



# NTG Motor Services Limited

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Company Reg.No. 1262476

V.A.T.Reg. No. 289 5422 17

- |    |     |   |
|----|-----|---|
| 1A | NPN | Adapter housing                                   |
| 1B | NPN | Adapter bolt, with 3/4 UNF fitting for oil filter |
| 1C | NPN | Extension, adapter bolt                           |
| 1D | NPN | O-ring seal                                       |
| 1E | NPN | Washer, lock tab                                  |



Instruction Fig 1

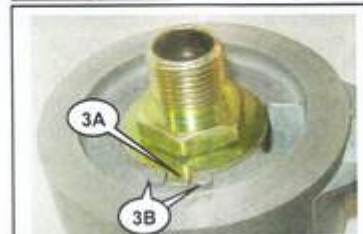
Please note that the relationship between the threaded fitting in the oil filter and the rubber seal on the filter is not the same for all filters. In the filters we offer, the lip of the threaded hole is between 0.113" and 0.125" (about 1/8") below the surface of the rubber seal. If the lip of the threaded hole sits too high, it will bottom out against the shoulder of the adapter bolt (2B) before the rubber seal contacts the surface of the adapter itself (2A).



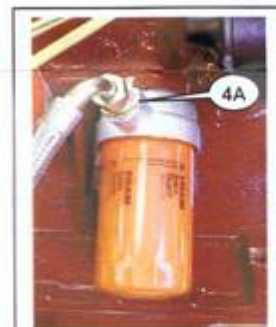
Instruction Fig 2

### Installation (Read through the instructions completely before you begin)

1. Remove the old canister type oil filter assembly.
2. Remove the old o-ring seal from the groove in the block.
3. *It may be necessary to use a small screwdriver to get an old seal out, and it may come out in pieces. Get a flashlight and look in the groove carefully-there is frequently a totally squashed and petrified o-ring in the bottom of the groove under the o-ring you took out. If you do not get it all out, the result will be a large puddle of oil on the floor when you start the engine.*
4. Thread the adapter bolt with fitting for oil filter (1B) into the adaptor bolt extension (1C)
5. Slip the lock tab washer (1E) over the adapter bolt extension, and feed the bolt through the hole in the adapter housing. Make sure the locating tab (3A) rests between the locating pins cast into the adapter housing (3B). *You may find it useful to bend up the edge of the tab washer very slightly to make it easier to get a screwdriver up under the edge of the washer later.*
6. Smear a little grease on the o-ring and fit the new o-ring seal (1A) into the groove in the block. *The grease will hold the o-ring in place while you fit the adapter housing*
7. Hold the adapter housing up to the block and start the bolt. Tighten the bolt enough to pull the lip on the adapter housing into the groove in the block, but leave it loose enough to rotate the adapter housing so you can line up the oil pipe fitting on the adapter housing (4A) with the solid oil line or oil hose on your engine.



Instruction Fig 3



Instruction Fig 4





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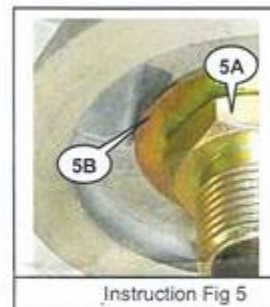
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8. Once the adapter housing is in position and the oil hose or oil pipe has been attached, tighten the bolt (5A) to the torque spec of 11 to 12 lbs-ft.

**DO NOT EXCEED 12 lbs-ft.**

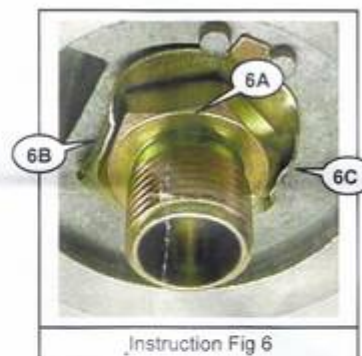
Tightening the stud beyond the recommended torque spec will cause stress fractures on the stud adaptor (1B) base. These fractures if un-noticed during installation will result in the malfunction of the stud ability to secure the oil filter during the operation of the car.



9. There are several ways to use the lock tab washer to lock the bolt in place- we'll show you two. Part of the lock tab washer hangs over the opening in the housing (5B) and you can bend that section of the lock tab washer up against the flat on the adapter bolt using a screw driver and/or channel lock pliers. Flatten the washer up against the flat on the adapter bolt (6B). Alternately, a small flat bladed screw driver can be used to pry up the section of the lock tab washer away from the hole (4D). Once the edge of the washer has been bent up, you can clamp it against the flat on the adapter bolt with the channel lock pliers. *Although this step is necessary, it is not necessary to do it in both places. We only show both here to clarify (hopefully) this step. If you do not bend the lock tab washer up, the bolt may back out over time, resulting in an oil leak at best. This is hard to accomplish while lying on your back, especially on an MGA.*

10. Fitting the Filter. Smear a few drops of engine oil on the rubber seal on the filter and spin the filter on until the seal just contacts the surface of the adapter housing. Tighten the filter  $\frac{3}{4}$  to 1 turn more. *There is no point in over-tightening the filter; it just makes it a real chore to remove later.*

11. Start up. Leave the hood up. Have someone watch the area of the oil filter carefully as the engine is started. At the first hint of a leak, shut it down and correct the problem.



*A word about oil changes. One of the nice things about this conversion is it make changing the oil easier. Plan on changing the oil and the filter every 3,000 miles, even though the workshop manual for the B (for example) says 6,000 miles. It is beyond the scope of this document to discuss the advantages and disadvantages of the various kinds of oil available to day. We recommend that you use a premium brand multi10W-40 for colder temperatures and 20W-50 for warmer temperatures. Using a premium oil and changing the oil and filter every 3,000 miles will keep the engine cleaner and extend the life of the engine. It is one of the best things you can do for your car. Please dispose of the oil and filter properly.*

