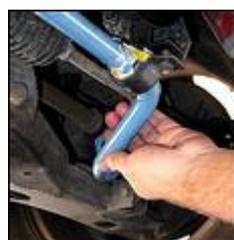




## Rex On Rails - Part Four

Installing and testing the third component of Whiteline's Handling Pack - a 22mm front swaybar.

Words by Michael Knowing, Pix by Michael Knowing and Mellissa Taylor



In the past three instalments of Rex on Rails we've fitted an ALK (otherwise known anti-lift kit or castor kit), a 22mm adjustable rear swaybar, optimised tyre pressures and dialled in a performance wheel alignment. The total improvement has been truly fantastic - much reduced plough understeer, the ability to oversteer through the early-mid stages of a corner, earlier power-down and, as a bonus, reduced wear on the outer shoulders of the front tyres while fanging it. The trade-off in terms of NVH (through the use of firmer bushes and increased tyre pressures) has been very minor, while the theoretical increase in everyday wear on the inside shoulder of the front tyres (caused by increased negative camber) has not yet appeared.

As we commented in the previous instalment, "we'd suggest the adjustable rear 'bar and ALK are the two most critical components of the kit"; their difference has been so huge we doubt whether the opportunity exists for further bolt-ons

to achieve improvement of the same magnitude. Still, the Whiteline Handling Pack also extends to a stiffer front swaybar and rear camber kit - so let's keep it going...

## Fitting the Whiteline 22mm (Non Adjustable) Front Swaybar

Like the upgraded rear swaybar, the Whiteline 22mm front swaybar can be installed at home within a couple of hours. It must also be fitted with the vehicle at its normal ride height; do not have the front suspension in a droop position.

The first step is to remove the 14mm nut, bolt and washer that attaches each end of the front swaybar to the plastic swaybar links. Allow both ends of the 'bar to hang freely.

Following this, the metal jack up plate that's bolted to the leading and trailing edge of the front cross-member must be removed. Undo the four 12mm bolts that connect the jack up plate to the cross-member, noting that the two leading bolts are secured by separate nuts accessible on the topside of the cross-member. These are a little awkward to access.

Next, the two D-shape brackets that secure the centre section of the swaybar to the front cross-member need to be removed. Each of the D-brackets is attached to the vehicle with a single 12mm bolt and tongue fitting; remove the bolts and manoeuvre the brackets from the cross-member.

The swaybar will fall into your hands as you release the last D-bracket. We're nearly half way to being finished already!

Supplied with the swaybar are a new pair of low-compliance D-bushes and a satchel of white lithium grease. Just like we did with the rear swaybar, apply the grease evenly over the new bushes' inner and outer surfaces - the sections come in contact with the swaybar and D-brackets respectively.

The low-compliance front swaybar bushes are designed to fit inside the factory D-brackets. Since the OE brackets are reused, it's a good idea to thoroughly clean their inside surface and whack a bit of grease in there as well; more grease means less chance of bush squeaking.

Next, we laid the new swaybar beneath the vehicle in its correct orientation (so that the 'bar ends sit highest and the straight section of bar faces forward). Lift the swaybar to the undercarriage and attach each end to the swaybar links. Note that the factory 14mm nuts, washers and bolts are reused; make sure that you pass each bolt through from the inboard side and wind the nut in from the outside. Don't tighten these nuts just yet.

### Doesn't Quite Fit?

In this case, the hole through each end of the swaybar was not *quite* large enough for the factory 14mm bolts to slide through. In order to fit the bolts through, we used a round file to remove the high spots inside the hole; not much material needed removal but, since some bare metal was now exposed, we applied some paint to protect against corrosion. The last thing you want is a rusted ready-to-break swaybar!

With the new swaybar hanging from its plastic end links, push the newly greased bushes onto their appropriate positions along the 'bar (adjacent to the swaybar D-bracket mounting surface). Ensure that the flat side of the bush faces upward so it will fit flush against the cross-member once attached. Oh, and - again - it doesn't hurt to smear some grease on the 'bar before the bush is put on; you'll probably have grease all over you buy this stage, but don't worry...

Swing the straight section of the swaybar up to the cross-member and secure it into position using the (cleaned) factory D-brackets and 12mm bolts. Only finger-tighten these bolts at first, making sure that the bush is compressing appropriately as you wind it in.

Take a look along the length of the swaybar to make sure nothing is fouling and that the new bushes aren't distorted, *then* you can tighten the D-bracket bolts and the end link attachments. Note that, due to the larger diameter of the Whiteline swaybar, there won't be much clearance against the control arm; just so long as there are a few millimetres separating them things are fine.

Next, reattach the metal jack up plate to the cross-member and everything is in place.

And how tight should everything be? The official Subaru service manual says to tighten the end links to 38 - 50Nm, the D-bracket bolts should be 21 - 28Nm and the jack up plate bolts should be nipped up to 23 - 42Nm.

How easy was that?!

## On-Road Results

In short, the front swaybar didn't have the same huge effect as the rear 'bar and ALK, but it *did* make an immediately noticeable difference...

The biggest improvement can be felt during the mid to late stages of a corner. Upon approach to the apex, the front-end now sits flatter and is much more wieldy and accurate. From thereon, the new front swaybar enables better power-out traction since the front tyres are more evenly loaded; you can now begin squeezing the accelerator pedal a little earlier than previously.

But the stiffer front 'bar does bring about some less favourable characteristics...

Just as upgrading the rear roll stiffness serves to encourage oversteer, upgrading the front roll stiffness serves to encourage understeer. This is noticeable through the early stages of turn-in where the new bar slightly reduces weight transfer and initial 'bite'. This doesn't bother us too much, but - in any case - the rear swaybar can be adjusted to its firmest setting to offset it; it's all about front to rear anti-roll *bias*.

We opted to keep the rear swaybar in its middle setting because the tendency to throttle-off snap oversteer (with the rear bar in its stiffest setting) was less desirable than a slightly softened turn-in; in a street application anyhow.

With the car in its current suspension guise - with the front and rear 'bars, ALK, tweaked tyres pressures and alignment - we've progressed through the stage of remedying the WRX's terminal handling woes and are beginning to 'fine tune' the chassis. As Jim Gurief from Whiteline says, "we're now chasing a pointier target".

In the next - the final - instalment of fitting the Whiteline Handling Pack we'll turn our attention to the rear camber kit.

**Footnote** - The Whiteline front swaybar was supplied to AutoSpeed for this test at no cost.

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