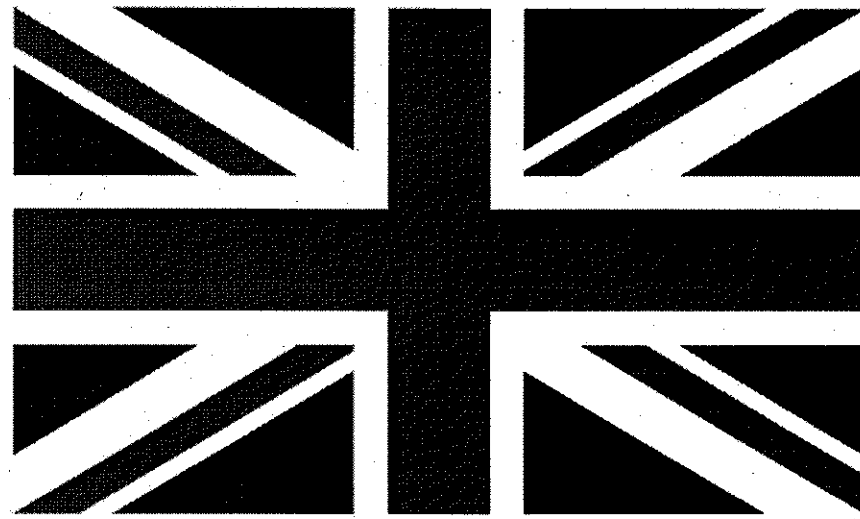


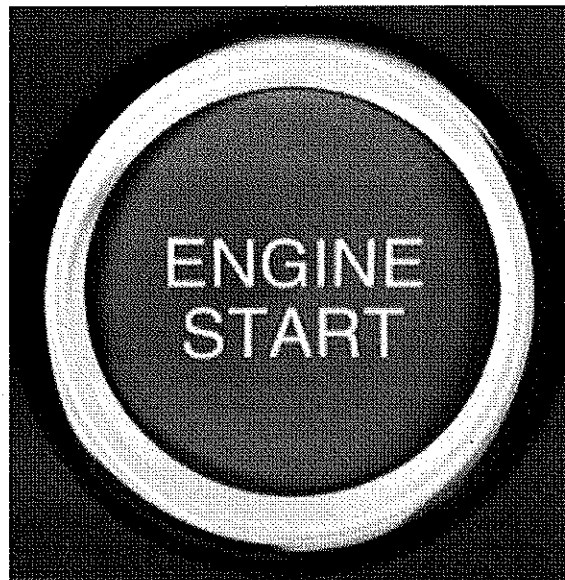
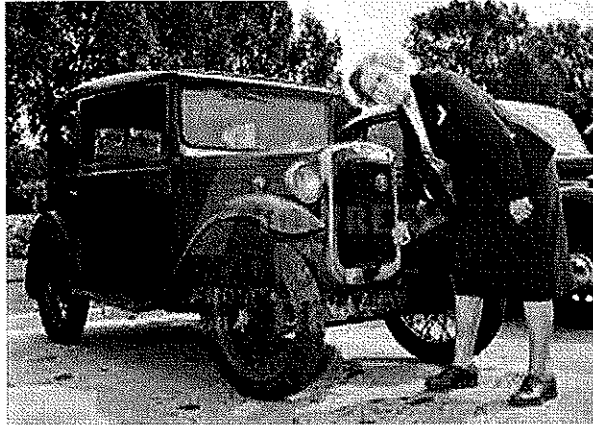
Daily Operations



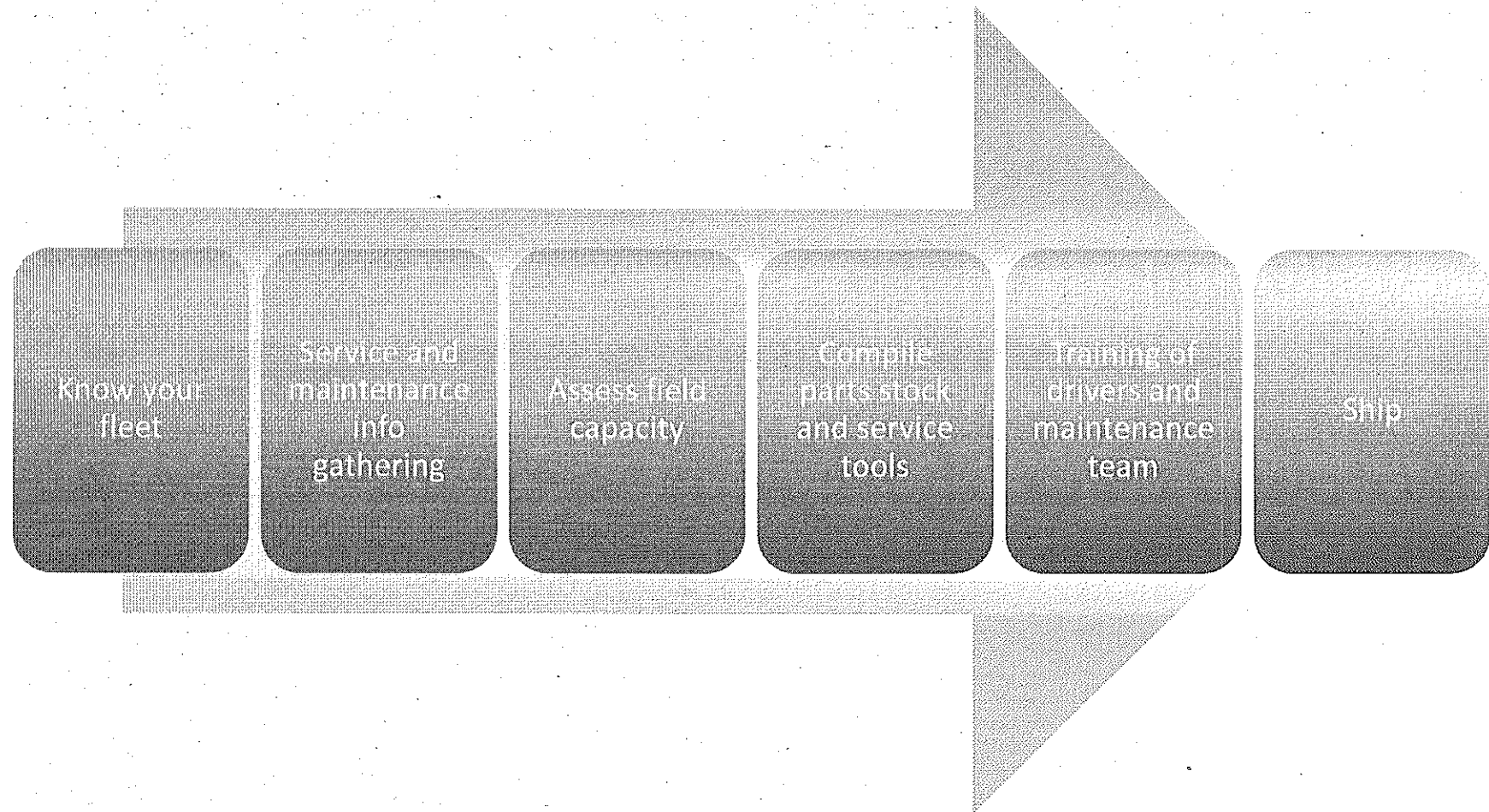
UKaid

from the British people

Where to start?

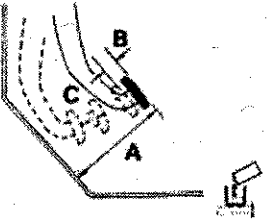





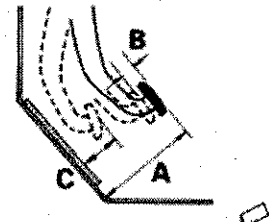




Preparedness







Service and maintenance Information gathering

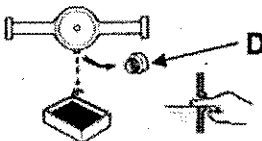
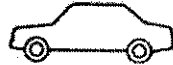


- Workshop manuals
- Armourers recommendations
- Build specifications
- Internet search
- Ground truth (those with experience in the field)

			
Mm (in.)	A	162.7 to 172.7 (6.41 to 6.79)	164.8 to 174.8 (6.49 to 6.88)
	B	5 to 15 (0.197 to 0.591)	
	C	 20 (0.787)	
SAE J1703 or FMVSS No. 116 DOT3			

			
mm (in.)	A	147.1 to 157.1 (5.80 to 6.18)	149.1 to 159.1 (5.87 to 6.26)
	B	1 to 6 (0.0394 to 0.236)	
	C ¹	 67 (2.64)	 67.5 (2.66)
SAE J1703 or FMVSS No. 116 DOT3			

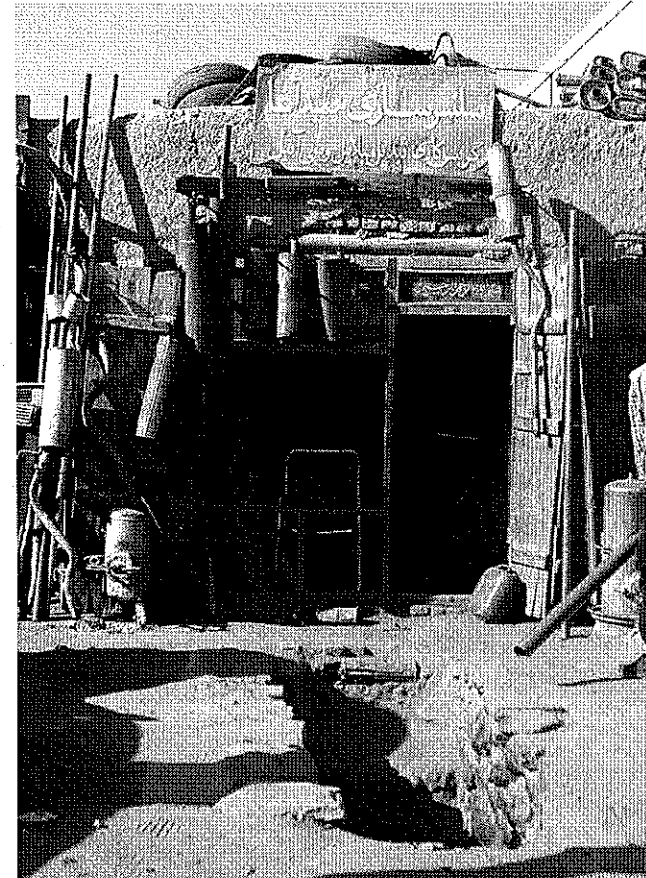
200 N (20 kgf, 45 lbf)			
			
5 to 7			

		
A	 1.0 (0.0394)	

 <p>Liter (US qts, Imp. qts)</p>			
	1.85 to 1.95 (1.96 to 2.06, 1.63 to 1.71)	Standard 4.15 to 4.25 (4.39 to 4.49, 3.66 to 3.74) w/ LSD w/ Differential Lock 4.10 to 4.20 (4.34 to 4.43, 3.60 to 3.69)	
	Toyota Genuine Differential gear oil LT 75W-85 GL-5 or equivalent	w/o LSD Toyota Genuine Differential gear oil LT 75W-85 GL-5 or equivalent w/ LSD Toyota Genuine Differential gear oil LX 75W-85 GL-5 or equivalent	
<p>N*m (kgf*cm, ft.*lbf)</p>	A	37 (380, 27)	
	B	20 (204, 15)	
	C	37 (377, 27)	
	D	39 (400, 29)	49 (500, 36)
	VDJ		
 <p>N*m (kgf*cm, ft.*lbf)</p>	For Aluminum Wheel 131 (1336, 97)		
	For Steel Wheel 209 (2131, 154)		

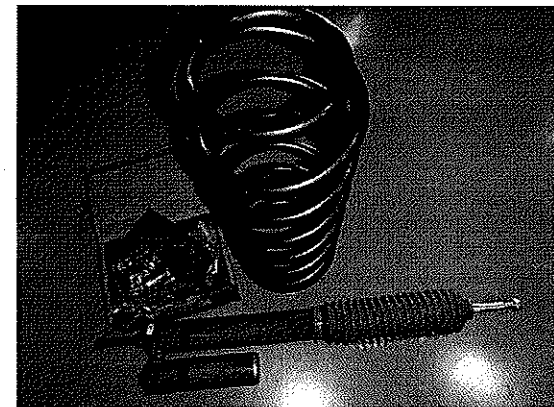
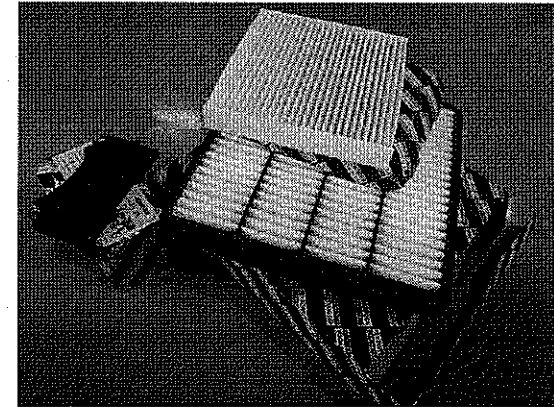
Assessing field maintenance capacity

- Fuel quality
 - Re assess at intervals
- Local dealerships
 - Parts stock
 - Level of competence
- Tyre fitment
 - Ability to deal with runflats
- Base of operations
 - Security, space, shelter, power/lighting, storage



Parts provision

- Examples of OEM parts
 - Filters
 - Bulbs
 - Wipers
- Examples of special parts
 - Shock absorbers
 - Clutch
 - Runflat insert

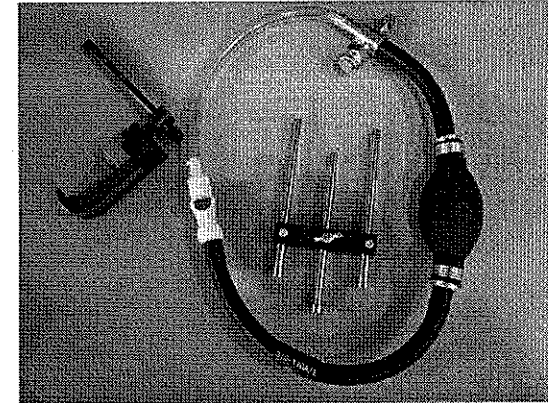


"An armoured vehicle can be out of service for weeks just waiting for parts"

Tools and equipment considerations

- Examples of specialist tools

- Fuel system bleeding tool
- OBD reader
- Oil filter wrench
- Torque wrench



- Examples of general workshop tools

- Trolley jack (of ample capacity)
- Axle stands
- Hand tools (Socket sets etc)
- Compressor (clearing of dust, tyre inflation)

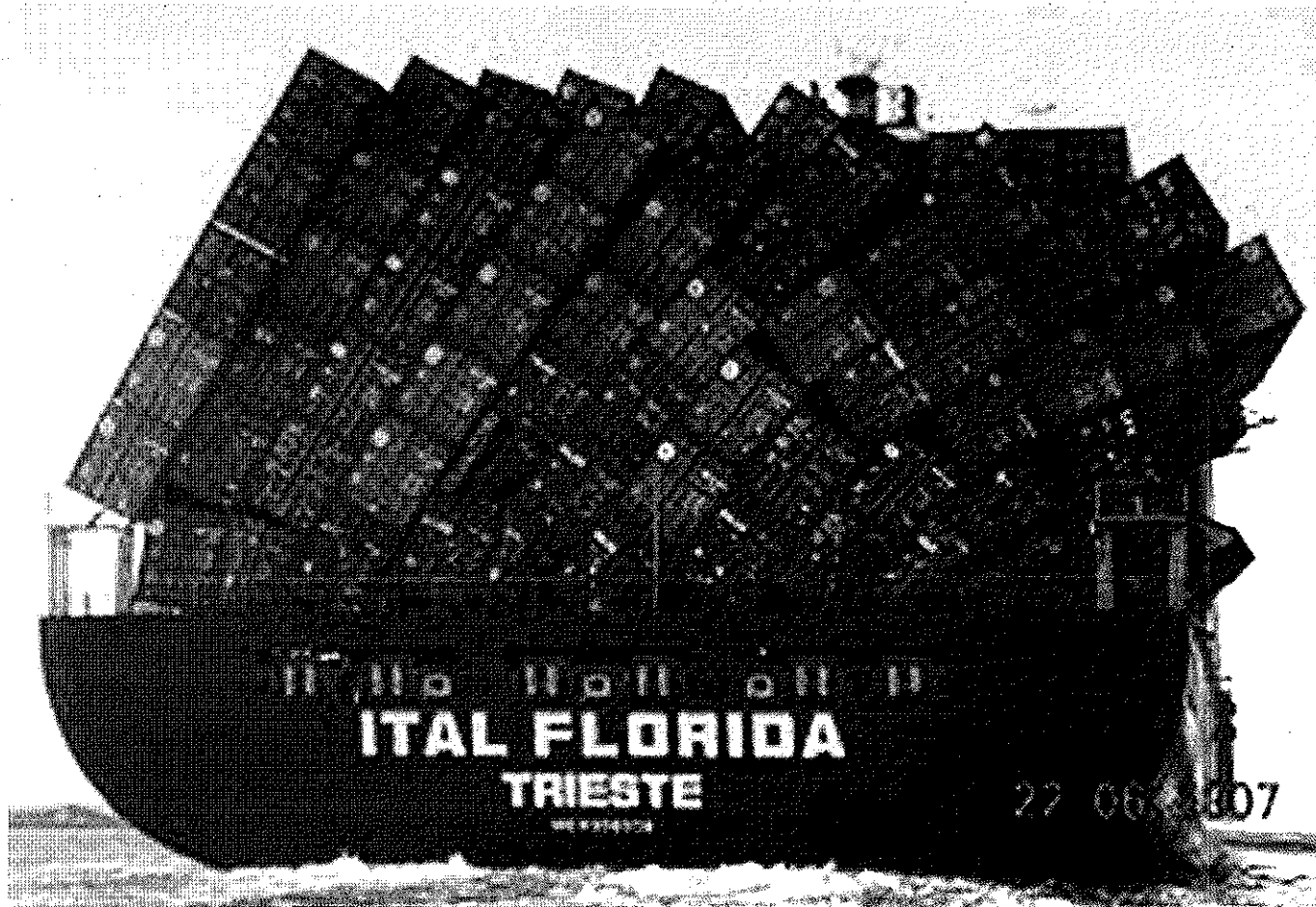
Deployable support modules



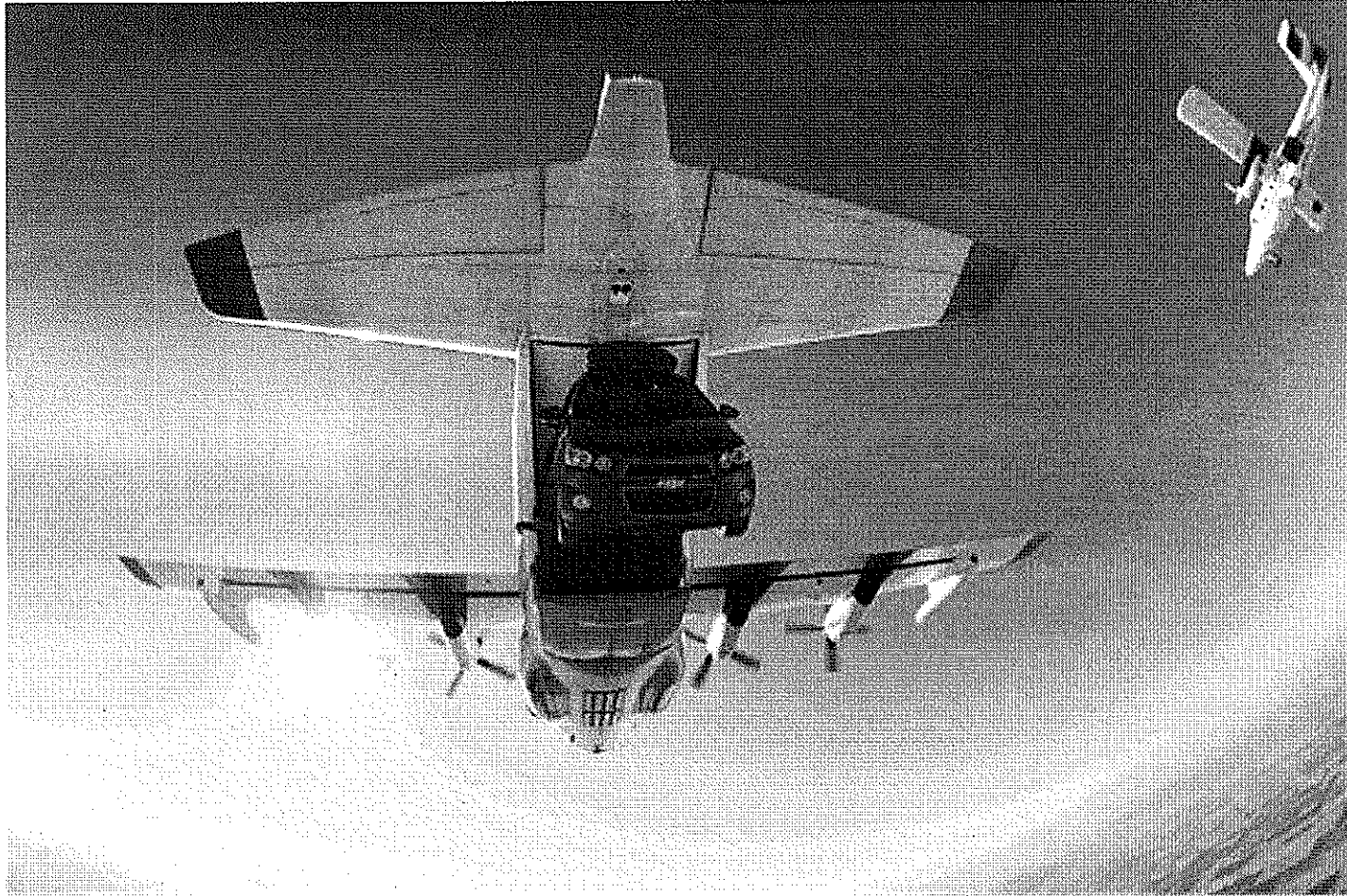
Checks and maintenance training

- Vehicle Familiarisation
- Potential weak/stress points
- Safe working
- Record keeping
- Vehicle checks
- Service scheduling
- Periodic inspections

It can all start going wrong before a
working life begins



Ensure your cargo is secure



Seek guarantee of safe delivery



Maintenance paperwork

- Recording and reporting
- Daily checks
- Weekly checks
- Manufacturers periodic maintenance schedule
- Armourers recommended

Vehicle daily check sheet



Vehicle make	Model
Asset number	Sheet number

Report any addition of oil or fluids to the fleet manager

Report any faults found during field trips if considered detrimental

Refer to check sheet notes and vehicle handbooks for detailed information

Check	Date	Initials	Fuel level	Date	Initials	Fuel level	Date	Initials	Fuel level	Date	Initials	Fuel level
Engine Oil												
Oil leaks												
Brake fluid												
Coolant												
Clutch fluid												
Steering fluid												
Tyre inflation and condition												
Lights												
Brakes												
Wipers/washers												
Emergency kit												
Under body check for loose items or debris												
Communications checks												
Damage report												
Short road test												
Abnormal engine, running gear or gearbox noises												

Report any concerns or faults to fleet manager, even if rectified.

Vehicle weekly check sheet

Vehicle make	Model
Asset number	Sheet number

Report any addition of oil or fluids to the fleet manager

Report any faults found during field trips if considered detrimental

Refer to check sheet notes and vehicle handbooks for detailed information



Check	Note
Check service records and log sheets	<i>For faults/observations, fuel consumption</i>
Fluid leaks	<i>Coolant, steering, gearboxes, brakes, clutch, axles</i>
Brake fluid level	<i>See specific 200 procedure for checking</i>
Engine Oil	
Engine drive belts	<i>For debris, damage and wear</i>
Fuel filter	<i>See additional diesel fuel notes</i>
Inspect air filter	<i>Initial check weekly and adjust subsequent checks accordingly. Order re-supply in dusty environments</i>
Glazing	<i>Inspect for cracks and de-lamination. Drop glass operation</i>
Check shock absorbers for leaks	
Check tyre pressures	<i>Including spare/s</i>
Inspect tyres for foreign objects and damage	<i>Check all tread and sidewalls</i>
Check for brake pad wear	
Inspect Armour plate mountings underside	
Check fire extinguishers	<i>Check charge level on handheld and warning lamps on under bonnet systems.</i>
Inspect suspension and steering joints	
Check door catches, locks and hinges	<i>Central locking operation, gas struts,</i>
Seat belts	<i>Check for retraction rate, abrasion damage and catch operation</i>
Damage report	<i>External bodywork, underside and interior</i>
Abnormal engine, running gear or gearbox noises	
10 km road test	<i>Including - Engine performance and running, exhaust smoke, braking performance and pedal feel, engine running temperature, gear change and low range with diff locks, clutch operation, suspension and shock absorbers (tramping of wheels)</i>

Drivers log sheet

Drivers log sheet

Vehicle Asset number	DFID
----------------------	------

[illegible]

Comms equipment recording

Onboard Communications Equipment	
Name and date recorded	
Vehicle Asset #	
Vehicle Chassis #	
Make Model	
HF	
Make/Model	
RF serial	
Handset serial	
ATU serial	
VHF	
Make/Model	
Serial	
Codeplug (if Known)	
UHF	
Make/Model	
Serial	
Codeplug (if known)	
Sat comms	
Make/Model	
Transceiver serial	
Handset serial	
Antenna serial	
Voice number	
Wireless access code	
PIN	
ISN	
PIN Unblock Code	
PIN Unblock Code	
Sat comms	
Make/Model	
Transceiver serial	
Handset serial	
Antenna serial	
Voice number	
Wireless access code	
PIN	
ISN	
PIN Unblock Code	
PIN Unblock Code	
Tracking device	
Make/Model	
Serial	
Identification reference	



Job card

Job card
Kemble



Job Number		Model	
Date		Chassis number	
Asset number		Fuel	
Odometer		Issued by	

Task	Remarks	Initials	Hours
Total hours			

Notes for vehicle checks

Notes for Vehicle check sheets

Checks to be carried out on return from last trip
Report any addition of oil or fluids to the fleet manager
Report any faults found during field trips if considered detrimental



	Note
Oil	Check when the engine is warm, leave to stand for 5 mins, record if low and top up if necessary
Underneath	Look under the vehicle and around the engine, gearbox & axles. At this point look for loose vehicle parts or debris
Brake fluid	If this level drops by a noticeable amount it must be reported. DO NOT OVERFILL BRAKE FLUID! FOR 200 IGNITION OFF, PUMP BRAKE PEDAL 40 TIMES AND CHECK
Radiator	Check level in expansion tank. There should be no need to remove radiator cap
Brake fluid	Report if low, as this level maybe included within the brake fluid reservoir/container
Engine oil	Take note of hot and cold level markings on dip stick. Some models have clear tanks and no dipstick
Tyres	Visual inspection including spares; check actual tyre pressures weekly. Check tread depth and look for damage, tears, nails thorns etc
Brake lights	Include brake lights and number plate lights
Brakes	Depress brake pedal before moving, and report any differences in the feel of the brakes whilst driving
Washers	Check the washer bottle level, and wiper function
Water level	If below half - fill the tank or follow SOPs for field office, don't forget sub tank(105)
Emergency kit	Check that spare water, tools, jack, wheel brace, sand tracks or snow chains (if necessary), first aid kit and that any necessary paperwork is present
Communications	Carry out both HF, VHF radio checks. Sat comms phone check if applicable
Damage report	Check bodywork, glass, interior and tyres for damage and report any to fleet manager
Road test	Check for 'free play' in steering before moving off, with engine off and running. Check handbrake operation. Does the vehicle pull to one side? Is steering wheel aligned? If not steering gear maybe damaged. Under braking is the pedal firm with no excess travel? Does the vehicle pull to one side under braking on a level road? Listen for knocks or rattles on uneven ground.
Idle engine, gear or clutch noises	With bonnet open listen for 'harsh' noises or rattles

Report any concerns or faults to fleet manager, even if rectified.