VX220 Blade Anti-Roll Bar (ARB) Kit fitting information

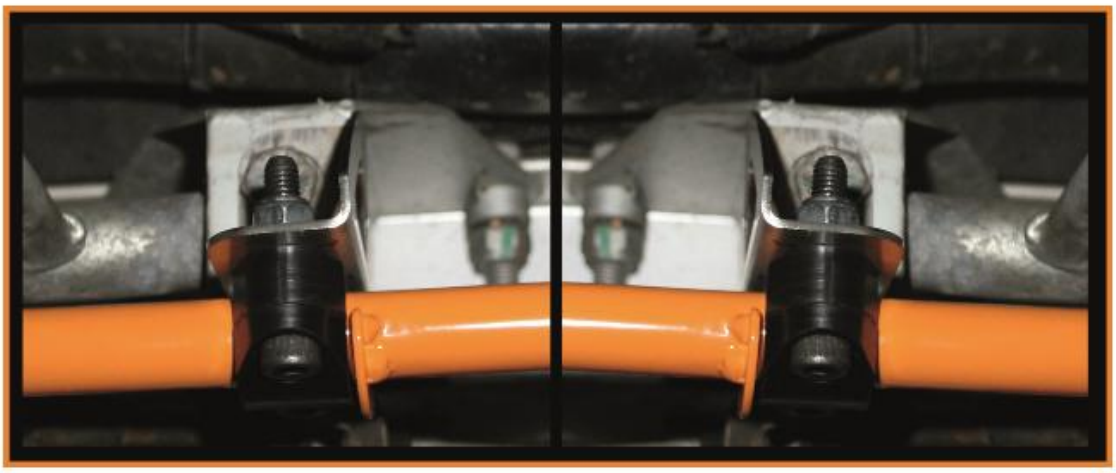
The kit can be fitted at home by users with reasonable practical skills and tools normally owned by enthusiasts. These instructions are intended to explain how the ARB kit is most easily fitted – they are no substitute for experience and are not designed to be an exhaustive step-by-step method statement. Therefore anybody that hasn't tackled a job like this before is advised to get some help from a more experienced (or professional) person.

Cornering Force will answer any questions and encourage anybody fitting one of our kits to contact us if they have any doubts or queries.

Please do note that this kit has been designed to work with specific spring and damping rates – therefore it is essential to make sure that these are fitted for the kit to work as intended.

Fitting the Front Bar

1. Raise vehicle at front observing instructions in vehicles handbook (secure with wheel chocks and suitable stands or props).
2. Remove both front wheels.
3. Remove front under tray.
4. Remove both drop links and save for reuse at the back.
5. Remove front ARB, the mountings and fasteners.
6. Remove and discard both riveted-on aluminium end covers from bodywork.
7. Enlarge gap in wheel arch liner and carbon bodywork behind liner if necessary to enable clearance of the larger diameter bar.
8. Mount the new ARB with black Delrin mountings, M8x60mm cap head bolts, flat washers and locknuts in the same position as the original ARB (note – the hole in the Delrin blocks are slightly offset so the new ARB sits a little lower to clear bodywork above). Torque to 8nm.
9. Install the new standard drop link supplied to middle hole on the new anti roll bar and the original mounting hole in the near-side wishbone. Torque both nuts to 45nm.
10. Adjust left-front (stainless adjustable) drop link length to line up with existing mounting hole in lower arm then mount to the wishbone with M10x70mm cap spacer washer and lock nut and Torque to 45nm. Torque the 8mm "K" nut on the end of the blade to 10nm.
11. Set the Blade position to approximately 45 degrees and secure adjuster nut just until the blade cannot be turned by hand (8mm spanner please Do Not Over tighten).
12. Refit front under tray, refit wheels and lower off stands.



Fitting the Rear Bar

1. Raise vehicle at the rear observing instructions in vehicles handbook (secure with wheel chocks and suitable stands or props).

2. Remove both rear road wheels.

3. Remove rear under tray and diffuser panel.

4. Remove both lower wishbone front mounting bolts and immediately refit the bolts with stainless mounting brackets in place (refer to picture above for orientation). These should not be tightened up fully at this stage.

5. ***This operation is the same for both sides at the rear but we recommend carrying out this stage one side at a time***. (**Note** Lower arm must be supported under the hub assembly at this stage).

    a. Remove the lower Damper mounting bolts, Install Folded Stainless steel brackets, fit new mounting bolt washers and locknut to lower damper mount, Do not tighten fully at this stage, (refer to picture below).

b. locate flat plate with drop link recovered from original front fitment, secure in position to mark the lower arm points to marks ensuring 8mm bolts will clear any obstruction.

c. Continue to drill two 8mm holes as marked, clean off any burring and apply a suitable rust preventative coating. Finally reposition the flat plate and drop link ensuring plate is as perpendicular as is possible, secure bolts to correct torque in order, drop link nut (45nm) / 8mm plate bolts (25nm) / Damper mounting bolts (45nm).

6. Locate both ends of the rear bar to the top of the drop links, washers and nuts can be fitted finger tight to keep in place at this point, we recommend using the outer end hole (weakest setting) for your initial set up.

7. Secure rear anti roll bar to the previously installed stainless brackets with the ¾" black Delrin mounting blocks on the underneath using the M8x45 cap head bolts/flat washers and locknuts. The end float tabs on the ARB must fit on the inside of the blocks. These mounting blocks can slide forwards and backwards, and the Stainless bracket slides up and down slightly to control clearance of the suspension arms, engine mounting, or exhaust, on turbo models protection from the exhaust may be required. When the bar is in position the lower arm mounting bolts can be tightened torque to 45nm, and the delrin bolts torque to 7nm, please take care not to crush/over tighten the Delrin blocks and finally torque the previously fitted upper drop link nut to 45nm.

8. Refit vehicle under tray fitting the black rubber spacers between the tray and the centre mountings (these have the M8 pan head Allen bolts with large washer) there are two supplied for each side depending on the clearance between the under tray and the lower section of the bar.

Settings and Adjustment

The combination of front and rear ARB's add a specific amount of stiffness to the suspension when the car "rolls" in a corner.

The amount of stiffness in the front bar compared with the rear bar (when added to the stiffness of the springs) largely determines whether the car oversteers, is neutral or understeers in a corner (grip balance).

Therefore by adjusting the stiffness of the front compared to the rear can be used as a tuning tool to change the grip balance to suit your preferences and the conditions.

ARB Adjustments

Springs and ARB's introduce forces into the suspension when they are displaced (i.e. they are a displacement dependent device).

If the car tends to understeer (i.e. has less grip at the front than the back) then you need to give the front more grip by softening the front ARB – you do this by rotating the blade into a more horizontal position (only a few degrees at a time!).

If the car tends to oversteer (i.e. has more grip at the front than the back) then you need to give the rear more grip by stiffening the front ARB – you do this by rotating the blade into a more vertical position (only a few degrees at a time!).

A good way to set-up the balance of the car is to drive round in a circle (about the size of a roundabout is fine) at a steady speed and observe whether the car tends to "over" or "under" steer as you (very) gradually build the speed up. Then make suitable adjustments and try again so you achieve the balance you want – this is known as steady state balance.

Damper adjustments

Dampers only introduce forces into the suspension when they move (i.e. they are a velocity dependent device).

Dampers are an important tuning tool and affect the balance of the car when entering and exiting a corner. This is known a low speed damping as it reflects the control of the car body as it pitches with braking and then rolls into, and out of, the corner.

Bear in mind that "low speed" damping has nothing to do with the speed of the car.

This section assumes that you have adjustable dampers. If you bought the dampers from us then we will have supplied graphs showing recommended "road" and "track" settings. We can test dampers and supply these recommended settings to you and revalve most types of damper if they cannot be adjusted into the right range.

If the car is not well balanced at corner entry but you have got good "steady state" balance then it's likely that you need to change the amount of damping at the front v back in very much the same way you would for the ARB's.

If you have Understeer at corner entry try softening front dampers one click and stiffening rears one click. Try it and if this has helped then continue until the understeer is resolved. Do the opposite for oversteer.

Do bear in mind this guidance is very basic and does ignore some factors but it should get you going in the right direction.

In-Car (remote) Adjuster Kit

The brackets on the front ARB are fitted to take the optional in-car blade adjuster kit and have no function when the kit is not fitted.