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OWNER'S MANUAL

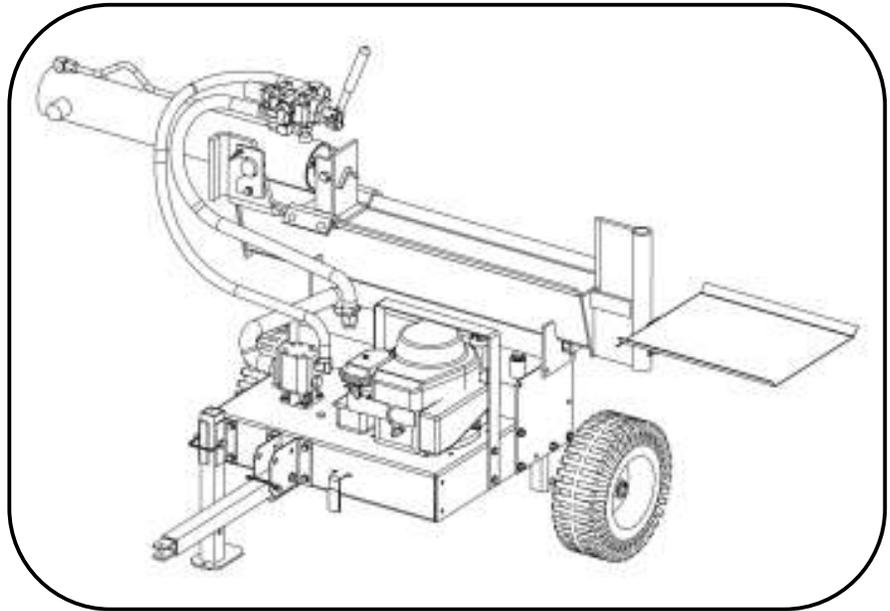
**MODEL NO.
LS422X**

STARTING SERIAL #:
L206-010001

IMPORTANT

Read and follow all Safety
Precautions and Instructions
before operating this
equipment.

Rev. 06-010



LOG SPLITTER

**Safety
Assembly
Operation
Service and Adjustment
Repair Parts**

1602 CORPORATE DRIVE, WARRENSBURG, MISSOURI 64093 PHONE 660-747-8183
FAX 660-747-8650

Manufacturing quality lawn care equipment since 1945

*Made In The
USA*

LIMITED WARRANTY

The manufacturer's warranty to the original consumer purchaser is: This product is free from defects in materials and workmanship for a period of ONE (1) year from the date of purchase by the original consumer purchaser. We will repair or replace, at our discretion, parts found to be defective due to materials or workmanship. This warranty is subject to the following limitations and exclusions:

- 1) Engine Warranty All engines utilized on our products have a separate warranty extended to them by the individual engine manufacturer. Any engine service difficulty is the responsibility of the engine manufacturer and in no way is Swisher Mower Co., Inc. or its agents responsible for the engine warranty. The Briggs & Stratton Engine Service Hot-Line is 1-800-233-3723.
- 2) Commercial Use The warranty period for any product used for commercial or rental is limited to ninety (90) days from the date of original purchase.
- 3) Limitation This warranty applies only to products which have been properly assembled, adjusted, and operated in accordance with the instructions contained within this manual. This warranty does not apply to any product of Swisher Mower Co., Inc., that has been subject to alteration, misuse, abuse, improper assembly or installation, shipping damage, or to normal wear of product.
- 4) Exclusions Excluded from this warranty are normal wear, normal adjustments, and normal maintenance. The pump, valve, and cylinder each carry separate manufacture's warranties. The valve and cylinder both carry a one (1) year limited warranty. The pump carries a two (2) year limited warranty.

In the event you have a claim under this warranty, you must return the product to an authorized service dealer. All transportation charges, damage, or loss incurred during transportation of parts submitted for replacement or repair under this warranty shall be borne by the purchaser. Should you have any questions concerning this warranty, please contact us toll-free at 1-800-222-8183. The model number, serial number, date of purchase, and the name of the authorized Swisher dealer from whom you purchased the splitter will be needed before any warranty claim can be processed.

THIS WARRANTY DOES NOT APPLY TO ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES AND ANY IMPLIED WARRANTIES ARE LIMITED TO THE SAME TIME PERIODS STATED HEREIN FOR ALL EXPRESSED WARRANTIES. Some states do not allow the limitation of consequential damages or limitations on how long an implied warranty may last, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may have other rights, which vary from state-to-state. This is a limited warranty as defined by the Magnuson-Moss Act of 1975.

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SAFETY PRECAUTIONS



This Safety Alert Symbol indicates important messages in this manual. When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury.

Read this manual completely. This machine can amputate hands, feet, and throw objects. Failure to observe the following safety instructions could result in serious injury or death.



WARNING: The engine exhaust from this product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.



DANGER: Your log splitter was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. If you violate any of these rules, you may cause serious injury to yourself or others.

- Read and understand the manual. Learn to operate this equipment in a safe manner. Familiarize yourself with all of the controls in a safe environment before starting to work with this machine.
- DO NOT under any circumstances alter this log splitter. This equipment was designed and engineered in accordance with operating instructions. Altering this equipment, or using this equipment in such a way as to circumvent its design capabilities and capacities, could result in serious injury or fatality and WILL VOID THE WARRANTY.
- Allow ONLY responsible adults who have read this manual to operate this machine. NEVER allow children to operate this machine.
- NEVER operate or allow someone to operate this equipment while under the influence of alcohol, drugs or medication. Being coherent is essential for safety.
- ALWAYS use outdoors with adequate ventilation. DON'T run the engine in an enclosed area. Exhaust gases contain carbon monoxide. This odorless gas can be deadly when inhaled.
- NEVER use splitter for any other purpose than splitting wood. Any other use can result in injury. Your splitter is a precision piece of power equipment, not a toy. Therefore, exercise extreme caution at all times.
- ONLY a single operator is to load and operate the log splitter. KEEP all others, including pets and children, a minimum of 20 feet away from your work area. More accidents occur when more than one person operates the log splitter than any other time.
- ALWAYS wear protective gear such as safety goggles, protective hearing device, steel-toed shoes, and tight-fitting gloves without drawstrings or loose cuffs.
- NEVER wear loose clothing or jewelry that can be caught by moving parts of the splitter and pull you into it. Keep hair away from moving parts.
- NEVER operate your splitter on wet, muddy, or icy surfaces. KEEP work area clean of split wood. Safe footing is essential in preventing accidents.
- ONLY operate splitter on level ground with wheels blocked, not on the side of a hill. It could tip, or rolling logs, poor footing, etc. could cause an accident.

- NEVER operate your splitter near a flame or spark. Hydraulic oil and gasoline are flammable and can explode.
- NEVER fill gas tank while the engine is hot or running. Allow the engine to cool before refueling.
- 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.

-NOTE-

In the state of California, the above is required by law (Section 442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester muffler (optional by manufacturer) is available at your nearest engine dealer. Check legal requirements in your area.

- ONLY use your hands to operate the control lever. NEVER use foot, knee, rope or any extension device.
- Split ONLY one log at a time. NEVER attempt to split two logs on top of each other.
- NEVER place hands or feet between log and splitting wedge or between log and ram during forward or reverse stroke. ALWAYS keep fingers clear of splits that open in log during splitting operation.
- DO NOT straddle or reach across the splitting area while operating the splitter.
- DO NOT step over splitter when the engine is running. You may trip or accidentally activate the splitting wedge. Walk around to get to the other side.
- NEVER attempt to load splitter while splitting wedge is in motion. When loading log splitter, place hands on the sides of the log, not the ends.
- NEVER attempt to split woods across the grain. Wood may burst or fly out of your splitter and result in serious injury.
- NEVER leave your 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.
- Both ends of the log should be cut as squarely as possible to prevent the log from sliding out of the splitter during operation. Log length should be kept to 24" or less.
- NEVER operate your splitter while it is attached to the tow vehicle.
- BEFORE towing, be certain that the splitter is securely attached to the towing vehicle and that the support leg, beam and cylinder are secured in their respective towing positions.
- NEVER allow persons to ride on splitter. DO NOT carry any cargo or wood on your splitter. It may fall off and cause an accident.
- DO NOT loosen or remove any hydraulic fitting, line or reservoir cap while your splitter or engine is running.
- Fluid escaping from a very small hole can almost be invisible. DO NOT check for leaks with your hand. See maintenance section for instructions. **IF injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.**
- DO NOT operate your splitter in poor mechanical condition or when it is need of repair.
- ALWAYS disconnect the spark plug wire and place the wire where it cannot contact the spark plug, to prevent accidental starting the engine when setting up, transporting, adjusting or repairing.

ASSEMBLY

This log splitter has been partially assembled at the factory. Refer to the drawings and part lists should it become necessary to disassemble the unit for repair or replacement of parts.

Inspect all components for damage. If you believe you have a damaged part please contact customer service immediately at 1-800-222-8183.



WARNING: Exercise extreme caution, as parts are very heavy. Sufficient persons or mechanical handling equipment should be used.

Refer to uncrating and assembly instructions for assembly procedures.

OPERATION

INTENDED USE: This log splitter is intended and designed to only split wood. NEVER use for any other purposes. Doing so can cause injury or VOID THE WARRANTY.

IMPORTANT: This unit is shipped with oil but without gasoline in the engine. After assembly, see separate Engine Manual for proper fuel and oil recommendations.



WARNING: *DO NOT START OR RUN THE LOG SPLITTER WITHOUT OIL IN THE ENGINE AND HYDRAULIC RESERVOIR.*

FILLING THE HYDRAULIC RESERVOIR

Fill the hydraulic reservoir with at least 12 Quarts of Dextron III Automatic Transmission fluid or 10W AW hydraulic fluid. After the hydraulic reservoir and the engine crankcase are filled correctly with their respective oils, start the engine. Remember to set the throttle and turn on the fuel shut-off valve. 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 it. Repeat this procedure several times. (An erratic movement of the cylinder indicates that there is air in the system). Once the cylinder has a smooth and constant speed indicating that all air has been expelled, add another 4 quarts of oil, this should then bring the fluid level up to approximately 3” below the fill hole. This model requires approx. 16-17 Quarts of hydraulic fluid.

NOTE: If the tank is overfilled, it will tend to expel oil from the breather cap when the cylinder is retracted.

START UP



WARNING: *DO NOT START OR RUN THE LOG SPLITTER WITHOUT OIL IN THE ENGINE AND HYDRAULIC RESERVOIR.*

See separate Engine Manual for fuel and oil recommendations. If applicable your log splitter has come equipped with a fuel shut-off valve for towing purposes.

Before starting engine make sure crankcase is filled correctly with oil and the proper fuel has been used. The engine will only start when the throttle lever and fuel shut-off valve if applicable are turned to their ON positions.

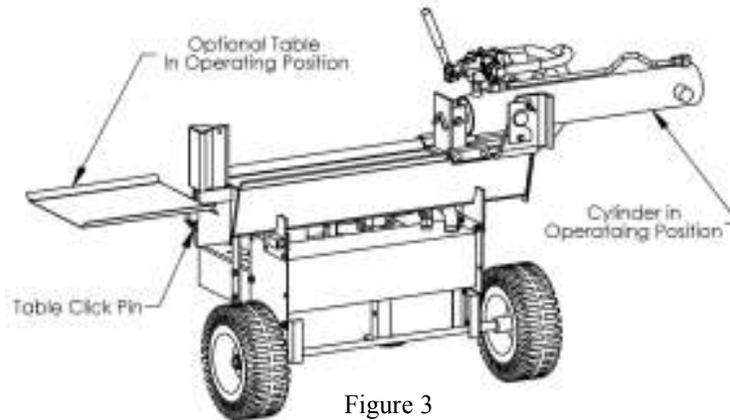
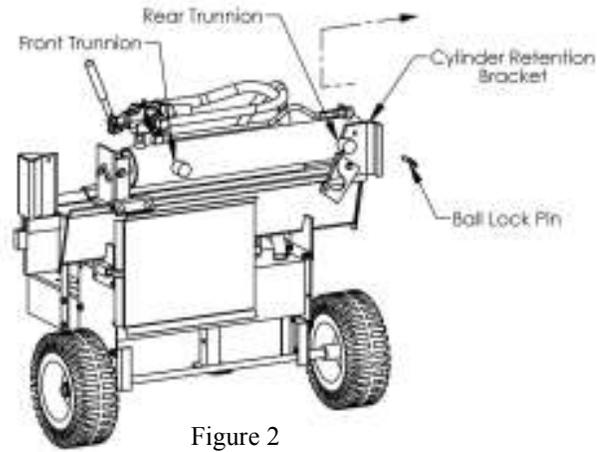
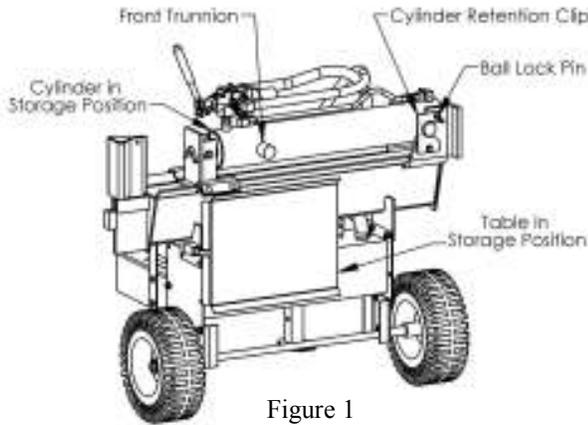
STARTING INSTRUCTIONS

Briggs & Stratton 4HP Engine

1. Move throttle control to “FAST.”
2. Push primer bulb three (3) times. **NOTE:** Do not use primer to restart a warm engine after a short shutdown.
3. Grasp rope handle and pull out slowly until resistance is felt. Then pull rapidly with a full arm stroke. **NOTE:** If engine fails to start after three (3) pulls, repeat steps 1 and 2.
4. When Engine starts, leave throttle control at “FAST.” The throttle must be set in the fast position for maximum performance.
5. To stop engine, move throttle lever to “SLOW” for a few seconds then to “STOP.”

POSITIONING THE CYLINDER

1. Remove lock pins from the cylinder retention clips and rotate clips down exposing the open slots on the cylinder retention bracket (reference Figure 2).
2. Slide the Cylinder forward until the rear trunnions clear the slots then lift the back side of the cylinder until the rear trunnions clear the cylinder retention bracket and slide cylinder back until the front cylinder trunnions slide into the open slots of the cylinder retention bracket (reference arrow in Figure 2).
3. Rotate the cylinder retention clips upward around the cylinder trunnions and lock them in place using the lock pins. Remove the click pin and optional table from the storage position and insert them in the tube on the back side of the wedge. Your Splitter is now in the operating position (reference Figure 3).
4. To reduce the size of you unit for towing and storage reverse the previous three steps (reference Figure 1 for towing and storage position).



WARNING: NEVER OPERATE THE SPLITTER WITH THE CYLINDER IN THE STORED POSITION AND NEVER TOW THE SPLITTER WITH THE CYLINDER IN THE OPERATING POSITION!

SPLITTER OPERATION

1. Set up the log splitter in a clear, level area and block the wheels. The suction port on the tank should always be on the lower side of the log splitter.
2. Place a log on the beam, against the foot plate. Make sure the log is securely on the foot plate and up against the beam.
3. Depress the valve lever so that the cylinder will drive the push block into the log. 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. **NOTE:** Leaving the valve in the “actuate” position at the end of the stroke may damage the pump. Always use extra care when splitting logs with ends that are not square.

NOTE: To extend the life of the hydraulic cylinder, avoid “BOTTOMING OUT” the cylinder.

TOWING SAFETY

This unit should not be towed on any street, highway, or public road without checking the existing federal, local, and state laws. Any licensing or modifications such as taillights, etc., need to comply with existing federal, local, or state vehicle requirements is the sole responsibility of the purchaser. Obey all regulations when towing on public roads and highways. See also **SAFETY PERCAUTIONS**.



WARNING: *NEVER TOW THE SPLITTER WITH CYLINDER IN THE OPERATING POSITION.*

Turn the fuel shut-off valve if applicable OFF to prevent flooding of the engine while traveling.

Be careful when backing up. You can easily jack-knife your splitter.

TOWING AT NIGHT

The requirements for taillights are based on States regulations. Some states allow towing at night as long as the towed equipment does not visibly impair the tow vehicle taillights. This is based on a state, to state requirements. The customer is responsible for meeting the states requirements.

If a “Statement of Origin” is required in your state, see your local dealer to receive one.

HYDRAULIC SAFETY

The hydraulic system on your splitter requires careful inspection along with the mechanical parts. Be sure to replace any 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 detected by passing a piece of cardboard or wood over the suspected leak and looking 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 fittings, lines or reservoir cap, be sure to relieve all pressure by shutting of the engine and moving the control handle back and forth several times.

NEVER remove the cap from the hydraulic tank or reservoir while the unit is running. Hot oil under pressure could result in serious injury. See also **SAFETY PERCAUTIONS**.

The pressure relief valve on your splitter is preset at the factory. DO NOT adjust the valve. Only a qualified technician should perform this adjustment.



MAINTENANCE AND STORAGE

WARNING: *DISCONNECT THE SPARK PLUG BEFORE PERFORMING ANY MAINTENANCE.*

Consult the operating and maintenance instructions of the engine manufacturer for engine care.

Always check the oil level of the hydraulic reservoir before operation. Operating without an adequate oil supply will cause severe damage to the pump.

Periodically check that all nuts, bolts, screws, clamps and fittings are tight and secure.

To keep your splitter in top working condition perform all recommended maintenance procedures before you use your splitter.

If the wedge becomes dull or nicked a grinder or sharpening tool can be used to sharpen it.

Completely drain the fuel tank prior to storage. Always store gasoline in an approved, tightly sealed container. Store container in a dry, cool place with adequate ventilation. Keep fuel away from areas where fumes could contact open flame, pilot light or sparks.

Be aware of the environment when disposing of used petroleum products. Please dispose of used hydraulic fluid, engine oil and any by products from the maintenance of your splitter at approved recycling centers.

Should it become necessary to disassemble the unit for repair or replacement of parts, refer to the drawings and parts list on the following pages. Exercise extreme caution, as some parts are very heavy and will require sufficient persons or mechanical handling equipment.

Your Swisher Log Splitter has been produced with components designed specifically to this machine. Although standard springs, hardware and ect may look similar to parts used on other machinery, they may in some cases be made of a different construction and/or materials. All replacement parts must meet manufacturer's specifications.



The operation of any splitter can produce foreign objects to be thrown into the eyes, resulting in severe eye damage. Always wear certified safety glasses or wide-vision safety goggles over spectacles before starting any splitting machine and while operating such a machine.



The operation of any splitter produces sound waves that are damaging to the human ear. Ear protection is recommended.



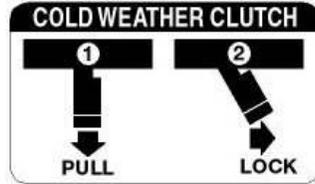
SAFETY DECALS

Replace decals immediately if damaged.



OD16 – FUEL SHUT OFF DECAL

(NOT ALL MODELS)



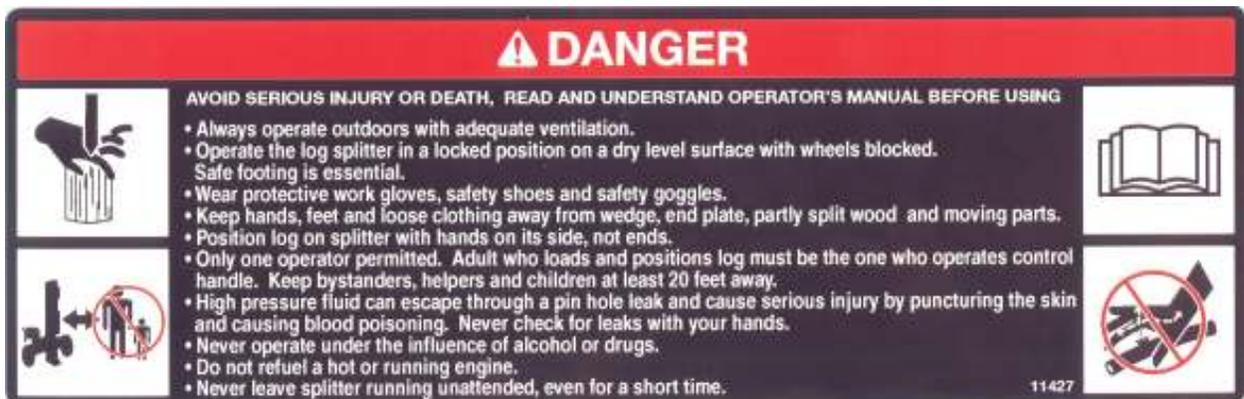
OD07 – COLD WEATHER DECAL



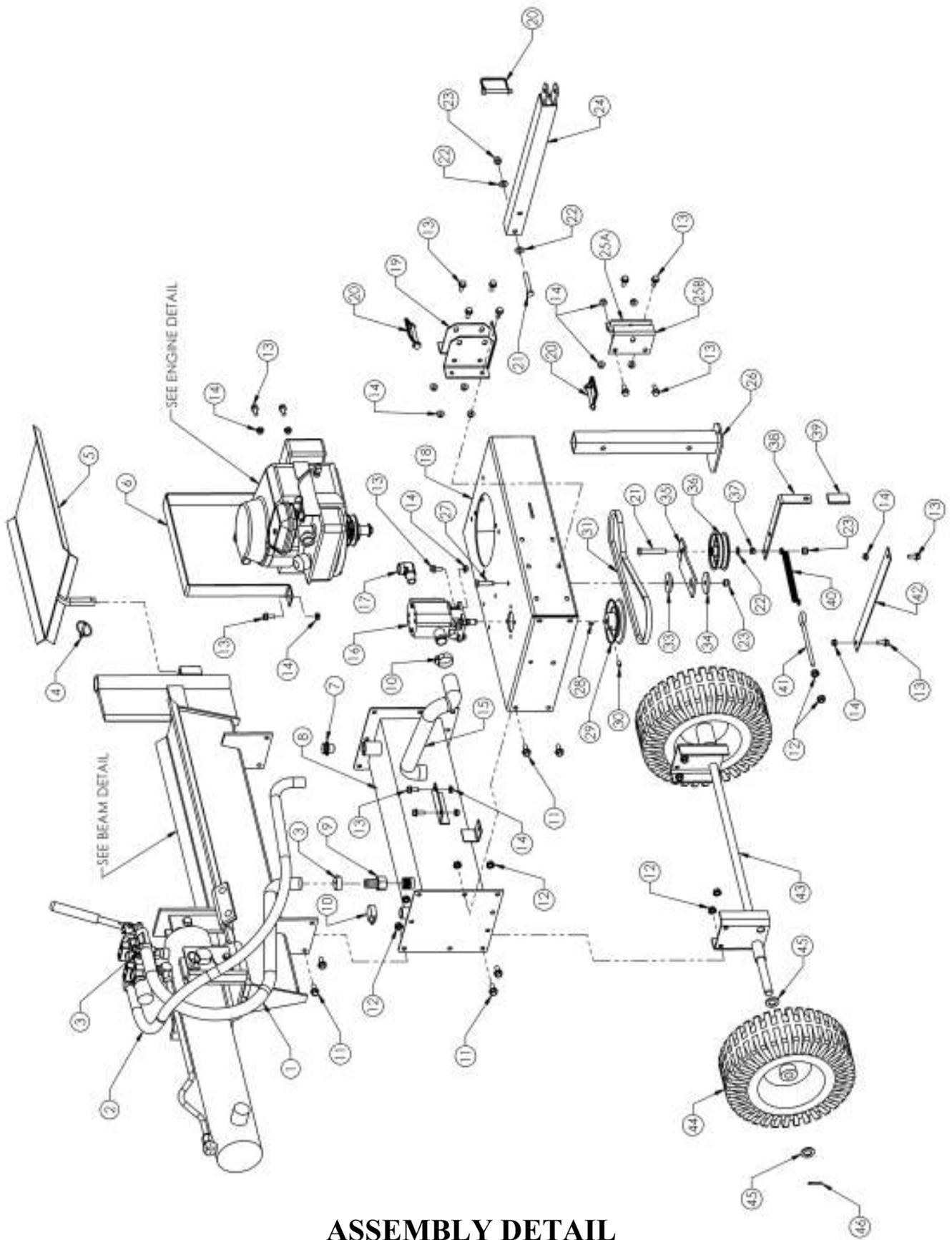
OD12 – HYDRAULIC FILL PLUG DECAL



OD33– SPEED DECAL



11427 – LS DANGER DECAL

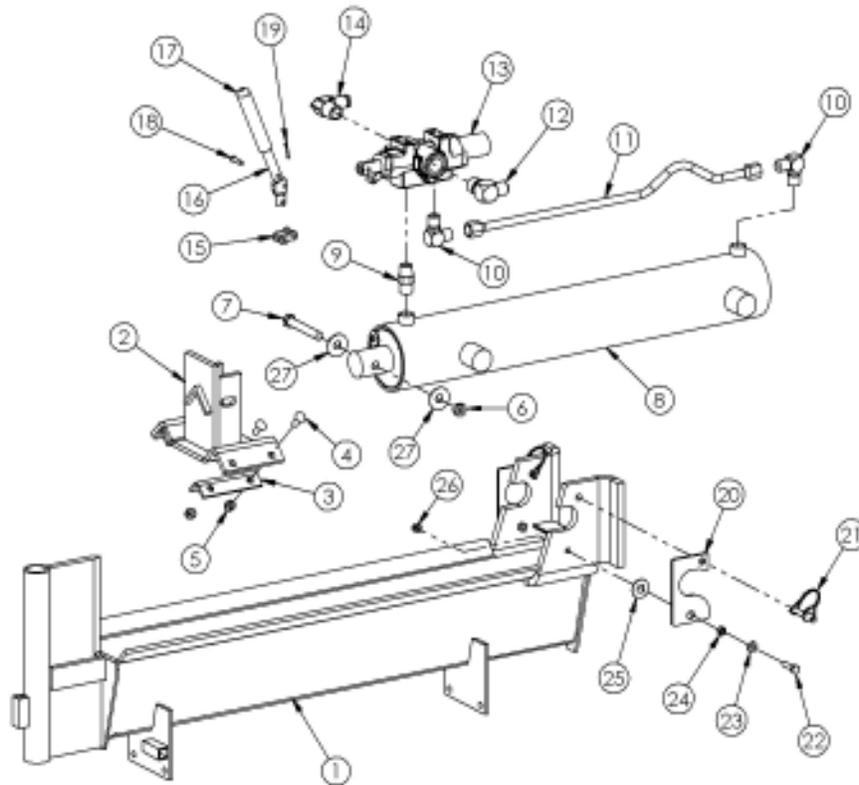


ASSEMBLY DETAIL
LS422X MODELS

SERVICE PARTS

Please have Model and Serial Numbers ready when ordering parts.
Color cannot be guaranteed upon service parts.

ITEM NUMBER	DESCRIPTION	PART NUMBER
1	54" Return Hose	7290
2	48" Pressure Hose	7289
3	#12 Hose Clamp	LS5001
4	3/16" Click Pin	NB506
5	Table Weldment	11405TK
6	Motor Guard	11396TK
7	3/4" NPT Filler Cap w/Hole	7379
8	Hydraulic Reservoir/Tank	11367TK
9	3/4" NPTF X 3/4" Hose Barb	11420
10	#16 Hose Clamp	LS4999
11	Bolt 3/8-16 X 3/4 Serr Flange	NB780
12	Nut 3/8-16 Serr Flange	NB779
13	Bolt 5/16-18 X 3/4 Serr Flange	NB596
14	Nut 5/16-18 Serr Flange	NB170
15	20" Suction Hose	7346
16	Hydraulic Pump-LS722 and LS728	LS2001H
17	Pressure Line Fitting	11248
18	Motor Base Weldment	11207TK
19	Tongue Support Weldment	11373TK
20	3/8 X 2 1/2 Safety Hitch Pin	H11
21	Bolt 3/8-16 X 2 1/2 GR 5	NB619
22	Washer 3/8 SAE	NB272
23	Nut 3/8-16 Nyloc	NB182
24	Tongue Weldment	11374TK
25A	Leg Support Bracket 1	11372TK
25B	Leg Support Bracket 2	11425TK
26	Leg Weldment	11371TK
27	Bolt 3/8-16 X 1 1/2 GR 5	NB107
28	1/8 X 1/2 #3 Woodruff Key	024002
29	Pump Pulley	7306
30	5/16-18 X 1/2 Set Screw w/Loctite	NB312
31	37" Belt	11399
32		
33	Idler Bushing	6037
34	Idler Spacer	6040
35	Idler Arm	6041TK
36	Idler Pulley	B527
37	Nut 3/8-16 2-Way Lock	NB280
38	Clutch Lever	11226TK
39	Handle Grip	2077
40	Clutch Spring	682S
41	Bolt 3/8-16 X 5 Turned Eye	11223
42	Tension Strap	11376TK
43	Axle Weldment	11370TK
44	Tire & Wheel	F4157WF
45	Washer 3/4ID X 1 1/4OD 10GA	NB184
46	Cotter Pin 1/8" X 1"	NB126



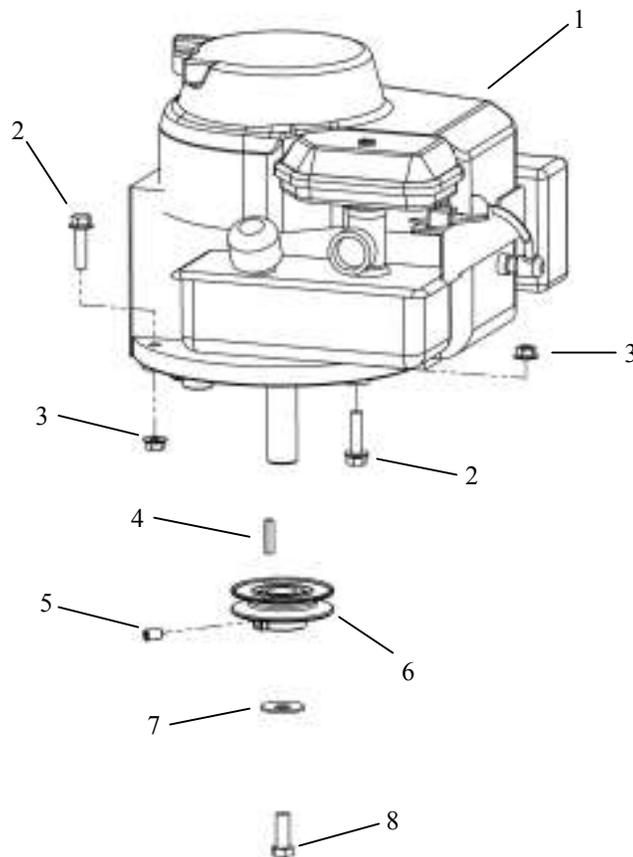
BEAM DETAIL

ITEM NUMBER	DESCRIPTION	PART NUMBER
1	Beam Weldment	11368TK
2	Push Weldment	11369TK
3	Push GIB Angle	11375TK
4	Bolt 3/8-16 X 1 Carriage	10503
5	Nut 3/8-16 Nyloc	NB182
6	Nut 1/2-13 Nyloc Jam	NB121
7	1/2-13 X 3 1/2 GR5 ZP	NB577
8	Ram Cylinder	11242TK
9	2-Way Pipe Nipple	7292
10	Hydraulic Fitting	7291
11	Stationary Line Assembly	7288TK
12	Valve Inlet Fitting	7387
13	Valve Control	7287TK
14	Return Line Fitting	7329
15	Master Chain Link	7424
16	Valve Control Handle	7423
17	Handle Grip	7425
18	1/4 X 1 Clevis Pin	NB522
19	Cotter Pin	NB597
20	Cylinder Retention Plate	11393TK
21	3/8" X 1 3/8" Hitch Pin	NB632
22	Bolt 5/16-18 X 1 1/4 HCC GR5	NB504
23	Washer 5/16" SAE	NB275
24	Latch Pin Bushing	7839Z
25	Washer 17/32 X 1 1/4 X 16GA	NB217
26	Nut 5/16-18 Nyloc Nut	NB181
27	Washer	TR150W

ENGINE DETAIL

LS422X MODEL

1	Engine	N/A
2	Bolt 5/16-18 X 1 1/4 Serr. Flange	NB253
3	Nut 5/16-18 Serr. Flange	NB170
4	3/16 X 1 Keystock	9030
5	5/16-18 X 1/2 Set Screw w/Loctite	NB312
6	Engine Pulley 3" X 7/8" ID	11398
7	Washer Belleville	699
8	Bolt 3/8-24 X 1 w/Loctite	NB238N



SPECIFICATIONS

	Models
	LS422X
Splitting Force	22 Tons
Engine	4 HP Briggs and Stratton Sprint
Splitting Positions	Horizontal
Cylinder Size	4" X 24"
Pump	2 Stage with Heavy Duty Bearings
Pump Specs	11 Gallons Per Minute
Valve	Auto Return
Drive System	Belt Drive with Clutch for Easy Starting
Hydraulic Fluid Cap.	16-17 Quarts
Maximum Log length	25"
Tire Specs	13.00 X 5.00
Metal Fenders	No
Ball Hitch	No
Unit Weight	355 Lbs



OWNER'S MANUAL

MODEL NO. LS422X

LOG SPLITTER

HOW TO ORDER REPAIR PARTS:

Each Log Splitter has its own serial number. Each engine has its own serial number. The serial number for the Log Splitter will be found on the right hand side of the hydraulic oil reservoir. The serial number for the engine will be found on the top of the blower fan housing.

All Log Splitter parts listed herein may be ordered directly from Swisher Mower & Machine Co. Inc., your nearest Swisher dealer, or from our website.

All engine parts may be ordered from the nearest dealer of the engine supplied with your log splitter. Parts subject to change without notice.

WHEN ORDERING PARTS, PLEASE HAVE THE FOLLOWING INFORMATION AVAILABLE:

- * PRODUCT – SWISHER LOG SPLITTER
- * SERIAL NUMBER - _____
- * MODEL NUMBER - _____
- * ENGINE MODEL NUMBER - _____
- TYPE - _____
- * PART NUMBER
- * PART DESCRIPTION

www.swisherinc.com
TELEPHONE - 1-800-222-8183
FAX - 1-660-747-8650

SWISHER MOWER & MACHINE CO. INC.
1602 CORPORATE DRIVE
WARRENSBURG, MO 64093

SWISHER MOWER & MACHINE CO. INC.