

**TRUCK, UTILITY, LTWT AND TRUCK, UTILITY, LTWT, WINCH,
MC2 - LAND ROVER 110 4X4**

SERVICING INSTRUCTION

This instruction is authorised for use by command of the Chief of Army. It provides direction, mandatory controls and procedures for the operation, maintenance and support of equipment. Personnel are to carry out any action required by this instruction in accordance with EMEI General A 001.

INTRODUCTION

1. This EMEI lists the requirements for each level of servicing for Truck, Lightweight, MC2 Land Rover 110 4x4 All Types. Table 2 details the frequency of each level of servicing. Table 3 details the actions to be performed at each of the levels of servicing by both the operator and tradesperson.

Items Previously Known To Have Contained Asbestos

WARNING

Asbestos is a hazardous material and a carcinogen. Airborne asbestos fibre poses a serious danger to personnel and can lead to acute health concerns and eventual death.

The Land Rover Family of Vehicles (FOV) was originally fitted with a number of gaskets, seals and washers known to have contained asbestos.

Since 2009, all genuine Land Rover Australia supplied repair parts including; gaskets, seals and washers are asbestos free. If it is unknown as to whether the material contains asbestos, such parts are to be removed, handled and disposed of IAW Defence WHSManual.

NOTE

Prior to the disruption, removal or replacement of items contained within Table 1, the vehicle logbook (GM120) should be reviewed. If the item has been replaced since 2009 and noted in Part 4 of the GM120 the item can safely be handled as being asbestos free.

2. The following table provides a list of all known, in-situ, items including; parts, gaskets, seals and washers found in Land Rover 4X4 FOV which may contain asbestos. If an item in Table 1 is to be replaced, the GM120, Part 4 should be reviewed. If the item in question has been replaced after 2009 and noted in Part 4 of the GM120 the item can safely be handled as being asbestos free. If no evidence can be found in Part 4 the item is to be considered contaminated with asbestos. The item is to be replaced IAW Defence WHSManual Vol 2, Part 3A, Chap 5, Asbestos Management in Defence and recorded in the GM120 Part 4.

Figure 1 Items Previously Known To Have Contained Asbestos

| Serial | ACM NIIN | NON-ACM NIIN | Item name | Description | RPS: 02188 ISSUE 3 MAR 00 | Entry into GM120 Part 4 YES/NO |
|--------|-----------|--------------|--|---|------------------------------|---|
| 1 | 991373054 | 661566324 | Gasket, transmission magnetic plug | Fibre washer for the transmission magnetic plug | FBA 011 | |
| 2 | 991373055 | 661566325 | Gasket, transmission oil strainer plug | Filler plug fibre washer | FBA 016 / FBB 013 | |
| 3 | 661284266 | 661285409 | Gasket, exhaust manifold | Exhaust manifold gasket | ABA 013 | |
| 4 | 998221518 | 661566345 | Gasket, cover plate transfer casing reverse idler access | Transmission side plate gasket | FBA 007 | |
| 5 | 998221519 | 661566343 | Gasket, transfer casing housing dog clutch | Transmission to PTO housing gasket | FBC 016 | |
| 6 | 998221724 | 661566352 | Gasket, transfer casing lower cover plate | Transfer case bottom plate gasket | FBB 010 | |
| 7 | 998221850 | 661566360 | Gasket, transmission pneumatic valve | PTO actuator fibre washer | FEA 019 | |
| 8 | 998240915 | 661566354 | Gasket, transmission oil pump cover | Transmission oil pump cover gasket | FC 012 | |
| 9 | 998498732 | 661566323 | Gasket, transmission oil pump cover | Filler plug gasket for transfer case, front axle housing, rear / intermediate axle housing. | FBA 016 / FBB 013 | |
| 10 | 997980214 | 994957906 | Brake shoe set, transmission handbrake | Handbrake brake shoes | MFB 001 | |
| 11 | 998221517 | 661566341 | Gasket, transmission top cover plate | Transmission top plate gasket | FBA 005 | |
| 12 | 998238297 | 661568461 | Ring oil pick up | Transmission front cover plate oil pickup ring | FC 004 | |
| 13 | 661284264 | 661586333 | Gasket | Oil cooler housing gasket | BE 005 | |
| 14 | 661284450 | 661446255 | Gasket, Pipe, Inlet Manifold | Intake manifold pipe gaskets | ABA 003 | |
| 15 | 661285045 | 661284582 | Gasket inlet manifold | Inlet air manifold gasket | ABA 001 | |
| 16 | 997628209 | 661566325 | Joint washer | Filler plug fibre washer transfer case | FBA 016 / FBB 013 | |
| 17 | 998221722 | 661566353 | Gasket Speedometer case | Speedo drive housing gasket | FBC 005 | |
| 18 | 997920835 | 661566324 | Gasket Magnetic Plug | Filler plug fibre washer transfer case | FBA 011 | |
| 19 | 997472708 | 661566323 | Washer flat, Rear Differential Filler Plug | Rear diff filler plug fibre washer | JA 007 | |
| 20 | 661284268 | 661450532 | Gasket | Thermostat to engine block gasket | BF 007 | |

General Safety Warnings

WARNING

All industrial safety, work practices and equipment operating and maintenance instructions pertaining to this EMEI are to be adhered to.

The handling, storage and use of chemical substances are to be in accordance with WHSManual, ChemAlert and EMEI Workshop E series requirements.

Under no circumstances is compressed air to be used to remove dust from the clutch assembly and flywheel housing or the brake drums/discs and brake linings. Dust from the brake linings can be a health risk if inhaled.

3. Associated Publications. For maintenance and repair procedures, reference may be necessary to the latest issue of the following EMEI:

- a. EMEI Misc Equip Q 208 – Inspection of Portable Fire Extinguishers;
- b. EMEI Vehicle A 291-1 – Tyres and Tubes – Care and Maintenance of B Vehicles;
- c. EMEI Vehicle A 291-5 – Tyres and Tubes – General Service B Vehicle Tyre Guide;
- d. EMEI Vehicle A 298-2 – Tyres and Tubes – General Service B Vehicle Tyres;
- e. EMEI Vehicle A 429-1 – Brake Systems – B Vehicles General – Brake Shoe Re-lining Policy;
- f. EMEI Vehicle A 453-2 – Hydraulic Brake Systems – Re-sleeving of Master and Wheel Cylinders, All Types;
- g. EMEI Vehicle A 459-2 – Hydraulic Brake Systems – B Vehicle Hydraulic Brake Fluid Deterioration;
- h. EMEI Vehicle A 468-1 – Crack Inspection of Land Rover Wheel Rim;
- i. EMEI Vehicle A 548-1 – Vehicle Seat Belts – Inspection Data;
- j. EMEI Vehicle A 591-1 – Inspection and Cleaning of Dry Type Air Cleaner Elements;
- k. EMEI Vehicle D 108 – Recovery Equipment – Inspection of Recovery Equipment;
- l. EMEI Vehicle G 008-1 – Inspection and Repair of Towing Pintle Assembly;
- m. EMEI Vehicle G 103 – Truck, Utility, Lightweight and Truck, Utility, Lightweight, Winch, MC2 - Land Rover 110 4x4 – Light Grade Repair;
- n. EMEI Vehicle G 104-1 – Truck, Utility, Lightweight and Truck, Utility, Lightweight, Winch, MC2 - Land Rover 110 4x4 – Medium Grade Repair;
- o. EMEI Vehicle G 104-2 – Truck, Utility, Lightweight and Truck, Utility, Lightweight, Winch, MC2 - Land Rover 110 4x4 – Heavy Grade Repair;
- p. EMEI Vehicle G 113 – Truck, Utility, Lightweight, FFR and Truck, Utility, Lightweight, FFR, Winch, MC2 – Land Rover 110 4x4 – Light Grade Repair;
- q. EMEI Vehicle G 114 – Truck, Utility, Lightweight, FFR and Truck, Utility, Lightweight, FFR, Winch, MC2 – Land Rover 110 4x4 – Medium and Heavy Grade Repair;
- r. EMEI Vehicle G 123 – Truck, Panel, Lightweight, Survey, FFR, Winch, MC2 – Land Rover 110 4x4 – Light Grade Repair;
- s. EMEI Vehicle G 124 – Truck, Panel, Lightweight, Survey, FFR, Winch, MC2 – Land Rover 110 4x4 – Medium and Heavy Grade Repair;
- t. EMEI Vehicle G 133 – Truck, Surveillance, Lightweight, Winch, MC2 – Land Rover 110 4x4 – Light Grade Repair;
- u. EMEI Vehicle G 134 – Truck, Surveillance, Lightweight, Winch, MC2 – Land Rover 110 4x4 – Medium and Heavy Grade Repair;
- v. EMEI Vehicle G 143 – Truck, Carryall, Lightweight, Senior Commander, Winch, MC2 – Land Rover 110 4x4 – Light Grade Repair;
- w. EMEI Vehicle G 144 – Truck, Carryall, Lightweight, Senior Commander, Winch, MC2 – Land Rover 110 4x4 – Medium and Heavy Grade Repair;
- x. EMEI Vehicle G 153 – Truck, Carryall, Lightweight, Personnel Carrier, MC2 – Land Rover 110 4x4 – Light Grade Repair;
- y. EMEI Vehicle G 154 – Truck, Carryall, Lightweight, Personnel Carrier, MC2 – Land Rover 110 4x4 – Medium and Heavy Grade Repair;
- z. EMEI Vehicle G 163 – Truck, Lightweight, Surveillance and Reconnaissance, Winch, MC2 – Land Rover 110 4x4 – Light Grade Repair, (Note: EMEI VEH G 163 is yet to be issued at the time of authoring of this document);
- aa. EMEI Vehicle G 164 – Truck, Lightweight, Surveillance and Reconnaissance, Winch, MC2 – Land Rover 110 4x4 – Medium and Heavy Grade Repair, (Note: EMEI VEH G 164 is yet to be issued at the time of authoring of this document);

- bb.** EMEI Vehicle G 173 – Truck, Surveillance Reconnaissance Vehicle (SRV-SF), Lightweight, FFR, W/Winch, MC2, Land Rover 110, 4x4, Isuzu Diesel Engine – Light Grade Repair, (Note: EMEI VEH G 173 is yet to be issued at the time of authoring of this document);
 - cc.** EMEI Vehicle G 174 – Truck, Surveillance Reconnaissance Vehicle (SRV-SF), Lightweight, FFR, W/Winch, MC2, Land Rover 110, 4x4, Isuzu Diesel Engine – Medium Grade Repair, (Note: EMEI VEH G 174 is yet to be issued at the time of authoring of this document);
 - dd.** EMEI Vehicle G 187-16 – Conversion from Oil Filled to Grease Filled Swivel Pin Housings;
 - ee.** EMEI Vehicle G 188 – Inspection Guidelines;
 - ff.** EMEI Vehicle G 188-1 – Suspension and Steering Inspection Procedure;
 - gg.** EMEI Vehicle G 189-8 – Location and Restriction on the Use of the Power Distribution Box;
 - hh.** EMEI Vehicle G 189-17 – Chassis Crack Inspection and Repair;
 - ii.** EMEI Vehicle A 008-1 - Technical Inspection Of B Vehicles, Trailers, Motorcycles And All Terrain Vehicles (ATV);
 - jj.** EMEI Workshop H 149-1 – Hydraulic (Bottle) Vehicle Jacks – Inspection and Servicing;
 - kk.** [Defence Work Health and Safety Manual](#) (WHSManual);
 - ll.** [Electronic Supply Chain Manual \(ESCM\)](#);
 - mm.** [ChemAlert](#);
 - nn.** [Technical Regulation of ADF Materiel Manual - Land version 5](#)(TRAMM-L); and
 - oo.** RPS 02188 – Truck, Utility, Lightweight, MC2, 4x4, 1 Tonne, 3.9 Diesel Engine, Manual Transmission, 12 V, Landrover Model 110.
- 4.** Servicing points are identified as follows:
- a.** Figure 1 Chassis Servicing Points, All Types Except SRV/SRV-SF;
 - b.** Figure 2 Chassis Servicing Points For SRV/SRV-SF;
 - c.** Figure 3 Engine Servicing Points, All Types Except SRV/SRV-SF;
 - d.** Figure 4 Engine Servicing Points For SRV/SRV-SF; and
 - e.** Figure 5 Winch Servicing Points, All Types.

Table 2 Servicing Schedule

| Type of Service | Period |
|--------------------------|---|
| Land Rover 12 month Insp | 12 months after the last scheduled service |
| Minor | Every 10 000 km or 24 months, whichever occurs first after the last Major/Alternate Major Service |
| Major | Every 20 000 km or 48 months, whichever occurs first after the last Alternate Major Service |
| Alternate major | Every 40 000 km or 96 months, whichever occurs first after the last Alternate Major Service |

5. The following is the servicing sequence that is to be applied to all Land Rover 110 4x4 variants:
- a. Land Rover 12 month Insp – 12 months after an Alternate Major Service.
 - b. Minor Service – 10 000 km or 24 months from an Alternate Major Service.
 - c. Land Rover 12 month Insp –12 months after the last Minor Service.
 - d. Major Service – 10 000 km or 24 months from last Minor Service.
 - e. Land Rover 12 month Insp –12 months after the last Major Service.
 - f. Minor Service – 10 000 km or 24 months from last Major Service.
 - g. Land Rover 12 month Insp –12 months after the last Minor Service.
 - h. Alternate Major Service – 10 000 km or 24 months after the second minor service has been carried out.
 - i. The servicing sequence commences again after the Alternate Major Service, with a Land Rover 12 month Insp Check being carried out after 12 months.
6. Servicing is based on distance travelled or elapsed time, with all vehicles being serviced at least once every 24 months. Unit commanders may reduce the period between services or add servicing tasks to meet operational or exercise requirements. A scheduled service may be anticipated or delayed within a limit of plus or minus 10 per cent of the interval between services to meet operational needs and to permit workload planning.

NOTE

When any equipment exceeds the 10 per cent maximum limit of the servicing interval (Table 1), it is to be classified '**Do Not Use – XX**' until the outstanding service is completed.

Authorised Personnel

7. All operator tasks are to be carried out by a qualified operator under the supervision of the personnel described in Para 7.
8. All tradesperson tasks are to be carried out by the following as applicable to the task:
- a. Vehicle Mechanic (ECN 229);
 - b. Recovery Mechanic (ECN 226);
 - c. Fitter Armourer (ECN 146); or
 - d. tri-service/civilian equivalent.

Standard Job

9. MILIS standard job numbers have been raised to detail the vehicle servicing procedures. The following standard job numbers have been allocated:
- a. Land Rover 4x4 12 month Insp – 007730.
 - b. Minor service – 000239.
 - c. Major service – 000238.
 - d. Alternate major service – 000237.

Additional Tasks

10. No additional tasks are to be added to scheduled maintenance work orders. A separate, linked work order shall be raised to record additional maintenance tasks identified during the servicing and/or the Technical Inspection (TI). These additional tasks may include, but not be limited to, the replacement of wheel bearings, brake pads/shoes, wheel cylinders, etc. and outstanding modifications. The additional tasks are to be completed in conjunction with the scheduled maintenance.

Table 3 Servicing Requirements

| Serial | Item or Assembly (*1) | Land Rover 4x4 12 month Inspection | Minor Service | Major Service | Alternate Major Service | Capacity (Litres) | Lubricant |
|---|---|--|-------------------------------|-------------------------|-------------------------------|----------------------------|---------------------------|
| | | 12 Mths | 10 000 Km or 24 Mths | 20 000 Km or 48 Mths | 40 000 Km or 96 Mths | | |
| Operator Tasks (to be performed under supervision. Para 7) | | | | | | | |
| 1 | Engine oil | - | D | D | D | 8.5 | SAE Grade 40 (OMD-115) |
| 2 | Engine oil filter | - | R | R | R | | |
| 3 | Fuel filter | - | R | R | R | | |
| 4 | Engine breather filter | - | C | C | C | | |
| 5 | Water pump (if fitted with nipple) | - | L | L | L | | XG-291 |
| 6 | Remove and install air cleaner | - | AR | AR | AR | | |
| 7 | Air cleaner dust evacuator valve | - | C | C | C | | |
| 8 | Radiator coolant (Ref Para 12) | - | T | D | D | 12.5 | Water and inhibitor |
| 9 | Fuel transfer pump strainer | - | C | C | C | | |
| 10 | Fanbelt jockey-pulley bearing (if fitted) | - | L | L | L | | XG-291 |
| 11 | Windscreen washer bottle | - | T | T | T | | |
| 12 | Bonnet locks and hinges | - | L | L | L | | SAE Grade 40 (OMD-115) |
| 13 | Heater intake dump valve | - | C | C | C | | |
| 14 | Accelerator control linkage and pedal pivot | - | L | L | L | | SAE Grade 40 (OMD-115) |
| 15 | Hinges, catches and latches | - | L | L | L | | SAE Grade 40 (OMD-115) |
| 16 | Battery electrolyte level (level with the bottom of the filler spouts), security and cleanliness of terminals | - | T, C, I | T, C, I | T, C, I | | |
| 17 | Seat slides | - | L | L | L | | SAE Grade 40 (OMD-115) |
| 18 | Driving mirrors and window glasses | - | C, I | C, I | C, I | | |
| 19 | Demount tyre for rim inspections (Ref EMEI Vehicle A 468-1) | - | AR | AR | AR | | |
| 20 | Tyres (inflate after the rim inspection, if necessary, including the spare) | - | T | T | T | | |
| 21 | Wheel nut security | - | Y | Y | Y | | |
| 22 | Fuel sedimenter/s (Ref Para 14) | - | C | C | C | | |
| 23 | Winch gearbox | - | T | T | D | 1.3 | OEP-220 |
| 24 | Front axle | - | T | T | D | 1.7 | OEP-220 |
| 25 | Swivel pin housings (Ref EMEI Vehicle G 187-16) | - | I | I | I | Pre-packaged in applicator | NSN 9150-99-911-1798 |
| 26 | Steering box | - | T | T | D | 0.45 | OEP-220 |
| 27 | Transmission (*2) | - | T | T | D | 2.7 | SAE Grade 40 (OMD-115) |
| 28 | Transfer case (*2) | - | T | T | D | 3.2 | SAE Grade 40 (OMD-115) |

Table 3 Servicing Requirements (Continued)

| Serial | Item or Assembly (*1) | Land Rover 4x4 12 month Inspection | Minor Service | Major Service | Alternate Major Service | Capacity (Litres) | Lubricant |
|------------------------------------|--|--|-------------------------|-------------------------|-------------------------------|----------------------|--|
| | | 12 Mths | 10 000 Km or 24 Mths | 20 000 Km or 48 Mths | 40 000 Km or 96 Mths | | |
| 29 | Transfer case with PTO (*2) | - | T | T | D | 5.8 | SAE Grade 40 (OMD-115) |
| 30 | Rear axle (*2) | - | T | T | D | 2.3 | OEP-220 |
| 31 | Top link ball joint (if fitted with nipple) | - | L | L | L | | XG-291 |
| 32 | Park brake and PTO linkage | - | L | L | L | | XG-291 |
| 33 | Axle and transmission breathers | - | C | C | C | | |
| 34 | Propeller shafts and universal joints | - | L | L | L | | XG-291 |
| 35 | Propeller shaft bolts | - | Y | Y | Y | | |
| 36 | Winch fairleads and rollers | - | L | L | L | | SAE Grade 40 (OMD-115) |
| 37 | Winch propeller shaft and support bearings | - | L | L | L | | XG-291 |
| 38 | Winch dog clutch | - | L | L | L | | XG-291 |
| 39 | Winch rope (Ref Para 16) | - | C, L | C, L | C, L | | Rocol wire rope lube NSN 9150- 99-337-1498 |
| 40 | Spare wheel carrier operation | - | I | I | I | | |
| 41 | Pintle hook | - | L | L | L | | XG-291 |
| 42 | CES | - | I | I | I | | |
| 43 | Vehicle jack (Ref EMEI Workshop H 149-1) | - | I | I | I | | |
| 44 | Fire extinguisher inspection tag (Ref EMEI Misc Equip Q 208) | - | I | I | I | | |
| 45 | Vehicle cleanliness (clean as directed by supervising tradesperson) | - | C | C | C | | |
| FFR | | | | | | | |
| 46 | Fit and test operation of radios | - | I | I | I | | |
| RFSV | | | | | | | |
| 47 | Power steering system | - | T | - | - | 1.25 | |
| SRV | | | | | | | |
| 48 | Radiator screen | - | C | C | C | | |
| 49 | Power steering system | - | T | - | - | 1.25 | OX-46 |
| Tradesperson Tasks (Para 8) | | | | | | | |
| 50 | Fuel injection pump and lines | - | I | I | I | | |
| 51 | Air cleaner (Ref EMEI Vehicle A 591-1, Record IAW Para 11) | - | C | C | C | | |
| 52 | Engine idle | - | A | A | A | | |
| 53 | Fanbelts | - | I, A | I, A | I, A | | |
| 54 | Fanbelt jockey-pulley (if fitted) | - | I, A | I, A | I, A | | |
| 55 | Alternator mounting bolts | - | Y | Y | Y | | |
| 56 | Intake and exhaust manifold bolts (*2) | - | Y | Y | Y | | |
| 57 | Engine mounting and earth strap | - | I | I | I | | |

Table 3 Servicing Requirements (Continued)

| Serial | Item or Assembly (*1) | Land Rover 4x4 12 month Inspection | Minor Service | Major Service | Alternate Major Service | Capacity (Litres) | Lubricant |
|--------|---|--|-------------------------|-------------------------|-------------------------------|----------------------|-----------|
| | | 12 Mths | 10 000 Km or 24 Mths | 20 000 Km or 48 Mths | 40 000 Km or 96 Mths | | |
| 58 | Valve clearances | - | - | A | A | | |
| 59 | Fuel injectors (Ref Para 15) | - | - | - | I | | |
| 60 | Engine compression (Ref Para 15) | - | - | - | I | | |
| 61 | Glow plugs electrical circuit | - | - | I | I | | |
| 62 | Engine stop control and hand throttle connection and operation | - | I | I | I | | |
| 63 | Water pump condition | - | I | I | I | | |
| 64 | Radiator and hose condition | - | I | I | I | | |
| 65 | Oil and fuel leaks | - | I | I | I | | |
| 66 | Flywheel housing (drain) | - | AR | AR | AR | | |
| 67 | Exhaust system for leaks, damage and security | - | I | I | I | | |
| 68 | Windscreen wipers, wiper blades and washers | - | I | I | I | | |
| 69 | Windscreen and side windows, glass and seals | - | I | I | I | | |
| 70 | Brake, fuel and clutch pipes for chaffing, leaks or corrosion | - | I | I | I | | |
| 71 | Brake master cylinder leaks | - | I | I | I | | |
| 72 | Brake servo filters | - | - | - | I | | |
| 73 | Brake servo hose condition and operation | - | I | I | I | | |
| 74 | Front and rear hub bearings | - | A | A | I, L, A | | XG-291 |
| 75 | Front brake pads for wear, calipers for leaks and condition of the discs | - | I | I | I | | |
| 76 | Rear brake linings for wear, brake wheel cylinders for leaks and condition of the drums | - | A | I, A | I, A | | |
| 77 | Brake hydraulic system (Ref EMEI Vehicle A 459-2 and Para 13) | D, B | D, B | D, B | D, B | | OX-8 |
| 78 | Clutch master and slave cylinder leaks | - | I | I | I | | |
| 79 | Clutch hydraulic system | - | D, B | D, B | D, B | | OX-8 |
| 80 | Transmission mountings and earth strap | - | I | I | I | | |
| 81 | Propeller shaft universal joints and sliding joint | - | I | I | I | | |
| 82 | Winch propeller shaft and support bearing | - | I | I | I | | |
| 83 | Park brake, PTO linkage and cable (*2) | - | I, A | I, A | I, A | | |
| 84 | Suspension and steering (Ref EMEI Vehicle G 188-1) | AR | AR | AR | AR | | |
| 85 | Steering protection plate for damage and security | - | I | I | I | | |
| 86 | Tyre and rim (Ref Para 17) | - | I | I | I | | |
| 87 | Wheel rim (Ref EMEI Vehicle A 468-1) | - | I | I | I | | |

Table 3 Servicing Requirements (Continued)

| Serial | Item or Assembly (*1) | Land Rover 4x4 12 month Inspection | Minor Service | Major Service | Alternate Major Service | Capacity (Litres) | Lubricant |
|---------------------|---|---|-------------------------|-------------------------|-------------------------------|----------------------|-----------|
| | | 12 Mths | 10 000 Km or 24 Mths | 20 000 Km or 48 Mths | 40 000 Km or 96 Mths | | |
| 88 | Wheel alignment | - | | | | | |
| 89 | Chassis (Ref EMEI Vehicle G 189-17) | - | | | | | |
| 90 | Panel damage | - | | | | | |
| 91 | Canopy and bows | - | | | | | |
| 92 | Roll over protection security | | | | | | |
| 93 | Seat belts, mountings and inertia reel operation (Ref EMEI Vehicle A 548-1) | | | | | | |
| 94 | Heater and vent cables | - | | | | | |
| 95 | Bonnet lock operation and adjustment (Ref EMEI Vehicle G 103) | - | I, A | I, A | I, A | | |
| 96 | Bonnet hinges (Ref EMEI Vehicle G 103) | - | | | | | |
| 97 | Headlight alignment | - | I, A | I, A | I, A | | |
| 98 | Operation of lights, gauges, warning lights and horn | - | | | | | |
| 99 | Operation of foot brake, hand brake and clutch | - | | | | | |
| 100 | Winch Operation | - | | | | | |
| 101 | Winch rope and CES recovery items (Ref Para 16) | - | | | | | |
| 102 | NATO plug | - | | | | | |
| 103 | Pintle hook (Ref EMEI Vehicle G 008-1) | - | | | | | |
| 104 | Vehicle jack (Ref EMEI Workshop H 149-1) | | | | | | |
| 105 | Rectification/Additional tasks (Ref Para 10) | AR | AR | AR | AR | | |
| FFR | | | | | | | |
| 106 | Power distribution box (Ref EMEI Vehicle G 189-8) | - | | | | | |
| RFSV | | | | | | | |
| 107 | Air compressor operation and security | - | | | | | |
| 108 | Power steering system | - | - | D | D | 1.25 | OX-46 |
| SRV | | | | | | | |
| 109 | Air compressor operation and security | - | | | | | |
| 110 | Rear brake pads for wear, callipers for leaks and condition of discs | - | | | | | |
| 111 | Canopy, canopy bows and boat rack | - | | | | | |
| 112 | Operation of inspection light socket and tripmeter | - | | | | | |
| 113 | Power steering system | - | - | D | D | 1.25 | OX-46 |
| All Variants | | | | | | | |
| 114 | Useability label (Ref Para 19) | AR | AR | AR | AR | | |
| 115 | Road test in accordance with EMEI Vehicle G 188 | AR | AR | AR | AR | | |

Table 3 Servicing Requirements (Continued)

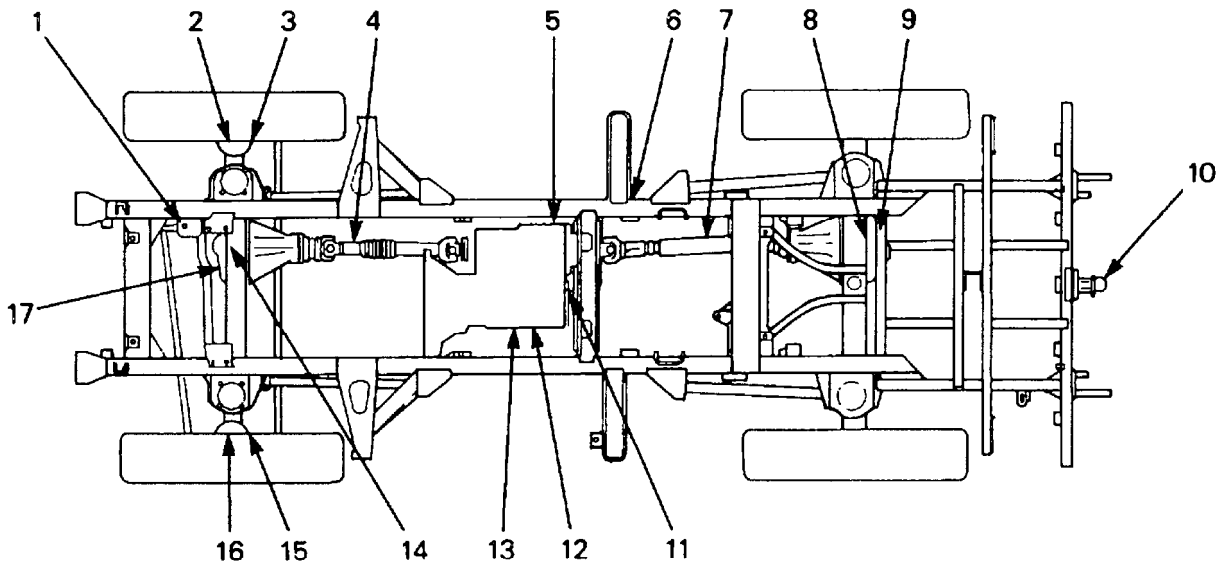
| Serial | Item or Assembly (*1) | Land Rover 4x4 12 month Inspection | Minor Service | Major Service | Alternate Major Service | Capacity (Litres) | Lubricant |
|--------|--|--|-------------------------------|-------------------------|-------------------------------|----------------------|-----------|
| | | 12 Mths | 10 000 Km or 24 Mths | 20 000 Km or 48 Mths | 40 000 Km or 96 Mths | | |
| 116 | Record details of 12 month inspection in GM 120 Part 2 – Record of Service | AR | - | - | - | | |
| 117 | Raise TI report (Ref EMEI Vehicle G 188 & Para 18) | AR | AR | AR | AR | | |
| 118 | Record details of inspection in GM 120 Part 2 – Record of Inspection | AR | AR | AR | AR | | |
| 119 | Record details of service in GM 120 Part 2 – Record of Service | AR | AR | AR | AR | | |

Legend : A – Adjust, AR – Action Required, B – Bleed, C – Clean, D – Drain and Refill, I – Inspect, L – Lubricate, O – Overhaul, R – Replace, T – Top Up, Y – Tighten.

*Note 1: Refer to Figures 1 to 5

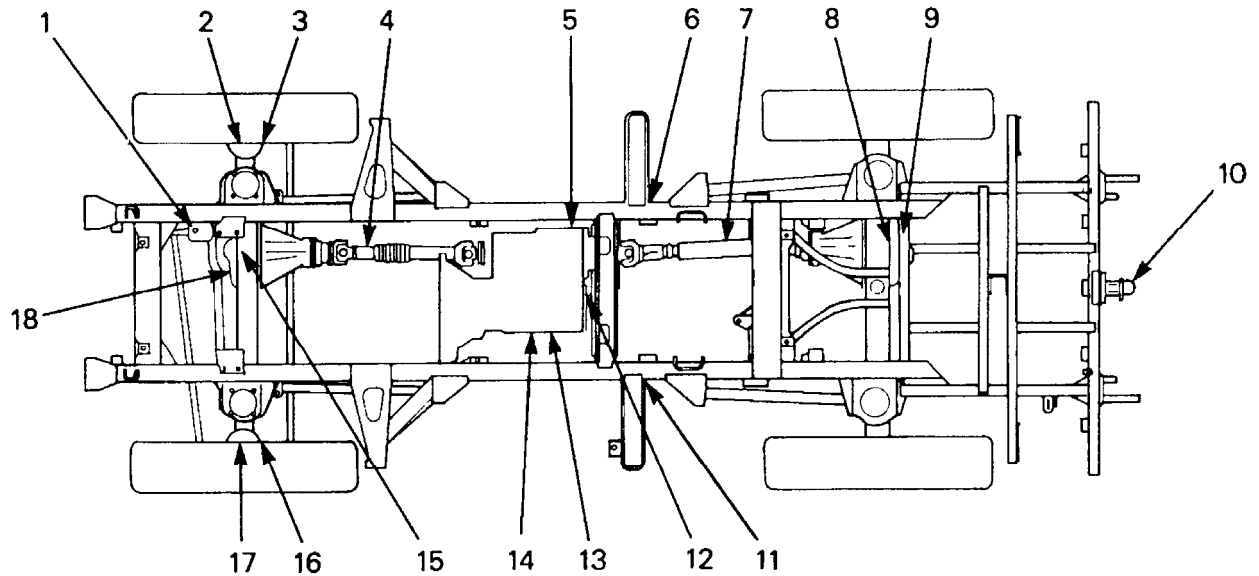
*Note 2: Task may involve parts which contain asbestos, for detailed instructions refer to paragraph headings:

- Items Previously Known To Have Contained Asbestos, and
- General Safety Warnings.



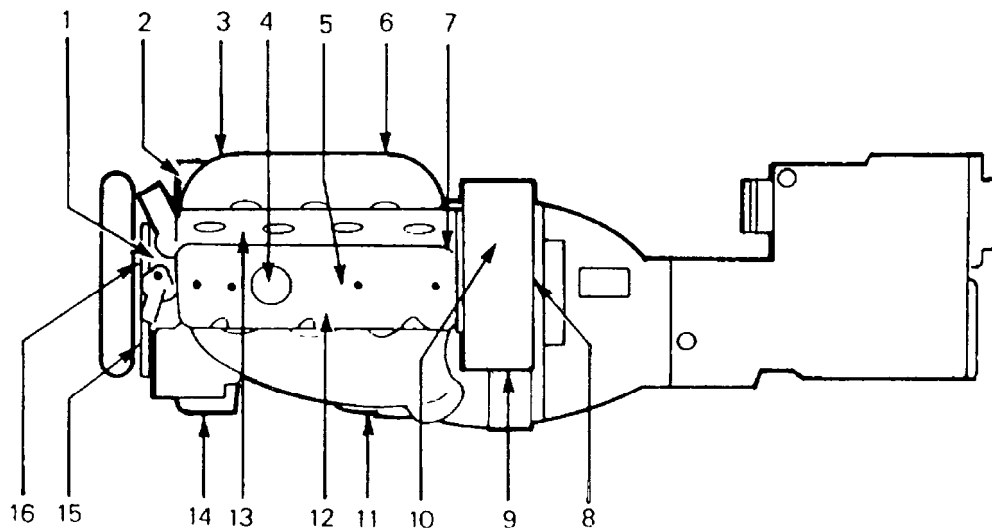
- | | |
|---|---|
| 1. Steering box fill plug | 10. Pintle |
| 2. Right hand swivel pin housing drain plug | 11. Transfer case fill plug |
| 3. Right hand swivel pin housing fill plug | 12. Transmission fill plug |
| 4. Front propeller shaft grease nipples | 13. Transmission drain plug |
| 5. Transfer case drain plug | 14. Front axle drain plug |
| 6. Fuel sedimenter | 15. Left hand swivel pin housing fill plug |
| 7. Rear propeller shaft grease nipples | 16. Left hand swivel pin housing drain plug |
| 8. Rear axle drain plug | 17. Front axle fill plug |
| 9. Rear axle fill plug | |

Figure 1 Chassis Servicing Points, All Types Except SRV/SRV-SF



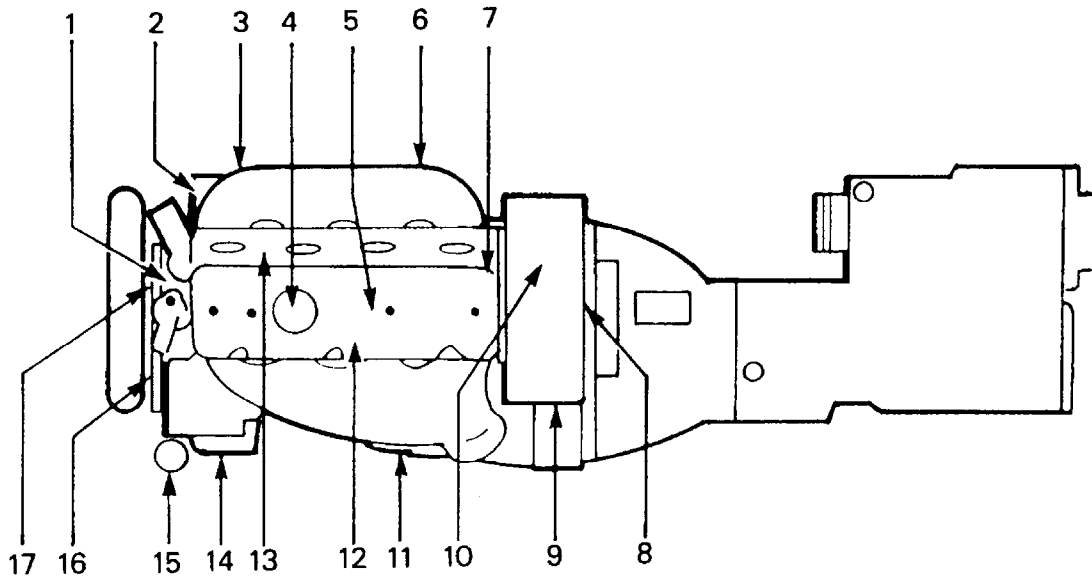
- | | |
|---|---|
| 1. Power steering reservoir | 10. Pintle |
| 2. Right hand swivel pin housing drain plug | 11. Fuel Sedimenter |
| 3. Right hand swivel pin housing fill plug | 12. Transfer case fill plug |
| 4. Front propeller shaft grease nipples | 13. Transmission fill plug |
| 5. Transfer case drain plug | 14. Transmission drain plug |
| 6. Fuel sedimenter | 15. Front axle drain plug |
| 7. Rear propeller shaft grease nipples | 16. Left hand swivel pin housing fill plug |
| 8. Rear axle drain plug | 17. Left hand swivel pin housing drain plug |
| 9. Rear axle fill plug | 18. Front axle fill plug |

Figure 2 Chassis Servicing Points for SRV/SRV-SF



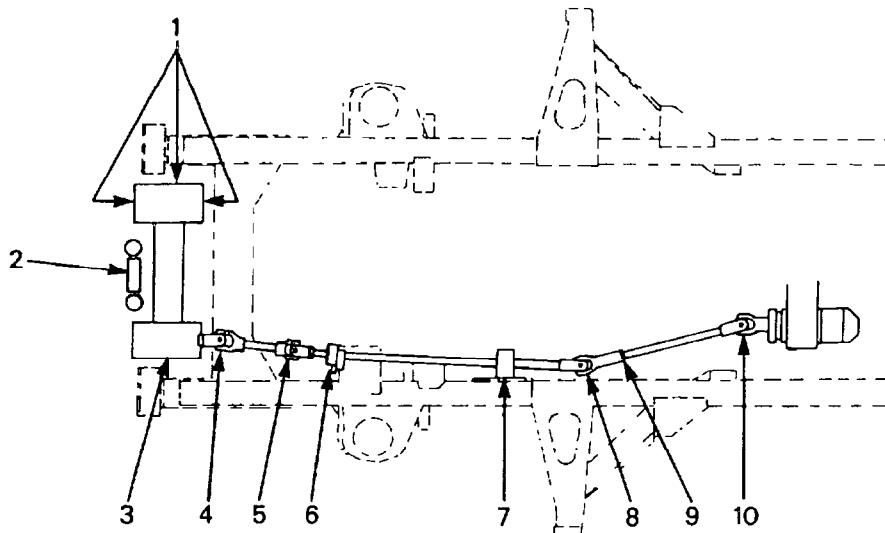
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|-------------------------------------|----------------------------------|-------------------------|
| 1. Coolant | 7. Accelerator cable and linkage | 12. Cylinder head bolts |
| 2. Fuel filter | 8. Flywheel housing drain plug | 13. Glow plugs |
| 3. Fuel transfer pump fuel strainer | 9. Air cleaner | 14. Engine mountings |
| 4. Engine | 10. Air cleaner vacuator valve | 15. Fanbelt |
| 5. Valve clearances | 11. Crankcase breather | 16. Water pump |
| 6. Oil filter | | |

Figure 3 Engine Servicing Points, All Types Except SRV/SRV-SF



- | | | |
|-------------------------------------|----------------------------------|-------------------------|
| 1. Coolant | 7. Accelerator cable and linkage | 12. Cylinder head bolts |
| 2. Fuel filter | 8. Flywheel housing drain plug | 13. Glow plugs |
| 3. Fuel transfer pump fuel strainer | 9. Air cleaner | 14. Engine mountings |
| 4. Engine | 10. Air cleaner vacuator valve | 15. Air compressor |
| 5. Valve clearances | 11. Crankcase breather | 16. Fanbelt |
| 6. Oil filter | | 17. Water pump |

Figure 4 Engine Servicing Points for SRV/SRV-SF



- | | | |
|----------------------------------|---------------------------------------|-----------------------------------|
| 1. Winch grease points | 5. Universal joint grease nipple | 8. Universal joint grease nipple |
| 2. Winch fairleads and roller | 6. Drop block bearing grease nipple | 9. Slip joint grease nipple |
| 3. Winch drain and fill plugs | 7. Pillow block bearing grease nipple | 10. Universal joint grease nipple |
| 4. Universal joint grease nipple | | |

Figure 5 Winch Servicing Points, All Types

General Information

11. Check the air restriction indicator and clean the primary element if the indicator is red. The safety element is not to be cleaned. The primary element can be washed with a non-sudsing general purpose detergent in accordance with EMEI Vehicle A 591-1. Remove the filter wrap and wash it in diesel or kerosene, wring it dry and lubricate it with unfilter oil or SAE Grade 40 (OMD-115).
12. The anti-freeze requirements are as follows:
 - a. **No Anti-freeze Required.** When anti-freeze is not required, the cooling system must be flushed out with clean water and refilled with a solution of one part Nalcool inhibitor to 12 parts water, i.e. a minimum of 8% inhibitor in the coolant, or as otherwise directed by the instructions on the Nalcool container.
 - b. **Anti-freeze Required.** When anti-freeze is required, the correct type is an ethylene glycol based anti-freeze (containing no methanol) with non-phosphate corrosion inhibitors suitable for use in cast iron engines. 33% anti-freeze by volume will provide protection down to -20 °C, whereas 50% anti-freeze by volume will provide protection down to -36 °C.
13. The brake system is to be drained, refilled and bled every 12 months. (Ref EMEI Vehicle A 459-2).
14. The fuel sedimenters are to be checked more frequently under field conditions.
15. Clean and spray test the injectors at 120 000 km and carry out a compression test.
16. The winch rope is to be cleaned using mains pressure fresh water. The winch rope is not to be cleaned using high pressure cleaners. Once cleaned, the winch rope is to be inspected in accordance with EMEI Vehicle D 108 prior to lubricating. A winch rope classified **Fully Functional** can be wound back onto the winch drum. The recovery items (e.g. chains, shackles, etc) that are part of the vehicle CES are to be inspected in accordance with EMEI Vehicle D 108. Inspection of the winch rope and recovery CES items is a part of this service and must be completed if the vehicle is to be classified **Fully Functional**.
17. Inspect the tyres for wear in accordance with EMEI Vehicle A 298-2. Inspect the rims for damage and that the correct rims are fitted in accordance with EMEI Vehicle A 469-1.
18. **Technical Inspection.** The vehicle is to have a complete technical inspection once every 24 months or at each service in accordance with EMEI Vehicle G 188 and a TI Report (Form GI041) completed or an Inspection Report completed and printed from the MSETEC screen in MILIS and inserted in the vehicle GM 120. If the vehicle classification changes within the 24 month period then a partial TI is required with the expiry date of that partial to be the last complete TI expiry date.
19. **Useability Label.** The Vehicle Useability classification label needs to reflect the next Preventative Maintenance (PM) activity to be conducted within the authorised complete TI period. For example:
 - a. After a service and complete TI, the useability label will be fitted to reflect the current vehicle useability status from the current TI with the date entered as the next PM task due which would be a Land Rover 12 month Insp at 12 months.
 - b. At a Land Rover 12 month Insp, the useability label will need to be replaced to reflect the useability status from the last TI and the expiry date will be either the next PM task due or the last current complete TI expiry date.

END

Distribution List: **VEH G 16.0 – Code 2** (Maint Level)
(Sponsor: CGSVSPO, Light B Vehicles)
(Authority: EC-006636)