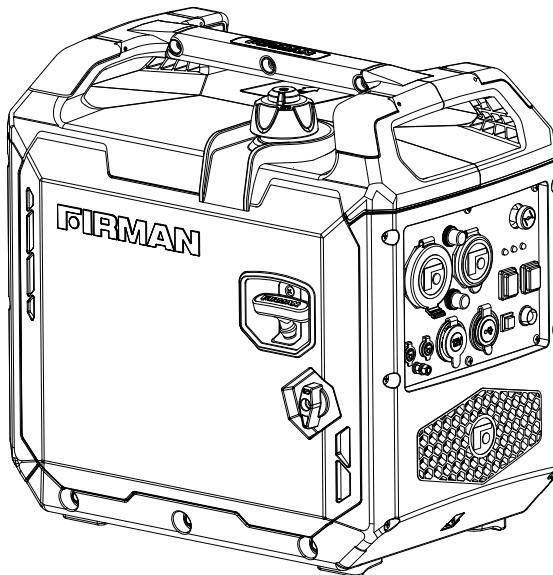


FIRMAN®

OPERATOR'S MANUAL

OUTDOOR PORTABLE INVERTER GENERATOR



MODEL NUMBER
W02081
Rev Level:00

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



SERIAL NUMBER: _____

PURCHASE DATE: _____

Supplier's Declaration of Conformity
47 CFR § 2.1077 Compliance Information
FIRMAN W02081 INVERTER GENERATOR
Firman Power Equipment
8644 W. Ludlow Dr.
Peoria, AZ 85381
Telephone: 1-844-347-6261
www.firmanpowerequipment.com

FCC/IC Compliance Statement

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
 - 1a. This device may not cause harmful interference.
 - 1b. This device must accept any interference received, including interference that may cause undesired operation.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: The FIRMAN W02081 inverter generator has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications to equipment not expressly approved by FIRMAN could void the user's authority to operate the equipment.

Table of Contents

Introduction	1
Features, Controls and On -Product Hazard Labels	5
Operation	12
Maintenance - Storage	25
Troubleshooting- Specifications	31
Parts Diagrams - Parts Lists - Wiring Diagram	33
Service - Warranty	38

REGISTER YOUR PRODUCT

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



INTRODUCTION

Thank you for purchasing a FIRMAN generator. You have selected a high-quality, precision engineered generator set designed and tested to give you years of satisfactory service. This generator is designed to run only on unleaded gasoline. This generator is not intended to be run unattended or to supply power to life safety support.

This manual contains safety information to make you aware of the hazards and risks associated with generator products and how to avoid them. This generator is designed and intended only for supplying electrical power for operating compatible electrical lighting, appliances, tools and motor loads, and is not intended for any other purpose. It is important that you read and understand these instructions thoroughly before attempting to start or operate this inverter generator. 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 generator 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.



Generator 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.

This outdoor generator can be used to power outdoor items using extension cords.

NOTICE If you have questions about intended use, contact FIRMAN customer service. This inverter generator is designed to be used only with FIRMAN authorized parts.

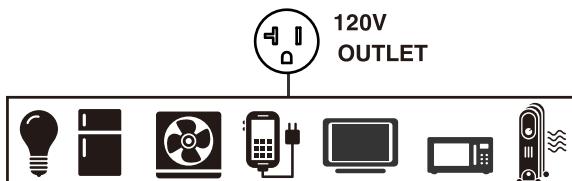
System Ground

The generator neutral is floating, which means that the AC stator winding is isolated from the grounding fastener and the AC receptacle ground pins. On a floating neutral generator the AC receptacle ground pins are not functional. Electrical devices, such as a ground fault circuit interrupter (GFCI), requiring a functioning AC receptacle ground pin will not operate.

Compliance Requirements

There may be Federal or State regulations, local codes, or ordinances that apply to the intended use of the generator. Consult a qualified electrician, electrical inspector, or the local agency having jurisdiction. This generator is not intended to be used at a construction site or similar activity as defined by NFPA 70-2020 (NEC) section 590.6.

To Restore Power Using Extension Cords



1. Only use grounded cords marked for outdoor use rated for your loads.

		To provide power using extension cords
Total Amperage		Minimum Gauge, Outdoor Rated
		Up to 50 FT (15m)
Up to 13A		16
Up to 15A		14
Up to 20A		12
Up to 30A		10

2. Follow cord safety instructions.
3. Install carbon monoxide alarm(s).
4. When operating portable generator with extension cords, make sure portable generator is located in an open, outdoor area, at least 20 ft. (6 m) from occupied spaces with exhaust pointed away.
5. Extension cords running directly into your home, powering indoor items IS NOT RECOMMENDED.

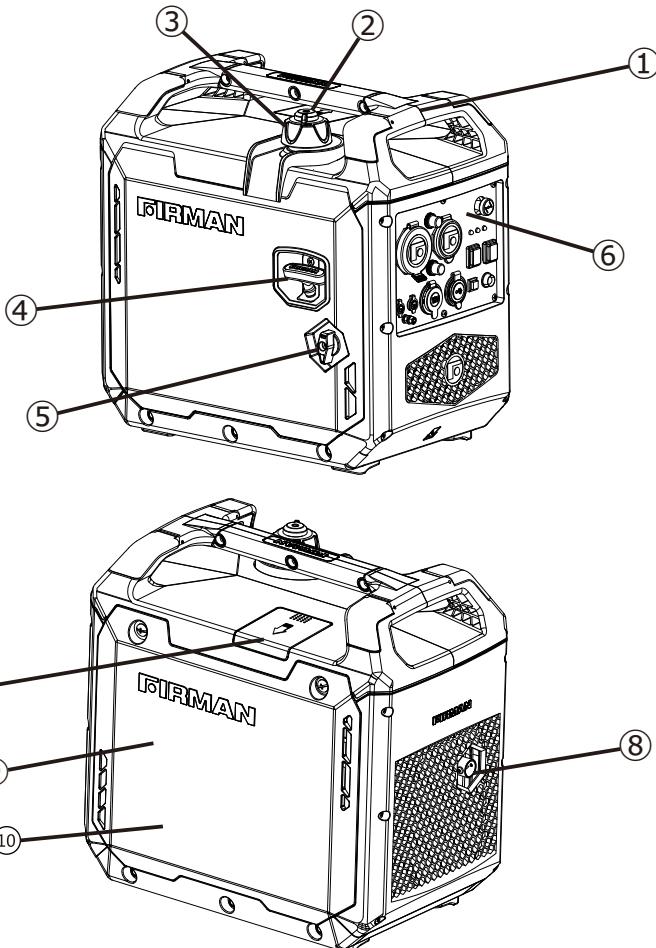


DANGER! Engine exhaust contains carbon monoxide, a poisonous gas that will kill you in minutes. You cannot smell it, see it, or taste it. Even if you do not smell exhaust fumes, you could still be exposed to carbon monoxide gas.

Extension cords running directly into the home increase your risk of carbon monoxide poisoning through any openings.

If an extension cord running directly into your home is used to power indoor items, the operator recognizes that this increases the risk of CO poisoning to people inside the home and assumes that risk.

FEATURES, CONTROLS AND ON -PRODUCT HAZARD LABELS



1- Fixed Carrying Handle

2- Fuel Lever Vent

Turn this valve to the "ON" position to supply air to the tank.

3- Fuel Cap

4- Recoil Starter

5- Fuel Valve switch

6- Control Panel

7- Spark Plug Maintenance Cover

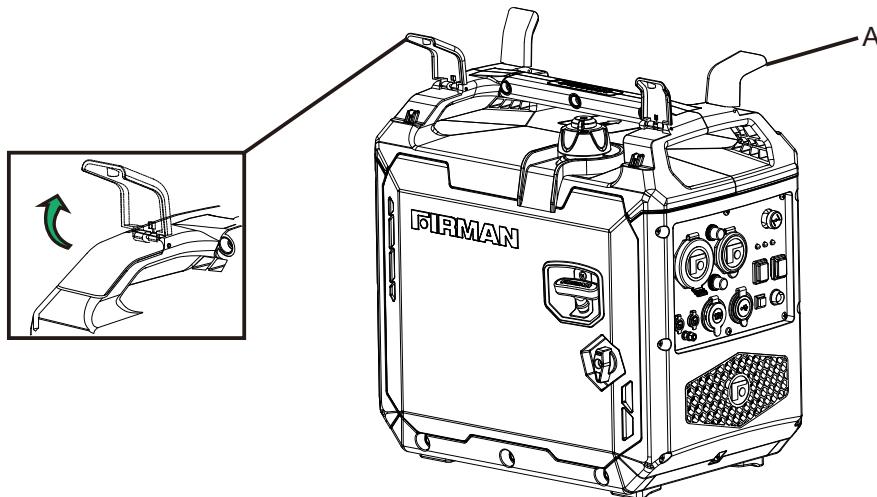
8- Muffler/Spark Arrestor

9- Maintenance Cover - Oil filler and air filter access.

10- Data Decal / Serial Number

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

CORD WRAP

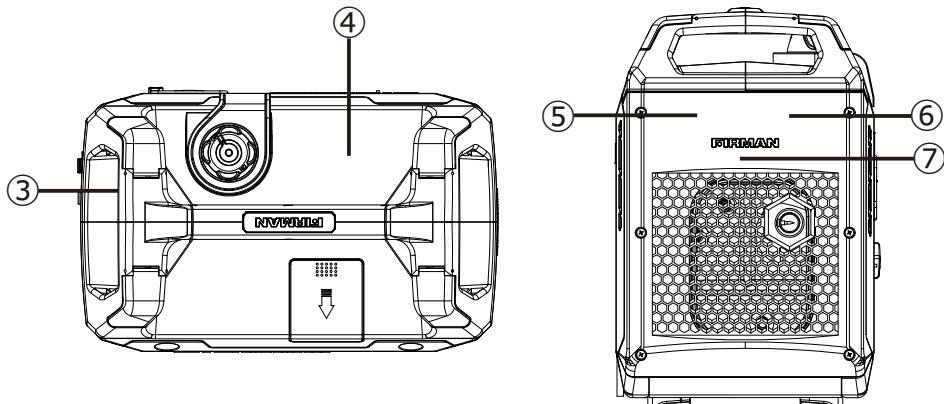
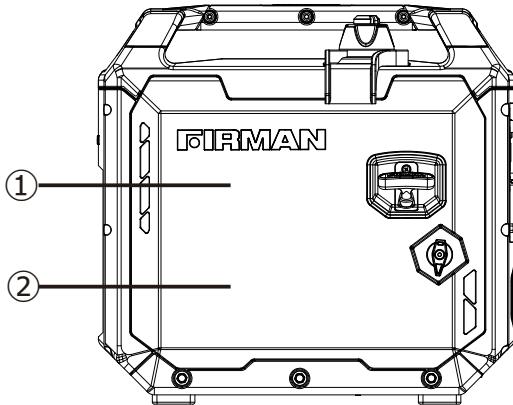


Open four tabs provided to easily wrap and store your power cord. When cord storage is not in use, return tabs to their lowered position.

FEATURES, CONTROLS AND ON -PRODUCT HAZARD LABELS

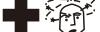
LOCATION AND CONTENT OF ON-PRODUCT HAZARD LABELS

FREE WARNING LABEL REPLACEMENT. If hazard labels become illegible or are missing, contact FIRMAN customer service for a free replacement.



FEATURES, CONTROLS AND ON -PRODUCT HAZARD LABELS

①

 AUTOMATIC SHUTOFF - YOU MUST:		 CORTE AUTOMÁTICO-DEBE REALIZAR LO SIGUIENTE:	 ARRÊT AUTOMATIQUE-VOUS DEVEZ:
 MOVE GENERATOR TO AN OPEN OUTDOOR AREA DOWNWIND, POINT EXHAUST AWAY FROM HOMES. DON'T RUN GENERATOR IN ENCLOSED AREAS (i.e., NOT IN BASE OR GARAGE). AIR OUT PREMISES (OPEN WINDOWS AND DOORS) BEFORE REOCCUPYING PROPERTY.	 MOVE TO FRESH AIR AND GET MEDICAL HELP IF SICK, DIZZY OR WEAK.	 TRASLADÉ EL GENERADOR A UNA ZONA EXTERIOR ABIERTA A FAVOR DEL VIENTO Y ALEJE EL TUBO DE ESCAPE DE LAS VIVIENDAS. NO UTILICE EL GENERADOR EN ÁREAS CERRADAS (POR EJEMPLO, NO EN LA CASA O EN EL GARAJE). VENTILE LAS INSTALACIONES (ABRA LAS VENTANAS Y LAS PUERTAS) ANTES DE VOLVER A OCUPAR LA PROPIEDAD.	 DÉPLACÉZ LA GÉNÉRATRICE PORTABLE À L'EXTERIEUR, DANS LE SENS DU VENT, AVEC L'ÉCHAPPEMENT DIRIGÉ LOIN DE LA MAISON, NE PAS FAIRE fonctionner LA GÉNÉRATRICE DANS DES ESPACES CLOS (PAR EXEMPLE, DANS LA BASE DE LA MAISON OU LE GARAGE), VENTILER LES LOCALS (OUVRIR LES PORTES ET FENêTRES) AVANT DE RÉOCCUPER LA PROPRIÉTé.
			

②

 ▲ DANGER	 ▲ PELIGRO	 ▲ DANGER
 Failure to follow warnings, instructions and operator's manual will result in death or serious injury.	 El incumplimiento de las advertencias, las instrucciones y el manual del operador provocará la muerte o lesiones graves.	 Le non-respect des avertissements, des instructions et du manuel de l'opérateur entraînera la mort ou des blessures graves.
 ▲ DANGER	 ▲ PELIGRO	 ▲ DANGER
 Tampering with the CO ALERT system will cause Carbon Monoxide poisoning. Install Carbon Monoxide alarms inside home.	 La alteración del sistema de alerta de CO causará envenenamiento por monóxido de carbono. Instale detectores de Monóxido de Carbono dentro de su casa.	 Toute altération du système d'ALERTE du monoxyde de carbone causera un empoisonnement au monoxyde de carbone. Installez des détecteurs de monoxyde de carbone à l'intérieur de la maison.
 ▲ DANGER	 ▲ PELIGRO	 ▲ DANGER
 Generator could cause electrical shock. • Do not run indoors to avoid wet conditions. • Do not run in rain or wet weather.	 El generador podría producir una descarga eléctrica. • No utilice en interiores para evitar condiciones de humedad. • No utilice en la lluvia o en condiciones de humedad.	 La génératrice pourrait provoquer un choc électrique. • Ne faites pas fonctionner à l'intérieur pour éviter les conditions humides. • Ne faites pas fonctionner sous la pluie ou par temps pluvieux.
 ▲ DANGER	 ▲ PELIGRO	 ▲ DANGER
 Fuel is flammable which could cause burns resulting in death or serious injury. • Turn engine off and let it cool at least 2 minutes before refueling. • Do not fill fuel above fuel level indicator. • Never add fuel to a hot or running generator.	 El combustible es inflamable, lo que podría causar quemaduras resultantes en la muerte o lesiones graves. • Apague el motor y déjelo enfriar al menos 2 minutos antes de recargar combustible. • No llene el combustible por encima del indicador de nivel. • No cargue nunca combustible en un generador caliente o en funcionamiento.	 Le carburant est inflammable, ce qui peut provoquer des brûlures entraînant la mort ou des blessures graves. • Éteindre le moteur et le laisser refroidir au moins 2 minutes avant le remplissage. • Ne pas remplir au-delà de l'indicateur de niveau maximal de carburant. • Ne jamais ajouter de carburant à une génératrice chaude ou en marche.
 NOTICE	 AVISO	 AVIS
 Operate, store and transport on firm level surface. • Tilting can cause fuel spillage.	 Operar, almacenar y transportar en una superficie firme y nivelada. • Inclinando puede causar un derrame de combustible.	 Faire fonctionner, entreposer et transporter sur une surface ferme et horizontale. • L'inclinaison peut causer un déversement de carburant.
FOR RESIDENTS OF CALIFORNIA		
 WARNING: This product and the engine exhaust from this product can expose you to chemicals including CO, which are known to the State of California to cause cancer or cause birth defects and other reproductive harm. For more information, go to www.P65Warnings.ca.gov .		
 ADVERTENCIA: Este producto y el escape del motor de este producto pueden exponerlo a productos químicos, incluido CO, que el Estado de California sabe que causan cáncer o defectos de nacimiento u otros daños reproductivos. Para obtener más información, vaya a www.P65Warnings.ca.gov .		
 AVERTISSEMENT: Ce produit et l'échappement du moteur de ce produit peuvent vous exposer à des produits chimiques, y compris le CO, que le état de la Californie connaît pour causer le cancer ou causer des malformations congénitales et autres problèmes de reproduction. Pour plus d'informations, visitez www.P65Warnings.ca.gov .		

③

NOTICE AVISO AVIS
<p>To prevent vapor lock in the fuel tank, DO NOT turn fuel vent to OFF position until engine has cooled for at least 15 minutes.</p>
<p>Para prevenir el bloqueo de vapor en el tanque del combustible, NO apague la válvula de ventilación hasta que el motor se haya enfriado por 15 minutos.</p>
<p>Pour prévenir un blocage de vapeur dans le réservoir à carburant NE PAS tourner la mise à l'air libre carburant en position ARRET avant que le moteur ait refroidi durant au moins 15 minutes.</p>

FEATURES, CONTROLS AND ON -PRODUCT HAZARD LABELS

④

DANGER	PELIGRO	DANGER
Using a generator indoors CAN KILL YOU IN MINUTES. Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.	Utilizar un generador en interiores PUEDE PROVOCARLA MUERTE EN CUESTIÓN DE MINUTOS. Los gases del generador contienen monóxido de carbono, el cual es una sustancia venenosa que no puede verse ni olerse.	Utiliser un générateur à l'intérieur PEUT VOUS TUER EN QUELQUES MINUTES. Les gaz d'échappement du générateur contiennent du monoxyde de carbone. Ceci est un poison que vous ne pouvez ni voir ni sentir.
 NEVER use inside a home or garage, EVEN IF doors and windows are open.	No utilice NUNCA el generador en el interior de su hogar ni en un garaje, NI SIQUIERA con las puertas y ventanas abiertas.	NE JAMAIS utiliser dans un garage ou à l'intérieur, MÊME avec les portes et les fenêtres ouvertes.
 Only use OUTSIDE and far away from windows, doors, and vents.	Utilice sólo AL AIRE LIBRE y lejos de ventanas, puertas y orificios de ventilación.	À n'utiliser qu'à L'EXTÉRIEUR et à distance de toutes fenêtres, portes et ouvertures.

⑤

NOTICE	AVISO	AVIS
To prevent engine damage the spark arrester should be cleaned every 100 hours. See Operator's manual.	Para evitar daños en el motor, el supresor de chispas debe limpiarse cada 100 horas. Consulte el manual del operador.	Pour éviter d'endommager le moteur, le pare-étincelles doit être nettoyé toutes les 100 heures. Consulter le manuel d'utilisation.

⑥

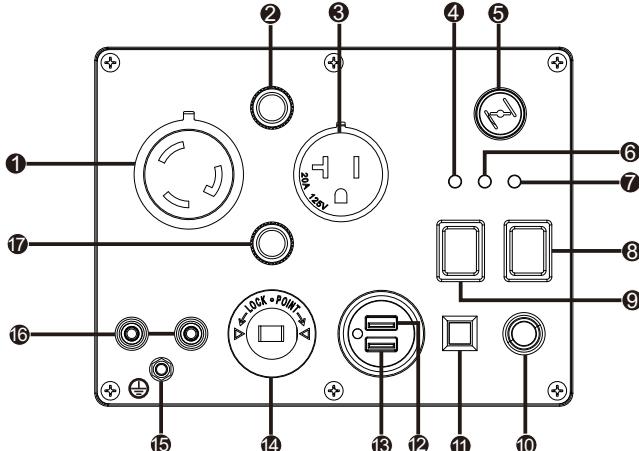


⑦

	WARNING: Muffler could cause burns resulting in serious injury.	ADVERTENCIA: El silenciador podría causar quemaduras resultando en una lesión grave.	AVERTISSEMENT: Le silencieux peut causer des brûlures et des blessures graves.
---	--	---	---

FEATURES, CONTROLS AND ON -PRODUCT HAZARD LABELS

Control Panel



NOTICE Total power drawn from all receptacles must not exceed the data decal rating.

1. 120V, 30A - NEMA L5-30R

A maximum of 16.7 Amps current may be drawn from this receptacle.

2. AC Circuit Breaker - If the generator is overloaded or an external short circuit occurs, the circuit protector will trip. If tripping occurs, disconnect all electrical loads and determine the cause before attempting to continue using the generator. Reset tripped circuit protector. If multiple receptacles are used at the same time, the total current must be kept within the portable generator data decal rating.

3. 120V, 20A Receptacle - NEMA 5-20R (Not GFCI protected)

A maximum of 16.7 Amps current may be drawn from this receptacle.

4. Output Ready Indicator Light - Remains "ON" during normal operating conditions. Shuts "OFF" when generator is overloaded. The green AC Power Indicator Light comes on when the engine starts and generates power.

5. Choke Knob

6. Overload Indicator Light - This light turns "ON" when the generator is overloaded and will cut power to the receptacles. If the engine overload indicator light comes on, the generator's wattage / amperage capacity has been exceeded by connected electrical devices. When this occurs, the green AC Power Indicator Light will go off. The engine will continue to run, but the red Engine Overload Indicator Light will stay on and power will no longer be supplied to connected electrical devices.

7. Oil Warning Indicator Light - Check oil level when this light turns "ON". Engine will not run when indicator is lit. When the oil falls below the minimum level, the oil warning indicator light comes on and the engine stops automatically. The engine will not start until the proper amount of oil is in the crank case.

FEATURES, CONTROLS AND ON -PRODUCT HAZARD LABELS

8. Engine Start Switch – Flip the switch to the “ON” position and pull the recoil starter to start the generator. Turn to the “OFF” position to turn off the generator.

9. Economy Control Switch – The Economy Control switch can be activated in order to minimize fuel consumption and noise while operating the unit during times of reduced electrical output, allowing the engine speed to idle during periods of non-use. The engine speed returns to normal when an electrical load is connected. When the economy switch is off, the engine runs at normal speed continuously.

10. CO Alert™ Carbon Monoxide (CO) Shutdown Indicator Light – Indicates the engine shutdown due to carbon monoxide accumulation around the generator or a CO Alert system fault occurred.

11. AC Reset Button – When the inverter is protected, the output can be restored using this button.

12. USB-A Output Port

Charge a wide array of devices such as your iPhone, tablet, GoPro, speakers, or similar products that use a USB-A port.

13. USB-C Output Port

Charge a wide array of devices such as your MacBook Pro, Android phone, or similar products that use a USB-C port.

14. DC 12V Output – 8.3 Amps of DC current may be drawn from this receptacle. Use this outlet to charge 12V automotive type batteries ONLY. See 12V DC outlet (Battery Charger) section.

15. Ground Terminal – Consult an electrician or authority having jurisdiction for local grounding requirements.

16. Parallel Operation Outlets – These outlets are used for connecting two FIRMAN inverter generators for parallel operation.

17. DC Circuit Breaker – The DC receptacles are protected by a DC circuit protector. If the DC output is overloaded or an external short circuit occurs the circuit protector will trip.

If tripping occurs, disconnect all electrical loads and determine the cause before attempting to continue using the generator. Reset tripped circuit protector.

OPERATION

1. Location

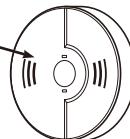


DANGER! Engine exhaust contains carbon monoxide, a poisonous gas that could kill you in minutes. You **CANNOT** smell it, see it, or taste it. Even if you do not smell exhaust fumes, you could still be exposed to carbon monoxide gas.

- Operate portable generator only outdoors and downwind 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 portable generator 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 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 and downwind at least 20 ft. (6 m) from any home.

Point exhaust away from all homes and occupied spaces.

Install CO alarms inside your home.



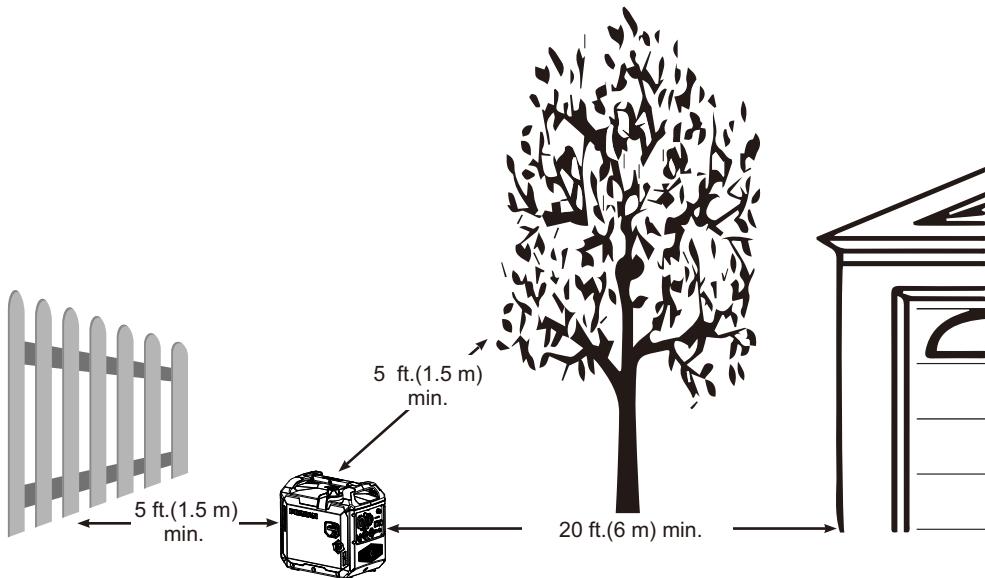
To better educate yourself about all carbon monoxide risks, go to www.takeyourgeneratoroutside.com.

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 portable generator at least 5 ft. (1.5m) 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 portable generator indoors to protect it from the weather.
- Do not locate the portable generator under a deck or other similar structure that may confine heat and airflow.

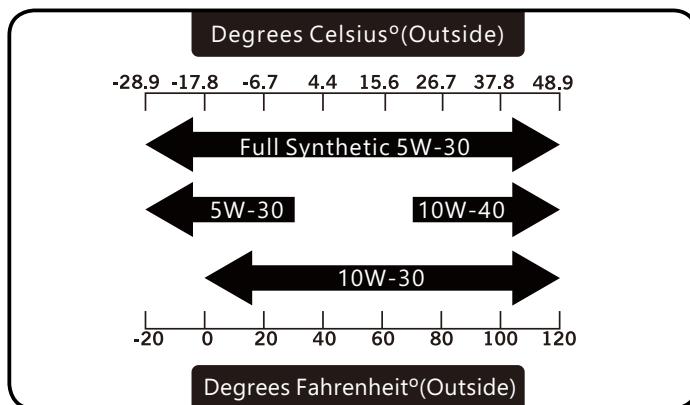


2. Oil and Gasoline

Add Engine Oil

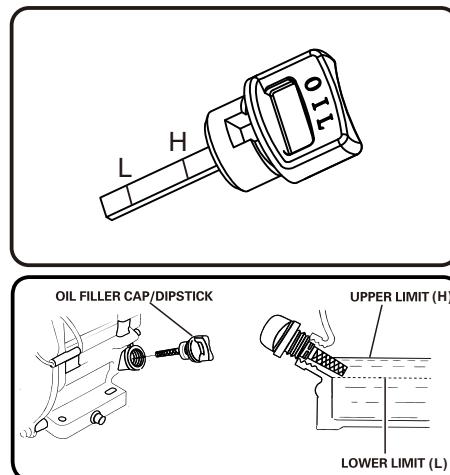
We recommend using SAE 10W-30 API SJ or higher oil for best performance. Do not use special additives. Ambient temperature determines the proper oil viscosity for the engine. Use the chart to select the proper oil for the outdoor temperature range expected.

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.

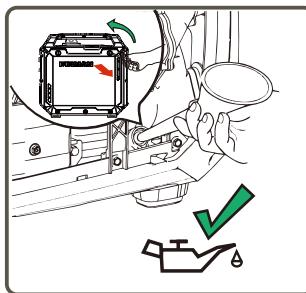


1. Place generator on a flat, level surface.
2. Loosen the cover screw and remove the maintenance cover.
3. Clean area around oil fill and remove yellow oil fill cap/dipstick.
4. Wipe dipstick clean.

NOTICE Do not screw in cap/dipstick when checking oil level.



5. 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.



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

7. Reinstall maintenance cover and tighten screws.

8. 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 portable generator 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 generator is sitting at an angle. Place portable generator 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 generator engine OFF and let it cool at least 2 minutes before removing fuel cap.
- Do Not refuel or move generator when engine is running.
- Move generator 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.

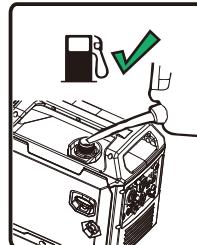
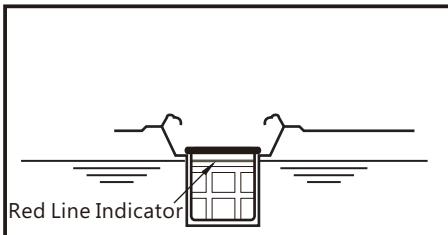
E10

E15

OPERATION

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 Ambient conditions

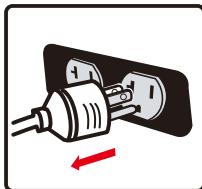
Your Firman Power Equipment product is designed and rated for continuous operation at ambient temperatures up to 104°F (40°C). The generator may be operated at temperatures ranging from 5°F(-15°C) to 122°F(50°C) for short periods. If the generator is exposed to temperatures outside this range during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



WARNING! Failure to read and follow all warnings and instructions in this manual and on-product labels before attempting to start or operate this portable generator could result in death or serious injury.

3. Starting the Generator

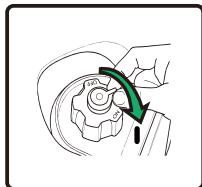
1. Before starting the generator, check for loose or missing parts and for any damage which may have occurred during shipment. Ensure spark plug, muffler, fuel cap, and air cleaner are all in place.
2. Move portable generator outdoors to safe operating location downwind and at least 20 feet from any occupied spaces.
3. Disconnect all electrical loads from the generator. Never start or stop the generator with electrical devices plugged in.



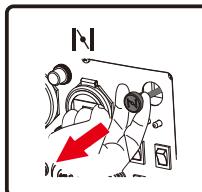
4. Turn the fuel valve to the "ON"(I) position.



5. Turn the fuel cap vent lever to the "ON"(I) position.



6. Pull the choke knob out to the "START" position.

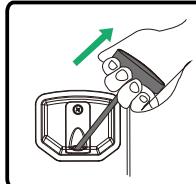


OPERATION

7. Flip the engine switch to the "ON"(I) position.



8. Pull the starter cord slowly until resistance is felt and then pull rapidly.



9. Do not over-choke. As soon as engine starts and warms up, move the choke button to the "RUN" position.



10. Allow portable generator to run at no load for a few minutes to stabilize before plugging in any electrical devices.

NOTICE If engine starts but fails to run, or if portable generator shuts down during operation, check oil level. See Low Oil Shutdown section for more information.

4. Connecting Electrical Loads

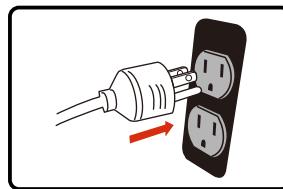
This inverter generator has been pretested and adjusted to handle its full capacity.



WARNING! Generator voltage could cause electrical shock or burn resulting in death or serious injury.

- Damaged or overloaded extension cords could overheat, arc, and burn resulting death or serious injury.
- Use a ground fault circuit interrupter (GFCI) in any damp or highly conductive area, such as metal decking.
- Do not touch bare wires or receptacles.
- Do not use generator with electrical cords which are worn, frayed, bare or otherwise damaged.
- Do not operate generator in the rain or wet weather.
- Do not run indoors to avoid wet conditions.
- Do not handle generator or electrical cords while standing in water, while barefoot, or while hands or feet are wet.

1. Ensure circuit breaker on control panel is in the closed (on) position.
2. Start the generator with no electrical load attached.
3. Allow the engine to run for several minutes to stabilize.
4. Plug in and turn on the first item. It is best to attach the item with the largest load first.
5. Allow the engine to stabilize.
6. Plug in and turn on the next item.
7. Allow the engine to stabilize.
8. Repeat steps 5-6 for each additional item.



Surge Protection

There is a remote chance that voltage fluctuations may impair the proper functioning of some sensitive electronic equipment. Electronic devices, including computers and many programmable appliances may use components that are designed to operate within a narrow voltage range and may be affected by the portable generator's momentary voltage fluctuations. While there is no way to prevent all voltage fluctuations, you can take steps to protect your sensitive electronic equipment. Install a plug-in surge suppressor on the receptacles feeding your sensitive equipment. Surge suppressors come in single or multi-outlet styles. They are designed to protect against short duration voltage fluctuations.

OPERATION

CO Alert™

Carbon Monoxide (CO) Shutdown System

CO Alert automatically shuts down the engine when harmful levels of carbon monoxide accumulate around the generator or a CO Alert fault occurs. After shutdown, the CO Alert indicator light will blink for at least five minutes per the chart below.

CO Alert DOES NOT replace carbon monoxide alarms.

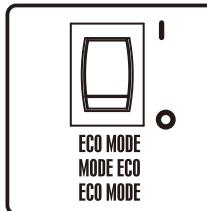
Install battery-powered carbon monoxide alarm(s) in your home. Don't run generator in enclosed areas.

Color	Description
Red ●●●●	Carbon monoxide accumulated around generator. Prior to restart move generator to an open, outdoor area downwind and at least 20 ft. (6 m) from occupied spaces with exhaust pointed away. Air out premises (open windows and doors) before reoccupying property. Automatic shutoff is an indication generator was improperly located. If you start to feel sick, dizzy, weak, or your homes carbon monoxide alarm sounds while using this product, get to fresh air right away. Call emergency services. You may have carbon monoxide poisoning.
Yellow ●● ●●	CO Alert fault occurred*. See FIRMAN authorized service dealer.

*Yellow light will blink for five seconds at the startup of generator to show CO ALERT is functioning properly.

Economy Control Switch

The Economy Control switch can be activated in order to minimize fuel consumption and noise while operating the unit during times of reduced electrical output, allowing the engine speed to idle during periods of non-use. The engine speed returns to normal when an electrical load is connected. When the economy switch is off, the engine runs at normal speed continuously.



NOTICE:

For periods of high electrical load or momentary fluctuations, the Economy Control Switch should be turned OFF.

12V DC Outlet (Battery Charger)

The 12V DC outlet is ONLY intended to charge vented automotive type wet lead acid batteries with supplied battery charging cables. The DC output is unregulated and will damage other 12V DC products. Disconnect battery charge cables once battery has fully charged. Normally a period of 30 to 120 minutes is required to recharge weak batteries. During charging periodically check the battery charge level.

NOTICE When using 12V DC always place ECO mode in the OFF position.

WARNING!

- Storage batteries give off EXPLOSIVE hydrogen gas while charging. Do not allow smoking, open flames, sparks, or spark producing equipment in the area while charging.
- Battery electrolyte fluid is comprised of sulfuric acid that can be very dangerous and cause severe burns. Do not allow this fluid to contact eyes, skin, clothing, etc. If contact or spillage does occur, flush the area with water immediately.
- Do not continue to charge a battery that becomes hot or is fully charged. Over charging or attempting to charge other than vented wet lead acid batteries may cause battery to burst that could result in death or serious injury.

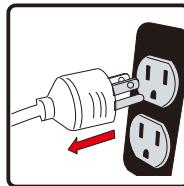
1. Before connecting the battery charging cable to a battery that is installed in a vehicle, disconnect the vehicle battery ground cable from the negative (-) battery terminal.
2. Plug the battery charging cable into the DC receptacle of the generator.
3. Connect the red (+) battery charger lead to the red (+) battery terminal.
4. Connect the black (-) battery charger lead to the black (-) battery terminal.
5. Start the generator. During charging periodically check the battery charge level and remove battery cables when battery is fully charged.

5. Stopping the generator

1. Turn off and remove all electrical loads.

Never stop the generator with electrical devices plugged in and turned on.

Never stop the engine by moving the choke to the start position.



Let the generator run at no-load for one minute to stabilize internal temperatures of the engine and generator.

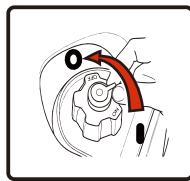
2. Flip the engine switch to "OFF"(O) position.



3. Turn the fuel valve to the "OFF"(O) position.



4. Turn the fuel cap vent lever to the "OFF"(O) position.



If a cover is used, do not install until unit has cooled.

Low Oil Shutdown

If the engine oil drops below a preset level, an oil switch will stop the engine. Check oil level with dipstick.

If oil level is between the **LOW** and **HIGH** mark on dipstick:

1. DO NOT try to restart the engine.
2. Contact an Authorized FIRMAN Service Dealer.
3. DO NOT operate engine until oil level is corrected.

If oil level is below the **LOW** mark on dipstick:

1. Add oil to bring level to **HIGH** mark.
2. Restart engine and if the engine stops again a low oil condition may still exist. DO NOT try to restart the engine.
3. Contact an Authorized FIRMAN Service Dealer.
4. DO NOT operate engine until oil level is corrected.

Do Not Overload Generator

Overloading a generator in excess of its rated wattage capacity can result in damage to the generator and to connected electrical devices. To prolong the life of your generator and attached devices, follow these steps to add electrical load:

1. Start the generator with no electrical load attached.
2. Allow the engine to run for several minutes to stabilize.
3. Plug in and turn on the first item. It is best to attach the item with the largest load first.
4. Allow the engine to stabilize.
5. Plug in and turn on the next item.
6. Allow the engine to stabilize.
7. Repeat steps 5-6 for each additional item.

Overload Operation

The overload indicator light will blink when the load exceeds 2076W(approximately) and cut power to the receptacles in 30 seconds. If the load exceeds 2160W(approximately), the light will turn on and cut power to the receptacles in 2 seconds.

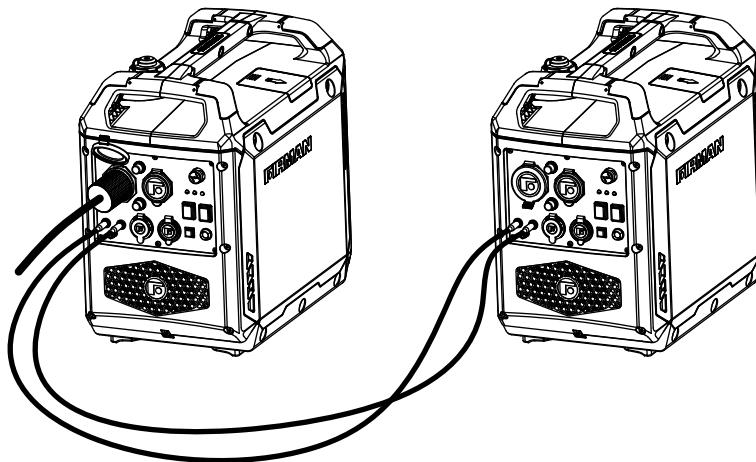
How to Correct

1. Disconnect any electrical devices, and then stop the engine.
2. Reduce the total wattage of connected electrical devices until it is within the generator's data decal rating.
3. Inspect the Air Inlet and Control Panel for any blockage. Remove blockage if found.
4. Restart Engine.

OPERATION

Parallel Operation

Any two FIRMAN inverter generators with parallel ports, including two FIRMAN inverters model W02081 can be paralleled to increase the total available electrical power to 3600 Watts.



1. Connect the two parallel cables (black) to the corresponding parallel ports of two W02081.
2. Start the two W02081 generators,
3. Connect the power cable plug (NEMA L5-30P) of the electric device to the receptacle (NEMA L5-30R) on either one of the generator to get up to 3600W power supply.

NOTICE During parallel operation the NEMA 5-20R receptacle is limited to a maximum of 2400W.

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 generator. See any authorized dealer for service.

The generator'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 generator as instructed in this manual.

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

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 plug and clean air filter assure proper fuel-air mixture and help your engine run at peak performance and last longer.

When Transporting Generator

Transport with fuel tank EMPTY or with fuel cap vent lever closed and fuel switch in off position. Do not tip generator 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.)

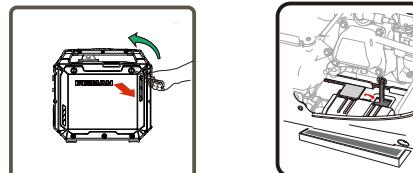
If you are using your generator under extremely dirty or dusty conditions, or in extremely hot weather change the oil more often.

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.



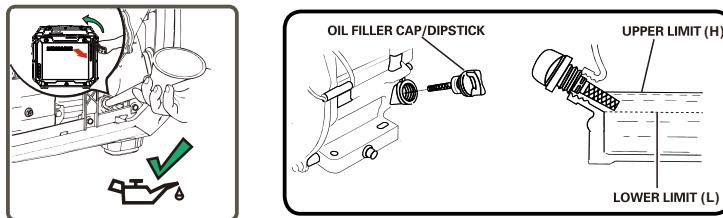
KEEP OUT OF REACH OF CHILDREN. DON'T POLLUTE. CONSERVE RESOURCES. RETURN USED OIL TO COLLECTION CENTERS.

- (a) Loosen the cover screws and remove the maintenance cover.
- (b) Remove the oil filler cap/dipstick.
- (c) Tilt the generator on its side and allow the oil to drain completely.



- (d) Fill the engine with oil until it reaches the HIGH(H) level on the oil filler cap. DO NOT OVERFILL.

NOTICE Do not screw in cap/dipstick when checking oil level.

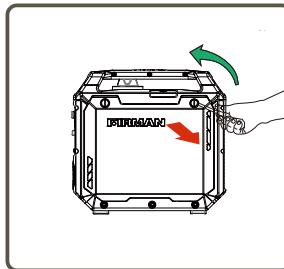


- (e) Reinstall the maintenance cover and tighten the cover screws.
- (f) Dispose of used oil at an approved waste management facility.

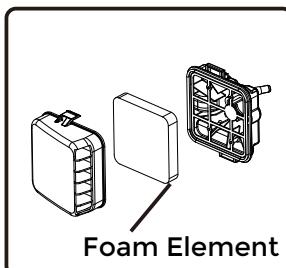
NOTICE We recommend using SAE 10W-30 API SJ or higher oil for best performance. Do not use special additives. See Oil and Gasoline.

Air Filter Maintenance

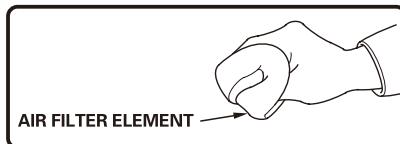
- (a) Remove the air cleaner cover and locate the air filter plastic cover.



- (b) Carefully remove foam air filter element and wash it with liquid detergent and water only. 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) Reinstall clean or new air filter element.

- (e) Reattach the air filter cover.

- (f) Reinstall the air cleaner cover and tighten the cover screw securely.

Spark Plug Maintenance

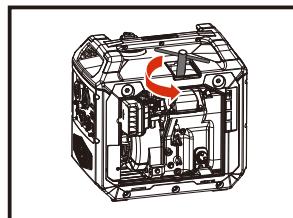
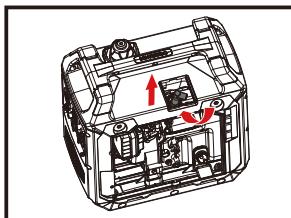
Changing the spark plug will help your engine start easier and run at peak performance.

- (a) Remove the maintenance cover.

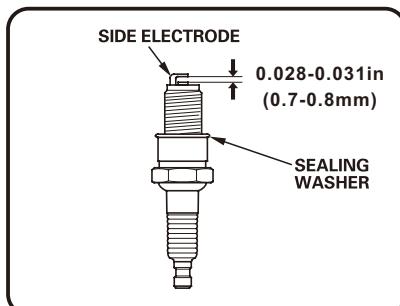
- (b) Remove the spark plug boot.

- (c) Remove spark plug using provided wrench.

Maintenance - Storage



- (d) Inspect spark plug for damage and clean with a wire brush before reinstalling. Replace if damaged.
(e) Adjust the electrode gap to 0.028 - 0.031 in. (0.7 - 0.8 mm).
(f) Seat spark plug in position and thread by hand to prevent cross threading.
(g) Tighten plug firmly with provided wrench and put the spark plug boot back on spark plug.
Do not overtighten.



SPARK PLUG: TORCH F6RTC, NGK BPR6ES, CHAMPION RN9YC or equivalent.

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 Arrestor

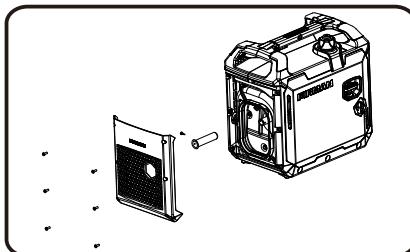


WARNING! Contact with muffler area could cause burns resulting in serious injury.

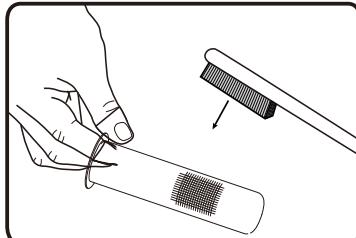
- Do not touch hot parts.
- It is a violation of California Public Resource Code, Section 4442, to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrester, as defined in Section 4442, maintained in effective working 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. Loosen the spark arrester clamp, remove the spark arrester cover, and remove the spark arrester with a screwdriver.



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 spark arrester cover with the screws.
- NOTICE** Failure to clean or replace spark arrester may result in decreased engine performance.

GENERATOR MAINTENANCE

Run the generator at least 30 minutes every month.

Make certain that the portable generator is kept clean and dry.

Do not expose the unit to excessive dust, dirt, moisture or corrosive vapors.

Do not insert any objects through cooling slots.

Before each use inspect underneath the generator for signs of oil or fuel. Clean any accumulated debris. Keep area around muffler free from any debris. Use a soft bristle brush to remove dirt or caked on oil. Use a damp cloth to clean all exterior surfaces.

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. Ethanol-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.

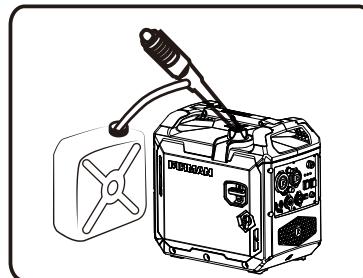
When the generator set is being stored for more than one month, follow these instructions to avoid engine problems:



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 generator outdoors and use a commercially available non-conductive vacuum siphon. Fuel must be drained into an approved container.



1-Treat any stored fuel with fuel stabilizer.

2-When storing generator with gasoline in fuel tank, operate the engine for 5-10 minutes to circulate treated fuel into fuel lines and carburetor before shutdown.

3- There is no need to drain gasoline from the generator fuel tank if fuel stabilizer is added.

4-FUEL STARVATION: If you elect to drain fuel tank move generator outdoors. Once fuel tank is drained turn fuel valve to on position. Start and run the portable generator outdoors until engine stops from lack of gasoline. This will drain remaining gasoline from tank, fuel lines, and carburetor.

5-Always turn fuel valve to OFF position prior to storage.

6-Allow the portable generator to cool before cleaning and storage.

7-Change oil .

8-Remove spark plug boot and spark plug. Pour about one teaspoon of engine oil through the spark plug hole, then slowly pull the recoil starter several times to distribute the oil in the cylinder. Pull recoil slowly until resistance is felt. This will close the valves so no moisture enters the engine cylinder. Reinstall the spark plug and attach the spark plug boot.

9-Cover the portable generator and store in a clean, dry place out of direct sunlight and away from any ignition sources.

Any damage or hazards caused by using improper fuel, improperly stored fuel, and/or improperly formulated stabilizers, are not covered by manufacturer's warranty.

Do not store gasoline from one season to another season.

Troubleshooting

Problem	Cause	Correction
Engine is running, but no AC output is available.	1. Circuit breaker is open. 2. Fault in generator. 3. Poor connection or defective cord set. 4. Connected device is bad.	1. Reset circuit breaker. 2. Contact authorized service facility. 3. Check and repair. 4. Connect another device that is in good condition.
Engine runs good at no-load but "bogs down" when loads are connected.	1. Short circuit in a connected load. 2. Engine speed is too slow. 3. Generator is overloaded. 4. Shorted generator circuit. 5. Clogged or dirty fuel filter.	1. Disconnect shorted electrical load. 2. Contact authorized service facility. 3. See Don't Overload Generator 4. Contact authorized service facility. 5. Clean or replace fuel filter.
Engine will not start; starts and runs rough or shuts down when running.	1. Engine switch set to OFF (O) position. 2. Fuel shutoff lever is in OFF (O) position. 3. Low oil level. 4. Dirty air cleaner. 5. Out of fuel. 6. Stale fuel. 7. Spark plug wire not connected to spark plug. 8. Bad spark plug. 9. Water in fuel. 10. Flooded. 11. Excessively rich fuel mixture. 12. Intake valve stuck open or closed. 13. Engine has lost compression. 14. Clogged or dirty fuel filter.	1. Set engine switch to ON (I) position. 2. Move fuel shutoff lever to ON (I) position. 3. Fill crankcase to proper level or place generator on level surface. 4. Clean or replace air cleaner. 5. Fill fuel tank. 6. Drain fuel tank and carburetor; fill with fresh fuel. 7. Connect wire to spark plug. 8. Replace spark plug. 9. Drain gas tank and carburetor; fill with fresh fuel. 10. Wait 5 minutes and re-crank engine. 11. Contact authorized service facility. 12. Contact authorized service facility. 13. Contact authorized service facility. 14. Clean or replace fuel filter.
Engine lacks power.	1. Load is too high. 2. Dirty air filter. 3. Clogged or dirty fuel filter. 4. Clogged spark arrester.	1. Don't Overload Generator 2. Replace air filter. 3. Clean or replace fuel filter. 4. Clean or replace spark arrester.
Engine "hunts" or falters.	1. Carburetor is running too rich or too lean. 2. Clogged or dirty fuel filter.	1. Contact authorized service facility. 2. Clean or replace fuel filter.
Engine shuts down when running.	1. Out of fuel. 2. Dirty air cleaner. 3. Low oil level.	1. Fill fuel tank. 2. Clean or replace air cleaner. 3. Fill crankcase to proper level or place generator on level surface.
Engine shuts down and yellow CO fault light blinking.	1. CO system fault	1. Contact authorized FIRMAN service facility.

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

Troubleshooting - Specifications

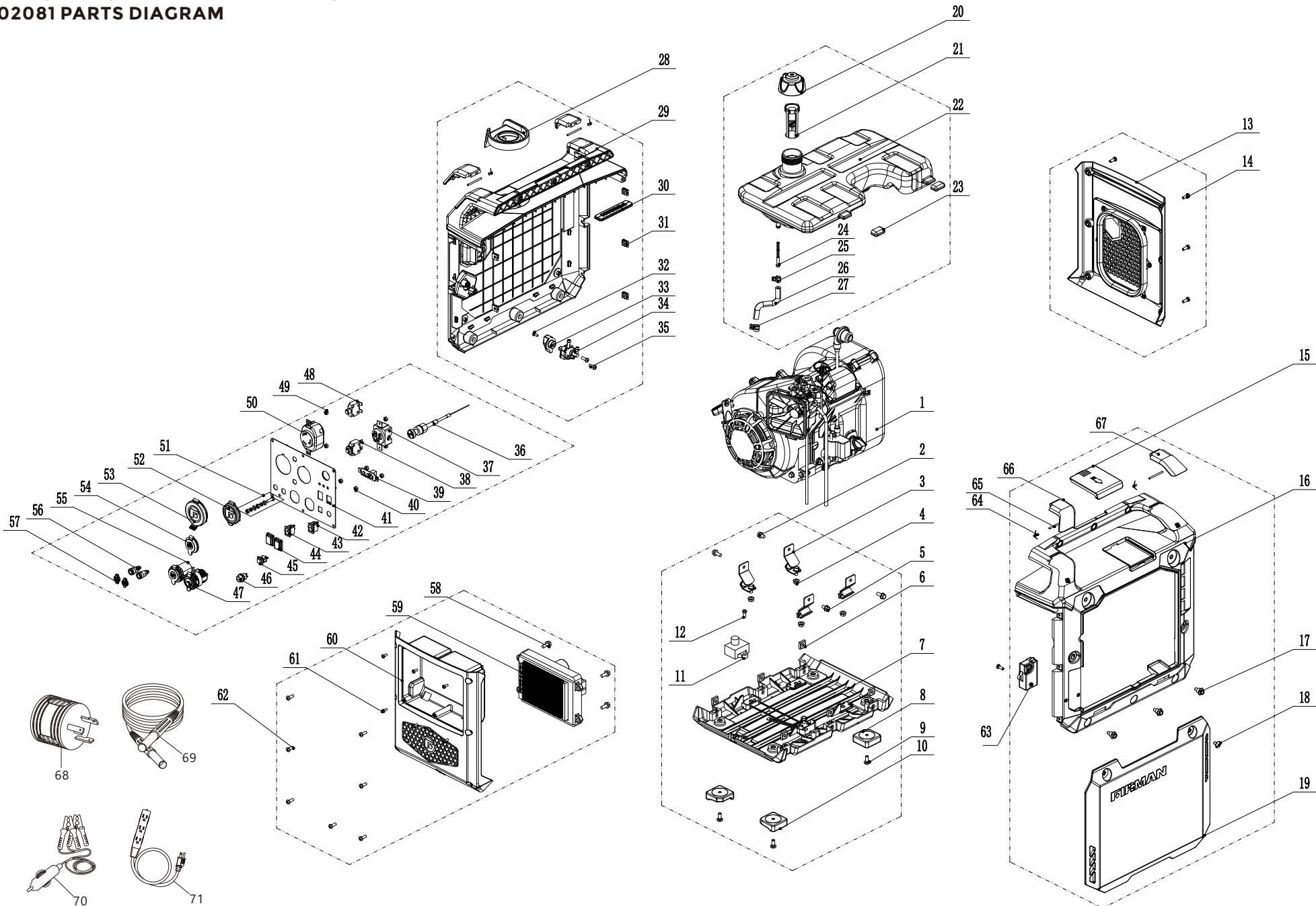
SPECIFICATIONS

Model	W02081
Starting Watts	2500
Running Watts*	2000
Rated AC Voltage	120V
Rated Frequency	60Hz
DC Output	12V/8.3A
USB-A	5V/3.6A 9V/2.5A 12V/2A
USB-C	5V/3A 9V/3A 12V/2.25A
Phase	Single
Voltage Regulator	Digital
Power Factor	1
Total Harmonic Distortion(THD)	<3%
Alternator Type	Magneto Inductor
Engine	FIRMAN
Engine Type	Single Cylinder, 4-Stroke OHV Air Cooled
Displacement	80cc
Low Oil Shutdown	Yes
Ignition System	Breakless Ignition Type, Flywheel Magneto
Starting System	Recoil
Fuel	Unleaded Automotive Gasoline
Capacity Fuel Tank	1.1 U.S. Gallons (4.2L)
Lubricating Oil Capacity	18.6 oz (0.55L)
Carburetor Type	Float
Air Cleaner	Polyurethane Type
P.T.O. Shaft Rotation	Counter Clockwise (Facing P.T.O.)
Oil Type	See "Add Engine Oil" Section
AC Grounding System	Neutral Floating

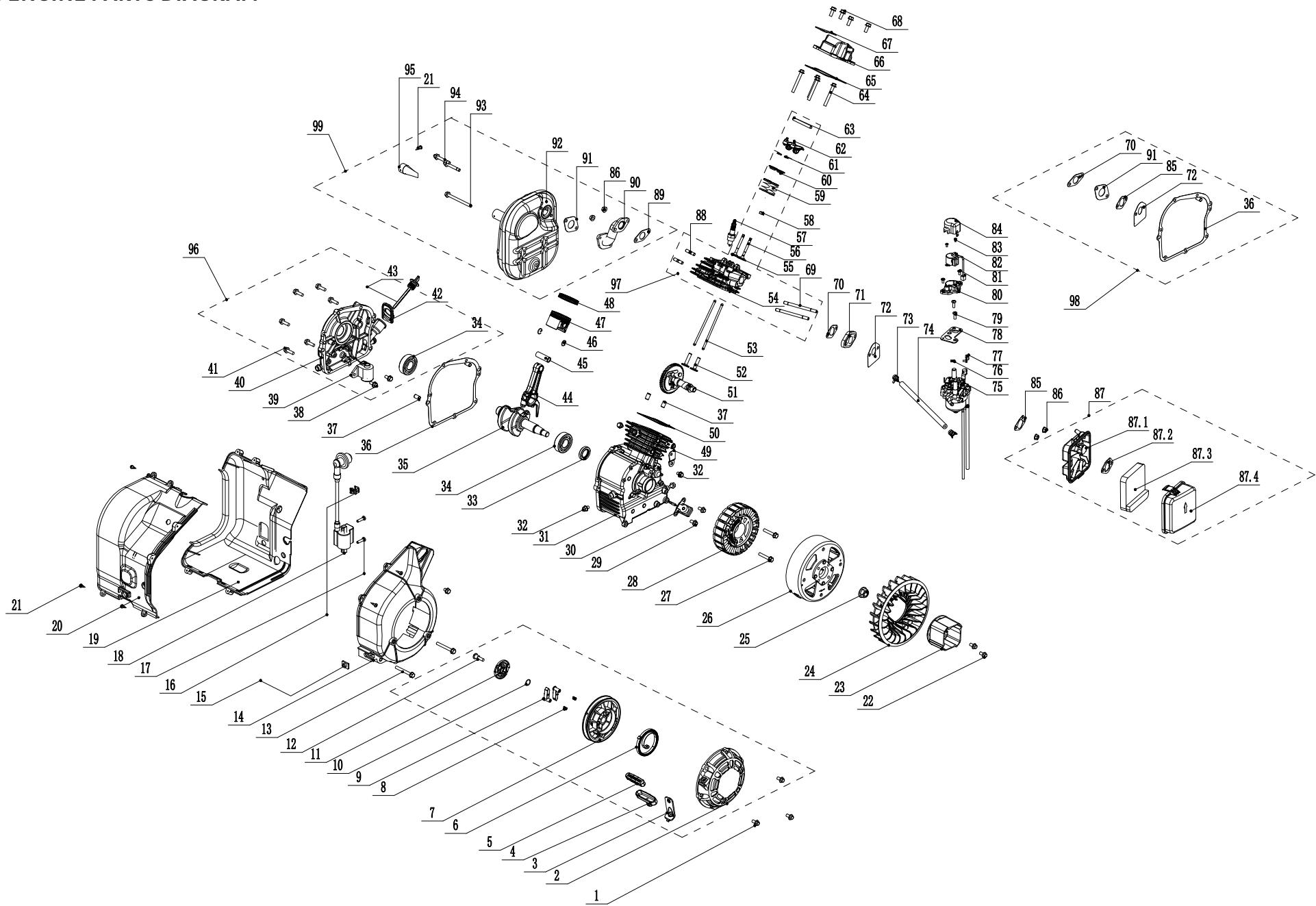
*Generator certified in accordance with CSA (Canadian Standards Association) standard C22.2No. 100-14, Motors and Generators and complies with PGMA (Portable Generator Manufacturers' Association) standard ANSI/PGMA G300-2018, Safety and Performance of Portable Generators.

PARTS DIAGRAM AND PART LIST

W02081 PARTS DIAGRAM



80cc ENGINE PARTS DIAGRAM



W02081 Portable Generator

NO.	Part Number	Description	Qty.
1	320765500	Engine Subassembly	1
2	336723526	Flange bolt M6×15	2
3	317713512	Isolator	4
4	336713517	Nut M6	4
5	320715500	Flange Bolt M6×10	2
6	320715501	Nut M6	6
7	320725500	Base Assy	1
8	320725501	Isolator Assy. I	2
9	336718301	Flange Bolt M6×12	4
10	320725502	Isolator Assy. II	2
11	330713574	Rectifier	1
12	336718397	Screw M5×14	2
13	320725503	Right Side Cover Assy	1
14	336718397	Screw M5×14	2
15	320725504	Maintenance Cover	1
16	320725505	Front Cover Assy	1
17	320715502	Bolt M6	6
18	320715503	Bolt M6	2
19	320725506	Maintenance Cover	1
20	317713529	Fuel Tank Cap Comp	1
21	317713528	Fuel Filter	1
22	320715504	Fuel Tank Assy	1
23	317713526	Mounting, Fuel Tank	3
24	320725507	Fuel Filter, Wire Mesh	1
25	317713555	Clamp Ø12×8	1
26	320725508	Hose, Fuel	1
27	330713508	Clip (φ10.5×8)	3
28	320725509	Fuel Guide Plate	1
29	320725510	Supporter, Back Cover	1
30	320725511	Logo Plate	1
31	330713525	Cage Nut M5	13
32	317713550	Screw M4×10	1
33	330713581	Fuel Valve Knob	1
34	320715505	Fuel Cock Comp.	1
35	336718397	Screw M5×14	2
36	320715506	Chock Cable Assy.	1
37	320755500	Socket 5-20R	1
38	330713614	D.C 10A Breaker, Push Button	1
39	320755501	Pilot Lamp	1
40	330713596	Nut M4	4
41	320715507	Control Panel	1
42	317718303	Engine Switch	1
43	317718305	Economic Switch	1
44	320725512	Switch Cover	2
45	330713630	Switch	1
46	336755002	Indicator Light	1
47	320755502	USB	1
48	330713594	A.C 20A Breaker, Push Button	1
49	330713596	Nut M4	4
50	317713580	Socket L5-30R	1

NO.	Part Number	Description	Qty.
51	320715508	Ground Bolt Assy	1
52	317713579	Outlet Cover 5-20R	1
53	336713573	Outlet Cover L5-30R	1
54	336713674	Outlet Cover	1
55	317713565	Cigar Lighter	1
56	317713562	Parallel Terminal	2
57	317713563	Outlet Cover (parallel Terminal)	2
58	336723526	Flange Bolt M6×15	4
59	320755503	Control Module	1
60	320725513	Left Cover Assembly	1
61	336718383	Screw Assy M4×14	6
62	336718397	Screw M5×14	16
63	316715501	Co Module	1
64	320715549	Torsional Spring	4
65	320715550	Pin	4
66	320725524	Warp Cord Bracket I	2
67	320725525	Warp Cord Bracket II	2
68	317713584	Adapter L5-30P to TT-30R	1
69	317713583	Parallel Cable	1
70	320755504	12V DC Charge Cable	1
71	319457007	Cable	1

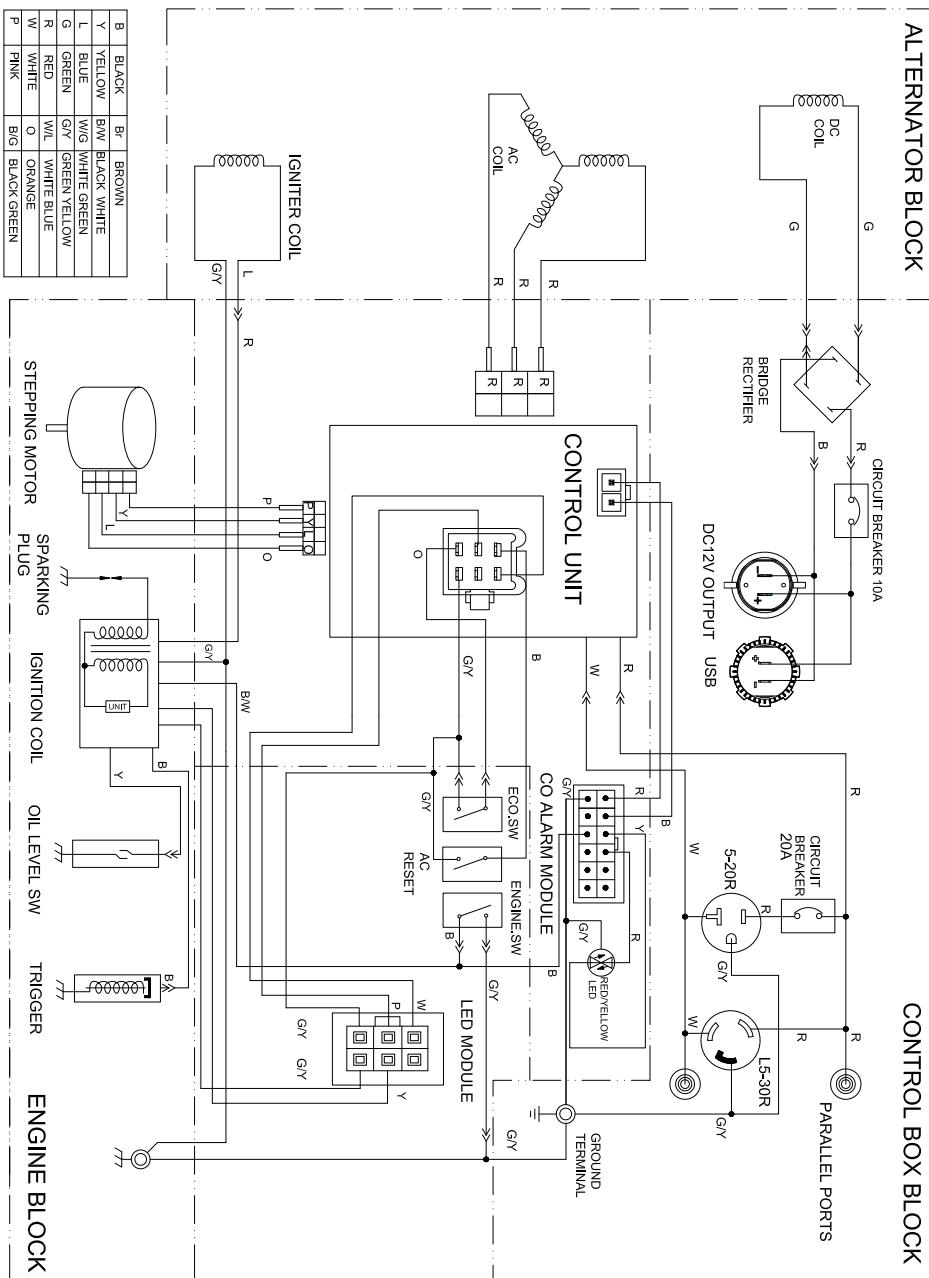
Parts Diagrams - Parts Lists - Wiring Diagram

FIRMAN 80cc Engine

NO.	Part Number	Description	Qty.
1	336718338	Flange Bolt M6×12	3
2	316715528	Case Comp., recoil Starter	1
3	320715509	Handle Guide Plate	1
4	316725507	Recoil Starter Knob	1
5	316715527	Handle Cover	1
6	316715526	Spring, Starter Return	1
7	316715525	Pulley, Recoil Starter	1
8	316715524	Spring, Pawl	2
9	316715521	Pawl, Starter	2
10	316715522	Retaing Ring Ø14	1
11	316715520	Pawl Guide	1
12	316715519	Screw, Pawl Guide	1
13	320715510	Flange Bolt M6×50	2
14	320715511	Fan Cover Comp	1
15	320715512	Nut	2
16	320715551	Wire Clip	1
17	330713502	Screw M5×20	2
18	320715514	Ignition Coil	1
19	320725514	Air Guide Lower	1
20	320725515	Wind Guide, Top	1
21	330713523	Screw St4.2×16	7
22	336718338	Flange Bolt M6×12	2
23	320715515	Pulley, Starter	1
24	320725516	Cooling Fan	1
25	317723505	Nut M12	1
26	320715516	Rotor Comp	1
27	320715517	Flange Bolt M5×35	2
28	320715518	Stator Assy	1
29	336718338	Flange Bolt M6×12	2
30	317723521	Trigger Assy	1
31	320715519	Crankcase Subassembly	1
32	336713528	Flange Bolt M6×8	2
33	320725517	Oil Seal	1
34	317723511	Bearing 6204	2
35	320715520	Crankshaft Comp	1
36	320725518	Case Cover Packing	1
37	317723516	Dawl Pin	4
38	336718301	Flange Bolt M6×12	2
39	320715521	Oil Level Switch Assy	1
40	320715522	Cover, Crankcase	1
41	317718304	Flange Bolt M6×20	7
42	320715523	Oil Nozzle	1
43	320715524	Oil Dipstick Assembly	1
44	317723537	Conn. Rod Assy.	1
45	317723536	Piston Pin	1
46	317723535	Piston Pin Clip	2
47	320715525	Piston	1
48	316415502	Piston Rings Set	1
49	320715526	Pawl Guide	1
50	317723561	Gasket, cylinder	1
51	317723540	Camshaft Comp.	1
52	317723541	Valve Lifter	2

NO.	Part Number	Description	Qty.
53	317723542	Push Rod	2
54	320715527	Cylinder Head	1
55	320715528	Valve, Intake	1
56	317723583	Valve, Exhaust	1
57	320715548	Spark Plug	1
58	317723580	Oil Seal, Valve	1
59	317723581	Spring, Valve	2
60	317723579	Ret., Valve Spring	2
61	317723578	Lock Clip. Valve	2
62	317723576	Arm, Valve Rocker	2
63	317723577	Shaft, Screw Rocker	1
64	316715515	Bolt M6x50	4
65	317723557	Cylinder Cover Gasket	1
66	320715529	Cylinder Head Cover	1
67	320715530	Cover of Air Hood	1
68	336723526	Flange Bolt M6×15	4
69	317723562	Carburetor Bolt	2
70	320715531	Gasket, Inlet	1
71	320715532	Plate, Carburetor Insulator	1
72	320725519	Gasket, Carburetor	1
73	330713508	Clip (Ø10.5×8)	2
74	320725520	Hose, Fuel	1
75	320715533	Carburetor	1
76	330723581	Spring, Connector	1
77	316715508	Connector, Throttle Valve Axis	1
78	320715534	Step Motor Holder	1
79	336718362	Screw&washer Assy M5×14	2
80	316725504	Stepper Motor Base	1
81	317713550	Screw M4×10	2
82	320715535	Step Motor	1
83	393713042	Screw&washer Assy M3×6	2
84	330723591	Cover, Stepper Motor	1
85	317723567	Gasket, Air Cleaner	1
86	336713517	Nut M6	6
87	320715536	Air Cleaner Case Assy	1
88	317723544	Stud Bolt	2
89	320725521	Muffler Gasket	1
90	320715537	Exhaust Pipe	1
91	320725522	Gasket, Exhaust	1
92	320715538	Muffler Assembly	1
93	320715539	Flange Bolt M6×75	1
94	320715540	Stud Bolt M6×50	2
95	317723532	Spark Arrester	1
96	320715541	Crankcase Cover	1
97	320715542	Cylinder Head Assy	1
98	320415500	Gasket Assy	1
99	320715544	Muffler Assembly	1
87.1	320715545	Air Cleaner Base	1
87.2	320715546	Flange	1
87.3	320725523	Element, Air Cleaner	1
87.4	320715547	Cover, Air Cleaner	1

Wiring Diagram



Service - Warranty

For service information contact FIRMAN customer service 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 electric generator 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 generator.

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 customer service 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, loaded beyond the generator's limits, modified, installed improperly or connected incorrectly to any electrical component. Normal maintenance is not covered by this warranty.

Other Exclusions

This warranty excludes:

- cosmetic defects such as paint, decals, etc.
- wear items
- accessory parts
- 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
- units used for prime power in place of existing utility power where utility is present or in place of utility power where utility power service does not normally exist.

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 MERCHANT ABILITY 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.

FIRMAN POWER EQUIPMENT INC. Emission Control System Warranty

CALIFORNIA AND FEDERAL EXHAUST AND EVAPORATIVE EMISSIONS CONTROL WARRANTY STATEMENT

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board, US Environmental Protection Agency ("US EPA") and FIRMAN POWER EQUIPMENT INC. (FIRMAN) are pleased to explain the emissions control systems warranty on your 2024-2025 or later Small Off-Road Engine ("SORE") and engine powered equipment. In California, new equipment that use small off-road engines must be designed, built and equipped to meet the State's stringent anti-smog standards. FIRMAN must warrant the emissions control systems on your SORE and engine powered equipment for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine or equipment leading to the failure of the emissions control system. Your emissions control system may include parts such as the carburetor or fuel-injection system, the ignition system, catalytic converter, fuel tanks, fuel lines (for liquid fuel and fuel vapors), fuel caps, valves, canisters, filters, clamps and other associated components. Also included may be hoses, belts, connectors, and other emission-related assemblies.

Where a warrantable condition exists, FIRMAN will repair your SORE and engine powered equipment 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 at 1-844-347-6261.

FIRMAN Emission Control Defects Warranty Provisions

The warranty period begins on the date the engine/equipment is delivered to an ultimate purchaser. FIRMAN warrants to the ultimate purchaser and each subsequent purchaser that the engine is:

Designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board and US EPA; and Free from defects in materials and workmanship that cause the failure of a warranted part to be identical in all material respects to the part as described in the engine manufacturers application for certification.

The warranty on emissions-related parts is as follows:

- (1) Any warranted part that is not scheduled for replacement as required maintenance in the owner's manual supplied, is warranted for the warranty period stated above. If any such part fails during the period of warranty coverage, the part will be repaired or replaced by FIRMAN at no charge to the owner. Any such part repaired or replaced under the warranty will be warranted for the remaining warranty period.
- (2) Any warranted part that is scheduled only for regular inspection in the owner's manual supplied, is warranted for the warranty period stated above. Any such part repaired or replaced under warranty will be warranted for the remaining warranty period.
- (3) Any warranted part that is scheduled for replacement as required maintenance in the owner's manual supplied, is warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part will be repaired or replaced by FIRMAN at no charge to the owner. Any such part repaired or replaced under warranty will be warranted for the remainder of the period prior to the first scheduled replacement point for the part.
- (4) Repair or replacement of any warranted part under the warranty must be performed at no charge to the owner at a warranty station.
- (5) Notwithstanding the provisions of Subsection (4) above, warranty services or repairs must be provided by FIRMAN that are franchised to service the subject engines.
- (6) The owner must not be charged for diagnostic labor that leads to the determination that a warranted part is in fact defective, provided that such diagnostic work is performed at a warranty station.
- (7) FIRMAN is liable for damages to other engine components proximately caused by a failure under warranty of any warranted part.

- (8) Throughout the emissions warranty period defined in Subsection (b)(2), FIRMAN will maintain a supply of warranted parts sufficient to meet the expected demand for such parts.
- (9) Any replacement part may be used in the performance of any warranty maintenance or repairs and must be provided without charge to the owner. Such use will not reduce the warranty obligations of the manufacturer.
- (10) Add-on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any non-exempted add-on or modified parts by the ultimate purchaser will be grounds for disallowing a warranty claim.

The manufacturer will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.

PARTS COVERED BY WARRANTY

Listed below are the parts (if equipped) covered by the Federal and California Emission Control System Warranty.

1. Ignition system including:	4. Air induction system including:
- Spark plug	- Intake pipe/manifold
- Ignition coil	- Air cleaner
2. Fuel metering system:	5. Crankcase breather assembly including:
- Fuel tank	- Breather connection tube
- Fuel cap	6. Fuel tank evaporative emission control system including:
- Fuel lines (for liquid fuel and fuel vapors) and related fittings/clamps	- Purge valves
- Fuel regulator, carburetor and internal parts.	- Carbon canister
3. Catalytic muffler assembly including:	- Vapor hoses and fitting/clamps
- Exhaust manifold	
- Catalytic converter	
- Muffler gasket	
-pulse valve	

Limitations

This Emission Control System Warranty shall not cover any of the following:

- (a) Consequential damages such as loss of time, inconvenience, loss of use of the engine or equipment, etc.
- (b) Diagnosis and inspection fees that do not result in eligible warranty service being performed.

FIRMAN POWER EQUIPMENT INC.
www.firmanpowerequipment.com

FOLLOW US ON SOCIAL MEDIA

USE

#EVERYGENERATORTELLSASTORY™

FOR YOUR CHANCE TO WIN FIRMAN SWAG



FIRMAN POWER EQUIPMENT INC.

8644 W. LUDLOW DR.

PEORIA, AZ 85381

1-844-347-6261

WWW.FIRMANPOWEREQUIPMENT.COM

All rights reserved. Any reprinting or unauthorized use
without the written permission is expressly prohibited.
P/N:320745450 Rev:02