

Fitting Instructions

Part Number: TT31181
Description: Telescopic Shock Absorber Conversion Bracket Kit
Applications: TR2-3A TR4 (Girling axles only)

This kit has been designed exclusively for use with either Koni or Spax telescopic shock absorbers, allowing you the option of choosing the shock absorber you prefer. Thus the shock absorbers are not included and should be purchased separately under the following part numbers. Shock absorbers sold singly.

TR2-3A and TR4 pre 1962 model
(all TS and CT chassis numbers up to CT23382)

Koni TT3312 (2 reqd)
Spax TT3311 (2 reqd)

TR4 1962 model year on (from chassis number CT23383 onwards)

Koni TMG30712 (2 reqd)
Spax TT3111 (2 reqd)

The kit includes the following components:

Part No.	Description	Qty
TT9110L	Chassis Mounting Bracket, LH	1
TT9110R	Chassis Mounting Bracket, RH	1
TT9101L	Axle Clamp Assembly, LH	1
TT9101R	Axle Clamp Assembly, RH	1
BH605141	Bolt, axle clamp, 5/16 UNF x 1 7/8"	4
GHF106	Bolt, chassis mounting, 3/8 UNF x 1 1/2"	8
GHF202	Nut, plain, 3/8" X	8
GHF222	Nut, nyloc, 5/16"	4
GHF225	Nut, nyloc, 1/2"	4
GHF301	Washer, plain 5/15"	4
GHF302	Washer, plain 3/8"	8
GHF333	Washer, spring 3/8"	8
PWZ308	Washer, shock absorber attaching	4



Special Tools & Equipment Required

This conversion does require welding.



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1. Prepare the Car

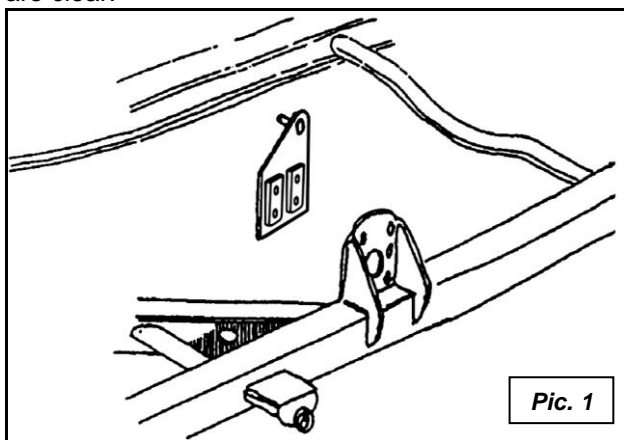
Jack up the TR and support on suitable ramps or axle stands. Please ensure the car is securely supported and safe before any work commences. Remove the wheels to allow access.

2. Remove Old Shock Absorbers

Remove the old shock absorbers and links. Clean chassis mounting brackets and inspect for cracks. Repair and paint as required.

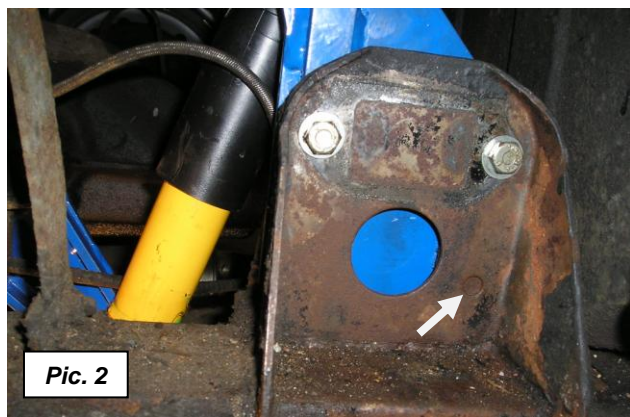
3. Fitting the Chassis Brackets.

3.1 - It is advisable to run a 3/8" UNF tap or bolt through the threads in the brackets to ensure they are clear.



Pic 1. Chassis bracket position.

3.2 - This conversion requires the drilling of two additional holes in the lower section of the chassis brackets. Using the existing lever arm damper mounting holes, install the new shock absorber brackets on the inside of the chassis brackets, ensuring the pins point to the centre of the car, do not fully tighten [see Pic. 2].



Pic 2. Chassis bracket in position. Note: indentation in chassis bracket can be seen - arrowed.

3.3 - Use the lower holes in the conversion bracket to mark the position on the chassis bracket (there are indentations in the chassis brackets where these should be), remove the conversion bracket and drill 3/8" clearance holes (approx 9.5mm). Repeat the process for the opposite side.

3.4 - Then reinstall the brackets and fully tighten.

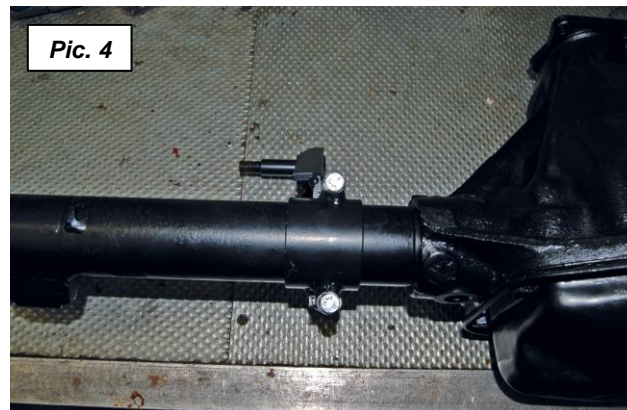
4. Fitting the Axle Brackets

These brackets are designed so that they can be clamped to the axle tube, positioned and then secured once the correct position (or angle) has been chosen. Once secured in the final position they should then be welded to prevent any movement.

4.1 - Locate the approximate position where the brackets will fit and clean the axle tube. Ensure the area is suitably prepared for welding. The RH axle bracket is slightly narrower than the LH one so that it fits between the handbrake compensator bracket and the 3 way brake union bracket [see Pic. 3]. Some weld on these brackets may need to be cleaned off the axle case to permit fitment.



Pic 3. RH axle brackets in approximate position. Note: Fits between handbrake and brake hose brackets. File weld as required to allow good fit.



Pic 4. LH axle bracket in approximate position.



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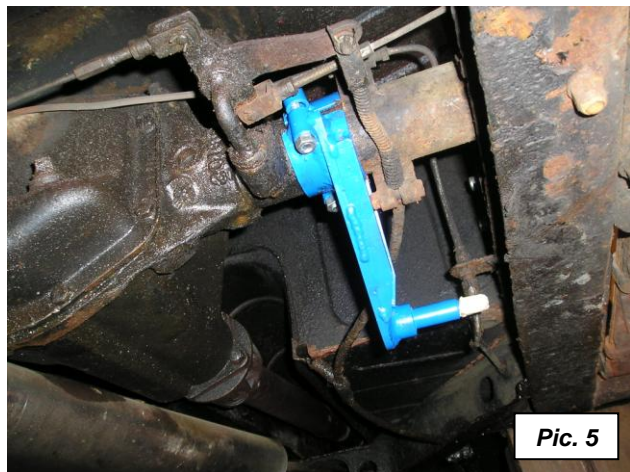
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4.2 - Fit the axle bracket so the large section is below the axle, pointing forward, with the pins pointing outwards. Fit the smaller section of the bracket, hardware and secure - leaving it loose enough to allow for final positioning.



Pic. 5

Pic 5. RH axle bracket installed showing proximity to handbrake brackets.

5. Fit the shock absorbers

The shock absorbers are supplied with split bushes. Place one half-bush on each pin, this makes installation of the shock absorber easier (lubricate bushes as appropriate). Fit the shock absorber and retain with washer and nut, leaving loose to allow for final positioning [see Pic. 6].

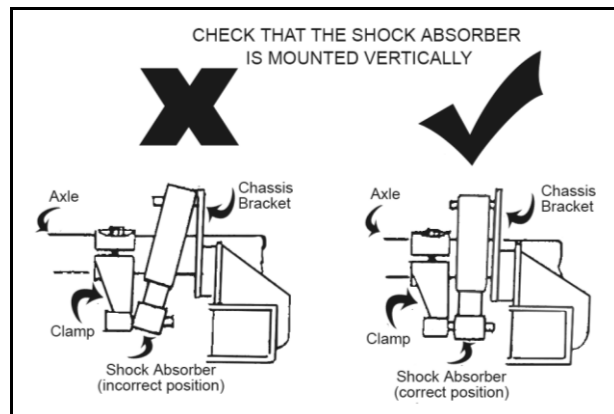


Pic. 6

Pic 6. Shock absorber fitted.

6. Alignment of Shock absorbers

Getting the correct alignment of the shock absorbers is vital for their operation and reliability. Premature failure may occur if they are not correctly positioned. This can best be achieved if the car is over a pit or all 4 wheels are raised on ramps to replicate the 'on-road' position of the car. This is also useful when checking for clearance against other parts of the car such as exhaust system.



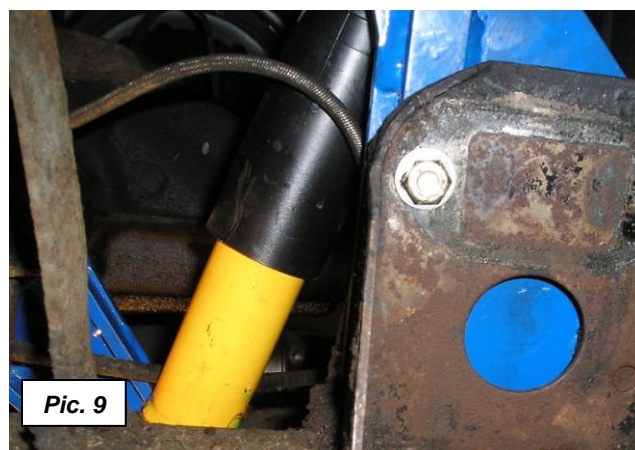
Pic 7. Shock absorber mounting. Note: illustrated as viewed from front of car.

6.1 - The shock absorbers should be vertical when viewed from the rear of the car [see Pic. 8] and lean forward viewed from the side [see Pic. 9]. Adjust the location of the axle brackets to achieve this position. The split between the two sections should be roughly horizontal (bear in mind if the car is horizontal or raised at the rear) and so that the lower edge of the bracket, near the shock absorber pin, is not lower than the rear leaf spring [see Pic. 10].



Pic. 8

Pic 8. Shock absorber position from the rear.



Pic. 9

Pic 9. Shock absorber position viewed from RH side.



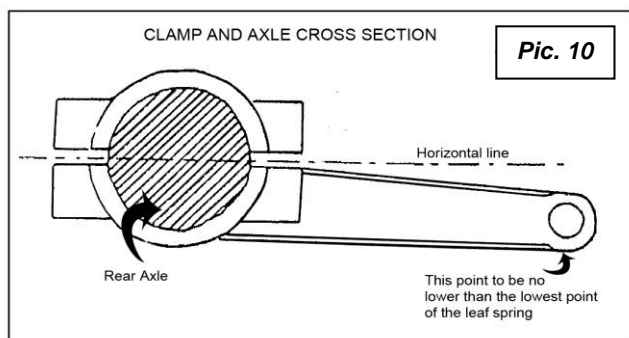
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Pic 10. Axle bracket position.

6.2 – Once the correct position has been achieved tighten all hardware.

6.3 – Check for clearance between the handbrake cable & brake hose and RH shock absorber. It may be necessary to tie the cable and hose away from the shock absorber. Do so with car sitting as it would on the road and ensure neither is allowed to chafe.

6.4 – Check for clearance on the LH shock absorber and the exhaust silencer. If you are working with the car on stands and the axle resting on the chassis the LH shock absorber may be close to the silencer. This should not be an issue when the car is sitting on its wheels in an 'on-road' position.

Remove shock absorbers prior to welding.

7. Welding the Axle Brackets

The axle brackets must be welded to the axle tube to prevent any movement and possible damage to the shock absorber. This should only be done once the correct position for the shock absorber has been achieved.

7.1 – Weld the smaller, uppermost section of the bracket to the axle tube. This small section is designed to be the main retainer for the bracket, allowing the larger section to be removed if required. The larger section of the bracket can be tack welded to allow for possible removal, if required for axle rebuild etc.

7.2 – Paint welds & brackets as required.

7.3 – Refit shock absorbers and check all hardware is tight.

8. Setting the Shock Absorbers

The shock absorbers must be set in accordance with the manufacturer's guidelines.

Spax shock absorbers

These can be adjusted whilst fitted to the car using the external adjuster screw. They are supplied preset to Spax's recommended road setting.

Koni Shock Absorbers

These must be removed from the brackets to allow adjustment. Also supplied preset for road use.

