

MODEL: <u>Hydro Drive Spray Pump</u>





MADE IN THE USA

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GENERAL INFORMATION

Thank you for your purchasing a Steel Green machine! Please read and understand this manual before operating this piece of equipment. This manual will assist you in areas of operation, safety, and maintenance. Any unresolved question can be directed to Steel Green Mfg. We at Steel Green are excited to hear feedback from our customer base so we can continue to provide you with the most productive and efficient equipment possible.

NOTE: This manual and all information and illustrations were accurate at the time of publication. Steel Green Mfg. reserves the right to make changes without notice.

IMPORTANT: READ SAFETY RULES AND INSTRUCTIONS CAREFULLY.

WARNING!

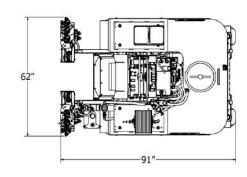
Steel Green units are equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester 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. A spark arrester for the muffler is available through your nearest engine authorized service dealer or contact the service department

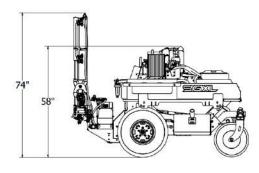
Serial Number:	
Date Purchased:	
Dealer Name:	
Dealer Phone Number:	

SPECIFICATIONS

Dimensions:

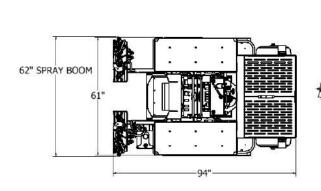
SGXL SPRAY SYSTEM

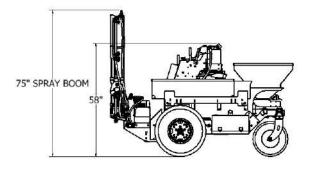




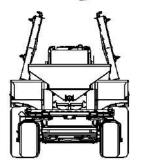


SGXL FERT SYSTEM









4

SPECIFICATIONS

DESCRIPTION	SGXL SPRAY SYSTEM	SGXL FERT SYSTEM				
Weight	1750	1580				
Front tire	18X	18X9.5X8				
Rear tire	26X:	26X14X12				
Spray Capacity	120 gal.	N/A				
Spray Width	15' N/A					
Hopper Capacity	N/A 350 lbs.					
Variable Spread Width	N/A Up to 25'					
Fuel Capacity	8 gal.					
Transport Speed	Up to 12 mph					
Rate Production	120,000 sq. ft. per fill based on 1 gal. spray nozzles N/A					

SAFE OPERATION

CAUTION!

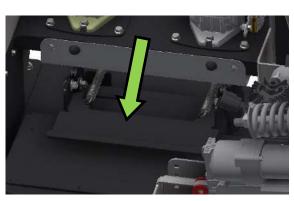
THE FOLLOWING IMPORTANT SAFETY INSTRUCTIONS WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE YOUR UNIT. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

GENERAL OPERATION

- Do not operate the machine while under the influence of alcohol or drugs.
- Only allow responsible adults, who have practiced driving a zero radius SG unit and are familiar with the instructions to operate the machine. Local restrictions may restrict the age of the operator.

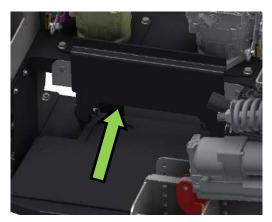
PARKING BRAKE OPERATION

To engage the parking brake, push the peddle down.



BRAKE ENGAGED

To release the parking brake, pull the peddle up.



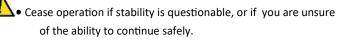
BRAKE DISENGAGED



RE-FUELING

- ALWAYS STOP THE ENGINE and allow it to cool before refueling. NEVER remove the gas cap to add fuel while the engine is running, and never fill the gas tank on an engine that has been running and is still hot - gas spilled on a hot engine can ignite.
- Never smoke while refueling.
- Do not overfill fuel tank.
- Follow warning label on fuel tank.

SLOPE OPERATION



- Keep alert for hidden hazards on the terrain.
- Stay away from drop-offs, ditches and embankments.
- Never operate on slope angles greater than 13° with the SG in its basic configuration. The basic configuration is the SG with hopper and no other attachments. (A 13° slope is a slope that rises 1.4 m (4.6 ft) over a horizontal distance of 6.1 m (20 ft.).
- When using attachments, never operate the SG on slope angles greater than 10°. The addition of an extra tank, or other attachments will increase the risk of a rollover. (A 10° slope is a slope that rises 1 m (3.5 ft) over a horizontal distance of 6.1 m (20 ft).



Setup Mode

Overview:

Description: Setup mode is crucial for Striker to operate correctly.

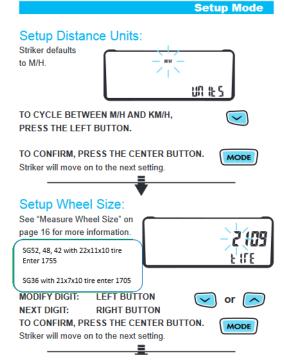
SETTINGS ORDER	VALUE	DEFAULT
A. Distance Units	KM/H or M/H	M/H
B. Tire Size	Millimeters	2109mm
C. Clock	12Hr or 24Hr	12Hr
	Time-of-Day	12:00:00
D. Temperature	⁰F or ⁰C	٩F
E. LED Alerts	Temperature High Alert	000°
	Temperature Danger Alert	000°
	Voltage Low Alert	0V
	Voltage Danger Alert	0V
F. Maintenance	Oil Countdown	0000 M/H
	Care Countdown	0000 M/H
G. AVG SPD	Screen 2 or 3	Screen 3
H. Distance	Resolution	Res 2

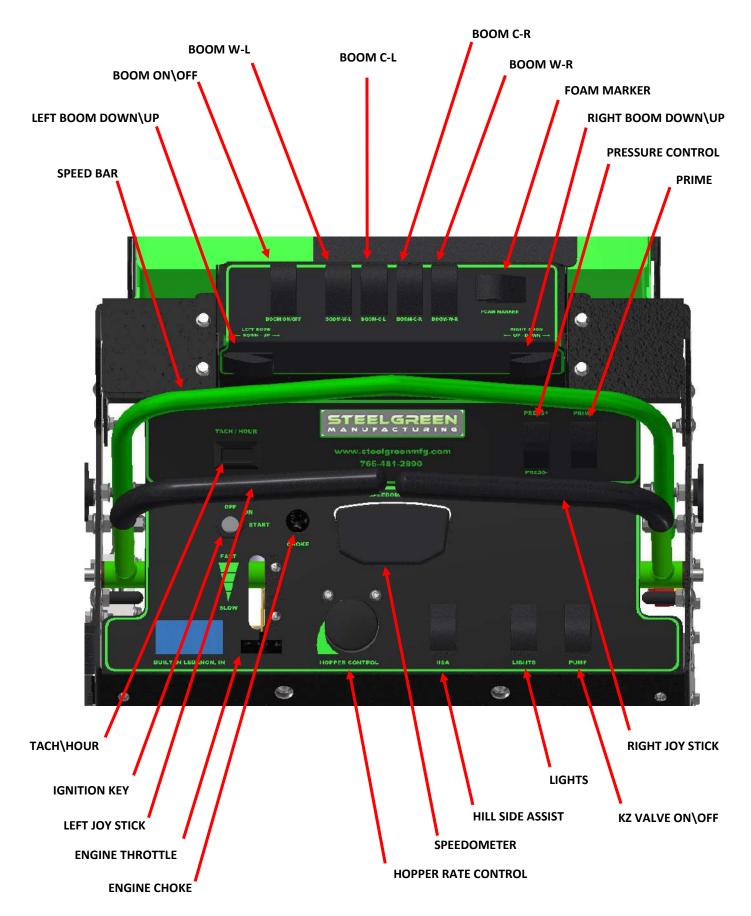
Enter Setup Mode: HOLD DOWN ALL THREE

BUTTONS FOR 3 SECONDS.



All segments on the screen will turn black. Release to continue.







- Move the throttle lever about half throttle.
- Pull the choke out.
- Turn the key to start the machine.
- Push the choke back in once the machine is running.

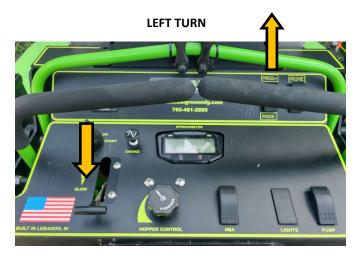


JOY STICKS:

- The left joy stick maneuvers the left tire forward and reverse.
- The right joy stick maneuvers the right tire forward and reverse.

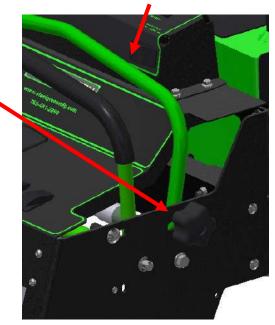
DRIVING THE MACHINE:

- Move both joy sticks forward to drive forward.
- Move both joy sticks back to drive in reverse.
- To maneuver a left turn move the right joy stick forward and pull the left one back.
- To maneuver a right turn move the left joy stick forward and pull the right one back.





SPEED BAR



SPEED BAR:

- The speed bar is used to set the maximum speed for spray applications.
- Adjust the speed bar by loosing the black knobs on both sides.
- Move both the joy sticks and speed bar together to set the desired max. speed and tighten the knobs.

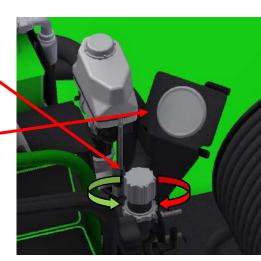
CONTROLS AND OPERATION (PUMP)

SPRAY PUMP CONTROL

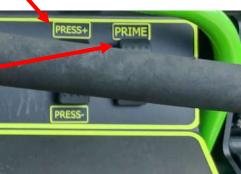
- To engage the spray pump on, push the lever forward to the "lock" position.
- To disengage the spray pump, move the lever to the right to unlock it and pull it back.
- Set the Sparger tube pressure by turning the throttle valve.
- Pressure is *increased* by turning the throttle valve clockwise (right) and *decreased* by turning it counter-clockwise (left).
- measured by the pressure gauge.
- Turn the KZ valve on by pressing the "pump switch"
- Set the spray pressure Increase or decrease the spray pressure by pressing the pressure switch "press +" or "press -"

NOTE: You can increase or decrease the spray pressure one psi at a time by bumping the switch or press and hold the switch + or - to increase or decrease spray pressure.

- Use the *Spray Calibration Chart* to determine the desired spray pressure.
- If the tank is out of liquid press the prime switch to hold the system wide open to prime. Once the prime switch is off it will return to desired spray pressure.



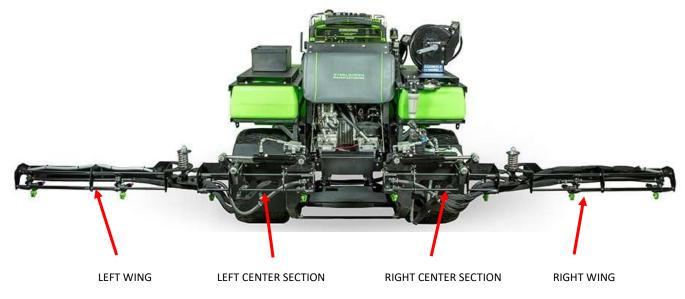






CONTROLS AND OPERATION (SPRAYER)

The spray boom consists of 4-sections: Left Wing, Center Left Section, Center Right Section, & Right Wing (see below).



SPRAYER CONTROLS



- Each boom section\wing holds 2 nozzles.
- The spray boom can be raised or lowered individually by pressing the up\down buttons. You can stop the booms at level or they can be positioned -15° for hill side spray (see Fig. 1).
- Each section of the boom is controlled by an electronic spray valves. To power the boom, press the boom on\off button to the "ON" position, then press the desired section or sections button you wish to spray with.



CONTROLS AND OPERATION (LIQUID) HOSE REEL OPERATION

- The SGXL model is equipped with a 100' Hose Reel. This is meant to assist with spot spraying and or areas that are not able to be reached by the Machine.
- To operate, engage the spray pump, make sure the boom switches are turned off.
- Use the proper pressure dictated in the Spray Calibration chart.
- To activate the hose reel, open the chrome valve.
- To apply press the handle together and mimic the spray pattern from the boom.

NOTE: Make sure the Hose Reel Valve is turned off while not in use. Otherwise back pressure may be created and will cause the nozzle tips to drip.





SPRAY CHART

	STANDARD VOLUME SPRAY CHART											
								20	"			
		DROP	CAPACITY ONE	CAPACITY ONE	GF	PA	GA	ALLONS	PER 100	0 SQ F1	Γ IN MP	Н
NOZZLE	PSI	SIZE	NOZZLE IN GPM	NOZZLE IN OZ\MIN.	4 MPH	5 MPH	3	4	5	6	7	8
	30	С	0.13	17	9.7	7.7	0.29	0.22	0.18	0.15	0.13	0.11
AVI-11015	40	С	0.15	19	11.1	8.9	0.34	0.26	0.2	0.17	0.15	0.13
(100)	50	С	0.17	22	12.6	10.1	0.39	0.29	0.23	0.19	0.17	0.14
	60	М	0.18	23	13.4	10.7	0.41	0.31	0.24	0.20	0.17	0.15
	30	VC	0.17	22	12.6	10.1	0.39	0.29	0.23	0.19	0.17	0.14
AVI-11002	40	С	0.2	26	14.9	11.9	0.45	0.34	0.27	0.23	0.19	0.17
(50)	50	С	0.22	28	16.3	13.1	0.5	0.37	0.3	0.25	0.21	0.19
	60	С	0.24	31	17.8	14.3	0.54	0.41	0.33	0.27	0.23	0.20
AVI-	30	XC	0.22	28	16.3	13.1	0.5	0.37	0.3	0.25	0.21	0.19
	40	VC	0.25	32	18.6	14.9	0.57	0.43	0.34	0.28	0.24	0.21
1110025	50	С	0.28	36	21	16.6	0.63	0.48	0.38	0.32	0.27	0.24
(50)	60	С	0.31	40	23	18.4	0.7	0.53	0.42	0.35	0.30	0.26
AV// 44002	30	XC	0.26	33	19.3	15.4	0.59	0.44	0.35	0.29	0.25	0.22
AVI-11003	40	VC	0.3	38	22	17.8	0.68	0.51	0.41	0.34	0.29	0.26
(50)	50	С	0.34	44	25	20	0.77	0.58	0.46	0.39	0.33	0.29
AV/L 11004	30	XC	0.35	45	26	21	0.79	0.6	0.48	0.40	0.34	0.30
AVI-11004	40	XC	0.4	51	30	24	0.91	0.68	0.54	0.45	0.39	0.34
(50)	50	VC	0.45	58	33	27	1	0.77	0.61	0.51	0.44	0.38
AV/L 1100E	30	XC	0.43	55	32	26	0.97	0.73	0.58	0.49	0.42	0.37
AVI-11005	40	XC	0.5	64	37	30	1.1	0.85	0.68	0.57	0.49	0.43
(50)	50	VC	0.56	72	62	33	1.3	0.95	0.76	0.63	0.54	0.48
AVI-11006	30	XC	0.52	67	39	31	1.2	0.68	0.71	0.59	0.51	0.44
	40	XC	0.66	77	45	36	1.4	1	0.82	0.75	0.64	0.56
(50)	50	VC	0.67	86	50	40	1.5	1.1	0.91	0.76	0.65	0.57
			1	HIGH VOLUME SI	PRAY CH	ART (XR	C TIPS)					
	15	VC	0.61	78	45	36	1.4	1	0.83	0.69	0.59	0.52
VDC14040	20	С	0.71	91	53	42	1.6	1.2	0.97	0.80	0.69	0.60
XRC11010	30	С	0.87	111	65	52	2	1.5	1.2	0.99	0.85	0.74
	40	М	1	128	74	59	2.3	1.7	1.4	1.13	0.97	0.85
	15	VC	0.92	118	68	55	2.1	1.6	1.3	1.04	0.89	0.78
VDC14045	20	VC	1.06	136	79	63	2.4	1.8	1.4	1.20	1.03	0.90
XRC11015	30	VC	1.3	166	97	77	2.9	2.2	1.8	1.47	1.26	1.11
	40	С	1.5	192	111	89	3.4	2.6	2	1.70	1.46	1.28
	15	XC	1.22	156	91		2.8	2.1				
VDC14020	20	XC	1.41	180	105		3.2	2.4				
XRC11020	30	VC	1.73	221	128		3.9	2.9				
	40	VC	2	256	149		4.5	3.4				
			-									

GPM = <u>GPA x MPH x W</u>

(per nozzle)

 $1/\min = \frac{1/ha \times km/hr \times W}{2}$

(per nozzle) 60,000

GPM = Gallons per minute

GPA = Gallons per acre

MPH = Miles per hour

GAL/1000FT2 = Gallons per 1000 square feet

 $GPM = GAL/1000FT^2 x MPH x W$

5,940

(per nozzle) 136

MPH x W

 $GAL/1000FT^2 = 136 \times GPM (per nozzle)$

W = Nozzle spacing (in or cm) for broadcast spraying

CARE & MAINTENANCE

WARNING!

- Do not operate the engine in a confined space where carbon monoxide and other fumes can accumulate.
- Never lubricate, service, or adjust the machine or spreader while it is moving or running.
- Keep hands, feet, clothing, hair, and loose items away from any moving parts.

CAUTION!

- Understand service and maintenance procedure before performing any work on this machine or spreader.
- Disconnect the battery before making any repairs.
- Keep all parts in good condition & operating properly.
- Fix damages immediately. Replace all worn or damaged parts.
- Check all hardware at frequent intervals to ensure they are tight.

MAINTENANCE TIPS

- Always avoid letting product sit in the tank and pump for an extended period of time.
- Blowing off unit is preferred over washing. But if washing unit dry it off as best as possible.
- Refer to engine owner's manual for all other specs.

WINTERIZATION

- Proper winterization of the spray system helps to prevent damage to the system due to wintertime freezing. Follow these easy steps:
- 1 Drain all of the remaining liquid from the tank and spray system.
- 2 Fill the tank with enough RV antifreeze to fill the entire system.
- 3 Turn on the liquid pump and open all boom valves until solution is visible out of spray nozzles. Close boom valves.
- 4 Open valve for hose reel and begin spraying solution thru the nozzle.
- 5 Put the recommended amount of fuel stabilizer and (follow label for instructions).

CARE & MAINTENANCE

SUGGESTED SERVICE	ACTION	DAILY	WEEKLY	BI-WEEKLY	MONTHLY	YEARLY	HOURS
Front Caster Wheels	Grease (see next page)				Х		
Front Caster Yoke	Grease (see next page)				Х		
Front Tire Pressure	24PSI		Х				
Front Tire Bearing	Preload				Х		
Rear Tire Pressure	26PSI		Х				
Rear Lug Nut	Torque 75Lbs				Х		
Rear Hub Castle Nut	Check the cotter pin				Х		
Frame Hardware	Check all bolts & fasteners				Х		
Idler Pully Arm	Grease (see next page)				Х		
Belt Wear	Cracks, Tears, Missing Material				Х		
		•					•
Engine Carburetor	Lube Cable Linkages			Х			
	Check	Х					
Engine Oil	Change						
Engine Air Filter							100 Hrs.
Engine Air Pre-Filter			Х			Replace	
Engine Fuel Filter	Check/Change if needed						
Engine Spark Plugs						Replace	
						.	
Hydraulic Oil							F 0 0 1 1
Hydraulic Oil Filter	Change						500 Hrs.
Hydraulic Oil Level	Check	Х					
Hydro System Fittings	Check for leaks		Х				
Chemical Leaks							
Spray Nozzle Tips							
Spray Nozzle Tip Screens		x					
Spray Gun Tip							
Spray Nozzle Gasket	Check						
Spray System Hoses			Х				
In-Line Filter		Х					
In-Line Filter Gasket		Х					
Spray Gun Hose Reel			Х				
	schedule above is recommended fo	or norma		enance will ve	ery for heavie	r use.	ı
Steel Green Mfg. reserves th	ne right to determine usage.						

CARE & MAINTENANCE

GREASE POINTS

- There are 5 grease points on the SGXL.
- 1 on each front tire.
- 1 on each of the castor tubes
- 1 on the idler arm

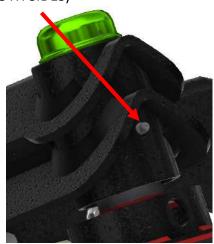


Idler Arm grease point

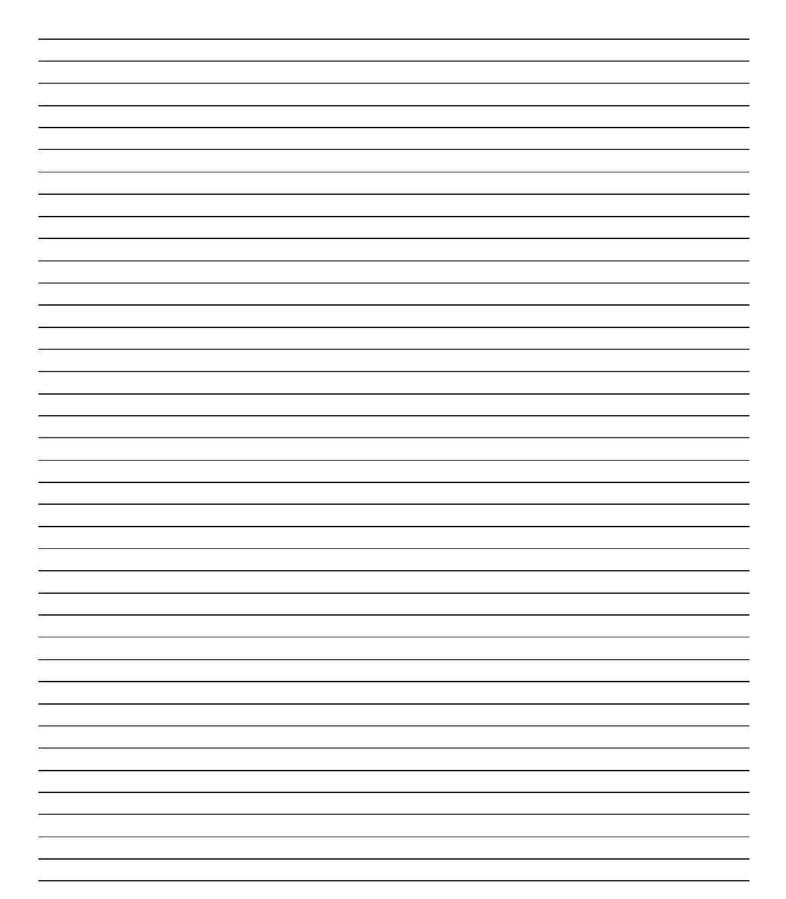
Castor Tube Grease Point (BOTH SIDES)



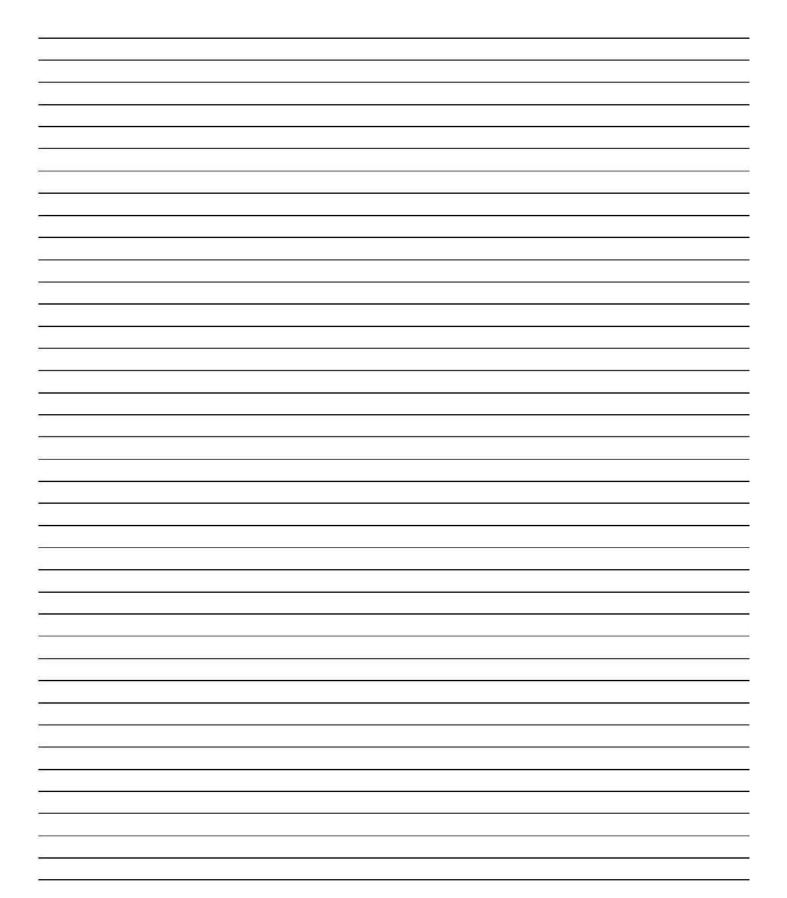
Tire Grease point (BOTH FRONT TIRES)



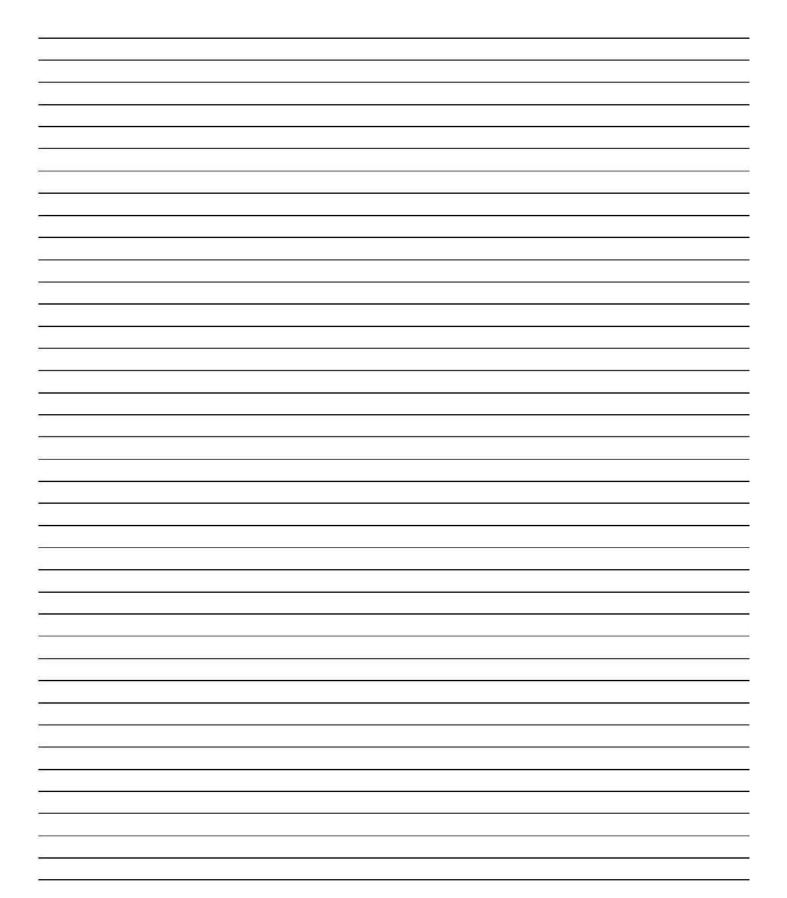
NOTES



NOTES



NOTES



Steel Green Manufacturing, LLC

1-Year Limited Warranty

A. WHAT IS COVERED – This Warranty applies to equipment having model numbers SG52, SG46, SG42, and SG36 ("Equipment") manufactured by Steel Green Manufacturing, LLC, an Indiana limited liability company ("Steel Green"). This Warranty only applies to Equipment purchased directly from Steel Green or an authorized dealer or distributor of the Equipment ("Authorized Dealers") in the United States. Except for Excluded Parts (as hereinafter defined), Steel Green agrees to repair or replace, at its option, any original component of the Equipment that is defective in material or workmanship (collectively "Warranty Service"). This Warranty begins on the date the product is delivered to the original purchaser and continues for a period of twelve (12) months thereafter (the "Warranty Term").

- B. WHAT IS NOT COVERED This Warranty does not apply to the following categories of equipment: (1) used Equipment, unless there has been an Approved Transfer (as hereinafter defined); or (2) Equipment that has been altered or modified in ways not approved by Steel Green, including, but not limited to, setting injection pump fuel delivery above specifications stated in the owner's manual. Furthermore, this Warranty does not apply to damage due to any of the following: (1) normal wear and tear; (2) the failure to perform reasonable and proper maintenance; (3) the failure to follow instructions and recommendations in the owner's manual; (4) negligent or intentional misuse; (5) failure to properly store the Equipment; (6) vandalism; (7) the elements and inclement weather; or (8) collision or accident. "Excluded Parts" means the following parts, which are not covered by and are expressly excluded from this Warranty: (1) consumable parts, such as oil, filters, belts, brakes, and spark plugs; (2) tires; (3) batteries; and (4) the engine. The manufacturers of the Excluded Parts may provide a separate warranty. See manufacturers' manuals for details.
- C. WHO IS COVERED This Warranty extends to the original purchaser of the Equipment who completes and returns the warranty registration card included with the Equipment to Steel Green and to any subsequent owner (collectively "you"), provided the subsequent owner notifies Steel Green of the change in ownership and Steel Green approves the transfer of this Warranty ("Approved Transfer"). An Approved Transfer does not extend the Warranty Term.
- D. HOW IS WARRANTY SERVICE OBTAINED To obtain Warranty Service, you must: (1) report the Equipment defect to Steel Green within the Warranty Term; and (2) deliver the Equipment for Warranty Service within a reasonable time thereafter. All Warranty Service must use new or remanufactured parts or components furnished or approved by Steel Green and must be performed by Steel Green, an Authorized Dealer, or a service center approved by Steel Green ("Authorized Service Center"), as directed by Steel Green. This Warranty only covers the costs of parts and labor associated with Warranty Service. You are responsible for delivering the Equipment for Warranty Service, at your sole cost and expense. Steel Green is not responsible for any costs or liability associated with any pickup, delivery, or other transportation required to obtain Warranty Service.
- E. ADDITIONAL LIMITATIONS AND EXCLUSIONS Except as expressly provided herein, Steel Green makes no warranties, representations, conditions or promises, express or implied, as to the quality, performance or freedom from defect of the Equipment covered by this Warranty. STEEL GREEN DOES NOT MAKE ANY STATUTORY OR IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND SUCH WARRANTIES ARE EXPRESSLY DISCLAIMED. TO THE EXTENT THEY ARE LEGALLY REQUIRED, ANY IMPLIED WARRANTIES OR CONDITIONS SHALL BE LIMITED IN DURATION TO THE WARRANTY TERM.

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STEEL GREEN'S ONLY LIABILITY WITH RESPECT TO THIS WARRANTY AND YOUR EXCLUSIVE REMEDY SHALL BE FOR THE REPAIR OR REPLACEMENT OF PARTS AS SET FORTH HEREIN. NO CLAIM FOR BREACH OF WARRANTY SHALL ENTITLE YOU TO CANCELLATION OR RESCISSION OF THE PURCHASE OF THE EQUIPMENT.

IN NO EVENT WILL ANY AUTHORIZED DEALER, ANY AUTHORIZED SERVICE CENTER, STEEL GREEN OR ANY COMPANY AFFILIATED WITH STEEL GREEN BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. Examples of such damages include, but are not limited to: (1) the loss or damage to person or property other than that covered by this Warranty; (2) attorneys' fees; (3) claims for lost revenue or lost profits; and (4) rental costs of similar equipment to the Equipment.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR LIMITATIONS ON THE DURATION OF AN IMPLIED WARRANTY, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, BUT YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

- F. NO OTHER WARRANTIES NO OTHER PERSON OR ENTITY, INCLUDING ANY AUTHORIZED DEALER, HAS AUTHORITY TO MAKE ANY WARRANTY, REPRESENTATION, CONDITION OR PROMISE ON BEHALF OF STEEL GREEN, OR TO MODIFY THE TERMS OR LIMITATIONS OF THIS WARRANTY IN ANY WAY, WHETHER ORALLY OR IN WRITING. STEEL GREEN MAKES NO OTHER WARRANTY RELATED TO THE EQUIPMENT OR ANY OTHER ITEM UNLESS IT DELIVERS TO YOU A SEPARATE WRITTEN WARRANTY.
- **G. CONTACT** To obtain a replacement warranty registration card or report a defect in any Equipment, to find the nearest Authorized Dealer or Authorized Service Center or report your dissatisfaction with their assistance, or to otherwise obtain information regarding this Warranty, please contact Steel Green.

Steel Green Manufacturing LLC Attn: Customer Service 824 S State Road 39 Lebanon, Indiana 46025 (765) 481-2890 sales@steelgreenmfg.com Steelgreenmfg.com



WARRANTY REGISTRATION FORM

Fill out form completely and return to Steel Green Manufacturing

Email: sales@steelgreenmfg.com

Mail: 824 S State Road 39, Lebanon, IN 46052

CONTACT INFORMATION

Company Name:			
Contact Name:		<u>_</u>	
Street:			-8
City:	State:	ZIP Code:	-8
Phone:	Emai	i:	_33

MACHINE INFORMATION

Serial Number:	Date of Purchase:			
Dealer Name:				
Street:			-02	
City:	State:	ZIP Code:		
Phone:	Salesperson	Ŋ		

824 S State Rd 39 | Lebanon, IN 46052 (765) 481–2890 steelgreenmfg.com





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OPERATORS MANUAL					
PART NO.	REV.	DESCRIPTION			
SGOM-002	С	OPERATORS MANUAL, SGXL SERIES TEMP			