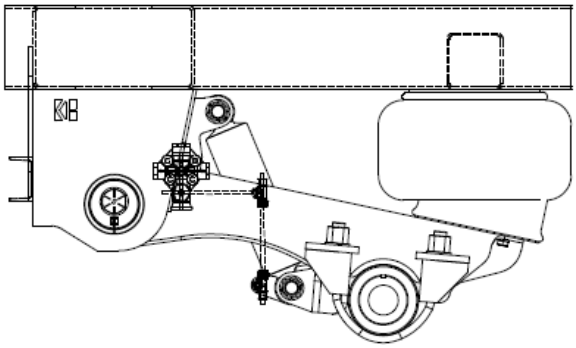
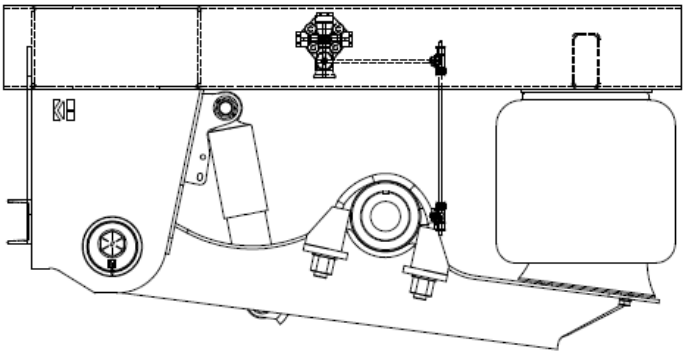
INSTALLATION, MAINTENANCE & SERVICE BULLETIN

KT AIR SUSPENSION



KT 250 T
KT 230 T



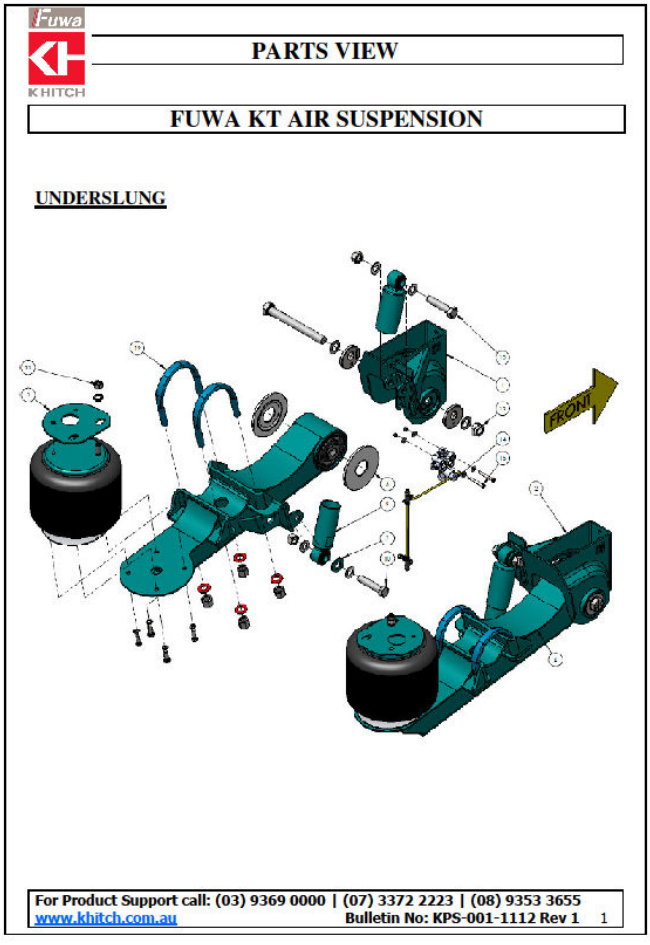
KT 250 U
KT 230 U

Contents

1. **Preassembly Considerations**
2. **Welding Instructions – Axle Connection**
3. **Welding Instructions – Chassis Connection**
4. **Welding & Tightening Instructions – Axle Lift Kit**
5. **Tightening Instruction**
6. **Axle Alignment**
7. **Torque Decal**
8. **Maintenance**
9. **Air Spring, Load Charts**

1. Preassembly Considerations

- **Check if the correct parts have been supplied**
- **Check the installation drawings match the parts supplied**
- **Check track size, axle rotation positioning and booster orientation before welding.**
- **Ride height, hubs, wheel and tyre size need to suite the application**
- **Check that the correct tools and equipment are available to do the installation.**
- **Only qualified personnel should be in charge of the installation.**
- **For any parts identification and requirement, refer to the FKH Parts View Bulletin KPS-001-1112 on www.khitch.com.au**


PARTS VIEW

FUWA KT AIR SUSPENSION

UNDERSLUNG

FRONT

For Product Support call: (03) 9369 0000 | (07) 3372 2223 | (08) 9353 3655
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2. Welding Instruction – Axle Connection

STEP 1

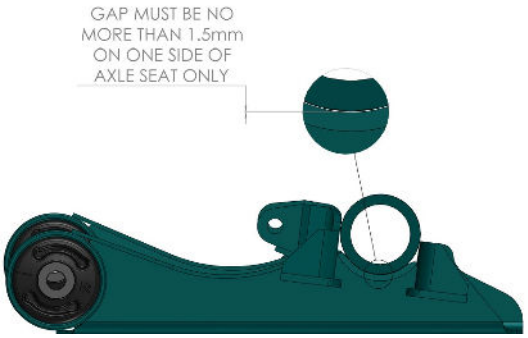
Weld Specification:

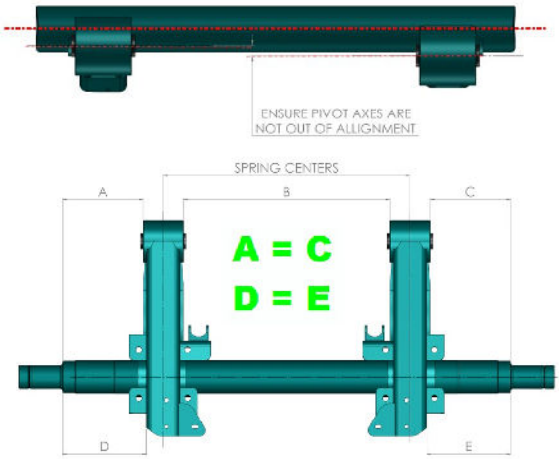
1. Preheat the axle connection at the axle and suspension seat if recommended.
2. Suspension welding surface must be free from grease, paint, moisture and dirt.
3. Welding parameters:
   - SMAW: Standard electrode: AWS E-7018 (over dried)
   - GMAW: Standard wire: AWS ER-70S-6
   - Volts: 26-30 DCRP
   - Current: 275-325 Amps
   - Gas: 86%Ar, 14% CO_2 at 30-35 CFH

STEP 2

Pre-weld Setup and Measurement:

1. Place the suspension on a smooth level surface.
2. Place the axle in line with trailing arm seat and accurately centre axle relative to the arms.
3. Locate the camshafts in their proper positions.
4. The arms must remain vertically parallel to each other and square to the axle.
5. Clamp and secure the arm assembly to the axle.



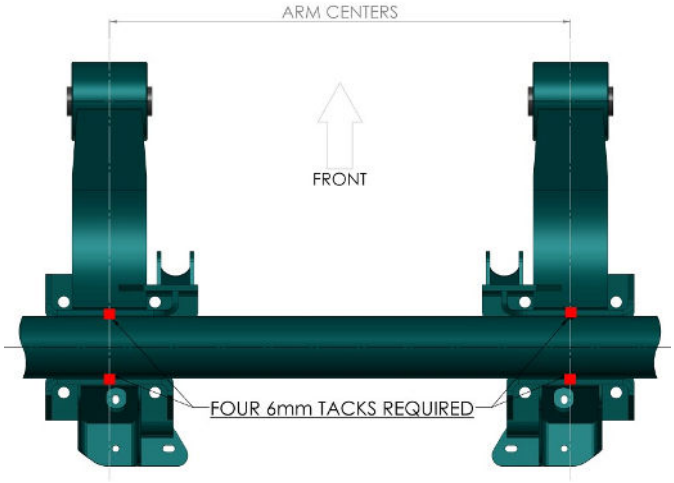


IMPORTANT:

- **Consult axle manufacturer for preheating specifications and do not concentrate the heat in one area.**
- **Do not over tighten clamps. The arm pivots must remain parallel.**
- **At least one side arm must seat on the axle firmly, but non-seated side gap must be no more than 1.5mm.**
- **U-bolts should be installed after completion of welding (allow a sufficient cool down period).**

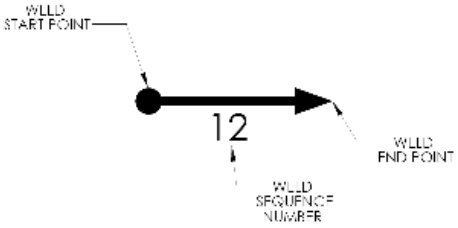
STEP 3 Tacking Length and Placement:

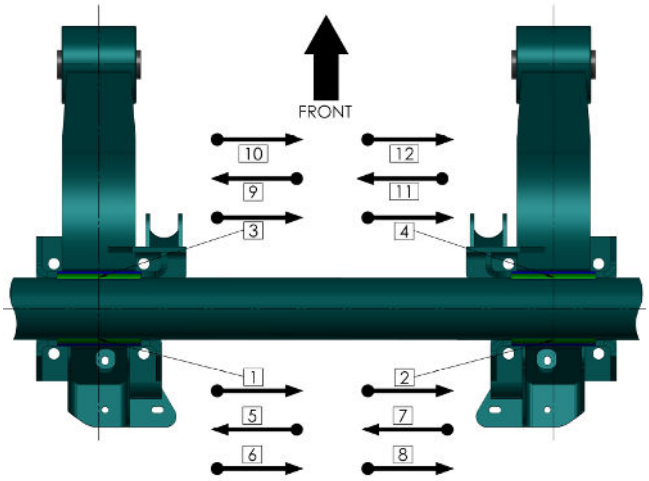
1. Tack the axle to the arm near the centre, as shown.
2. Double check measurement before commencing welding.



STEP 4 Welding Direction and Sequence:

1. Start welding at rear side of the axle connection.
2. Place four single root pass welds at all areas.
3. Continue with second and third weld passes.



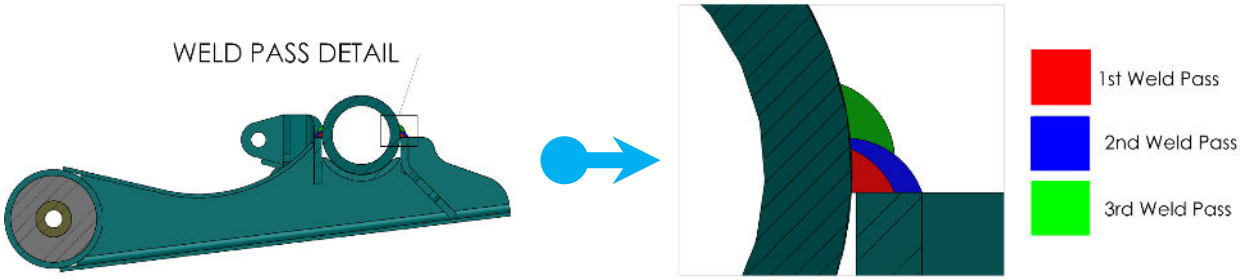


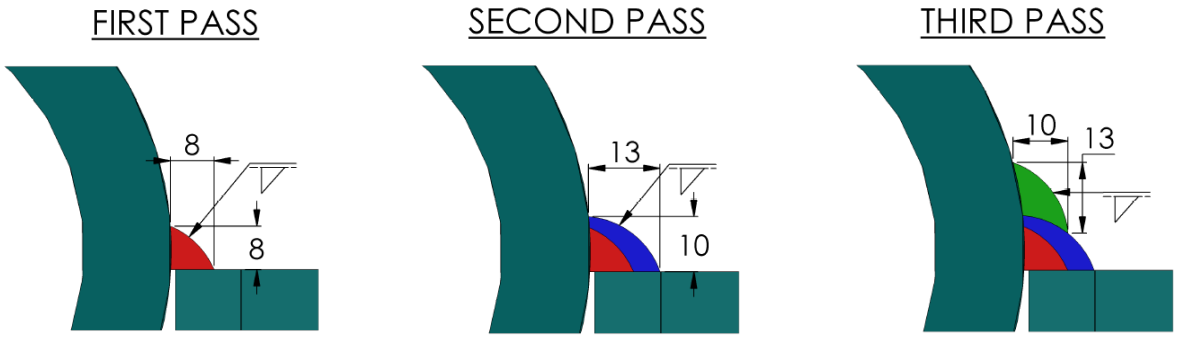
IMPORTANT:

- **Make sure tacks are near the seat centre.**
- **Make sure all 4 root pass welds are completed before proceeding to next weld pass stage.**

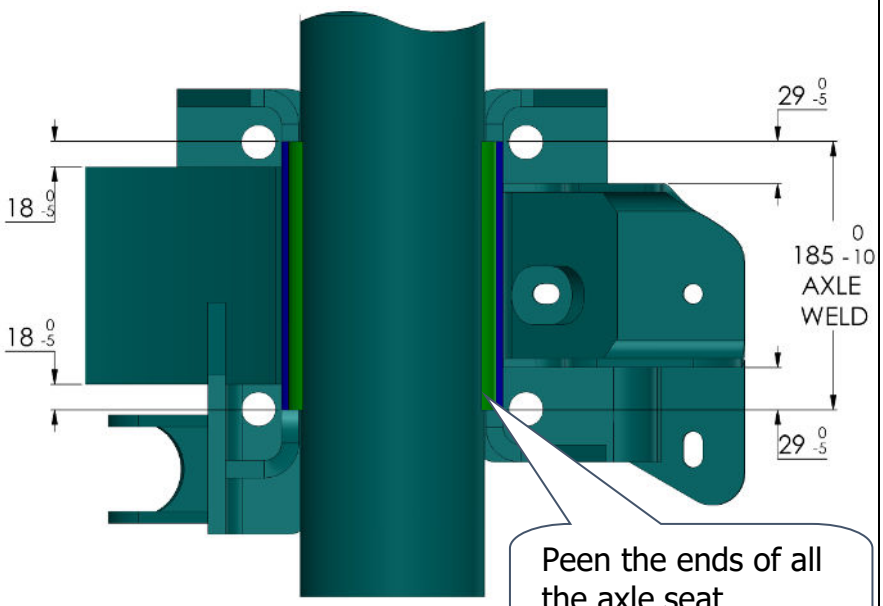
STEP 5 Welding Size and Location:

1. Perform three weld passes as shown





2. Accurately perform weld passes to specified length



IMPORTANT:

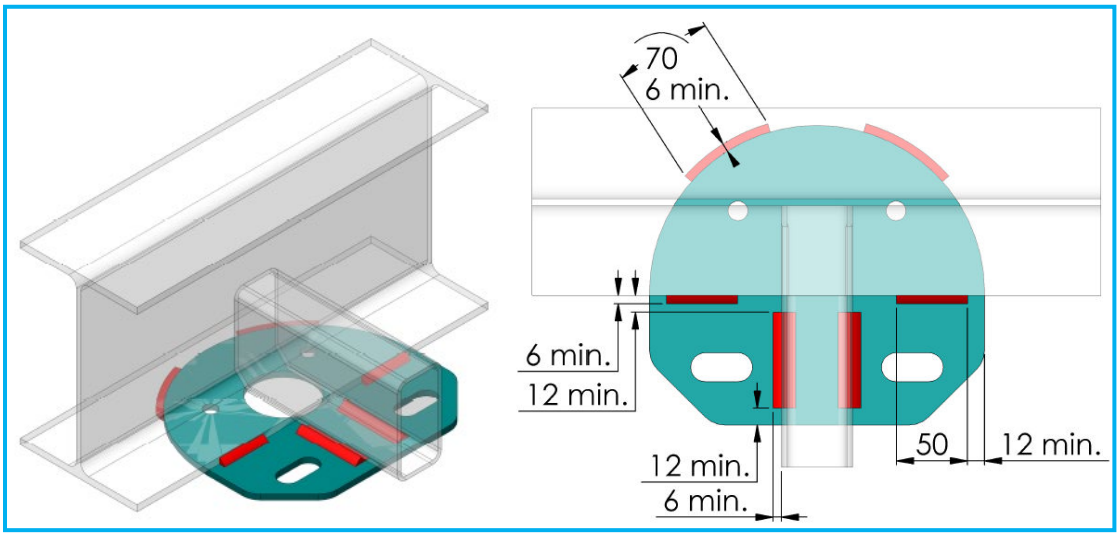
- **All axle seat connections require three weld passes.**
- **Do not wrap welds around axle seat corners.**

CAUTION:

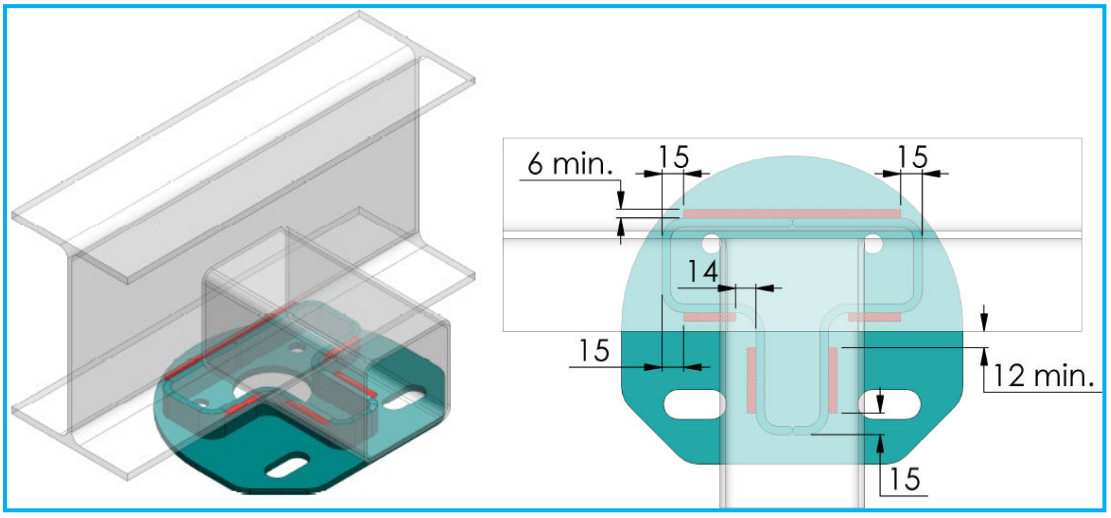
- **Avoid all cold laps and undercuts. Fill all craters. Clean weld between each pass.**
- **Failure to follow properly procedures can result in loss warranty coverage.**

3. Welding Instruction – Chassis Connection

AIR SPRING MOUNTING



Mounting Plate without Spacer



Mounting Plate with Spacer

IMPORTANT:

- Do not weld within 12mm between mating edge of the suspension component and trailer frame.
- It is the responsibility of the suspension installer to provide both proper welding parameters and adequate attachment for the suspension.
- Do not attach air spring direct to trailer frame.

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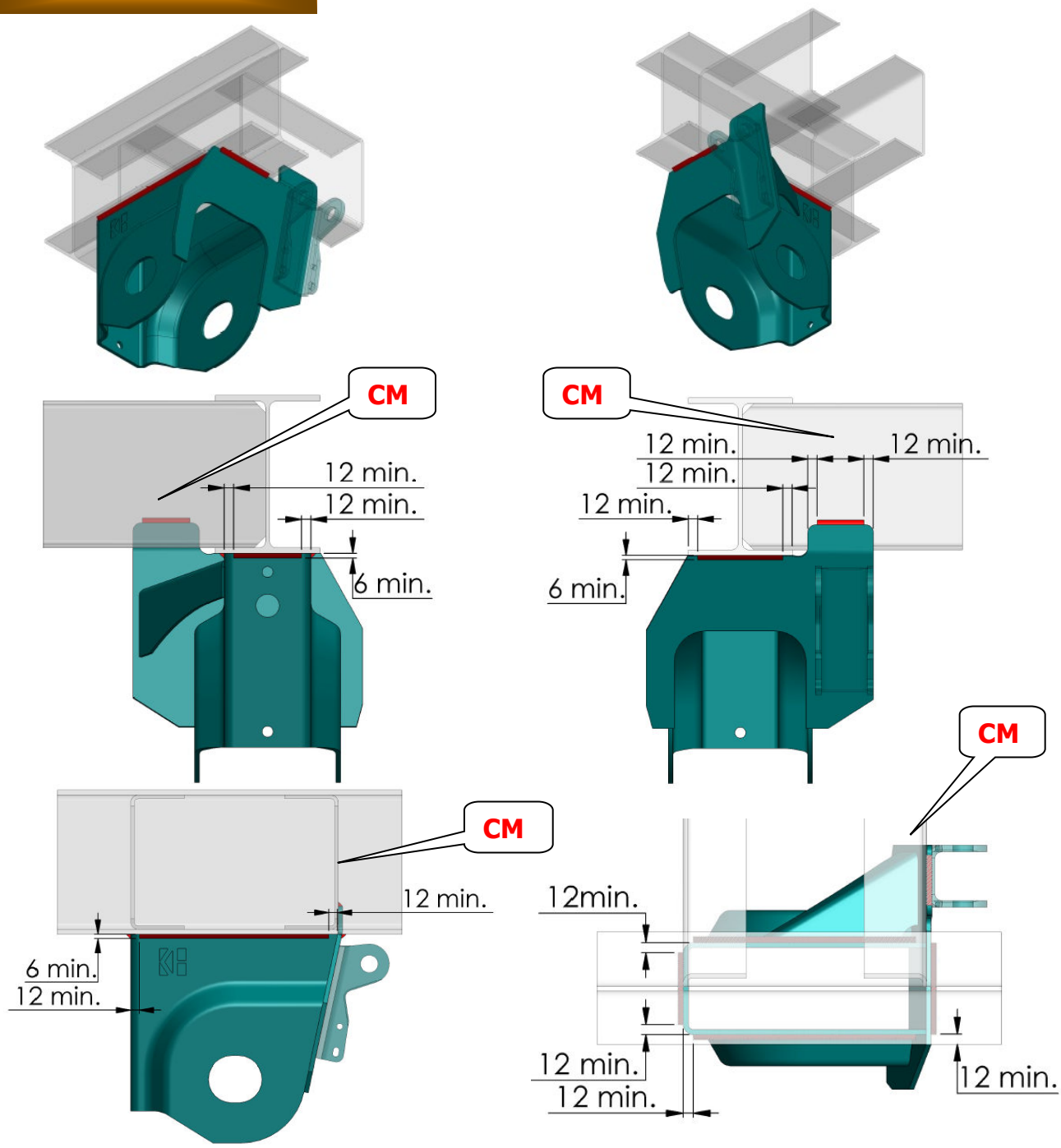
HANGER MOUNTING

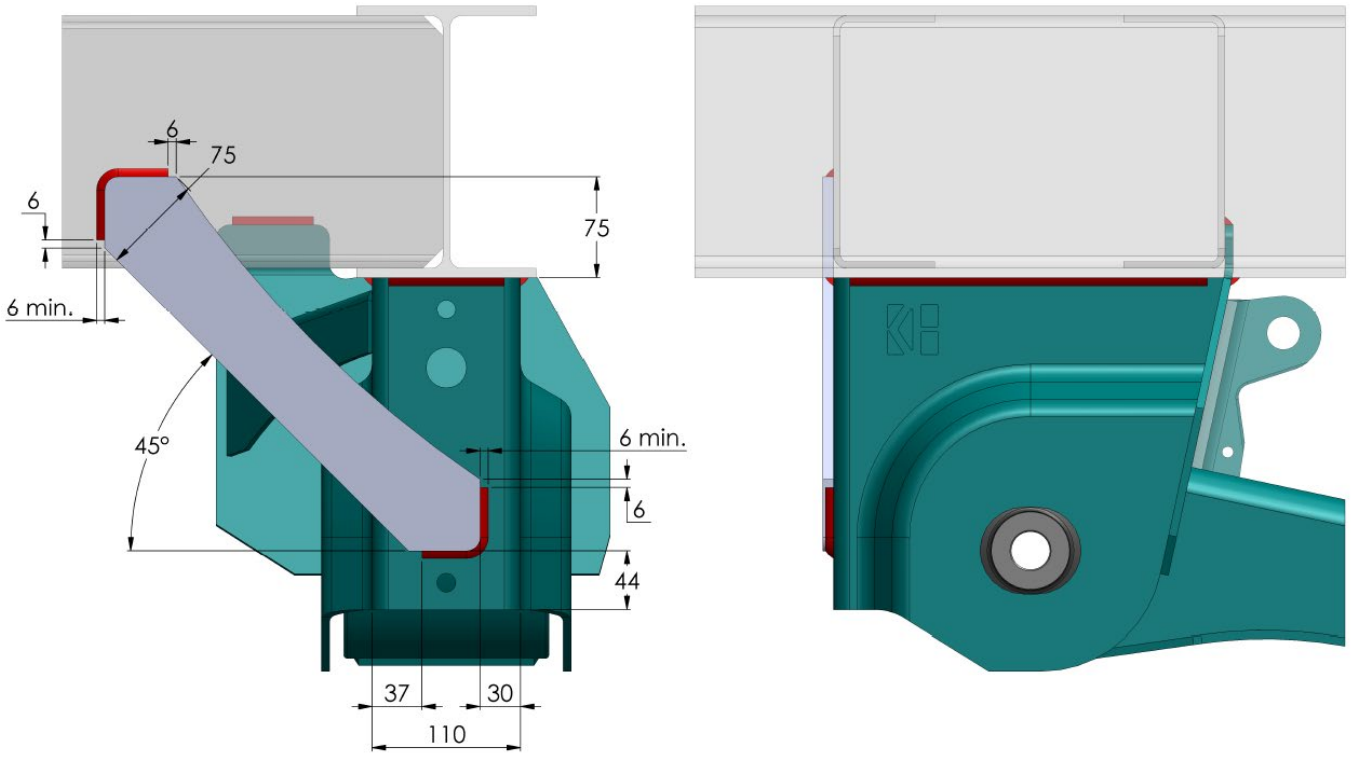


IMPORTANT:

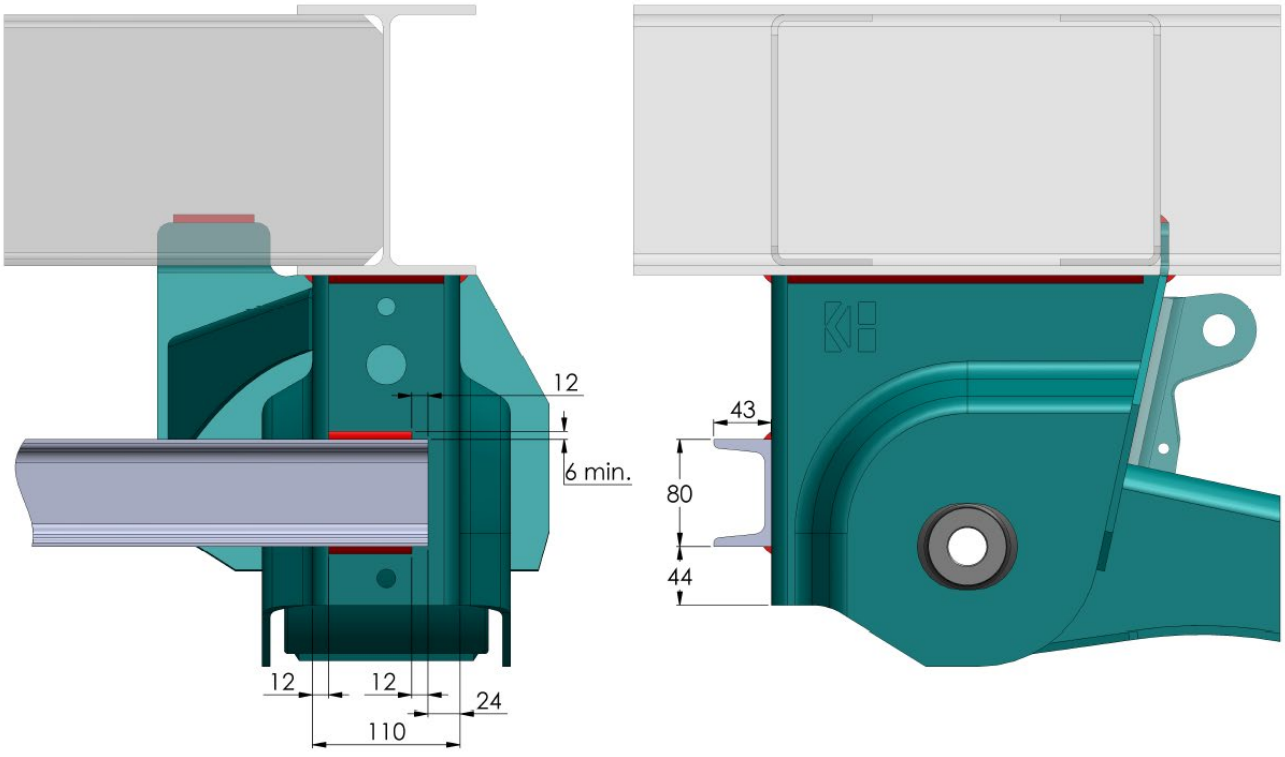
- Do not weld within 12mm between mating edge of the suspension component and trailer frame.
- Insure that the left and the right hangers are welded on the same perpendicular line to the chassis. (Axle alignment)
- Insure the shocker bracket tab is welded and supported against a cross member. (**CM**)

INSTALLATION, MAINTENANCE & SERVICE BULLETIN

IMPORTANT **HANGER CROSS BRACING** **IMPORTANT**



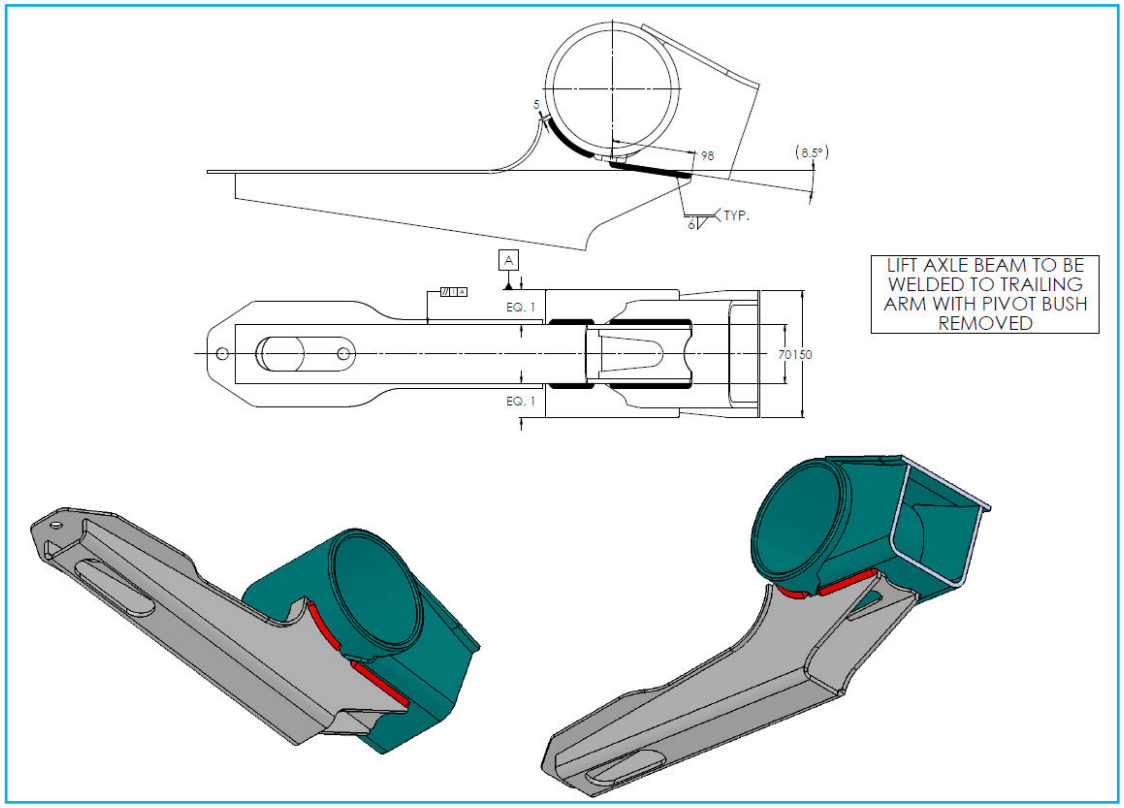
Knee Bracket from Hanger to Cross Member

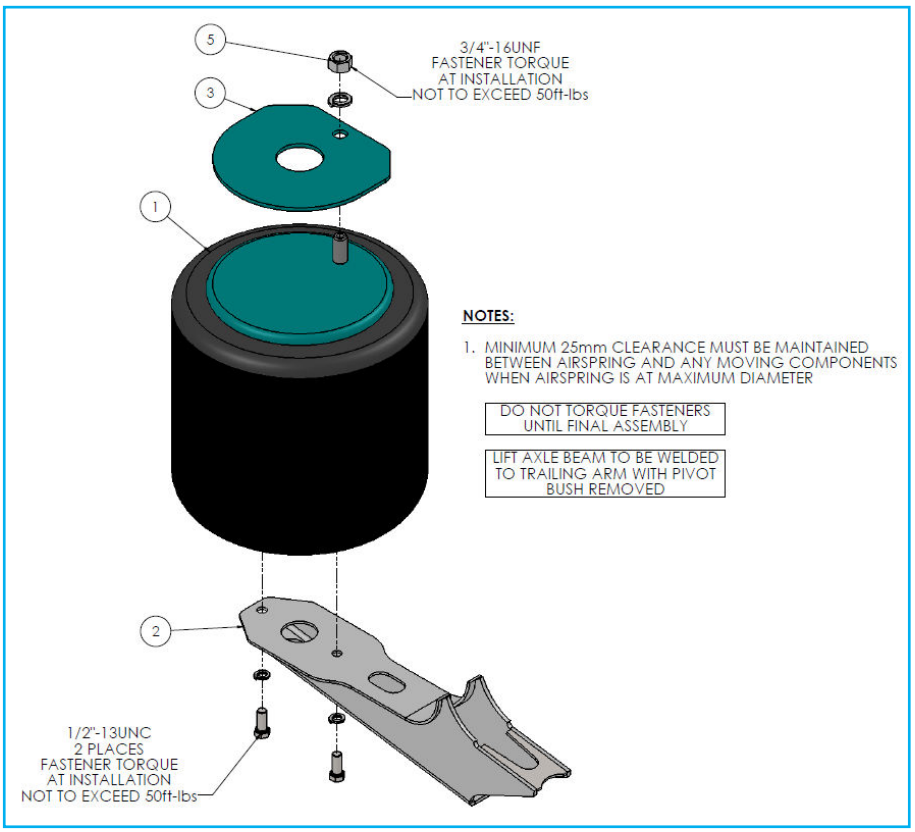


C-Channel from Hanger to Hanger

4. Welding & Tightening Instructions – Axle Lift Kit

SIDE LIFT KIT - KT UNDERSLUNG: N100562-001





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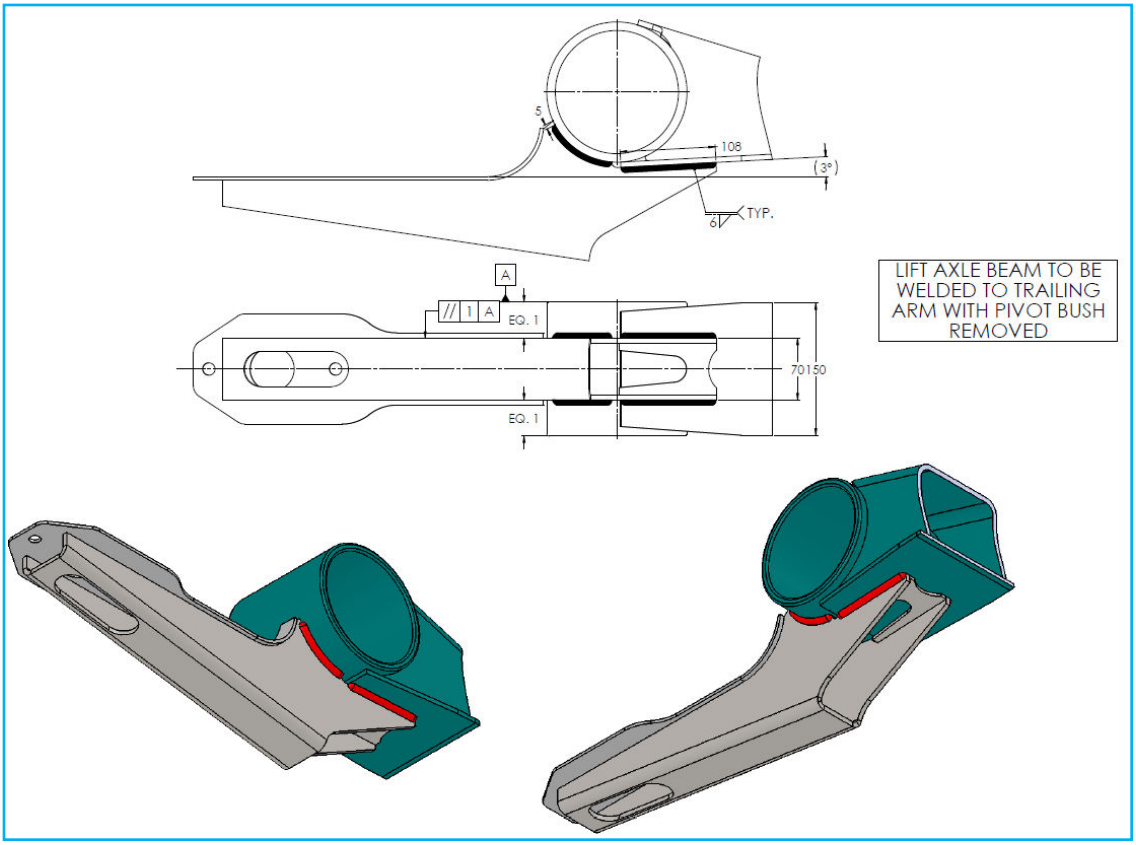
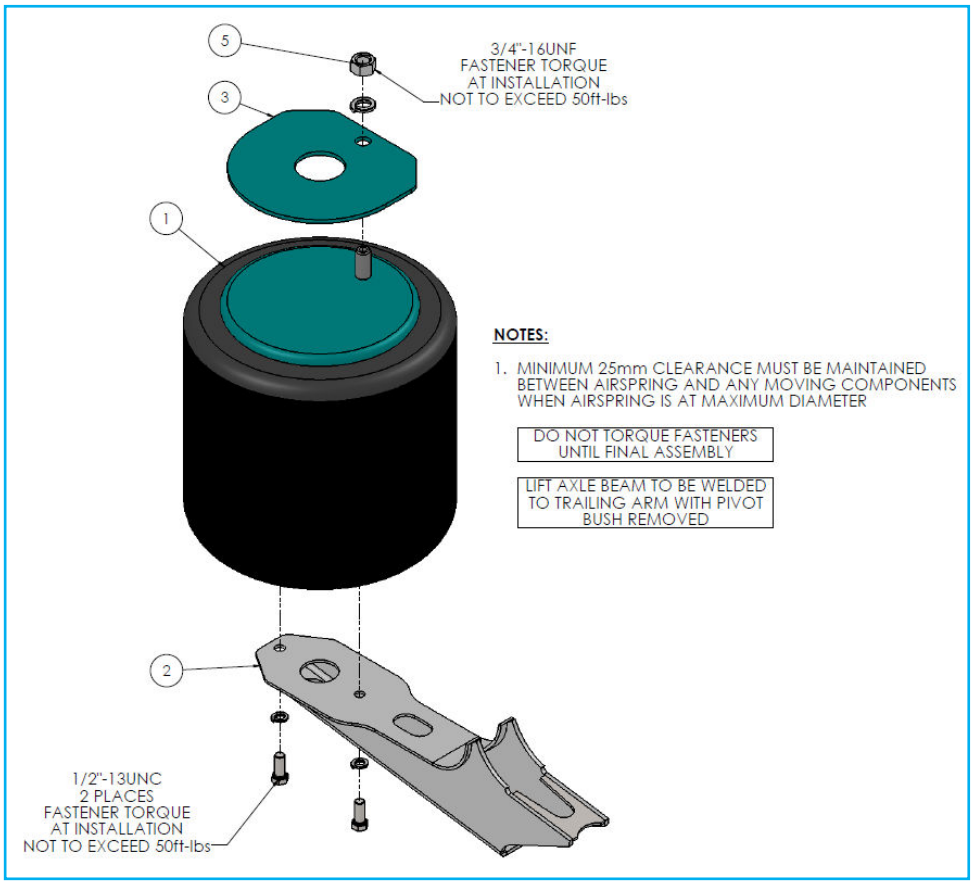
SIDE LIFT KIT - KT OVERSLUNG: N100562-002





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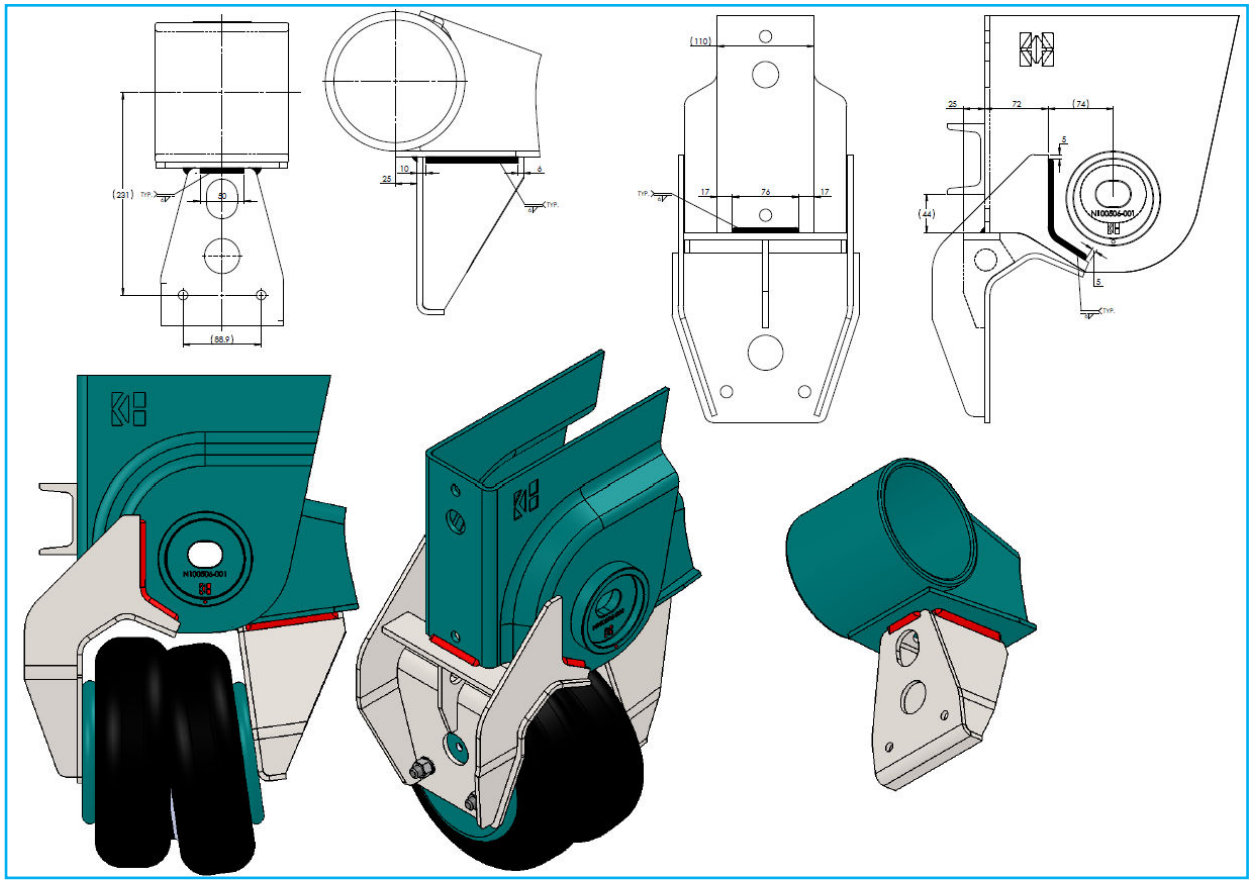
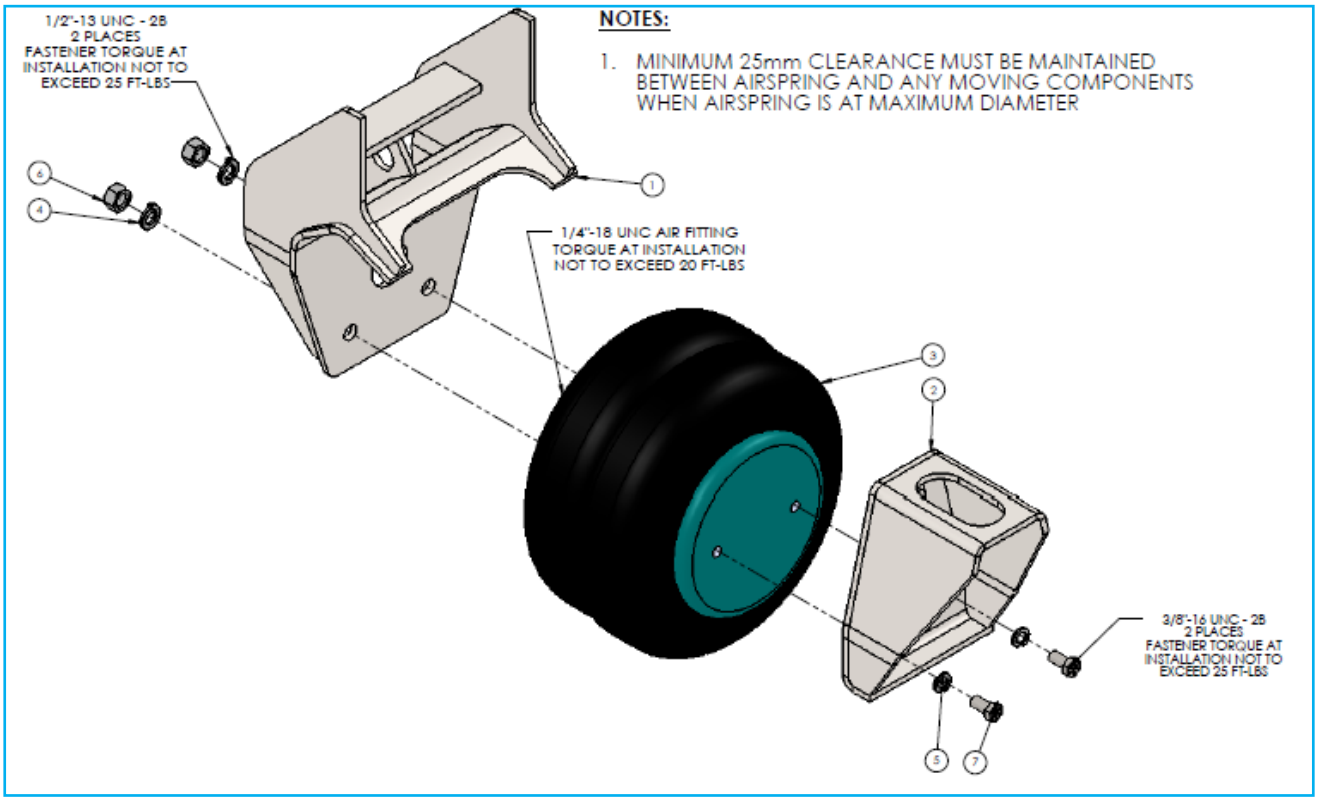
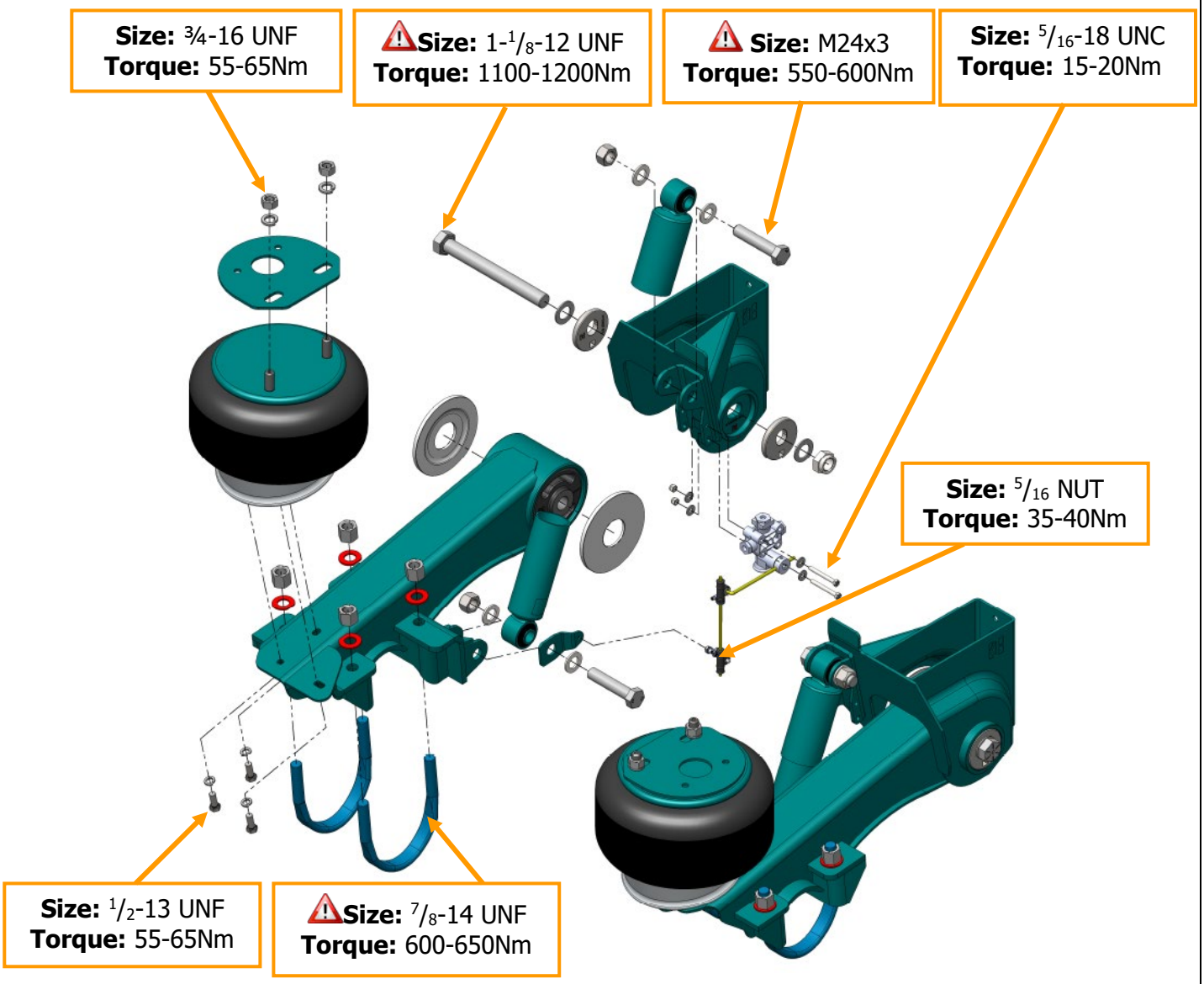
DUAL SIDE LIFT KIT - KT OVERSLUNG: N100562-012





5. Tightening Instruction



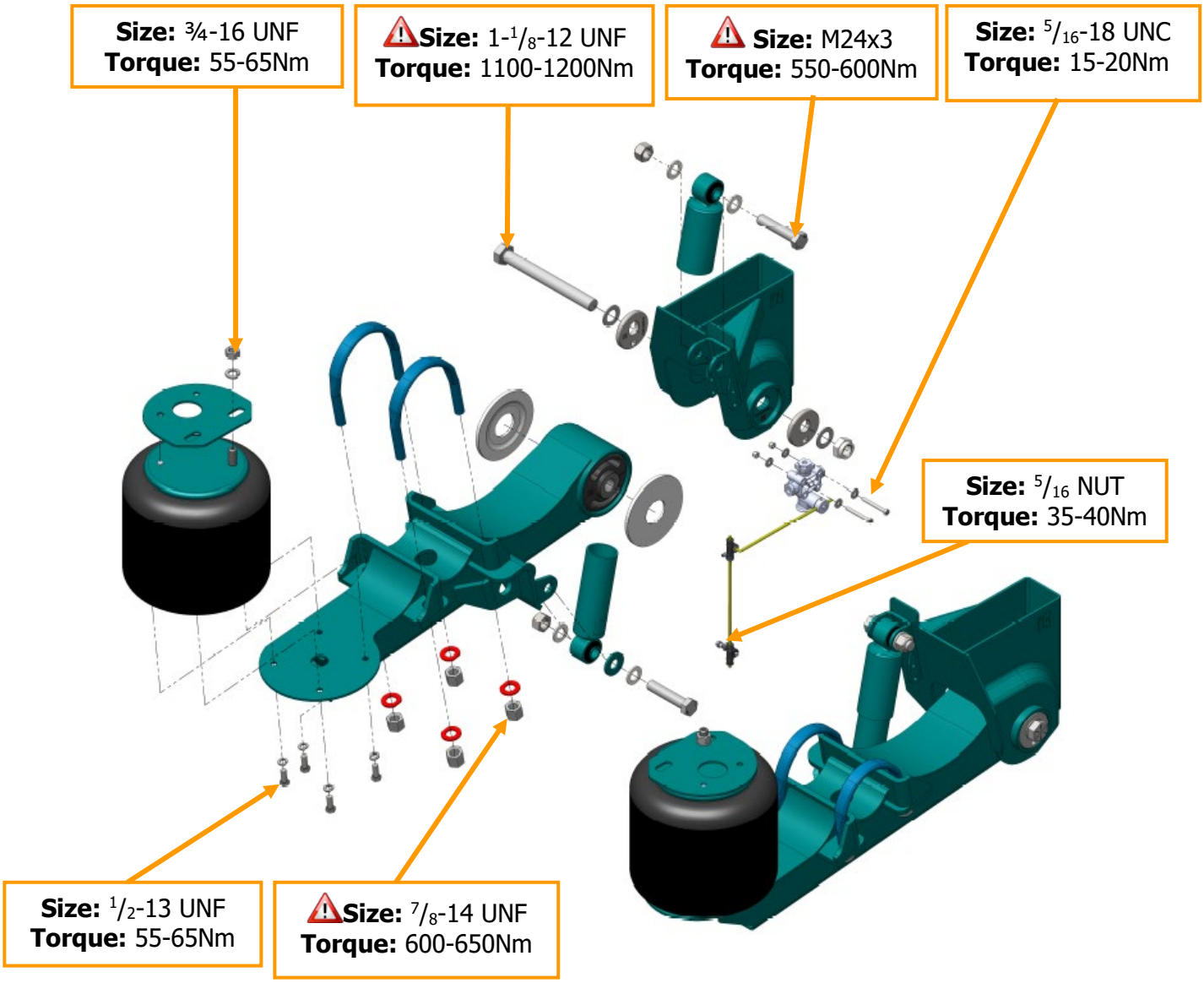
IMPORTANT:

- Shock absorber & hanger pivot bolts must be tightened at ride height.
- U-bolts must be tightened and torqued using a cross pattern sequence. Ensure equal amounts of thread protrude above U-bolt nut.

CAUTION:

- Over torque could result in fastener failure.
- Failure to follow properly torque can result in loss warranty coverage.

INSTALLATION, MAINTENANCE & SERVICE BULLETIN



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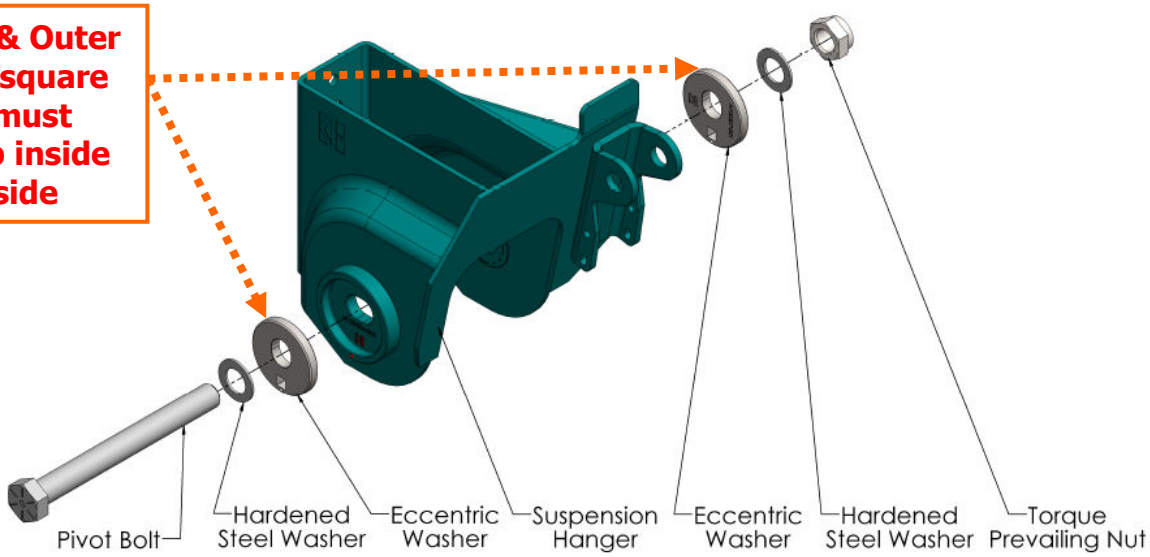
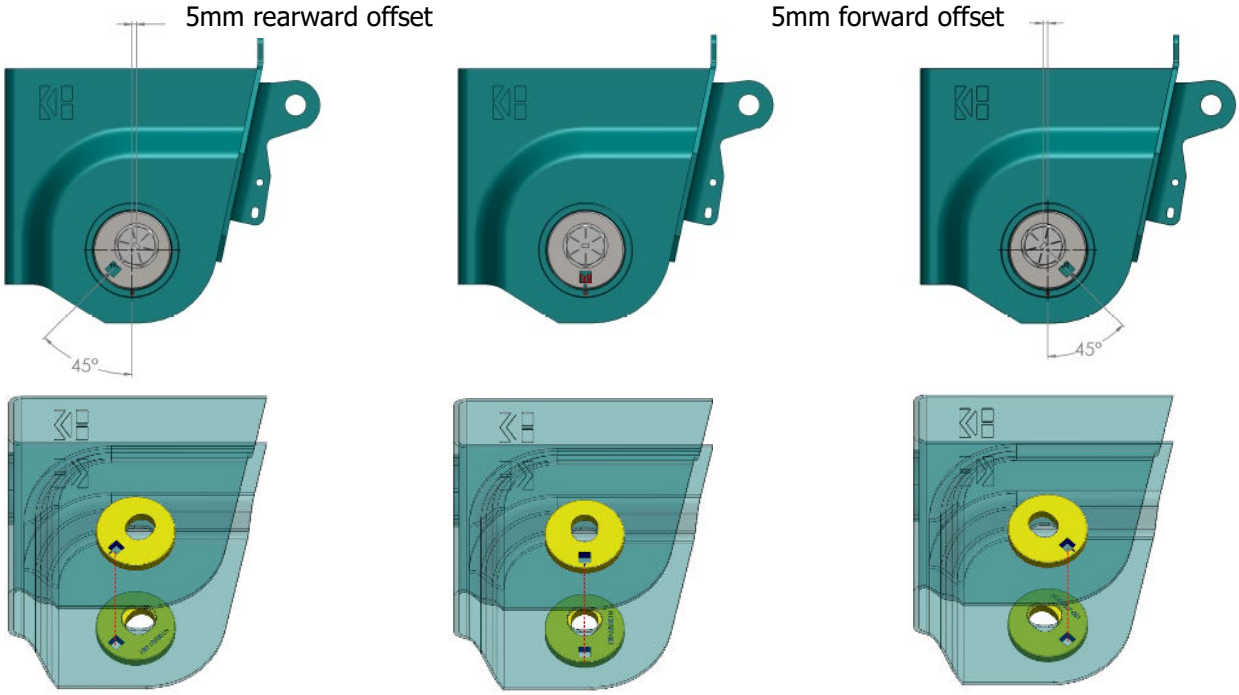
CAUTION:

- Over torque could result in fastener failure.
- Failure to follow properly torque can result in loss warranty coverage.

Pivot Alignment

Inner & Outer Collar square holes must line up inside to outside

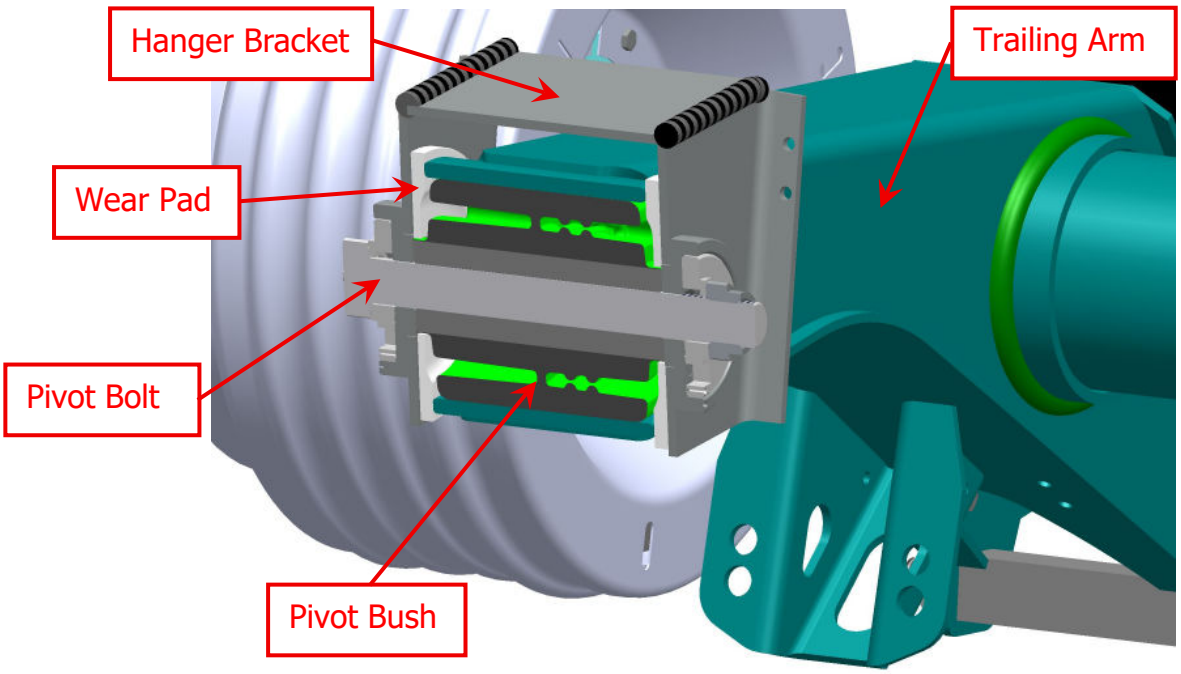




IMPORTANT:

- Do not fully torque up pivot bolt until suspension is fully aligned. Before alignment, tighten up pivot bolt to a point where hardened washers can still rotate freely.
- Adjust all four eccentric collars to achieve suspension alignment

Pivot Bolt and Trailing Arm Bush



The Ø 1⅛" UNF bolt should be fitted dry and torqued to the recommended 1100 to 1200 Nm when the trailer is at ride height.

If used in off road application anit-sieze paste can be used on the pivot bolt shank, to reduce the likelihood of the fasteners corroding and making removal difficult.

The bush (and the connected trailing arm) is securely locked in to position after the hanger pivot bolt is tightened to the required torque.

Checking the trailing arm bush in the installed position

The trailing arm bush will wear over time and the following information will help to identify when the bush needs to be closely inspected* without removing the pivot bolt.

*A close inspection will require the pivot bolt to be removed and lower the railing arm

As the bush wears (collapses) the trailing arm will move further up in to the hanger. Therefore a measurement can be taken to determine if the amount of movement exceeds the normal running condition.

The tools required are a simple adjustable steel square and a steel ruler.

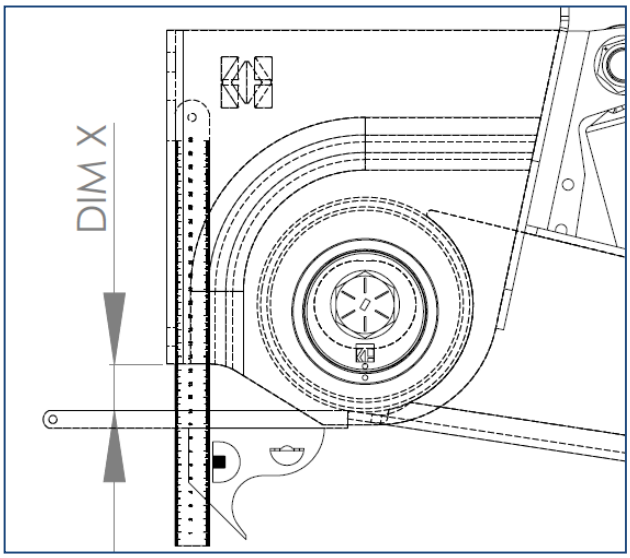
Dimension X:

Trailer Unloaded

X = 25mm or more = OK

Note: A loaded trailer will compress the bush and **X** will be smaller.

Compare the dimension **X** between all the 6 hangers (on tri suspension) and it may show a badly worn bush as the odd dimension out.

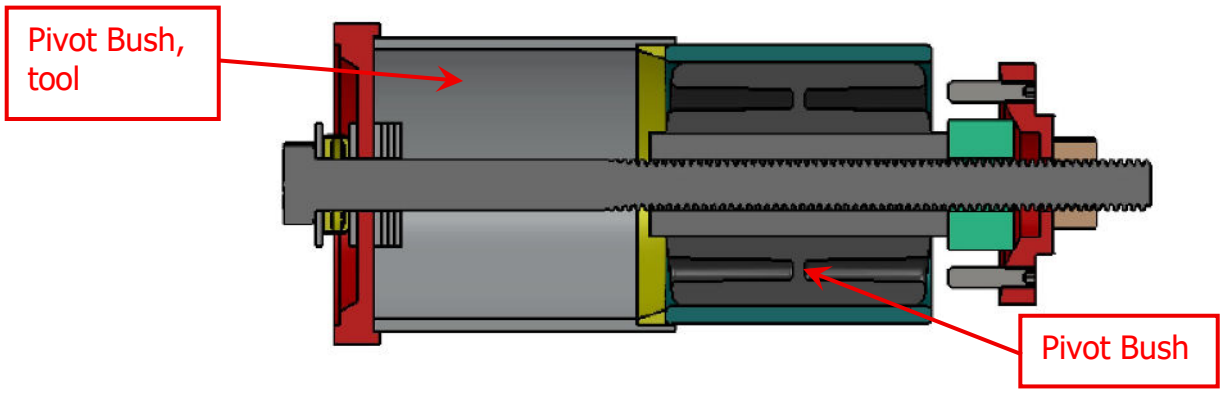


INSTALLATION, MAINTENANCE & SERVICE BULLETIN

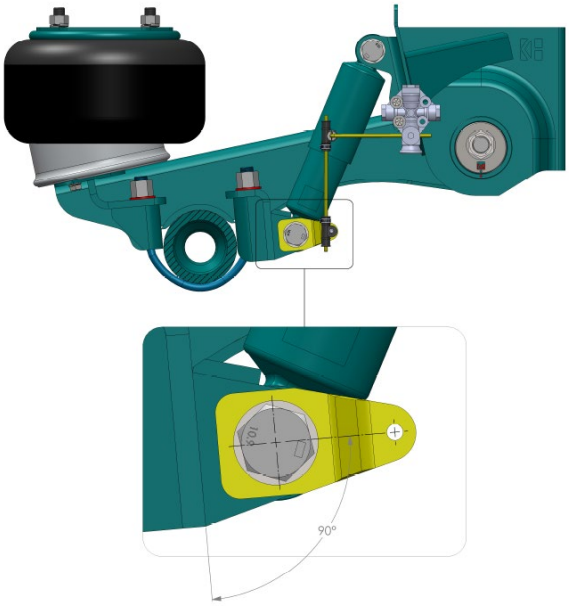
*Close inspection

New Bush:
no cracks
no rubber to steel separation.

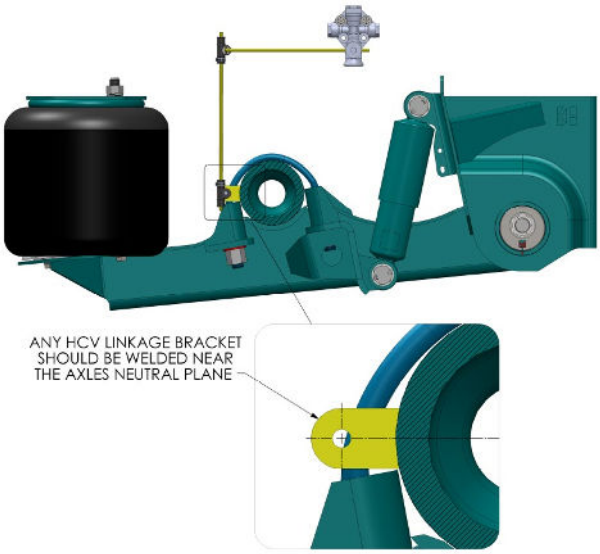
Replacing the pivot bush can be achieved with the removal/installation tool shown below. Instructions are provided in the document KPM-001-0314 Rev2 - KT & KI PIVOT BUSH REPLACEMENT TOOL INSTRUCTIONS.



HCV Setting

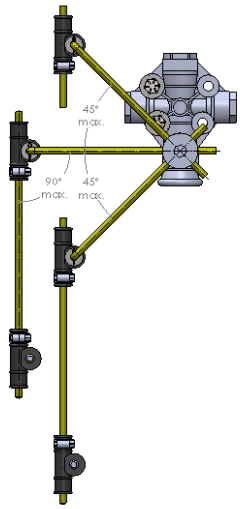


Overslung at ride height.

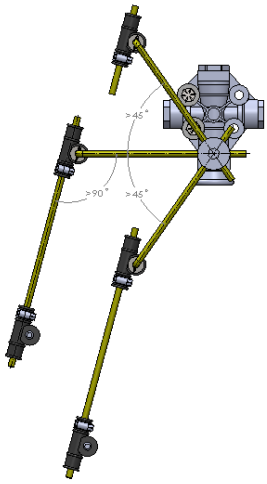


Underslung at ride height.

Correct setup



Incorrect setup



IMPORTANT:

- HCV can be used in right-hand or left-hand.
- Unless approved by Fuwa K Hitch, DO NOT use more than one HCV per trailer.
- When assembling air fittings, be mindful that excess pipe sealant compound or Teflon tape may contaminate and block the air system.

6. Axle Alignment

The following steps are to ensure that proper axle and suspension alignment is achieved.
Note: It is the responsibility of the axle installer for proper axle alignment.

- The trailer must be in straight line and on smooth level surface.
- Release the brakes.
- Check that the tyres are the same size and have equal inflation pressure.
- Set the suspension to the correct ride height.
- Align all axles within the tolerances shown in Fig. A.
- Torque the hanger pivot bolt to 1100-1200Nm.
- Re-check the alignment at the 1st Service (5000-10000Km or 2-4 weeks)

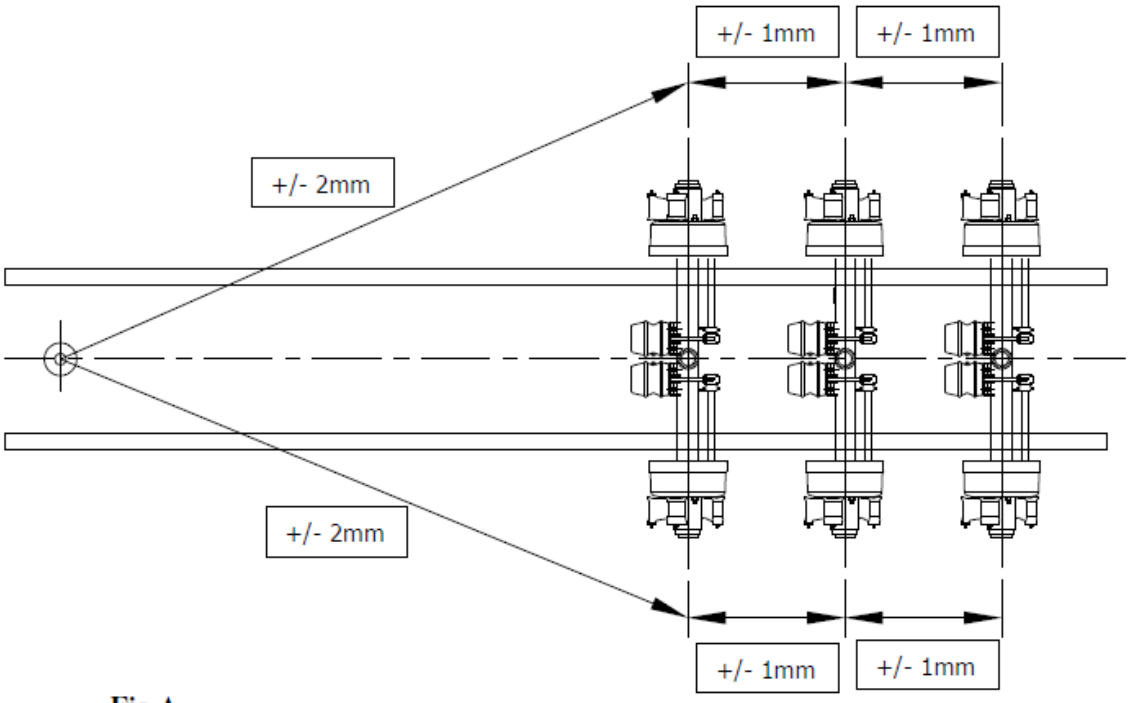
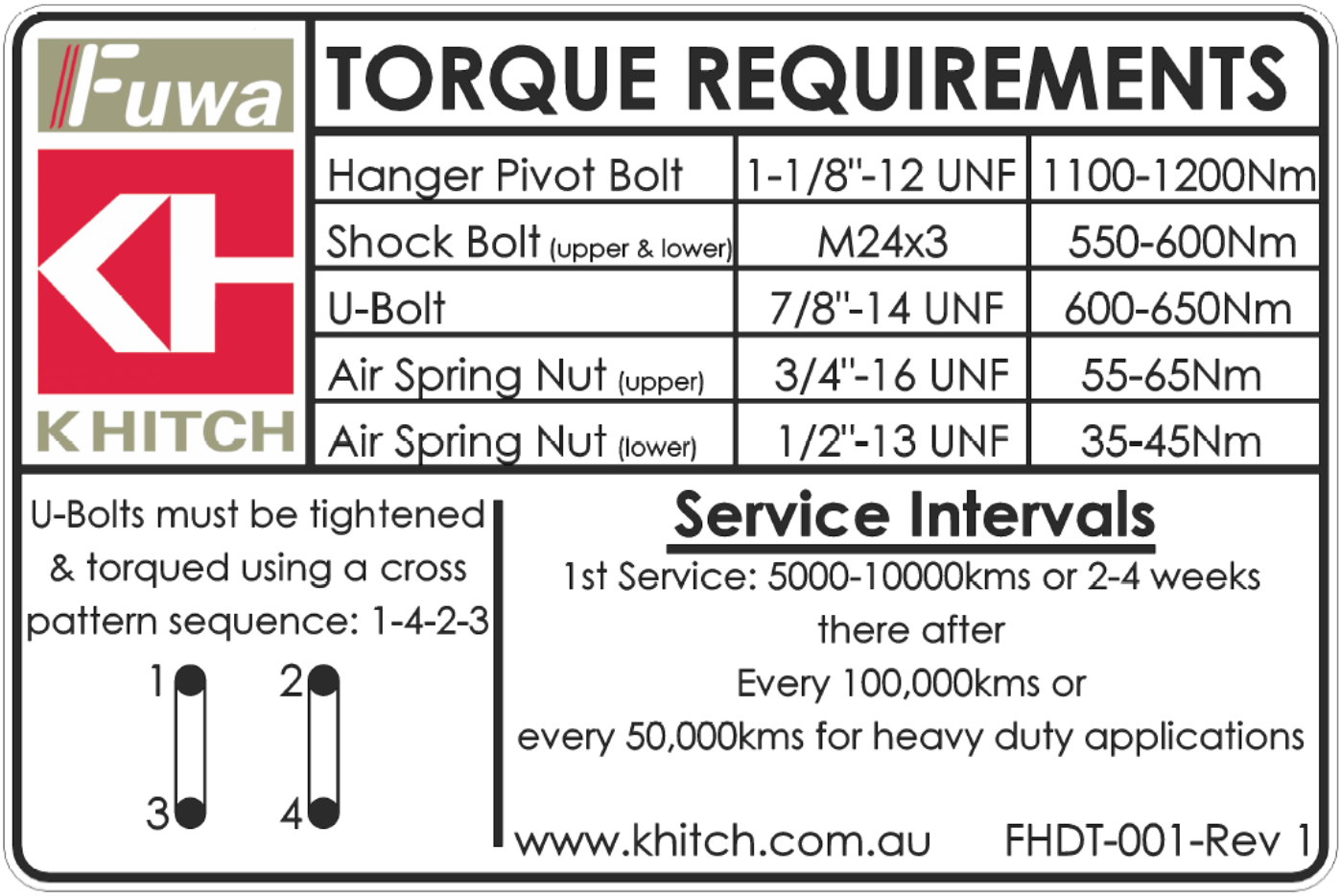


Fig A

FUWA Axles are manufactured to a Toe-in / Toe-out tolerance of +/- 0.8mm/m.

Note: No adverse affects should be experienced with Toe-in/Toe-out up to =/- 1.6mm/m

7. Torque Decal



The above Torque Decal (Sticker) should be attached to the trailer chassis after it has been painted. It should be close to the Chassis Vin number Decal clearly accessible and visible.

8. Maintenance

The maintenance frequency may need to be changed subject to the application and vehicle operating conditions.
Any instructions from the vehicle OEM must be considered first.

1.	Check all the fasteners	PD	1st Service	½ yearly
2.	Check pivot bolts, shocker bolts & U-bolts	PD	1st Service	Annually
3.	Check shock absorbers* and shocker bushes		1st Service	Annually
4.	Check HCV for leaks and correct adjustment		1st Service	Annually
5.	Check pivot bush and hanger wear pads for wear and excess movement.			Annually
6.	Check air springs for leaks or damage.		1st Service	Annually

Note: The above recommendations are for "On HWY only" applications.

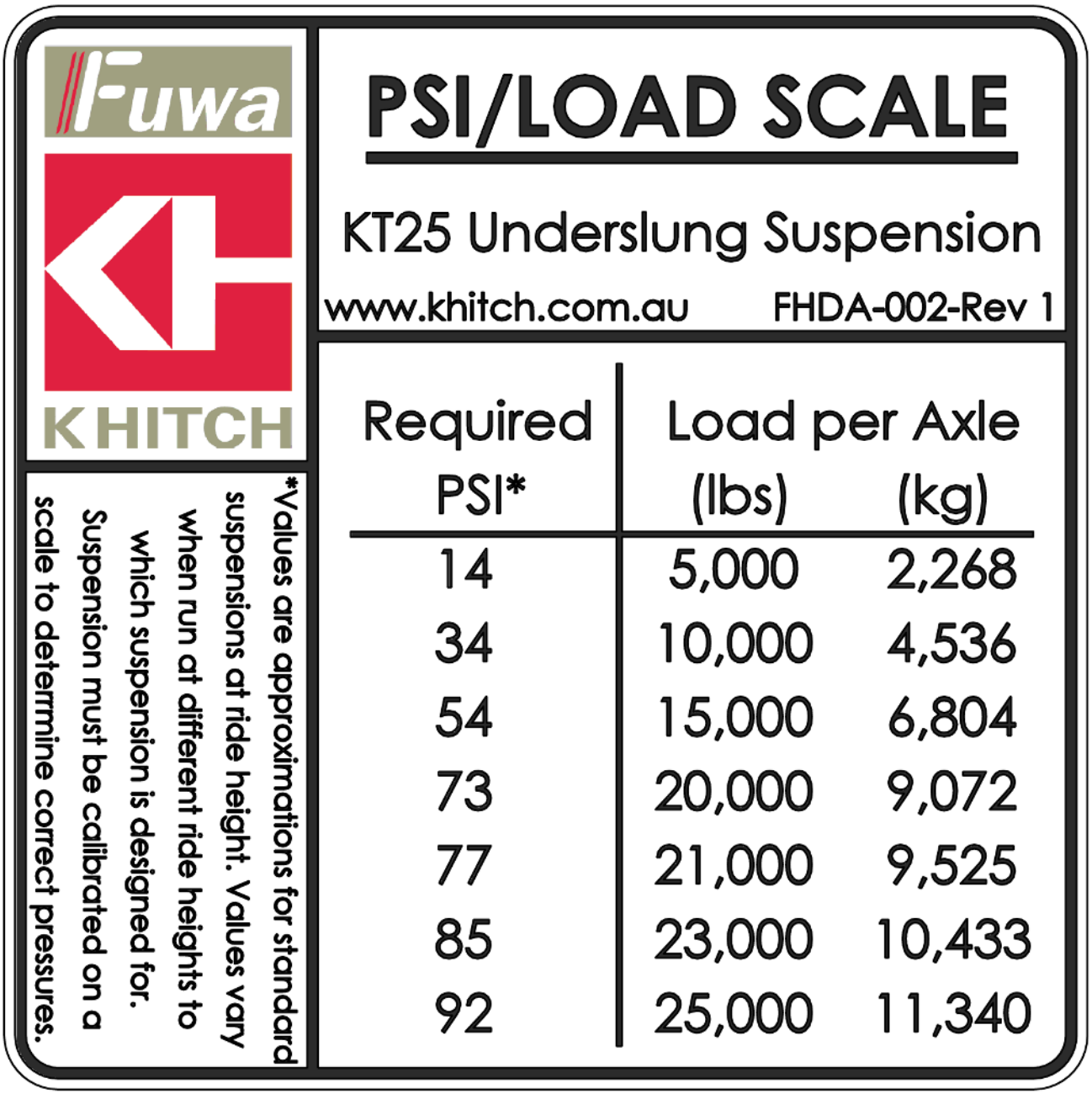
Note: * In regards to shock absorbers "leaking". Do not confuse "misting" and "sweating" with leaking.
Only a leaking shock absorber (oil running down the length of the shocker body) needs to be replaced.
If in doubt, clean the shock absorber and check it again after a few days.
Shock absorbers are a wearing item and they will need replacing.

If you need any further information, please call FKH or go to the FKH web site.

9. Air Spring, Load Chart

The following two tables show the required air spring pressure to support the axle load shown. FUWA K-Hitch Engineering can provide an equation if required.

Table 1: KT Underslung Air Spring, Load Chart



PSI/LOAD SCALE

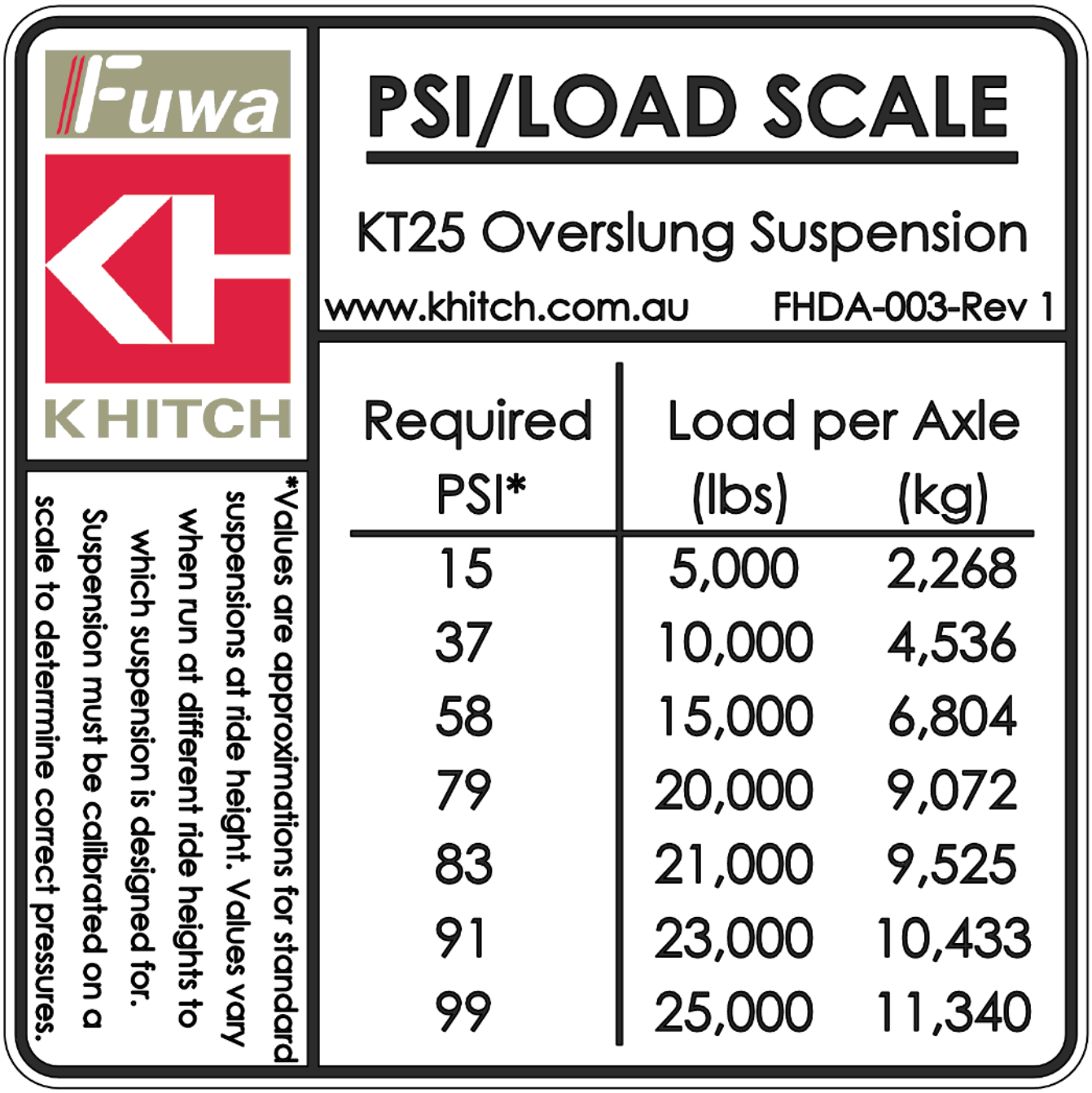
KT25 Underslung Suspension

www.khitch.com.au FHDA-002-Rev 1

Required PSI*	Load per Axle (lbs)	(kg)
14	5,000	2,268
34	10,000	4,536
54	15,000	6,804
73	20,000	9,072
77	21,000	9,525
85	23,000	10,433
92	25,000	11,340

*Values are approximations for standard suspensions at ride height. Values vary when run at different ride heights to which suspension is designed for. Suspension must be calibrated on a scale to determine correct pressures.

Table 2: KT Overslung Air Spring, Load Chart



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KHITCH

PSI/LOAD SCALE

KT25 Overslung Suspension

www.khitch.com.au FHDA-003-Rev 1

Required PSI*	Load per Axle (lbs)	(kg)
15	5,000	2,268
37	10,000	4,536
58	15,000	6,804
79	20,000	9,072
83	21,000	9,525
91	23,000	10,433
99	25,000	11,340

*Values are approximations for standard suspensions at ride height. Values vary when run at different ride heights to which suspension is designed for. Suspension must be calibrated on a scale to determine correct pressures.