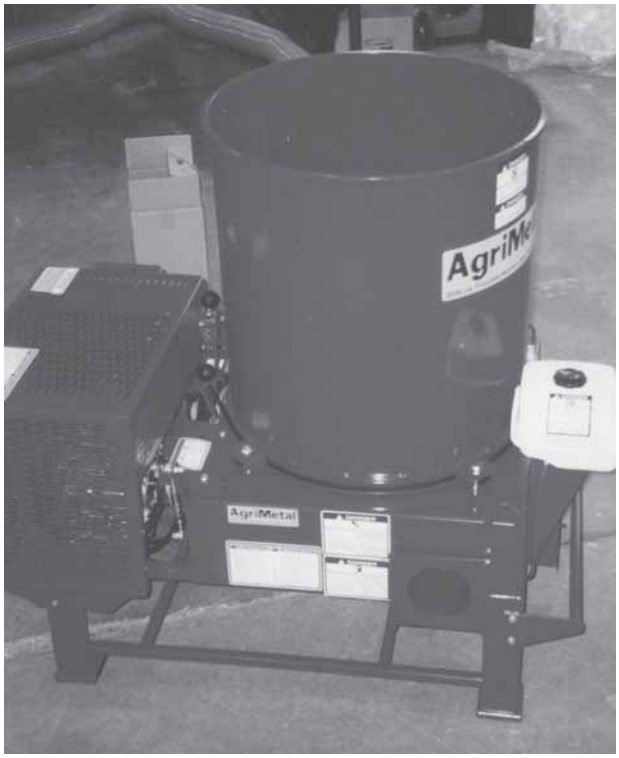
1 INTRODUCTION

Congratulations on your choice of an AgriMetal Landscape Bale Chopper to complement your operation. This equipment has been designed and manufactured to meet the needs of a discerning turf care industry.

Safe, efficient and trouble free operation of your AgriMetal Bale Chopper requires that you and anyone else who will be operating or maintaining the machine, read and understand the Safety, Operation, Maintenance and Trouble Shooting information contained within the Operator's Manual.



GA 130S-LS

GA 200S-LS

This manual covers the Model GA 110S-LS, GA 130S-LS and GA 200S-LS Bale Chopper. Differences are covered where appropriate. Use the Table of Contents or Index as a guide to locate required information.

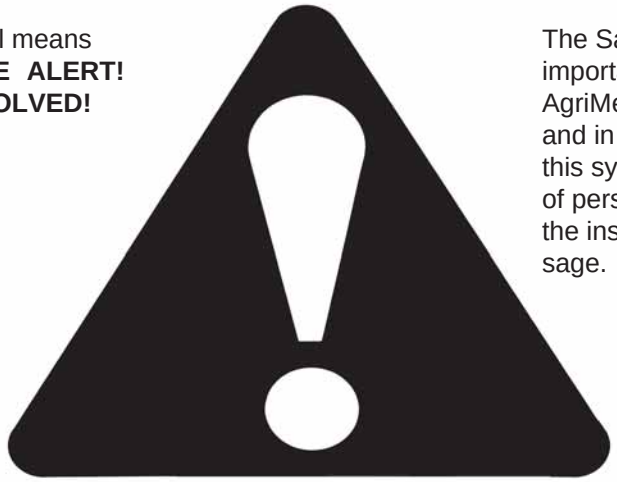
Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your AgriMetal Dealer or Distributor if you need assistance, information or additional copies of the manuals.

OPERATOR ORIENTATION - The directions left, right, front and rear, as mentioned throughout this manual, are as seen from behind the truck driver's seat and facing in the direction of travel.

2 SAFETY

SAFETY ALERT SYMBOL

This Safety Alert symbol means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



The Safety Alert symbol identifies important safety messages on the AgriMetal Landscape Bale Chopper and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

3 Big Reasons

Accidents Disable and Kill
Accidents Cost
Accidents Can Be Avoided

SIGNAL WORDS:

Note the use of the signal words **DANGER, WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each message has been selected using the following guide-lines:

DANGER – Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING – Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION – Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

SI NO LEE INGLES, PIDA AYUDA A AIGUIEN QUE SI LO LEA PARA QUE LE TRADUZCA LAS MIDIDAS DE SEGURIDAD.

If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer at AgriMetal Inc., 1006 Rue Principale, Wickham, Quebec, Canada, J0C 1S0. Phone (819) 398-6883 or fax (819) 398-5311.

SAFETY

YOU are responsible for the SAFE operation and maintenance of your AgriMetal Landscape Bale Chopper. **YOU** must ensure that you and anyone else who is going to operate, maintain or work around the Bale Chopper be familiar with the operating and maintenance procedures and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be adhered to while operating the Bale Chopper.

Remember, **YOU** are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Bale Chopper owners must give operating instructions to operators or employees before allowing them to operate the machine, and at least annually thereafter per OSHA (Occupational Safety and Health Administration) regulation 1928.57.

- The most important safety device on this equipment is a SAFE operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. Most accidents can be avoided.

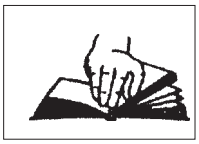
- A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.

- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.

- Think SAFETY! Work SAFELY!

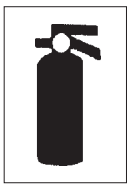
2.1 GENERAL SAFETY

1. Read and understand the Operator's Manual and all safety signs before operating, maintaining, adjusting or unplugging the Bale Chopper.



2. Have a first-aid kit available for use should the need arise and know how to use it.

3. Have a fire extinguisher available for use should the need arise and know how to use it.



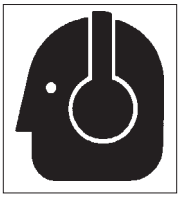
4. Do not allow riders.

5. Wear appropriate protective gear. This list includes but is not limited to:

   - A hard hat
   - Protective shoes with slip resistant soles
   - Protective glasses or goggles
   - Heavy gloves
   - Wet weather gear
   - Hearing protection
   - Respirator or filter mask

6. Install and secure all guards before starting.

7. Wear suitable ear protection for prolonged exposure to excessive noise.



8. Place all controls in neutral, stop engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.

9. Clear the area of people, especially small children, before starting the unit.

10. Review safety related items annually with all personnel who will operating or maintaining the Bale Chopper.

2.2 EQUIPMENT SAFETY GUIDELINES

1. Safety of the operator and bystanders is one of the main concerns in designing and developing a machine. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury or death, study the following precautions and insist those working with you, or for you, follow them.

2. In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.

3. Replace any safety sign or instruction sign that is not readable or is missing. Location of such safety signs is indicated in this manual.

4. Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.

5. **Under no circumstances should young children be allowed to work with this equipment. Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.** Review the safety instructions with all users annually.

6. This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible, properly trained and physically able person familiar with machinery and trained in this equipment's operations. If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.

7. Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - **DON'T TRY IT.**

8. Do not modify the equipment in any way. Unauthorized modification result in serious injury or death and may impair the function and life of the equipment.

9. In addition to the design and configuration of this implement, including Safety Signs and Safety Equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to Safety Messages and operation instruction in each of the appropriate sections of the engine and machine Manuals. Pay close attention to the Safety Signs affixed to the engine and the machine.

2.3 SAFETY TRAINING

1. Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator or bystander.

2. In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of this equipment.

3. It has been said, "The best safety feature is an informed, careful operator." We ask you to be that kind of an operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. Accidents can be avoided.

4. **Working with unfamiliar equipment can lead to careless injuries. Read this manual, and the manual for your engine, before assembly or operating, to acquaint yourself with the machines. If this machine is used by any person other than yourself, or is loaned or rented, it is the machine owner's responsibility to make certain that the operator, prior to operating:**

   a. Reads and understands the operator's manuals.

   b. Is instructed in safe and proper use.

5. Know your controls and how to stop engine and machine quickly in an emergency. Read this manual and the one provided with your vehicle.

6. Train all new personnel and review instructions frequently with existing workers. Be certain only a properly trained and physically able person will operate the machinery. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death. If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.

2.4 SAFETY SIGNS

1. Keep safety signs clean and legible at all times.

2. Replace safety signs that are missing or have become illegible.

3. Replaced parts that displayed a safety sign should also display the current sign.

4. Safety signs are available from your authorized Distributor or Dealer Parts Department or the factory.

How to Install Safety Signs:

- Be sure that the installation area is clean and dry.

- Be sure temperature is above 50°F (10°C).

- Determine exact position before you remove the backing paper.

- Remove the smallest portion of the split backing paper.

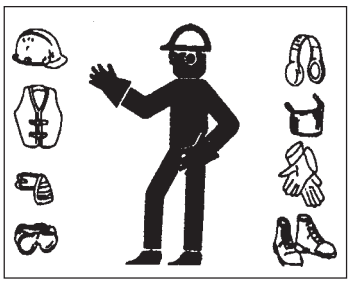
- Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.

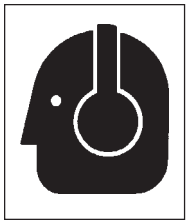
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place.

- Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.

2.5 PREPARATION

1. Never operate the transport vehicle and machine until you have read and completely understand this manual, the engine Operator's Manual, and each of the Safety Messages found on the safety signs on the engine and machine.

2. 
Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving the implement. Do not allow long hair, loose fitting clothing or jewelry to be around equipment.

3. 
PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!
Gas engines with or without equipment attached can often be noisy enough to cause permanent, partial hearing loss. We recommend that you wear hearing protection on a full-time basis if the noise in the Operator's position exceeds 80db. Noise over 85db on a long-term basis can cause severe hearing loss. Noise over 90db adjacent to the Operator over a long-term basis may cause permanent, total hearing loss. **NOTE:** Hearing loss from loud noise (from tractors, chain saws, radios, and other such sources close to the ear) is cumulative over a lifetime without hope of natural recovery.

4. Operate only in daylight or good artificial light.

5. Be sure machine is properly mounted, adjusted and in good operating condition.

6. Ensure that all safety shielding and safety signs are properly installed and in good condition.

2.6 BATTERY SAFETY

1. Keep all sparks and flames away from batteries, as gas given off by electrolyte is explosive.

2. Avoid contact with battery electrolyte: wash off any spilled electrolyte immediately.

3. Wear safety glasses when working near batteries.

4. Do not tip batteries more than 45 degrees, to avoid electrolyte loss.

5. To avoid injury from spark or short circuit, disconnect battery ground cable before servicing any part of electrical system.

2.7 OPERATING SAFETY

1. Please remember it is important that you read and heed the safety signs on the Bale Chopper. Clean or replace all safety signs if they cannot be clearly read and understood. They are there for your safety, as well as the safety of others. The safe use of this machine is strictly up to you, the operator.

2. All things with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and follows reasonable safety practices. The manufacturer has designed this Bale Chopper to be used with all its safety equipment properly attached, to minimize the chance of accidents. Study this manual to make sure you have all safety equipment attached.

3. If a safety shield or guard is removed for any reason, it must be replaced before the machine is again operated.

4. When the use of hand tools is required to perform any part of assembly, installation, adjustment, maintaining, repairing, removal, or moving, be sure the tools used are designed and recommended by the tool manufacturer for that specific task.

5. Personal protection equipment including hearing protection, hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving. Do not allow long hair, loose fitting clothing, or jewelry to be around moving parts.

6. Always use two people to handle heavy, unwieldy components during assembly, installation, removal or moving.

7. Never place any part of your body where it would be in danger if movement should occur during assembly, installation, operation, maintaining, repairing, removal or moving.

8. Place all controls in neutral, stop engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.

9. Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.

10. Do not allow riders on the machine or vehicle box at any time. There is no safe place for any riders.

11. Before you operate the machine, check over all pins, bolts, and connections to be sure all are securely in place. Replace any damaged or worn parts immediately.

12. Do not allow anyone who is not familiar with the safety rules and operation instructions to use this machine.

13. Never allow children to operate or be around this machine.

14. Do not reach into blower or tub openings when the engine is running. Keep others away also.

15. Clear the work area of objects which might be picked up and snagged or entangled in the machine.

16. Keep hands, feet, hair, jewellery, and clothing away from all moving and/or rotating parts.

17. Do not direct the air stream toward people, animals or buildings to prevent injury or damage.

18. Do not place hands, feet or other body parts into air stream.

19. Do not enter tub unless engine has been stopped and disabled.

20. Always wear heavy canvas or leather gloves when handling blades.

2.8 TRANSPORT SAFETY

1. Comply with state and local laws governing highway safety and movement of vehicles on public roads.

2. Plan your route to avoid heavy traffic.

3. Do not drink and drive.

4. Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc. Watch for traffic when operating near or crossing roadways.

5. Never allow riders in either vehicle box or on machine.

2.9 STORAGE SAFETY

1. Store the unit in an area away from human activity.

2. Do not permit children to play on or around the stored machine.

3. Store the unit in a dry, level area. Support the frame with planks if required.

2.10 REFUELLING SAFETY

1. Handle fuel with care. It is highly flammable.

2. Allow engine to cool for 5 minutes before refuelling. Clean up spilled fuel before restarting engine.

3. Do not refuel the machine while smoking or when near open flame or sparks.

4. Fill fuel tank outdoors.

5. Prevent fires by keeping machine clean of accumulated trash, straw, grease and debris.

2.11 MAINTENANCE SAFETY

1. Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.

2. Follow good shop practices.
   - Keep service area clean and dry.
   - Be sure electrical outlets and tools are properly grounded.
   - Use adequate light for the job at hand.

3. Make sure there is plenty of ventilation. Never operate an engine in a closed building. The exhaust fumes may cause asphyxiation.

4. Before working on this machine, shut off the engine, and remove the ignition key.

6. Never work under equipment unless it is blocked securely.

7. Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance work. Always wear heavy canvas or leather gloves when handling blades.

8. Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.

9. A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.

10. Periodically retighten all fasteners.

11. When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.

2.12 GAS MOTOR SAFETY

BEFORE STARTING ENGINE, READ AND UNDERSTAND THE OPERATING AND MAINTENANCE INSTRUCTIONS THAT CAME WITH YOUR ENGINE.

WARNING: DO NOT

1. DO NOT run engine in an enclosed area. Exhaust gases contain carbon monoxide, an odorless and deadly poison.

2. DO NOT place hands or feet near moving or rotating parts.

3. DO NOT store, spill, or use gasoline near an open flame, or devices such as a stove, furnace, or water heater which use a pilot light or devices which can create a spark.

4. DO NOT refuel indoors where area is not well ventilated. Outdoor refuelling is preferred.

5. DO NOT fill fuel tank while engine is running. Allow engine to cool for 5 minutes before refuelling. Store fuel in approved safety containers.

6. DO NOT remove fuel tank cap while engine is running.

7. DO NOT operate engine if gasoline is spilled. Move machine away from the spill and avoid creating any ignition until the gasoline has evaporated.

8. DO NOT smoke when filling fuel tank.

9. DO NOT choke carburetor to stop engine. Whenever possible, gradually reduce engine speed before stopping.

10. DO NOT run engine above rated speeds. This may result in injury.

11. DO NOT tamper with governor springs, governor links or other parts which may increase the governed engine speed.

12. DO NOT tamper with the engine speed selected by the original equipment manufacturer.

13. DO NOT check for spark with spark plug or spark plug wire removed. Use an approved tester.

14. DO NOT crank engine with spark plug removed. If engine is flooded, place throttle in "FAST" position and crank until engine starts.

15. DO NOT strike flywheel with a hard object or metal tool as this may cause flywheel to shatter in operation. Use proper tools to service engine.

16. DO NOT operate engine without a muffler. Inspect periodically and replace, if necessary. If engine is equipped with muffler deflector, inspect periodically and replace, if necessary with correct deflector.

17. DO NOT operate engine with an accumulation of grass, leaves, dirt or other combustible materials in the muffler area.

18. DO NOT use this engine on any forest covered, brush covered, or grass covered unimproved land unless a spark arrester is installed on the muffler. The arrester must 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.

19. DO NOT touch hot muffler, cylinder or fins because contact may cause burns.

20. DO NOT run engine with air cleaner or air cleaner cover removed.

WARNING: DO

1. ALWAYS DO remove the wire from the spark plug when servicing the engine or equipment TO PREVENT ACCIDENTAL STARTING. Disconnect the negative wire from the battery terminal if equipped with a 12 volt starting system.

2. DO keep cylinder fins and governor parts free of grass and other debris which can affect engine speed.

3. DO examine muffler periodically to be sure it is functioning effectively. A worn or leaking muffler should be repaired or replaced as necessary.

4. DO use fresh gasoline. Stale fuel can gum carburetor and cause leakage.

5. DO check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.

2.13 SIGN-OFF FORM

AgriMetal follows the general Safety Standards specified by the American Society of Agricultural Engineers (ASAE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining the Landscape Bale Chopper must read and clearly understand ALL Safety, Operating and Maintenance information presented in this manual.

Do not operate or allow anyone else to operate this equipment until such information has been reviewed. Annually review this information before the season start-up.

Make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment. We feel that an untrained operator is unqualified to operate this machine.

A sign-off sheet is provided for your record keeping to show that all personnel who will be working with the equipment have read and understand the information in the Operator's Manual and have been instructed in the operation of the equipment.

SIGN-OFF FORM

DATE	EMPLOYEES SIGNATURE	EMPLOYERS SIGNATURE

3 SAFETY SIGN LOCATIONS

The types of safety signs and locations on the equipment are shown in the illustrations that follow. Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!

GA 200S-LS

A

CAUTION

1. Read Operator's Manual before starting.
2. Keep guards and shields in place and access doors closed.
3. Keep hands, feet, hair and clothing away from moving parts.
4. Stop engine, place all controls in neutral, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging the machine.
5. Do not climb on the machine or place hands in any opening when the engine is running.
6. Keep people and pets a safe distance from the machine.
7. Do not smoke when refuelling.
8. Block up machine securely before working under it.
9. Keep all electrical wires and connections dry and in good repair.
10. Do not direct discharge duct or hose toward people, animals or property to prevent being hit by fast moving objects. Always wear appropriate safety gear during operation.
11. Review safety instructions annually.

ATTENTION

1. Lire attentivent le manuel d'opération avant la mise en marche.
2. Garder tous les écrans protecteurs in place.
3. Garder les mains, pieds, cheveux et vétements éloignés des éléments mobiles.
4. Arréter le moteur, placer tous les contrôles à la position "neutre", enlever la clé du contact et attendre que toutes les places soient au point mort avant de faire tout ajustement, réparation ou de débloquer la machine.
5. Ne pas grimper sur la machine et ne jamais se placer les mains dans toute ouverture lorsque celle-ci est en marche.
6. Garder les gens et les animaux à une distance sécuritaire de la machine.
7. Ne jamais fümer lors du plein d'essence.
8. Immobiliser la machine de façon sécuritaire avant de travailler sous celle-ci.
9. Garder toute connection et fil électrique au sec et en bonne condition.
10. Afin d'éviter tout risque d'accident grave, ne jamais souffler en direction des gens, animaux ou vers les propriétées. Le port des équipements de sécurité est obligatoire lorsque vous opéré la machine.
11. Reviser annuellement le manual d'opération.

NC13-33-0108

REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

The types of safety signs and locations on the equipment are shown in the illustrations that follow. Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!

B

WARNING **AVERTISSEMENT**

ROTATING PART HAZARD
KEEP AWAY

To prevent serious injury or death from rotating parts:

1. Place all controls in neutral or off, stop engine or motor, set park brake, remove ignition key or disable power source and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
2. Install and secure all guards before operating.
3. Do not operate with rotating parts exposed.

PIÉCES EN MOUVEMENT
RESTER ÉLOIGNÉ

Á défaut de suivre ces instructions, cela pourrait entraîner de sérieuses blessures ou même la mort.

1. Arrêter le moteur, placer tous les contrôles à la position "neutre" enlever la clé du contact et attendre que toutes les places soient au point mort avant de faire tout ajustement, réparation ou de débloquer la machine.
2. Installer tous les écrans protecteurs avant de mettre la machine en fonction.
3. Ne jamais opérer la machine sans écran protecteur.

01-60-0115

REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

The types of safety signs and locations on the equipment are shown in the illustrations that follow. Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!

C

WARNING **AVERTISSEMENT**

ROTATING PART HAZARD
KEEP AWAY

To prevent serious injury or death from rotating parts:

1. Place all controls in neutral or off, stop engine or motor, set park brake, remove ignition key or disable power source and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
2. Install and secure all guards before operating.
3. Do not operate with rotating parts exposed.

PIÉCES EN MOUVEMENT
RESTER ÉLOIGNÉ

Á défaut de suivre ces instructions, cela pourrait entraîner de sérieuses blessures ou même la mort.

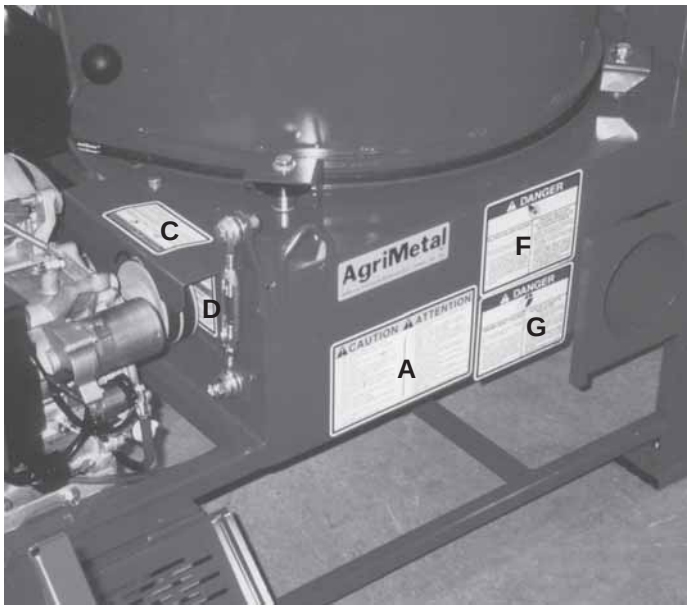
1. Arrêter le moteur, placer tous les contrôles à la position "neutre" enlever la clé du contact et attendre que toutes les places soient au point mort avant de faire tout ajustement, réparation ou de débloquer la machine.
2. Installer tous les écrans protecteurs avant de mettre la machine en fonction.
3. Ne jamais opérer la machine sans écran protecteur.

01-60-0110

REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

The types of safety signs and locations on the equipment are shown in the illustrations that follow. Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!



D

WARNING

MISSING SHIELD HAZARD

To prevent serious injury or death from exposed hazard:

1. Install and secure shields before operating.
2. Keep hands, feet, hair and clothing away from moving parts.

AVERTISSEMENT

GARDE ABSENT

Á défaut de suivre ces instructions, cela pourrait entraîner de sérieuses blessures ou même la mort.

1. Installer les gardes de façon sécuritaire avant la mise en marche de la machine.
2. Garder les mains, pieds, cheveux et vêtements éloignés des éléments mobiles.

01-60-0070

E

DANGER

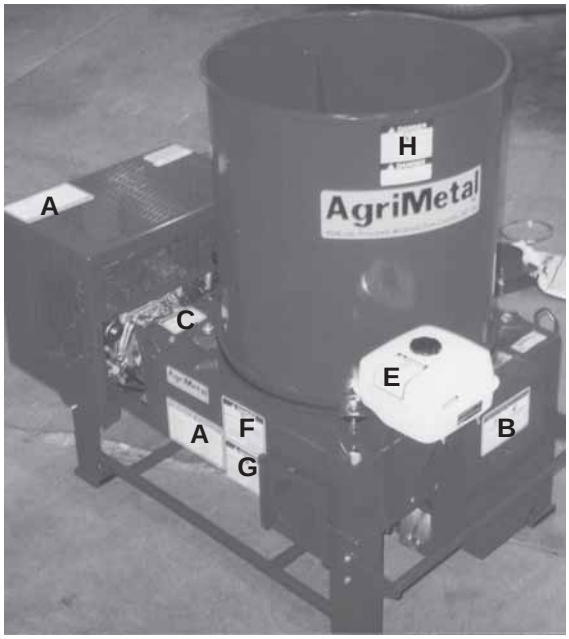
FIRE HAZARD *NO SMOKING*	RISQUE D'INCENDIE *DEFENSE DE FUMÉ*
To prevent serious injury or death from fire:	**Á défaut de suivre ces instructions, cela pourrait entraîner de sérieuses blessures ou même la mort.**
1. Do not smoke when refueling. 2. Keep sparks, flames and hot material away from flammable substances. 3. Stop engine five minutes before refueling.	1. Ne pas fumer lors du remplissage. 2. Garder les flammes et toute matiére inflammable hors de portée. 3. Arrêter le moteur cinq minutes avant de refaire le plein.

NC13-33-0109

REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

The types of safety signs and locations on the equipment are shown in the illustrations that follow. Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!



F

DANGER

BLOWER BLADE HAZARD

To prevent serious injury or death from blower blade hazard:

1. Do not open blower access doors when the engine is running.
2. Do not place hands or feet into blower openings when engine running. Keep others away.
3. Stop engine, place all controls in neutral, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging machine.
4. Do not operate with access doors removed.

PROPULSEUR EN ROTATION RISQUE DE BLESSURE GRAVE

Á défaut de suivre ces instructions, cela pourrait entraîner de sérieuses blessures ou même la mort.

1. Ne jamais ouvrir les portes d'accès du souffleur lorsque le moteur est en marche.
2. Arrêter le moteur, placer tous les contrôles à la position "neutre", enlever la clé du contact et attendre que toutes les places soient au point mort avant de faire tout ajustement, réparation ou de débloquer la machine.
3. Arrêter le moteur, placer tous les contrôles à la position "neutre", enlever la clé du contact et attendre que toutes les places soient au point mort avant de faire tout ajustement, réparation ou de débloquer la machine.
4. Ne jamais opérer sans portes d'accès.

NC13-33-0112

REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

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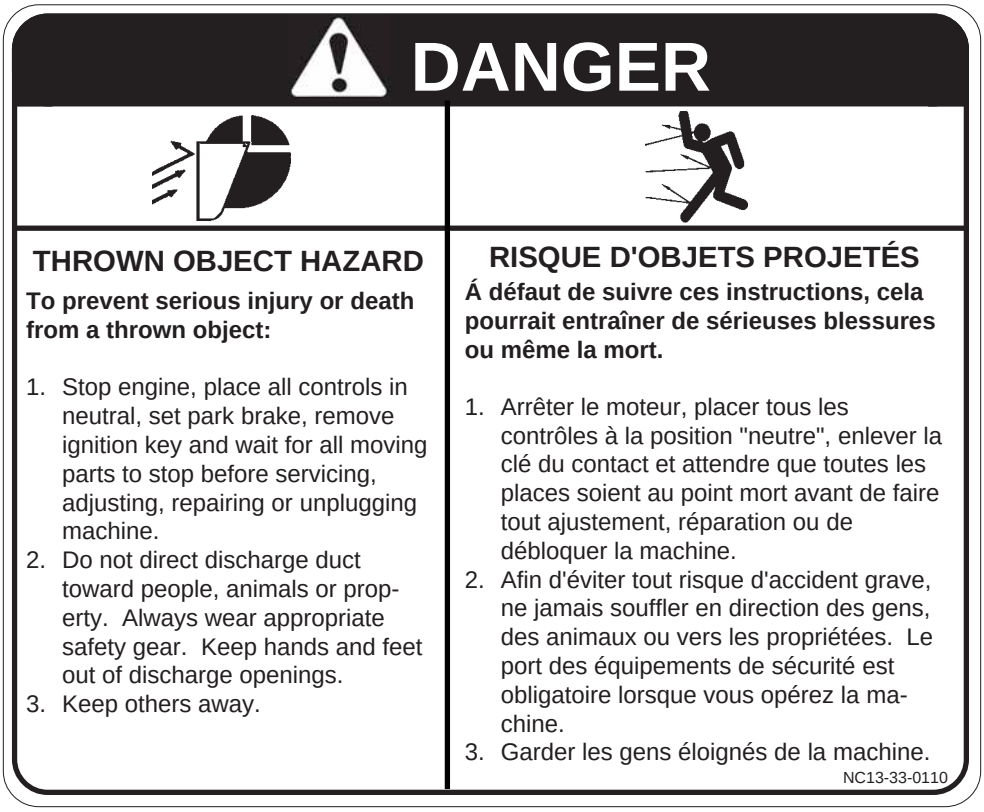
- Think SAFETY! Work SAFELY!

G



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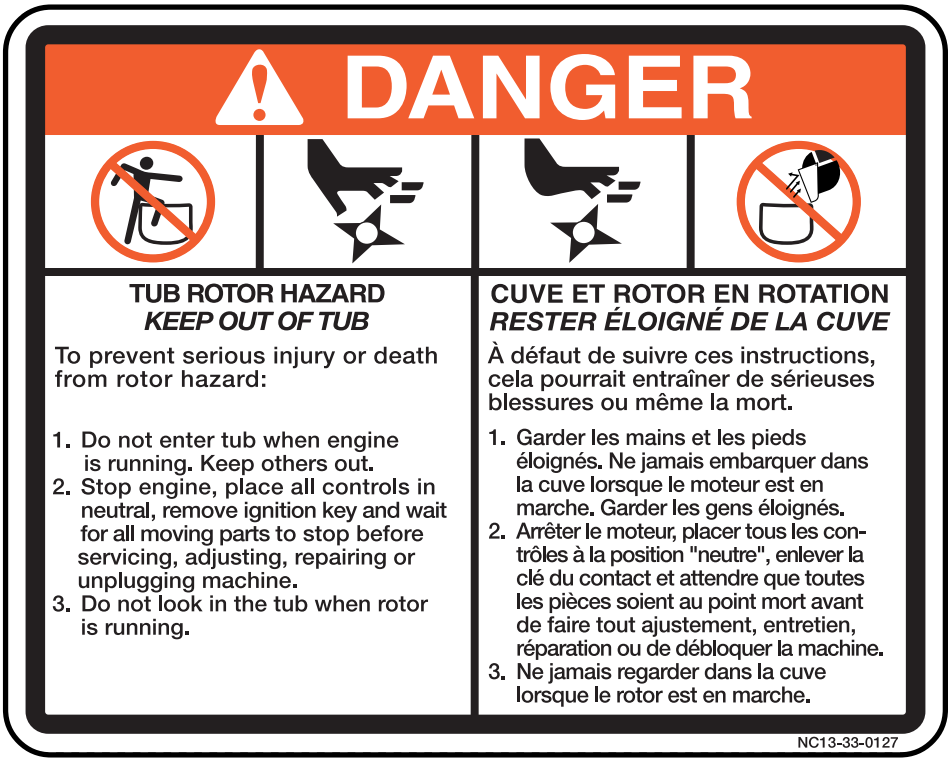

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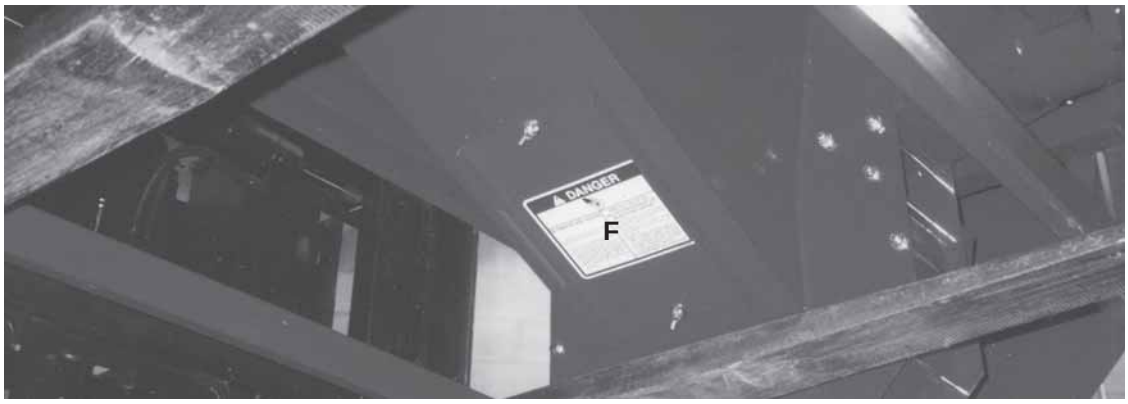

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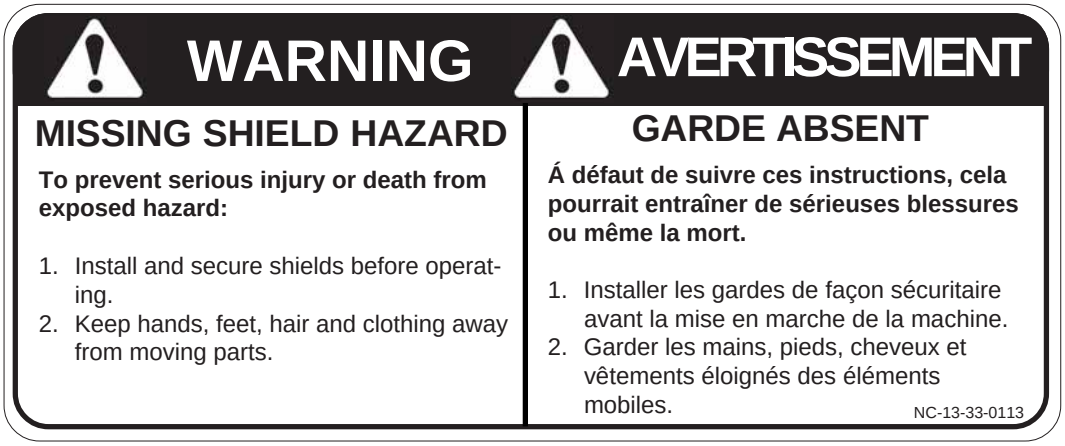


REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

4 ASSEMBLING

4.1 MACHINE ASSEMBLY

The machine is shipped from the factory in a partially disassembled configuration and attached to a pallet that provides for easy moving and handling. Always use tools, equipment and forklifts of appropriate size and capacity for the job. Always use 2 men when lifting, moving and assembling the machine.

When the machine is shipped, follow this procedure when preparing for the customer:

1. Clear the area of bystanders especially small children before starting.

2. Remove the pallet tie-downs.

Fig. 1 SHIPPING CONFIGURATION

3. Use a forklift to lift the pallet/ machine from the truck. Carry the load close to the ground as it is moved to the assembly area and positioned.

4. Remove plastic wrap.

GA 130S-LS

GA 200S-LS

Fig. 2 UNWRAPPED

5. Remove the components from inside the tub and lay-out.

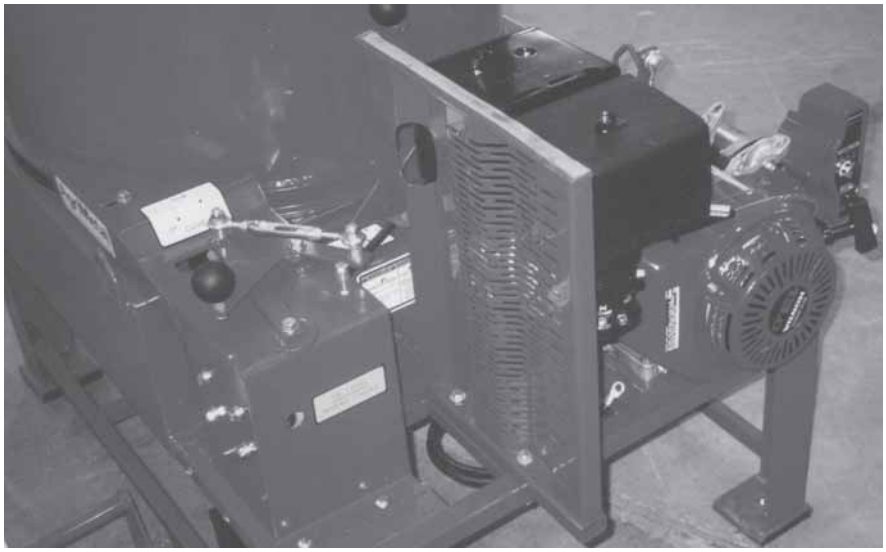
Fig. 3 LAYOUT (TYPICAL)

6. On the GA 110S-LS and the GA 130S-LS models;

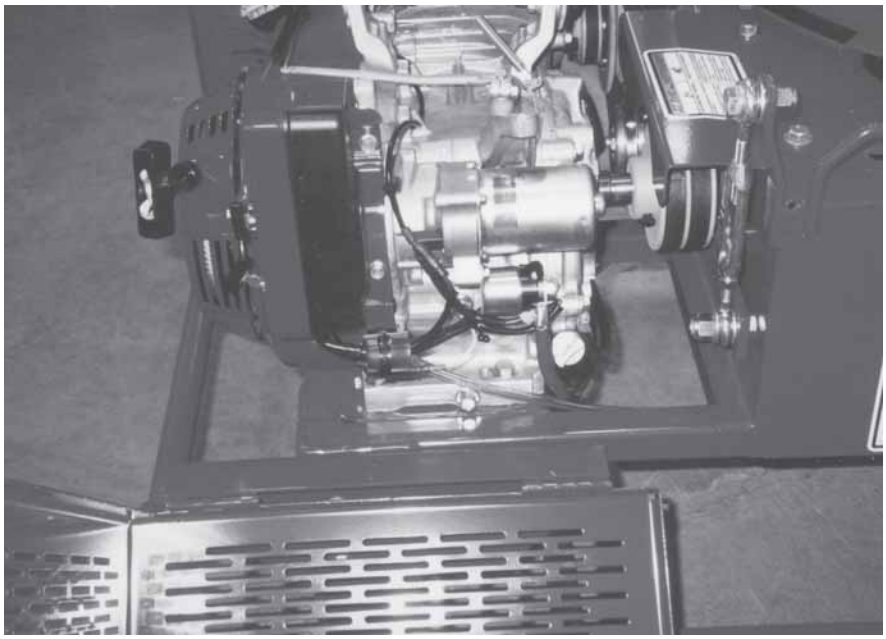
   a. Mount the side engine cover.

   b. Mount full engine cover.

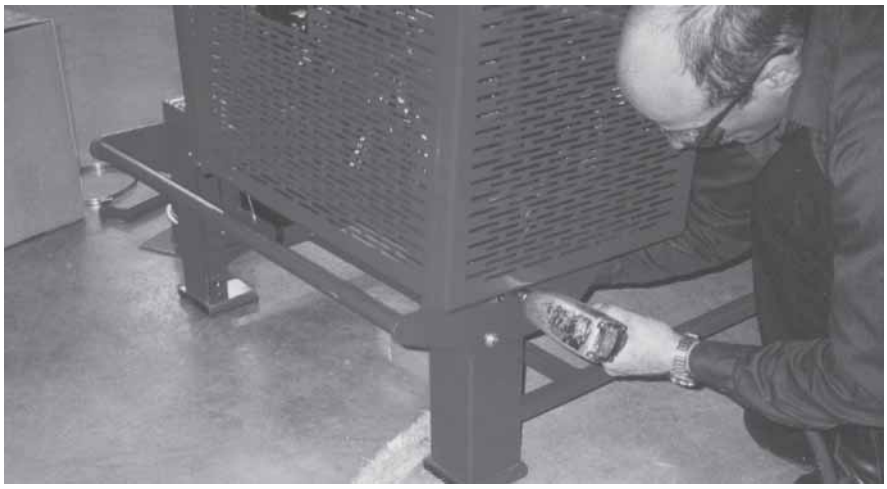
   c. Mount engine end lift bar.



Side Cover



Full Cover



Engine Lift Bar

Fig. 4 ENGINE COVER

d. Mount blower end lift bar.

Fig. 5 BLOWER END LIFT BAR

7. On the GA 200S-LS mount the engine cover.

Mounting

Mounted

Fig. 6 ENGINE COVER

8. On the GA 110S-LS and the GA 130S-LS models, mount the gas tank:

   a. Remove tank from cardboard box that it was shipped in.

Location

   b. Mount tank on frame. Tighten fasteners to their specified torque.

   c. Remove screw plug from fuel line intake.

Mounting

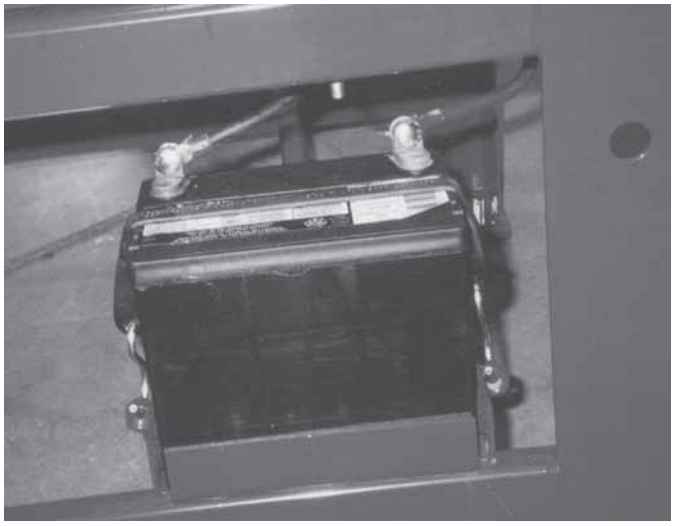
   d. Push fuel line over tank outlet fitting.

Fuel Line

Fig. 7 FUEL TANK

9. Connect starter cables to battery.

Shipping



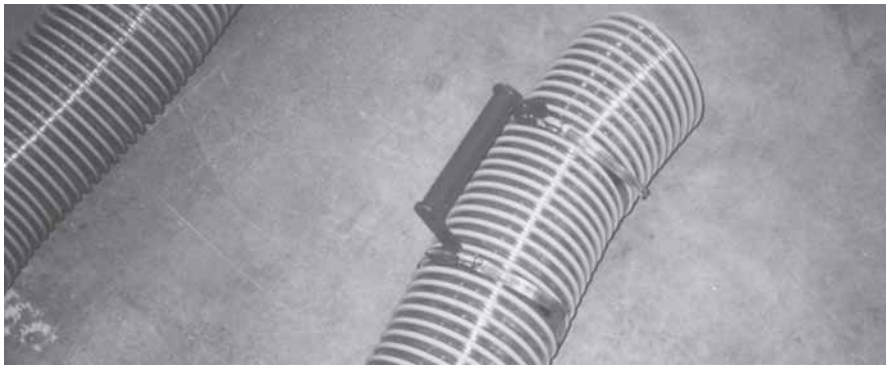
Connected

Fig. 8 BATTERY CABLES

10. Assemble discharge hose:

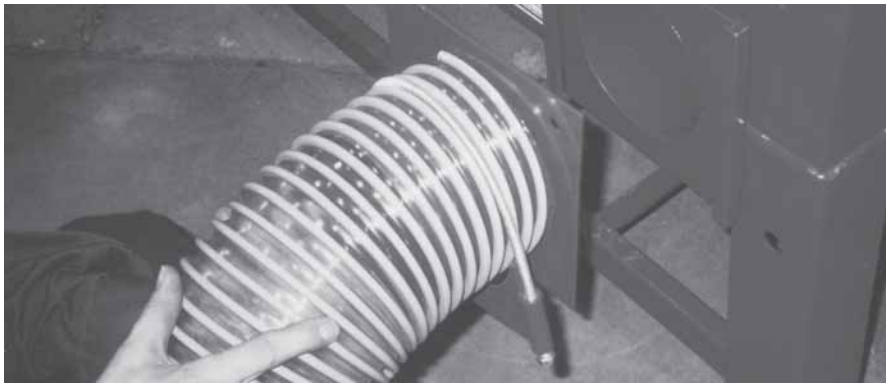
    a. Mount the handle to the end of the hose.

Lay-Out



Handle

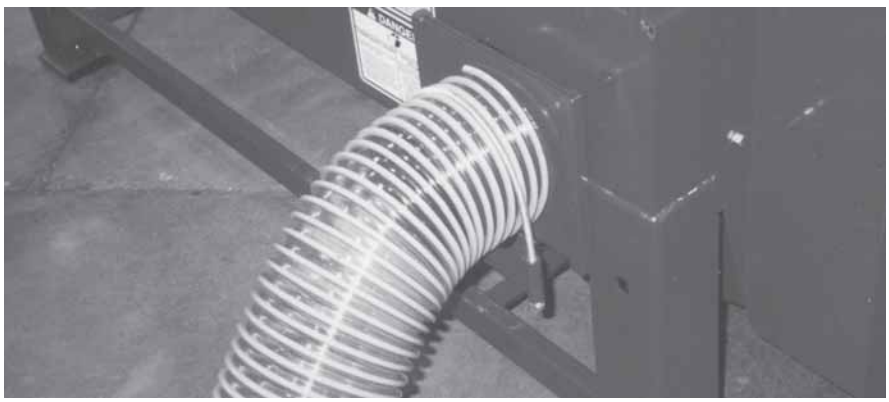
    b. Slide the hose over the discharge bracket.



Discharge Bracket

    c. Mount discharge bracket to the machine.

11. Tighten all fasteners to their specified torque.



Mounted

Fig. 9 DISCHARGE HOSE

5 OPERATION

OPERATING SAFETY

- Please remember it is important that you read and heed the safety signs on the Bale Chopper. Clean or replace all safety signs if they cannot be clearly read and understood.
- If a safety shield or guard is removed for any reason, it must be replaced before the machine is again operated.
- Always use two people to handle heavy, unwieldy components during assembly, installation, removal or moving.
- Place all controls in neutral, stop engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Do not allow anyone who is not familiar with the safety rules and operation instructions to use this machine.
- Never allow children to operate or be around this machine.
- Do not reach into blower or tub openings when the engine is running. Keep others away also.
- Keep hands, feet, hair, jewellery, and clothing away from all moving and/or rotating parts.
- Do not direct the air stream toward people, animals or buildings to prevent injury or damage.
- Do not place hands, feet or other body parts into air stream.
- Do not enter tub unless engine has been stopped and disabled.
- Always wear heavy canvas or leather gloves when handling blades.

5.1 TO THE NEW OPERATOR OR OWNER

AgriMetal Bale Choppers are designed to quickly and efficiently shred compacted straw material and to distribute and spread it evenly over a surface. The compacted material is loaded into a tub that has rotating knives on the bottom to shred the material. The shredded material is conveyed to a blower and distributed evenly over the desired area.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment. It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine.

Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the worksite. Untrained operators are not qualified to operate the machine.

Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully to learn how to operate the machine safely and how to set it to provide maximum field efficiency. By following the operating instructions in conjunction with a good maintenance program, your Bale Chopper will provide many years of trouble-free service.

5.2 PRINCIPLE COMPONENTS

The AgriMetal Bale Chopper has a large rotating tub that is filled with compacted straw used for bedding or covering large surfaces. A retractable grate in the bottom of the tub allows the material into a set of rotating knives for shredding. The shredded material moves into the blower at the back and is distributed evenly over the adjacent area through a large flexible hose.

Power is provided by a gas engine mounted on the frame.

A Tub
B Engine
C Tub Rotation Control
D Grate Height Control
E Blower
F Chopping Knives
G Material Outlet
H Discharge Hose

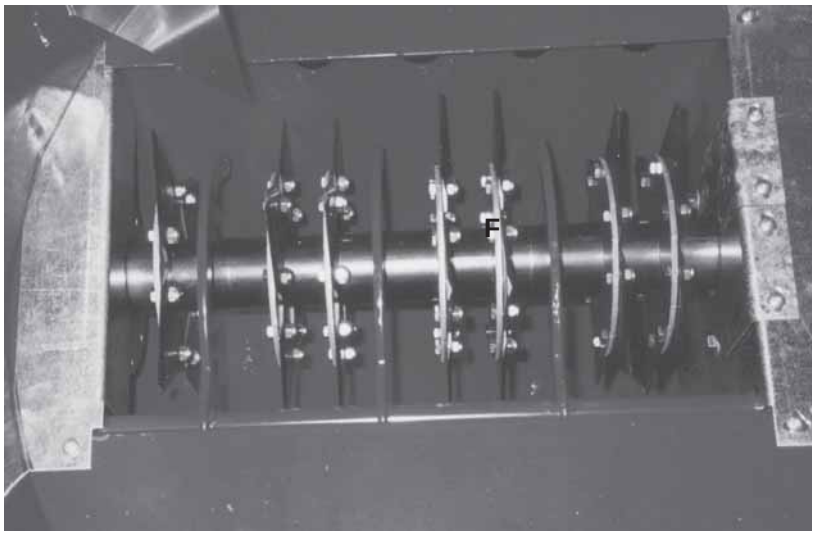


Fig. 10 PRINCIPLE COMPONENTS

5.3 BREAK-IN

Although there are no operational restrictions on the Chopper when it is used for the first time, it is recommended that the following mechanical items be checked:

A. **After operating for 1 hour:**

1. Check belt tension. Adjust as required.
2. Torque all fasteners and hardware.
3. Check condition of knives.

B. **After operating for 10 hours:**

1. Repeat steps 1 through 3 listed above. (Section A).
2. Change engine oil.
3. Go to the normal servicing and maintenance schedule as defined in the Maintenance Section.

5.4 PRE-OPERATION CHECKLIST

Efficient and safe operation of the AgriMetal Bale Chopper requires that each operator reads and understands the operating procedures and all related safety precautions outlined in this section. A pre-operation checklist is provided for the operator. It is important for both personal safety and for maintaining the machine in good mechanical condition that this checklist be followed.

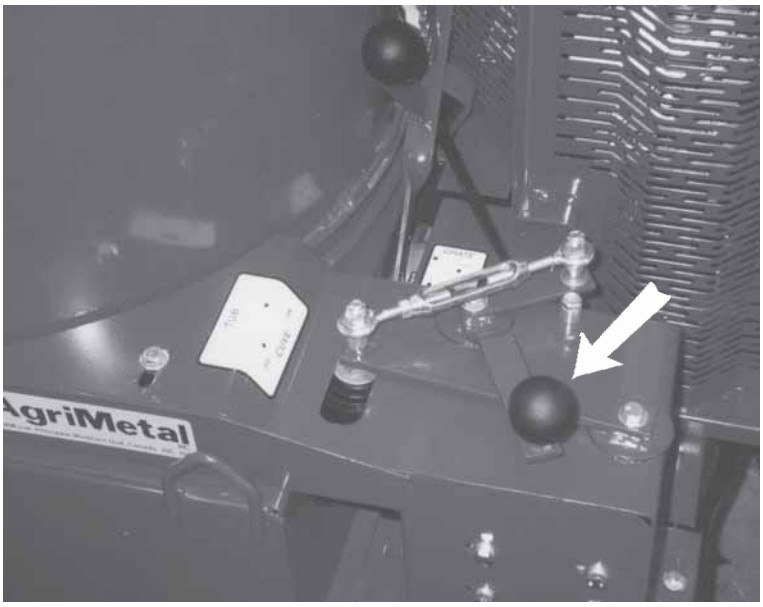
Before operating the Chopper and each time thereafter, the following areas should be checked off:

1. Lubricate the machine per the schedule outline in the Maintenance Section.
2. Check engine oil level. Add as required.
3. Check fuel level. Add as required.
4. Check the tension and alignment of all belts and pulleys. Tension and align as required.
5. Check the grate and rotor. Remove any twine, wire or other material that has become entangled.
6. Check the condition of the knives on the rotor. Repair or replace any bent or broken sections.
7. Check that all bearings turn freely. Replace any that are rough or seized.
8. Make sure that all guards and shields are in place, secured and functioning as designed.
9. Clean all straw, chaff and debris from machine and around the engine.

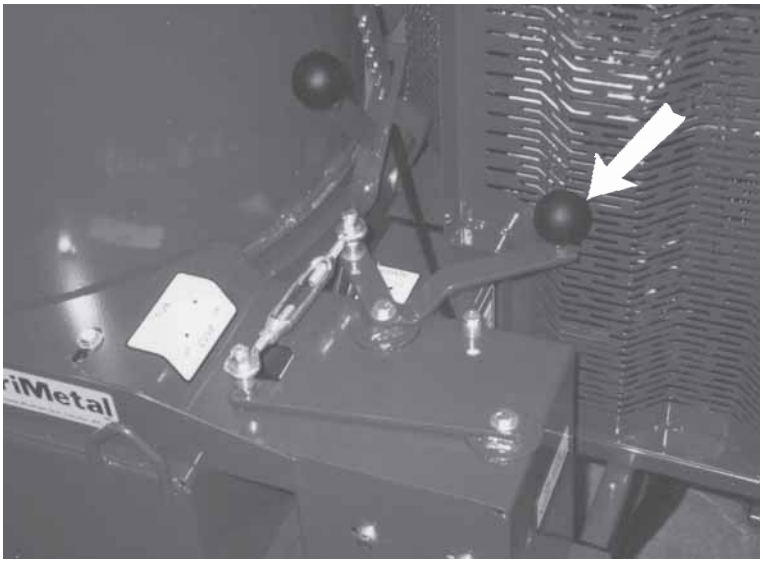
5.5 CONTROLS

All controls are conveniently positioned next to where the operator would stand when starting the machine to provide for easy operation. Review this section to familiarize yourself with the location and function of each control before starting.

1. **Tub Rotation Control:** Located on the left corner of the machine. Move the control lever to the right in a clockwise motion to engage the tub rotation drive. Move the control left in a counter-clockwise direction to disengage the drive.



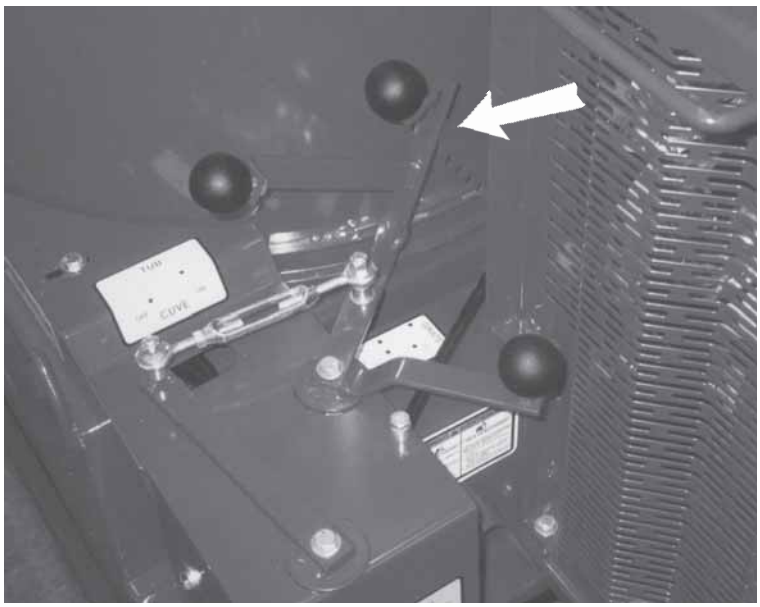
Engaged



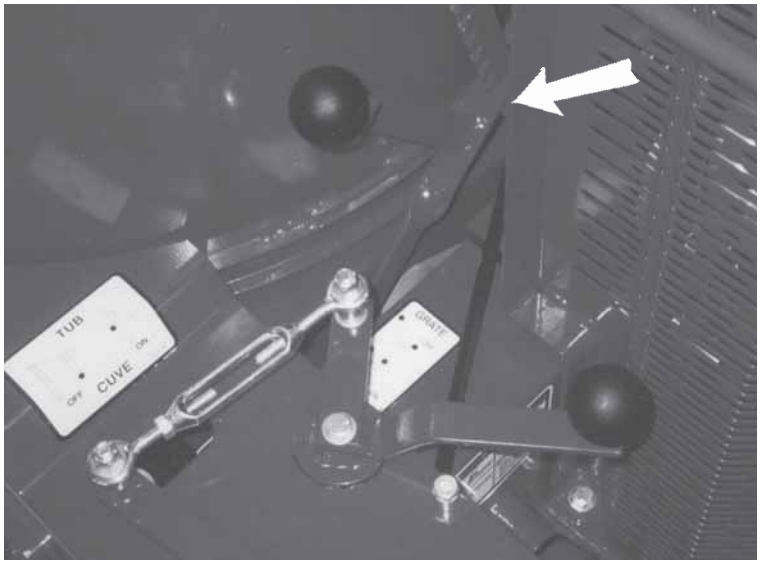
Disengaged

Fig. 11 TUB ROTATION CONTROL

2. **Grate Height Control:**
Two intermeshing levers, located in the center next to the rotating tub, control the height of the grate over the knives. Position the levers in their top slot to lift the grate and stop the shredding process. Position the levers in their lowest slot to lower the grate to allow the material in the tub into knives for shredding.



Grate Up



Grate Down

Fig. 12 GRATE HEIGHT CONTROL

1. Engines:
An 11, 13 and 20 hp Honda engines are available for use with the Bale Chopper. Always read the engine Operator's Manual supplied with the machine for the detailed operating procedures for your engine.

Fig. 13 ENGINE CONTROLS (TYPICAL)

A. 11 and 13 hp Engine:

a. Ignition Switch:
This switch controls the electrical power to the engine electrical system. Turn the switch clockwise to turn the electrical system ON and the engine will run. Turn fully clockwise to the last spring-loaded detent position to engage the starter solenoid and start the engine. Release the key when the engine starts and it will return to the RUN position. Turn counterclockwise to stop the engine.

b. Circuit Breaker:
This switch pops out when there is an ignition system overload and the engine stops. Depress to reset and start engine.

c. Fuel Shutoff Valve:
Each engine is equipped with a shut-off valve between the fuel tank and the carburator. Slide the fuel valve toward the block to turn ON and away for OFF. Turn the fuel OFF when not in use or before transporting.

d. Throttle:
This lever controls the engine RPM. Move the lever laterally to increase or decrease the RPM. Always run at maximum throttle operating.

e. Choke:
The choke controls the fuel/air mixture to the engine. Close the choke when starting if the engine is cold. Open the choke as the engine warms. Always open the choke fully during operation.

f. Starting Rope:
This retracting rope and T bar is used to turn the engine over for starting. Grasp the T bar firmly and pull the rope sharply to start the engine. Close the choke if the engine is cold.

B. 20 hp Engine:

a. **Ignition Switch:**
This key operated switch controls the electric power to the engine.

OFF - Turn the key fully counterclockwise to stop the fuel flow and turn the engine off.

RUN - Turn clockwise on detent to the run position. This is the position where the engine will continue to run.

START - Turn fully clockwise to the last spring-loaded detent position to engage the starter solenoid and start the engine. Release the key when the engine starts and it will return to the RUN position.

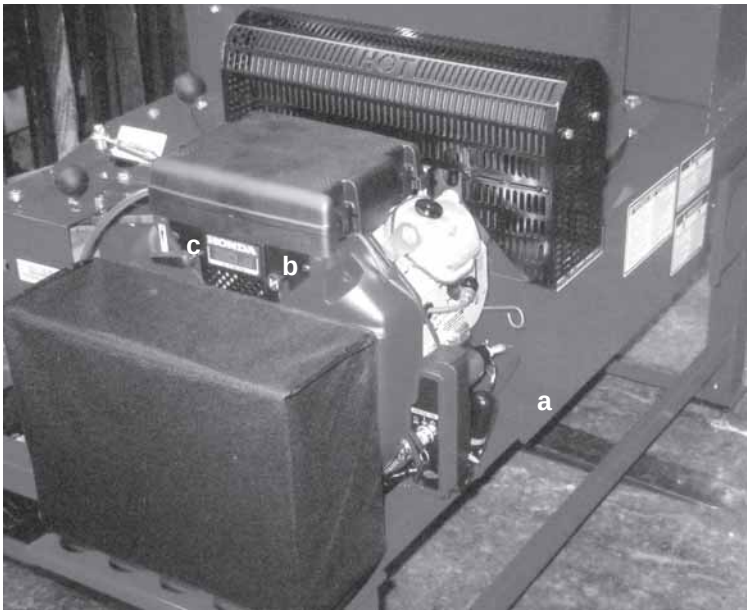


Fig. 14 20 HP ENGINE CONTROLS

b. **Choke:**
This wire loop controls the position of the choke. Push the loop in to close the choke for starting when the engine is cold. Pull the loop out to open the choke as the engine warms. Always pull the loop fully out when operating the machine.

c. **Throttle:**
This lever controls the throttle position on the gas engine through a push-pull cable. Move the lever up to increase engine RPM and down to decrease.

5.6 OPERATING

Although the Bale Chopper is easy to use, each operator should read this section to review the recommended operating procedure. When using the Chopper, follow this procedure:

1. Clear the area of bystanders, especially small children before starting.

2. Review and follow the Pre-Operation Checklist (See Section 5.4).

3. Do not operate the machine in a closed building unless there is adequate ventilation.

4. Be sure that all guards and access doors are in place and secured before starting.

5. Do not climb into the Chopper or place hands in any openings when the engine is running.

6. Do not look inside tub when engine is runing.

7. The machine can be placed at a location for stationary use or loaded on a wagon, cart or truck to make it portable.

8. The Models GA 110S-LS and GA 130S-LS are equipped with formed handles front and rear to provide hand holds for guiding when moving or lifting the unit. Use a forklift hoist or loader with sufficient capacity when lifting or moving the unit.

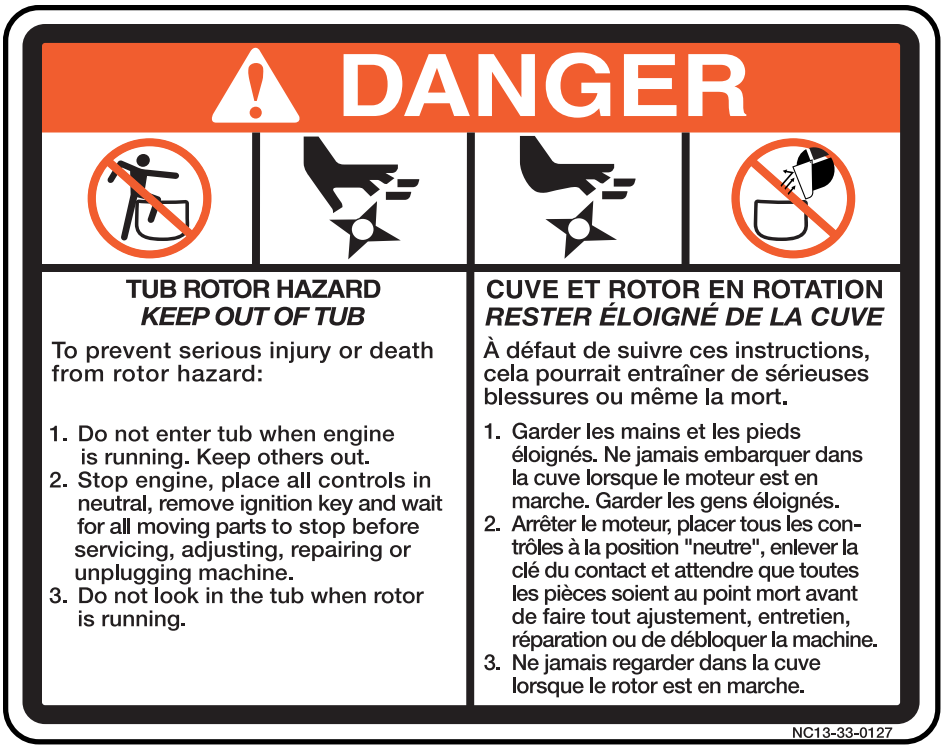


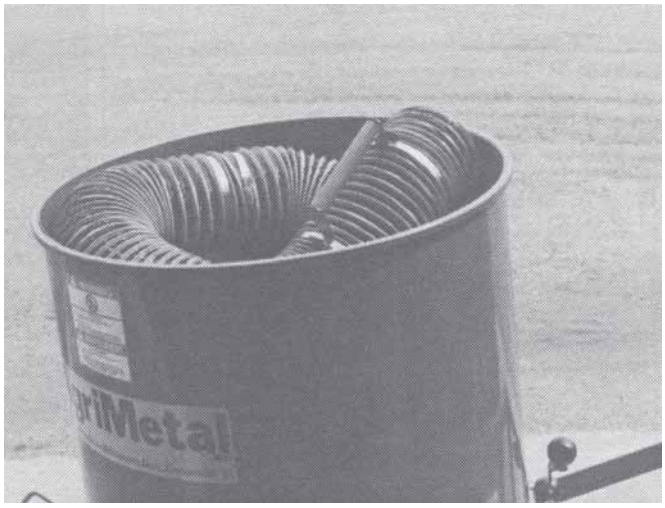
Fig. 15 HANDLES

8. The Model GA 200S-LS can be moved by using the frame as a handhold or by attaching the lifting device to the wire loops welded to the frame.

9. Be sure that the tub rotation control is disengaged and the tub grate is in its highest position before starting.

Fig. 16 ATTACHMENT POINTS

10. Remove the hose from around the tub and install it in the blower outlet mounting.



Stored

Attached

Fig. 17 HOSE

11. While the bale is laying on the ground, cut the strings or wire.

12. Remove the strings or wire and dispose of them away from the machine and working area.

13. Pick up sections of the bale and load into the tub.

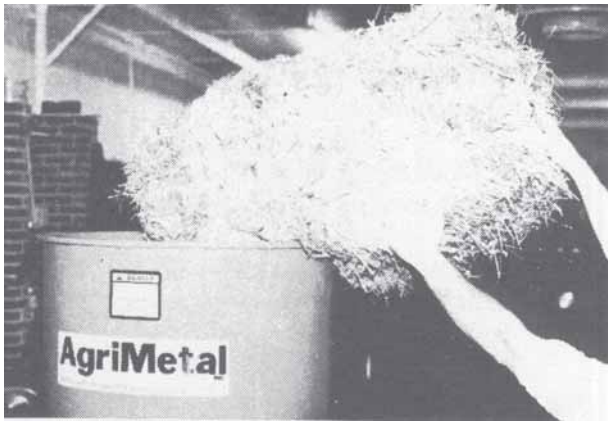


Fig. 18 TUB LOADING

14. On the Models GA 110-S-LS and GA 130S-LS, open the engine cover.

15. **Start the engine:**

    a. Connect the spark plug wire if it was disconnected.

    b. Open the fuel supply valve.

    c. Move the throttle to its mid-range position.

    d. Close the choke if the engine is cold or if the unit has not been run for a while.

    e. Turn the ignition key clockwise to start the engine. Release the key when the engine starts.

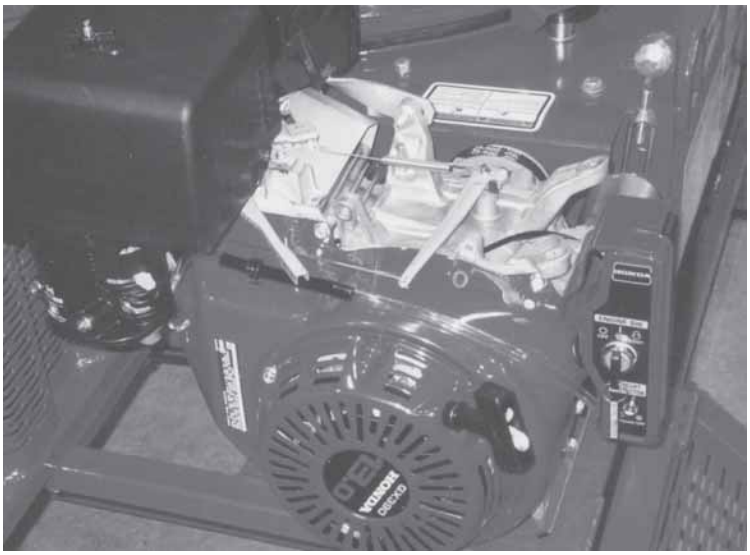
16. **Stopping:**

    a. Turn the key switch counter-clockwise to its stop to shut OFF the engine.

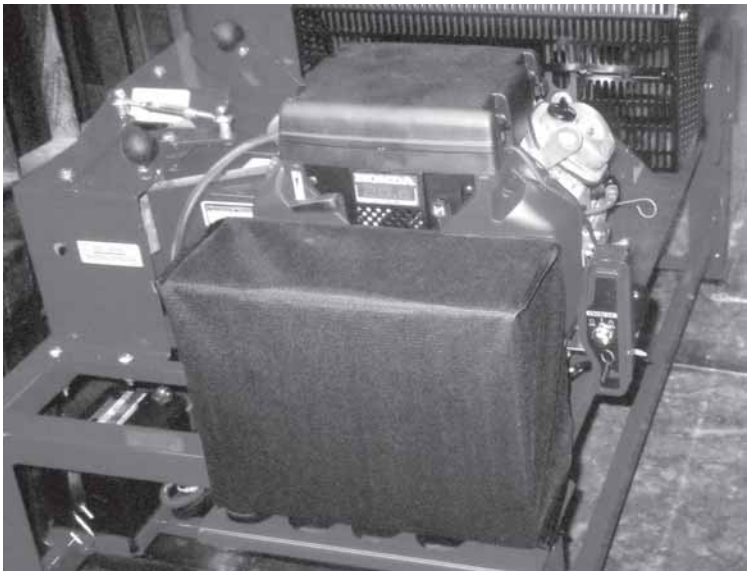
    b. Move the lower sliding lever to the left to shut OFF the fuel valve.

    c. Close the engine cover if opened.

17. Move the throttle to its low idle position when the engine starts and allow the engine to warm for 2-3 minutes before starting to work.



13 Hp



20 Hp

Fig. 19 STARTING

18. Open the choke slowly as the engine warms until the choke is opened completely.

19. Open the throttle to run the engine at maximum RPM.

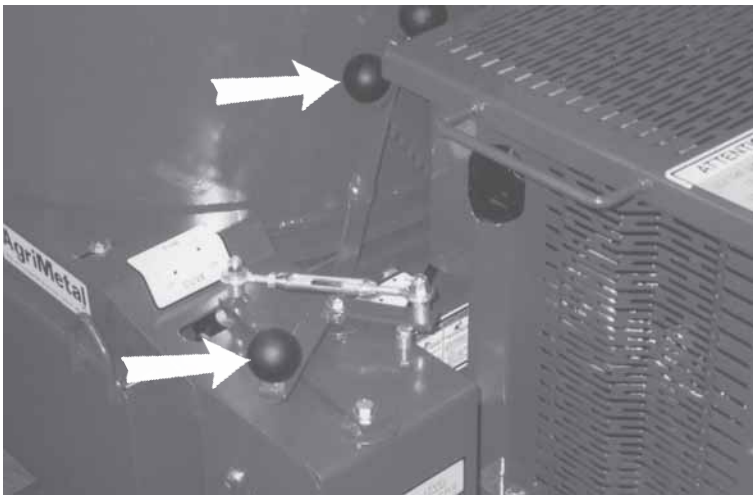
20. Before material starts coming out of the hose, use the air flow to blow all the straw, chaff and debris from the engine and machine. Use this method to keep the machine and engine clean while working.

21. Close the engine cover and clean the outside of the cover with the hose.

Fig. 20 COVER CLOSED (TYPICAL)

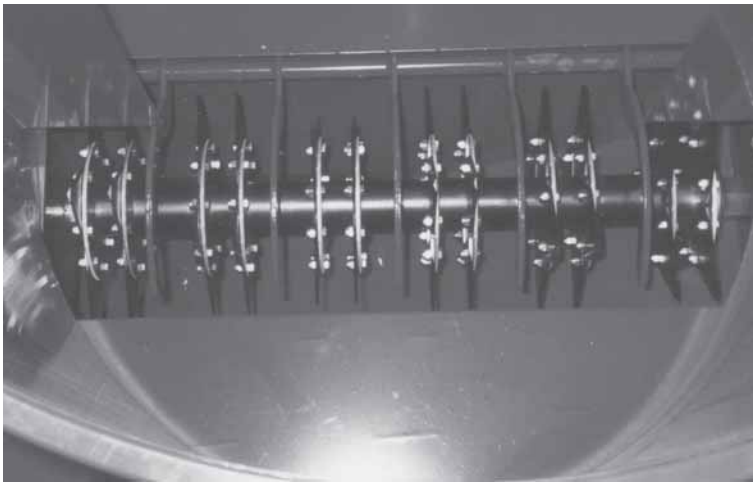
22. **Start the chopping:**

    a. Set the grate control levers to give the desired material feed rate. It is recommended that a slow feed rate be used to provide good control over the shredding and distributing of material.



Controls

    b. Engage the tub rotation control. The vanes inside the tub will turn the bale and feed the material into the rotating knives.



Vanes

Fig. 21 CHOPPING

23. Use the handle on the end of the flexible hose to direct the material to the location desired.

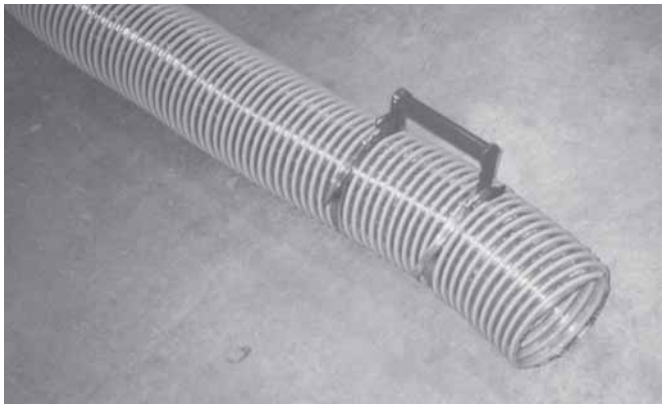


Fig. 22 HANDLE

24. When the material in the tub is gone, disengage the tub rotation control. Always have an extra bale available.

25. Cut and remove the strings or wire from the next bale while it is laying on the ground. Remove the string or wire from the working area.

26. Load large sections of the bale into the tub.

27. Check that the grate height control levers are in their correct position.

28. Engage the tub rotation control.

29. Proceed with the distribution of material.

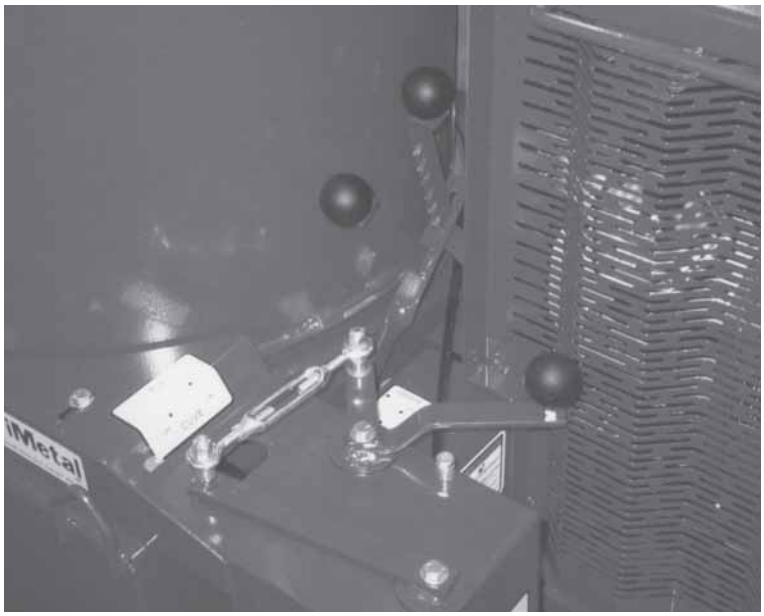


Fig. 23 CONTROLS

30. **Unplugging:**
The chopper and blower components are designed with sufficient capacity to almost never plug. However in the unusual situation where something plugs, follow this procedure:

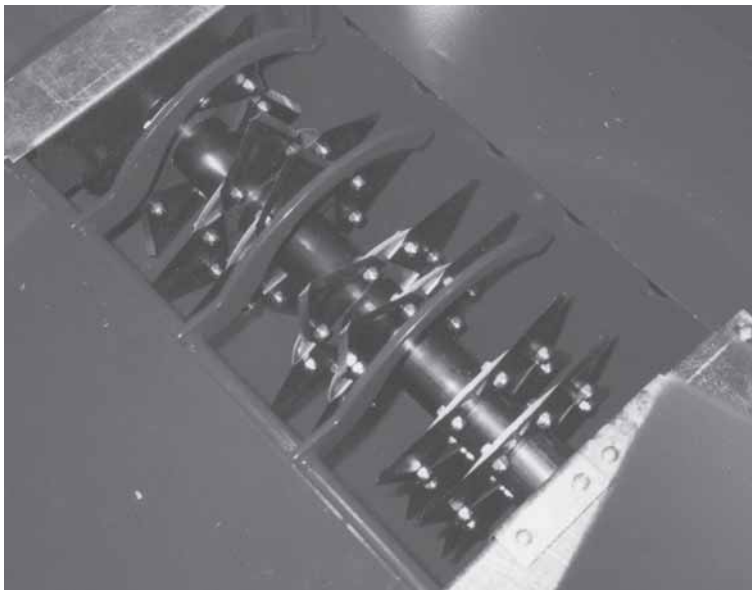
a. Disengage tub rotation.

b. Raise grate to its highest position.

c. Stop and disable engine.

d. Pull the compressed material out of the tub and clean the rotor.

e. If rotor duct is plugged, tip or lift machine to expose access door. Close and secure access door when duct is unplugged.



Rotor

Access Door

Fig. 24 UNPLUGGING

31. Use the air flow from the hose to clean the machine whenever required during the day.

32. When the work is done, let the machine run for 2 to 3 minutes to completely clean out the tub.

33. Open the engine cover.

34. Slow the engine RPM down to low idle. Run for approximately 1 minute to cool the engine.

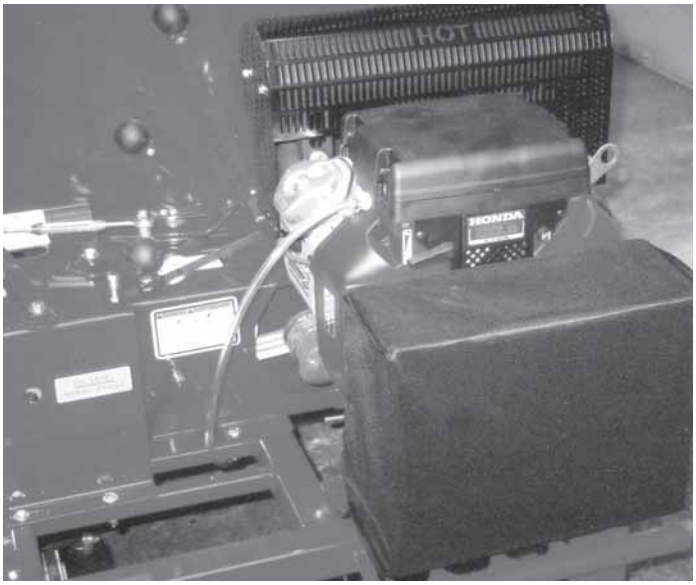


Fig. 25 CLEANING

35. When the work is completed, remove the flange from the blower outlet and store the hose assembly around the tub.

Fig. 26 BLOWER OUTLET

36. **Operating Hints:**

a. Do not feed the material too fast into the knives. A slower feed rate allows the operator to distribute the flow more evenly.

b. Move the hose outlet in a large area to evenly cover the work area. Repeat the pass several times to obtain the desired thickness.

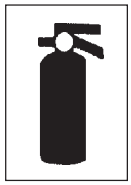
c. It is recommended that 2 men be used to distribute material. One adds bales to the machine and the other directs the hose.

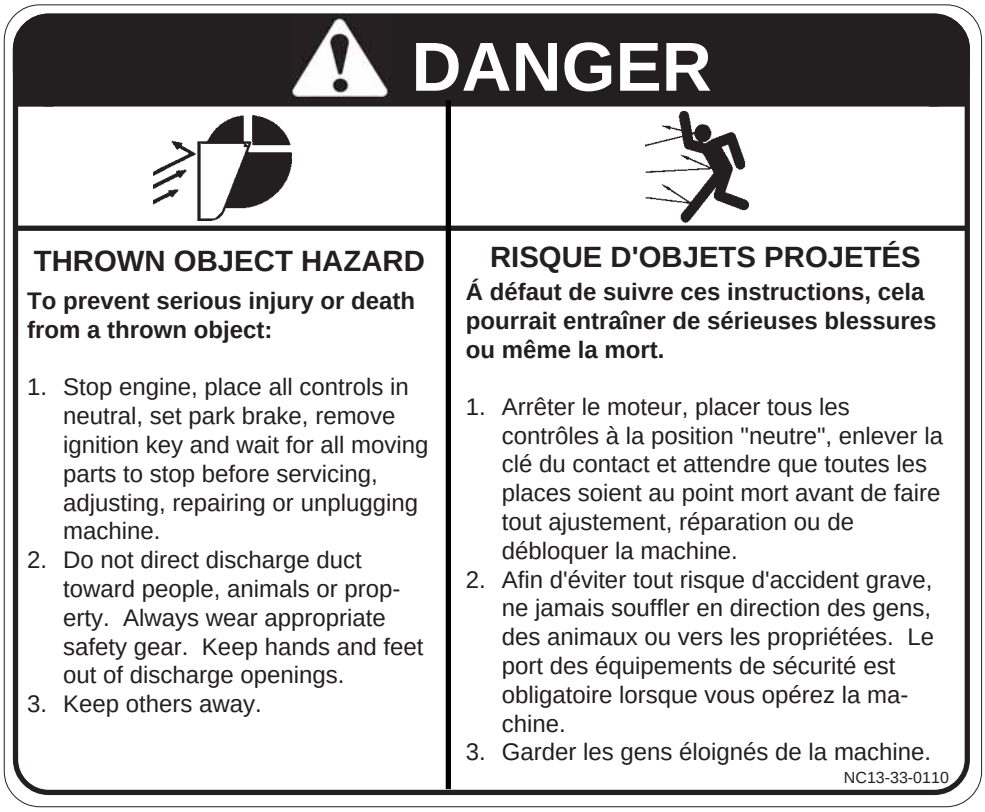
d. Keep the machine and engine area clean at all times by using the air flow from the hose.

e. Keep a fire extinguisher close the machine in case of fire.

f. Do not direct the hose outlet towards people, pets or animals. Objects can be thrown out of the machine at a high enough rate of speed to injure someone.

Fig. 27 WORKING





5.7 STORAGE

STORAGE SAFETY

- Store the unit in an area away from human activity.
- Do not permit children to play on or around the stored machine.
- Store the unit in a dry, level area. Support the frame with planks if required.

5.7.1 PLACING IN STORAGE

After the season's use or when the machine will not be used for a period of time, completely inspect all major systems of the Chopper. Replace or repair any worn or damaged components to prevent any unnecessary down time at the beginning of the next season.

Follow this procedure before storing:

1. Remove all material from the machine.
2. Open the engine cover.
3. Thoroughly wash the machine with a pressure washer or water hose to remove all dirt, mud, straw, chaff or debris.
4. Inspect all rotating parts for entangled material. Remove all entangled materials such as twine, wire, etc.
5. Check the condition of the belts and pulleys. Replace or adjust as required.
6. Check the condition of the knives. Repair or replace any bent or broken sections.
7. Touch up all paint nicks and scratches to prevent rusting.
8. Remove ignition key and store in a secure place.
9. Remove the battery and store it in a cool, dry area on wooden blocks or a wooden pallet. Charge it monthly to maintain an adequate charge.
10. It is best to store the machine inside. If that is not possible, cover with a waterproof tarpaulin and tie down securely.
11. Store in an area away from human activity.
12. Do not allow children to play around the stored unit.

5.7.2 REMOVING FROM STORAGE

When removing the machine from storage, follow this procedure:

1. Remove the tarpaulin if covered.
2. Install and connect the battery.
3. Bring the ignition key.
4. Review and follow the Pre-Operation Checklist (Section 5.4).

   If the machine has been stored for more than 6 months, warm the engine by running it for 2-3 minutes and drain the oil. Change the oil while the oil is warm to remove any condensation. Refer to Maintenance Section.

6 SERVICE AND MAINTENANCE

MAINTENANCE SAFETY

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Follow good shop practices.
  - Keep service area clean and dry.
  - Be sure electrical outlets and tools are properly grounded.
  - Use adequate light for the job at hand.
- Make sure there is plenty of ventilation. Never operate an engine in a closed building. The exhaust fumes may cause asphyxiation.
- Before working on this machine, shut off the engine, set the brakes, and remove the ignition keys.
- Never work under equipment unless it is blocked securely.
- Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance work.
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.
- Periodically tighten all bolts, nuts and screws and check that all cotter pins are properly installed to ensure unit is in a safe condition.
- When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.

6.1 SERVICE

6.1.1 FUELS, FLUIDS AND LUBRICANTS

1. **Fuel:**
   Use a regular unleaded automotive gasoline for all operating conditions.

   GA 110S-LS and GA 130S-LS.
   Capacity: 6.5 liters (13.7 US pints)

   GA 200S-LS.
   Capacity: 10 liters (2.6 US gal)

2. **Engine Oil:**
   Use a typical SAE 10W30 or 10W40 multi viscosity motor oil for normal operating conditions. Consult your engine manual for recommended oil in cold temperatures.

   GA 110S-LS and GA 130S-LS.
   Capacity: 1.1 liters (1.16 US qt)

   GA 200S-LS.
   Capacity: 1.4 liters (3 US pints)

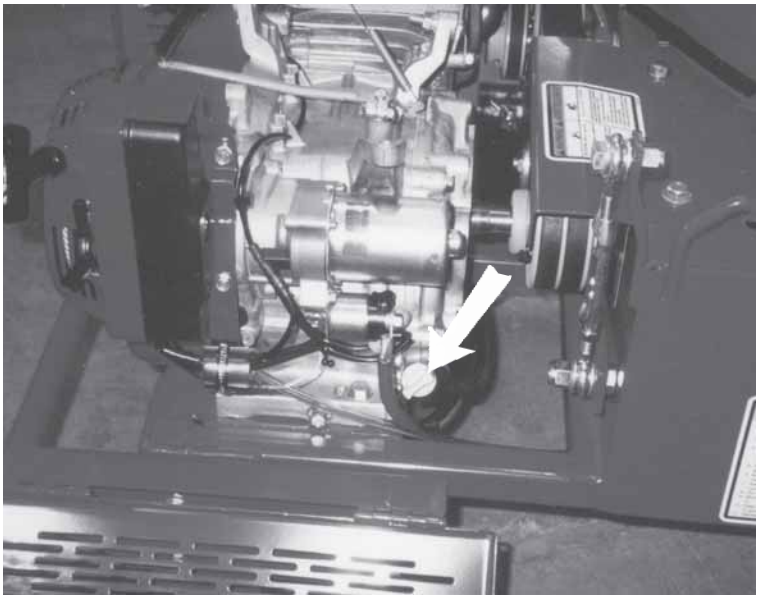
3. **Storing Lubricants**:
   Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

6.1.2 SERVICING INTERVALS

The period recommended is based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication or oil changes.

8 Hours or Daily

1. Check engine oil. Add as required.



GA 110S-LS and GA 130S-LS

GA 200S-LS

Fig. 28 ENGINE OIL LEVEL

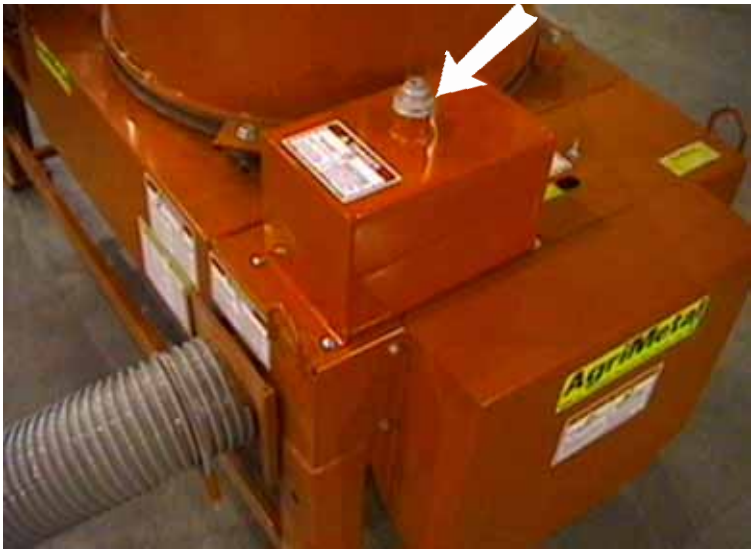
2. Check fuel level. Add as required.

   a. Remember the fuel tank is small. Use only the required amount. Fill to 1/4 inch (8 mm) from the neck to allow for expansion.

   b. Do not over fill fuel tank. The resulting spilled fuel can create a fire hazard.

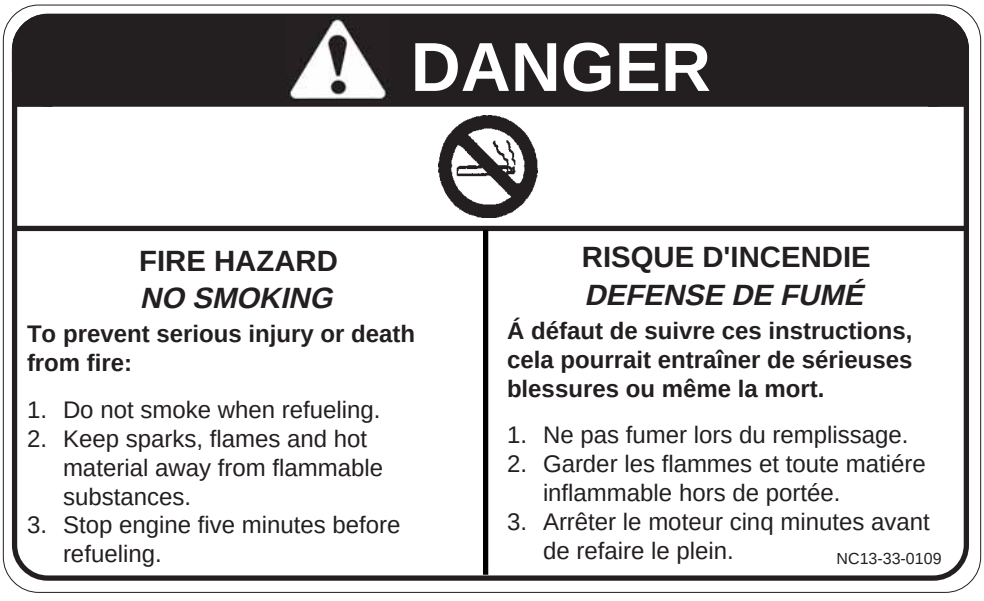
3. Clean engine using air stream from hose.

GA 110S-LS and GA 130S-LS



GA 200S-LS

Fig. 29 FUEL LEVEL



Engine Service
Refer to engine instructions for more details.

50 Hours

1. Clean air cleaner.

GA 110S-LS and GA 130S-LS

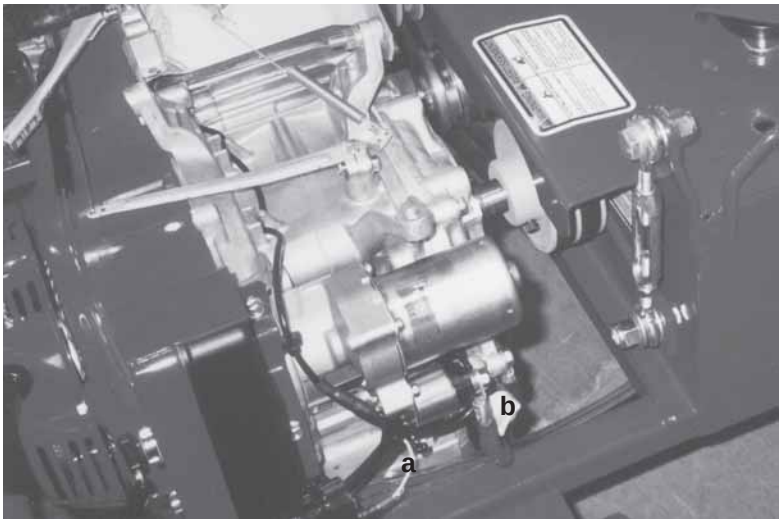
GA 200S-LS

Fig. 30 AIR CLEANER

100 Hours

1. Change engine oil.

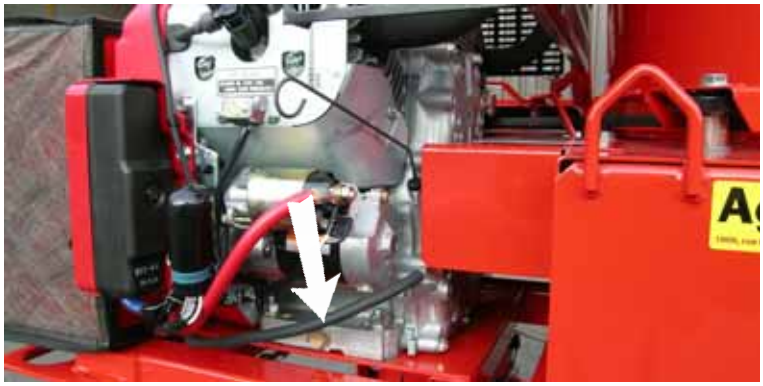
   a. GA 130S-LS



a. Drain **b. Level**

Fig. 31 GA 130S-LS

b. GA 200S-LS



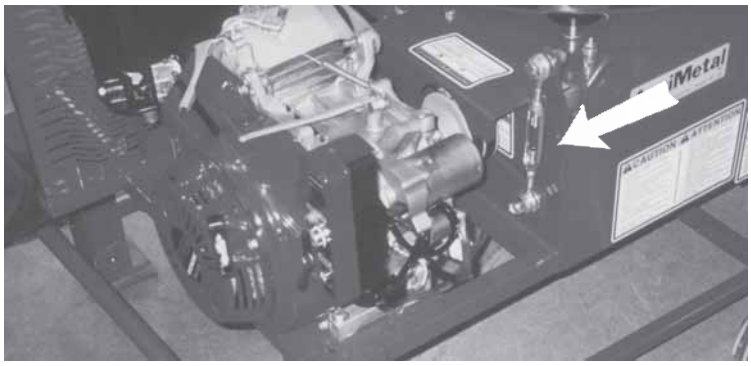
Drain

Fill

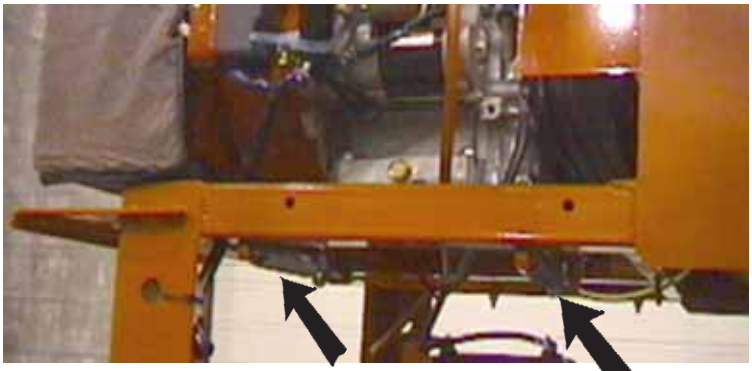
Fig. 32 GA 200S-LS

Monthly

1. Check the engine drive belt tension.



GA130S-LS

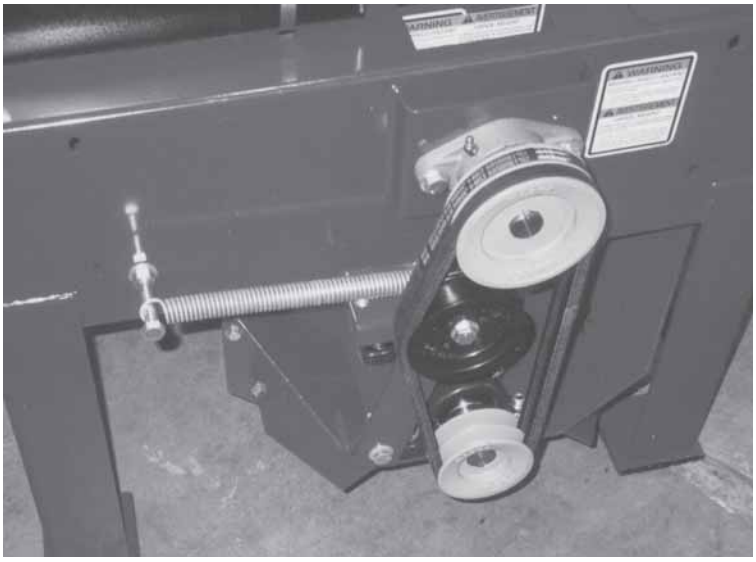


GA 200S-LS

Fig. 33 DRIVE BELT TENSION

2. Check the blower drive belt tension.

GA 110S-LS and GA130S-LS



GA 200S-LS

Fig. 34 BLOWER DRIVE BELT

3. Check the tension of the tub rotation belt.

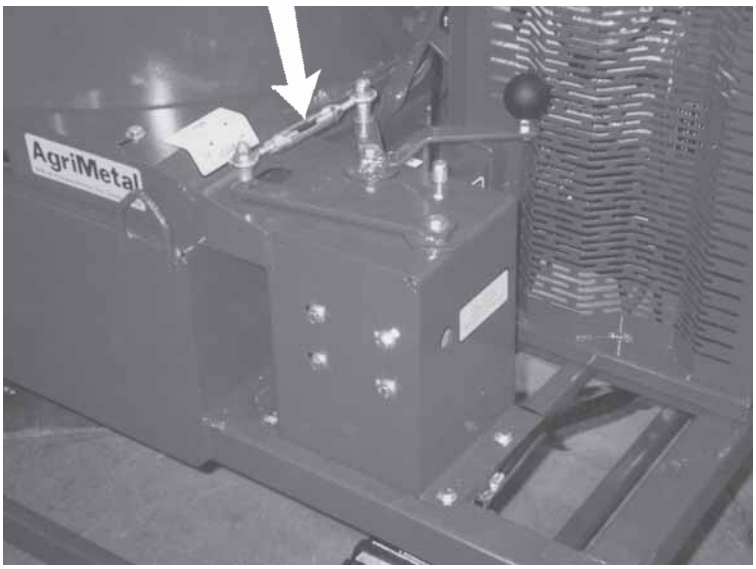
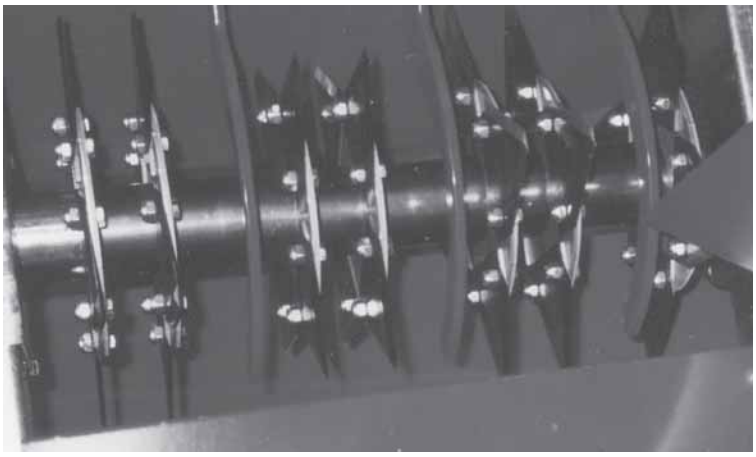
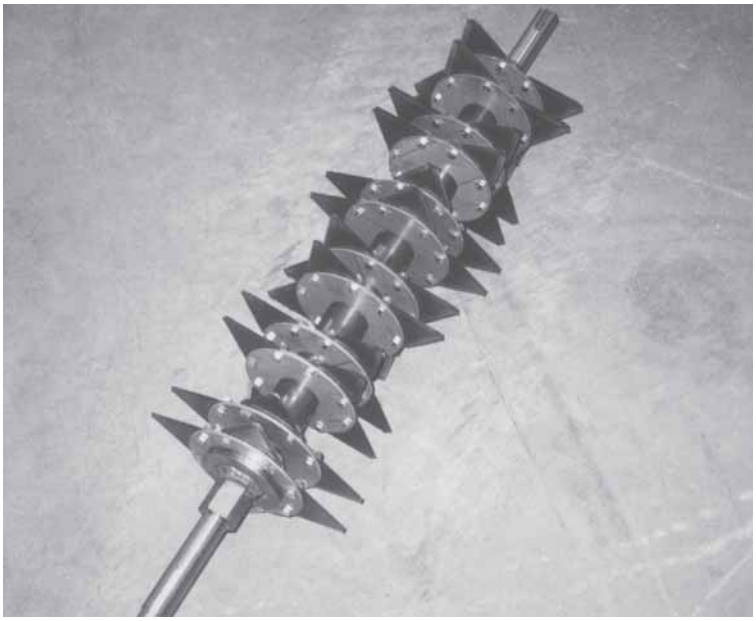


Fig. 35 TUB ROTATION BELT TENSION (TYPICAL)

4. Check the condition of the sections on the rotor.



In Place



Removed

Fig. 36 ROTOR

5. Check the gearbox oil level. Add as required.

Fig. 37 OIL LEVEL

Annually

1. Remove and clean or replace cloth mesh filter on engine on Model GA 2005-LS.

Fig. 38 ENGINE AIR INTAKE COVER

2. Replace inline fuel filter on GA 200S-LS.

Fig. 39 INLINE FUEL FILTER

3. Lubricate blower drive roller chain coupler.

WARNING

Machine is shown with guard removed for illustrative purposes only. Never operate machine with guard removed.

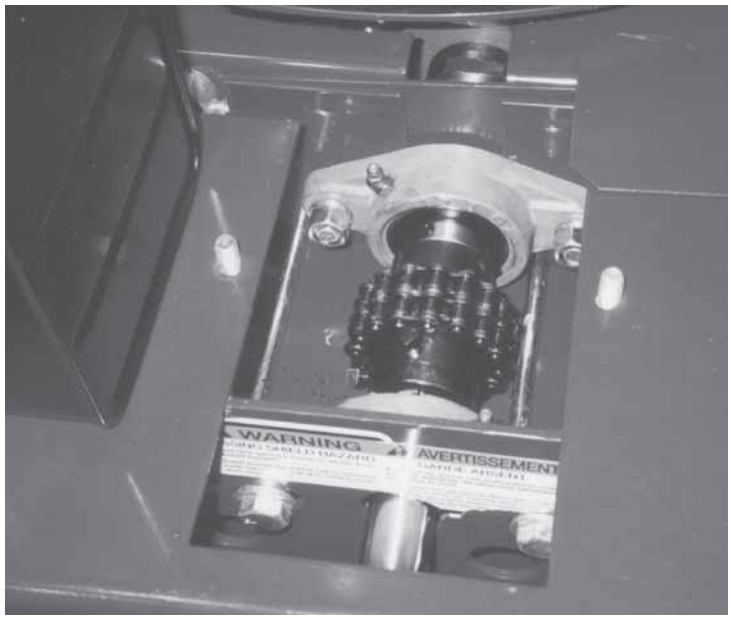


Fig. 40 ROLLER CHAIN COUPLER

4. Clean machine.

6.1.3 SERVICE RECORD

See Lubrication and Maintenance sections for details of service. Copy this page to continue record.

ACTION CODE: ✓ CHECK CL CLEAN
L LUBRICATE CH CHANGE

HOURS / SERVICED BY / MAINTENANCE																								
8 Hours or Daily																								
✓ Engine Oil																								
✓ Engine Fuel Level																								
CL Engine																								
50 Hours																								
CL Air Cleaner																								
100 Hours																								
CH Engine Oil																								
Monthly																								
✓ Engine Drive Belt Tension																								
✓ Blower Drive Belt Tension																								
✓ Tension Tub Rotation Belt																								
✓ Condition Sections on Rotor																								
✓ Gearbox Oil Level																								
Annually																								
CL Cloth Mesh Filter																								
CH Inline Fuel Filter																								
L Blower Drive Roller Chain																								
CL Machine																								

6.2 MAINTENANCE

6.2.1 CHANGING ENGINE OIL

When changing engine oil, follow this procedure:

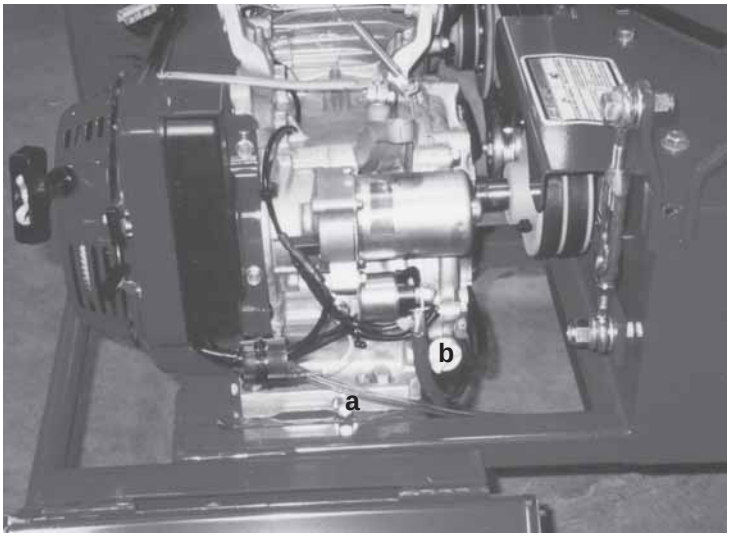
1. Review the Operator's Manual for the engine.
2. Allow the engine to cool to a warm temperature before changing the oil. Hot oil can cause burns if it contacts exposed skin.
3. Be sure the ignition key is removed or engine switch is OFF.
4. Place a pan under the drain plug.
5. Remove the drain and allow the oil to drain for 10 minutes.

   a. Drain plug
   b. Fill

6. Install the engine drain plug.
7. Dispose of the used oil in an approved container.
8. Add specified oil through the fill plub.
9. Run the engine for 1 minute and check for leaks.
10. If leaks are found around the drain plug, tighten slightly.
11. Check engine oil level. Top up as required.

NOTE

Be sure the engine is level when checking oil level.



GA 110S-LS and GA 130S-LS

GA 200S-LS

GA 200S-LS

Fig. 41 ENGINE

6.2.2 CLEANING ENGINE AND MACHINE

Dirt, straw and trash can build up on and around the machine and engine. Use the high-pressure air hose to keep the engine and surrounding area clean. Clean the engine cover as required to insure that a free flow of fresh air is maintained to the engine. Remove the engine shround and clean the fins on the head if the engine runs hot. Clean more often if operating in very dirty conditions.

GA 110S-LS and GA 130S-LS

The cloth mesh cover over the GA 200S-LS engine will collect dirt, straw, trash and debris from the air flow. Remove cover, shake or blow out and reinstall. Replace if the cover can not be completely cleaned.

GA 200S-LS

A clean engine runs better, stays cool and eliminates the chance of fire.

GA 200S-LS Engine Cover

Fig. 42 CLEANING

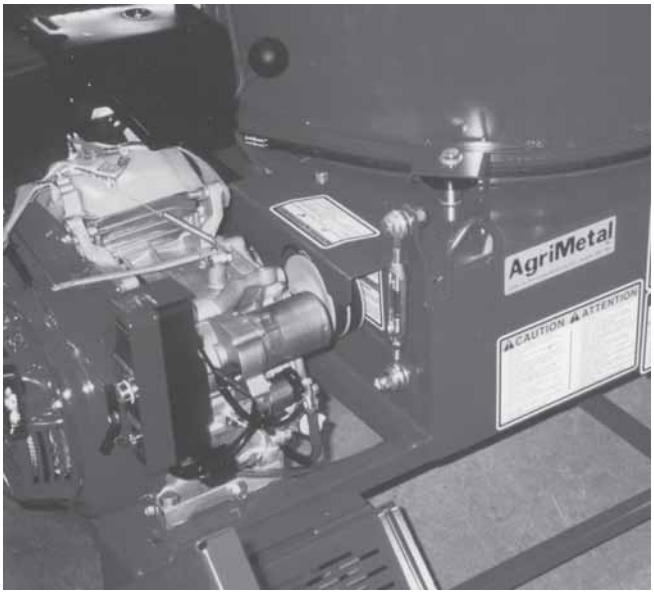
6.2.3 DRIVE BELTS

The machine is designed with 3 set drive belts to transmit power to the various systems. Each must be maintained at the correct tension and with the pulleys aligned to obtain the expected life.

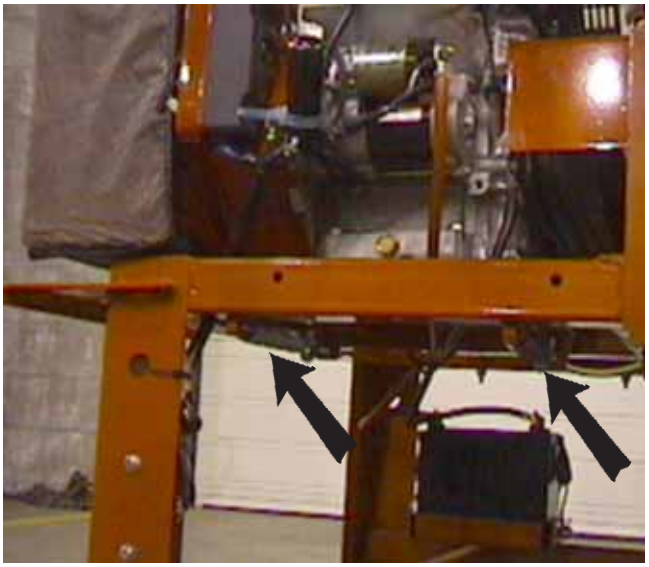
6.2.3.1 ROTOR AND GEAR BOX DRIVE

To adjust the belt tension as the belt wears or stretches, follow this procedure (or replace it):

1. Clear the area of bystanders, especially small children.
2. Remove spark plug wire.
3. Check the belt tension by applying a nominal force at the center of the belt span. The belt can deflect from 1/2 to 1 inch (12 to 25 mm) in either direction.
4. On the GA 110S-LS and the GA 130S-LS, adjust the turnbuckle to set the belt tension.
5. On the GA 200S-LS, adjust the springs on the engine base to set the belt tension.
6. When replacing belt, move adjusters to place belt in its loosest position.
7. Move turnbuckle and engine base to provide the required belt tension.



GA 130S-LS



GA 200S-LS

Fig. 43 ROTOR AND GEAR BOX DRIVE BELT

6.2.3.2 TUB ROTATION GEAR BOX BELT

A belt transmits power between the rotor shaft to the tub rotation gear box drive.

WARNING

Machine is shown with guard removed for illustrative purposes only. Never operate machine with guard removed.

To adjust the belt tension as the belt wears or stretches, follow this procedure (or replace it):

1. Clear the area of bystanders, especially small children.
2. Remove spark plug wire.
3. Loosen the tub rotation gear box frame mounting bolts.
4. Slide or move the gear box frame over until the belt is at the required tension.
5. Check the belt tension by applying a nominal force at the center of the belt span. The belt can deflect from 1/2 to 1 inch (12 to 25 mm) in either direction.
6. Tighten the gear box frame mounting bolts to their specified torque.
7. To replace belt, slide gear box frame to remove tension from belt.
8. Replace belt.
9. Move gear box frame to properly tension belt and tighten the mounting bolts.

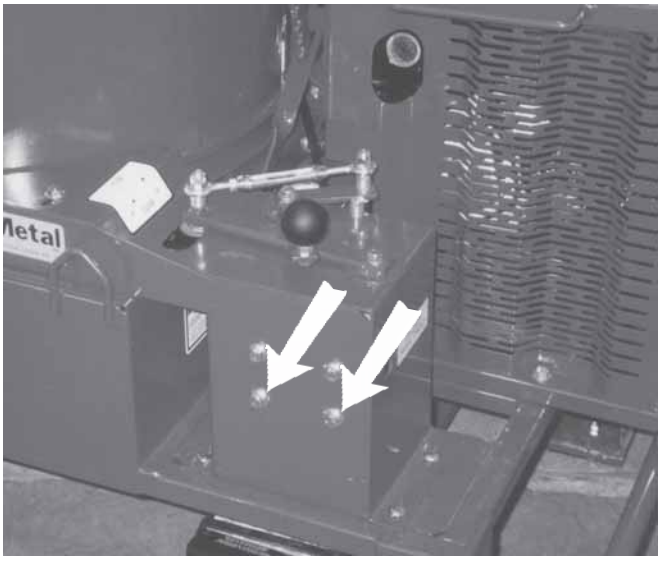


Fig. 44 GEAR BOX FRAME BOLTS

6.2.3.3 TUB ROTATION DRIVE

6.2.3.3.1 BELT TIGHTENING

When the tub rotation drive is engaged, an idler pulley is moved into position to tighten the belt and transmit power. As the belt wears and stretches, it will be necessary to move the belt adjuster pulley to maintain proper tension. To set belt tension, follow this procedure:

1. Clear the area of bystanders, especially small children.

2. Stop engine, shut off fuel supply lever, remove ignition key, disengage all drives, remove spark plug wire and wait for all moving parts to stop.

3. Engage the tub rotation drive control.

4. Check the belt tension by applying a nominal force at the center of the belt span. The belt can deflect from 1/2 to 1 inch (12 to 25 mm) in either direction.

5. If the belt deflection is greater than 1 inch (25 mm), the idler should be adjusted to provide more movement.

6. Turn the turnbuckle on the control lever to provide more movement on the idler pulley.

7. Recheck the belt tension. If the turnbuckle does not provide sufficient adjustment to tighten the belt, the belt will have to be replaced.

Disnegaged

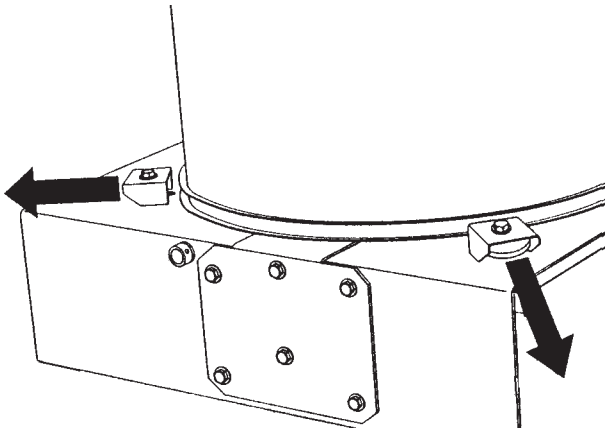
Engaged

Fig. 45 TUB ROTATION TURNBUCKLE

6.2.3.3.2 BELT REPLACEMENT

To replace the belt, follow this procedure:

1. Clear the area of bystanders, especially small children.
2. Stop engine, shut off fuel supply lever, remove ignition key, disengage all drives, remove spark plug wire and wait for all moving parts to stop.
3. Loosen the bolts holding outer tub guide wheels.
4. Slide the wheels back in their slots.
5. Slide the belt down the lower edge of the tub and raise the tub to slide the belt under it.
6. Slip the belt out from around the gear box and tightener pulleys.
7. Move the turnbuckle to provide minimal movement on the idler pulley.
8. Reverse the above procedure to install the new belt.
9. Tighten the tub guide wheels.
10. Adjust the turnbuckle to provide the required belt tension.
11. Check the belt tension after running for 10 hours.



Schematic

GA 130S-LS

Fig. 46 OUTER TUB WHEELS (TYPICAL)

6.2.4 BLOWER DRIVE BELT

The blower is driven by a set of belts from the knife rotor shaft. The belts are tightened with a spring loaded idler. Maintain the coil spacing at 1/4 inch (6 mm) at all times.

Release the idler when replacing the belts. Always install and secure the covers before resuming work.

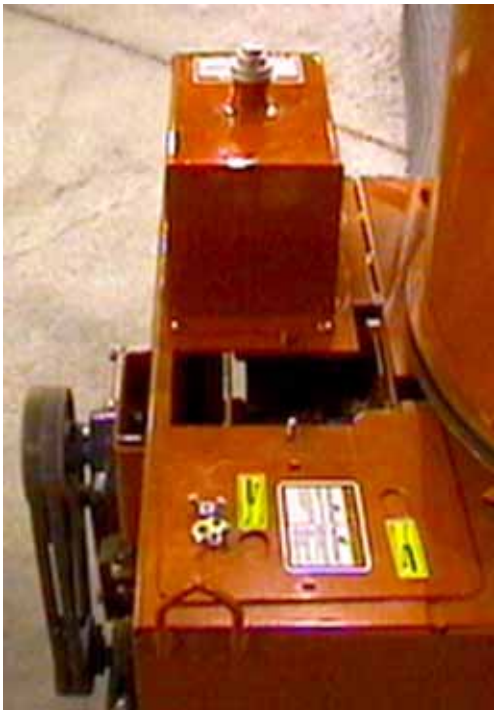
WARNING

Machine is shown with guard removed for illustrative purposes only. Never operate machine with guard removed.

Always check the alignment when replacing the belt.

GA 110S-LS and GA 130S-LS

GA 200S-LS



Alignment (Typical)

Fig. 47 BLOWER BELT

6.2.5 UNPLUGGING

If material stops flowing out of the machine and the engine begins to bog down, the machine has plugged. To unplug, follow this procedure:

1. Clear the area of bystanders, especially small children.

2. Stop engine, shut off fuel supply lever, remove ignition key, disengage all drives, remove spark plug wire and wait for all moving parts to stop.

3. Remove hose/flange from blower discharge outlet.

WARNING

Never put hands into knife or blower openings unless the engine is disabled.

4. Remove any material that has built up in discharge outlet.

5. Open access door to blower inlet throat.

6. Remove any material that has built up in the throat.

WARNING

If you tilt the machine to get to the access door, be careful not to spill gas from the fuel tank. Clean up the gas or allow it to evaporate before restarting the engine to eliminate possible fires.

7. Replace and secure access door.

8. Install hose/flange to blower discharge outlet.

9. Remove all the material from the tub and rotor.

10. Start engine and resume work.

Fig. 48 DISCHARGE OUTLET

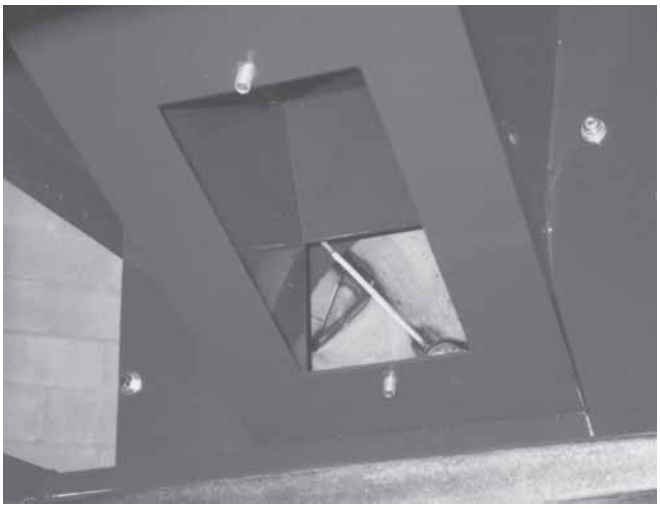


Fig. 49 ACCESS DOOR

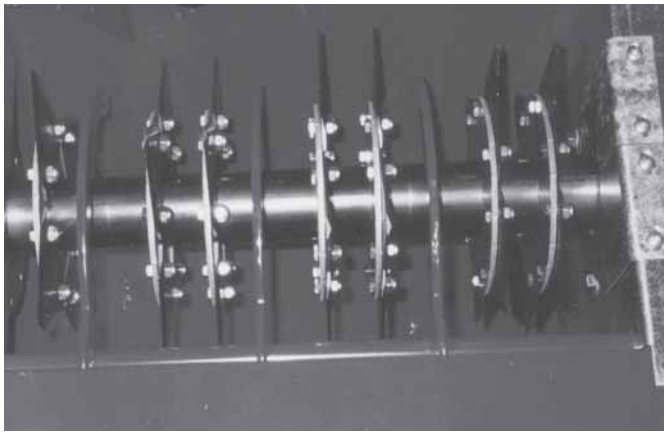


Fig. 50 ROTOR

6.3 REPAIRS

Knives are bolted to discs on the rotor. They must be kept straight and in good condition for best results.

Replace knives by removing bolt and installing a new knife section. Always use a lock nut (prevailing torque) on the mounting bolt.

Fig. 51 KNIVES

WARNING

1. Always wear heavy canvas or leather gloves when working with the knives on the rotor.
2. The knives are sharp and can give serious cuts.
3. Never use your hands to keep the rotor from turning.

IMPORTANT

During normal operation, the only component that normally will require replacement is the knife assembly on the shredding rotor. Read this section carefully before attempting to remove the rotor for repair.

6.3.1 KNIFE REPLACEMENT

To replace a knife section, follow this procedure:

1. Clear the area of bystanders, especially small children.

2. Be sure the fuel valve is OFF, the spark plug wire is disconnected and all drives are in neutral.

3. Remove the tub:

   a. Loosen the rear tub guide wheels.

IMPORTANT

Never loosen the 2 front tub guide wheels.

b. Slide the guides out to release the tub as shown below.

c. Slide the belt off the bottom of the tub.

d. Remove the tub from the machine.

4. Remove the bolt from the grate height lever and raise the grate to its highest position.

5. Loosen the set screw on the shaft bearing.

NOTE

Do not loosen the rotor bearing block moutning bolts as this will alter the drive pulley alignment.

IMPORTANT

Use only genuine AgriMetal parts for all repairs to the machine. Special non-standard knife sections are used in this machine. If the special sections from AgriMetal are not used, the rotor will not be balanced and the knives will contact other parts of the machine.

6. When reversing the cutting edges on the knives:

   a. Remove the knife section from the rotor.

   b. Replace any chipped, bent or broken sections before reassembling.

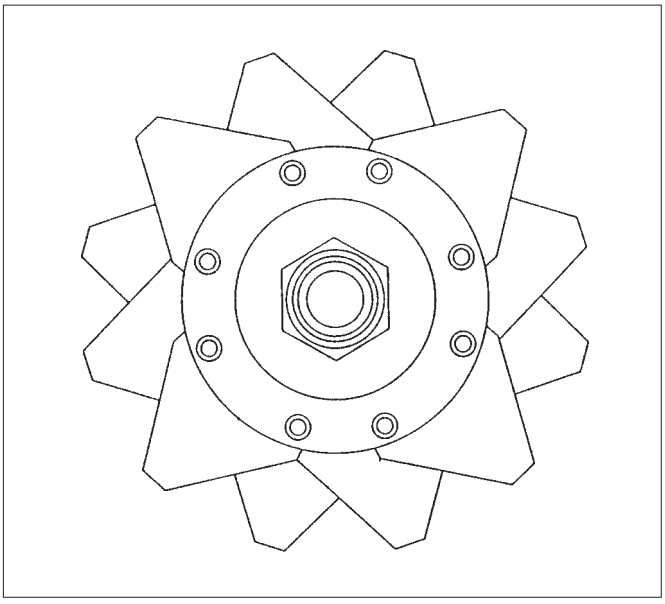


Fig. 52 KNIFE PATTERN

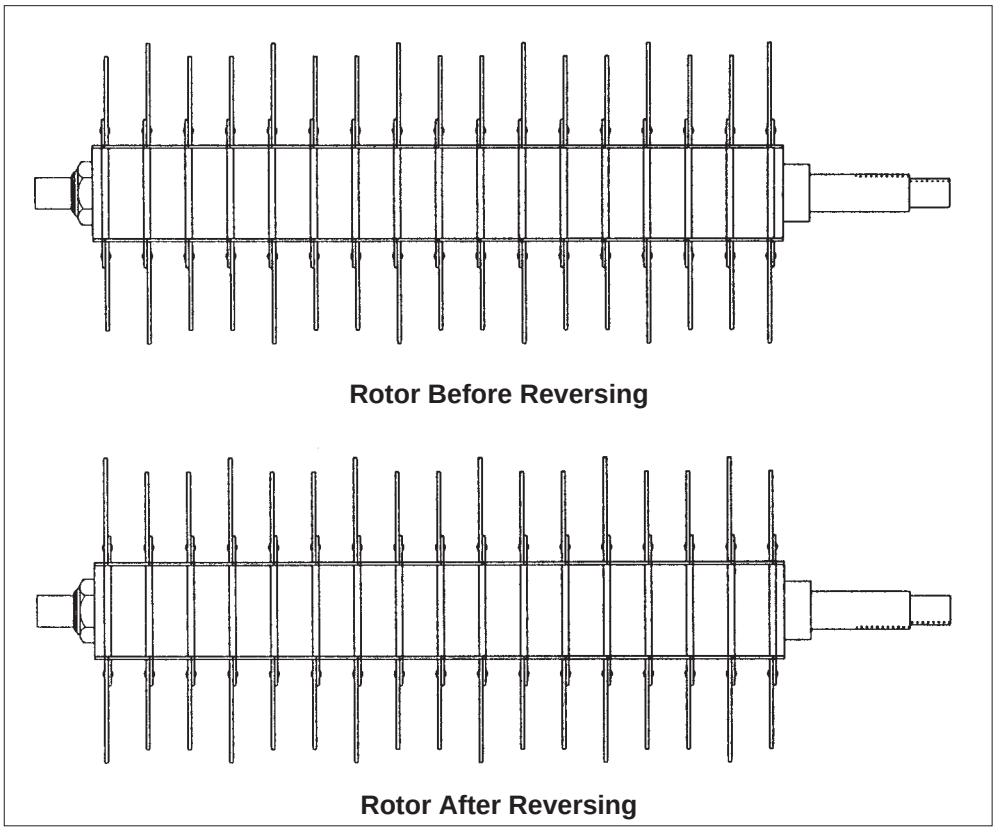


Fig. 53 ROTOR REVERSING

7. Place a block of wood between the knife and the bottom of the machine to keep the rotor from turning.

8. Tighten the clamping nut using the wrench supplied with the machine. Be sure that all discs and retaining rings seat properly.

9. Lower the grate into working position and install the control lever bolt. Be sure the grate moves freely through its adjustment span.

10. Install the tub on the machine.

11. Thread the belt on the lower lip of the tub.

12. Slide the 2 rear tub guide wheels up against the tub.

13. Use a hammer and brass rod to tap the bushings under the tub guide wheels to move the wheels against the tub. Tighten securely in position.

IMPORTANT

Use only genuine AgriMetal parts for all repairs to the machine. Special non-standard knife sections are used in this machine. If the special sections from AgriMetal are not used, the rotor will not be balanced and the knives will contact other parts of the machine.

7 TROUBLE SHOOTING

The AgriMetal Bale Chopper is a gas engine powered machine that shreds the compacted straw in bales and spreads it out over a controlled area.

In the following Trouble Shooting section, we have listed many of the problems, causes and solutions that can help you to solve the problems that you might encounter.

If you encounter a problem that is difficult to solve, even after having read through this trouble shooting section, please call your local distributor or dealer. Before you call, please have this Operator's Manual and the serial number of your machine at hand.

PROBLEM	CAUSE	SOLUTION
Engine won't start.	No fuel.	Check fuel level, add as required.
	Fuel valve shut-off .	Open fuel control.
	Battery dead.	Recharge battery.
	Engine cold.	Open choke.
Bale won't feed.	Grate plugged.	Remove all material from the tub. Clean grate.
	Rotor plugged.	Remove all material from the tub. Clean all debris, twine and wire from the rotor.
	Blower plugged.	Clean blower inlet and outlet areas.
	Tub or rotor won't turn.	Adjust belt tension. Replace belt if worn or stretched.
	Hose plugged.	Run machine in full throttle and shake hose.
Machine vibrates.	Rotor out of balance.	Replace all broken knife sections.
	Bale twine wrapped around rotor.	Remove twine from rotor.
Engine overheats.	Dirty cloth mesh.	Clean or replace cloth filter.
	Dirty engine.	Clean engine fins.

8 SPECIFICATIONS

8.1 MECHANICAL

DIMENSIONS	LENGTH	WIDTH	HEIGHT	WEIGHT
GA 110S-LS & GA 130S-LS	52 1/2" (133 cm)	31 1/2" (80 cm)	52 1/2" (133 cm)	510 lbs (232 Kg)
GA 200S-LS	49 1/2" (126 cm)	31" (80 cm)	52 1/2" (133 cm)	600 lbs (277 Kg)

Engines

11 HP Honda Model GX 340
Wt: 70 lbs. (31.5 Kg)
11 HP at 3600 RPM

13 HP Honda Model GX 390
Wt: 70 lbs. (31.5 Kg)
13 HP at 3600 RPM

20 HP Hoonda Model GX 620 KI
Wt: 93 lbs. (93 Kg)
20 HP at 3600 RPM

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

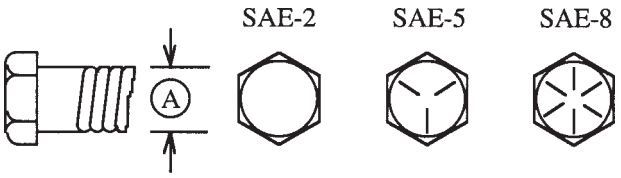
8.2 BOLT TORQUE

CHECKING BOLT TORQUE

The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

ENGLISH TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque * SAE 2 N.m	SAE 2 (lb-ft)	SAE 5 N.m	SAE 5 (lb-ft)	SAE 8 N.m	SAE 8 (lb-ft)
1/4"	8	(6)	12	(9)	17	(12)
5/16"	13	(10)	25	(19)	36	(27)
3/8"	27	(20)	45	(33)	63	(45)
7/16"	41	(30)	72	(53)	100	(75)
1/2"	61	(45)	110	(80)	155	(115)
9/16"	95	(70)	155	(115)	220	(165)
5/8"	128	(95)	215	(160)	305	(220)
3/4"	225	(165)	390	(290)	540	(400)
7/8"	230	(170)	570	(420)	880	(650)
1"	345	(225)	850	(630)	1320	(970)



METRIC TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque* 8.8 (N.m)	8.8 (lb-ft)	10.9 (N.m)	10.9 (lb-ft)
M3	.5	.4	1.8	1.3
M4	3	2.2	4.5	3.3
M5	6	4	9	7
M6	10	7	15	11
M8	25	18	35	26
M10	50	37	70	52
M12	90	66	125	92
M14	140	103	200	148
M16	225	166	310	229
M20	435	321	610	450
M24	750	553	1050	774
M30	1495	1103	2100	1550
M36	2600	1917	3675	2710

Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

* Torque value for bolts and capscrews are identified by their head markings.

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