

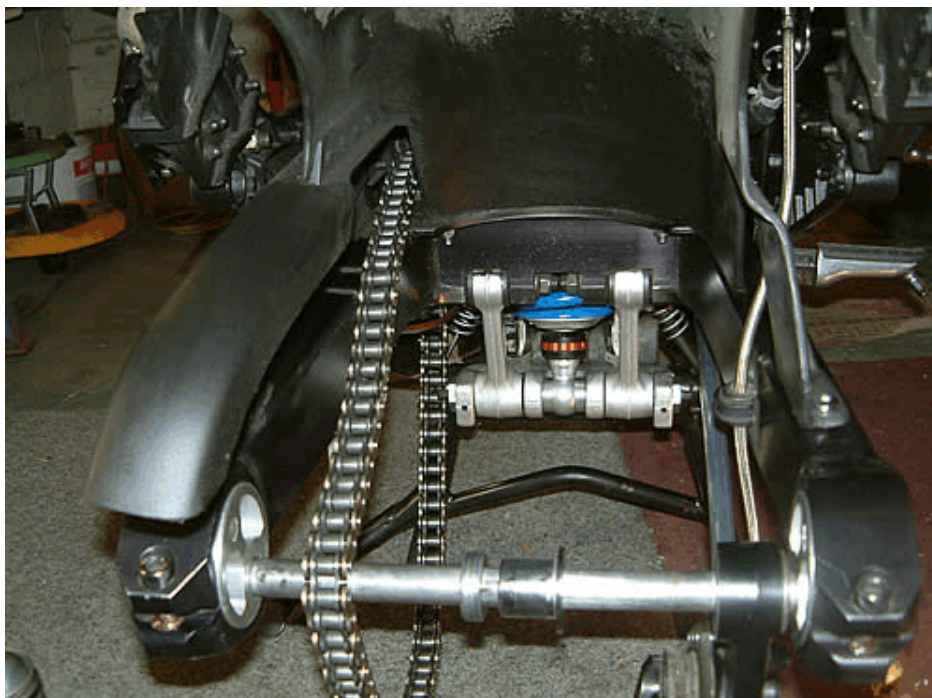


Step 1

With bike on the centre stand or supported by wooden blocks, remove the rear wheel. (Note: Make sure that the motorcycle is not supported by the lower suspension drag link), in the pictures the silencers (mufflers) are also removed, it is not necessary to remove both sides, but does open up the work area.

Step 2

Clean around rear suspension linkages (eg. with rag and WD40)
Identify dog bones and their top and bottom fixings



Step 3

If you hold the rear of the swinging arm and can feel some movement (ie +/- 2mm or more up and down) and hear a "clonking" noise then your suspension sleeves are worn. New ones (part number 2959445-T0301) should be purchased at £4.89 + VAT each.

Step 4

Loosen pinch bolts or grub screws from the drag linkage. Older bikes use pinch bolts (M10 spanner) newer machines have the grub screws (M3 allen key)



Step 5

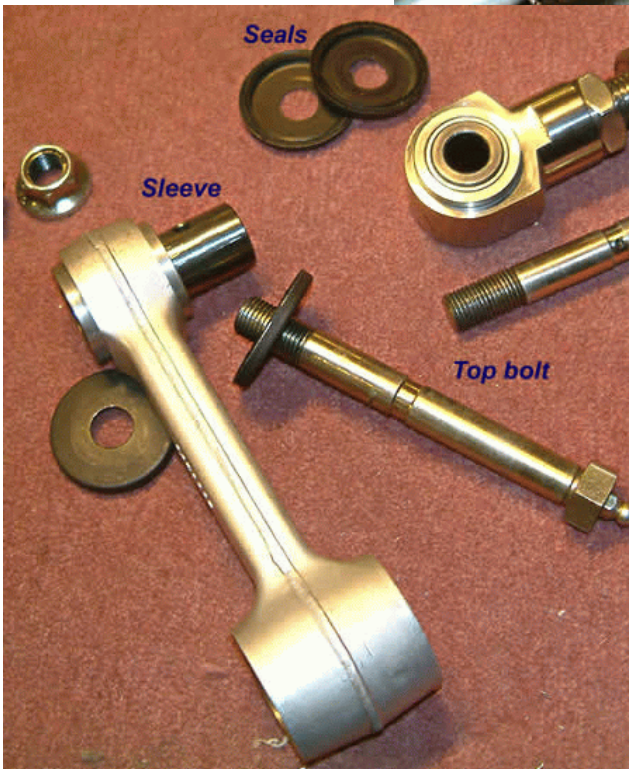
Identify and remove grease caps on outside of swinging arm exposing the drop link top bolt and grease nipple.



Step 6

Loosen the M27 nut on the lower suspension pin and identify which way to withdraw the pin. Pull out the pin 1/3rd until one of the dog bone linkages becomes free.

[Note: On the 900 cc machines it is necessary to loosen the exhaust clamps and remove the silencer to fully withdraw the pin].



If the lower suspension has not been disturbed for many years it may be rusted to the drag linkage. Liberally spray the area with WD40 (or similar) and try to rotate the pin. If this fails you may need a drift and a hammer to loosen the pin.

Step 7

Loosen the top bolt (M18) and withdraw the bolt and dog-bone linkage removing the sleeve and the top oil seal caps from the dog bone. (If during step 3, you felt excessive movement, this is the sleeve which needs replacing).

Clean the oil seals and sleeves carefully with a rag and WD40 (or similar).

Step 8

Disassemble the RHA and grease the centre left and right threaded section with copper grease, reassemble and using a rule set both the RHA's to be the same length as the dog bone you have just removed making sure that the exposed threads are the same length, ie. that the thick, fixed, 24mm adjusting nut is central. (Note: the length does not have to be "exactly" the same just close). The gap (or exposed thread between the top and bottom bearings) should be approximately 44mm.

Step 9

De-grease the two grooves in the large end of the RHA and fit the two "O" ring seals with superglue - do this to both pairs and leave to dry (approx 15/20 minutes).

Step 10

Support the swinging arm (string over the seat, or with blocks etc.) and withdraw the lower suspension pin completely. Clean the pin with a rag and WD40 and lightly coat with grease.

Step 11

Remove the other dog-bone, remove the sleeve and the oil seals. (Replace sleeves as a pair with new if step 3 resulted in movement) Clean the oil seals and sleeve carefully with a rag and WD40 (or similar) and lightly coat with molybdenum disulphide (or similar) grease.

Step 12

Apply a thin coating of new molybdenum disulphide grease to the bushing in the RHA's smaller end and insert the sleeve into the RHA, make sure it is square as you push it through. The fit is snug.

Step 13

Lightly grease (using molybdenum disulphide) and clip the old oil seals onto the small end of the RHA and refit into the swinging arm on both sides. Tighten the bolts to the correct torque (55Nm).

Step 14

Pass the suspension pin through the lower suspension linkage as a test to ensure that it is a smooth fit, clean all around the drag link (with WD40) removing all signs of grit and old grease.

Step 15

Coat the lower end of the RHA with molybdenum disulphide grease working it into the bush and all around the lower suspension linkage (drag link). Remove the swinging arm support introduced in step 10 and slide the lower suspension pin back through the drag link, through the first RHA and through the shock absorbers lower mounting bush. If the pin will not fit or is tight move the swinging arm gently up and down as it slides through, do not use excessive force.

Step 16

Align the second RHA (in the drag link) and continue to push the lower suspension pin through. If the pin is tight passing through or entering the second RHA use a 24mm spanner to alter its length slightly (by rotating the RHA's adjuster nut a little) until the pin slides home.

There is *no need* to hit the pin with a hammer.

Step 17

Replace and tighten (torque) the nut on the end of the lower suspension pin (to 85Nm) and replace and tighten the grub screws or pinch bolts (to 8Nm) loosened in step 4 (do not over tighten).

Step 18

Using an inside calliper (or similar device) measure the distance between the top and bottom faces where the threaded bar enters the bearing on each RHA and ensure they are the same length.

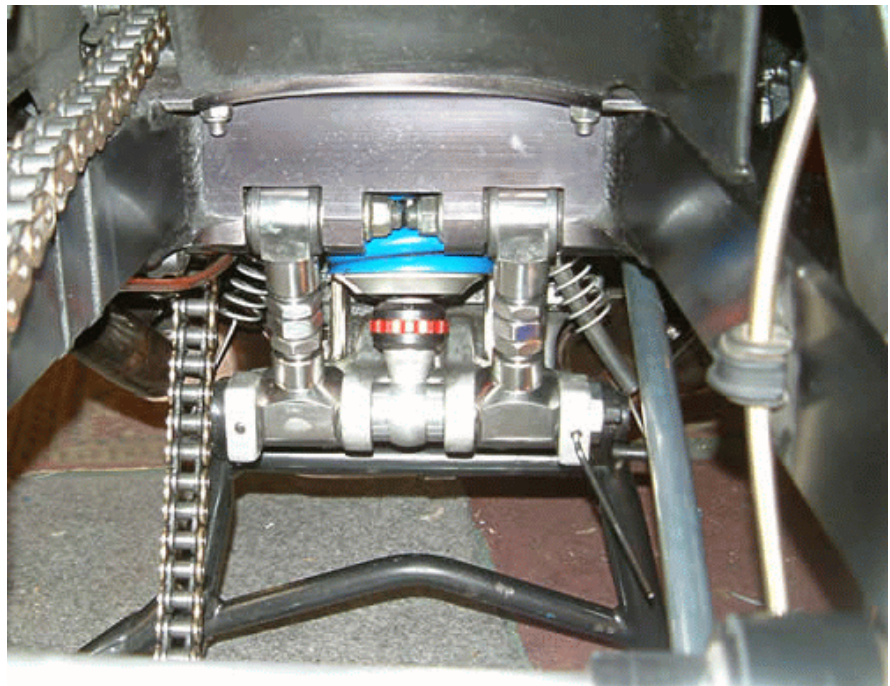
To maintain the same ride height set the gap to 44mm
Setting the gap to 41mm or 47mm is also recommended as a start point.

Step 19

Refit the rear wheel and silencers (if removed).

Step 20

Apply a little molybdenum disulphide grease to the 5 upper and lower suspension grease nipples and replace the plastic caps in the swinging arm (removed in step 5).



Step 21

Adjust the ride height by turning the centre 24mm adjusting nut equally on both RHA's by no more than 1 flat at a time. As you turn the adjustment nut it will start to tighten, this happens when one RHA is a different length than the other and it tries to twist the rear swinging arm.

[Hint: mark a flat on each face with a felt tip/marker pen so that you have a reference point]

Anti-clockwise will expand the adjuster and "lower the rear of the bike", clockwise will shorten the adjuster and raise the bike.

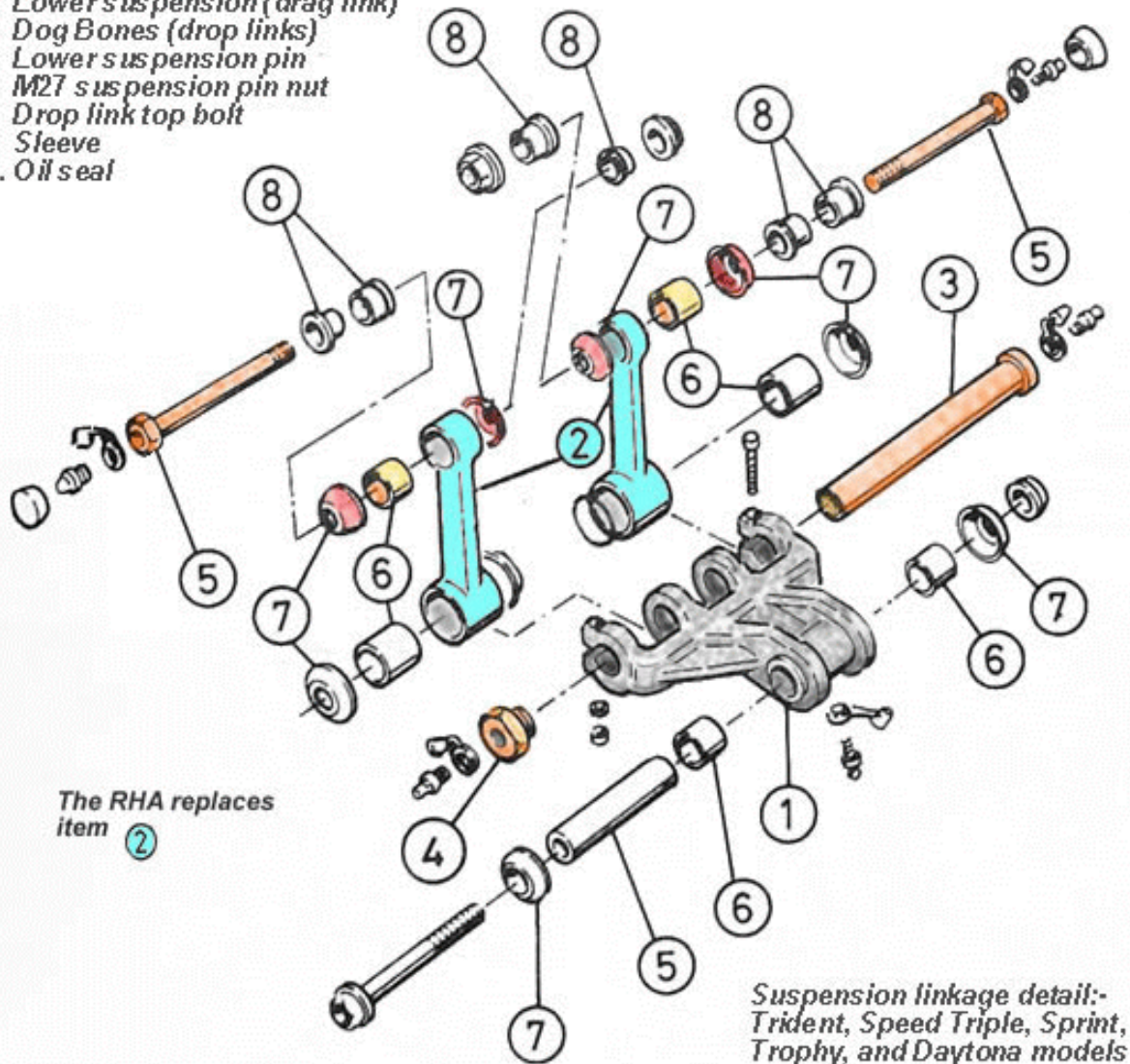
Take small steps (6 flats - 1 full turn = 4mm of ride height adjustment) measure the gap at each stage and record it on a piece of paper. **Do not** exceed 55mm = 6 threads above or below the central nut. Be aware that with a gap of 38mm or less the rear wheel will touch the ground when the bike is on the centre stand and the rear brake line will be "tight".

Step 22

Tighten all four lock nuts against their respective bearings and try the bike on a favourite piece of road - to adjust, loosen lock nuts and set as required, always adjust in small steps (1mm max).

If the adjuster is fully expanded (55mm gap) the rear of the bike will be approx 40mm lower than standard, road clearance will be minimal and care must be taken not to ground the centre stand or the exhaust cans when cornering.

- 1 Lower suspension (drag link)
- 2 Dog Bones (drop links)
- 3 Lower suspension pin
- 4 M27 suspension pin nut
- 5 Drop link top bolt
- 6 Sleeve
7. Oil seal



Fitting Ride Height Adjusters (RHA's) is done entirely at the owner/purchasers risk. S+AS Limited accepts no responsibility whatsoever for the performance or safety of the motorcycle with these items fitted. Riding a motorcycle is dangerous and fitting these RHA's will invalidate the manufacturers warranty and may make the motorcycle unsafe. © S+AS Limited 2004