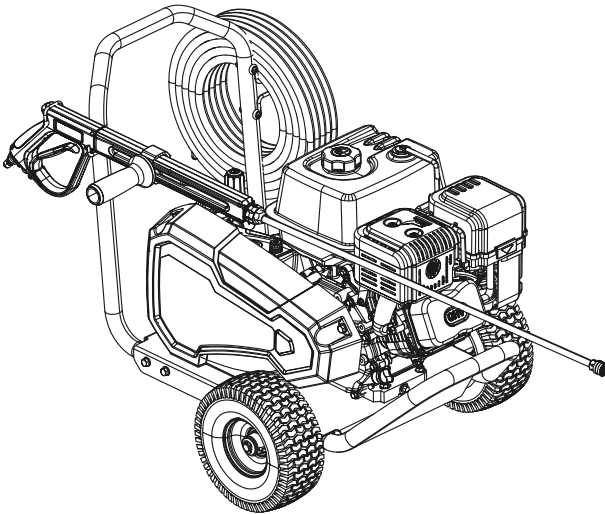




# *Power Washer*

## *Operator's Manual*



**MODEL:** \_\_\_\_\_

**SERIAL:** \_\_\_\_\_

**DATE PURCHASED:** \_\_\_\_\_

Register your DR Power Equipment  
product at:

[www.drpower.com](http://www.drpower.com)

1-855-447-3734

**SAVE THIS MANUAL FOR FUTURE REFERENCE**

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### **WARNING**

Operating, servicing and maintaining this equipment can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your equipment in a well-ventilated area and wear gloves or wash your hands frequently when servicing your equipment.

For more information go to

[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

(000393)

## Section 1 Introduction and Safety

### Introduction



#### **WARNING**

Consult Manual. Read and understand manual completely before using product. Failure to completely understand manual and product could result in death or serious injury. (000100a)

Thank you for purchasing a DR Power Equipment product. This unit has been designed to provide high-performance, efficient operation, and years of use when maintained properly.

If any section of the manual is not understood, contact Customer Service at 1-855-447-3734, or [www.drpower.com](http://www.drpower.com) with any questions or concerns.

The owner is responsible for proper maintenance and safe use of the equipment. Before operating, servicing or storing this power washer:

- Study all warnings in this manual and on the product carefully.
- Become familiar with this manual and the unit before use.
- Refer to the **Assembly** section of the manual for instructions on final assembly procedures. Follow the instructions completely.

Save these instructions for future reference. ALWAYS supply this manual to any individual that will use this machine.

The information in this manual is accurate based on products produced at the time of publication. The manufacturer reserves the right to make technical updates, corrections, and product revisions at any time without notice.

### Safety Rules

The manufacturer cannot anticipate every possible circumstance that might involve a hazard. The warnings in this manual, and on tags and decals affixed to the unit are, therefore, not all inclusive. If using a procedure, work method or operating technique that the manufacturer does not specifically recommend, verify that it is safe for others. Also make sure the procedure, work method or operating technique utilized does not render the equipment unsafe.

Throughout this publication, and on tags and decals affixed to the unit, DANGER, WARNING, CAUTION and NOTE blocks are used to alert personnel to special instructions about a particular operation that may be hazardous if performed incorrectly or carelessly. Observe them carefully. Their definitions are as follows:

#### **DANGER**

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

(000001)

#### **WARNING**

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

(000002)

#### **CAUTION**

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

(000003)

**NOTE:** Notes contain additional information important to a procedure and will be found within the regular text of this manual.

These safety warnings cannot eliminate the hazards that they indicate. Common sense and strict compliance with the special instructions while performing the action or service are essential to preventing accidents.

## Safety Symbols and Meanings



### **▲ DANGER**

Asphyxiation. Running engines produce carbon monoxide, a colorless, odorless, poisonous gas. Carbon monoxide, if not avoided, will result in death or serious injury. (000103)



### **▲ DANGER**

Electrocution. Water contact with a power source, if not avoided, will result in death or serious injury. (000104)



### **▲ DANGER**

Explosion and Fire. Fuel and vapors are extremely flammable and explosive. Add fuel in a well ventilated area. Keep fire and spark away. Failure to do so will result in death or serious injury. (000105)



### **▲ WARNING**

Fluid Injection. This machine produces high-pressure fluid streams that can pierce skin. Fluid injection could result in death or serious injury. (000106b)



### **▲ WARNING**

Risk of Fire. Hot surfaces could ignite combustibles, resulting in fire. Fire could result in death or serious injury. (000110)



### **▲ WARNING**

Vision Loss. Eye goggles are required to be worn when using this machine. Failure to wear eye goggles could result in permanent vision loss. (000101)



### **▲ WARNING**

Hearing Loss. Hearing protection is recommended when using this machine. Failure to wear hearing protection could result in permanent hearing loss. (000107)



### **▲ WARNING**

Hot Surfaces. When operating machine, do not touch hot surfaces. Keep machine away from combustibles during use. Hot surfaces could result in severe burns or fire. (000108)



### **▲ WARNING**

Risk of Fire. Verify machine has properly cooled before installing cover and storing machine. Hot surfaces could result in fire. (000109)



### **▲ WARNING**

Moving Parts. Keep clothing, hair, and appendages away from moving parts. Failure to do so could result in death or serious injury. (000111)



### **▲ WARNING**

Risk of Falling. Use of machine creates wet areas and trip hazards. Be aware of work area conditions. A fall could result in death or serious injury. (000112)



### **▲ WARNING**

Risk of Falling. Do not use this machine or any components on elevated surfaces. Doing so can result in a fall, serious injury, or death. (000114)



### **▲ WARNING**

Recoil Hazard. Recoil could retract unexpectedly if water pressure is not properly relieved from pump, creating kickback. Kickback could result in death or serious injury. (000113)



### **▲ WARNING**

Consult Manual. Read and understand manual completely before using product. Failure to completely understand manual and product could result in death or serious injury. (000100a)



### **▲ WARNING**

Moving Parts. Do not wear jewelry when starting or operating this product. Wearing jewelry while starting or operating this product could result in death or serious injury. (000115)



### **▲ WARNING**

Personal injury. Risk of fluid injection. Do not aim spray gun at people, animals, electrical devices, or fragile items. Keep out of reach of children. Failure to do so could cause death or serious injury. (000117c)

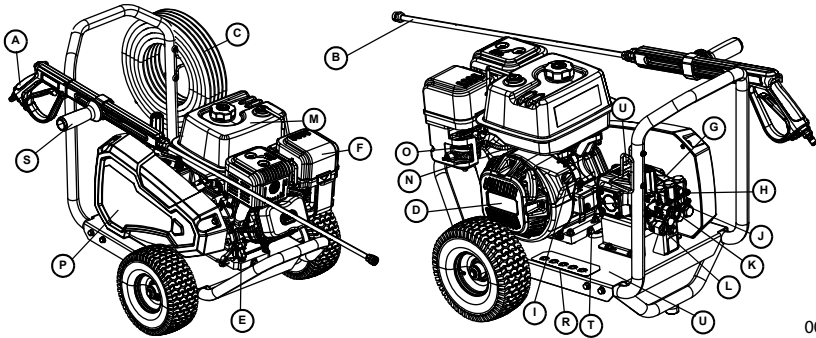
### **▲ WARNING**

Environmental Hazard. Always recycle batteries at an official recycling center in accordance with all local laws and regulations. Failure to do so could result in environmental damage, death or serious injury. (000228)

### **▲ WARNING**

Personal Injury / Equipment Damage. Place wand in holster and verify that handle is locked into place before moving. Failure to do so could result in death, serious injury, or equipment damage. (000244)

## Section 2 General Information and Setup



000264

Figure 2-1. Features and Controls

### Power Washer Components

- A Spray Gun
  - B Lance with Quick Connect
  - C High-Pressure Hose
  - D Recoil Starter
  - E Oil Fill
  - F Air Filter
  - G High-Pressure Pump
  - H Thermal Relief Valve
  - I Engine On/Off Switch
  - J Unloader Valve
  - K High-pressure Outlet
  - L Water Inlet
  - M Fuel Tank
  - N Fuel On/Off Valve
  - O Choke
  - P Belt Guard
  - R Nozzles
  - S Adjustable Side Handle
  - T Oil Drain Plug
  - U Serial Number Location.
- \* Identification Label (not shown) – located on engine blower housing
  - \* Detergent Siphoning Tube/Filter (not shown)

### Know Your Power Washer



#### **WARNING**

Consult Manual. Read and understand manual completely before using product. Failure to completely understand manual and product could result in death or serious injury. (000100a)

Read this manual thoroughly before assembling and operating this unit. Save this manual for future and immediate reference. Replacement owner's manuals are available at [www.drpower.com](http://www.drpower.com).

### Emissions

The United States Environmental Protection Agency (US EPA) (and California Air Resources Board (CARB), for engines/equipment certified to California standards) requires that this engine/equipment complies with exhaust and evaporative emissions standards. Locate the emissions compliance decal on the engine to determine applicable standards. For emissions warranty information, please reference the included emissions warranty. It is important to follow the maintenance specifications in the manual to ensure that the engine complies with the applicable emissions standards for the duration of the product's life.

**NOTE:** Maintenance, replacement, or repair of emissions control devices and systems may be performed by a small engine repair establishment or individual. To be covered by warranty, all emissions control service work must be performed by a factory authorized dealer. See emissions warranty for further details.

## Remove Contents from Carton

1. Open carton completely by cutting each corner from top to bottom.
2. Remove and verify carton contents prior to assembly. Carton contents should contain one each of the following:
  - Main Unit
  - High-pressure Hose
  - Siphon Hose & Filter
  - Spray Gun
  - Lance with Quick Connect Fitting
  - Oil Bottle
  - Parts Bag (includes):
    - Owner's Manual
    - Owner's Registration Card
    - Bag of Colored Nozzles
3. Call Customer Service at 1-855-477-3734 with the unit model and serial number for any missing carton contents.
4. Record model, serial number, and date of purchase on front cover of this manual.

## Assembly

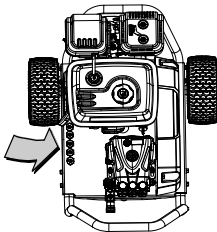


### WARNING

Consult Manual. Read and understand manual completely before using product. Failure to completely understand manual and product could result in death or serious injury. (000100a)

Call Customer Service at 1-855-447-3734 for any assembly issues or concerns. Please have model and serial number available.

1. Insert color-coded nozzles in spaces provided. See [Figure 2-2](#).

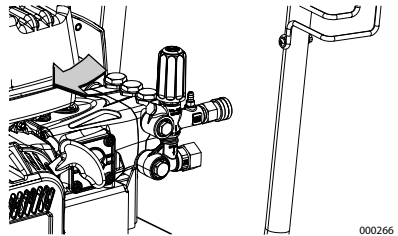


000265

**Figure 2-2. Insert Nozzles (number may vary)**

2. Place spray gun and nozzle extension into spray gun holder.

3. Attach siphon tube. See [Figure 2-3](#).

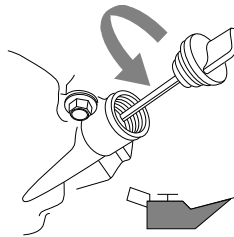


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**Figure 2-3. Siphon Tube Location**

## Add Engine Oil

1. Place power washer on a flat, level surface.
2. Clean area around oil fill and remove orange oil fill cap/dipstick. See [Figure 2-4](#).



000115

**Figure 2-4. Fill Engine Oil**

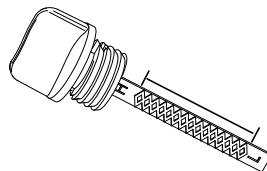
3. Using oil funnel (optional), slowly pour oil into oil fill opening. See page 13 [Engine Oil Recommendations](#) for oil type recommendation.

**NOTE:** On some units there is more than one oil fill location. In these instances it is only necessary to use one of the oil fill points.

4. Check periodically until the oil level is between "L" and "H" on the dipstick. See [Figure 2-5](#). **DO NOT OVERFILL.**

**NOTE:** Any attempt to crank or start the engine before it has been properly serviced with the recommend oil may result in engine failure.

5. Replace oil fill cap/dipstick and fully tighten.



000116

**Figure 2-5. Dipstick**

## Check Pump Oil

1. Place power washer on a flat, level surface.
2. Clean area around oil fill and remove vented cap/dipstick. See [Figure 2-4](#).

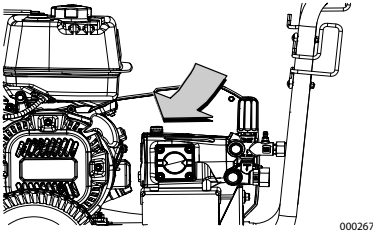


Figure 2-6. Check Pump Oil

3. Check to confirm oil level is within the markings on the dipstick. See [Figure 2-5](#). If oil is required, see Maintenance section. **DO NOT OVERFILL.**
4. See [Preventive Maintenance](#) for additional information.
5. Install oil dipstick until finger tight.
6. Clean up any spilled oil.

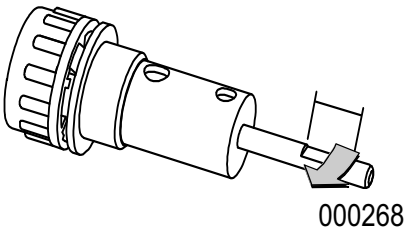


Figure 2-7. Pump Oil Dipstick

## Fuel



### ▲ DANGER

Explosion and Fire. Fuel and vapors are extremely flammable and explosive. Add fuel in a well ventilated area. Keep fire and spark away. Failure to do so will result in death or serious injury. (000105)

Fuel requirements are as follows:

- Clean, fresh, unleaded gasoline.
  - Minimum rating of 87 octane/87 AKI (91 RON).
  - Up to 10% ethanol (gasohol) is acceptable.
  - DO NOT use E85.
  - DO NOT use a gas oil mix.
  - DO NOT modify engine to run on alternate fuels. Stabilize fuel prior to storage.
1. Verify unit is OFF and cooled for a minimum of two minutes prior to fueling.
  2. Place unit on level ground in a well ventilated area.

3. Clean area around fuel cap and remove cap slowly.
4. Slowly add recommended fuel. Do not overfill.

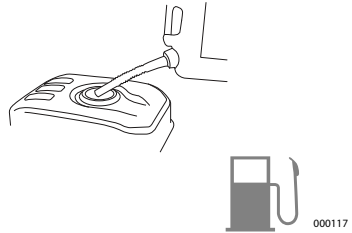


Figure 2-8. Add Recommended Fuel

5. Install fuel cap.

**NOTE:** Allow spilled fuel to evaporate before starting unit.

## Water Supply

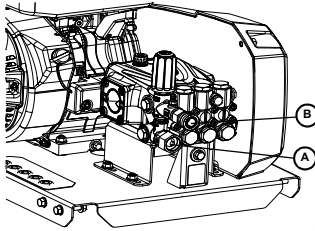
**NOTE:** DO NOT run unit without sufficient water supply. Failure to follow water supply requirements will void unit warranty.

Water supply must meet the following requirements:

- DO NOT siphon standing water for the water supply.
- Water temperature must be less than 100 °F (38 °C).
- Water supply hose length must not exceed 50 ft (15.2 m).
- Water must be greater than 3.8 gallons per minute (17.3 liters per minute) and no less than 30 psi (206.8 kPa).
- DO NOT use a one-way valve, vacuum breaker, or check valve in any part of the water supply.

## Connect Water Supply

1. Remove and discard shipping cap from the pump water inlet.
2. Run water supply for 30 seconds prior to connection to eliminate debris.
3. See [Figure 2-9](#). Inspect inlet screen (A) for debris. Clean screen or replace as necessary. DO NOT run power washer if inlet screen is damaged or missing.



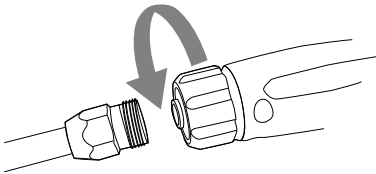
000270

**Figure 2-9. Connect Water Supply**

4. Connect water supply hose to pump water inlet (A) and hand-tighten.
5. Connect high-pressure hose to pump (B).

## Connect Lance and High-Pressure Hose to Spray Gun

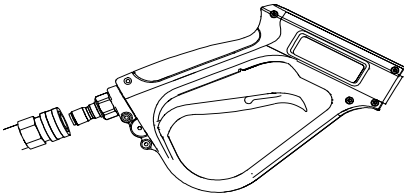
1. See [Figure 2-10](#). Connect lance to spray gun and hand-tighten.



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**Figure 2-10. Connect Lance**

2. See [Figure 2-11](#). Connect high-pressure hose to base of spray gun.



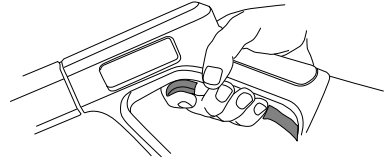
000269

**Figure 2-11. Connect High-Pressure Hose to Spray Gun**

## Spray Gun

Become familiar with spray gun trigger and locking system prior to use.

See [Figure 2-12](#). With unit OFF, hold spray gun and squeeze trigger to learn how trigger mechanism and locking system can be activated and deactivated.



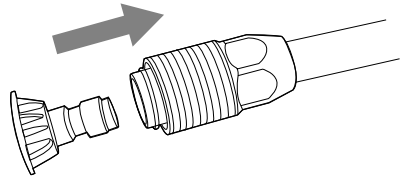
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**Figure 2-12. Spray Gun (Typical)**

3. Turn ON the water, squeeze the trigger to purge the pump system of air.
4. Verify spray gun is OFF with lock engaged before starting power washer.

## How to Use Nozzles

1. See nozzle selection guide and select correct nozzle for task.
2. See [Figure 2-13](#). Pull back quick-connect collar and install nozzle.

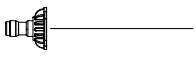

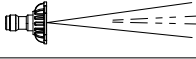
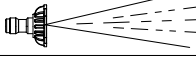



000125

**Figure 2-13. Insert Nozzle**

3. Release quick-connect collar to secure nozzle.
4. Verify nozzle is locked in place.



<b>Nozzle Selection Guide</b>		
<b>Blast Pressure Nozzle (Red)</b>		<b>MAXIMUM</b> - Higher pressure and lower flow for stubborn or hard to reach surface such as second story surfaces, paint removal, oil stains, rust removal or other stubborn substances (tar, gum, grease, wax, etc.).
<b>Strip Pressure Nozzle (Yellow)</b>		<b>MEDIUM</b> - Higher pressure and medium flow for removing stains on hard porous surfaces such as concrete driveways, garage floors and brick patios.
<b>Clean Pressure Nozzle (Green)</b>		<b>GENERAL</b> - Medium pressure and medium flow for most all purpose cleaning such as home siding, brick patios, wood decks, driveways and sidewalks, garage floors, etc.
<b>Wash Pressure Nozzle (White)</b>		<b>DELICATE</b> - Lower pressure and higher flow for gentle cleaning of cars/trucks, boats, RV's, patio furniture, lawn equipment, etc.
<b>Detergent Nozzle (Black)</b>		<b>DETERGENT ONLY (BLACK)</b> , Only use power washer safe detergents/soaps to help break down stubborn dirt and grime on a variety of surfaces.

000245

## Section 3 Operation

### Operation and Use Questions

Call Customer Service at 1-855-447-3734 with questions or concerns about unit operation and maintenance.

### Before Starting Engine

1. Verify engine oil level is correct.
2. Verify fresh fuel level is correct.
3. Verify all fittings and couplers are properly secured.
4. Verify sufficient water supply is properly connected.
5. Verify unit is secure on level ground, with proper clearance and is in a well ventilated area.

### Prepare Power Washer for Use

1. Place unit on level ground, within the specified clearance required.
2. Connect appropriate water supply.

### Power Washer Placement for Use



#### **⚠ DANGER**

Asphyxiation. Running engines produce carbon monoxide, a colorless, odorless, poisonous gas. Carbon monoxide, if not avoided, will result in death or serious injury.

(000103)



#### **⚠ WARNING**

Risk of Fire. Hot surfaces could ignite combustibles, resulting in fire. Fire could result in death or serious injury.

(000110)



#### **⚠ WARNING**

Hot Surfaces. When operating machine, do not touch hot surfaces. Keep machine away from combustibles during use. Hot surfaces could result in severe burns or fire.

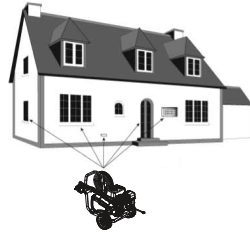
(000108)

It is a violation of California Public Resource Code, Section 4442, to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order. Other states or federal jurisdictions may have similar laws.

Only operate power washer outdoors in a well ventilated area. Never operate power washer indoors, or in a confined space. Be aware of building openings and ventilation systems where exhaust may enter during use.

- Verify power washer is placed on level ground to avoid tipping during operation.

- Only use the unit outdoors. Verify exhaust gas does not enter a confined area through windows, doors, ventilation intakes.
- See [Figure 3-1](#). Keep at least 5 ft (1.5 m) of clearance on all sides of power washer including overhead from dwellings and combustibles, when in use.



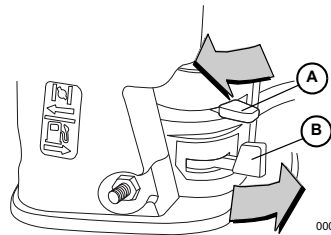
000271

**Figure 3-1. Five Feet of Minimum Clearance**

### Power Washer Start-Up

**NOTE:** DO NOT run power washer without a sufficient water supply turned ON. Damage to equipment resulting from failure to follow this instruction will void warranty.

1. Connect a sufficient water supply.
2. Move fuel valve (B) to ON.
3. Move choke lever (A) to CLOSE.

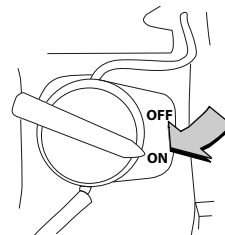


000127

**Figure 3-2. Fuel Valve and Choke**

**NOTE:** For warm engine, verify choke lever is in OPEN position.

4. See [Figure 3-3](#). Turn engine switch ON.



000128

**Figure 3-3. Engine Switch**

**WARNING**

Vision Loss. Eye goggles are required to be worn when using this machine. Failure to wear eye goggles could result in permanent vision loss.

(000101)

5. Relieve spray gun pressure.
6. Secure unit from movement when pulling recoil.
7. See [Figure 3-4](#). Firmly grasp the recoil handle. Pull slowly until resistance is felt. Then pull rapidly to start engine.

**WARNING**

Recoil Hazard. Recoil could retract unexpectedly if water pressure is not properly relieved from pump, creating kickback. Kickback could result in death or serious injury.

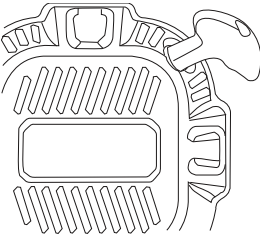
(000113)

**WARNING**

Personal injury. Risk of fluid injection. Do not aim spray gun at people, animals, electrical devices, or fragile items. Keep out of reach of children. Failure to do so could cause death or serious injury.

(000117c)

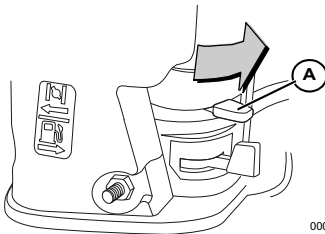
After engine-start attempt, if engine fails to run, always point spray gun in safe direction, and squeeze spray gun trigger to release high-pressure.



000129

**Figure 3-4. Engine Recoil**

8. Return recoil handle slowly. DO NOT let recoil snap back against recoil housing.
9. See [Figure 3-5](#). When engine starts, slowly move choke lever to OPEN position (A) as engine warms. If engine falters, move choke lever to CLOSE position, then to OPEN position.



000127

**Figure 3-5. Fuel Valve and Choke**

- If engine fails to start after six pulls, move choke lever to OPEN position, and repeat steps 6 through 9.

**WARNING**

Fluid Injection. This machine produces high-pressure fluid streams that can pierce skin. Fluid injection could result in death or serious injury.

(000106b)

**WARNING**

Risk of Fire. Hot surfaces could ignite combustibles, resulting in fire. Fire could result in death or serious injury.

(000110)

**WARNING**

Hot Surfaces. When operating machine, do not touch hot surfaces. Keep machine away from combustibles during use. Hot surfaces could result in severe burns or fire.

(000108)

**Power Washer Shut Down****WARNING**

Fluid Injection. This machine produces high-pressure fluid streams that can pierce skin. Fluid injection could result in death or serious injury.

(000106b)

**IMPORTANT:** Spray gun traps high-pressure water, even when engine is stopped and water is disconnected. Always point spray gun in safe direction, and squeeze spray gun trigger to release high-pressure. Engage trigger lock when not in use.

1. Release spray gun trigger.
2. Turn engine switch OFF.
3. Squeeze spray gun trigger and release high-pressure water.
4. Engage trigger lock.
5. Turn water supply OFF.

**NOTE:** Keep high-pressure hose connected to pump and spray gun while system is pressurized.

**Apply Detergent****WARNING**

Fluid Injection. This machine produces high-pressure fluid streams that can pierce skin. Fluid injection could result in death or serious injury.

(000106b)

**WARNING**

Personal injury. Risk of fluid injection. Do not aim spray gun at people, animals, electrical devices, or fragile items. Keep out of reach of children. Failure to do so could cause death or serious injury.

(000117c)

**NOTE:** DO NOT use caustic liquid with power washer. Use ONLY power washer safe detergents. Follow manufacturer instructions on detergent label.

Apply detergent as follows:

1. Prepare detergent solution as required by job.
2. Make sure siphoning tube remains fully submerged into the detergent.
3. When inserting the siphon into a detergent solution bottle, route the tube so as to keep it from inadvertently contacting the hot muffler.
4. Verify black detergent nozzle is installed.

**NOTE:** Detergent cannot be applied with high-pressure nozzle (Yellow, White, Green or Red). Only use black nozzle with detergent.

5. Start engine.
6. Firmly grasp spray gun with both hands when using high-pressure spray to avoid injury when spray gun kicks back.
7. Apply a high-pressure spray to a small area and then inspect surface for damage. If no damage is found, continue to apply detergent.
8. Apply detergent to a dry surface, start at lower portion of area to be washed and work upward using long, even, overlapping strokes.

**IMPORTANT:** Flush the detergent siphoning system after each use. Contact an authorized dealer or qualified service center with questions.

## Rinsing



### **WARNING**

Risk of Falling. Use of machine creates wet areas and trip hazards. Be aware of work area conditions. A fall could result in death or serious injury.

(000112)



### **WARNING**

Risk of Falling. Do not use this machine or any components on elevated surfaces. Doing so can result in a fall, serious injury, or death.

(000114)

1. Remove black detergent nozzle from lance.
2. Select and install desired high-pressure nozzle.
3. Point spray gun in safe direction and squeeze trigger to flush remaining detergent from system.
4. Keep spray gun a safe distance from area you plan to spray.
5. Firmly grasp spray gun with both hands when using high-pressure spray to avoid injury when spray gun kicks back.
6. Apply a high-pressure spray to a small area and then inspect surface for damage. If no damage is found, continue rinsing.

7. Start at top of area to be rinsed, working down with same overlapping strokes as used for cleaning.

## Clean Detergent Siphoning Tube

Flush detergent siphoning tube after each use, before stopping the engine.

1. Place detergent siphoning tube/filter in bucket of clean water.
2. Remove high-pressure nozzle from nozzle extension.
3. Select and install black detergent nozzle.
4. Flush for 1-2 minutes.
5. Shut engine OFF.
6. Point spray gun in a safe direction, squeeze spray gun trigger to release retained high water pressure. Engage trigger lock.

## After Each Use

DO NOT allow water to remain in unit for long periods of time. Sediments or minerals can deposit on pump parts and freeze pump. Follow these procedures after every use:

1. Shut engine OFF.
2. Turn water supply OFF.
3. Point spray gun in a safe direction, and squeeze trigger to relieve trapped pressure.
4. Let engine cool.
5. Disconnect hoses from spray gun and high-pressure outlet on pump. Drain water from hoses, spray gun, and lance. Use a rag to wipe off components.
6. Verify engine start switch and fuel valve is OFF.
7. Pull recoil handle approximately six times to remove remaining liquid from pump.
8. Store unit in a clean, dry area.

**NOTE:** If storing for more than 30 days, see Storage section.

## Automatic Cool Down System (Thermal Relief)

When power washer runs for 3-5 minutes without spray gun activation, circulating water in pump can reach temperatures above 133°F (56.1 °C). Thermal relief system engages to cool pump by discharging warm water onto ground.

## Section 4 Maintenance and Troubleshooting

### Maintenance

Regular maintenance will improve performance and extend engine/equipment life. The manufacturer recommends that all maintenance work be performed by an Independent Authorized Service Dealer (IASD). Regular maintenance, replacement or repair of the emissions control devices and systems may be performed by any repair shop or person of the owner's choosing. However, to obtain emissions control warranty service free of charge, the work must be performed by an IASD. See the emissions warranty.

**NOTE:** Call Customer Service at 1-855-447-3734 with questions about component replacement.

**NOTE:** All required service and adjustments should be each season, as detailed in maintenance schedule chart.

### Maintenance Schedule

Follow maintenance schedule intervals, whichever occurs first according to use.

**NOTE:** Adverse conditions will require more frequent service.

First 5 Hours
Change engine oil
Every 8 Hours or Daily
Inspect/clean water inlet screen*
Inspect high-pressure hose
Inspect detergent siphoning hose/filter
Inspect spray gun and assembly for leaks
Clean debris
Inspect engine oil level
Inspect pump oil level
Every 50 Hours or Every Season
Check/clean water inlet screen**
Change pump oil**
Change engine oil**
Inspect muffler and spark arrester*
Every 100 Hours or Every Season
Service spark plug

\* Clean if clogged. Replace if perforated or torn.

\*\* Service more often under dirty or dusty conditions.

### Preventive Maintenance

Dirt or debris can cause improper operation and equipment damage. Clean power washer daily or before each use. Keep area around and behind muffler free from combustible debris. Inspect all cooling air openings on power washer.

- Use a damp cloth to wipe exterior surfaces clean.
- DO NOT insert any objects through cooling air openings.
- Use a soft bristle brush to loosen caked on dirt, oil, etc.
- Use a vacuum to pick up loose dirt and debris.

### Inspect and Clean Inlet Screen

Inspect inlet screen on pump water inlet. Clean clogged screen and replace screen if damaged.

### Inspect High-Pressure Hoses

High-pressure hoses can develop leaks from wear, kinking, or abuse. Inspect hoses before each use. Inspect for cuts, leaks, abrasions, bulging, and damage or movement of couplings. If these conditions exist, replace hose immediately.

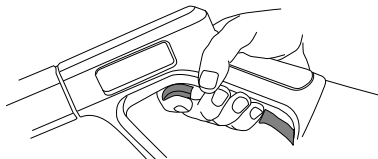
**NOTE:** DO NOT repair high-pressure hose. Replace with hose that meets or exceeds maximum pressure rating of unit.

### Inspect Detergent Siphoning Tube

Inspect filter on detergent tube and clean if clogged. Tube should fit tightly on barbed fitting. Examine tube for leaks or tears. Replace filter or tube if either is damaged.

### Inspect Spray Gun

**NOTE:** Replace spray gun immediately if it fails any test steps.



000123

**Figure 4-1. Test Spray Gun (typical)**

1. Verify spray gun hose connection is secure.
2. Squeeze and release trigger.

**NOTE:** Trigger should spring back into place and lock when released.

## Nozzle Maintenance

A pulsing sensation felt when squeezing spray gun trigger may be caused by excessive pump pressure. Typical causes of excessive pump pressure are nozzle clog or restriction. Immediately clean nozzle as follows:



### **WARNING**

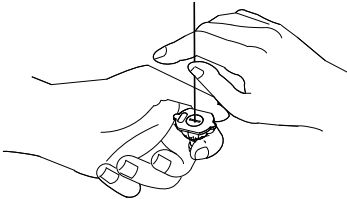
Fluid Injection. This machine produces high-pressure fluid streams that can pierce skin. Fluid injection could result in death or serious injury.

(000106b)

1. Turn engine and water supply OFF.

**NOTE:** Keep high-pressure hose connected to pump and spray gun while system is pressurized.

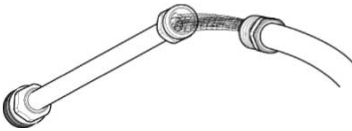
2. Relieve spray gun water pressure.
3. Remove nozzle from lance.
4. See [Figure 4-2](#). Use a paper clip to remove debris.



000109

**Figure 4-2. Remove Debris**

5. See [Figure 4-3](#). Remove lance from spray gun and back flush thoroughly.



000131

**Figure 4-3. Back Flush Lance**

6. Install nozzle on lance.
7. Install lance on spray gun.
8. Verify hose is connected to pump water inlet, and high-pressure hose is connected to spray gun, and pump.
9. Turn water ON.
10. Start engine.

11. Test power washer by operating with each quick connect nozzle.

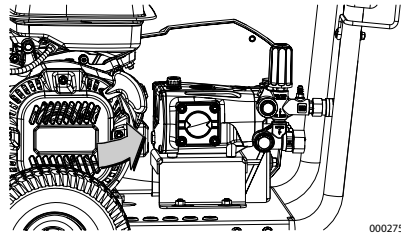
### **WARNING**

Potential of cancer. Prolonged or repeated contact with used motor oil has been shown to cause cancer in laboratory animals. Thoroughly wash exposed areas with soap and water.

(000127a)

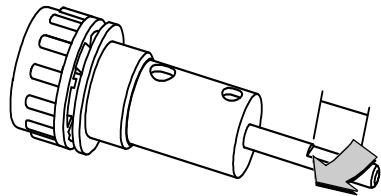
## Change Pump Oil

1. Clean area around oil drain plug. See [Figure 4-10](#).
2. Place a small pan under oil drain plug to catch oil.
3. Remove oil drain plug. Drain oil completely.
4. Install oil drain plug. Do not over tighten.
5. Clean area around pump oil dipstick.
6. Fill pump with SAE 15W40 non-detergent oil. Oil level must be within markings on dipstick. See [Figure 4-11](#). Do not overfill.
7. Install oil dipstick until finger tight.
8. Clean up any spilled oil.



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**Figure 4-4. Drain Pump Oil**



000268

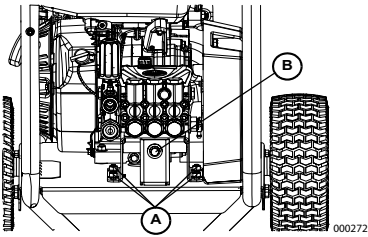
**Figure 4-5. Pump Oil Dipstick**

## Belt Replacement

It may be necessary to replace belt if it breaks or if there is a sudden loss of pressure:

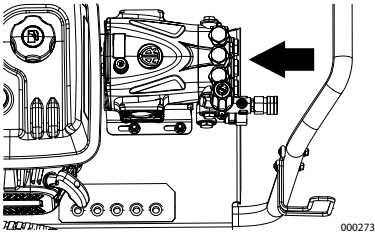
1. Remove belt guard.

- See [Figure 4-6](#). Loosen nuts (A) and tensioning bolt (B).



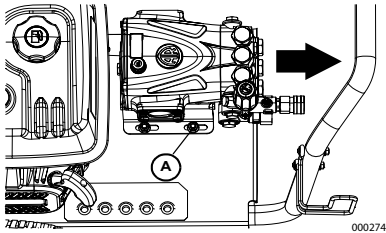
**Figure 4-6. Loosen Nuts**

- See [Figure 4-7](#). Push pump toward engine.



**Figure 4-7. Push Pump Toward Engine**

- Remove old belt and install new belt.
- See [Figure 4-8](#). Pull pump away from engine so bolt is approximately 2/3 of the way through the pump bracket slot (A). Tighten bolt.



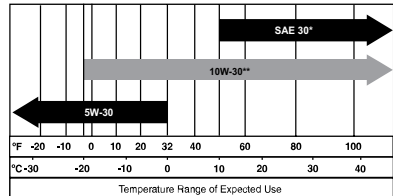
**Figure 4-8. Pull Pump Away From Engine**

- See [Figure 4-6](#). Tighten tensioning bolt (B). The pulleys should be aligned within 1° of each other and the new belt should be tensioned to ~90.5 lbs. (1/8" deflection under 8.3 lbs. with a tension gauge).
- See [Figure 4-6](#). Tighten all four nuts (A).
- Replace belt guard before running unit.

## Engine Maintenance

### Engine Oil Recommendations

Only high-quality detergent oils classified for service SF, SG, SH, SJ or higher are recommended. DO NOT use special additives. Climate determines proper engine oil viscosity. See chart to select correct viscosity.



000130

**Figure 4-9. Oil Viscosity**

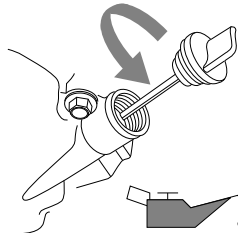
\* Below 50°F (10°C) use of SAE 30 will result in hard start.

\*\* Above 80°F (27°C) use of 10W30 may cause increased oil consumption. Inspect oil level more frequently.

### Inspect Engine Oil Level

Inspect engine oil level prior to each use, or every 8 hours of operation.

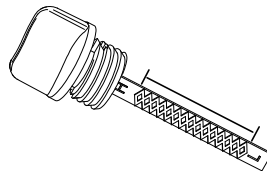
- Place power washer on a level surface.
- Clean area around oil fill.
- See [Figure 4-10](#) Remove oil fill cap and wipe dipstick clean.



000115

**Figure 4-10. Engine Oil Fill**

- Screw dipstick into filler neck. Verify proper oil level on dipstick.



000116

**Figure 4-11. Oil Level**

- Add recommended engine oil as necessary.
  - Replace oil fill cap and hand-tighten.
- NOTE:** Some units have more than one oil fill location. It is only necessary to use one oil fill point.

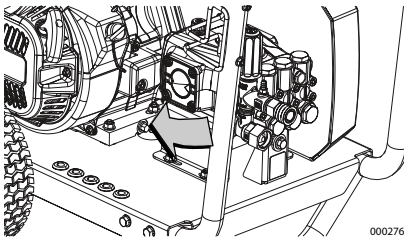
## Change Engine Oil

When using power washer under extreme, dirty, dusty conditions, or in extremely hot weather, change oil more frequently.

**NOTE:** Don't pollute. Conserve resources. Return used oil to collection centers.

Change oil while engine is still warm from running, as follows:

- Place power washer on a level surface.
- Disconnect the spark plug wire from the spark plug and place the wire where it cannot contact spark plug.
- Clean area around oil fill, and oil drain plug.
- Remove oil fill cap.
- Remove oil drain plug and drain oil completely into a suitable container.

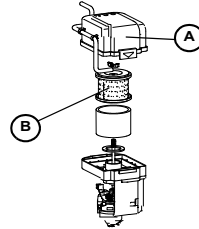


**Figure 4-12. Oil Drain Plug**

- Install oil drain plug and tighten securely.
- Slowly pour oil into oil fill opening until oil level is between "L" and "H" marks on dipstick. **DO NOT OVERFILL.**
- Install oil fill cap, and finger tighten.
- Wipe up any spilled oil.
- Properly dispose of oil in accordance with all applicable regulations.

## Air Filter

Engine will not run properly and may be damaged if run with a dirty air filter. Service air filter more frequently in dirty or dusty conditions.



000277

**Figure 4-13. Air Filter Assembly**

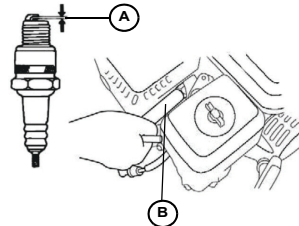
To service air filter:

- Release air cleaner cover latch and remove cover (A).
- Remove air filter (B).
- Gently tap air filter on flat surface to remove dirt.
- Install clean, or new filter.
- Install cover and snap air cleaner cover latch to close.

## Service Spark Plug

See [Figure 4-14](#). To service spark plug:

- Clean area around spark plug.
- Remove and inspect spark plug.
- Inspect electrode gap with wire feeler gauge and reset spark plug gap (A) to 0.028 - 0.031 in (0.70 - 0.80 mm).



000134

**Figure 4-14. Spark Plug**

**NOTE:** Replace spark plug if electrodes are pitted, burned or porcelain is cracked. Use ONLY recommended replacement plug. See Specifications.

- Install spark plug finger tight, and tighten an additional 3/8 to 1/2 turn using spark plug wrench (B).



---

## Inspect Engine Spark

### **WARNING**

Accidental Start-up. Disconnect spark plug wire when working on unit. Failure to do so could result in death or serious injury.

(000102)

1. Disconnect spark plug wire from spark plug.
2. Secure spark plug wire where it cannot contact spark plug.
3. Test spark plug with approved spark plug tester.

**NOTE:** DO NOT inspect for spark with spark plug removed.

## Inspect Muffler And Spark Arrester

**NOTE:** It is a violation of California Public Resource Code, Section 4442, to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order. Other states or federal jurisdictions may have similar laws.

Contact original equipment manufacturer, retailer, or dealer to obtain a spark arrester designed for exhaust system installed on this engine.

**NOTE:** Use ONLY original equipment replacement parts.

Inspect muffler for cracks, corrosion, or other damage. Remove spark arrester, if equipped, inspect for damage or carbon blockage. If replacement parts are required.

## Inspect Spark Arrester Screen

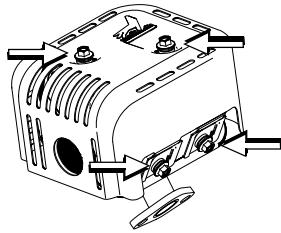


### **WARNING**

Hot Surfaces. When operating machine, do not touch hot surfaces. Keep machine away from combustibles during use. Hot surfaces could result in severe burns or fire.

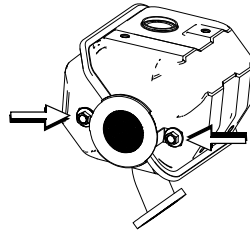
(000108)

1. Loosen fasteners and remove heat shield from muffler.
2. Loosen fasteners and remove spark arrester from muffler.
3. Inspect spark arrester. Replace if torn, perforated or otherwise damaged (part number 0K1851).
4. If screen is not damaged, clean it with a commercial solvent and replace.



000135

Figure 4-15. Heat Shield Fasteners



000136

Figure 4-16. Spark Arrester Fasteners

## Storage

### General



### **DANGER**

Explosion and Fire. Fuel and vapors are extremely flammable and explosive. Add fuel in a well ventilated area. Keep fire and spark away. Failure to do so will result in death or serious injury.

(000105)



### **WARNING**

Risk of Fire. Verify machine has properly cooled before installing cover and storing machine. Hot surfaces could result in fire.

(000109)

- DO NOT store fuel from one season to another unless properly treated.
- Replace fuel container if rust is present. Rust in fuel will cause fuel system problems.
- Cover unit with a suitable protective, moisture resistant cover.
- Store unit in a clean and dry area.

---

## Winter Storage

**NOTE:** If pump saver is not available, connect a 3-foot section of garden hose to water inlet adapter. Pour RV-antifreeze (antifreeze without alcohol) into hose. Pull recoil handle twice. Disconnect 3-foot hose.

- Store unit in a clean and dry area.

**NOTE:** If not using power washer for more than 30 days, prepare engine and pump for storage.

## Prepare Fuel System for Storage

Fuel stored over 30 days can go bad and damage fuel system components. Keep fuel fresh, use fuel stabilizer.

If fuel stabilizer is added to fuel system, prepare and run engine and pump for long term storage. Run engine for 2 minutes to circulate stabilizer throughout fuel system. Adequately prepared fuel can be stored up to 24 months.

**NOTE:** If fuel has not been treated with fuel stabilizer, it must be drained into an approved container. Run engine until it stops from lack of fuel. Use of fuel stabilizer in fuel storage container is recommended to keep fuel fresh. Prepare Engine for Storage

1. Change engine oil.
2. Remove spark plug.
3. Pour tablespoon (5-10cc) of clean engine oil or spray a suitable fogging agent into cylinder.
4. Pull starter recoil several times to distribute oil in cylinder.
5. Install spark plug.
6. Pull recoil slowly until resistance is felt. This will close valves so moisture cannot enter engine cylinder. Gently release recoil.

## Change Oil

Change engine oil before storage. See [Change Engine Oil](#).

## Prepare Pump for Storage

Protect unit from freezing temperatures. Failure to do so will permanently damage pump and render unit inoperable. Freeze damage is not covered under warranty.

Protect unit from freezing temperatures as follows:

1. Shut engine OFF.
2. Turn water supply OFF.
3. Point spray gun in a safe direction, and squeeze trigger to relieve trapped pressure.
4. Let engine cool.
5. Disconnect hoses from spray gun and high-pressure outlet on pump. Drain water from hoses, spray gun, and lance. Use a rag to wipe off components.
6. Empty pump of all remaining liquids.

7. Turn engine start switch and fuel valve to OFF.
8. Pull recoil handle approximately six times to remove remaining liquid from pump.
9. Winterize pump with pump saver. This minimizes freeze damage and lubricates pistons and seals.
10. Store unit in a clean and dry area.

**NOTE:** If pump saver is not available, connect a 3-foot section of garden hose to water inlet adapter. Pour RV-antifreeze (antifreeze without alcohol) into hose. Pull recoil handle twice. Disconnect 3-foot hose.

## Troubleshooting

PROBLEM	CAUSE	CORRECTION
Pump fails to produce pressure, has erratic pressure, chattering, loss of pressure, low water volume.	<ol style="list-style-type: none"> <li>1. Low pressure nozzle installed.</li> <li>2. Water inlet is obstructed.</li> <li>3. Inadequate water supply.</li> <li>4. Inlet hose kinked or leaking.</li> <li>5. Clogged hose inlet screen.</li> <li>6. Water supply is over 100 °F (37.8 °C).</li> <li>7. High-pressure hose is obstructed, or leaks.</li> <li>8. Spray gun leaks.</li> <li>9. Nozzle is obstructed.</li> <li>10. Pump is faulty.</li> <li>11. Belt is worn.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace with high-pressure nozzle.</li> <li>2. Clean inlet.</li> <li>3. Provide adequate water flow.</li> <li>4. Straighten inlet hose, patch leak.</li> <li>5. Inspect and clean inlet hose screen.</li> <li>6. Provide cooler water supply.</li> <li>7. Clear obstructions or replace hose.</li> <li>8. Replace spray gun.</li> <li>9. Clean nozzle.</li> <li>10. Contact Customer Service at 1-855-447-3734, or <a href="http://www.drpower.com">www.drpower.com</a>.</li> <li>11. Contact Customer Service at 1-855-447-3734, or <a href="http://www.drpower.com">www.drpower.com</a>.</li> </ol>
Detergent fails to mix with spray.	<ol style="list-style-type: none"> <li>1. Detergent siphoning tube is not submerged.</li> <li>2. Detergent siphoning tube/filter is obstructed or cracked.</li> <li>3. High-pressure nozzle installed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Insert detergent siphoning tube into detergent.</li> <li>2. Clean or replace filter/detergent siphoning tube.</li> <li>3. Install low-pressure nozzle.</li> </ol>
Engine runs well at no-load, but bogs when load is applied.	<ol style="list-style-type: none"> <li>1. Engine speed too low.</li> </ol>	<ol style="list-style-type: none"> <li>1. Contact Customer Service at 1-855-447-3734, or <a href="http://www.drpower.com">www.drpower.com</a>.</li> </ol>
Engine will not start, or starts and runs rough.	<ol style="list-style-type: none"> <li>1. Low oil level, "Oil Alert System".</li> <li>2. Dirty air filter.</li> <li>3. Out of fuel</li> <li>4. Stale fuel.</li> <li>5. Spark plug wire not connected to plug.</li> <li>6. Bad spark plug.</li> <li>7. Water in fuel.</li> <li>8. Excessively rich fuel mixture.</li> <li>9. Engine switch OFF.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill crankcase to proper level.</li> <li>2. Clean or replace air filter.</li> <li>3. Fill fuel tank.</li> <li>4. Replace with fresh fuel.</li> <li>5. Connect wire to spark plug.</li> <li>6. Replace spark plug.</li> <li>7. Drain fuel tank, replace with fresh fuel.</li> <li>8. Contact Customer Service at 1-855-447-3734, or <a href="http://www.drpower.com">www.drpower.com</a>.</li> <li>9. Turn engine switch ON.</li> </ol>
Engine shuts down during operation/	<ol style="list-style-type: none"> <li>1. 1. Out of fuel.</li> </ol>	<ol style="list-style-type: none"> <li>1. 1. Fill fuel tank.</li> </ol>
Engine lacks power.	<ol style="list-style-type: none"> <li>1. 1. Dirty air filter.</li> </ol>	<ol style="list-style-type: none"> <li>1. 1. Replace air filter.</li> </ol>

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75 Meigs Road  
Post Office Box 25  
Vergennes, Vermont 05491  
1-855-447-3734  
[www.drpower.com](http://www.drpower.com)