

# DAF Service

## Servicing your DAF

Garages prepared to look after your DAF are becoming fewer in number. If you have a local garage who has offered you good service, keep up your friendship, as you are indeed lucky. Why not tell others about the garage so that other DAF (and maybe other makes) owners can turn to this valuable resource in times of need. On the other hand, if you have no local garage prepared to tend to your DAF's needs, what can you do?

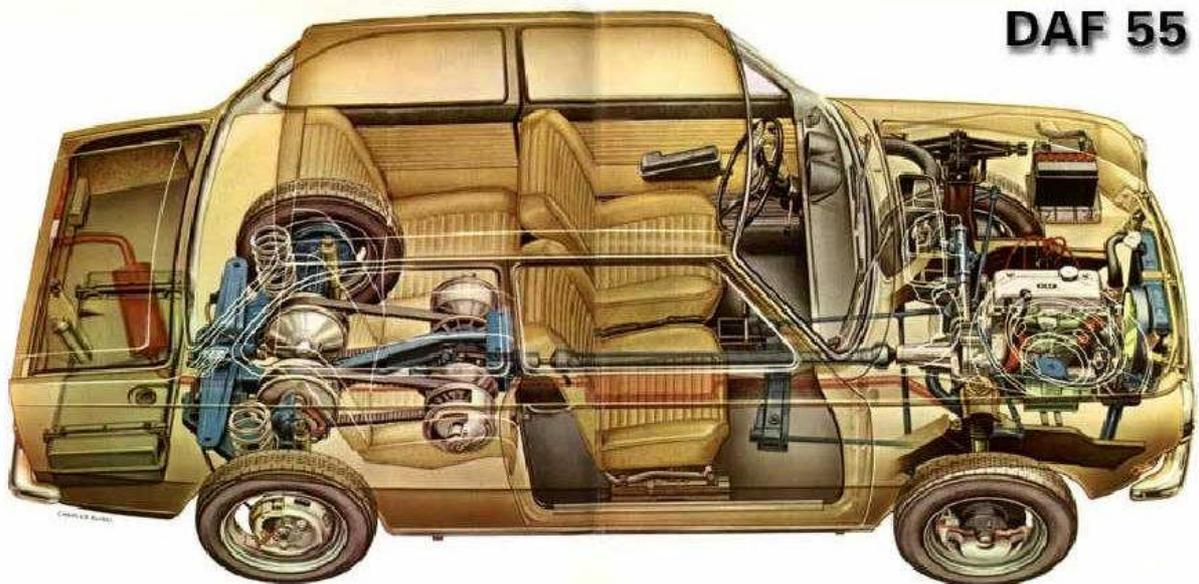
Well, you could always do it yourself. I know many of you would be horrified to consider opening the bonnet other than to gaze longingly at your DAF's mechanicals, but why shouldn't you become intimate with them?

Alright, most motorists say they have a car but don't know what goes on under the bonnet, just as they tell you that they have a computer on their desk and they don't know what's going on in that, either. We all have a washing machine and use it frequently, but do we know what is going on inside the bits we can't see in to? And should this prevent us learning a new skill?

Really, there is nothing complicated about servicing our own DAFs, with a bit of pre-planning and a few helpful hints.

Essentially, a service involves checking or changing fluids and adjusting a few items to restore everything to good health. You don't need a major toolkit to do the routine things either.

We shall explain to you how to service your DAF model by model. But first, you will need a basic toolkit.



## Tools

Tools come in a bewildering array of sizes, shapes and prices, but you don't need to buy an expensive set. You can manage by buying just the items you need. However, a set of spanners sold as a set is often cheaper than buying spanners on an individual basis.

So, to put together a toolkit, what do you need?

The following allows for the fact that we have both air and water-cooled DAFs.

| <b>Air cooled</b>                                    | <b>Water cooled</b>   |
|--|---|
| Sparkplug spanner                                    | Sparkplug spanner   |
| Feeler gauges (metric)                               | Feeler gauges (metric)  |
| Flat blade screwdriver                               | Flat blade screwdriver  |
| Phillips No.2 screwdriver                            | Phillips No.2 screwdriver   |
| Needle nosed pliers                                  | Needle nosed pliers   |
| Standard pliers                                      | Standard pliers   |
| 17mm, 19mm, 13mm, 11mm and 10mm combination spanners | 17mm, 19mm, 13mm, 11mm and 10mm combination spanners 3/8" drive socket (metric) |
| Brake adjusting spanner                              |   |
| Allen keys   |   |
| Decent jack (see later)                              | Decent jack (see later)   |

### Materials

| <b>Air cooled</b> | <b>Water cooled</b>                   |
|-------------------|---------------------------------------|
| Fan belt          | Fan belt                              |
| Air filter        | Air filter                            |
|                   | Oil filter                            |
| Two sparkplugs    | Four sparkplugs                       |
| Contact set       | Contact set                           |
| Oil               | Oil                                   |
| Four brake shoes  | Two brake shoes<br>One set brake pads |

### Don't forget:

Hand wipes, hand cleaner/barrier cream, oil drain can.



## **Jacking up the car**

For a number of servicing operations you will need to lift the car to give better access, and this can be achieved by raising the car by the use of ramps or jacks.

Ramps are inherently safer but do not give a wheel-free access. I.e. the car still has its weight resting on its wheels. This is satisfactory for working on exhausts but as you will need to adjust brakes etc. you will need to use a jack at some stage.

## **Jacks should never be used without axle stands!!**

The original equipment jack provided with the car is not very good at all, and indeed, even when the car was new, it was only suitable for changing a wheel in an emergency, in the case of a puncture.

Ideally, especially now that the cars are old, you need to be using a hydraulic jack. These come in many guises:

- i. There is a little bottle jack which is quite functional and useful generally.
- ii. You could consider a trolley jack as you will have seen at your local garage. They do tend to be expensive but they are designed for all day working in a busy workshop, and will give the owner many years of excellent service.
- iii. As an alternative, small trolley jacks are available for the DIY'ers, and they are very good and come at sensible prices.

## **ALWAYS REMEMBER YOUR SAFETY!!**

### **Draining the oil**

Regular servicing means draining off the old oil and replacing it. To do this you need a container to catch the old dirty oil. For many years I have used a plastic 5 litre oil 'can' which when laid on its side and, with a large side panel cut out, provides a suitable receptacle for the waste oil.

It has the advantage that once the oil has been drained, the 5 litre container can be drained via its screw cap into a larger container, or transferred into a normal 5 litre container for disposal at the oil recycling bank at your local civic amenity site.

Personally I have a 25 litre plastic drum, which I use to bulk up oils before taking them for disposal. I once made the mistake of using a 45 gallon drum which served me well for a number of years. Then I found I couldn't move it or load into my car once it was full. A 25 litre drum/5 gallon drum seems more sensible.

We shall now take a look at undertaking a service on your DAF.

# Water-cooled engine servicing

## Changing the oil

1. Remove the oil filler cap to allow air to enter the engine and prevent the oil glugging on draining.
2. Duck under the car and remove the drain plug, using 3/8" ratchet square, with the catch can situated below the drain/drain plug. Don't worry if the plug drops in the oil can as you can recover it later.
3. Leave the engine to drain.

## Plugs and points

4. Remove the plug leads and take out the spark plugs.
5. Undo the butterfly nut on the back of the air filter housing and remove the front part of the air filter, together with the filter element. Fit the filter element and relocated the front element of the filter so that the long bolt attached is threaded through the hole at the rear. Refit the washer and butterfly nut.
6. Remove the distributor cover by unclipping the two black clips opposite each other. You may need to ease them off with a screwdriver and let it hang on the side.
7. Remove the rotor arm.
8. With the 7mm spanner loosen the outer nut on the side of the distributor but do not remove it, then with the 10mm spanner loosen the inner nut.
9. The electrical wire whose end connector slides between the black nylon insulation and the square head of the bolt inside the distributor can now be lifted off.
10. A thin spring wire, the image of a keyhole, can be seen across two studs securing down one part of the points. Gently ease it back from the looped end so that it is now hooked by one stud and the spring part of the points can be pushed away from the nylon guide and lifted off.
11. With the screwdriver loosen and remove the screw holding the fixed part of the points and lift the points off.
12. Fit the fixed part of the points first and turn the screw with the screwdriver until it just bites.
13. Fit the sprung part of the points over the stud by easing the sprung part into the nylon guide and the point away from the cam in the middle. Slide the thin spring wire back over both studs to secure the points down.
14. Fit the end connector of the electrical wire between the square head and black nylon insulation, and tighten the 10mm nut first and then the 7mm. You will notice that the spring part of the points has a nylon tip that rides on the centre of the distributor which has four rounded corners.
15. With the 19mm spanner turn the crankshaft pulley by applying it to the head of the bolt in the centre and turning it until the nylon point is at the centre of the rounded corner.

16. Select a 0.4mm blade of the feeler gauges and move the fixed part of the points until the gap between the moveable parts is such that you can move the feeler blade and touch both sides without moving them. When this is achieved, tighten the screw of the fixed points, and re-check.
17. Before replacing the rotor arm, ensure the brass end is clean. To polish is up, first rub in on the sidewall of a tyre until any burnt deposits are removed.
18. Re-fit the rotor arm.
19. Take the distributor cap and using a clean cloth, polish the outer surface, especially between the plug lead sockets and remove any oil mist, dust etc. Spray with 'Easy Start' (ether based) or rub with cellulose thinners on a duster, which works wonders. Cleaning the cap in this way prevents any arcing between the HT posts.
20. Clean the plug leads before refitting the cap.
21. Always leave the plugs last so that the engine cools down. You must NEVER remove or refit plugs in a hot aluminium head. Take the new plugs out of their boxes, select a 0.7mm blade from the feeler gauges and set the plug gap on each plug to 0.7mm.
22. Smear the thread of each plug with a little oil.
23. Replace the plugs by screwing gently by hand each new plug until tight, and tightening half a turn using a plug spanner.
24. Refit the plug leads but they must be fitted in the correct sequence.
25. By now the oil should have drained fully so take a magnetic screwdriver if necessary and retrieve the drain plug from the catch can and wipe it spotlessly clean.
26. Remove the washer in the sump plug and refit using a 3/8" ratchet.
27. Move the container now under the filter and using a suitable oil filter removing tool, remove the filter.
28. Clean the machined area where the filter touches.
29. Open the oil can and place a small amount of oil in the oil can cup.
30. With your finger apply a smear of oil on the new filter rubber ring and screw the filter on by hand as tight as you can.
31. With all good quality oils the container now has a clear strip from top to bottom where the oil is visible and is marked at 1/2litre intervals. Remove the oil filler cap and pour three litres of oil into the engine.
32. Check the level on the dipstick and supplement until the level is about 2mm above max, to cater for filling the filter.

Believe it or not, most of the work has now been done. You can now start the engine but do not rev it until it has ticked over for a while and the oil light has gone out and, of course, before you can start the engine, ensure you have selected neutral.

Run the engine for a minute or so and then switch off. Check for any leaks at the sump plug and then check the oil on the dipstick, topping up as necessary.

## DAF Owners Club

Top up the battery cells with distilled water, although if you have fitted a low maintenance modern replacement battery, you will not need to top it up at all.

Any furry growth on the batter connectors or posts needs to be removed which is best auctioned by dousing with boiling water from the kettle, followed by smearing the affected area with petroleum jelly to prevent future problems.



# DAF

## Air-cooled engines

As before, take the DAF on a 10-mile run to warm up the oil to help it drain more efficiently.

### Changing the oil

1. Remove the oil filler cap to allow air into the engine and to allow the oil drain out without glugging and splashing.
2. Under the engine you will find a drain plug – spanner size 19mm – which is located in the centre of a dished area of the sump.
3. Leave the engine to drain and don't worry if the sump plug has dropped into the catch tank as it can be retrieved later.

### Plugs and points

4. Remove the plug leads from the spark plugs and then carefully remove the spark plugs, remembering that the cylinder heads are alloy and the threaded plughole is quite delicate. If you have difficulty fitting the plug socket onto the plug, you may need to release the over-centre clips which hold the cowling around the engine to give better access.
5. Remove the coil lead from the centre of the distributor and then undo the two clips, which clip the distributor cap to the body beneath it. Lift off the cap with the plug leads attached.
6. Lift off the rotor arm and rub the front brass edge on a tyre sidewall to clean up the brass end.
7. Lift off the plastic cover, which hides the contact set – not every car has one of these caps fitted, although it did when it was new.
8. Now you can access the contact set. Pull off the connecting female spade from the periphery of the distributor and then undo the locating screw. Unlike the water-cooled engine, the contact set is one piece.
9. Take the contact set and clean the contact surfaces by opening the contacts against the spring pressure and rubbing the surfaces with a piece of clean cloth to remove any traces of grease from the set – the lapel on your overall is ideal for this purpose, and I don't know of any other use for them.
10. Now position the contacts in the distributor and replace the clamping screw but do not tighten beyond enough to just hold the contact set to allow you to adjust the gap. Using a 19mm spanner on the nut at the front of the dynamo you can turn the engine round until the heel of the contact set is opposite one of the lobes on the distributor centre spindle – there are two high points on this spindle.
11. To adjust the gap move the base gently with a screwdriver between the set and the two beads in the base plate until a 0.5mm feeler gauge is just gripped by the contact set. When you are happy with the adjustment you can nip the locating screw down and you may want to rotate the engine until the opposite lobe is in contact at its highest point and then check the gap again.
12. When you are comfortable with the gap you can replace the plastic disc and the rotor arm.

13. Now clean the distributor cap internally and externally and wipe over the leads with a clean rag. If it is really grubby you may need to use a little solvent to remove the dirt until the cap is like new.
14. Refit the distributor cap and then check the gap on the spark plugs which needs to be set at 0.8mm. Fit the plugs by hand ensuring that they are not cross-threaded and finally seat them in place with the plug socket. Refit the plug leads to the spark plugs and re-fit the coil lead.
15. Take the lid off the air cleaner box and replace the filter element, and while the old is removed check the flap for winter/summer setting before installing a new filter.
16. By now the oil will have drained so replace the sump plug and wipe dry any oil splashes after tightening the plug. Pour two litres of oil into the filler neck and replace the filler cap.
17. Ensure that the car is in neutral and start the engine but do not rev it until the oil is circulating fully. After a minute or so, switch off the engine and check for oil leaks, particularly around the sump plug.
18. After five minutes or so to let the oil drain back into the sump, check the oil level on the dipstick.
19. Use distilled water to top up the battery cells, unless you have a modern low maintenance battery fitted.
20. This completes the basic engine service on your DAF. Remember to dispose of old oil responsibly.

