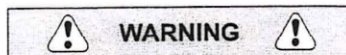


Recognizing Safety Warnings Used In Manual LOOK FOR THE SAFETY HAZARD WARNING SYMBOL



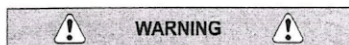
The symbol is used to alert the operator of safety hazards.
It is used in conjunction with the words DANGER, WARNING, and CAUTION.



"DANGER" identifies immediate hazards which will result in serious injury or death.

"WARNING" identifies potential hazards which could result in serious injury or death.

"CAUTION" identifies hazardous situations which may result in minor injury and/or could result in damage or destruction of equipment.



The Engine Exhaust From This Product Contains Chemicals Known to the State of California to Cause Cancer, Birth Defects or Other Reproductive Harm

Do not run the engine in an enclosed area. The exhaust gases contain carbon monoxide, an odorless and deadly poison.

Do not store, spill, or use gasoline near an open flame, nor near an appliance like a stove, furnace, or water heater that uses a pilot light or can create a spark.

Do not refuel indoors or in an unventilated area. Check the fuel level. Do not over fill. Do not add fuel while the machine is hot because spilled fuel may cause a fire. Use fresh gasoline. Stale fuel can gum the carburetor and can cause leakage. Check the fuel lines and fittings frequently for cracks and leaks. Replace if necessary.

Do not remove the fuel tank cap or fill fuel tank while the engine is hot or running. Allow the engine to cool before refueling.

Do not operate the engine if gasoline is spilled or when the smell of gasoline is present or other explosive conditions exist. Move the equipment away from the spill and avoid any ignition until the gasoline has evaporated.

Do not transport the engine with fuel in the tank.

Do not start the engine with the air cleaner and/or the air cleaner cover removed.

Do not choke the carburetor to stop the engine. Whenever possible, gradually reduce the engine speed before stopping.

Do not tamper with the governor springs, links or other parts to increase the engine speed. Run the engine at the speed set by the equipment manufacture.

Do not check for a spark with the spark plug removed. Use an approved tester. Do not crank the engine with the spark plug removed. If the engine is flooded, place the throttle in fast and crank until the engine starts.

Keep the cylinder fins and the governor parts free of dirt, grass, and other debris which can affect engine speed.

Do not operate the machine without a muffler. Inspect the muffler periodically and replace it if it is leaking or worn. If necessary, replace it with correct muffler. Do not touch a hot muffler, cylinder, or fin. It may cause burns. Do not operate the engine with an accumulation of grass, leaves, or other combustible material in the muffler area.

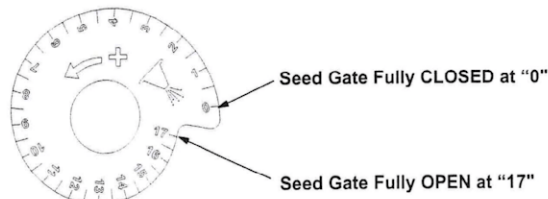
Do not use the engine on any forest covered, brush covered, or grass covered unimproved land unless a spark arrester is installed in the muffler. The spark arrester must be maintained in working order by the operator. In the State of California, the above is required by law (Section 4442 of the California Public Resources Code). Other state may have similar laws. Federal laws apply on federal lands.

Seed Application Chart

The following chart can be used to calculate the setting of the LS-22 seed gate dial. The settings are all approximate. Actual seed application rates will vary depending on the seed size and shape

FIGURE 3

Seed Gate Dial



Type Of Seed	Units	Approximate Pounds Of Seed Per 1000 Square Feet At 2.5 Mph (Kilograms Of Seed 92.9 Square Meter At 4 Km/H)																
		SEED GATE DIAL SETTING																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Bluegrass	Lbs.			0.3	1	1.3	1.7	3.7	5	7.5	8.2	10.2						
	(Kg.)			(0.13)	(0.45)	(0.58)	(0.77)	(1.68)	(2.27)	(3.40)	(3.72)	(4.63)						
Fescue	Lbs.			0.2	0.3	0.5	0.8	1	1.5	2.4	3.2	3.7	4	5.2	6	6.5	7	
	(Kg.)			(0.09)	(0.14)	(0.23)	(0.36)	(0.45)	(0.68)	(1.08)	(1.45)	(1.68)	(1.81)	(2.36)	(2.72)	(2.95)	(3.18)	
Perennial Ryegrass	Lbs.			0.3	1.4	2.1	2.4	3.3	5	7.3	11.9	14	15	16				
	(Kg.)			(0.14)	(0.63)	(0.95)	(1.08)	(1.50)	(2.27)	(3.31)	(5.40)	(6.35)	(6.80)	(7.26)				
Mixture	Lbs.		0.2	0.4	0.8	1.3	1.4	3.5	4	6.5	9.2	13.6	15.2	16.4	17.6			
	(Kg.)		(0.09)	(0.18)	(0.36)	(0.59)	(0.63)	(1.59)	(1.81)	(2.95)	(4.17)	(6.17)	(6.90)	(7.44)	(7.98)			

Area Conversion Chart In Square Feet and Square Yards

Size of Area To Be Seeded In Feet	Total Area in Square Feet	Total Area in Square Yards
25 x 25	625	69
25 x 50	1,250	139
50 x 50	2,500	278
50 x 75	3,750	417
75 x 75	5,625	625
75 x 100	7,500	833
100 x 100	10,000	1,111
100 x 150	15,000	1,667
150 x 150	22,500	2,500

Area Conversion Chart In Square Meters

Size of Area To Be Seeded In Meters	Total Area in Square Meters
8 x 8	64
8 x 15	120
15 x 15	225
15 x 23	345
23 x 23	529
23 x 30	690
30 x 30	900
30 x 45	1,350
45 x 45	2,025

Before filling, check the hopper for moisture or wet spots that could cause the seed to stick together. Hopper and seed gate should be clean and dry.

Close the seed gate and completely fill the hopper. Seed must be clean and dry for proper flow thru the seed gate. Always keep the lid closed during operation to avoid contamination of the seed.

SETTING SEED GATE DIAL (See Figure 4)

The seed gate dial is marked "0" thru "17". At "0" the gate is fully closed, at "17" the gate is fully open. See the chart on the inside of the hopper lid for an approximate setting to control the rate of seed application. Because of

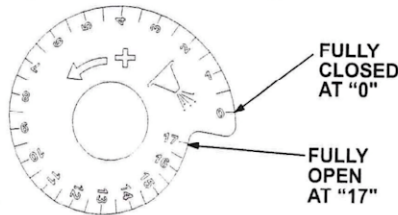


FIGURE 4

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the differences in seed size and shape, seed application rate can vary from the chart. Turn the dial and lock into position at the desired setting.

Note: Seed will begin to flow from the hopper as soon as the seed gate is opened, especially when a larger gate setting is used. Because of this, the seeder should be moving forward with the blade assembly operating before opening the seed gate. Never stop without closing the gate as seed will continue to flow out on the turf.

ENGINE STARTING INSTRUCTIONS



DANGER

TO AVOID SERIOUS INJURY, Keep Hands and Feet Away From the Blades.

Keep hands and feet away from the blade assembly. Ensure that the engine oil levels are correct and that the gas tank has been filled 3/4 full with the proper grade of fuel.

Step 1. Move the LS-22 Lawn Seeder to the turf area.

Step 2. Check that the fuel shut-off valve is in the "ON" position. Check that engine On/Off switch is in the "ON" position.

Step 3. Ensure that the wheel lift handle is pushed forward in the "Blades Up" position. Blades must not be touching the turf.

Step 4. Set the throttle and Choke controls. Pull starter rope to start engine. Allow engine to warm up at idle speed. Reset throttle to desired speed.



WARNING

TO AVOID SERIOUS INJURY, Do Not Operate Aerator On Slopes Over 15° Degrees. LS-22 Can Tip, Roll Over, Or Roll Back Onto Operator If Operated On Steep Slopes.

Note: Some models of Honda engines are equipped with an "Oil Alert System" that detects insufficient oil levels in the engine crankcase. If the Dethatcher 22 is operated on a slope, the "Oil Alert System" may cause the engine to shut down.

Ground Operating Speed: Seed application rates are based on a walking/operating speed of 4.0 Km/h (2.5 mph). Always move at the same pace to ensure even distribution of the seed, especially when a larger seed gate opening is being used. Operating at a constant even speed will obtain the best results.

LS-22 LAWN SEEDER OPERATION



WARNING

TO AVOID SERIOUS INJURY, Move To the Operator's Position Behind The Handlebar Before Engaging Any Operator Control Handle.

Always Slowly Engage The Clutch Handle.

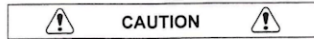
Follow all safety precautions and wear the appropriate safety gear.

Be Aware Of Others In The Worksite. Keep Observers, Especially Children, Away From The LS-22 During Operation. The LS-22 Blades Can Throw Objects.

Maximum Angle Of Operation: Do not operate the LS-22 Lawn Seeder on steep slopes. Maximum angle of operation is 15° degrees. Serious injury can occur if the operator slips and gets feet or hands caught in the revolving blade assembly. When operated on steep slopes or when operated in an unsafe manner, the LS-22 can tip, roll over, or roll back on to the operator. When seeding on a slope of 15° degrees or less, never operate straight up or down the slope. Approach a slope moving back and forth across the slope.

LS-22 Seeder Operation: Refer the section "Lawn Seeding" in this manual for pre-seeding instructions and for the best seeding pattern for the area being seeded.

Move the LS-22 to the turf before lowering the blade assembly. To prevent damage, do not operate the LS-22 across rock covered areas or over obstacles. Do Not move from turf to pavement with the blades down.



CAUTION

TO AVOID DAMAGE TO THE BLADES, Do Not Move From The Turf To The Pavement With The Blades Down.

If The Blade Strikes An Object, STOP THE ENGINE And Inspect The Blades And The Object. Replace Any Bent Or Broken Blades.



When inspecting the blade assembly, stop the engine and move to a level surface. Use caution and wear the proper protective items when working around the blades.

Step 1. Move the LS-22 to the turf.

Step 2. With the engine running, slowly engage the clutch to start the blades assembly.

Step 3. Lower the blades to the turf by pulling back on the wheel lift handle. Start pushing forward.

Step 4. Open Seed Gate.

To Stop Operation or to turn the LS-22 at the end of a row, close the seed gate, release the clutch, and raise the blades. Swivel on the rear wheels and continue the next row. **Do Not Attempt to make turns with the blades down and the clutch engaged.**

Checking Results: Operate a few feet, close the seed gate and **STOP THE ENGINE!!** Examine the depth of cut and the rate of seed application. The blades should be cutting into the soil approximately 3 mm to 6 mm (1/8" to 1/4"). Seed should be dispensed evenly along the test area. Readjust as needed and continue operation. Always stop the engine when adjusting any part of the LS-22 Lawn Seeder.



WARNING

TO AVOID SERIOUS INJURY, Always Allow the Blade Assembly To Stop Rotating Before Lifting or Tilting The LS-22.

Never Place Hands or Feet Under the LS-22 Deck Until the Engine Is Stopped and Blade Assembly Has Stopped Rotating.

Operator Daily Inspection



TO AVOID SERIOUS INJURY, Never Perform Any Inspection With the LS-22 Lawn Seeder Engine Running. Wear the Appropriate Safety Gear and Follow All Safety Warnings.

Before each use, check the following items. Refer any repairs to service personnel.

- Inspect for damaged, inoperable, or missing components or missing guards. Do not operate any machine with missing, inoperable, damaged components or guards.
- The seeder operates with vibration. Before and after each use, check and retighten any loose nuts and bolts.
- Inspect fuel levels. Do not fill fuel tank over 3/4 full.
- Check for proper lubrication of the entire machine.
- With the engine setting level, check for proper oil levels in the engine.
- Check condition and sharpness of the blades.
- Inspect all controls for proper operation. Do not operate any machine with missing, inoperative or damaged controls.
- Check for a buildup of dirt or debris on the machine. Clean the machine before each use. Do not high-pressure wash.
- Check the inside of the seed hopper. Hopper should be clean and dry. Look for debris caught in seed gate holes. Seed gate should operate without excessive force needed to move handle.