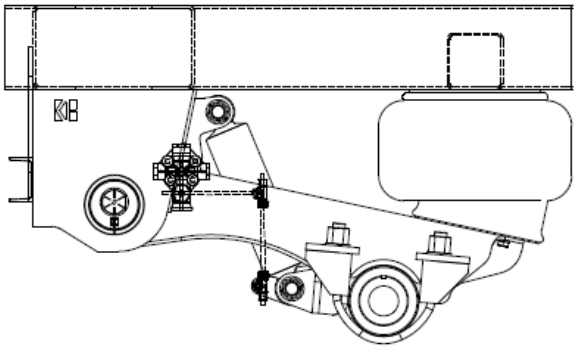
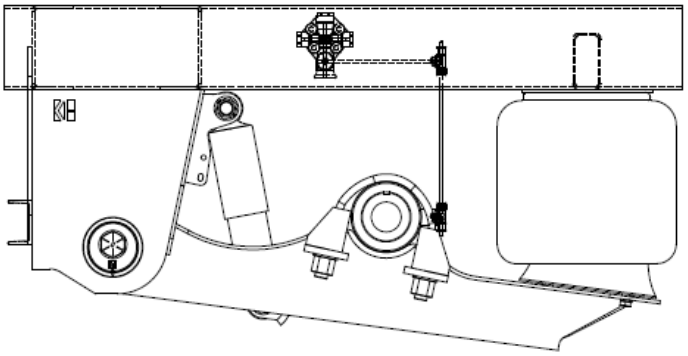
INSTALLATION, MAINTENANCE & SERVICE BULLETIN

KT AIR SUSPENSION



KT 250 T
KT 300 T



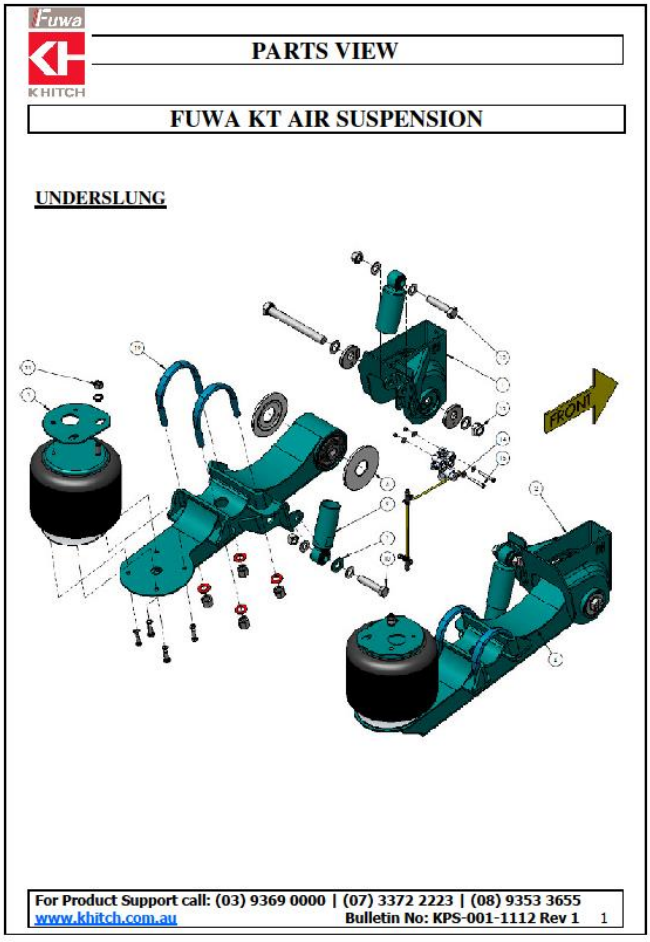
KT 250 U
KT 300 U

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**

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

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www.khitch.com.au Bulletin No: KPS-001-1112 Rev 1 1

2. Welding Instruction – Axle Connection

STEP 1

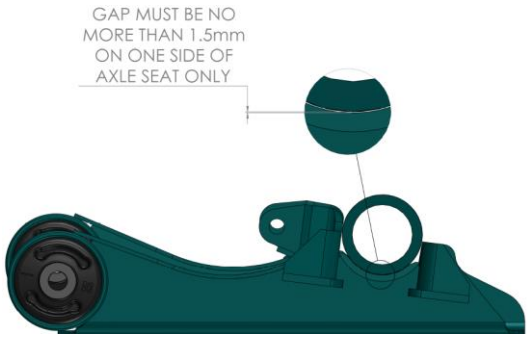
Weld Specification:

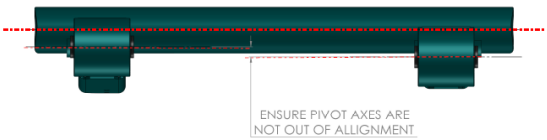
1. Preheat the axle connection at the axle and suspension seat if recommended.
2. Suspension welding surface must be free from grease, paint, moisture and dirt.
3. Welding parameters:
   - SMAW: Standard electrode: AWS E-7018 (over dried)
   - GMAW: Standard wire: AWS ER-70S-6
   - Volts: 26-30 DCRP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

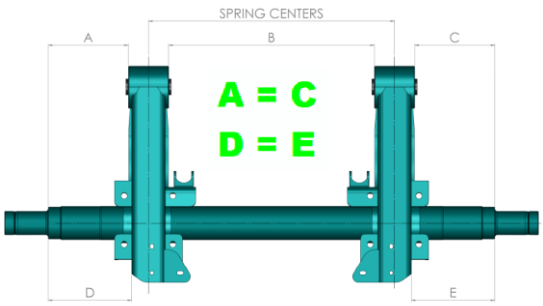
STEP 2

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.





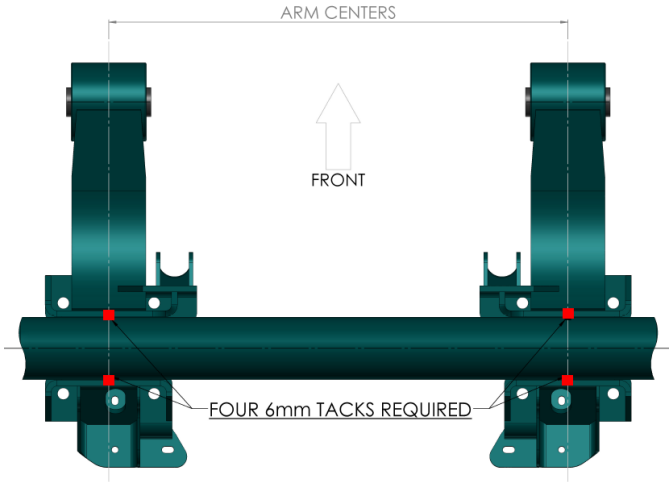


IMPORTANT:

- **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).**

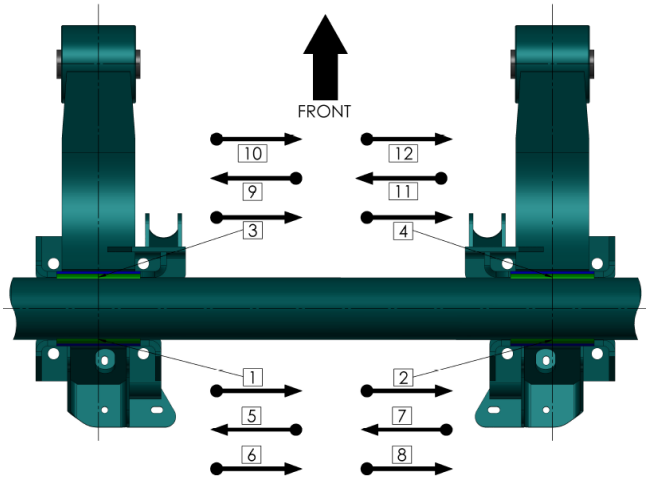
STEP 3 Tacking Length and Placement:

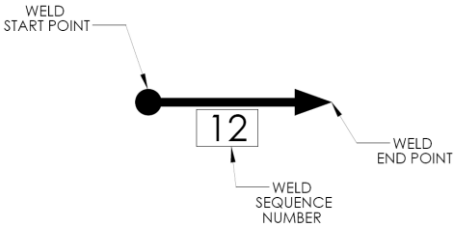
1. Tack the axle to the arm near the centre, as shown.
2. Double check measurement before commencing welding.



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.



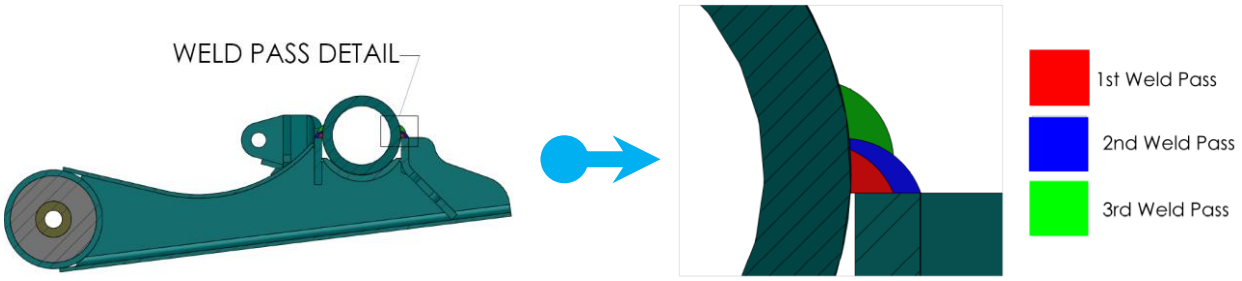


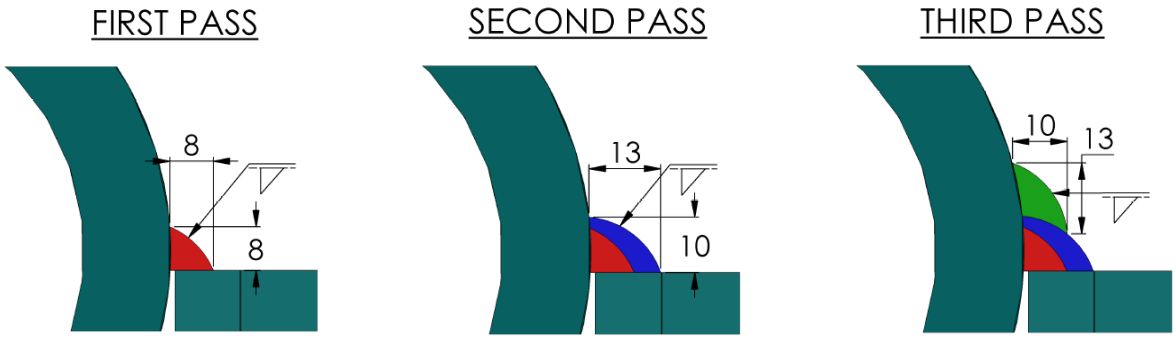
IMPORTANT:

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

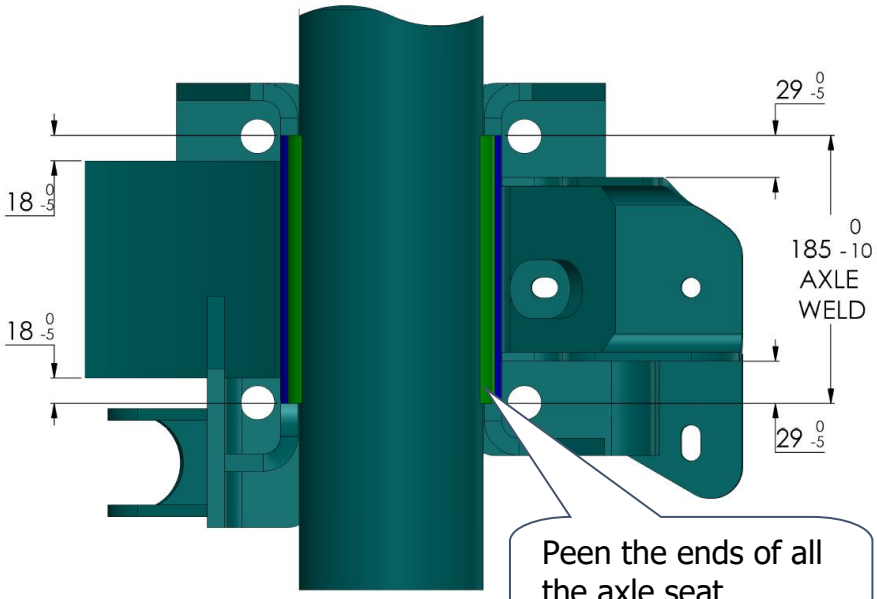
STEP 5 Welding Size and Location:

1. Perform three weld passes as shown





2. Accurately perform weld passes to specified length



IMPORTANT:

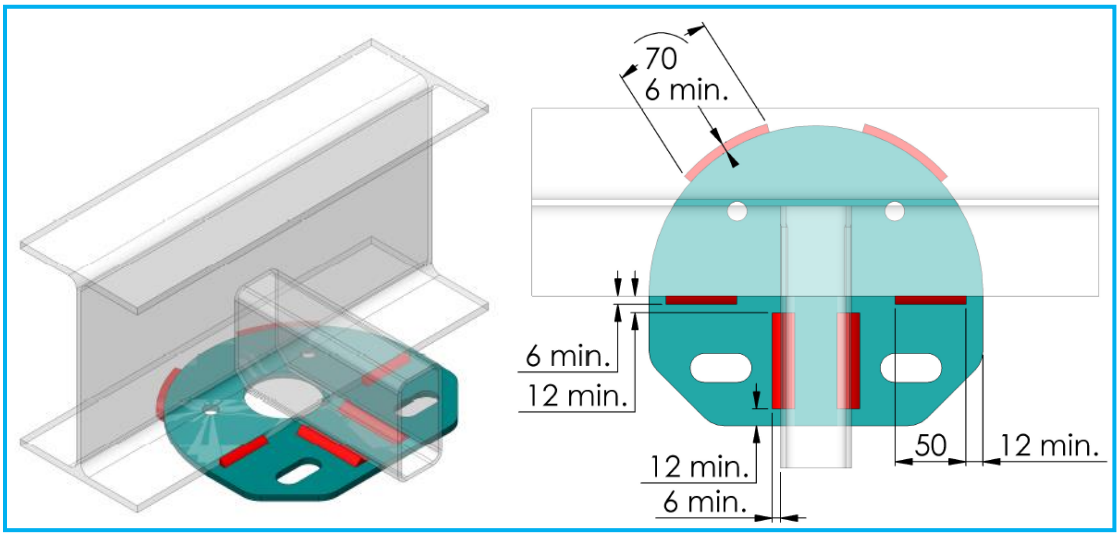
- **All axle seat connections require three weld passes.**
- **Do not wrap welds around axle seat corners.**

CAUTION:

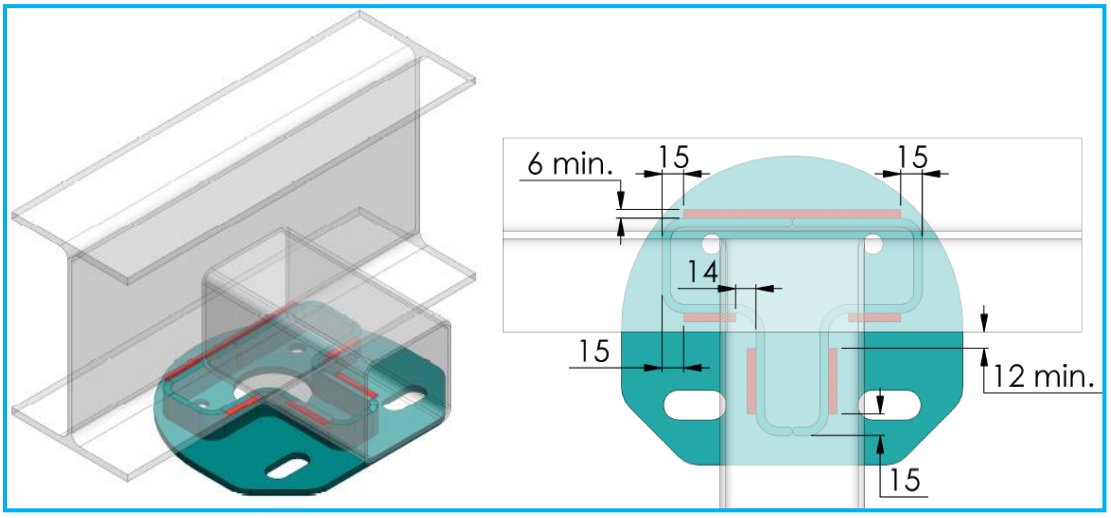
- **Avoid all cold laps and undercuts. Fill all craters. Clean weld between each pass.**
- **Failure to follow properly procedures can result in loss warranty coverage.**

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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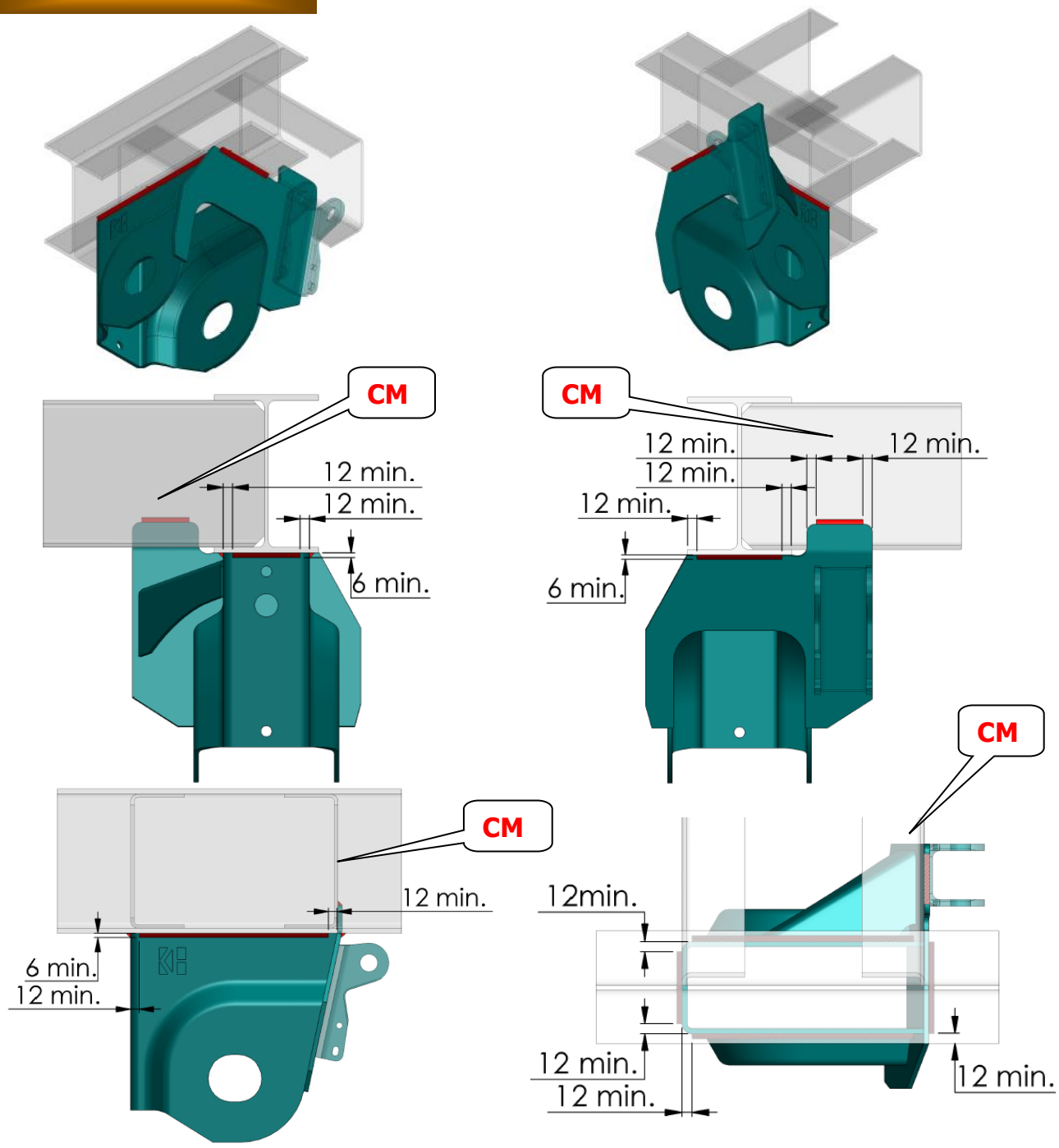
HANGER MOUNTING

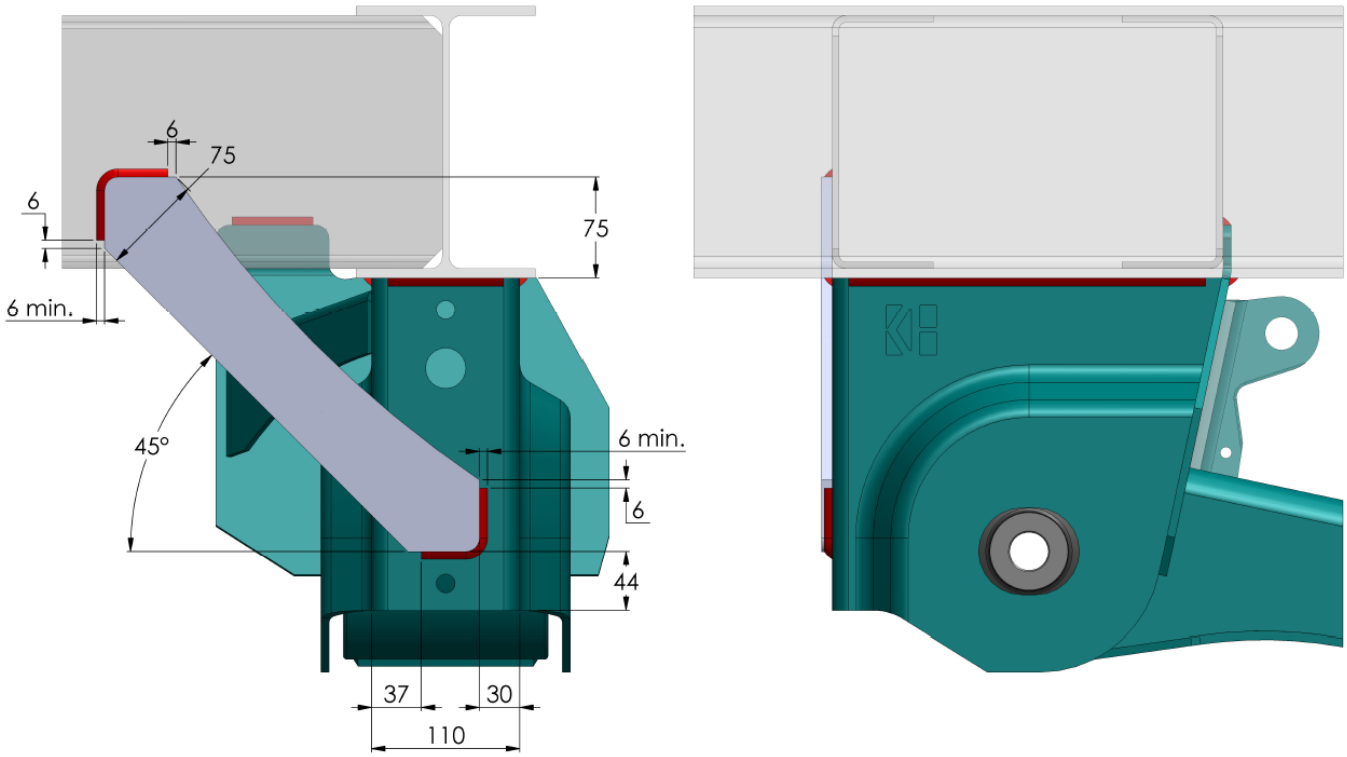


IMPORTANT:

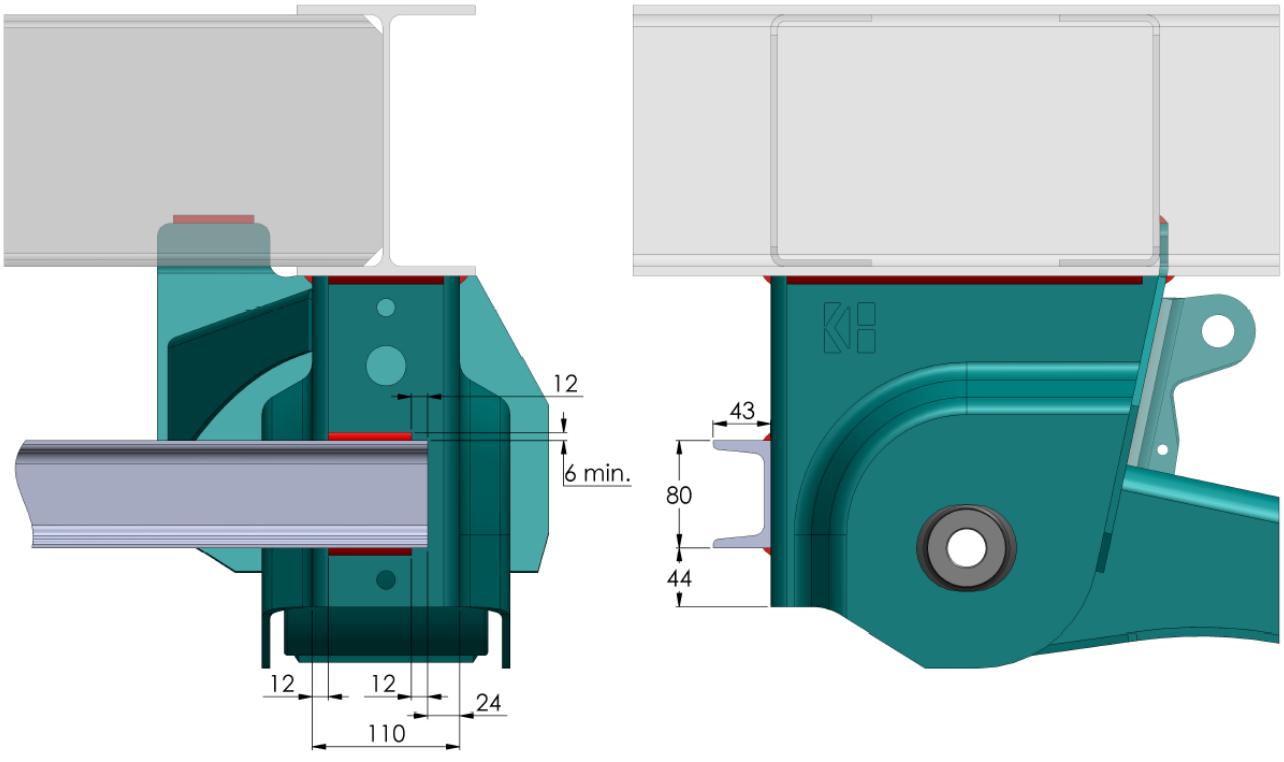
- Do not weld within 12mm between mating edge of the suspension component and trailer frame.
- Insure that the left and the right hangers are welded on the same perpendicular line to the chassis. (Axle alignment)
- Insure the shocker bracket tab is welded and supported against a cross member. (**CM**)

INSTALLATION, MAINTENANCE & SERVICE BULLETIN

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



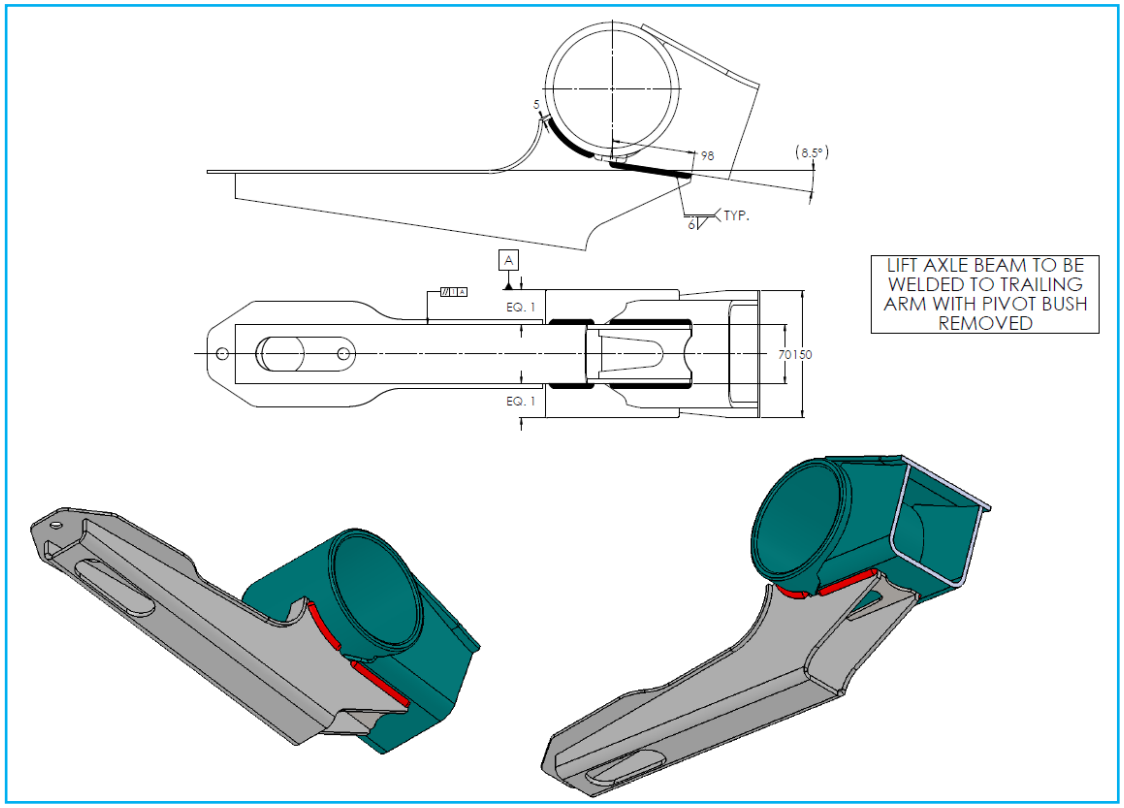
Knee Bracket from Hanger to Cross Member

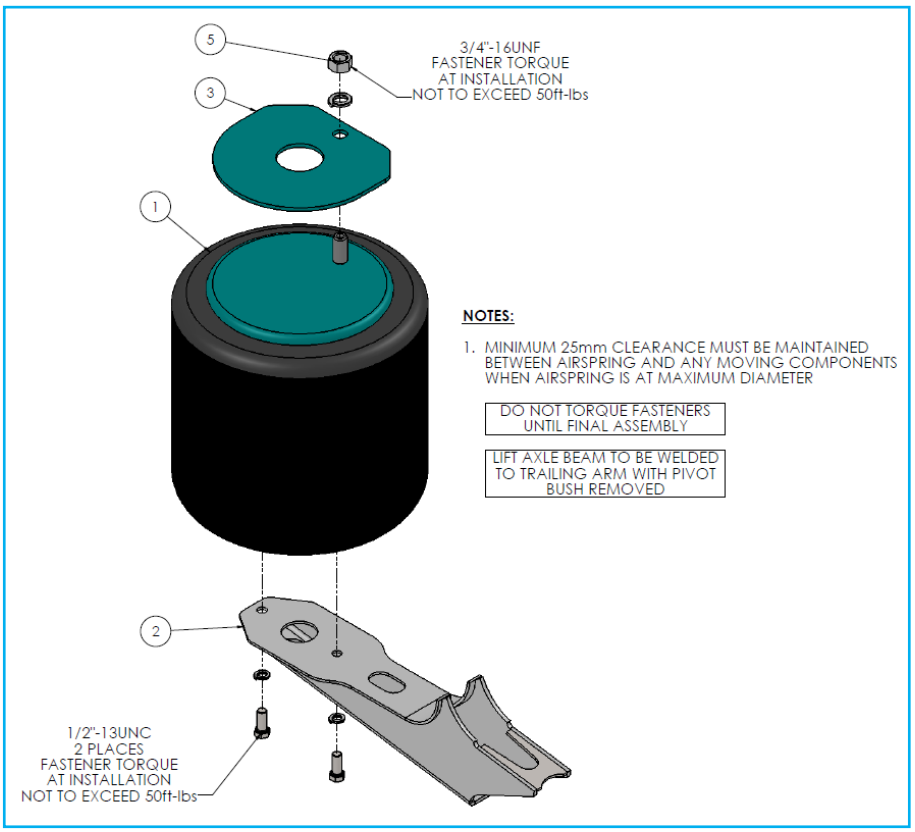


C-Channel from Hanger to Hanger

4. Welding & Tightening Instructions – Axle Lift Kit

SIDE LIFT KIT - KT UNDERSLUNG: N100562-001





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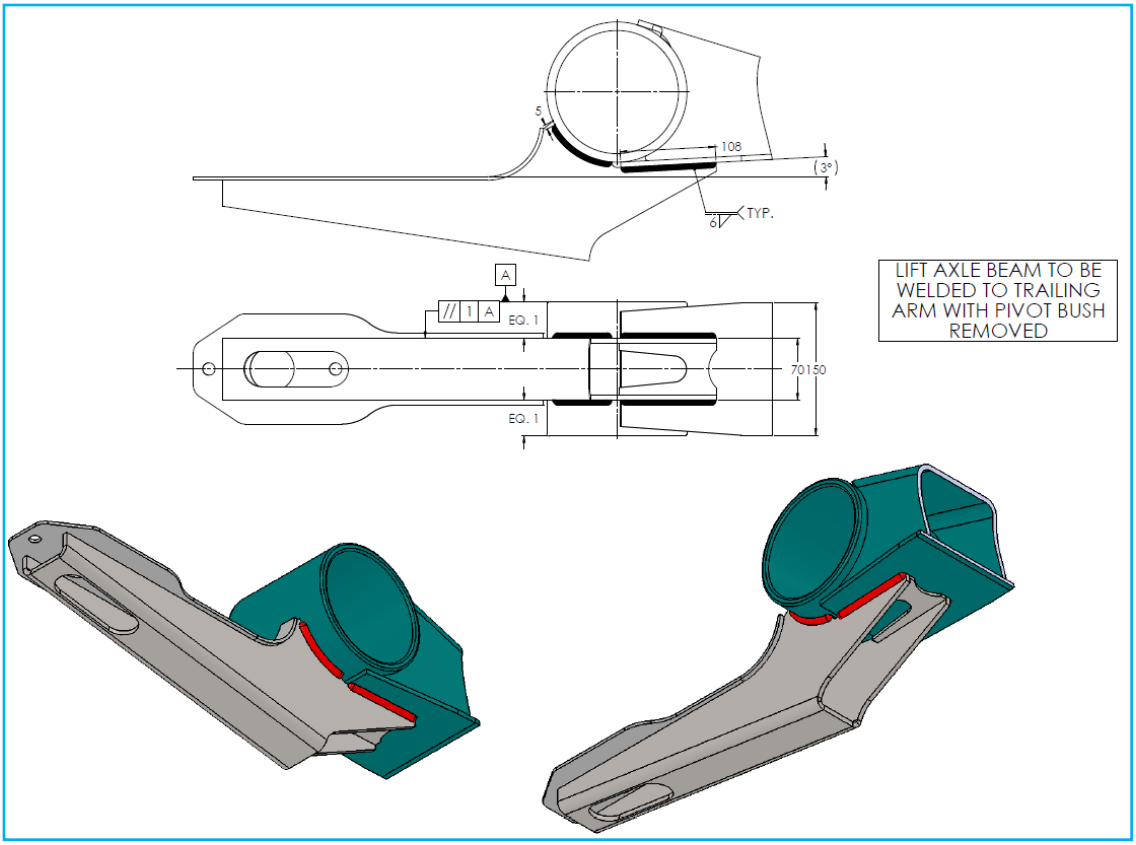
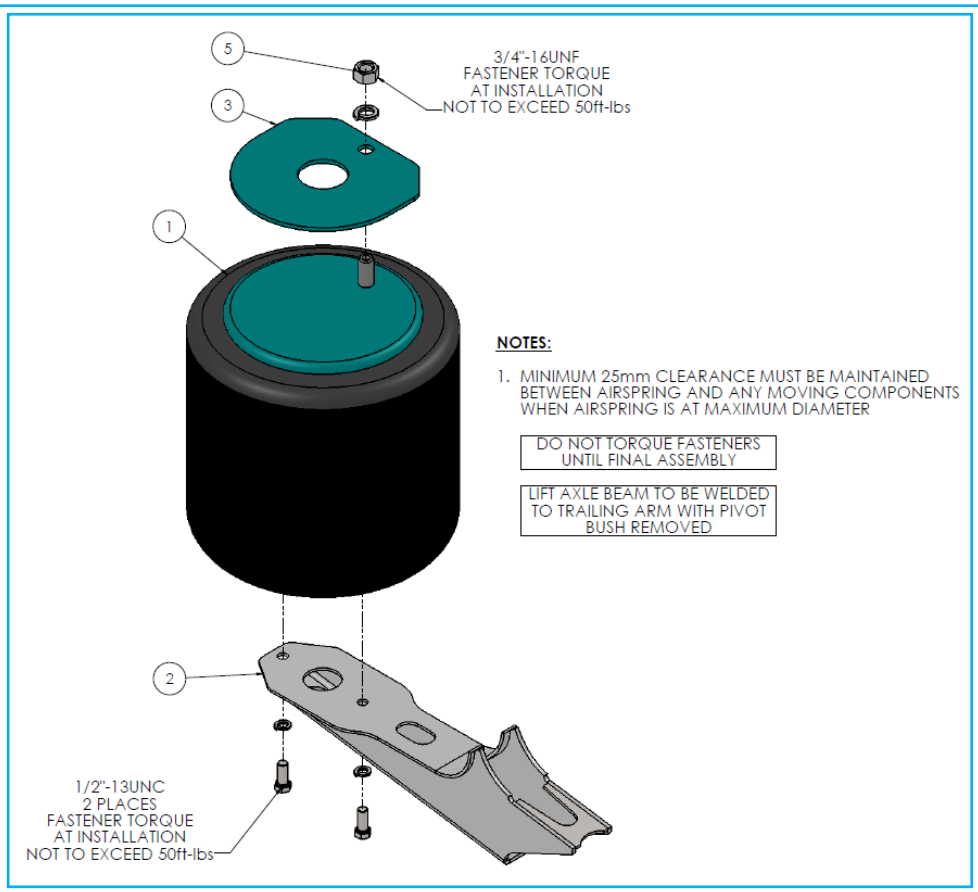
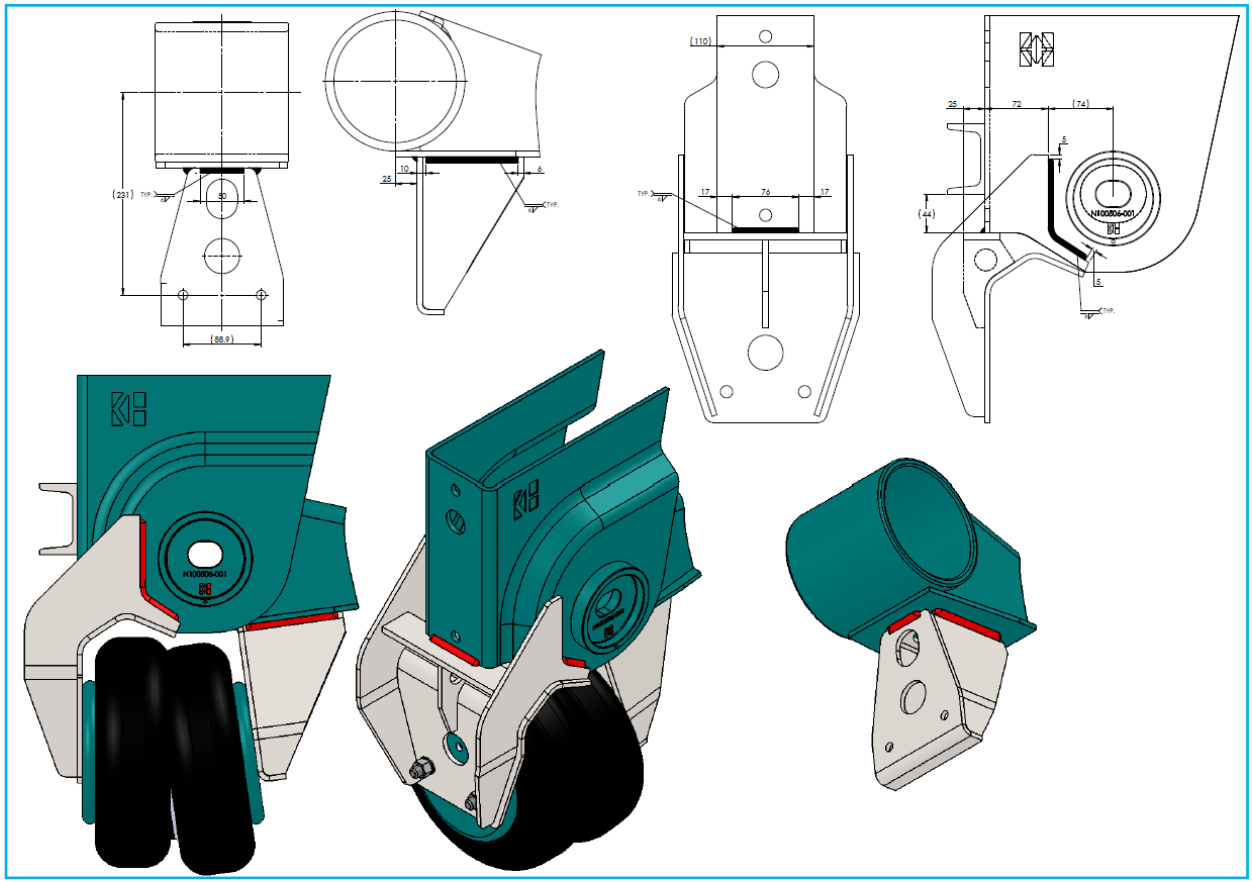
SIDE LIFT KIT - KT OVERSLUNG: N100562-002

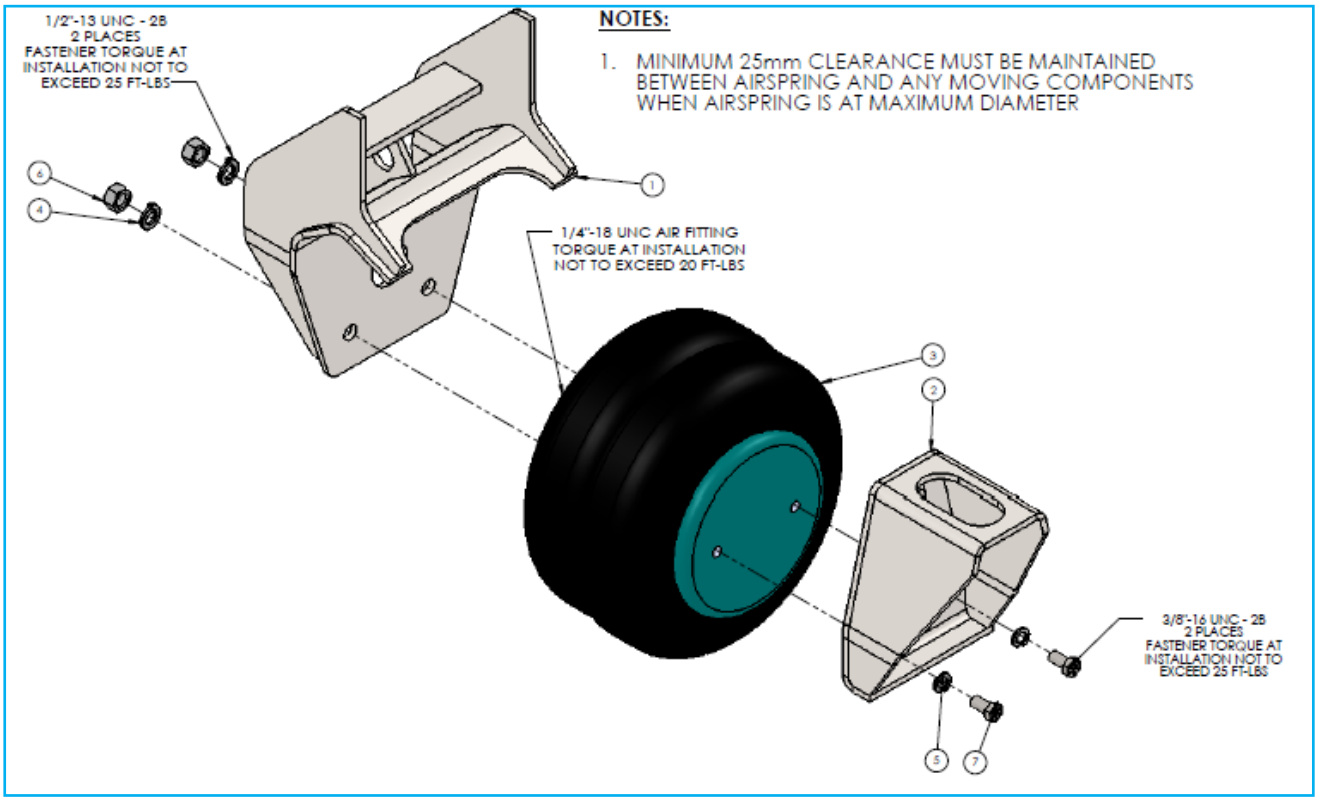




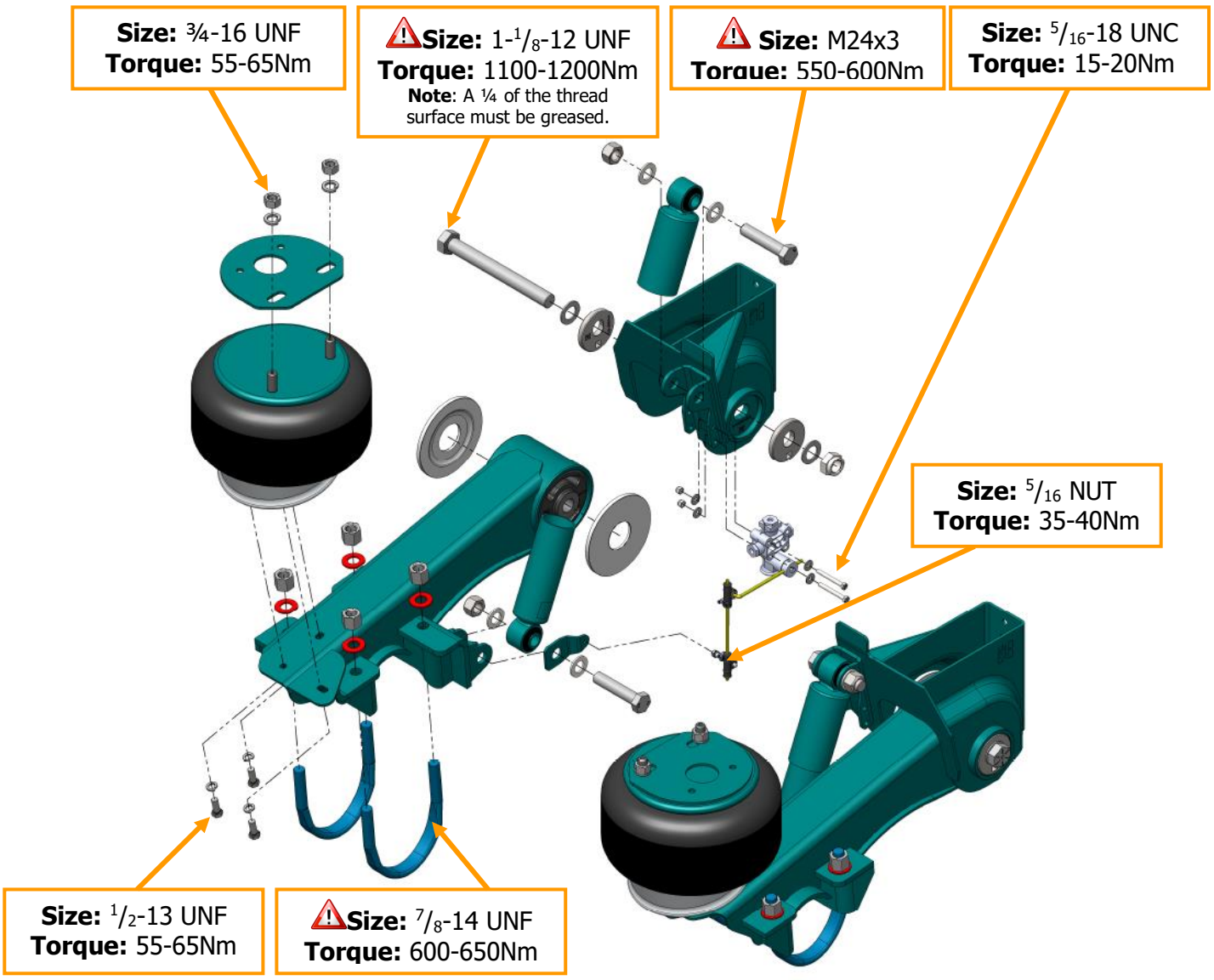
INSTALLATION, MAINTENANCE & SERVICE BULLETIN

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.

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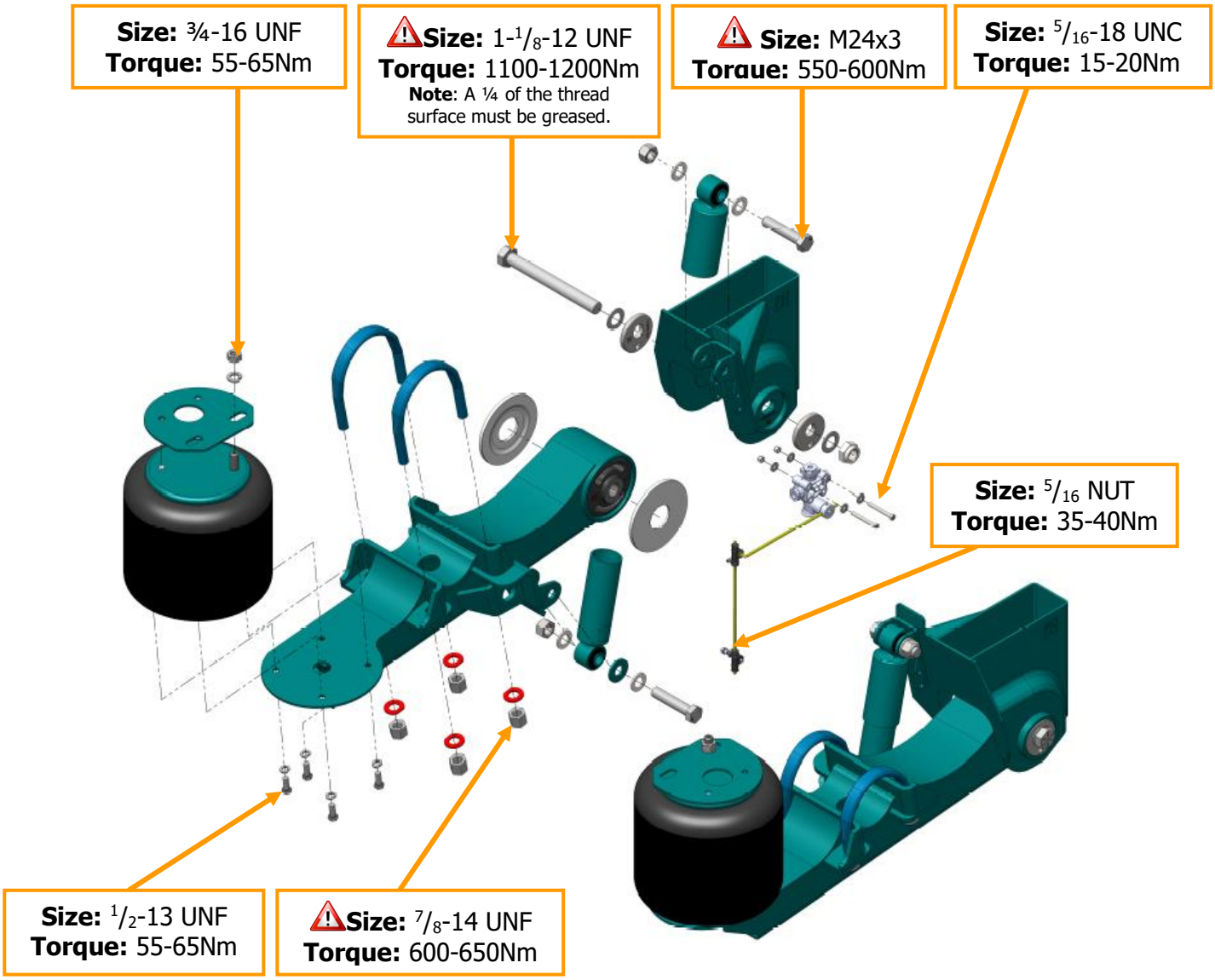

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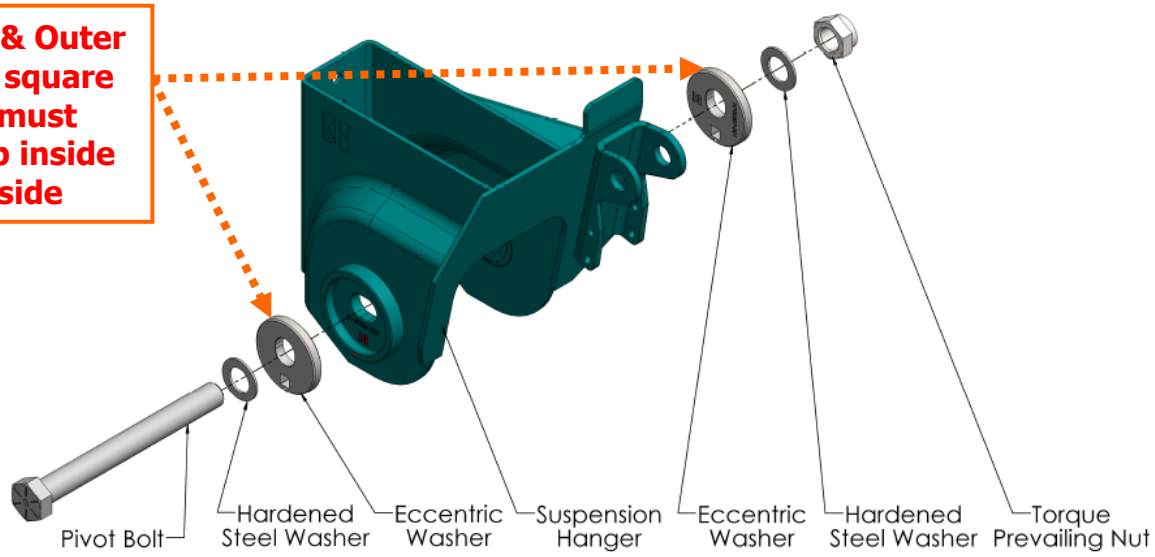
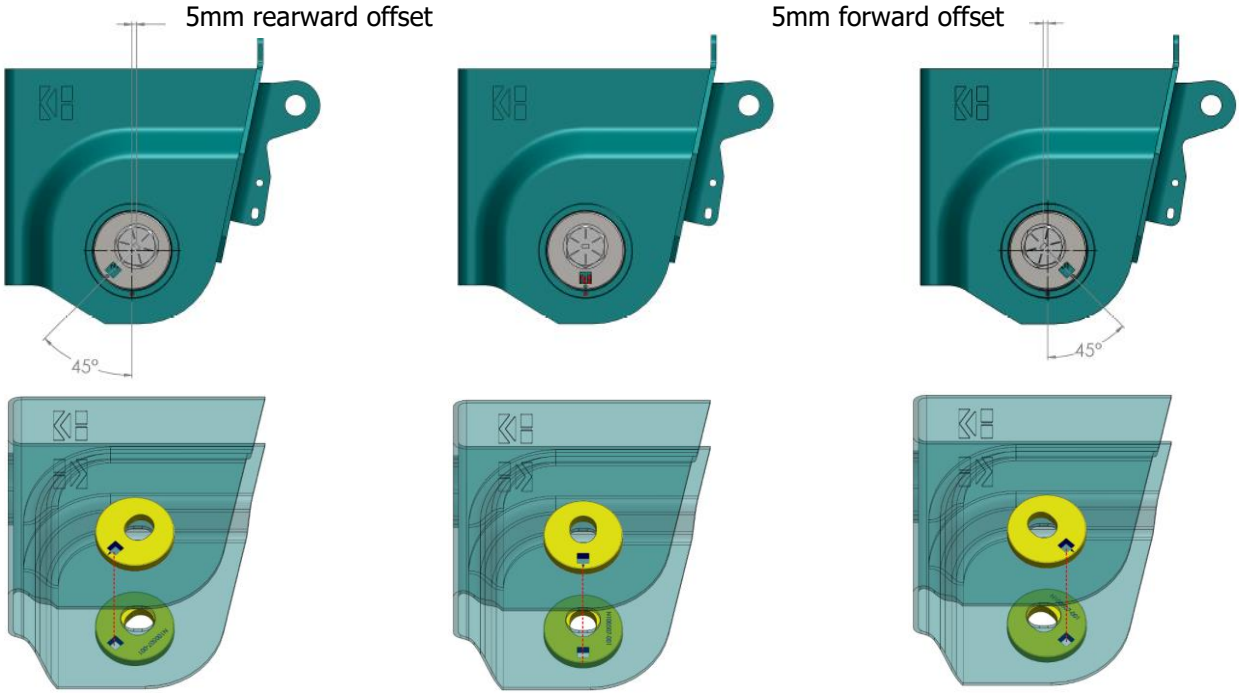
CAUTION:

- 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

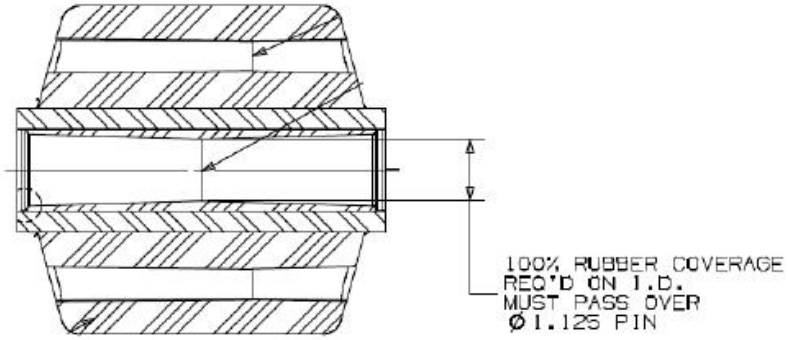




IMPORTANT:

- 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 Ø1–1/8" bolt should be tight in the centre of the sleeve and have a gap at each end of the sleeve.
The reason for that is that the rubber coating on the inside of the sleeve tapers from the middle at a little less then Ø 1-1/8" out to approx. Ø 1- 5/16" at each end.

The purpose of the tapered inside rubber coating is to prevent the steel bush rusting to the hanger pivot bolt.

The bush (and the connected trailing arm) is securely locked in to position after the hanger pivot bolt is tightened to the required torque of 1100-1200Nm.

Note: There are other brands of trailing arm bushes (aftermarket replacement parts etc) which do not have the internal rubber coating in the steel bush.

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.

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

Dimension X:

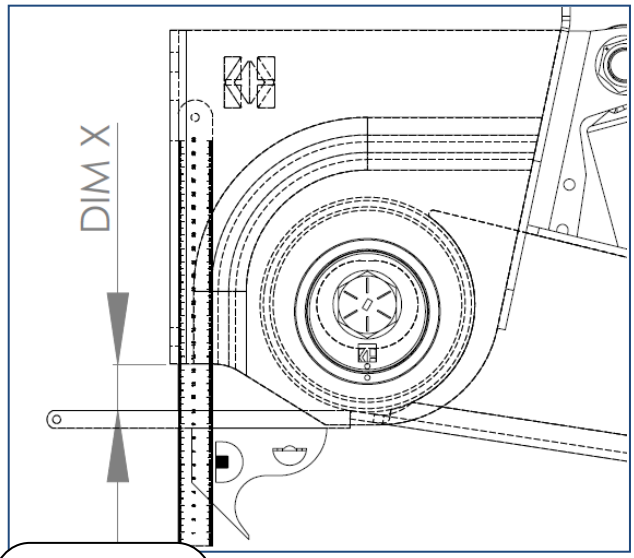
Trailer Unloaded

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.

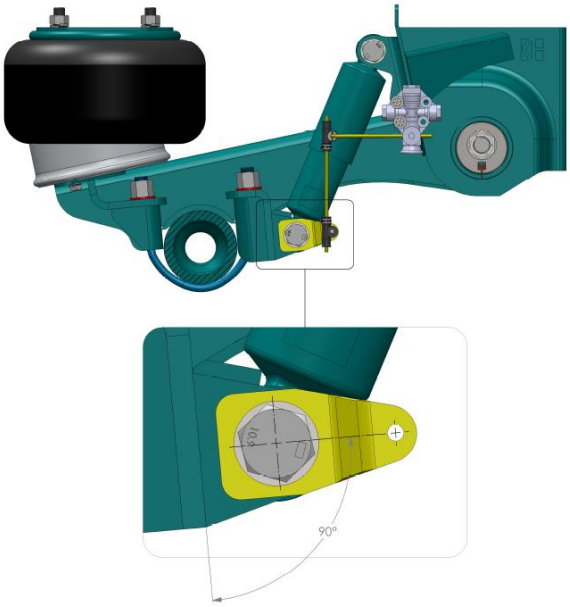
*Close inspection



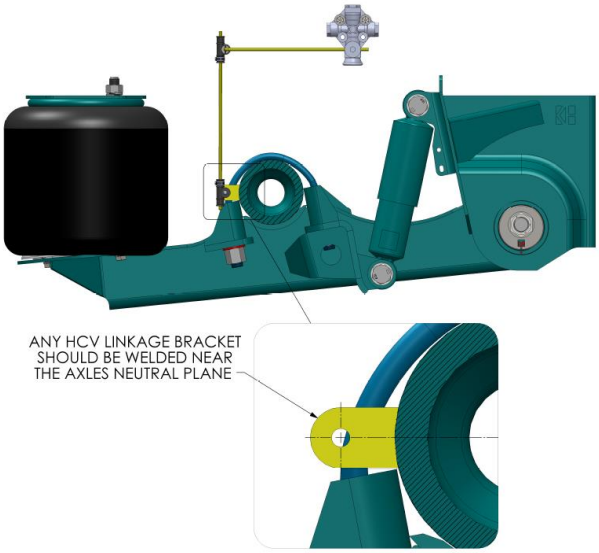
New Bush:
no cracks
no rubber to steel separation.

Worn Bush, Rubber has separated. Needs replacing

HCV Setting

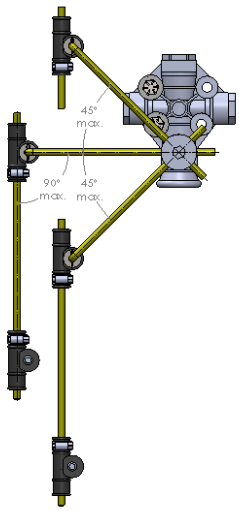


Overslung at ride height.

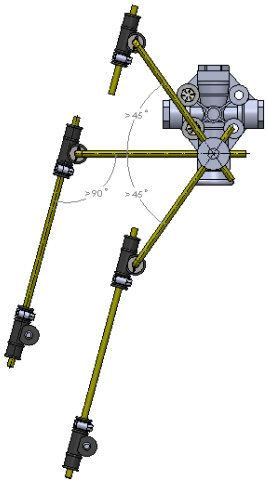


Underslung at ride height.

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)

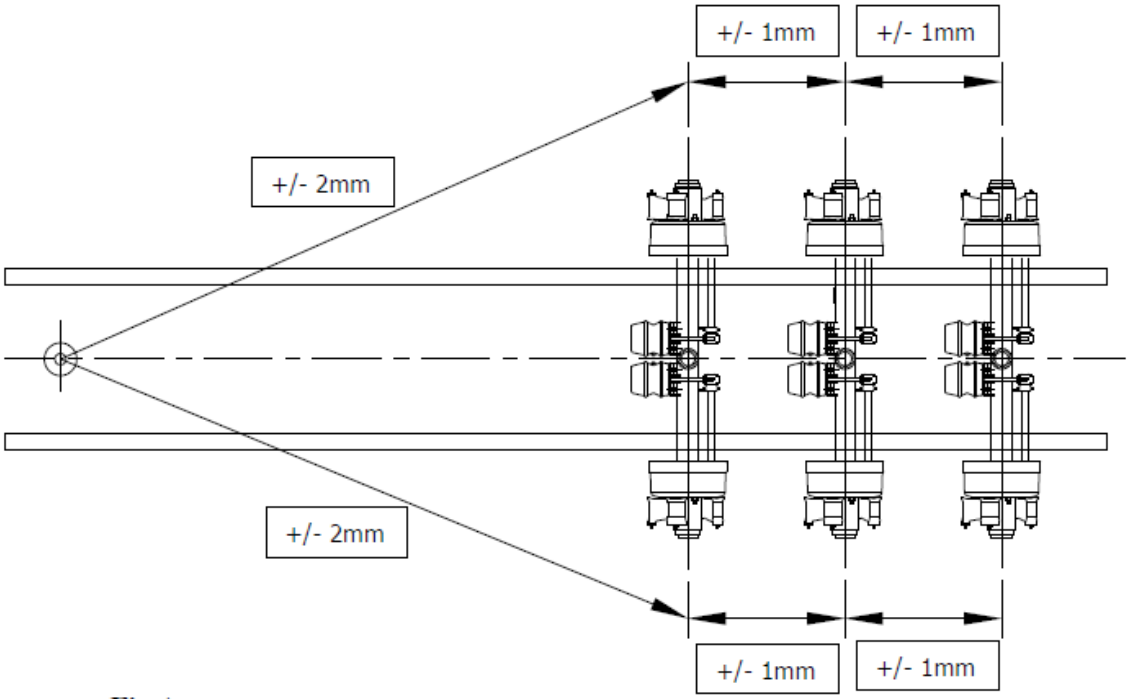
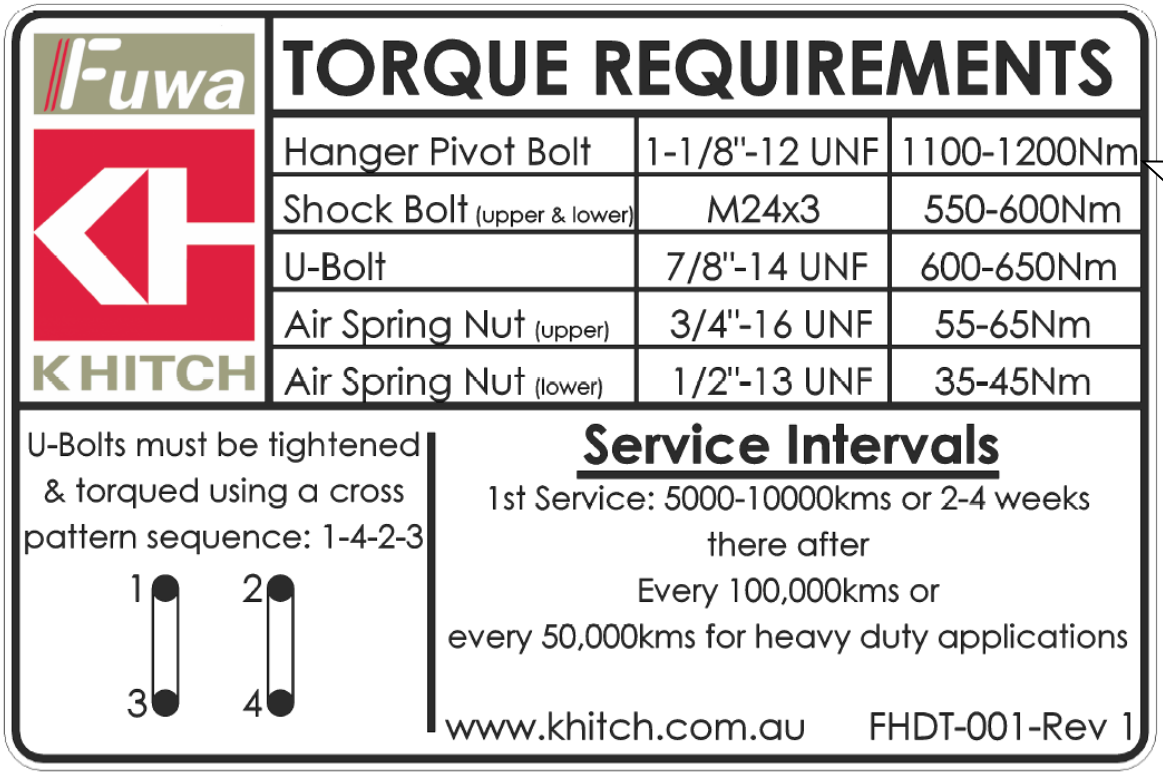


Fig A

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



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KHITCH

TORQUE REQUIREMENTS

Hanger Pivot Bolt	1-1/8"-12 UNF	1100-1200Nm
Shock Bolt (upper & lower)	M24x3	550-600Nm
U-Bolt	7/8"-14 UNF	600-650Nm
Air Spring Nut (upper)	3/4"-16 UNF	55-65Nm
Air Spring Nut (lower)	1/2"-13 UNF	35-45Nm

Note: A ¼ of the thread surface must be greased.

U-Bolts must be tightened & torqued using a cross pattern sequence: 1-4-2-3

1 2
3 4

Service Intervals

1st Service: 5000-10000kms or 2-4 weeks
there after
Every 100,000kms or
every 50,000kms for heavy duty applications

www.khitch.com.au FHDT-001-Rev 1

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.