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<tr>
<td>Copy provided to:</td>
<td>Marshall K. Cheung, Ph.D.</td>
</tr>
<tr>
<td>Title:</td>
<td>Laboratory Director</td>
</tr>
<tr>
<td></td>
<td>29 Palms Laboratory</td>
</tr>
<tr>
<td></td>
<td>47-250 Dillon Road</td>
</tr>
<tr>
<td></td>
<td>Coachella, CA 92236</td>
</tr>
<tr>
<td>Copy provided by:</td>
<td>Alison Millar</td>
</tr>
<tr>
<td>Title:</td>
<td>Environmental Technician II</td>
</tr>
<tr>
<td>Date:</td>
<td>July 28, 2004</td>
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1. **Scope and Application**
   1.1. This Standard Operating Procedure (SOP) provides instruction for the use and maintenance of the Generac 4000 EXL portable generator.

2. **Summary of Method**
   2.1. Check oil level
   2.2. Check air filter
   2.3. Check gasoline level
   2.4. Position generator
   2.5. Start generator
   2.6. Operate generator safely
   2.7. Stop generator

3. **Equipment**
   3.1. Generac 4000 EXL portable generator
   3.2. Fuel funnel
   3.3. Sears 282015 Digital Multi-meter (volt-ohm meter)

4. **Supplies**
   4.1. Unleaded gasoline
   4.2. Either SAE 30 or SAE 10W-30 Motor oil

5. **Procedure**
   5.1. Check engine oil.
      5.1.1. Remove oil fill cap.
      5.1.2. Oil level should be at nearly overflow level and easily seen at the fill hole.
          5.1.2.1. If oil appears to be below this level, fill to over flowing with either SAE30 or SAE 10W-30 motor oil.
      5.1.3. Replace oil fill cap.
   5.2. Check air filter.
      5.2.1. Loosen two screws on air cleaner cover.
      5.2.2. Remove air filter cover.
      5.2.3. Remove both the air filter and the foam pre-filter from the air filter cover.
          5.2.3.1. If pre-filter is dirty, wash in soapy water being careful to not wring dry, but press dry between dry cloths.
          5.2.3.2. If paper filter is dirty, tap it gently on a solid surface to remove sand or dust.
          5.2.3.3. If steps 5.2.3.1 or 5.2.3.2 fail to adequately clean the filter, replace with new filter.
      5.2.4. Replace filters in air filter cover.
      5.2.5. Replace air filter cover and tighten screws.
   5.3. Check for adequate gasoline.
      5.3.1.1. Remove fuel tank cap.
      5.3.1.2. If fuel level cannot be seen at or near the top of the tank and the engine is cool, fill with unleaded gasoline using funnel and opening up air cap.
      5.3.1.3. Replace and tighten fuel tank cap.
5.4. Position generator where noise level and exhaust fumes will not endanger workers.
5.5. Start generator engine.
  5.5.1. Make sure the Idle Control Switch is in the “Off” position.
  5.5.2. Turn the Fuel Valve to the “on” (up/down) position.
  5.5.3. Set the Run/Stop switch to the “Run” position.
  5.5.4. Place the choke lever in the “Full” choke position.
  5.5.5. For electric starting, press start button for no more than 15 seconds to start engine.
    5.5.5.1. If engine starts, proceed to step 5.5.6.
    5.5.5.2. If engine fails to start, proceed to step 5.5.5.3.
  5.5.6. For manual start, grasp the recoil handle and pull slowly until slightly resistance is felt,
    then pull rapidly one time only to start engine.
    5.5.6.1. Move the choke lever to “Half” choke position and pull recoil handle twice.
    5.5.6.1.1. If engine fails to start, begin again at step 5.5.4.
  5.5.7. Move choke lever to “Run” position.
    5.5.7.1. If engine falters, move choke lever to the “Half” choke position until engine runs
    smoothly, and then back to the “Run” position.
5.6. For fuel efficiency, switch the Idle Control switch to the “On” position.
5.7. Do not exceed generator’s maximum continuous wattage load of 4,000 watts.
5.8. Use volt-ohm meter (VOM) to verify the 115 V outlet is supplying between 103 and 126 volts
    AC.
    5.8.1. Turn knob to 750 VAC.
    5.8.2. Take red and black plugs and insert into 115 V outlet.
    5.8.3. Read digital display and verity output.
    5.8.4. If output is not within range, do not use with Redi-flo Pump.
5.9. Stop generator engine.
    5.9.1. Unplug all electrical loads from generator panel receptacles.
    5.9.2. Put Idle Control switch in the “Off” position.
    5.9.3. Let engine run with no load for 30 seconds.
    5.9.4. Move Run/Stop switch to “Stop” position.
    5.9.5. Close the fuel shut-off valve.

6. Maintenance
6.1. Change oil after first 8 hours of operation.
6.2. Change oil after each additional 50 hours of operation.
6.3. Replace spark plug (RC12YC gapped at .030 in.) every 100 hours of operation.

7. Bibliography