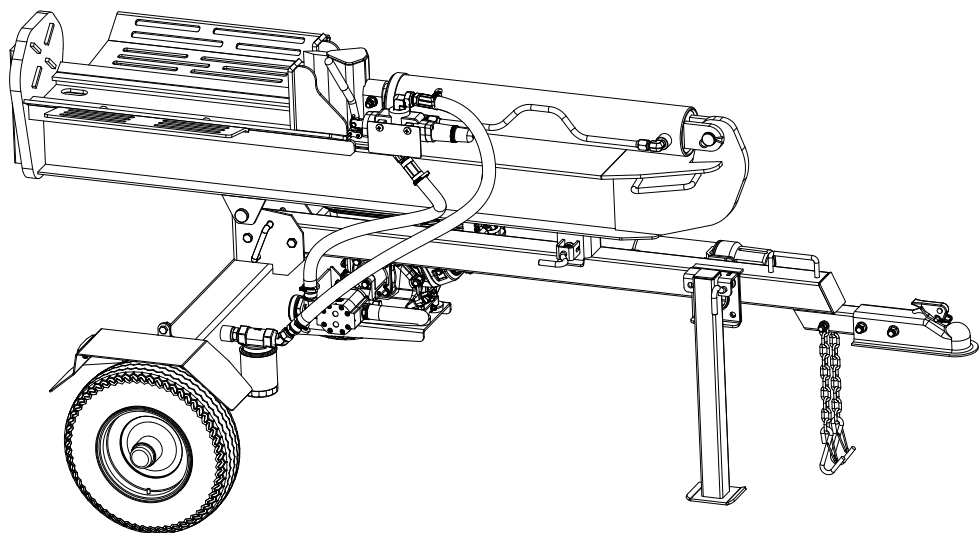


FIRMAN[®]

OPERATOR'S MANUAL 22 TON GASOLINE LOG SPLITTER



GS2201

Rev:00

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

STOP DO NOT RETURN TO STORE!

CALL US FIRST
1-844-347-6261

FOR QUESTIONS OR SERVICE INFORMATION



SERIAL NUMBER: _____

PURCHASE DATE: _____

INTRODUCTION

Table of Contents

Introduction	1
Features Controls and on Product Hazard Labels.....	6
Assembly	12
Operation	19
Maintenance - Storage.....	29
Troubleshooting- Specifications	36
Parts Diagrams - Parts Lists	38
Service - Warranty.....	43

REGISTER YOUR PRODUCT

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






INTRODUCTION









Thank you for purchasing a FIRMAN log splitter. You have selected a high-quality, precision engineered log splitter 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 log splitter products and how to avoid them. It is important that you read and understand these instructions thoroughly before attempting to start or operate log splitter. Save these original instructions for future reference.





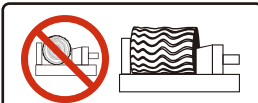

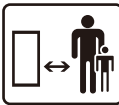

All information in this publication is based on the latest production information available at the time of approval for printing. The manufacturer reserves the right to change, alter or otherwise improve the log splitter and this documentation at any time without prior notice.

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.

	Operator's Manual - Failure to follow warnings, instructions and operator's manual could result in death or serious injury.
	Eye and Ear Protection - Always wear safety goggles or safety glasses with side shields, and as necessary a full face-shield as well as full ear protection when operating this product.
	Footwear - Always wear safety shoes or heavy boots when operating the machine.
	Gloves - Always wear nonslip, heavy-duty protective gloves when operating this product.
	Safety Alert Symbol - Indicates a potential personal injury hazard.
	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.
	Skin Injection Hazard - High pressure hydraulic oil can inject under your skin. Make sure all fittings are tightly secure before applying pressure. Relieve system pressure before servicing.
	Always keep hands away from the wedge slide and the hydraulic cylinder. Moving parts can crush or cut.

INTRODUCTION

	<p>Always keep feet away from the wedge slide and the hydraulic cylinder. Moving parts can crush or cut.</p>
	<p>Hot Surface- Muffler could cause burns resulting in serious injury.</p>
	<p>Open Flame alert - Fuel and its vapors are extremely flammable and explosive. Keep fuel away from smoking, open flames, sparks, pilot lights, heat, and other ignition sources.</p>
	<p>Hold logs on sides when loading. Keep hands and feet away from cylinder, wedge, and partially split logs.</p>
	<p>Never place hands or any part of the body between a log and any part of the log splitter. Do not split logs against the grain. Split logs end to end in the direction of the grain only.</p>
	<p>Toxic Fumes- Engine exhaust contains carbon monoxide, a poisonous gas that will kill you in minutes. You cannot smell it or see it.</p>
	<p>Clearance - Keep all objects including others at least 10 feet (3m) from this machine. Only one person should operate the log splitter and load the logs.</p>
	<p>Never operate on an incline. Make sure the log splitter is on a level surface. Block tires and ensure support leg is secure to prevent unintended movement of the log splitter during operation.</p>



WARNING! This product can expose you to chemicals including gasoline engine exhaust and lead and lead compounds, which are 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.P65Warning.ca.gov.

Training

1. Read the Operator's Manual completely before attempting to use this log splitter.
2. Do not allow anyone to operate your log splitter who has not read the Operator's Manual or has not been instructed on the safe use of the log splitter.
3. Never allow children or untrained adults to operate this machine.
4. Many accidents occur when more than one (1) person operates the log splitter. If a helper is assisting in loading logs to be split, never actuate controls until helper is clear of the area.
5. Never allow anyone to ride on the machine.
6. Never transport cargo on the log splitter.
7. High fluid pressures are developed in hydraulic log splitters. Pressurized hydraulic fluid escaping through a pin hole opening can puncture skin and cause severe blood poisoning. Therefore, the following instructions should be heeded at all times.
 - 7a. Do not operate the unit with frayed, kinked, cracked or damaged hoses, fittings, or tubing.
 - 7b. Stop the engine and relieve hydraulic system pressure before changing or adjusting fittings, hoses, tubing, or other system components.
 - 7c. Do not adjust the pressure settings of the pump or valve.
 - 7d. Do not check for leaks with your hand. Leaks can be detected by passing cardboard or wood over the suspected area. Look for discoloration. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.
8. Keep the operator zone and adjacent area clear for safe, secure footing.
9. The log splitter is equipped with a spark arrestor for use near unimproved forest, brush, or grass covered land. Make sure you comply with local, state, and federal codes. Take appropriate fire-fighting equipment with you.
10. Log splitters should be used only for splitting wood. Do not use for other purposes unless the manufacturer provides attachments and instructions.
11. Only split wood with the grain. NEVER split perpendicular to the grain.
12. Keep the area of operation clear of all persons, particularly small children.

Preparation

1. Be thoroughly familiar with all controls and with proper use of the equipment.
2. Safety Gear:
 - 2a. Always wear safety shoes or heavy boots when operating the machine.
 - 2b. Always wear safety goggles or safety glasses with side shields, and as necessary a full face-shield when operating or servicing the machine.
 - 2c. Never wear jewelry or loose-fitting clothing that might become entangled in moving or rotating parts of the machine.
 - 2d. Always wear full ear protection when operating the machine.
3. Make sure the log splitter is on a level surface. Block tires and ensure support leg is secure to prevent unintended movement of the log splitter during operation.
 - 3a. Always operate the log splitter from the manufacturer's indicated operator zone.
4. Logs to be split on ram-type units should be cut as squarely as possible.

INTRODUCTION

5. Fuel:

5a. Use an approved fuel container.

5b. Never add fuel to a running or hot engine.

5c. Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.

5d. Replace gasoline cap securely and clean up any spilled fuel. If fuel is spilled on clothing, change clothing immediately.

5e. Never fill fuel containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place container on the ground away from your vehicle before filling.

5f. Keep the fuel nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock open device.

Operation

WARNING! Before starting and using this log splitter, read and follow all the on product labels and safety information contained in the Operator's manual. Failure to follow all on product labels and Operator's manual could result in death or serious injury to the operator or bystanders.

1. Be sure to confirm all hose connections and hose clamps are tight before each use. It is possible for connections to vibrate loose over time.

2. Never leave the machine unattended with the engine operating.

3. Never operate the machine when under the influence of alcohol, drugs or medication.

4. The machine owner shall instruct all operators to read and understand the operators manual to ensure safe log splitter operation.

5. Always operate the log splitter with all safety equipment in place and all controls properly adjusted for safe operation.

6. Always operate the log splitter at manufacturer's recommended speed.

7. Always keep hands and feet clear of moving parts and partially split logs during the splitting operation.

8. When loading a ram-type log splitter, place your hands on the sides of the log, not the ends. Never place your hands or any part of your body between a log and any part of the log splitter.

9. On ram-type log splitters, never attempt to split more than one (1) log at a time unless the ram has been fully extended and a second log is needed to complete the separation of the first log.

10. On ram-type log splitters on which the logs are not cut square, the longest portion of the log should be rotated down and the most square end placed against the ram.

11. Only split logs with the grain of the wood.

12. Use only your hand to operate the log splitter controls.

13. Do not refuel until the engine has been turned off and cooled for at least 2 minutes.

Maintenance and Storage

1. Always shut off the engine while repairing or adjusting the log splitter except as recommended by the manufacturer.

2. Clean debris and chaff from the engine cylinder, cylinder head fins, recoil starter cover, and muffler areas. Clean engine muffler spark arrestor and inspect it regularly (follow manufacturer's service instructions). Replace, if damaged.

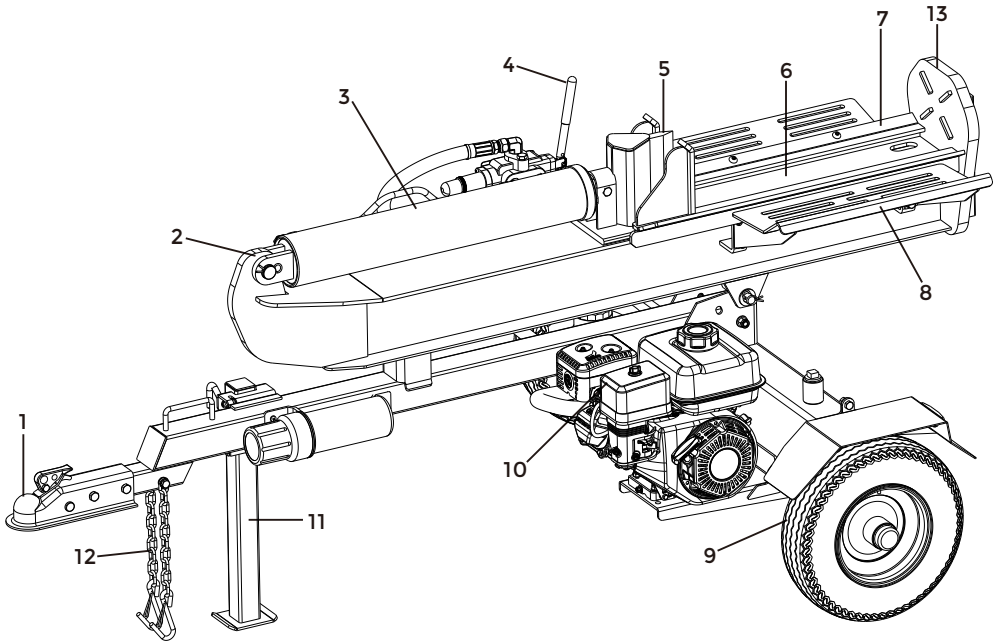
3. Never store the unit indoors with fuel in the tank. Fumes might reach an open flame spark. Allow the engine to cool before storing in any enclosure.

4. Clear debris from movable parts, but only when the engine is shut off.

5. Check to be sure all nuts and bolts are tight to assure the equipment is in safe working condition.

FEATURES, CONTROLS AND ON -PRODUCT HAZARD LABELS

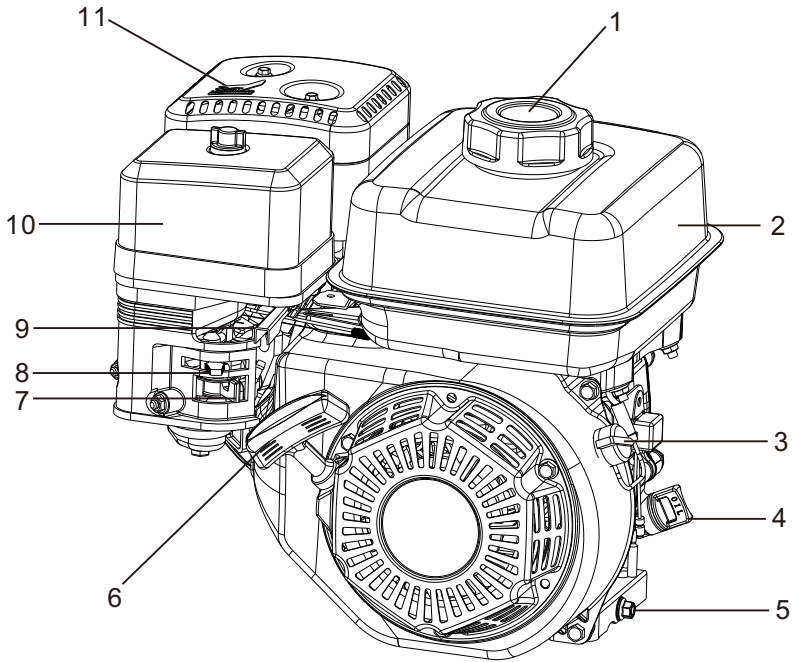
Log Splitter



1. **2 in. (5.1 cm) Ball Coupler** - For towing the log splitter behind your vehicle.
2. **Mounting Plates** - Holds hydraulic cylinder in place.
3. **Hydraulic Cylinder** - Converts hydraulic pressure into linear force.
4. **Control Valve Handle** - Controls the movement of the wedge slide.
5. **Wedge Slide**
6. **Beam**
7. **Log Cradle** - Prevents log from rolling off the beam.
8. **Log Catchers**
9. **Tires** - Maximum travel speed is 45 MPH (72 KM/H).
10. **196cc FIRMAN Engine**
11. **Support Leg** - Supports log splitter while operating. Raise leg for towing.
12. **Safety Chains with Hooks** - For use while towing.
13. **Foot Plate**

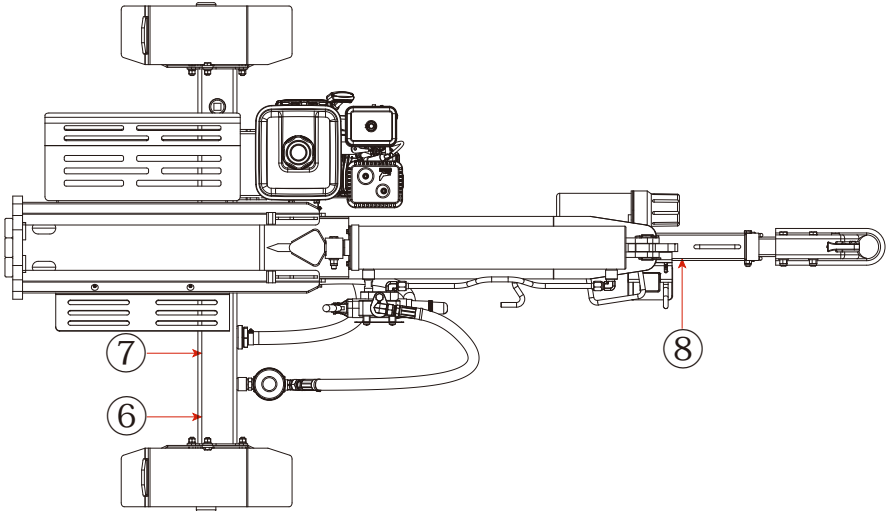
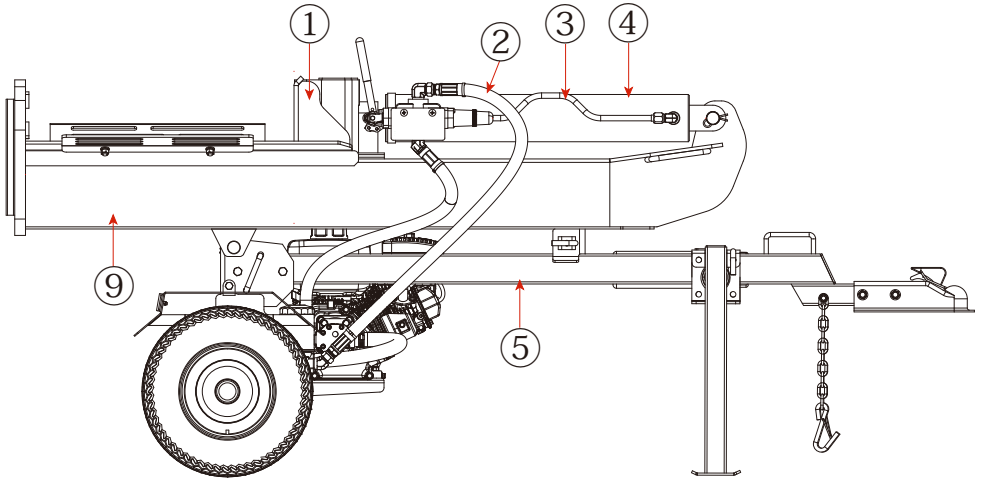
***We are always working to improve our products. Therefore, the enclosed product may differ slightly from the image on this page.**

FEATURES, CONTROLS AND ON -PRODUCT HAZARD LABELS



- 1. Fuel Cap**
- 2. 1 Gal (3.6L) Fuel Tank**
- 3. Engine Switch**
- 4. Oil Fill Cap/Dipstick - Used to check and fill oil level.**
- 5. Oil Drain Bolt - Used to drain engine oil.**
- 6. Recoil Starter - Used to manually start the engine.**
- 7. Fuel Valve**
- 8. Choke Lever - Used for cold engine starting.**
- 9. Throttle - Used to control the engine speed.**
- 10. Air Filter**
- 11. Muffler**

FEATURES, CONTROLS AND ON -PRODUCT HAZARD LABELS



FEATURES, CONTROLS AND ON -PRODUCT HAZARD LABELS

①



②



③



④



⑤

⚠ WARNING	⚠ ADVERTENCIA	⚠ AVERTISSEMENT
Before towing check that beam latch pin is completely locked.	Antes de enganchar el remolque, compruebe que el pasador de enganche de la viga está completamente bloqueado.	Avant de remorquer, vérifiez que la goupille de verrouillage de la poutre est complètement verrouillée.
<p>FOR RESIDENTS OF CALIFORNIA</p> <p>This product can expose you to chemicals including gasoline engine exhaust and lead and lead compounds, which are 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.</p>	<p>PARA LOS RESIDENTES DE CALIFORNIA</p> <p>Este producto puede exponerlo a productos químicos, incluidos los gases del motor de gasolina, plomo y compuestos de plomo, que el estado de California reconoce como causantes de cáncer y el monóxido de carbono, que el estado de California reconoce como causante de defectos de nacimiento y otros daños reproductivos. Para obtener más información, visite www.P65Warnings.ca.gov.</p>	<p>POUR LES RÉSIDENTS DE LA CALIFORNIE</p> <p>Ce produit peut vous exposer à des produits chimiques y compris les gaz d'échappement des moteurs à essence, le plomb et les composés de plomb, qui sont connus dans l'Etat de California pour provoquer le cancer et le monoxyde de Carbone, connu dans l'Etat de California pour causer des malformations congénitales ou d'autres troubles de la reproduction. Pour plus d'informations, rendez-vous sur www.P65Warnings.ca.gov.</p>

FEATURES, CONTROLS AND ON -PRODUCT HAZARD LABELS


6

⚠ WARNING	
EQUIPMENT OPERATION SHALL ONLY BE PERFORMED IN THE DESIGNATED OPERATOR ZONE BY ONE PERSON	
⚠ ADVERTENCIA	
EL MANEJO DEL EQUIPO SÓLO PODRÁ SER REALIZADO EN LA ZONA DESIGNADA PARA EL OPERADOR Y POR UNA SOLA PERSONA	
⚠ AVERTISSEMENT	
L'UTILISATION DE L'ÉQUIPEMENT NE DOIT ÊTRE EFFECTUÉE QUE PAR UNE SEULE PERSONNE DANS LA ZONE RÉSERVÉE À L'OPÉRATEUR.	
 <p>HORIZONTAL OPERATION USO HORIZONTAL FONCTIONNEMENT HORIZONTAL</p>	 <p>VERTICAL OPERATION USO VERTICAL FONCTIONNEMENT VERTICAL</p>
 <p>OPERATOR ZONE ZONA DE OPERACIÓN ZONE DE L'OPÉRATEUR</p>	 <p>OPERATOR ZONE ZONA DE OPERACIÓN ZONE DE L'OPÉRATEUR</p>

7

OPERATING INSTRUCTIONS	
*SPLITTING LOGS	
<ol style="list-style-type: none"> 1. Ensure that the log splitter is on a stable, flat surface. 2. Start the engine and advance throttle to the maximum. 3. Position log onto the beam up against the foot plate. <p>NOTE: Always split log in the direction of the grain.</p> <ol style="list-style-type: none"> 4. Move the control handle toward the foot plate to extend the wedge or move the control handle away from the foot plate to retract the wedge. 	
*IF LOG BECOMES STUCK ON WEDGE	
<p>A log can become stuck to wedge if the wedge becomes embedded in the log and the log doesn't split and separate. If this happens NEVER attempt to remove a stuck log by: hitting on the hydraulic force of the log splitter.</p> <ol style="list-style-type: none"> 1. Adding attachments to the log splitter. 	
*ALWAYS REMOVE THE LOG MANUALLY BY FOLLOWING THIS PROCEDURE:	
<ol style="list-style-type: none"> 1) Ram should be fully retracted. 2) Remove stuck log from wedge manually with a pry bar or sledge hammer. CAUTION: log pieces can fly off as they separate from the wedge. 3) DO NOT attempt to re-split a stuck log once it has been removed from wedge. 	
INSTRUCCIONES DE USO	
ABRIENDO TRONCOS	
<p>1. Asegúrese de que la cortadora de troncos se encuentra sobre una superficie estable y plana al máximo.</p> <ol style="list-style-type: none"> 2. Arranque el motor y ponga la marcha al máximo. 3. Coloque el tronco en la viga contra el resposante. <p>NOTA: Abra siempre el tronco en la dirección de la veta.</p> <ol style="list-style-type: none"> 4. Mueva la palanca de control hacia el resposante para extender la cuña o aleje la palanca de control del resposante para retirar la cuña. 	
*SI EL TRONCO QUEDA ATASCADO EN LA CUÑA	
<p>Un tronco puede atascarse en la cuña si ésta se incrusta en el tronco y este no se parte y separa. Si esto ocurre, NUNCA intente desmontar un tronco atascado:</p> <ol style="list-style-type: none"> 1. Utilizando la fuerza hidráulica de la cortadora de troncos. 2. Añadiendo accesorios a la cortadora de troncos. 	
*SIEMPRE RETIRE EL REGISTRO MANUAMENTE SEGÚN EL SIGUIENTE PROCEDIMIENTO:	
<ol style="list-style-type: none"> 1) El cilindro debe estar totalmente retraído. 2) Retire manualmente el tronco atascado de la cuña con una palanca o un mazo. <p>PRECAUCIÓN: los troncos de tronco pueden salir volando al separarse de la cuña.</p> <ol style="list-style-type: none"> 3) NO intente volver a separar un tronco atascado una vez que se haya retirado de la cuña. 	
INSTRUCTIONS D'UTILISATION	
*FENDRE DES BÛCHES	
<p>1. Assurez-vous que le fendeur de bûches se trouve sur une surface stable et plane.</p> <ol style="list-style-type: none"> 2. Démarré le moteur et avancez la manette des gaz au maximum. 3. Placez la bûche sur la poutre, contre la plaque de base. <p>REMARQUE: fendez toujours la bûche dans le sens du grain.</p> <ol style="list-style-type: none"> 4. Déplacez la poignée de commande vers la plaque de pied pour étendre la cuë ou éloignez la poignée de commande de la plaque de pied pour rétracter la cuë. 	
*SI LA BÛCHE RESTE COINCÉE SUR LA CALE	
<p>Une bille peut rester coincée sur la cale si la cale s'enfonce dans la bille et que celle-ci ne se sépare pas et ne se sépare pas. Si cela se produit, ne tentez JAMAIS de retirer une bille coincée en:</p> <ol style="list-style-type: none"> 1. En vous fiant à la force hydraulique de la tronçonneuse de bûches. 2. Ajoutant des accessoires à la tronçonneuse de bûches. 	
*RETIREZ TOUJOURS LA BÛCHE MANUELLEMENT EN SUIVANT CETTE PROCÉDURE:	
<ol style="list-style-type: none"> 1) Le vérin doit être complètement rétracté. 2) Retirez manuellement la bûche de la cuë à l'aide d'un levier ou d'un marteau de forgeron. <p>ATTENTION: des morceaux de bûche peuvent s'élever lorsqu'ils se séparent de la cuë.</p> <ol style="list-style-type: none"> 3) N'essayez PAS de retirer une bûche coincée une fois qu'elle a été retirée de la cuë. 	

8

	⚠ WARNING	⚠ ADVERTENCIA	⚠ AVERTISSEMENT
	TO AVOID SERIOUS INJURY OR DEATH	PARA EVITAR LESIONES GRAVES O LA MUERTE	POUR ÉVITER DES BLESSURES GRAVES VOIRE LA MORT
 <p>MAX. 45 MPH (72 km/h)</p>	<ul style="list-style-type: none"> • Read the Operation Manual on how to attach the coupler to the hitch ball and how to tow safely. • Ensure the correct ball size is being used. • Do not exceed hitch ball or coupler load limits. • Attach and secure safety chains prior to towing. • Do not exceed max towing speed of 45 mph. • Avoid sharp turns and steep angles. • Check tightness of coupler before towing. • Replace hitch ball or coupler if damaged. 	<ul style="list-style-type: none"> • Lea el Manual de operación sobre como acoplar el acoplador a la bola de enganche y cómo remover con seguridad. • Asegúrese de que se está utilizando el tamaño de bola correcto. • No exceda los límites de carga de la bola de enganche o del acoplador. • Coloque y asegure las cadenas de seguridad antes de remolcar. • No exceda la velocidad máxima de remolque de 45 mph. • Evite giros cerrados y ángulos pronunciados. • Verifique el apriete del acoplador antes de remolcar. • Reemplace la bola de enganche o el acoplador si están dañados. 	<ul style="list-style-type: none"> • Lisez le manuel d'utilisation pour savoir comment attacher le couplier à la boule d'attelage et comment remorquer en toute sécurité. • Assurez-vous que la bonne taille de boule est utilisée. • Ne dépassez pas les limites de charge de la boule d'attelage ou de l'attelage. • Fixez et sécurisez les chaînes de sécurité avant le remorquage. • Ne dépassez pas la vitesse de remorquage maximale de 45 mph. • Évitez les virages serrés et les angles raides. • Vérifiez le serrage du couplier avant le remorquage. • Remplacez la boule d'attelage ou le couplier s'ils sont endommagés.

9

MODEL: MODELO: MÔDÈLE:	GS2201	FIRMAN®
SPECIFICATION ENGINE(cc): ESPECIFICACIONES DEL MOTOR(cc): SPÉCIFICATIONS DU MOTEUR(cc):	196 cc	
MAX SPLITTING FORCE: FUERZA MÁXIMA: FORCE DE FISSIONNATION MAX:	22 TON	
MAX SPLITTING LENGTH: LONGITUD MÁXIMA DE SEPARACIÓN: LONGUEUR DE FISSIONNATION MAX:	24 INCHES (610 mm)	
MAX SPLITTING DIAMETER: DIÁMETRO MÁXIMO DE SEPARACIÓN: DIAMÈTRE DE FISSIONNATION MAX:	14 INCHES (355 mm)	
CYCLE TIME: TIEMPO DE CICLO: DURÉE DU CYCLE:	11 S	NET WEIGHT: PESO NETO: POIDS NET:
DOM:	SERIAL #:	430 LBS (195 KG)
DATE FAB.:	NO SÉRIE:	
<p>FIRMAN POWER EQUIPMENT INC. 8544 W. Lufflow Dr. Peoria, AZ 85381 1-844-347-6221</p> <p style="text-align: right;">Comply to ANSI Standard B71.7 Conforme con la norma ANSI B71.7 Conforme à la norme ANSI B71.7 Made in China / Fabriqué en Chine / Madeo en Chine</p>		

FEATURES, CONTROLS AND ON -PRODUCT HAZARD LABELS

Parts Included

Part	Part Qty.	Hardware Needed	Hardware Qty.	Tool Needed
Manual Canister	1	Screw M6*16	3	Cross Screwdriver
		Lock Washer Ø6	3	
		Washer Ø6	3	
Tow Bar	1	Bolt M12 * 100	2	1 * 18mm wrench or socket
		Washer Ø12	2	
		Lock Nut M12	2	1 * 19mm wrench or socket
Fenders	2	Bolt M10 * 25	6	1 * 16mm wrench or socket
		Lock Washer Ø10	6	
		Washer Ø10	6	
		Nut M10	6	1 * 16mm or 17mm wrench
Wheels	2	Castle Nut	2	1 * 30mm open-end wrench
		Cotter Pin Ø4 × 36	2	Needle nose pliers
		Axle Cap	2	Mallet
Beam	1	Beam Pin	1	
		Washer Ø20	1	
		R-Pin	1	
Engine	1	Bolt M8 * 50	4	1 * 13mm wrench
		Base Mounting	4	
		Special Washer Ø8	4	
		Washer Ø8	4	
		Lock Nut M8	4	1 * 13mm or 14mm wrench
Hydraulic Hose (Pump-Valve)	1		1	1 * 27mm open-end wrench
Oil Inlet Hose	1	Spring Loaded Hose Clamp	1	Clamp tool
Hydraulic Hose (Valve-Tank)	1		2	1 * 27mm open-end wrench
Log Catchers	2	Bolt M10 * 20	4	1 * 16mm wrench or socket
		Bolt M10 * 20	2	1x 6mm allen wrench
		Nut M10	2	1 * 16mm or 17mm wrench
		Lock Washer Ø10	6	
		Washer Ø10	6	

Accessories

- Engine Oil
- Hydraulic Oil
- Oil Funnel
- Spark Plug Wrench

ASSEMBLY

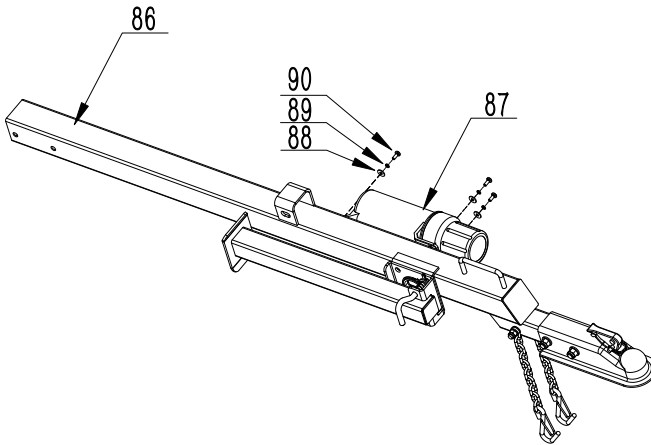
Your log splitter requires some assembly. If you have any questions regarding the assembly of your log splitter, call our help line at 1-844-347-6261. Please have your serial number and model number available.

Open Shipping Crate

1. Set the shipping crate on a solid, flat surface.
2. Carefully cut the shipping bands and remove lid of shipping crate.
3. Locate all hardware and components on GS2201 Parts Diagram and Parts List before beginning assembly.

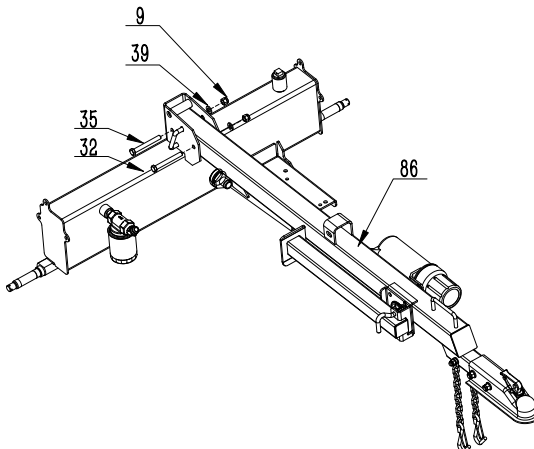
1. Install The Manual Canister

Attach the manual canister (87) to the tow bar (86) with three M6*16 screws (90), $\varnothing 6$ lock washers(89) and $\varnothing 6$ washers (88).



2. Install The Tow Bar

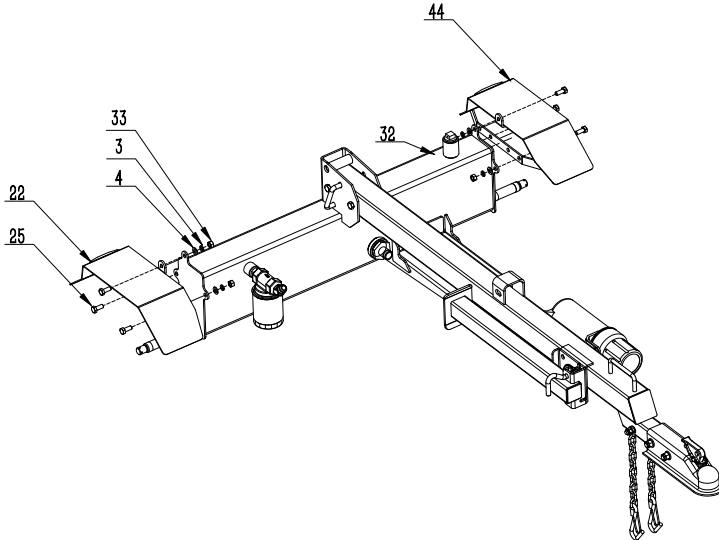
Attach the tow bar (86) to the bracket on top of the hydraulic oil tank (32) with two M12 * 100 bolts (35), $\varnothing 12$ washers (39) and M12 lock nuts (9).



ASSEMBLY

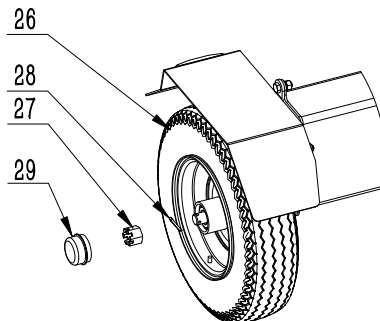
3. Install The Fenders

1. Attach the left fender (22) to the side of the hydraulic oil tank (32) with three M10 * 25 bolts (25), Ø10 washers (4), Ø10 lock washers (3) and M10 nuts (33). The safety reflector should be facing the back of the hydraulic oil tank (32).
2. Repeat with right fender(44) on opposite side.



4. Install the Wheels

1. Remove the two plastic shipping caps from the wheel hubs.
2. Slide the wheel (26) onto the axle. Be sure the tire valve stem is facing out.
3. Thread the castle nut (27) on the axle and tighten by hand. Use a wrench to tighten another turn.
4. Spin the wheel (26) to distribute the bearing grease.
5. Loosen the castle nut (27) and re-tighten by hand.
6. Install the cotter pin (28) through the axle and castle nut (27).
7. Wheel (26) should spin freely but when grasped on both sides, should not move from side to side.
8. Install the axle cap (29) using a soft face mallet or hammer and wood block.
9. Repeat for the other wheel.



NOTICE Keep dirt and debris away from the wheel bearings during assembly. Over-tightening the castle nut will cause the bearings to run hot and fail prematurely.

5. Install the Beam

1. Unplug support pin (81), rotate the support leg (85) down, reinsert pin (81).
2. Stand the beam vertical on the foot plate.
3. Roll the tank into position so the pivot holes of the tank and beam are aligned.
4. Insert the beam pin (36) and secure with $\varnothing 20$ washer (39) and R-pin (40).
5. Unplug the pin (16) and pivot the beam to the horizontal position, reinsert pin (16).

WARNING! The beam is extremely heavy and shall only be handled with 2 or more people. To avoid muscle strain or back injury DO NOT try and lift or handle the beam without assistance.

NOTICE The pin (34) must move freely to be inserted or pulled.

-When in the vertical position, the location of the pin (34) is shown in figure A.

-When in the horizontal position, the location of the pin (34) is shown in figure B.

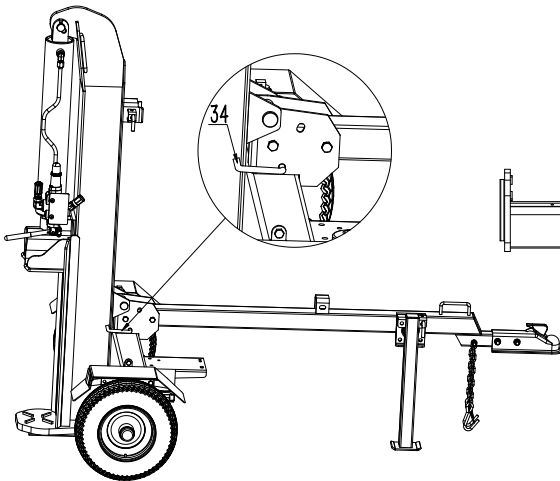
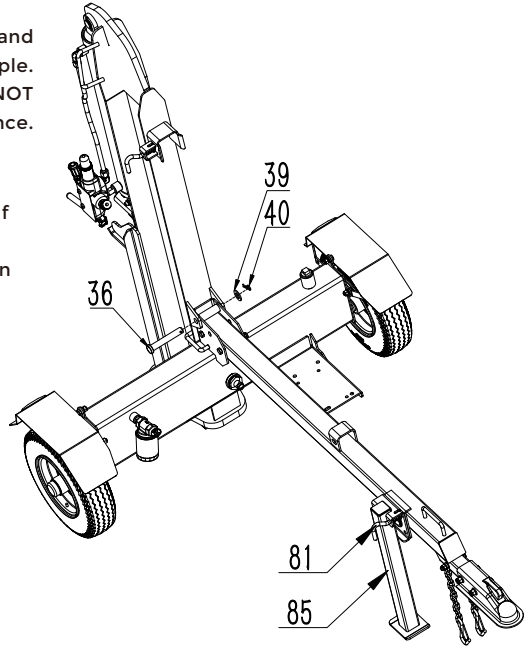


Figure A

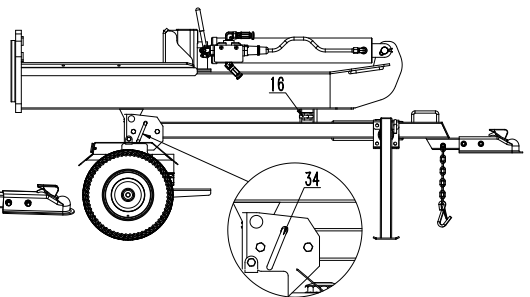
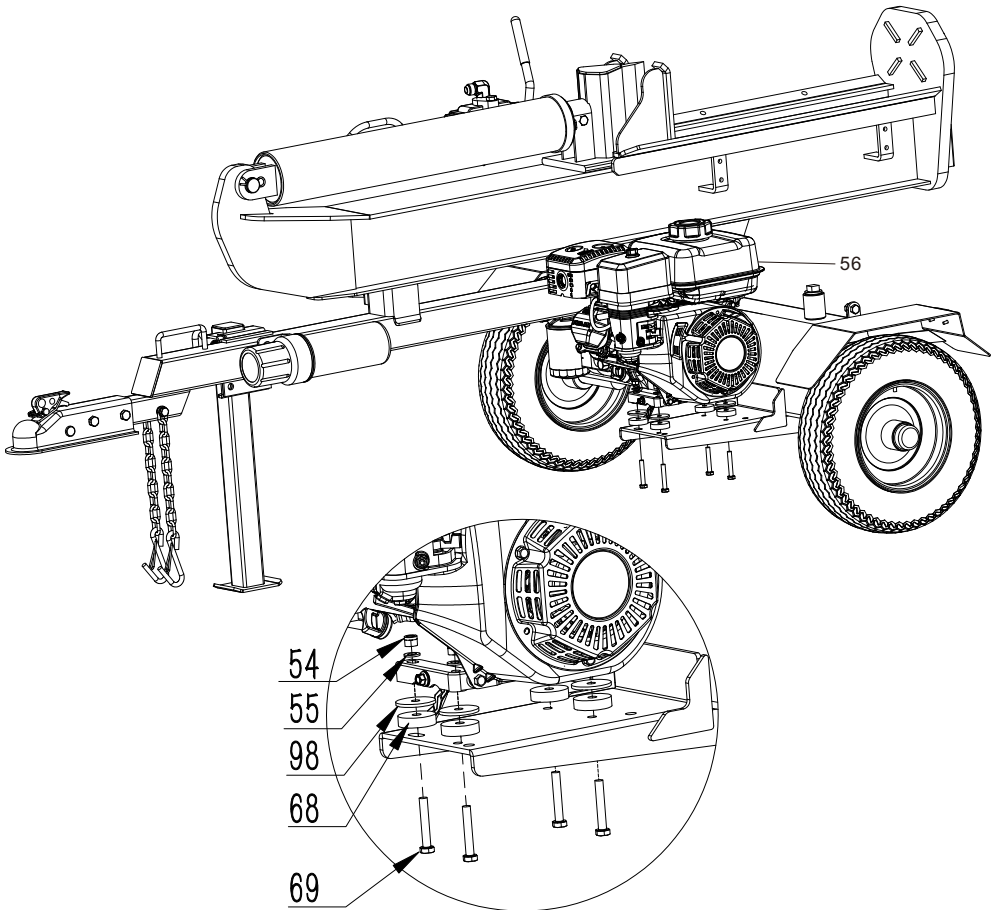


Figure B

ASSEMBLY

6. Install The Engine

1. Place the engine (56) on the engine mounting platform with the recoil cover facing outward towards the wheel and align the 4 holes on the engine base with the holes in the engine platform.
2. Install base mounting (68), $\varnothing 8$ special washer (98), a M8*50 bolt (69) up through the hole on the engine platform and through the hole on the engine base.
3. Place a $\varnothing 8$ washer (55) on the M8*50 bolt (69) and thread a M8 lock nut (54) onto the bolt and tighten securely. Tighten to 10.3 lbf-ft - 11.8 lbf-ft (14-16 N.m) or fully, then a $\frac{1}{4}$ turn further.
4. Repeat steps 2 and 3 for the remaining bolts, washers and lock nuts.



7. Install the Hoses

NOTICE Red shipping plugs must be removed from hydraulic pump prior to installing hoses.

NOTICE Pump-Valve Hydraulic Hose(High Pressure) and Valve-Tank Hydraulic Hose(Low Pressure) Some hoses may be preassembled by the factory, check your hoses per below instructions to ensure proper assembly.

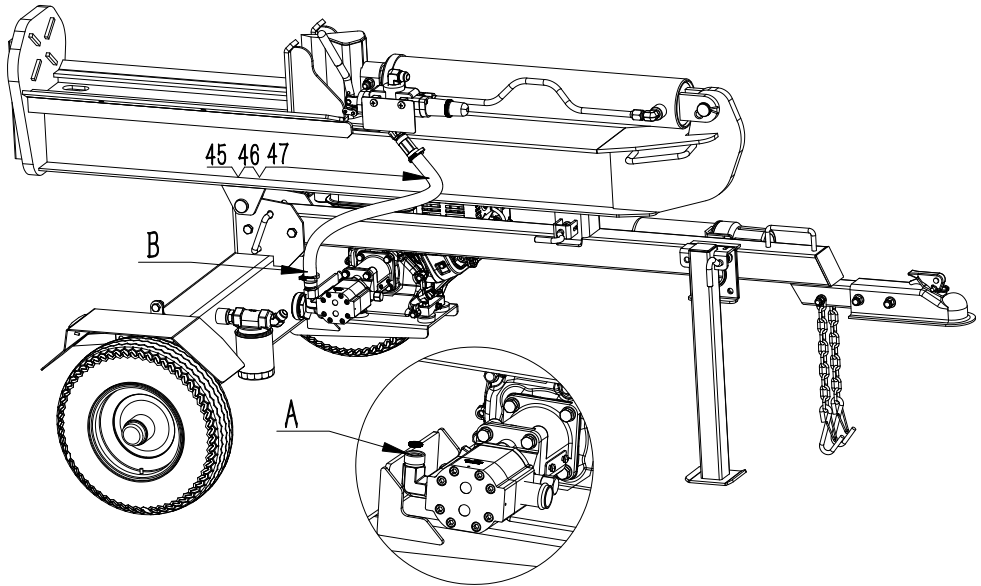
- These hoses are black and have swivel nuts on both ends.
- The Pump-Valve Hydraulic Hose sends hydraulic oil from the pump to the control valve.
- The Valve-Tank Hydraulic Hose returns hydraulic oil from the control valve to the hydraulic oil tank.
- Hose connections do NOT require thread seal tape. The O-ring seals against the face of the fittings on the pump and hose.

Oil Inlet Hose

- This is the clear hose that connects the hydraulic oil tank to the pump inlet.
- Secure both ends of hose with hose clamps.

Hydraulic Hose (Pump-Valve)

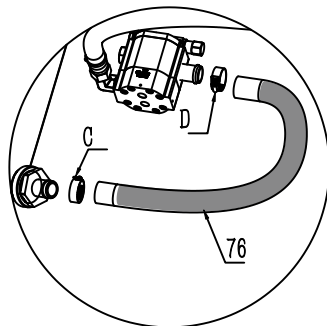
Place an o-ring into pump outlet fitting (A). Make sure the o-ring is properly placed in the inner groove. Connect the loose end of the pump-valve hydraulic hose (B) to the pump outlet (A). Securely tighten the high pressure hydraulic hose with a 27mm wrench. Tighten to 44 lbf-ft - 52 lbf-ft (60-71 N.m).



ASSEMBLY

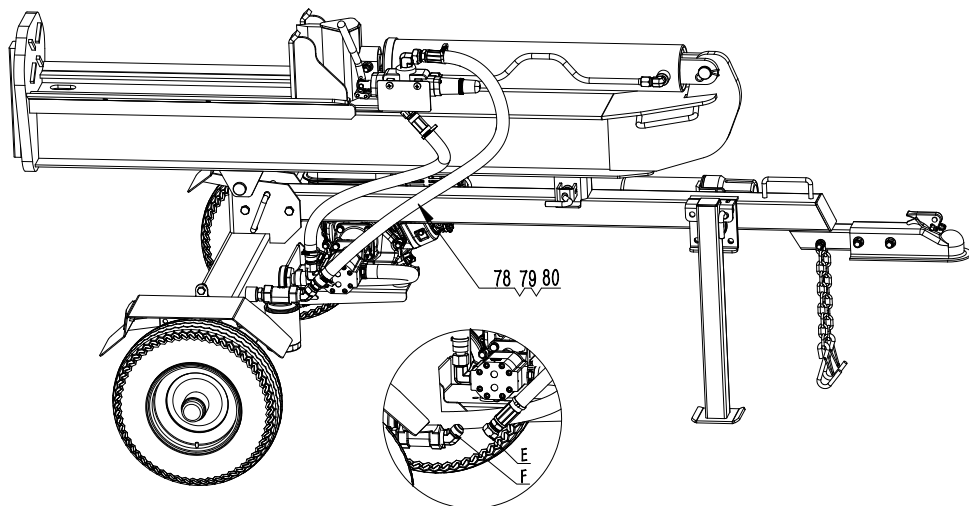
Oil Inlet Hose

Using the provided hose clamps, connect one end of the oil inlet hose (76) to the port on the hydraulic oil tank (C) next to the oil return filter and the other end to the pump inlet on the side of the pump (D). Securely tighten the clamps on both ends of the suction hose with either a flat head screw driver or 8mm socket. Torque to 2.9 lbf-ft - 4.4 lbf-ft (4-6 N.m).



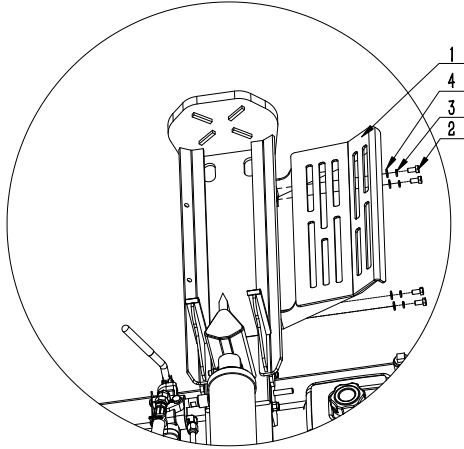
Hydraulic Hose (Valve-Tank)

Connect the loose end of the valve-tank hydraulic hose (E) to the tapered hydraulic fitting on the oil return filter (F). The valve-tank hydraulic hose will only fit on this fitting to ensure correct connection. Securely tighten the hydraulic hose with a 27mm wrench. Tighten to 52 lbf-ft - 66 lbf-ft (71-90 N.m).

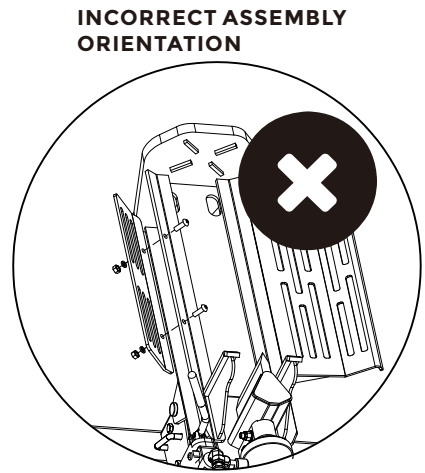
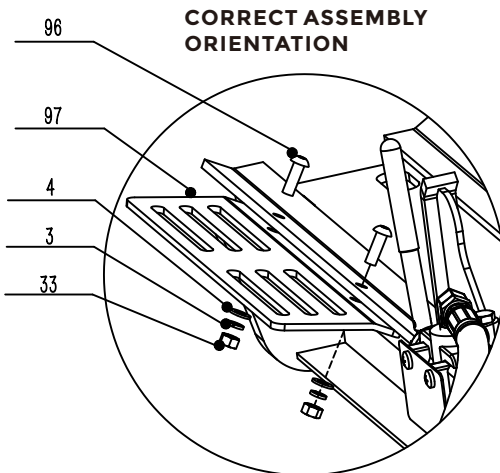


8. Install the Log Catchers

1. With the log catcher (1) angled upward, align the four holes on the log catcher with the four threaded holes on the log splitter beam.
2. Place M10 flat washers (4) and M10 lock washers (3) onto the four M10*20 bolts (2) and thread them through the holes on the log catcher (1) and into the holes on the log splitter beam and tighten securely.



3. With the log catcher (97) angled downward and under the lip of the beam, align the two holes on the log catcher with the two holes on the beam lip.
4. Place the two M10 * 30 bolts (96) through the holes on the beam and through the holes on the log catcher (97). Place a M10 flat washer (4) and a M10 lock washer (3) onto the bolt (96) from the bottom side and thread the M10 nuts (33) onto the bolts and tighten securely.



OPERATION

1. Location

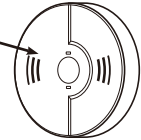


DANGER! Engine exhaust contains carbon monoxide, a poisonous gas that could kill you in minutes. You **CANNOT** smell it, see it, or taste it. Even if you do not smell exhaust fumes, you could still be exposed to carbon monoxide gas.

- Operate log splitter 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 log splitter 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.

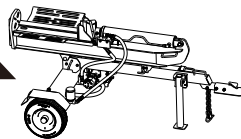


Prevent Carbon Monoxide (CO) Poisoning

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.



20 ft. (6 m) min.

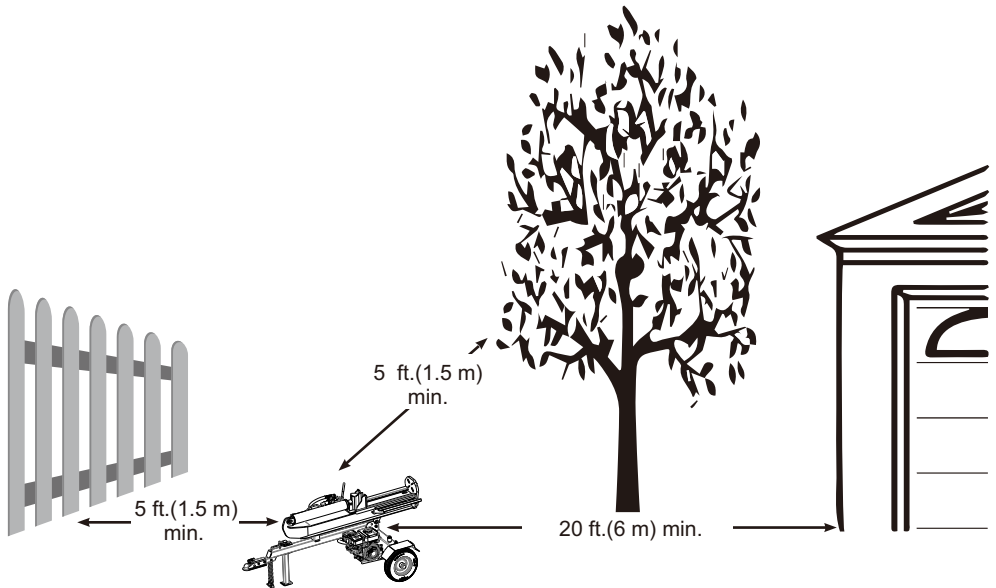


Reduce Risk of Fire



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

- Keep log splitter 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 log splitter indoors to protect it from the weather.
- Do not locate the log splitter under a deck or other similar structure that may confine heat and airflow.



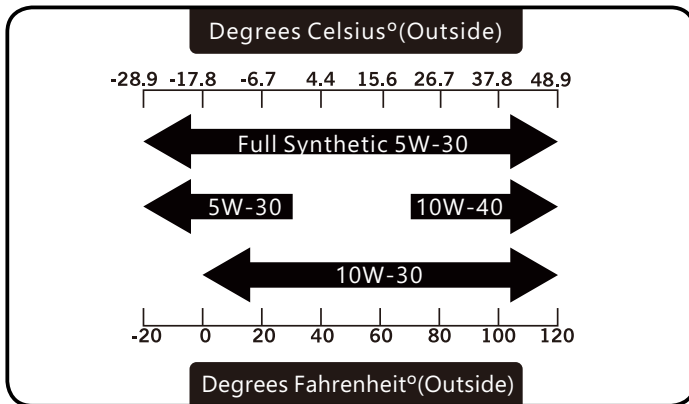
OPERATION

2. Oil and Gasoline

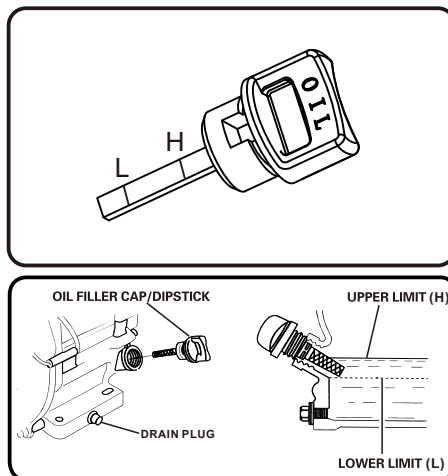
Add Engine Oil

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



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

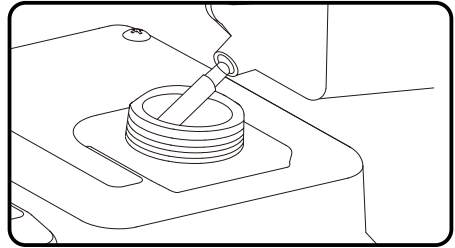
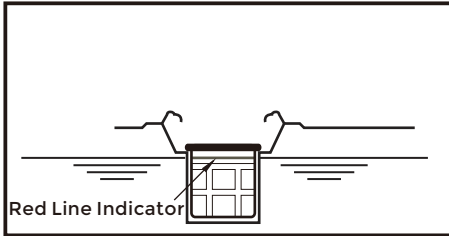
- Clean, fresh, unleaded gasoline with a minimum of 87 octane.
- For high altitude use, see Operation at High Altitude.
- Gasoline with no more than 10% ethanol is acceptable.



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 Altitude

At altitudes over 5,000 feet (1524 meters), a minimum 85 octane gasoline is acceptable. Engine power 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)

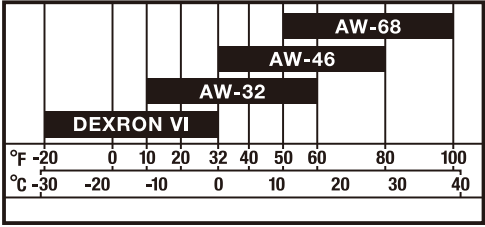
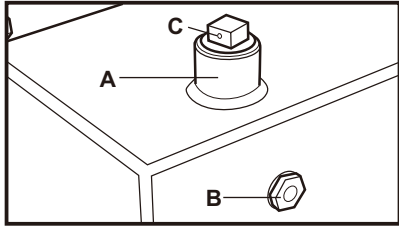
NOTICE Operation using an alternative main jet at elevations lower than the recommended minimum altitude can damage the engine. For operation at lower elevations, the standard main jet supplied must be used. Operating the engine with the wrong main jet may increase exhaust emissions, fuel consumption 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 log splitter may be operated at temperatures ranging from 5°F(-15°C) to 122°F(50°C) for short periods. If the log splitter is exposed to temperatures outside this range during storage, the log splitter should be brought back within this range before operation. When operated above 77°F(25°C) there may be a decrease in power. Log splitter cycle time and ram force are subject to and limited by such factors as ambient temperature, altitude, engine conditions etc.

Add Hydraulic Oil

1. Make sure the log splitter is on a flat, level surface.
2. Remove the oil plug (A) from the hydraulic oil tank.
3. Add 4 gal. (15.1 L) of hydraulic oil. AW32, AW46 & universal hydraulic oil are all acceptable types of fluid. Automatic transmission fluid can be used when operating in temperatures below 32°F (0°C).
4. Check the hydraulic oil level using the oil sight glass (B). Oil level should visibly fill the sight glass .
5. Replace and tighten the oil plug and orient the vent hole (C) away from the operator zone.
6. Start engine and use the control valve handle to extend and retract wedge slide several times to remove air from the lines.
7. Check the oil sight glass and add approximately 0.5 gal.(1.9 L) of hydraulic oil to bring the oil level back up to the oil sight glass (B). Do Not overfill.
8. Check oil level daily and add as needed.



WARNING! Failure to follow these instructions could result in death or serious injury.

- DO NOT remove the hydraulic oil fill plug when the engine is running or oil is hot. Hot oil can escape causing severe burns. Always allow the log splitter to cool completely before removing the hydraulic oil fill plug.
- High fluid pressure and temperatures are created in the hydraulic log splitter. Hydraulic fluid will escape through a pin-size hole opening and can puncture skin and cause severe blood poisoning.
- Inspect hydraulic system regularly for possible leaks. Never check for leaks with your hand while the system is pressurized. Seek medical attention immediately if injured by escaping fluid.
- Make sure all fittings are tight and secure before applying pressure. Relieve system pressure before servicing.
- Make sure the hydraulic hoses do not touch any hot surfaces or cutting areas.
- Hoses need to be positioned where they are clear from the engine and cutting wedge. To avoid death or serious injury always inspect the hoses before operating the log splitter.

OPERATION

Before Each Use Inspect the Log Splitter



WARNING! Before operating or using the log splitter, read and follow the instructions below and all safety information. Failure to follow these instructions could result in death or serious injury.

- ALWAYS use the log splitter for its intended use.
- ONLY use the log splitter to split wood logs, length wise with the grain.
- NEVER modify, alter or change the log splitter in any way, modifications will void the warranty.
- NEVER attach a rope, cable or other device to the control lever on the log splitter.
- Only operate the log splitter in daylight or good artificial light.
- NEVER leave the log splitter unattended while the engine is running.
- DO NOT change the splitting position with the engine running. Contact with the muffler can cause serious burns.
- ALWAYS make sure the beam is in the locked position.
- DO NOT let the beam drop as it could crush fingers or cause damage to the log splitter.
- NEVER operate or let anyone else operate, the log splitter while under the influence of alcohol, drugs, or medication.

1. Check the hydraulic oil level and visually inspect all hoses, attachments and cylinder for loose fittings, leaks, cracks, fraying or other damage.
2. DO NOT operate the log splitter if there is any indication of damage.
3. Inspect the engine and make sure the oil level is correct before operating. Clean and Inspect the spark arrestor regularly (follow spark arrestor maintenance schedule).
4. The tires need to be fully inflated and in good repair. Reference the tire sidewall for recommended tire pressure.

WARNING! Before towing the log splitter, read and follow the instructions below and all safety information. Failure to follow these instructions could result in death or serious injury.

- Making sure the Log Splitter is securely attached to the vehicle is the responsibility of the owner/operator.
- Failure to securely attach the Log Splitter can cause loss of control of the vehicle or the log splitter being separated from the towing vehicle.
- Move the fuel shutoff to "OFF" before towing the log splitter.
- DO NOT over inflate tires. Serious injury can result if tires fail.
- DO NOT tow the log splitter if the tires are worn or will not hold air.
- DO NOT exceed the maximum 45 MPH (72 KM/H) towing speed and check local, state, and federal requirements before towing on any public road.
- Always use safety chains. Secure and lock the log splitter to the vehicle hitch before moving.
- Drive safely. Be aware of the added length of the log splitter. When backing up, using a spotter outside the vehicle is recommended.
- Never ride or transport cargo on the log splitter.
- Turn off the vehicle before leaving the log splitter unattended.
- Block the log splitter wheels to prevent unintended movement.
- ALWAYS disconnect your log splitter from the towing vehicle before operating it.

Transporting the Log Splitter

1. Lower the beam to its horizontal position. Make certain the beam is locked securely with the horizontal beam pin.
2. Change the Jack Stand to transporting position.
 - a) Pull out the support leg pin (81).
 - b) With the help of another person, Support the Tow Bar and pivot the support leg up to the transporting position.
 - c) Secure with the support leg pin (81) previously pulled out.
3. Pull the Latch Assembly on the Receiver up and into the open position. Position the Receiver of the Log Splitter over and onto the tow vehicle's 2" (51 mm) tow ball.
4. Close the Latch Assembly on the Receiver to lock it onto the Tow Ball. Attach the towing Safety Chains (91) to the tow vehicle ensuring there is enough slack for turning.
NOTICE When attaching the Safety Chains, Attach the left chain to the right anchor of the tow vehicle and the right chain to the left anchor of the tow vehicle so that that the Safety Chains cross each other under the Ball Hitch.
5. Insert a receiver Locking Pin, not provided, into the hole in the Latch Assembly.

Changing Beam from Horizontal to Vertical Orientation

When logs are too heavy to lift, the log splitter beam can be changed to the vertical orientation. Always allow the log splitter to cool completely before changing from horizontal to vertical orientation.

To change from horizontal to vertical orientation:

1. Remove horizontal beam pin (81) that locks the beam to the tow bar (figure A).
2. Standing alongside the hydraulic cylinder, (opposite side from the engine) firmly grasp the handle on the beam and lift upward while pushing the beam back until upright. Once the beam is upright lock the beam (figure B).

WARNING! The beam is extremely heavy and shall only be handled with 2 or more people. To avoid muscle strain or back injury, DO NOT try and lift or handle the beam without assistance.

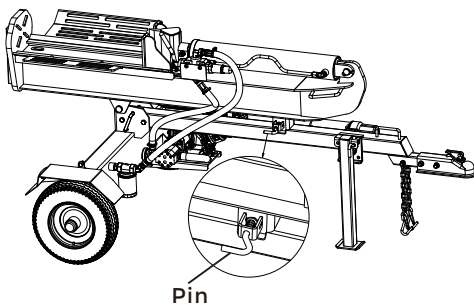


Figure A

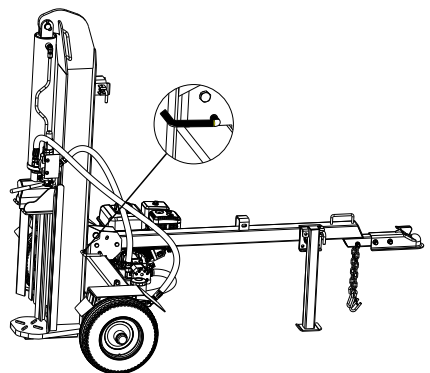


Figure B

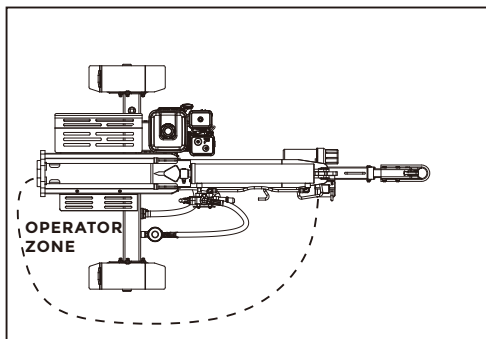
To change from vertical to horizontal orientation, reverse steps.

OPERATION

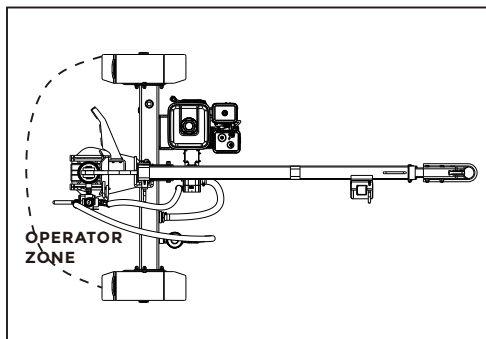
Starting the Engine

The log splitter must have at least 5 feet of clearance from combustibile material. The log splitter needs to be on a dry and level surface with good footing. Do not work in mud, ice, brush or snow. When using the log splitter the operator zone must be maintained at all times.

Only operate log splitter from operator zone shown below.

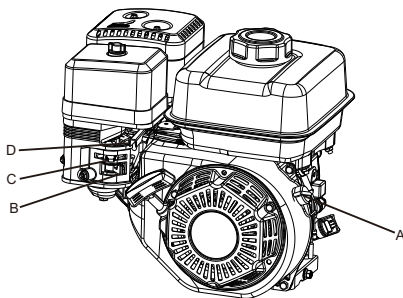


Horizontal

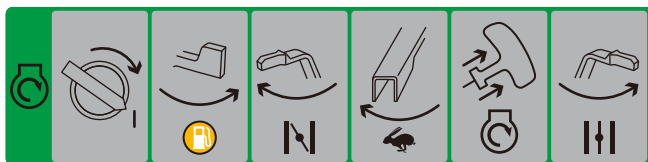


Vertical

1. Before using the log splitter, 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 log splitter outdoors to safe operating location downwind and 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 the throttle lever (D) to the "Fast" position.
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.



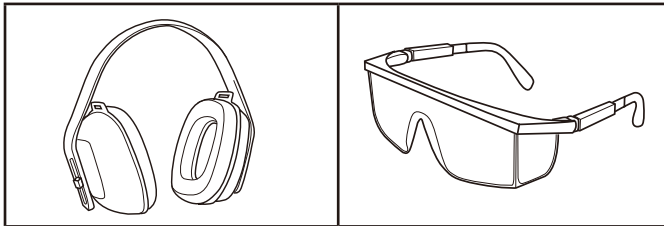
Stopping the Engine

1. Rotate the engine switch(A) to the "OFF" position.
2. 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.

Log Splitter Operation

1. ALWAYS wear eye and ear protection, safety shoes or heavy boots, gloves, and protective clothing.



2. Block tires and ensure support leg is secure to prevent unintended movement of the log splitter during operation.

3. Set log splitter in either the horizontal or vertical position.

NOTICE HORIZONTAL position is used for lighter logs that can easily be loaded onto the beam.

VERTICAL position is used for light logs as well as heavy logs that are difficult to load onto the beam. Back injury can result from lifting logs onto the log splitter if proper lifting techniques are not used.

4. Load a log onto the beam against the foot plate (MAX LOG LENGTH - 24 in. [61 cm]).

5. Make sure all limbs are clear of crush zones.

6. Push the control valve handle forward (towards the foot plate) to split the log.

7. Push the auto control valve handle backward to return the wedge to its original position.

8. Clear the split wood from the operator zone.

- It is normal for the hydraulic fluid to appear foamy/frothy during operation.
- If a log gets stuck, embedded or will not split completely, push the control handle in the reverse direction and allow the log splitter to strip the log from the wedge.
- ALWAYS keep hands clear of the log and wedge while it is retracting.
- The hydraulic cylinder stroke is designed so the wedge slide stops approximately 1.7 in. (4.5 cm) from the foot plate.

Maintenance - Storage

MAINTENANCE SCHEDULE

Follow the service intervals indicated in the following maintenance schedule.

Service your log splitter more frequently when operating in adverse conditions.

Contact our Technical Support Team at 1-844-347-6261 to locate the nearest FIRMAN service dealer for your log splitter or engine maintenance needs.

EVERY 8 HOURS OR DAILY

- Check engine and hydraulic oil levels
- Clean around air intake and muffler

FIRST 25 HOURS

- Change engine oil

FIRST 50 HOURS

- Change hydraulic oil filter

EVERY 50 HOURS OR EVERY YEAR

- Clean air filter foam element
- Change engine oil if operating under heavy load or in hot environments

EVERY 100 HOURS OR EVERY YEAR

- Replace air filter
- Change engine oil
- Clean/adjust spark plug
- Check/adjust valve clearance*
- Clean spark arrestor
- Clean fuel tank and filter*
- Change hydraulic oil
- Change hydraulic oil filter

EVERY 250 HOURS

- Clean combustion chamber*
- Inspect wheel bearings and repack bearing grease as needed.

EVERY 3 YEARS

- Replace fuel line*

* 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 log splitter. See any authorized dealer for service.

The log splitter'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 log splitter as instructed in this manual.

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

All service and adjustments should be made at least once every year. Follow the requirements in the maintenance schedule 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.

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.)

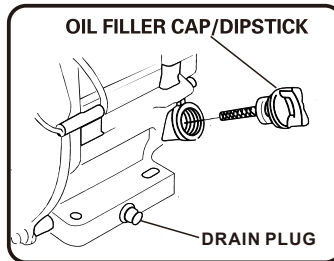
If you are using your log splitter under extremely dirty or dusty conditions, or in extremely hot weather change the oil more often.

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.

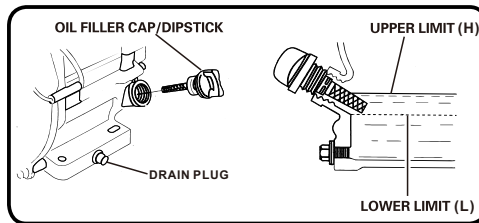


KEEP OUT OF REACH OF CHILDREN. DON'T POLLUTE. CONSERVE RESOURCES. RETURN USED OIL TO COLLECTION CENTERS.

(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.



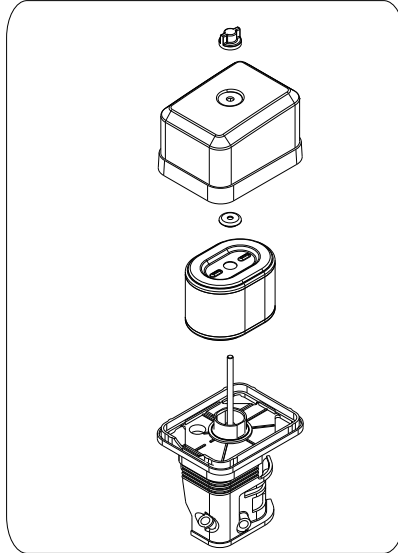
NOTICE We recommend using SAE 10W-30 API SJ oil for best performance. Other high-quality detergent oils (API SJ or higher) are acceptable. See *Oil and Gasoline*

Maintenance - Storage

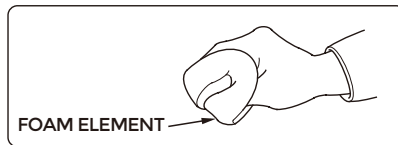
Air Filter Maintenance

(a) Unscrew wing nut to remove the air filter cover.

(b) Remove the foam element from the air filter and wash in liquid detergent and water. Squeeze dry in a clean cloth.



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



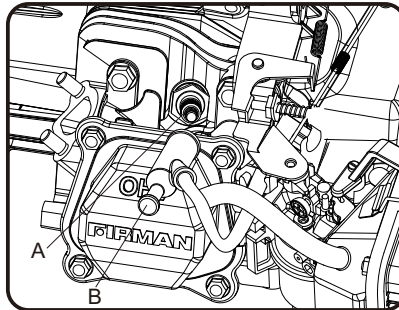
(d) Reassemble the element. Reattach the air filter cover and tighten wing nut.

Spark Plug Maintenance

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

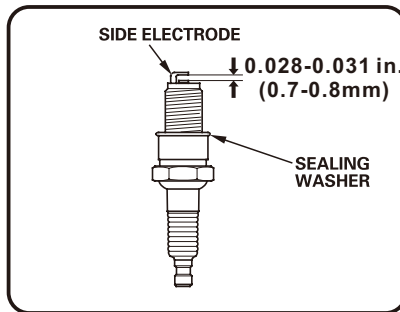
(a) Remove the spark plug boot.

(b) Remove spark plug using provided wrench.



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 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 Arrester



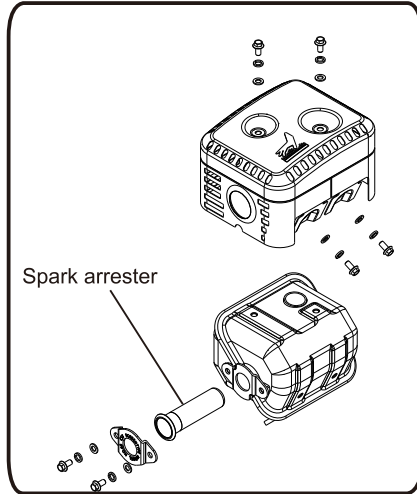
WARNING! Contact with muffler area could cause burns resulting in serious injury.

- 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.

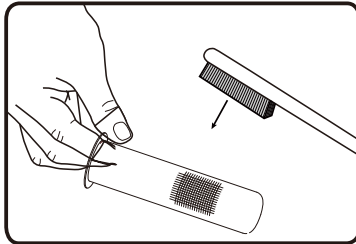
Maintenance - Storage

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.

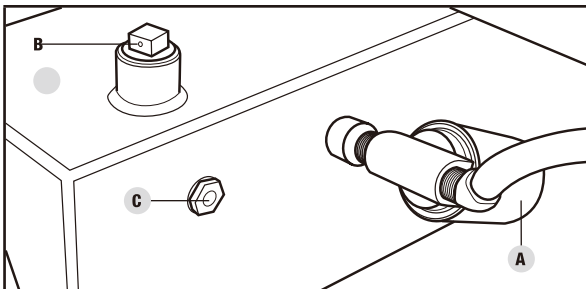
Changing the Hydraulic Oil and Oil Filter

WARNING! Always shut off the engine, disconnect the spark plug, and relieve system pressure before cleaning, adjusting, or servicing the log splitter. Relieve system pressure by moving control valve handle back and forth several times.

Change the hydraulic oil filter after the first 50 hours of use. Then every 100 hours or annually.

1. Begin with the cylinder retracted and the engine "OFF."
2. Turn the fuel valve "OFF."
3. Release any stored pressure by moving the control valve handle forward and backward several times.
4. Place a 4.5 gal. (17 L) container under the hydraulic tank. Make sure it is large enough to hold the contents of the tank.
5. To drain the oil, unscrew and remove the tank drain plug (70) on the bottom of the hydraulic tank.
6. Allow oil to completely drain from the tank into the container.
7. Install a new hydraulic oil filter (A). Drain any used oil from the filter removed into the container.
 - 7a. Turn the filter counterclockwise to remove it. A strap wrench may be used.
 - 7b. Lubricate the gasket of the new filter with a thin film of clean oil.
 - 7c. Screw the new filter on clockwise. Tighten $3/4 - 1$ turn after the gasket makes contact.
8. Screw in the tank drain plug (70). Tighten, but do not over tighten.

NOTICE The drain plug (70) is sealed with Teflon tape. Add 2-3 wraps of new Teflon tape as needed when replacing the drain plug (70) to prevent oil leak.



9. Unscrew and remove the oil fill plug (41), on top of the tank. Add approximately 4 gal. (15.1 L) of hydraulic oil to the tank. Replace and tighten the oil fill plug (41) and orient the vent hole (B) away from the operator zone. Wipe up any spilled oil.
10. Start the engine following the procedure described in the OPERATION section. Purge the air from the system by extending and retracting the wedge several times until the motion is smooth.
11. Check the oil sight glass and add approximately 0.5 gal. (1.9 L) of hydraulic oil to bring the oil level back up to the oil sight glass (C).
12. Dispose of used oil at approved recycling locations.

For year round use in warmer climates (always ABOVE 32°F/ 0°C):

- AW 32

- Universal Hydraulic Oil

For year round use in colder climates (BELOW 32°F/ 0°C):

- Automatic Transmission Fluid

Long Term Storage

If the log splitter will not be used for more than 30 days, prepare it for long term storage as follows:

1. Retract the wedge to protect the rod from corrosion.
2. Never store the machine with fuel in the fuel tank inside a building where ignition sources are present.
3. Drain all fuel completely from the tank, fuel line and carburetor to prevent gum from forming. If log splitter is stored with fuel in the fuel tank, we recommend using a gas stabilizer to prevent sediment from gumming up the carburetor. If there is dirt or moisture in the fuel, drain the fuel tank. Completely fill the tank with fresh, unleaded gas and add the appropriate amount of fuel stabilizer. Run the engine for a short time to allow the stabilizer to circulate.
4. Before storing the log splitter, stop the engine, wait at least five minutes to allow all parts to cool.
5. Change the engine oil.
6. Remove the spark plug and pour about ½ ounce (14.8 ml) of oil into the cylinder. Pull the engine recoil slowly to distribute the oil and lubricate the cylinder. Reinstall the spark plug.
NOTICE The use of a pressure washer or a garden hose to clean the log splitter is not recommended. The use of water will result in corrosion, shortening life and reducing serviceability.
7. Check the wedge slide for nicks and wear. Sharpen if needed.
8. Apply a rust preventative (oil film or equivalent) to any bare metal areas on the wedge slide and on top of the beam.
9. Using a soft bristle brush, clean the exterior of the unit removing all dirt, grease, or other foreign material. Remove dirt and debris from the cylinder head cooling fins and muffler area.
10. To prevent rust, touch up painted surfaces if scratched or chipped.
11. Be sure all hoses, nuts, bolts, and screws are securely fastened.
12. Store the log splitter in a dry, protected place. If it is necessary to store outside, cover it with a tarp of similar protective material (especially the Engine). Avoid storage near corrosive materials.

Troubleshooting - Specifications

Problem	Solution
Cylinder rod will not move.	A,D
Slow cylinder rod speed when extending or retracting	A,B,D,I
Log will not split or splits extremely slowly	A,B,D,G,I
Valve will not stay in detent or will not kick out of detent position	H
Engine bogs down during splitting	This is normal
Engine stalls under low load condition	L
Engine will not start	C,E,F
Engine is difficult to turn over and will not start when cold	J
Engine runs but cylinder does not move	D,K
Cause	Solution
A-Insufficient oil to pump	Check oil level in reservoir
B-Air in oil	Check oil level in reservoir
C-Low engine oil	Check and add engine oil
D-Blocked hydraulic lines	Check for restriction
E-"ON"/"OFF"	Move to "ON" position
F-Fuel shut off in "OFF" position	Move to "ON" position
G-Damaged control valve	Return control valve for authorized repair
H-Detent setting incorrect	Remove plastic cap on valve and adjust detent kick out pressure
I-Internally damaged cylinder	Return cylinder for authorized repair
J-Cold ambient temperature	Cold weather can result in slow hydraulic cylinder operation.Change to recommended hydraulic oil.
K-Broken pump / Engine coupler	Check and replace coupler
L-Defective pump or engine	Contact service center

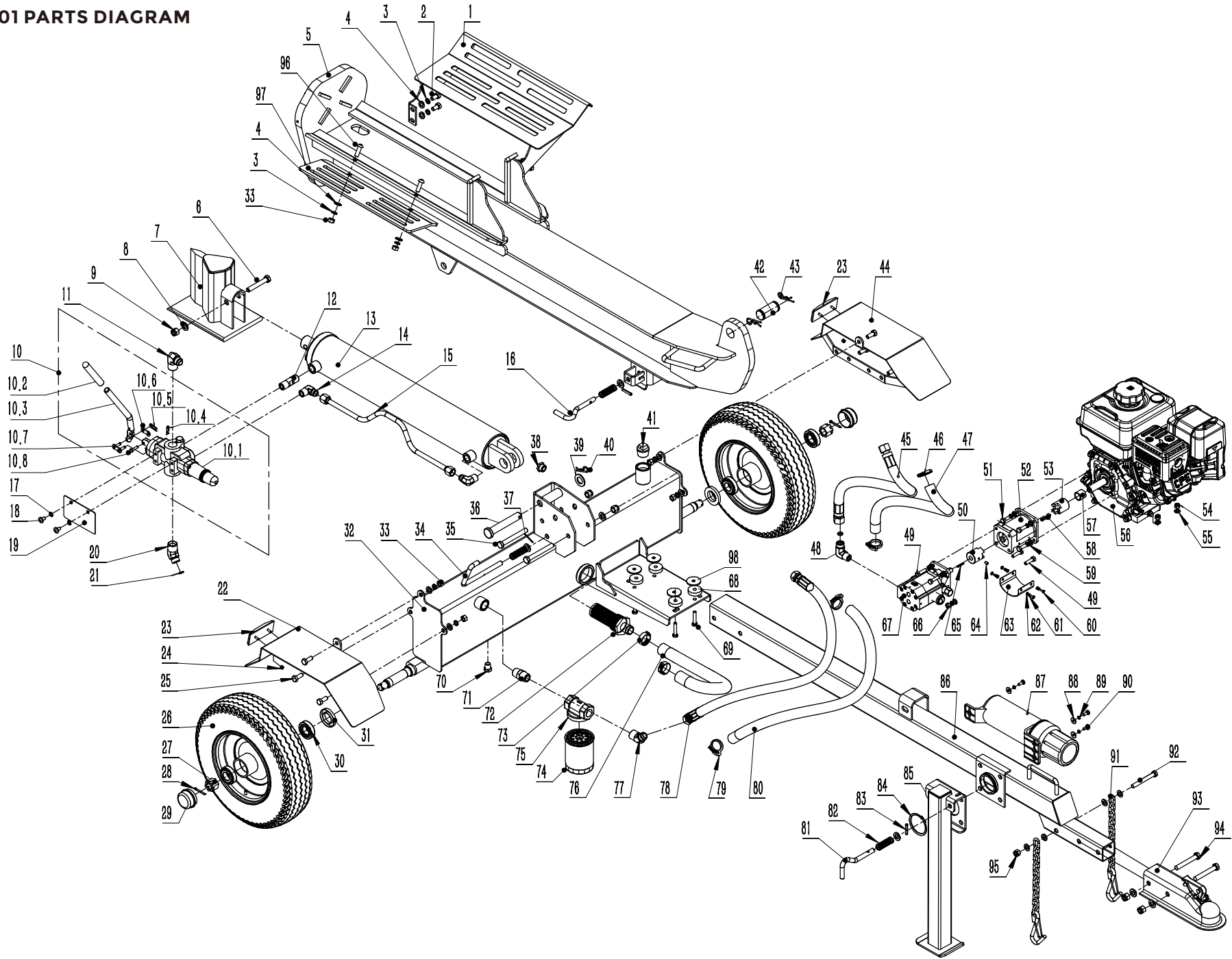
For all other issues, contact authorized dealer or Firman customer service.

Troubleshooting - Specifications

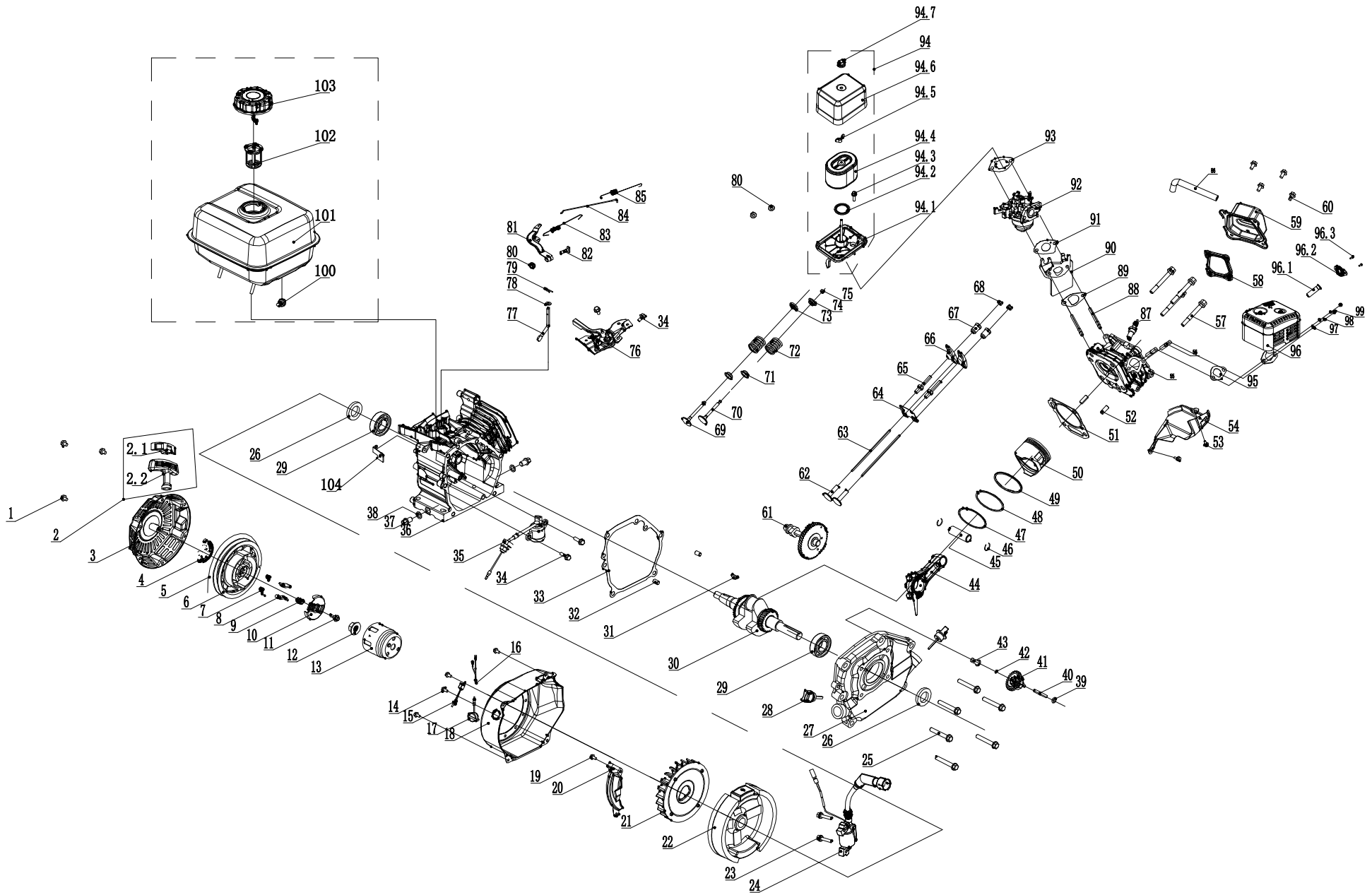
SPECIFICATIONS

Model	GS2201
Ram Force	22 Ton
Cycle Time	11 seconds
Hydraulic Tank Capacity	4 gal (15.1 L)
Max Log Length	24 in. (61 cm)
Max Log Weight	133 lb. (60 kg)
Coupler Ball Size	2 in. (5.1 cm)
Tire Size	16 in. (40.6 cm)
Max towing speed	45 MPH (72 KM/H)
Cylinder size	4 in. × 22.6 in. (10 cm × 57.5 cm)
Cylinder rod size	1.6 in. (4 cm)
Gear Pump	2-stage
Max pressure	3700 psi (25.5MPa)
Max flow capacity	14 GPM(53LPM)
Control Valve	Detent (auto-return)
Net Weight	430 lb. (195 kg)
Height	39.3 in. (99.8 cm)
Width	51.3 in. (130.2 cm)
Length	89.5 in. (227.3 cm)
Hydraulic Oil System Capacity	4.5 gal. (17 L)
Engine	
Model	SPE200
Displacement	196 cc
Type	4-Stroke OHV
Start Type	Recoil
Oil Capacity	20.3 fl. oz (600ml)
Gasoline Capacity	1 gal (3.6L)

PARTS DIAGRAM AND PART LIST
GS2201 PARTS DIAGRAM



196cc ENGINE PARTS DIAGRAM



Parts Diagrams - Parts Lists

GS2201 LOG SPLITTER

NO.	Part Number	Description	Qty.	NO.	Part Number	Description	Qty.
1	710717000	Log Catcher Engine Side	1	46	710727003	Clamp	2
2	710717001	Bolt M10*20	4	47	710727004	Hydraulic Hose Sheath(Pump-Valve)	1
3	710717002	Lock Washer ø10	12	48	710717038	Connector	1
4	710717003	Washer ø10	16	49	710717039	Bolt M8*30	4
5	710717004	Beam	1	50	710717040	Gear Pump Connector	1
6	710717005	Bolt M12*75-12.9	1	51	710717041	Bolt 5/16 in.-24*1 in.	4
7	710717006	Wedge Slide	1	52	710717042	Connector Stand	1
8	710717007	Washer ø12	8	53	710717043	Engine Connector	1
9	710717008	Lock Nut M12	5	54	710717044	Lock Nut M8	4
10	710417000	Control Valve	1	55	710717045	Washer ø8	12
10.1	710717079	Valve Body	1	56	302467003	Engine	1
10.2	710717080	Handle Sleeve	1	57	710717046	Engine Bushing	1
10.3	710717081	Curved Handle	1	58	710717047	Flat Key 4.78*4.78*35	1
10.4	710717082	1.2R Pin	1	59	710717048	Lock Washer ø8	8
10.5	710717083	Snap	1	60	710717049	Screw M4*10	4
10.6	710717084	Connecting Plate	1	61	710717050	Lock Washer ø4	4
10.7	710717085	Connecting Buckle Component	1	62	710717051	Washer ø4	4
10.8	710717086	Cylindrical Pin	1	63	710717052	Connector Cover	1
11	710717009	Connector	1	64	710717053	Set Screw M6*10	1
12	710717010	Through Joiner 2	1	65	710717054	Flat Key 3.2*3.2*25	1
13	710417001	Hydraulic Cylinder	1	66	710717055	Nut M8	2
14	710717011	Rattle Angle Joiner	2	67	710417004	Gear Pump	1
15	710717012	Hydraulic Hose(Valve-Cylinder)	1	68	710727005	Base Mounting	4
16	710717013	Pin	1	69	710717056	Bolt M8*50	4
17	710717014	Lock Washer ø8	2	70	710717057	Tank Drain Plug	1
18	710717015	Screw M8*12	2	71	710717059	Through Joiner 1	1
19	710717016	Plate	1	72	710717058	Internal Oil Filter	1
20	710717017	Connector	1	73	710717060	Clamp	2
21	710717018	O-ring	2	74	710427000	Oil Return Filter	1
22	710717019	Fender(left)	1	75	710417005	Filter Base Assembly	1
23	710727000	Reflector	2	76	710727006	Oil Inlet Hose	1
24	710717020	Lock Nut M5	4	77	710717061	Connector	1
25	710717021	Bolt M10*25	6	78	710727007	Hydraulic Hose(Valve-Tank)	1
26	710727001	Wheel	2	79	710727008	Clamp	2
27	710717022	Castle Nut M20*1.5	2	80	710727009	Hydraulic Hose Sheath(Valve-Tank)	1
28	710717023	Cotter Pin 4*36	2	81	710717062	Pin	1
29	710717024	Axle Cap	2	82	710717063	Spring	3
30	710717025	Bearing	4	83	710717064	Pin 6*35	2
31	710717026	Cased Seal	2	84	710717065	Retaining Ring	1
32	710417002	Hydraulic Oil Tank	1	85	710717066	Support Leg	1
33	710717027	Nut M10	8	86	710717067	Tow Bar	1
34	710717028	Pin	1	87	710727010	Manual Canister	1
35	710717029	Bolt M12*100	2	88	710717068	Washer ø6	3
36	710717030	Hinge Pin	1	89	710717069	Lock Washer ø6	3
37	710717031	Pin 2.5*36	1	90	710717070	Screw M6*16	3
38	710417003	Oil Mirror M20*1.5	1	91	710717071	Safety Chain with Hook	2
39	710717032	Washer ø20	1	92	710717072	Bolt M10*85	1
40	710717033	R Pin 3*54.5	1	93	710717073	2-in. Ball Coupler	1
41	710717034	Oil Plug	1	94	710717074	Bolt M12*80	2
42	710717035	Wedge Pin	1	95	710717075	Lock Nut M10	1
43	710717036	R Pin 3*62	2	96	710717076	Screw M10*30	2
44	710717037	Fender(right)	1	97	710717077	Log Catcher(Operation Side)	1
45	710727002	Hydraulic Hose(Pump-Valve)	1	98	710717078	Special Washer ø8	4

Parts Diagrams - Parts Lists

FIRMAN 196cc Engine

NO.	Part Number	Description	Qty.	NO.	Part Number	Description	Qty.
1	336713528	Flange, Bolt M6x8	3	49	302767012	Piston Ring 1	1
2	357723577	Grip, starter	1	50	302767013	Piston	1
2.1	336728300	Handle Croe	1	51	302767014	Cylinder Head Gasket	1
2.2	336728301	Recoil Starter Knob	1	52	330723548	Locating Pins	2
3	302467013	Case Comp., Recoil Starter	1	53	336713528	Flange Bolt M6x8	3
4	330723523	Recoil Starter Spring	1	54	336723523	Air Guide Lower	1
5	336723587	Cord	1	55	302767015	Cylinder Head Assy.	1
6	336723588	Pulley, Recoil Starter	1	56	336723539	Exhaust Valves Stud Bolt	2
7	336723589	Spring, Patchet	2	57	336723527	Flange Bolt M8x55	4
8	336723590	Patchet, Starter	2	58	302767016	Cylinder Head Cover Gasket	1
9	336723592	Clip Spring, Pawl Guide	1	59	336723525	Cover Subassembly	1
10	336723591	Pawl Guide	1	60	336723526	Bolt M6x15	4
11	336723593	Screw, Pawl Guide	1	61	302467018	Gear Assy, Governor	1
12	330713555	Nut M14	1	62	336723544	Tappet, Valve	2
13	302467002	Pulley, Starter	1	63	336723543	Push Rod	2
14	336718302	Bolt M6x12	4	64	336723538	Plate Subassembly, Lifter Stopper	1
15	302767002	Diode Assy.	1	65	336723537	Bolt, Valve Adjusting	2
16	302457001	Harness Subassembly	1	66	336723531	Rocker, Valve	2
17	302467014	Engine Switch	1	67	336723529	Nut Valve Adjusting	2
18	302467004	Engine Cover Assy.	1	68	336723528	Nut, Valve Lock	2
19	317718304	Bolt M6x20	1	69	302467007	Valve, Intake	1
20	336723578	Air Guide, Right Side	1	70	302467008	Valve, Exhaust	1
21	302467001	Cooling Fan	1	71	336723536	Oil Seal, Valve	2
22	336723583	Flywheel Comp	1	72	336723535	Spring, Valve	2
23	357723569	Bolt	2	73	336723533	Retainer, Intake Valve	1
24	336723573	Ignition Coil	1	74	336723534	Retainer, Exhaust Valve	1
25	336723514	Flange Bolt M8x32	6	75	336723532	Rotator, Valve	1
26	336723513	Seal, Oil	2	76	302767017	Governor Assy.	1
27	302467005	Crankcase Cover	1	77	336723563	Shaft, Governor Arm	1
28	336723511	Oil Dipstick Assy	1	78	336723564	Rocker Shim	1
29	330723506	Bearing 6205	2	79	336723565	Pin, Shaft	1
30	302467006	Crankshaft	1	80	336713517	Nut M6	3
31	336723507	Woodruff Key	1	81	336723566	Arm, Governor	1
32	317723516	Dawl Pin	2	82	336723567	Bolt, Governor Arm	1
33	336723510	Gasket, Crankcase	1	83	302467019	Spring, Governor	1
34	336718301	Bolt M6x12	4	84	336723569	Rod, Governor	1
35	336723502	Sensor, Engine Oil	1	85	336723570	Spring, Throttle Valve Returning	1
36	302767009	Crankcase	1	86	336723530	Breather Tube	1
37	330723604	Bolt, Drain	2	87	336723556	Spark Plug	1
38	330723603	Washer, drain Bolt	2	88	302467009	Stud, Intake	2
39	336723595	Inner Washer, Gear	1	89	336723550	Gasket, Inlet	1
40	336723594	Gov., gear Shaft	1	90	336723551	Plate, Carburetor Insulator	1
41	336723596	Gear, Governor	1	91	336723552	Gasket, Carburetor	1
42	336723597	Clip, Governor Gear	1	92	302467015	Carburetor	1
43	336723598	Bushing, Governor Gear	1	93	302767019	Air Cleaner Gasket	1
44	336723515	Rod, Connecting	1	94	302767020	Air Cleaner	1
45	336723517	Pin, Piston	1	94.1	302767021	Air Cleaner Base	1
46	336723516	Clip, Piston Pin	2	94.2	302767022	Gasket	1
47	302767010	Oil Ring	1	94.3	317718304	Bolt M6x20	1
48	302767011	Piston Ring 2	1	94.4	302767023	Element Assy.	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 log splitter 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 log splitter.

FIRMAN 2 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 2 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

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 2023-2024 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 only 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: - Spark plug - Ignition coil	4. Air induction system including: - Intake pipe/manifold - Air cleaner
2. Fuel metering system: - Fuel tank - Fuel cap - Fuel lines (for liquid fuel and fuel vapors) and related fittings/clamps - Fuel regulator, carburetor and internal parts.	5. Crankcase breather assembly including: - Breather connection tube
3. Catalytic muffler assembly including: - Exhaust manifold - Catalytic converter - Muffler gasket - pulse valve	6. Fuel tank evaporative emission control system including: - Purge valves - Carbon canister - Vapor hoses and fitting/clamps

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
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:710745450 Rev:01