

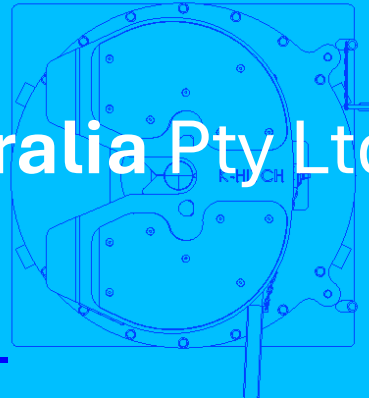


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FUWA K-Hitch Australia Pty Ltd

www.khitch.com.au

+61 (03) 9369-0000



INSTALLATION BULLETIN

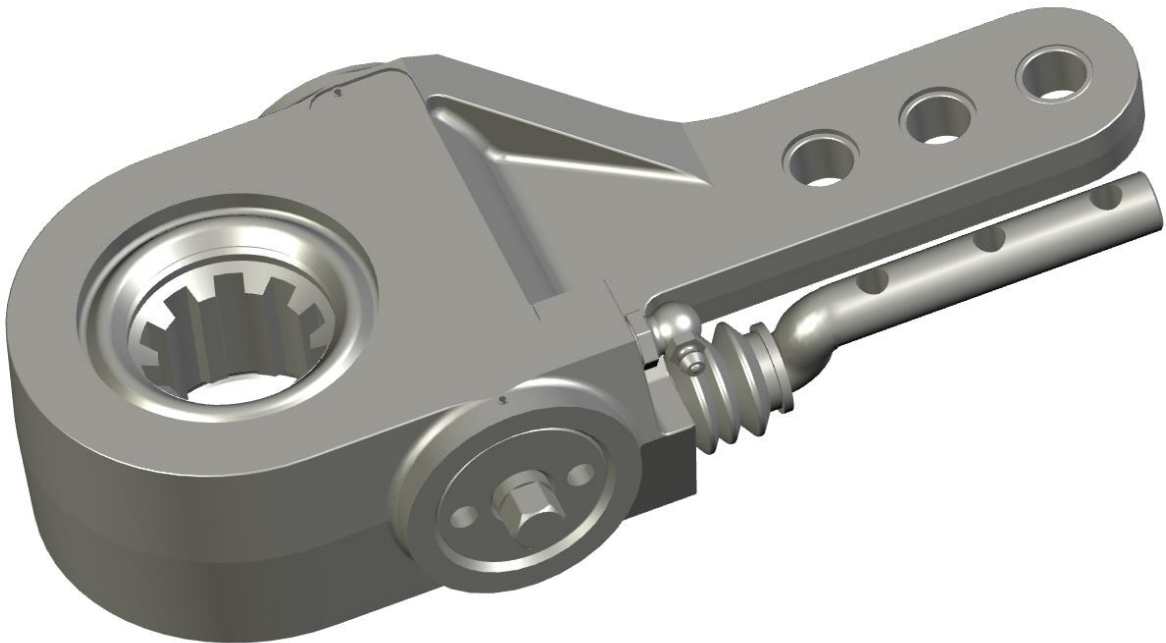
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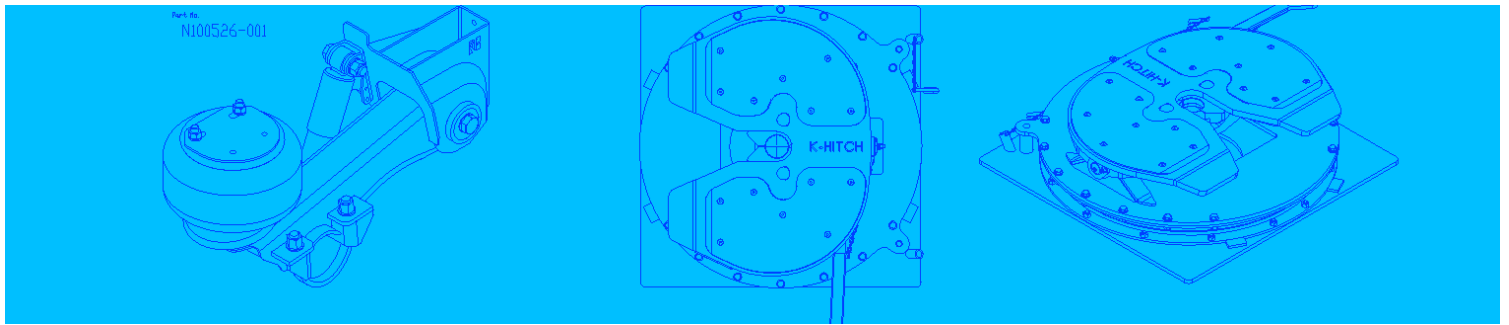
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INSTALLING ASC AUTOMATIC SLACK ADJUSTERS





SCOPE

This document covers the fitment of ASC automatic slack adjusters (ASA) on drum brake systems. (FUWA)

INSTALLATION RECOMMENDATIONS

Install the brake chamber onto the axle, following the installation recommendations then follow the instructions in this document.

The brake system is a safety critical component of the vehicle combination and needs to be specified and installed according to the legal requirements and manufacturers recommendations.

Precautions

Below are a few safety points to consider when installing brake components, a company specific safe work practices and risk assessment study should be conducted and followed.

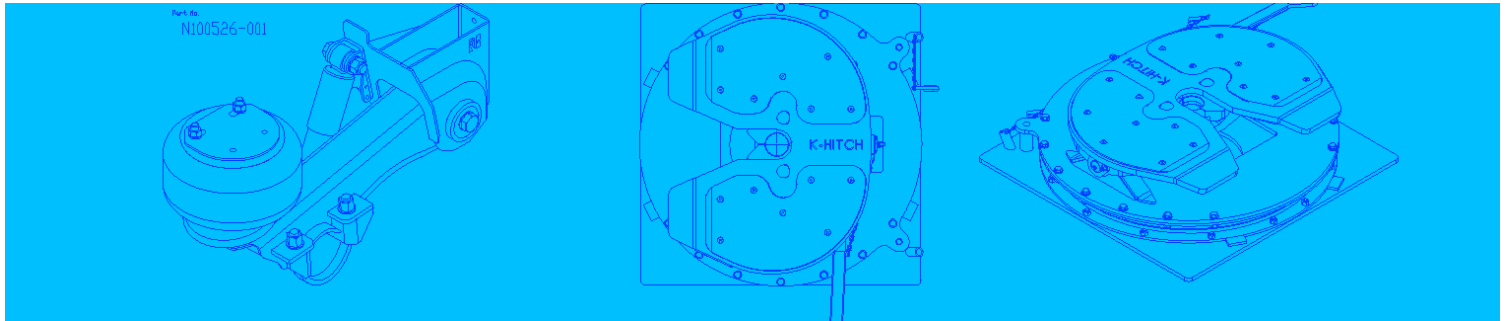
1. Follow company procedures.
2. Wear Personal Protective Equipment (PPE) as directed.
3. The brake chamber contains a spring under pressure do not disassemble.
4. Follow build documentation, ask for support if unsure.
5. Use the correct equipment for the job.
6. Always chock the wheels when working on the brakes.
7. Be careful of pinch points on your hands.

Preparation

The correctly sized brake chamber should be installed onto the axle assembly in the specified location. If this brake chamber is a spring brake chamber the chamber should be caged until after the slack adjuster is correctly adjusted.

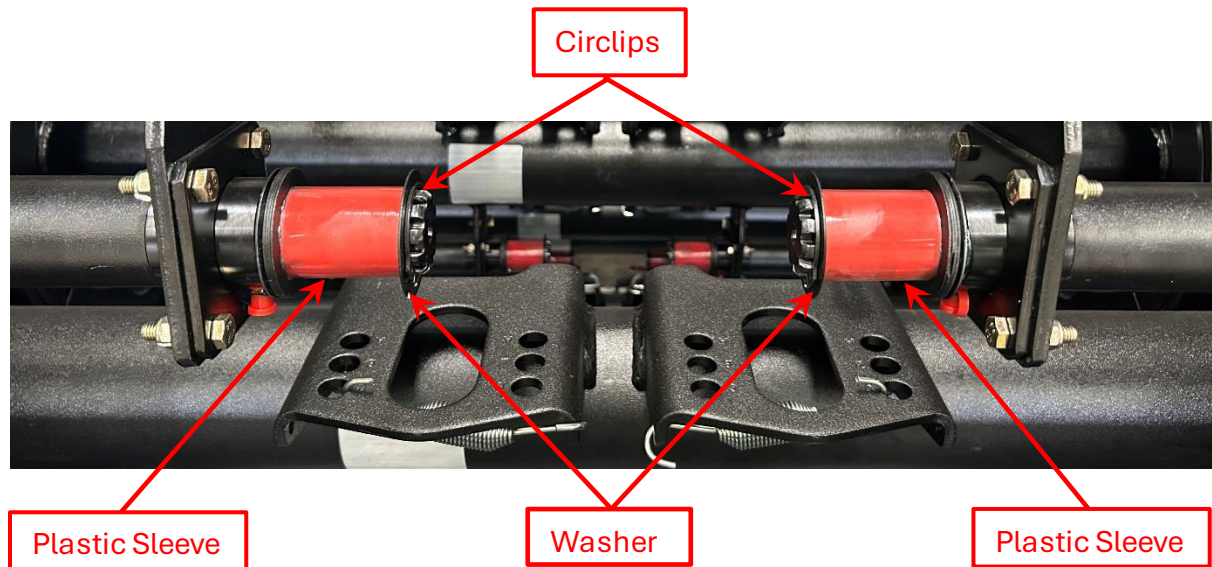
Ensure that all of the correct parts have been supplied and the brake chamber position on the slack adjuster, as is specified per the brake calculation.

Ensure that the brake chamber pushrod length is correct and has the correct clevis fitted.

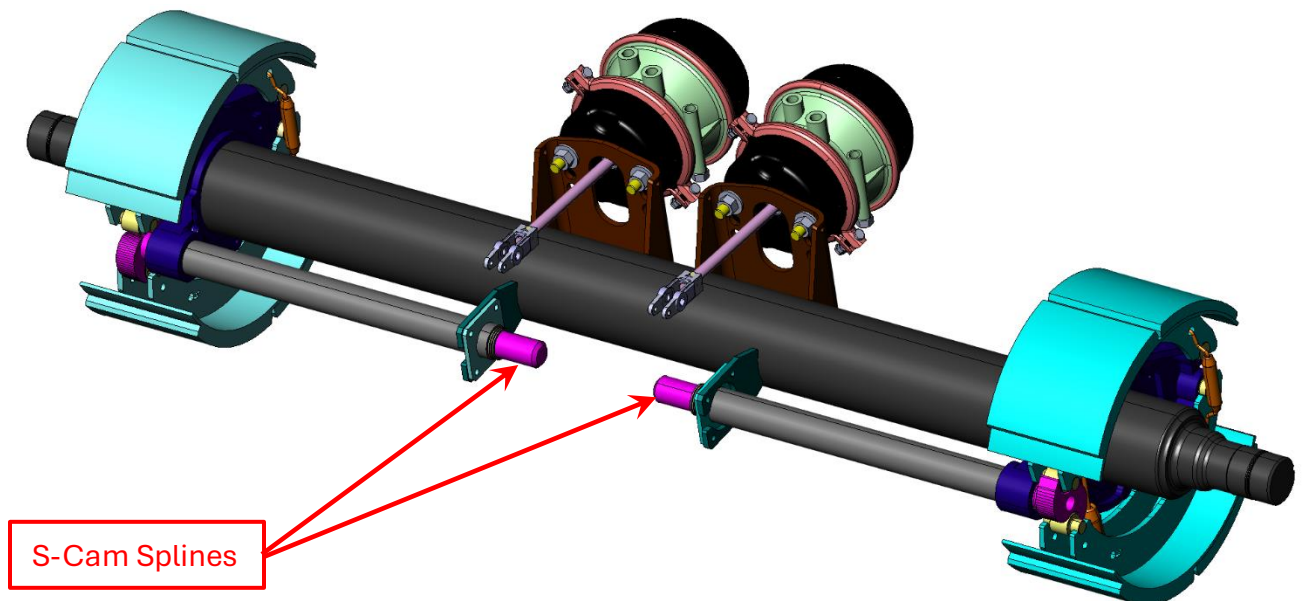


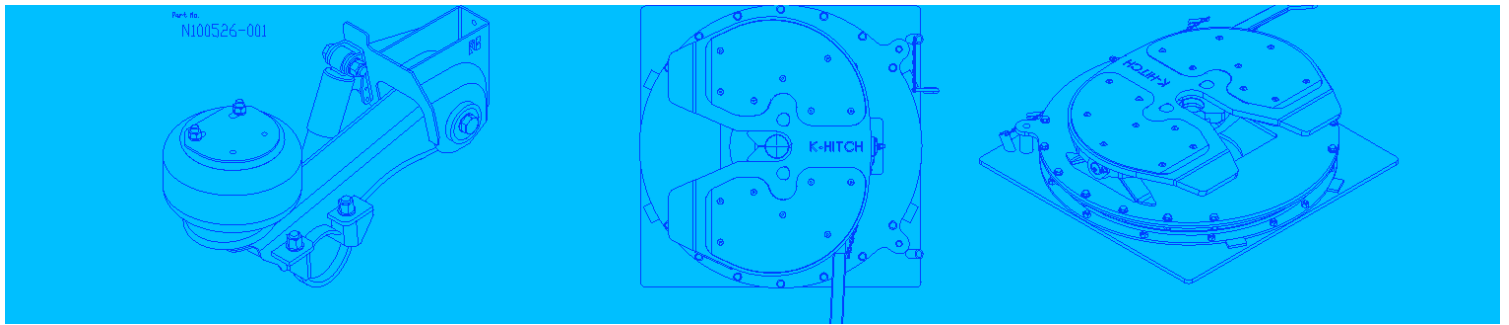
Assembly

Remove the circlips, outside slack adjuster washers and red plastic protection sleeves from the S-Cam shaft, parts illustrated shown below.

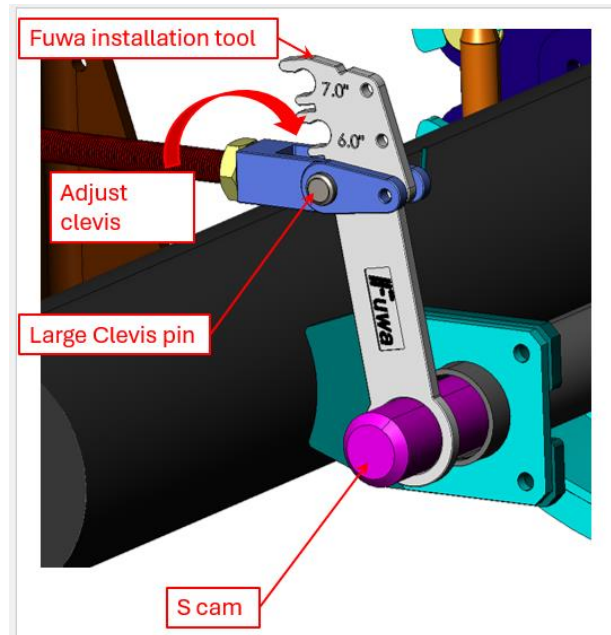


Ensure that the S-Cam spline is clean and has some lubrication on it, the anti-rust protection on a new axle assembly is acceptable. *(Castrol Ultratak (NLGI 2) or equivalent is recommended for additional lubrication)*

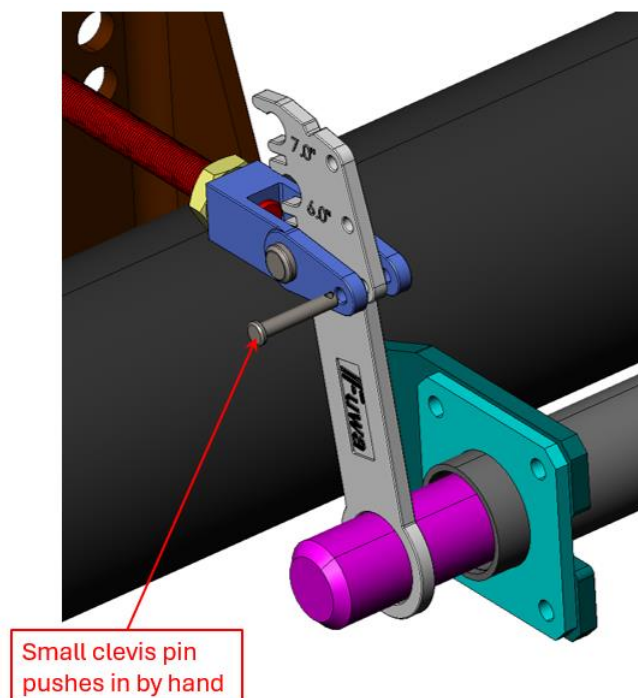


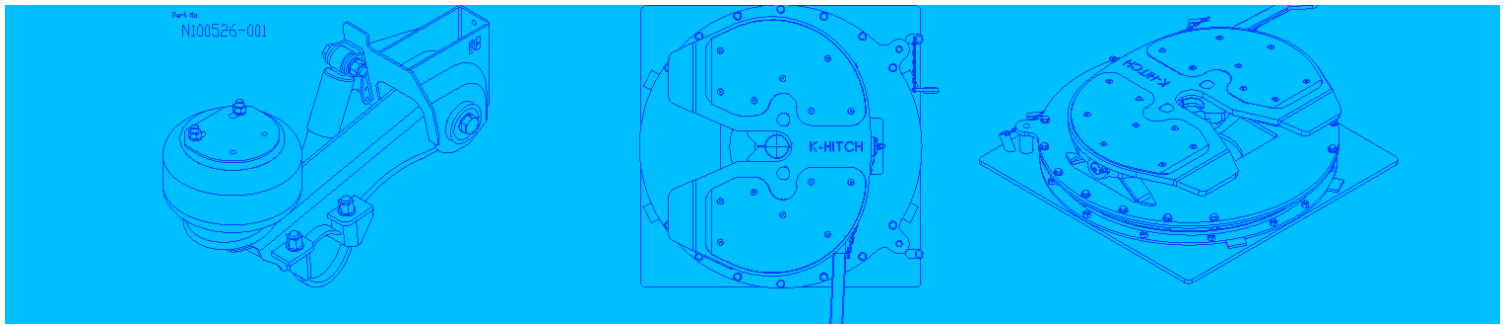


Place the Fuwa installation tool onto the S-Cam spline. Select the correct hole for the appropriate slack adjuster arm length (127 mm {5", A-A}, 152 mm {6", B-B} or 178 mm {7", C-C}) and then install the larger ½" clevis pin as shown below.



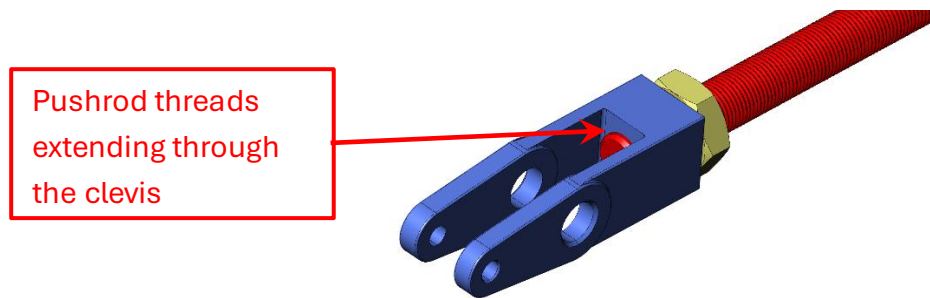
Screw the clevis in or out along the pushrod until the smaller ¼" clevis pin can be installed without force (with the ½" pin still installed) as shown below.



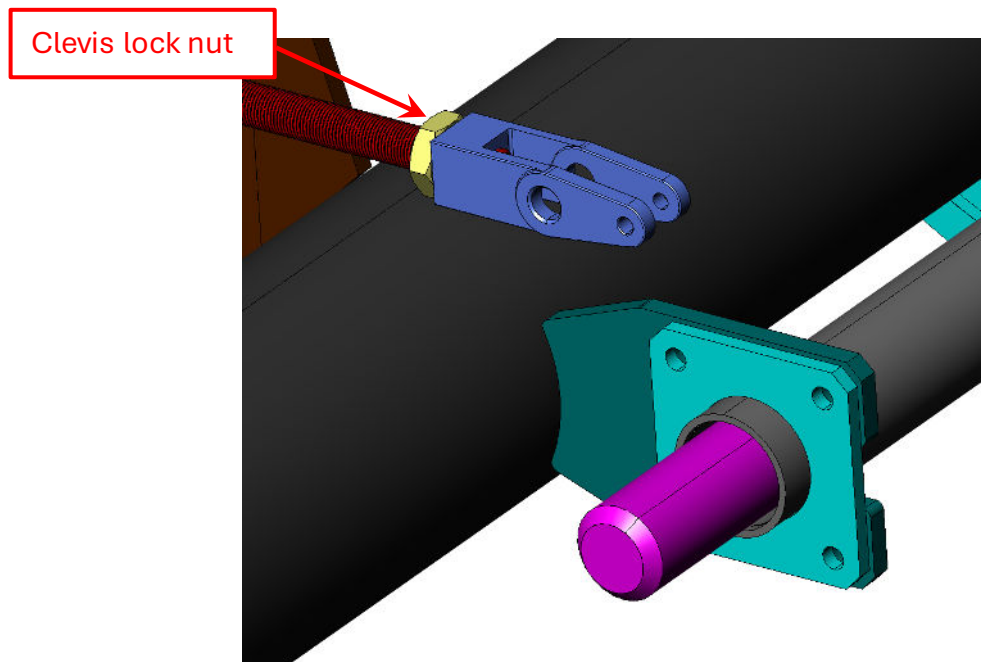


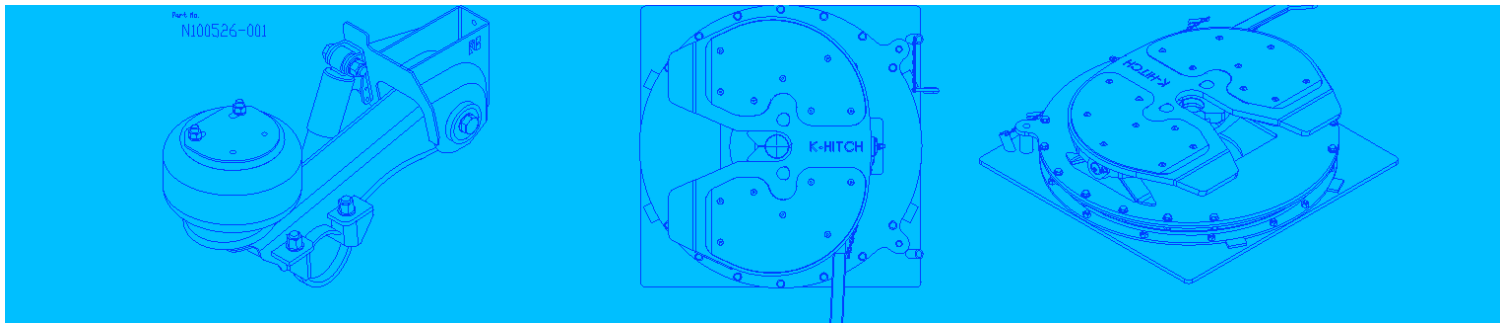
Make sure that the push rod is properly fixed into the clevis.

- a. If the push rod thread extends through the clevis by more than 1.6 mm (1/16", or two threads), remove the clevis and cut the push rod to suit, as shown below.
- b. The push rod needs to have a minimum of 13 mm protrusion into the clevis (1/2"). If that is not the case the booster needs to be replaced.

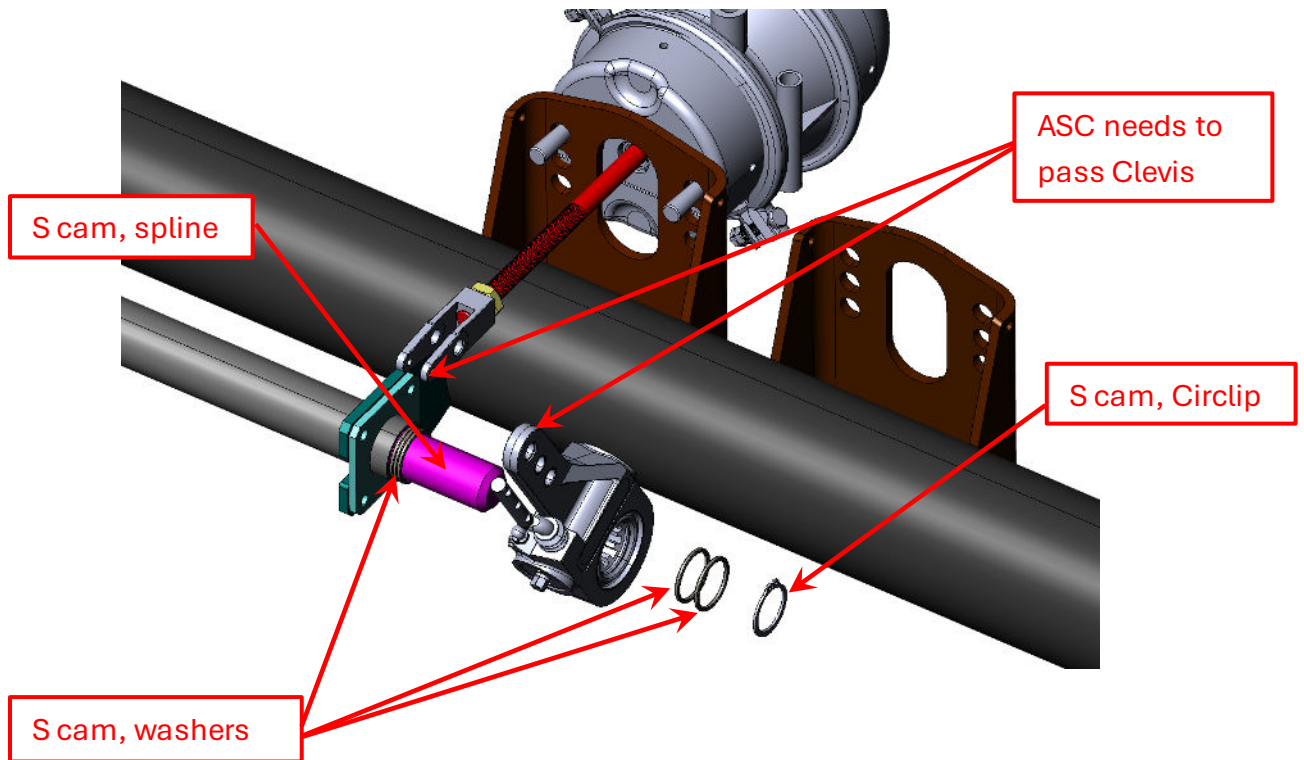


Now tighten the clevis lock nut against the properly located clevis, torque to 68 Nm (50 ft-lb), then remove the clevis pins and FUWA installation tool. The clevis is now locked into position as shown below. *NOTE: Industry best practice is to hold the clevis with a spanner when torquing the clevis lock nut, to ensure the clevis does not move during the torquing procedure.*

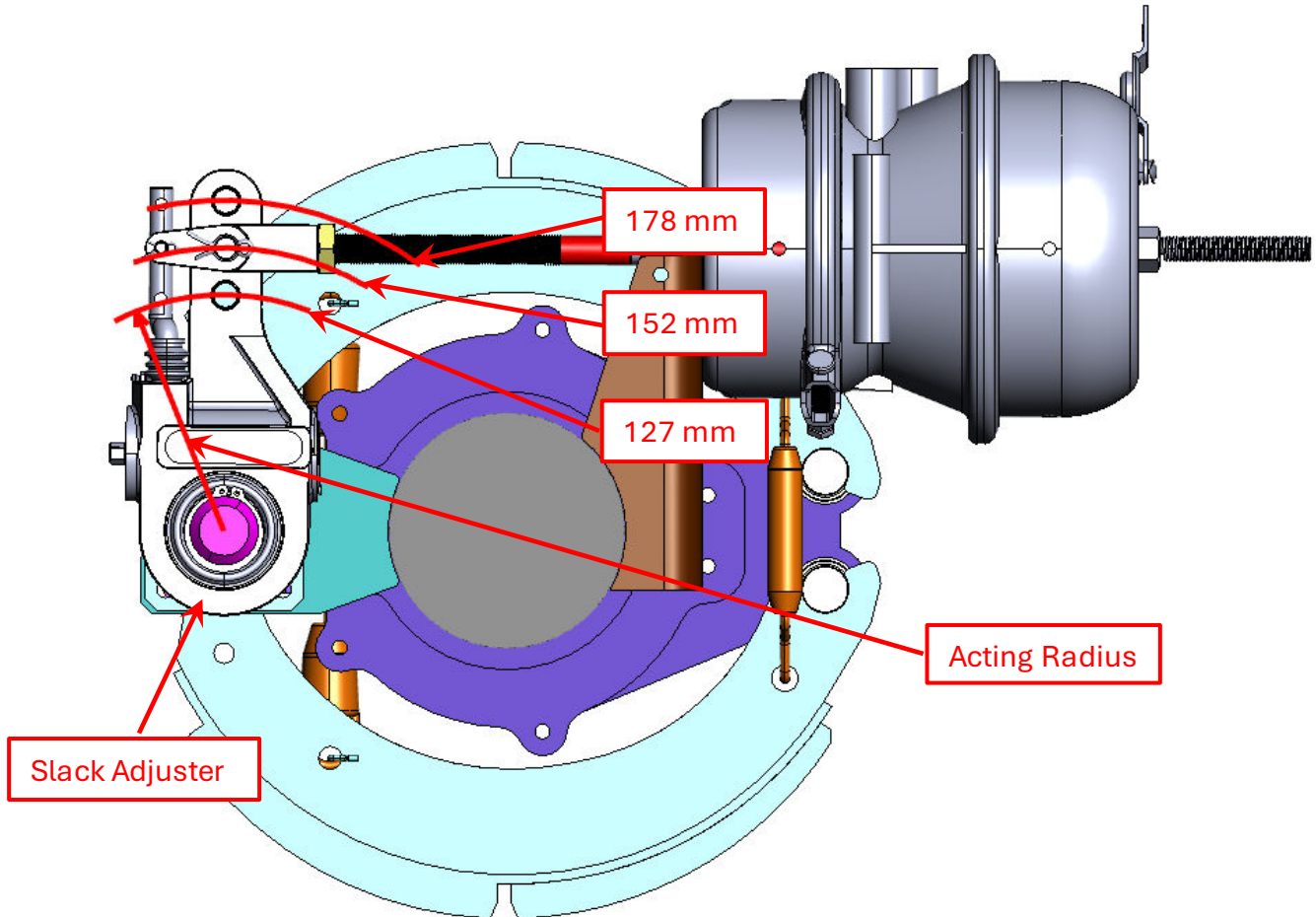
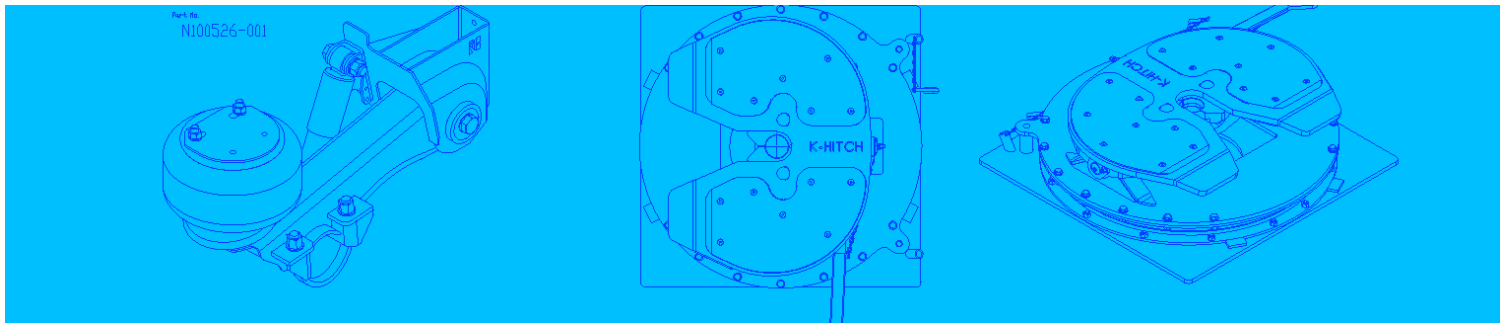




Install the ASC automatic slack adjuster onto the S-Cam spline. Make sure to select a spline that will allow the slack adjuster to pass the brake chamber pushrod clevis. Try to evenly space the slack adjuster washer either side of the slack adjuster as shown below.



The brake booster needed to be installed at the correct position on the mounting bracket (127 mm {A-A} 5", 152 mm {B-B} 6", 178 mm {C-C} 7") according to the "Brake Calculation", the brake chambers pushrod clevis also needs to be installed at the corresponding slack adjuster hole locations as shown below.

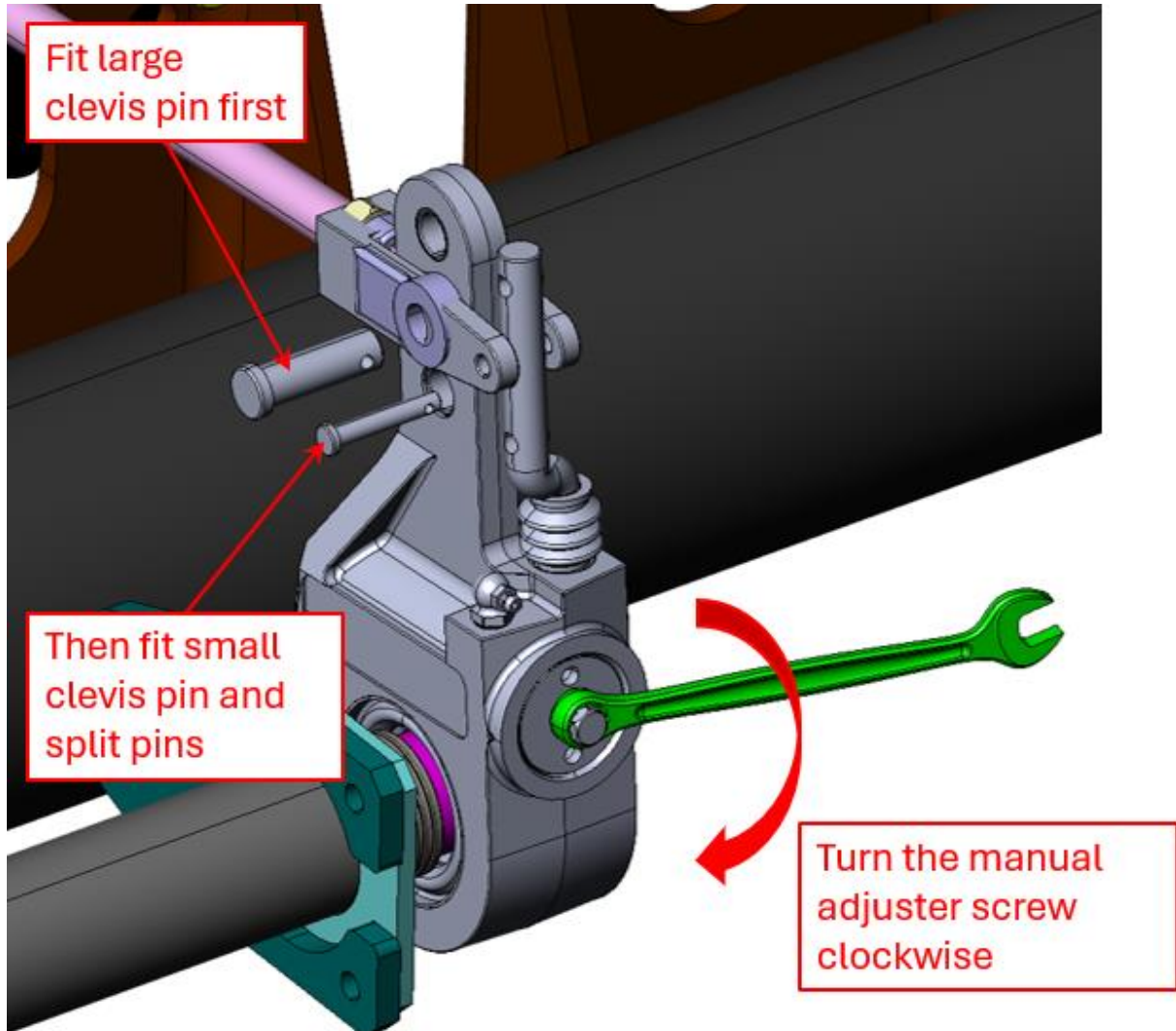
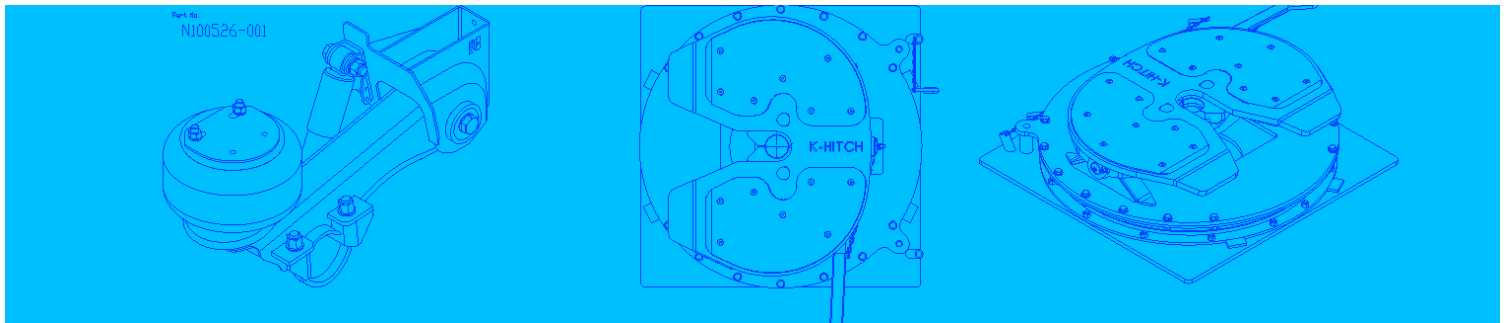


With 7/16" ring spanner (*do **NOT** use an impact gun*) rotate the manual adjuster screw clockwise until the clevis holes line up with the holes on the ASC slack adjuster.

NOTE: do not pull the slack adjuster backwards, if you have moved to far forward turn the manual adjustment screw anticlockwise one turn and start again.

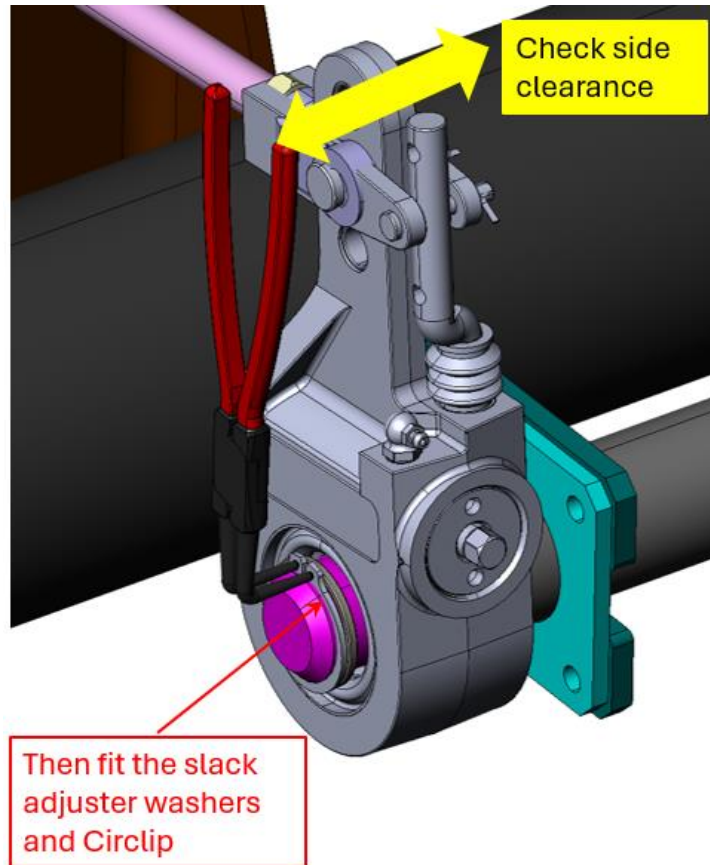
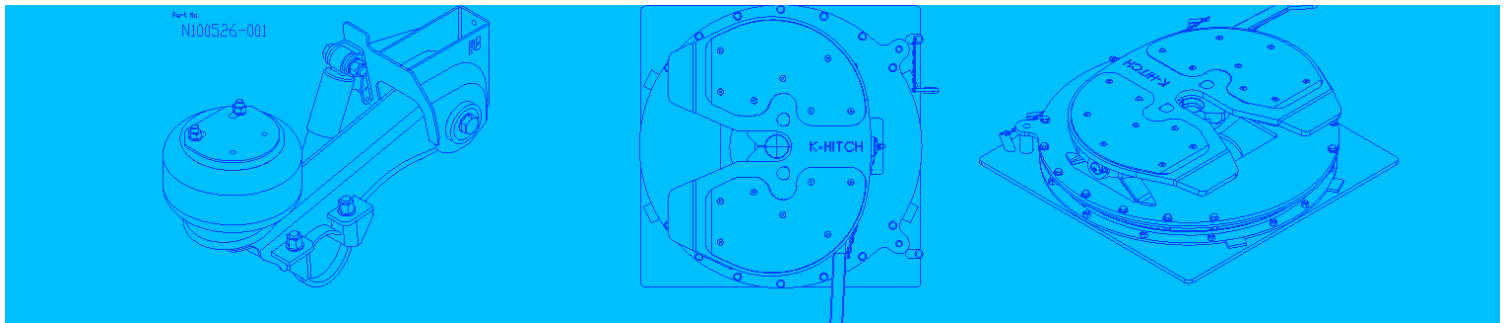
Insert the large 12.7 mm (1/2") clevis pin first and then the smaller 6.3 mm (1/4") clevis pin (*without using any force*).

Secure both of the clevis pins in place with the correct split pins and bend the legs to ensure secure fitment.



Install the slack adjuster washers and circlip, make sure that the circlip seats properly into the groove in the S-Cam spline.

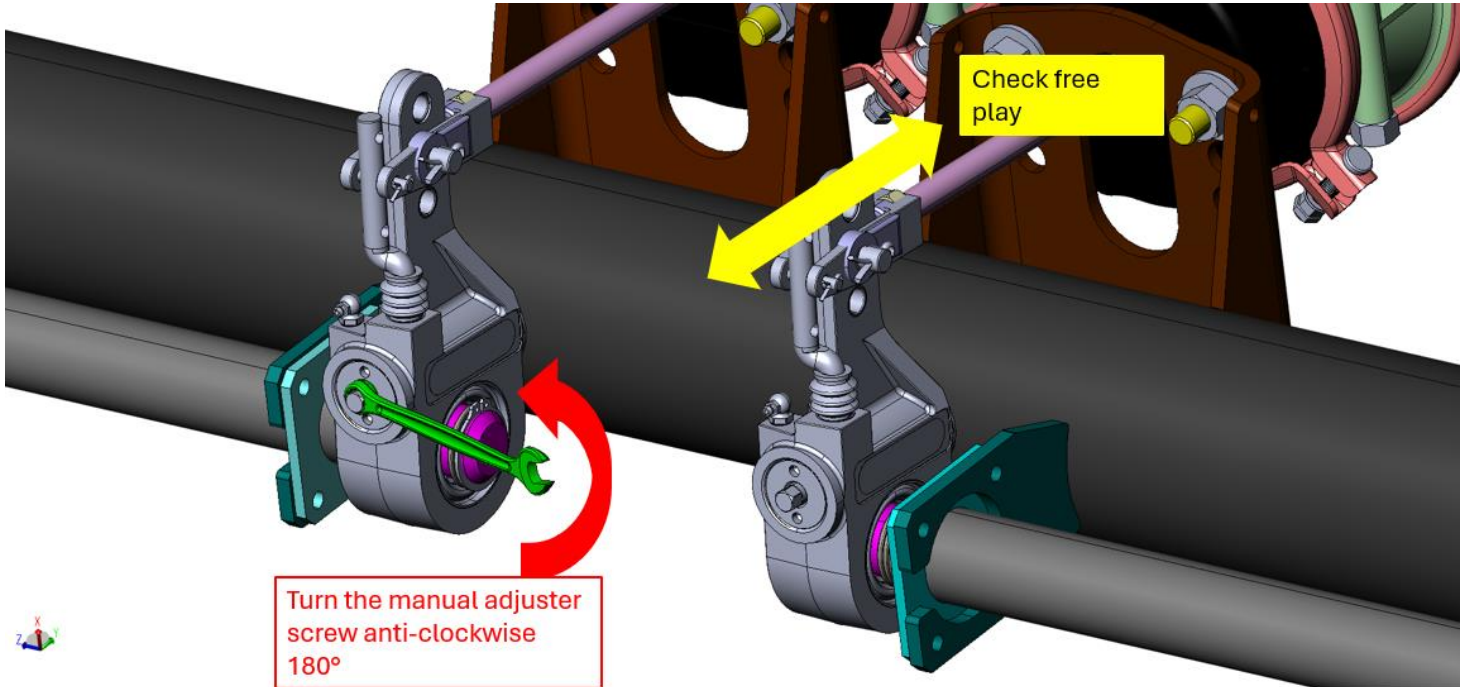
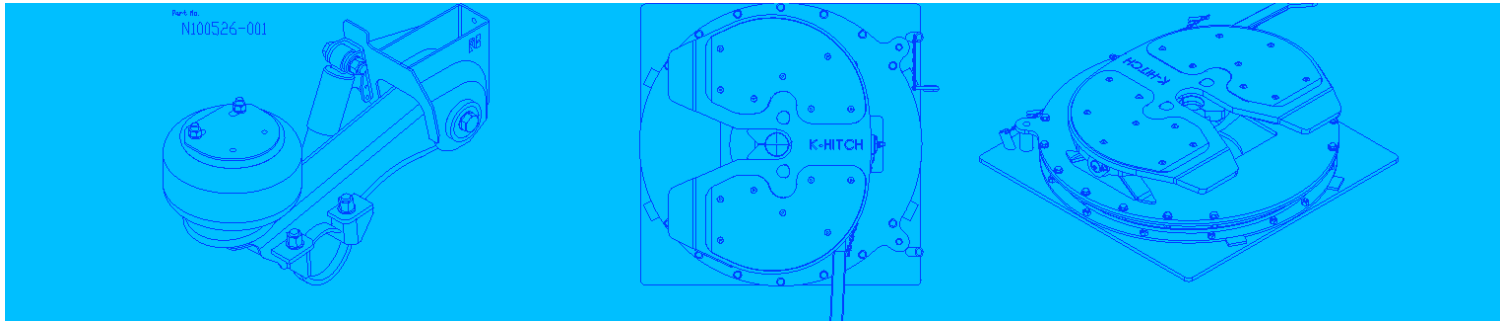
Now check the ASC slack adjuster side clearance along the S-Cam spline, this must be a minimum clearance of 0.5 mm and the maximum clearance of 2.0 mm. This movement is illustrated below.



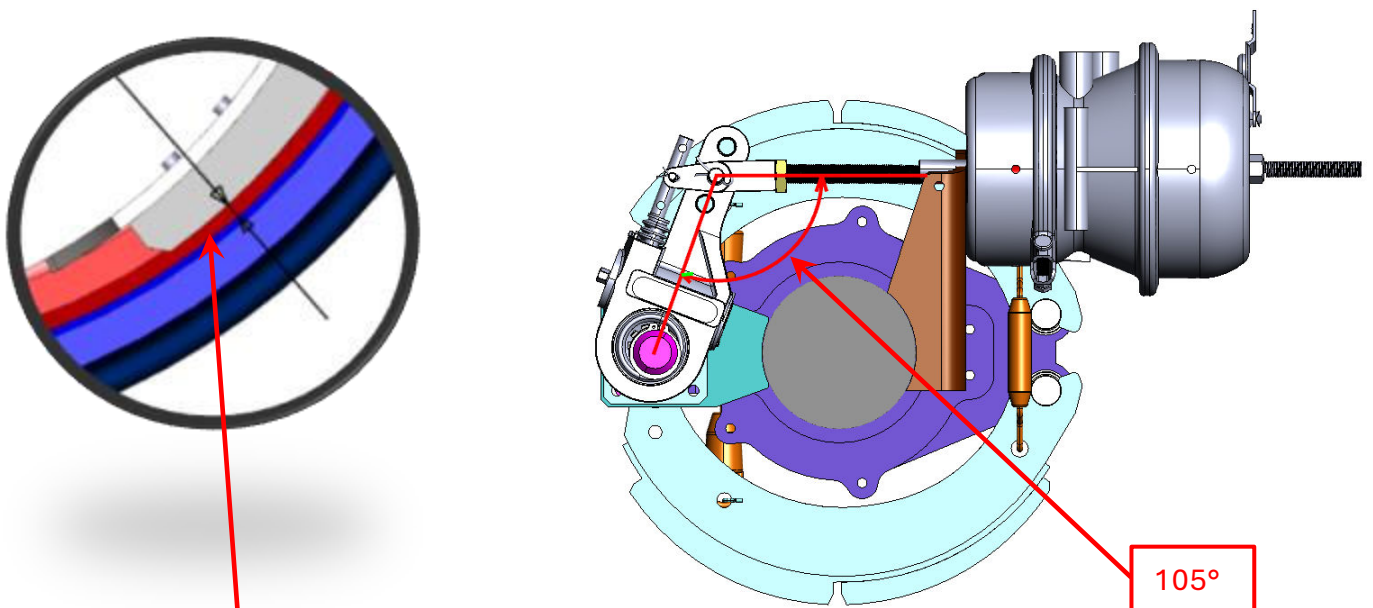
For the final adjustment turn the manual adjuster screw with the 7/16” ring spanner clockwise until all the slack has been taken up and there is tension on the ring spanner (*without excessive force, maximum 15 Nm*).

Then turn the rings panner in the opposite anticlokwise direction for about 180°, this should take substantially more effort than turning the manual adjustment screw clockwise and also make an audible noise.

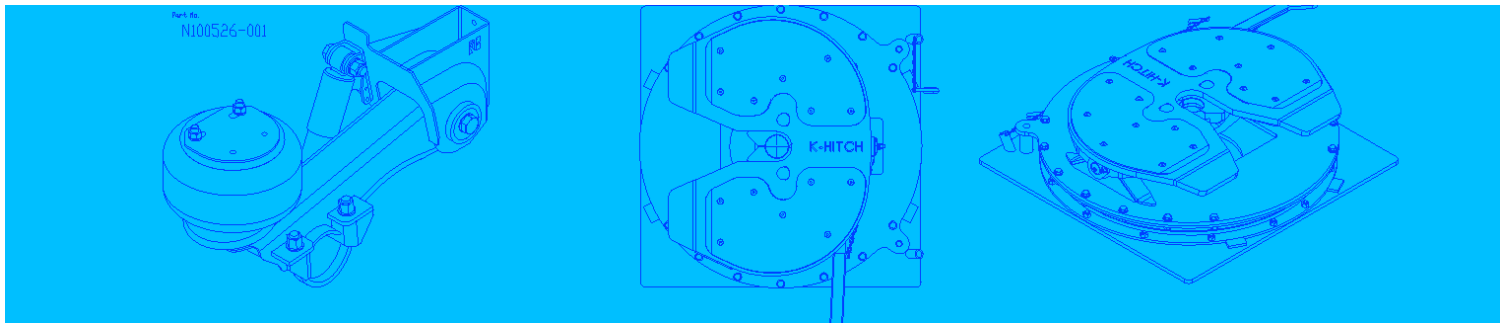
Cycle air pressure into the service inlet port 5 times, then release the brake and inspect the free play, it should be between 8 mm – 12 mm as illustrated below. *CAUTION: high pressure air will be expelled and the brake chamber pushrod and slack adjuster will move.*



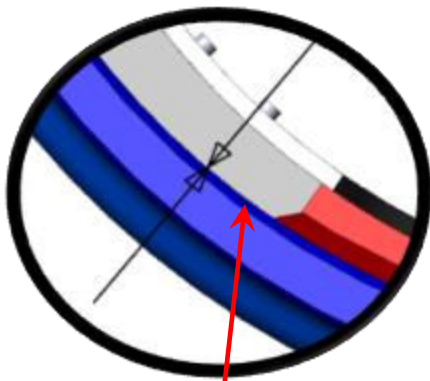
With the brakes **not** applied there should be an approximate angle of 105 degrees between the brake chamber pushrod axis and the line of action through the slack, as shown below.



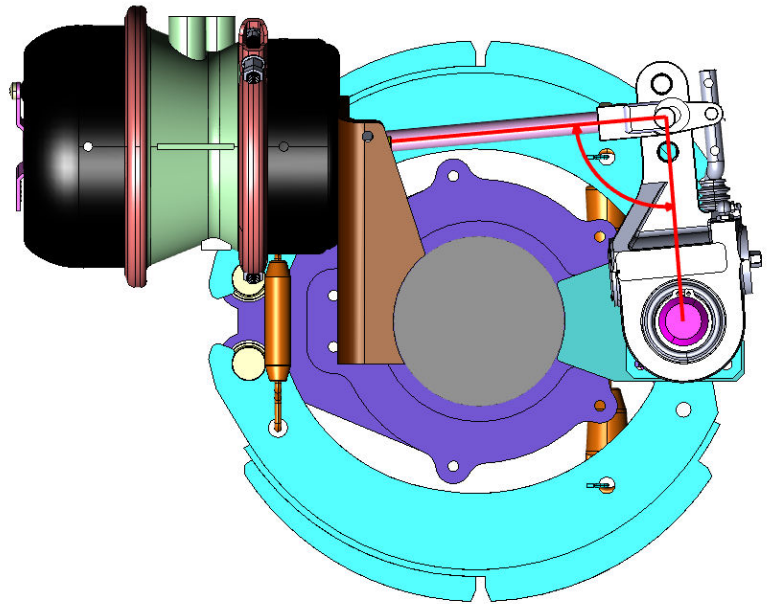
Brake Shoes Clearance



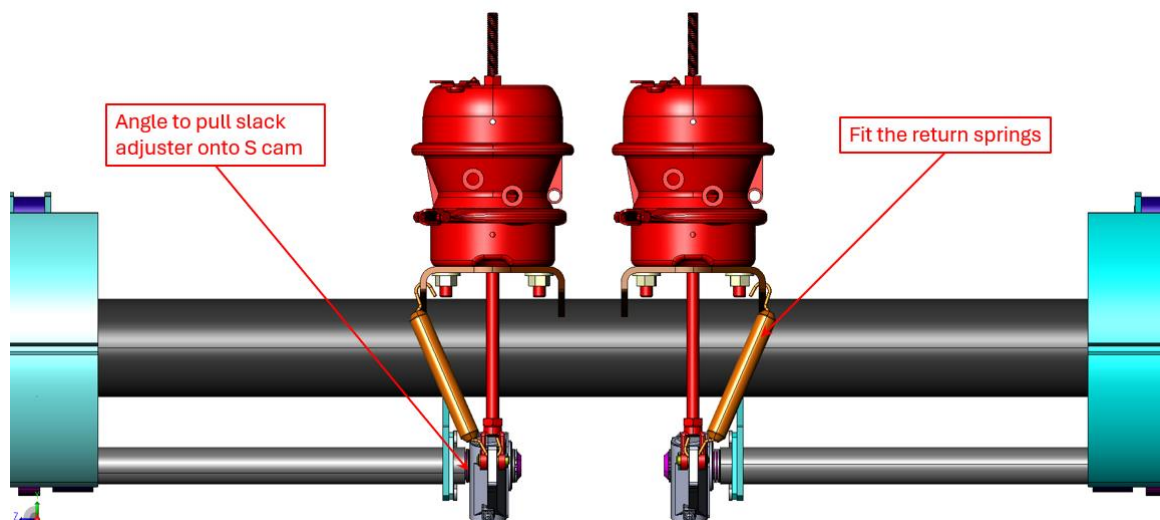
With the brakes **fully** applied at operating brake pressure (*more than 650 kPa*) the angle between the pushrod axis and the slack adjuster line of action should be approximately 90°, as shown below. **CAUTION:** *the pushrod and slack adjuster will move, stay clear.*

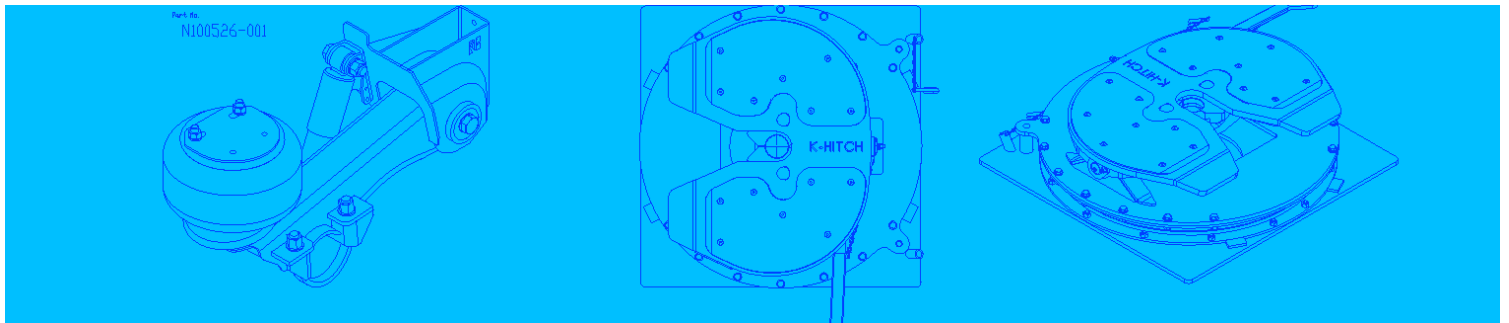


Brake shoes engaged



The slack adjuster return springs can now be fitted, in the orientation pulling the slack adjuster onto the S-Cam shaft as shown below. **CAUTION:** *the spring can pinch your skin.*





The springbrake chamber can now be uncaged by applying more than 650 kPa air pressure into the park brake inlet port, undoing the T-Bar release tool nut enough to rotate the T-Bolt release tool 90° anticlockwise and extract it. The T-Bolt release tool (*Caging Bolt*) should then be fitted to the T-Bolt receptacle on the side of the springbrake chambers central aluminum section. Then release the air from the park brake system. **CAUTION:** the pushrod and slack adjuster will move applying the brakes, expelling high pressure air as the air pressure is removed.

Now check the brake systems operation with compressed air, also check that the red stroke indicator on the brake chamber pushrod is not visible when the brakes are applied, as shown below. **(If Visible - may require a 75 mm {3"} stroke brake chamber)**



Red Stroke
Indicator Band