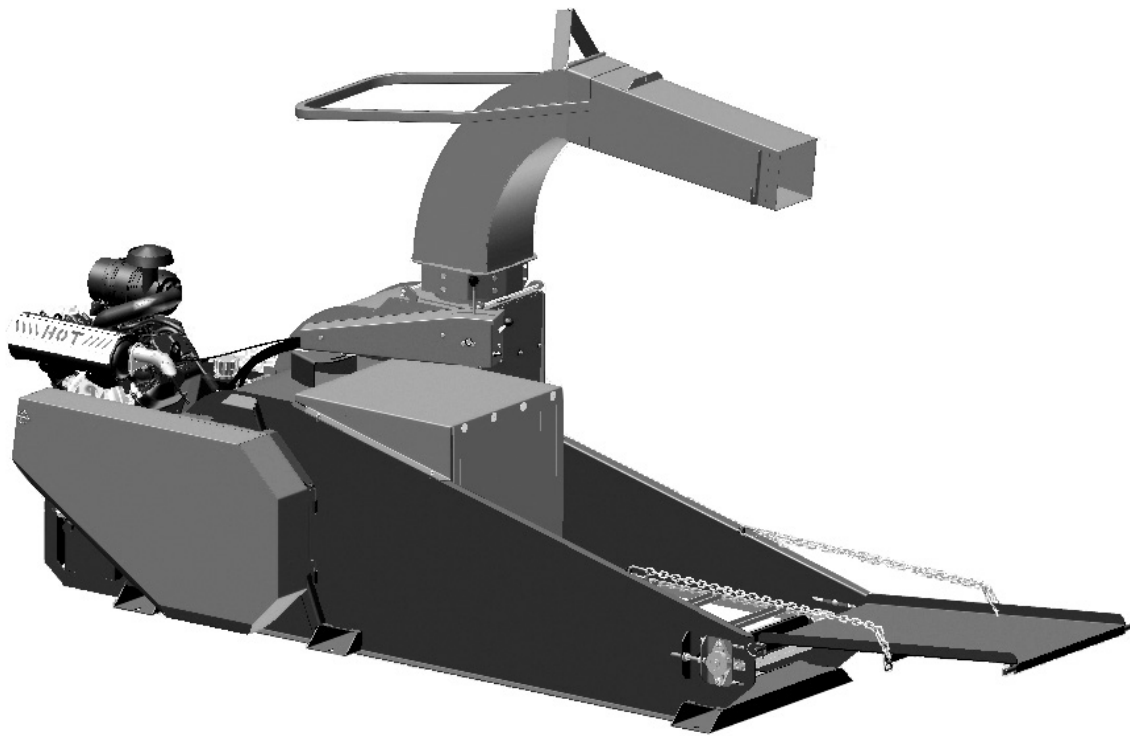


HARPER[®]

Goossen Straw-Blower

Operator's Manual



SB3500

Thank you for purchasing a Harper/Goossen Straw Blower.

As with all Harper/Goossen products, the Harper/Goossen Straw Blower has been developed through tough design and testing procedures to produce a machine that can be relied on. This manual gives assembly, operating, and service information for Model **SB3500** Straw Blowers. Please read and understand all instructional material included with the Straw Blower or its components before assembling and operating the equipment.

A Straw Blower can present hazards to an operator who follows unsafe procedures in either the operation or maintenance of the unit. Therefore, **SAFETY WARNINGS** are presented at certain locations in the text.

SYMBOL:  **SAFETY WARNING!**

MEANING: Failure to understand and obey this warning may result in injury to you or others.

Whenever this symbol is used, please pay very close attention to the information presented, and make sure you fully understand. If you do not any part of this manual, contact your dealer or Harper Industries, Inc. for clarification.

 **SAFETY WARNING!**

ALL SHIELDS AND GUARDS MUST BE IN PLACE FOR PROPER AND SAFE OPERATION OF THIS EQUIPMENT. WHERE THEY ARE SHOWN REMOVED IN THIS MANUAL, IT IS FOR PURPOSES OF ILLUSTRATION AND INSTRUCTION ONLY. DO NOT OPERATE THIS EQUIPMENT UNLESS ALL SHIELDS AND GUARDS ARE IN PLACE.

Harper Industries, Inc. is continually striving to improve the design and performance of its products. We reserve the right to make changes in specifications and design without thereby incurring any obligation relative to previously manufactured products.

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LIMITED WARRANTY

The Harper/Goossen Straw Blower is warranted against defects in workmanship and materials for a period of TWELVE MONTHS from the original date of retail purchase to the original purchaser.

Harper Industries will repair or replace, at our option, any part which our examination shows to be defective. Warranty is limited to parts, labor and ground freight delivery of replacement parts. The user will pay freight charges for parts submitted under this warranty.

No product or part may be returned for warranty consideration without prior approval from Harper Industries.

This warranty does not apply to parts subjected to misuse, abuse, alteration, improper or inadequate maintenance, or normal wear (including belts and chains).

Gasoline engines are not covered under this warranty. Refer to manufacturer's warranty for specific warranty information. Harper Industries, its agents or representatives, make or imply no other warranties.

RECORDS

Date of Purchase _____ / _____ / _____

Dealer's Name _____

Dealer's Phone _____

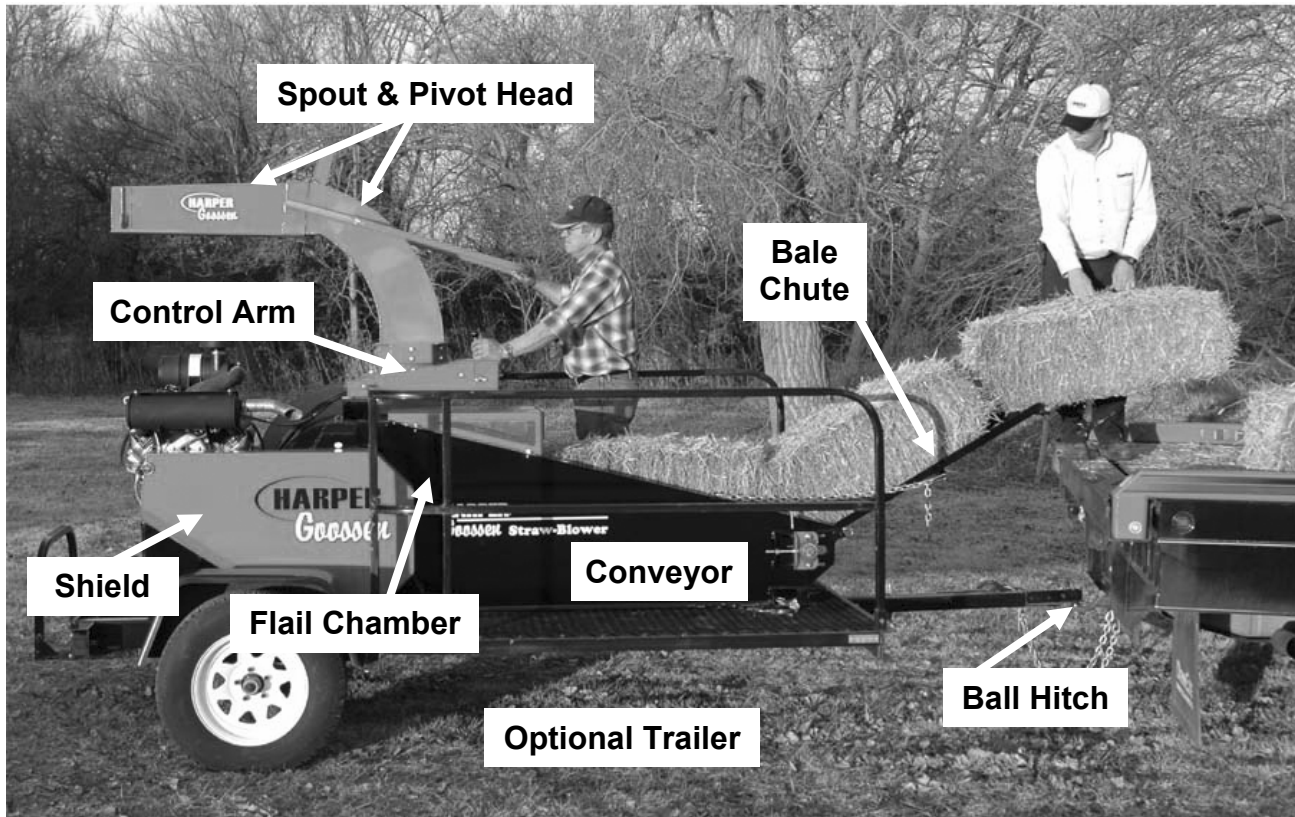
Serial Number-Machine _____

Serial Number-Engine _____

Table of Contents

Introduction	1
Limited Warranty	2
Table of Contents	3
Feature Identification	4
Specifications	6
Torque Chart	6
General Safety Guidelines:	7
Gasoline	7
Guards & Shields	7
Safety Decals	8
Equipment & Controls	8
Towing	8
Hydraulics	8
Before Operation	8
During Operation	9
Operation:	10
Standard Procedure	10
Operating On A Slope	11
Stopping Operation	11
Adjustments:	12
Belts & Chains	12
Service & Maintenance:	13
Break-in Service	13
Fluids	13
Power Transfer	14
31 HP Vanguard Engine	14
Routine Maintenance Schedule	15
Lubrication	16
Blower Liner	17
Troubleshooting:	18
Engine	18
Belts	18
Hydraulic System	18
Parts Section:	19
Main Frame Assembly	20
Blower Liner	21
Floor Chain Assembly	22
Guards & Shields	23
Fan & Rotor Assembly	24
Bale Chute Assembly	25
Pivot Head & Spout Assembly	26
Decal Locations	27
Hydraulic Assembly	28
Drive Components	30
Fuel Tank & Battery	32

Feature Identification



SB3500 Straw Blower with Optional Trailer - OPERATING POSITION

Spout – spring-tensioned Spout with handle allows for vertical maneuver-ability and precise distribution of straw.

Pivot Head – rotates 360 degrees and allows for horizontal maneuverability of straw.

Control Arm – the Control Arm may be positioned on the right or left side of the machine for easy access to the Blower Switch, Engine Throttle and Conveyor Advance Lever.

Bale Chute – the angle of the Bale Chute may be adjusted with the Bale Chute Support Chains, allowing for gravity-feed of bales to the Conveyor from different heights.

Shield – the Shield protects the power transfer mechanisms such as the belts, pulleys, gears and chain.

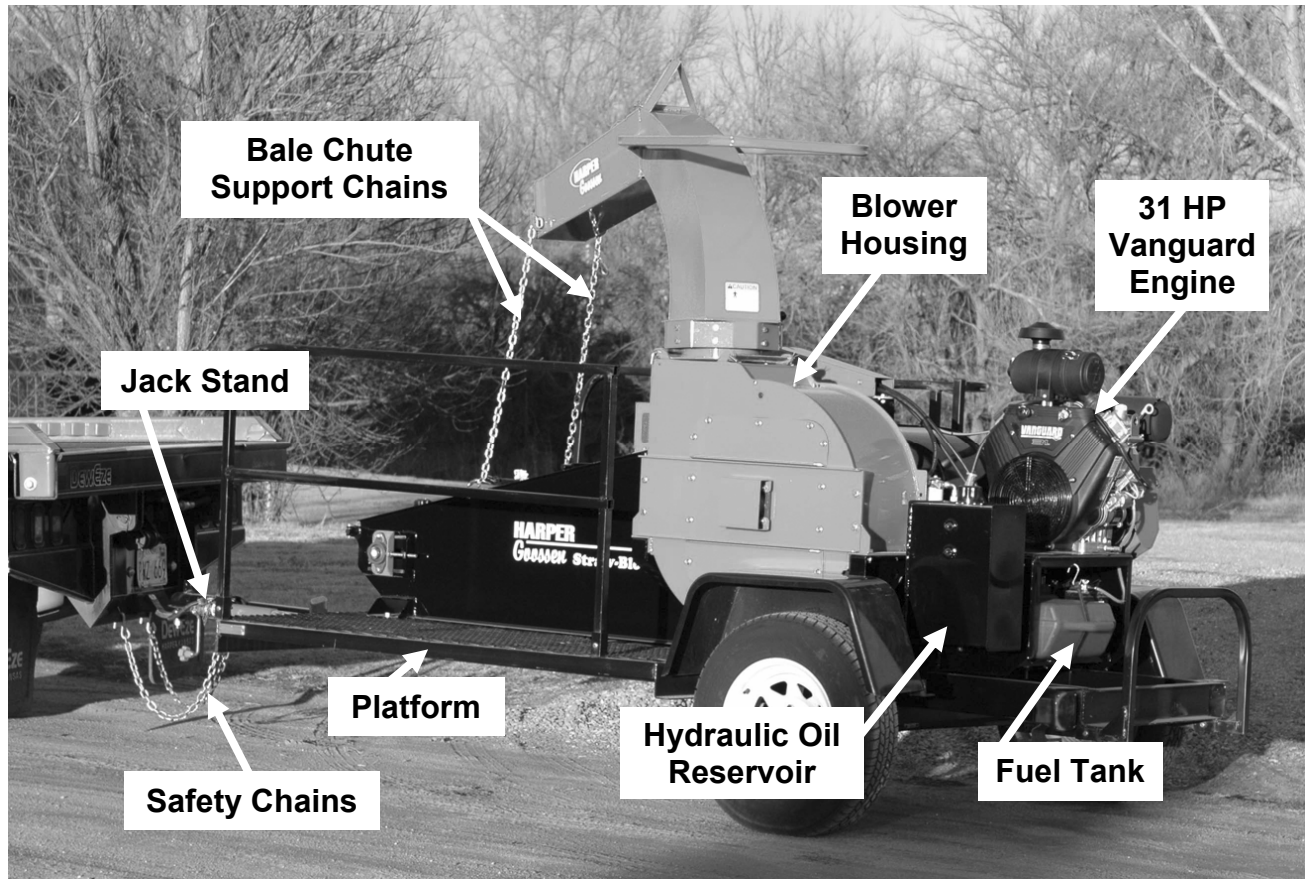
Flail Chamber – the Flail Chamber protects the Flail Chains that spin at high velocity to tear apart the bale. Keep hands, feet and foreign objects out of Flail Chamber while engine is running.

Conveyor – the variable-speed Conveyor allows operator to control the flow of material being distributed.

Optional Trailer – allows for easy transport of Straw Blower.

Ball Hitch – the Optional Trailer comes standard with a Ball Hitch.

Feature Identification



SB3500 Straw Blower with Optional Trailer - TRANSPORT POSITION

Blower Housing – the Blower Housing protects the Blower which rotates at high speed.

Safety Chains – the Optional Trailer comes standard with Safety Chains that should always be used when the unit is attached to the ball hitch of a tow vehicle.

Platform – the Optional Trailer has a Platform with guard rails on both sides of the machine for operator comfort and safety.

Jack Stand – the Optional Trailer comes standard with a Jack Stand. The Jack Stand may be used when the unit is not in operation. Always attach the Straw Blower to a vehicle when in use.

Bale Chute Support Chains – when the SB3500 is not in operation the Bale Chute Support Chains may be used to secure the Spout for short distances. Lower the Pivot Head when transporting unit.

31 HP Vanguard Engine – the engine powers both the Blower and Conveyor. The manufacturer is Briggs & Stratton.

Fuel Tank – the Fuel Tank is located at the rear of the machine for easy access when refueling.

Hydraulic Oil Reservoir – the Hydraulic Oil Reservoir is filled with bio-degradable hydraulic oil from the factory. Standard hydraulic oil may be used, but mixing will decrease bio-degradability.

Specifications

Engine	31 hp Vanguard – Gasoline
Weight	1500 lbs.
Dimensions	Length – 116”, Width – 50”, Height – 76”
Blower	25” diameter, ¼” polyurethane liner – standard
Rotor	Eight #80 heavy-duty roller chains
Output	4 to 8 bales per minute
Reach	40 to 90 feet, depending on wind conditions
Blower Drive	Belt driven from engine, automatic tensioner
Conveyor Drive	Hydraulically driven, variable speed, reversible
Warranty	One year
Trailer - Optional	2 wheel, 7’ x 10’, 2000 lb. GVW

The manufacturer reserves the right to make changes in engineering, design and specifications or add improvements at any time without notice or obligation.

Torque Chart

Size	In.-Lb.	Ft.-Lb.	N-m
No. 10-24	25-35	5-7	2.8-4.0
¼ in.	60-80	18-20	7-9
⁵ / ₁₆ in.	120-140	28-30	14-16
³ / ₈ in.	340-360	64-74	24-27
½ in.	---	126-150	90-100

NOTE:

When tightening two or more screws on the same part, DO NOT tighten screws completely right away, or one at a time. To avoid distortion, first tighten all screws in sequence to one-third of torque value, then tighten to two-thirds of torque value, then tighten to full value.

General Safety Guidelines



SAFETY WARNING!

- To prevent possible eye injury, always wear **SAFETY GLASSES** while operating or servicing the equipment.



SAFETY WARNING!

Use genuine factory parts or parts with equivalent characteristics, including type, strength and material. Failure to do so may result in product malfunction and possible injury to the operator and/or others.

- Replace locknuts and locking screws if you can tighten them without feeling considerable resistance for several turns before they are completely tight. Replace them with factory authorized parts or their equivalent.
- If hardware is not secure, or if some of the hardware is over-tightened, equipment failure may result, posing possible safety hazards.

Gasoline



SAFETY WARNING!

Gasoline is extremely flammable and can be highly explosive.

- Allow engine to cool sufficiently before refueling.
- Do not allow smoking, open flames or sparks while performing maintenance or refueling.

- Never remove the fuel tank cap or add gasoline when the engine is running or while it is hot.
- Never fill the fuel tank indoors (fumes can collect).
- Wipe up spilled gasoline immediately and completely.
- Do not store gasoline in a room with an appliance that has a pilot light to where electrical appliances or switches may cause sparks.
- Always store gasoline outdoors in a safety can (a can which has a flame arrestor and pressure relief valve in pour spout).
- Gasoline fumes are heavy and will sink to the lowest point, collecting and becoming more and more hazardous. 1 part gasoline in 20 parts air will explode easily and violently.
- Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.
- Be certain to provide adequate ventilation if an engine must be run indoors - exhaust fumes are dangerous.

Guards & Shields

- Keep all guards, shields and safety devices in place at all times, removing only when necessary for service.
- Replace all worn, damaged, unusable, missing or lost safety shields and guards before operating equipment.

Safety Decals

- If safety related or instructional decals become illegible or are removed, replace them immediately.
- If parts that have such decals attached are replaced, make sure the current versions of the decals are on the replacement parts before the machine is operated again.
- New decals may be obtained from your local Harper/Goossen Dealer.

Equipment & Controls

- **READ AND UNDERSTAND THE OWNER'S MANUAL.**
- Altering this equipment in any manner which adversely affects its operation, performance, durability, or use will void the warranty and may cause hazardous conditions.
- Know the location and function of all controls and how to stop this equipment quickly in an emergency before you operate the equipment.
- Keep all nuts, bolts and screws tight to help ensure safe operation of this equipment.

Towing (with Optional Trailer)

IMPORTANT!

The owner/operator is responsible for licensing the Trailer and ensuring that it meets all requirements in the State where it is used.

- Use the Safety Chains when towing.
- Use the correct size ball hitch on the tow vehicle.

- The jack stand should be up and locked in the transport position.
- Keep the tire pressure inflated to the manufacturer's specification on the tire sidewall, and make sure the wheel lug nuts are tight.
- Remove one pin and lower the Pivot Head while unit is being transported (see page 17). Secure with chains.

Hydraulics

SAFETY WARNING!

HIGH-PRESSURE FLUID HAZARD!
Escaping fluid under pressure can penetrate skin and cause serious injury or death.

To prevent serious injury or death:

- Relieve pressure on system before repairing, adjusting or disconnecting.
- Wear proper hand and eye protection when searching for leaks.
- Use wood or cardboard instead of hands when looking for leaks.
- Do not use any type of heat (welding, soldering, cutting torch, etc.) near pressurized lines.

Before Operation

- Before operating this equipment, read and understand the Owner's Manual.
- Do not allow children to operate this machine.
- Make sure both tires are inflated to specifications and have equal pressure.

- Wear approved eye and ear protection and other appropriate safety equipment while operating the machine.
- Make sure bolts holding tongue are secure and the jack is in the transport position. Use the Safety Chains.
- Engine governor settings are preset and should not be changed; any change can damage moving parts and void the warranty.
- Before starting the machine, visually inspect all nuts, bolts and other fasteners to see that they are properly secured.
- Replace damaged or missing safety decals.

During Operation

SAFETY WARNING!

Always keep a fire extinguisher near the Straw Blower during operation.

- Never force material into the machine. When feeding material, make certain there are no foreign objects such as rocks, cans, bottles or other hard materials included.
- If a foreign object should strike the flail chains or blower mechanism of the machine and cause an unusual noise or vibration, shut the engine off immediately and allow it to come to a complete stop. Disconnect the spark plug wire from the spark plug on the engine, and then do the following:
 1. Inspect for damage.
 2. Repair or replace any damaged parts.
 3. Check for and tighten any loose bolts, nuts, fasteners or parts.

SAFETY WARNING!

Keep clothing and all body parts away from rotating parts.

- Keep the engine area free of oil, debris and other accumulations.
- Keep all safety shields and guards in place and in good working condition.
- If the Straw Blower should become clogged, shut off the engine and allow it to come to a complete stop before attempting to clean material.
- Be sure to provide adequate ventilation if the engine must be run indoors – exhaust fumes are very dangerous.
- Hydraulic system operates under high pressure. Be sure the hydraulic system is depressurized prior to service.
- Periodically clean area around engine to lessen the possibility of fire.
- Engine governor should not be changed; any change can damage moving parts and void warranty.

SAFETY WARNING!

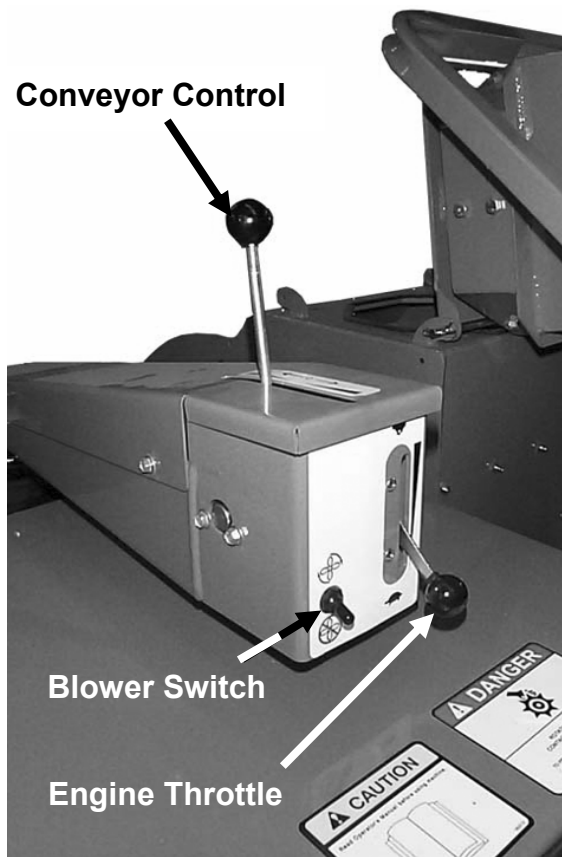
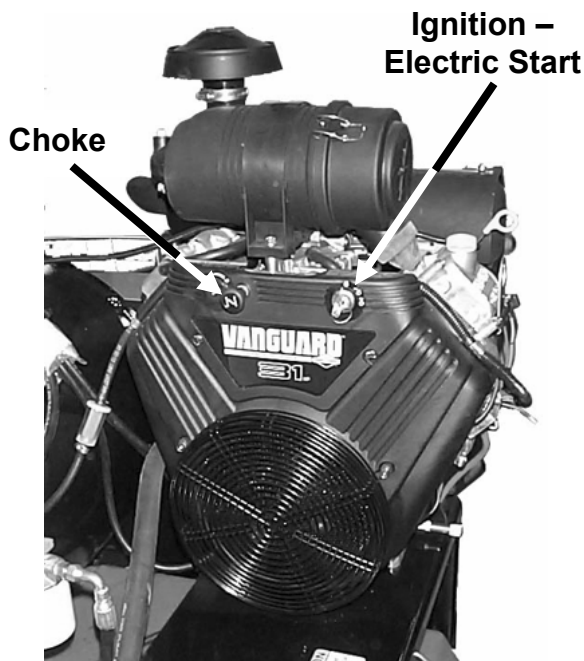
Observe all safety warnings printed on the battery. Keep away from children.

- Ventilate when charging battery or using in an enclosed space.
- DO NOT produce sparks from cable clamps, tools, or other sources; and DO NOT allow flames or smoking in the vicinity of the battery.
- Always wear safety glasses when working near the battery.

Operation

Standard Procedure

1. Wear eye and ear protection at all times during operation.
2. Fill the tank with gasoline. Make sure vent on fuel tank is open. (Refer to engine manual for gasoline specs.)
3. If Straw Blower has the trailer option, hitch the trailer to the tow vehicle.
4. Check the Flail Chamber and Blower Housing to ensure that they are free of debris and foreign objects.
5. Before starting engine, make sure that the Conveyor Control is in the neutral position (center), the Blower Switch is disengaged (off) and the Engine Throttle is down (Turtle).
6. If engine is cold, pull out the choke. When restarting a warm engine, it may not be necessary to use the choke.



7. Turn the key switch to the start position and release as soon as the engine starts. **DO NOT TURN THE STARTER OVER FOR MORE THAN 10 SECONDS.**
8. Once engine is running, gradually push in the choke and allow engine to warm up.
9. Engage Blower Switch while Conveyor Control is in neutral and before accelerating Engine Throttle.
10. Raise Engine Throttle to maximum (Rabbit) before engaging Conveyor.
11. Place a bale onto Bale Chute, move Conveyor Control forward to bring bale completely onto Conveyor, and stop before it enters Flail Chamber.
12. Remove all twine or wire used to bind the bale. Twine or wire can wrap around rotor and damage unit.

13. Move the Conveyor Control forward to advance bale towards flail chains or backward to retract bale.
14. Move the spout up, down or side to side to dispense material where desired.

 **SAFETY WARNING!**

Always check overhead clearance when rotating Spout or transporting Straw Blower.

 **SAFETY WARNING!**

Never point Spout in the direction of bystanders. Keep bystanders out of area of operation to prevent them from being hit by flying objects.

Operating On A Slope

1. Run up and down steep slopes, never across the face.
2. Reduce speed on slopes and in sharp turns to prevent tipping or loss of control.
3. Use extreme caution when changing directions on slopes.

Stopping Operation

1. Retract bale away from flail chains.
2. Allow the Straw Blower to run empty for a brief period so that it cleans itself of material.
3. Disengage Blower.
4. Lower Engine Throttle to minimum (Turtle).
5. Allow engine to idle briefly before turning off.

 **SAFETY WARNING!**

Do not leave machine unattended, or attempt service or inspection unless the machine has come to a complete stop, the engine has been shut off, and the spark plug has been disconnected.

 **SAFETY WARNING!**

Please contact Harper Industries or any affiliated Goossen dealership for assistance if any part of this manual requires further explanation. Your safety and the performance of the Straw Blower may depend on a clear understanding of the material contained in this manual.

For technical assistance or additional information contact:

**Harper Industries, Inc.
151 E. Highway 160
Harper, Kansas 67058
Tel. 1-800-835-1042**

Or, visit our website at:

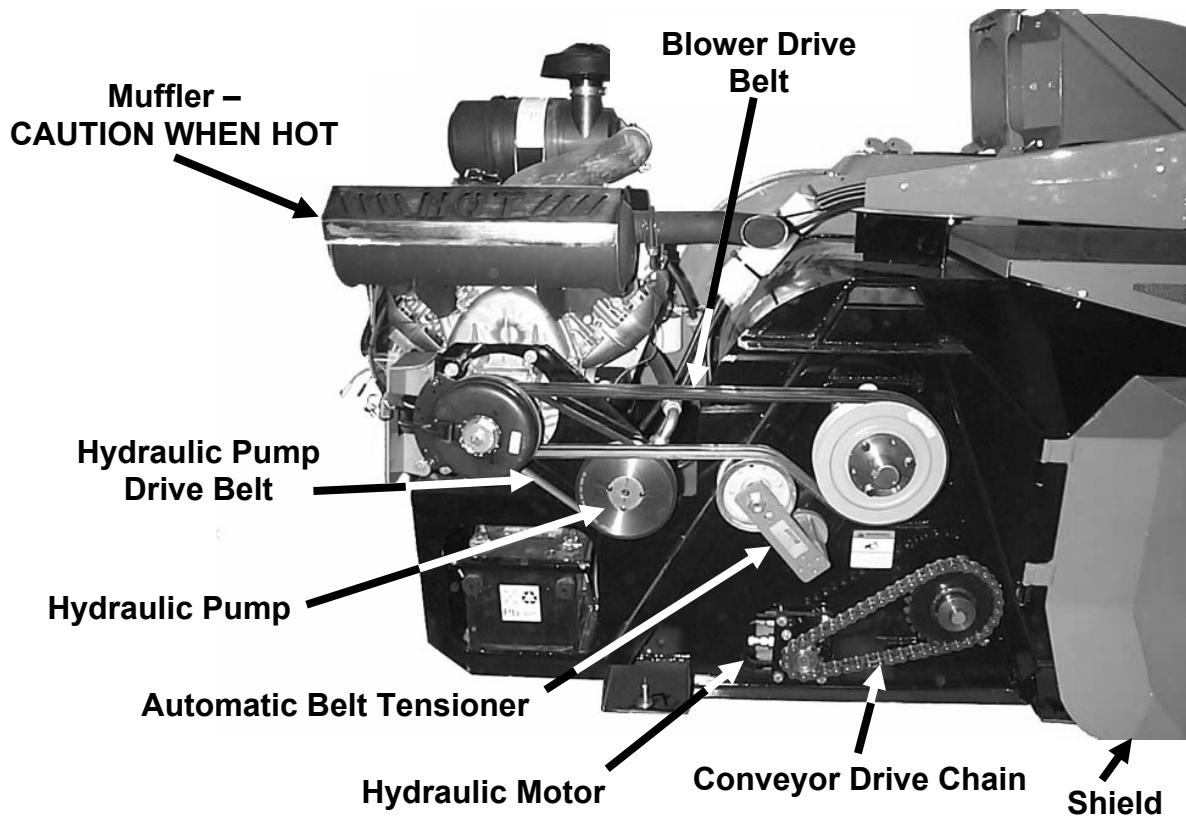
www.goossen.com

Adjustments

Belts & Chains

SAFETY WARNING!

Never make adjustments to the unit while it is running. Turn off engine and disconnect spark plug wire before performing any type of service.



Blower Drive Belt – no adjustment is required on the Automatic Belt Tensioner.

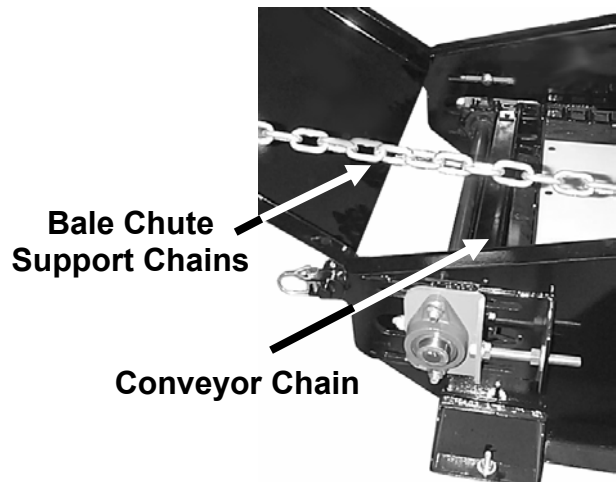
Hydraulic Pump Drive Belt – adjust by changing position of Hydraulic pump.

Conveyor Drive Chain – adjust by changing position of Hydraulic Motor. Do not over-tighten.

Conveyor Chain – move position of bolt with jam nut equally on both sides of unit. Do not over-tighten. See page 22.

Bale Chute Support Chains – reposition to adjust angle of Bale Chute.

Shield – always have shield closed before operating Straw Blower.



Service & Maintenance

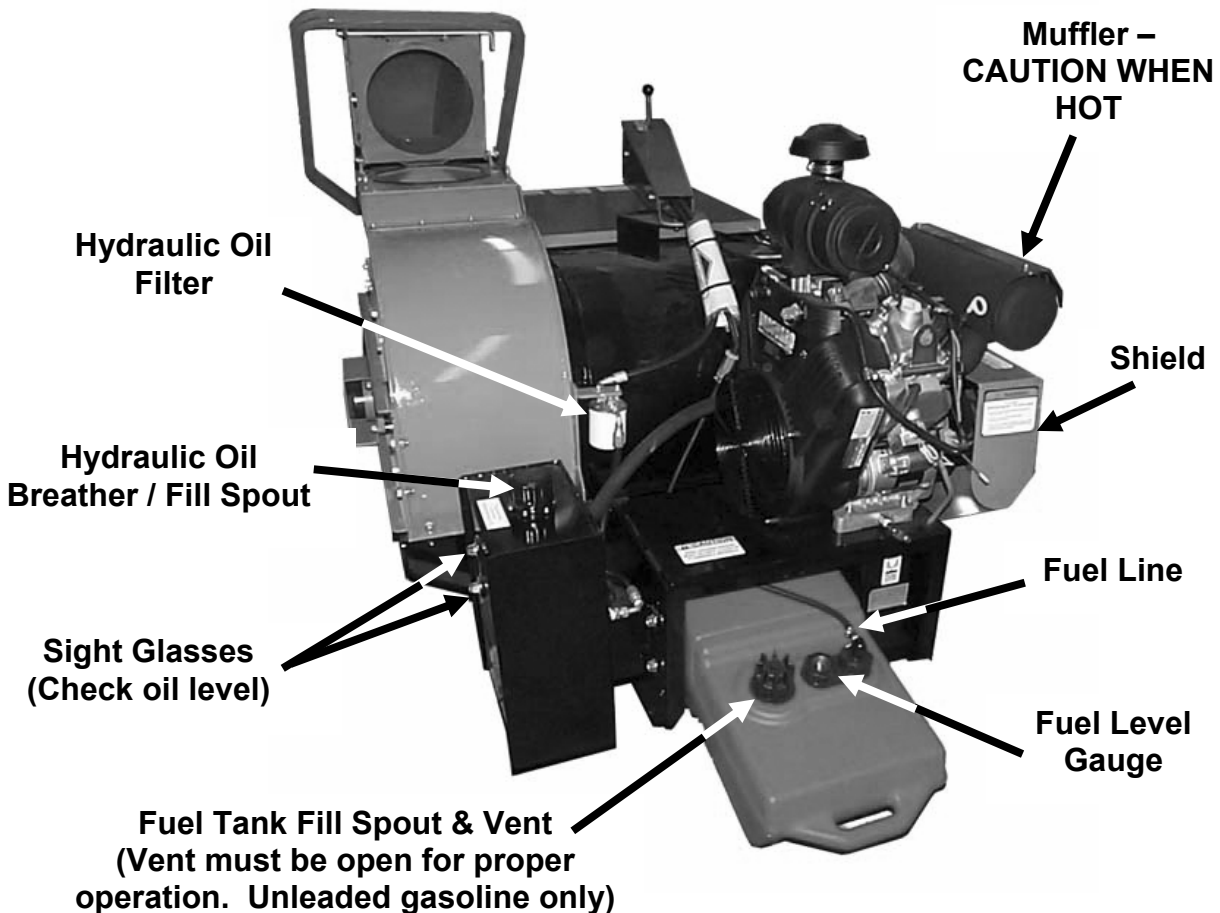
Break-in Service

After first hour of use:

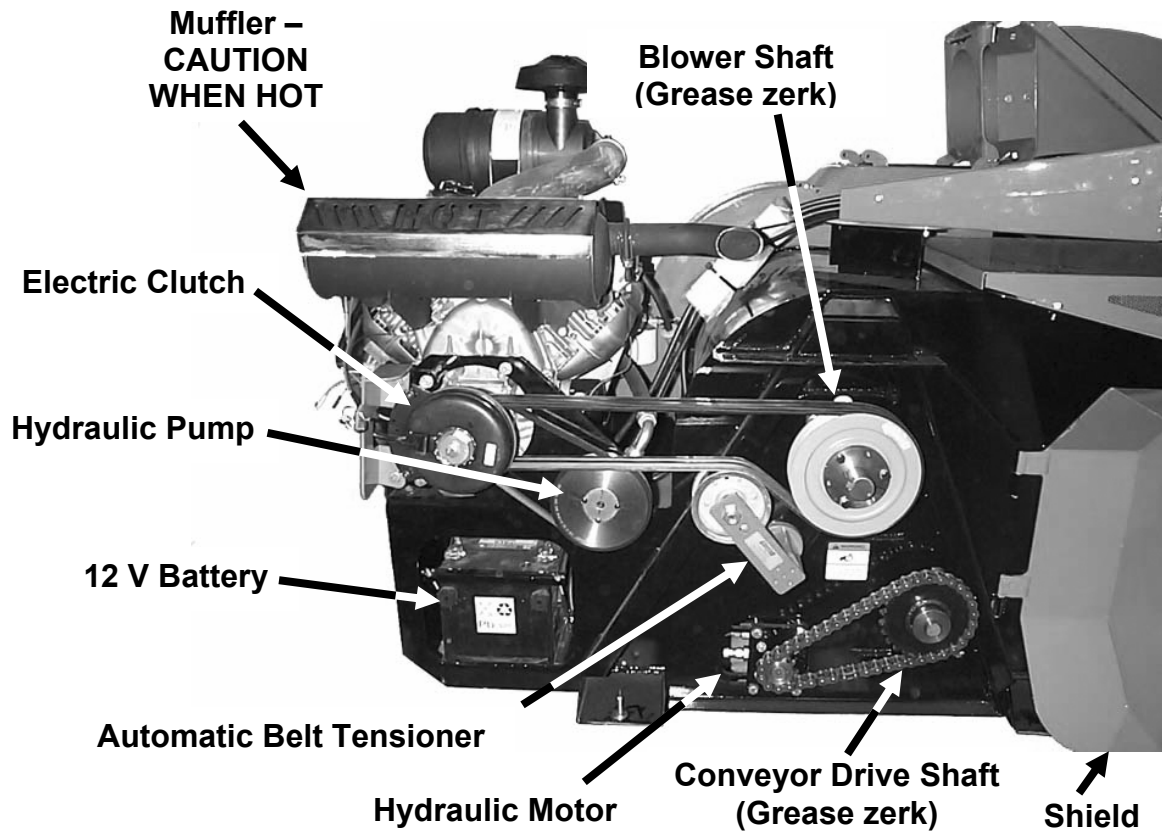
- Check belts and chain. Service if needed.
- Check hoses and fittings for leaks. Tighten if needed.
- Tighten set screws on bearings.
- Check nuts, bolts, and fasteners to see that they are secure.

SAFETY WARNING!

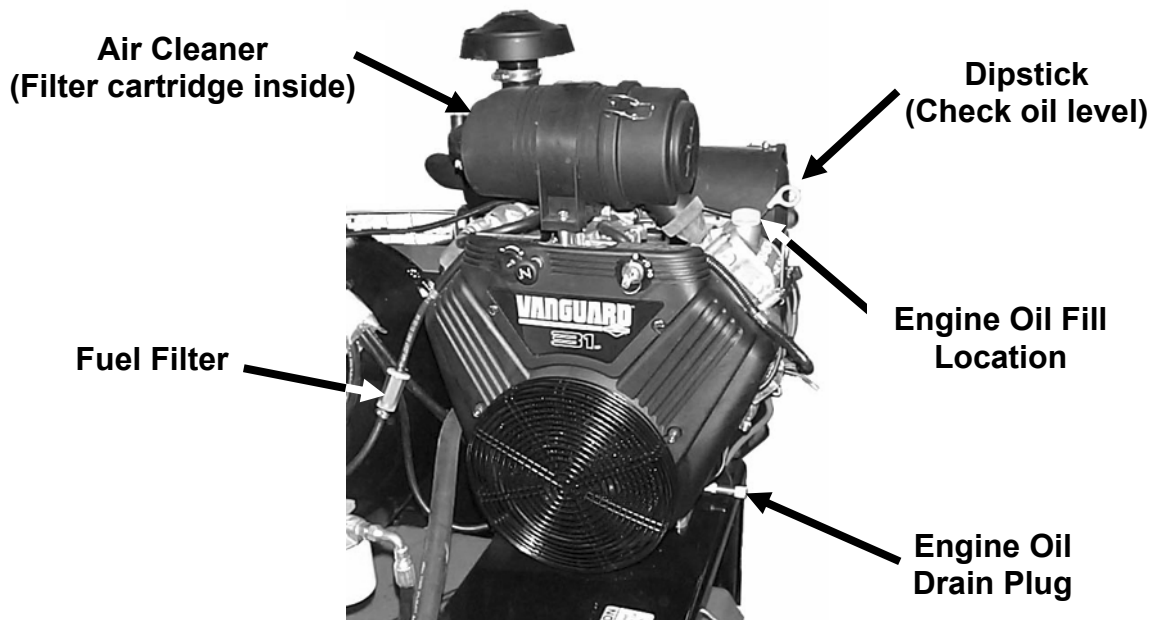
- Before servicing or inspecting the Straw Blower, make sure the power source is shut off and all moving parts have stopped.
- Disconnect the spark plug wire from the spark plug or the negative battery cable to prevent the engine from being turned on accidentally during service.
- Always wear safety glasses and protective gloves when servicing the Straw Blower.



SB3500 – Routine Maintenance Locations – Fluids



SB3500 – Routine Maintenance Locations – Power Transfer



SB3500 – Routine Maintenance Locations – 31 HP Vanguard Engine

SB3500 Routine Maintenance Schedule

Note: Refer to engine manual for more detailed information on engine maintenance and operation. See any authorized Briggs & Stratton Dealer for service to engine.
Disclaimer – In reference to engine, Briggs & Stratton recommends the following:

Daily or Before Starting Engine

Check engine oil level.....	See dipstick level.
Check hydraulic oil level.....	Keep level between sight glasses. Use Mobil EAL 224H or equivalent.
Fill fuel tank.....	Clean unleaded, 85 octane or higher.
Check air cleaner.....	Clean as necessary.
Visually inspect.....	Flail Chains and Bale Curtain.
Visually inspect.....	Belts, bolts, fittings and hoses.
Check chains.....	Refer to the following pages.

After Every 40 Hours of Service - These and all previous items.

Grease all zerks.....	Refer to the following pages.
Visually inspect.....	Blower Housing Liner.
Check tire pressure.....	Refer to sidewall of tire.

After First 50 Hours of Service

Change engine oil and filter (every 100 hours thereafter)..	Refer to engine manual.
Check valve clearance (every 250 hours thereafter).....	Refer to engine manual.

100 Hour Service

Change engine oil and filter.....	Refer to engine manual.
Clean air cleaner cartridge.....	Refer to engine manual.

250 Hour Service

Check valve clearance.....	Refer to engine manual.
Check battery	Sealed battery - # 26-70, bolt lug.
Change hydraulic filter.....	DewEze part # 220559 Zinga part # BE-10-18

400 Hour Service

Replace air cleaner cartridge.....	Refer to engine manual.
Change fuel filter.....	Refer to engine manual.

600 Hour Service

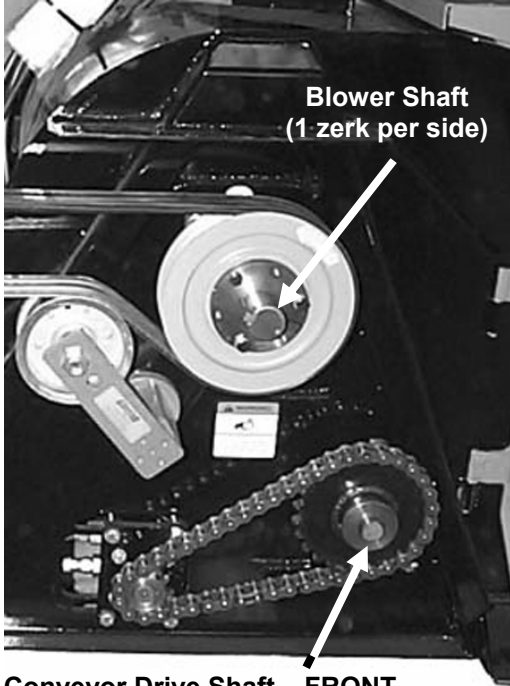
Replace Safety filter cartridge.....	Refer to engine manual.
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Annual Service

Change spark plugs.....	Refer to engine manual
Change hydraulic oil.....	5 gallons - Use biodegradable oil Mobil EAL 224H or equivalent.

Lubrication

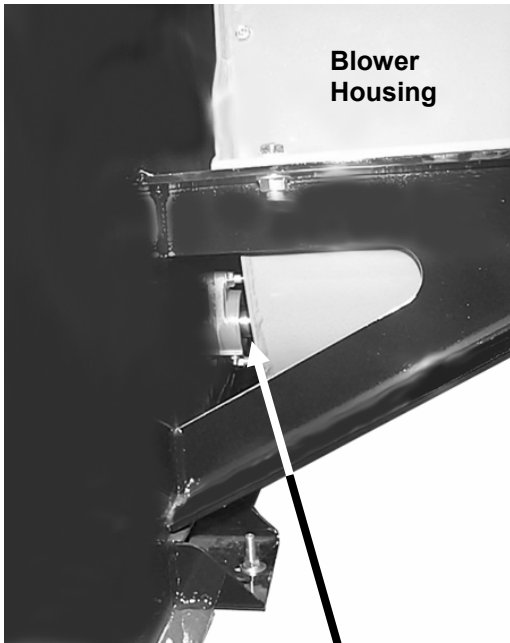
Grease all zerks after every 40 hours of use to reduce excess wear. Over-greasing may cause damage to bearing seals.



**Blower Shaft
(1 zerk per side)**

**Conveyor Drive Shaft – FRONT
(1 zerk per side)**

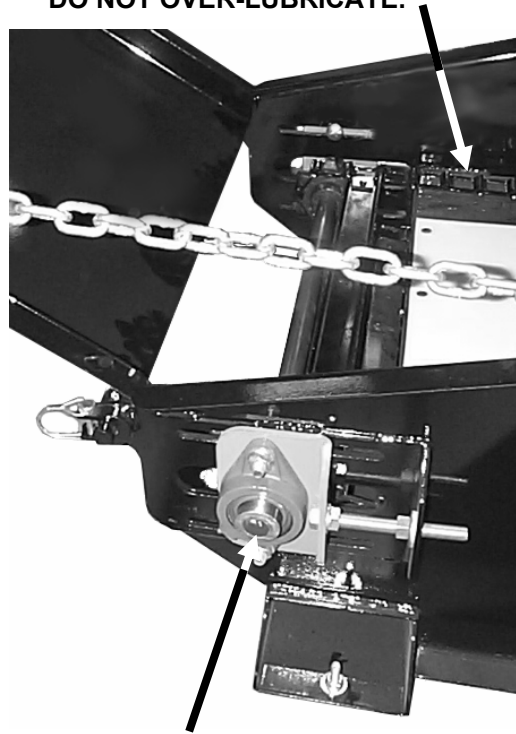
Conveyor Drive Chain – lubricate every 8 hours with non-detergent oil (Chain saw bar oil)



Blower Housing

**Conveyor Drive Shaft - FRONT
(1 zerk per side)**

Conveyor Chain – lubricate with a graphite-type lubricant when chain becomes dry. DO NOT OVER-LUBRICATE.



**Conveyor Drive Shaft - REAR
(1 zerk per side)**



Blower Housing

**Blower Shaft
(1 zerk per side)**

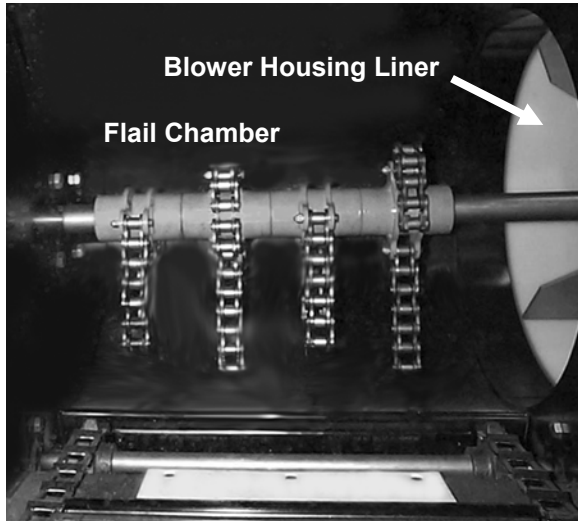


IMPORTANT!

Avoid over-greasing bearings.

SAFETY WARNING!

Before inspecting Flail Chains, Bale Curtain or Blower Housing Liner, make sure Blower has come to a complete stop, engine is turned off, and spark plug wire is removed.



Flail Chains – no lubricant is required, replace yearly or after every 200 hours of use.



Bale Curtain – replace immediately if curtain becomes damaged or worn.

IMPORTANT!

Regularly check the BLOWER HOUSING LINER for wear. Failure to maintain Blower Housing Liner may result in damage to Blower Housing and void of warranty.

Wear Items

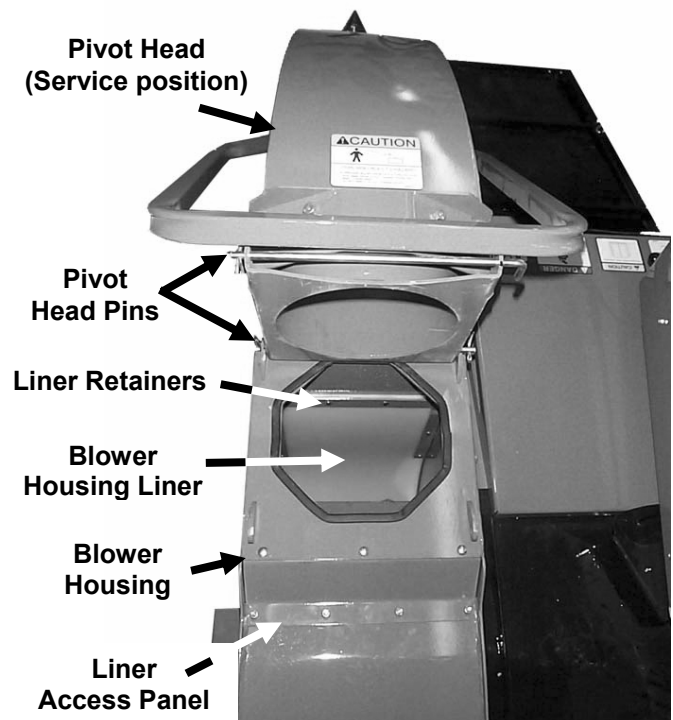
The Flail Chains, Bale Curtain and Blower Housing Liner are wear items and are not covered under warranty.

To inspect Blower Housing Liner:

- Lift Bale Curtain when Straw Blower is completely stopped, and use a flashlight to examine Blower Housing Liner through Flail Chamber. See page 21.
- If Liner is damaged or worn through, replace immediately.

To replace Blower Housing Liner:

- Remove one Pivot Head Pin and lower Pivot Head into service position.
- To remove Liner, first remove Access Panel and Retainers. Slide Liner through hole left by Access Panel.
- Securely replace Liner, Retainers, Access Panel and Pin before using Straw Blower.



Troubleshooting

Engine:

Problem:	What to Check:
Engine will not start.	<ul style="list-style-type: none"> • Improper control settings. • Engine may be low on fuel. • Engine may be too low or too full of oil. • Battery charge may be too low. • Possible internal problems.
Engine shuts off during operation.	<ul style="list-style-type: none"> • Engine may be low on fuel. • Engine may be too low or too full of oil. • Fuel filter may be clogged. • Fuel tank vent may be closed. • Air breather may be clogged.

Belts:

Problem:	What to Check:
Belts Slip.	<ul style="list-style-type: none"> • Tension adjustment. • Load may be excessive. • Foreign material may be lodged around rotor. • Bearings may have seized.
Belts wear rapidly, jump, catch or twist.	<ul style="list-style-type: none"> • Pulleys may not be properly aligned. • Check with straightedge across faces of pulleys.

Hydraulic System:

Problem:	What to Check:
Oil is foamy.	<ul style="list-style-type: none"> • Air is entering system through a hole in suction hose or a loose fitting.
Oil is milky.	<ul style="list-style-type: none"> • Water has contaminated oil. Change oil immediately.
Oil is over-heating.	<ul style="list-style-type: none"> • Look for pinched hydraulic hose.

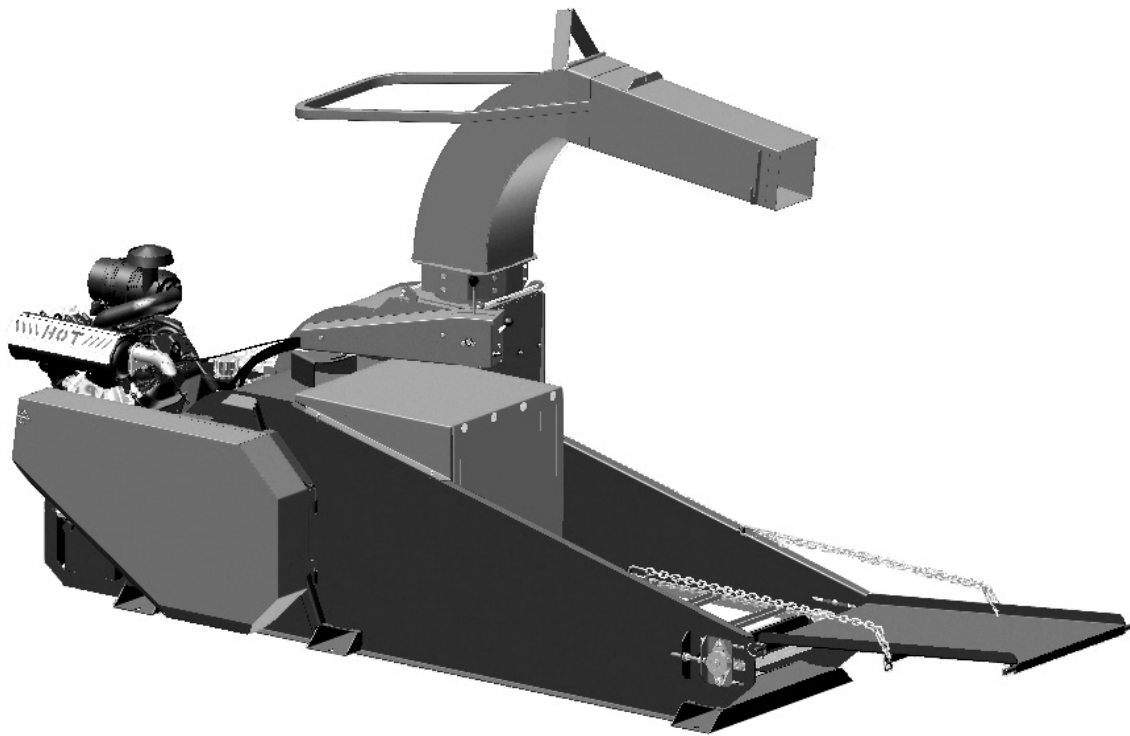
Frame Assembly:

Problem:	What to Check:
Unit has a bad vibration.	<ul style="list-style-type: none"> • Material may be wrapped around rotor. • Blower may be damaged.

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Goossen Straw-Blower

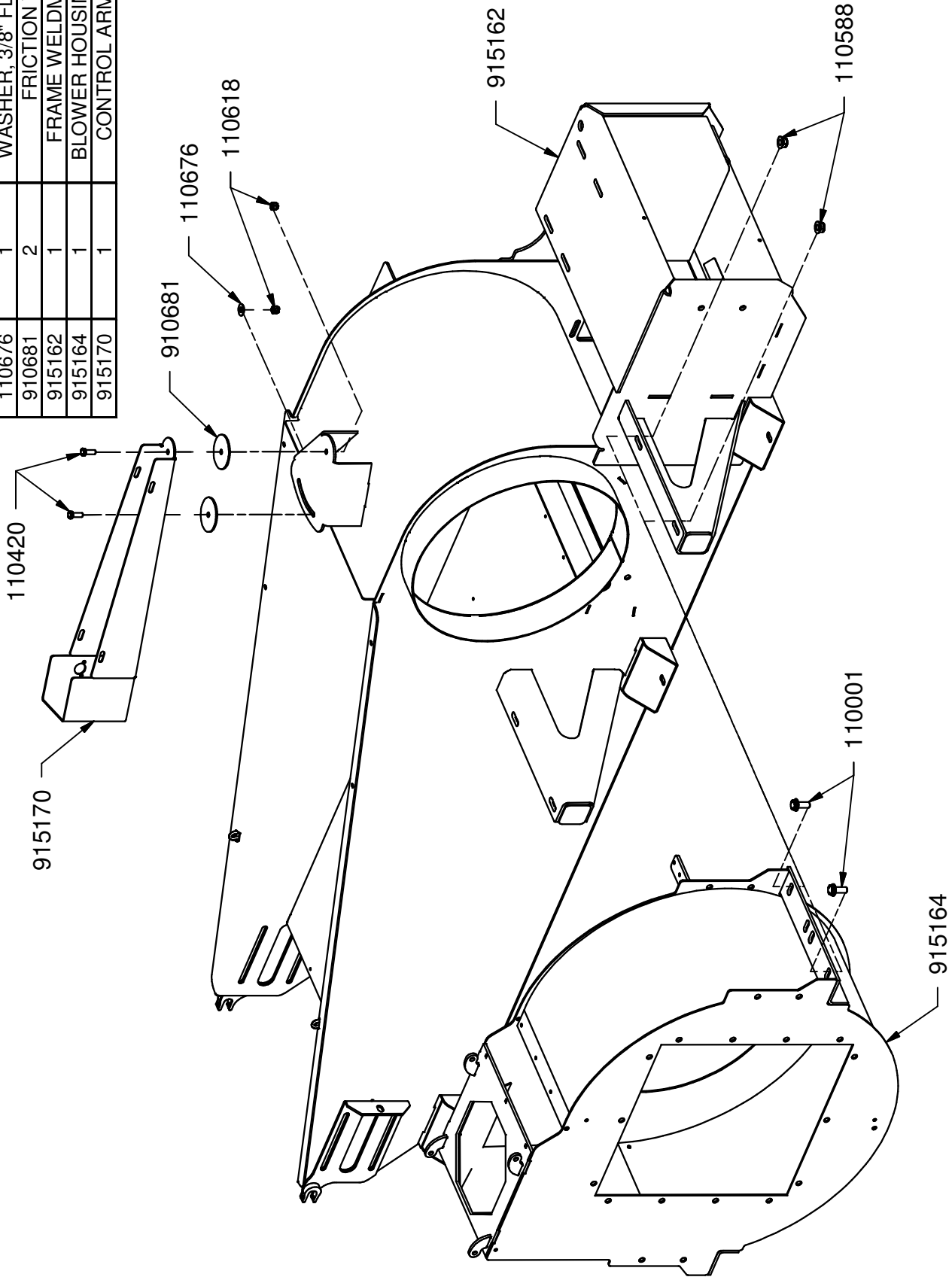
Parts Section



SB3500

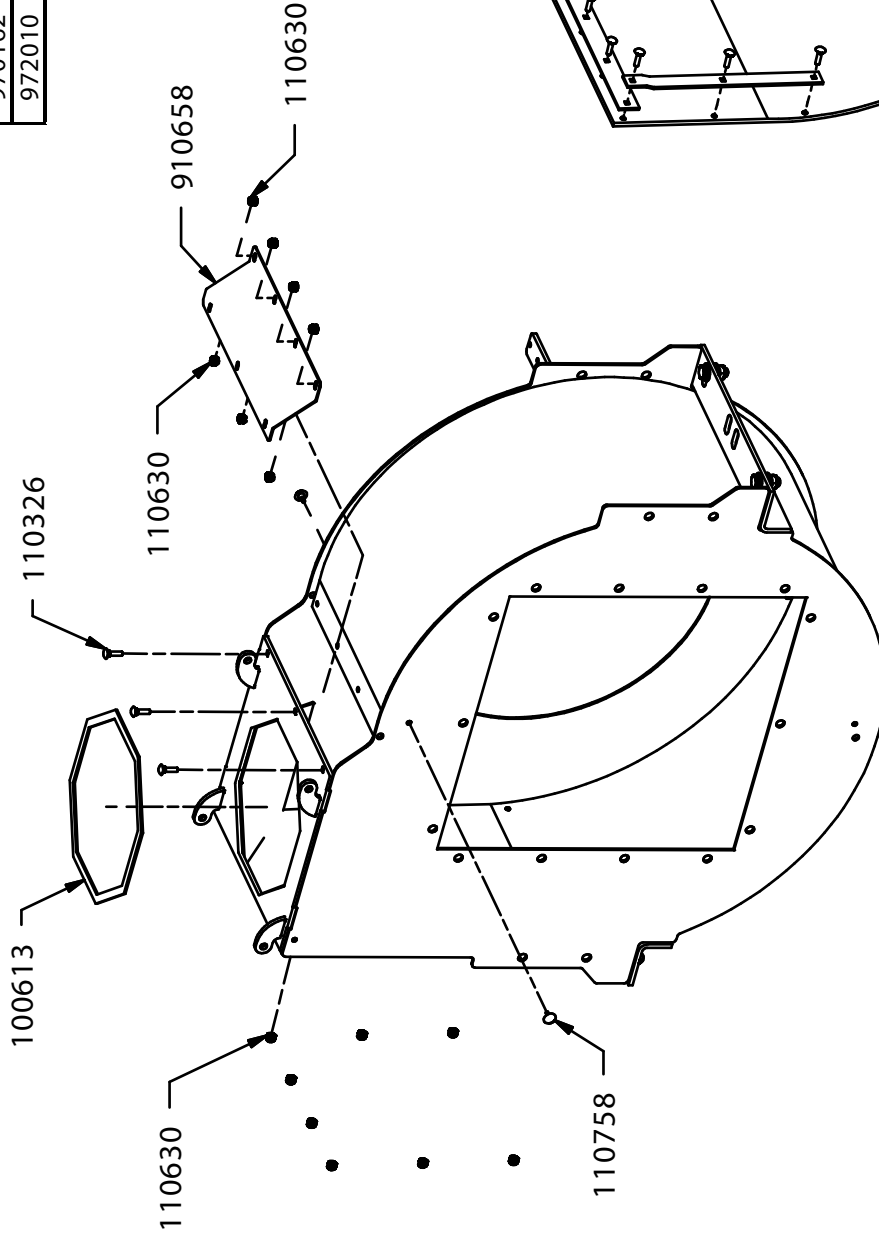
Main Frame Assembly

PART #	QUANTITY	DESCRIPTION
110001	4	BOLT, 1/2-13 X 1.25, WIZ FLANGE
110420	2	BOLT, 3/8-16 X 1.0
110588	4	NUT, 1/2-13 WIZ FLANGE
110618	2	NUT, 3/8-16 LOCK NYLON INSERT
110676	1	WASHER, 3/8" FLAT STANDARD
910681	2	FRICION WASHER
915162	1	FRAME WELDMENT, SB3500
915164	1	BLOWER HOUSING WELDMENT
915170	1	CONTROL ARM WELDMENT



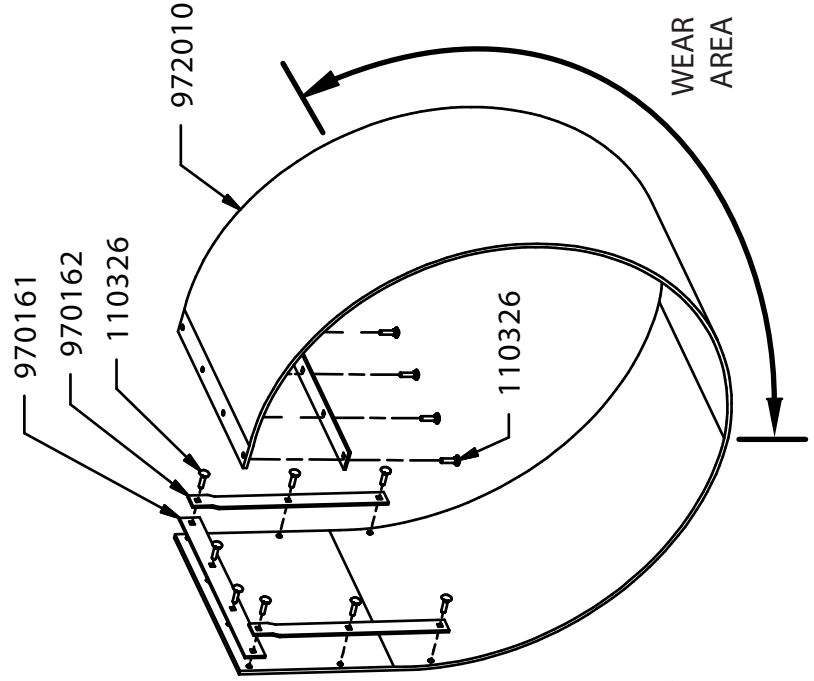
Blower Liner

PART #	QUANTITY	DESCRIPTION
100601	30 in	SEAL
110326	15	Bolt, 1/4-20 X 1 in Carriage
110630	15	NUT, 1/4-20 LOCK (NYLON INSERT)
110758	2	PLUG, 5/16 RUBBER
910658	1	BLOWER ACCESS PANEL
970161	2	BLOWER LINER RETAINER
970162	2	BLOWER LINER RETAINER
972010	1	BLOWER LINER..250 HD UHMW



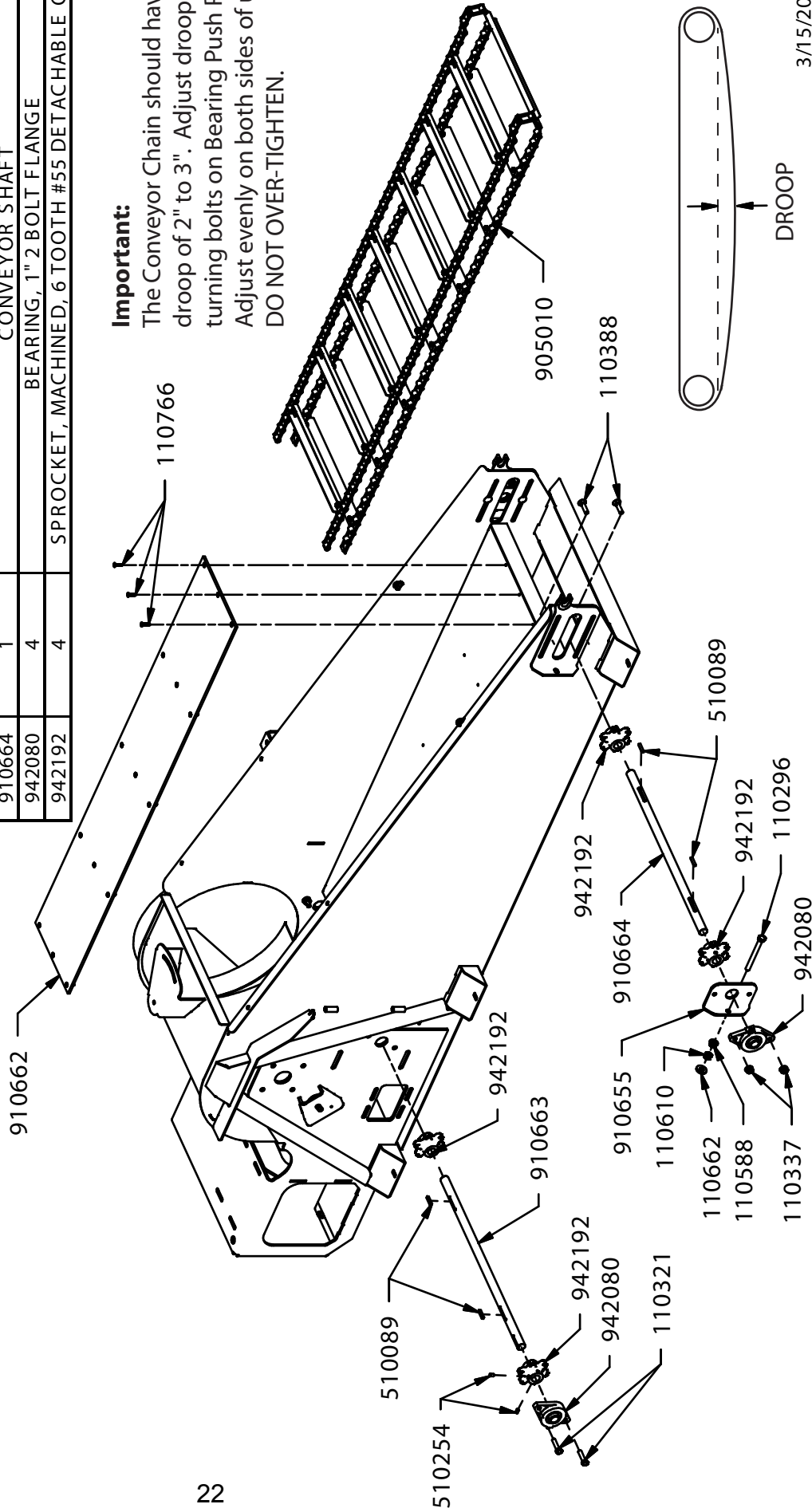
IMPORTANT:

Most wear on the Blower Housing Liner occurs in the wear area indicated. Inspect every 40 hours and replace if any of the Blower Housing is visible.



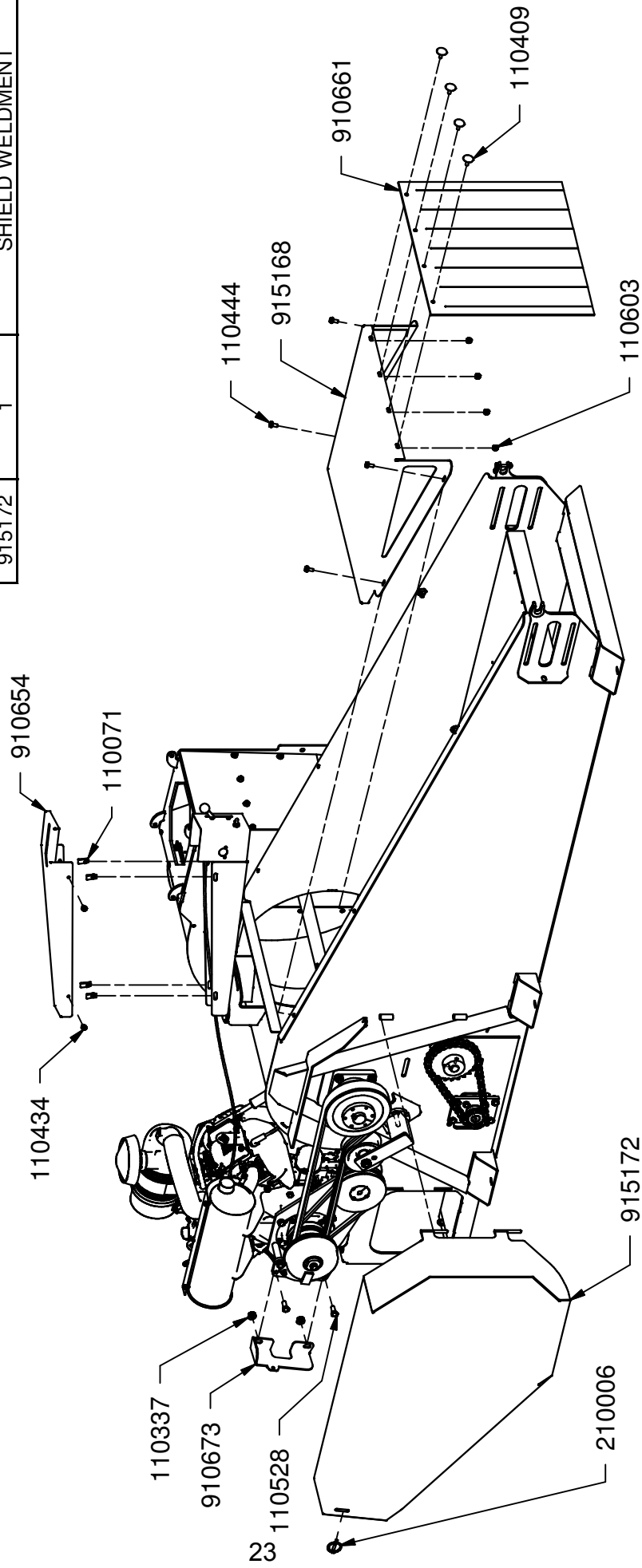
Floor Chain Assembly

PART #	QUANTITY	DESCRIPTION
110296	2	BOLT, 1/2-13 X 5 TAP
110321	4	BOLT, 7/16-14 X 1.75 GR 5 HEX HEAD
110337	8	NUT, 7/16-14 WIZ FLANGE
110388	4	Bolt, 7/16-14 X 1.75 in Carriage
110588	2	NUT, 1/2-13 WIZ FLANGE
110610	2	NUT, 1/2-13
110662	2	WASHER, 1/2" FLAT SPECIAL 1.25od
110766	15	SCREW, 1/4-20 X 1.0, FLAT HEAD TORX THREAD FORMING
510089	4	KEY, 1/4 X 1/4 X 1.25 in
510254	8	SET SCREW, 5/16-18 X 0.5
905010	1	CONVEYOR CHAIN ASSY
910655	2	BEARING PUSH PLATE
910662	1	TABLE GUARD
910663	1	CONVEYOR DRIVE SHAFT
910664	1	CONVEYOR SHAFT
942080	4	BEARING, 1" 2 BOLT FLANGE
942192	4	SPROCKET, MACHINED, 6 TOOTH #55 DETACHABLE CHAIN



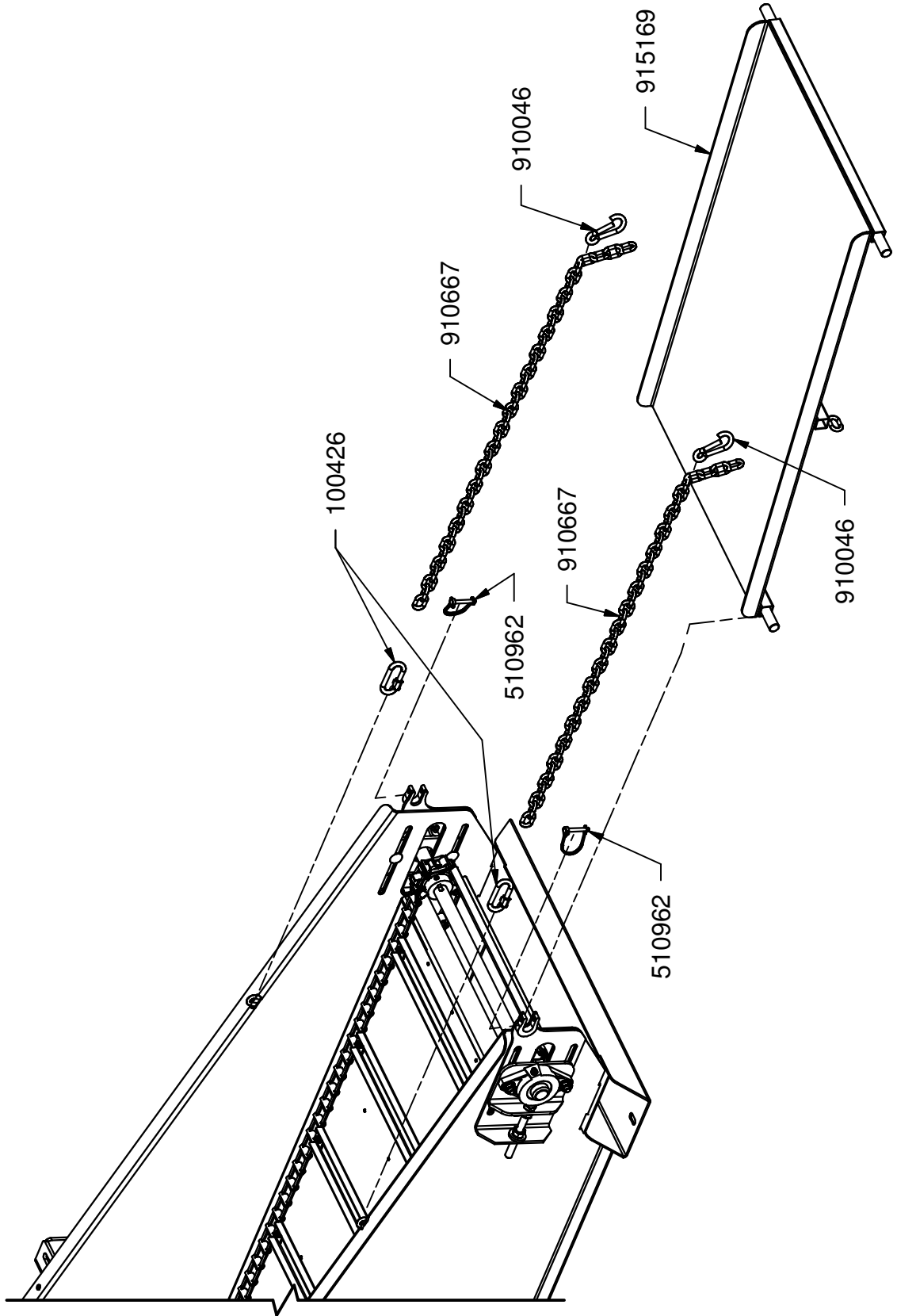
Guards & Shields

PART #	QUANTITY	DESCRIPTION
110071	4	1/4-20 U-TYPE TAPPED HOLE
110337	2	NUT, 7/16-14 WIZ FLANGE
110409	4	BOLT, 5/16-18 X 1.0, ELEVATOR
110434	4	BOLT, 1/4-20 X 0.5, WIZ FLANGE
110444	4	BOLT, 5/16-18 X 0.75, WIZ FLANGE
110528	2	BOLT, 7/16-14 X 1.0
110603	4	NUT, 5/16-18 LOCK (NYLON)
210006	1	Pin, Lynch 1/4 x 1 1/2
910654	1	CONTROL ARM LID
910661	1	BALE CURTAIN
910673	1	SHIELD CATCH
915168	1	HOOD WELDMENT
915172	1	SHIELD WELDMENT

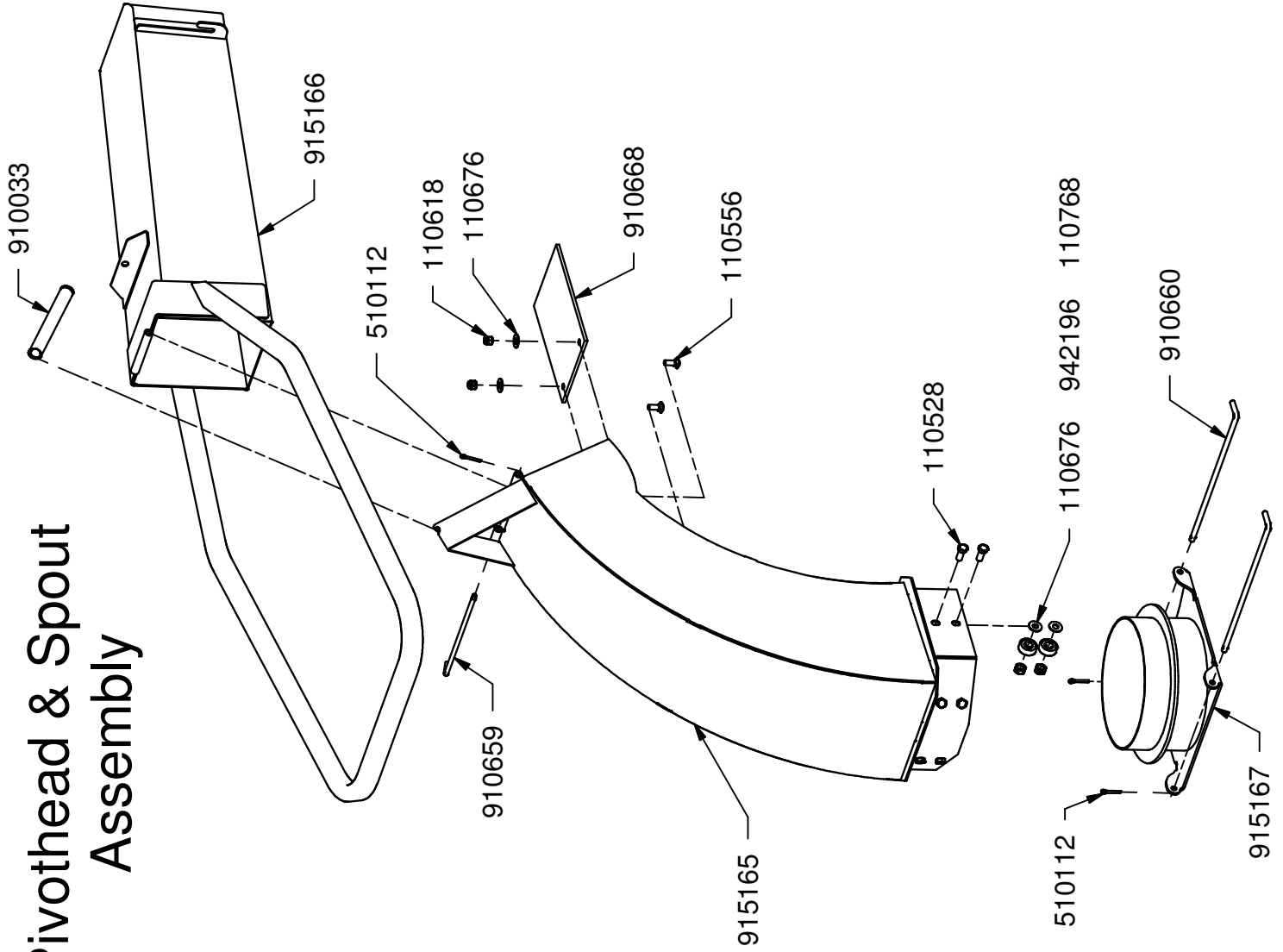


Bale Chute Assembly

PART #	QUANTITY	DESCRIPTION
100426	2	CHAIN CONNECTOR 5/16" THREADED
510962	2	PIN, WIRE LOCK
910046	2	ENGAGING CHANNEL CLIP
910667	2	CHAIN, CHUTE SUPPORT
915169	1	BALE CHUTE WELDMENT



Pivothead & Spout Assembly



PART #	QUANTITY	DESCRIPTION
110528	12	BOLT, 7/16-14 X 1.0
110556	2	Bolt, 3/8-16 X 1 in Carriage
110618	2	NUT, 3/8-16 LOCK NYLON INSERT
110676	14	WASHER, 3/8" FLAT STANDARD
110768	12	NUT, 7/16-14 LOCK 2-WAY
510112	3	COTTER PIN, 3/16 X 1
910033	1	SPRING, 1.0 OD X 8.75 L X .125
910659	1	SPOUT PIN
910660	2	GOOSENECK PIN
910668	1	SPOUT FLAP
915165	1	GOOSENECK WELDMENT
915166	1	SPOUT WELDMENT
915167	1	SPOUT SWIVEL WELDMENT
942196	12	BEARING, BALL, 1620RS

HARPER®

GOOSEN

902083

WARNING

CUT AND REMOVE WIRE / STRING PRIOR TO OPERATION
 - FAILURE TO REMOVE WIRE / STRING MAY CAUSE MACHINE DAMAGE / FIRE.

9020035

900006

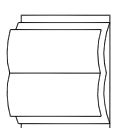
CAUTION

TO AVOID BURNS TO NOT TOUCH HOT MUFFLER OR PIPE

500257

CAUTION

Do not operate the blower until the engine is cooled.



160010

160008
(BOTH SIDES)

CAUTION

- KEEP ALL GUARDS IN PLACE.
- STOP MACHINE TO ADJUST & LUBRICATE.
- DO NOT OPERATE WITH GUARDS REMOVED.
- DISCONNECT POWER BEFORE CLEANING.
- KEEP HANDS, FEET AND CLOTHING AWAY FROM POWER GRIP PARTS.

900008

DANGER

ROTATING COMPONENTS CONTACT CAN CAUSE INJURY TO PRESENT LIMBS FROM GUARDS. ALWAYS WEAR SAFETY GLASSES OR GOGGLES. * KEEP OTHERS AWAY.



900009

WARNING



If you can read this sign, a guide has been removed. Do not operate without guide.

160002

800195


WARNING

TO AVOID SERIOUS INJURY OR EXPLOSION *PROTECT EYES AND AVOID SKIN CONTACT WITH BATTERY ACID. *DO NOT ALLOW OPEN FLAME NEAR CHARGING BATTERY. *ALWAYS DISCONNECT NEGATIVE CABLE FROM CHARGING SOURCE BEFORE DISCONNECTING BATTERY BEING CHARGED.


500255

HARPER
GOOSEN
(BOTH SIDES)

900125



902106



CAUTION

THROWN OBJECTS HAZARD TO PERSONS AND PROPERTY *STAY AWAY FROM OUTLET DURING OPERATION. *KEEP OTHERS AWAY. *DO NOT DIRECT OUTLET TOWARD PEOPLE.

900011

THIS MACHINE CONTAINS BIODEGRADABLE OIL

902077

CAUTION

AREA AROUND ENGINE MUST BE KEPT CLEAR OF FLAMMABLE MATERIAL

900007

MEMBERS

FEMA

INTERNATIONAL

300002

CLIMATE

WASTE

RECYCLING

(BEHIND SHIELD)

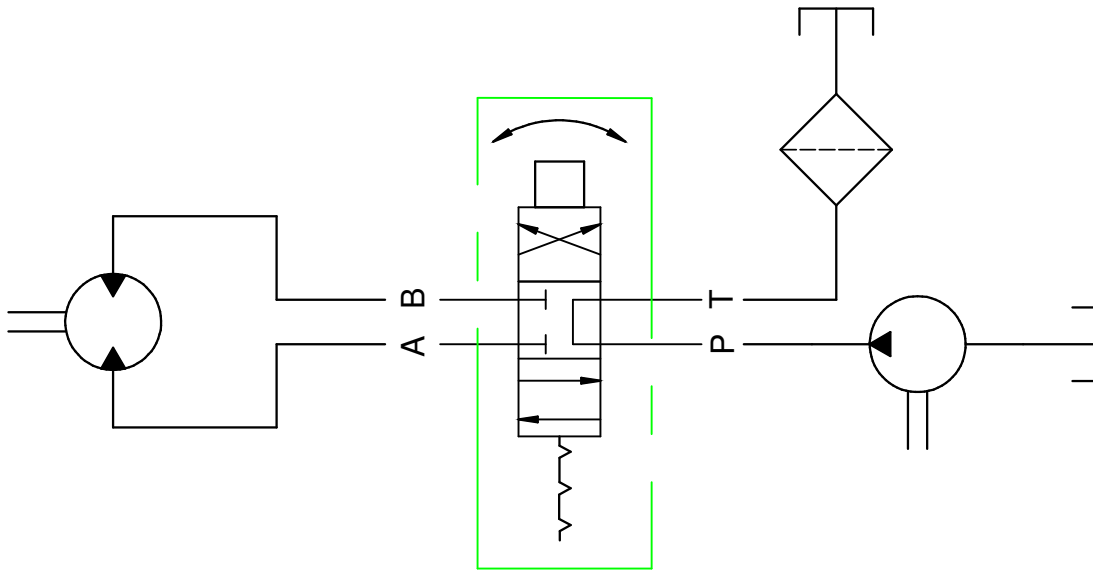
HARPER (BOTH SIDES) **SB 3500**

902101

GOOSEN Straw-Blower

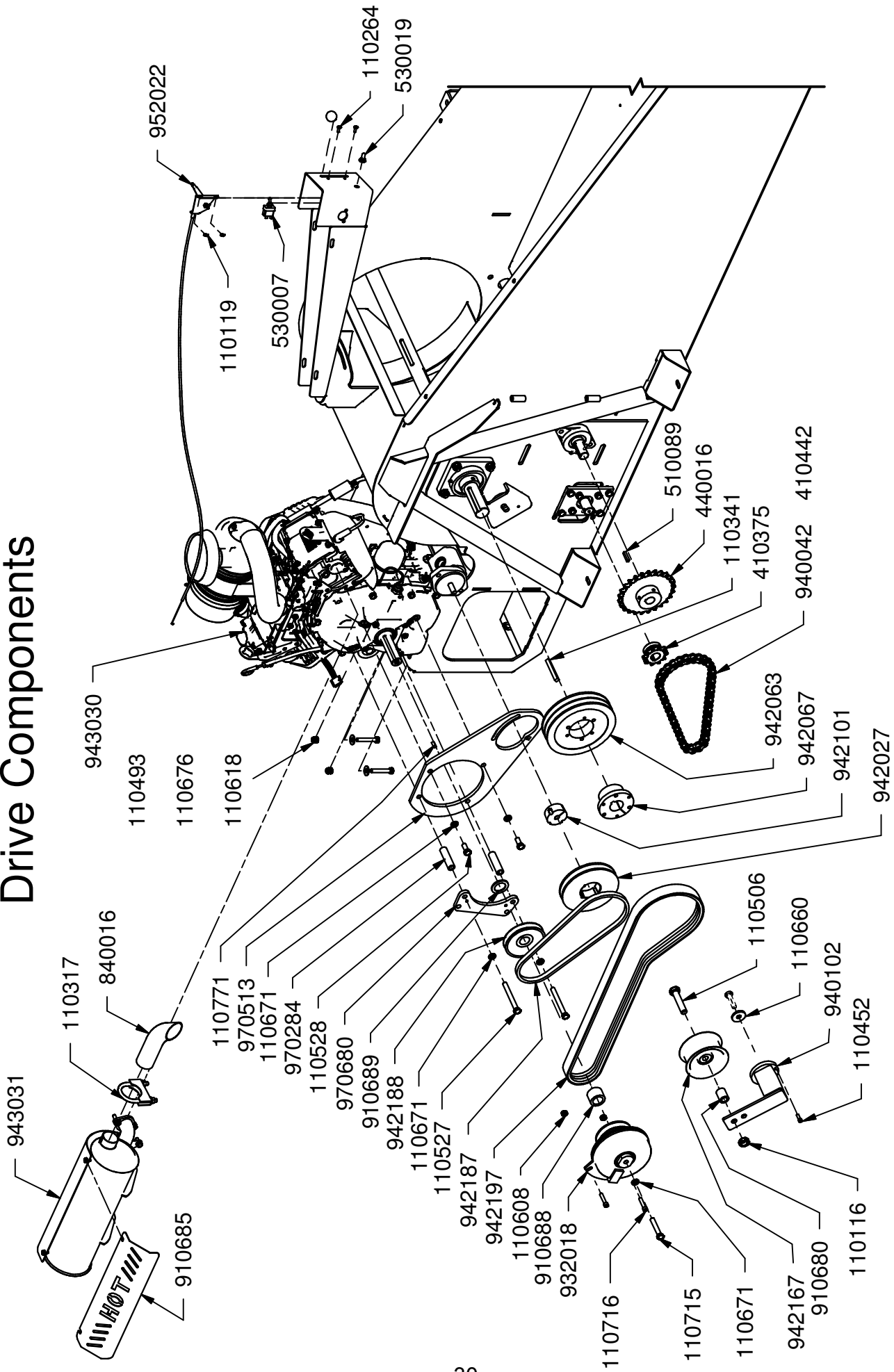
902053
2/8/05

Hydraulics Assembly



PART #	QUANTITY	DESCRIPTION
110001	2	BOLT, 1/2-13 X 1.25, WIZ FLANGE
110321	4	BOLT, 7/16-14 X 1.75 GR 5 HEX HEAD
110337	4	NUT, 7/16-14 WIZ FLANGE
110402	2	Bolt, 3/8-16 X 1.25 in Carriage
110420	4	BOLT, 3/8-16 X 1.0
110434	4	BOLT, 1/4-20 X 0.5, WIZ FLANGE
110583	1	BOLT, 5/16-18 X 8.0
110588	2	NUT, 1/2-13 WIZ FLANGE
110618	2	NUT, 3/8-16 LOCK NYLON INSERT
110672	4	WASHER, 3/8" LOCK
120143	1	ADAPTER, 12MJ-10MB
120144	2	ADAPTER, 6MJ-10MB
120179	1	ADAPTER, 6MJ-4MB90
120233	3	ADAPTER, 4MJ-4MB
120239	1	ADAPTER, 6MJ-8MB
120243	1	ADAPTER, 6MJ-6MP
120262	1	ADAPTER, 12MJ-12MP90
120400	2	ADAPTER, 6MJ-6MB
220559	1	FILTER ELEMENT
410365	1	MOTOR ADJ. PLATE
420127	1	MOTOR, EATON 101-1009
802017	1	KNOB, THREADED INSERT, 5/15-18
822020	1	FILTER HEAD, SPIN ON, 6 FB PORTS
922022	1	PUMP, .31cid X 1/2" HALDEX W600
922079	1	DIRECTIONAL VALVE, HPV4D-4SAE T4
922080	1	SUCTION HOSE
922081	1	HOSE ASSY, FILTER TO TANK
922082	1	HOSE ASSY, VALVE TO FILTER
922083	1	HOSE ASSY, PUMP TO VALVE
922084	2	HOSE ASSY, VALVE TO DRIVE MOTOR
970070	4	BEARING SPACER
975620	1	HYDRAULIC TANK ASSY
200116	2	SIGHT GLASS
720108	1	FITTING, PLUG 3/8" PIPE
923001	1	BREATHER/FILLER CAP

Drive Components



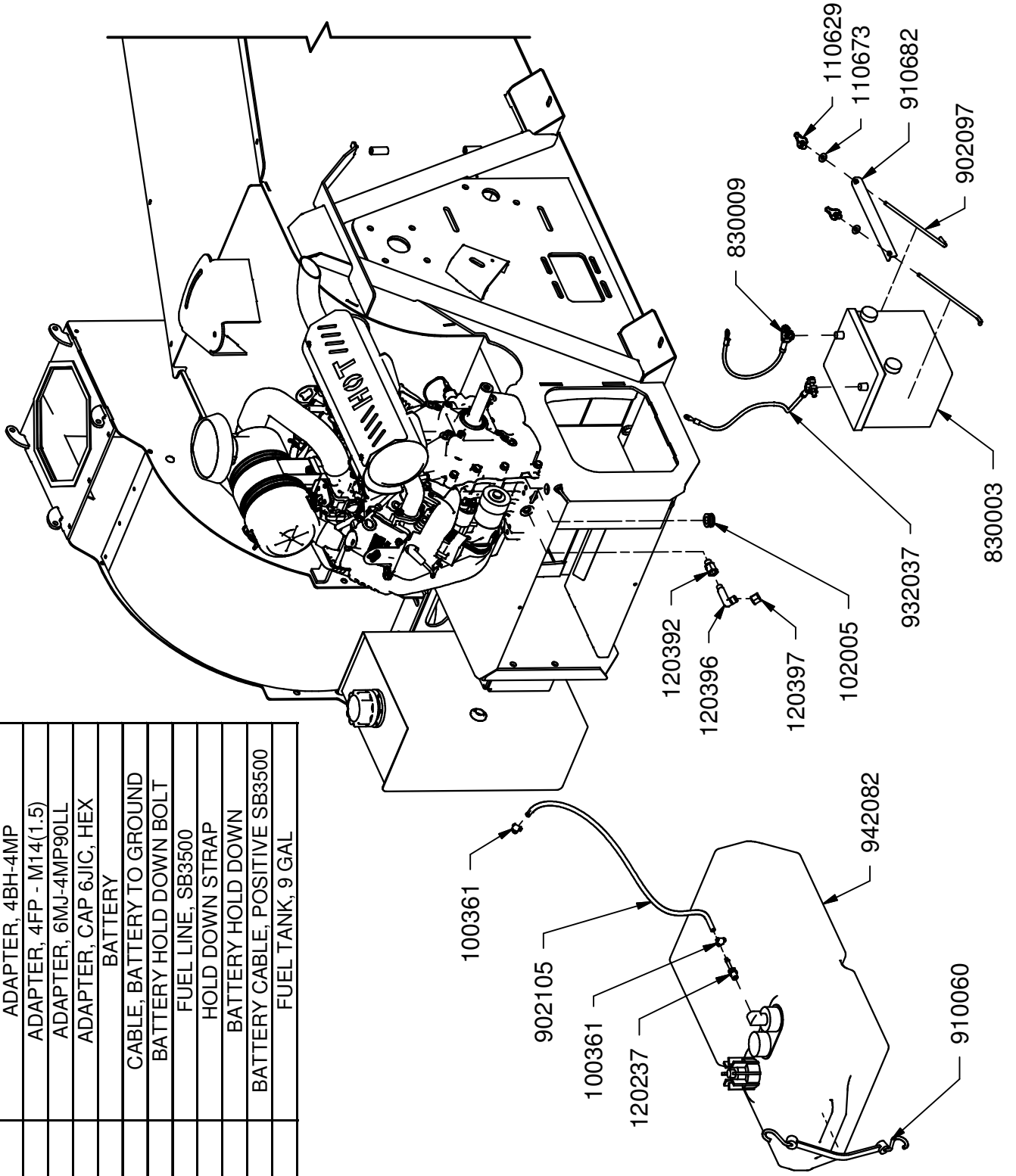
Drive Components

PART #	QUANTITY	DESCRIPTION	PART #	QUANTITY	DESCRIPTION
110116	1	NUT, 5/8-18 JAM	530019	1	SWITCH BOOT
110119	2	NUT, 10-24 LOCK	840016	1	TAIL PIPE
110264	2	BOLT, 10-24 X .5 STAINLESS, PHILLIPS	910680	1	SPACER, 1.0 X .625 X 1.25
110317	1	CLAMP, 2" EXHAUST	910685	1	MUFFLER SHIELD
110341	1	KEY, 3/8 X 3/8 X 3.0 in	910688	1	SPACER, 1.625 X 1.13 X 1.1875
110452	1	BOLT, 1/4-20 X .75 SHCS	910689	1	SPACER, 1.875 X 1.25 X .135
110493	4	BOLT, 3/8-16 X 2.25	932018	1	CLUTCH, ELECTRIC
110506	1	BOLT, 5/8-18 X 3.0	940042	1	SLAT DRIVE ROLLER CHAIN
110527	2	BOLT, 7/16-14 X 4.0	940102	1	BELT IDLER TENSIONER
110528	2	BOLT, 7/16-14 X 1.0	942027	1	SHEAVE, 1A5.6/B6.0 -1610 TL
110608	2	NUT, 5/16-18	942063	1	PULLEY, 2 GROOVE QD BUSHING
110618	4	NUT, 3/8-16 LOCK NYLON INSERT	942067	1	BUSHING, SK 1 1/2
110660	1	WASHER, 1/2 FLAT SPECIAL 1.5 OD	942101	1	BUSHING, TAPERLOCK 1610 -1/2
110671	5	WASHER, 7/16" LOCK	942167	1	IDLER PULLEY ASSY
110676	4	WASHER, 3/8" FLAT STANDARD	942187	1	BELT, GATES A33
110715	1	BOLT, 7/16-20 X 2.5	942188	1	SHEAVE, 1A4.5 X 1 1/8KSS
110716	2	BOLT, 5/16-18 X 1.5 SHCS	942197	1	BELT, HI-POWER II POWERBAND, 2/B63
110771	1	KEY, 1/4 X 1/4 X .625 in	943030	1	ENGINE, 31HP VANGUARD
410375	1	SPROCKET, 60b10 X 1.0	943031	1	MUFFLER
410442	1	CONNECTING LINK, #60 CHAIN	952022	1	THROTTLE ASSY, SB3500
440016	1	SPROCKET, 60b25 X 1.0	550051	1	KNOB, THROTTLE
510089	1	KEY, 1/4 X 1/4 X 1.25 in	952021	1	THROTTLE CABLE
530007	1	TOGGLE SWITCH	970284	2	SPACER, .75 X .50 X 2.75
			970513	1	PUMP MOUNT TV60E
			970680	1	CLUTCH BRACKET

NOT SHOWN	
935013	CLUTCH WIRE ASSY, SB3500

Fuel Tank & Battery

PART #	QUANTITY	DESCRIPTION
100361	2	CLAMP, HOSE #4 .25 MINI
102005	1	GROMMET, RUBBER .875 OD X .625 ID
110629	2	NUT, 1/4-20, WING
110673	2	WASHER, 1/4" FLAT STANDARD
120237	1	ADAPTER, 4BH-4MP
120392	1	ADAPTER, 4FP - M14(1.5)
120396	1	ADAPTER, 6MJ-4MP90LL
120397	1	ADAPTER, CAP 6JIC, HEX BATTERY
830003	1	BATTERY
830009	1	CABLE, BATTERY TO GROUND
902097	2	BATTERY HOLD DOWN BOLT
902105	1	FUEL LINE, SB3500
910060	1	HOLD DOWN STRAP
910682	1	BATTERY HOLD DOWN
932037	1	BATTERY CABLE, POSITIVE SB3500
942082	1	FUEL TANK, 9 GAL



NOTES