For technical support and parts, contact your Regional Master Parts Distributor toll-free at 1-877-HWTECHS (498-3247) or visit www.honeywellgenerators.com.
1: IMPORTANT SAFETY INSTRUCTIONS

WARNING

ANYONE using or servicing this generator must read, understand, and follow all safety and operation instructions provided in the product manual. Failure to closely follow these instructions can result in circumstances leading to death, serious injury, and property damage.

NOTE:
Since there are many variations in the circumstances surrounding the installation, operation, service, and maintenance of this generator, we cannot possibly anticipate or provide advice or safety messages to cover every situation.

1.1 SAFETY MESSAGES

Signal Words
Safety messages are provided throughout this manual to help prevent personal injury and equipment damage. All safety messages are introduced by a signal word indicating the hazard level.

**DANGER**
Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or to bystanders.

**WARNING**
Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders.

**CAUTION**
Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury to the operator or to bystanders.

**NOTICE**
Indicates a situation which, if not avoided, may result in damage to the generator components.

Hazard Symbols and Meanings
In addition to the signal words, the following symbols may be used to draw your attention to specific types of hazards.

- **Explosion**
- **Toxic fumes**
- **Fire**
- **Chemical burn**
- **Electrical shock**
- **Hot surface**

**WARNING**
Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury to the operator or to bystanders.

**CAUTION**
Indicates a situation which, if not avoided, may result in damage to the generator components.

**DANGER**
Using a generator indoors CAN KILL YOU IN MINUTES. Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.

**NOTICE**

SAFETY PRECAUTIONS
- Wear appropriate protective safety equipment, such as safety shoes and safety glasses.
- Comply with the warnings in this manual and take special precautions when working around electrical equipment.
- NEVER wear loose or damp clothing that might get caught in equipment or conduct electricity.
- Keep service area organized and free of unnecessary clutter to reduce hazard potential.
- Keep guards and shields in place on machinery and maintain equipment in good working condition.
- Store flammable liquids in approved containers and away from fire, flame, spark, pilot light, switches, arc-producing equipment and other ignition sources.
- Use the correct tool for the job and check its condition before starting.
- Keep fire extinguishers and safety equipment nearby.
### Electric Shock Hazards

**WARNING**

- Generators produce powerful voltage that can cause death or great physical harm.
- Notify the utility company when using generator for backup power. Use approved transfer equipment to isolate generator from electric utility.
- NEVER connect to a building’s electrical system unless a transfer switch has been installed by a qualified electrician.
- NEVER touch bare wires or receptacles.
- NEVER use generator with electrical cords that are worn, frayed, bare, or otherwise damaged.
- NEVER operate generator in rain or snow, or when the generator is set on wet surface.
- Generator repairs should only be performed by a trained service technician.
- Keep the generator out of reach of children, pets, and untrained people.
- Exposed terminals, even on disconnected batteries, can cause electric shock.
- NEVER touch both battery terminals with bare hands at the same time.
- Remove rings, watches or any other object containing metal when working with battery. If metal comes into contact with battery terminals, electric shock and serious burns can result.
- Only use insulated/non-conducting tools when working with or near battery.
- NEVER lay tools or other metal objects on top of battery.

### Fire and Burn Hazards

**WARNING**

- Fuel and its vapors are extremely flammable and explosive under certain conditions.
- Refuel generator only outdoors, in a well-ventilated area.
- NEVER enclose the generator in any structure.
- Keep generator at least 6 feet (2 meters) away from buildings, other equipment, and combustible materials during operation.
- NEVER fill fuel tank while the engine is running. Turn generator OFF and allow to cool before filling with fuel.
- NEVER smoke or allow flames or sparks near the generator or where gasoline is stored.
- NEVER overfill the fuel tank (there should be no fuel in the filler neck). After refueling, tighten the fuel cap securely.
- Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, the area must be dry before starting the engine.
- Avoid repeated or prolonged contact with skin or breathing of vapor.

### Medical and Life Support Uses

**WARNING**

- In case of emergency, call 911 immediately.
- NEVER use this product to power life support devices or life support appliances.
- NEVER use this product to power medical devices or medical appliances.
- Inform your electricity provider immediately if you or anyone in your household depends on electrical equipment to live.
- Inform your electrical provider immediately if a loss of power would cause you or anyone in your household to experience a medical emergency.

### Generator Damage Hazards

**NOTICE**

- Improper treatment or misuse of generator can cause permanent damage.
- Damage to generator caused by misuse or modification is not covered under warranty.

### California Proposition 65

**WARNING**

- The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.
2: WARRANTIES

NORTHSORE POWER SYSTEMS
CONSUMER LIMITED WARRANTY

Honeywell Portable Generator

LIMITED WARRANTY

Northshore Power Systems, LLC, will repair or replace, free of charge, to the original retail customer, in North America, any parts of the portable generator found by Northshore Power Systems or an authorized service center to be defective in material or workmanship. This limited warranty covers the cost of the replacement parts and labor for defects. Transportation charges are the responsibility of the customer. This limited warranty has time period conditions, operating conditions and disclaimers, limitations of remedies & exclusions as stated below. For warranty service, customer should locate an authorized Honeywell Generator Dealer from www.honeywellgenerators.com or by calling 1-888-HWHELP1 (494-3571).

LIMITED WARRANTY PERIODS

Consumer Use: 3 Years Limited. 1st year, parts and labor. 2nd & 3rd years, parts only.
Commercial Use: 1 Year Limited. No warranty for rental use.
Commencement and Definitions. The limited warranty period begins on the date of retail purchase by the original purchaser. The limited warranty is not transferable. "Consumer use" is personal use by a retail customer. "Commercial use" is any usage for income producing, business related use.

No Extension of Warranty. Repair or replacement pursuant to this limited warranty shall not renew or extend the original warranty period, and any repaired product shall be warranted for the remaining original warranty period only.

DISCLAIMERS, LIMITATIONS OF REMEDIES & EXCLUSIONS

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

MEDICAL AND LIFE SUPPORT USES. This warranty excludes any use of this product intended to power life support devices, life support appliances, medical devices, or medical appliances.

DISCLAIMER OF OTHER WARRANTIES. TO THE FULL-cest extent permitted by applicable law, this limited warranty is exclusive and expressly in lieu of any and all other warranties, including, without limitation, any implied warranties of merchantability or fitness for a particular purpose or any other implied warranties that may arise from a course of dealing or usage of trade. NORTHSHORE POWER SYSTEMS HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES. To the extent that Northshore Power Systems's products are consumer products under applicable federal or state law with respect to any customer, the duration of any implied warranties (including, but not limited to, implied warranties of merchantability or fitness for a particular purpose) are limited to the shortest duration permitted by applicable law or the limited warranty period provided herein, whichever is longer.

LIMITATIONS OF REMEDIES. NORTHSHORE POWER SYSTEMS SHALL NOT BE LIABLE TO CUSTOMER, OR TO ANYONE CLAIMING UNDER CUSTOMER, FOR ANY OTHER OBLIGATIONS OR LIABILITIES, INCLUDING, BUT NOT LIMITED TO, OBLIGATIONS OR LIABILITIES ARISING OUT OF BREACH OF CONTRACT OR WARRANTY, NEGLIGENCE OR OTHER TORT OR ANY THEORY OF STRICT LIABILITY, WITH RESPECT TO THE GENERATOR OR NORTHSHORE POWER SYSTEMS'S ACTS OR OMISSIONS OR OTHERWISE. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, NORTHSHORE POWER SYSTEMS SHALL NOT, IN ANY EVENT, BE LIABLE FOR INCIDENTAL, COMPENSATORY, PUNITIVE, CONSEQUENTIAL, INDIRECT, SPECIAL OR OTHER DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF USE, LOSS OF INCOME, LOSS OF TIME, LOSS OF SALES, INJURY TO PERSONAL PROPERTY, OR LIABILITY CUSTOMER INCURS WITH RESPECT TO ANY OTHER PERSON, OR ANY OTHER TYPE OR FORM OF CONSEQUENTIAL DAMAGE OR ECONOMIC LOSS.

EXCLUSIONS. In addition to the foregoing disclaimers, limitations and terms, this limited warranty shall not apply to and does not cover accessories, nor does it cover products that are in any way subjected to: (i) improper setup, installation or storage; (ii) lack of proper maintenance and service; (iii) accident, damage, abuse or misuse; (iv) abnormal operating conditions or applications; (v) repair or modification by customer or any third party without prior written consent of Northshore Power Systems; (vi) use under operating conditions or in applications not made known to or contemplated by Northshore Power Systems; or (vii) acts of God. The application of these exclusions will be determined at Northshore Power Systems's sole discretion.

REGISTRATION

Warranty registration with the Company is required on all products. You may send in the enclosed Product Registration, or register your product on-line at www.honeywellgenerators.com.

Warranty is also available by keeping and showing your original receipt from date of purchase to an authorized Honeywell Generator Dealer.

GENERATOR SERVICE

Do not return your generator to place of purchase for service. For all customer service inquiries, call 1-888-HWHELP1 (494-3571) or visit www.honeywellgenerators.com.

Warranty inquiries can be addressed to:
Northshore Power Systems, LLC
Attention: Service and Warranty Dept.
4425 N. Port Washington Road
Suite 105
Milwaukee, WI 53212-1082
NORTHSORE POWER SYSTEMS
EMISSIONS CONTROL WARRANTY
Honeywell Portable Generator

WARRANTY STATEMENT
The U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) require manufacturers of small off-road engines (SORE) to warranty their products with a 2-year warranty for those components that are specified as being part of the emission control system. Northshore Power Systems, LLC, CARB, and EPA offer the following explanation of the Emission Control Warranty.

In the United States and California, new small off-road engines must be designed, built, and equipped to meet stringent anti-smog standards. Northshore Power Systems must warrant the emission control system on your 2010 small off-road engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine. The emissions warranty is a defects warranty and is not related to an in-use emissions test.

Your emission control system may include parts such as the carburetor or fuel injection system, the ignition system, and the catalytic converter. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, Northshore Power Systems will repair your small off-road engine at no cost to you, including diagnosis, parts, and labor.

COVERAGE
Emissions control parts on the engine are warranted for a period of two years, subject to provisions set below. If any covered part on your engine is defective, the part will be repaired or replaced by Northshore Power Systems.

OWNER’S RESPONSIBILITIES
You are responsible to maintain the engine as defined in your Honeywell Generator Owner's Manual. Northshore Power Systems recommends that you retain all records/receipts covering maintenance on your engine, but Northshore Power Systems cannot deny warranty claims based on the lack of receipts or for your failure to perform all scheduled maintenance. You may be denied warranty coverage if a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible to bring your portable generator to an authorized Northshore Power Systems Honeywell generator dealer for repairs as soon as a problem exists. Do not return your generator to place of purchase for service. For emissions warranty service, contact your nearest dealer; a listing is available at www.honeywellgenerators.com or by calling 1-877-HWTECHS (498-3247).

EMISSIONS CONTROL SYSTEMS PARTS
Coverage under this warranty extends only to the emissions control parts listed below.

1. Fuel Metering System
   A. Carburetor gaskets
   B. Choke system
   C. Clamps
   D. Fuel filter (if equipped) and screen
   E. Fuel line, control valve, and fittings
   F. Fuel pump (if equipped)
   G. Gasoline carburetor and internal components (if equipped)

2. Air Induction System
   A. Air cleaner
   B. Intake manifold
   C. Vent lines

3. Ignition System
   A. Ignition coil
   B. Spark plug

4. Exhaust System
   A. Catalytic converter (if equipped)
   B. Exhaust manifold
   C. Muffler gasket

5. Crankcase Breather Assembly
   A. Breather connection tube

6. Air Injection System
   A. Pulse valve

7. Fuel Tank Evaporative Emissions Control System
   A. Carbon canister and mounting brackets
   B. Fuel cap
   C. Fuel tank
   D. Purge valves

8. Miscellaneous Items used in above systems
   A. Hoses, belts, connectors, valves, and assemblies
   B. Switches

WARRANTY PROVISIONS
1. Claims. Warranty claims shall be filed in accordance with provisions of the Northshore Power Systems warranty and policies established with the authorized dealer network.

2. Exclusions. Warranty coverage shall be denied for failure of an emissions control part caused by abuse, neglect, improper maintenance as described in the Honeywell Generator Owner's Manual, use of add-on parts, modified parts, or parts that are not equivalent to original Honeywell generator parts in performance and durability.

3. Length of Coverage. Northshore Power Systems warrants to the original retail purchaser and each subsequent owner that the emissions control part shall be free from defects in materials and workmanship for a period of two years from the date the generator is delivered to the original retail customer.
4. **Repair or Replacement Cost.** Repair or Replacement Cost. Repair or replacement of any emissions control part will be performed at no charge to the owner, including diagnostic labor which leads to the determination that an emissions control part is defective, if the diagnostic work is performed at an authorized Northshore Power Systems Honeywell generator dealer.

5. **Consequential Coverage.** Coverage noted hereunder will extend to the failure of any engine components caused by the failure of any emissions control part still under warranty.

6. **Maintenance.** The emissions control parts are warranted only for defects during the warranty period. The warranty does not cover an emission control part that is replaced or repaired as required by the maintenance schedule defined in the Honeywell Generator Owner's Manual. Any replacement part that is equivalent in performance and durability may be used for maintenance or repairs.

**QUESTIONS**

If you have questions regarding your emissions warranty rights and responsibilities, you should contact the Service and Warranty Department at Northshore Power Systems.

By phone: 1-877-HWTECHS (498-3247)
By email: service@nspsystems.com
By US mail:
Northshore Power Systems, LLC
Attention: Service and Warranty Dept.
4425 N. Port Washington Road
Suite 105
Milwaukee, WI 53212-1082
WARRANTIES

NORTHSHORE POWER SYSTEMS REPLACEMENT PARTS LIMITED WARRANTY

Honeywell Portable Generator

For a period of 90 days from the date of sale or installation of a Northshore Power Systems, LLC supplied part, Northshore Power Systems will, at its option and sole discretion, repair or replace the part if it is found to be defective in material or workmanship after inspection by Northshore Power Systems.

Any parts which the buyer claims to be defective must be examined by the nearest Authorized Northshore Power Systems Warranty Service Facility. All shipping costs under this limited warranty are to be borne and prepaid by the buyer.

DISCLAIMERS, LIMITATIONS OF REMEDIES & EXCLUSIONS

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

DISCLAIMER OF OTHER WARRANTIES. TO THE FULL-EST EXTENT PERMITTED BY APPLICABLE LAW, THIS LIMITED WARRANTY IS EXCLUSIVE AND EXPRESSLY IN LIEU OF ANY AND ALL OTHER WARRANTIES, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER IMPLIED WARRANTIES THAT MAY ARISE FROM A COURSE OF DEALING OR USAGE OF TRADE. NORTHSHORE POWER SYSTEMS HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES. To the extent that Northshore Power Systems's products are consumer products under applicable federal or state law with respect to any customer, the duration of any implied warranties (including, but not limited to, implied warranties of merchantability or fitness for a particular purpose) are limited to the shortest duration permitted by applicable law or the limited warranty period provided herein, whichever is longer.

LIMITATIONS OF REMEDIES. NORTHSHORE POWER SYSTEMS SHALL NOT BE LIABLE TO CUSTOMER, OR TO ANYONE CLAIMING UNDER CUSTOMER, FOR ANY OTHER OBLIGATIONS OR LIABILITIES, INCLUDING, BUT NOT LIMITED TO, OBLIGATIONS OR LIABILITIES ARISING OUT OF BREACH OF CONTRACT OR WARRANTY, NEGLIGENCE OR OTHER TORT OR ANY THEORY OF STRICT LIABILITY, WITH RESPECT TO THE GENERATOR OR NORTHSHORE POWER SYSTEMS’S ACTS OR OMISSIONS OR OTHERWISE. TO THE FULL-EST EXTENT PERMITTED BY APPLICABLE LAW, NORTHSHORE POWER SYSTEMS SHALL NOT, IN ANY EVENT, BE LIABLE FOR INCIDENTAL, COMPENSATORY, PUNITIVE, CONSEQUENTIAL, INDIRECT, SPECIAL OR OTHER DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF USE, LOSS OF INCOME, LOSS OF TIME, LOSS OF SALES, INJURY TO PERSONAL PROPERTY, OR LIABILITY CUSTOMER INCURS WITH RESPECT TO ANY OTHER PERSON, OR ANY OTHER TYPE OR FORM OF CONSEQUENTIAL DAMAGE OR ECONOMIC LOSS.

EXCLUSIONS. In addition to the foregoing disclaimers, limitations and terms, this limited warranty shall not apply to and does not cover products that are in any way subjected to: (i) improper setup, installation or storage; (ii) lack of proper maintenance and service; (iii) accident, damage, abuse or misuse; (iv) abnormal operating conditions or applications; (v) repair or modification by customer or any third party without prior written consent of Northshore Power Systems; (vi) use under operating conditions or in applications not made known to or contemplated by Northshore Power Systems; or (vii) acts of God. The application of these exclusions will be determined at Northshore Power Systems’s sole discretion.

NORTHSHORE POWER SYSTEMS PARTS LIMITED WARRANTY CLAIMS PROCEDURES

DEFECTIVE NEW PARTS. Parts which are defective from new stock, or immediately upon installation must be filed under limited warranty. The defective part must be returned to Northshore Power Systems’s Service and Warranty Department under the following procedure:

1. Fill out a Warranty Claim Form listing the part number and write “New Defective” in the description.

2. List invoice number that the part was purchased on and/or provide receipt.

NOTE: Freight damaged parts are not valid as warranty claims.

FAILURE WITHIN 90 DAYS. Parts which have been installed and have failed within 90 days will be handled by the Northshore Power Systems Service and Warranty Department. A Warranty Claim Form must accompany each part for which coverage under the limited warranty is sought. Claims will not be processed without the model and serial numbers of the unit and the purchase and failure dates for the part. Attach a copy of the original proof-of-purchase (for the part) to the Warranty Claim Form.

WARRANTY CLAIMS

For all customer service inquiries, call 1-877-HWTECHS (498-3247) or visit www.honeywellgenerators.com.

Warranty claim forms and inquiries can be addressed to:
Northshore Power Systems, LLC
Attention: Service and Warranty Dept.
4425 N. Port Washington Road
Suite 105
Milwaukee, WI 53212-1082
3: SPECIFICATIONS AND WIRING DIAGRAMS

3.1 SPECIFICATIONS

<table>
<thead>
<tr>
<th>GENERATOR</th>
<th>HW3000</th>
<th>HW4000</th>
<th>HW5500</th>
<th>HW5500E</th>
<th>HW62000</th>
<th>HW7000E</th>
<th>HW75000E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HW3000L</td>
<td>HW4000L</td>
<td>HW5500L</td>
<td>HW5500EL</td>
<td>HW5500L</td>
<td>HW5500EL</td>
<td>HW5500EL</td>
</tr>
</tbody>
</table>

**POWER**

- **Rated [watts]** (+/-10% under load)
  - HW3000: 3000
  - HW4000: 4000
  - HW5500: 5500
  - HW6200: 6200
  - HW7000: 7000
  - HW7500: 7500

- **Maximum [watts]** (+/-10% under load)
  - HW3000: 3750
  - HW4000: 5000
  - HW5500: 6875
  - HW6200: 7750
  - HW7000: 8750
  - HW7500: 9375

- **Frequency [hertz]** (+/-5% under load)
  - HW3000: 60

- **Voltage [volts]** (+/-5% under load)
  - HW3000: 120
  - HW4000: 120 / 240
  - HW5500: 120 / 240
  - HW6200: 120 / 240
  - HW7000: 120 / 240
  - HW7500: 120 / 240

**OPERATING TEMPERATURE**

- **Maximum [F / C]** 104° / 40°
- **Minimum [F / C]** 14° / -10°

**ENGINE**

- **Speed [rpm]** 3600
- **Type** OHV 4-cycle
- **Displacement [cc]** 196 242 337 389 420 420
- **Valve Lash [in /mm]** IN: 0.005±0.001 / 0.125±0.025
  EX: 0.007±0.001 / 0.175±0.025
- **Fuel** 87 or higher unleaded
- **Fuel Tank Capacity [gal / L]** 
  (Non-L Models) 4.2 / 16 6.5 / 24.6 6.5 / 24.6 6.5 / 24.6 6.6 / 25 6.5 / 24.6
  (Model Numbers Ending in "L") 3.2 / 12 6.5 / 24.6 6.5 / 24.6 6.5 / 24.6 6.1 / 23 6.5 / 24.6
- **Engine Oil** SAE 10W-30°
- **Engine Oil Capacity [qt / L]** 
  (Non-L Models) 0.6 / 0.6 1.2 / 1.1 1.2 / 1.1 1.2 / 1.1 1.2 / 1.1 1.2 / 1.1
  (Model Numbers Ending in "L") 102557A† 100842A† 100842A† 100842A† 100842A† 100842A†
- **Spark Plug Gap [in /mm]** 0.028-0.031 / 0.7-0.8
- **Air Filter** (Non-L Models) 102555A 100833A 100833A 100833A 100833A 100833A
  (Model Numbers Ending in "L") 102556A 101865A 101865A 101865A 101865A 101865A
- **Battery** (Electric Start Models Only) 101536A 101536A 101536A 101536A 101536A

TABLE 3-1: Honeywell Portable Generator Specifications

* See ENGINE OIL RECOMMENDATIONS, page 7-3 for other engine oil types outside general temperature use.
† See SPARK PLUG SERVICE, page 7-5 for other recommended spark plug replacements.
## 3.2 BOLT AND FASTENER TORQUE INFORMATION

<table>
<thead>
<tr>
<th>Component-Specific Fastener</th>
<th>Fastener Size</th>
<th>Torque Values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N•m</td>
<td>lb. ft.</td>
</tr>
<tr>
<td>Alternator End Cover Bolts</td>
<td>M5 x 0.75 x 12</td>
<td>4</td>
</tr>
<tr>
<td>Alternator Housing Bolts</td>
<td>M10 x 1.25 x 80</td>
<td>48</td>
</tr>
<tr>
<td>Axle Bracket Bolts</td>
<td>M8 x 1.0 x 16</td>
<td>25</td>
</tr>
<tr>
<td>Brush Assembly Bolt</td>
<td>M5 x 0.75 x 16</td>
<td>2</td>
</tr>
<tr>
<td>Carbon Canister Bracket Bolts</td>
<td>M6 x 1.0 x 10</td>
<td>2</td>
</tr>
<tr>
<td>Connecting Rod Bolts</td>
<td>M8 x 1.25</td>
<td>15</td>
</tr>
<tr>
<td>Control Panel Bolts</td>
<td>M6 x 1.0 x 15</td>
<td>4</td>
</tr>
<tr>
<td>Cooling Fan Flange Nut</td>
<td>M18 x 1.5</td>
<td>105</td>
</tr>
<tr>
<td>Crankcase Cover Bolts</td>
<td>M8 x 1.25 x 40</td>
<td>28</td>
</tr>
<tr>
<td>Cylinder Head Bolts</td>
<td>M10 x 1.25 x 80</td>
<td>48</td>
</tr>
<tr>
<td>Exhaust Pipe Bolts</td>
<td>M8 x 32</td>
<td>18</td>
</tr>
<tr>
<td>Fuel Shut-off Valve Hex Fitting</td>
<td>M10 x 1.25</td>
<td>24</td>
</tr>
<tr>
<td>Fuel Tank Mounting Bolts</td>
<td>M6 x 1.0 x 25</td>
<td>10</td>
</tr>
<tr>
<td>Ignition Coil Bolts</td>
<td>M6 x 1.0 x 25</td>
<td>10</td>
</tr>
<tr>
<td>Muffler Cover Bolts</td>
<td>M6 x 1.0 x 14</td>
<td>4</td>
</tr>
<tr>
<td>Muffler Rear Mounting Bracket Bolts</td>
<td>M8 x 1.0 x 16</td>
<td>18</td>
</tr>
<tr>
<td>Muffler Side Guard Bolts</td>
<td>M6 x 1.0 x 14</td>
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</tr>
<tr>
<td>Oil Drain Screw</td>
<td>M12 x 1.5</td>
<td>32</td>
</tr>
<tr>
<td>Pivot Adjusting Nuts</td>
<td>M6 x 0.75</td>
<td>12</td>
</tr>
<tr>
<td>Pivot Bolts</td>
<td>M8 x 1.25</td>
<td>30</td>
</tr>
<tr>
<td>Rotor Bolt</td>
<td>--</td>
<td>48</td>
</tr>
<tr>
<td>Spark Arrestor Clamp Screw</td>
<td>M4 x 0.75 x 16</td>
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</tr>
<tr>
<td>Spark Arrestor Screw</td>
<td>M3.5 x 0.75 x 10</td>
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</tr>
<tr>
<td>Spark Plug</td>
<td>13/16”</td>
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</tr>
<tr>
<td>Starter Solenoid Terminal Nut</td>
<td>M6 x 1.0</td>
<td>6</td>
</tr>
<tr>
<td>Support Leg to Frame Bolts</td>
<td>M8 x 1.0 x 16</td>
<td>25</td>
</tr>
<tr>
<td>Support Leg to Rubber Stopper Bolts</td>
<td>M8 x 1.0 x 25</td>
<td>25</td>
</tr>
<tr>
<td>Wheel Handle Pivot Bracket Bolts</td>
<td>M6 x 1.0 x 40</td>
<td>10</td>
</tr>
</tbody>
</table>

**TABLE 3-3:** Torque Values
3.3 WIRING DIAGRAMS

HW3000 & HW3000L

FIGURE 3-1: HW3000 & HW3000L Wiring Diagram

NOTE: Alternator is mechanically connected to the engine block, providing a ground connection between the engine block and the alternator frame.

*15 Amp Breaker will be on the left side when looking at the control panel front; 10 Amp Breaker will be on the right side.
FIGURE 3-2: HW4000 & HW4000L Wiring Diagram

NOTE: Alternator is mechanically connected to the engine block providing ground connection between the engine block and the alternator frame.
FIGURE 3-3: HW5500 & HW5500L Wiring Diagram

NOTE: Alternator is mechanically connected to the engine block providing ground connection between the engine block and the alternator frame.

- **Yellow (Y)**
- **Green (G)**
- **White (W)**
- **Black (Bl)**
- **Blue (Bu)**
- **Brown (Br)**
- **Light Green (Lg)**
- **Red (R)**
- **Yellow/Green (Y/G)**
FIGURE 3-4: HW5500E & HW5500EL Wiring Diagram

NOTE: The alternator is mechanically connected to the engine block providing ground connection between the engine block and the alternator frame.
FIGURE 3-5: HW6200 & HW6200L Wiring Diagram

NOTE: Alternator is mechanically connected to the engine block and the exciter winding is connected to the engine block.
FIGURE 3-6: HW7000E, HW7000EL, HW7500E & HW7500EL Wiring Diagram

- **ALTERNATOR**
- **CONTROL PANEL**
- **ENGINE**
- **ON/OFF SWITCH PANEL**
- **GROUND TERMINAL**
- **ENGINE BLOCK**
- **DUPLEX 5-20R**
- **SINGLE POLE THERMAL AC BREAKER 120V 20A**
- **FUSE**
- **DUAL POLE MAGNETIC AC BREAKER 240V 30A**
- **30A AUTO PROTECTOR**
- **120 VAC**
- **Twist-Lock L14-30R**
- **5A FUSE**
- **FIELD WINDING**
- **MAIN WINDING**
- **EXCITER WINDING**
- **AVR**
- **NOTE:** Alternator is mechanically connected to the engine block providing ground connection between the engine block and the alternator frame.

*When looking at the control panel front*
4: COMPONENTS

A—Power Control Center

Electrical Outlets
- 125VAC 20 Amp Duplex (NEMA 5-20R) outlets to connect 120V appliances to generator for power.
- 125/250VAC 30 Amp Twist-Lock (NEMA L14-30R) outlet (on select models) can be used to power appliances using appropriate (NEMA L14-30P) power cord (with select models) or connect a transfer switch (not included) to a building’s main electrical system for backup power.

Breakers
Protects circuits from damage caused by overload or short-circuit by stopping the flow of electricity from the generator to the appliance. Master circuit breaker controls power to all outlets. If there is no power at outlets, see TROUBLESHOOTING, page 8-1.

HW3000 / HW3000L models only:
- 15-amp circuit breaker (left outlet)
- 10-amp circuit breaker (right outlet)

Ground Terminal
Connects generator to ground wire for grounding protection.

E—Engine Control Switch
Control used to start and stop the engine ignition system.
- START—Starts generator engine (electric start models)
- RUN—Prepares engine to start (manual start models); Indicates engine is currently running (electric start models)
- STOP—Stops generator engine by inhibiting ignition

F—Fuel Shut-off Valve
Controls flow of fuel from fuel tank to carburetor.

G—Recoil Starter Handle
Provides means to manually start engine, if needed.

H—Air Cleaner Assembly
Removes dust from engine intake air.

I—Choke Control
Controls choke valve. Choke control must be moved to ON position when starting a cold engine.

J—Fuel Cap
Provides a secure seal on fuel tank.

K—Fuel Gage
Indicates level of fuel currently in fuel tank.

L—Muffler Equipped with Spark Arrestor
Provides outlet for engine exhaust. Prevents sparks and other combustible materials from escaping generator.

M—Spark Plug Cap (Wire)
Delivers voltage to spark plug. When spark plug needs service, cap must be removed.

N—Carbon Canister (Model numbers ending in “L” only)
Reduces hydrocarbon emissions.

[FIGURE 4-1: Honeywell Portable Electrical Generator Controls and Components (HW5500EL Model Illustrated)]

[Diagram showing the components and their labels: A, B, C, D, E, F, G, H, I, J, K, L, M, N]

**CAUTION**
Generator must be grounded to prevent electrical shock from faulty appliances.

**WARNING**
Muffler reaches temperatures that can cause serious burns if touched. NEVER touch hot surfaces.
5: PREPARING FOR SERVICE

5.1 REQUIRED TOOLS

A complete set of standard and metric shop tools are required to service the generator. Also needed are:

- Hammer
- Torque wrench
- Volt-ohm meter
- Frequency meter
- Resistive load - such as a load bank, heaters, light bulbs, etc.
- Alternator removal tool
- Wood block (for rotor support)

5.2 TRANSPORTING GENERATOR

When moving or transporting the generator:

- Press the engine control switch to the STOP position.
- Turn the fuel shut-off valve to the OFF position.
- Keep the generator level to prevent fuel spillage.
- Place pins in the handle and handle bracket before moving the generator.

**WARNING**

Hot engine or exhaust system can cause serious burns or fires. Cool generator completely before transporting.

**NOTICE**

NEVER drop, strike, or place heavy objects on generator when transporting.

ANYONE using or servicing this generator must read, understand, and follow all safety and operation instructions provided in this manual. Failure to closely follow these instructions can result in circumstances leading to death, serious injury, and property damage.
### 6: SERVICE REPAIR TIME ANALYSIS & FLAT RATE SCHEDULE

<table>
<thead>
<tr>
<th>Operation</th>
<th>HW3000</th>
<th>HW4000</th>
<th>HW5500</th>
<th>HW5500E</th>
<th>HW6200</th>
<th>HW7000E</th>
<th>HW7500E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HW3000L</td>
<td>HW4000L</td>
<td>HW5500L</td>
<td>HW5500EL</td>
<td>HW6200L</td>
<td>HW7000EL</td>
<td>HW7500EL</td>
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<tr>
<td><strong>ELECTRICAL</strong></td>
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<td>45</td>
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<td>Charging Coil Assembly</td>
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<td>Starter Solenoid</td>
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<td><strong>ENGINE</strong></td>
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<td>Air Filter</td>
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<td>Converter (Model Numbers Ending in “L”)</td>
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<td>Cylinder Head Cover</td>
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<td>Governor Assembly</td>
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<td>Head Cover Gasket</td>
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<tr>
<td><strong>FUEL &amp; EXHAUST</strong></td>
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<td>Carbon Canister (with bracket) (Model Numbers Ending in “L”)</td>
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<td>Exhaust Pipe (Model Numbers Ending in “L”)</td>
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<td>Fuel Gage</td>
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### SERVICE REPAIR TIME ANALYSIS

<table>
<thead>
<tr>
<th>Operation</th>
<th>HW3000 (min.)</th>
<th>HW4000 (min.)</th>
<th>HW5500 (min.)</th>
<th>HW5500E (min.)</th>
<th>HW6200 (min.)</th>
<th>HW7000E (min.)</th>
<th>HW7500E (min.)</th>
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<tbody>
<tr>
<td>Vapor Line (Model Numbers Ending in “L”)</td>
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<td>30</td>
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<td>Fuel Tank</td>
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<tr>
<td>Fuel Shut-off Valve</td>
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<td>40</td>
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<td>40</td>
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</tr>
<tr>
<td>Muffler</td>
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<td>50</td>
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<td>50</td>
</tr>
<tr>
<td>Muffler Gasket</td>
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<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Secondary Air Intake Valve (Model Numbers Ending in “L”) (with gasket)</td>
<td>50</td>
<td>50</td>
<td>50</td>
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<td>50</td>
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<tr>
<td><strong>MISC</strong></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Frame</td>
<td>120</td>
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<td>120</td>
<td>120</td>
<td>120</td>
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<td>120</td>
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<tr>
<td>(Non-L Models)</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
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</tr>
<tr>
<td>Handle Assembly</td>
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<tr>
<td>Leg Assembly</td>
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<tr>
<td>Wheel Assembly</td>
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<td>30</td>
<td>30</td>
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<td>30</td>
</tr>
</tbody>
</table>

**NOTE:**

Repair times represent generally accepted intervals for conducting a repair. Service centers are always advised to provide feedback during the warranty claim process if additional time may be needed due to unforeseen circumstances.
7: MAINTENANCE

7.1 CONSUMER MAINTENANCE SCHEDULE

Periodic maintenance and adjustment are necessary to keep the generator in good operating condition. Perform service and inspection at intervals shown in the Generator Maintenance Schedule (Table 7-1).

**WARNING**
Accidental starting of generator can cause severe injury or death. Before performing maintenance, disconnect spark plug cap from spark plug. Also disconnect both starting battery cables. Remove the negative (-) cable first to reduce the risk of arcing.

**WARNING**
Improper maintenance, or failure to correct a problem before operation, can cause a malfunction in which you can be seriously hurt or killed. Always follow inspection and maintenance recommendations and schedules in this manual.

**NOTICE**
The maintenance schedule applies to normal operating conditions. If you operate generator under severe conditions, such as sustained high-load or high-temperature, or use it in unusually wet or dusty conditions, consult your servicing dealer for recommendations applicable to your individual needs and use.

---

### TABLE 7-1. Generator Maintenance Schedule

<table>
<thead>
<tr>
<th>MAINTENANCE TASK</th>
<th>Before each use</th>
<th>First month or 20 hours of use</th>
<th>Every 3 months or 50 hours of use</th>
<th>Every 6 months or 100 hours of use</th>
<th>Every year or 200 hours of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspect for/clean debris</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check engine oil level</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change engine oil</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check air filter</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean air filter</td>
<td></td>
<td>X†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Run engine</td>
<td></td>
<td>X‡</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean/change spark plug</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean fuel sediment cup</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clean spark arrestor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X**</td>
</tr>
<tr>
<td>Clean cylinder cooling fins</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check/adjust valve lash</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X**</td>
</tr>
<tr>
<td>Check fuel line</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Every 2 years (replace if necessary)**</td>
</tr>
</tbody>
</table>

* Perform at every indicated month or operating hour interval, whichever comes first.
† Clean more often when using generator in dusty areas.
‡ It is recommended that the generator is run for 15-30 minutes every three months to ensure the battery remains charged.
** If the generator is stored for more than a year without running, a battery charger may be required to recharge the generator battery.
** It is recommended that this maintenance task be performed by a service dealer.
FUEL RECOMMENDATIONS

Before each use, check the fuel tank gage. If the fuel level is low, refill the tank with recommended fuel. NEVER OVERFILL.

Fuel and fuel vapors are extremely flammable and explosive under certain conditions.

- Refuel generator only outdoors, in a well-ventilated area.
- NEVER fill fuel tank while engine is running. Turn generator OFF and allow to cool before filling with fuel.
- NEVER smoke or allow flames or sparks near generator or where gasoline is stored.
- NEVER overfill fuel tank (no fuel should be in filler neck). After refueling, tighten the fuel cap securely.
- Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, the area must be dry before starting the engine.
- Avoid repeated or prolonged contact with skin or breathing of vapor.

General Fuel Information

Check the fuel gage located on the top of the generator near the fuel tank and refill the tank if fuel level is low. Refuel carefully to avoid spilling fuel. Do not fill above the shoulder of fuel strainer. Use unleaded gasoline with a pump octane rating of 87 or higher.

NEVER use stale or contaminated gasoline. Avoid getting dirt or water in the fuel tank. Always keep the fuel strainer in place while refueling.

Oxygenated Fuels

At certain times of the year, some U.S. locations may have only oxygenated fuel available. Oxygenated fuel is blended with alcohol or ether additives to increase octane quality, enhance combustion, and reduce exhaust emissions.

Some areas of the United States use oxygenated fuels to help meet clean air standards.

Before using an oxygenated fuel, ensure pump octane rating is 87 or higher.

Some states (and provinces in Canada) require this information to be posted on the fuel pump. If you notice undesirable operating symptoms, switch to a conventional unleaded gasoline.

TABLE 7-2. Oxygenated Fuel Types

<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol (ethyl or grain alcohol)</td>
<td>Gasoline containing more than 10% ethanol by volume may cause starting or performance problems. Gasoline containing ethanol may be marketed under the name &quot;Gasohol&quot;.</td>
</tr>
<tr>
<td>Methanol (methyl or wood alcohol)</td>
<td>Gasoline containing methanol must contain co-solvents and corrosion inhibitors to protect fuel system. Gasoline containing more than 5% methanol by volume may cause starting and/or performance problems and may damage metal, rubber and plastic parts of fuel system.</td>
</tr>
<tr>
<td>MTBE (methyl tertiary butyl ether)</td>
<td>Gasoline containing up to 15% MTBE by volume can be used.</td>
</tr>
</tbody>
</table>

NOTICE

Oxygenated fuels can damage paint and plastic. Be careful not to spill fuel when filling fuel tank. Damage caused by spilled fuel is not covered under warranty.

To avoid damage to the engine, NEVER use stale or contaminated gasoline or oil/gasoline mixture. Avoid getting dirt or water in the fuel tank.

Use fresh gasoline with a pump octane rating of 87 or higher.

Running the engine with persistent spark knock or pinging can cause engine damage. Warranty does not cover parts damaged by misuse.
**ENGINE OIL RECOMMENDATIONS**

**NOTICE**

Use 4-stroke oil, or equivalent high detergent, premium quality motor oil certified to meet or exceed U.S. automobile manufacturer's requirements for API Performance Class SL, SJ, or better.

SAE 10W-30 is recommended for general temperature use. Refer to Figure 7-1 for information on other viscosities that may be used. Other viscosities shown in the chart may be used when the average temperature in your area is within the indicated range.

**WARNING**

Always stop engine before removing oil fill dipstick. Crankcase pressure can cause hot engine oil to spray out of engine fill hole. Hot engine oil can cause severe burns.

**Low Oil Protection**

The generator engine is protected from low lubrication failure by an oil shutdown switch. This switch prevents the operation of the ignition system until sufficient oil is added to the crankcase for proper engine lubrication.

When engine shuts down due to low oil level:

1. The engine control switch will remain in the RUN position.
2. The engine will not start until the required amount of engine oil is added.

**NOTE:**

Dispose of used motor oil according to guidelines established by your local or state government.

**To clean air filter, you will need:**

- Household soap and water
- Clean, dry cloth
- Clean engine oil

1. Stop engine if it is running.
2. Remove air cleaner cover.

**For Model Numbers Ending in “L”:**

- Unlock the latches at the top and bottom of the air cleaner cover.

**For Non-L Models:**

- Turn thumbscrew counterclockwise to loosen and remove.
- Pull bottom of air cleaner cover out and lift up to release plastic tabs.

**FIGURE 7-2: Air Cleaner Cover—Model Numbers Ending in “L”**

**FIGURE 7-3: Air Cleaner Cover—Non-L Models**

**FIGURE 7-1:** Recommended Oil Viscosity

**TABLE 7-1: Recommended Oil Viscosity**

<table>
<thead>
<tr>
<th>Temperature Range of Expected Use</th>
<th>SAE 30, 10W-30</th>
<th>Synthetic 5W-30</th>
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</thead>
<tbody>
<tr>
<td>°C -30</td>
<td>30</td>
<td>5W-30</td>
</tr>
<tr>
<td>°C -20</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>°C 0</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>°C 20</td>
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<tr>
<td>°C 30</td>
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<td>°C 40</td>
<td>-20</td>
<td></td>
</tr>
<tr>
<td>°C 50</td>
<td>-30</td>
<td></td>
</tr>
</tbody>
</table>

Clean air filter every 50 hours of generator operation. If operating generator in extremely dusty areas, clean air filter more frequently.
3. Remove foam air filter(s).

4. Wash air filter(s) in a solution of household soap and warm water.

5. Rinse parts thoroughly with water.

6. Using a clean, absorbent cloth, squeeze air filter dry, being careful not to twist or tear the filter.

7. Coat the air filter with clean engine oil.

8. Squeeze out excess oil.

9. Reassemble the air cleaner assembly.

   For Model Numbers Ending in “L”:
   
   9A. Reinstall the light grey foam air filter.
   9B. Reinstall the dark grey foam air filter.
   9C. Reinstall the air cleaner cover.

   For Non-L Models:
   
   9A. Reinstall the metal air filter plate in the support brackets if it fell out during air filter removal.
   9B. Reinstall air filter.
   9C. Reinstall the air cleaner cover.
7.3 CLEANING FUEL SEDIMENT CUP

The sediment cup prevents any dirt or water that may be in the fuel tank from entering the carburetor.

Clean fuel sediment cup at the intervals specified in Table 7-1.

To clean fuel sediment cup, you will need:
- 10 mm box wrench
- 22 mm open end wrench
- Household soap and water
- Clean, dry cloth

To clean fuel sediment cup:
1. Stop the engine if it is running. Allow to completely cool.
2. Place generator on a flat, level surface.
3. Turn the fuel shut-off valve to the OFF position.
4. While holding the fitting above the fuel shut-off valve with a 22 mm open end wrench, remove the fuel sediment cup assembly (sediment cup, o-ring, and fuel screen) using a 10 mm box wrench.
5. Clean the fuel screen (A), o-ring (B), and sediment cup (C), with soap and water.
6. Rinse parts thoroughly with water.
7. Wipe the pieces clean with a clean, dry cloth.
8. Reinstall the sediment cup, o-ring, and fuel screen.
9. Turn the fuel shut-off valve to the ON position.
10. Start generator and check for leaks.

7.4 SPARK PLUG SERVICE

To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

**WARNING**
If the engine has been running, the spark plug will reach temperatures that could cause severe burns. Do not touch.

1. Measure the spark plug gap with a wire feeler gauge. Gap should be: 0.028-0.031 in. (0.70-0.80 mm).

   ![Correct Spark Plug Gap](FIGURE_7-13)

2. If necessary, adjust gap by carefully bending side electrode.
3. Torque spark plug to 28 N•m (21 lb. ft.).

**NOTICE**
The spark plug must be securely tightened. An improperly tightened spark plug can become very hot and damage the engine. NEVER use spark plugs that have an improper heat range. Use only recommended spark plugs or equivalent.

**HW3000 & HW3000L Models:**
Recommended Spark Plug Replacement: 102557A

<table>
<thead>
<tr>
<th>Spark Plug Equivalent</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>AutoLite</td>
<td>62</td>
</tr>
<tr>
<td>Bosch</td>
<td>WR5DC</td>
</tr>
<tr>
<td>Champion</td>
<td>RN6YC</td>
</tr>
<tr>
<td>Denso</td>
<td>W22EPR-U</td>
</tr>
<tr>
<td>NGK</td>
<td>BPR7ES</td>
</tr>
</tbody>
</table>

**TABLE 7-3. Spark Plug Equivalents to 102557A**

**All Other Models:**
Recommended Spark Plug Replacement: 100842A

<table>
<thead>
<tr>
<th>Spark Plug Equivalent</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>AutoLite</td>
<td>63</td>
</tr>
<tr>
<td>Bosch</td>
<td>WR7DC</td>
</tr>
<tr>
<td>Champion</td>
<td>RN9YC</td>
</tr>
<tr>
<td>Denso</td>
<td>W20EPR</td>
</tr>
<tr>
<td>NGK</td>
<td>BPR6ES</td>
</tr>
</tbody>
</table>

**TABLE 7-4. Spark Plug Equivalents to 100842A**
7.5 CLEANING SPARK ARRESTOR SCREEN

**WARNING**

Muffler reaches temperatures that can cause serious burns if touched. NEVER touch hot surfaces.

The generator muffler is equipped with a spark arrestor screen, which must be cleaned according to the maintenance schedule (see Table 7-1) to ensure prevention of sparks escaping generator.

To clean spark arrestor screen, you will need:

- 1/4" socket wrench
- 8 mm socket
- 7/32" socket
- #2 Phillips screwdriver
- Wire brush

1. Stop the engine if it is running. Allow to completely cool.
2. Place generator on a flat, level surface.
3. Using a socket wrench with an 8 mm socket, remove the muffler cover bolts (muffler cover not present on HW3000 or HW3000L models).
4. Remove muffler cover.
5. Using a screwdriver, loosen and remove the spark arrestor clamp (A) screw.
7. Using a socket wrench with a 7/32" socket, remove the retaining screw on spark arrestor screen cap (B); pull off cap.
8. Pull out spark arrestor screen (C).
   - If screen is damaged or excessively worn, replace with new screen.
   - If screen is in good condition, clean using wire brush and then reinstall.
10. Reinstall remaining spark arrestor components.
    - Spark arrestor screen cap and screw
    - Clamp and screw
    - Muffler cover

![FIGURE 7-14: Remove Muffler Cover](image)

![FIGURE 7-15: Spark Arrestor Assembly](image)

![FIGURE 7-16: Clean Screen](image)
7.6 VALVE LASH

**CAUTION**

Valve lash inspection and adjustment must be performed with the engine cold.

1. Remove the cylinder head cover and carefully remove the gasket for re-use. (Inspect and replace gasket, if necessary.)
2. Remove the spark plug to reduce engine compression resistance.
3. Turn the engine crankshaft using the recoil starter, positioning engine at top, dead center, of the compression stroke. This can be verified by the piston position in the cylinder.
4. Insert a feeler gauge between the rocker arm and valve spring to measure valve lash.
5. Hold the rocker arm pivot and loosen the lock nut (see B in illustration).
6. Turn the rocker arm pivot (see C in illustration) to obtain specified valve lash.
7. Retighten the lock nut while holding rocker arm pivot and torque to 12 N·m (9 lb. ft.).
8. Check valve lash again after tightening lock nut.
9. Repeat steps 4 through 7, as needed, until valve lash is within specifications.
10. Reassemble the spark plug, cylinder head cover, and gasket.

**TABLE 7-5. Standard Valve Lash**

<table>
<thead>
<tr>
<th></th>
<th>IN.</th>
<th>EX.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A—ROCKER ARM</td>
<td>0.005±0.001 in (0.125±0.025 mm)</td>
<td>0.007±0.001 in (0.175±0.025 mm)</td>
</tr>
<tr>
<td>B—LOCK NUT</td>
<td>12 N·m (9 lb. ft.)</td>
<td></td>
</tr>
</tbody>
</table>

- To increase valve lash, screw pivot nut out.
- To decrease valve lash, screw pivot nut in.

7.7 GOVERNOR ADJUSTMENT

1. Start the engine and run with no load.
2. Attach a frequency meter and adjust the limiting screw on the governor stop to 62.5 Hz ± 0.5.
3. Stop the engine.
4. If frequency is out of range, see the “GOVERNOR RANGE ADJUSTMENT” procedure below.
5. Repeat steps 1 through 3. If frequency still out of range, see ENGINE DIAGNOSTICS (ALL MODELS), page 8-10

7.8 GOVERNOR RANGE ADJUSTMENT

1. Remove the generator control panel for access.
2. Loosen the nut on the governor arm pinch bolt (see illustration).
3. Rotate the governor arm shaft counter-clockwise until the throttle is completely open and hold in position.
4. Tighten the nut on the governor arm pinch bolt to maintain position.
5. Confirm the governor arm and throttle move smoothly and do not bind.
6. Reinstall the generator control panel.
7.9 BATTERY SERVICE

To ensure the battery remains charged, it is recommended that the generator is started every three months. If the generator is stored for more than a year without running, a battery charger may be required to recharge the generator battery.

**Recommended Battery Replacement: 101536A**

<table>
<thead>
<tr>
<th>Xtreme</th>
<th>XTAX14AHL-BS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yuasa</td>
<td>12N14-3A</td>
</tr>
</tbody>
</table>

**TABLE 7-6. Replacement Battery Equivalents to 101536A**

To replace battery:

1. Remove spark plug cap.

2. Loosen and remove nuts on retaining plate; slide retaining plate off support rods.

3. Tip battery slightly forward.

4. Disconnect the black negative (-) battery lead removing the bolt and nut.

5. Disconnect the red positive (+) battery lead removing the bolt and nut.

6. Remove the battery.

**NOTE:**
Dispose of used battery according to guidelines established by your local or state government.

7. Place the new battery in the generator frame.

8. Connect the red positive (+) battery lead to the positive (+) post on the battery; install bolt, nut, and boot.

9. Connect the black negative (-) battery lead to the negative (-) post on the battery; install bolt, nut, and boot.

10. Reinstall retaining plate; tighten bolts and nuts.

11. Reinstall spark plug cap.
NOTE:
For all dealer service inquiries, call 1-877-HWTECHS (498-3247) or visit www.honeywellgenerators.com.
8.1 ELECTRICAL DIAGNOSTICS (HW3000/L MODELS)

**General Electrical Check**
- Check for tripped duplex circuit breakers(s)
- Outlets above the breaker indicate the excess load source
- Resolve overload problem to ensure safe operation
- After electrical load resolved wait several minutes for thermal breaker to cool, push to reset breaker
  - If cannot reset, replace breaker
- Start engine and run at no load

- Check output voltage (X to W) of duplex outlet #1 = 123-126V
- Adjust governor, if necessary (see manual section "Governor Adjustment")
  - If frequency still out of range, see engine diagnostics section

**120V Circuit #1 Check**
(No output or voltage out of spec)
- Conduct this check only when directed by general electrical check
- Remove alternator end cover
- Check wires and connections from AVR to brush assembly for proper orientation of wire connections
  - If a connection is loose or disconnected, reestablish a tight connection
  - If a wire or connection is damaged, replace AVR
- Check for continuity in each circuit of duplex outlet #1 breaker from the line terminal to the load terminal
  - If no continuity, replace duplex circuit breaker

**120V Circuit #2 Check**
(No output or voltage out of spec)
- Conduct this check only when directed by general electrical check
- Remove main control panel from control panel assembly
- Check continuity from duplex outlet #1 breaker from the line terminal to the load terminal
  - If no continuity, replace duplex circuit breaker
- Check for continuity in each circuit of duplex outlet #2 breaker from the line terminal to the terminal on the back
  - If no continuity, replace duplex receptacle

**Check Engine Frequency = 61.5 to 63 Hz**
- Adjust governor, if necessary
  - See Manual Section "Governor Adjustment"

**Refer to Illustrations on Pages 8-3 and 8-5.**
ELECTRICAL DIAGNOSTICS (HW3000/L MODELS)

See “Specifications” Page For Rated Power, Voltage, & Frequency Specs Under Load and No Load Conditions.

Duplex Outlet #1
NEMA 5-20R 120V

Duplex Outlet #2
NEMA 5-20R 120V

White Wire = W
Black Wire = X
Yellow / Green Wire = G

To Alternator

POWER CONTROL CENTER

Honeywell Portable Electrical Generator Service Manual www.honeywellgenerators.com 8-3

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**Rated Power Check (Low Power Output)**

NOTE: At high-altitudes, standard carburetor air-fuel mixture will be rich causing a decrease in engine performance and an increase in fuel consumption.

NOTE: At this time, a high-altitude carburetor kit is not available.

Start Engine and Add Resistive Loads Until One of the Following Occurs:

- Power Output at the NEMA 5-20R 120V Duplex Outlet #1 is Within Rated Power Specification Range
- Frequency Drops Below 57 Hz
- Voltage Output Drops Below Minimum

**Check Brush Assembly for Excessive Wear or Defect**

NOTE: Use Caution When Removing and Installing Brush Holder to Avoid Damaging Brushes

- If Length Less than 5 mm, Replace Brush Assembly
- If Length Greater than 5 mm, Verify Resistance Between Each Brush Tip and Corresponding Terminal is Less than 0.1 Ω
- If Resistance Out of Spec, Replace Brush Assembly

**Check Alternator Winding Resistances**

Disconnect the Exciter Connector

NOTE: Each Terminal Contains Nut, Lock Washer, and Flat Washer

Measure Winding Resistances as Specified Below:

<table>
<thead>
<tr>
<th>Winding</th>
<th>Measure Resistance Between Wires</th>
<th>Resistance Range Specification (Ω)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stator-X</td>
<td>Black White</td>
<td>0.15 - 0.35</td>
</tr>
<tr>
<td>AVR Tap</td>
<td>Brown Blue</td>
<td>20-35% of Stator-X Resistance</td>
</tr>
<tr>
<td>Exciter</td>
<td>Yellow Yellow</td>
<td>2.2 - 2.7</td>
</tr>
<tr>
<td>Rotor</td>
<td>Slip Rings or Slip Ring Terminals*</td>
<td>45 - 65</td>
</tr>
</tbody>
</table>

* If Using an Ohmmeter with Kelvin Bridge Clips, Measure Resistance at the Slip Ring Wire Terminals for Best Results.

If a Winding Resistance is Out of Spec, Replace Alternator

**Check for Cross-Shorted Windings in the Stator Assembly**

**Check for Continuity Between Windings as Specified Below:**

<table>
<thead>
<tr>
<th>Check for Continuity Between Windings</th>
<th>Continuity Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stator-X Black</td>
<td>AVR Tap Brown</td>
</tr>
<tr>
<td>Stator-X Black</td>
<td>Either Exciter Yellow</td>
</tr>
</tbody>
</table>

If Continuity is Different than Specified Above, Replace Alternator

NOTE: The alternator must be at room temperature when resistance is measured.

NOTE: The alternator diagnostics require measurements of low resistance values which are beyond the capability of a typical multi-meter.

Use only for directional indication of resistance.

For best results, use an ohmmeter capable of measuring low resistance values:

- Resolution: 10 milliohms
- Accuracy: ± 1%

Refer to Illustrations on Page 8-5.
8.2 ELECTRICAL DIAGNOSTICS (ALL MODELS EXCEPT HW3000/L)

General Electrical Check
- Check for Tripped Master Breaker
- Resolve Overload Problem to Ensure Safe Operation
- After Electrical Load Resolved Push to Reset Breaker
  - If Cannot Reset, Replace Breaker

Check for Tripped Duplex Circuit Breaker(s)
- Outlets Above the Breaker Indicate the Excess Load Source
- Resolve Overload Problem to Ensure Safe Operation
- After Electrical Load Resolved Wait Several Minutes (for Thermal Breaker to Cool) Push to Reset Breaker
  - If Cannot Reset, Replace Breaker

Start Engine and Run at No Load
- Check Engine Frequency = 61.5 to 63 Hz
  - Adjust Governor, if necessary
    - If Frequency Still Out of Range, see Engine Diagnostics Section

Check Output Voltage (X to Y) of the 240V Receptacle = 246-252V
- Adjust Voltage Regulator, if Necessary
  - By Turning the Potentiometer on the Rear of the Voltage Regulator
    - If Voltage Still Out of Range, Replace Voltage Regulator

Check Continuity from the 120V Duplex Receptacle from Each Circuit to the 240V Receptacle
- If a Connection is Loose or Disconnected, Reestablish a Tight Connection
  - If a Wire or Connection is Damaged, Replace Electrical Panel

Check for Continuity in Each Leg of Master Breaker from the Line Terminal to the Load Terminal
- If No Continuity, Replace Master Circuit Breaker

Check for Continuity in Each Circuit of the 120V Duplex Receptacle from the Female Socket on the Front to the Terminal on the Back
- If No Continuity, Replace Duplex Receptacle

Conduct This Check Only When Directed by General Electrical Check
- Start Engine and Run at No Load
  - Perform "Alternator Check"

Check Output Voltage (X to Y) of the 240V Receptacle = 246-252V
- Adjust Voltage Regulator, if Necessary
  - By Turning the Potentiometer on the Rear of the Voltage Regulator

Check Continuity from the 120V Duplex Receptacle for Each Connection (X or Y, W, G) to the 240V Receptacle
- If a Connection is Loose or Disconnected, Reestablish a Tight Connection and Recheck Continuity
  - If a Wire or Connection is Damaged, Replace Electrical Panel
ELECTRICAL DIAGNOSTICS (ALL MODELS EXCEPT HW3000/L)

Yellow / Green Wire = G
White Wire = Y
Red Wire = X

To Alternator

Duplex Outlet #1
NEMA 5-20R 120V

Duplex Outlet #2
NEMA 5-20R 120V

240V Receptacle
NEMA 14-30R

White Wire = Y
Yellow / Green Wire = G
Red Wire = X

Blue Wire = W on Duplex Outlet #1
Brown Wire = W on Duplex Outlet #2

Fuel Cutout Winding Connector
Brown Wires (2)

See “Specifications” Page For
Rated Power, Voltage, & Frequency Specs
Under Load and No Load Conditions

7000 RATED WATTS  •  8750 MAXIMUM WATTS
7000
120 VOLTS AC
120/240 VOLTS AC

POWER CONTROL CENTER

HOUSEHOLD OUTLETS
120 VOLTS AC

POWER CORD or TRANSFER SWITCH
120/240 VOLTS AC

BREAKER
MASTER BREAKER

To Household Outlets

Duplex Outlet #1
NEMA 5-20R 120V

Duplex Outlet #2
NEMA 5-20R 120V
Rated Power Check
(Low Power Output)

NOTE: At high-altitudes, standard carburetor air-fuel mixture will be rich causing a decrease in engine performance and an increase in fuel consumption.
NOTE: At this time, a high-altitude carburetor kit is not available.
Start Engine and Add Resistive Loads Until One of the Following Occurs:
• Power Output at the NEMA L14-30R 240V Receptacle is Within Rated Power Specification Range
• Frequency Drops Below 57 Hz
• Voltage Output Drops Below Minimum

Check Alternator Winding Resistances
Disconnect the Exciter Connector
Disconnect the Fuel Cutout Winding Connector
Disconnect the Wires at the Alternator Terminal Block
NOTE: Each Terminal Contains Nut, Lock Washer, and Flat Washer
Measure Winding Resistances as Specified Below:

<table>
<thead>
<tr>
<th>Winding</th>
<th>Measure Resistance Between Wires</th>
<th>Resistance Range Specification (Ω)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>HW4000/L</td>
</tr>
<tr>
<td>Stator-X Red</td>
<td>Blue</td>
<td>0.5 - 0.7</td>
</tr>
<tr>
<td>Stator-Y White</td>
<td>Brown</td>
<td>1.8 - 2.5</td>
</tr>
<tr>
<td>AVR Tap Green</td>
<td>White</td>
<td>0.4 - 0.6</td>
</tr>
<tr>
<td>Fuel Cutout Brown</td>
<td>Blue</td>
<td>0.3 - 0.5</td>
</tr>
<tr>
<td>Rotor Slip Rings or Slip Ring Terminals*</td>
<td>Brown</td>
<td>30 - 55</td>
</tr>
</tbody>
</table>

* If Using an Ohmmeter with Kelvin Bridge Clips, Measure Resistance at the Slip Ring Wire Terminals for Best Results.
If a Winding Resistance is Out of Spec, Replace Alternator.

Alternator Check

NOTE: The alternator must be at room temperature when resistance is measured.

Check Brush Assembly for Excessive Wear or Defect
NOTE: Use Caution When Removing and Installing Brush Holder to Avoid Damaging Brushes
If Length Less than 5 mm, Replace Brush Assembly
If Length Greater than 5 mm, Verify Resistance Between Each Brush Tip and Corresponding Terminal is Less than 0.1 Ω
If Resistance Out of Spec, Replace Brush Assembly

Check for Cross-Shorted Windings in the Stator Assembly

Check for Continuity Between Windings as Specified Below:

<table>
<thead>
<tr>
<th>Check for Continuity Between Windings</th>
<th>Continuity Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stator-X Red</td>
<td>Stator-Y White</td>
</tr>
<tr>
<td>Stator-X Red</td>
<td>AVR Tap Green</td>
</tr>
<tr>
<td>Stator-Y White</td>
<td>AVR Tap Green</td>
</tr>
<tr>
<td>Stator-X Red</td>
<td>Either Exciter Blue</td>
</tr>
<tr>
<td>Stator-Y White</td>
<td>Either Exciter Blue</td>
</tr>
<tr>
<td>Stator-X Red</td>
<td>Either Fuel Cutout Brown</td>
</tr>
<tr>
<td>Stator-Y White</td>
<td>Either Fuel Cutout Brown</td>
</tr>
<tr>
<td>Either Exciter Blue</td>
<td>Either Fuel Cutout Brown</td>
</tr>
</tbody>
</table>

If Continuity is Different than Specified Above, Replace Alternator

Check Alternator Winding Resistances

Disconnect the Exciter Connector
Disconnect the Fuel Cutout Winding Connector
Disconnect the Wires at the Alternator Terminal Block
NOTE: Each Terminal Contains Nut, Lock Washer, and Flat Washer
Measure Winding Resistances as Specified Below:

<table>
<thead>
<tr>
<th>Winding</th>
<th>Measure Resistance Between Wires</th>
<th>Resistance Range Specification (Ω)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>HW4000/L</td>
</tr>
<tr>
<td>Stator-X Red</td>
<td>Blue</td>
<td>0.5 - 0.7</td>
</tr>
<tr>
<td>Stator-Y White</td>
<td>Brown</td>
<td>1.8 - 2.5</td>
</tr>
<tr>
<td>AVR Tap Green</td>
<td>White</td>
<td>0.4 - 0.6</td>
</tr>
<tr>
<td>Fuel Cutout Brown</td>
<td>Blue</td>
<td>0.3 - 0.5</td>
</tr>
<tr>
<td>Rotor Slip Rings or Slip Ring Terminals*</td>
<td>Brown</td>
<td>30 - 55</td>
</tr>
</tbody>
</table>

* If Using an Ohmmeter with Kelvin Bridge Clips, Measure Resistance at the Slip Ring Wire Terminals for Best Results.
If a Winding Resistance is Out of Spec, Replace Alternator.

Check for Cross-Shorted Windings in the Stator Assembly

Check for Continuity Between Windings as Specified Below:

<table>
<thead>
<tr>
<th>Check for Continuity Between Windings</th>
<th>Continuity Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stator-X Red</td>
<td>Stator-Y White</td>
</tr>
<tr>
<td>Stator-X Red</td>
<td>AVR Tap Green</td>
</tr>
<tr>
<td>Stator-Y White</td>
<td>AVR Tap Green</td>
</tr>
<tr>
<td>Stator-X Red</td>
<td>Either Exciter Blue</td>
</tr>
<tr>
<td>Stator-Y White</td>
<td>Either Exciter Blue</td>
</tr>
<tr>
<td>Stator-X Red</td>
<td>Either Fuel Cutout Brown</td>
</tr>
<tr>
<td>Stator-Y White</td>
<td>Either Fuel Cutout Brown</td>
</tr>
<tr>
<td>Either Exciter Blue</td>
<td>Either Fuel Cutout Brown</td>
</tr>
</tbody>
</table>

If Continuity is Different than Specified Above, Replace Alternator

Refer to Illustrations on Page 8-9.
8.3 ENGINE DIAGNOSTICS (ALL MODELS)

**Engine Fails to Start**
- Check Oil Level
- Check Fuel Level
- Check Fuel Shut-off Valve Open
- Confirm Choke in On Position
- Check Spark Plug
  - Dry Spark Plug = Check Carburetor Fuel Cutout Solenoid Wet Spark Plug = Check Ignition System
- Check Spark Plug Gap
  - Plug Condition Good = Re-Gap Spark Plug
  - Plug Condition Dirty or Worn = Replace Spark Plug
- Check Ignition for Spark
  - Bright Blue Spark = Reinstall Plug
  - Dull Spark = Pull Coil & Check Resistance Primary Coil = 0.8-1.0 Ohms Secondary Coil = 5.9-7.1 Ohms (measure at spark plug lead) Replace Coil, if Necessary Reinstall Coil with Proper Coil / Flywheel Air Gap Reinstall Plug
- Drain Oil and Check Low Oil Switch Connection and Continuity (Yellow Wire on Side of Engine)
- Check Flywheel Woodruff Key
  - Repair or Replace Key
- Perform Engine Compression Test

**Engine Fails to Crank Using Electric Starter**
- Check Recoil for Mechanical Binding
- Check Battery Voltage
  - Higher than 12.5 Volts = Check Voltage Across Components Less than 12.5 Volts = Charge or Replace Battery Check Voltage Across Components
- Check Battery Connections
  - Check Leads on Proper Post
  - Check Leads are Clean & Tight
- Check Voltage Across Components
  - Are Within .5V of Battery Voltage Replace Out of Spec Components
- Check Engine Control Switch Voltage
  - Voltage Drop in Start Position
  - Check Battery Post / Solenoid Voltage Drop
  - Check Battery Post / Starter Lugs Voltage Drop
  - NOTE: Generator has Charging Coil During Operation; Replace Coil if Repeated Battery Discharge

**Engine Starts Then Shuts Down**
- Check Fuel Level
- Check Fuel Quality
- Confirm Choke in Off Position
- Check Oil Level
- Check Ignition for Spark
  - Check Spark Plug & Gap
  - Adjust Coil Air Gap
  - Check Spark Arrestor
  - Check Muffler Blockage

**Engine Runs Rough**
- Check Fuel Level
- Check Fuel Quality
- Confirm Choke in Off Position
- Check Oil Level
- Check Air Cleaner
- Check Ignition for Spark
  - Check Spark Plug & Gap
  - Adjust Coil Air Gap
  - Check Spark Arrestor
  - Check Muffler Blockage

**Engine Speed Unstable**
- Check Spark Plug & Gap
- Check Ignition for Spark
  - Adjust Coil Air Gap
  - Check Spark Arrestor
  - Check Muffler Blockage

**Engine Smokes**
- Start Engine
  - Warm to Operating Temperature
  - Observe Smoke Color
  - White Smoke = Poor Fuel Quality
  - Black Smoke = Check Choke Operation Check Ignition System
  - Blue Smoke = Check Oil in Fuel Check Oil Overfilled Check Worn Piston Rings
- Perform Engine Compression Test

**Recoil Not Operating**
- Recoil Locked = Disassemble and Repair Recoil (see Manual Section "Recoil Starter")
- Check Recoil for Mechanical Binding
- Rope Not Retracting = Disassemble and Repair Broken Ratchets or Springs (see Manual Section "Recoil Starter")

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9: SERVICE AND DISASSEMBLY

9.1 CONTROL PANEL

A—CONTROL PANEL ASSEMBLY (FRONT)
4 N•m (3 lb. ft.)

B—CONTROL PANEL ASSEMBLY (BACK)

C—MAIN CONTROL PANEL (FRONT)
- 125VAC 20 Amp Duplex (NEMA 5-20R)
- 125/250VAC 30 Amp Twist-Lock (NEMA L14-30R)
  **NOTE:** Not present on HW3000 or HW3000L models.
- Master Circuit Breaker (Magnetic)
- Circuit Breaker (Thermal)

D—MAIN CONTROL PANEL (BACK)

E—SWITCH PLATE (FRONT)
- E1 - Electric Start Models (HW5500E, HW5500EL, HW7000E, HW7000EL, HW7500E, HW7500EL)
- E2 - Manual Start Models (HW3000, HW3000L, HW4000, HW4000L, HW5500, HW5500L, HW6200, HW6200L)

F—ENGINE CONTROL SWITCH

G—SWITCH PLATE (BACK)
9.2 ENGINE AND ALTERNATOR

A—END COVER
4 N•m (3 lb. ft.)

B—ROTOR BOLT
Use oil before replacing the rotor bolt.

C—ALTERNATOR HOUSING BOLTS
48 N•m (35 lb. ft.)

D—REAR BEARING CARRIER AND STATOR
See CARBURETOR, page 9-7.

E—ROTOR
See ROTOR, page 9-5.

F—ENGINE
Contact an authorized service dealer for engine maintenance and repairs.
Cylinder Head Bolts - 48 N•m (35 lb. ft.)

G—VIBRATION ISOLATORS
Insert tabs into holes.
Check rubber is not chipped, hardened, or worn.
Refer to illustration for proper positioning.

NOTE: On some models there are only 4 vibration isolators instead of 6.

H—FRAME
See WHEEL, LEG, & HANDLE ASSEMBLY, page 9-11.

I—CRANKCASE COVER
28 N•m (21 lb. ft.)
9.3 ALTERNATOR

A—VOLTAGE REGULATOR

B—BRUSH ASSEMBLY
Before removing rotor and stator, remove brush assembly.
2 N•m (1.5 lb. ft.)

C—REAR BEARING CARRIER

D—MAIN WINDING TERMINAL BLOCK

E—STATOR

F—ROTOR
Install appropriate alternator removal tool (special tool), hold flywheel, and torque tool to 48 N•m (35 lb. ft.).

NOTICE
Rotor can become damaged if not properly supported. Place wooden block and rag underneath rotor for support.

If torquing alternator removal tool does not free rotor from crankshaft, tap end of tool with brass hammer to loosen rotor.

CAUTION
To prevent eye injury, always wear safety glasses or goggles when using a hammer.

G—ALTERNATOR ENGINE ADAPTER

H—GROUND CABLE

I—EXCITER WINDING CONNECTOR

J—BRUSH ASSEMBLY

K—TERMINAL BLOCK

L—SLIP RINGS

M—FUEL CUTOUT CONNECTOR

N—VOLTAGE REGULATOR
Also known as Automatic Voltage Regulator or AVR.

Alternator Illustrated Matches All Models Except HW3000 & HW3000L
Fuel and its vapors are extremely flammable and explosive under certain conditions.

- Refuel the generator only outdoors, in a well-ventilated area.
- NEVER enclose the generator in any structure.
- Keep generator at least 6 feet (2 meters) away from buildings, other equipment, and combustible materials during operation.
- NEVER fill the fuel tank while the engine is running. Turn the generator OFF and allow it to cool before filling with fuel.
- NEVER smoke or allow flames or sparks near the generator or where gasoline is stored.
- NEVER overfill the fuel tank (there should be no fuel in the filler neck). After refueling, tighten the fuel cap securely.
- Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, the area must be dry before starting the engine.
- Avoid repeated or prolonged contact with skin or breathing of vapor.

A—FUEL GAGE
After reassembly, check float for proper operation.

B—FUEL CAP
Check air vent hole is clean and free of obstruction. Blow with compressed air if necessary.
NOTE: For model numbers ending in “L”, the fuel cap will be attached to the fuel tank with a chain.

C—FUEL STRAINER
Before reassembly, check fuel strainer is clean and undamaged.

D—FUEL TANK MOUNTING HARDWARE
10 N•m (7 lb. ft.)

E—FUEL TANK
Before reassembly, clean fuel tank to remove any sediment and drain completely.
- E1 - Model Numbers Ending in “L” (HW3000L, HW4000L, HW5500L, HW5500EL, HW6200L, HW7000EL, HW7500EL)
- E2 - Non “L” Models (HW3000, HW4000, HW5500, HW5500E, HW6200, HW7000E, HW7500E)

F—FUEL SHUT-OFF VALVE
Clear passages if clogged. After reinstalling, check for fuel leakage.
Hex fitting - 24 N•m (17 lb. ft.)

G—FUEL SEDIMENT CUP
See CLEANING FUEL SEDIMENT CUP, page 7-5.

H—FUEL LINE
Check for cracks or damage.
Secure with hose clamps.
9.5 EVAPORATIVE EMISSIONS CONTROL SYSTEM

For Model Numbers Ending in “L” only.

A—FUEL TANK

B—CARBON CANISTER
  • B1 - HW3000L Model Only
  • B2 - All Other Models

C—VAPOR LINE
  Secure with hose clamps.

D—CARBON CANISTER TUBE
  Secure with hose clamps.

E—CARBON CANISTER BRACKET
  2 N•m (1.5 lb. ft.)
  • E1 - HW3000L Model Only
  • E2 - All Other Models
9.6 MUFFLER

**WARNING**
The muffler becomes very hot during operation and remains hot for a while after stopping the engine.

- NEVER touch hot surfaces and avoid hot gases.
- Let engine cool before storing the generator indoors.

A—MUFFLER GUARD
**NOTE:** Not present on HW3000 or HW3000L models.

B—MUFFLER COVER
4 N•m (3 lb. ft.)
**NOTE:** Not present on HW3000 or HW3000L models.

C—SPARK ARRESTOR
Clamp - 1 N•m (1 lb. ft.)
Screen - 1 N•m (1 lb. ft.)

D—MUFFLER
Cutaway view shows the catalyst located inside mufflers on model numbers ending in “L”.
(HW3000L, HW4000L, HW5500L, HW5500EL, HW6200L, HW7000EL, HW7500EL)

Muffler rear mounting bracket - 18 N•m (13 lb. ft.)

E—EXHAUST PIPE
18 N•m (13 lb. ft.)

- E1 - Non “L” Models
  (HW3000, HW4000, HW5500, HW5500E, HW6200, HW7000E, HW7500E)
- E2 - Model Numbers Ending in “L”
  (HW3000L, HW4000L, HW5500L, HW5500EL, HW6200L, HW7000EL, HW7500EL)

F—SECONDARY AIR INTAKE VALVE
For model numbers ending in “L” only
(HW3000L, HW4000L, HW5500L, HW5500EL, HW6200L, HW7000EL, HW7500EL)

G—MUFFLER SIDE GUARD
4 N•m (3 lb. ft.)
9.7 CARBURETOR

**WARNING**

Fuel and its vapors are extremely flammable and explosive under certain conditions.

- Refuel generator only outdoors, in a well-ventilated area.
- NEVER enclose the generator in any structure.
- Keep generator at least 6 feet (2 meters) away from buildings, other equipment, and combustible materials during operation.
- NEVER fill fuel tank while the engine is running. Turn generator OFF and allow to cool before filling with fuel.
- NEVER smoke or allow flames or sparks near the generator or where gasoline is stored.
- NEVER overfill the fuel tank (there should be no fuel in the filler neck). After refueling, tighten the fuel cap securely.
- Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, the area must be dry before starting the engine.
- Avoid repeated or prolonged contact with skin or breathing of vapor.

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A—FLOAT VALVE
Check for worn valve or weak spring before installation.

B—FLOAT
Check for smooth movement after installation.

C—DRAIN SCREW
Clean with compressed air and check for leaks after installation.

D—SET BOLT
Check for any sign of fuel leakage after installation.

E—FUEL CUTOUT SOLENOID
Check continuity between the double green wires of the solenoid valve. If there is no continuity, replace solenoid.

**NOTE:** Not present on HW3000 or HW3000L models.

F—MAIN JET
Clean with compressed air before installation.

G—MAIN NOZZLE
Clean with compressed air before installation.

H—O-RING
Check for correct installation.

I—CARBURETOR BODY
Clean internal passages and orifices with compressed air before installation.
9.8 STARTING SYSTEM

A—ELECTRIC STARTER
Attempt to crank engine by switching the engine control switch to the START position.

Starter Solenoid Terminal Nut - 6 N•m (4 lb. ft.)

B—WOODRUFF KEY
After installing the flywheel, check to ensure the woodruff key is still in its slot on the crankshaft.

C—SPARK PLUG LEAD
Clamp securely to the crankcase with the two clamps.
Check for cracked or damaged insulation; replace, if necessary.

D—IGNITION COIL
Pull spark plug lead and connect to spare. Check ignition for spark to ground.
10 N•m (7 lb. ft.)

E—FLYWHEEL

F—CLAMP

G—CHARGING COIL ASSEMBLY
Check for continuity.
9.9 RECOIL STARTER

A—STARTER CASE

B—ROPE AND HANDLE
Install with recoil starter handle position as shown.

C—RETURN SPRING
Connect the outer hook in the groove of the starter reel and inner hook on the starter case tab.

D—STARTER REEL
Install on the starter case after installing the return spring.

E—RATCHET SPRING

F—RATCHET
Check for wear or damage.

G—FRICTION SPRING

H—REEL COVER
Align the ratchet with the reel cover notch.

I—REEL COVER BOLT

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**CAUTION**

Return spring is under tension. Use extreme caution and wear safety glasses and gloves when disassembling to prevent injury.
9.10 FAN COVER

A—COOLING FAN
Install by aligning the three lugs on the rear side of the fan with the small hole in the fly-wheel. When disassembling and assembling, take care not to damage the fan blades.

B—STARTER PULLEY
Install by aligning the hole in the pulley with the lug on the cooling fan.

C—FLANGE NUT
Hold the flywheel by placing a screwdriver into the pulley.
105 N•m (77 lb. ft.)

D—FAN COVER
Remove and install with the recoil starter assembly.

E—RECOIL STARTER ASSEMBLY
Install with the recoil starter handle position as shown.
9.11 WHEEL, LEG, & HANDLE ASSEMBLY
(HW3000/L MODELS)

A—LOCKING HANDLE BRACKET
10 N\text{-m} (7 lb. ft.)

B—SPRING LOCKING HANDLE

C—RUBBER HANDLE GRIP

D—AXLE
25 N\text{-m} (18 lb. ft.)

E—SUPPORT LEG
25 N\text{-m} (18 lb. ft.)

F—RUBBER STOPPER
25 N\text{-m} (18 lb. ft.)

G—WHEEL

**NOTICE**

- Accessory kit is intended to be used specifically with this generator.
- NEVER use accessory kit for any other purpose.
- NEVER use accessory kit on-road.
9.12 WHEEL, LEG, & HANDLE ASSEMBLY
(ALL MODELS EXCEPT HW3000/L)

A—WHEEL HANDLE PIVOT BRACKET
10 N•m (7 lb. ft.)

B—PIN AND CHAIN

C—HANDLE BAR

D—RUBBER HANDLE GRIP

E—AXLE
25 N•m (18 lb. ft.)

F—SUPPORT LEGS
25 N•m (18 lb. ft.)

NOTE: On some models the leg support nuts are welded to the frame.

G—RUBBER STOPPER
25 N•m (18 lb. ft.)

H—WHEEL

NOTICE
• Accessory kit is intended to be used specifically with this generator.
• NEVER use accessory kit for any other purpose.
• NEVER use accessory kit on-road.
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