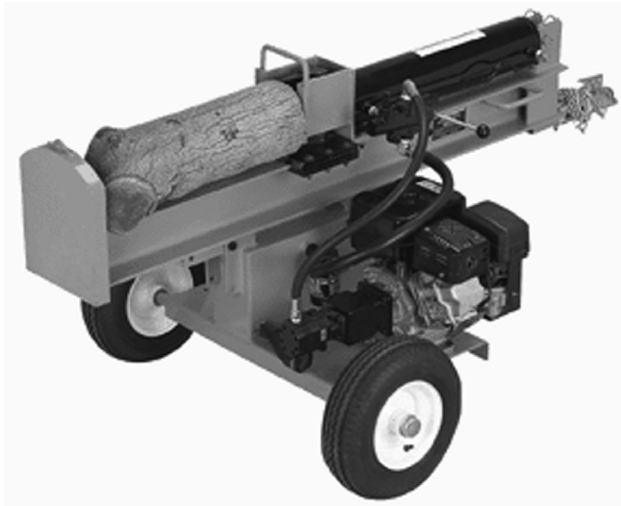




LOG SPLITTER

Model 65761

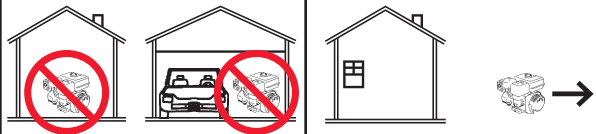
SET UP, OPERATING, AND SERVICING INSTRUCTIONS



⚠ DANGER

Using an engine indoors **CAN KILL YOU IN MINUTES.**

Engine exhaust contains carbon monoxide. This is a poison you cannot see or smell.



NEVER use inside a home or garage, **EVEN IF** doors and windows are open.

Only use **OUTSIDE** and far away from windows, doors, and vents.

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**Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.**

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For technical questions or replacement parts, please call 1-800-444-3353.

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SAVE THIS MANUAL

Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

IMPORTANT SAFETY INFORMATION

In this manual, on the labeling, and all other information provided with this product:



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

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

WARNING

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

CAUTION

CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

CAUTION

CAUTION, without the safety alert symbol, is used to address practices not related to personal injury.



WARNING! Read all instructions. Failure to follow all instructions listed below may result in fire, serious injury and/or DEATH.

The warnings and precautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

SAVE THESE INSTRUCTIONS

SET UP PRECAUTIONS

1. Gasoline fuel and fumes are flammable, and potentially explosive. Use proper fuel storage and handling procedures. Do not store fuel or other flammable materials nearby.
2. Have multiple ABC class fire extinguishers nearby.
3. Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrestor may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.
4. Set up and use only on a flat, level, well-ventilated surface.

5. Wear ANSI-approved safety goggles, heavy-duty work gloves, and dust mask/respirator during set up.
6. Use only oil and fuel recommended in the "Specifications" section of this manual.

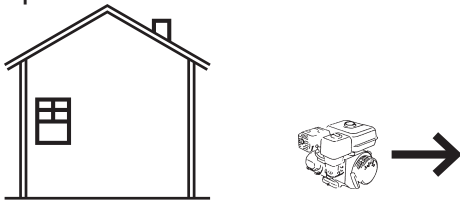
OPERATING PRECAUTIONS

1.  **CARBON MONOXIDE HAZARD**
Using an engine indoors CAN KILL YOU IN MINUTES.

Engine exhaust contains carbon monoxide. This is a poison you cannot see or smell.



NEVER use inside a home or garage, EVEN IF doors and windows are open.



Only use OUTSIDE and far away from windows, doors, and vents.

2. Keep children away from the equipment, especially while it is operating.
3. Operate the Log Splitter, with the wheels blocked, on a dry, level surface capable of supporting the combined weight of the Log Splitter and logs.
4. Do not drive the Log Splitter on roads or highways. This product is

not D.O.T. compliant, and is not road legal.

5. Always make sure the hitch coupler is securely fixed to the vehicle before moving it. If the Coupler is not secured properly, the link could come loose while the trailer is in motion, possibly causing property damage, SERIOUS PERSONAL INJURY, or DEATH.
6. Never split a log that contains any foreign materials (nails, for example).
7. Never place your hands or body near a hydraulic fluid leak. High-pressure fluid can be forced under the skin resulting in serious injury.
8. Do not use on logs longer than 25" or with a diameter greater than 8".
9. Do not leave the equipment unattended when it is running. Turn off the equipment (and remove safety keys, if available) before leaving the work area.
10. Wear ANSI-approved safety goggles, heavy-duty work gloves, steel-toe work boots and hearing protection during use.
11. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to a heart pacemaker could cause pacemaker interference or pacemaker failure. Caution is necessary when near the engine's magneto or recoil starter.
12. Use only accessories that are recommended by Harbor Freight Tools for your model. Accessories that may be suitable for one piece of equipment

- may become hazardous when used on another piece of equipment.
13. Do not operate in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Gasoline-powered engines may ignite the dust or fumes.
 14. Stay alert, watch what you are doing and use common sense when operating this piece of equipment. Do not use this piece of equipment while tired or under the influence of drugs, alcohol or medication.
 15. Do not overreach. Do not reach over or across the Log Splitter. Keep proper footing and balance at all times. This enables better control of the equipment in unexpected situations.
 16. Dress properly. Do not wear loose clothing or jewelry. Keep hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.
 17. Parts, especially exhaust system components, get very hot during use. Stay clear of hot parts.
 18. Do not cover the engine or equipment during operation.
 19. Keep the equipment, engine, and surrounding area clean at all times.
 20. Use the equipment, accessories, etc., in accordance with these instructions and in the manner intended for the particular type of equipment, taking into account the working conditions and the work to be performed. Use of the equipment for operations different from those intended could result in a hazardous situation.
 21. Do not operate the equipment with known leaks in the engine's fuel system.
 22. This product contains or, when used, produces a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. (California Health & Safety Code § 25249.5, *et seq.*)
 23. When spills of fuel or oil occur, they must be cleaned up immediately. Dispose of fluids and cleaning materials as per any local, state, or federal codes and regulations. Store oil rags in a bottom-ventilated, covered, metal container.
 24. Keep hands and feet away from moving parts. Do not reach over or across equipment while operating.
 25. Before use, check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the equipment's operation. **If damaged, have the equipment serviced before using.** Many accidents are caused by poorly maintained equipment.
 26. Use the correct equipment for the application. Do not modify the equipment and do not use the equipment for a purpose for which it is not intended.

SERVICE PRECAUTIONS

1. **Before service, maintenance, or cleaning:**
 - a. **Turn the engine switch to its “OFF” position.**
 - b. **Allow the engine to completely cool.**
 - c. **Then, remove the spark plug wire(s) from the spark plug(s).**
2. Keep all safety guards in place and in proper working order. Safety guards include muffler, air cleaner, mechanical guards, and heat shields, among other guards.
3. **Do not alter or adjust any part of the equipment or its engine that is sealed by the manufacturer or distributor. Only a qualified service technician may adjust parts that may increase or decrease governed engine speed.**
4. Wear ANSI-approved safety goggles, heavy-duty work gloves, and dust mask/respirator during service.
5. Maintain labels and nameplates on the equipment. These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
6. Have the equipment serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the equipment is maintained. Do not attempt any service or maintenance procedures not explained in this manual or any procedures that you are uncertain about your ability to perform safely or correctly.
7. Store equipment out of the reach of children.
8. Follow scheduled engine and equipment maintenance.
9. Refueling Precautions:
 - a. Do not smoke, or allow sparks, flames, or other sources of ignition around the equipment, especially when refuelling.
 - b. Do not refill the fuel tank while the engine is running or hot.
 - c. Do not fill fuel tank to the top. Leave a little room for the fuel to expand as needed.
 - d. Refuel in a well-ventilated area only.



SAVE THESE INSTRUCTIONS.

BASIC SPECIFICATIONS

Fuel	Type	89+ octane unleaded gasoline
	Capacity	1.2 Gallons
Engine Oil	Type	10W30 (above 32° F) 5W30 (at 32° F or below)
	Capacity	1.1 Quarts
Hydraulic Fluid	Capacity	2.5 Gallons
Log Capacity		25" L x 8" Diameter
Tire Pressure		60 PSI Cold Pressure

Note: Additional specifications found in the TECHNICAL ENGINE SPECIFICATIONS chart in this manual.

The emission control system for this engine is warranted for standards set by the U.S. Environmental Protection Agency and by the California Air Resources Board (also known as CARB). For warranty information, refer to the last pages of this manual.

At high altitudes, the engine's carburetor, governor (if so equipped), and any other parts that control the fuel-air ratio will need to be adjusted by a qualified mechanic to allow efficient high-altitude use and to prevent damage to the engine and any other devices used with this product.

UNPACKING

When unpacking, make sure that the item is intact and undamaged. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

SET UP INSTRUCTIONS



Read the **ENTIRE IMPORTANT SAFETY INFORMATION**

section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

⚠ WARNING TO PREVENT SERIOUS INJURY FROM ACCIDENTAL STARTING:
Turn the Power Switch of the equipment to its "OFF" position, wait for the engine to cool, and disconnect the spark plug wire(s) before assembling or making any adjustments to the equipment.

⚠ WARNING TO PREVENT SERIOUS INJURY:
Operate only with proper spark arrestor installed.

Operation of this equipment may create sparks that can start fires around dry vegetation.
A spark arrestor may be required.
The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

Note: For additional information regarding the parts listed in the following pages, refer to the Assembly Diagram near the end of this manual.

Assembly

1. Due to the size and weight of the Log Splitter, assembly should be performed with assistance.
2. Access the Tires (48) for the following maintenance and assembly steps.

Packing the bearings.

3. Using a suitable solvent, clean the bearings and the rest of the parts in the Hub assembly. The parts must be cleaned even if they are new or appear clean.
4. Allow all pieces to dry completely.
5. Place fresh, clean bearing grease in the packer.
6. With the grease-filled bearing packer in one hand and the bearing in the other, press the bearing into the grease, forcing the grease inside the slots in the bearing, continue doing this until every slot in the bearing is completely full of grease.

Hub and Wheel Assembly

7. Put a Seal (59) and Bearing (49) on the Axle and then put the Tire (48) on the Axle.
8. With each Tire in place, add a Washer (50) and a Spindle Nut (51) onto the ends of the Axles. Tighten the Spindle Nuts to 20-25 ft. pounds and turn each tire several times to seat the bearing. Back off the Spindle Nut one half turn. Insert a Cotter Pin (25) through both the Axle and the Spindle Nut (51) and bend the end of the Pin back to hold it in place. Last, tap on a Wheel Cap (61).

Connecting the Rail Assembly to the Oil Tank

9. Insert the Front Leg Assembly (11) into the bracket on the Oil Tank Assembly (10B). Insert the remaining Hex Head Bolt (16) through the hole in the middle of the bracket of the Oil Tank Assembly. Secure it with a Hex

Head Nut (17) and a Hex Head Bolt (16).

Note: When travelling, remove the Push Pin (26) and Hair Pin Clip (29) and lift the Front Leg Assembly up so that it is parallel to the Rail Assembly. Replace the Push Pin (26) and Hair Pin Clip (29) into the Horizontal Transport Hole shown just above the Oil Plug.

10. To connect the Rail Assembly (2) to the Oil Tank Assembly, insert a Hex Head Bolt (16) into the middle hole of the "L" shaped bracket on the Oil Tank Assembly. Secure it with a Hex Head Nut (17).
11. In FIGURES 1 and 2 (see next page), the Rail Assembly (2) is shown in Horizontal mode for operation and travel (as mentioned above, the Front Leg Assembly (11) must be secured up in the horizontal position when travelling).

FIGURE 1

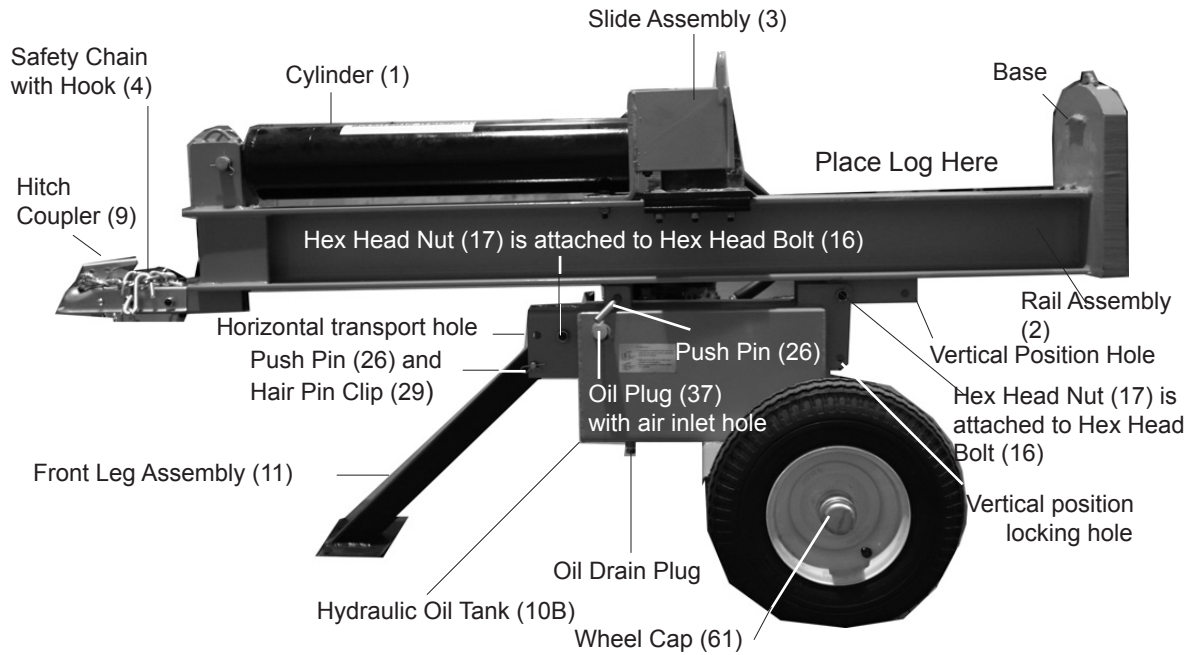
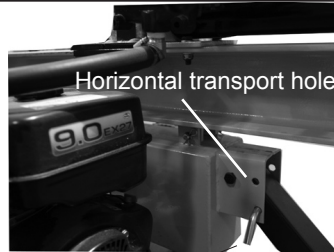
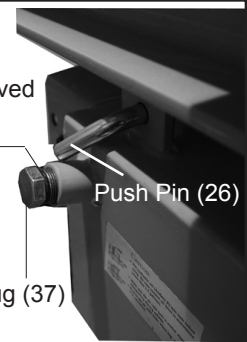


FIGURE 2



Close-up of Push Pin (26) securing the Front Leg Assembly (11) to the bracket on the Oil Tank Assembly (10B).

FIGURE 3



Second Push Pin (26) secures Rail Assembly (2), and is removed for vertical log splitting.

Air Inlet Hole
Push Pin (26)
Hydraulic Oil Fill Plug (37) with air inlet hole

OPERATING INSTRUCTIONS



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

This product requires engine oil, hydraulic fluid, and fuel to be added before starting. Attempting to start the engine without oil will ruin the engine and void the warranty.

Starting the Engine



Inspect engine and equipment looking for damaged, loose, and missing parts before set up and starting. If any problems are found, do not use equipment until fixed properly.

Checking and Filling Engine Oil

CAUTION! Your Warranty is VOID if the engine's crankcase is not properly filled with oil before each use. Before each use, check the oil level. Do not run the engine with low or no engine oil. Running the engine with no or low engine oil WILL permanently damage the engine.

1. Wipe the area around the cap with a clean rag before removing it.
2. If the oil level is below the bottom of the Oil Cap add the appropriate type of oil until the oil level is full.

Oil type:

32° F or above = SAE 10W30

Below 32° F = SAE 5W-30

3. Replace the Oil Fill Cap.

CAUTION! Do not run the engine with too little or too much oil. The engine will be permanently damaged.

Checking and Filling Fuel



▲WARNING! TO PREVENT SERIOUS INJURY FROM FIRE:

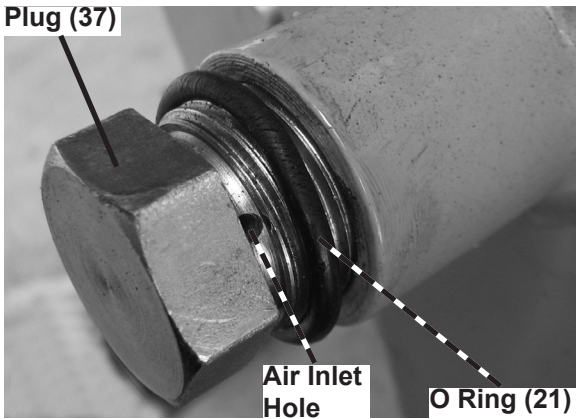
Fill the fuel tank in a well-ventilated area away from ignition sources. Do not smoke.

4. To fill the Fuel Tank, first wipe off the Fuel Tank Cap and the surrounding area.
5. Unscrew, and remove the Fuel Tank Cap.
6. Mix fuel stabilizer (not included) with 89 octane (or better) unleaded gasoline according to fuel stabilizer directions.
7. Fill the Fuel Tank to about 1 inch under the fill neck of the gasoline tank.
8. Then replace the Fuel Tank Cap.

Checking and Filling Hydraulic Fluid

9. Remove the Plug (37) and fill the tank with Hydraulic fluid (not included). To check the fluid level remove the Dipstick (62), check the level then replace it. The fluid should be at the upper notch of the Dipstick. Be sure that a constant oil level of 2.5 gallons is maintained.
10. The hydraulic system must be vented during operation or it may become vacuum locked and stop working. To vent the system, back off oil fill plug one turn (maximum). See Figure 3. When the Log Splitter is not in operation or being transported, close the

air inlet hole by tightening the Plug, as shown below.



Start Procedure



Before starting the engine:

- a. **Follow the Set Up Instructions to prepare the equipment.**
 - b. **Inspect the equipment and engine.**
 - c. **Fill the engine with the proper amount and type of fuel and oil.**
 - d. **Read the Equipment Operation section that follows.**
1. Turn the engine fuel valve to its "OPEN" position.
 2. Turn the engine power switch to its ON or RUN position.
 3. Then, turn the engine choke lever to its "CHOKE" position. Set the choke lever in the "RUN" position when starting a warm engine.
 4. Grasp the starter handle, and pull slowly until resistance is felt. While holding the handle, allow the starter rope to rewind slowly. Then, pull the starter handle with a rapid, full arm stroke. Once again while holding the handle, allow the rope to rewind

slowly. Repeat as necessary, until the engine starts.

5. After the engine starts and warms up, slowly move the choke lever to its "RUN" position.
6. **IMPORTANT:** Allow the engine to run at no load until warm (1-5 minutes).

Break-in Period

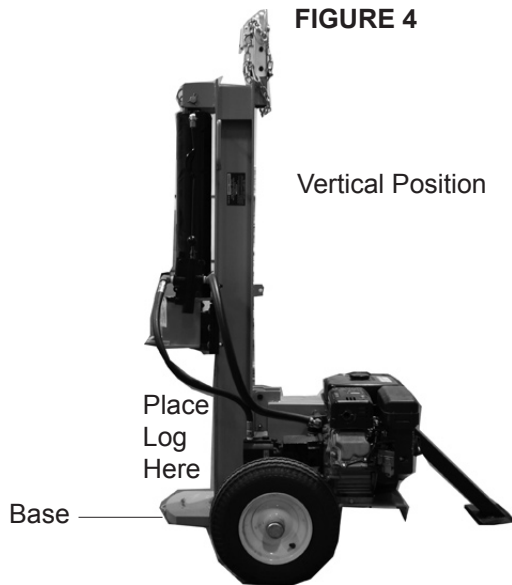
1. Breaking-in the engine will help to ensure proper equipment and engine operation, and will extend the engine's lifespan. The warranty is void if the engine is not broken in properly. The first 20 hours of operation is the break-in period.
2. During the first 3 hours of use:
 - Do not apply a heavy load to the equipment.
 - Do not operate the engine at its maximum speed.
3. After the first 20 hours of use:
 - Change the engine oil.

Under normal operating conditions subsequent maintenance follows the schedule explained in the MAINTENANCE AND SERVICING section.

Equipment Operation

1. **⚠ WARNING! To avoid death or serious injury;** block each side of both wheels of the Log Splitter before starting a job.
2. In FIGURE 1, the Rail Assembly is shown in Horizontal mode for operation and travel. In FIGURE 4 the unit is shown in the vertical position. To change positions, remove the Hair Pin Clip (29) and the Push Pin (26).

A close-up of this Push Pin (26) is shown in FIGURE 3 on page 5. Tilt the unit to the vertical position as shown in FIGURE 4, and replace both the Push Pin (26) and the Hair Pin Clip (29) into the vertical position hole (See FIGURE 1). Reverse the process to return to the horizontal position.



3. Start the Engine, following the steps listed in the “**Start Procedure**” section of this manual.
4. Place a log, no more than 25” long and 8” diameter, on the splitter base.

Note: Maximum diameter of the wood that can be split may vary depending on the density of the wood.

5. Move the Directional Valve (58) into the lower position; moving the Slide Assembly (3) to split the log.
6. To stop the advance of the Slide Assembly at any time, move the Directional Valve to the middle position.
7. Once the log is split, move the Directional Valve to its upper position to

back the wedge off the log and remove the split pieces.

8. Continue as detailed above until all logs are split.
9. To prevent accidents, turn off the engine and disconnect its spark plug wire after use. Wait for the engine to cool, clean external parts with clean cloth, then store the equipment out of children’s reach according to the Storage instructions in this manual.

Transporting the Log Splitter

WARNING!

IMPORTANT INFORMATION

This trailer’s Hitch Coupler **MUST** be properly secured to the hitch ball of the towing vehicle. After assembly and attachment, pull up and down on the Hitch Coupler to make sure the hitch ball is fitting snugly in the Hitch Coupler. **There must be no play between the hitch ball and Hitch Coupler.** If there is play, tighten the Adjustment Nut until no play is present. If the Adjustment Nut is too tight, the Handle will not lock. **Carefully read and follow the complete instructions in this manual BEFORE setup or use.**

If the Coupler is not secured properly, the ball could come loose while the trailer is in motion, possibly causing property damage, SERIOUS PERSONAL INJURY, or DEATH.

Note: This Log Splitter is not road legal and should not be conveyed on public roads.

- When transporting the Log Splitter, make sure your hitch (not included) is compatible with the Hitch Coupler (9).
- Follow all of the safety warnings for towing in the vehicle’s manual.

- Use the Safety Chain with Hook (4) when towing.
 - Do not tow the Log Splitter at speeds above 40 MPH.
 - Travel with the Front Leg Assembly and Rail Assembly in the horizontal position.
 - Cover the air inlet hole on the Plug during transport.
10. Pull up and down on the Hitch Coupler to make sure the hitch ball is fitting snugly in the Hitch Coupler. There should be no play between the hitch ball and Hitch Coupler. If there is play, tighten the Adjustment Nut until no play is present. If the Adjustment Nut is too tight, the Handle will not lock.

TECHNICAL SPECIFICATIONS

Engine Type	9 HP, Air Cooled, Single Cylinder, 4 Stroke Overhead Valve	
Engine Family	8CGPS.2702GC.	
Displacement	270cc	
Rotation viewed from PTO (power takeoff - the output shaft)	Counterclockwise	
Fuel	Type	89+ octane unleaded gasoline
	Capacity	1.2 Gallons
Engine Oil	Type	10W30 (above 32° F) 5W30 (at 32° F or below)
	Capacity	1.1 Quarts
Spark Plug	Type	F7RTC
	Gap	0.028 - 0.031"
Valve Clearance	Intake	.005" - .007"
	Exhaust	.007" - .009"
Speed	Idle	1,600 RPM
	Maximum	2,600 RPM

SERVICING

⚠️ WARNING TO PREVENT SERIOUS INJURY

FROM ACCIDENTAL STARTING:
Turn the Power Switch of the equipment to its "OFF" position, wait for the engine to cool, and disconnect the spark plug wire(s) before performing any inspection, maintenance, or cleaning procedures.

⚠️ WARNING TO PREVENT SERIOUS INJURY FROM EQUIPMENT FAILURE:
Do not use damaged equipment. If abnormal noise, vibration, or excess smoking occurs, have the problem corrected before further use.

Maintenance Procedures



Many maintenance procedures, including those not detailed in this manual, will need to be performed by a qualified technician for safety. If you have any doubts about your ability to safely service the equipment or engine, have a qualified technician service the equipment instead.

Note: Warranty is void if proper maintenance and servicing procedures are not followed.

Engine Oil Change

⚠️ CAUTION! Oil is very hot during operation and can cause burns. Wait for engine to cool before changing oil.

1. Place a drain pan (not included) underneath the crankcase's drain plug.
2. Remove the drain plug and, if possible, tilt the crankcase slightly to help drain the oil out. Recycle used oil.
3. Replace the drain plug (and gasket, if supplied) and tighten it.
4. Refill the oil to the proper level following the instructions under the Starting the Engine section.

Air Filter Element Maintenance

1. Wipe off the air cleaner cover.
2. The air cleaner cover is held in place by a wing nut or clamps. Remove it.
3. Remove the air filter element.
4. **Cleaning:**
 - a. For "paper" filter elements:
To prevent injury from dust and debris, wear ANSI-approved safety goggles, NIOSH-approved dust mask/respirator, and heavy-duty work gloves. In a well-ventilated area away from bystanders, use pressurized air to blow dust out of the air filter from the side opposite the filter's normal air flow (the "clean" side of the filter).
If this does not get the filter reasonably clean, replace it.
 - b. For foam filter elements:
Wash the element in warm water and mild detergent several times. Rinse. Squeeze out excess water and allow it to dry completely. Soak the filter in lightweight oil briefly, then squeeze out the excess oil.
5. Install the new filter or the cleaned filter. Secure the Air Cleaner Cover before use.

Spark Plug Maintenance

1. Disconnect spark plug wire from end of plug. Clean out debris from around spark plug.
2. Using a spark plug wrench, remove the spark plug.
3. Inspect the spark plug:
If the electrode is oily, clean it using a clean, dry rag.

If the electrode has deposits on it, polish it using emery paper.
If the white insulator is cracked or chipped, the spark plug needs to be replaced.

4. When installing a new spark plug, adjust the plug's gap to the specification on the Technical specification chart. Do not pry against the electrode or the insulator, the spark plug can be damaged.
5. Install the new spark plug or the cleaned spark plug into the engine.
Gasket-style: Finger-tighten until the gasket contacts the cylinder head, then about 1/2-2/3 turn more.
Non-gasket-style: Finger-tighten until the plug contacts the head, then about 1/16 turn more.
6. Apply dielectric spark plug boot protector (not included) to the end of the spark plug and reattach the wire securely.

Fuel Filter Replacement (if equipped)



⚠WARNING! TO PREVENT SERIOUS INJURY FROM FIRE:

Replace the fuel filter in a well-ventilated area away from ignition sources. Do not smoke.

1. Wait for engine to cool completely before proceeding.
2. Wear protective gear including, ANSI-approved safety goggles, NIOSH-approved dust mask/respirator, and nitrile gloves.
3. Wipe gas refill cap and surrounding area. Remove gas refill cap.

4. Remove gas fill screen filter. Clean by blow drying air from outer sides to inside. Allow to dry completely and then re-install.
5. Wait for at least one hour before use to allow all residual fuel vapors to dissipate. **To prevent FIRE, do not start the engine while the smell of fuel hangs in the air.** Remember to open the fuel valve before restarting the engine. It may take a little longer than usual to start the engine because the fuel needs to refill the fuel line and new filter.

Cleaning, Maintenance, and Lubrication Schedule

Note: This maintenance schedule is intended solely as a general guide. If performance decreases or if equipment operates unusually, check systems immediately. The maintenance needs of each piece of equipment will differ depending on factors such as duty cycle, temperature, air quality, fuel quality, and other factors.

Note: These procedures are in addition to the regular checks and maintenance explained as part of the regular operation of the engine and equipment.

After Initial 20 Operation Hour Period:

- a. Change engine oil.

Every 25 Operation Hours Thereafter:

- a. Clean/replace air filter element.
- b. Inspect/clean spark plug.

Every 50 Operation Hours:

- a. Change engine oil.
- b. Replace fuel filter (if equipped).

Every 100 Operation Hours:

- a. Replace spark plug.
- b. Replace air filter element.

Note: All maintenance procedures scheduled for 25, 50, and 100 operation hours should be performed at least yearly.

Every 300 Operation Hours:

- a. Clean fuel tank and carburetor.
- b. Clean carbon build-up from combustion chamber.

Storage

1. Wait for engine to cool, then wipe the Log Splitter with clean cloth.
2. When the equipment is to remain idle for longer than 20 days, prepare the engine for storage as follows:
 - a. Change engine oil and empty fuel tank.
 - b. Either leave fuel tank empty or refill fuel tank with fresh unleaded gasoline mixed with a fuel stabilizer intended for long term engine storage (not included). After filling, run engine for about 5-10 minutes to circulate the treated gasoline through the carburetor. Wait for engine to cool before proceeding.
 - c. Clean out area around spark plug. Remove spark plug and pour one tablespoon of engine oil into cylinder through spark plug hole.
 - d. Reinstall spark plug, but leave spark plug wire disconnected.
 - e. Pull recoil starter to distribute oil in cylinder. Stop after one or two revolutions when you feel the piston start

- the compression stroke (when you start to feel resistance).
- f. Disconnect battery cables (if equipped).
 - g. Wipe engine with clean cloth.
3. Apply a thin coat of rust preventive oil to all uncoated metal parts.
 4. Cover and store in a dry, well-ventilated area out of reach of children.
 5. Before starting the engine after storage, keep in mind that untreated gasoline will deteriorate quickly. Drain the fuel tank and filter, and change to fresh fuel if untreated gasoline has been sitting for a month, if treated gasoline has been sitting beyond the fuel stabilizer's recommended time period, or if the engine does not start properly.

Transport Maintenance

1. **BEFORE** transport, check the Tires for wear and proper inflation (60 PSI).
2. Prior to Transport and at 500 MILE intervals during trips, check and tighten the Tire Lug Nuts. Torque from 85 to 90 ft-lb.
3. **EVERY 2,000 TO 3,000 MILES** of Travel, lubricate the Hub Assemblies with a heavy weight bearing grease. Follow the Bearing Packing Instructions. After each Hub Assembly is reassembled, tighten the Castle Nut until the wheel starts spinning with slight resistance. Loosen the Castle Nut about 1/2turn from this point. Insert a new Cotter Pin through the Castle Nut and the hole in the axle. Bend the Pin back, locking it and the Nut in place.

Troubleshooting

Problem	Possible Causes	Probable Solutions
Engine will not start	<p>FUEL RELATED:</p> <ol style="list-style-type: none"> 1. No fuel in tank or fuel valve closed. 2. Choke not in start position, especially with cold engine. 3. Low quality or deteriorated, old gasoline. 4. Carburetor not primed. 5. Dirty fuel passageways blocking fuel flow. 6. Carburetor needle stuck. Fuel can be smelled in the air. 7. Too much fuel in chamber. This can be caused by the carburetor needle sticking. 	<p>FUEL RELATED:</p> <ol style="list-style-type: none"> 1. Fill fuel tank and open fuel valve. 2. Move choke to start position if engine is cold. 3. Use only fresh 89+ octane unleaded gasoline. 4. Prime carburetor by pressing priming bulb specified number of times (if equipped). 5. Clean out passageways using fuel additive. Heavy deposits may require further cleaning. 6. Gently tap side of carburetor float chamber with screwdriver handle. 7. Turn choke to run position and close fuel valve. Remove spark plug and pull the start handle several times to air out the chamber. Reinstall spark plug and set choke to start position.
	<p>IGNITION (SPARK) RELATED:</p> <ol style="list-style-type: none"> 1. Spark plug wire not connected securely. 2. Spark plug electrode wet or dirty. 3. Incorrect spark plug gap. 4. Spark plug wire or spark plug broken. 5. Incorrect spark timing or faulty ignition system. 	<p>IGNITION (SPARK) RELATED:</p> <ol style="list-style-type: none"> 1. Connect spark plug wire properly. 2. Clean spark plug. 3. Correct spark plug gap. 4. Replace spark plug wire and/or spark plug. 5. Have qualified technician diagnose/repair ignition system.
	<p>COMPRESSION RELATED:</p> <ol style="list-style-type: none"> 1. Cylinder not lubricated. Problem after long storage periods. 2. Loose or broken spark plug. (Hissing noise will occur when trying to start.) 3. Loose cylinder head or damaged head gasket. (Hissing noise will occur when trying to start.) 4. Engine valves or tappets misadjusted or stuck. 	<p>COMPRESSION RELATED:</p> <ol style="list-style-type: none"> 1. Pour tablespoon of oil into spark plug hole. Crank engine a few times and try to start again. 2. Tighten spark plug. If that does not work, replace spark plug. If problem persists, may have head gasket problem, see #3. 3. Tighten head. If that does not remedy problem, replace head gasket. 4. Adjust valve clearance. If that does not work, clean or replace valves/tappets.



Follow all safety precautions whenever diagnosing or servicing the equipment or engine.

Troubleshooting

Problem	Possible Causes	Probable Solutions
Engine misfires	<ol style="list-style-type: none"> 1. Spark plug wire loose. 2. Incorrect spark plug gap or damaged spark plug. 3. Defective spark plug wire. 4. Old or low quality gasoline. 5. Incorrect compression. 	<ol style="list-style-type: none"> 1. Check wire connections. 2. Re-gap or replace spark plug. 3. Replace spark plug wire. 4. Use only fresh 89+ octane unleaded gasoline. 5. Diagnose and repair compression. (Use Engine will not start: COMPRESSION RELATED section.)
Engine stops suddenly	<ol style="list-style-type: none"> 1. Low oil shutdown. 2. Fuel tank empty or full of impure or low quality gasoline. 3. Defective fuel tank cap creating vacuum, preventing proper fuel flow. 4. Improper idle speed. 5. Faulty magneto, incorrect timing, or clogged carburetor. 	<ol style="list-style-type: none"> 1. Fill engine oil to proper level. Check engine oil before EVERY use. 2. Fill fuel tank with fresh 89+ octane unleaded gasoline. 3. Test/replace fuel tank cap. 4. Properly adjust idle speed. 5. Have qualified technician diagnose and service engine.
Engine knocks	<ol style="list-style-type: none"> 1. Old or low quality gasoline. 2. Engine overloaded. 3. Incorrect spark timing, deposit buildup, worn engine, or other mechanical problems. 	<ol style="list-style-type: none"> 1. Fill fuel tank with fresh 89+ octane unleaded gasoline. 2. Do not exceed equipment's load rating. 3. Have qualified technician diagnose and service engine.
Engine backfires	<ol style="list-style-type: none"> 1. Impure or low quality gasoline. 2. Engine too cold. 3. Choke not open after engine warm. 4. Engine not properly adjusted for high altitude operation. 5. Intake valve stuck, choke stuck, incorrect timing, clogged carburetor, or overheated engine. 	<ol style="list-style-type: none"> 1. Fill fuel tank with fresh 89+ octane unleaded gasoline. 2. Use cold weather fuel and oil additives to prevent backfiring. 3. Move choke to run position after engine warms up. 4. Qualified technician must adjust engine at altitudes greater than 5,000 feet above sea level. 5. Have qualified technician diagnose and service engine.



Follow all safety precautions whenever diagnosing or servicing the equipment or engine.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

Part	Description	Qty.
1	Cylinder	1
2	Rail Assembly	1
3	Slide Assembly	1
4	Safety Chain With Hook	1
5	Slide Guide	2
6	Slide Retainer	2
7	Bolt 1/2"*2-1/2"	6
8	Hex Nut 1/2"	7
9	Hitch Coupler	1
10B	Hydraulic Oil Tank Assembly	1
11	Front Leg Assembly	1
12	Hex Head Bolt 1/2"x1-3/4"	2
13	Hex Nut 1/2"	2
14	Hex Head Nut 3/8"	3
15	Washer 1/2"	2
16	Hex Head Bolt 9/16"x1-1/4"	2
17	Hex Nut 9/16"	2
18	Washer	1
19	Hex Head Bolt 5/16"x2-3/4"	1
20	Hex Head Nut 3/8"	1
21	O Ring	1
22	Hex Head Bolt 1/2"x1-3/4"	4
23	Hex Nut 5/16"	4
24	Spring Washer 5/16"	8
25	Cotter Pin	2
26	Push Pin	2
27	Clevis Pin	1
28	Hair Pin Clip	2
29	Hair Pin Clip 2.5"	2
30	Slide Holder	1
31	Hydraulic Tubing	1

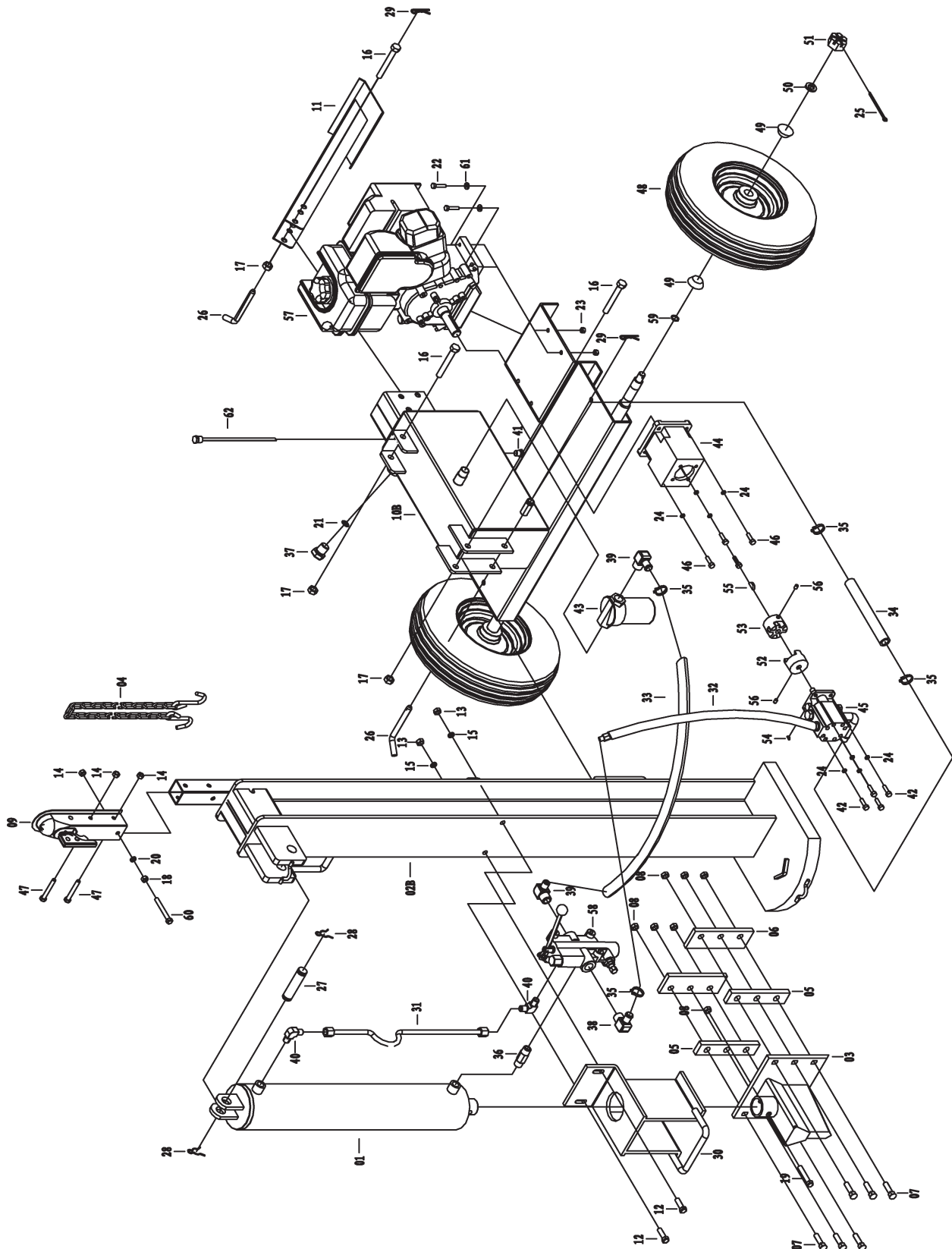
Part	Description	Qty.
32	High Pressure Hose	1
33	Return Hose	1
34	Inlet Hose	1
35	Hose Clamp	4
36	Male Connector	1
37	Plug	1
38	High Pressure Fitting	1
39	90° Elbow Fitting #2	2
40	90° Elbow Fitting #3	2
41	Hex Head Bolt 3/8"x3/4"	1
42	Hex Head Bolt 5/16"x1"	4
43	Oil Filter	1
44	Pump Mounting Bracket	1
45	Pump	1
46	Hex Head Bolt 5/16"x1"	4
47	Hex Head Bolt 3/8"x3-1/4"	2
48	Tire	2
49	Bearing 30205E	4
50	Washer 3/4"	2
51	Spindle Nut	2
52	Coupling -Pump Side	1
53	Coupling -Engine Side	1
54	Pump Key 1/8"	1
55	Engine Key	1
56	Hex Screw	2
57	Engine	1
58	Directional Valve	1
59	Seal	2
60	Hex Head Bolt 3/8"x3-1/2"	1
61	Wheel Cap	2
62	Dipstick	1

Record Product's Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.

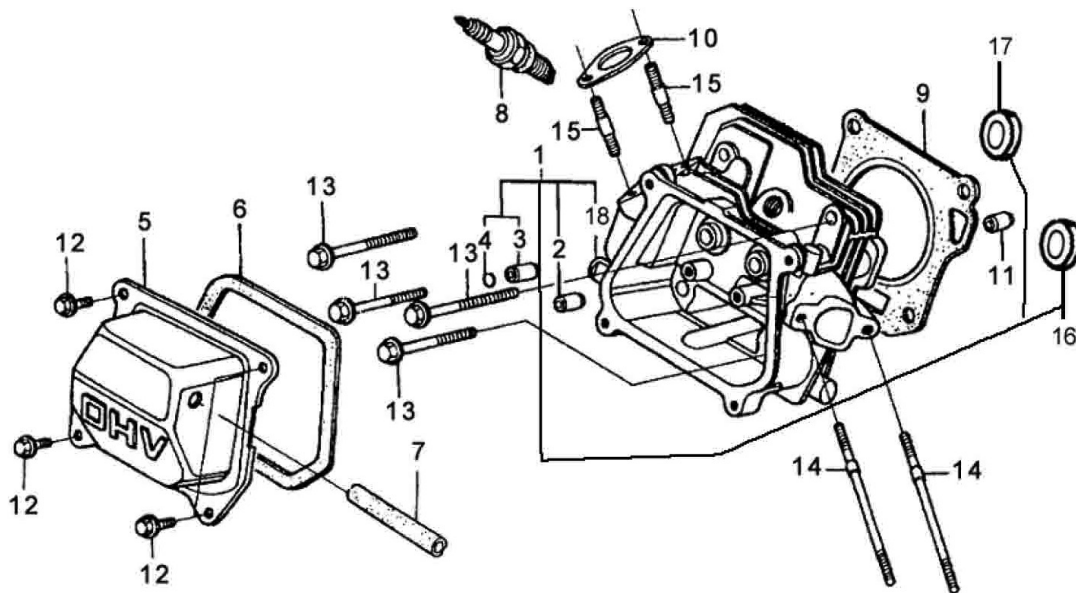
Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

ASSEMBLY DIAGRAM



CYLINDER HEAD PARTS LIST & DIAGRAM

Part #	Description	Qty
1B	Cylinder Head Assembly	1
2B	Intake Valve Guide	1
3B	Exhaust Valve Guide	1
4B	Valve Guide Clip	1
5B	Cover	1
6B	Packing	1
7B	Breathing Tube	1
8B	Spark Plug	1
9B	Cylinder Gasket	1
10B	Muffler Gasket	1
11B	Pin	2
12B	Bolt 6x14	4
13B	Bolt 8x55	4
14B	Intake Bolt	2
15B	Exhaust Bolt	2
16B	Intake Valve Seat	1
17B	Exhaust Valve Seat	1
18B	Cylinder Head	1

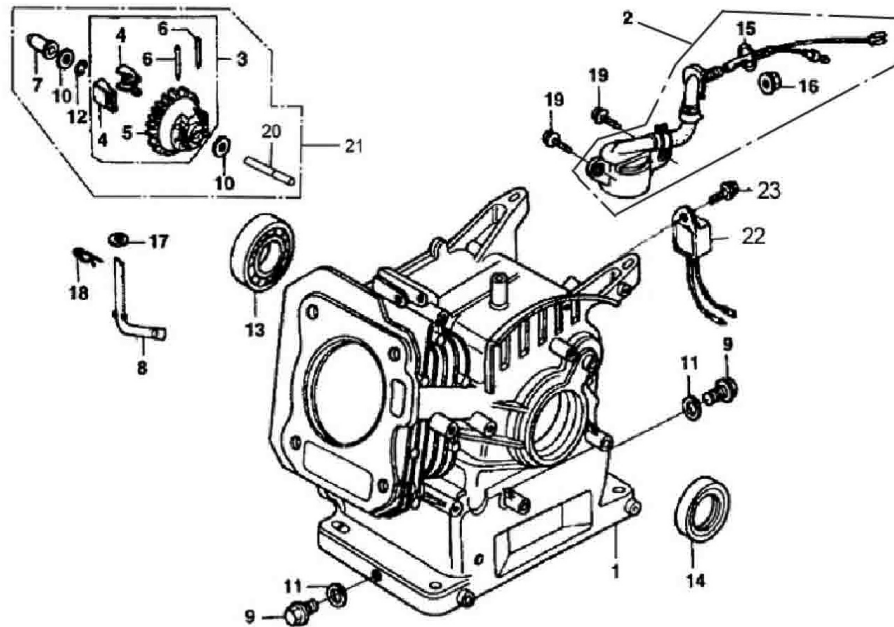


Note: When ordering replacement parts from this diagram, the “B” suffix must be included in order to get the correct part.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

CRANK CASE PARTS LIST & DIAGRAM

Part #	Description	Qty	Part #	Description	Qty
1C	Crank Case Assembly	1	18C	R-pin	1
2C	Oil Level Switch	1	19C	Bolt 6x12	3
3C	Governor Gear Assembly	1	20C	Shaft	1
4C	Weight	2	21C	Governor Assembly	1
5C	Governor Gear	1	22C	Oil Alarm	1
6C	Weight Pin	2	23C	Bolt	1
7C	Slider	1			
8C	Shaft Arm	1			
9C	Drain Plug Bolt	2			
10C	Washer	2			
11C	Washer	2			
12C	Clip	1			
13C	Ball Bearing	1			
14C	Oil Seal	1			
15C	O-ring	1			
16C	Nut	1			
17C	Washer	1			

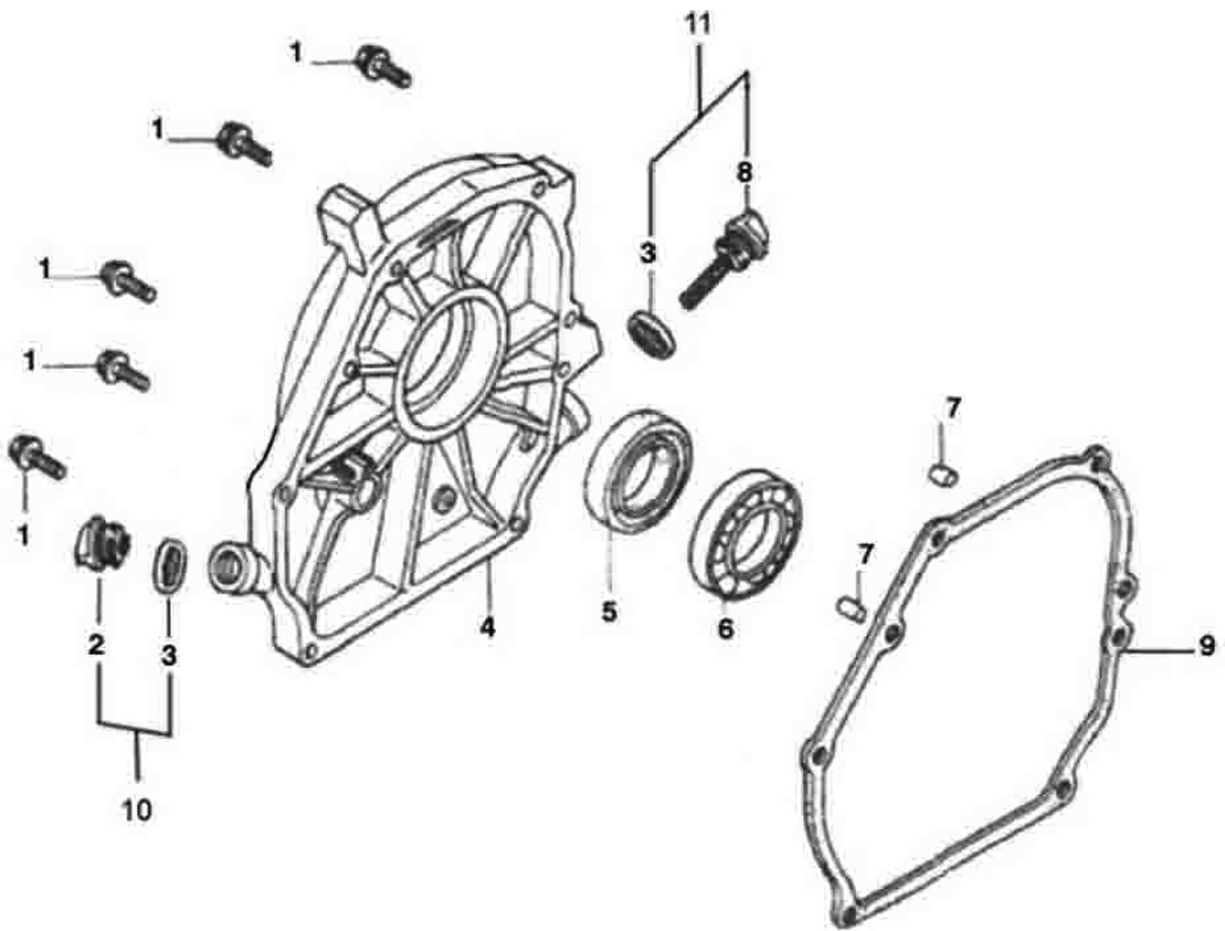


Note: When ordering replacement parts from this diagram, the “C” suffix must be included in order to get the correct part.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

CRANK CASE COVER PARTS LIST AND DIAGRAM

Part #	Description	Qty
1D	Bolt	6
2D	Oil Stick	1
3D	Packing	2
4D	Cover	1
5D	Oil Seal	1
6D	Bearing	1
7D	Pin	2
8D	Oil Filler Cap	1
9D	Packing Case Cover	1
10D	Oil Fill Assembly	1
11D	Cap Assembly	1

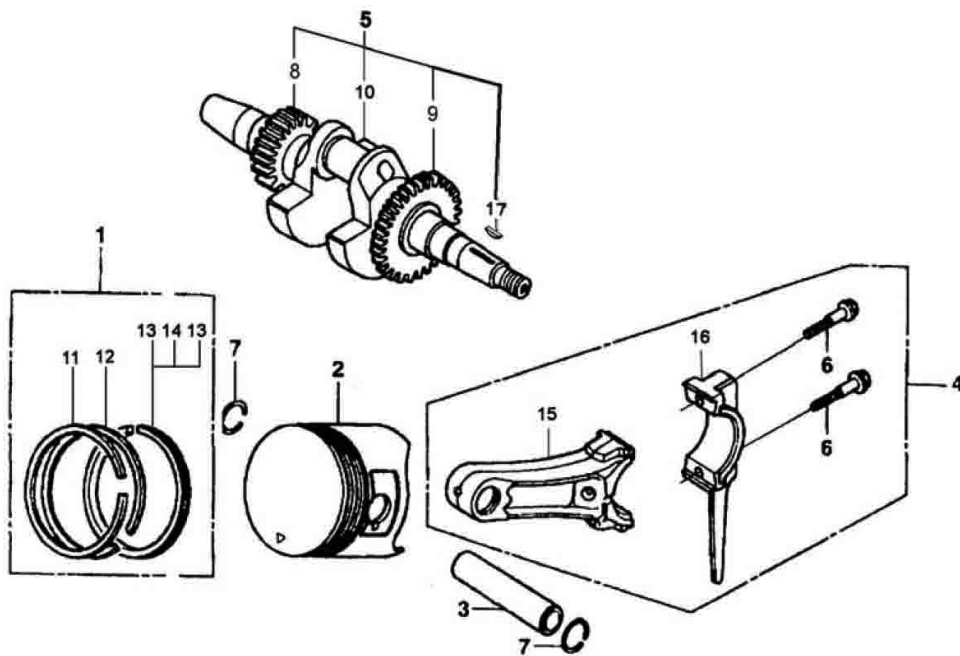


Note: When ordering replacement parts from this diagram, use the suffix “D”.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

CRANKSHAFT/PISTON PARTS LIST & DIAGRAM

Part #	Description	Qty
1E	Ring Set	1
2E	Piston	1
3E	Pin	1
4E	Rod Assembly	1
5E	Crankshaft Assembly	1
6E	Bolt	2
7E	Clip	2
8E	Timing Gear	1
9E	Gear	1
10E	Crankshaft	1
11E	First Ring	1
12E	Second Ring	1
13E	Oil Ring	2
14E	Bushing Ring	1
15E	Connecting Rod	1
16E	Connecting Rod Cover	1
17E	Key	1

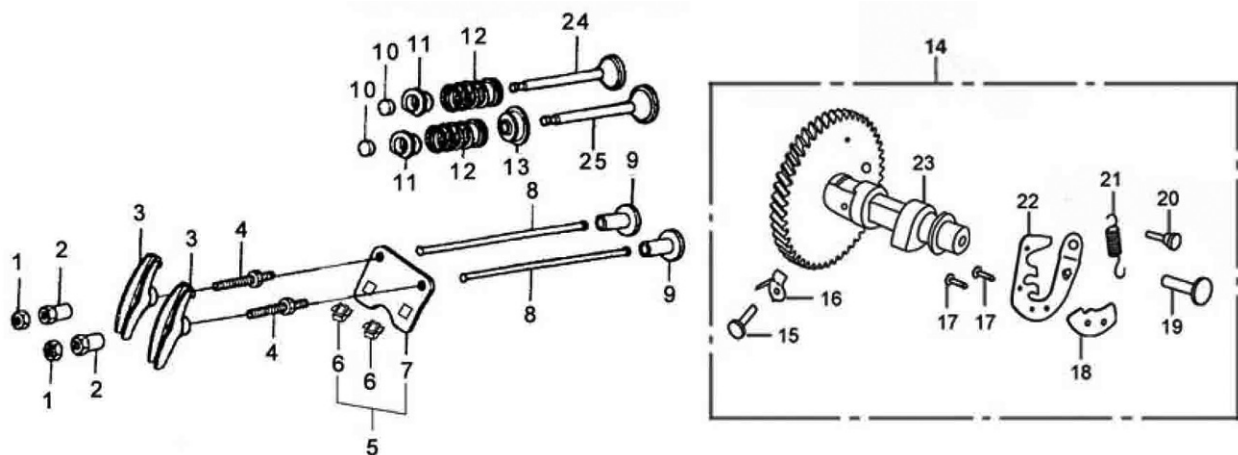


Note: When ordering replacement parts from this diagram, use the suffix “E”.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

GAS DISTRIBUTION ADJUSTMENT SYSTEM PARTS LIST & DIAGRAM

Part #	Description	Qty	Part #	Description	Qty
1F	Nut	2	14F	Camshaft Assembly	1
2F	Rocker Arm Guide	2	15F	Reducer Pin	1
3F	Valve Rocker	2	16F	Reducer	1
4F	Valve Clearance Screw	2	17F	Matching Block Pin	2
5F	Plate Assembly	1	18F	Matching Block	1
6F	Block Guide Bushing	2	19F	Flying Block Pin	1
7F	Push Rod Guide	1	20F	Spring Pin	1
8F	Push Rod	2	21F	Flying Block Spring	1
9F	Valve Lifter	2	22F	Flying Block	1
10F	Cap Valve Valve	2	23F	Camshaft	1
11F	Valve Spring Retainer	2	24F	Exhaust Valve	1
12F	Valve Spring	2	25F	Intake Valve	1
13F	Guide Seal	1			

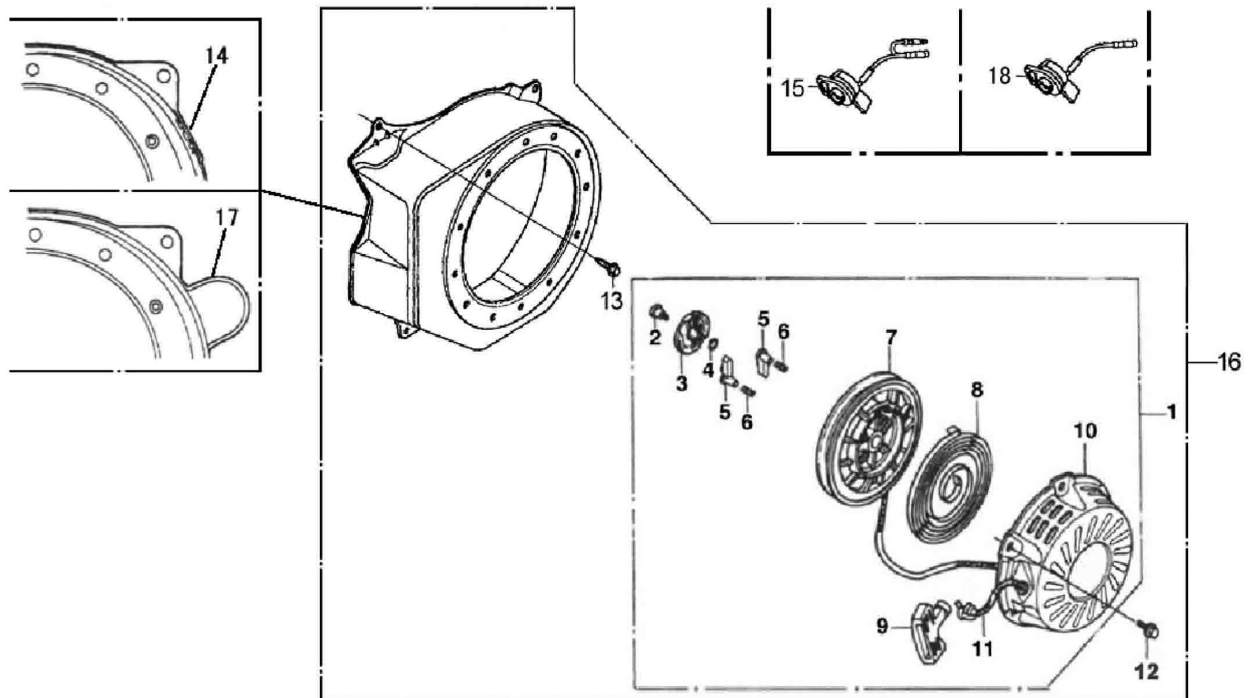


Note: When ordering replacement parts from this diagram, use the suffix “F”.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

STARTER SUBASSEMBLY PARTS LIST & DIAGRAM

Part #	Description	Qty
1G	Starter Assembly	1
2G	Set Screw	1
3G	Ratchet Guide	1
4G	Friction Spring	1
5G	Starter Ratchet	2
6G	Return Spring	2
7G	Recoil Starter Reel	1
8G	Recoil Starter Spring	1
9G	Recoil Starter Knob	1
10G	Fan Cover	1
11G	Rope	1
12G	Bolt 6x8	3
13G	Bolt 6x10	4
14G	Fan Cover	1
15G	Switch Assembly	1
16G	Recoil Starter	1
17G	Fan Cover	1
18G	Stop Switch Assembly	1

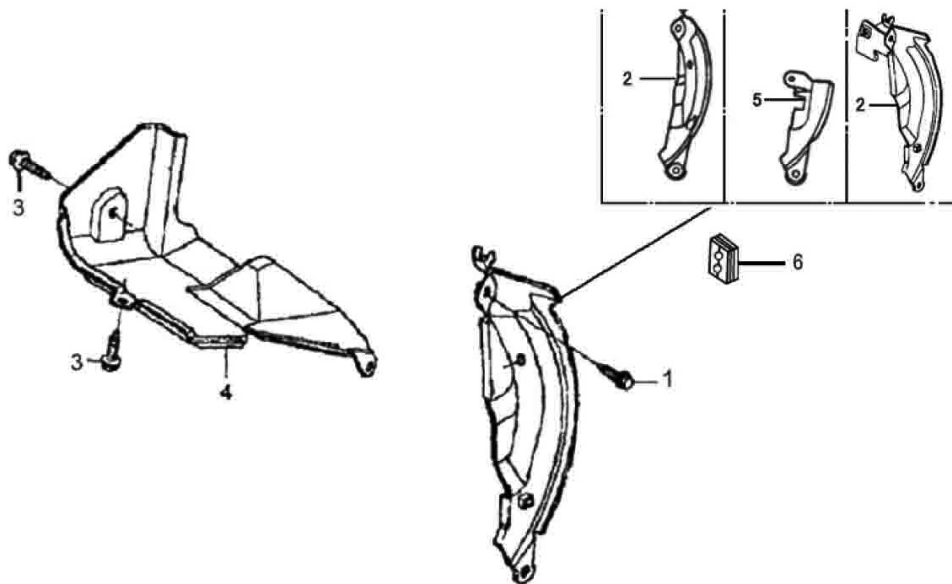


Note: When ordering replacement parts from this diagram, use the suffix “G”.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

DIVERSION ASSEMBLY PARTS LIST & DIAGRAM

Part #	Description	Qty
1H	Bolt 6x20	1
2H	Side Plate	1
3H	Bolt 6x8	2
4H	Shroud	1
5H	Side Plate	1
6H	Grommet	1



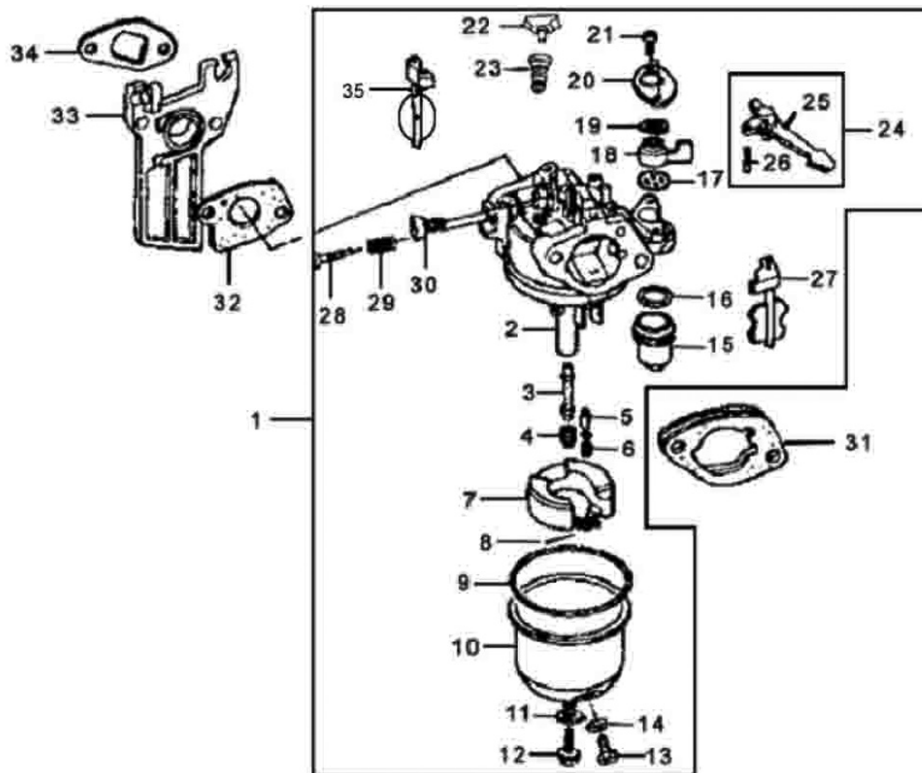
Note: When ordering replacement parts from this diagram, use the suffix “H”.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

CARBURETOR PARTS LIST & DIAGRAM

Part #	Description	Qty
1J	Carburetor Assembly	1
2J	Carburetor	1
3J	Main Nozzle	1
4J	Main Jet	1
5J	Float Valve	1
6J	Valve Set Spring	1
7J	Float	1
8J	Float Pin	1
9J	Oil Cup Gasket	1
10J	Oil Cup	1
11J	Gasket Bolt	1
12J	Bolt	1
13J	Drain Bolt	1
14J	Drain Bolt Gasket	1
15J	Fuel Strainer Cup	1
16J	Fuel Strainer Cup Packing	1
17J	Fuel Packing	1
18J	Lever	1

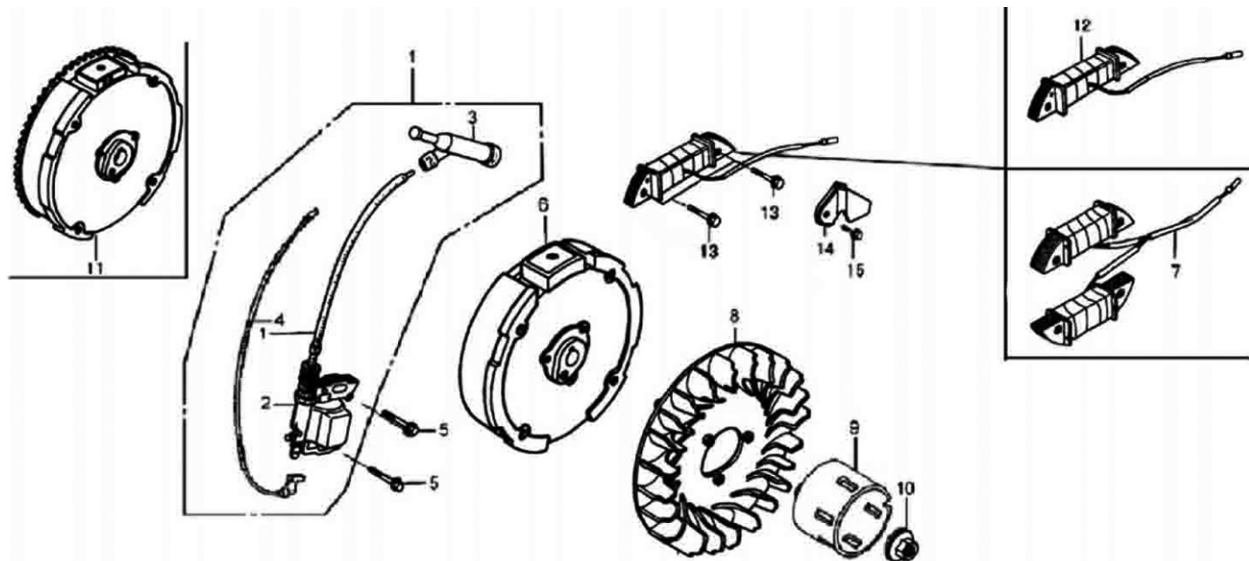
Part #	Description	Qty
19J	Lever Spring	1
20J	Setting Plate	1
21J	Screw 3x8	2
22J	Jet Set	1
23J	Pilot Jet Set	1
24J	Choke Lever Assembly	1
25J	Choke Lever	1
26J	Choke Lever Pin	1
27J	Choke Set	1
28J	Screw	1
29J	Screw Spring	1
30J	Throttle Stop Screw	1
31J	Air Cleaner	1
32J	Carburetor Packing	1
33J	Carburetor Insulation	1
34J	Packing	1
35J	Throttle Valve	1



Note: When ordering replacement parts from this diagram, use the suffix "J".

FLYWHEEL/COIL ASSEMBLY PARTS LIST & DIAGRAM

Part #	Description	Qty
1K	Ignition Assembly	1
2K	Ignition Coil	2
3K	Noise Suppression Cap Assembly	1
4K	Stop Switch Cord	1
5K	Bolt 6x30	2
6K	Flywheel Cover	1
7K	Charge Coil Assembly	1
8K	Cooling Fan	1
9K	Starter Pulley	1
10K	Nut	1
11K	Flywheel	1
12K	Charge Coil	1
13K	Bolt 6x35	2
14K	Cord Clamp	1
15K	Bolt 6x8	1

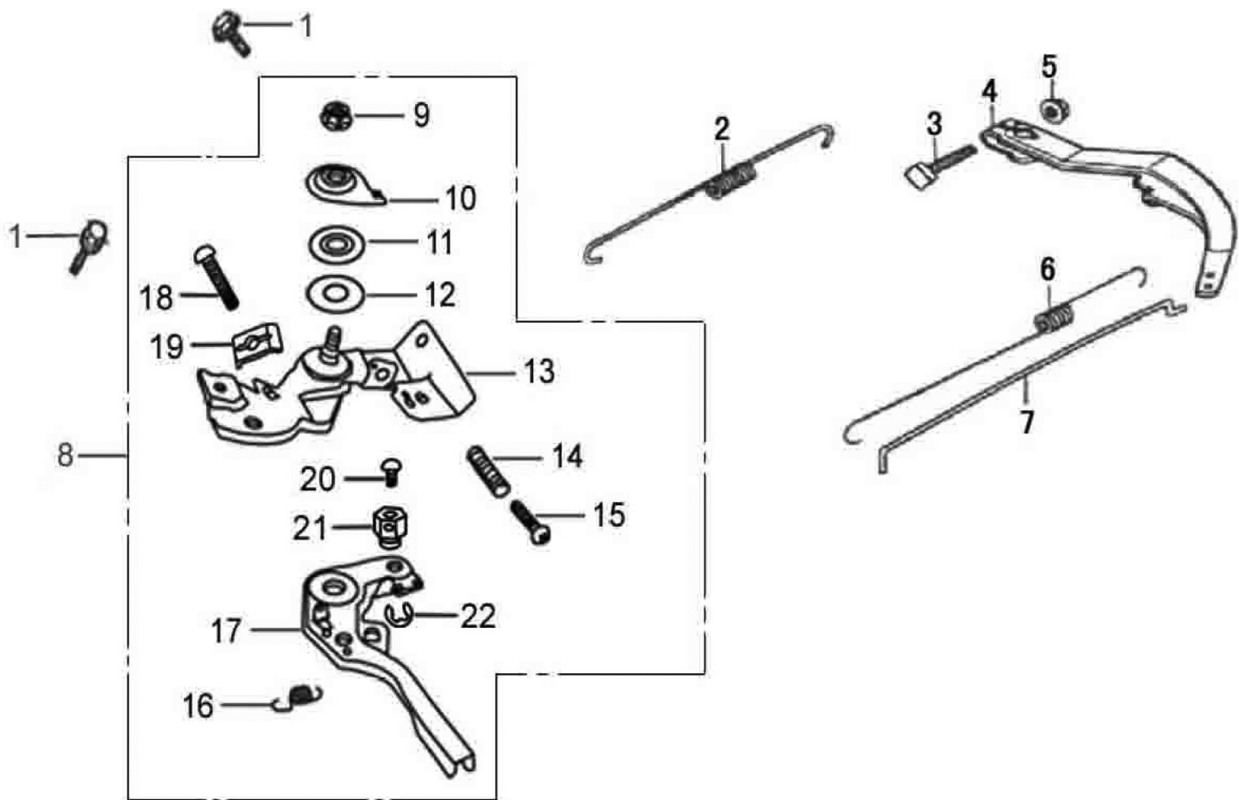


Note: When ordering replacement parts from this diagram, use the suffix “K”.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

CONTROL SYSTEM PARTS LIST & DIAGRAM

Part #	Description	Qty	Part #	Description	Qty
1M	Bolt	2	12M	Washer	1
2M	Governor Spring	1	13M	Retainer Assembly	1
3M	Bolt	1	14M	Spring	1
4M	Governor Arm	1	15M	Screw M5x35	
5M	Nut	1	16M	Cable Return Spring	1
6M	Throttle Return Spring	1	17M	Control Handle	1
7M	Governor Rod	1	18M	Screw M5x25	1
8M	Control Assembly	1	19M	Back Plate	1
9M	Nut	1	20M	Screw M4x6	1
10M	Fixing Plate	1	21M	Locking Ring	1
11M	Washer	1	22M	Clip	1

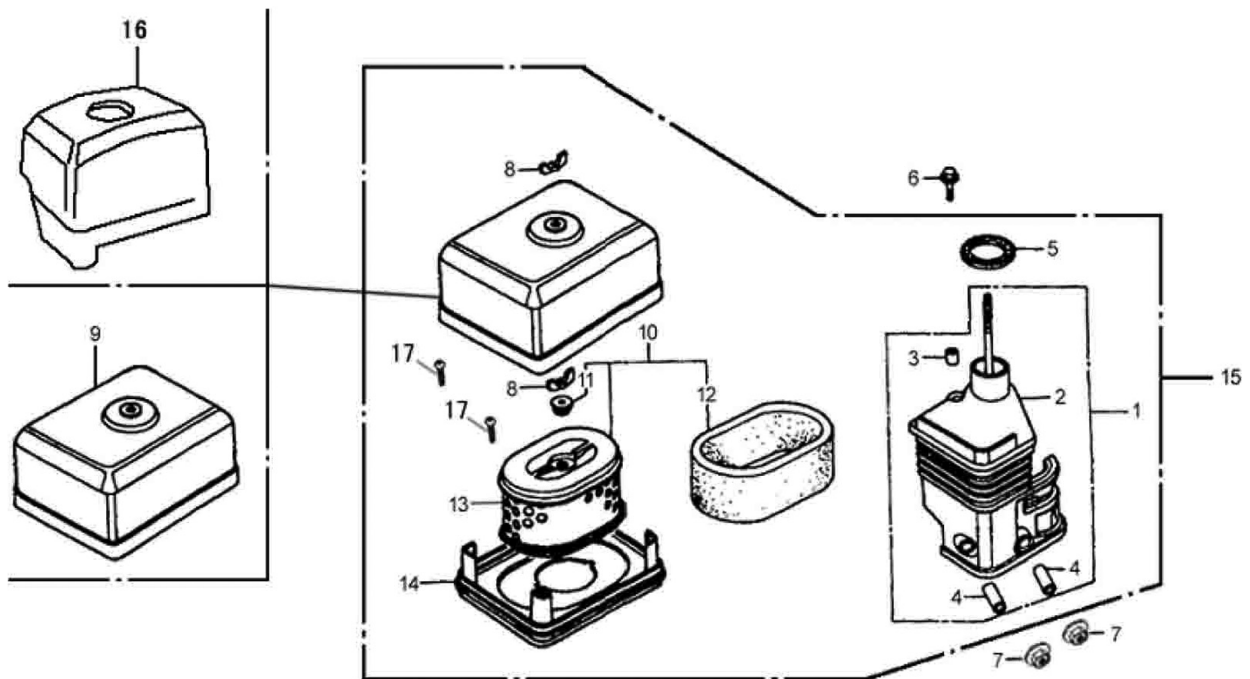


Note: When ordering replacement parts from this diagram, use the suffix “M”.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

AIR CLEANER PARTS LIST & DIAGRAM

Part #	Description	Qty	Part #	Description	Qty
1N	Air Cleaner Assembly	1	10N	Air Cleaner Element Assembly	1
2N	Elbow	1	11N	Grommet	1
3N	Short Collar	2	12N	Outer Filter	1
4N	Long Collar	2	13N	Element	1
5N	Elbow Packing	1	14N	Noise Silencer	1
6N	Bolt 6x20	1	15N	Air Cleaner Assembly	1
7N	Nut 6mm	2	16N	Cover	1
8N	Nut	2	17N	Screw	2
9N	Air Cleaner Cover	1			

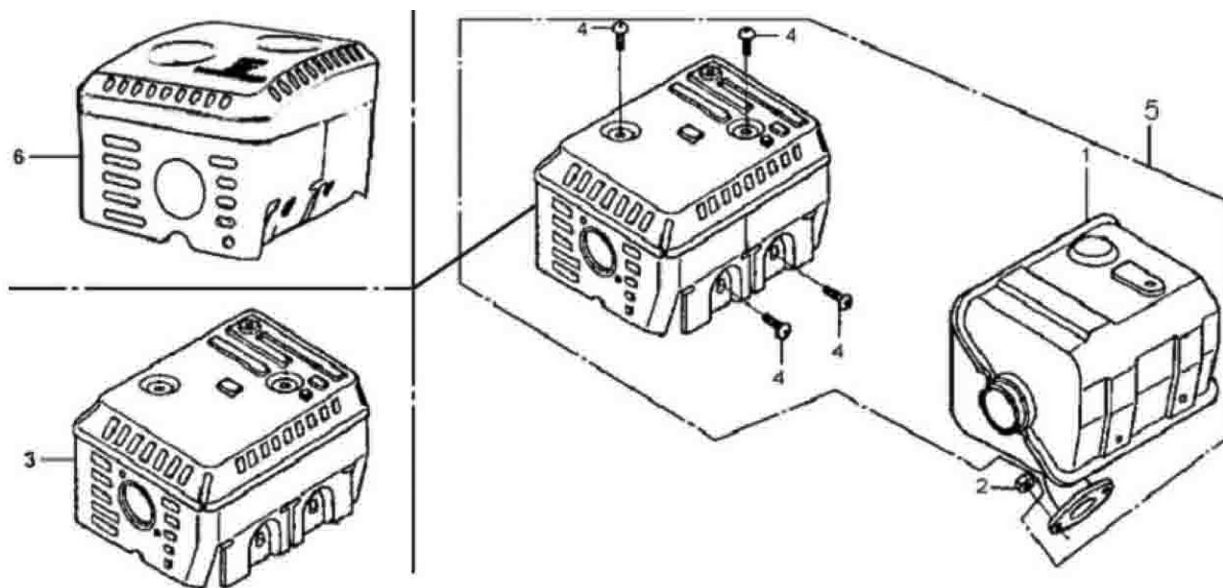


Note: When ordering replacement parts from this diagram, use the suffix "N".

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

MUFFLER PARTS LIST & DIAGRAM

Part #	Description	Qty
1P	Muffler	1
2P	Nut 8mm	1
3P	Muffler Cover	1
4P	Screw 5x8	4
5P	Muffler Assembly	1
6P	Muffler Case	1

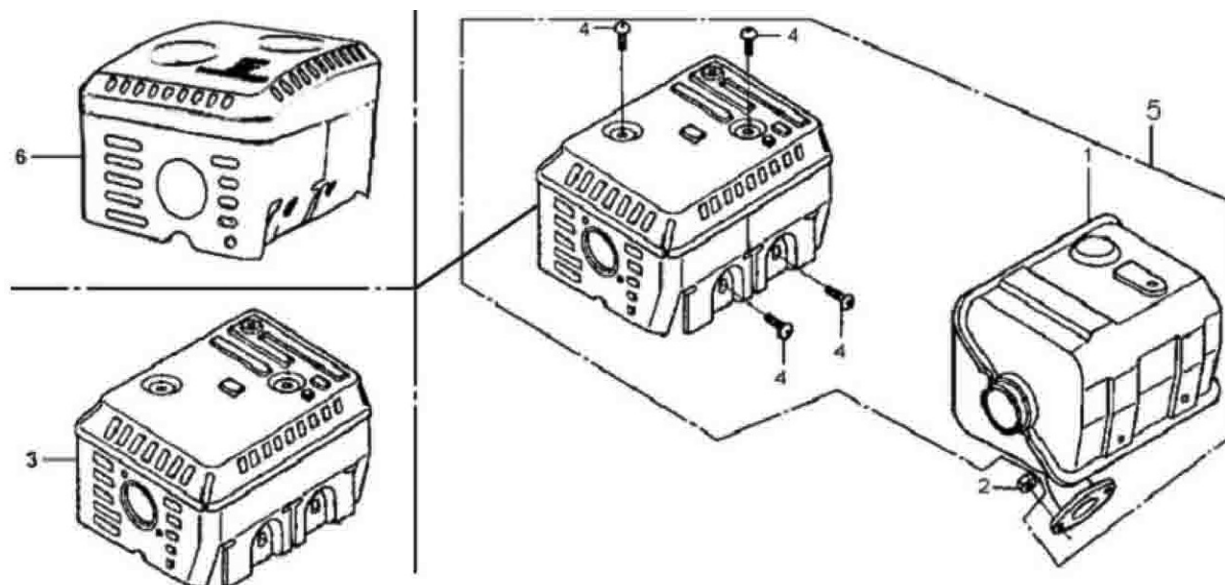


Note: When ordering replacement parts from this diagram, use the suffix "P".

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

MUFFLER PARTS LIST & DIAGRAM

Part #	Description	Qty
1P	Muffler	1
2P	Nut 8mm	1
3P	Muffler Cover	1
4P	Screw 5x8	4
5P	Muffler Assembly	1
6P	Muffler Case	1



Note: When ordering replacement parts from this diagram, use the suffix "P".

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

LIMITED 1 YEAR / 90 DAY WARRANTY

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that for a period of ninety days from date of purchase that the engine/motor, the belts (if so equipped), and the blades (if so equipped) are free of defects in materials and workmanship. Harbor Freight Tools also warrants to the original purchaser, for a period of one year from date of purchase, that all other parts and components of the product are free from defects in materials and workmanship (90 days if used by a professional contractor or if used as rental equipment). This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund

the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

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

**3491 Mission Oaks Blvd. • PO Box
6009 • Camarillo, CA 93011 • (800)
444-3353**

EMISSION CONTROL SYSTEM WARRANTY

California and United States Emission Control Defects Warranty Statement

The California Air Resources Board (herein CARB), the United States Environmental Protection Agency (herein EPA), and Harbor Freight Tools (herein HFT) are pleased to explain the emission control system warranty on your 1995 and later Small Off-Road Engine (herein engine). In California, the engine must be designed, built and equipped to meet the State's stringent anti-smog standards. Elsewhere within the United States, new off-road, spark-ignition engines certified for model year 1997 and later, must meet similar standards set forth by the EPA. HFT must warrant the emission control system on your engine for the periods of time described below, provided there has been no abuse, neglect or improper maintenance of your engine.

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

Where a warrantable condition exists, HFT will repair your engine at no cost to you including diagnosis, parts and labor.

Manufacturer's Warranty Coverage

The 1995 and later engines are warranted for two (2) years. If any emission-related part on your engine is defective, the part will be repaired or replaced by HFT.

Harbor Freight Tools Emission Control Defects Warranty Coverage

Engines are warranted for a period of two (2) years relative to emission control parts defects, subject to the provisions set forth below. If any emission related part on your engine is defective, the part will be repaired or replaced by HFT.

Owner's Warranty Responsibilities

- As the engine owner, you are responsible for the performance of the required maintenance listed in your Owner's Manual. HFT recommends that you retain all receipts covering maintenance on your engine, but HFT cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.
- As the engine owner, you should, however, be aware that HFT may deny you warranty coverage if your engine or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.
- You are responsible for shipping your engine to a HFT warranty station as soon as a problem exists. Contact the HFT Customer Service department at the number below to make shipping arrangements. The warranty repairs should 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 the Harbor Freight Tools Customer Service Department at 1-800-444-3353.

Harbor Freight Tools Emission Control Defects Warranty Provisions

1. Length of Coverage

HFT warrants to a first retail purchaser and each subsequent purchaser that the engine is free from defects in materials and workmanship that cause the failure of warranted parts for a period of two (2) years after the date of delivery to the first retail purchaser.

2. No Charge Repair or Replacement

Repair or replacement of any warranted part will be performed at no charge to the owner if the work is performed through a warranty station authorized by HFT. For emissions warranty service, contact the HFT Customer Service Department at 1-800-444-3353.

3. Consequential Damages Coverage

Coverage under this warranty shall also extend to the failure of any engine components caused by the failure of any warranted part while it is still covered under this warranty.

4. Coverage Exclusions

Warranty claims shall be filed in accordance with the provisions of the HFT warranty policy explained in the box at the top of the previous page. HFT shall not be liable for any loss of use of the engine, for any alternative usage, for any damage to goods, loss of time, or inconvenience. Warranty coverage shall also be excluded for any part which fails, malfunctions, or is damaged due to failure to follow the maintenance and operating instructions set forth in the Owner's Manual including, but not limited to:

- a) Use of parts which are not authorized by HFT
- b) Improper installation, adjustment or repair of the engine or of any warranted part unless performed by an authorized warranty center
- c) Failure to follow recommendations on fuel use contained in the Owner's Manual
- d) Improper or inadequate maintenance of any warranted parts
- e) Repairs performed outside of the authorized warranty service dealers
- f) Alterations by changing, adding to or removing parts from the engine.

5. Service and Maintenance

Component parts which are not scheduled for replacement as required maintenance or are scheduled only for regular inspection to the effect of "repair or replace as necessary" are warranted for the warranty period. Any warranted part which is scheduled for replacement as required maintenance is warranted for the period of time up to the first scheduled replacement point for that part. Any replacement part, provided it is equivalent in durability and performance, may be used in performance of maintenance or repairs. The owner is responsible for commissioning a qualified technician/mechanic to perform all required maintenance, as outlined in the Inspection, Cleaning, and Maintenance section in this manual.

6. Warranted Parts

- 1) Fuel Metering System
 - i) Carburetor and its internal parts.
 - ii) Fuel pump (if so equipped).
 - iii) Cold start enrichment system.
- 2) Air Induction System
 - i) Intake pipe/manifold.
 - ii) Air cleaner.
- 3) Ignition System
 - i) Spark plug.
 - ii) Magneto ignition system.
- 4) Catalyst System (if so equipped)
 - i) Exhaust pipe stud.
 - ii) Muffler.
 - iii) Catalytic converter (if so equipped).
- 5) Miscellaneous Items Used in Above Systems
 - i) Vacuum, temperature and time sensitive valves and switches.
 - ii) Hoses, belts, connectors, and assemblies.

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