



X-Eng is a division of
Foundry 4x4 Limited
The Old Bakery,
Rear of Vale Terrace,
Tredegar, Gwent. NP22 4HT

X-Arm Mk 1.3 Fitting Instructions

Thank you for choosing to buy X-Arms and Joints. We are convinced these



will outlast any competing solution including standard rubber bushes – but at the same time offer more freedom of movement than any other trailing arm.

Unlike all the others, we do not rely on the screw thread

to provide part of the flexibility. Nor do we rely on a rubber cover to keep water and mud out of a rose type joint. Instead, we have designed a completely new joint – and tested it on and off road for two years to back up our claim!

Quick Note!

We have found that the chassis hangers as pictured above come in various thicknesses. Before you start, bolt one of the joints in place and see how loose the ball is in the joint.

If you find the ball is loose in the PU bush, you need to pack the joint by a couple of mm. To do this you need some Gasket paper – or if you cannot find any, thin card works just as well. Cut out a few circles, 68mm in diameter with a 6mm hole in the middle (like a big washer). Rub Grease into the paper to make it waterproof. Place these between the front PU bush and the Aluminium housing with the grease nipple.

Some users have found that the rear facing PU bush rotates in the housing. We have provided an M6 bolt which screws in to the side of the rear Aluminium housing. This pinches the PU and locks it in place.

First, you need to chock the wheels of your vehicle, jack it up and remove one of the rear wheels. The bolts holding the old arm on are usually corroded. Brushing the threads with a wire brush and lubricating will make removal much easier.



We recommend removing the arm in one piece to aid measurement of the current length.

As you can see, the length is about 715mm. This is fairly typical for genuine arms on an un-modified vehicle.



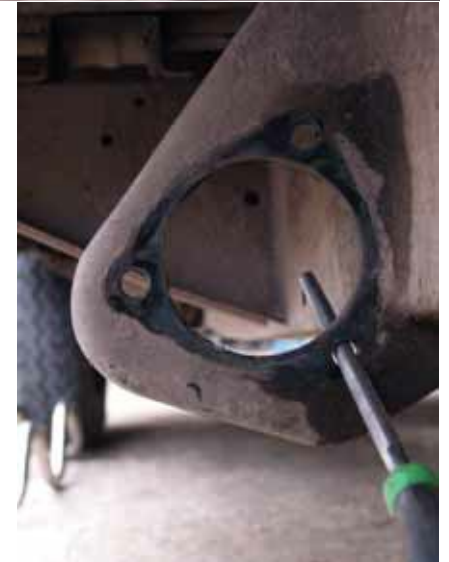
Once the old arm has been removed, you can trial fit the joint.

In most cases it will fit straight on to the vehicle. However, on others, the positioning of the holes in the hanger and the centres of the holes vary a little. (I guess it's just a Land Rover thing!).



On this 110, the three mounting holes on the hanger are slightly further apart than on the joint. This does not matter for a regular joint so much, but because of how the X-Joints mount, you may need to elongate the holes a little.

These are the holes after modifying. As you can see, the difference required for a good fit is very small.



Take a look at this part of the joint. You can see that one side is flatter than the other two. This is to provide additional clearance.



There is a folded lip on the trailing arm hanger which is where the hanger is welded to the chassis. The flat side of the joint sits against this lip.



Once you are happy that both the front and back halves of the joint sit flush against the hanger, we can proceed with the installation.



Next, part assemble the arm and screw the ball into the arm. Make sure the lock nut is screwed on to the ball first!

Adjust the length of the arm measuring between the front face of the rear half of the joint until it is the same as your old arm – 715mm in this case.



When the lock nut is tightened, there will be about 5mm of thread visible before the lock nut. The thread between the ball and arm is intentionally quite tight.

You can attach the arm to the axle now.

When you look at the end of the arm, you can see that the bush is offset. This is to allow the arm more movement before it touches the hanger on the axle.

When the correct way up, the centre line of the arm will be below the centre line of the bolt.



Usually, during the installation, the axle may move away from the body a little (20mm in this case) which prevents the bolts being tightened.

The safest way to move the axle back in to it's proper position is with a ratchet strap.

Tighten the strap until you can screw the nuts on to the bolts. There are two washers provided with each bolt. Place one on either side of the joint to protect the Aluminium from the bolt head and nut as they are tightened.

Tighten the bolts to about 30Nm torque then use a large adjustable spanner to tighten the lock nut.

This is important as there is nothing other than the lock nut stopping the ball rotating and unscrewing itself!

The final step is to grease the joint. Use general purpose grease.

There is a 'grease reservoir' in the middle in-between the two halves. This will take a surprising amount of grease to fill. Stop when grease starts oozing out of either the joint between the halves or where the ball-shaft protrudes.

Periodically and after off-roading it's worth giving it a squirt of grease to push out any mud which has ingressed. If greased at least annually, the bushes will last several years. Replacements are always available from X-Eng however.

