



AT 60/74

THREE-POINT MOUNTED FLAIL MOWERS

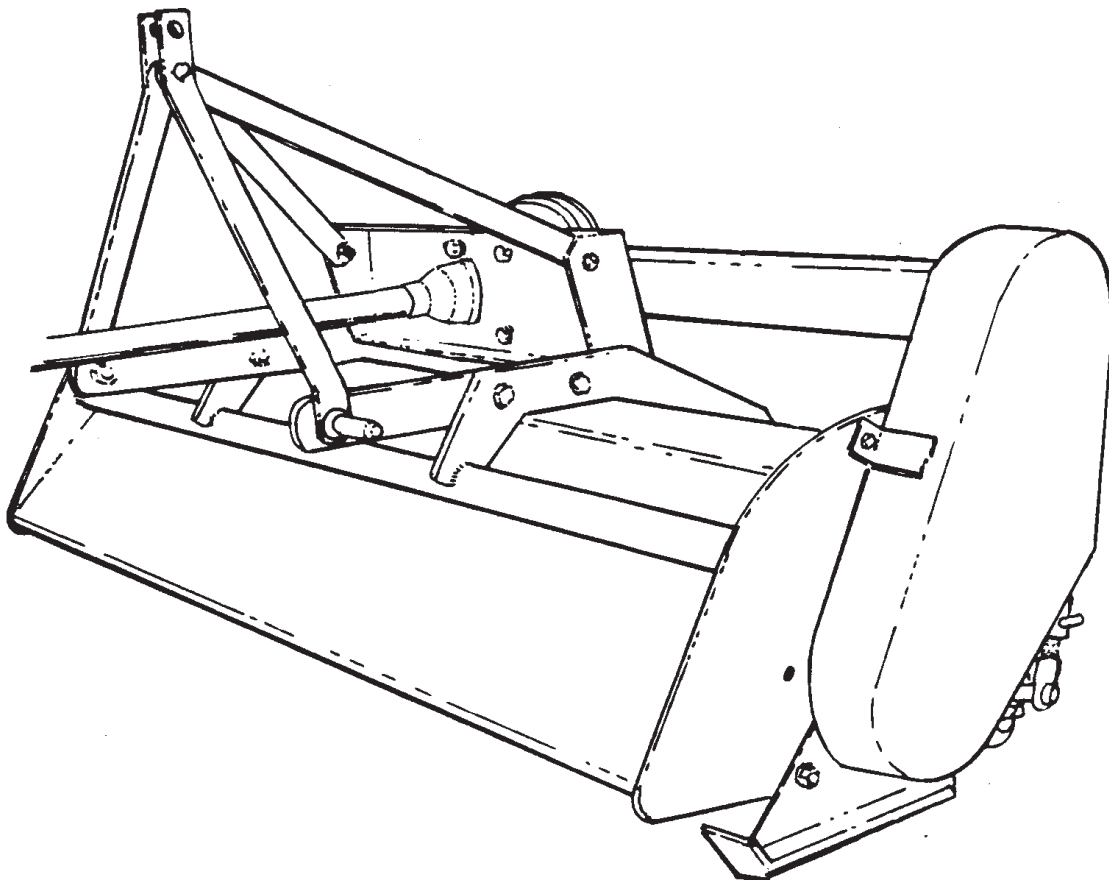
Published 05/03

Part No. 00761305C

OPERATOR'S MANUAL



This Operator's Manual is an integral part of the safe operation of this machine and must be maintained with the unit at all times. **READ**, **UNDERSTAND**, and **FOLLOW** the Safety and Operation Instructions contained in this manual before operating the equipment.



ALAMO INDUSTRIAL

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TO THE OWNER/OPERATOR/DEALER

All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

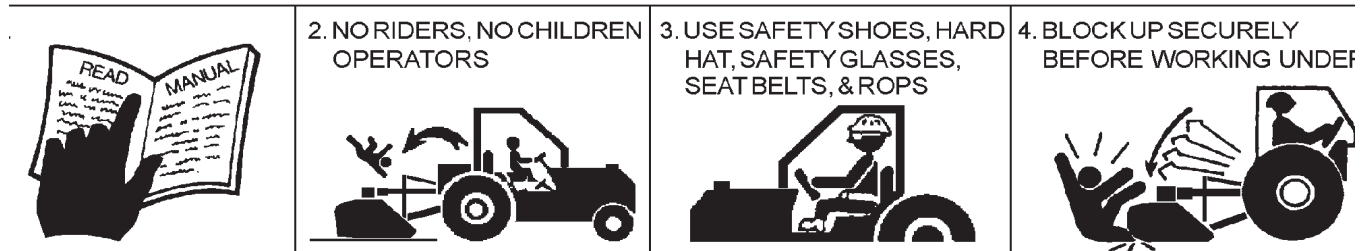
BEFORE YOU START!!

Read the safety messages on the implement and shown in your manual.
Observe the rules of safety and common sense!



DANGER

FAILING TO FOLLOW SAFETY MESSAGES AND OPERATING INSTRUCTIONS CAN CAUSE SERIOUS BODILY INJURY OR EVEN DEATH TO OPERATOR AND OTHERS IN THE AREA.



Study and understand Operator's Manuals, Safety Signs, and Instructional Decals for tractor & flail mower to prevent use, abuse, & accidents. Practice before operating mower in a confined area or near passersby.

Learn how to stop engine suddenly in an emergency. Be alert for passersby and especially children.

Allow no children on or near implement or tractor. Allow no riders on tractor or implement. Falling off can cause serious injury or death from being runover by tractor or mower or contact with Flail Mower Blades.

Operate only with tractor having Roll-Over Protective Structure (ROPS) and with seatbelt fastened securely and properly to prevent injury and possible death from falling off or tractor overturn. Personal Protective Equipment such as Hard Hat, Safety Glasses, Safety Shoes, and Ear Plugs are recommended.

Block up or support raised machine and all lifted components securely before putting hands or feet under or working underneath any lifted component to prevent crushing injury or death from sudden dropping or inadvertent operation of controls. Make certain that area is clear before lowering or folding.

Before transporting, put Lift Lever in detent or full-lift position. Install Transport Safety Devices securely on folding implements. Slow down when turning and on hillsides.

Install **Restrictor in folding circuit to slow down lowering and unfolding if action is faster than is desirable.

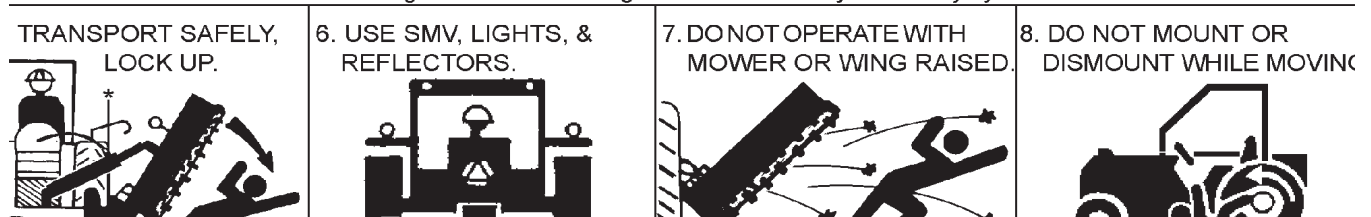
Make certain that SMV sign, Warning Lights, and Reflectors are clearly visible. Follow local traffic codes.

Never operate with Flail Mower or Folding Section raised if passersby, bystanders or traffic are in the area to reduce possibility of injury or death from objects thrown by Blades under Shields or implement structure.

Before dismounting, secure flail mower in transport position or lower to ground.

Put tractor in park or set brake, disengage PTO, stop engine, remove key, and wait until noise of rotation has ceased to prevent entanglement in rotating parts which may cause injury or death.

Never mount or dismount a moving vehicle. Crushing from runover may cause injury or death.



WARRANTY INFORMATION:

Read and understand the complete Warranty Statement found in this Manual. Fill out the Warranty Registration Form in full and return it within 30 Days. Make certain the Serial Number of the Machine is recorded on the Warranty Card and on the Warranty Form that you retain. The use of "will-fit" parts will void your warranty and can cause catastrophic failure with possible injury or death.

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SAFETY SECTION

SAFETY

SAFETY

A safe and careful operator is the best operator. Safety is of primary importance to the manufacturer and should be to the owner/operator. Most accidents can be avoided by being aware of your equipment, your surroundings, and observing certain precautions. The first section of this manual includes a list of Safety Messages that, if followed, will help protect the operator and bystanders from injury or death. Read and understand these Safety Messages before assembling, operating or servicing this implement. This equipment should only be operated by those persons who have read the Manual, who are responsible and trained, and who know how to do so safely and responsibly.

The Safety Alert Symbol combined with a Signal Word, as seen below, is used throughout this manual and on decals which are attached to the equipment. The Safety Alert Symbol means: **“ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!”** The Symbol and Signal Word are intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this equipment..

Practice all usual and customary safe working precautions and above all---remember safety is up to YOU. Only YOU can prevent serious injury or death from unsafe practices.

CAUTION!

The lowest level of Safety Message; warns of possible injury. Decals located on the Equipment with this Signal Word are Black and Yellow.



WARNING!

Serious injury or possible death! Decals are Black and Orange.



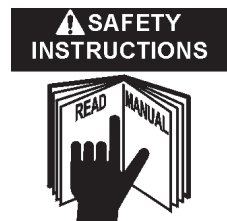
DANGER!

Imminent death/critical injury. Decals are Red and White. (SG-1)



READ, UNDERSTAND, and FOLLOW the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards.

(SG-2)

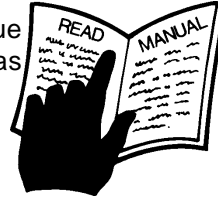


SAFETY

PELIGRO!



Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad. (SG-3)

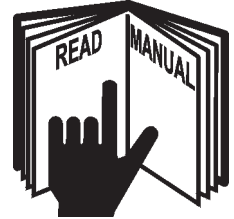


¡LEA EL INSTRUCTIVO!

DANGER!



Never operate the Tractor or Implement until you have read and completely understand this Manual, the Tractor Operator's Manual, and each of the Safety Messages found in the Manual or on the Tractor and Implement. Learn how to stop the tractor engine suddenly in an emergency. Never allow inexperienced or untrained personnel too operate the Tractor and Implement without supervision. Make sure the operator has fully read and understood the manuals prior to operation. (SG-4)



WARNING!

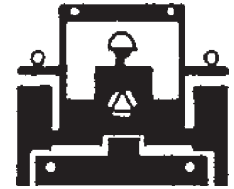


Always maintain the safety decals in good readable condition. If the decals are missing, damaged, or unreadable, obtain and install replacement decals immediately. (SG-5)

WARNING!



Make certain that the "Slow Moving Vehicle" (SMV) sign is installed in such a way as to be clearly visible and legible. When transporting the Equipment use the Tractor flashing warning lights and follow all local traffic regulations. (SG-6)



WARNING!



Operate this Equipment only with a Tractor equipped with an approved roll-over-protective system (ROPS). Always wear seat belts. Serious injury or even death could result from falling off the tractor--particularly during a turnover when the operator could be pinned under the ROPS. (SG-7)



WARNING!

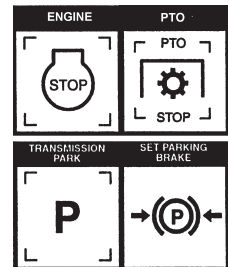


Do not modify or alter this Implement. Do not permit anyone to modify or alter this Implement, any of its components or any Implement function. (SG-8)

DANGER!



BEFORE leaving the tractor seat, always engage the brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only. (SG-9)



DANGER!



Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death. (SG-10)



SAFETY

SAFETY

SAFETY

DANGER!



Never allow children to operate or ride on the Tractor or Implement. (SG-11)



WARNING!



Do not mount the Tractor while the tractor is moving. Mount the Tractor only when the Tractor and all moving parts are completely stopped. (SG-12)



DANGER!



Start tractor only when properly seated in the Tractor seat. Starting a tractor in gear can result in injury or death. Read the Tractor operators manual for proper starting instructions. (SG-13)



DANGER!



Never work under the Implement, the framework, or any lifted component unless the Implement is securely supported or blocked up to prevent sudden or inadvertent falling which could cause serious injury or even death. (SG-14)



DANGER!



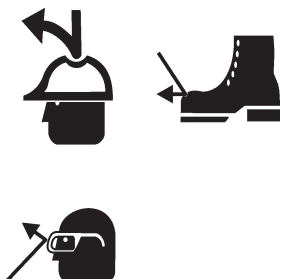
Do not operate this Equipment with hydraulic oil leaking. Oil is expensive and its presence could present a hazard. Do not check for leaks with your hand! Use a piece of heavy paper or cardboard. High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15)



WARNING!



The operator and all support personnel should wear hard hats, safety shoes, safety glasses, and proper hearing protection at all times for protection from injury including injury from items thrown by the equipment. (SG-16)



SAFETY

SAFETY

CAUTION!



PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS! Tractors with or without an Implement attached can often be noisy enough to cause permanent hearing loss. We recommend that you always wear hearing protection if the noise in the Operator's position exceeds 80db. Noise over 85db over an extended period of time will cause severe hearing loss. Noise over 90db adjacent to the Operator over an extended period of time will cause permanent or 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. (SG-17)



WARNING!



Transport only at safe speeds. Serious accidents and injuries can result from operating this equipment at unsafe speeds. Understand the Tractor and Implement and how it handles before transporting on streets and highways. Make sure the Tractor steering and brakes are in good condition and operate properly.



Before transporting the Tractor and Implement, determine the safe transport speeds for you and the equipment. Make sure you abide by the following rules:

1. Test the tractor at a slow speed and increase the speed slowly. Apply the Brakes smoothly to determine the stopping characteristics of the Tractor and Implement. As you increase the speed of the Tractor the stopping distance increases. Determine the maximum safe transport speed for you and this Equipment.
2. Test the equipment at a slow speed in turns. Increase the speed through the turn only after you determine that it is safe to operate at a higher speed. Use extreme care and reduce your speed when turning sharply to prevent the tractor and implement from turning over. Determine the maximum safe turning speed for you and this equipment before operating on roads or uneven ground.
3. Only transport the Tractor and Implement at the speeds that you have determined are safe and which allow you to properly control the equipment.



Be aware of the operating conditions. Do not operate the Tractor with weak or faulty brakes. When operating down a hill or on wet or rain slick roads, the braking distance increases: use extreme care and reduce your speed. When operating in traffic always use the Tractor's flashing warning lights and reduce your speed. Be aware of traffic around you and watch out for the other guy. (SG-19)

WARNING!



Never attempt to lubricate, adjust, or remove material from the Implement while it is in motion or while tractor engine is running. Make sure the tractor engine is off before working on the Implement.

(SG-20)

SAFETY

SAFETY

WARNING!



Periodically inspect all moving parts for wear and replace when necessary with authorized service parts. Look for loose fasteners, worn or broken parts, and leaky or loose fittings. Make sure all pins have cotter pins and washers. Serious injury may occur from not maintaining this machine in good working order. (SG-21)



WARNING!



Always read carefully and comply fully with the manufacturers instructions when handling oil, solvents, cleansers, and any other chemical agent. (SG-22)



DANGER!



Never run the tractor engine in a closed building or without adequate ventilation. The exhaust fumes can be hazardous to your health.

(SG-23)

DANGER!



KEEP AWAY FROM ROTATING ELEMENTS to prevent entanglement and possible serious injury or death.

(SG-24)



DANGER!



Never allow children to play on or around Tractor or Implement. Children can slip or fall off the Equipment and be injured or killed. Children can cause the Implement to shift or fall crushing themselves or others. (SG-25)

WARNING!



Do not exceed the rated PTO speed for the Implement. Excessive PTO speeds can cause Implement driveline or blade failures resulting in serious injury or death. (SG-26)

DANGER!



NEVER use drugs or alcohol immediately before or while operating the Tractor and Implement. Drugs and alcohol will affect an operator's alertness and coordination and therefore affect the operator's ability to operate the equipment safely. Before operating the Tractor or Implement, an operator on prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder their ability to operate the Equipment safely. **NEVER** knowingly allow anyone to operate this equipment when their alertness or coordination is impaired. Serious injury or death to the operator or others could result if the operator is under the influence of drugs or alcohol. (SG-27)



SAFETY

SAFETY

DANGER!



Operate the Tractor and/or Implement controls only while properly seated in the Tractor seat with the seat belt securely fastened around you. Inadvertent movement of the Tractor or Implement may cause serious injury or death. (SG-29)

WARNING!

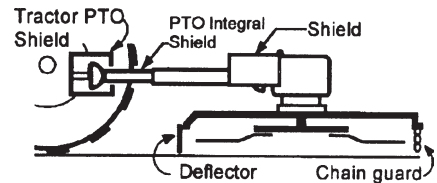


Mow only in conditions where you have clear visibility in daylight or with adequate artificial lighting. Never mow in darkness or foggy conditions where you cannot clearly see at least 100 yards in front and to the sides of the tractor and mower. Make sure that you can clearly see and identify passersby, steep slopes, ditches, drop-offs, overhead obstructions, power lines, debris and foreign objects. If you are unable to clearly see this type of items discontinue mowing. (SGM-1)

DANGER!



All Safety Shields, Guards and Safety devices including (but not limited to) - the Deflectors, Chain Guards, Steel Guards, Gearbox Shields, PTO integral shields, and Retractable Door Shields should be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. Missing, broken, or worn items must be replaced at once to reduce the possibility of injury or death from thrown objects, entanglement, or blade contact. (SGM-3)



DANGER!



The rotating parts of this machine have been designed and tested for rugged use. However, the blades could fail upon impact with heavy, solid objects such as metal guard rails and concrete structures. Such impact could cause the broken objects to be thrown outward at very high velocities. To reduce the possibility of property damage, serious injury, or even death, never allow the cutting blades to contact such obstacles. (SGM-4)

WARNING!



Extreme care should be taken when operating near loose objects such as gravel, rocks, wire, and other debris. Inspect the area before mowing. Foreign objects should be removed from the site to prevent machine damage and/or bodily injury or even death. Any objects that cannot be removed must be clearly marked and carefully avoided by the operator. Stop mowing immediately if blades strike a foreign object. Repair all damage and make certain rotor or blade carrier is balanced before resuming mowing. (SGM-5)



WARNING!



Many varied objects, such as wire, cable, rope, or chains, can become entangled in the operating parts of the mower head. These items could then swing outside the housing at greater velocities than the blades. Such a situation is extremely hazardous and could result in serious injury or even death. Inspect the cutting area for such objects before mowing. Remove any like object from the site. Never allow the cutting blades to contact such items. (SGM-6)

SAFETY

SAFETY

WARNING!



Mow at the speed that you can safely operate and control the tractor and mower. Safe mowing speed depends on terrain condition and grass type, density, and height of cut. Normal ground speed range is from 0 to 5 mph. Use slow mowing speeds when operating on or near steep slopes, ditches, drop-offs, overhead obstructions, power lines, or when debris and foreign objects are to be avoided. (SGM-7)

WARNING!



Avoid mowing in reverse direction when possible. Check to make sure there are no persons behind the mower and use extreme care when mowing in reverse. Mow only at a slow ground speed where you can safely operate and control the tractor and mower. Never mow an area that you have not inspected and removed debris or foreign material. (SGM-8)

DANGER!



Replace bent or broken blade with new blades. NEVER ATTEMPT TO STRAIGHTEN OR WELD ON BLADES SINCE THIS WILL LIKELY CRACK OR OTHERWISE DAMAGE THE BLADE WITH SUBSEQUENT FAILURE AND POSSIBLE SERIOUS INJURY FROM THROWN BLADES. (SGM-10)

WARNING!



Do not mow with two machines in the same area except with Cab tractors with the windows closed. (SGM-11)

DANGER!



Rotary Mowers are capable under adverse conditions of throwing objects for great distances (100 yards or more) and causing serious injury or death. Follow safety messages carefully



STOP MOWING IF PASSERSBY ARE WITHIN 100 YARDS UNLESS:

- Front and Rear Deflectors, Chain Guards, or Bands are installed and in good, workable condition;
- Mower sections or Wings are running close to and parallel to the ground without exposed Blades;
- Passerby are outside the existing thrown-object zone;
- All areas have been thoroughly inspected and all foreign material such as rocks, cans, glass, and general debris has been removed.

NOTE: Where there are grass and weeds high enough to hide debris that could be struck by the blades, the area should be: inspected and large debris removed, mowed at an intermediate height, inspected, closely with any remaining debris being removed, and mowed again at desired final height. (This will also reduce power required to mow, reduce wear and tear on the Mower drivetrain, spread cut material better, eliminate streaking, and make the final cut more uniform.)

(SRM-1)

DANGER!



Always disconnect the main PTO Driveline from the Tractor before performing service on the Mower. Never work on the Mower with the tractor PTO driveline connected and running. Blades or Drivelines could turn without warning and cause immediate entanglement, injury or death.

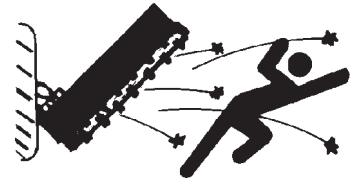
(SRM-3)

SAFETY

WARNING!



Do not let the Blades turn when the Mower Deck is raised for any reason, including clearance or for turning. Raising the Mower deck exposes the Cutting Blades which creates a potentially serious hazard and could cause serious injury or even death from objects thrown from the Blades. (SRM-7)



DANGER!



There are obvious and hidden potential hazards in the operation of this Mower. REMEMBER! This machine is often operated in grass and in heavy weeds. The Blades of this Mower can throw objects if shields are not properly installed and maintained. Serious injury or even death may occur unless care is taken to insure the safety of the operator, bystanders, or passersby in the area. Do not operate this machine with anyone in the immediate area. Stop mowing if anyone is within 100 yards of mower. (SFL-1)

DANGER!



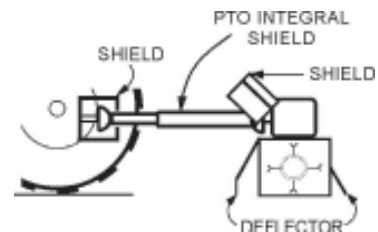
Do not put hands or feet under mower decks. Blade Contact can result in serious injury or even death. Stay away until all motion has stopped and the decks are securely blocked up. (SFL-2)



DANGER!



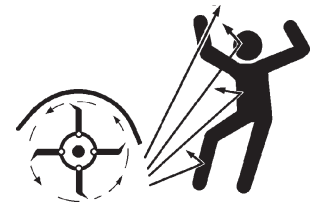
All Safety Shields, Guards and Safety devices including (but not limited to) - the Deflectors, Steel Guards, Gearbox Shields, PTO integral shields, and Retractable Door Shields should be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. Missing, broken, or worn items must be replaced at once to reduce the possibility of injury or death from thrown objects, entanglement, or blade contact. (SFL-5)



DANGER!



Flail Mowers are capable under adverse conditions of throwing objects for great distances (100 yards or more) and causing serious injury or death. Follow safety messages carefully.



STOP MOWING IF PASSERSBY ARE WITHIN 100 YARDS UNLESS:

- Front and Rear Deflectors, Chain Guards, or Bands are installed and in good, workable condition;
- Mower sections or Wings are running close to and parallel to the ground without exposed Blades;
- Passerby are outside the existing thrown-object zone;
- All areas have been thoroughly inspected and all foreign material such as rocks, cans, glass, and general debris has been removed.

NOTE: Where there are grass and weeds high enough to hide debris that could be struck by the blades, the area should be: inspected and large debris removed, mowed at an intermediate height, inspected, closely with any remaining debris being removed, and mowed again at desired final height. (This will also reduce power required to mow, reduce wear and tear on the Mower drivetrain, spread cut material better, eliminate streaking, and make the final cut more uniform.)

(SFL-6)

SAFETY

SAFETY

WARNING!



Do not operate Mower if excessive vibration exists. Shut down PTO and the Tractor engine. Inspect the Mower to determine the source of the vibration. If Mower blades are missing or damaged replace them immediately. Do not operate the mower until the blades have been replaced and the Mower operates smoothly. Operating the Mower with excessive vibration can result in component failure and broken objects to be thrown outward at very high velocities. To reduce the possibility of property damage, serious injury, or even death, never allow the Mower to be operated with blades missing. (SFL-4)

WARNING!



Never leave Tractor and Implement unattended while the implement is in the lifted position. Accidental operation of lifting lever or a hydraulic failure may cause sudden drop of unit with injury or death by crushing. To properly park the implement when disconnecting it from the tractor, lower the stand and put the retaining pin securely in place, or put a secure support under the A-Frame. Lower the implement carefully to the ground. Do not put hands or feet under lifted components. (SPT-1)

WARNING!



Be particularly careful when transporting the Implement with the Tractor. Turn curves or go up hills only at a low speed and using a gradual steering angle. Rear mounted implements move the center of gravity to the rear and remove weight from the front wheels. Make certain, by adding front ballast, that at least 20% of the tractor's weight is on the front wheels to prevent rearing up, loss of steering control or Tractor tip-over. Slow down on rough or uneven surfaces to prevent loss of steering control which could result in property damage or possible injury. Do not transport unless 3-Point lift lever is fully raised and in the latched transport position. Dropping implement in transport can cause serious damage to the tractor and/or Implement and possibly cause the operator or others to be injured or killed. (S3PT-2)

DANGER!



Make sure the PTO shield, integral driveline shields, and input shields are installed when using PTO-driven equipment. Always replace any shield if it is damaged or missing. (S3PT-8)



WARNING!



Relieve hydraulic pressure prior to doing any maintenance or repair work on the Implement. Place the Implement on the ground or securely blocked up, disengage the PTO, and turn off the tractor engine. Push and pull the Remote Cylinder lever in and out several times prior to starting any maintenance or repair work. (S3PT-9)



WARNING!



The rotating parts of this machine continue to rotate even after the PTO has been turned off. The operator should remain in his seat for 60 seconds after the brake has been set, the PTO disengaged, the tractor turned off, and all evidence of rotation has ceased. (3PT-10)

“Wait a minute...Save a life!”

SAFETY

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 Tractor and Equipment Manuals. Pay close attention to the Safety Signs affixed to the Tractor and Equipment. (SG-18)

PARTS INFORMATION

Alamo Industrial mowers use balanced and matched system components for blade carriers, blades, cuttershafts, knives, knife hangers, rollers, drivetrain components, and bearings. These parts are made and tested to Alamo Industrial specifications. Non-genuine "will fit" parts do not consistently meet these specifications. The use of "will fit" parts may reduce mower performance, void mower warranties, and present a safety hazard. Use genuine Alamo Industrial mower parts for economy and safety.

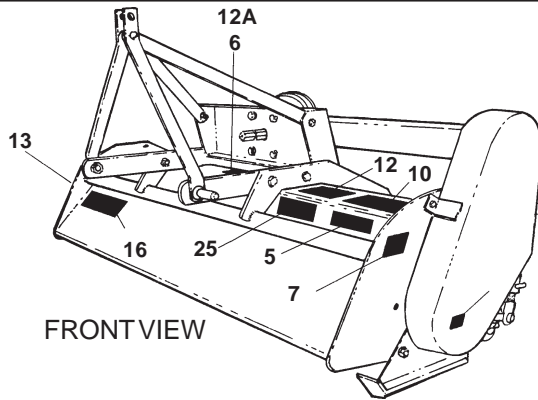
(SPAM-1)

SEE YOUR ALAMO DEALER

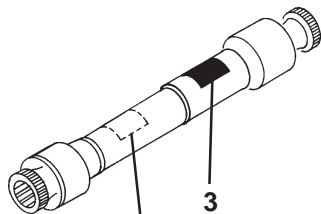
SAFETY

SAFETY

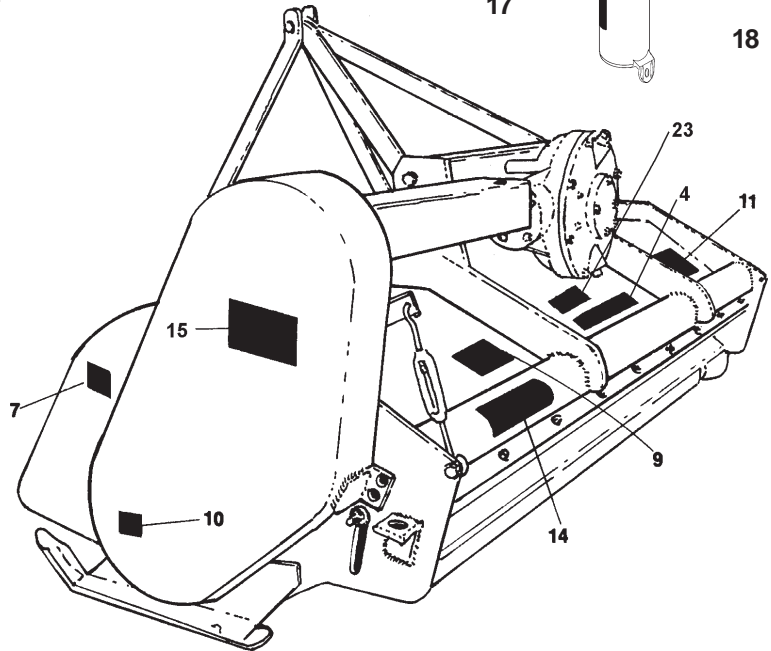
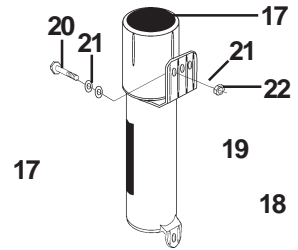
SAFETY



FRONT VIEW



DRIVELINE



ITEM	PART NO.	QTY	LEVEL	DESCRIPTION
1	002369	1	DANGER	Multi-Hazard
2	00756004	1	DANGER	D/L Shield Missing
3	00756005	1	DANGER	Rotating Driveline
4	00725739	1	WARNING	Use/Repair Shields & Guards
5	02967668	1	DANGER	Cutting Blades/Thrown Objects
6	00756494	1	DANGER	D/L Multi Haz
7	00758194	1	WARNING	Pinch Point (V-Belt/Pulley)
8	03200347	*1	REFLCTR	SMV Reflector
9	000108	1	Instruc	Flail Operation
10	000678	2	Instruc	Grease Fitting Inside
11	001830	1	Instruc	Lubrication Chart
12	02925100	1	Instruc	Genuine Parts, Flail
12A	00773723	1	PELIGRO!	Rotating Driveline Translation
13	001650	1	Logo	Alamo by Mott
14	001651	1	Logo	Alamo
15	02960766	1	Logo	Alamo
16	nfs	1	Ser Plt	Serial Plate
17	00776481	1	Instruc	Operator's Manual Inside (Decal)
18	00776031	1	-----	Canister, Operator's Manual
19	00761305C	1	-----	Operator's Manual
20	10058000	3	-----	Bolt
21	00024100	6	-----	Flatwasher
22	02959924	3	-----	Locknut
23	00725746	1		

* Furnished by tractor manufacturer
Safety Section 1-12

AT 6074 03/02

SAFETY DECALS

SAFETY



2-00756004

OPERATING INSTRUCTIONS

This Mower will give long satisfactory service with a minimum of upkeep cost if the following procedure is followed:

1. **KEEP PROPERLY LUBRICATED**
 - a. **BEARINGS** - Use a lithium-based #2 Bearing Grease such as Shell Alvania #2, Sinclair Litholene, Mobil BRB, Texaco Marfak #2, Standard Stanolith #57, etc.
 - b. **GEARBOX** - Use SAE EP90 oil.
2. **KEEP FASTENERS TIGHTENED**
 - a. Normally, if Fasteners loosen after being properly tightened, the Mower is vibrating more than is acceptable and permanent damage can occur rapidly.
 - b. See Bolt Chart for proper tightening torque.
3. **KEEP THE MOWER RUNNING SMOOTHLY AND QUIETLY.**
 - a. After hitting any obstruction and at the first sign of any unusual vibration or noise, STOP THE MOWER, and do not operate again until the problem is found and corrected. VIBRATION CAN DESTROY THE ENTIRE MOWER IN A SHORT TIME.
 - b. Inspect for broken or missing Knives, Knives restricted from swinging freely, worn Bearings, a bent Shaft, or other conditions causing out-of-balance rotation.
 - c. See Operators Manual for details on causes and correction of vibration of Flail Mowers.

NOTICE: Warranty does not cover damage resulting from the failure to observe these reasonable procedures.

9-000108

DANGER

CUTTING BLADES **THROWN OBJECTS**

FLAIL ROTARY FLAIL ROTARY

KEEP AWAY - ROTATING BLADES

SERIOUS INJURY OR DEATH CAN RESULT FROM THROWN OBJECTS OR BLADE CONTACT.

* STOP MOWING IF PERSONS ARE NOT CLEAR OF THROWN OBJECTS.
 * DO NOT STAND ON OR NEAR MACHINE WHEN IN OPERATION.
 * DO NOT OPERATE WITH DEFLECTORS OR GUARDS REMOVED.

5-00756485

DANGER

ROTATING DRIVELINE
 CONTACT CAN CAUSE DEATH
 KEEP AWAY!

DO NOT OPERATE WITHOUT—

- ALL DRIVELINE, TRACTOR AND EQUIPMENT SHIELDS IN PLACE
- DRIVELINES SECURELY ATTACHED AT BOTH ENDS
- DRIVELINE SHIELDS THAT TURN FREELY ON DRIVELINE

3-00756005

DANGER

1. MAKE CERTAIN DRIVELINES ARE OF THE **CORRECT LENGTH** AND SECURELY ATTACHED. **DRIVELINE SEPARATION AND/OR PTO STUB SHAFT FAILURE CAN CAUSE INJURY OR DEATH.** (See Operator's Manual for procedure.)

* SEE MANUAL FOR MINIMUM OVERLAP & MINIMUM/MAXIMUM LENGTHS
2. MAKE CERTAIN THAT DRIVELINE SHIELDS ARE **INSTALLED CORRECTLY** AND **TURN FREELY** TO PREVENT INJURY OR DEATH FROM ENTANGLEMENT
3. MAKE CERTAIN THAT DRIVELINE IS INSTALLED CORRECTLY ON TRACTOR PTO SHAFT. MOVE YOKE BACK AND FORTH UNTIL LOCKING COLLAR CLICKS FORWARD AND LOCKS YOKE IN PLACE
4. **540 PTO RPM** UNLESS SPECIFICALLY MARKED OTHERWISE.

6-00756494

SAFETY

SAFETY

⚠ PELIGRO

Un manual de la seguridad de la línea de conducción n/p 00773776 está disponible en español. Llame el número enumerado para una copia gratis.



LINEA DE CONDUCCION GIRATORIA-
EL CONTACTO PUEDE CAUSAR LA MUERTE
¡MANTENERSE LEJOS!
NO FUNCIONE SIN QUE-

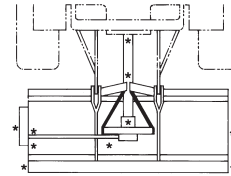
- Todos los protectores de la línea de Conducción, alimentador y blindajes del Equipo estén en su lugar
- Las líneas de conducción estén conectadas con seguridad en ambos extremos
- Los protectores de la línea de conducción den vuelta libremente en la línea de Conducción

00773723

12A-00773723

1 - 002369- Not Shown
(See Inside Front Cover of Manual)
16 - nfs Serial Plate

LUBRICATION CHART



* LUBRICATE ALL POINTS EVERY 8 HOURS OF OPERATION 001830

11 - 001830

IMPORTANT

For your safety and to guarantee optimum product reliability, always use Genuine ALAMO INDUSTRIAL replacement parts. The use of inferior "will-fit" parts will void Warranty of your ALAMO INDUSTRIAL implement and may cause premature or catastrophic failure which can result in serious injury or death. If you have any questions concerning the repair parts you are using, contact ALAMO INDUSTRIAL, 1502 E. Walnut Seguin, TX 78155 (830) 372-3551.



12-02925100

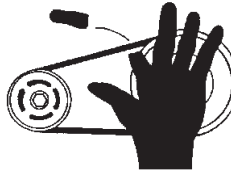


15-02960766

⚠ WARNING

DO NOT OPERATE WITH BELT SHIELD REMOVED. FINGER(S) MAY BE PINCHED OFF IF CAUGHT BETWEEN V-BELT AND PULLEY.

00758194



7-00758194

**GREASE
FITTING
INSIDE**

10-000678

SAFETY



PELIGRO

Si No Lee Ingles, Pida Ayuda a Alguien Que Si Lo Lea Para Que le Traduzca las Medidas de Seguridad.

LEA EL INSTRUCTIVO



00725746

23-00725746

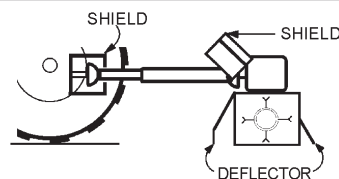
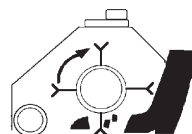


WARNING

FAILURE TO USE AND MAINTAIN SHIELDS AND DEFLECTORS IN GOOD CONDITION MAY LEAD TO INJURY OR DEATH FROM ENTANGLEMENT WITH ROTATING PARTS, BEING HIT BY OBJECTS THROWN WITH GREAT FORCE BY BLADES, OR BY BLADE CONTACT.

- Always replace Guards which have been removed for maintenance. Never operate with guard missing or broken.
- Chain Guards, Gearbox, Driveline Shields, Rubber-fabric Deflectors, and solid Band enclosures are subject to wear and lost or broken parts and must be repaired or replaced as soon as damage is found.
- Safety Shielding must be installed and in good condition to reduce the possibility of thrown objects any time this machine is operated in any area where thrown objects could cause injury.

00725739



4-00725739



WARNING

OPERATE THIS MACHINE AT
540 RPM
TRACTOR PTO SPEED ONLY

Overspeeding PTO may cause component failure with resulting injury. D103

25-D103

OPERATOR'S MANUAL INSIDE

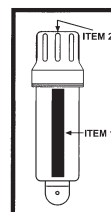
READ AND UNDERSTAND Before Operating Tractor & Implement
If Manual is missing, obtain one before operating from Dealer or Alamo Group (800) 221-2855

00776481

ITEM 1



ITEM 2



00776481 Decal Canister Sheet

17-00776481

SAFETY

SAFETY

SAFETY

FEDERAL LAWS AND REGULATIONS

This section is intended to explain in broad terms the concept and effect of federal laws and regulations concerning employer and employee equipment operators. This section is not intended as a legal interpretation of the law and should not be considered as such.

Employer-Employee Operator Regulations

U.S. Public Law 91-596 (The Williams-Steiger Occupational and Health Act of 1970) OSHA

This Act Seeks:

“...to assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources...”

DUTIES

Sec. 5 (a) Each employer-

(1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;

(2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA Regulations

OSHA regulations state in part: “At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all equipment with which the employee is, or will be involved.”

Employer Responsibilities:

To ensure employee safety during Tractor and Implement operation, it is the employer's responsibility to:

1. Train the employee in the proper and safe operation of the Tractor and Implement.
2. Require that the employee read and fully understand the Tractor and Implement Operator's manual.
3. Permit only qualified and properly trained employees to operate the Tractor and Implement.
4. Maintain the Tractor and Implement in a safe operational condition and maintain all shields and guards on the equipment.
5. Ensure the Tractor is equipped with a functional ROPS and seat belt and require that the employee operator securely fasten the safety belt and operate with the ROPS in the raised position at all times.
6. Forbid the employee operator to carry additional riders on the Tractor or Implement.
7. Provide the required tools to maintain the Tractor and Implement in a good safe working condition and provide the necessary support devices to secure the equipment safely while performing repairs and service.
8. Require that the employee operator stop mowing if bystanders or passerbys come within 100 yards.

Child Labor Under 16 Years of Age

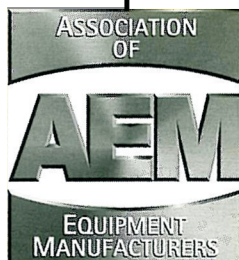
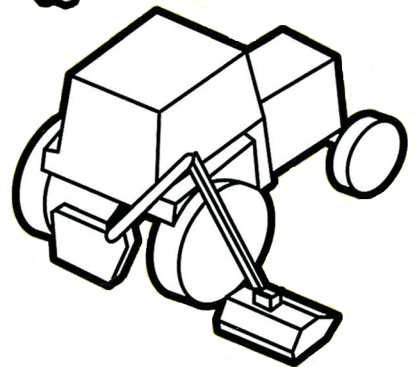
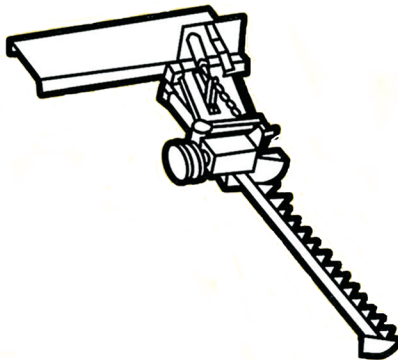
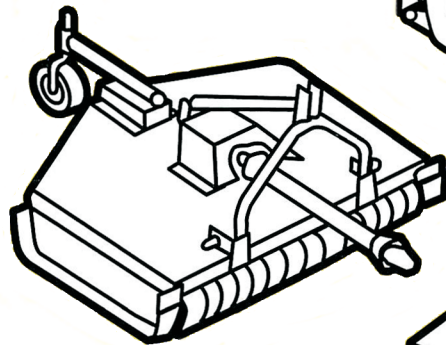
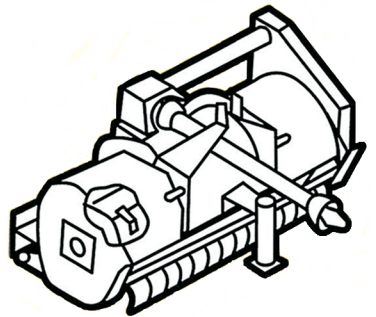
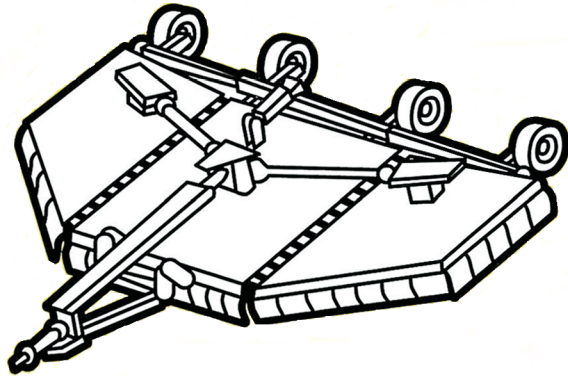
Some regulations specify that no one under the age of 16 may operate power machinery. It is your responsibility to know what these regulations are in your own area or situation. (Refer to U.S. Dept. of Labor, Employment Standard Administration, Wage & Home Division, Child Labor Bulletin #102.)



Safety Manual

*For Operators
and Mechanics*

Industrial/ Agricultural Mower



111 E. Wisconsin Avenue • Milwaukee, Wisconsin 53202 U.S.A.
www.aem.org

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Acknowledgement

We wish to acknowledge the contributions of the members of the Association of Equipment Manufacturers to the preparation of this Safety Manual.

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Forward



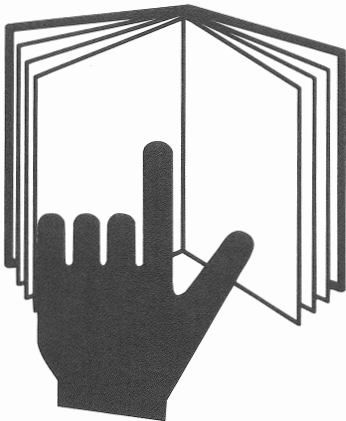
This Safety Manual is intended to point out some of the basic safety situations which may be encountered during the normal operation and maintenance of your machine and to suggest possible ways of dealing with these conditions. This manual is NOT a substitute for the manufacturer's manual(s).

Additional precautions may be necessary, or some instructions may not be applicable, depending on the equipment, attachment devices, and conditions at the worksite or in the service area. The manufacturer has no direct control over machine application, operation, inspection, lubrication, or maintenance. Therefore, it is **YOUR** responsibility to use good safety practices in these areas.

The information provided in this manual supplements the specific information about your machine that is contained in the manufacturer's manual(s). Other information which may affect the safe operation of your machine may be contained on safety signs or in insurance requirements, employer's safety and training programs, safety codes, local, state/provincial and national laws, rules and regulations.

IMPORTANT: *If you do not have the manufacturer's manual(s) for your particular machine, get a replacement manual from your employer, equipment dealer, or the manufacturer of your machine. Keep this safety manual and the manufacturer's manual(s) with your machine.*

A Word to the User



It is your responsibility to read and understand this safety manual and the manufacturer's manual(s) before operating this machine. This safety manual takes you step-by-step through your working day. The safety manual, manufacturer's manual(s), safety signs (decals) and safety precautions must be explained to those users or operators who cannot read the material.

In addition to equipment design and configuration, **HAZARD CONTROL** and **ACCIDENT PREVENTION** are dependent upon the owner's and operator's awareness, concern, prudence, and proper training in the operation, transport, maintenance and storage of equipment.

Remember that **YOU** are the key to safety. Good safety practices not only protect you but also protect the people around you. Study this manual and the manufacturer's manual(s) for your specific machine. Make them a working part of your safety program. Keep in mind that this safety manual is written only for industrial and agricultural mowers.

Practice all usual and customary safe working precautions and above all – remember safety is up to YOU. Only YOU can prevent serious injury or death from unsafe practices.

Safety Alerts

Symbol

This Safety Alert Symbol means:

**“ATTENTION! BECOME ALERT!
YOUR SAFETY IS INVOLVED!”**



The Safety Alert Symbol identifies important safety messages on equipment, safety signs, in manuals or elsewhere. When you see this symbol, be alert to the possibility of death or personal injury. Follow the instructions in the safety message.

Signal Words

Signal words are distinctive words that will typically be found on safety decals on this equipment or other equipment on the worksite. These words are intended to alert the viewer to the existence and relative degree of a hazard.



This signal word indicates an imminently hazardous situation which, not avoided, will result in death or serious injury.



This signal word indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



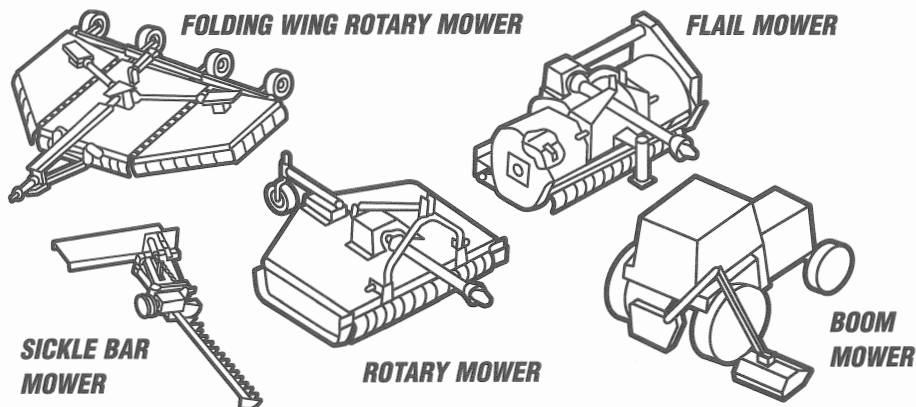
This signal word indicates a potentially hazardous situation exists which, if not avoided, may result in minor or moderate injury.

- ACCIDENTS DISABLE AND KILL.
- ACCIDENTS COST.
- ACCIDENTS CAN BE AVOIDED.

Industrial/Agricultural Mowers

A mower for pasture clipping, crop residue shredding, heavy brush cutting for land clearing, waterways, right-of-ways, road side or highway mowing.

INDUSTRIAL/AGRICULTURAL MOWER TYPES:



Be a Responsible Operator



For safe operation of your equipment, you must be a responsible operator. A responsible operator must clearly understand the written instructions supplied by the manufacturer, be trained—including actual operation of the equipment and know the safety rules and regulations for the worksite.

Drugs and alcohol will affect an operator's alertness and coordination and therefore affect the operator's ability to operate the equipment safely. An operator should **NEVER** use drugs which affect alertness, judgement and coordination or alcohol while operating motorized equipment, including tractors and mowers. An operator on prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder his or her ability to operate this equipment safely. **NEVER** knowingly allow anyone to operate this equipment when their alertness, judgement or coordination is impaired.

Protect Yourself

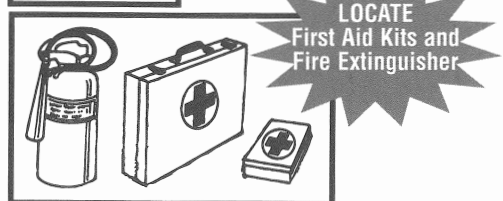
Wear all the protective clothing and personal safety devices issued to you or called for by job conditions.

You may need:

- Hard hat
- Safety shoes
- Safety glasses with side shields, goggles or face shield
- Heavy gloves
- Hearing protection
- Reflective clothing
- Wet weather gear
- Respirator or filter mask

Wear adequate clothing for the job conditions.

Always know where to get assistance in the case of an emergency. Know where to find and how to use a first aid kit and fire extinguisher/fire suppression system.



**Stay alert. Avoid accidents.
Don't learn safety the hard way.**

Safety Management of Hazards and Risks

In addition to equipment design and configuration, **HAZARD CONTROL** and **ACCIDENT PREVENTION** are dependent upon the owner's and operator's awareness, concern, prudence, and proper training in the operation, transport, maintenance and storage of equipment.

SAFETY MANAGEMENT OF HAZARDS AND RISKS IS ESSENTIAL TO RESPONSIBLE OWNERS AND OPERATORS OF TRACTORS AND MOWERS.

REVIEW THE FOLLOWING SAFETY MANAGEMENT OF LISTED HAZARDS AND RISKS:

Thrown Object Hazard

POSSIBLE THROWN OBJECT INJURY RISKS EXIST FOR MOWER OPERATORS AND BYSTANDERS DURING MOWER OPERATIONS FROM THE FOLLOWING:

DISCHARGED OBJECTS (ROCKS, DEBRIS, BROKEN MOWER BLADES, BLADE BOLTS, CABLES, CHAINS, WIRE, ETC....) FROM THE MOWER.

Equipment Protective Devices And Recommended Safety Practices

The mower deck and protective devices cannot prevent all objects or debris from escaping the blade enclosure area in every mowing condition. It is possible for objects to escape and travel several hundred (300) feet.

RECOMMENDED SAFETY PRACTICES

Read manufacturer's operator manual(s) for recommended operating safety practices. Explain the practices to users or operators who cannot read.

TO HELP PREVENT SERIOUS INJURY OR DEATH FROM OBJECTS STRIKING OPERATOR OR OTHER PERSONS DO THE FOLLOWING:

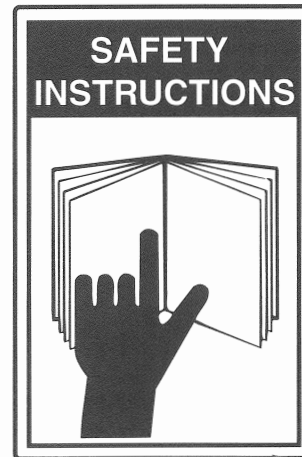
BYSTANDERS SAFETY

- Keep bystanders several hundred (300) feet from mowing area.

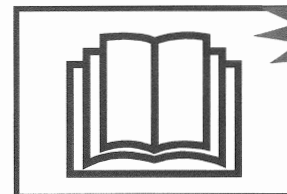
EQUIPMENT PROTECTIVE DEVICES SAFETY

To contain, deflect or reduce thrown objects from blade enclosure area:

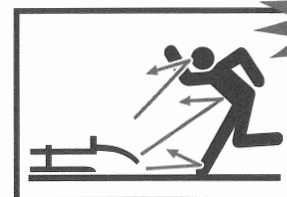
- Keep chain, flexible or solid deflector shields in place on the front and rear of the mower deck and in good repair.
- Do not operate with damaged or missing thrown object shielding.



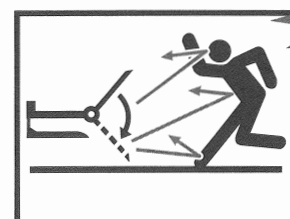
THROWN Object Hazard



READ Manuals

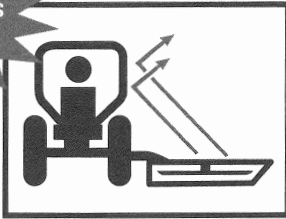


KEEP Bystanders Away

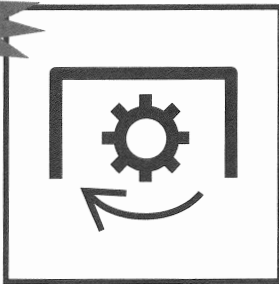


THROWN Object Hazard

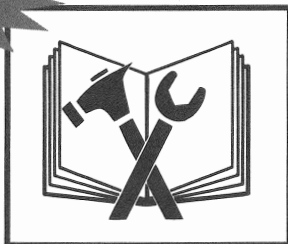
**USE ROPS
Enclosed Cabs
or Protective
Enclosures**



**USE Proper
PTO Speed**



**MAINTAIN
Equipment**



OPERATOR SAFETY

Raised wings, side mount and boom type mower operations may reduce the mower's thrown object shielding effectiveness for the mower operator's protection.

Do the following to increase operator protection from thrown objects during these mowing operations:

- Use enclosed ROPS cabs, special protective enclosures, screens or other operator shielding devices when performing these operations.

EXCEEDING RECOMMENDED PTO SPEEDS

Do not exceed manufacturer's recommended PTO speeds.

Excessive PTO speeds may cause:

- Blade failures
- Higher velocity objects escaping or broken blades being thrown from mower blade enclosures.
- Potential 540 rpm driveline failures operating at 750 to 1000 rpm speeds.

OTHER SAFETY PRACTICES:

- Never operate mower with broken, bent, missing, or severely worn blades.
- Before mowing, remove debris and foreign objects to avoid them being picked up and thrown out by the mower.

* Do not operate the mower in transport or in raised wing positions.

RECOMMENDED MAINTENANCE PRACTICES

Read manufacturer's operator manual(s) inspection and maintenance instructions for chain guards, flexible or solid deflector shielding:

- Replace worn or damaged guards and other shielding before mowing.
- Use only manufacturer's replacement guards and shielding. Other guarding or shielding sources may not fit or have inadequate materials to meet the strength requirements of the equipment.
- Replace worn or damaged decals and warning instructions.
- Explain the inspection and maintenance instructions to those users or operators who cannot read.

Rotating Blades and Driveline Hazards and Risks

A POSSIBLE INJURY RISK EXISTS TO MOWER OPERATORS AND BYSTANDERS DURING MOWING OPERATIONS FROM THE FOLLOWING:

- BODY CONTACT WITH ROTATING BLADES.
- BODY ENTANGLEMENT WITH ROTATING DRIVELINES AND PARTS.

Equipment Protective Devices and Recommended Safety Practices

RECOMMENDED SAFETY PRACTICES

Read manufacturer's operator manual(s) for recommended operating safety practices. Explain the practices to those users or operators who cannot read. To help prevent serious injury or death from moving blade contact, driveline or parts entanglement of operators or other persons do the following:

BYSTANDERS SAFETY

- Do not operate near bystanders.
- Keep other persons several hundred (300) feet from the mowing area.

OPERATOR SAFETY PRACTICES

- Do not allow riders on tractor or mower. Securely fasten seat belt when mowing.
- Use proper equipment shutdown practice before servicing, adjusting, cleaning or unclogging the mower.
- Keep clear of rotating blades, parts, and drivelines.
- Never start tractor engine while standing beside equipment.
- Only start tractor engine while sitting in operator's seat with seat belt fastened.

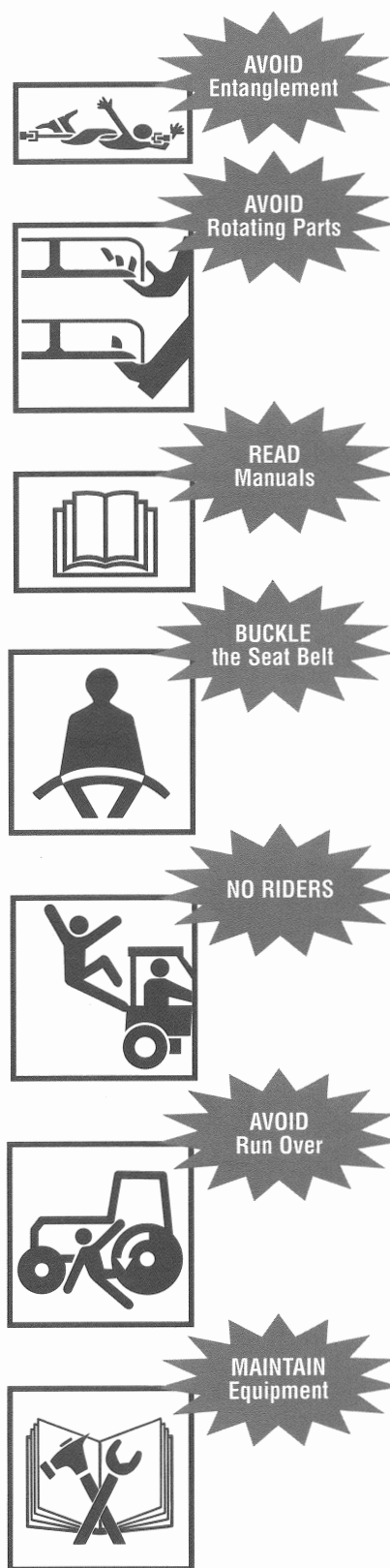
RECOMMENDED GUARDS, DRIVELINE GUARDS AND SHIELDING SAFETY PRACTICES

- Keep guards, driveline and other shielding in place and in good repair.
- Do not operate mower with missing or damaged guards, driveline guards or other shielding.

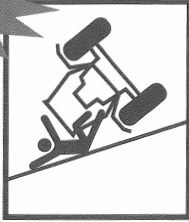
RECOMMENDED MAINTENANCE PRACTICES

Read manufacturer's operator manual(s) inspection and maintenance instructions for guards, driveline guards and other shielding:

- Replace worn or damaged guards, driveline guards and other shielding before mowing.
- Use only manufacturer's replacement guards and shielding. Other guarding or shielding sources may not fit or have inadequate materials to meet the strength requirements of the equipment.
- Replace worn or damaged decals and warning instructions.
- Explain the inspection and maintenance instructions to those users or operators who cannot read.



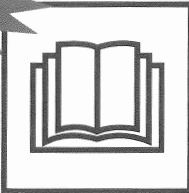
**AVOID
Rollover**



**USE
Tractor ROPS**



**READ
Manuals**



**ADD
Ballast**



**WIDEN
Wheel Spacing
and ADD Off-Side
Ballast**



**BUCKLE
the Seat Belt**



**AVOID
CRUSHING
Lock-Up Wing**



Tractor and Mower Rollover or Overturn Hazards and Risks

A POSSIBLE ROLLOVER OR OVERTURN INJURY RISK EXISTS TO MOWER OPERATORS DURING MOWING OPERATIONS FROM THE FOLLOWING:

- ROUGH TERRAIN, STEEP SLOPES, HOLES, BUMPS, RUTS, ROCKS, STUMPS OR OTHER OBSTRUCTIONS THAT COULD OVERTURN TRACTOR AND MOWER.
- EXCESSIVE GROUND SPEEDS FOR THESE TERRAIN CONDITIONS.

Equipment Protective Devices and Recommended Safety Practices

When possible remove stumps, stones, etc.. or mark them and other obstructions clearly to avoid upsets, breakdowns, and dangerous driving conditions. Use extreme care to maintain control over the equipment when operating in these terrain conditions.

RECOMMENDED-TRACTOR ROPS

A tractor equipped with ROPS or enclosed ROPS cab and seat belt for operator safety is essential for additional operator protection when operating mower in these terrain conditions.

RECOMMENDED-TRACTOR STABILITY ADJUSTMENTS

Read the tractor operator's manual for adjustments to increase tractor stability:

- Adding front and rear wheel weights or ballast.
- Adjusting wheel spacing to maximum width .
- Adding off-side counter ballast to side-mounted and boom mowers.
- Explain adjustments to those users or operators who cannot read.

RECOMMENDED SAFETY PRACTICES

Read manufacturer's operator manual(s) for recommended operating safety practices. Explain the practices to those users or operators who cannot read. **To help prevent serious injury or death to the operator from tractor and mower overturns, do the following:**

- Securely fasten seat belt when mowing with ROPS equipped tractors.
- Avoid excessive ground speed for terrain conditions.
- Avoid sudden starts, stops and turns when operating up, down or across slopes.
- Avoid slippery ground conditions.
- Make wide and gradual turns.
- Plan to mow down hill on steep slopes to avoid overturning.

Falling Mower or Parts Crushing Hazards and Risks

A POSSIBLE CRUSHING INJURY RISK EXISTS FOR MOWER OPERATORS AND OTHERS DURING MOWING OPERATIONS FROM THE FOLLOWING:

- FALLING MOWER OR EQUIPMENT FROM HYDRAULIC SYSTEM FAILURE.
- FAILURE TO SECURELY SUPPORT, BLOCK-UP OR LOCK-UP LIFTED MOWER OR EQUIPMENT PARTS.

Equipment Protective Devices and Recommended Safety Practices

Read manufacturer's operator manual(s) for recommended operating safety practices. Explain the practices to those users or operators who cannot read. **To help prevent serious injury or death to operators and other from alling mower or equipment parts, do the following:**

RECOMMENDED SAFETY PRACTICES

Before working near or underneath lifted mower or equipment parts:

- Use proper equipment shutdown practices before servicing, adjusting, cleaning or unclogging the mower.
- Securely support or block-up raised mower or equipment parts.
- Securely support, block-up or lock-up wings with locking devices on wing type mowers or lower mower or equipment parts to the ground.
- Use transport locks when transporting mower on public roads.

High Pressure Hydraulic Fluid Leak Hazards and Risks

A POSSIBLE HIGH PRESSURE FLUID SKIN INJECTION INJURY AND GANGRENE RISK EXISTS FOR MOWER OPERATORS AND OTHERS FROM HIGH PRESSURE HYDRAULIC OR DIESEL OIL LEAK INJECTION INTO THE SKIN.

TO AVOID GANGRENE, INJECTED FLUID MUST BE SURGICALLY REMOVED WITHIN A FEW HOURS BY A DOCTOR FAMILIAR WITH THIS TYPE OF INJURY.

RECOMMENDED SAFETY PRACTICES

Read manufacturer's operator manual(s) for recommended operating safety practices. Explain the practices to those users or operators who cannot read. High pressure fluid pinhole leaks can be almost invisible.

To help prevent serious injury or death, do the following:

- Search for leaks with cardboard or wood.
- Do not use hands to check for leaks.
- Relieve system pressure before disconnecting lines.
- Before applying system pressure:
 - Check for damaged lines, pipes, and hoses.
 - Check to insure tight connections.
- Before operating pressurized systems:
 - Purge air from system.
 - Refer to the manufacturer's operator manual(s) for instructions.
 - Explain the procedures to those users or operators who cannot read.

Tractor Refueling Hazards and Risks

To avoid serious injury or death from fire during refueling:

- Shut off engine and ignition.
- Never fill fuel tank near open flames.
- Never smoke while refueling.
- Avoid static electricity sparks by grounding fuel nozzle against tank filler neck.
- Avoid overfilling tank or spilling fuel.
- Clean up any spilled fuel immediately.
- Always replace fuel cap.

To avoid serious injury or death from engine exhaust fumes:

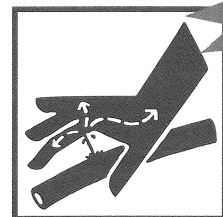
- Adequately ventilate enclosed spaces before starting the engine.



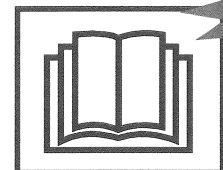
**READ
Manuals**



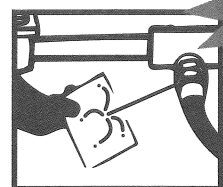
**AVOID
CRUSHING
Block-Up or
Securely Support
Mower**



**HIGH
PRESSURE FLUID
Can Inject
into the Body**



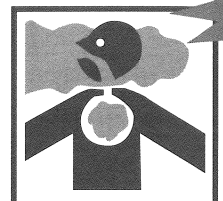
**READ
Manuals**



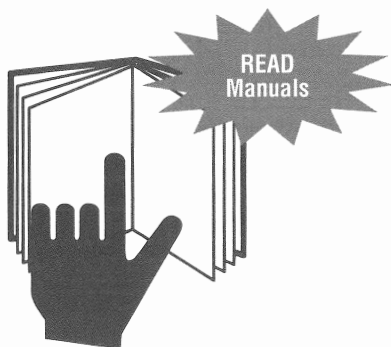
**AVOID
INJECTION
Use Cardboard
Not Hands**



**AVOID
Fires and
Explosions**



**AVOID
Exhaust Fumes**



Follow A Safety Program

SAFETY IS IMPORTANT TO RESPONSIBLE OWNERS AND OPERATORS OF TRACTORS AND MOWERS. DO THE FOLLOWING FOR YOUR SAFE MOWING OPERATION:

BE A QUALIFIED OPERATOR BY:

- Reading, understanding and obeying the manufacturer's written instructions in operator manual(s) and safety signs on mower and tractor.
- Receiving operational training with mower and tractor.
- Asking your equipment dealer or supervisor to explain things you do not understand.
- Explaining the written instructions in the operator manual(s) and safety signs (decals) on the mower and tractor to those users or operators who cannot read.

Safety Before Operation

Know Job Site Safety Rules And Regulations

Ask your supervisor about equipment operation safety rules you will be expected to obey.

Some basic rules for your's and others' safety:

- A ROPS and seat belt equipped tractor is required for operator protection during mowing operations.
- Know mower and tractor operating capacity and characteristics.
- Never alter or remove safety equipment.
- Never allow children or unqualified persons to operate mower or tractor.
- Never allow riders on mower or tractor.
- Keep others away from mowing operation.
- Use proper equipment shutdown practice before dismounting tractor.
- Allow all moving parts to stop before making equipment inspections, repairs, or adjustments.
- Securely support or block-up mower before working beneath mower or lifted components.
- Wear personal protective clothing and safety devices issued to you or recommended by the equipment manufacturer.



Know Tractor And Mower Controls

Know the following about your tractor and mower:

- Function, purpose and use of controls.
- Safe operating speeds.
- Safe slope and uneven terrain capabilities.
- Braking and steering characteristics.
- Tractor and mower operating clearances.
- How to stop equipment quickly in an emergency.

Use All Available Equipment Safety Devices

To help keep you and others around you safe:

- Make certain manufacturer's recommended guards, shields and safety signs are installed on equipment and in good condition.
- Keep all protective devices in place and securely fastened.
- **NEVER** operate your equipment with missing, disconnected or damaged safety devices.
- Use ballast and weight required for equipment operational stability.

Check The Mower And Tractor Equipment

Before beginning your work day:

- Check for loose, broken, missing or damaged tractor and mower parts.
- Repair or replace these parts when needed.
- Check for proper tractor and mower attachments.
- Check for proper tractor and mower PTO rpm rating match.
- Check mower blades condition. Sharpen or replace per manufacturer's recommendation. Blade modifications, such as welding or hard surfacing cutting edges by welding or straightening bent blades, can reduce blade strength and adversely affect blade properties and safety.
- Check that all guards and shields are in place and that all equipment is in good operating condition. This includes PTO driveline, gearbox and implement guards and shields that are used for operator protection.
- Check for properly latched driveline yoke end locking devices.
- Check for damaged or leaky tractor and mower hydraulic systems.
- Check and read safety signs and warning instructions.
- Explain the safety signs and warning instructions to those users or operators who cannot read.

Check The Work Area

Inspect, identify and avoid hazardous conditions in the work area:

- Rough terrain, drop-offs, ditches, potholes steep slopes, stumps, standing water, mud soft soil, slippery conditions, debris and foreign objects.
- Inspect mowing area and remove or mark all foreign objects and debris to be avoided by mower.

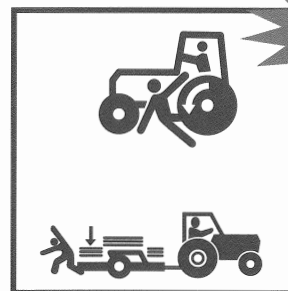
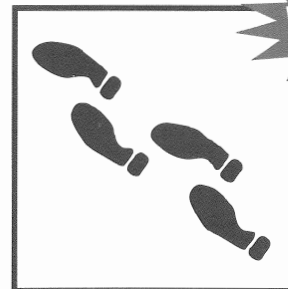
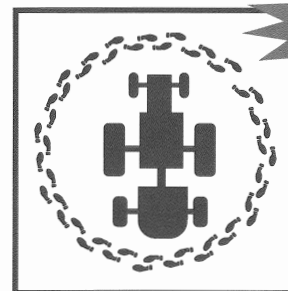
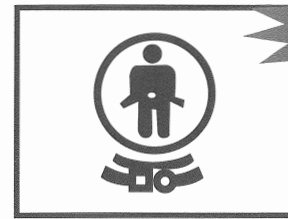
Analyze mowing area to determine:

- Best and safest mowing procedure.
- Material type and height to be mowed.
- Operating terrain conditions.
- Using forward travel mowing pattern when possible.

Look Out For The Safety of Others

Before starting equipment:

- Walk around the equipment.
- Check for anyone under, on or near the equipment.
- Clear everyone from these areas.
- Sound a warning.



Safety – Starting & Testing

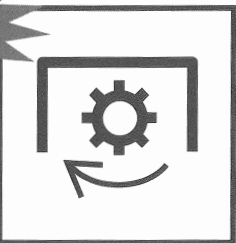
USE Three
Point Contact



USE ROPS
and Seatbelt



USE Proper
PTO speed



Mounting Tractor Safely

Before mounting:

- Clean shoes and wipe hands.

During mounting and dismounting:

- Use handholds and step plates.
- Never grab steering wheels or controls for handholds.
- Never mount or dismount from a moving tractor.

Tractor And Mower Controls Safety Test

Before starting:

- Fasten and adjust seat belt on your ROPS-equipped tractor.
- Check parking brake for engagement.
- Check PTO disengagement.
- Check all controls for Neutral or Park position.
- Warn others in area before starting tractor.
- Follow tractor manufacturer's recommended starting procedures.

After starting:

- Check all instruments, gauges and indicator lights for normal operation.
- Check all tractor controls, steering and brakes for proper function.
- Repair improperly functioning tractor before using.
- Raise and lower mower for driveline bottoming out or engagement problems.
- Check your equipment for excessive vibration and unusual noises.
- Use proper equipment shutdown practices before inspecting equipment.

Power Takeoff System And Mower Safety

Tractors with dual-speed (540 or 1000 rpm) shiftable PTO systems.

To avoid serious injury or death from failed parts due to mower over speed:

- Be sure to position PTO selector to mower's rated PTO rpm speed.

Tractors with transmission-driven PTO systems.

A rotary mower will have a significant flywheel effect which may continue to propel a tractor with a transmission-driven PTO system.

The tractor should be equipped and operated as follows:

- Install an over-running clutch.
- Give yourself sufficient maneuvering room and time by anticipating turns, stops and speed reductions.

Safety – During Operation

Hitching Mower To Tractor Safety

Three-point hitch-mounted mower safety:

- Refer to mower and tractor manufacturers' manuals.
- Place tractor's hydraulic power lift (rockshaft) selector lever in down position to avoid unexpected movement.
- Explain the hitching procedures to those users or operators who cannot read.

Pull-type hitch-mounted mower safety:

- Refer to mower and tractor manufacturers' manuals.
- Attach only to drawbar hitch.
- Do not attach to tractor's rear axle or three-point hitch arms.
- Adjust tractor drawbar length for 540 or 1000 rpm PTO operation.

Make The Right Start In Mower Safety

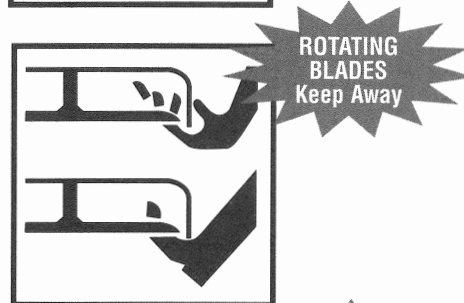
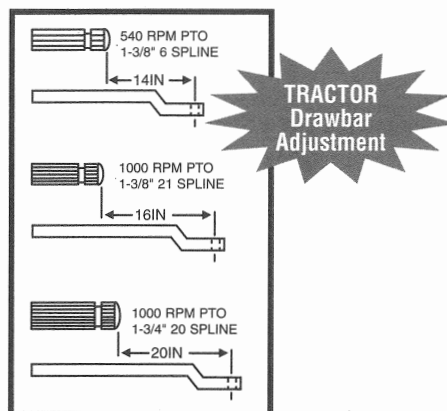
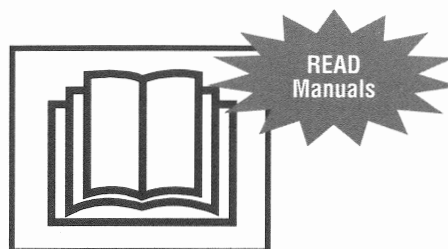
Mow only in daylight or good artificial light conditions.

To avoid serious injury or death from mower thrown objects or blade contact:

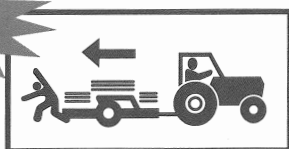
- Keep chain shields, flexible or solid deflector shields or discharge chutes in place and in good repair.
- Keep everyone several hundred (300) feet from mowing operation.
- Never direct mower discharge toward anyone.
- Keep hands, feet and other body parts away from rotating parts, blades and discharge openings.
- Do not operate mower in transport position.

Mower PTO drive engagement:

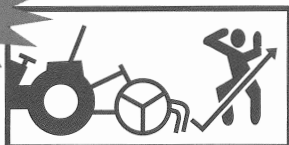
- Raise mower to maximum cutting height.
- Engage PTO at low engine rpm.
- Increase engine rpm to mower rated rpm PTO speed.
- Lower mower to desired cutting height.
- Stop and shut down immediately if the mower strikes an obstruction.
- Inspect and repair any mower damage before resuming mowing.
- Do not operate mower with severe vibrations or with unusual noise.



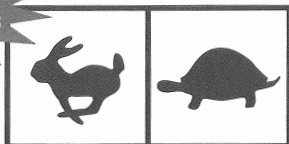
**LOOK OUT
For Others**



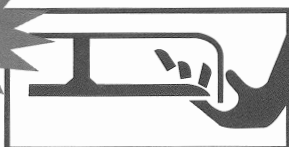
**MAINTAIN
FLAIL
Rear Roller**



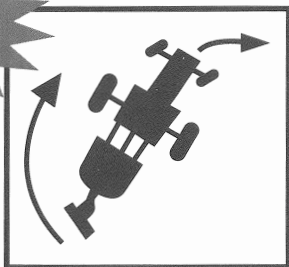
**USE PROPER
Ground Speeds**



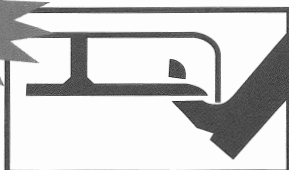
**STOP BLADE
Before
Unclogging**



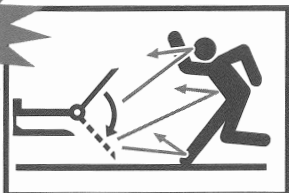
**PROVIDE
Adequate
Clearance for
Mower Swing**



**NEVER STAND
On Mower
Keep Away**



**KEEP CHUTE
In Place**



Mowing In Reverse Safety

Avoid mowing in reverse direction when possible.

Do the following when mowing in reverse direction:

- Check for any persons behind mower before reversing direction.
- Use extreme care when reverse direction mowing.
- Maintain rotary mower front and rear safety shields and flail front shields and rear rollers.

Mowing Ground Speed

Proper ground speed depends on terrain conditions and grass type, density and height to be cut:

- Normal ground speed range is 2 to 5 mph.
- Slower ground speed for mowing tall, dense grass.
- Faster ground speed for mowing medium height, thin grass and under smooth terrain conditions.
- Use slower ground speed for mowing in rough, sloping or unfamiliar terrain.

Extremely tall grass mowing

- You may need to mow extremely tall grass twice.

First mowing pass:

- Cut grass higher (10-15 inches) to avoid hidden objects.

Second mowing pass:

- Remove debris and objects.
- Cut grass at desired height and 90 degree to the first mowing pass when possible.
- Use proper equipment shutdown practice for your safety before dismounting tractor.

Watch equipment clearances

Three-point hitch and side mounted mowers have a larger turning arc than pull-type mowers. Allow sufficient clearance for safe turning.

Under Mount Mower Safety

When mowing with an under mount mower:

- Keep removable discharge chute in place and over discharge opening.
- Never stand on an operating mower housing.
- Distribute grass clipping with discharge chute facing mowed area.
- Use proper equipment shutdown practice before clearing clogged mower or discharge chute.

Wing Or Boom Type Mower Overhead Obstruction Hazards and Risks

Check for overhead obstructions with raised wings or boom-type mowers to avoid serious injury or death by contact with:

- Electrical power lines.
- Low tree limbs.
- Other overhead obstructions.

Wing And Side Mount Mowers Safety

When mowing with wing and side-mount mowers:

Raised wing positions reduces shielding protection and increases the thrown object and blade contact hazard risks.

To avoid serious injury or death by thrown objects or blade contact from raising and lowering wings during mowing operations:

- Do not mow with bystanders in mowing area.
- Be sure no one is near mower while raising or lowering wings.
- Keep the exposed rotating wing blade time to a practical minimum during a raised wing mowing operations.
- Stop mowing if persons enter into mowing area.
- Only raise wing to clear objects in the mowing path or to match ground slope.
- Disengage wing drive for extended periods of mowing with raised wings.
- Lower raised wing to ground after clearing object or ground slope conditions.
- Allow all mower blades to stop rotating before raising wing sections during other operations.

Ditch Bank Mowing Safety

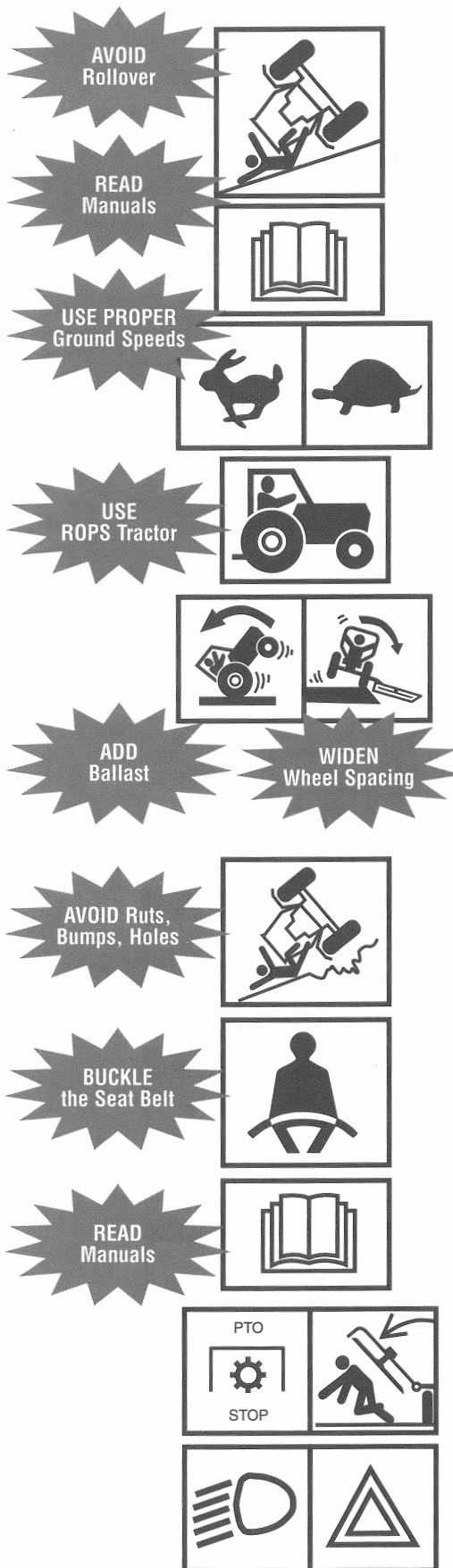
Use extreme care when mowing ditch banks. Watch for washouts, eroded areas and mowing obstructions along the ditch banks. Hitting obstructions with side-mount or boom mowers may swerve the tractor's front end toward the ditch.

Raised wing and boom-type mower ditch bank operations may reduce the mower's thrown object shielding effectiveness for the mower operator's protection.

To increase operator protection from thrown objects during ditch bank operations:

- Use enclosed ROPS cabs, special protective enclosures and other operator shielding when performing these operations.
- Inspect mowing area and remove or mark all foreign objects and debris to be avoided by mower.





Mowing Uneven Terrain Safely

The tractor and mower stability is reduced on slopes and uneven terrain.

You can prevent tractor and mower overturns and maintain equipment stability control by:

- Reviewing tractor and mower operator's manuals for operating safety practices on slopes and uneven terrain conditions. Explain the practices to those users and operators who cannot read.
- Avoiding extremely steep slope operations.
- Using extreme care to maintain control over your equipment when operating in these conditions.
- Increasing tractor stability by adding wheel weights and increasing wheel spacing (Refer to tractor operator's manual for recommendations)
- Using ROPS and seat-belt-equipped tractor for operator safety during mowing operations.
- Maintaining minimum ground speed.
- Making wide and gradual turns.
- Avoiding sudden starts, stops, and turns when operating up, down, or across slopes.
- Not raising rear-mount or side-mount mowers or mower wings from the ground during these operations .
- Keeping alert for holes, bumps, ruts, rocks, stumps or other obstructions that could overturn tractor and mower.
- Avoiding slippery ground conditions that could overturn tractor and mower.
- Avoiding tractor and mower "hang up" by diagonal passing through sharp dips and drops.

Use extreme care in maintaining equipment stability during all uneven terrain and slope mowing operations. You are the final judge as to any slope that can be safely negotiated.

Equipment Road Transporting Safety

If equipment is to be driven on public roads:

- Refer to tractor and mower manufacturers' operator's manuals for instructions.
- Explain the instructions to those users or operators who cannot read.
- Check local regulations for required equipment markings, lights, flashers, etc., while traveling on public roads. Lights are required on mowers that obscure tractor taillights and/or warning lights.

Before transporting on public roads:

- Disengage PTO to mower.
- Raise mower into transport position.
- Lock wings up into transport position with locking devices on wing-type and side-mounted mowers.
- Attach safety chain between pull-type mower and tractor.
- Make sure lights, flashers, reflectors and SMV are in place and visible.
- Check SMV (Slow-Moving Vehicle) emblem for visibility to any rear approaching vehicle.

While transporting on public roads:

- Obey all local traffic regulations.
- Approach intersections with caution.
- Observe speed and traffic control signs.
- Avoid panic stops and sharp turns.

Parking Safety

Park equipment at:

- Designated or out-of-traffic areas.
- Preferably level ground locations.

Sloping ground parking locations:

- Position equipment across slope.
- Set parking brakes.
- Lower mower to ground.
- Block tractor wheels.

Before temporarily parking and leaving disabled equipment near traffic areas:

- Remove equipment from public roads.
- Set out warning flags
- Use tractor flashers.

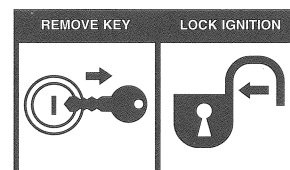
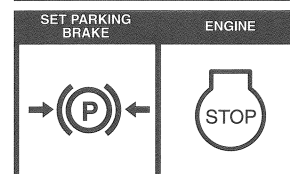
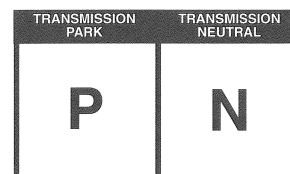
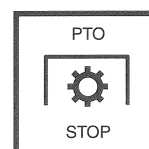
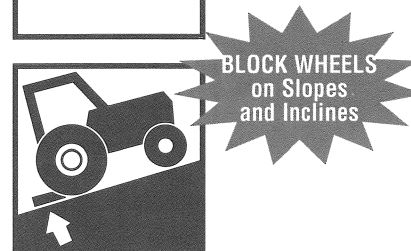
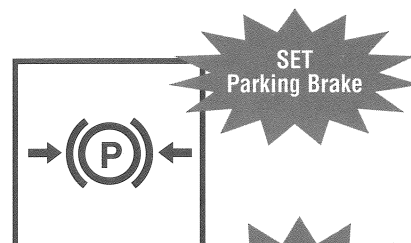
Safety – During Shutdown

Use Proper Equipment Shutdown Practices For Your Safety

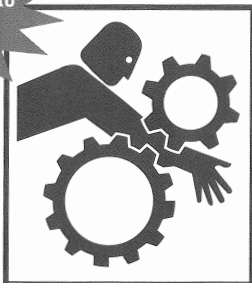
Refer to tractor and mower manufacturer's operator manual(s) for recommend shutdown procedures. Explain the procedures to those users or operators who cannot read.

Make proper equipment shutdown procedures an important habit to practice. Follow these safety practices before dismounting tractor:

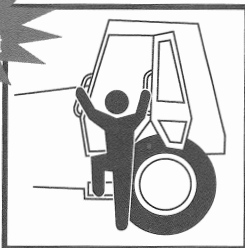
- Disengage PTO clutch and transmission drive.
- Idle engine for gradual cooling.
- Place the controls in PARK or NEUTRAL.
- Set the parking brake.
- Lower mower to ground.
- Lower wings of wing-type mowers to ground.
- Shut off engine.
- Wait for all moving parts to stop before equipment inspections, adjustments or repairs.
- Relieve hydraulic pressure by moving hydraulic controls several times in all directions.
- Lock ignition and remove key when equipment is to be inspected, repaired, adjusted or unattended.
- Lock anti-vandalism covers and closures when equipment is unattended.
- Dismount carefully maintaining three-point contact.



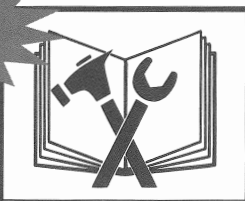
**WAIT For
Moving Parts to
Stop Before
Dismount**



**USE Three
Point Contact**



**MAINTAIN
Equipment**



FOLLOW

**Maintenance
Schedule**



Dismounting Tractor Safely

Before dismounting tractor:

- Use proper equipment shutdown practice for your safety.
- Lower implement to the ground, stop engine and PTO, set brakes, allow all moving parts to stop, and remove key before dismounting from tractor.
- Never dismount from moving equipment.
- Never jump from machines.
- Dismount carefully.
- Check for slippery steps
- Keep feet and hands away from controls.
- Use handholds and steps during dismount.
- Face machine and use 3 point contact (2 hands, 1 foot or 2 feet, 1 hand).

Safety – During Maintenance

Maintenance Safety

Do the following for your safety before performing any maintenance, repairs or service procedures:

- Follow proper equipment shutdown practice.
- Wear all the protective clothing and personal safety devices necessary to safely perform the job.
- Refer to your manufacturer's manuals for proper maintenance, repair and service procedures. Explain the procedures to those users and operators who cannot read.

Stored energy sources (electrical, mechanical, hydraulic, pneumatic, chemical, thermal, etc..) must be either locked, blocked, relieved, disconnected, stopped, secured, neutralized, controlled or reduced to a practical minimum before any maintenance, repair or service procedures can be done safely.

Some basic safety practices to prevent potential injuries from energy releasing sources:

- Disengage PTO before shutting off engine.
- Place controls in PARK or NEUTRAL before shutting off engine.
- Set parking brake or block wheels.
- Allow all moving parts to stop.
- Lower mower to ground.
- Lower wings to ground on wing-type mowers.
- Shut off tractor engine.
- Lock ignition and remove key.
- Look and listen for evidence of moving parts before opening shields.
- Securely support or block-up mower before working underneath mower or other lifted components.
- Securely support, block-up, or lock-up mower wings with locking devices before working near or underneath a wing-type mower.
- Relieve hydraulic system pressure by moving controls several times in all directions.
- Relieve pressure before disconnecting or disassembling any pressurized system.
- Block or relieve spring pressure before disassembling any spring-loaded mechanism.
- Securely support or block up any elevated machine component before working on it.
- Avoid flames, sparks, or smoking near any fuels.

Mower Manufacturer Parts and Your Safety

Most mower manufacturers use special fasteners and specially designed parts to meet mowing operations requirements.

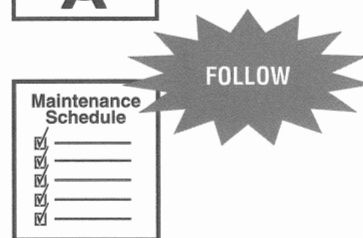
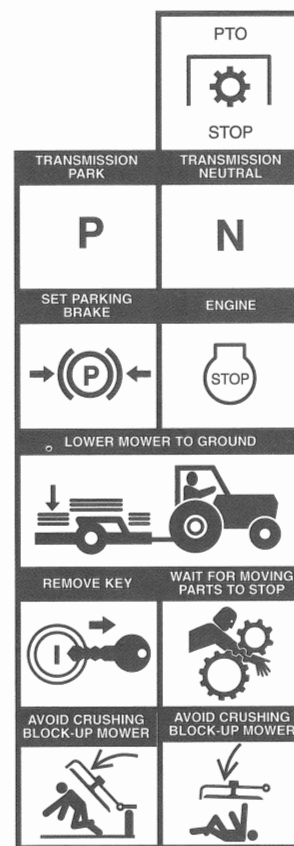
Critical safety-related parts (Self-locking blade bolts, blades, pins, shields or other special items) have specific strength, design and fit requirements for the make and model mower you are using.

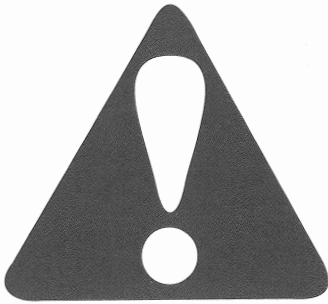
Modifications or repair parts not approved by the mower manufacturer can cause serious safety hazard exposure risk to you and others.

TO AVOID SERIOUS INJURY OR DEATH FROM UNAPPROVED PARTS OR MODIFICATIONS:

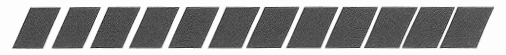
- Do not substitute common hardware for self-locking blade bolts or other special part items.
- Do not substitute blades, pins, shields or other critical safety-related parts.
- Do not use grade 5 or 8 bolts to replace grade 2 shear bolts.

FOLLOW THE SAFETY PRACTICE OF ALWAYS CHECKING THE MOWER FOR PROPER FUNCTION AFTER ALL ADJUSTMENTS REPAIRS OR SERVICE.

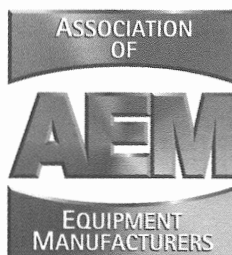




One Final Word



You have just finished reading the Mower Safety Manual. It is impossible for this manual to cover every potentially hazardous situation you may encounter. But, your knowledge of these safety precautions and your adherence to the basic rules of safety will help build good judgment in all situations. Our objective is to help you develop good safety habits and make you a better mower operator. The mower safety manual, safety precautions and basic rules of safety must be explained to those users or operators who cannot read.



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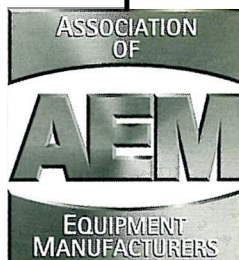
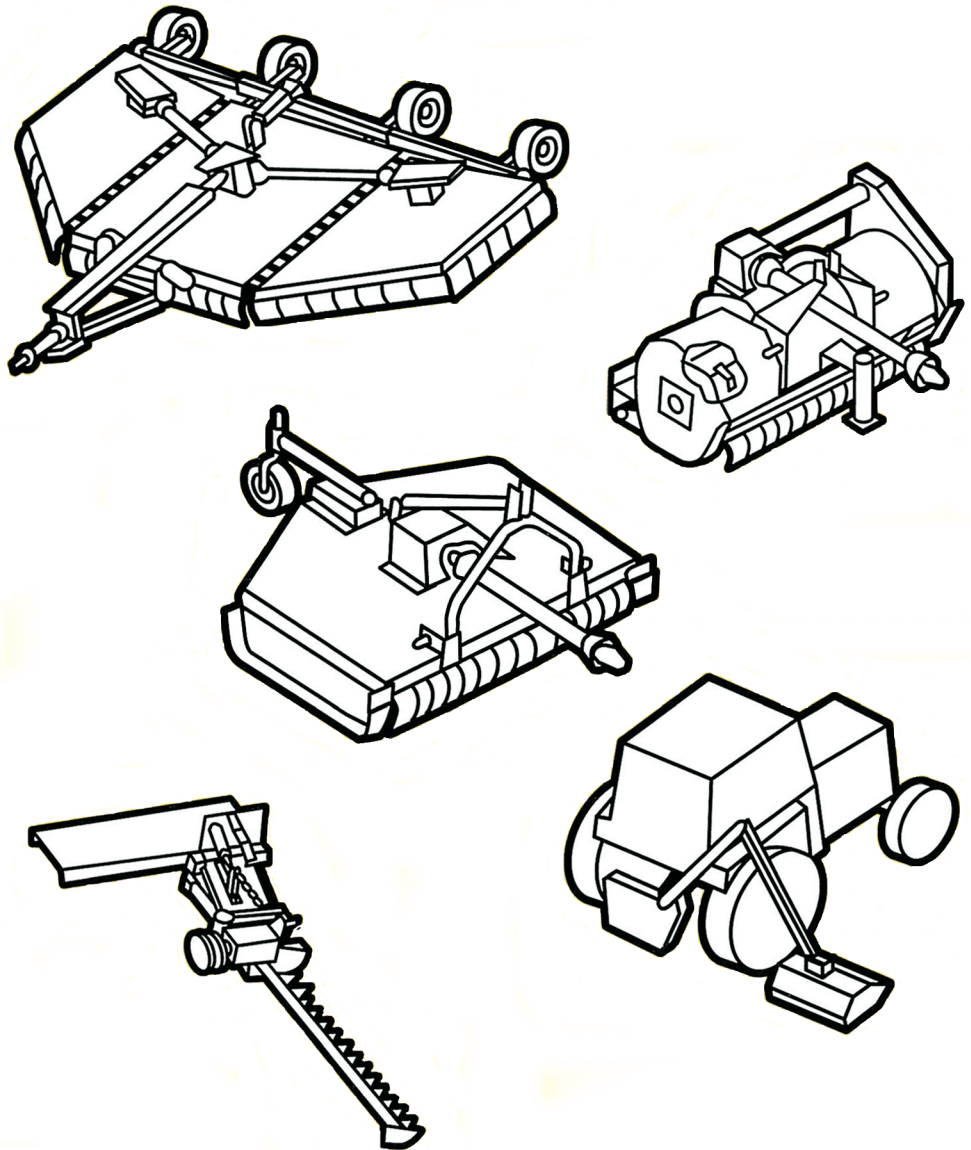
For information on additional copies of this and
other safety manuals, call 800-369-2310



manual de seguridad

*para operadores
y mecánicos*

Segadora industrial y agropecuaria



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Reconocimiento

Deseamos extender nuestro reconocimiento a los miembros de del Association of Equipment Manufacturers por sus contribuciones para la preparación de este manual de seguridad.

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Introducción

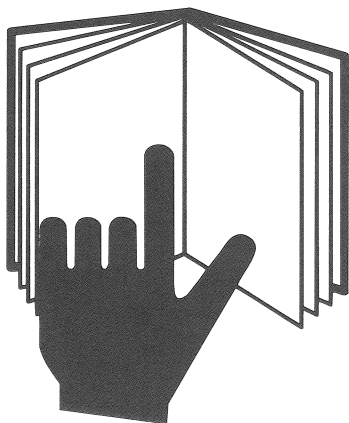
El propósito de este manual de seguridad es señalar algunas de las situaciones básicas de seguridad que pueden ocurrir durante la operación y mantenimiento de su máquina y sugerir los métodos posibles para tratar estas situaciones. Este manual NO es un sustituto de el (los) manual(es) del fabricante.

Pueden ser necesarias algunas precauciones adicionales, o algunas instrucciones no pueden aplicar, dependiendo del equipo, dispositivos de fijación, y las condiciones del lugar de trabajo o del área en que se realiza el servicio. El fabricante no tiene control directo sobre las aplicaciones, operación, inspección, lubricación o mantenimiento de la máquina. Por lo tanto, es **SU** responsabilidad practicar buenas medidas de seguridad en estas áreas.

La información proporcionada en este manual sirve como complemento de los detalles de información específicos de su máquina que están incluidos en el (los) manual(es) del fabricante. La información adicional que pueda afectar la operación segura de su máquina puede estar incluida en las etiquetas de seguridad o en los requisitos del seguro, programas de seguridad del empleador, códigos de seguridad, leyes locales del estado/provincia y leyes nacionales, reglas y reglamentos.

IMPORTANTE: si usted no tiene el (los) manual(es) del fabricante de su máquina específica, obtenga un manual de reemplazo con su empleador, distribuidor de equipo o el fabricante de su máquina. Mantenga este manual de seguridad y el (los) manual(es) del fabricante con su máquina.

Palabras para el usuario



Usted tiene la responsabilidad de leer y comprender este manual de seguridad y el (los) manual(es) del fabricante, antes de operar esta máquina. Este manual de seguridad lo guía paso a paso a lo largo de su día de trabajo. El manual de seguridad, el (los) manual(es) del fabricante, avisos de seguridad (calcomanías) y precauciones de seguridad, deben explicarse a los usuarios u operadores que no puedan leer el material.

Adicionalmente al diseño y configuración del equipo el **CONTROL DEL PELIGRO** y la **PREVENCIÓN DE ACCIDENTES** dependen de la conciencia, preocupación, prudencia y capacitación adecuada de los propietarios y operadores durante la operación, transporte, mantenimiento y almacenamiento del equipo.

Recuerde que **USTED** es la clave para mantener la seguridad. Las buenas prácticas de seguridad no lo protegen solamente a usted sino que también a las personas que lo rodean. Estudie este manual y el (los) manual(es) del fabricante para su máquina específica. Hágalos una parte integral de su programa de seguridad. Recuerde que este manual de seguridad está escrito únicamente para segadoras industriales y agrícolas.

Practique todas las precauciones de seguridad usuales y acostumbradas en el trabajo y más que todo – recuerde que la seguridad depende de USTED. Solamente USTED puede evitar las lesiones graves o la muerte debidas a prácticas inseguras.

Advertencia de seguridad

Símbolo

Este símbolo de alerta de seguridad significa:

“¡ATENCIÓN! ¡MANTÉNGASE ALERTA! ¡SU SEGURIDAD ESTÁ INVOLUCRADA!”



El símbolo de alerta de seguridad identifica los mensajes de seguridad importantes en el equipo, en los avisos de seguridad, en los manuales y en otros lugares. Cuando usted vea este símbolo, esté alerta a la posibilidad de muerte o lesiones. Siga las instrucciones en el aviso de seguridad.

Palabras de señales

Las palabras de señales son palabras específicas que regularmente se encontrarán en las calcomanías de seguridad en este equipo o en otros equipos en el lugar de trabajo. Estas palabras tienen el objetivo de alertar a la persona que las vea de la presencia y el grado relativo de un riesgo.



Esta palabra de señal indica una situación de riesgo inminente que si no es evitado podrá resultar en la muerte o lesiones graves.



Esta palabra de señal indica una situación potencialmente riesgosa que si no se evita podría resultar en la muerte o lesiones graves.



Esta palabra de señal indica una situación potencialmente riesgosa que si no se evita podría resultar en lesiones menores o moderadas.

- LOS ACCIDENTES PUEDEN LISIAR Y CAUSAR LA MUERTE.
- LOS ACCIDENTES SON COSTOSOS.
- LOS ACCIDENTES PUEDEN EVITARSE.

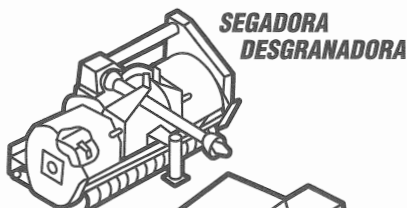
Segadoras industriales y agrícolas

Es una segadora para cortar pasto, triturar residuos de cultivos, cortar maleza para la limpieza de terrenos, vías navegables, derechos de paso, cortes en los bordes de los caminos o carreteras.

TIPOS DE SEGADORAS INDUSTRIALES Y AGRÍCOLAS:



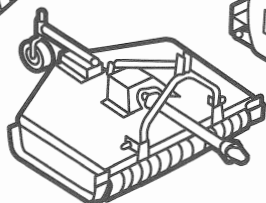
SEGADORA ROTATIVA CON ALA PLEGABLE



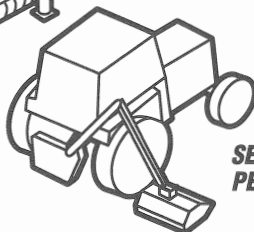
SEGADORA DESGRANADORA



SEGADORA DE BARRA TIPO HOZ

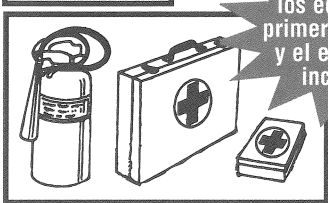
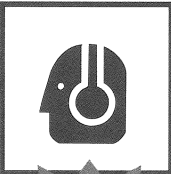
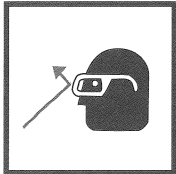
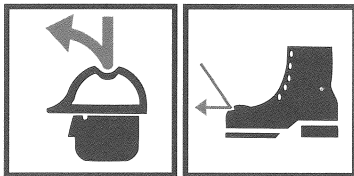


SEGADORA ROTATIVA



SEGADORA DE PESCANTE

Sea un operador responsable



Para la operación segura de su equipo usted debe ser un operador responsable. Un operador responsable debe comprender claramente las instrucciones escritas proporcionadas por el fabricante ser capacitado – incluyendo la operación real del equipo y el conocimiento de las reglas y reglamentos de seguridad del lugar de trabajo.

Las medicinas y el alcohol pueden y afectarán el estado de alerta y coordinación del operador, por lo tanto, afectarán la habilidad del operador para operar el equipo en forma segura. Un operador **NUNCA** debe usar medicinas que puedan afectar su estado de alerta, juicio y coordinación; ni beber alcohol mientras opera equipo motorizado incluyendo tractores y segadoras. Un operador que use medicamentos por prescripción médica o de venta libre debe consultar con un médico profesional para conocer sobre cualquier efecto secundario que podría limitar su habilidad para operar este equipo en forma segura. **NUNCA** permita que alguien opere este equipo cuando estén afectados su estado de juicio alerta o de coordinación.

Protéjase usted mismo

Use toda la ropa protectora y los dispositivos de seguridad personal que se le proporcionen o que sean los indicados para las condiciones de trabajo.

Usted puede necesitar:

- Casco protector
- Zapatos de seguridad
- Anteojos de seguridad con protección lateral, gafas protectoras o protector facial
- Guantes extrafuertes
- Protección auditiva
- Ropa reflectora
- Equipo para clima húmedo
- Respirador o máscara filtrante

Use ropa apropiada para las condiciones del trabajo.

Siempre conozca cómo obtener ayuda en caso de una emergencia. Conozca donde encontrar y cómo usar los equipos de primeros auxilios y el extintor de incendios/sistema de supresión de incendios.

**Manténgase alerta. Evite los accidentes.
No conozca la seguridad en la forma más difícil.**

Manejo seguro de riesgos y peligros

Adicionalmente al diseño y configuración del equipo, el **CONTROL DEL PELIGRO** y la **PREVENCIÓN DE ACCIDENTES** dependen de la conciencia, preocupación, prudencia y capacitación adecuada de los propietarios y operadores durante la operación, transporte, mantenimiento y almacenamiento del equipo.

EL MANEJO SEGURO DE RIESGOS Y PELIGROS ES UN ELEMENTO ESENCIAL PARA LOS PROPIETARIOS Y OPERADORES RESPONSABLES DE TRACTORES Y SEGADORAS.

REVISE EL MANEJO SEGURO DE LOS PELIGROS Y RIESGOS ENUMERADOS A CONTINUACIÓN.

Peligro de objetos despedidos

EXISTE LA POSIBILIDAD DEL RIESGO DE LESIONES A LOS OPERADORES Y TRANSEÚNTES CAUSADAS POR OBJETOS DESPEDIDOS DURANTE LA OPERACIÓN DE LA SEGADORA POR LOS SIGUIENTES:

OBJETOS (PIEDRAS, ESCOMBROS, HOJAS ROTAS DE LA SEGADORA, PERNOS DE LA HOJA, CABLES, CADENAS, ALAMBRE, ETC.) DESPEDIDOS POR LA SEGADORA.

Dispositivos protectores del equipo y prácticas de seguridad recomendadas

La cubierta de la segadora y los dispositivos protectores no pueden evitar que escapen todos los objetos o desechos del área cerrada de la hoja en todas las condiciones de segado. Es posible que los objetos escapen y se desplacen cientos de pies (300 [100 m]).

PRÁCTICAS DE SEGURIDAD RECOMENDADAS

Lea los manuales del operador del fabricante para conocer las prácticas de seguridad recomendadas durante la operación. Explique las prácticas a los usuarios u operadores que no puedan leer.

PARA AYUDAR A EVITAR LESIONES GRAVES O LA MUERTE CAUSADAS POR OBJETOS QUE GOLPEEN AL OPERADOR U OTRAS PERSONAS HAGA LO SIGUIENTE:

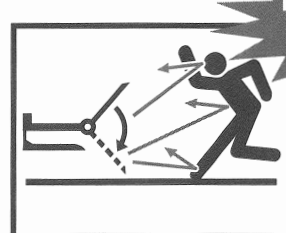
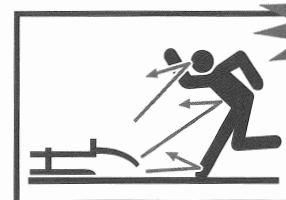
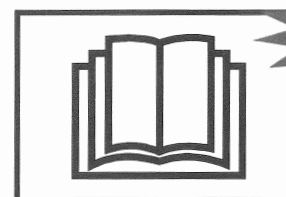
SEGURIDAD DE TRANSEÚNTES

- Mantenga a los transeúntes a varios cientos de pies (300 [100 m]) del área segada.

SEGURIDAD PROPORCIONADA POR LOS DISPOSITIVOS PROTECTORES DEL EQUIPO

Para contener, desviar o reducir los objetos despedidos del área cerrada de la hoja:

- Mantenga la cadena, blindajes deflectores flexibles o sólidos colocados en la parte delantera y trasera de la cubierta de la segadora, en su lugar y en buen estado de funcionamiento.
- No opere el equipo con los blindajes para objetos despedidos dañados o sin que estén colocados en su lugar.



SEGURIDAD DEL OPERADOR

La operación de las segadoras con las alas levantadas, de montaje lateral y pescante, pueden reducir la efectividad del blindaje para proteger al operador contra los objetos despedidos de la segadora.

Haga lo indicado a continuación para aumentar la protección del operador contra los objetos despedidos durante las operaciones de segado:

- Use cabinas cerradas con una estructura de protección contra vuelcos (ROPS), cubiertas protectoras especiales, mallas u otros dispositivos para proteger al operador cuando efectúa estas operaciones.

SOBREPASAR LAS VELOCIDADES RECOMENDADAS PARA LA TOMA DE FUERZA (PTO)

No sobrepase las velocidades recomendadas por el fabricante para la toma de fuerza (PTO).

Las velocidades excesivas de la toma de fuerza (PTO) pueden causar:

- Fallo de la hoja
- Escape de objetos a velocidad alta u hojas rotas despedidas del área cerrada de la hoja de la segadora.
- Fallos potenciales de la línea de transmisión de 540 rpm cuando se opera a velocidades de 750 a 1000 rpm.

OTRAS PRÁCTICAS DE SEGURIDAD:

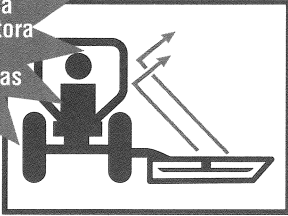
- Nunca debe operar la segadora con hojas rotas, dobladas, faltantes o que estén extremadamente desgastadas.
- Antes de segar retire los desechos y objetos extraños para evitar que sean recogidos y despedidos por la segadora.
- No debe operar la segadora durante el transporte o en posición de ala levantada.

PRÁCTICAS DE MANTENIMIENTO RECOMENDADAS

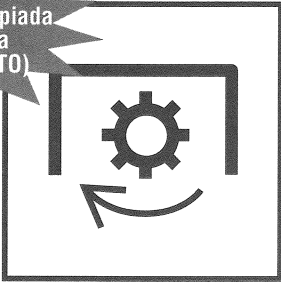
Lea los manuales del operador del fabricante para conocer sobre la inspección y mantenimiento de las defensas de la cadena y blindaje deflector flexible o sólido:

- Reemplace las defensas desgastadas o dañadas y los demás blindajes antes de segar.
- Use solamente las defensas y blindajes de reemplazo del fabricante. Otras defensas o blindajes pueden no encajar, o los materiales pueden no ser adecuados para cumplir con los requisitos de resistencia del equipo.
- Reemplace las calcomanías desgastadas o dañadas y las instrucciones de advertencia.
- Explique las instrucciones de inspección y mantenimiento a los usuarios u operadores que no puedan leer.

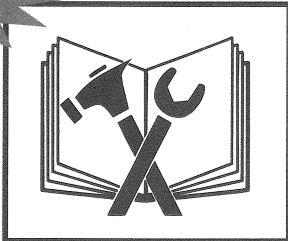
USE cabinas cerradas con una estructura protectora contra vuelcos (ROPS) o cubiertas protectoras



USE la velocidad apropiada de la toma de fuerza (PTO)



DÉ MANTENIMIENTO a su equipo



Peligros y riesgos de las hojas rotativas y línea de transmisión

EXISTE EL RIESGO DE POSIBLES LESIONES A LOS OPERADORES DE LA SEGADORA Y TRANSEÚNTES DURANTE LAS OPERACIONES DE SEGADO CAUSADAS POR LO SIGUIENTE:

- CONTACTO DEL CUERPO CON LAS HOJAS ROTATIVAS.
- ENREDO DEL CUERPO CON LAS LÍNEAS DE TRANSMISIÓN Y PIEZAS ROTATIVAS.

Dispositivos protectores del equipo y prácticas de seguridad recomendadas

PRÁCTICAS DE SEGURIDAD RECOMENDADAS

Lea los manuales del operador del fabricante para conocer las prácticas de seguridad recomendadas. Explique las prácticas a los usuarios u operadores que no puedan leer. Para evitar el riesgo de lesiones graves o la muerte causadas por el contacto con la hoja en movimiento, línea de transmisión o enredo de los operadores u otras personas haga lo siguiente:

SEGURIDAD DE TRANSEÚNTES

- No debe operar cerca de transeúntes.
- Mantenga a otras personas a varios cientos de pies (300 [100 m]) del área de segado.

PRÁCTICAS DE SEGURIDAD DEL OPERADOR

- No permita pasajeros en el tractor o segadora. Asegúrese el cinturón de seguridad durante el segado.
- Use la práctica de parada del equipo apropiada antes de dar servicio, ajustar, limpiar o eliminar las obstrucciones de la segadora.
- Manténgase alejado de las hojas rotativas, piezas y líneas de transmisión.
- Nunca arranque el motor del tractor mientras esté de pie al lado del equipo.
- Solamente arranque el motor del tractor cuando esté sentado en el asiento del operador con el cinturón de seguridad abrochado.

PRÁCTICAS DE SEGURIDAD RECOMENDADAS PARA DEFENSAS Y BLINDAJES DE LA LÍNEA DE TRANSMISIÓN

- Mantenga las líneas de transmisión y otros blindajes colocados y en buen estado.
- No debe operar la segadora cuando las defensas, defensas de la línea de transmisión u otros blindajes hagan falta o estén dañados.

PRÁCTICAS DE SEGURIDAD RECOMENDADAS

Lea los manuales del operador del fabricante para conocer las instrucciones sobre defensas, defensas de la línea de transmisión y otros blindajes:

- Reemplace las defensas, defensas de la línea de transmisión y otros blindajes desgastados o dañados antes de segar.
- Use solamente defensas y blindajes de reemplazo hechas por el fabricante. Otras defensas o blindajes pueden no encajar o ser de materiales inadecuados que no cumplan con los requisitos de resistencia del equipo.
- Reemplace las calcomanías e instrucciones de advertencia desgastadas o dañadas.
- Explique las instrucciones de inspección y mantenimiento a los usuarios u operadores que no puedan leer.



EVITE enredarse



EVITE las piezas rotativas



LEA los manuales



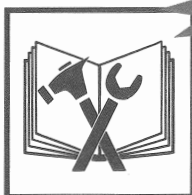
ASEGÚRESE el cinturón de seguridad



NO LLEVE PASAJEROS

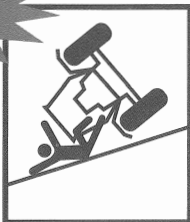


EVITE el ser atropellado



DÉ MANTENIMIENTO a su equipo

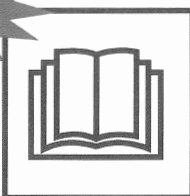
EVITE vuelcos



USE la estructura contra vuelcos (ROPS) del tractor



LEA los manuales



AGREGUE balasto



AUMENTE el espacio entre las ruedas y AGREGUE balasto en el lado contrario



ASEGÚRESE EL cinturón de seguridad



EVITE EL APLASTAMIENTO asegure el ala



Peligros y riesgos de rodamiento o vuelco del tractor y segadora

EXISTE UN RIESGO DE LESIONES POSIBLES AL OPERADOR POR RODAMIENTO O VUELCO DE LA SEGADORA DURANTE LAS OPERACIONES DE SEGADO POR LO SIGUIENTE:

- TERRENO ACCIDENTADO, PENDIENTES INCLINADAS, AGUJEROS, BACHES, SURCOS, PIEDRAS, TRONCOS U OTRAS OBSTRUCCIONES QUE PODRÍAN VOLCAR EL TRACTOR Y SEGADORA.
- VELOCIDADES ABSOLUTAS EXCESIVAS PARA ESTAS CONDICIONES DE TERRENO.

Dispositivos protectores del equipo y prácticas de seguridad recomendadas

Cuando sea posible, retire los troncos, piedras, etc., o márkuelos claramente con las demás obstrucciones para evitar vuelcos, averías y condiciones de conducción peligrosas. Tenga extremo cuidado para mantener el control sobre el equipo cuando opere en terrenos con estas condiciones.

ESTRUCTURAS CONTRA VUELCO (ROPS) RECOMENDADAS PARA TRACTORES

Un tractor equipado con una estructura contra vuelcos (ROPS) o cabina ROPS cerrada y cinturón de seguridad para la seguridad del operador, es esencial para la protección adicional del operador, cuando opera en terrenos con estas condiciones

AJUSTES RECOMENDADOS PARA LA ESTABILIDAD DEL TRACTOR

Lea el manual del operador del tractor para conocer los ajustes para aumentar la estabilidad del tractor:

- Agregue pesas o balasto a las ruedas delanteras y traseras.
- Ajuste el espacio entre las ruedas al ancho máximo.
- Agregue contra balasto en el lado contrario a las segadoras de montaje lateral y de pescante.
- Explique los ajustes a los usuarios u operadores que no puedan leer.

PRÁCTICAS DE SEGURIDAD RECOMENDADAS

Lea los manuales del operador del fabricante para conocer las prácticas de seguridad de operación recomendadas. Explique las prácticas a los usuarios u operadores que no puedan leer. **Para evitar lesiones graves o la muerte del operador por el vuelco del tractor y segadora, haga lo siguiente:**

- Abroche firmemente el cinturón de seguridad cuando segue con tractores equipados con una estructura contra vuelcos (ROPS).
- Evite la velocidad absoluta excesiva de acuerdo con las condiciones del terreno.
- Evite los arranques, paradas y virajes repentinos cuando opere subiendo, bajando o atravesando pendientes.
- Evite las condiciones de terreno resbaloso.
- Haga virajes anchos y graduales.
- Planifique segar cuesta abajo en pendientes inclinadas para evitar los vuelcos.

Peligros y riesgos de aplastamiento por una segadora o piezas desprendidas

EXISTE EL RIESGO DE UNA LESIÓN POR APLASTAMIENTO PARA LOS OPERADORES Y OTRAS PERSONAS DURANTE LAS OPERACIONES DE SEGADO DEBIDO A LO SIGUIENTE:

- SEGADORA O EQUIPO DESPRENDIDO DEBIDO A FALLO DEL SISTEMA HIDRÁULICO.
- FALLO EN DAR SOPORTE, BLOQUEAR O ASEGURAR COMPLETAMENTE LA SEGADORA O PIEZAS DEL EQUIPO.

Dispositivos protectores del equipo y prácticas de seguridad recomendadas

Lea los manuales del operador del fabricante para conocer las prácticas de seguridad de operación recomendadas. Explique las prácticas a los usuarios u operadores que no puedan leer. **Para ayudar a evitar lesiones serias o la muerte de los operadores y otras personas causadas por la caída de la segadora o piezas de equipo, haga lo siguiente:**

PRÁCTICAS DE SEGURIDAD RECOMENDADAS

Antes de trabajar cerca o debajo de la segadora o piezas de equipo en posición levantada:

- Use la práctica de parada del equipo apropiada antes de dar servicio, ajustar, limpiar o eliminar las obstrucciones de la segadora.
- Soporte o coloque bloques firmemente debajo de la segadora o piezas de equipo.
- En las segadoras de tipo ala coloque bloques o asegure firmemente las alas con los seguros o baje al suelo la segadora o piezas del equipo.
- Use los seguros de transporte cuando transporte la segadora en caminos públicos.

Peligros y riesgos por la fuga de fluido hidráulico a presión alta

EXISTE UN RIESGO PARA LOS OPERADORES DE SEGADORAS Y OTRAS PERSONAS DE UNA POSIBLE INYECCIÓN DE FLUIDO A PRESIÓN ALTA O GANGRENA CAUSADA POR LA INYECCIÓN EN LA PIEL DE ACEITE HIDRÁULICO O DIESEL.

PARA EVITAR LA GANGRENA, EL FLUIDO INYECTADO DEBE SER ELIMINADO QUIRÚRGICAMENTE EN POCAS HORAS, POR UN MÉDICO FAMILIARIZADO CON ESTE TIPO DE LESIÓN.

PRÁCTICAS DE SEGURIDAD RECOMENDADAS

Lea los manuales del operador del fabricante para conocer las prácticas de seguridad recomendadas. Explique las prácticas a los usuarios u operadores que no puedan leer. Las fugas de fluido a presión alta por agujeros minúsculos pueden ser casi invisibles.

Para ayudar a evitar lesiones serias o la muerte haga lo siguiente:

- Busque las fugas con pedazos de cartón o madera.
- No use las manos para verificar la presencia de fugas.
- Descargue la presión del sistema antes de desconectar los conductos.
- Antes de aplicar presión al sistema:
 - Revise que los conductos, tuberías y mangueras no estén dañados.
 - Revise que las conexiones estén apretadas.
- Antes de operar los sistemas presurizados:
 - Descargue el aire del sistema.
 - Haga referencia al (los) manual(es) del operador del fabricante para obtener instrucciones.
 - Explique los procedimientos a los usuarios u operadores que no puedan leer.

Peligros y riesgos durante el llenado de combustible del tractor

Para evitar las lesiones serias o la muerte por incendio durante el llenado:

- Apague el motor y la ignición.
- Nunca llene el tanque de combustible cerca de llamas descubiertas.
- Nunca fume mientras llena combustible.
- Evite las chispas causadas por la electricidad estática poniendo a tierra la boquilla del combustible contra el cuello de llenado del tanque.
- Evite sobrellenar el tanque o derramar el combustible.
- Limpie inmediatamente el combustible derramado.
- Siempre vuelva a colocar la tapa del combustible.

Para evitar lesiones serias o la muerte causadas por las emanaciones del escape del motor:

- Ventile adecuadamente los espacios cerrados antes de arrancar el motor.



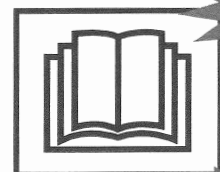
LEA
los manuales



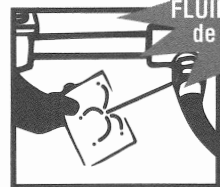
EVITE EL
APLASTAMIENTO
coloque bloques o
soportes seguros
en la segadora



FLUIDO
A PRESIÓN ALTA
puede inyectarse
en el cuerpo



LEA
los manuales



EVITE LA
INYECCIÓN DE
FLUIDO use un pedazo
de cartón, no use
las manos



EVITE los
incendios y las
explosiones



EVITE
las emanaciones
del escape



Cumpla con un programa de seguridad

LA SEGURIDAD ES IMPORTANTE PARA LOS PROPIETARIOS Y OPERADORES RESPONSABLES DE TRACTORES Y SEGADORAS. HAGA LO SIGUIENTE PARA SU SEGURIDAD DURANTE LA OPERACIÓN DE SEGADO:

SEA UN OPERADOR CAPACITADO HACIENDO LO SIGUIENTE:

- Leyendo, comprendiendo y obedeciendo las instrucciones escritas del fabricante en el (los) manual(es) del operador y avisos de seguridad en la segadora y tractor.
- Recibiendo capacitación operativa para la segadora y tractor.
- Solicitando a su distribuidor de equipo o supervisor que le explique lo que usted no comprende.
- Explicando las instrucciones escritas en el (los) manual(es) del operador y avisos de seguridad (calcomanías) en la segadora y tractor a los usuarios u operadores que no puedan leer.

Seguridad previa a la operación

Conozca las reglas y reglamentaciones de seguridad del lugar de trabajo

Pregunte a su supervisor sobre las reglas de seguridad de operación del equipo que usted deberá obedecer.

Algunas reglas para su seguridad y la de los demás:

- Un tractor equipado con una estructura contra vuelcos (ROPS) es necesario para la protección del operador durante las operaciones de segado.
- Conozca la capacidad y características de operación de la segadora y tractor.
- Nunca altere o desmonte el equipo de seguridad.
- Nunca permita que niños o personas no capacitadas operen una segadora o tractor.
- Nunca permita pasajeros en la segadora o tractor.
- Mantenga a otras personas alejadas de la operación de segado.
- Use la práctica apropiada para parar el equipo antes de bajarse del tractor.
- Permita que se detengan todas las piezas móviles antes de efectuar inspecciones, reparaciones o ajustes al equipo.
- Soporte o coloque bloques firmemente debajo de la segadora antes de trabajar debajo de la segadora o componentes elevados.
- Use la ropa protectora y dispositivos de seguridad personal que le han sido asignados o recomendados por el fabricante del equipo.



Conozca los controles del tractor y segadora

Conozca lo siguiente sobre su tractor y segadora:

- Función, propósito y uso de los controles.
- Velocidades seguras de operación.
- Capacidad para operar en forma segura en pendientes y terreno accidentado.
- Características de frenado y dirección.
- Espacios libres necesarios para la operación del tractor y segadora.
- Cómo detener rápidamente el equipo cuando haya una emergencia.

Use todos los dispositivos de seguridad del equipo disponibles

Para ayudar a mantener su seguridad y la de las personas que lo rodean:

- Asegúrese de que las defensas, blindajes y avisos de seguridad recomendados por el fabricante están instalados en el equipo y en buen estado.
- Mantenga todos los dispositivos protectores en su lugar y abrochados firmemente.
- **NUNCA** debe operar su equipo con los dispositivos de seguridad sin colocar, desconectados o dañados.
- Use el balasto y peso requerido para la estabilidad operativa del equipo.

Inspeccione el equipo de la segadora y tractor

Antes de comenzar su día de trabajo:

- Revise que no haya piezas del tractor y segadora que estén sueltas, rotas, dañadas o que no estén colocadas en su lugar.
- Repare o reemplace estas piezas cuando sea necesario.
- Verifique que los implementos del tractor y segadora sean los apropiados.
- Verifique que sean iguales las rpm de régimen de la toma de fuerza (PTO) a las del tractor y de la segadora.
- Revise el estado de las hojas de la segadora. Afile o reemplace de acuerdo con las recomendaciones del fabricante. Las modificaciones a las hojas como soldadura o endurecimiento de los bordes cortantes con soldadura o enderezado de las hojas dobladas, pueden reducir la resistencia de las hojas y afectar adversamente las propiedades y seguridad de las hojas.
- Verifique que todas las defensas y blindajes estén colocados en su lugar y que todo el equipo esté en buen estado de funcionamiento. Esto incluye la línea de transmisión de la toma de fuerza (PTO), caja de engranajes, defensas y blindajes del implemento que sirven para la protección del operador.
- Verifique que la horqueta de la línea de transmisión y los dispositivos de seguro estén correctamente asegurados.
- Verifique que los sistemas hidráulicos del tractor y segadora no estén dañados ni tengan fugas.
- Revise y lea los avisos de seguridad y las instrucciones de advertencia.
- Explique los avisos de seguridad e instrucciones de advertencia a los usuarios u operadores que no puedan leer.

Inspeccione el área de trabajo

Inspeccione, identifique y evite las condiciones peligrosas en el área de trabajo:

- Terreno accidentado, bajadas escarpadas, zanjas, agujeros, pendientes inclinadas, troncos, agua estancada, suelo de lodo suave, condiciones resbalosas, desechos y objetos extraños.
- Inspeccione el área de segado y elimine o marque todos los objetos extraños y desechos que debe evitar con la segadora.

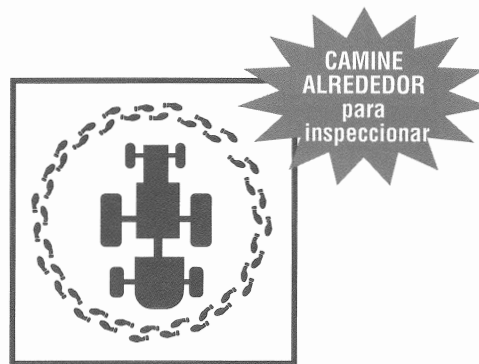
Analice el área de segado para establecer:

- El mejor y más seguro procedimiento de segado.
- Tipo de material y altura de segado.
- Estado del terreno de operación.
- El uso de un patrón de segado de desplazamiento hacia delante siempre que sea posible.

Verifique la seguridad de las demás personas

Antes de arrancar el equipo:

- Camine alrededor del equipo.
- Verifique que no haya nadie debajo, sobre o cerca del equipo.
- Aleje a todas las personas de estas áreas.
- Haga sonar una alarma.



Seguridad durante el arranque y prueba //

USE
el contacto de
tres puntos



USE UNA
ESTRUCTURA
CONTRA VUELCOS
(ROPS) y el
cinturón de
seguridad

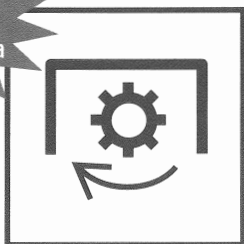


PELIGRO



Arranque únicamente desde el asiento, en estacionamiento o en punto muerto. El arranque en otra posición puede causar la muerte.

USE la
velocidad
correcta de la
toma de fuerza
(PTO)



Seguridad durante la subida al tractor

Antes de subir:

- Límpiense los zapatos y las manos.

Durante la subida y la bajada del tractor:

- Use las asas y placas de los escalones.
- Nunca utilice los volantes de dirección o controles como asas.
- Nunca suba ni baje de un tractor en movimiento.

Prueba de seguridad de los controles del tractor y segadora

Antes del arranque:

- Ajuste y abroche el cinturón de seguridad en su tractor equipado con una estructura contra vuelcos (ROPS).
- Verifique que el freno de estacionamiento esté enganchado.
- Verifique que desenganche la toma de fuerza (PTO).
- Verifique que todos los controles estén en la posición de punto muerto (N) o de estacionamiento (P).
- Advierta a las demás personas presentes en el área antes de arrancar el tractor.
- Cumpla con los procedimientos de arranque recomendados por el fabricante del tractor.

Después del arranque:

- Revise que todos los instrumentos, indicadores y luces indicadoras funcionen normalmente.
- Revise que todos los controles, dirección y frenos del tractor funcionen apropiadamente.
- Repare un tractor que no esté funcionando apropiadamente antes de usarlo.
- Suba y baje la segadora cuando la línea de transmisión llegue al fondo o cuando existen problemas de enganche.
- Verifique que su equipo no vibre excesivamente y que no tenga ruidos anormales.
- Use prácticas apropiadas para detener el equipo antes de inspeccionarlo.

Seguridad en el sistema de toma de fuerza y segadora

Tractores con sistemas de doble velocidad (540 ó 1000 rpm) toma de fuerza (PTO) de cambios.

Para evitar las lesiones serias o la muerte por el fallo de piezas causado por la sobrevelocidad de la segadora:

- Asegúrese de colocar el selector de la toma de fuerza (PTO) a la velocidad de régimen de las rpm de la toma de fuerza (PTO).

Tractores con sistemas con toma de fuerza (PTO) impulsados por la transmisión.

Una segadora rotativa tendrá un efecto significativo de volante, que puede continuar impulsando el tractor cuando tiene un sistema de toma de fuerza (PTO) impulsado por la transmisión.

El tractor debe estar equipado y ser operado como se indica a continuación:

- Instale un embrague de sobremarcha.
- Permítase suficiente espacio y tiempo para maniobrar anticipando los virajes, paradas y reducciones de velocidad.

Seguridad durante la operación

Seguridad durante el enganche de la segadora al tractor

Seguridad en el montaje de la segadora con un enganche de tres puntos:

- Haga referencia a los manuales de los fabricantes de la segadoras y el tractor.
- Coloque la palanca selectora del elevador de potencia hidráulica del tractor (eje de balancín) en posición baja para evitar el movimiento inesperado.
- Explique los procedimientos de enganche a los usuarios u operadores que no puedan leer.

Seguridad en el montaje de la segadora con enganche de tipo tiro:

- Haga referencia a los manuales del fabricante de la segadora y tractor.
- Utilice solamente un enganche de barra de tiro.
- No la enganche al eje trasero del tractor ni a los brazos del enganche de tres puntos.
- Ajuste la longitud de la barra de tiro del tractor para la operación de la toma de fuerza (PTO) de 540 ó 1000 rpm.

Comience el uso de la segadora en forma correcta para mayor seguridad

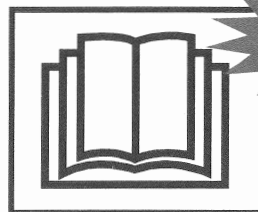
Segue solamente durante el día o cuando exista iluminación artificial adecuada.

Para evitar las lesiones serias o la muerte causadas por objetos despedidos por la segadora o contacto con las hojas:

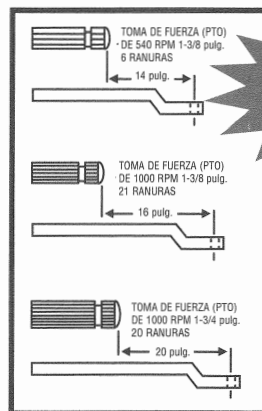
- Mantenga los blindajes de la cadena, blindajes deflectores flexibles o sólidos, conductos de descarga, colocados en su lugar y en buen estado.
- Mantenga a todas las personas a varios cientos de pies (300 [100 m]) de la operación de segado.
- Nunca dirija hacia ninguna persona la descarga de la segadora.
- Mantenga las manos, pies y otras partes del cuerpo alejadas de las piezas rotativas, hojas y agujeros de descarga.
- No debe operar la segadora en posición de transporte.

Enganche de la transmisión, toma de fuerza (PTO) de la segadora:

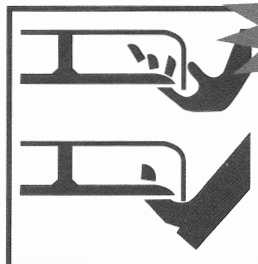
- Suba la segadora a la altura máxima de corte.
- Enganche la toma de fuerza (PTO) con rpm bajas del motor.
- Aumente las rpm del motor a la velocidad de régimen de las rpm de la toma de fuerza (PTO).
- Baje la segadora a la altura de corte deseado.
- Deténgase y pare inmediatamente si la segadora golpea una obstrucción.
- Inspeccione y repare cualquier daño que tenga la segadora antes de reiniciar el segado.
- No debe operar la segadora cuando tenga vibración excesiva o ruidos anormales.



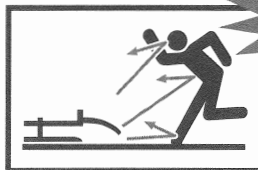
LEA
los manuales



Ajuste
de la barra
de tiro del
TRACTOR

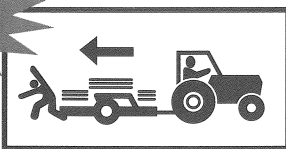


Mantenga la
distancia de
LAS HOJAS
ROTATIVAS

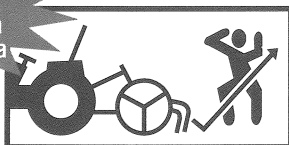


MANTENGA
alejados a los
transeúntes

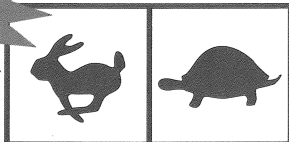
CUIDE
que no haya
más personas



MANTENGA
el rodillo
trasero de la
desgranadora



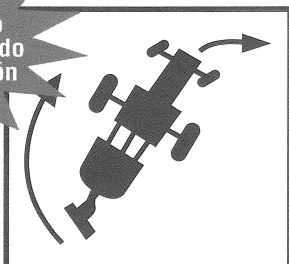
USE las
velocidades
absolutas
apropiadas



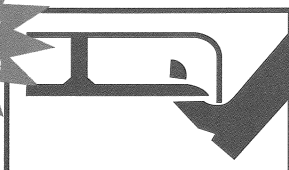
DETENGA
LA HOJA
antes de eliminar
obstrucciones



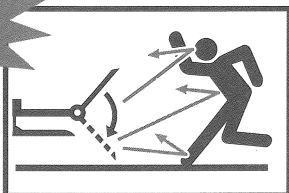
ESTABLEZCA
QUE el espacio
libre sea adecuado
para la oscilación
de la segadora



NUNCA
PERMANEZCA
DE PIE sobre
la defensa de
la segadora



MANTENGA
EL CONDUCTO
colocado en
su lugar



Seguridad durante el segado en marcha atrás

Evite segar en marcha atrás siempre que sea posible.

Haga lo siguiente cuando segue en marcha atrás:

- Verifique que no haya personas atrás de la segadora antes de dar marcha atrás.
- Use extremo cuidado al invertir la dirección del segado.
- Mantenga los blindajes de seguridad delanteros y traseros y los blindajes delanteros de la desgranadora y los rodillos traseros de la segadora rotativa.

Velocidad absoluta de segado

La velocidad absoluta depende de las condiciones del terreno, tipo de pasto, densidad y la altura de corte:

- El alcance normal de la velocidad absoluta es de 2 a 5 mph.
- La velocidad absoluta debe ser menor cuando segue pasto alto y denso.
- La velocidad absoluta puede ser mayor cuando segue pasto de altura mediana, delgado y cuando las condiciones del terreno sean uniformes.
- Use una velocidad absoluta menor cuando segue en pendientes accidentadas o terreno desconocido.

Segado de pasto extremadamente alto

- Puede ser necesario segar dos veces el pasto extremadamente alto.

Primera pasada de segado:

- Haga un corte alto al pasto (10-15 pulgadas [25-38 mm]) para evitar objetos escondidos.

Segunda pasada de segado:

- Retire los desechos y otros objetos.
- Corte el pasto a la altura deseada y a 90 grados de la primera pasada siempre que sea posible.
- Use las prácticas apropiadas de parada del equipo para su seguridad al bajar del tractor.

Vigile los espacios libres del equipo

Las segadoras con enganche de tres puntos y de montaje lateral tienen un arco de viraje mayor que las segadoras de tiro. Permita suficiente espacio libre para virar con seguridad.

Seguridad en el uso de las segadoras montadas en la parte inferior

Cuando segue con una segadora montada en la parte inferior:

- Mantenga el conducto de descarga desmontable colocado en su lugar sobre el agujero de descarga.
- Nunca permanezca de pie sobre la cubierta de una segadora que esté en operación.
- Distribuya el pasto cortado con el conducto de descarga hacia el área ya segada.
- Use las prácticas apropiadas para la parada del equipo antes de eliminar las obstrucciones de la segadora o conducto de descarga.

Riesgos y peligros de obstrucciones elevadas cuando se usan segadoras de ala o pescante

Verifique que no haya obstrucciones elevadas cuando use segadoras con alas levantadas o de tipo pescante, para evitar lesiones graves o la muerte causadas por el contacto con:

- Líneas de transmisión de energía eléctrica.
- Ramas bajas de árboles.
- Otras obstrucciones elevadas.

Seguridad en el uso de las segadoras de ala y de montaje lateral

Cuando utilice segadoras de ala y de montaje lateral:

Las posiciones con el ala levantada reducen la protección del blindaje y aumentan los riesgos de objetos despedidos y de contacto con la hoja.

Para evitar las lesiones serias o la muerte causadas por objetos despedidos o contacto con la hoja por la subida y bajada de las alas durante las operaciones de segado:

- No segue cuando haya transeúntes en el área de segado.
- Asegúrese de que no haya personas cerca cuando suba o baje las alas.
- Mantenga el período de tiempo durante el que está expuesta la hoja rotativa del ala, a un mínimo práctico durante las operaciones de segado con el ala levantada.
- Detenga el segado si entran personas en el área de segado.
- Solamente suba el ala para pasar sobre objetos que se encuentren en el camino de segado o para seguir la inclinación del terreno.
- Desenganche la transmisión del ala durante los períodos prolongados de segado con las alas levantadas.
- Después de pasar sobre un objeto o sobre inclinaciones del terreno, baje el ala levantada, al suelo.
- Permita que todas las hojas de la segadora detengan su rotación antes de levantar las secciones del ala durante otras operaciones.

Seguridad durante el segado de los bordes de las zanjas

Use cuidado extremo cuando sigue los bordes de las zanjas. Vigile para ver si hay derrumbes, áreas erosionadas y obstrucciones para el segado a lo largo del borde de la zanja. El extremo delantero del tractor puede desviarse hacia la zanja al golpear las obstrucciones con las segadoras de montaje lateral o de pescante.

Las operaciones con segadoras con alas levantadas y pescantes pueden reducir la efectividad del blindaje para objetos despedidos de la segadora que sirven para proteger al operador.

Para aumentar la protección del operador de objetos despedidos durante las operaciones en los bordes de las zanjas:

- Use cabinas cerradas con una estructura contra vuelcos (ROPS), cubiertas protectoras especiales y otros blindajes para el operador, cuando efectúe estas operaciones.
- Inspeccione el área de segado y retire o marque todos los objetos extraños y desechos que deben evitarse con la segadora.





Seguridad durante el segado de terreno accidentado

La estabilidad del tractor y segadora se reduce en las pendientes y terreno accidentado.

Usted puede evitar el vuelco del tractor y segadora y mantener el control de la estabilidad del equipo haciendo lo siguiente:

- Revisando los manuales del operador del tractor y segadora para conocer las prácticas de seguridad de operación en pendientes y terreno accidentado. Explique las prácticas a los usuarios u operadores que no puedan leer.
- Evitando operar en pendientes extremadamente inclinadas.
- Usando cuidado extremo para mantener el control sobre su equipo cuando opere en estas condiciones.
- Aumentando la estabilidad del tractor, agregando pesas a las ruedas y aumentando el espacio entre las mismas, (haga referencia al manual del operador del tractor para conocer las recomendaciones).
- Usando un tractor equipado con una estructura contra vuelcos (ROPS) y cinturón de seguridad para la seguridad del operador durante las operaciones de segado.
- Manteniendo una velocidad absoluta mínima.
- Haciendo virajes anchos y graduales.
- Evitando arranques, paradas y virajes repentinos cuando opere subiendo, bajando o atravesando las pendientes.
- No subiendo del suelo las segadoras montadas atrás o lateralmente ni las alas de segado durante estas operaciones.
- Manteniéndose alerta por si hubiera agujeros, baches, surcos, piedras, troncos u otras obstrucciones que podrían volcar el tractor y segadora.
- Evitando las condiciones de suelo resbaloso que podrían volcar el tractor y segadora.
- Evitando que el tractor y segadora queden atascados al pasar diagonalmente sobre declives y bajadas escarpadas pronunciadas.

Use extremo cuidado para mantener la estabilidad del equipo durante todas las operaciones sobre terreno accidentado y pendientes. Usted tiene la palabra final referente a cualquier pendiente que pueda ser trabajada en forma segura.

Seguridad durante el transporte del equipo en caminos

Si es necesario conducir el equipo sobre los caminos públicos:

- Haga referencia al manual del operador del fabricante del tractor y segadora para conocer las instrucciones.
- Explique las instrucciones a los usuarios u operadores que no puedan leer.
- Verifique las reglamentaciones locales referentes a las marcas, luces, luces intermitentes, etc., requeridas del equipo para el desplazamiento sobre caminos públicos. Se requiere de luces para las segadoras que obstruyen las luces traseras del tractor y/o las luces de advertencia.

Antes del transporte en caminos públicos:

- Desenganche la toma de fuerza (PTO) conectada a la segadora.
- Suba la segadora a la posición de transporte.
- Asegure las alas en la posición de transporte con los seguros en las segadoras de tipo ala y de montaje lateral.
- Enganche la cadena de seguridad entre la segadora de tipo tiro y el tractor.
- Asegúrese de que las luces, luces intermitentes, reflectores y avisos de vehículo de movimiento lento (SMV) están colocados y visibles.
- Revise que el emblema de vehículo de movimiento lento (SMV) sea visible para cualquier vehículo que se acerque desde atrás.

Cuando transporte en caminos públicos:

- Obedezca todas las reglamentaciones locales de tráfico.
- Acérquese a las intersecciones con precaución.
- Cumpla con los avisos de velocidad y de control de tráfico.
- Evite las paradas bruscas y doblar repentinamente.

Seguridad durante el estacionamiento

Estacione el equipo en:

- Áreas designadas o alejadas del tráfico.
- Preferentemente utilice lugares en terreno nivelado.

Lugares de estacionamiento en terreno inclinado:

- Coloque el equipo en posición transversal en las pendientes.
- Aplique los frenos de estacionamiento.
- Baje la segadora al suelo.
- Coloque bloques en las ruedas del tractor.

Antes de estacionar temporalmente y abandonar el equipo incapacitado cerca de áreas con tráfico:

- Retire el equipo de los caminos públicos.
- Coloque las banderas de advertencia.
- Use las luces intermitentes del tractor.

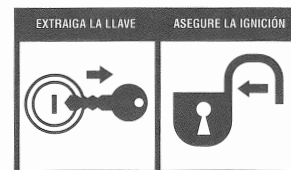
Seguridad durante la parada

Para su seguridad use las prácticas apropiadas para la parada del equipo

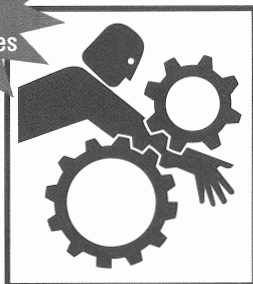
Haga referencia al (los) manual(es) del operador del fabricante del tractor y segadora para conocer los procedimientos de parada recomendados. Explique los procedimientos a los usuarios u operadores que no puedan leer.

Haga que los procedimientos apropiados de parada del equipo sean una costumbre importante que se debe practicar. Siga estas prácticas de seguridad antes de bajarse del tractor:

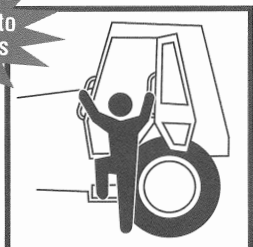
- Desenganche el embrague y transmisión de la toma de fuerza (PTO).
- Para que el motor enfríe gradualmente permita que funcione al ralentí.
- Coloque los controles en estacionamiento (P) o en punto muerto (N).
- Coloque el freno de estacionamiento.
- Baje la segadora al suelo.
- Baje al suelo las alas de las segadoras de tipo ala.
- Apague el motor.
- Espere a que todas las piezas movibles se detengan antes de efectuar inspecciones, ajustes o reparaciones al equipo.
- Descargue la presión hidráulica moviendo los controles hidráulicos varias veces en todas las direcciones.
- Asegure la ignición y extraiga la llave cuando el equipo debe ser inspeccionado, reparado, ajustado o va a permanecer desatendido.
- Asegure las cubiertas contra el vandalismo cuando el equipo permanece desatendido.
- Baje cuidadosamente manteniendo un contacto de tres puntos.



ESPERE que las piezas móviles se detengan antes de bajar



USE el contacto de tres puntos



DÉ MANTENIMIENTO a su equipo



CUMPLA

Programa de mantenimiento

<input checked="" type="checkbox"/>	_____
<input checked="" type="checkbox"/>	_____
<input checked="" type="checkbox"/>	_____
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Seguridad durante la bajada del tractor

Antes de bajar del tractor haga lo siguiente:

- Para su seguridad, use las prácticas apropiadas para la parada del equipo.
- Baje el implemento al suelo, apague el motor y la toma de fuerza (PTO), aplique los frenos, permita que se detengan todas las piezas móviles y extraiga la llave antes de bajar del tractor.
- Nunca baje del equipo cuando esté en movimiento.
- Nunca salte de las máquinas.
- Baje cuidadosamente.
- Verifique que los escalones no estén resbalosos.
- Mantenga los pies y manos alejados de los controles.
- Use las asas para las manos y los escalones para bajar.
- Vea hacia la máquina y use el contacto de 3 puntos (2 manos, 1 pie ó 2 pies, 1 mano).

Seguridad durante el mantenimiento

Seguridad durante el mantenimiento

Para su seguridad haga lo siguiente antes de efectuar procedimientos de mantenimiento, reparación o servicio:

- Cumpla con la práctica apropiada para la parada del equipo.
- Use toda la ropa protectora y equipo de seguridad personal necesarios para efectuar el trabajo en forma segura.
- Haga referencia a sus manuales del fabricante para conocer los procedimientos correctos de mantenimiento, reparación y servicio. Explique los procedimientos a los usuarios y operadores que no puedan leer.

Las fuentes de energía almacenada (eléctrica, mecánica, hidráulica, neumática, química, térmica etc.) deben estar aseguradas, bloqueadas, descargadas, desconectadas, apagadas, aseguradas, neutralizadas, controladas o reducidas a un mínimo práctico, antes de efectuar con seguridad cualquier procedimiento de mantenimiento, reparación o servicio.

Algunas prácticas de seguridad básicas para evitar posibles lesiones causadas por las fuentes que emiten energía:

- Desenganche la toma de fuerza (PTO) antes de apagar el motor.
- Coloque los controles en estacionamiento (P) o punto muerto (N) antes de apagar el motor.
- Aplique el freno de estacionamiento o coloque bloques en las ruedas.
- Permita que todas las piezas movibles se detengan.
- Baje la segadora al suelo.
- En las segadoras de tipo ala, baje las alas al suelo.
- Apague el motor del tractor.
- Asegure la ignición y extraiga la llave.
- Observe y escuche para establecer si hay piezas en movimiento antes de abrir los blindajes.
- Soporte o coloque bloques firmemente debajo de la segadora antes de trabajar debajo de la segadora u otros componentes elevados.
- Soporte, coloque bloques o asegure firmemente las alas de la segadora con los seguros antes de trabajar cerca o debajo de una segadora de tipo ala.
- Descargue la presión del sistema hidráulico moviendo los controles varias veces en todas direcciones.
- Descargue la presión antes de desconectar o desensamblar cualquier sistema presurizado.
- Coloque bloques o descargue la presión del resorte antes de desensamblar cualquier dispositivo a resorte.
- Soporte o bloquee firmemente cualquier componente de la máquina que esté elevado, antes de trabajar en ella.
- Evite las llamas, chispas o fumar cerca de cualquier combustible.

Su seguridad y las piezas del fabricante para la segadora

La mayoría de los fabricantes de segadoras usan sujetadores y piezas especialmente diseñadas para cumplir con los requerimientos de la operación de segado.

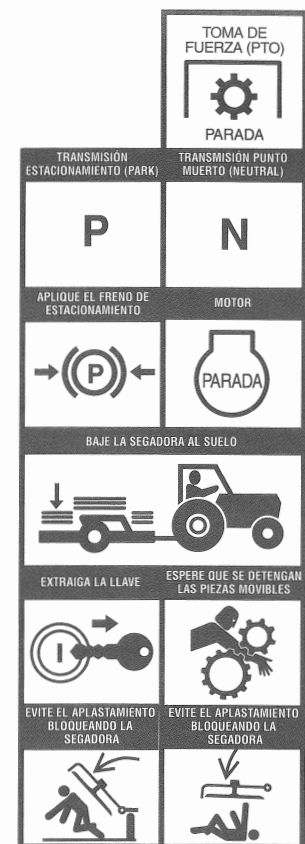
Seguridad crítica – piezas relacionadas (pernos de la hoja autoasegurados, hojas, pasadores, blindajes u otros artículos especiales) tienen requerimientos de fuerza, diseño y encaje específicos para el estilo y modelo de la segadora que usted utiliza.

Las modificaciones o piezas para reparación que no son aprobadas por el fabricante de la segadora pueden causar un riesgo significativo por exposición a su seguridad y la de los demás.

PARA EVITAR LAS LESIONES SERIAS O LA MUERTE CAUSADAS POR PIEZAS O MODIFICACIONES NO APROBADAS:

- No sustituya accesorios comunes por los pernos autoasegurados de las hojas u otras piezas especiales.
- No sustituya las hojas, pasadores, blindajes u otras piezas relacionadas con la seguridad crítica.
- No use pernos de grado 5 u 8 para reemplazar los pernos de resistencia limitada grado 2.

CUMPLA LA PRÁCTICA SEGURA DE SIEMPRE VERIFICAR EL FUNCIONAMIENTO CORRECTO DE TODOS LOS AJUSTES, REPARACIONES O SERVICIO DE LA SEGADORA.

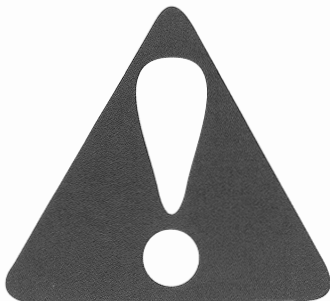


DÉ MANTENIMIENTO a su equipo



CUMPLA

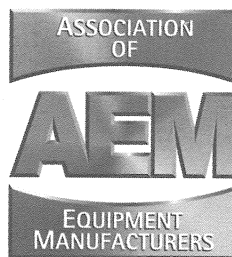




Palabra final



Usted ha terminado de leer el manual de seguridad de la segadora. Es imposible que este manual incluya toda situación peligrosa potencial que usted pueda encontrar. Sin embargo, su conocimiento de estas precauciones de seguridad y su cumplimiento de las reglas básicas de seguridad le ayudarán a crear buen juicio para todas las situaciones. Nuestro objetivo es ayudarle a desarrollar buenos hábitos de seguridad y hacerlo un mejor operador de segadora. El manual de seguridad de la segadora, precauciones de seguridad y reglas básicas de seguridad deben explicarse a los usuarios u operadores que no puedan leer.



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INTRODUCTION SECTION

INTRODUCTION

INTRODUCTION

A. OWNER'S RESPONSIBILITIES

1. Read the TRACTOR Owner's Manual as well as the ALAMO TURF FLAIL Manual before attempting to install or operate the ALAMO TURF FLAIL mower.
2. Know all the controls and how to stop quickly. Know how to operate the ALAMO TURF FLAIL before attempting to mow with it.
3. Keep both the tractor and the mower in good operating condition. Keep all fasteners secure to help maintain equipment in safe working condition. Check knives and knife fasteners daily for damage or missing pins.
4. Keep all safety devices in place. Read, understand, and comply with safety decals located on tractor and mowers.
5. Do not allow children to operate the tractor or mower. Do not allow adults to operate the equipment without proper instruction.
6. Do not carry passengers. Keep children and pets a safe distance away.
7. When leaving the operator's position always follow good safety practices:
 - a. Turn off power to the mower.
 - b. Lower the mower to the ground.
 - c. Set the parking brake.
 - d. Stop the engine and remove the key.
8. Clear the work area of objects which might be picked up and thrown.
9. Stay alert for holes in the terrain and other hidden hazards.
10. To reduce fire hazard, keep engine free of grass, leaves, or excessive grease.
11. Thoroughly check the condition of the ALAMO TURF FLAIL before mowing.
12. The cuttershaft must be free to turn before starting the ALAMO TURF FLAIL. Do not start the mower while in the cut. Allow the cuttershaft to develop full speed before mowing.
13. Disengage power to the mower when transporting or not in use. NEVER engage the power to the mower when the cutter unit is in the TRANSPORT position.
14. "In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern and prudence of the operator and requires suitable training of personnel involved in the operation, transport, maintenance and storage of equipment." - SAE J1001

INTRODUCTION

B. WARNINGS

1. Remove all objects from, and stay clear of, the front of the cutter unit. Do not get near the rotating knives.
2. Disengage power to the mower before starting the engine.
3. Never allow anyone near the equipment while in operation, and watch out for traffic when crossing or working near a roadway. Make certain flashers are operating when mowing next to traffic lanes.
4. The tractor and the mower should be stopped and inspected for damage after striking an object. Repair all damage before restarting and operating the equipment.
5. Do not attempt to clear discharge, remove obstacles, adjust belts, or repair equipment before stopping the tractor engine. Never place hands or feet near knives or belts when the tractor engine is running.
6. Do not operate any ALAMO GROUP mower which is vibrating excessively. Vibration is caused by a rotating part which is out of balance. The vibration will cause additional damage to the equipment. Cuttershaft vibration could be caused by the following:
 - a. Wire, rope, rags, etc., wound around the shaft.
 - b. Knives missing or broken.
 - c. Knife hanger lugs which have broken off the shaft.
 - d. Cuttershaft bearings worn.
 - e. Cuttershaft bent from striking an object.
 - f. Cuttershaft not rotating at recommended speed.
7. Decrease travel speed for slopes and sharp turns to reduce the possibility of tipping or loss of control. It is suggested, depending on the amount of slope, to mow up and down rather than across the slope.
8. Do not release the clutch suddenly especially when going up a hill.
9. Never engage power to the mower when the cutter unit is in the TRANSPORT position.

C. PRECAUTIONS

1. Always repair small problems before they become large ones.
2. Never work on the mower or the tractor while the engine is running.
3. Never leave the cutter unit in the raised position without proper support. Do not rely on the mower hydraulics to hold the unit up while working on it. If a hydraulic connection is loosened or a control lever is shifted, the cutter unit will come down. Always block up securely.

ASSEMBLY SECTION

ASSEMBLY INSTRUCTIONS

A-FRAME ASSEMBLY FOR 60" MOWER (FIGURE 1)

1. Attach Hitch Arms (#1) to Mower housing. Secure with 4 - 5/8 x 2-1/4 Bolts (#2) and Locknuts (#3).
2. Attach Front Struts (#4) to Hitch Arms (#1) with 2 - Category I Hitch Pins (#5).
3. Attach the Upper Struts (#6) to Gearbox Mount with 2 - 1/2 x 1-1/4 Bolts (#7) and Locknuts (#8).
4. Attach the Upper Struts (#6) and Front Struts (#4) together with 1 - 1/2 x 3-1/2 Bolts (#9), Strut Spacer (#10), and Locknut (#11).

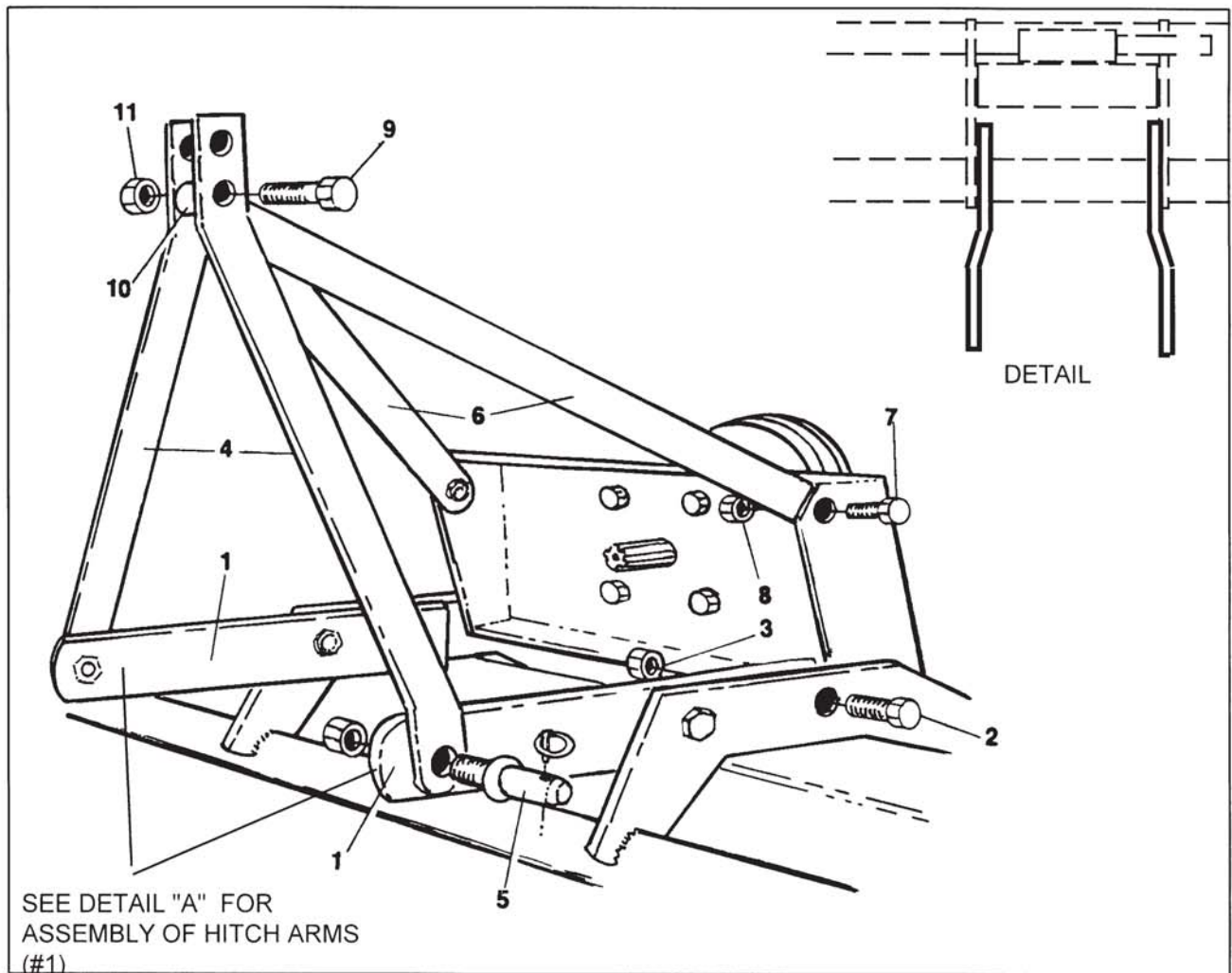


FIGURE 1

ASSEMBLY INSTRUCTIONS

A-FRAME ASSEMBLY FOR 74" MOWER (FIGURE 2)

1. Attach Hitch Arms (#1) to Cutterhousing as illustrated. Secure with 4 - 5/8 x 2-1/4 Bolts (#2) and Locknuts (#3).
2. Attach Front Struts (#4) to Hitch Arms (#1) with 2 - Category I Hitch Pins (#5).
3. Attach the Short Upper Struts (#6) to the Right Side of the Gearbox Mount and the Long Upper Strut (#12) to the Left Side of the Gearbox Mount with 2 - 1/2 x 1-1/4 Bolts (#7) and Locknuts (#8).
4. Attach the Upper Struts (#6 & #12) and Front Struts (#4) together with 1 - 1/2 x 3-1/2 Bolts (#9), Strut Spacer (#10), and Locknut (#11).

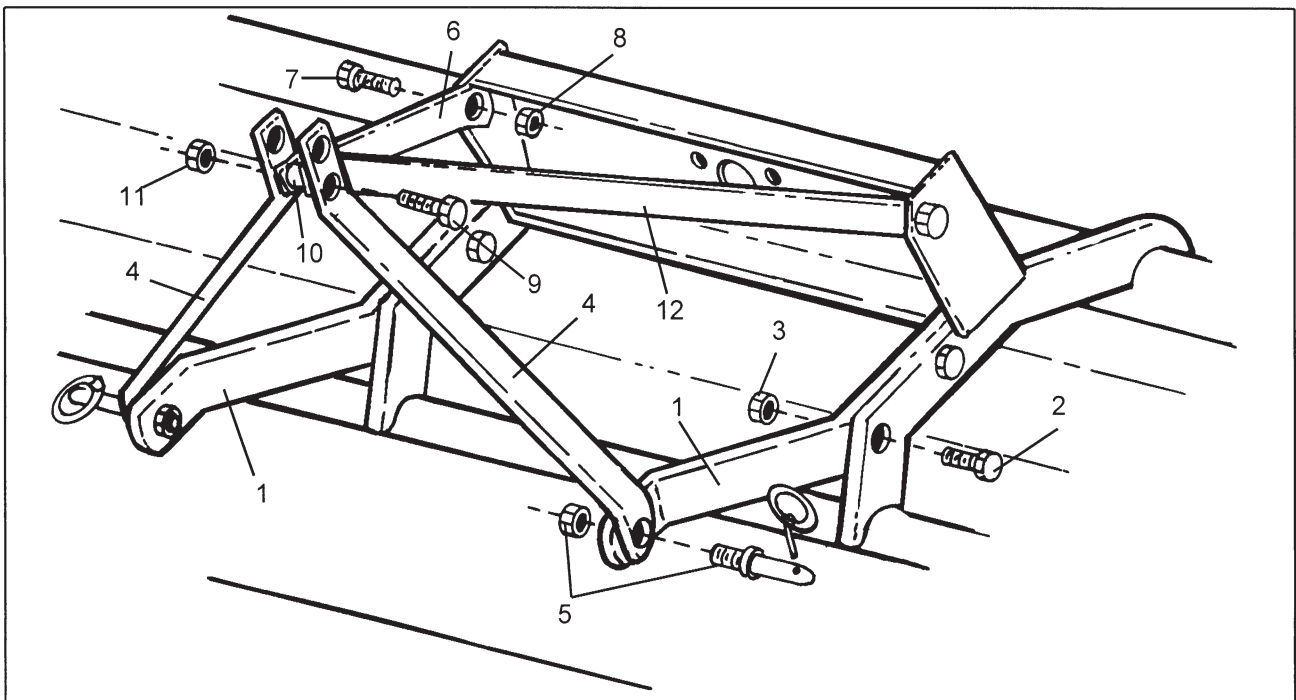


FIGURE 2

To Offset Mower

1. Remove the Front Struts (#4) from Hitch Arms (#1) and Upper Struts (#6 & #12). Remove the Upper Struts (#6 & #12) from the Gearbox Mount.
2. Flip Hitch Arms (#1). Secure with 4 - 5/8 x 2-1/4 Bolts (#2) and Locknuts (#3).
3. Attach Front Struts (#4) to Hitch Arms (#1) with 2 - Category I Hitch Pins (#5).
4. Attach the Short Upper Struts (#6) to Left Side of Gearbox Mount and the Long Upper Strut (#12) to the Right Side of Gearbox Mount with 2 - 1/2 x 1-1/4 Bolts (#7) and Locknuts (#8).
5. Attach the Upper Struts (#6 & #12) and Front Struts (#4) together with 1 - 1/2 x 3-1/2 Bolts (#9), Strut Spacer (#10), and Locknut (#11).

ASSEMBLY INSTRUCTIONS

GEARBOX AND EXTENSION SHAFT ASSEMBLY. FIGURE 3.

1. Remove existing nuts and lockwashers (item 2) from bearing housing.
2. Slide bearing housing bolts (item 2) into proper holes in outboard bearing plate.
3. Attach gearbox (item 3) to gearbox mounting frame (Item 4). Secure with (4) 5/8" x 1-1/2" bolts and lockwashers. Torque to 170 ft-lbs.

IMPORTANT: If extension shaft does not line-up with Gearbox, it may be necessary to shim gearbox mounting lugs. To accomplish this, insert one gearbox retaining bolt (item 5, Figure 3) thru the mount plate and into the gearbox housing. Do not tighten this bolt (it should have at least 1/4" free threads to move in and out). Assemble the gearbox, shaft, shaft extension tube and the bearing to the bearing retainer plate mounted on the side sheet. Tighten all fasteners except the one bolt in the gearbox mounting plate. Check the distance between the gearbox mounting lugs and the mount plate. If required, insert shims from shim kit (p/n 000552) between gearbox mounting lugs and mounting plate to insure the gearbox pulls up evenly on the mounting plate.

ASSEMBLY

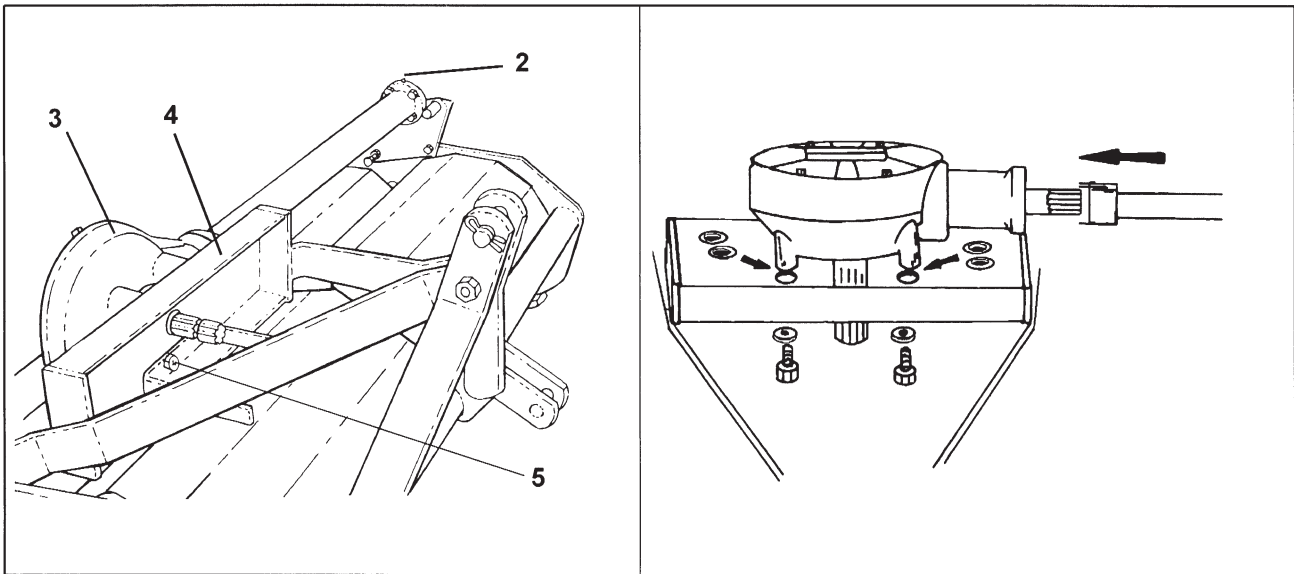


FIGURE 3

OPERATION SECTION

OPERATION

INSTALLATION OF MOWER TO TRACTOR

Before attaching mower to tractor, it will be necessary that each tractor lower hitch arm has freedom of movement so that the mover is completely independent of tractor movement. This will allow the mower to pivot sideways as well as move vertically.

Some tractors provide this "float" by means of an optional slot in the lower end of each lift link, others by lift links which can be made telescopic by changing the position of the pins in the links. Failure to provide "float" may result in failure of the cutterhousing and bearings in the roller, thus voiding the mower warranty. Should your tractor not have a built in "float" option, a flexible lift chain assembly will be required.

On all centered mowers, two flexible lift chain assemblies will be necessary to provide "float" to each lift link.

On all offset mowers, one flexible lift chain assembly will be necessary to provide "float" to the lift link on the same side that the mover is offset. The other lift link should be the adjustable stiff link furnished with the tractor.

After the mower is attached to the tractor's 3-point hitch, but before the universal slip joint is installed, and with the mower on the ground, adjust the top link of the hitch to make the mower gearbox input shaft parallel to the tractor P.T.O. shaft. This relationship provides optimum operation of the universal joints in the driveline. A Driveline that is not parallel to PTO will result in vibration due to the characteristic of a universal joint that results in the output end speeding up and slowing down twice each revolution of the universal jointed shaft. Adjust the top link whenever the cutting height is changed.

1. Position the Alamo Flail on a level, firm surface.

2. Position the tractor so that the lower hitch arms are level with and slightly ahead of the mower. Carefully inch the tractor rearward to align the tractor hitch arms outside the mower hitch arms and in line with Hitch Pins. Adjust the Top Link so it will pin to the top set of holes in the A-Frame. Stop the engine and attach tractor lift arms to Hitch Pins. Insert Lock Pins. Figure 1.

3. To install the driveline, separate slip joint halves; then install them onto mower gearbox input shaft and tractor PTO shaft according to illustration on driveline shield. Hold halves side by side, then raise and lower the mower to determine that there is no interference between halves when in the shortest position, and that there is a specified minimum amount of overlap when in the longest position. Once it is determined that the shaft will cause no clearance problems, remove the halves, rejoin them and install the assembled driveline between the tractor and the mower. Figure 2.

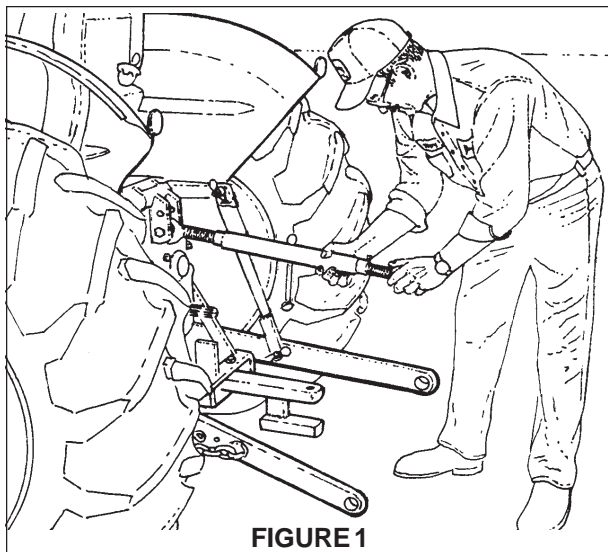


FIGURE 1

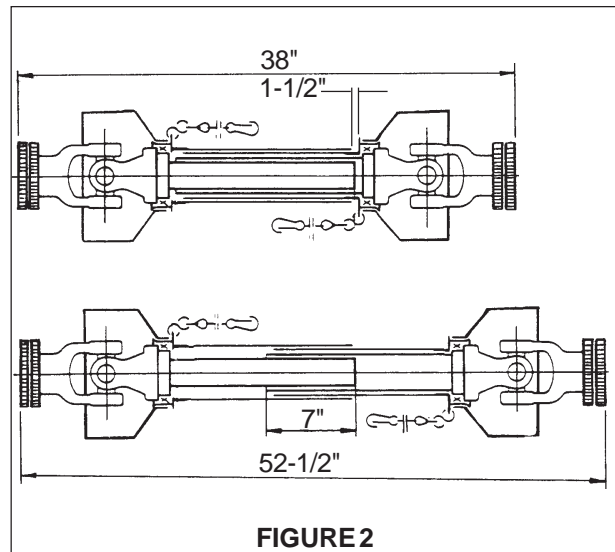


FIGURE 2

OPERATION

CHECK PTO LENGTH

WARNING:



A loose driveline could slip off and result in personal injury or damage to mower. When attaching PTO yoke to tractor PTO shaft, it is important that spring activated locking collar is seated in groove on PTO shaft.

WARNING:



Before operating mower, check to make sure the driveline will not bottom out or become disengaged.

To adjust length, hold the half-shafts next to each other in the shortest working position. If end of driveline extends beyond shield cone, mark them according to figures below. Always maintain 1-1/2" clearance when operated in shortest working position. Shorten inner and outer guard tubes equally. Shorten inner and outer sliding profiles by the same amount that the shield tubes were shortened. Round off all sharp edges and remove burrs. Grease sliding profiles. Figure 3.

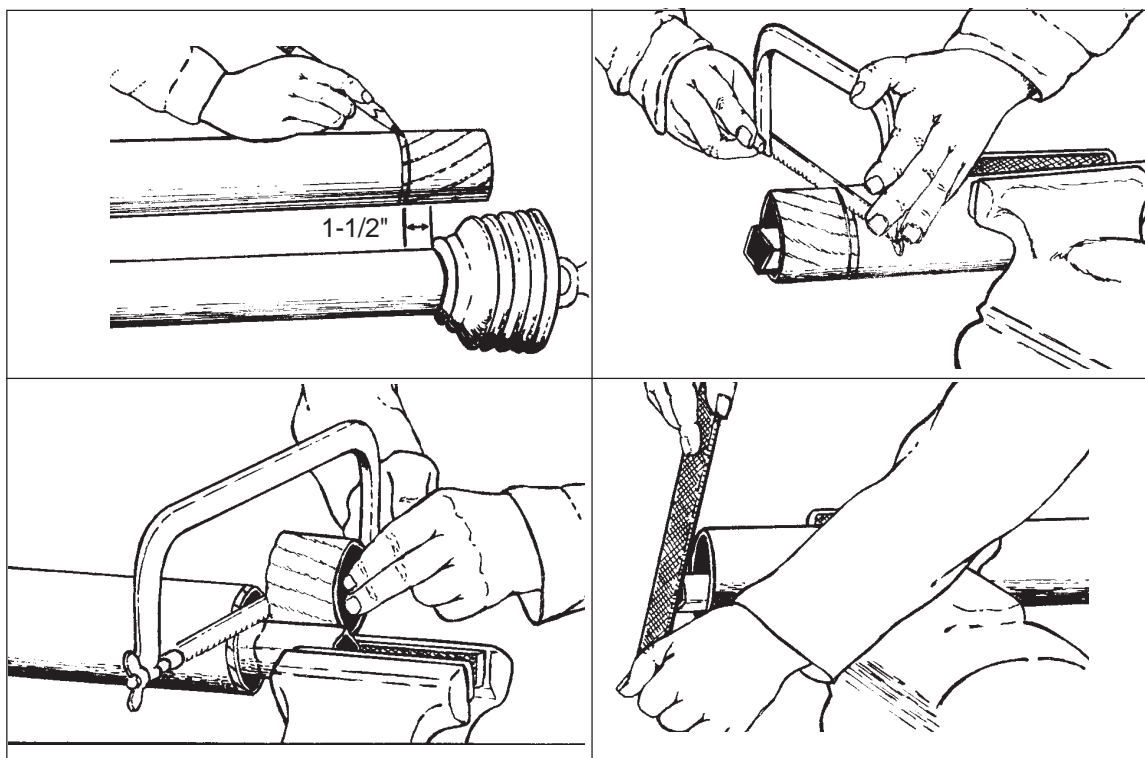


FIGURE 3

WARNING:

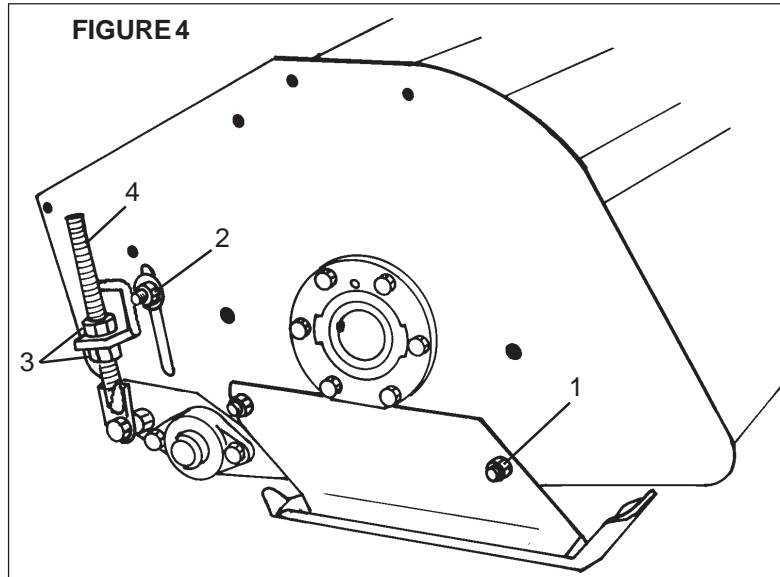


Driveline profile engagement must always exceed 7" at any operating position.

OPERATION

ADJUSTING THE HEIGHT OF THE CUT (FIGURE 4)

Adjustment is made by raising or lowering the Roller Assembly. Loosen the Carriage Bolts (item 1) and the Capscrews (item 2) on the Roller Assembly. Adjust Nuts (item 3) on the Roller Adjustment Rod Weldment (item 4) until you have reached the desired position. Tighten Nuts (item 3), Carriage Bolts (item 1), and Capscrews (item 2). When cutting in rough or trashy areas, knives will last longer if the roller is adjusted to the highest position. Use Caster Wheels (optional equipment) is recommended for extremely rough or trashy terrain. When using caster wheels, the roller should be raised to the lowest cutting position to minimize scalping and the cutting height is adjusted by bolting the caster wheel socket arms in the desired set of holes in the the Caster Brackets.



OPERATING TECHNIQUES

With the tractor engine at low idle, engage PTO. Increase the engine speed until the PTO is at 540 RPM. Always start the cutter unit in the clear and allow the unit to develop full speed before starting to cut.

The models included in this manual are designed to operate with a cuttershaft speed of 2100 RPM while using a tractor power take-off speed of 540 RPM. If the mower is operated at a lower speed, trouble can develop throughout the driveline. The universal slip joint, as well as the final drive belt, can be overloaded and fail. As cuttershaft speed decreases, cutting ability also decreases and winding of the grass may occur. Tractors are designed to operate at full PTO speeds. If cutting conditions require a slower ground speed, shift the tractor into a lower gear. Maintain the proper PTO speed.

Always start mower with tractor engine at low idle and cutter unit in the clear. Increase engine speed until PTO is at 540 RPM. The cuttershaft must be at full speed before starting to cut. If cuttershaft slows down, due to heavy cutting, tractor ground speed must be reduced. If not, grass may wind around cuttershaft rather than being discharged properly. Grass wound against housing sidesheets acts as a brake, causing power loss and possibly overheating cuttershaft bearings. The drive belt also may be overloaded and fail. Give the unit time to cut. In tough mowing situations where full power can not be developed, taking a narrower cut or raising mower height is recommended.

If mower starts making an unusual noise, foreign material may have wound around the cuttershaft, or an end knife has bent and is hitting the housing. Remove material from the shaft. Use Knife Straightener Set No. 700413 to reshape bent knives. Replace any broken or missing knives immediately. To avoid excessive vibration, a pair of knives must be mounted to each set of lugs. To do the best job of mowing, knives should be sharp. Sharp knives require less power to cut and will operate better in tougher conditions.

OPERATION

TROUBLESHOOTING

SYMPTOM	POSSIBLE PROBLEM	CORRECTION
DISCHARGING BUNCHES OR CLOGGING	Belt installed improperly. Blades dull. Grass too wet. Grass too long. Travel speed too fast. PTO RPM too low.	Check belt for correct set up. Check blades for sharpness. Wait for grass to dry. Mow at 3-1/2" and recut lower. Use a lower tractor gear. Mow at engine RPM to match 540 PTO RPM.
BLADES SCALPING HIGH PLACES	Mowing too low. Rough, uneven ground. Turning Tractor too fast.	Raise height of cut. Use a Slower Speed. Lower Gauge Wheels or Rollers. Slow down when turning.
UNEVEN CUT	Travel speed too fast. Mower deck not level. Blades dull or unbalanced. Deck underside plugged. Grass too high	Use a slower speed. Level the mowing deck. Sharpen or balance blades Clean underside of deck. Mow 3-1/2" and recut lower.
GRASS CLIPPINGS WINDROW OR CLUMP	Grass too wet. Grass too high. Housing plugged.	Wait for grass to dry. Mow at 3-1/2" and recut lower. Clean underside of deck.
GRASS NOT BEING CUT EVENLY	Belt worn or slipping. Spring & Idler. Housing plugged. Debris around pulleys Grass too high.	Mow at full engine RPM. Use a slower speed Clean underside of Housing. Remove deck belt shield and clean out debris. Mow at 3-1/2" and recut lower.
NOISE	Damaged Belt Shield (Rubbing on pulleys or belt) Worn Bearing or Gear	Straighten or replace Shields. Replace Bearing or Gear
VIBRATION	Blade missing or broken. Unmatched blades Bent Shaft	Replace Blade Install only Alamo Blades Replace shaft

OPERATION

TRANSPORTING

Pay particularly close attention to the Safety Messages regarding Mower transport. Avoid unnecessary injuries and equipment damage by exercising cautious, conscientious travel procedures.

Attaching the Mower to Tractor increases the overall length of the working unit. Allow additional clearance for the Mower to swing when turning.

Raise the Mower as high as possible for transporting while maintaining clearance between the Driveline and Deck of the 3-Point Lift Mower.

When using Check Chains, adjust as described earlier for safet transport.

WARNING:



When transporting the Mower on a road or highway, use the tractor warning lights, SMV Sign, Reflectors, and other devices for adequate warning to the operators of other vehicles. Check the traffic regulations governing the locale where mowing is to be done, and work safely within those guidelines.

CAUTION:

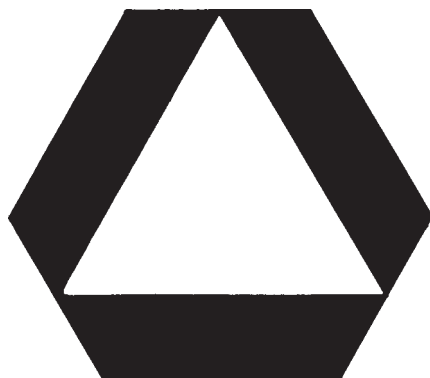


Be sure that the tractor Lift Lever is locked into the "transport" detent before attempting to transport the Mower.

OPERATION

BEFORE OPERATING OR TRANSPORTING THIS MOWER:

Always display this emblem in the rear of the tractor transporting this mower where it is clearly visible to oncoming traffic. Prominent display of this symbol will help the operator avoid accidents which could cause injury or possibly death.



SMV SYMBOL

OPERATION

CHANGING ROTATION OF CUTTERSHAFT

ALAMO TURF Flail Mowers have the ability to operate with the cuttershaft in either forward or reverse rotation. These two methods are shown in figure 1.

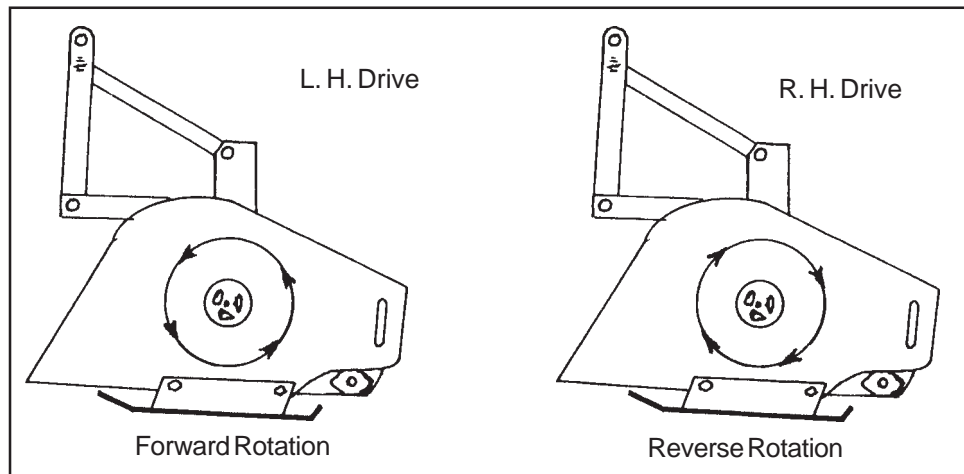


Figure 1

AT Mowers are shipped from the factory assembled in reverse or forward rotation. Reverse rotation is well suited for fine cut applications. To change the mower from reverse to forward rotation, all of the Cuttershaft Drive components including the Cuttershaft Bearing on the right side of the Mower must be moved to the left side. Refer to the Pulley Assembly Section of this manual to identify these parts. The Cuttershaft and Gearbox must be turned over. Shim the Gearbox as necessary to align the Output Shaft with the Extension Shaft. This must be performed very carefully in order to minimize mis-alignment as much as possible. The AT 74 Extension Shaft will need to be cut in half at a distance of 23-13/16 from the threaded hole end of the shaft as shown in figure 2.

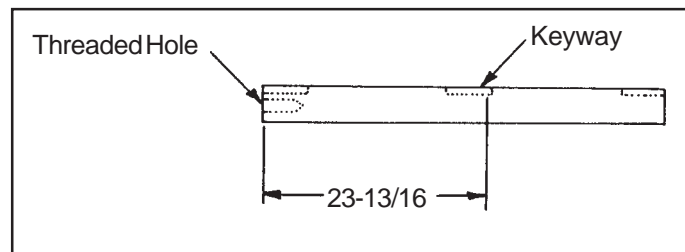


Figure 2

This cut should intersect the keyway in the middle of the shaft. **Once the Extension Shaft has been cut, changing the rotation back to reverse will require purchase of a new Extension Shaft (P/N 107415).** The 23" long Extension Shaft shield is used by itself to cover the Extension Shaft.

MAINTENANCE SECTION

MAINTENANCE

LUBRICATION

1. Lubricate at the specified intervals as outlined in the lubrication diagram below. All mower grease fittings are equipped with lubricaps which snap over the grease fittings to prevent dirt from entering the fittings. Remove the cap and wipe the fitting before greasing. Wipe the outlet of the grease gun then grease the bearing. When finished, place the cap over the fitting and wipe any excess grease from around the cap. In extremely dusty conditions, it is desirable to lubricate more often than every 8 hours. Grease PTO shaft as outlined on the diagram located on PTO shaft shield. The idler pullies are equipped with a sealed ball bearing and require no further lubrication. Caster wheel bearings should be repacked at the end of each mowing season and checked before the start of the next season. The gearbox is shipped with the proper amount of SAE No. 90 extreme pressure lubricant. Check level before operating and maintain the level of this oil at the LOWER 1/8" pipe plug on the gearbox cover. **LUBRICATE MOWER BEFORE INITIAL USE. FIGURE 1.**

* NOTE: Lubricate roller bearing until lubricant can be seen coming out between roller and bearing housing.

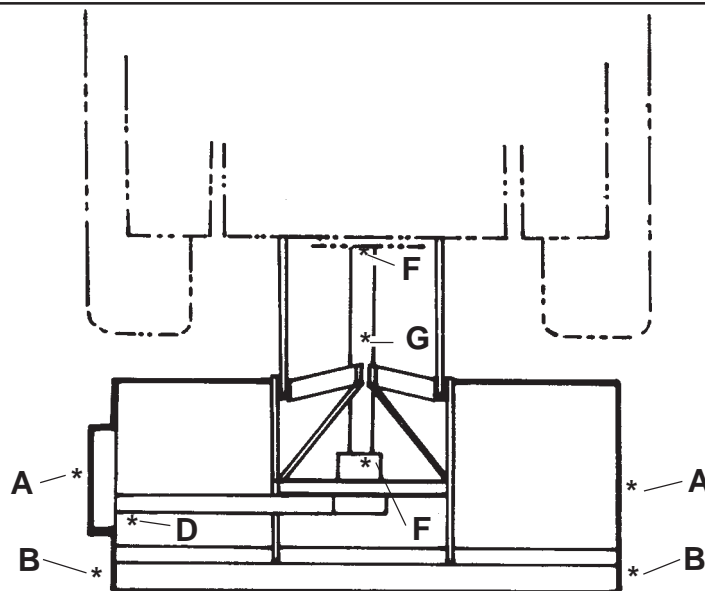
2. Before each day's use, follow this procedure:

- a. Visually check the unit, and make certain all items are properly tightened.
- b. Check the cuttershaft to make certain it is fully knived. Replace any missing knives or cotter pins, then run the unit at full speed to check for vibrations. Do not operate the unit in an out-of-balance condition.

DANGER! Before doing maintenance, turn off power and securely block up mower.



FIGURE 1



LUBRICATE ALL POINTS EVERY 8 HOURS OF OPERATION

A CUTTERSHAFT BEARINGS
B ROLLER BEARING
D BANJO BEARING

F DRIVELINE YOKE
G DRIVELINE SLIP

MAINTENANCE

KNIVES (FIGURE 2)

Replacing

Remove Flail Mower from tractor. Turn Housing over with a hoist. Raise and support securely at a convenient height. With one hand, hold two knives back to back so the tips are apart and the holes are in line. Insert the two knives between a pair of ears on the shaft, and with the other hand, insert a headed pin. All knife pins are installed with their heads facing away from the drive side of the Housing. This will locate cotter pins where Knives cannot reach them when flexing backward. Proceed along the shaft in like manner. Then, take a few of the special cotters in one hand, insert in the pin, hold the cotter head edgewise to the ear, and bend out about 45 degrees. Repeat on the other rows of ears.

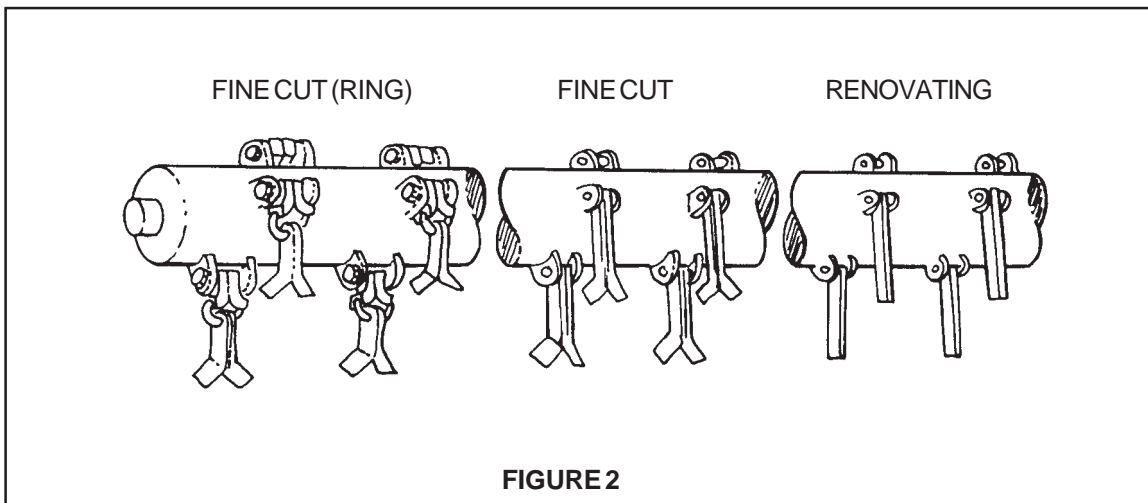


FIGURE 2

Sharpening

These Alloy Knives can be sharpened by filing or grinding. If by grinding, keep cool to maintain hardness and avoid early dulling. When sharpening, remove metal mostly at the end of the tip and not much next to the shank. This will make the cutting portion taper rather than long and weak after several sharpening. If the Alamo Electric Grinder is used, the knives can be sharpened without removing from the machine. Sharp knives require less power than dull knives. Sharp knives do a better job than dull knives. Replace broken or missing knives promptly!

Straightening

These Alloy Spring Steel Knives are tough and will bend quite far before they break, and can be straightened several times if bent slightly from hitting obstructions. Use two pairs of pliers or ViseGrips™ or Special tools. Replace any broken or cracked blade at once to prevent the knife's flying off causing imbalance and vibration or possible serious bodily injury.

MAINTENANCE

BELTS

Replacement (Figure 3)

1. Place Flail Mower on ground or support securely.
2. Remove Belt Guard.
3. Loosen Idler Arm Turnbuckle until the tension is removed. Remove Bolt (#1) on Turnbuckle.
4. Remove old Belt and install new one.
5. Reinstall Turnbuckle and Bolt (#1). Adjust Turnbuckle to the proper tension. See Adjustment.
6. Reinstall Belt Guard.

Adjustment

1. Remove Belt Guard.
2. Turn Idler Arm Turnbuckle clockwise to tighten belt and counterclockwise to loosen belt. Tighten until a 10 lb. force will cause approximately 1" deflection.

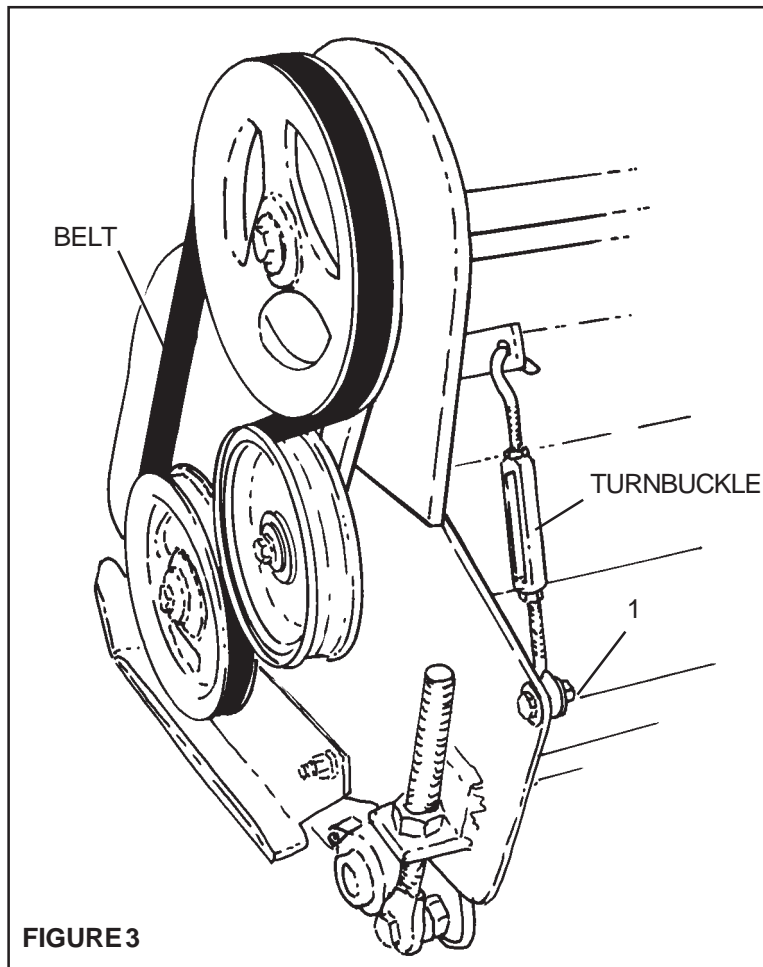


FIGURE 3

MAINTENANCE

CUTTERSHAFT (FIGURE 4)

Disassembly

Note: Retain fasteners, they will be reused.

1. Detach mower from tractor.
2. Remove Belt Guard and Idler Turnbuckle.
3. Tip Mower up to facilitate removal of cuttershaft and housing assemblies.

CAUTION

Safely support Mower once it is tipped up.



4. Remove Drive Belt, Cuttershaft Pulley, and Key And Spacer. Position Idler Pulley so it is out of the way.
5. Remove bearing and housing assemblies from both ends of the cuttershaft. If only the bearing housing assemblies are to be replaced, proceed to Assembly step 2.
6. Remove Cuttershaft.

Assembly

1. Install new cuttershaft.
2. Install new Bearing and Housing Assemblies.
3. Reinstall spacer key, cuttershaft pulley, and drive belt.
4. Grease both bearings and check shaft rotation.
5. Install new knives in new cuttershaft, or transfer knives from old cuttershaft to new one.
6. Lower Mower to ground then reinstall Idler Turnbuckle and Belt Guard.
7. Reattach Mower to tractor. Start tractor the engage Mower and check for vibration.

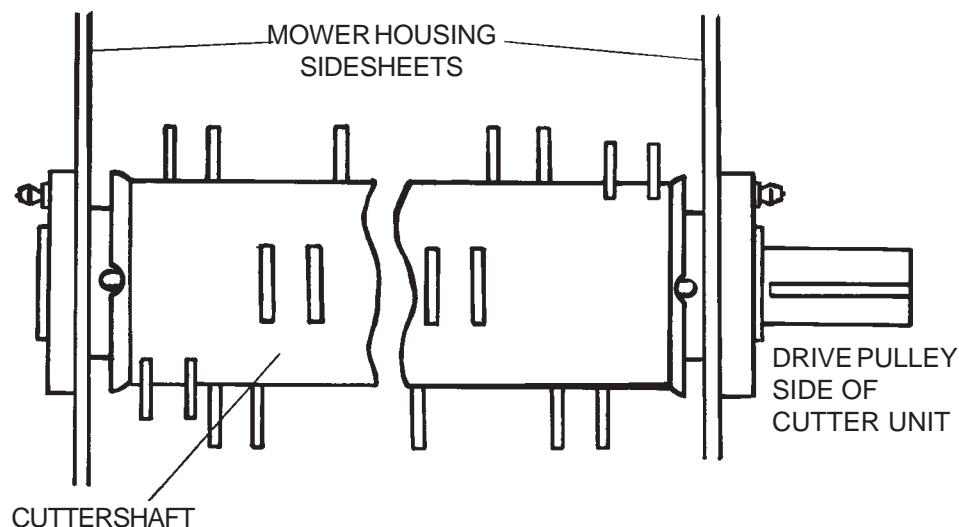


FIGURE 4

MAINTENANCE

GEARBOX SERVICE INSTRUCTIONS

GEARBOX DISASSEMBLY

1. Remove the 4 capscrews (#1) from the input shaft bearing cap (#2). Tap around circumference of the input shaft bearing cap (#2) to loosen and remove.

Note: Wrap plastic tape around irregular shaft surfaces such as splines to protect seal during disassembly and assembly.

2. Remove the 4 capscrews (#3) from the seal housing (#4). Tap around circumference of seal housing (#4) to loosen and remove.

3. Remove the 8 capscrews (#5) and remove input shaft housing cover (#6).

4. Grab hold of the Gear and input shaft assembly (#7) and pull out of main housing (#8).

5. Remove the 4 capscrews (#9), break gasket loose, and then remove the seal Housing (#10).

6. Output shaft assembly must be removed from main housing by pulling shaft out. Note: The simplest method of removing the output shaft assembly (#11) is to attach a slide hammer puller to the shaft and use that to pull the shaft out.

7. The gearbox is now disassembled.

8. Replace all defective parts.

GEARBOX ASSEMBLY

Clean and scrape all gasket surfaces.

1. Insert output shaft assembly (#11) into main housing and press into place. NOTE: Use pipe or tube with approximately same O.D. as bearing and press into place by striking or pressing on tube.

2. Place lower shims (#12) in place and then carefully slide Seal Housing (#10) assembly down shaft.

3. Install bolts and lockwashers (#9) and torque to 40-50 ft. lbs.

5. Insert input shaft assembly (#7) into main housing (#8). It may be necessary to rotate shaft to align gear teeth so that housing will install completely.

6. Attach Housing Cover (#6) to Gear Housing (#8). Install bolts and lockwashers (#5) and torque to 40-50 ft. lbs.

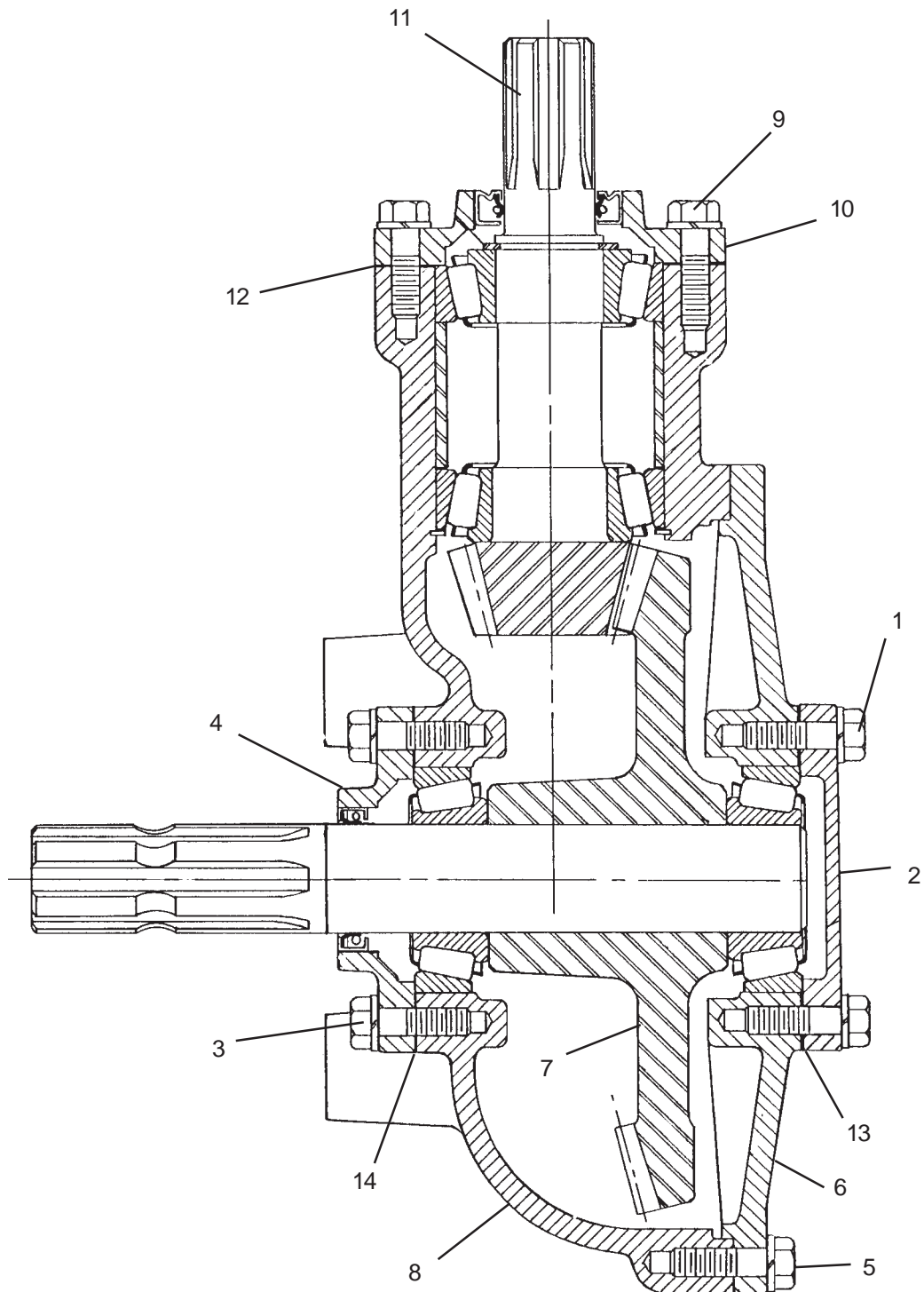
7. Place shims (#14) in place and carefully slide Seal Housing (#4) assembly down shaft.

8. Install bolts and lockwashers (#3) and torque to 40-50 ft. lbs.

9. Place shims (#13) in place and attach the Bearing Cap (#2) in place. Install bolts and lockwashers (#1) and torque to 40-50 ft. lbs.

10. Fill gearbox with the proper amount of SAE No. 90 extreme pressure lubricant. Maintain the level of this oil at the LOWER 1/8" pipe plug on the gearbox cover.

MAINTENANCE



MAINTENANCE

MAINTENANCE

General Information on Flail Mower Vibration

FLAIL MOWERS

INFORMATION BULLETIN NO. 5

EXCESSIVE VIBRATION

Vibration is a **MONSTER** and if allowed to continue unchecked, can cause the complete break-up of a machine in a very short time.

A properly operated Flail Mower will produce very little vibration. If vibration does occur, the mower should be stopped and the trouble corrected, as warranty does not cover failures resulting from continued operation after something happens to cause the mower to vibrate excessively.

Vibration is caused by a rotating part which is out of balance. This could be the cutter shaft or, on those models having a universal slip joint assembly drive shaft, from the drive shaft.

If the two extreme ends of the drive shaft, (the splined yokes which fit on the tractor power take off shaft and on the mower gear box driven shaft), are not parallel, vibration will be evident. This is because of the mechanics of a universal drive wherein the rotational speed thru a universal joint is not uniform. If the ends of a universal drive shaft are parallel, the uneven rotation effect is cancelled out and the machine being driven will be driven at a uniform rate of speed. However, if the ends are not parallel, the uneven rotation effect may be multiplied, resulting in a speeding up and slowing down of the entire mower system (gear box, extension shaft, pulleys, belt, and cutter shaft) each revolution. This effect can be readily noticed if the mower, while running, is raised to an extreme height on the tractor lift.

For smoothest operation, the tilt of the mower should be adjusted (on a 3-point hitch, by adjusting the length of the top link between the tractor and the mower) so that the ends of the drive shaft are parallel when the mower is down in operating position. Raising the mower, while running, to extreme heights on the lift should be avoided.

To check where the vibration is originating, first be sure the ends of the universal drive shaft are parallel. Then, if vibration is still present, remove the drive belt and run the mower. If vibration is still present, it most likely is coming from and caused by a bent drive shaft. If so, the shaft should be replaced or straightened. If the vibration is gone - the drive portion of the mower is running smoothly - then the vibration is probably coming from the cutter shaft (it could be a pulley out of balance or a faulty belt with a varying cross section, but this is not likely).

MAINTENANCE

The cutter shaft will run out of balance if:

1. Wire, rope, string, rags, etc., around the cutter shaft, are holding the knives in a folded back position. Remove such foreign objects and be sure all knives are free to swing to the extended position.

2. (a) Knives are missing or broken. Replace missing or broken knives.

(b) Knife hanger lugs are broken off shaft. This condition usually results from continued operation in contact with large hard objects where the knife hanger lugs themselves are hitting the hard objects. Lugs should be replaced using arc welding equipment so as not to direct too much heat in one area of the shaft.

3. Cutter shaft ball bearings are worn enough to have radial "play" in them. Replace ball bearing and other worn parts to eliminate "play".

4. Shaft is bent. The shafts are straight within a couple of thousandths of an inch when they are made. It is possible that they will become bent in use, such as if the shaft is hooked on a stump while the tractor is moving forward at a good speed.

5. Shafts are operated at improper speed. Rotating shafts have what is known as a natural period of vibration. The same is true of the cutter shafts on the Flail Mowers.

The actual speed at which the harmonic will occur will vary with each mower and each installation. To avoid this harmonic vibration when operating the mower, it may be necessary to adjust the engine speed of the tractor up or down.

Some units have a harmonic which occurs below the nominal operating speed. On these units, it will be noticed that there is always a little vibration at a particular RPM as the mower is being sped up to operating speed. This occurs as the shaft passes through its normal harmonic vibration point. As long as the mower is opened at the proper speed, then harmonic vibration will not be an issue.

ALAMO INDUSTRIAL

LIMITED WARRANTY

1. LIMITED WARRANTIES

- 1.01. Alamo Industrial warrants for one year from the purchase date to the original non-commercial, governmental, or municipal purchaser ("Purchaser") and warrants for six months to the original commercial or industrial purchaser ("Purchaser") that the goods purchased are free from defects in material or workmanship.
- 1.02. Manufacturer will replace for the Purchaser any part or parts found, upon examination at one of its factories, to be defective under normal use and service due to defects in material or workmanship.
- 1.03. This limited warranty does not apply to any part of the goods which has been subjected to improper or abnormal use, negligence, alteration, modification, or accident, damaged due to lack of maintenance or use of wrong fuel, oil, or lubricants, or which has served its normal life. This limited warranty does not apply to any part of any internal combustion engine, or expendable items such as blades, shields, guards, or pneumatic tires except as specifically found in your Operator's Manual.
- 1.04. Except as provided herein, no employee, agent, Dealer, or other person is authorized to give any warranties of any nature on behalf of Manufacturer.

2. REMEDIES AND PROCEDURES.

- 2.01. This limited warranty is not effective unless the Purchaser returns the Registration and Warranty Form to Manufacturer within 30 days of purchase.
- 2.02. Purchaser claims must be made in writing to the Authorized Dealer ("Dealer") from whom Purchaser purchased the goods or an approved Authorized Dealer ("Dealer") within 30 days after Purchaser learns of the facts on which the claim is based.
- 2.03. Purchaser is responsible for returning the goods in question to the Dealer.
- 2.04. If after examining the goods and/or parts in question, Manufacturer finds them to be defective under normal use and service due to defects in material or workmanship, Manufacturer will:
 - (a) Repair or replace the defective goods or part(s) or
 - (b) Reimburse Purchaser for the cost of the part(s) and reasonable labor charges (as determined by Manufacturer) if Purchaser paid for the repair and/or replacement prior to the final determination of applicability of the warranty by Manufacturer.The choice of remedy shall belong to Manufacturer.
- 2.05. Purchaser is responsible for any labor charges exceeding a reasonable amount as determined by Manufacturer and for returning the goods to the Dealer, whether or not the claim is approved. Purchaser is responsible for the transportation cost for the goods or part(s) from the Dealer to the designated factory.

3. LIMITATION OF LIABILITY.

- 3.01. MANUFACTURER DISCLAIMS ANY EXPRESS (EXCEPT AS SET FORTH HEREIN) AND IMPLIED WARRANTIES WITH RESPECT TO THE GOODS INCLUDING, BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
- 3.02. MANUFACTURER MAKES NO WARRANTY AS TO THE DESIGN, CAPABILITY, CAPACITY, OR SUITABILITY FOR USE OF THE GOODS.
- 3.03. EXCEPT AS PROVIDED HEREIN, MANUFACTURER SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO PURCHASER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS, OR DAMAGE CAUSED OR ALLEGED TO BE CAUSED DIRECTLY OR INDIRECTLY BY THE GOODS INCLUDING, BUT NOT LIMITED TO, ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES RESULTING FROM THE USE OR OPERATION OF THE GOODS OR ANY BREACH OF THIS WARRANTY. NOTWITHSTANDING THE ABOVE LIMITATIONS AND WARRANTIES, MANUFACTURER'S LIABILITY HEREUNDER FOR DAMAGES INCURRED BY PURCHASER OR OTHERS SHALL NOT EXCEED THE PRICE OF THE GOODS.
- 3.04. NO ACTION ARISING OUT OF ANY CLAIMED BREACH OF THIS WARRANTY OR TRANSACTIONS UNDER THIS WARRANTY MAY BE BROUGHT MORE THAN TWO (2) YEARS AFTER THE CAUSE OF ACTION HAS OCCURRED.

4. MISCELLANEOUS.

- 4.01. Proper Venue for any lawsuits arising from or related to this limited warranty shall be only in Guadalupe County, Texas.
- 4.02. Manufacturer may waive compliance with any of the terms of this limited warranty, but no waiver of any terms shall be deemed to be a waiver of any other term.
- 4.03. If any provision of this limited warranty shall violate any applicable law and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provisions herein.
- 4.04. Applicable law may provide rights and benefits to purchaser in addition to those provided herein.

KEEP FOR YOUR RECORDS

ATTENTION: Purchaser should fill in the blanks below for his reference when buying repair parts and/or for proper machine identification when applying for warranty.

Alamo Industrial Implement Model _____ Serial Number _____

Date Purchased _____ Dealer _____

ATTENTION:
READ YOUR OPERATOR'S MANUAL

ALAMO INDUSTRIAL

An Alamo Group Company
1502 E. Walnut
Seguin, Texas 78155
830-379-1480





TO THE OWNER/OPERATOR/DEALER

To keep your implement running efficiently and safely, read your manual thoroughly and follow these directions and the Safety Messages in this Manual. The Table of Contents clearly identifies each section where you can easily find the information you need.

The OCCUPATIONAL SAFETY AND HEALTH ACT (1928.51 Subpart C) makes these minimum safety requirements of tractor operators:

REQUIRED OF THE OWNER:

1. Provide a Roll-Over-Protective Structure that meets the requirements of this Standard; and
2. Provide Seatbelts that meet the requirements of this paragraph of this Standard and SAE J4C; and
3. Ensure that each employee uses such Seatbelt while the tractor is moving; and
4. Ensure that each employee tightens the Seatbelt sufficiently to confine the employee to the protected area provided by the ROPS.

REQUIRED OF THE OPERATOR

1. Securely fasten seatbelt if the tractor has a ROPS.
2. Where possible, avoid operating the tractor near ditches, embankments, and holes.
3. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
4. Stay off slopes too steep for safe operation.
5. Watch where you are going - especially at row ends, on roads, and around trees.
6. Do not permit others to ride.
7. Operate the tractor smoothly - no jerky turns, starts, or stops.
8. Hitch only to the drawbar and hitch points recommended by the tractor manufacturer.
9. When the tractor is stopped, set brakes securely and use park lock, if available.

-
- ☒ **Keep children away from danger all day, every day...**
 - ☒ **Equip tractors with rollover protection (ROPS) and keep all machinery guards in place...**
 - ☒ **Please work, drive, play and live each day with care and concern for your safety and that of your family and fellow citizens.**

