

9 TON LOG SPLITTER

(LS400404)

ASSEMBLY & OPERATING INSTRUCTIONS



THIS SAFETY ALERT SYMBOL IDENTIFIES IMPORTANT SAFETY MESSAGES IN THIS MANUAL.

SPECIAL  PRODUCTS

15000 W. 44TH AVE. GOLDEN, COLO. 80401 • 303-279-5544

ASSEMBLY INSTRUCTIONS



IMPORTANT: BEFORE OPERATING THIS LOG SPLITTER, READ AND UNDERSTAND THIS MANUAL COMPLETELY. BECOME FAMILIAR WITH IT FOR YOUR OWN SAFETY. TO FAIL TO DO SO MAY CAUSE SERIOUS INJURY. DO NOT ALLOW ANYONE TO OPERATE YOUR LOG SPLITTER WHO HAS NOT READ THIS MANUAL. READ EACH STEP COMPLETELY BEFORE PROCEEDING.

NOTE: This log splitter was partially assembled at the factory. Refer to drawing and parts list should it become necessary to disassemble the unit for repair or replacement of parts.

STEP 1: Remove all the components from the box. Inspect each piece for shipping damage. If any part is damaged, contact your dealer or delivery carrier.

STEP 2: Attach the main beam (1) to the axle (2) using the four 3/8 in. x 1½ in. hex cap screws (3), 3/8 in. lockwashers (4) and 3/8 in. hex nuts (5). Tighten the nuts.

STEP 3: Mount the wheels (6) to the axle (2) using the four 5/8 in. flatwashers (7) and cotter pins (8) as provided. The wheel hub should be offset towards the axle.

NOTE: ASSEMBLY OF HYDRAULIC FITTINGS

Apply pipe sealer (included in the hydraulic fittings and hardware package) to the first few threads of the hydraulic fittings before assembly. Do Not use sealer on the hose ends that insert into the swivel fittings.

STEP 4: Install the bushing (53) in the valve (27) as shown and tighten. Then install the hose (59) between the valve (27) and pump (41) using the 90° adapter (54) as shown. Install the 3/4 in.-3/4 in. x 45° straight fitting (60) into the valve. Install the hose (56) between the tank (16) and valve (27) using the two hose clamps (51). Tighten securely. Install the two 1/2 in. x 90° adapters (54) in the valve (27). Then install the hoses (52) as shown in the diagram. Install the nipple (58), reducer (57) and 3/4 in.- 3/4 in. straight fitting (50) into the pump inlet. Attach hose (55) to fitting (50) and tank (16) securing with hose clamps (51).

OPERATING INSTRUCTIONS

STEP 1: STARTING

IMPORTANT: The engine and hydraulic tank are shipped without oil. See the engine operating and maintenance instructions manual packed with the engine for the type of crankcase oil, etc. The engine manufacturer recommends leaded or low-lead gasolines only. The use of unleaded fuels or gasahol can lead to engine damage.



CAUTION: DO NOT START OR RUN THE ENGINE WITHOUT OIL IN THE HYDRAULIC RESERVOIR.

STEP 2: The hydraulic reservoir should be filled with an SAE 20 hydraulic oil. If hydraulic oil is difficult to obtain, automatic transmission fluid can be substituted. Use only clean oil and take care to prevent dirt from entering the hydraulic reservoir as this will cause hydraulic component damage.

DIRECTIONS FOR FILLING HYDRAULIC SYSTEM: Fill the hydraulic reservoir. After the hydraulic reservoir and crankcase are filled with oil, start the engine. (The hydraulic pump should prime itself) With the engine running, move the hydraulic valve lever toward the wedge. This will cause the cylinder to extend and expel air. When the cylinder is fully extended, retract the cylinder. Repeat this procedure several times. An erratic movement of the cylinder indicates that there is still air in the system. After cycling the cylinder, more oil will need to be added to the hydraulic reservoir. Fill the reservoir to within approximately 1/2 in. of the tank top (not filler pipe). **NOTE:** If the tank is overfilled, it will tend to expel oil from the breather cap when the cylinder is retracted. After refilling the tank, cycle the cylinder again until it has a constant speed indicating that all air has been expelled. Check the oil level in the reservoir again.

NOTE: The ram retract stop position can be adjusted by removing the valve handle and bending the smaller diameter portion in the direction desired.

STEP 3: The engine maximum governed speed is preset at the factory at 3600 RPM no load speed. When splitting wood, the throttle should be set at the maximum setting to develop the horsepower required for the pump.

STEP 4: OPERATION



WARNING: ALWAYS WEAR SAFETY GLASSES DURING OPERATION!

- 1) Set up the log splitter in a clear, level area and block the wheels. **NOTE:** The suction port on the end of the tank should always be on the lower side of the splitter.
- 2) Place a log on the beam against the wedge.
- 3) Depress the valve handle so that the cylinder will drive the log into the wedge. Extend the cylinder until the log splits or to the end of its stroke. If the log has not completely split after the cylinder has reached the end of its extension, retract the cylinder and place another log on the beam. Use the second log to force the first log off the wedge. Always use extra care when splitting logs with unsquare ends.

NOTE: For operation in wooded areas, obtain a spark arrestor for the exhaust system. See the engine operating and maintenance manual and check with your authorized Briggs & Stratton service center.

NOTE: See also Operating Procedure in the Safety Information section of this manual.



CAUTION: THE SEMI-PNEUMATIC TIRES ARE DESIGNED FOR OFF-ROAD USE ONLY.

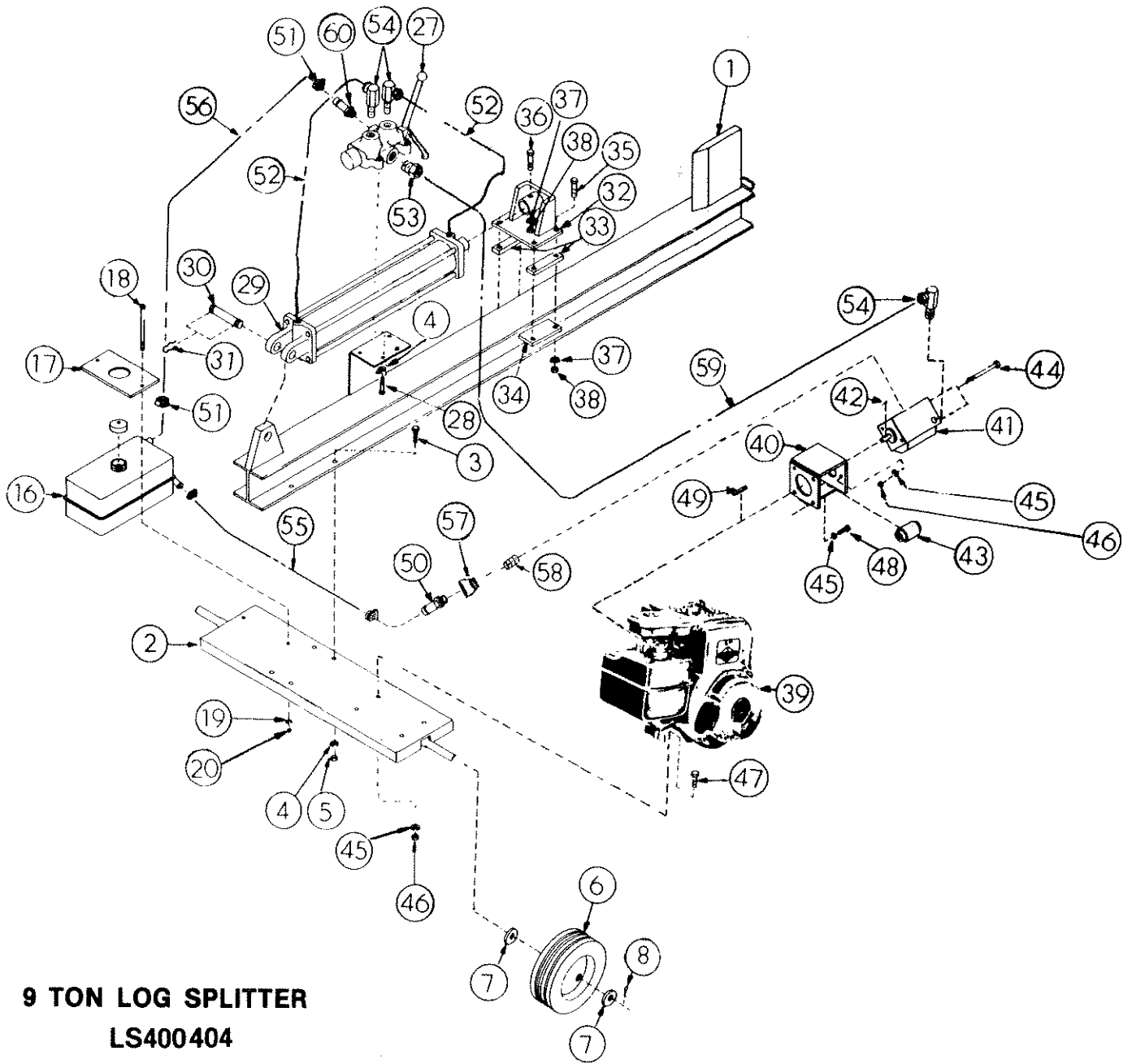
MAINTENANCE

- 1) Consult the operating and maintenance instructions of the engine manufacturer for engine care and maintenance.
- 2) Always check the oil level of the hydraulic reservoir before operation. Operating the log splitter without an adequate oil supply will cause severe damage to the pump.
- 3) Clean the breather cap after 25 hours of operation. Clean it more often when operated in dusty conditions. To clean, remove the breather from the tank and flush with kerosene or liquid detergent to remove the dirt.
- 4) See also Repair and Maintenance Safety in the Safety Information section of this manual.
- 5) All replacement parts must meet manufacturer's specifications.

LS400404 LOG SPLITTER PARTS BREAKDOWN

REFERENCE NUMBER	PART NUMBER	DESCRIPTION	NUMBER REQUIRED	WEIGHT EACH
	LS400404	9 Ton Log Splitter Complete		192.0 lbs. (87.2kg)
1	LS400424E	Beam	1	65.0 lbs. (29.5kg)
2	LS400821	Axle	1	16.7 lbs. (7.6kg)
3	* O/L	3/8 in. NC x 1½ in. Hex Cap Screw	4	----
4	* O/L	3/8 in. Lockwasher	12	----
5	* O/L	3/8 in. NC Hex Nut	8	----
6	LS400313	10 in. x 2.75 in. Tire	2	4.7 lbs. (2.1kg)
7	* O/L	5/8 in. Flatwasher	4	----
8	* O/L	1/8 in. X 1½ in. Cotter Pin	2	----
16	LS400817	Tank	1	2.5 lbs. (1.1kg)
17	LS400415	Hold Down Strap	1	1.1 lb. (0.5kg)
18	O/L	1/4 in. NC x 5½ in. Hex Cap Screw	2	----
19	O/L	1/4 in. Lockwasher	2	----
20	O/L	1/4 in. NC Hex Nut	2	----
27	HC390406E	Auto-Return Valve	1	6.0 lbs. (2.7kg)
A	HC390436	Valve Handle	1	0.4 lbs. (0.2kg)
B	HC390434	Handle Linkage (not shown)	1	----
C	HC390435	Handle Mounting Bracket (not shown)	1	----
28	O/L	3/8 in. NC x 3/4 in. Hex Cap Screw	4	----
29	HC390109	Hydraulic Cylinder	1	37.0 lbs. (16.8kg)
30	P7713A	1 in. Clevis Pin	1	0.9 lbs. (0.4kg)
31	P7910	Clip Pin	2	----
32	LS400821	Ram	1	5.8 lbs. (2.6kg)
33	LS400422	Spacer	2	0.5 lbs. (0.2kg)
34	LS400423	Bottom Plate	2	0.8 lbs. (0.4kg)
35	O/L	3/8 in. NC x 2 in. Grade 5 Hex Cap Screw	4	----
36	O/L	1/2 in. NC x 2½ in. Hex Cap Screw	1	0.2 lbs. (0.1kg)
37	O/L	1/2 in. Lockwasher	1	----
38	O/L	1/2 in. NC Hex Nut	1	----
39	HC390504	5 h.p. Engine	1	30.8 lbs. (14.0kg)
40	LS400812	Pump Mount	1	2.1 lbs. (0.9kg)
41	HC390703	Pump	1	5.0 lbs. (2.2kg)
42	HC390702	# 2 Woodruff Key	1	----
43	LS400820	Flexible Drive Coupler (3 pieces)	1	0.8 lbs. (0.4kg)
	LS400833	Coupler Half 7/16 in. ID	1	----
	LS400834	Coupler Sleeve	1	----
	LS400835	Coupler Half 3/4 in. ID	1	----
44	O/L	5/16 in. NC x 3½ in. Hex Cap Screw	2	0.3 lbs. (0.1kg)
45	O/L	5/16 in. Lockwasher	10	----
46	O/L	5/16 in. NC Hex Nut	6	----
47	O/L	5/16 in. NC x 1½ in. Hex Cap Screw	4	----
48	O/L	5/16 in. NF x 3/4 in. Hex Cap Screw	4	----
49	LS400321	3/16 in. Square Engine Key	1	----
50	*HC390322	3/4 in.-3/4 in. Straight Fitting	1	0.2 lbs. (0.1kg)
51	*HC390316	Worm Gear Clamp	4	----
52	HC390219	13½ in. Hydraulic Hose	2	0.9 lbs. (0.4kg)
53	*HC390311	3/4 in. - 1/2 in. Reducer Bushing	1	----
54	*HC390302	1/2 in. x 90° Swivel Elbow	3	0.4 lbs. (0.2kg)
55	HC390217	17 in. Hydraulic Hose	1	0.9 lbs. (0.4kg)
56	HC390218	14 in. Hydraulic Hose	1	0.4 lbs. (0.2kg)
57	*HC390333	1/2 in.-3/4 in. Bell Reducer	1	----
58	*HC390332	1/2 in. Close Nipple	1	----
59	HC390208	1/2 in. ID x 19 in. Hydraulic Hose	1	1.0 lb. (0.4kg)
60	*HC390324	3/4 in.-3/4 in. x 45° Fitting	1	----
	*LS400412S	Hydraulic Fittings/Hardware Kit	1	----

O/L- Obtain Locally. Common fasteners available through hardware and farm stores.



9 TON LOG SPLITTER
LS400404



SAFETY INFORMATION

NOTE: THIS SAFETY INFORMATION COVERS BOTH THE TRACTOR-MOUNTED AND PORTABLE, GASOLINE ENGINE TYPE LOG SPLITTERS. SOME SECTIONS APPLY ONLY TO THE PORTABLE LOG SPLITTERS POWERED BY INTERNAL COMBUSTION ENGINES.

A. TRAINING AND PREPARATION

Before operating this log splitter, read and understand this manual completely. Become familiar with it for your own safety. To fail to do so may cause serious injury. Do not allow anyone to operate your log splitter who has not read this manual.

B. INTENDED USE

NEVER use your log splitter for any other purpose than splitting wood. It is designed for this use and any other use may cause an injury.

C. RESPONSIBLE OPERATORS

NEVER allow children to operate your log splitter, nor adults lacking proper instructions. Keep them away from your work area. Your log splitter is not a toy. Only the operator is to be near your log splitter during use. Keep all others, including pets, a minimum of 10 feet away from your work zone. Flying wood can be hazardous. If a helper is assisting in loading logs, NEVER activate the control until the helper is clear of the area. More accidents occur when more than one person operates the log splitter than at any other time.

NEVER operate your log splitter while under the influence of alcohol, drugs or medication. A clear mind is essential for safety.

NEVER allow a person who is tired or otherwise not alert to use your splitter.

D. SAFETY WEAR

NEVER wear loose clothing or jewelry that can be caught by moving parts of your log splitter and pull you into it. Keep clothing away from all moving parts of your log splitter. Wear proper head gear to keep hair away from moving parts.

ALWAYS wear safety shoes. A dropped log can seriously injure your foot.

ALWAYS wear safety glasses while operating your log splitter. A piece of splitting log could fly off and hit your eyes.

IF you wear gloves, be sure they are tight fitting without loose cuffs or draw strings.

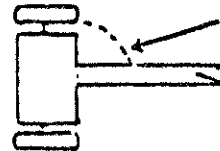
ALWAYS wear protective hearing devices as needed.

E. PREPARE LOGS PROPERLY

BOTH ends of each log should be cut as square as possible to help prevent the log from riding out of the splitter during operation.

F. OPERATING PROCEDURE

ONLY operate the log splitter from the operator zone.



Know how to stop the unit and disengage the controls.

NEVER place hands or feet between log and splitting wedge or between log and ram during forward or reverse stroke. To do so may result in crushed or amputated fingers or toes, or worse. You may lose an arm or foot.

DON'T straddle the log splitter when using it. A slip in any position could result in a serious injury.

NEVER try to split two logs on top of each other. One may fly out and injure you.

NEVER allow one person to operate the valve while another is positioning the log, as serious injury could result from starting operation with the hands near the ram or wedge.

DON'T step over log splitter when the engine is running. You may trip or accidentally activate the ram if you step over. If you need to get to the other side, walk around.

NEVER attempt to load your log splitter when the ram is in motion. You may get caught by the ram and injured.

ONLY use your hand to operate the control lever. Never use your foot or a rope or any other extension device. This could result in your inability to stop your log splitter quickly and cause an injury.

ALWAYS keep fingers away from any cracks that open in the log during splitting operation. They can quickly close and pinch or amputate your fingers.

NEVER move the log splitter while the engine is running.

NEVER leave your log splitter unattended with the engine running. Shut off the engine if you are leaving your splitter.... even for a short period of time. Someone could accidentally activate the ram and be injured.

DON'T run the engine in an enclosed area. Exhaust gases contain carbon monoxide. This odorless gas can be deadly when inhaled.

G. OPERATE IN SAFE ENVIRONMENT AND ON SAFE GROUND

NEVER operate your log splitter on slippery, wet, muddy or icy surfaces. Safe footing is essential in preventing accidents.

ONLY operate your log splitter on level ground and not on a side hill. It could tip over, or rolling logs or poor footing could cause an accident. (This also prevents the spillage of gas from the tank.)

NEVER attempt to move the log splitter over hilly or uneven terrain without adequate help.

ALWAYS block wheels to prevent movement of log splitter while in operation.

KEEP work area clean. Immediately remove split wood around your log splitter so that you don't stumble over it.

WHEN using your log splitter, use in daylight or under good artificial light.

H. REPAIR AND MAINTENANCE SAFETY

DON'T operate your log splitter in poor mechanical condition or when in need of repair.

PERIODICALLY check that all nuts, bolts and screws are tightened.

DON'T alter your log splitter in any manner such as attaching a rope or extension to the control lever or adding to the width or height of the wedge unless approved by the manufacturer. Such alterations may cause your splitter to be unsafe.

PERFORM all recommended maintenance procedure before you use your log splitter.

REPLACE all damaged or worn parts such as hydraulic hoses and fittings immediately.

NEVER tamper with the engine to run it at excessive speeds. This increases the hazard of personal injury. The maximum engine speed is preset by the manufacturer and is within safety limits.

DON'T service or repair your log splitter without removing the spark plug wire.

ALL replacement parts must meet manufacturer's specifications.

I. PREVENT FIRE

NEVER operate your log splitter near a flame or spark. Hydraulic oil and gasoline are flammable and can explode.

DON'T fill the gas tank while the engine is hot or running. Allow the engine to cool before refueling.

NEVER smoke while operating or refueling your log splitter. Gas fumes can easily explode.

ONLY refuel your log splitter outdoors in a clear area void of gas fumes or spilled gas. Always use an approved fuel container. Always replace the gas cap securely.

IF gasoline is spilled, move machine away from the area of the spill and avoid creating any source of ignition until the spilled gas has evaporated.

TAKE a Class B fire extinguisher with you when operating your log splitter in dry areas as a precautionary measure against possible flying sparks.

COMPLETELY drain the fuel tank prior to storage. This guards against accumulation of fuel fumes which could result in a fire hazard.

ALWAYS store gasoline in an approved, tightly sealed container. Store the container in a cool, dry place. Do not store in the house or near a heating appliance.

-NOTE-

This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the state of California, the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. ((Optional by manufacturer)) A spark arrester muffler is available as an accessory at your nearest engine dealer. Check legal requirements in your area.

J. HYDRAULIC SAFETY

THE hydraulic system of your log splitter requires careful inspection along with the mechanical parts. Be sure to replace frayed, kinked, cracked or otherwise damaged hydraulic components. Just because it isn't leaking today doesn't mean that it will not fail tomorrow.

FLUID escaping from a very small hole can almost be invisible. Do not check for leaks with your hand. Escaping fluid under pressure can have sufficient force to penetrate skin, causing serious personal injury or even death. Leaks can be located by passing a piece of cardboard or wood over the suspected leak and 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.

SHOULD it become necessary to loosen or remove any hydraulic fitting or line, be sure to relieve all pressure by shutting off the engine and moving the control handle back and forth several times.

DON'T remove the cap from the hydraulic tank or reservoir while your log splitter is running. Hot oil under pressure could result in serious injury.

THE pressure relief valve on your log splitter is pre-set at the factory. Do not adjust the valve. Only a qualified service technician should perform this adjustment.

SAFETY DECALS



ALWAYS REPLACE MISSING OR DEFACED DECALS

WARNING

1. READ AND UNDERSTAND OPERATOR'S MANUAL THOROUGHLY BEFORE OPERATION.
2. KEEP ALL SHIELDS IN PLACE.
3. KEEP HANDS, FEET AND CLOTHING AWAY FROM POWER-DRIVEN PARTS.
4. ALWAYS WEAR SAFETY GLASSES AND SAFETY SHOES DURING OPERATION.
5. ALWAYS OPERATE OUT-OF-DOORS WITH GOOD VENTILATION.
6. ALWAYS STOP ENGINE BEFORE PERFORMING MAINTENANCE OPERATIONS OR WHEN LEAVING LOG SPLITTER UNATTENDED.
7. NEVER ALLOW ONE PERSON TO OPERATE VALVE WHILE ANOTHER IS POSITIONING THE LOG.
8. ALWAYS POSITION LOGS WITH HANDS ON THE SIDE OF THE LOGS. KEEP HANDS CLEAR OF ENDS.
9. KEEP ALL CHILDREN AWAY FROM LOG SPLITTER.
10. DO NOT STEP OVER LOG SPLITTER.
11. ALWAYS USE HANDS TO OPERATE THE CONTROL VALVE.
12. DO NOT OPERATE THE LOG SPLITTER WHILE UNDER THE INFLUENCE OF DRUGS, ALCOHOL OR MEDICATION.
13. ALWAYS OPERATE THE LOG SPLITTER ON DRY, NON-SLIPPERY SURFACES AND KEEP WORK AREA CLEAR OF OBSTACLES.
14. OPERATE THE LOG SPLITTER WITH ONLY ONE PERSON IN THE VICINITY.
15. DO NOT ADD GASOLINE WHILE THE ENGINE IS HOT. ALLOW ALL SPILLED GAS TO EVAPORATE BEFORE USING. Ⓢ

PART NUMBER: DL51-1-32
LOCATION: TANK HOLD DOWN STRAP

SPECIFICATIONS

Engine	5 h.p. Briggs & Stratton
Pump	Two-stage, High-Low pump sized to engine
Cylinder	3 in. diameter x 18 in. stroke
Valve	Auto-return
Splitting Force	18,000 lbs. (8182kg)
Operating Pressure	2500 psi
Log Length	20 in. (51cm)
Cycle Time	30 seconds unloaded
Wheels	10 in. x 2.75 in. Semi-pneumatic tires on rims
Wedge	6 in. (15cm) high
Reservoir	4 qt. (3.8 liters) capacity
Total Hydraulic Capacity	7 qts. (6.6 liters)
Height	23 in. (58cm) to top of valve handle
Length	57½ in. (146cm)
Width	33¼ in. (84cm)
Weight	192 lbs. (87kg)

IMPORTANT NOTICE:

HYDRAULIC COMPONENT WARRANTY: CONSUMER USE

All hydraulic components on this SpeeCo log splitter are guaranteed for 90 days from the date of purchase. This warranty is nullified should any component be subjected to negligent use, misuse, alteration, accident or if repairs have been made by anyone except an authorized SpeeCo dealer. Parts must be returned to an authorized SpeeCo dealer accompanied by a dated proof of purchase. Log splitters will not be guaranteed without a dated proof of purchase.