

Self Service

Not afraid of a bit of DIY? Then follow our guide to self-servicing your Mini.

Prevention rather than cure is my DIY philosophy. Not only does it normally work out cheaper in the long run, but it'll also mean that the chance of a breakdown will be considerably reduced and your Mini will be safer to drive. Carrying out an annual service is one of the best ways of ensuring that your Mini remains in tip-top condition and providing that you have at least a basic level of mechanical knowledge it's possible to carry it out at home. Not that there's any shame in paying someone to service your Mini. There'll always be those that can and those that can't!

The basic recommendation is that you carry out a service every 12,000 miles or 12 months, although it's advisable to do things like greasing the suspension joints more regularly. For the purpose of this feature we've used a late-model 1.3 MPi Mini, which means we haven't had to replace the points or condenser in the distributor, or needed to adjust the timing. We'll cover these in a later issue, but if you're struggling, then the Haynes manual should be able to explain things for you.

An important point to remember is to buy all the parts you need before starting the service. There's no point draining the oil to find that you need to drive to the garage to get some more! I know it sounds obvious, but it has been done.

As with all mechanical work on your Mini, you should only attempt the work if you're confident you can complete the job. If this is your first service, ask a friend who's experienced just to watch over you. It's not a difficult task but you'll be messing with the brakes and the engine so you need to be sure that it's done properly.



1. First thing to do is drive round the block a few times to warm up the oil, then park and jack the car up and place it on axle stands. This will allow access to the wheels and to the sump for draining the oil.



2. On a Mini, the engine and gearbox are connected so there's just one drain plug for both. Place a suitable container beneath the drain plug before removing it.



TOOLS REQUIRED

Spanners, screwdrivers, wire brush, brake cleaner, spark plug socket, feeler gauges, jack, axle stands and waste oil container.

TIME TAKEN

Give yourself a full day for a thorough service.

THANKS

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3. Allow the oil to drain out, taking care not to get it on your hands. You should also find somewhere suitable to dispose of it. Most council tips should have an old oil recycle container, so don't be tempted to just tip it down the drain!



4. The Mini uses a magnetic pick-up on the end of the sump plug, which attracts any metal swarf that may be floating around the engine. Make sure you clean this off before refitting it.



5. The sump plug also uses a copper washer to help seal against oil leaks, so this should also be replaced. Most Mini specialists should stock these along with high-street motor factors.



6. Leave the oil to drain now while you move onto the air filter. As the name suggests this filters out the airborne dirt particles to prevent damage to the engine and should be replaced at every service.



7. Undo the screws securing it to the fuel-injection system, then open the clips to reveal the filter itself. Chuck the old one in the bin and replace with a new element before fitting it back onto the car.



8. As well as draining the oil, you'll also need to change the oil filter. This is located on the front of the engine block and simply unscrews. Take care, as it will still be full of hot oil, so make sure the drip tray is placed underneath.



9. Before you fit the new filter apply a thin film of new engine oil around the rubber seal. You can then fit it back on the car, taking care not to damage the thread. The filter will only need to be hand tightened.



10. Spark plugs are next, although while you're removing them you should also inspect the plug leads. Any sign of damage, replace them. Clean around the plugs before removing them to prevent dirt from falling into the combustion chamber.



11. New plugs should be fitted once the correct gap has been set. This is measured using a set of feeler gauges, with the appropriate feeler being a 0.8-0.9 mm thickness.



12. Once the oil has drained fully, replace the drain plug and new copper washer and fill the engine with new oil. The capacity of the Mini engine is just under 5-litres and you should use good quality 10W-40 oil.



13. If the engine's cooled down enough you can also check the water level. The late-model injection Minis use a separate header tank. If yours needs fluid, then use a good quality antifreeze mix and top up to the specified level.



14. Also check the fanbelt, both for the correct tension and for its overall condition. If it's starting to split then it's best to change it now while the car is off the road rather than next time you are flying down the motorway!



15. The clutch and brake fluid levels should also be checked and topped up with new fluid if necessary. Don't be tempted to use that old jar of brake fluid that's been sat in the shed for years either and take care not to spill any as it will remove paint with ease!



16. The injection Minis use a special fuel filter located on the rear subframe underneath the petrol tank. Use a clamp to stop the flow of fuel from the tank to the filter before you remove it.



17. Two 10 mm bolts secure the filter to the subframe, so undo these first. A quick spray of WD40 or similar may help if they don't want to come out.



18. Disconnect the unions at either end then exchange the old filter for the new one, ensuring that the arrow's pointing in the direction of the flow of fuel. Fit it all back on the car. Make sure the unions are all done up securely and once the car's running again check for leaks.



19. Now we can move onto the brakes. At the front, remove the two pins securing the pads in position and slide them out. You may have to push the calliper pistons back in.



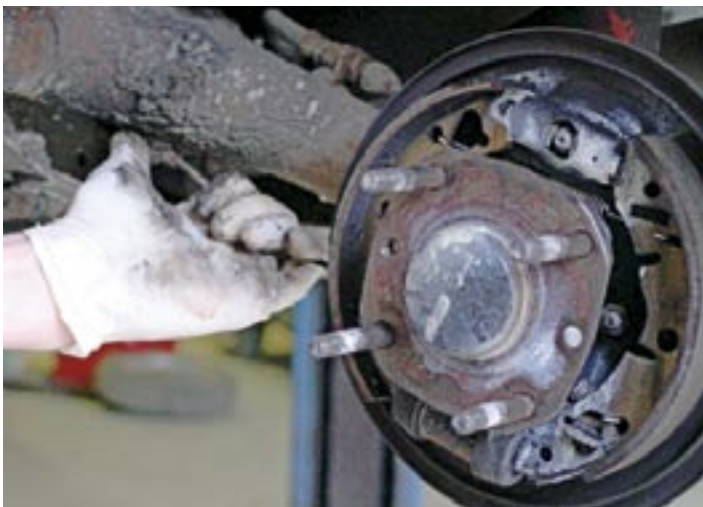
20. After cleaning the pads, give them a liberal coat of copper grease along the back face and the edges, but not the pad itself. This will prevent the brakes from squealing. If the pads or disc are excessively worn then replace them. Always do this in pairs.



21. Now to the back where there's a little more work to do. Remove the road wheel and then the brake drum. Make sure the handbrake is off and then remove the screw securing the drum to the hub.



22. The brake drum should just pull off. If not, try tapping it with a soft mallet. Failing that and you'll have to wind the adjuster in so that the brake shoes don't touch the inside surface of the brake drum



23. Inspect the handbrake cable then check that it's free to move by pulling on it. You should be able to see the handbrake mechanism move on the backplate of the hub, pushing the brake shoes outwards.



24. Remove the brake shoes and two springs from the backplate and then give everything a good dose of brake cleaner. Do the same with the shoes themselves and inspect the linings for excessive wear. Replace if necessary.



25. Use a rag to clean the backplate and surrounding areas and do the same to the brake drum itself. Don't use an air hose or similar to blow the dust away. A can of brake cleaner is relatively cheap and far healthier.



26. To prevent the brakes from squealing, apply some more copper grease to the backplate where the shoes rub and also to the face of the adjuster and the brake cylinder. You can then reassemble everything.



27. With the brake drum refitted, the brake shoes will need adjusting. Turn the adjuster clockwise to lock the brake drum and then turn the adjuster back until the drum will just turn freely without binding.



28. It's important that you keep your Mini well greased. If any of the joints are allowed to run dry then they'll wear very quickly. At the rear, apply grease from a suitable dispenser to the rear radius arm pivots.



29. A can of white spray grease is a handy addition to your tool kit and this should be applied to all the linkages on the handbrake cable. Give them a quick clean with a wire brush before spraying.



30. At the front do the same to the upper and lower steering swivel-hub ball joints. Remember to clean the grease nipple first before fitting the grease gun, and clean away any excess grease.



31. It seems a bit obvious but you should also check that all your lights are in full working order. Don't forget the brakelights and the rear numberplate light.



32. At the front, check the sidelights and indicators as well as the headlights. These are checked for alignment at your annual MoT but it's worth checking that both the dip and main beam are working correctly.



33. Finally, check the condition of the tyres and the individual tyre pressures. Before driving off go round the car and check that you haven't forgotten anything. I've heard numerous stories of people driving their cars after carrying out a service without any oil in the engine!