



Enriching Lives

Service Bulletin

Technical Information

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Subject: Engine Preservation

Contents:

- General
- Preservation procedure
 - ❖ Internal corrosion protection
 - ❖ Exterior corrosion protection
- Recommended preservatives
- Storage and packing
- Commissioning of preserved engine

General:

New engines and gensets are protected against corrosion before being shipped from the factory. This preservation process eliminates the possibility of rust formation on internal components thereby reducing the chances of failure. The preservation which is carried out at our factory is good enough for 6 months.

Preservation procedure:

Internal corrosion protection

It is recommended to carry out the re-preservation procedure if gensets are in storage for more than 6 months.

1. Fuel System –

This includes the fuel injection pump, overflow valve, injectors, fuel filter, fuel pipes and fuel tank

Fill the fuel tank with a mixture of

- 90% high speed diesel
- 10% preservative oil SAE 15W40

2. Lubricating oil system –

This includes oil pan, lubricating oil pump, oil cooler, oil pressure valves, oil spray nozzles, oil filters and oil gallery, main bearings, connecting rod bearings and cam bush, tappets and tappet chambers, valve springs, rocker arm and lubrication oil lines.

Fill engine with preservation oil SAE 15W40

- ##### 3. Run the engine on 'NO LOAD' for 5 minutes, during this time the diesel in fuel pump gallery and high pressure pipes will be displaced by diesel + preservative oil mixture and lube oil system of engine.



Service Bulletin

4. Engine speed during above running –
 - In case of variable speed engine - 800 to 1000 rpm
 - In case of fixed speed engine - Rated speed at 'No' load. (Genset, Pump set etc.)
5. Close the air inlet manifold (for the air cleaner inlet) and crank the engine by starter for 5 to 10 seconds. (In case of purely hand start engine, it should be hand cranked using the decompression lever). This will ensure coating of Diesel + Preservative oil on the combustion chamber surfaces.
6. Drain preservative oil from oil sump, reinstall drain plugs.

External corrosion protection –

1. Treat all unpainted external ferrous metal parts with two coats of suitable rust preventer.
2. All vents i.e. engine inlet pipe, exhaust pipe, air cleaner inlet, crankcase breather etc. to be carefully sealed with water proof paper and water proof adhesive tape.
3. Loosen 'V belts tension
4. Battery for engine starting, if provided, should be disconnected and stored in a cool, dry place after ensuring the electrolyte level, refill with distilled water, if necessary. It is recommended to recharge the battery every 30 days.
5. Dipstick on engine to be sealed in place, with water proof adhesive tape.

NOTE:- DO NOT ROTATE CRANKSHAFT AFTER ABOVE MENTIONED OPERATIONS.

Recommended preservatives –

Name	Purpose	Product specifications/manufacturer
Diesel fuel	1. For filling the fuel system 90% diesel fuel	Diesel according to DIN EN 509 without adding fatty acid methyl ester
Preservation oil	1. For preserving lubricant oil system and combustion chamber 2. 10% added to diesel fuel for corrosion protection of the fuel system	Engine oil according to API CF 4,CF and FPI SG standard
Unpainted ferrous and metal parts	1. For corrosion protection of unpainted and metal parts	Rustilo DW904 or DW 901 Veedol rust stop IT

Storage and packing –

1. Tag engine to indicate that it has been treated with preservatives, and should not be turned over until ready to run, due to possible reduction of protective film. The tag should show the date of treatment and validity date.



Enriching Lives

Service Bulletin

2. It is preferable to wrap the engine in polyethylene bag and store in dry shade. Periodically inspect the engine for rust or corrosion and take corrective action if any.
3. If the engine is to be stored unused for more than 06 months, repeat the above procedure completely, after every 06 months.

Commissioning of Preserved Engine

The corrosion protection must be removed from the corrosion protected engine before starting.

1. Remove all the sealing tapes / papers from various openings.
2. Remove the Rust Preventive coating from those unpainted machined surfaces, which are interfacing surfaces for the driven equipment. This can be done using NC Thinner.
3. Fill the fuel tank and fuel system with the proper fuel.
4. Fill recommended grade of lube oil in the oil sump upto the 'Top' mark of the dipstick.
5. Readjust the V-belt tension after checking the condition of V-belt (s), replace, if necessary.
6. Reconnect a fully charged battery to recommended voltage and Amp-hr capacity ensuring correct polarity connection (where applicable).
7. Gently bar engine over by hand (do not use alternator fan assembly) for at least one engine revolution.
8. KIRLOSKAR recommends gensets/engine to be test run at each re-instatement period using the recommended fuel and water inhibitors. During the test it is recommended that the operator should check following points –
 - a. Check all gauge readings.
 - b. Check for oil, fuel or coolant leakage.

Please feel free to contact KIRLOSKAR SERVICE DEPT in case of any queries or more details required.