

Routine Maintenance. Refer to the following generator set service schedule, the engine service schedule, and the runtime hour display located on the generator set's ADC to determine when to schedule routine maintenance. Service more frequently generator sets that are subject to extreme weather or dusty or dirty conditions.

Service Schedule. Perform maintenance on each item in the service schedule at the designated intervals for the life of the generator set. For example, an item requiring service every 100 hours or 3 months also requires service after 200 hours or 6 months, 300 hours or 9 months, and so on.

x:sm:004:001

Service Log. Use the Operating Hour Service Log located in the back of this manual to document performed services.

3.2 Service Schedule

| Perform Service at Intervals Indicated (X) | Reference Section | Before Starting | After 50 Hr or 1 Month | Every 100 Hr or 3 Months | Every 300 Hr or 6 Months | Every 500 Hr or Yearly |
|---|-------------------|----------------------|---|--------------------------|--------------------------|------------------------|
| Fuel System | | | | | | |
| Check the fuel level and fill as necessary | 2.1 | X | | | | |
| Check fuel lines and replace as necessary *† | | | | | X | |
| Replace the fuel filter *† | | | | | | X |
| Lubrication System | | | | | | |
| Check crankcase oil level and add as necessary | 3.3.2 | X | | | | |
| Replace the oil in crankcase * | 3.3.4 | | X (20 hr break-in period) | X | | |
| Replace the lube oil filter element * | 3.3.5 | | X (20 hr break-in period) | X (200 hr) | | |
| Cooling System | | | | | | |
| Check coolant level and fill as necessary * | 3.7.1 | X | | | | |
| Check seawater outlet and clean as necessary † | 3.7.6 | X (during operation) | | | | |
| Check function of siphon break, if equipped | 3.7.4 | | | X | | |
| Replace seawater pump impeller *† | 3.7.3 | | | | X (check) | X |
| Check heat exchanger anticorrosion zinc condition * | 3.7.5 | | | X | | |
| Replace heat exchanger anticorrosion zinc * | 3.7.5 | | | | | X |
| Flush cooling system *† | 3.7.1 | | | | | X (400 hr) |
| Ignition System | | | | | | |
| Clean and regap spark plugs * | 3.8 | | | X | | |
| Replace spark plugs * | 3.8 | | | | X | |
| Intake/Exhaust System | | | | | | |
| Inspect exhaust system components *† | 3.6 | X | | | | |
| Check the exhaust gas condition | 3.6 | X (during operation) | | | | |
| Service backfire flame arrestor * | 3.5 | | | X | | |
| Check and/or replace the catalyst assembly *† | 3.6 | | | | | X |
| Replace the CO sensor module *† | | | | | | X (every 2 years) |
| Check the crankcase breather pipe for obstructions *† | | | | | X | |
| Inspect the complete exhaust system *** | 3.6 | | | | | X |
| Electrical System | | | | | | |
| Keep battery charged and in good condition ⊕ | 3.9 | X | | | | |
| Check and tighten electrical connections * | | | X | | | |
| Clean battery cables † | | | | X (200 hr) | | |
| * Requires removal of sound shield, if installed. | | | *** Should be performed by your local distributor/dealer. | | | |
| † Consult your local distributor/dealer for service. | | | ⊕ Consult battery manufacturer's instructions. | | | |
| ‡ Read WARNING found at the beginning of manual regarding moving parts. | | | | | | |

| Perform Service at Intervals Indicated (X) | Reference Section | Before Starting | After 50 Hr or 1 Month | Every 100 Hr or 3 Months | Every 300 Hr or 6 Months | Every 500 Hr or Yearly |
|---|-------------------|-----------------|---|--------------------------|--------------------------|------------------------|
| Engine And Mounting | | | | | | |
| Check for water, fuel, coolant, and oil leakage *†‡ | | X | | | | |
| Retighten all nuts and bolts * | | X | | | | |
| Check tightness of mounting bolts/vibromounts * | | | | X (200 hr) | | |
| Check and adjust valve clearance *† | | | | | X | |
| Clean combustion chamber *† | | | | | X | |
| Remote Control System | | | | | | |
| Check remote control operation | | | X (break-in period) | | | X |
| Generator | | | | | | |
| Test run generator set | | | X (weekly) | | | |
| Blow dust out of generator *† | 3.1 | | | | | X |
| Clean slip rings and inspect brushes *† | | | | | | X (1000 hr.) |
| * Requires removal of sound shield, if installed. | | | *** Should be performed by your local distributor/dealer. | | | |
| † Consult your local distributor/dealer for service. | | | ⊕ Consult battery manufacturer's instructions. | | | |
| ‡ Read WARNING found at the beginning of manual regarding moving parts. | | | | | | |

3.3 Lubrication System

3.3.1 Oil Specifications

Use oil that meets the American Petroleum Institute (API) classification of SC, SD, SE, SF, SG, or SH. Using unsuitable oil or neglecting an oil change may result in engine damage that is not covered by the engine warranty. Figure 3-1 shows the recommended Society of Automotive Engineers (SAE) viscosity designation for given operating temperature ranges.

Do not mix different oil brands. Incompatibility could cause a breakdown of lubricating ingredients and reduce engine protection.

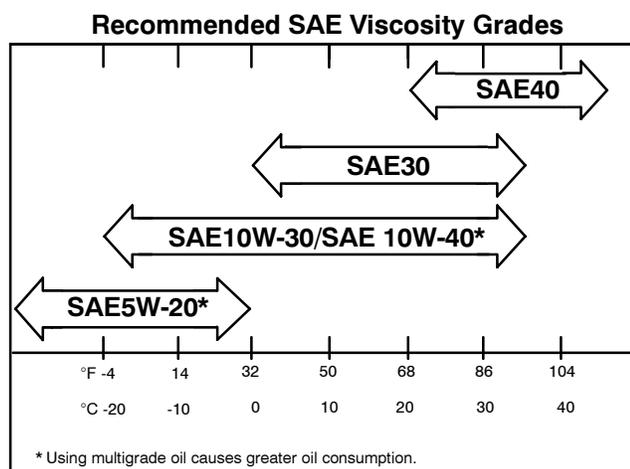


Figure 3-1 Engine Oil Selection

3.3.2 Oil Check

Check the oil level in the crankcase daily or before each start-up to ensure that the level is in the safe range. Do not check the oil level while operating the unit. Stop the generator set and keep the generator set level to get an accurate reading. To check the oil level, remove the dipstick and wipe the end clean, reinsert and remove. Maintain the oil level between the Full and Add marks on the dipstick, as shown in Figure 3-2. See Section 1, Service Views for the dipstick location.

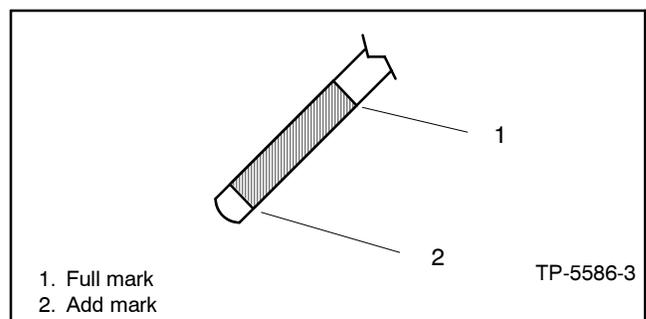


Figure 3-2 Oil Level Check

Note: Do not operate the set if the oil level is below the Add mark on the dipstick or above the Full mark on the dipstick.

3.3.3 Oil Additions

Adding some oil between oil changes is normal. The amount varies with generator set usage. Open the oil fill cap and pour in a small amount of oil using a funnel or other suitable pouring device. See Section 1, Service Views for the oil check and oil fill locations.

3.3.4 Oil Change

Change the oil according to the service schedule or before generator set storage. Change the oil more frequently if the generator set operates under dirty, dusty conditions. Change the oil while the engine is still warm. See Figure 3-3 for oil capacity. See Section 1, Service Views for oil fill, oil check, and oil filter locations.

| Model | L (Qt.) |
|------------|-------------|
| All models | 1.36 (1.44) |

Figure 3-3 Oil Capacity (with Filter)

Oil Change Procedure

1. Stop the generator set.
2. To drain the oil, open the oil-drain valve. See Section 1 for the valve location.
3. Drain the oil into a suitable container.
4. Allow ample time for all oil to drain.
5. Close the oil-drain valve.
6. Remove the oil-fill cap.
7. Replace the engine oil filter according to the service schedule and the procedure in Section 3.3.5.
8. Fill crankcase with oil. Section 1 shows the oil fill location. See Figure 3-1 for oil selection and Figure 3-3 for oil capacity. Replace the oil-fill cap.
9. Start the generator set and check for oil leaks.
10. Stop the generator set. Check the oil level. Add oil, as necessary, to bring the level up to the Full mark.

Note: Too high an oil level causes high oil consumption and engine carbonizing. Too low a level damages the engine.

Note: Do not pollute the environment. Dispose of used engine oil and other contaminants in a safe, approved manner.

3.3.5 Oil Filter Change

Replace the oil filter at the interval specified in the service schedule. Change the oil filter more frequently if the generator set operates under dirty, dusty conditions. Refer to the following procedure. See Section 1 for oil filter location.

Oil Filter Change Procedure

1. Loosen the oil filter by turning it counterclockwise. Remove the oil filter and use rags to clean up spilled oil. Dispose of the oil filter in an approved manner.
2. Clean the contact surface of the oil filter adapter.
3. Lightly lubricate the gasket surface of the new filter with fresh engine oil. Thread the filter on the adapter until the gasket makes contact and hand-tighten the filter an additional one-half turn. Wash hands after any contact with engine oil.
Note: If also performing an oil change, skip steps 4 and 5 and go back to oil change procedure.
4. Start the generator set and check for oil leaks.
5. Stop the generator set. Check oil level. Add oil, as necessary, to bring level up to Full mark.

3.4 Fuel System

3.4.1 Fuel Specifications

Use a clean, good-quality unleaded fuel with an octane number of 87. Use fresh gasoline to ensure it is blended for the season and to reduce the possibility of the formation of gum deposits that could clog the fuel system. Do not use gasoline left over from the previous season.

Kohler Co. recommends unleaded fuel because it leaves fewer combustion chamber deposits. Never mix oil with fuel.

Note: Consult the engine owner's manual for oxygenated fuel recommendations.