

## WORK INSTRUCTION

### Fitment of AL-KO tandem springs to chassis

**STEP 1** Spring hangers are welded to the main chassis rails of the trailer. Each manufacturer needs to determine the axle position(s) prior to welding the hangers. AL-KO provides nominal dimensions for the spring and axle positions.



Figure 1

**STEP 2** Welding the three hanger pieces square to one another is essential. Figure 1 shows a jig that is used to replicate the spring for high volume production. Pins are chained to the jig and fit in the hangers to replicate the shackles pins, as shown in figure 2 & 3. An actual spring set may be used in the same way. AL-KO recommends beginning with the centre hanger and tack weld all hangers first before fully welding.



Figure 2



Figure 3

**STEP 3** Assemble the spring onto the hangers using the pins and nyloc nuts. The spring is required to articulate about the pin. Over tightening will cause a friction lock between the spring hanger and the spring eye, rendering the spring inoperable.

AL-KO recommends maintaining a 0.5mm gap between the spring eye and the hanger (see figure 4a and 4b). Use a feeler gauge to set this gap.

\*NB: Because the nut is theoretically not tight, no torque setting can be established.

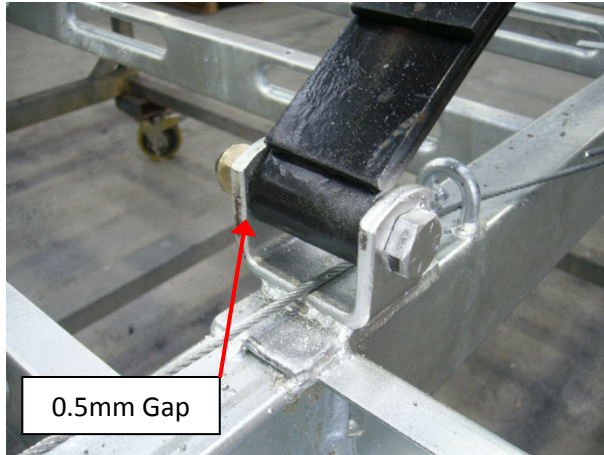


Figure 4a

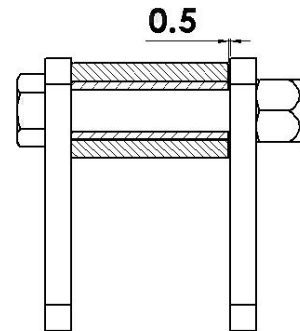


Figure 4b

**STEP 4** Assemble the centre rocker onto the hanger with the pin provided and secure with a nyloc nut. The same articulation about this pin is also required and thus a 0.5mm gap as per figure 3a and 3b should be maintained. Grease the centre pivot using the standard grease nipple as shown in figure 5. When fitting the centre pin, face the grease nipple toward the outside of the trailer, this will make ongoing maintenance simpler.

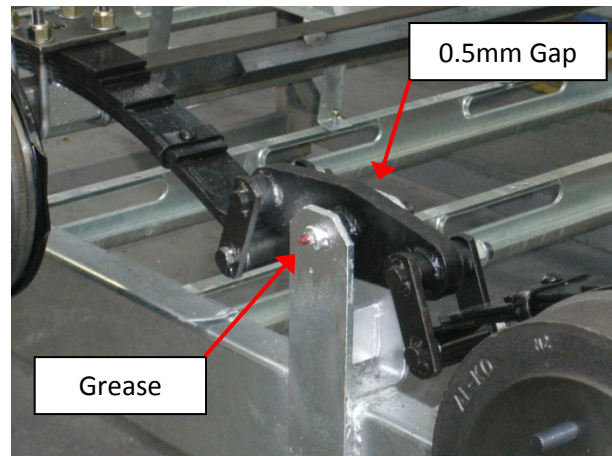


Figure 5

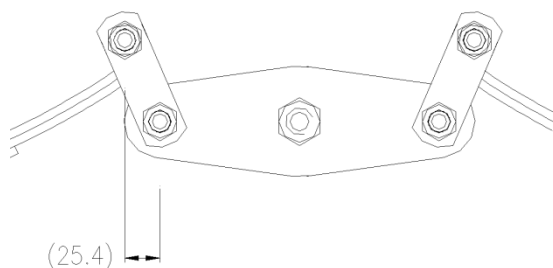


Figure 6

The centre rocker should sit horizontal whilst there is no load on the springs and the shackle offset should be outward with a centre distance of approximately 25.4mm as shown in figure 6. When the caravan body and load is added to the springs the shackle offset will reduce.

**STEP 5** The spring assembly is now complete and ready for axle fitment.



*Figure 7*