

**TF199: TERRAFIRMA STD. TRAVEL ALL TERRAIN, STD HEIGHT HEAVY LOAD SUSPENSION KIT****DEFENDER 110 /130****FITTING INSTRUCTIONS**

1. Put the car into gear or park and apply the hand brake, loosen the front wheel nuts on one side, raise the vehicle on a trolley or bottle jack under the axle and then support the vehicle with an axle stand under the chassis. It's easier and safer to do this job one side at a time.
2. Remove the front wheel.
3. Remove the plastic cover on the inner wheel arch and expose the top of the turret.
4. Undo the nut on the bottom of the shock absorber remove all bushes and washers.
5. Undo the 4 nuts securing the shock absorber turret to the chassis bracket then Pull the turret and shock absorber out through the hole in the inner wing.
6. Undo the nut on the top of the shock absorber and then pull out of the turret removing all bushes and washers.
7. Fit the new shock absorber in through the turret, with the new washers and bushes in the correct order, and then tighten the top nut.
8. Gently lower the axle on the jack, the axle will lower the spring away from the chassis and the spring will become loose. Once this happens stop lowering the axle. Take care not to stretch the brake lines.
9. Clean the spring plate on the axle and fit the new spring ensuring you use the correct spring for the side of the vehicle you are changing as the springs are normally handed.
10. Gently raise the axle back up using the jack and ensuring the spring relocates into the top chassis mount.
11. Fit the new shock absorber in through the turret, with the new washers and bushes in the correct order, then tighten the top nut.
12. Fit the upper bottom washers and bush, before pulling the lower part of the shock down through the spring seat. Then fit the lower bottom washers and bush and the securing nut, Tighten the bottom securing nut.
13. Drop the turret and shock absorber back through the hole in the inner wing, fit the washers and nuts and tighten down the turret onto the chassis bracket.
14. Refit the plastic inner wing cover.
15. Refit the wheel, lower the car off of the axle stand and torque the wheel nuts correctly.
16. Repeat the procedure on the other side.

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17. Put the car into gear or park and apply the hand brake, loosen the rear wheel nuts on one side, raise the vehicle on a trolley or bottle jack under the axle and then support the vehicle with an axle stand under the chassis. It's easier and safer to do this job one side at a time.
18. Remove the rear wheel
19. Undo the nut on the bottom of the shock absorber remove all bushes and washers.
20. Undo the nut on the top shock absorber chassis mount and then pull the shock absorber off of the mounting removing all bushes and washers.
21. Undo the 2 bolts which hold the spring retaining plate in place.
22. Gently lower the axle on the jack, the axle will lower the spring away from the chassis and the spring will become loose. Once this happens stop lowering the axle and remove the old spring
23. Clean the spring seat and retaining plate, fit the new spring, ensuring you use the correct spring for the side of the vehicle you are changing as the springs are normally handed.
24. Refit the spring retaining plate tighten the bolts making sure the retaining plate is holding the spring tightly in place.
25. Gently raise the axle back up using the jack and ensuring the spring relocates into the top chassis mount.
26. Fit the new shock over the top chassis mounting, with the new washers and bushes in the correct order and the correct way around, the convex side of the curved washers must be against the rubber bush, and then tighten the top nut.
27. Fit the upper bottom washers and bush, before pulling the lower part of the shock absorber down through the axle mounting bracket \*. Then fit the lower bottom washers and bush and the securing nut, Tighten the bottom securing nut.
28. Refit the wheel, lower the car off of the axle stand and torque the wheel nuts correctly.
29. Repeat the procedure on the other side.



- **\*NOTE – For long travel (+2" and longer) shocks it is an advantage to remove the metal bush cups found on post 1994 Defenders and Discovery rear axles, this will allow unrestricted movement of the lower shock mount.**
- **Allowing the shock bush washers to contact the metal bush cup can cause premature shock failure.**

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