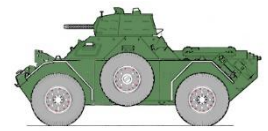


Daimler Ferret servicing protocol



Each journey

1. Before starting, operate the gear change pedal at least six full strokes in each gear.
2. Check all gauges, indicators, lights, headlights and warning lights before each journey.
3. After each journey check wheel hubs for overheating, or excessive temperature differences. (The temperature is usually in the mid 20s to mid 30s °C)

Weekly

1. Check the hub reduction gears via [outer tracta housing plug](#) on the hubs for [EP-90](#) oil levels. You'll need a 1/2" (12mm) hexagon (possibly 9/16"/14mm) male socket to undo these recessed plugs.
2. Check and top up water [coolant](#) (20% blue auto anti-freeze: no greater, or engine overheats) The water cooling is a blow-out design, not recirculating, so check it frequently.
3. Check the engine [oil level](#). Top-up with [SAE-30](#).
4. Check wheel nuts are tight: Alloy wheels: 140 lbf ft (190 Nm); steel wheels: 160 Lbf ft (220 Nm). Do not over-tighten and allow the wheel nuts to strip off aluminium swarf from the wheels. The wheel nuts on the right-hand side (looking forward, i.e. offside) of the vehicle have right-hand threads – to undo turn anti-clockwise when facing the wheel. Those on the left-hand side (i.e. nearside) have left-hand threads. For the wheel nuts on the left-hand side, to undo turn clockwise when facing the wheel. The wheel brace uses a 1+3/16th inch (30mm) female socket. Re-tighten the wheel nuts in [this order](#).
5. Check [tyre](#) pressures (cold) are correct: Army values = (A) run-flats for road: Front 30 lbf/in² (2.0 bar); Rear 36 lbf/in² (2.5 bar) (B) run-flats for cross-country: Front 18 lbf/in² (1.2 bar); Rear 25 lbf/in² (1.7 bar). John says **45 psi all round**. For this you will need new inner tubes. Old ones won't take it.
6. Jack vehicle up and check each wheel for top-bottom play from excessive wind-up – every fifth journey. There should be absolutely no fore-aft movement on the wheels. [See these notes](#).

Monthly

1. Check the gearbox (SAE-30) and transfer box (EP-90) [levels](#) under the gunner's seat, which you'll need to slide off its rails and remove in order to do this. You will need a 13/16" (20mm) hexagon male socket to undo these recessed hexagon filler plugs. The gearbox and transfer box are [labelled](#), but [here's an aide-memoire chart](#). The gearbox oil may [look metallic](#), and full of brass particles, but this is normal. It occurs because of wear from the brake-bands. Changing the oil is straightforward; the [drain plug](#) is the [rear](#) one.
2. Check the [inner tracta housing](#) EP-90 oil levels after every 5th – 10th journey. Oil does flow through from the outer hubs but it's much better to [top up](#) via the [bevel box filler plug](#) with a [mini oil pump](#). I find the two front inner tracta housings need filling more frequently than the rear ones. (Front wheels will require full-lock or raising on axle stands to gain access to this filler). To undo the plug: use a [15/16th \(24mm\) female hexagon socket](#) on a 1/2" drive; [turn anti-clockwise to remove](#), clockwise to tighten when replacing plug – take care not to strip the plug thread. There is a copper washer seal. See this picture on using an [LED torch to view the fluid levels](#) and here [topping-up](#).
3. Clean and oil wheel arch weld seals to prevent rust taking hold.
4. Check the foot brakes and that the parking/handbrake holds on an incline.
5. Check mean tyre circumference front/rear on each side of the vehicle is within 2" max. (pump the tyres to the required pressure – 30-36 lbf/in²). John says add an extra 5-10 psi all round.

Each season

1. Oil the hinges on the visibility hatches & stowage bin lids – essentially anything that moves. (do not let the roof lid/shield crash forward when opening: it can potentially jar the welds).
2. Grease [suspension link nipples](#), spring fulcrum bush nipples – **12 per wheel station** (Take care not to grease the differentially-sized [brake bleed nipple](#))
3. [Grease steering swivel nipples](#) on front wheels – **2 each per front wheel station**
4. [Grease steering rod ball joints](#) – **2 each per front wheel station**. Also refer to [Lubrication tasks](#)
5. Check and lubricate Gear Change Pedal pivot & linkage; also brake pedal lever & linkage; also accelerator control linkage
6. Check and top up steering box and steering cross shaft bevel box (EP-90) – 7/16th inch spanner. Sometimes EP2 lithium-based grease (5 pumps) is used instead of EP-90.
7. Lubricate forward & reverse linkage; handbrake ratchet linkage; gear selector linkage
8. Check and top up brake cylinder level with [DOT4](#) Shell brake fluid

Modern silicone-containing brake fluids can contain silicone which can attack seals. Officially brake fluid should be drained every two years, but 5 years or so is good enough. Just top up the fluid level in the brake master cylinder in the driver's compartment by the driver's right knee.

Check the [brakes: Two nuts](#) on the inside of the wheel: a square internal and hex external. Unscrew both two turns. Hold one and screw the other until it stops (doesn't matter which one). Undo it ¾ turn. Hold the nut just adjusted and repeat sequence. Do this for each wheel. [Here](#) is a **summary** of the brake description above in EMER V622.

Annually

1. Check cylinder head nut torque – 35 lbf ft (47.46 Nm)
2. Check fan & generator belt deflection – 1" max.
3. Clean main fuel filter & bowl and carburettor banjo union filter
4. Check and, if needed, renew the engine oil filter element
5. Change engine oil SAE-30 – 24 pints
6. Check, and if required, [top up the fluid flywheel](#) with automatic transmission fluid ([AQF for older vehicles](#)) (Marcus Glenn sells [OM13](#) in 5 litre containers if you prefer to use this to AQF)
7. Change oil in gearbox SAE-30 (10 pints) and also in transfer box EP-90 (6 pints) – see Monthly (1) above.
8. Check distributor contact breaker gap – (No.1/Mk2 = 10-12 thou inch; No.1/Mk2/1 = 19-21 thou)
9. Lubricate four [propeller shaft nipples](#); water pump bearing; distributor & cam lubricator pad

The [Lubrication chart](#) specifies OMD-110 (SAE-30) and OEP-220 (EP-90). See the file on [oils for the Ferret](#) for further background information.