TRANSPORT EQUIPMENT AUSTRALIA

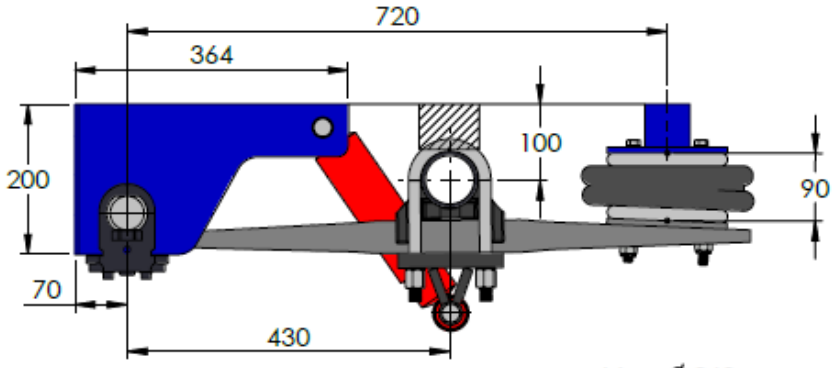
Axle & Air Suspension

Welding and Assembly

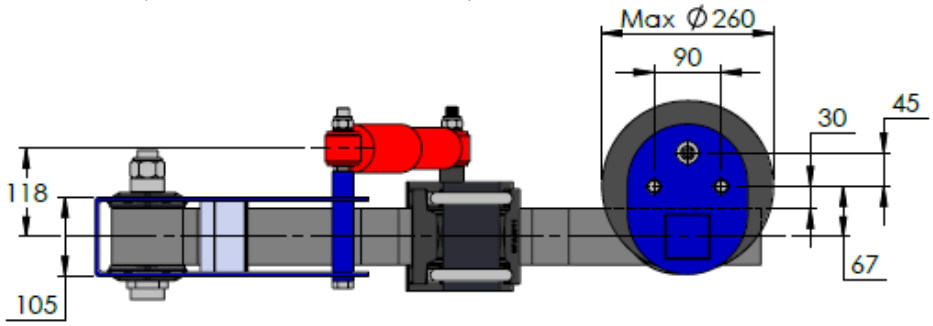
TRANSPORT EQUIPMENT AUSTRALIA

3T Underslung Air Suspension Drawing: 305

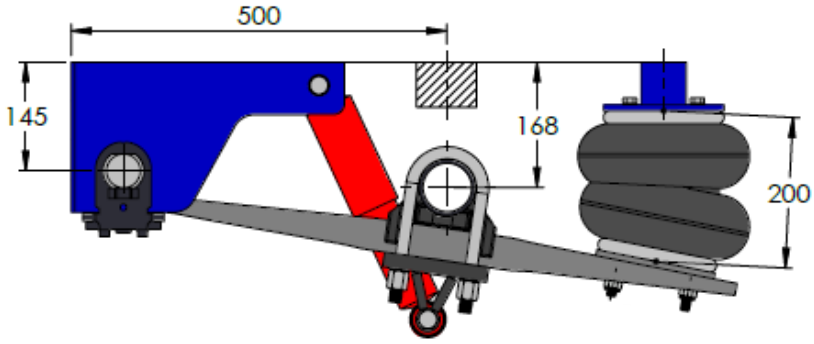
Bump



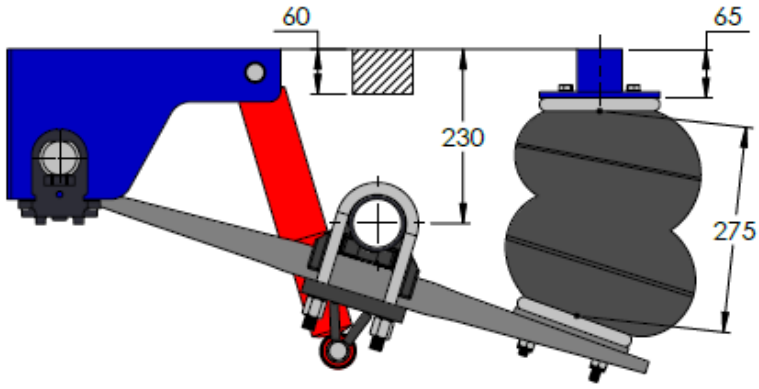
Overview



Ride Height



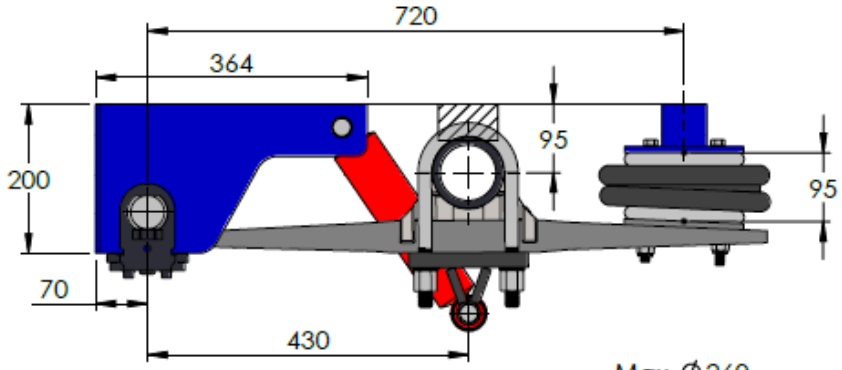
Maximum



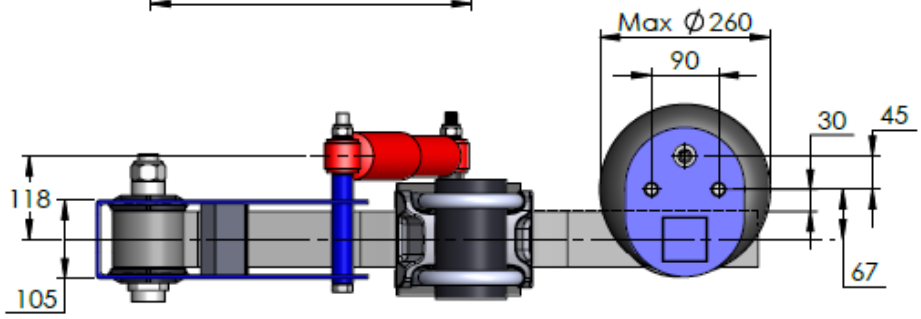
TRANSPORT EQUIPMENT AUSTRALIA

6T Underslung Air Suspension Drawing: 608

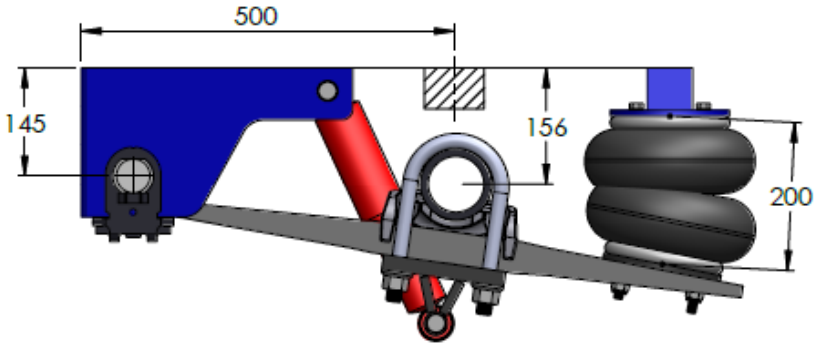
Bump



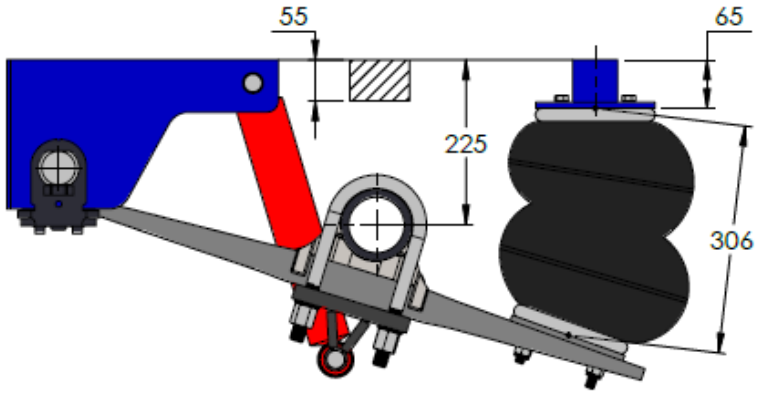
Overview



Ride Height



Maximum



Axle & Air Suspension - Welding and Assembly

1.

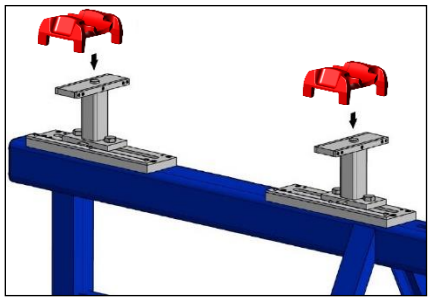


Fig 1

Place axle seat onto a suitable jig and set to correct spring centres.

2.

Set axle onto the jig.

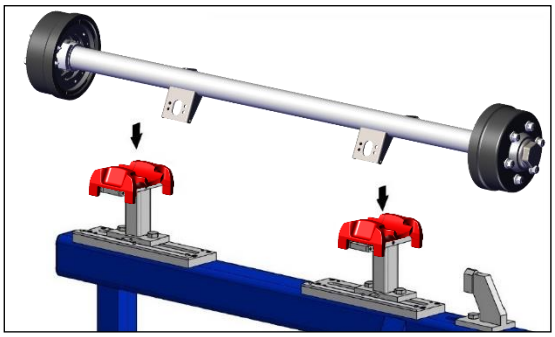


Fig 2

3.

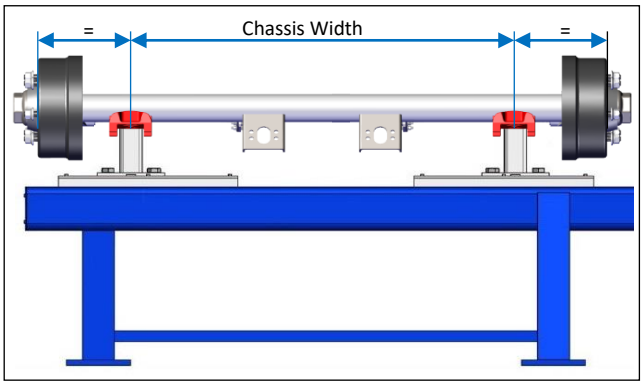


Fig 3

Align axle ensuring it is centralised.

4.

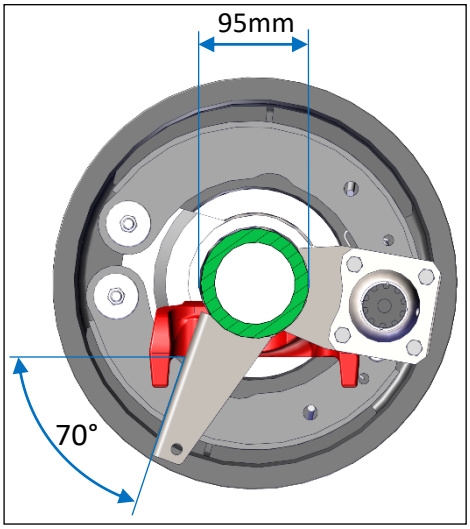


Fig 4a

Ensure correct rotation of axle.

Check and correct the position of the brake booster bracket.
Angle can be ± 10 degrees.

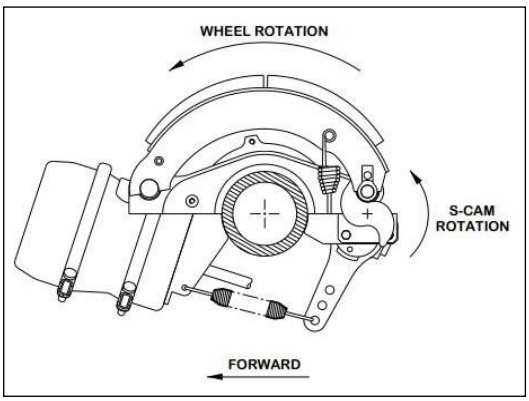


Fig 4b

THE AXLE BEAM MUST NOT BE WELDED FOR REPAIRING.
The beam should be replaced in this circumstance.

5. Pre heating Axle Beam

Before welding any components to the axle beam it must be preheated. Identify the area for the attachment of the suspension seats and heat the beam to 200 to 250° C in this area.
When the beam is at temperature complete the welding as shown below.

NO WELD SHOULD START OR STOP AT THE EDGE OF THE SADDLE.

6. Welding the Axle Beam

Tack weld the axle to the axle seats. The tack welds should be 15mm in from each edge of the axle seat (4 tacks per seat). Fig 6a

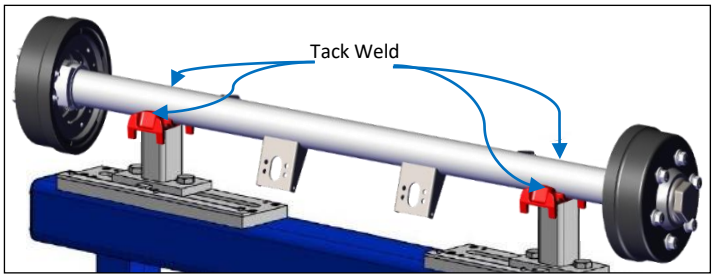


Fig 6a

7. Axle can be welded in place or put on a support frame for inverted welding as seen in Fig 7a + 7b + 7c.

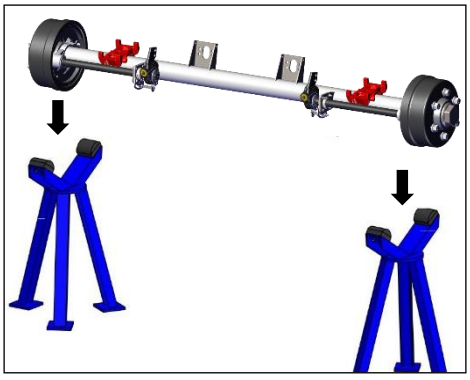


Fig 7a

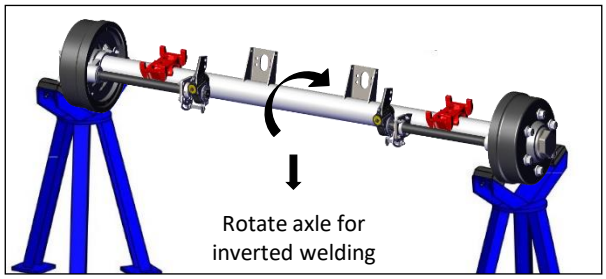
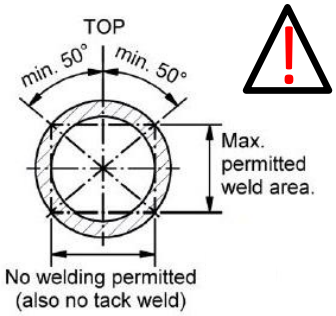


Fig 7b

INVERTED WELDING

Rotate axle and weld axle seats complete to the axle.

DO NOT WELD AXLE TO TRAILING ARM.



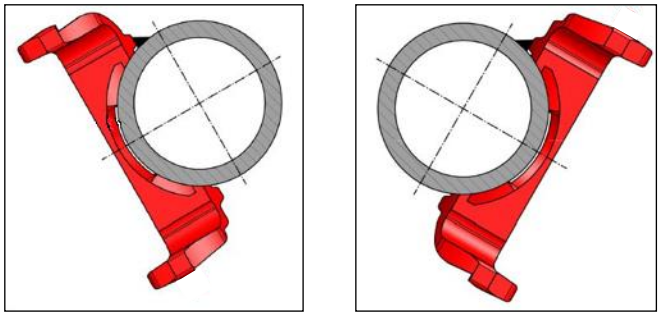


Fig 7c

TO PREVENT DAMAGE TO THE BEARINGS, NEVER CONNECT THE EARTH CONNECTOR TO THE AXLE HUB OR WHEEL END.

8.

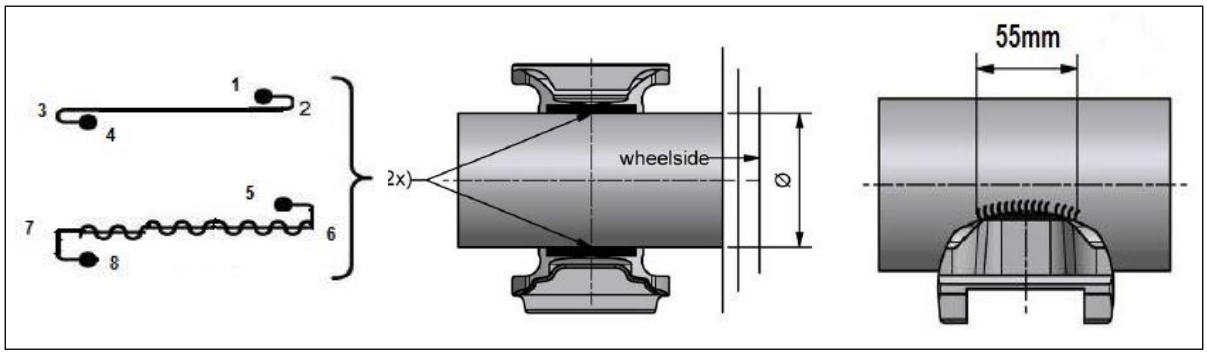


Fig 8

Build up two layers of the weld with initiation and termination as shown in Fig 8.

1st layer. Commence weld from 1 and return through 180 degrees to 2 and continue to 3 and again return through 180 degrees and finish at 4.

2nd layer. Commence weld from 5 and return through 180 degrees to 6 and continue to 7 in a wave action and again return through 180 degrees and finish at 8.

9.

Fit the trailing arms with the U bolt plates, U bolts, washers and nuts.

DO NOT ADJUST TO TORQUE SETTINGS AT THIS STAGE.

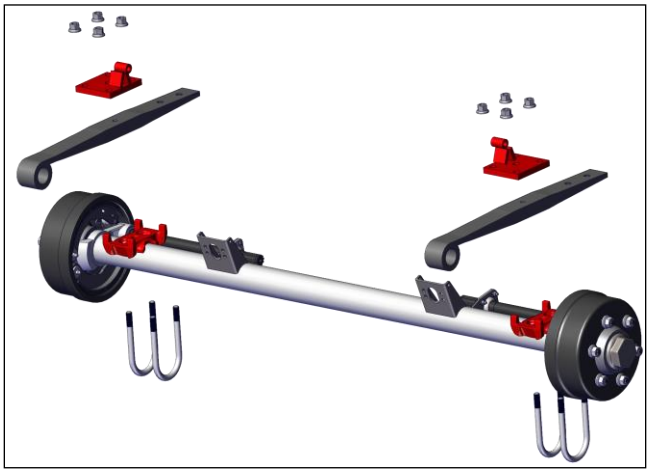
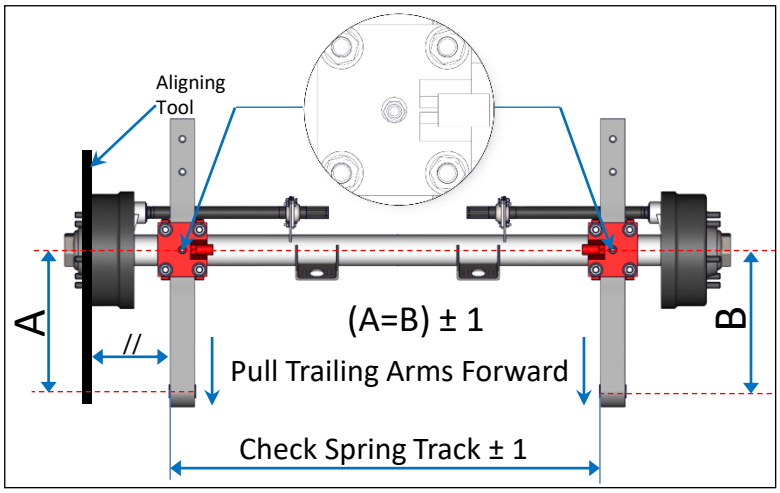


Fig 9

10.



Trailing arms are to be moved forward as far as possible. Adjust trailing arm location to ensure correct positioning with the axle.

Fig 10

11.

Tighten U bolts to correct torque setting. This should be done gradually by the sequence shown in Fig 11.

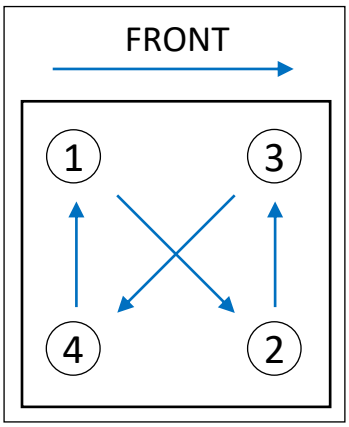


Fig 11

12. Assembly options:

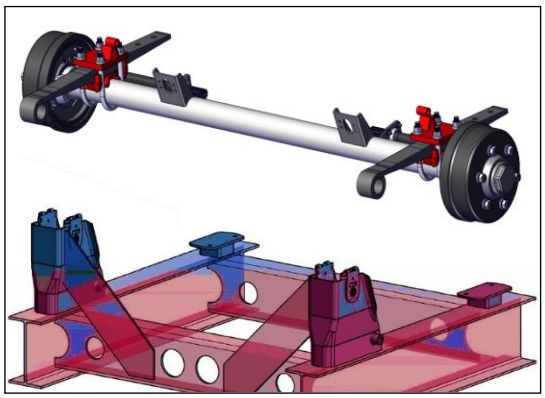


Fig 12a

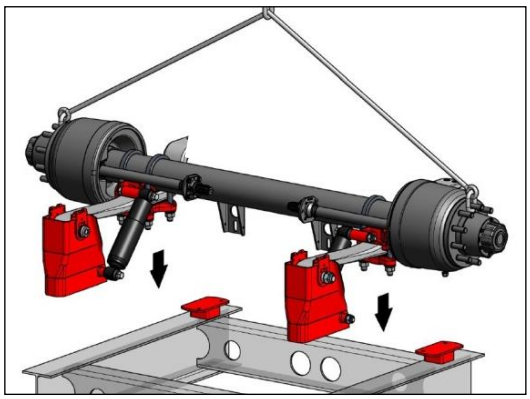


Fig 12b

13.

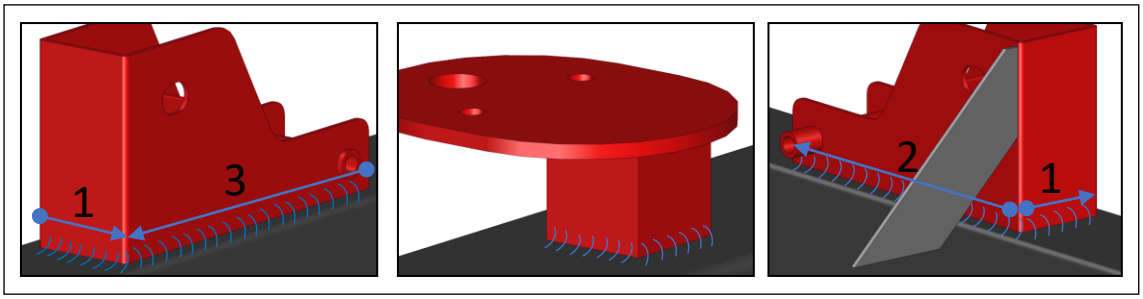


Fig 13a

Weld a 5mm fillet all the way around the hanger & pedestal as shown above in Fig 13a. Commence weld from 1, 2 and then 3.

Place hanger onto the trailing arm. Locate tracking and wear plates, then insert pivot bolt with washer and nut.

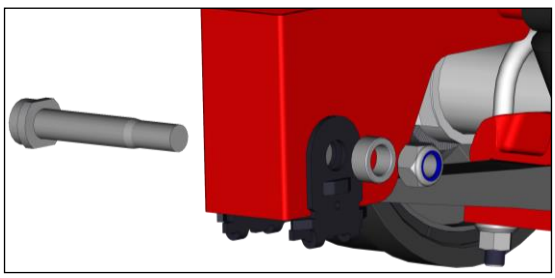


Fig 13b

14.

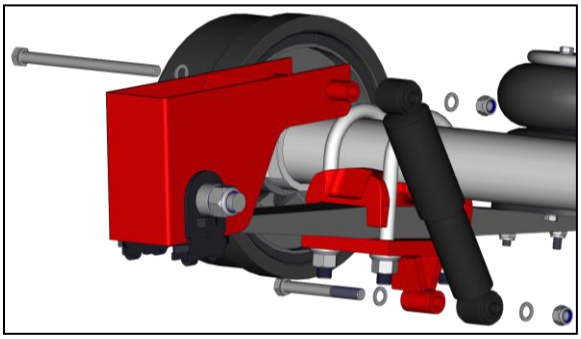


Fig 14

Fit shock absorber.

15. Once axle and chassis have been assembled ensure accurate alignment (Fig 15a) at ride height. Then the pivot bolt, shock absorber and airbag bolts can be tensioned to correct torque.

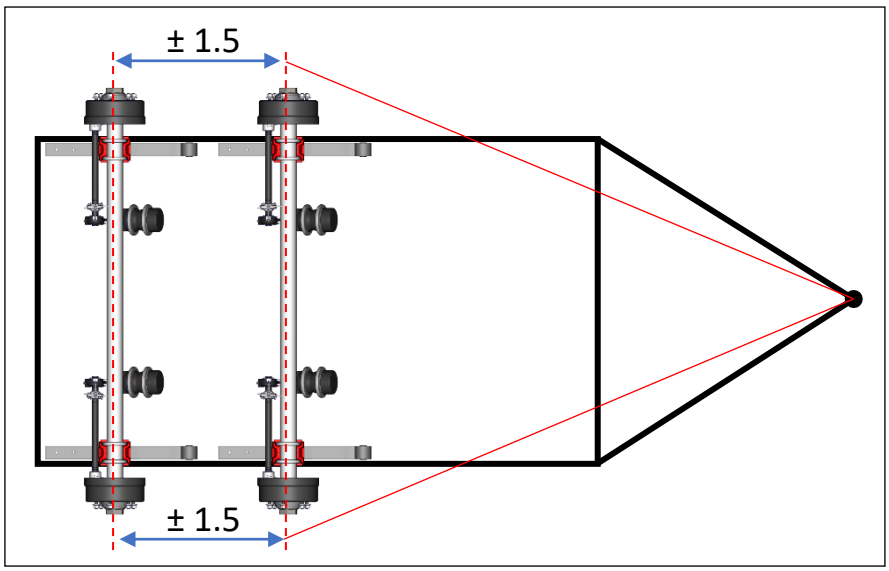


Fig 15a

Use Fig 15b for axle alignment.

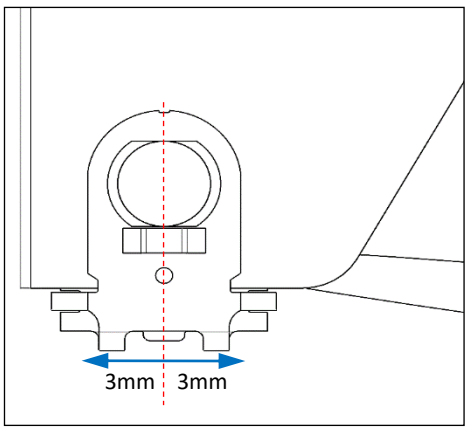


Fig 15b

MAINTENANCE & TORQUE SETTINGS

Daily Checks

Drain water and condensation from the air system.
Ensure the air reservoirs have reached their operating pressure.
Check air bags have pressurised

Maintenance	On delivery	After 1st trip	Every 6 months
Visual inspection of all components for damage and wear.	◯	◯	◯
Check condition of air bags.	◯	◯	◯
Check shock absorber mounting bolts for correct torque. M16 – 200Nm	◯	◯	◯
Check U Bolts for correct torque. M16 – 400Nm	◯	◯	◯
Check pivot bolts for correct torque. M27 – 1000Nm	◯	◯	◯
When mounting a new trailing arm. M27 – 200Nm plus 270°	◯	◯	◯
Check airbag mounting. M10 – 25Nm M12 – 35Nm	◯	◯	◯