Operation and Maintenance for a Diesel Generator
# Table of Contents

<table>
<thead>
<tr>
<th>Maintenance Service Time</th>
<th>Pg. 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspection</td>
<td>Pg. 4</td>
</tr>
<tr>
<td>Check oil level</td>
<td>Pg. 5-6</td>
</tr>
<tr>
<td>Check fuel level</td>
<td>Pg. 7-9</td>
</tr>
<tr>
<td>Starting the Generator</td>
<td>Pg. 9-11</td>
</tr>
<tr>
<td>Check Engine performance</td>
<td>Pg. 12</td>
</tr>
<tr>
<td>Change oil and filter</td>
<td>Pg. 12-13</td>
</tr>
</tbody>
</table>
Clean Oil, Clean Air, and Clear Fuel is Most Important

### Maintenance Service time

<table>
<thead>
<tr>
<th>Items</th>
<th>Daily</th>
<th>6 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspection</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Check oil level</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Check fuel level</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Change oil and filter</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
Daily Maintenance Schedule

Inspection

- **Exhaust system**
  - ✓ Check exhaust system including manifold, muffler, and exhaust pipe
  - ✓ Check for exhaust leaks at all connections (manifold, muffler, and exhaust pipe)
  - ✓ If leaks are found qualified technician should make repairs

- **Fuel system**
  - ✓ Inspect fuel supply lines, filters, and fitting for cracks or abrasions
  - ✓ Insure fuel lines are away from other objects
  - ✓ Fuel lines should be replaced if found cracked or damaged

- **Engine**
  - ✓ Check appearance for broken parts and fluid use
    - **Broken parts**
      - ➢ Plug
      - ➢ Pull string
      - ➢ Gas cap
      - ➢ Coolant cap
      - ➢ Oil cap
    - Replace broken or missing parts with new
Check Oil level

---Engine should be cool to check the oil level---

- After engine is cool
  
  ✓ Open the oil fill cap or pull out the oil dip stick

  ✓ Check the oil level shown on the dip stick
- Add oil to the generator if the oil level on the dip stick is low

- Put the oil fill cap or dip stick back on the generator
Check Fuel level

- Check the fuel gage to see if fuel needs to be added

LOW FUEL TANK  FULL FUEL TANK

- Remove the gas cap if fuel is low
✓ If fuel is low add fuel

✓ Try to keep fuel level above a quarter of a tank

✓ Do not overfill or spill fuel on the ground

• Replace fuel cap after filling the tank

• Fuel in tank longer than six months should be drained and replaced with new
• Turn the fuel line on

**After Daily Maintenance Schedule Is Checked Generator can be prepared to start**

**Starting the Generator**

• Turn all breakers off to the Orphanage or Well pump

• Unplug any electrical cords from the generator
• Start the generator
  ✓ Electric start
  ▪ Make sure battery leads are connected and secure
  ▪ Push the start button
• Manual start
  ✅ Pull the pull string until the generator starts

• Plug the generator cord into the generator outlet and the Orphanage outlet

• Turn the breakers to the Orphanage on one at a time and slowly
Weekly Maintenance Schedule

Check Engine performance

- Listen and look for changes in engine performance
  - Sound
    - Unusual loud noise
    - Rough idling
  - Exhaust smoke
    - Color
      - Black—running roughly or at initial start up
      - White—running roughly or at initial start up
      - Both color should go away after a few minutes
  - Watch for Increase in oil use (consistent low oil level)
  - Watch for Increase in fuel use (filling the tank more often)
  - An increase in use of fuel or oil may indicate a need for repair

Six Month Maintenance Schedule

Change oil and filter ---Generator should be off and cool to the touch---

---Dispose of used oil properly---

- Once engine is cool
  - Place large enough container under the oil drain plug to catch all oil in the generator
  - Loosen oil drain plug and drain oil
  - Place another container under the oil filter
  - Loosen the oil filter and remove
  - Install and tighten the new oil filter
✓ Tighten the oil drain plug
✓ Open the Oil cap
✓ Fill the generator will proper amount of oil
✓ Close the Oil cap

• Dispose of the used oil properly