

CHAPTER B

SPECIAL PROCESSES

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SPECIAL PROCESSES

SECTION BI — STORAGE

Preparation for Storage

The following recommendations are given for storage for periods of six months or longer. Success depends upon correct initial preparation, regular inspection and maintenance. The storage building should be dry, well ventilated and preferably heated.

Cars fitted with refrigeration: The refrigeration system requires no preparation and on no account should it be evacuated or discharged.

Engine and Chassis — preparation

1. Run the car for a sufficient mileage to warm-up the oil in the engine sump, gearbox and back axle.
2. Ensure that the cooling system contains the correct percentage (25 per cent) of anti-freeze mixture. Use only an anti-freeze conforming to British Standards Specification BS.3150 : 1959 (previously known as British Ministry of Supply Specification DTD 779) which is approved by Rolls-Royce Limited and Bentley Motors (1931) Limited. Only use an anti-freeze mixture marketed by a reputable manufacturer.
3. Jack up the car and support it on blocks placed under the lower triangle levers, in line with the coil springs at the front and under the centre of the rear springs. Drain the engine sump and the rear axle, re-fit the plugs and re-fill to the correct level with one of the approved **Anti-oxidant** oils. Attach a label in some conspicuous place on the car as a reminder that these operations have been carried out. Run the engine slowly, with a gear engaged, for a few minutes. Remove and discard the oil filter element. **Do not drain the oil** from the automatic gearbox, but top-up with the

recommended running oil and ensure that the gear range selector lever is in Neutral.

4. Drain the fuel tank and run the engine to empty the fuel system. Remove the covers from the float chambers of the carburetters, withdraw the floats and wipe out the chambers; re-fit the floats and covers. Remove the fuel pump filters, allow the pumps to drain, then re-fit the filters. Add two gallons of paraffin to the fuel tank, then switch on the ignition to operate the fuel pumps, thus filling the system with paraffin.
5. Ensure that the tyres are inflated to the normal pressures — do not over-inflate — then cover them to exclude all light.
6. When the engine is cold, remove the sparking plugs and inject into each cylinder two full tablespoons of anti-oxidant oil. Turn the engine, by means of the starter motor, to distribute the oil on the cylinder walls. Re-fit the sparking plugs and screw down lightly.
7. Liberally oil the rocker gear with anti-oxidant oil.
8. Ensure that the handbrake is in the 'off' position.
9. Remove and clean the battery. Top it up with distilled water and fully charge it at the normal rate recommended by the manufacturers.

Recommended Storage Lubricants

B.P.	...	...	...	Energol Protective Oil 20
Castrol	...	...	...	Castrol Storage Oil
Shell	...	...	...	Shell Ensis Oil 452
Mobil	...	...	...	Infilrex 109 SAE 30

Periodic Maintenance

1. Inspect the rubber connections of the cooling system, and if they are found to be unsound, renew them.
2. Maintain normal pressures in the tyres (do not over-inflate).
3. Every four to six weeks give the battery a freshening charge, continuing the charge until the specific gravity of the electrolyte has remained constant for about 10-12 hours on each occasion.

Body

1. Wash the body thoroughly and make good any paint blisters or rust patches to prevent further deterioration. Polish the paintwork using a good quality polish such as 'Lifeguard Car Wax'. In no circumstances use any polishing compound containing ammonia.
2. Thoroughly brush and clean all the carpets, upholstery and cushions. Spray them with D.D.T. or Aerosol and store them in a dry place. Treat the leather upholstery with an application of 'Connolly's Hide Food'.
3. If the place for storage is dry, leave the car windows slightly open. If there is any tendency to dampness, close the car doors and windows and place some form of anti-moisture preparation such as Silicagel bags inside the car.
4. Cover the car with a cotton dust sheet. Do not use a waterproof cover as this induces condensation which may blister the paintwork.

Periodic Maintenance

1. Re-polish the paintwork at regular intervals.
2. Regularly inspect the upholstery, carpets and cushions for moth damage and if necessary re-spray with D.D.T. or Aerosol.
3. Renew the anti-moisture preparation if necessary.

Re-commissioning after Storage

Cars fitted with refrigeration: The refrigeration system should be checked for efficient operation. If the car has been stored for a fairly long period it may be necessary to have the system topped-up with refrigerant before the car is put back into service.

Any loss of refrigerant will reduce the efficiency of the system and Service Department attention will be necessary.

Provided that the car has been stored in accordance with the recommended procedure, the following points only should require attention before re-commissioning for use on the road.

1. Check the tyre pressures and if necessary inflate to the correct pressures.
2. Fully charge the battery and re-fit it to the car.
3. Drain the engine sump and rear axle and re-fill to the correct level with the recommended oils. Prime the cylinders with engine oil. **Fit a new oil filter element.**
4. Clean the sparking plugs and re-set the gaps.
5. **S1 cars.** Check the tappet clearances.
6. **S2 cars.** Apply a few drops of oil through the hole in the contact breaker base plate to lubricate the distributor shaft bearings. Lightly smear the contact breaker operating cam with grease.

S1 cars. Re-charge the distributor shaft lubricator with grease and screw down the cap one or two turns. Apply one or two drops of engine oil to the cam lubricator felt pad.

S1 and S2 cars. Remove the rotor and apply two or three drops of engine oil to the felt wick to lubricate the automatic advance mechanism. Clean the contact breaker points and if necessary set the gaps. Apply one drop of engine oil to the pivot of each contact breaker rocker arm.

7. Drain the paraffin from the fuel tank. Disconnect the inlet pipes from the carburetters, switch on the ignition to operate the fuel pumps and pump out all the paraffin from the system. Remove all the covers from the float chambers of the carburetters, lift out the floats and mop out the paraffin, using a lint-free cloth. Re-fit the floats, float chamber covers and inlet pipes. Remove the fuel pump filters to drain the pumps and then re-fit them in position.
8. Check the generator brushes for freedom of movement in their holders and clean the commutator.
9. **S1 cars.** Check the level of the oil in the reservoir for the one-shot lubrication system. Pump the pedal and ensure that the oil reaches the

lubrication points. Grease the universal joints and sliding joint of the propeller shaft.

S2 cars. Lubricate all grease points.

10. **S1 cars** with manual steering, check the level of oil in the steering box.

S1 and S2 cars with power-assisted steering, check the level of oil in the pump reservoir.

S2 cars. Check the level of oil in the transfer steering box.

11. Check the level of oil in the shock dampers and level of fluid in the brake reservoirs.

12. Check the brakes and if necessary adjust them. Oil the jaws and pins of the brake linkage.

13. Fill the fuel tank and start the engine. Check the oil pressure and examine for fuel, oil and coolant leaks. Check the level of oil in the automatic gearbox.

14. Check the operation of all instruments, window lifts, lights and accessories.

SECTION B2 — SHIPMENT OVERSEAS

Preparation for Shipment Overseas

Short sea journey: It is unnecessary to drain the engine crankcase, gearbox and rear axle.

1. Drain all fuel from the tank and run the engine until the carburetters are dry.
2. Drain the coolant from the radiator, cylinder block and car heating system. Rotate all taps in the cooling system to the 'off' position. Operate the engine for 15 minutes, using a lead-free fuel, whilst passing a 100 per cent NaMBT (sodium mercaptobenzothiazole) corrosion inhibitor through the engine coolant passages.
3. Blank off the crankcase breather pipe.
4. Smear the exhaust system and all chassis parts liable to corrosion with 'Sozol' or a similar corrosion inhibitor.
5. Cover the radiator and all chromium parts with masking tape to prevent accidental damage.
6. Blank off the exhaust tail pipe.
7. Fit a fully charged battery in the cradle. Do not connect the battery leads to the terminals; the leads should be taped.
8. Tie a large warning label to the radiator, indicating that the coolant has been drained.

Long sea journey: 1. Do not drain the automatic gearbox, but top-up with the recommended oil to the correct level.

2. Drain all fuel from the tank and run the engine until the carburetters are dry.
3. Drain the coolant from the radiator, cylinder block and car heating system. Rotate all taps in the cooling system to the 'off' position. Operate the engine for 15 minutes, using a lead-free fuel, whilst passing a 100 per cent NaMBT (sodium mercaptobenzothiazole) corrosion inhibitor through the engine coolant passages.
4. Blank off the crankcase breather pipe.
5. Drain the oil from the engine sump.
6. Remove the sparking plugs and inject 10 c.c. of 'Intava' Inhibiting Oil into each cylinder. Turn the engine by means of the starter motor and re-fit the plugs.
7. Smear the exhaust system and all chassis parts liable to corrosion with 'Sozol' or a similar corrosion inhibitor.
8. Cover the radiator and all chromium parts with masking tape to prevent accidental damage.
9. Fit a new unfilled battery.
10. Blank off the exhaust tail pipe.
11. Tie a large warning label to the radiator and place a copy of the following instructions in a prominent position in the front of the car, or tied to the radiator.

Instructions with Car

All Rolls-Royce and Bentley cars are specially prepared for shipment before despatch

The oil has been drained from the engine of this chassis and a small quantity of anti-oxidant oil run into the working parts for protection purposes only. The quantity of oil is insufficient to permit the engine to be operated.

The automatic gearbox is filled to the correct level with the recommended running oil.

It will be necessary to re-fill the crankcase with the correct oil before operating the engine.

The rear axle is filled to the correct level with 'Castrol Hi-press S/C' oil and requires no attention. The cylinder bores have been treated with an inhibitor and do not require priming.

The battery is dry and requires filling with electrolyte and charging.

The protective covering must be removed from the engine breather, air silencer and exhaust pipe.

Fill the radiator with suitable coolant and ensure that the drain taps are properly closed.

S1 cars, radiator drain tap, cylinder block drain tap and heater drain tap.

S2 cars, radiator drain tap and two cylinder block drain taps.

Before starting the engine: Fill the engine sump with one of the recommended oils (see Chapter D of the Workshop Manual).

Starting the engine: Ensure that the gear range selector lever on the steering column is in Neutral, quadrant position 'N', also that the handbrake is on.

Before starting the engine, the accelerator pedal must be depressed to its full extent and then released fully.

This will allow the fast idle cam to position itself in relation to the engine temperature, and so set the throttle to the correct opening for starting.

Start the engine, lightly depress and then release the accelerator pedal. This will allow the fast idle cam to again reposition itself in relation to the engine temperature and set the throttle to produce a slightly lower engine speed.

Before taking the car on to the road, allow the engine to warm-up to its normal operating temperature, at which the engine will idle at the normal pre-set speed. During this procedure, an inspection should be made to ensure that there is no leakage from the fuel, oil or coolant systems.