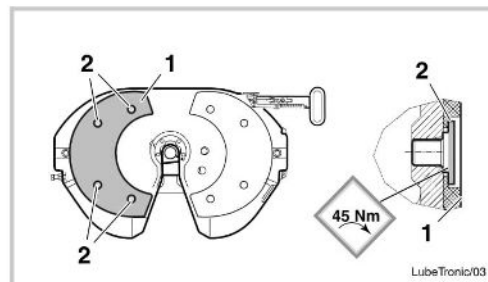
During the LubeTronic's operational life, the LED will flash once every 2 minutes on the lubricant dispenser. When the lubricant dispenser is empty, the LED on the lubricant dispenser will flash once every 5 seconds.

Spent lubricant dispensers should be disposed of as electronic scrap. Such materials must be disposed of in accordance with legal requirements. For more information, contact your local waste collection facility or JOST.

**Once the operating life has expired, the lock jaw and lubricant dispenser must be replaced.**  
Spare parts kit: SKE004070100

### 4 Assembly and commissioning

#### 4.1 Installing the lubricant dispenser



**Note**  
Comply with the tightening torque!

- ▶ Remove the screws (2) on the left-hand liner (1). Remove the top plate liner (1) from the fifth wheel coupling.

English

LubeTronic

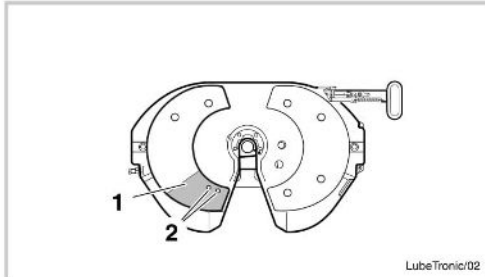
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## 16.0 JOST Fifth Wheel LubeTronic Manual

### 4 Assembly and commissioning



LubeTronic/02

#### Note

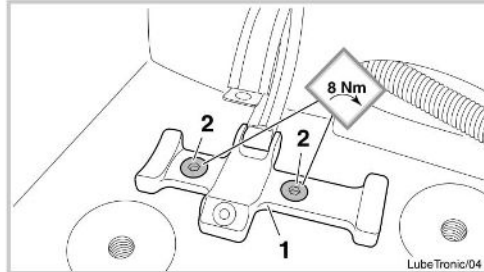
Only use the template (1) appropriate for the JSK type.

- ▶ Insert template (1) as shown in the holder for the left-hand liner.

#### Note

Ensure that the distance between the two drill-holes is the same as on the mounting clip.

- ▶ Transfer the drilling points (2) of the template (1) onto the fifth wheel coupling and drill through with a spiral drill bit  $\varnothing$  5 mm.
- ▶ Tap an M6 thread.
- ▶ Re-install the left-hand liner.



LubeTronic/04

#### Note

Comply with the tightening torque!

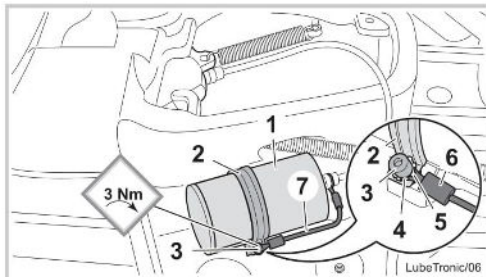
- ▶ Screw the fastening clip (1) to the fifth wheel coupling using the countersunk head screws (2). If you wish, you may also secure the screws further by using Loctite, for instance.

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LubeTronic

### 4 Assembly and commissioning



LubeTronic/06

On ADR vehicles, the earth strap (6) must be attached between the lubricant dispenser (1) and the upper section of the fifth wheel coupling plates. The earth strap must also be attached between the coupling plate and the base of the fifth wheel coupling. The ADR report can be viewed at [www.jost-world.com](http://www.jost-world.com).

#### Note

Ensure that the groove of the fastening clip (2) lies in the recess on the lubricant dispenser (1).

- ▶ Insert the lubricant dispenser (1) into the fastening clip (2) and close the fastening clip (2).

#### Note

Comply with the tightening torque!

- ▶ Secure the fastening clip (2) using Allen screw M5 x 10 mm (3), toothed ring (4) and washer (5).

#### 4.2 Painting

If the fifth wheel coupling with LubeTronic is painted and a paint dryer is used, or the paint is dried in a drying chamber, care must be taken to ensure that the LubeTronic is not subjected to direct exposure to the rays. Persistent heating of the LubeTronic to over 70°C must be avoided.

English

LubeTronic

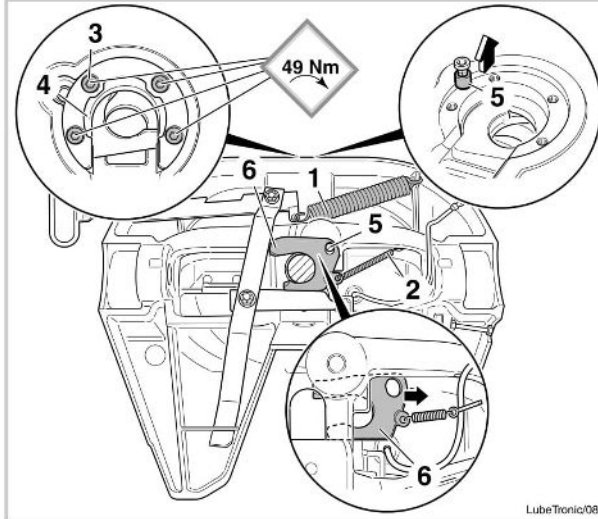
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## 16.0 JOST Fifth Wheel LubeTronic Manual

### 4 Assembly and commissioning

#### 4.3 Replacing the lock jaw (JSK 37 W)



- ▶ Unhook the double spring (1).
- ▶ Release the spring (2).
- ▶ Undo the screws (3) on the wear part.
- ▶ Remove the wear part (4).
- ▶ Remove the pin (5).
- ▶ Remove the lock jaw (6).
- ▶ Install specially-coated lock jaws in the reverse sequence using assembly parts, some of which are new
- ▶ To adjust the fifth wheel coupling, test king pin SKE 008630000 can be used. This must however lie over its entire surface on top of the fifth wheel coupling!

**Note**

The detailed steps for removing the lock jaw can be found in the repair instructions for JSK 37 (available on the Internet at [www.jost-world.com](http://www.jost-world.com)).

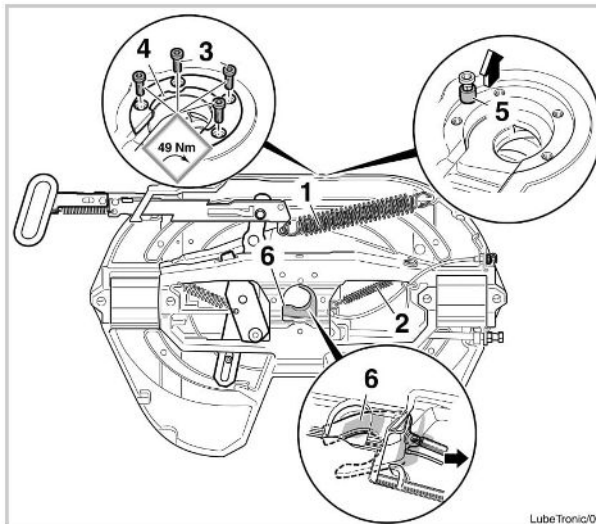
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LubeTronic

### 4 Assembly and commissioning

#### 4.4 Replacing the lock jaw (JSK 40 & JSK 42)



- ▶ Unhook the double spring (1).
- ▶ Release the spring (2).
- ▶ Undo the screws (3) on the wear part.
- ▶ Remove the wear part (4).
- ▶ Remove the pin (5).
- ▶ Rotate and remove the lock jaw (6).
- ▶ Install specially-coated lock jaws in the reverse sequence using assembly parts, some of which are new
- ▶ To adjust the fifth wheel coupling, test king pin SKE 008630000 can be used. This must however lie over its entire surface on top of the fifth wheel coupling!

**Note**

The detailed steps for removing the lock jaw can be found in repair instructions for JSK 40 & JSK 42 (available on the Internet at [www.jost-world.com](http://www.jost-world.com)).

English

LubeTronic

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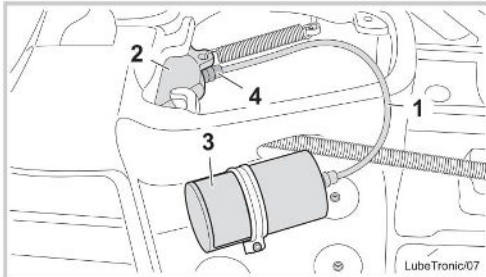
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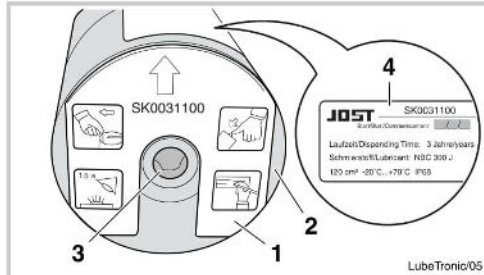
## 16.0 JOST Fifth Wheel LubeTronic Manual

### 4 Assembly and commissioning

#### 4.5 Connecting the lubricant dispenser and putting it into operation



- ▶ Remove the protective cap on the hose (1) of the lubricant dispenser (3). Connect the hose (1) on the lubricant dispenser (3) correctly to the connecting piece on the lock jaw (2). To do this, slide the locking nut onto the hose (1). Place the end of the hose on the grommet of the connecting piece.
- ▶ Tighten the locking nut (4) to its terminal position.



- ▶ Pull the protective cap (1) upwards from the lubricant dispenser (2).
- ▶ Firmly press the push-button (3) of the lubricant dispenser (2) inwards.
- ▶ Write the start date on the sticker (4).
- ▶ Write the start date on the enclosed second label and stick it on in a clearly-visible place.

#### Note

As confirmation that the lubricant dispenser (2) has been activated, the LED in the push-button (3) lights up for at least 15 seconds.

The lubricant dispenser can only be activated once.

An activated lubricant dispenser cannot be deactivated.

The specially coated lock jaw is supplied with an initial lubrication. The initial lubrication guarantees lubrication of the lock jaw until the lubricant cartridge has supplied a sufficient quantity of grease. This significantly improves the operating life. If the lubricant is wiped off the lock jaw, e.g. as a consequence of cleaning, we recommend greasing the functional surfaces of the lock jaw again by hand before continuing to operate the vehicle.

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### 5 Table of faults

No.	Fault	Cause	Remedy
1	The lubricant dispenser is not lubricating or is not lubricating adequately.	The lubricant dispenser is not activated.	Activate the lubricant dispenser. See Section 4.5 "Connecting the lubricant dispenser and putting it into operation" in these A&O.
		The lubricant line is damaged or crushed.	Check the lubricant line for damage and crushing and replace any lines that are damaged or crushed.
		The grease supply has run out.	The lubricant dispenser and lock jaw must be replaced. Spare parts kit: SKE004070100
		The housing is damaged.	The lubricant dispenser and lock jaw must be replaced. Spare parts kit: SKE004070100
2	Function light flashes once every 5 seconds	The grease supply has run out.	The lubricant dispenser and lock jaw must be replaced. Spare parts kit: SKE004070100

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**16.0 JOST Fifth Wheel LubeTronic Manual**

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**JOST**

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## 17.0 Right Weigh – Analogue Load Scale

### Calibration Instructions:

**Step 1:** The vehicle must be loaded. For best results, calibrate with a loaded weight that is within 650 KG of the legal limit for the axle group. **Do Not Calibrate Empty!**

**Step 2:** Using a certified in-ground scale, obtain a loaded weight for the axle group attached to the Right Weigh load scale.

**Step 3:** Park on a level surface. Shift the transmission to neutral and set the parking brakes.

**Step 4:** Chock the wheels to prevent unexpected vehicle movement.

**Step 5:** Release the parking brakes.

**Step 6:** Make sure the Height Control Valve (HCV) has fully inflated the air bags. If needed, briefly dump the air from the suspension and allow the HCV to refill the system. (This may take several minutes depending on the type of HCV.)

**Step 7:** Pull the “push-pull” valve to switch the valve into the open position. (Fig. 4)

**Step 8:** Using a small flathead screwdriver, turn the calibration screw on the dial face until the gauge matches the certified scale weight. (Fig. 5)

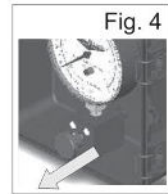


Fig. 4

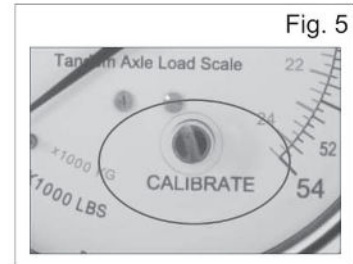


Fig. 5

Write the date and the certified scale weight in the calibration log. Calibration should be checked every 6 months. Your scale is now calibrated and ready to use!

### Operating Instructions:

**Step 1:** Park on a level surface. Shift the transmission to neutral and set the parking brakes.

**Step 2:** Chock the wheels to prevent unexpected vehicle movement.

**Step 3:** Release the parking brakes.

**Step 4:** Make sure the Height Control Valves (HCV) have fully inflated the air bags. If needed, briefly dump the air from the suspension and allow the HCV's to refill the system. (This may take several minutes depending on the type of HCV.)

**Step 5:** Pull the “push-pull” valve to switch the valve into the open position. (Fig. 1)

**Step 6:** View the load scale gauge to determine the on-the-ground axle group weight.

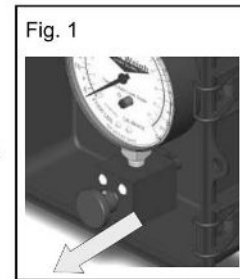


Fig. 1

### Troubleshooting:

Erratic or inaccurate readings could result from the following:

- 1) The vehicle is **NOT** parked on a level surface. Parking on a sloped or banked surface will cause the vehicle weight distribution to shift between the axle groups.
- 2) The vehicle's brakes are on. When the vehicle's brakes are set, they could potentially apply additional pressure or torque on the suspension air bags.
- 3) The vehicle is parked on an uneven or rough surface. If one or more of the vehicle's wheels are in a pothole, that could result in additional pressure or torque on the suspension air bags.
- 4) The height control valve (HCV) is malfunctioning and/or broken. To test for an HCV problem, follow steps 1 to 5 of the operating instructions (the trailer should be loaded). Write down the weight reading from the load scale. Then, drive the vehicle around the block and return to the same location. Follow steps 1 to 5 of the operating instructions again to get a second reading for the load scale. If the two readings are significantly different then the HCV might be malfunctioning and/or broken.

## 18.0 Right Weigh – Digital Bluetooth Load Scale



### Calibration

The 201-EBT-01(B) load scale must be calibrated both empty and loaded to work properly. The scale associates the air pressure in the suspension system to the weight you enter at the time of calibration. You will need to calibrate once while the vehicle is empty, and again while the vehicle is loaded for each axle group being monitored.

**i** When entering the loaded weight value, be sure that your vehicle is as close to the maximum legal weight limit as possible.

#### 1. Enter Empty Weight

**Step 1:** While your vehicle is empty, obtain a weight value for the specific axle group attached to the Right Weigh load scale using a certified ground scale.

**Step 2:** Park on a level surface. Shift the transmission to neutral and set the parking brakes. If you can stay on the ground scale, that is ideal.

**Step 3:** Chock the wheels to prevent unexpected vehicle movement, then release the parking and service brakes.

**Step 4:** Make sure the height control valve (HCV) has fully inflated the air bags. If needed, briefly dump the air from the suspension and allow the HCV to refill the system. (This may take several minutes depending on the type of HCV.)

**Step 5:** Press the **ON/OFF** button to turn on the Right Weigh load scale.

**Step 6:** Press and hold the **C** button for 3 seconds until "C/L" appears.

**Step 7:** Using the **↓** and **↑** arrow buttons, adjust the Right Weigh load scale until the weight displayed matches the certified weight from the ground scale.

**Step 8:** Press and hold the **C** button again for 3 seconds until "C/L" disappears.

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### Operating and Weighing Instructions

In order for the gauge to provide the most accurate weight values, you must take care to position the vehicle correctly. For best results, follow these steps:

**Step 1:** Park on a level surface. Shift the transmission to neutral and set the parking brakes.

**Step 2:** Chock the wheels to prevent unexpected vehicle movement, then release the parking and service brakes.

**Step 3:** Make sure the height control valve (HCV) has fully inflated the air bags. If needed, briefly dump the air from the suspension and allow the HCV to refill the system. (This may take several minutes depending on the type of HCV.)

**Step 4:** Press the **ON/OFF** button to turn on the Right Weigh load scale.

**Step 5:** Adjust the suspension or the load itself until the Right Weigh load scale displays a weight value below your legal limit.

**Step 6:** Press the **ON/OFF** button to turn off the Right Weigh load scale.

**i** The display will turn itself off after 60 minutes.

**i** To change the units from pounds to kilograms, hold **↑**, and press



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### Calibration



**i** Weigh the entire axle group being monitored. Do not use values such as gross weight, tare weight, or just one axle from a group of 2 or more.

#### 2. Enter Loaded Weight

**Step 1:** While your vehicle is fully loaded, obtain a weight value for the specific axle group attached to the Right Weigh load scale using a certified ground scale.

**Step 2:** Park on a level surface. Shift the transmission to neutral and set the parking brakes. If you can stay on the ground scale, that is ideal.

**Step 3:** Chock the wheels to prevent unexpected vehicle movement, then release the parking and service brakes.

**Step 4:** Make sure the height control valve (HCV) has fully inflated the air bags. If needed, briefly dump the air from the suspension and allow the HCV to refill the system. (This may take several minutes depending on the type of HCV.)

**Step 5:** Press the **ON/OFF** button to turn on the Right Weigh load scale.

**Step 6:** Press and hold the **C** button for 3 seconds until "C/H" appears.

**Step 7:** Using the **↓** and **↑** arrow buttons, adjust the Right Weigh load scale until the weight displayed matches the certified weight from the ground scale.

**Step 8:** Press and hold the **C** button again for 3 seconds until "C/H" disappears.

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### Scale Operating Modes

The next few pages cover the operation modes that are built into the 201-EBT-01(B). The load scale can only be setup in one operating mode at a time. If the mode is changed, the calibration data will be reset to factory defaults, requiring re-calibration.

**Average Mode (AVG):** This is the default mode of the scale.

**Estimated Steer Mode Average (S-AVG):** For monitoring a drive axle group weight and also calculating an estimated steer axle weight based on the weight ratio between the drive axle group and the steer axle.

**Multiple Calibration Mode (4CAL):** Four sets of calibration data can be stored for use when the axle group is weighed under different conditions, such as when an integrated air ride lift axle is used on the same HCV.

#### Changing Scale Mode:

1: With the scale **OFF**, hold the **↑** and **↓** buttons, and press the **ON/OFF** button. The scale will display the current mode.



2: Press the **↑** button to cycle through the configuration modes. To confirm your selection, turn the scale off by pressing the **ON/OFF** button.



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## 18.0 Right Weigh – Digital Bluetooth Load Scale

### Multiple Calibration Mode (4Cal Mode)

The 201-EBT-01(B) digital load scale can be used in a mode which stores 4 sets of calibration data. This can be useful for an axle group which has an integrated air ride lift axle using the same HCV, or a suspension which has many operating conditions. Follow these steps to setup in this mode.

**Step 1:** With the gauge OFF, hold the and buttons, then press the button.



**Step 2:** Press the button until "4CAL" is displayed. To save the new configuration, turn the scale off by pressing .

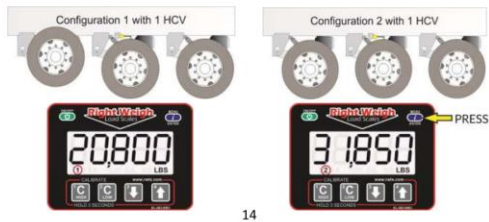


#### Calibration

The calibration process is the same as Average mode, however, you now have the ability to change between the 4 calibration modes using the button. When calibrating, make sure to calibrate both empty and loaded for each calibration set that you plan on using.

#### Operation

Use the button to switch between the saved calibrations. A number will appear in the lower right letting you know which calibration set is active.



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### Security PIN Code

A security PIN code can be added to the 201-EBT-01(B) to prevent tampering with the scale. It will need to be entered to change the calibration values, or to change the PIN code. Keep a copy of the PIN code for future use. Once a PIN has been set, it can be changed, but it cannot be removed.

#### Setting a PIN Code

**Step 1:** With the scale off, press while holding and .



**Step 2:** Press . The display will show "00000". If the display shows "- - - -" it means there is already a code set. Enter in a 5 digit PIN code using buttons 1, 2, 3 and 4. Press the button again to save the PIN.

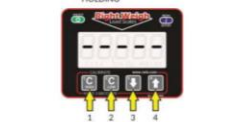


#### Changing your PIN Code

**Step 1:** With the scale off, press while holding and .



**Step 2:** Press the display will show "- - - -". Enter the previous PIN code. If the correct code was entered, The display will show "Good".



**Step 3:** Press and enter the new 5 digit PIN code using buttons 1, 2, 3, and 4. Press again to save the new PIN.



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### Overweight Warning

As an added visual warning, the display can be set to flash when above a set weight. For example, you may choose to have the display flash any time the weight on the axle group goes above 33,500 pounds.

#### Setting an Overweight Warning

**Step 1:** With the scale turned on, press and hold and . The C/H symbol will appear.



**Step 2:** The display will show the warning value. "0" is the default setting and the display will not flash the weight at any time if it is set to "0".



**Step 3:** Use the and arrow buttons to set the desired warning weight. Press and hold and to save.



Setting the warning value to "0" will disable the overweight warning feature.

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### Right Weigh Load Scales App Overview

When connected with Bluetooth® wireless technology enabled Right Weigh load scales, axle group weight readings are displayed on the *Right Weigh Load Scale App*.

The basic steps to connect your Right Weigh load scale to your smart device are:

- Discover the unique name of your load scale(s)
- Setup your load scales to the desired configuration
- Sync your load scale(s) with your smart device

- 1. Menu, Settings and Support:** Use this button to view stored weight data, change the unit of measure (LBS or KG), set warning weight and overload weights, change or add weight data settings and to toggle the option to show the support page on app startup.
- 2. Scale Name (Truck):** The name of the connected truck-mounted scale appears here. Tap the name to set a new name for the scale. The name you set will be saved to the scale itself and the scale will be identified by that name in the future when visible to a device.
- 3. Scale Name (Trailer):** Names of connected trailer-mounted scales appear here. Tap the name to set a new name for the scale. The name you set will be saved to the scale itself and the scale will be identified by that name when visible to a device.
- 4. Axle Group Name:** This name represents the axle group which the scale is monitoring and reflects the operating mode of the scale.
- 5. Share:** This button will open the share data view to send weight data via email.
- 6. Total Weight:** Shows vehicle's total weight
- 7. Signal Status:** A blue icon represents that the device is connected to the scale and is receiving data. A grayed-out icon means the scale has been disconnected. Pressing the refresh button will attempt to reconnect the device to the scale.
- 8. Add a Scale:** Press the "+ Truck" button to add a truck mounted scale to the app. Press the "+ Trailer" button to add a trailer mounted scale to the app.

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## 18.0 Right Weigh – Digital Bluetooth Load Scale

### Right Weigh Load Scales App Overview

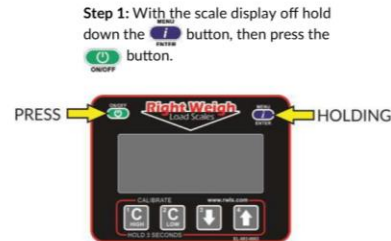


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### Unique Scale Identifier

#### Unique Scale Identifier:

If this is the first time you have used the Right Weigh load scale, you will need to enter a special mode to view the scale's unique identifier. This will help identify the scale when syncing more than one scale with your smart device.

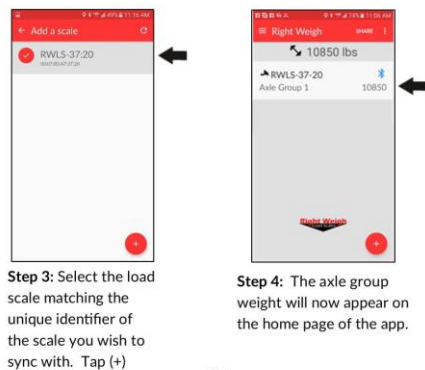
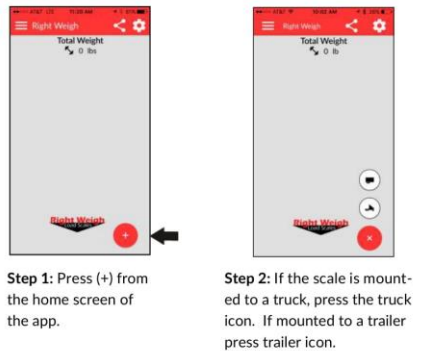


**Step 2:** Press the **ON/OFF** button twice to display the load scale unique identifier.



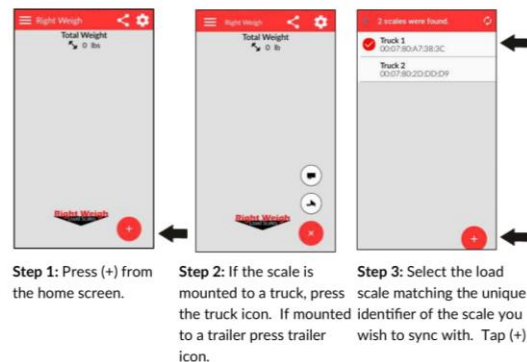
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### Syncing your Device

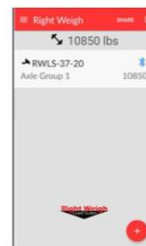


20

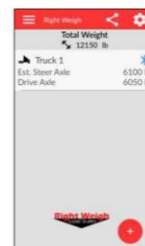
### Syncing your Device



If your gauge is setup in the default **Average Mode (AVG)**, you will see the axle group weight displayed.



If your gauge is setup in the **Estimated Steer Mode Average (S-AVG)**, you will see the estimated steer axle and drive axle weight.



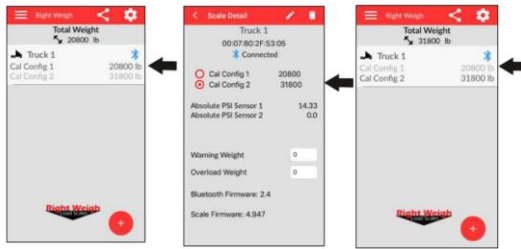
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## 18.0 Right Weigh – Digital Bluetooth Load Scale

### Syncing your Device

If your gauge is setup in Multiple Configuration Mode (4CAL), you will see all of the configurations available. The inactive configs will be



To switch the active configuration, select the load scale on the home screen then select the desired configuration. Press the back arrow.

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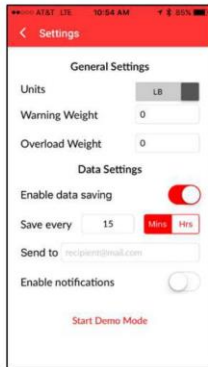
### Set the Load Scale Name

To re-name a scale, tap on the name of the scale from the home screen of the app. Enter the new name, and press return in the keypad. The name you enter will be saved to the scale itself, and will replace the default name. When syncing with your scale in the future, this name will display in the app.



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### Settings and Sharing

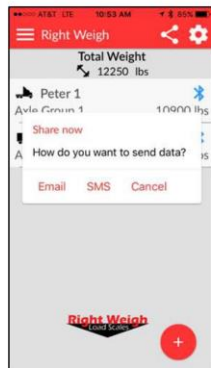


#### Settings View

In the setting view screen, you have the option to switch between LBS and KG. Furthermore, you can toggle the system support page on startup of application.

#### Share View

To share your current loaded weigh with others via e-mail or text, tap the share button in the top right corner of the home screen. The share data interface will appear. Choose e-mail or text and enter the contact information of the person you wish to send your data to and press send.



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### Troubleshooting


#### Erratic or inaccurate readings

The vehicle is not parked on a level surface	Parking on sloped or banked surfaces will cause the vehicle weight distribution to shift between the axle groups.
The vehicle's brakes are on	When the vehicle brakes are set, they could apply additional pressure or torque on the suspension air bags. This will cause the suspension to have a different air pressure than what is actually needed to hold up the given weight.
The vehicle is parked on an uneven or rough surface	If one or more of the vehicle's wheels are in a pothole, that could result in additional pressure or torque on the suspension air bags. This will cause the suspension to have a different air pressure than what is actually needed to hold up the given weight.
The height control valve (HCV) is malfunctioning or broken	If the HCV is not functioning correctly, the air pressure applied to the suspension system could be inconsistent and/or erratic. To test for an HCV problem, acquire a weight reading from the Right Weigh load scale and write it down (refer to scale operating instructions for proper procedure). Drive the vehicle around the block and return to the same location. Acquire a second reading from the Right Weigh load scale. If the two readings are significantly different, then the HCV might be malfunctioning.
There is a significant air leak in the suspension system	This could cause the HCV to refill the suspension at regular intervals to maintain the vehicles ride height. If there is a significant leak, the scale display will slowly decrease in value and then quickly increase in value when the HCV refills the suspension system.
App won't connect to Bluetooth scale	Power cycle scale by removing (turn off) power source and reconnecting power source (turn on).

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**18.0 Right Weigh – Digital Bluetooth Load Scale**

 Troubleshooting	
<b>Scale does not power on:</b>	
Scale is not connected to a switched power source of between 9 and 32 volts	If there is a bad connection in the circuit which causes voltage to drop below 9 volts, the scale will not power on. Test the power source with a voltmeter. Scale must be connected to a switched source to allow for occasional software reboot.
Polarity is incorrect	The red wire must be connected to positive, and the black to negative.
<b>Scale Display is Blinking</b>	
Current weight is above the alarm limit programed by the user	With scale on, press and hold the 1 & 2 buttons simultaneously. The display will show the alarm limit weight. To remove the alarm weight, set this number to 0 using the down arrow, and then hold 1 & 2 again until the display is cleared.
<b>Cannot Change Calibration Data</b>	
The scale has an active user-defined security PIN.	If the scale is protected with a passcode, the PIN number must be entered before calibration data can be changed. The scale will display "CodE" and the previously set 5 digit PIN number must be entered to change the data.
<b>Scale will not Calibrate Low</b>	
Air Pressure in system is not changing	To enter C/L mode, the 201-EBT-01(B) load scale must see a measurable change in air pressure from when you calibrated high. <ul style="list-style-type: none"> <li>• Make sure you calibrate high while your trailer is near the legal limit, and cal low when the trailer is empty.</li> <li>• Be sure the air line is connected to an air bag and not connected to the main air supply or air brake system.</li> </ul>