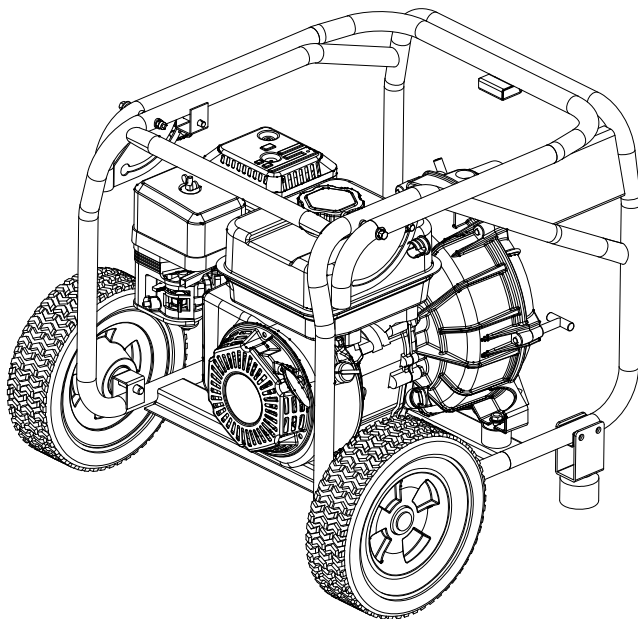


FIRMAN[®]

OPERATOR'S MANUAL SEMI-TRASH WATER PUMP FPG20T



Record product information to reference when ordering parts or obtaining warranty coverage.



SERIAL NUMBER: _____

PURCHASE DATE: _____

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REGISTER YOUR PRODUCT

Register your product using the QR code provided or at www.firmanpowerequipment.com.



INTRODUCTION

Thank you for purchasing a FIRMAN pump. You have selected a high-quality, precision engineered pump designed and tested to give you years of satisfactory service.

This manual contains safety information to make you aware of the hazards and risks associated with pump products and how to avoid them. It is important that you read and understand these instructions thoroughly before attempting to start or operate pump. Save these original instructions for future reference.

All information in this publication is based on the latest production information available at the time of approval for printing. The manufacturer reserves the right to change, alter or otherwise improve the pump and this documentation at any time without prior notice.

SIGNAL WORDS

 DANGER	 WARNING	 CAUTION	NOTICE
Indicates a hazard which, if not avoided, will result in death or serious injury.	Indicates a hazard which, if not avoided, could result in death or serious injury.	Indicates a hazard which, if not avoided, could result in minor or moderate injury.	Indicates information considered Important, but not hazard-related.



Safety Alert Symbol- Indicates a potential personal injury hazard.



Operator's Manual- Failure to follow warnings, instructions and operator's manual could result in death or serious injury.



Toxic Fumes- Engine exhaust contains carbon monoxide, a poisonous gas that will kill you in minutes. You cannot smell it or see it.



Water contact with a power source could cause electrical shock resulting in death or serious injury.



Fire- Fuel and its vapors are extremely flammable which could cause burns or fire resulting in death or serious injury. Engine exhaust could cause fire resulting in death or serious injury.



Hot Surface- Muffler could cause burns resulting in serious injury.

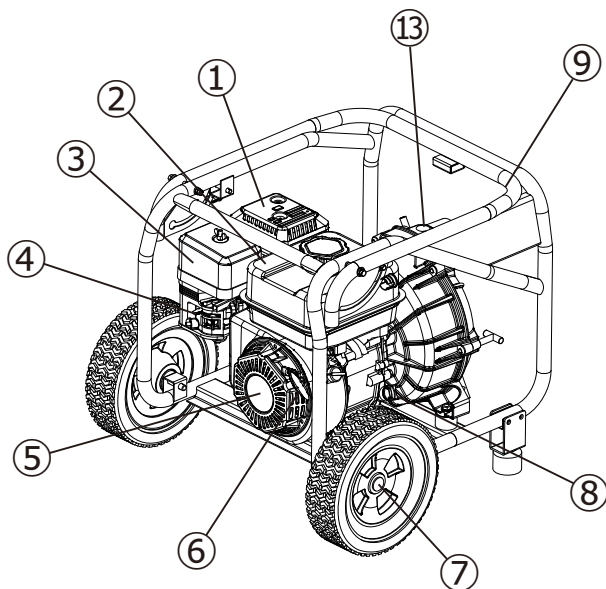
INTRODUCTION



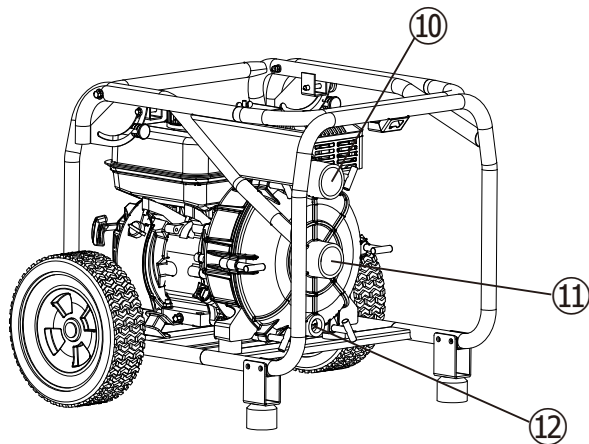
WARNING! This product can expose you to chemicals including gasoline engine exhaust, which is known to the State of California to cause cancer, and carbon monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

- Do not place pump discharge hose near a power source.
- Do not pump chemicals or flammable liquids.
- Keep children away from the equipment, especially while it is operating.
- Never store fuel or other flammable materials near the Pump engine.
- Do not leave the equipment unattended when it is running. Turn off the equipment before leaving the work area.
- Engine can produce high noise levels. Prolonged exposure to noise levels above 85 dBA is hazardous to hearing. Always wear ear protection when operating or working around the gas engine while it is operating.
- Wear ANSI-approved safety glasses.
- Use only accessories that are recommended by FIRMAN for your model. Accessories that may be suitable for one piece of equipment may become hazardous when used on another piece of equipment.
- Do not operate in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Gasoline-powered engines may ignite the dust or fumes.
- Do not overreach. Keep proper footing and balance at all times. This enables better control of the equipment in unexpected situations.
- Parts, especially exhaust system components, get very hot during use. Stay clear of hot parts.
- Do not cover the engine or equipment during operation.
- Keep the equipment, engine, and surrounding area clean at all times.
- Do not smoke, or allow sparks, flames, or other sources of ignition around the equipment, especially when refueling.
- Use the equipment, accessories, etc., in accordance with these instructions and in the manner intended for the particular type of equipment, taking into account the working conditions and the work to be performed. Use of the equipment for operations different from those intended could result in a hazardous situation.
- Do not operate the equipment with known leaks in the engine's fuel system.
- When spills of fuel or oil occur, they must be cleaned up immediately. Dispose of fluids and cleaning materials as per any local, state, or federal codes and regulations. Store oil rags in a bottom-ventilated, covered, metal container.
- Use the correct equipment for the application. Do not modify the equipment and do not use the equipment for a purpose for which it is not intended.

FEATURES AND CONTROLS



- 1- Muffler
- 2- 1 Gallon(3.6L) Capacity Fuel Tank
- 3- Air Filter
- 4- Choke Lever
- 5- 196cc FIRMAN OHV Engine
- 6- Recoil Starter
- 7- 10.0"(25cm) Flat Free Wheel
- 8- Oil Filler Cap
- 9- Handle
- 10- 2 in. (5 cm) NPT Outlet
- 11- 2 in. (5 cm) NPT Inlet
- 12- Pump Drain Plug
- 13- Priming Plug



***We are always working to improve our products. Therefore, the enclosed product may differ slightly from the image on this page.**

1. Location

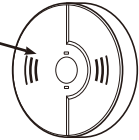


DANGER! Engine exhaust contains carbon monoxide, a poisonous gas that could kill you in minutes. You CANNOT smell it, see it, or taste it. Even if you do not smell exhaust fumes, you could still be exposed to carbon monoxide gas.

- Operate pump only outdoors, at least 20 ft. (6 m) from occupied spaces with exhaust pointed away to reduce the risk of carbon monoxide accumulating.
- Install battery-operated carbon monoxide alarms or plug-in carbon monoxide alarms with battery back-up according to the manufacturer's instructions. Smoke alarms cannot detect carbon monoxide gas.
- Do not run this pump inside homes, garages, basements, crawlspaces, sheds, or other partially enclosed spaces even if using fans or opening doors and windows for ventilation. Carbon monoxide can quickly build up in these spaces and can linger for hours, even after this product has shut off.
- If water pump is operating in trench or pit, do not enter area while engine is running. Carbon monoxide gas will accumulate in these confined areas.
- If you start to feel sick, dizzy, weak or your home's carbon monoxide alarm sounds, get to fresh air right away. Call emergency services. You may have carbon monoxide poisoning.

Carbon Monoxide Alarm(s)

Install carbon monoxide alarms inside your home. Without working carbon monoxide alarms, you will not realize you are getting sick and dying from carbon monoxide poisoning.

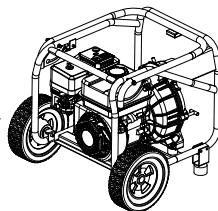


Prevent Carbon Monoxide (CO) Poisoning

Use outdoors at least 20 ft. (6 m) from any home.
Point exhaust away from all homes and occupied spaces.
Install CO alarms inside your home.



20 ft. (6 m) min.



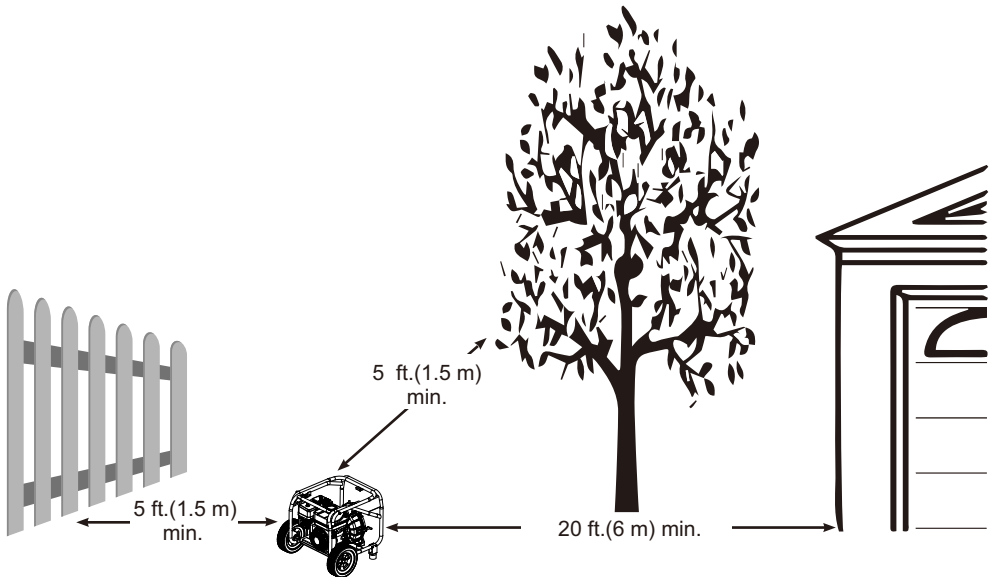
OPERATION

Reduce Risk of Fire



WARNING! Exhaust heat/gases could ignite combustibles, structures or damage fuel tank causing a fire, resulting in death or serious injury.

- Keep pump at least 5 ft. (1.5 m) from any structure, trees or vegetation over 12 in. (30 cm) in height.
- Select an outdoor site that is dry and protected from the weather. Do not move pump indoors to protect it from the weather.
- Do not locate the pump under a deck or other similar structure that may confine heat and airflow.

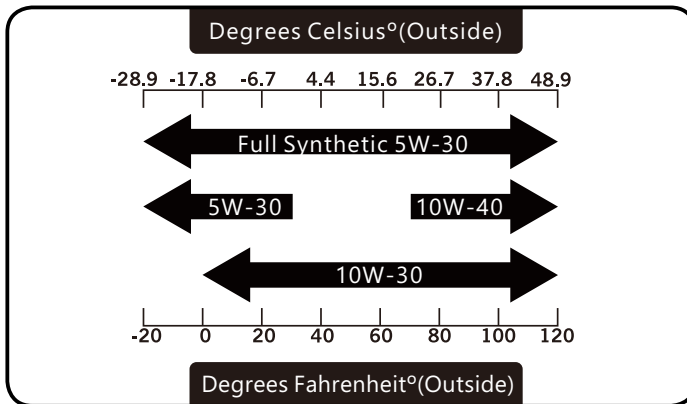


2. Oil and Gasoline

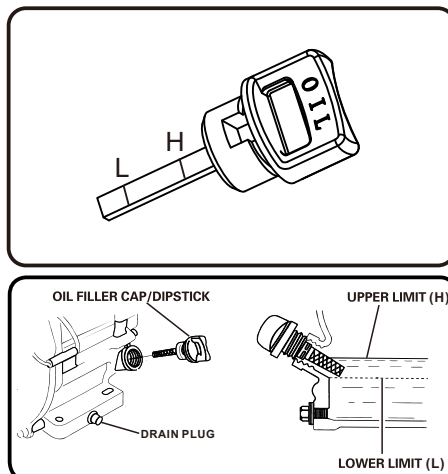
Add Engine Oil

We recommend using FIRMAN SAE 10W-30 API SJ oil for best performance. Other high-quality detergent oils (API SJ or higher) are acceptable. Do not use special additives. Ambient temperature determines the proper oil viscosity for the engine. Use the chart to select the proper oil for the outdoor temperature range expected.

NOTICE Do not attempt to crank or start the engine before it has been properly filled with the recommended type and amount of oil. Damage due to operation with no oil will void your warranty.



1. Place pump on a flat, level surface.
2. Clean area around oil fill and remove yellow oil fill cap/dipstick.
3. Wipe dipstick clean.



OPERATION

4. Using oil funnel, slowly pour contents of provided oil bottle into oil fill opening until oil reaches upper limit "H" mark on the dipstick. Be careful not to overfill. Overfilling could cause engine starting problems or engine damage.

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

6. Oil level should be checked prior to each use or at least every 8 hours of operation. Keep oil level maintained.

Low Oil Shutdown

The pump is equipped with a low oil shutdown. If the oil level drops below the minimum required level, a sensor will activate an internal switch stopping the engine. If the engine shuts off and the oil level is within specifications, check to see if pump is sitting at an angle. Place pump on an even surface to correct this. If engine fails to start, the oil level may not be high enough to deactivate the internal low oil level switch. Make sure the sump is completely full of oil to the upper limit (H). Do not operate engine until oil level issue is corrected. Contact FIRMAN customer service.

Add Gasoline



WARNING! Fuel and its vapors are extremely flammable which could cause burns or fire resulting in death or serious injury.

- Turn pump engine OFF and let it cool at least 2 minutes before removing fuel cap.
- Do Not refuel or move pump when engine is running.
- Move pump outdoors prior to adding or draining fuel
- Keep fuel away from any ignition sources.
- Do not overfill tank, allow space for fuel expansion.
- If any fuel spills, wait until it evaporates before starting engine
- Check and replace fuel lines, tank, cap, and fittings prior to each use if any damage or leaks are found.

Fuel must meet these requirements:

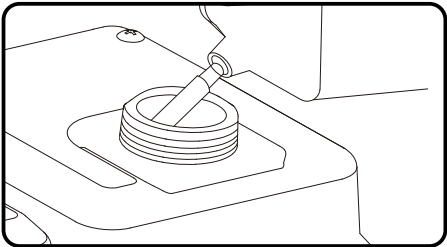
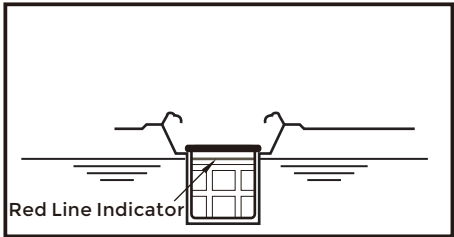
- Clean, fresh, unleaded gasoline with a minimum of 87 octane.
- For high altitude use, see Operation at High Altitude.
- Gasoline with no more than 10% ethanol is acceptable.

E10

E15

NOTICE Do not mix oil in gasoline or modify engine to run on alternate fuels not described in this manual. Use of unapproved fuels could damage engine and will not be covered under warranty.

- 1. Clean area around fuel fill cap, remove cap.
- 2. Slowly add unleaded fuel to fuel tank. Be careful not to fill above the RED fuel level indicator. This allows adequate space for fuel expansion.



- 3. Install fuel cap and let any spilled fuel evaporate before starting engine.

Operation at High Altitude

At altitudes over 5,000 feet(1524 meters), a minimum 85 octane gasoline is acceptable. Engine power and generator output will be reduced approximately 3.5% for every 1000 feet (305 m) of elevation above sea level. High altitude may cause hard starting, increased fuel consumption and spark plug fouling. To operate at high altitudes FIRMAN can provide a high altitude carburetor main jet. The alternative main jet and installation instructions can be obtained by contacting Customer Support.

	196cc	Altitude
Altitude main jet 1	331717002	3000-6000Feet (914-1828 m)
Altitude main jet 2	331717003	6000-8000Feet (1828 - 2438 m)

NOTICE Operation using an alternative main jet at elevations lower than the recommended minimum altitude can damage the engine. For operation at lower elevations, the standard main jet supplied must be used. Operating the engine with the wrong main jet may increase exhaust emissions, fuel consumption and reduce performance.

Operation at High Ambient conditions

Your Firman Power Equipment product is designed and rated for continuous operation at ambient temperatures up to 104°F (40°C). The Pump may be operated at temperatures ranging from 5°F(-15°C) to 122°F(50°C) for short periods. If the pump is exposed to temperatures outside this range during storage, the pump should be brought back within this range before operation. When operated above 77°F(25°C) there may be a decrease in power. Pump suction and discharge head along with flow are subject to and limited by such factors as ambient temperature, altitude, engine conditions etc.

OPERATION

Semi-Trash Pump Location

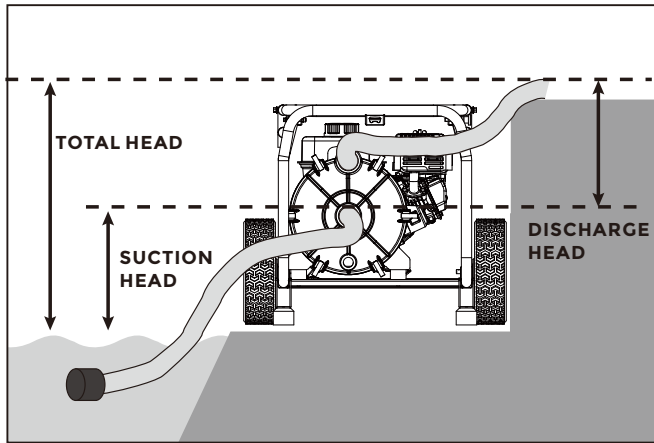
Place the pump in a well ventilated area.

DO NOT place the pump near vents or intakes where exhaust fumes could be drawn into occupied or confined spaces. Carefully consider wind and air currents when positioning pump.

This pump must have at least 5 ft. (1.5 m) of clearance from combustible material.

Leave at least 3 ft. (91.4 cm) of clearance on all sides of the pump to allow for adequate cooling, maintenance and servicing.

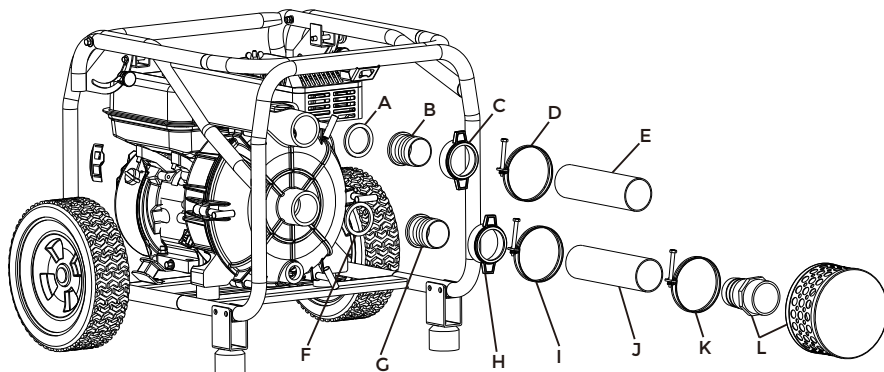
Place the pump on a level surface free from any obstructions or potential hazards. The pump should be placed close to the water level to ensure maximum pump performance.



Pump output will be affected by the type, length, and size of the suction and discharge hoses. The pumping height, also known as the total head, is the distance from the water level to the point of discharge. As this distance increases, pump output decreases. The time required to draw water from the source to the pump (self-priming time) can be decreased by minimizing the suction head.

Connecting a Hose Kit

NOTICE Both the intake and discharge ports are 2 in. (5 cm) NPT. Please insure the connectors to the suction and discharge hose are 2 in. (5 cm) NPT threaded.



Connect the Discharge Hose

1. Locate the following: outlet hose adapter (C), gasket (A), and outlet hose fitting (B) and align for assembly.
2. Thread the assembled connector to the outlet fitting (top of pump).
3. Locate and slide the silver colored hose clamp(D) over the outlet hose(E).
4. Slide the discharge hose over the outlet hose fitting. You can use a small amount of dish soap on the hose fitting to help install the hose onto the outlet hose fitting.
5. Slide the hose clamp in place about midway on the outlet hose adapter . Tighten to $7.4 \pm 1.5 \text{ lbf-ft}$ ($10 \pm 2 \text{ Nm}$) with a 10mm wrench. The hose clamp should be placed behind the outlet adapter barbs on the smooth part of the adapter.

Connect the Suction Hose and Suction Filter

1. Locate the following: Inlet hose adapter (H), gasket (F), and inlet hose fitting (G) and align for assembly.
2. Thread the assembled connector to the inlet fitting (bottom of pump).
3. Locate and slide the silver colored hose clamp(I) over the inlet hose(J).
4. Slide the suction hose over the inlet hose fitting. You can use a small amount of dish soap on the hose fitting to help install the hose onto the inlet hose fitting.
5. Slide the hose clamp in place about midway on the inlet hose adapter . Tighten to $7.4 \pm 1.5 \text{ lbf-ft}$ ($10 \pm 2 \text{ Nm}$) with a 10mm wrench. The hose clamp should be placed behind the inlet adapter barbs on the smooth part of the adapter.
6. Place the clamp on the other end of the suction hose. Attach the strainer to the suction hose. You can use a small amount of dish soap on the hose fitting to help install the hose onto the strainer hose fitting.
7. Slide the clamp just before the end of the suction hose.
8. Tighten the clamp to $7.4 \pm 1.5 \text{ lbf-ft}$ ($10 \pm 2 \text{ Nm}$) with a 10mm wrench.

NOTICE You should have everything connected.

OPERATION

Priming the Pump

WARNING! Pumping flammable liquids could cause fire resulting in death or serious injury. DO NOT pump flammable liquids.

NOTICE Pumping sea water, beverages, acids, chemical solutions, pesticides, fertilizers or similar liquids or corrosives can promote corrosion which can damage pump. Pump only water that is not intended for human consumption.

NOTICE DO NOT run the pump dry.

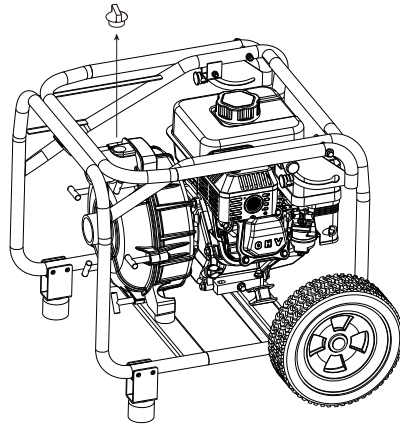
Running the pump dry can destroy the pump seals and will void the warranty. If the pump was running while dry, stop the engine and allow it to cool thoroughly before filling the chamber with water.

Pumping water with solids larger than the maximum size listed in the specification section of this operator's manual can damage the pump and void the warranty. Ensure that correct strainer size is attached to the suction hose inlet to prevent pumping larger than allowed solids.

Located on the outlet flange is the priming plug.

Remove the priming plug and fill pump body to the very top of outlet flange with water. Reinstall the priming plug. As the engine starts up, this will start the draw of liquid into the pump. Located within the pump assembly is the one-way valve. As you prime the pump housing this one-way flap valve shuts off the opening to the suction hose. The priming process is only required when the pump housing is not full of water.

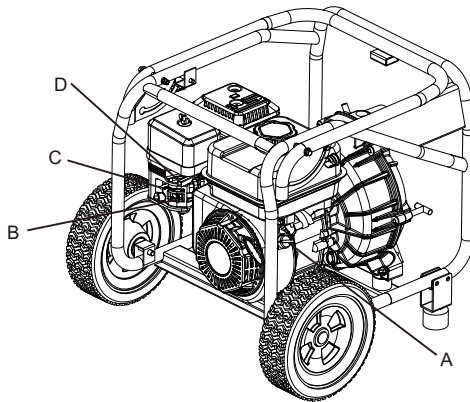
NOTICE Ensure the priming plug is secure before pump operation, if not secure the priming plug could be ejected and water could be pumped through the top of the outlet flange.



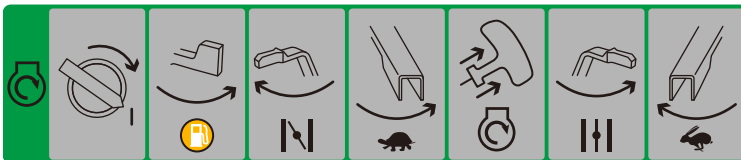
Starting the Engine

NOTICE Before starting engine, verify pump is primed with water and suction strainer is submerged. Failure to do so could cause pump damage and void warranty.

1. Before starting the pump, check for loose or missing parts and for any damage which may have occurred during shipment. Ensure spark plug, muffler, fuel cap, and air cleaner are all in place.
2. Move pump outdoors to safe operating location at least 20 feet from any occupied spaces.



3. Rotate engine switch (A) to "ON"(I) position.
4. Move the fuel valve (B) to the "ON" position.
5. Move the choke lever (C) to the "Choke" position.
6. Move throttle lever to middle position. (D)
7. Pull the starter cord slowly until resistance is felt and then pull rapidly.
8. As engine warms up, move the choke lever (C) to "Run" position.
9. Move the throttle lever (D) to the "Fast" position.

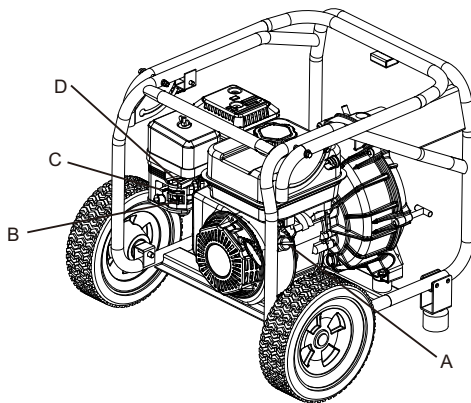


OPERATION

Stopping the Engine

1. Move the throttle lever(C) to the slow position.
2. Rotate the engine switch(A) to the "OFF" position.
3. Move the fuel valve(B) to the "OFF" position.

Always ensure that the Fuel Valve and the Engine Switch are in the "OFF" position when the engine is not in use.



AFTER EACH USE

After pump has cooled, remove the priming plug and pump drain plug and allow the pump to drain thoroughly.

NOTICE Drain water from pump after use. Trapped water could freeze and damage pump. Pump damage caused by freezing is not covered by warranty.

After each use:

1. Drain pump housing.
2. Disconnect and drain hoses.
3. Clean pump with dry cloth.
4. Store pump in clean, dry area.
5. If storing for more than 30 days, see long term storage.

MAINTENANCE SCHEDULE

ITEM	NOTES	Daily(Before operation)	Initial 25 hours	Every 50 hours	Every 100 hours (or annual)	Every 250 hours
Spark Plug	Check condition. Adjust gap and clean. Replace if necessary.				✓	
Engine Oil	Check oil level.	✓				
	Replace.		✓		✓	
Air Filter	Clean, replace if necessary.			✓		
Fuel	Clean fuel tank strainer. Replace if necessary.				✓	
Fuel Line	Check fuel hose for cracks or other damage. Replace if necessary.	✓				
Exhaust System	Check for leakage. Retighten or replace gasket if necessary.	✓				
	Check spark arrester screen. Clean/Replace if necessary.				✓	
Engine	Check adjust valve clearance.*					✓
	Clean combustion chamber.*					✓
Fittings/ Fasteners	Check. Replace if necessary.				✓	

* To be performed by knowledgeable/experienced owner or by authorized service center.

General Recommendations

Regular maintenance will improve the performance and extend the life of the pump. See any authorized dealer for service.

The pump's warranty does not cover items that have been subjected to operator abuse or negligence. To receive full value from the warranty, the operator must maintain the pump as instructed in this manual.

Some adjustments will need to be made periodically to properly maintain your pump.

All service and adjustments should be made at least once each season. Follow the requirements in the maintenance schedule chart above.

NOTICE Once a year you should clean or replace the spark plug and replace the air filter. New spark plugs and clean air filter assure proper fuel-air mixture and help your engine run at peak performance and last longer.

Maintenance - Storage

When Transporting Pump

Transport with fuel tank **EMPTY** or with fuel valve in **OFF** position.
Do not tip pump at an angle which causes fuel to spill.

ENGINE MAINTENANCE

To prevent accidental starting, remove and ground spark plug wire before performing any service.

Change Engine Oil

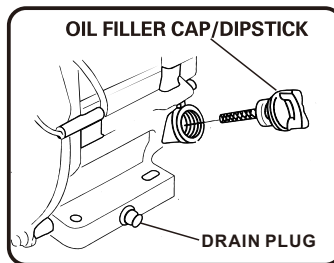
Change engine oil every 100 hours. (for a new engine, change oil after 25 hours.)
If you are using your pump under extremely dirty or dusty conditions, or in extremely hot weather change the oil more often.

CAUTION! Avoid prolonged or repeated skin contact with used motor oil. Used motor oil has been shown to cause skin cancer in certain laboratory animals. Thoroughly wash exposed areas with soap and water.

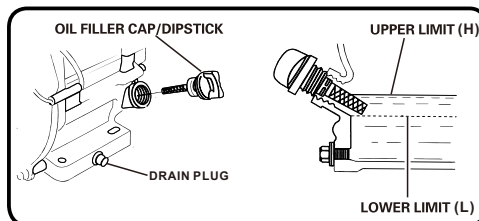


KEEP OUT OF REACH OF CHILDREN. DON'T POLLUTE. CONSERVE RESOURCES. RETURN USED OIL TO COLLECTION CENTERS.

(a) On a level surface drain oil into a suitable container by removing the drain plug and the oil filler cap while the engine is warm.



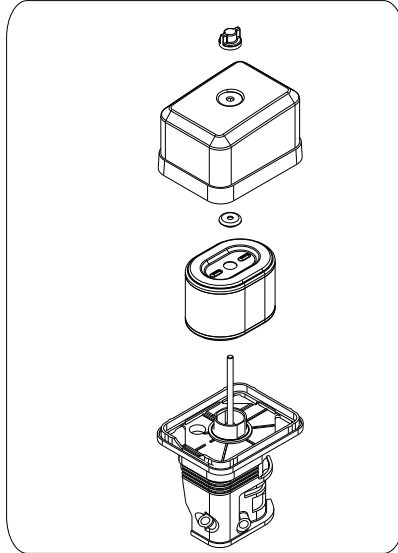
(b) Reinstall the drain plug and fill the engine with oil until it reaches the **HIGH(H)** level on the oil filler dipstick.



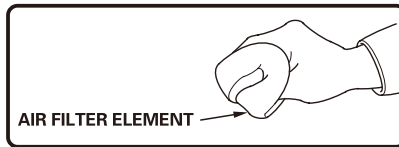
NOTICE We recommend using **FIRMAN SAE 10W-30 API SJ** oil for best performance. Other high-quality detergent oils (API SJ or higher) are acceptable. See **Oil and Gasoline**

Air Filter Maintenance

- (a) Unscrew wing nut to remove the air filter cover.
- (b) Remove the foam element and wash in liquid detergent and water. Squeeze dry in a clean cloth.



- (c) Saturate foam air filter element with clean engine oil and squeeze in a clean cloth to remove excess oil.



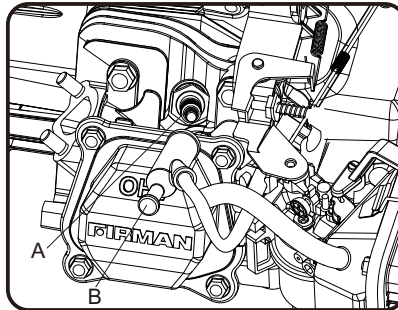
- (d) Reassemble the element. Reattach the air filter cover and tighten wing nut.

Spark Plug Maintenance

Changing the spark plug will help your engine start easier and run at peak performance.

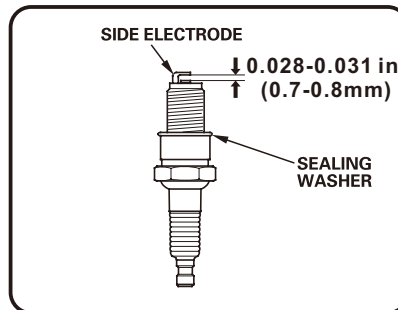
- (a) Remove the spark plug boot.
- (b) Remove spark plug using provided wrench.

Maintenance - Storage



A- Spark plug
B- Spark plug boot

- (c) Inspect spark plug for damage and clean with a wire brush before reinstalling. Replace if damaged.
- (d) Adjust the electrode gap to 0.028 - 0.031 in. (0.7 - 0.8 mm).
- (e) Seat spark plug in position and thread by hand to prevent cross threading.
- (f) Tighten plug with provided wrench and put the spark plug boot back on spark plug.



SPARK PLUG: TORCH F6RTC

Maintenance Valve Clearance

Intake: 0.004 - 0.006 in. (0.10 - 0.15 mm)
Exhaust: 0.004 - 0.006 in. (0.10 - 0.15 mm)

Muffler and Spark Arrester

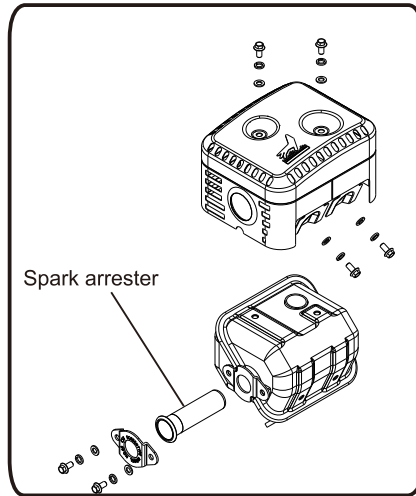


WARNING! Contact with muffler area could cause burns resulting in serious injury.

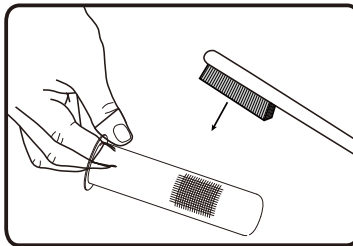
- Do not touch hot parts.
- It is a violation of California Public Resource Code, Section 4442, to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order. Other states or federal jurisdictions may have similar laws, reference Federal Regulation 36 CFR Part 261.52.

Inspect Muffler and Spark Arrester

1. Inspect the muffler for cracks, corrosion, or other damage.
2. Remove the screws securing the spark arrester in place and then remove it from the muffler.



3. Carefully remove the carbon deposits from the spark arrester screen with a wire brush.



4. Replace the spark arrester if it is damaged. If replacement parts are required, make sure to use only FIRMAN original equipment replacement parts.
 5. Position the spark arrester in the muffler and attach with the screws.
- NOTICE** Failure to clean or replace spark arrester may result in decreased engine performance.

Maintenance - Storage

Long Term Storage

It is important to prevent gum deposits from forming in essential fuel system components such as the carburetor, fuel hoses or tank during storage. Alcohol-blended fuels (called gasohol, ethanol or methanol) attract moisture, which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage.

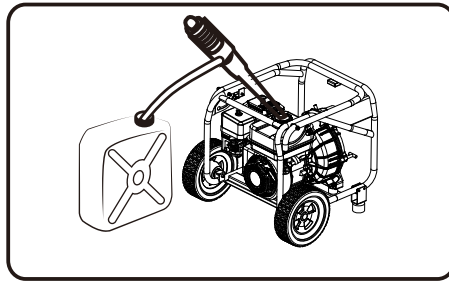
When the pump is being stored for more than one month, follow these instructions to avoid engine problems:



WARNING! Fuel and its vapors are extremely flammable which could cause burns or fire resulting in death or serious injury.

Do not store fuel near any ignition sources.

When draining fuel move pump outdoors and use a commercially available non-conductive vacuum siphon. Fuel must be drained into an approved container.



Engine Storage

1. Allow the engine to cool completely before storage.
2. Clean the engine according to the instructions in the Maintenance section.
3. Drain all fuel completely from the fuel line and carburetor to prevent gum from forming.
4. Add a fuel stabilizer into the fuel tank.
5. Change the oil.
6. Remove the spark plug and pour about ½ ounce (14.8 ml) of oil into the cylinder. Crank the engine slowly to distribute the oil and lubricate the cylinder.
7. Reinstall the spark plug.

Pump Storage

1. Allow the pump to cool completely before storage.
2. Turn off the fuel supply at the fuel valve.
3. Drain the pump chamber thoroughly.
4. Clean the pump according to the instructions in the Maintenance section.
5. Once the pump is dry, spray WD-40 or similar product into the pump housing through all ports and drainage hole. Once complete reinstall all plugs prior to storage.
6. Store in a clean, dry place out of direct sunlight.

Troubleshooting - Specifications

Problem	Cause	Correction
Pump will not start.	1. No fuel 2. Faulty spark plug	1. Add fuel. 2. Replace spark plug.
Pump will not start; Trash pump starts but runs roughly.	1. Low oil level 2. Choke in the wrong position. 3. Spark plug wire loose.	1. Fill crankcase to the proper level; place trash pump on a flat, level surface. 2. Adjust choke. 3. Attach wire to spark plug.
Pump shuts down during operation.	1. Out of fuel. 2. Low oil level.	1. Fill fuel tank. 2. Fill crankcase to the proper level; place water transfer pump on a flat, level surface.
Pump overheating or performing poorly.	1. Strainer or hose clogged. 2. Pump not primed. 3. Suction hose out of water. 4. Head limit exceeded 5. Air leak	1. Remove debris from strainer or hose. 2. Re-prime pump 3. Place suction hose under the surface of the water. 4. Relocate pump so suction head is less than discharge head (maximum 98 feet) 5. Tighten connectors and clamps or replace seal packing.
Pump will not draw water	1. Water not added to pump 2. Hose clamps on inlet hose are not tight	1. Review "Priming the Pump" section of this manual 2. Even small pinhole leak can result in vacuum loss preventing pump from priming. Check hose clamps to ensure they are tight. Adjust clamp position if necessary.

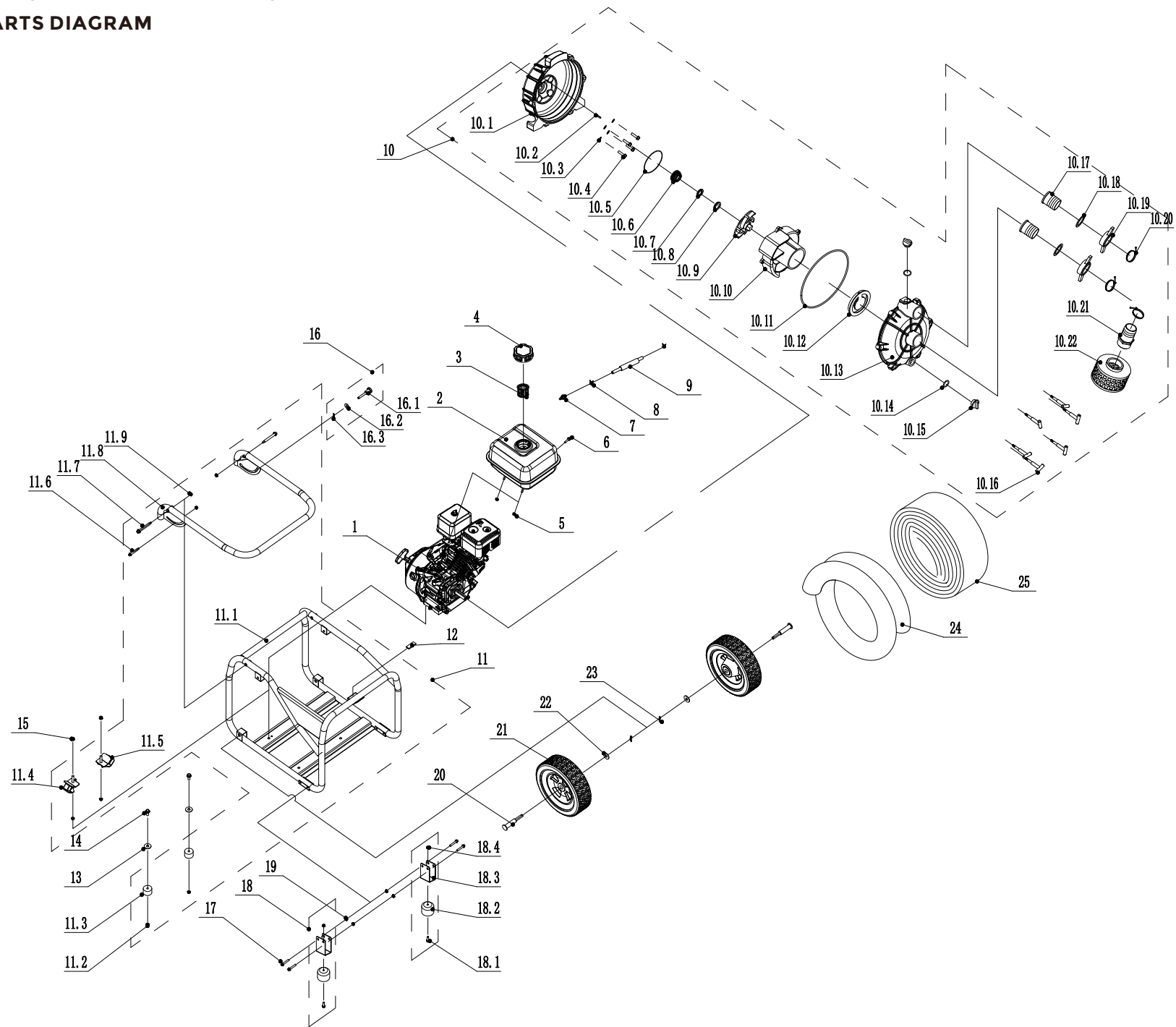
For all other issues, contact authorized dealer or Firman customer service.

SPECIFICATIONS

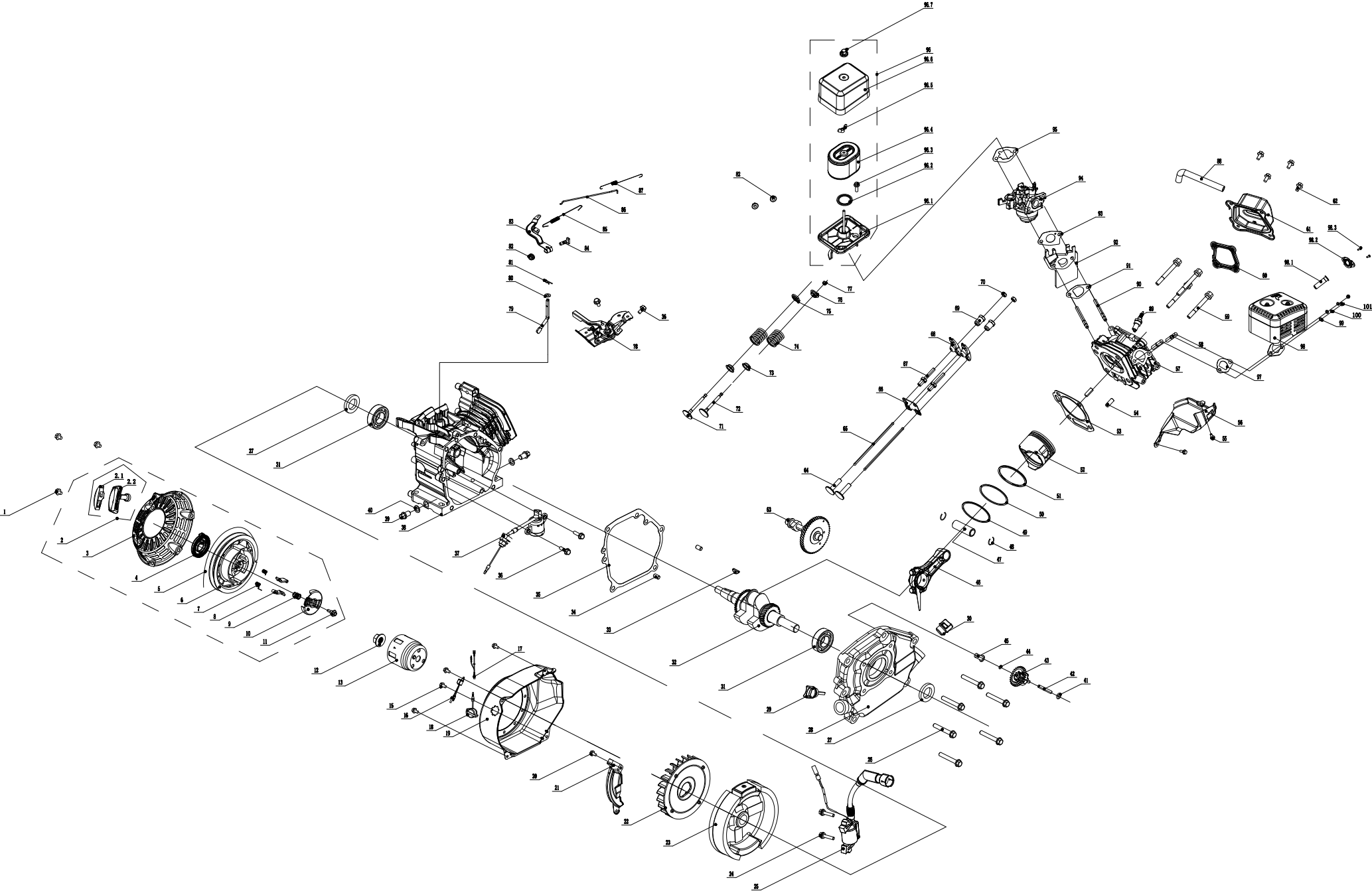
Model	FPG20T
Water Pump Type	Semi-Trash
Port Diameter	2 in. (5 cm)
Port Connection Type	NPT
Discharge Rate	158 GPM (600 LPM)
Total Head	85 ft. (26m)
Suction Head	26 ft. (8m)
Impeller Material	Cast Iron
Volute Material	Cast Iron
Max Solid Waste	1/2 in. diameter (1.27 cm)
Discharge Hose Length	25 ft. (7.6m)
Suction Hose Length	15 ft (4.6m)
Power Type	Gasoline
Start Type	Recoil
Engine Brand	FIRMAN
Engine Size	196cc
Engine Type	4-stroke
Gasoline Capacity	1 gal (3.6L)
Engine Oil Type	10W-30
Engine Oil Capacity	20.3 fl. oz (600ml)

PARTS DIAGRAM AND PART LIST

FPG20T PARTS DIAGRAM



196cc ENGINE PARTS DIAGRAM



FPG20T Pump

NO.	Part Number	Description	Qty.	NO.	Part Number	Description	Qty.
1	302467001	Engine Assy.	1	17	336713593	Flange Bolt M8×45	2
2	302417001	Fuel Tank	1	18	302717034	Foot Assy.	2
3	302427001	FUEL FILTER, WIRE MESH	1	18.1	317718304	Bolt M6×20	2
4	302417002	Fuel Cap	1	18.2	302717035	Gasket	2
5	302717001	Nut M6	2	18.3	302717036	Foot	2
6	302717002	Bolt M6×33	1	18.4	336718314	NUT M6	2
7	336713807	Tank fitting with filter	1	19	336713558	NUT M8	4
8	357713548	Clamp	2	20	302717037	Axle	2
9	302427002	Fuel Hose	1	21	357713592	Wheel	2
10	302417003	2" Trush Pump	1	22	357713514	FLAT WASHER Ø10	2
10.1	302717003	Pump Cover	1	23	357713536	COTTER PIN	2
10.2	302717004	Pin 6×24	1	24	302427003	Intake Hose	1
10.3	302717005	Washer	4	25	302427004	Discharge Hose	1
10.4	302717006	Bolt 5/16-24×30	4				
10.5	302717007	Sealing Ring	1				
10.6	302717008	Water Seal	1				
10.7	302717009	Friction Block	1				
10.8	302717010	Sealing Ring	1				
10.9	302717011	Impeller	1				
10.10	302717012	Impeller Cover	1				
10.11	302717013	Sealing Ring	1				
10.12	302717014	One-way Valve	1				
10.13	302717015	Pump Body	1				
10.14	302717016	Sealing Ring	2				
10.15	302717017	Plug	2				
10.16	302717019	Bolt M6	6				
10.17	302717020	Joint	2				
10.18	302717021	Sealing Ring	2				
10.19	302717022	Interface Nut	2				
10.20	302717023	Clamp	3				
10.21	302717024	Filter Joint	1				
10.22	302717025	Filter	1				
11	302417004	Frame Assy.	1				
11.1	302417005	Frame	1				
11.2	336713558	NUT M8	4				
11.3	357713585	Isolator 3	2				
11.4	336713562	Isolator 1	1				
11.5	336713563	Isolator 2	1				
11.6	302717018	Bolt	1				
11.7	302717026	Bolt	2				
11.8	302717027	Handle Assy.	1				
11.9	302717001	Nut M6	3				
12	302717028	Isolator	1				
13	336713510	FLAT WASHER Ø8	2				
14	302717029	Bolt M8×20	2				
15	302717030	Nut M8	2				
16	302717031	Pin Assy.	1				
16.1	302717032	Pin	1				
16.2	336713510	FLAT WASHER Ø8	1				
16.3	302717033	Pin 2	1				

Parts Diagrams - Parts Lists

FIRMAN 196cc Engine

NO.	Part Number	Description	Qty.	NO.	Part Number	Description	Qty.
1	336713528	Flange, Bolt M6×8	1	50	302767011	Piston Ring 2	1
2	357723577	Grip, starter	1	51	302767012	Piston Ring 1	1
2.1	336728300	Handle Croe	1	52	302767013	Piston	1
2.2	336728301	Recoil Starter Knob	1	53	302767014	Cylinder Head Gasket	1
3	336723585	Case Comp., recoil Starter	1	54	330723548	Locating Pins	2
4	330723523	Recoil Starter Spring	1	55	336713528	Flg. Bolt M6×8	2
5	336723587	Cord	1	56	336723523	Air Guide Lower	1
6	336723588	Pulley, recoil Starter	1	57	302767015	Cylinder Head Assy.	1
7	336723589	Spring, patchet	2	58	336723539	Exhaust Valves Stud Bolt	2
8	336723590	Patchet, starter	2	59	336723527	Flange Bolt M8×55	4
9	336723592	Clip Sprg., pawl Guide	1	60	302767016	Cylinder Head Cover Gasket	1
10	336723591	Pawl Guide	1	61	336723525	Cylinder Head Cover	1
11	336723593	Screw, pawl Guide	1	62	336723526	Bolt M6×15	4
12	330713555	Nut M14	1	63	336723504	Gear Assy, Governor	1
13	302467002	Pulley, starter	1	64	336723544	Tappet, Valve	2
15	336718302	Bolt M6×12	4	65	336723543	Push Rod	2
16	302767002	Diode Assy.	1	66	336723538	Plate Subassembly	1
17	302767003	Flameout Wire	1	67	336723537	Bolt, Valve Adjusting	2
18	302767004	Engie Switch	1	68	336723531	Rocker, Valve	2
19	302767005	Engine Cover Assy.	1	69	336723529	Nut Valve Adjusting	2
20	317718304	Bolt M6×20	1	70	336723528	Nut, Valve Lock	2
21	336723578	Air Guide, Right Side	1	71	336723541	Valve, in, take	1
22	302467001	Cooling Fan	1	72	336723542	Valve, Exhaust	1
23	336723583	Flywheel Comp	1	73	336723536	Oil Seal, valve	2
24	357723569	Bolt	2	74	336723535	Spring, valve	2
25	336723573	Ignition Coil	1	75	336723533	Retainer, Intake Valve	1
26	336723514	Flg. Bolt M8×32	6	76	336723534	Retainer, Exhaust Valve	1
27	336723513	Seal, Oil	2	77	336723532	Rotator, Valve	1
28	302767006	Crankcase Cover	1	78	302767017	Governor Assy.	1
29	336723511	Oil Dipstick Assy	1	79	336723563	Shaft, Governor Arm	1
30	302767007	Oil Dipstick	1	80	336723564	Rocker Shim	1
31	330723506	Bearing 6205	2	81	336723565	Pin, Shaft	1
32	302767008	Crankshaft	1	82	336713517	Nut M6	3
33	336723507	Woodruff Key	1	83	336723566	Arm, Governor	1
34	317723516	Dawl Pin	2	84	336723567	Bolt, Governor Arm	1
35	336723510	Gasket, Crankcase	1	85	336723568	Spring, Governor	1
36	336718301	Bolt M6×12	2	86	336723569	Rod, Governor	1
37	336723502	Sensor, Engine Oil	1	87	336723570	Spring, Throttle Valve Returning	1
38	302767009	Crankcase	1	88	336723530	Breather Tube	1
39	330723604	Bolt, Drain	2	89	336723556	Spark Plug	1
40	330723603	Washer, drain Bolt	2	90	336723549	Stud, Intake	2
41	336723595	Inner Washer, gear	1	91	336723550	Gasket, Inlet	1
42	336723594	Gov., gear Shaft	1	92	336723551	Plate, Carburetor Insulator	1
43	336723596	Gear, Governor	1	93	336723552	Gasket, Carburetor	1
44	336723597	Clip, Governor Gear	1	94	302767018	Carburetor	1
45	336723598	Bushing, Governor Gear	1	95	302767019	Air Cleaner Gasket	1
46	336723515	Rod, Connecting	1	96	302767020	Air Cleaner	1
47	336723517	Pin, Piston	1	96.1	302767021	Air Cleaner Base	1
48	336723516	Clip, Piston Pin	2	96.2	302767022	Gasket	1
49	302767010	Oil Ring	1	96.3	317718304	Bolt M6×20	1

Service – Warranty

SERVICE INFORMATION CONTACT FIRMAN PRODUCT SERVICE DEPARTMENT AT 1-844-347-6261 or at www.firmanpowerequipment.com to obtain warranty service information or to order replacement parts or accessories.

HOW TO ORDER REPLACEMENT PARTS

Even quality-built equipment such as this pump may need occasional replacement parts to maintain it in good condition over the years. To order replacement parts, please give the following information:

- Model No. Rev. Level and Serial No. found on the Data Decal.
- Parts number or numbers as shown in the Parts List section.
- A brief description of the trouble with the pump.

FIRMAN 3 Years Limited Warranty

Warranty Qualifications

Register your product using the QR code provided or at www.firmanpowerequipment.com. FIRMAN will also register the warranty upon receipt of your Warranty Registration Card and a copy of your sales receipt from one of FIRMAN's retail locations as proof of purchase. Please submit your warranty registration and your proof of purchase within ten(10) days of the date of purchase.



Repair/Replacement Warranty

FIRMAN warrants to the original purchaser that the mechanical and electrical components will be free of defects in material and workmanship for a period of one(1) year(parts and labor) and 3 years (parts and technical support) from the original date of purchase 90 days [parts and labor] and 180 days [parts] for commercial & industrial use. Transportation charges on product submitted for repair or replacement under this warranty are the sole responsibility of the purchaser . This warranty only applies to the original purchaser and is not transferable.

Do Not Return the Unit to the Place of Purchase

Contact the FIRMAN Service Center and FIRMAN will troubleshoot any issue via phone or e-mail. If the problem is not corrected by this method, FIRMAN will, at its option, authorize evaluation, repair or replacement of the defective part or component at a FIRMAN Service Center. FIRMAN will provide you with a case number for warranty service. Please keep it for future reference. Repairs or replacements without prior authorization, or at an unauthorized repair facility, will not be covered by this warranty.

Warranty Exclusions

This warranty does not cover the following repairs and equipment.

Normal Wear

Your product needs periodic parts and service to perform well. This warranty does not cover repair when normal use has exhausted the life of a part or the equipment as a whole.

Installation, Use and Maintenance

This warranty will not apply to parts and/or labor if your product is deemed to have been misused, neglected, involved in an accident, abused, modified, installed improperly or connected incorrectly. Normal maintenance is not covered by this warranty.

Other Exclusions

This warranty excludes:

- Cosmetic defects such as paint, decals, etc.
- Wear items such as filter elements, seals, etc.
- Accessory parts such as hoses, hose fittings, etc.
- Failures due to acts of God and other force majeure events beyond the manufacturer's control.
- Problems caused by parts that are not original FIRMAN parts.

Limits of Implied Warranty and Consequential Damage

FIRMAN disclaims any obligation to cover any loss of time, use of this product, freight, or any incidental or consequential claim by anyone from using this product. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

A unit provided as an exchange will be subject to the warranty of the original unit. The length of the warranty governing the exchanged unit will remain calculated by reference to the purchase date of the original unit.

This warranty gives you certain legal rights which may change from state to state. Your state may also have other rights you may be entitled to that are not listed within this warranty.

Contact Information

You may contact FIRMAN at:

Address

Firman Power Equipment Inc.
Attn: Customer Service
8644 W. Ludlow Dr.
Peoria, AZ 85381
www.firmanpowerequipment.com

We are FIRMAN POWER - And we are here for you.

Service - Warranty

FIRMAN POWER EQUIPMENT INC. Emission Control System Warranty

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The US Environmental Protection Agency ("US EPA") and FIRMAN POWER EQUIPMENT INC.(FIRMAN) are pleased to explain the emissions control systems warranty on your 2022-2023 or later Small Off-Road Engine ("SORE") and engine powered equipment. New equipment that use small off-road engines must be designed, built and equipped to meet the U.S. EPA regulations for small off-road engines (SORE). FIRMAN warrants the emission control system on your small off-road engine (SORE) and equipment for the period of time listed below, provided there has been no abuse, neglect, unapproved modification, or improper maintenance of your equipment.

Your emission control system may include parts such as the carburetor, fuel-injection system, the ignition system, catalytic converter and fuel lines. Also included may be hoses, belts, connectors and other emission related assemblies. Where a warrantable condition exists, FIRMAN will repair your small off-road engine (SORE) at no cost to you including diagnosis, parts and labor.

MANUFACTURER'S WARRANTY COVERAGE:

The exhaust and evaporative emissions control system on your small off-road engine and engine powered equipment is warranted for two years. If any emissions-related part on your small off-road engine and engine powered equipment is defective, the part will be repaired or replaced by FIRMAN.

OWNER'S WARRANTY RESPONSIBILITIES:

As the SORE and engine powered equipment owner, you are responsible for the performance of the required maintenance listed in your operator's manual. FIRMAN recommends that you retain all receipts covering maintenance on your SORE and engine powered equipment, but FIRMAN cannot deny warranty coverage solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the SORE and engine powered equipment owner, you should however be aware that FIRMAN may deny you warranty coverage if your small off-road engine or engine powered equipment or a part has failed due to abuse, neglect, or improper maintenance or unapproved modifications.

You are responsible for presenting your small off-road engine and engine powered equipment to a FIRMAN distribution center or service center as soon as the problem exists. The warranty repairs shall be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact:

Firman Power Equipment Inc.
Attn: Customer Service
8644 W. Ludlow Dr.
Peoria, AZ 85381
1-844-FIRMAN1
www.firmanpowerequipment.com

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