Installation Guide
Ancon Tension Systems

The following instructions are vital to ensure a full strength system. Appropriate material end plates should be used to ensure system performance (see 'Connecting Plates' section).

Inspection of Product Components

Transit Damage
All tension system components should be visually inspected for transit damage prior to installation. Special care should be taken when inspecting bars and threaded areas as significant damage could affect the capacity of the system. Thread distortion will cause fittings to jam over thread.

Component surface damage, including scuffing and scratching, should be treated by either polishing for stainless steel or repair coating treatments for zinc/galvanised bars. With regards to the latter, this is important to maintain system corrosion protection.

Thread Orientation
Threaded components are either right hand or left hand oriented. It is important to identify thread orientation prior to assembly, to avoid mismatching components. All fittings are stamped with either 'R' or 'L' to indicate hand of thread.

UK
Tel: 0114 275 5224
Web: www.ancon.co.uk

Australia
Tel: 1300 304 320
Web: www.ancon.com.au

New Zealand
Tel: 03 376 5205
Web: www.ancon.co.nz

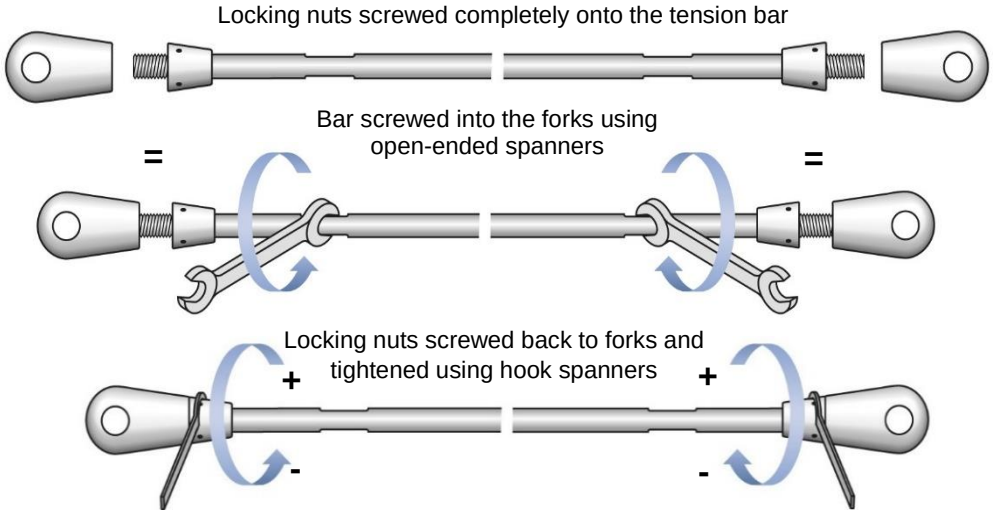
Assembly and Adjustment of the System

All bars and relevant fittings should be separated and identified per work area, to avoid misplacing bar lengths or sizes. It is advisable to assemble tension bars on the ground first, without pins, before lifting into position over the connecting plates.

Installation Guidance

1. On a level surface as close as possible to the final fixing location, assemble the full system, without pins, to the required pin-to-pin dimension. To do this the locking nuts should be fully screwed onto the bar at each end and the bar screwed into the forks, ensuring full thread engagement, using an open-ended spanner of the correct size (see page 4 for spanner sizes).

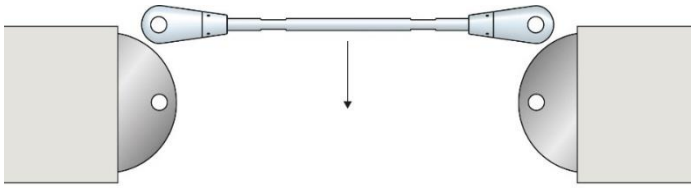
   When the required system length is reached, the locking nuts must be turned back to the fork and tightened using soft touch pliers for Ancon 500/8 to 12, or a hook spanner for Ancon 500/16 and above, and the Ancon 360 System.



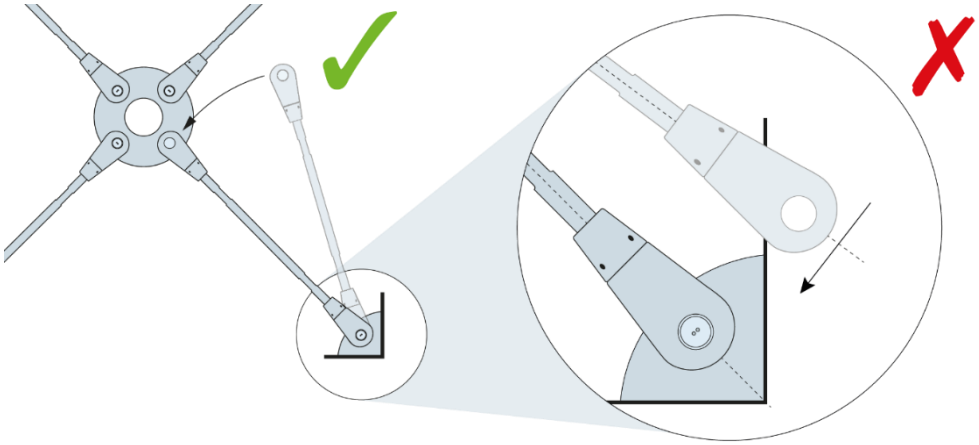
   No thread should be visible past the locknut. To make adjustments to the length of the system, to achieve a specific pin-to-pin dimension, unscrew couplers (if used) and then unscrew fork ends. Ensure adjustment is distributed along all adjustable components to make certain no thread is showing across the entire assembly.

Couplers
Where couplers are used, please note that each end of the coupler has different thread directions. Match both the right hand and left hand stamps on the coupler with the relevant thread ends of the tension bars. Completely screw coupler onto first bar until it reaches centre stop location, then completely screw other bar into coupler. Bars should butt up against each other and should be engaged approximately half the length of the coupler each.

2. The full assembly should be lifted over one connecting plate, avoiding excessive sag by using lifting equipment or temporary props as appropriate. Secure the system in place with the pin. Repeat the process at the other connecting point.

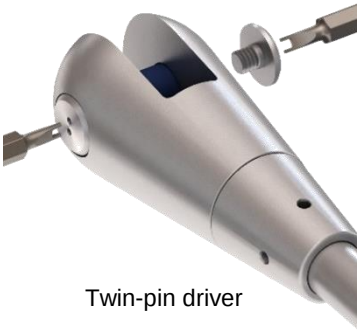


In systems that have a disc, the bars should be installed in a sequence so that the fork towards the disc is installed last.



Installing the pin

Installation of the pin requires a special driver suitable for 'Snake Eyes'* fixings. Two driver bits of the appropriate size are supplied with each Ancon system. The female section of the pin is located through the fork connector and temporarily held in position. A second driver is used to wind the male section into position creating a secure connection. Once installed the pins are slightly recessed into the fork.



Twin-pin driver

'Snake Eyes' is the registered trademark of Tamperproof Screw Company Inc

3. Final adjustment/tensioning of bars can now take place. Adjustment should be shared between components to ensure adequate bar engagement throughout the system. Tighten the locknuts against fork ends (and couplers if used), ensuring no threads are visible, to complete the installation. See table for level of adjustment provided and see 'Corrosion Protection' for final sealing guidance.

When the installation is complete, all threads must be hidden within the locking nut. If the thread is visible, the bar is not sufficiently engaged in the fork and would need to be adjusted.

Incorrect installation with thread exposed

Correct installation with no threads visible

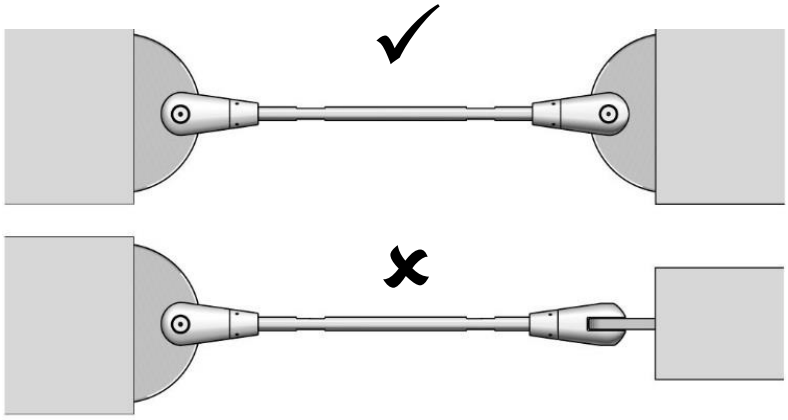
General Guidance

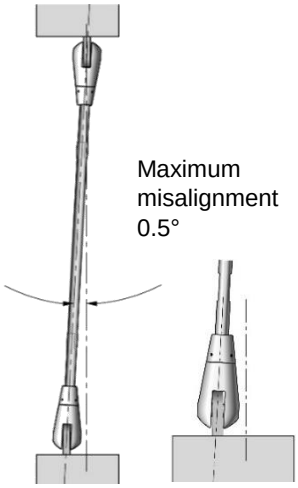
Adjustment per thread end/bar size

Thread Size (M)	8	10	12	16	20	24	30	36	42	48	56
Fork Adjustment (mm)	9	10	13	15	16	22	25	28	30	35	45
Coupler Adjustment (mm)	9	10	13	15	16	22	25	28	30	35	45

Fork Connector Alignment

Forks must be correctly aligned, and positioned in the same plane to ensure that bending is not introduced into the tension system.





Connecting Plates

All connection plates should be manufactured from either S355 carbon steel or grade 1.4462 stainless steel to ensure system performance; equivalent strength materials could also be used. See Ancon's 'Tension and Compression Systems' technical brochure for minimum critical dimensions.

Spanner Size

Thread Size (M)	8	10	12	16	20	24	30	36	42	48	56
Spanner Size (mm A/F)	13	17	19	30	36	46	55	65	75	85	95

Dissimilar Metals Isolation

Each stainless steel fork connector is supplied with two clear, self-adhesive, PET (polyester) washers to isolate the system from a connecting plate of a dissimilar metal. These washers should be applied around the fixing hole, either side of the plate, prior to the installation of the fork. The area should be dry, free from debris and wiped clean, prior to the application of the washer.

Stainless steel pins feature a PTFE coating around the barrel to isolate it from the plate.

Corrosion Protection

Electrodeposited zinc coating (Fe/Zn12/A to EN 12329) will provide protection against corrosion but should only be used for internal installations and will naturally degrade over time. Hot-dip galvanising (to EN 1461) will provide greater protection and could be used outdoors considering environment corrosivity. Stainless steel systems offer the greatest corrosion protection.

Regardless of system material, it is recommended to seal off locknuts with an appropriate industrial sealant to ensure water and debris do not seep into the bar thread through the void between bar and locknut. This is particularly important for vertical and inclined assemblies.