How to

2.25 petrol service guide

Servicing a Series is almost fun. Theo Ford-Sagers gets the lowdown...

Most of us who own Series Land Rovers aren't afraid of skinning a few knuckles to keep them on the road. And as an added bonus, there's probably no simpler vehicle to service.

Here's a rundown of the main service points to carry out every year or every 6000 miles, whichever comes sooner. We've included the basic checks for a 2.25-litre petrol engine; but for a detailed guide for how tune one perfectly, see p160-162 of our April 2014 issue. We won't cover some generic inspections that are the same on most vehicles, or those that you should be doing more frequently; for example, checking the engine coolant and anti-freeze levels, and the condition of the wiper blades, lights and tyres etc.

In addition to the points highlighted, you also need to be checking for corrosion on the bulkhead and chassis – particularly the rear crossmember, spring hangers, along the top of the chassis rails, and anywhere mud can build up.

Checking the carb for dirt isn't necessarily an annual service item, but it is worthwhile, especially if you've just bought the Land Rover and are unsure of its maintenance history or you're using the Land Rover in harsh conditions without a fuel filter.

Tools used

- Pry bar
- Feeler gauge
- AF spanners and sockets
- Flathead screwdriver

Safety advice

- Disconnect battery first.
- Ensure vehicle is safely chocked or jacked on axle stands on level ground before getting underneath.

The Expert Ben Stowe

Ben runs Black Paw 4x4 (blackpaw4x4.co.uk) near York. His pre-production V8 110 and Camel Trophy 200Tdi 110 featured in our 110 anniversary feature (LRO, Oct 2013). He's currently fitting a Series IIA ambulance body on to a 2014 Defender.

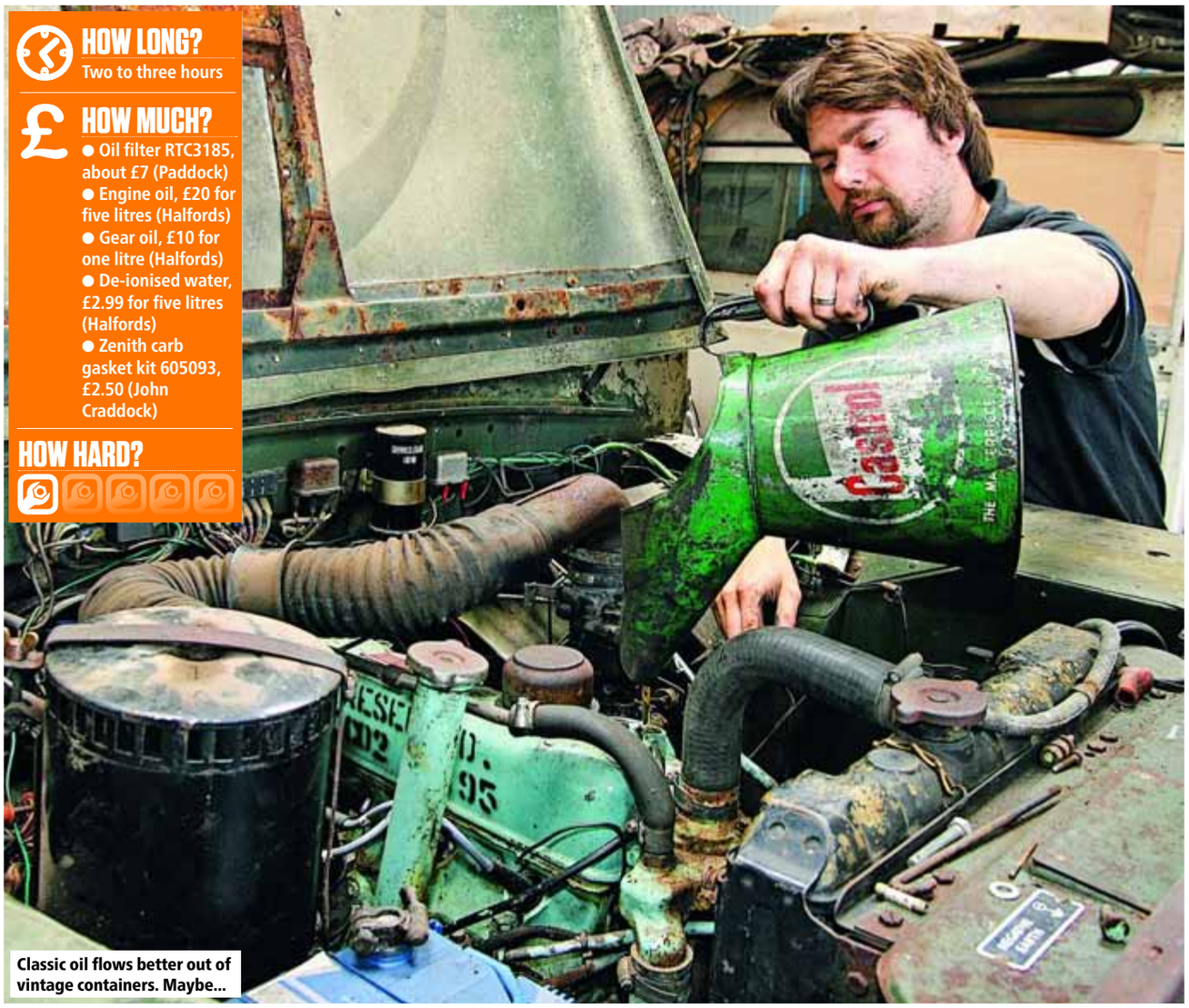
HOW LONG?

Two to three hours

HOW MUCH?

- Oil filter RTC3185, about £7 (Paddock)
- Engine oil, £20 for five litres (Halfords)
- Gear oil, £10 for one litre (Halfords)
- De-ionised water, £2.99 for five litres (Halfords)
- Zenith carb gasket kit 605093, £2.50 (John Craddock)

HOW HARD?



Classic oil flows better out of vintage containers. Maybe...

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Clean the air filter

1 Remove the air filter and oil bath assembly, and replace oil in the base of the air filter with fresh engine oil. Fill up to the marker in the base. Also flush some petrol through the wire mesh to dissolve deposits, and leave it to evaporate before refitting.

Set the points gap

2 Unclip distributor cap, remove rotor arm and turn engine over until the points are at their largest gap. Slacken the points' retaining screw, set points gap to 0.014in (0.35mm) using a feeler gauge, and tighten screw. Clean rotor arm; replace if edge is pitted.

Inspect your spark plugs

3 Remove each spark plug and check for deposits or wetness, which indicate problems elsewhere. Replace the set if you find any cracking or erosion. Set the electrode gap to 0.032in (0.80mm) by gently tapping or levering the ground electrode.

Sediment bowl

4 Remove the fuel sediment bowl (located at the back of the fuel pump). Reach underneath and feel for the retaining screw on its base. It can be undone by hand. Hold the glass bowl as you swing the retainer out of the way. Empty it, clean it and refit.

Clean carb

5 Rust and dirt can accumulate in the carburettor's float chamber. Remove the four screws (inset), lift off the top of the carb, and clean any sediment. Renew the old gasket when refitting. It's the same process for Weber, Solex and Zenith carbs (Zenith pictured).

Hydraulic fluid

6 Brake and clutch systems on pre-Series III models share the same fluid reservoir. Ensure it's full to the top of the vertical tube that sits inside. Series IIIs have a separate fluid reservoir for the servo-assisted brakes (inset). Fill to the marker on the side.

Top up the steering box fluid

7 Remove the filler plug at the top of the steering box, and top it to the brim with EP90 oil. If there's any play in your steering box, try tightening the adjuster nut on the side of the box. Oil the steering relay by removing two opposite bolts and drizzle EP90 in.

Check fan belt condition

8 The fan belt should allow no more than about 90º of twist between water pump and dynamo/alternator. Tighten belt by loosening bolts and sliding the dynamo or alternator in its bracket and re-tightening bolts. Check radiator and hose condition.

Replace oil filter

9 With the engine warm, undo the nut at the base of the oil filter housing and remove the housing, keeping it upright to prevent oil spill. Clean out the housing. Renew the filter element, and replace the rubber seal in the rim of the housing (inset).

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Check axle oils

10 Axles have fillers in the differential housing or the axle casing. Oil should be yellow and clean, not brown or milky. Top up with fresh EP 75w90 gear oil. If you have to replace it, go for a drive to warm the oil, drain and refill. Check oil level in the swivel housings.

Transfer box and gearbox oils

11 Remove the filler plugs for the transfer box (pictured) and gearbox, which is on the side of the gearbox. Top up both to the level of the filler plug with EP 75w90. If you don't know how old the oil is, drain them completely and refill with new.

Grease the propshafts

12 Each proshaft has three grease nipples: one for each universal joint and one for the sliding joint. Fill them with grease using a grease gun. The UJs will show good fill if an even flow of grease starts to emerge around each cup.

Check ball joints

13 Pull downwards on the drag link and track rod to reveal any play in the ball joints. Wear means the joint moves up and down as you compress the spring inside. Have an assistant rock the steering while you hold each joint – you'll feel the movement if worn.

Inspect the exhaust

14 Check the exhaust for corrosion – it normally rots from the inside out. Given the relatively cheap cost of replacement exhaust parts it's often more cost-effective to replace than repair. Check the exhaust manifold-to-downpipe seal is still sound.

Inspect brakes

15 Remove wheels and brake drums (three screws). Check all pistons move freely. Renew wheel cylinders if seized or leaking. Replace shoes if worn away. Uneven wear top/bottom can mean the drums are too worn. Adjust shoe position with nut on back.

Check spring condition

16 Check leaf springs for cracks, broken leaves or distortion. They should be a smooth ellipse, not flat. Very rusty springs will give poor ride quality and can affect handling. Many owners lubricate multi-leaf springs with used engine oil; messy but effective.

Check spring bush condition

17 Check the spring bushes by wedging a pry bar into the spring hangers and levering up and down. Everything should move as one unit – if they move independently the bushes will need replacing. Check dampers for corrosion and leaking fluid.

Wheel bearings

18 Rock the road wheels to feel for play, and spin the wheel to listen for bearing noise.Check the outer bearing condition by removing the drive flange – if it's grey, pitted, corroded or full of water, replace it. If outer ones are okay, inners generally are too. **LRO**

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