

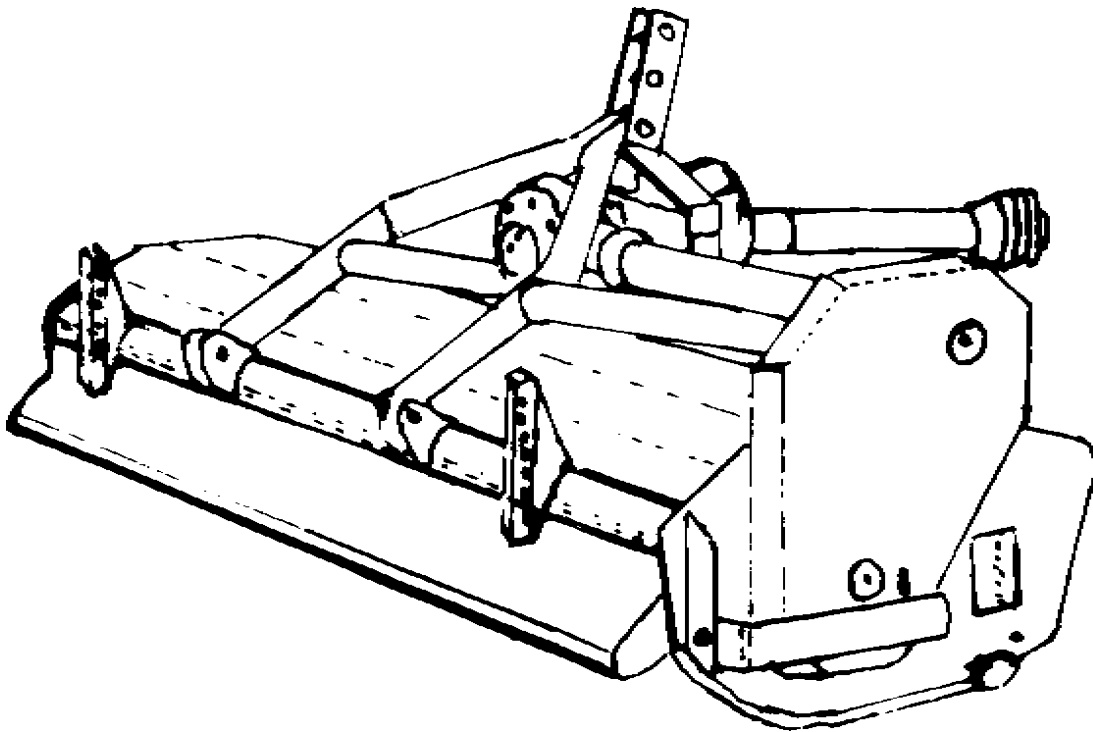


Revised 01-08

SUPER HEAVY DUTY FLAIL

FRONT MOUNTED

Part No. 803212



OPERATOR'S MANUAL with PARTS LISTING

ALAMO INDUSTRIAL

1502 E. Walnut
Seguin, Texas 78155
830-372-3551

An Alamo Group Company

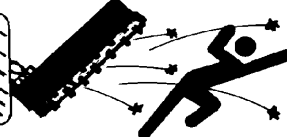
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TO THE OWNER/OPERATOR/DEALER

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!

 <h1 style="margin: 0;">DANGER</h1>			
<p>FAILING TO FOLLOW SAFETY MESSAGES AND OPERATING INSTRUCTIONS CAN CAUSE SERIOUS BODILY INJURY OR EVEN DEATH TO OPERATOR AND OTHERS IN THE AREA.</p>			
<p>1.</p> 	<p>2. NO RIDERS, NO CHILDREN OPERATORS</p> 	<p>3. USE SAFETY SHOES, HARD HAT, SAFETY GLASSES, SEATBELTS, & ROPS</p> 	<p>4. BLOCK UP SECURELY BEFORE WORKING UNDER.</p> 
<p>1. Study and understand Operator's Manuals, Safety Signs, and Instructional Decals for tractor & flail mower to prevent misuse, abuse, & accidents. Practice before operating mower in a confined area or near passersby.</p> <ul style="list-style-type: none"> Learn how to stop engine suddenly in an emergency. Be alert for passersby and especially children. <p>2. 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.</p> <p>3. Operate only with tractor having Roll-Over Protective Structure (ROPS) and with seatbelt fastened securely and snugly 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.</p> <p>4. 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.</p> <p>5. 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.</p> <ul style="list-style-type: none"> Install **Restrictor in folding circuit to slow down lowering and unfolding if action is faster than is desirable. <p>6. Make certain that SMV sign, Warning Lights, and Reflectors are clearly visible. Follow local traffic codes.</p> <p>7. 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.</p> <p>8. Before dismounting, secure flail mower in transport position or lower to ground.</p> <ul style="list-style-type: none"> 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. 			
<p>5. TRANSPORT SAFELY, LOCK UP.</p> 	<p>6. USE SMV, LIGHTS, & REFLECTORS.</p> 	<p>7. DO NOT OPERATE WITH MOWER OR WING RAISED.</p> 	<p>8. DO NOT MOUNT OR DISMOUNT WHILE MOVING.</p> 
<p>002369</p>			

WARRANTY INFORMATION:

Read and understand the complete Warranty Statement found in this Manual. Fill out the Warranty Registration Form in full and return it to Alamo 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.

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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 mower. 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.



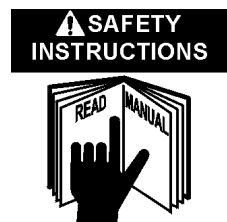
DANGER!

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)

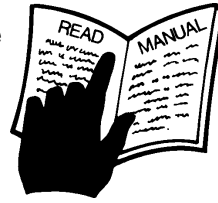


SAFETY

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 to operate the Tractor and Implement without supervision. Make sure the operator has fully read and understood the manuals prior to operation. (SG-4)



WARNING!

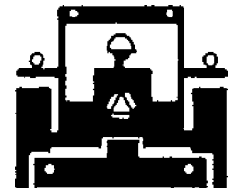


Always maintain the safety decals in good readable condition. If the decals are missing, damaged, or unreadable, obtain and install replacement decals immediately. (SG-5)

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!

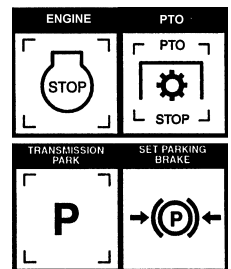


Do not modify or alter this Implement. Do not permit anyone to modify or alter this Implement, any of its components or any Implement function. (SG-8)

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!



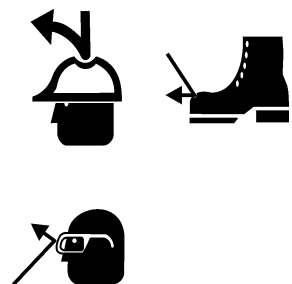
Do not operate this Equipment with hydraulic oil leaking. Oil is expensive and its presence could present a hazard. Do not check for leaks with your hand! Use a piece of heavy paper or cardboard. High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including 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

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!

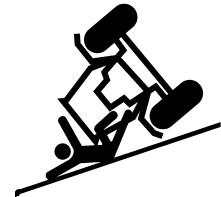


Transport only at safe speeds. Serious accidents and injuries can result from operating this equipment at unsafe speeds. Understand the Tractor and Implement and how it handles before transporting on streets and highways. Make sure the Tractor steering and brakes are in good condition and operate properly.



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)

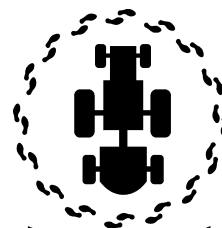
SAFETY

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

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!

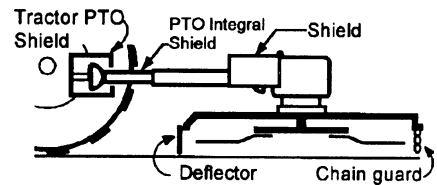


Mow only in conditions where you have clear visibility in daylight or with adequate artificial lighting. Never mow in darkness or foggy conditions where you cannot clearly see at least 100 yards in front and to the sides of the tractor and mower. Make sure that you can clearly see and identify passersby, 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!

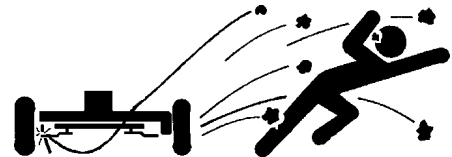


Do not mow with two machines in the same area except with Cab tractors with the windows closed. (SGM-11)

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!



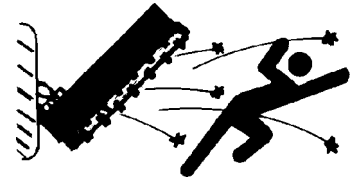
Always disconnect the main PTO Driveline from the Tractor before performing service on the Mower. Never work on the Mower with the tractor PTO driveline connected and running. Blades or Drivelines could turn without warning and cause immediate entanglement, injury or death. (SRM-3)

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!

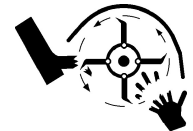


There are obvious and hidden potential hazards in the operation of this Mower. REMEMBER! This machine is often operated in grass and in heavy weeds. The Blades of this Mower can throw objects if shields are not properly installed and maintained. Serious injury or even death may occur unless care is taken 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!



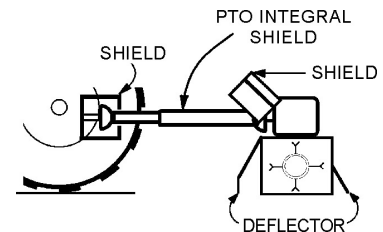
Do not put hands or feet under mower decks. Blade Contact can result in serious injury or even death. Stay away until all motion has stopped and the decks are securely blocked up. (SFL-2)



DANGER!



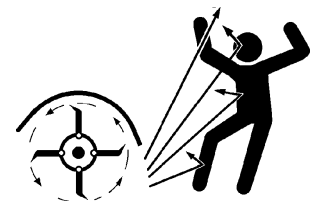
All Safety Shields, Guards and Safety devices including (but not limited to) - the Deflectors, Steel Guards, Gearbox Shields, PTO integral shields, and Retractable Door Shields should be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for 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

DANGER!



This Implement is wider than the Tractor. Be careful when operating or transporting this equipment to prevent the Implement from running into or striking sign posts, guard rails, concrete abutments or other solid objects. Such an impact could cause the Implement and Tractor to pivot violently resulting in loss of steering control, serious injury, or even death. Never allow the Implement to contact obstacles. (S3PT-12)

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.

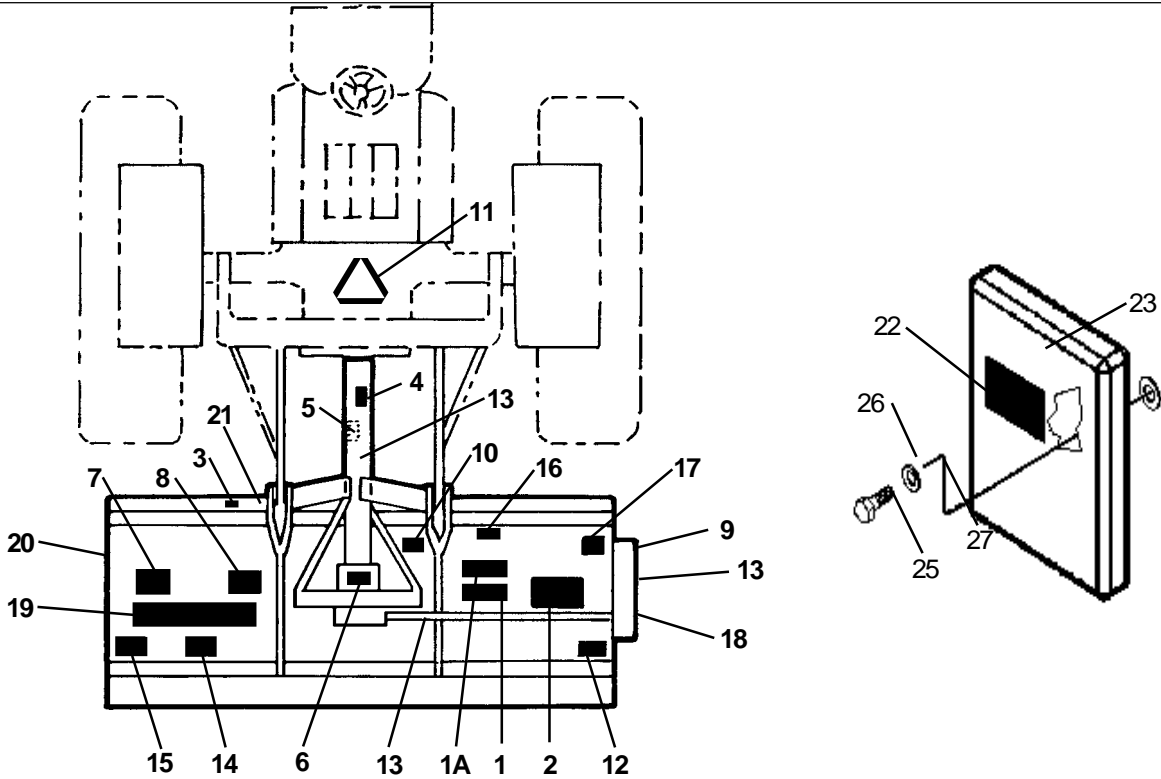
(SPAM-1)

SEE YOUR ALAMO DEALER

SAFETY

SAFETY DECAL LOCATION

SAFETY



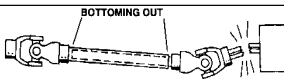
ITEM	PART NO.	QTY	LEVEL	DESCRIPTION
1	00725746	1	PELIGRO	Translate Safety Material
1A	00773723	1	PELIGRO	Translate Driveline Instructions
2	002369	1	DANGER	Multi. Hazard
3	002425	1	DANGER	Front Shield
4	00756004	ref	DANGER	Shield Missing
5	00756005	ref	DANGER	Rotating Driveline
6	00756494	1	DANGER	Driveline Safety
7	02967668	1	DANGER	Cutting Blades
8	00725739	1	WARNING	Repair Shields
9	00758194	1	WARNING	Pinch Points (V-Belt)
10	D103	1	WARNING	540 PTO Required
11	03200347	ref	REFLECT	SMV Emblem
12	000108	1	INSTRUCT	Operating Instructions
13	000678	3	INSTRUCT	Grease Fitting Inside
14	001830	1	INSTRUCT	Lubrication Chart
15	002023	1	INSTRUCT	Cutting Height Instructions
16	00763977	1	INSTRUCT	Notice to Owners
17	02925100	1	INSTRUCT	Genuine Parts
18	001650	1	LOGO	Alamo Logo
19	001651	1	LOGO	Alamo by Mott
20	02960766	1	LOGO	Alamo Logo
21	nfs	1	SERIALPLT	Serial Plate
22	02977417	1	INSTRUCT	Operators Manual Inside (Decal)
23	02977385	1	-----	Canister, Operators Manual
24	803212C	1	-----	Operators Manual
25	10058000	4	-----	Bolt
26	00017000	4	-----	Lockwasher
27	00024100	4	-----	Flatwasher

SAFETY DECALS

⚠ 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.

00756494

(6) 00756494 DRIVELINE SAFETY

⚠ DANGER



**GUARD MISSING
DO NOT OPERATE**

00756004

⚠ DANGER



**GUARD MISSING
DO NOT OPERATE**

00756004

⚠ DANGER

(4) 00756004
SHIELD MISSING

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.



(17) 02925100 GENUINE PARTS

NOTICE TO OWNER

An OPERATOR'S MANUAL (with Repair Parts Listing) and a WARRANTY REGISTRATION CARD were attached to this implement during final inspection at the factory. If they were not attached at the time of purchase, please contact your selling dealer at once.

1. Read and understand Manual before operating the implement.
2. Complete, sign, and mail the Warranty Registration Card in today.

00763977

(16) 00763977 NOTICE TO OWNER

⚠ DANGER



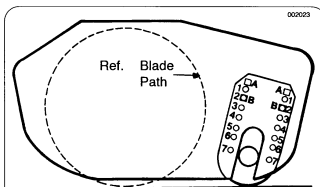
**ROTATING DRIVELINE-
CONTACT CAN CAUSE DEATH
KEEP AWAY!**

DO NOT OPERATE WITHOUT-

- All driveline guards, tractor and equipment shields in place
- Drivelines securely attached at both ends
- Driveline guards that turn freely on driveline

00756005

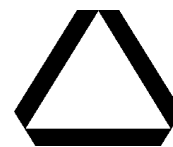
(5) 00756005 ROTATING DRIVELINE



MOWER CUTTING HEIGHT ADJUSTMENT

DESIRED CUTTING HEIGHT (INCHES)	ADJUSTMENT BRACKET HOLE	MOWER END PLATE HOLE
1/2	B	2
1	A	1
1-1/2	B	3
2	A	2
2-1/2	B	4
3	A	3
3-1/2	B	5
4	A	4
4-1/2	B	6
5	A	5
5-1/2	B	7
6	A	6

(15) 002023 CUTTING HEIGHT INSTRUCTION



(11) 03200347 SMV SYMBOL

**GREASE
FITTING
INSIDE**

(13) 000678 GREASE FITTING INSIDE

SAFETY DECALS

SAFETY

DANGER

CUTTING BLADES

FLAIL ROTARY

THROWN OBJECTS

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. 00756485

(7) 00756485 CUTTING BLADES

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

(8) 00725739 REPAIR SHIELDS

ALAMO INDUSTRIAL

(20) 02960766 ALAMO LOGO (SM)
(18) 001650 ALAMO LOGO (LG)

WARNING

OPERATE THIS MACHINE AT
540 RPM
TRACTOR PTO SPEED ONLY

Overspeeding PTO may cause component failure with resulting injury. D103

(10) D103 540 PTO REQ'D

DANGER

KEEP AWAY! IF FRONT DEFLECTOR SHIELD IS REMOVED FROM FLAIL HOUSING, SERIOUS INJURY TO OR AMPUTATION OF HANDS, FEET, OR LIMBS MAY OCCUR FROM BLADES CONTACT.

IF FRONT DEFLECTOR SHIELD IS REMOVED TO EFFECT A SUBSTANTIAL IMPROVEMENT IN PERFORMANCE IN VERY HIGH GRASS OR WEEDS, THE OPERATOR MUST BE AWARE OF THE RESULTING POTENTIAL HAZARD AND USE SPECIAL CARE TO MAKE CERTAIN THAT:

1. THE FLAIL MOWER IS NOT OPERATED IN THE VICINITY OF BYSTANDERS TO PREVENT CONTACT WITH BLADES AND RESULTING SERIOUS INJURY.
2. THE OPERATOR NEVER LEAVES THE SEAT NOR ALLOWS ANYONE TO APPROACH THE FLAIL MOWER UNTIL THE PTO AND HYDRAULIC POWER ARE DISENGAGED FROM ROTORS, FLAIL SECTIONS ARE LOWERED TO THE GROUND, ENGINE IS TURNED OFF, PARKING BRAKE IS SET, KEY IS REMOVED, AND ALL MOTION CEASES.
3. THE FRONT DEFLECTOR SHIELD IS REPLACED IN NORMAL MOWING CONDITIONS.

002425

(3) 002425 FRONT SHIELD

WARNING

DO NOT OPERATE WITH BELT SHIELD REMOVED. FINGER(S) MAY BE PINCHED OFF IF CAUGHT BETWEEN V-BELT AND PULLEY. 00758194

(9) 00758194 PINCH POINTS

(2) 002369 Multi-Hazard
(See Inside Front Cover)

SAFETY DECALS

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

(1) 00725746 PELIGRO 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.



LÍNEA DE CONDUCCIÓN 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

(1A) 00773723 PELIGRO DRIVELINE

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 Bulletin #5 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.

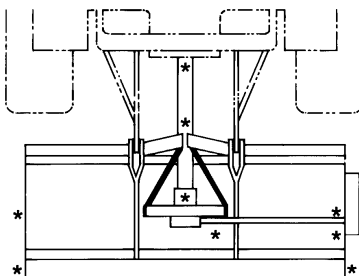
000108

(12) 000108 OPERATING INSTRUCTIONS



(19) 001651 ALAMO LOGO MOTT

LUBRICATION CHART



* LUBRICATE ALL POINTS EVERY 8 HOURS OF OPERATION

001830

(14) 001830 LUBRICATION CHART

OPERATOR'S MANUAL INSIDE



READ & UNDERSTAND

Before Operating Tractor & Implement

If Manual is missing, obtain one before operating from Dealer or ALAMO INDUSTRIAL, 1502 E. Walnut, Seguin, TX 78155. Customer Service 800-356-6286



02977417

(22) 02977417 CANISTERDECAL

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.)

INTRODUCTION SECTION

INTRODUCTION

INTRODUCTION

A. OWNER'S RESPONSIBILITIES

1. Read the TRACTOR Owner's Manual as well as the SHD FLAIL Operator's Manual w/ Parts Listing before attempting to install or operate the SHD FLAIL mower. **NOTE:** A Driveline Safety is available in Spanish. Order P/ N00773776.
2. Fill out Warrnaty Card in full. Be sure to answer all questions, including the Serial Number of the mower. Mail within 30 days of delivery date of this implement. **NOTE:** *Warranties are honored only if completed "Owners Registration and Warranty" forms are received by Alamo Group within thirty days of delivery date of this implement.*
3. Record the mower model and serial numbers on the warranty page at the front of the Operator's Manual. Keep this as part of the permanent maintenance file for the mower.
4. Know all the controls and how to stop quickly. Know how to operate the SHD FLAIL before attempting to mow with it.
5. 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.
6. Keep all safety devices in place. Read, understand, and comply with safety decals located on tractor and mowers.
7. Do not allow children to operate the tractor or mower. Do not allow adults to operate the equipment without proper instruction.
8. Do not carry passengers. Keep children and pets a safe distance away.
9. 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.
10. Clear the work area of objects which might be picked up and thrown.
11. Stay alert for holes in the terrain and other hidden hazards.
12. To reduce fire hazard, keep engine free of grass, leaves, or excessive grease.
13. Thoroughly check the condition of the SHD FLAIL before mowing.
14. The cuttershaft must be free to turn before starting the SHD FLAIL. Do not start the mower while in the grass to be cut. Allow the cuttershaft to develop full speed before mowing.
15. 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.
16. "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 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.

Safety is of primary importance to the owner/operator and to the manufacturer. 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. Many of the Safety Messages will be repeated throughout the manual. The owner/operator/dealer should know these Safety Messages before assembly and be aware of the hazards of operating this mower during assembly, use, and maintenance. The Safety Alert Symbol combined with a Signal Word, as seen below, is intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this machine.

CAUTION



The lowest level of Safety Message; warns of possible minor injury. Decals located on the Mower 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.

INTRODUCTION

D. OPERATING TECHNIQUES

START OF CUT

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.

CUTTERSHAFT AND GROUND SPEED

The SHD FLAIL mower is designed to mow effectively when a cuttershaft speed of 2200 RPM is maintained. In order to reach this speed, the engine must be run so that the PTO is at 540 RPM. If the cuttershaft slows down because of heavy cutting, the tractor ground speed must be reduced. If not, the grass may wind around the shaft rather than being discharged properly. GIVE THE UNIT TIME TO CUT. When working in heavy growth, reduce the tractor ground speed by using a lower gear.

NOTE: Before doing any maintenance on the mower head, be sure to turn the power to the unit off and the mower head is securely blocked up.

E. SPECIFICATIONS

GREASE: # 2 Lithium Base Bearing Grease and EP90 Gear Oil

CUTTERSHAFT SPEED: 2000-2400 RPM

CUTTING HEIGHT OF MOWERS: 1/2" to 6" (1/2" increments)

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 Bulletin #5 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.

000108

ASSEMBLY SECTION

ASSEMBLY

A. GENERAL

To help you to assemble your new SHD FLAIL to your tractor; we provide you with drawings, instructions, and information. If necessary, you may get more information or clarification from our engineering department over the phone.

IMPORTANT

Reference to the left or right side of the SHD FLAIL is determined while facing the front of the tractor from the drivers seat.

Assemble the SHD FLAIL, step by step, as illustrated on the pages of this section. The part quantities listed for an illustration pertain only to that phase of assembly. The quantity given corresponds to the number of parts needed.

Large parts are not always listed next to an illustration, but they are usually easy to identify.

Whenever reference is made to parts listed for an illustration or elsewhere in this manual, the following abbreviations are used:

BOLT- hex head bolt	RH - right hand	NF - national fine
LW - lock washer	LH - left hand	MA - mechanical assembly
PW- plain washer	NC - national	WA - welded assembly

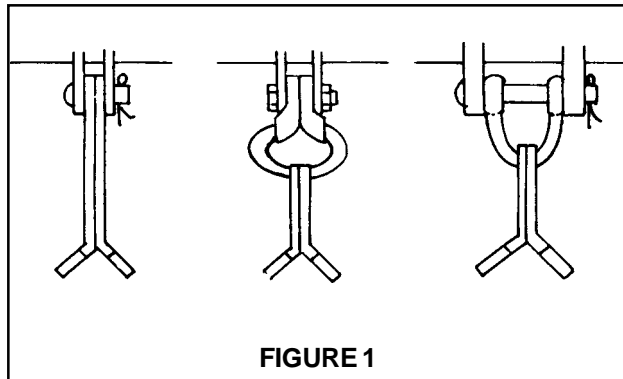
When installing fasteners, PW and LW (generally installed in that order) are usually on the side of the fixture or part being fastened that the hex lock nut is on. When only BOLT, LW and/or PW are required, they are generally installed in that order. Some parts do not require a PW or LW. Refer to illustrations for exceptions. Fasteners should be installed so they cause the least interference with other parts. When securing driveshaft pulley to hub, tighten fasteners to 9 lb-ft torque.

This manual makes reference to individual component parts, some of which may have been preassembled at the factory.

ASSEMBLY

B. KNIFE ASSEMBLY

Tip cutterhousing back (**FIGURE 10**) and place a block under roller to safely support unit. Remove shipping skids and drive pulley side belt guard fender. If necessary, install knives, as shown, one row at a time. **ALL KNIFE PINS ARE INSTALLED WITH THEIR HEADS FACING AWAY FROM THE CUTTERSHAFT PULLEY.** This will locate cotter pins where knives cannot reach them when flexing backward. The housing side sheet has a hole in it which allows knife pins to be inserted into end lugs from outside the cutterhousing. After the cotter pin is installed, bend extended prong at a 45 Degree angle with prong parallel to lug. **FIGURE 1.**



C. SKID SHOE ASSEMBLY

With the cutterhousing tipped up, attach housing shoes/wear plate. Carriage bolt attaches to front mounting hole; plow bolts attach to middle and rear holes. **FIGURE 2.**

- (2) 02886900 Carriage Bolt 1/2 x 1-1/2
- (4) 000700 Plow Bolt 1/2 x 1-1/2
- (6) 00001800 Locknut 1/2"

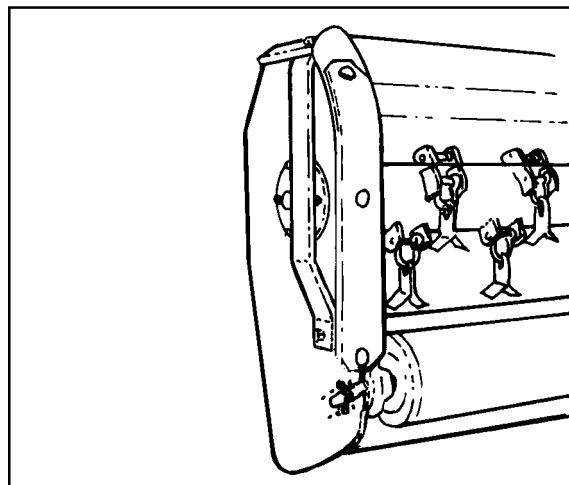


FIGURE 2

ASSEMBLY

D. A-FRAME ASSEMBLY

FIGURE 3

Mount right and left hand overarms to cutterhousing. Do not tighten bolts, at this time, because front bolts may have to be removed to facilitate installation of gearbox.
NOTE: Single strut attaches to front of mower; double struts attach to rear. Attach to outside of each mounting lug. Refer to Ill. 9.

- (6) 00008300 5/8 NC x 1-3/4 HHCS
- (6) 0005215/8 LW
- (6) 00695100 Locknut

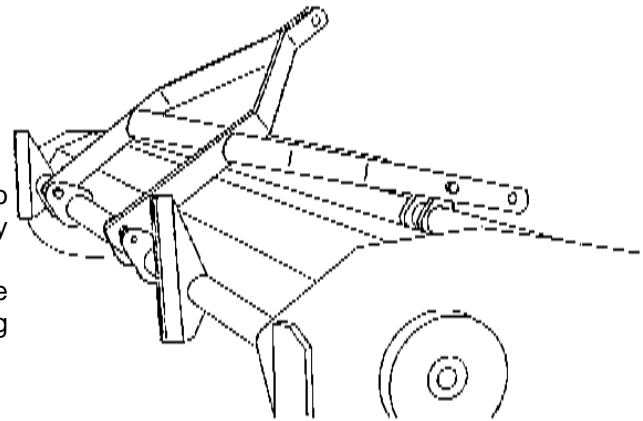


FIGURE 3

FIGURE 4

Place gearbox mounting frame between overarms and install lower fasteners. Position upper arms of mounting frame to the outside of overarm extensions. Place spacer between overarm extensions, then secure with 3/4 fasteners.

- (2) 00008300 5/8 NC x 1-3/4 HHCS
- (2) 000521 5/8 LW
- (2) 00695100 5/8 NC hex nut
- (1) 102667 spacer
- (1) 000874 3/4 NC x 3-3/4 HHCS
- (1) 00037200 3/4 NC hex nut

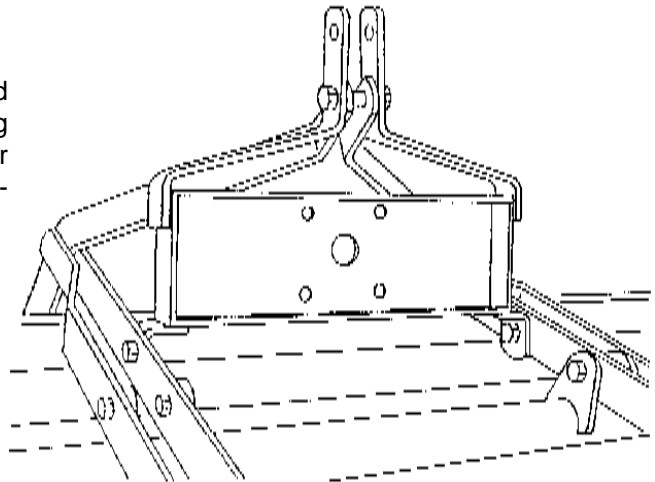


FIGURE 4

E. EXTENSION SHAFT

FIGURE 5

Mount drive bearing plate to inside of left sidesheet. The front is secured with 1" long HHCS and locknut. The rear is secured with 2-1/4" long HHCS, lockwasher and two nuts. Thread nut onto HHCS, place HHCS thru rear hole, then secure with locknut. Second nut must be flushed with end of HHCS. 2-1/4" HHCS is used as idler arm spring anchor.

- (1) 10190000 3/8 NC x 2-1/4 HHCS
- (1) 00011400 3/8 NC x 1" HHCS
- (1) 00013901 3/8 NC hex nut
- (2) 00752036 3/8 NC locknut

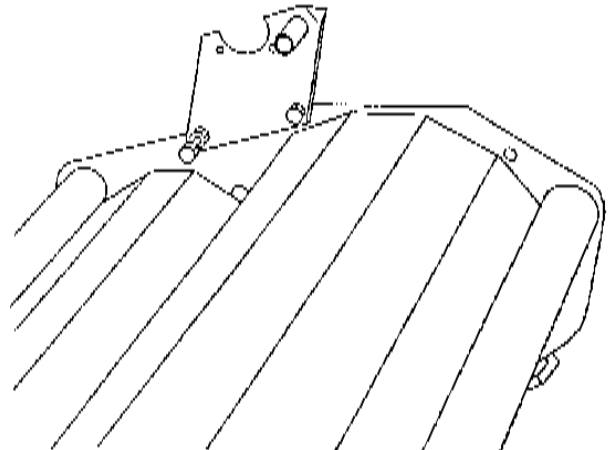


FIGURE 5

ASSEMBLY

FIGURE 6

1. Remove fasteners that secure bearing flange to end of gearbox extension shaft, then rotate bearing flange 180 degrees. This will position grease fitting on top when gearbox is installed. Reinstall fasteners at this time, into top holes only.

2. Position gearbox on gearbox mounting frame and install 1-1/4" HHCS into upper gearbox mounting holes. Secure gearbox and PTO shield mounting bracket at lower holes with the 1-1/2" HHCS.

- (2) 000510 5/8 NC x 1-1/4 HHCS
- (2) 000511 5.8 NC x 1-1/2 HHCS
- (4) 000521 5/8 LW

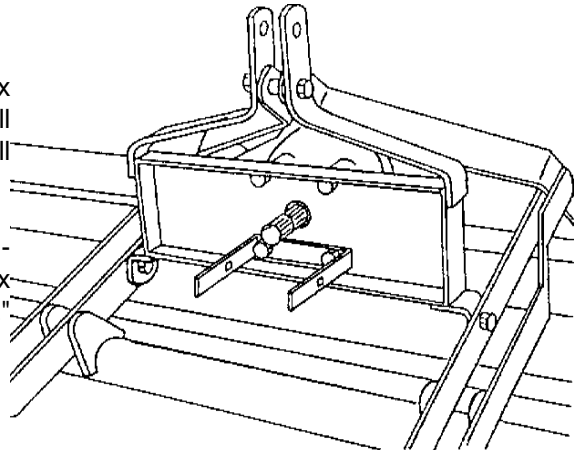


FIGURE 6

FIGURE 7

Check alignment at outboard bearing plate. Plate and bearing flange must be parallel for proper belt alignment. The bearing flange position can be changed by placing shims between gearbox and mounting frame. This will make removal of the gearbox fasteners necessary. The extension shaft should be centered in the outboard bearing plate cutout.

- (6) 000552 Shim

Secure bearing flange to outboard bearing plate with fasteners removed earlier.

TIGHTEN ALL BOLTS

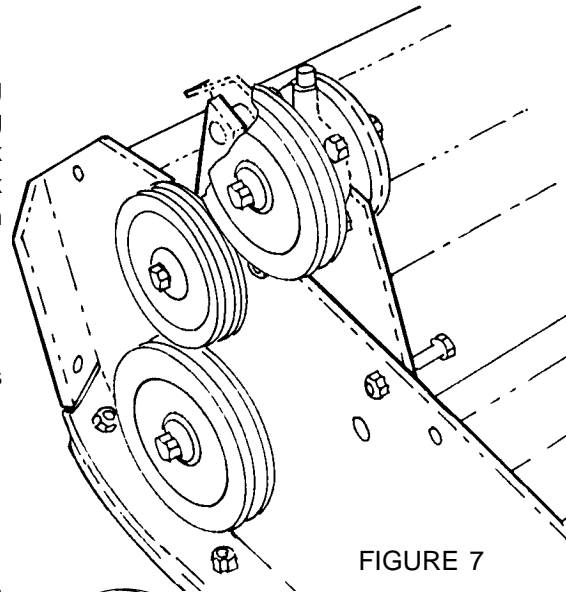


FIGURE 7

FIGURE 8

1. Insert idler arm assembly into idler arm sleeve on outboard bearing plate.

2. Remove fasteners and shaft protector from end of extension shaft. Discard shaft protector. Install key and drive shaft pulley onto extension shaft. Do not secure at this time.

- (1) 101782 key, 1-7/16 x 1/4 sq.

3. Align all three pulleys. Drive pulley position can be changed by placing shims between pulley and bearing. Idler pulley position can be changed by using spacers supplied with idler arm assembly. Secure drive shaft pulley with fasteners removed in Step 2, above. Secure idler arm assembly with cotter pin.

- (3) 102651 pulley shim
- (1) 000523 cotter pin, 3/16 x 1-1/2

4. Install drive belt and idler spring. Spring is attached between long bearing plate HHCS and idler arm spring arm hole.

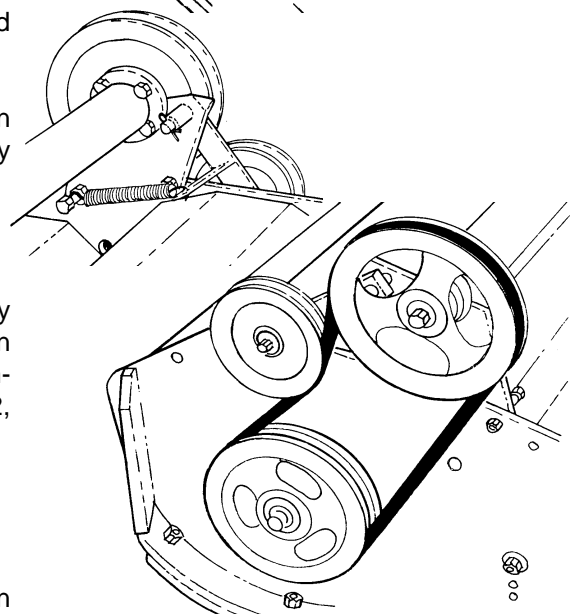


FIGURE 8

ASSEMBLY

F. BELT GUARD ASSEMBLY

FIGURE 9

1. Install belt guard. Fasteners are in the belt guard package.

- (3) 00750959 1/2 NC x 1" HHCS
- (3) 00001800 1/2 NC Locknut

2. Reinstall drive pulley side belt guard fender removed in Illustration 1.

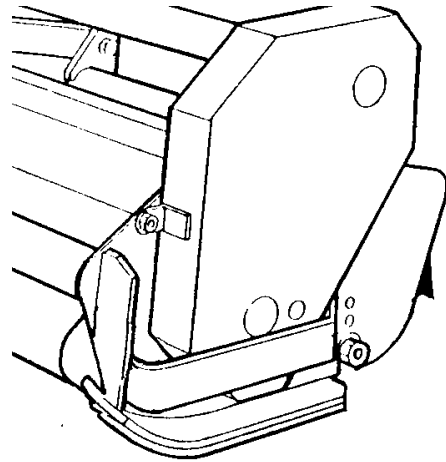


FIGURE 9

G. ATTACHMENT

FIGURE 10 - (Next Page)

1. If so equipped, attach caster wheel assemblies to caster mounting brackets. Position of caster socket arm will determine cutting height of mower. Raise roller to highest position.

2. Install hitch plates to bracket on the front of the HOLDER.

- (2) 00748786 3/4 NC x 5 HHCS
- (2) 00037200 3/4 NC hex nut

3. Attach mower to HOLDER. Lower arms use long hitch pins and click pins. Top link mount uses short hitch pin and quick cotter pin.

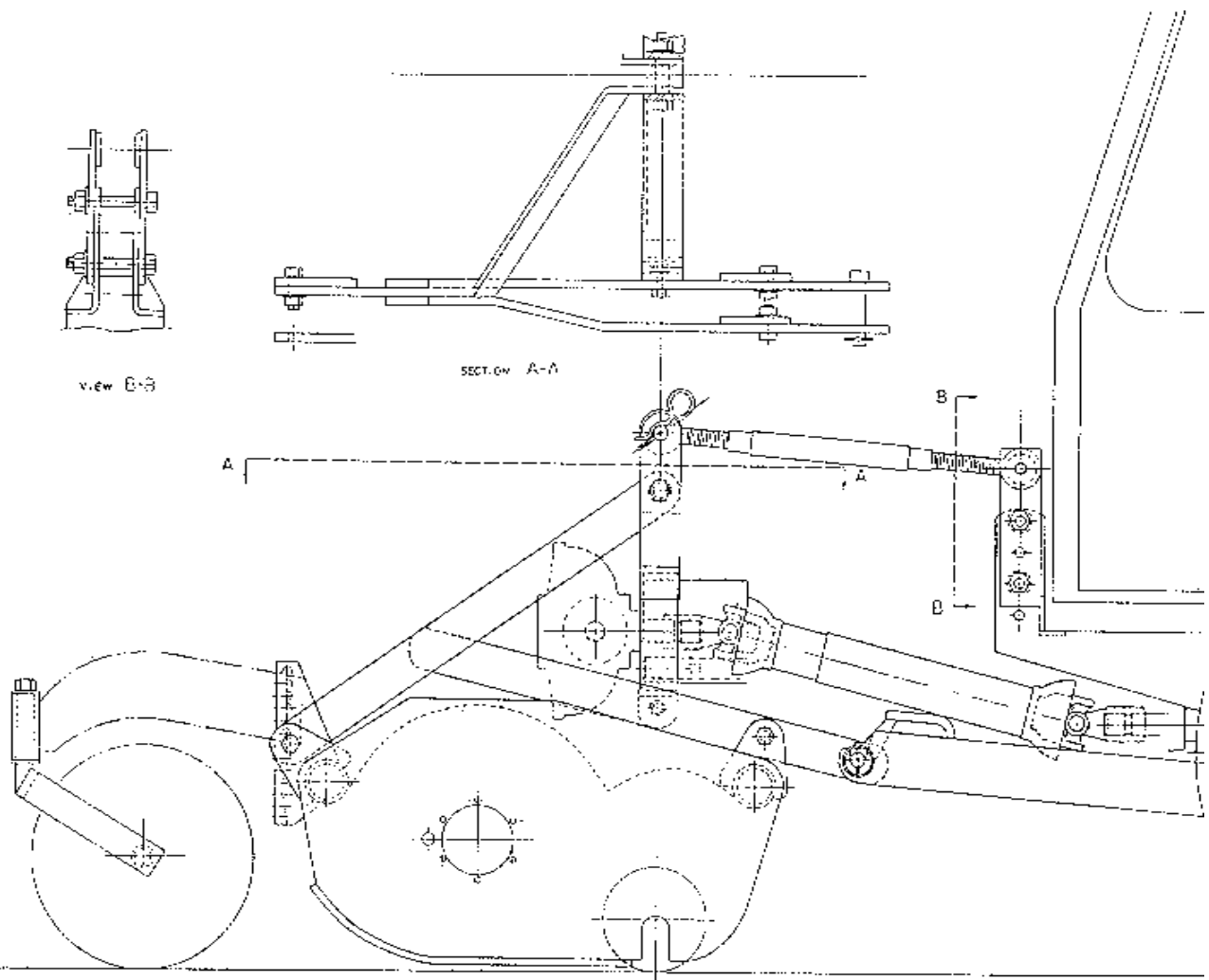
- (2) 100743 hitch pin, 4-1/4 x 7/8
- (2) 000333 click pin
- (1) 101779 hitch pin, 3-3/4 x 3/4
- (1) 102549 quick cotter pin

The top link must be adjusted so the cutter unit input shaft is parallel to the tractor drive shaft. This relationship provides for the optimum operation of the universal joints of the PTO shaft. Drive shafts that are not parallel will result in roughness and vibration due to the inherent characteristic of a universal joint that results in an error in the evenness of the output end of a universal jointed shaft. The top link must be adjusted to level the unit each time the cutting height is changed.

After the unit is leveled, separate the PTO shaft slip joint halves. Install the tube half (female) onto the tractor PTO drive shaft. Install the shaft half (male) onto the mower gearbox input shaft. While holding the halves side by side, raise and lower the mower to determine that there is no interference between halves when in the shortest position, and that there will be at least a five (5) inch overlap when in the longest position. It may be necessary to position the tractor and mower on opposite slopes of a depression to obtain the shortest position. It may be necessary to position the tractor and mower on opposite slopes of a ridge to obtain the longest position. Equally shorten the shaft half, and its shield, to eliminate interference, should it occur. If the five (5) inch overlap cannot be obtained, it may be necessary to order a longer shaft half.

Once it is determined that the shafts will cause no clearance problems, remove the halves and rejoin them. Install the PTO shaft between the tractor and the mower. After the PTO shaft is properly installed, attach PTO shield to the mounting bracket. Shield is secured with 3/8 NC x 3/4" HHCS and 3/8 LW (4 ea.).

ASSEMBLY



ASSEMBLY

FIGURE 10

MAINTENANCE SECTION

MAINTENANCE

A. DAILY CHECKS

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 pulleys 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. Maintain the level of this oil at the LOWER 1/8" pipe plug on the gearbox cover. **LUBRICATE MOWER BEFORE INITIAL USE. FIGURE 1.**

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

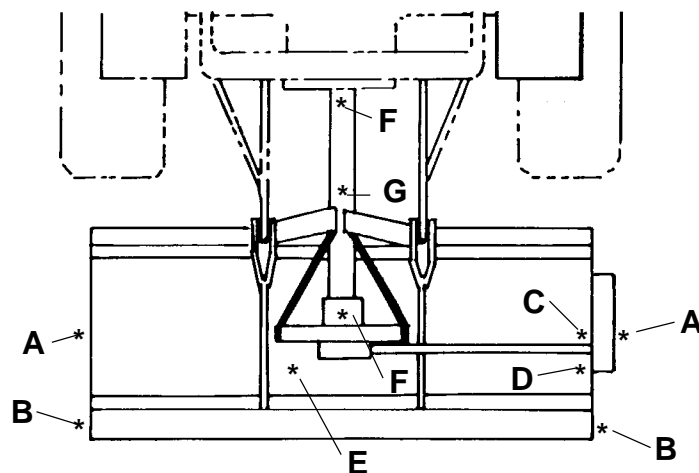
- a. Visually check the unit, and make certain all items are properly tightened.
- b. Check the cuttershaft to make certain it is fully knived. Replace any missing knives or cotter pins, then run the unit at full speed to check for vibrations. Do not operate the unit in an out-of-balance condition.

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



MAINTENANCE

FIGURE 1



LUBRICATE ALL POINTS EVERY 8 HOURS OF OPERATION

A	CUTTERSHAFT BEARINGS	E	BANJO COUPLING
B	ROLLER BEARING	F	DRIVELINE YOKE
C	REAR MOWER IDLER ARM	G	DRIVELINE SLIP
D	BANJO BEARING		

MAINTENANCE

A. GENERAL

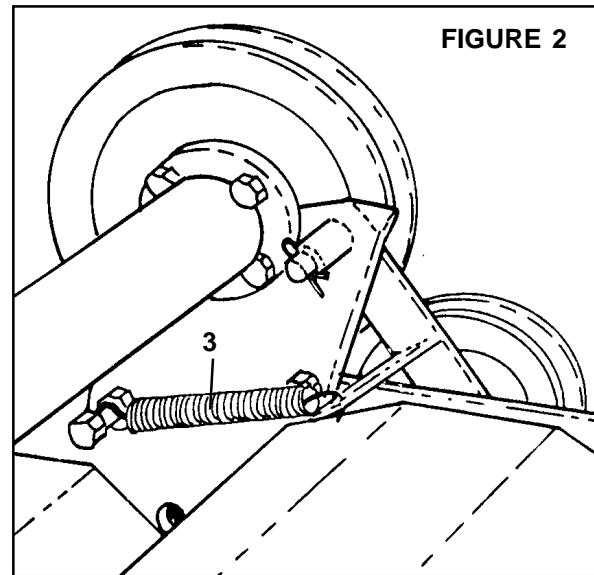
Mowing is accomplished by a series of knives which rotate at high speed on a shaft. The rotor shaft is driven by an extension shaft, from the gearbox, through a set of drive belts. Belt tension is maintained by a spring-loaded idler pulley.

The cutter unit is raised and lowered by using the tractor's three-point lift.

The cutter unit rides on a large roller assembly. The position of this roller is adjustable and will determine the cutting height of the knives.

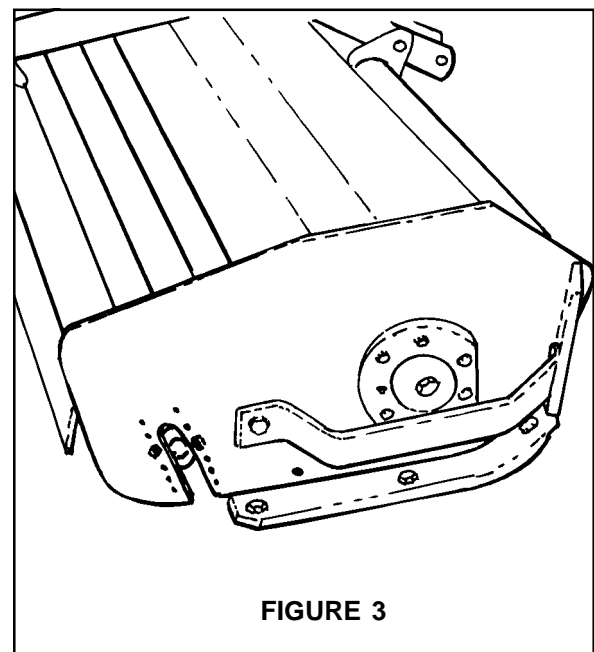
B. REPLACING CUTTER UNIT DRIVE BELT FIGURE 2.

1. Place unit on ground or support securely.
2. Remove belt guard.
3. Remove idler arm spring to release tension on idler arm..
4. Pivot idler arm up. Remove old belts and install new ones.
5. Reinstall idler arm spring and belt guard.



C. ADJUSTING CUTTING HEIGHT FIGURE 3.

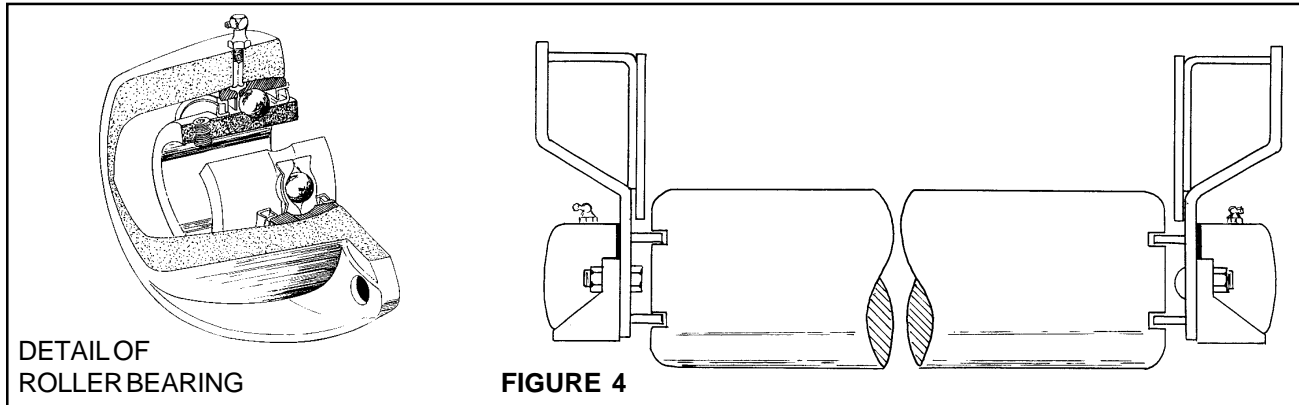
1. Lower cutter unit to ground and place tractor selector lever in "FLOAT" position.
2. Place lifting device (scissors jack, hydraulic jack) under center of cutter housing.
3. Remove hex nuts, washers, and carriage bolts from bracket at each end of roller. Make certain that roller bracket is free to move once the fasteners are removed. A stuck roller could drop suddenly and cause an injury.
4. Use lifting device to reposition cutter housing to desired cutting height. Align bracket holes with cutter-housing holes, then reinstall fasteners. Refer to cutting height decal on mower or page 5.
5. Lower cutter unit to ground; then remove lifting device.



MAINTENANCE

D. ROLLER BEARING REPLACEMENT

FIGURE 4



1. Remove roller and both bearing and bracket assemblies from mower. Lift the mower only high enough to remove the roller assembly.

CAUTION: Securely support mower while removing and installing roller assembly.



If installing a roller with preassembled bearing and bracket assemblies, remove the old roller, proceed to step 11.

2. Slide bearing and bracket assemblies off each end of roller.

If replacing with new bearing and bracket assemblies, proceed to step 9.

3. Remove roller bearing and housing assembly attaching hardware. Remove assembly from bracket. Inspect seal between assembly and bracket for brittleness, cracks, wear and tear. Replace if necessary.

If replacing with new roller bearing and housing assemblies, proceed to step 8.

4. Remove grease fitting from the top of bearing housing.

5. Remove bearing from housing.

6. Install new bearing into housing. Bearing must be installed with grease hole in bearing aligned with grease fitting hole in housing.

7. Reinstall grease fitting to housing. Grease fitting must be tight and seated in grease hole in bearing to prevent bearing from rotating in housing.

8. Attach roller bearing and housing assembly to bracket with seal between housing and bracket.

9. Slide bearing and bracket assemblies on each end of roller. There is a set screw in side of the bearing. This set screw must be lined up with the keyway in the end of roller in order to slide bearing and bracket assembly on to the roller.

10. Check bearing for proper installation in housing by gently rocking bearing and bracket assembly in end of roller. Play should be slight to none at all.

11. Install roller and bearing and bracket assemblies on mower.

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MAINTENANCE

E. CUTTERSHAFT BEARING REPLACEMENT

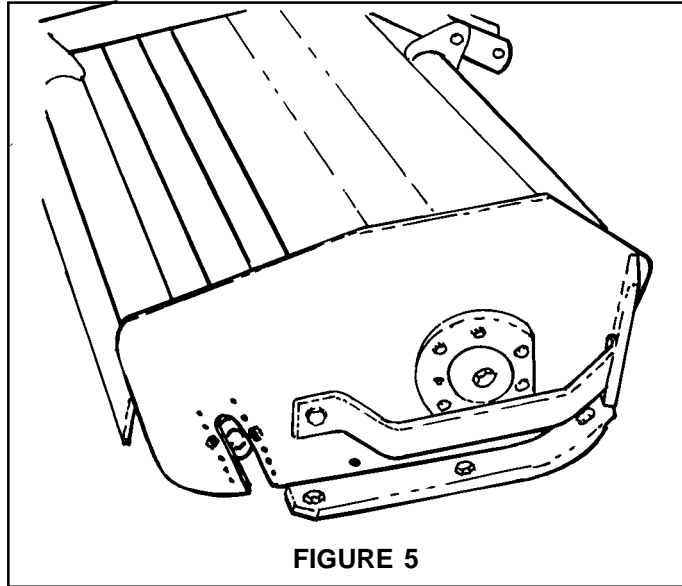


FIGURE 5

NON DRIVE SIDE BEARING. FIGURE 5

1. Lift cutter unit to maximum horizontal height; then, securely support ends of cutterhousing.
2. Remove enough knives to place a floor jack under center of cuttershaft.
3. Securely support cuttershaft.

NOTE: The cuttershaft must remain supported while changing bearings.

4. Remove non drive side fender.

5. Remove fasteners securing bearing and housing assembly to cutterhousing; then remove bearing and housing assembly.

NOTE: There are two tapped holes in the housing which can be used to pull bearing and housing assembly out by using special tool No. 701627.

6. Using a jack to align parts, install bearing and housing assembly to cutter unit and make certain that bearing setscrew is located in keyway on cuttershaft. Grease bearing and install cap over fitting.

If only the non drive side bearing and housing assembly is to be replaced, proceed as follows: Remove jack and check shaft rotation. Reinstall knives which were removed. Reinstall outboard fender. Remove supports. Lower unit to ground and test unit.

If the drive bearing is to be replaced, proceed to step 7.

MAINTENANCE

E. CUTTERSHAFT BEARING REPLACEMENT (cont'd)

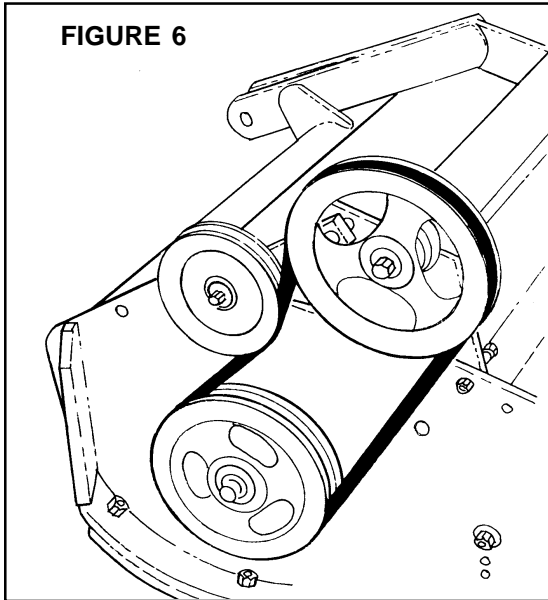


FIGURE 6

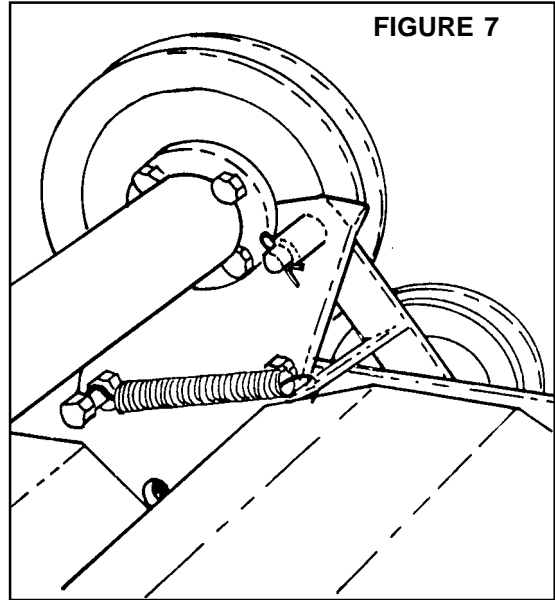


FIGURE 7

DRIVE BEARING. FIGURE 6 & 7.

7. Remove Belt Guard.
8. Remove spring from idler arm.
9. Remove fasteners that secure pulley to cuttershaft. Remove pulley and key.
10. Remove fasteners securing drive bearing and housing assembly to cutterhousing; then, remove bearing and housing assembly.

NOTE: There are two tapped holes in the housing which can be used to pull bearing and housing assembly out by using special tool No. 701627.

11. Using a jack to align parts, install drive bearing and housing assembly to cutter unit. Grease bearing and install cap over fitting.
12. Reinstall key and pulley. Secure with cuttershaft fasteners.
13. Remove jack and check shaft rotation. Reinstall knives which were removed.
14. Reinstall drive belt.
15. Reinstall idler arm spring.
16. Reinstall belt guard.
17. Remove supports, lower unit to ground and test unit.
Reinstall outboard fender, if not already installed.

F. CUTTERSHAFT REPLACEMENT

NOTE: It is recommended that cuttershaft bearing and housing assemblies be replaced when replacing cuttershaft.

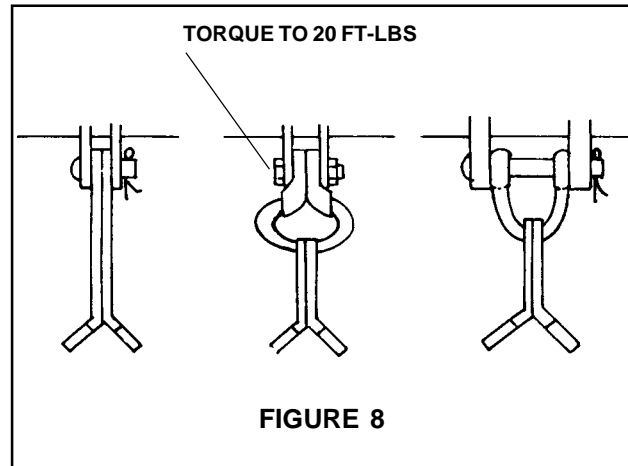
1. Place unit on the ground or securely support at a convenient height.
2. Remove cuttershaft bearing and housing assemblies as outlined above. After removing both assemblies, the cuttershaft can be removed and a new one installed. It may be necessary to remove two sets of knives nearest the drive end of cuttershaft.
3. Install new bearing and housing assemblies.

MAINTENANCE

Replacing Cutter Unit Knives

The cutter knives are attached to the cutter shaft with hardened pin and cotter pins. These pins are supplied with the knife kit. To remove existing knives, remove and discard these pins and install new knives using new pins.

FIGURE 8



IMPORTANT

ALAMO GENUINE FLAIL PARTS

ALAMO INDUSTRIAL Flail Mowers use dynamically balanced and matched system components for Cutter Shafts, Knives, Knife Hangers, Rollers, Drivetrain components, Bearings, Belts, and Pulleys. ALAMO INDUSTRIAL parts are made and tested to meet close-tolerance specifications of balance, quality, and consistency that assure long, trouble-free service.

The use of inferior "will fit" parts will void warranty for 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.



MAINTENANCE

PARTS SECTION

PARTS ORDERING GUIDE

The following instructions are offered to help eliminate needless delay and error in processing purchase orders for the equipment in this section.

1. The Parts Section is prepared in logical sequence and grouping of parts that belong to the basic machine featured in this manual. Part Numbers and Descriptions are given to help locate the parts and quantities required.
2. The Purchase Order must include the name and address of the person or organization ordering the parts, who should be charged, and if possible, the serial number of the machine for which the parts are ordered.
3. The Purchase Order must clearly list the quantity of each part, the complete and correct part number, and the basic name of the part.
4. The Manufacturer reserves the right to substitute parts where applicable.
5. Some parts are unlisted items which are special production items not normally stocked and are subject to special handling. Request a quotation for such parts before sending a Purchase Order.
6. The Manufacturer reserves the right to change prices without prior notice.

NOTE: *Please refer to The Safety Section in the front of this Manual for the proper Part Number when ordering Replacement Safety Decals.*

NOTE: *Please note that the appearance of some parts may vary from the art or photographs shown in the manual.*



For maximum safety and to guarantee optimum product reliability, always use genuine Alamo Parts. The use of inferior replacement parts may cause premature or catastrophic failure which could result in serious injury or death. Direct any questions regarding parts to:



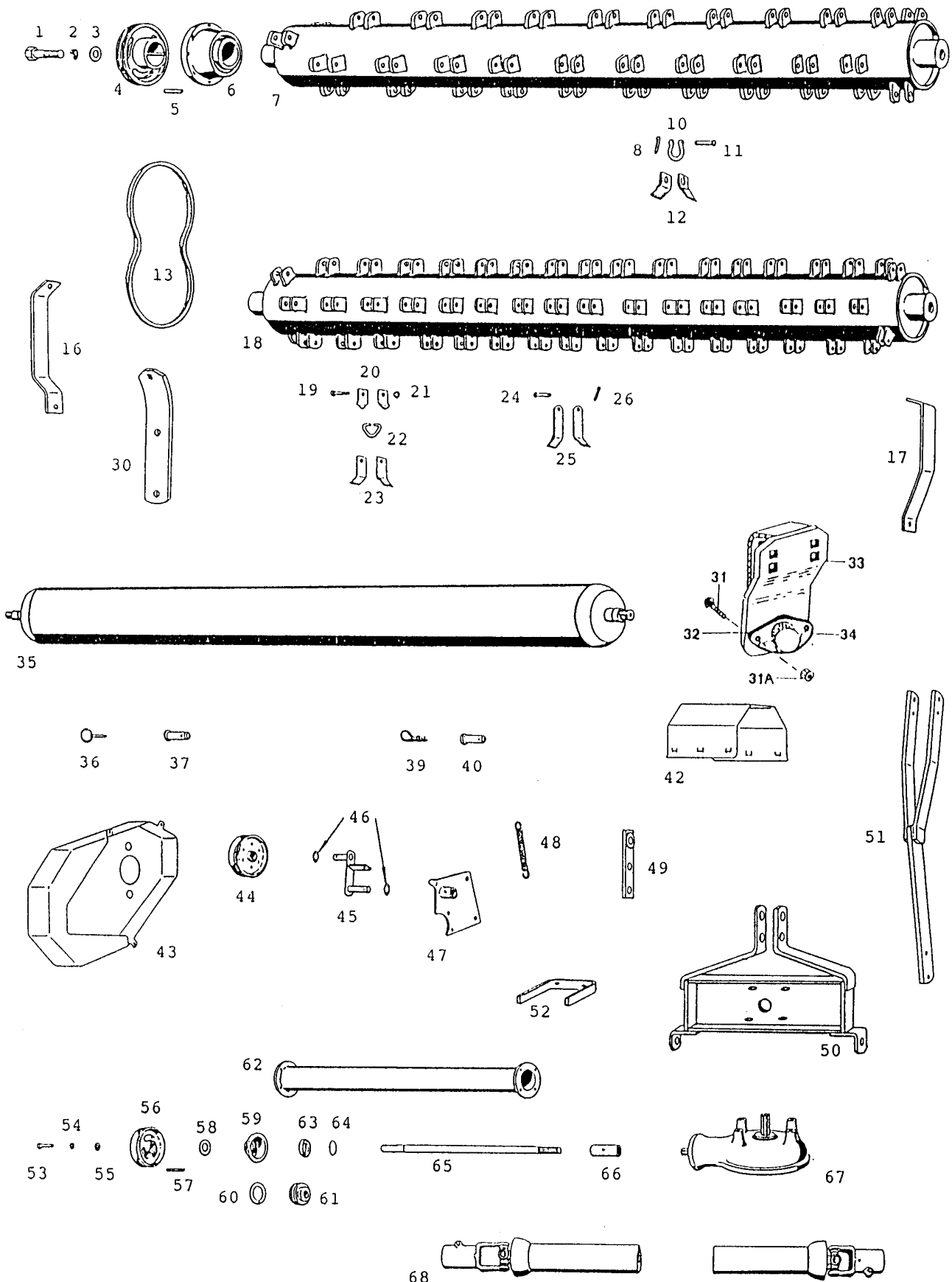
Alamo Industrial
1502 E. Walnut
Seguin, Texas 78155
830-372-3551

PARTS TABLE OF CONTENTS

Mower Assembly - Model 74, 88	5-4 thru 7
Gearbox Assembly - Reverse	5-8
Driveline Assembly	5-9
Optional Equipment, and Packages	5-10

PARTS

MODEL 74 & 88 MOWER ASSEMBLY



PARTS

MODEL 74 & 88 MOWER ASSEMBLY

ITEM	QUANTITY		PART NO.	DESCRIPTION
	74	88		
1	1	1	000407	Bolt
2	1	1	000521	Lockwasher
3	1	1	100720	Clamp Washer
4	1	1	102652	Cuttershaft Pulley, 8-3/4" O.D.
5	1	1	100768	Key
6	1	1	703695	Cuttershaft Bearing & Housing Assembly (Belt Drive Side)
@	1	1	002315	Bearing
@	1	1	002347	Pipe Nipple
@	1	1	002348	Coupling
@	1	1	00752176	Zerk
6A	1	1	703271	Cuttershaft Bearing & Housing Assembly (Opposite Side)
	@	@	703694	Bearing w/ Setscrew
	@	@	00752176	Grease Fitting
@	2	2	000206	Lubricap
+	12	12	000354	Bolt
+	12	12	00752036	Locknut
7	1	-	107124	Coarse Cut Cuttershaft
7	-	1	107125	Coarse Cut Cuttershaft
8	36	44	000026	Cotter Pin
10	36	44	100761	Ring
11	36	44	102670	Hardened Knife Pin
12	72	88	100759	Coarse Cut Knife (1-3/4 x 3-5/16)
-	1	-	700616	Coarse Cut Knife Pkg (Incl. 8, 10-12)
-	-	1	700592	Coarse Cut Knife Pkg (Incl. 8,10-12)
12A	72	88	02986276	Extreme Service Knife
-	1	-	02986277	Extreme Service Knife Pkg. (Includes 8,10,11,12A)
-	-	1	02986278	Extreme Service Knife Pkg. (Includes 8,10,11,12A)
13	1	1	100706	Drive Belt
16	1	1	103117	Belt Guard Fender, L.H.
17	1	1	103064	Fender, R.H.
+	2	2	00748823	Bolt
+	2	2	02030700	Bolt
+	2	2	00001800	Nut
18	1	-	107128	Fine Cut Cuttershaft
18	-	1	107129	Fine Cut Cuttershaft
19*	92	108	000032	Bolt
20*	184	216	102650	Ring Clip
21*	92	108	000210	Lock Nut
22*	92	108	101991	Ring
23*	184	216	101993	Ring Knife (1-1/4 x 3)
-	1	-	700801	Ring Knife Pkg (Incl. 19-23)
-	-	1	700803	Ring Knife Pkg (Incl. 19-23)
24	92	108	101034	Hardened Knife Pin
25	184	216	102086	Fine Cut Knife (1-1/4 x 5)
26	92	108	000026	Cotter Pin
-	1	-	700553	Fine Cut Knife Pkg (Incl. 24-26)
-	-	1	700496	Fine Cut Knife Pkg (Incl. 24-26)
30	2	2	103051	Shoe/Wear Plate
+	2	2	02886900	Carriage Bolt
+	4	4	000700	Plow Bolt
+	6	6	00001800	1/2 NC Hex Nut

MODEL 74 & 88 MOWER ASSEMBLY

PARTS

ITEM	QUANTITY		PART NO.	DESCRIPTION
	74	88		
31	4	4	000516	Carriage Bolt
31A	4	4	00001800	Locknut
32	2	2	002037	Seal
33	1	1	107182	Bracket L.H.
	1	1	107380	Bracket R.H.
+	4	4	02886900	Carriage Bolt
+	4	4	02979042	Locknut
34	2	2	703575	Roller Bearing & Housing Assy. w/grease fitting and setscrew (Keyed)
	2	2	703976	Roller Bearing and Housing Assy. w/grease fitting and setscrew (Hex)
@	1	1	703574	Bearing w/Setscrew
@	1	1	002039	Grease Fitting
35	1	-	107177	Roller
35	-	1	107178	Roller
36	2	2	000333	Click Pin
37	2	2	100743	Lower Hitch Pin
39	1	1	102549	Quick Cotter Pin
40	1	1	101779	Top Link Hitch Pin
42	1	1	702705	PTO Shield
@	4	4	00002000	Bolt
@	4	4	03101646	Lockwasher
43	1	1	700488	Belt Guard Pkg (Incl. fasteners)
+	3	3	000554	Bolt
+	3	3	000513	Nut
44	1	1	000547	Idler Pulley
45	1	1	100727	Idler Arm
46	4	4	101778	Pulley/Arm/Bearing Plate Spacer
+	1	1	000001	Bolt
+	1	1	000018	Lockwasher
+	1	1	000017	Washer
+	1	1	000523	Cotter Pin
-	1	1	700494	Idler Assembly (Incl. 44 - 46 plus fasteners)
47	1	1	701905	Outboard Bearing Plate (w/zerk fitting)
@	1	1	000206	Lubricap
+	1	1	10190000	Bolt
+	1	1	000645	Bolt
+	1	1	00013901	Locknut
48	1	1	000539	Spring
49	2	2	105226	Hitch Plate
+	2	2	000764	Bolt
+	2	2	000168	Lockwasher
+	2	2	000169	Nut
50	1	1	105230	Gearbox Mounting Frame
51	1	1	105236	Overarm, R.H.
51	1	1	105231	Overarm, L.H.
+	8	8	00008300	Bolt
+	8	8	00695100	Locknut
+	1	1	000874	Bolt
+	1	1	102667	"A" Frame Spacer
+	1	1	00037200	Locknut

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Parts Section 5-6

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MODEL 74 & 88 MOWER ASSEMBLY

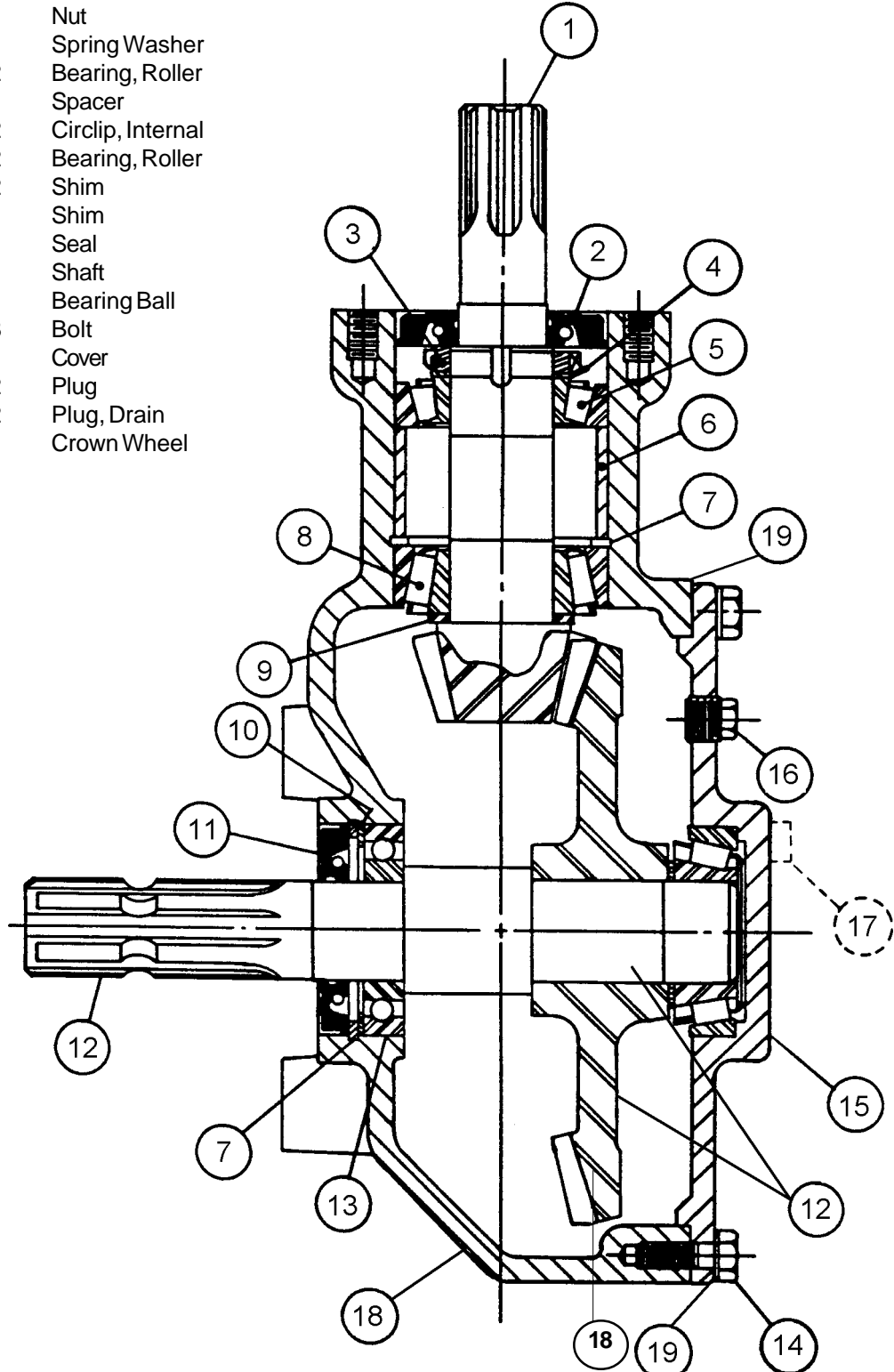
ITEM	QUANTITY		PART NO.	DESCRIPTION
	74	88		
52	1	1	105597	PTO Shield Mounting Bracket
53	1	1	000511	Bolt
54	1	1	000521	Lockwasher
55	1	1	101780	Heavy PW (1/2 hole)
56	1	1	102501	Drive Shaft Pulley, 8-1/2" O.D.
57	1	1	101782	Key
58	3	3	102651	Pulley Shim (as needed)
59	1	1	700739	Bearing Housing (w/zerk fitting)
60	2	2	000402	Bearing Retaining Ring
61	1	1	000398	Outboard Bearing 1-1/8 Bore
-	1	1	700491	Bearing & Housing Assembly (Incl. 59-61)
@	1	1	000206	Lubricap
+	4	4	000012	Bolt
+	4	4	000019	Lockwasher
+	4	4	000014	Nut
62	1	-	100776	Extension Shaft Housing
62	-	1	100721	Extension Shaft Housing
63	1	1	100010	Bevel Ring
64	1	1	100057	Snap Ring
65	1	-	100778	Extension Shaft, 29-15/32"
65	-	1	100724	Extension Shaft, 36-1/32"
66	1	1	700171	Spline Coupling Assembly (w/zerk fitting)
+	4	4	001727	Counterbore Screw
+	4	4	03101646	Lockwasher
67	1	1	702673	Reverse Gearbox
-	1	-	700523	Gearbox/Extension Shaft Assembly
-	-	1	700489	Gearbox/Extension Shaft Assembly
The above GEARBOX/EXTENSION SHAFT ASSEMBLIES include REF. #'s 53-55, 59-67				
+	2	2	000511	Bolt
+	2	2	000510	Bolt
+	4	4	000521	Lockwasher
+	6	6	000552	Gearbox Shim, .007" thick (as needed)
@	1	-	100783	Rubber Rear Trash Deflector
@	-	1	100755	Rubber Rear Trash Deflector
+	11	12	000860	Bolt
+	11	12	00024100	PW (5/16 hole)
+	11	12	02959924	Locknut
68	1	1	701408	Driveline Tube Half w/Shield
	1	1	701409	Driveline Tube half w/Shield
CUTTERHOUSINGS				
@	1	-	107175	Cutterhousing w/Caster Brackets
@	-	1	107174	Cutterhousing w/Caster Brackets

PARTS

REVERSE GEARBOX P/N 702673

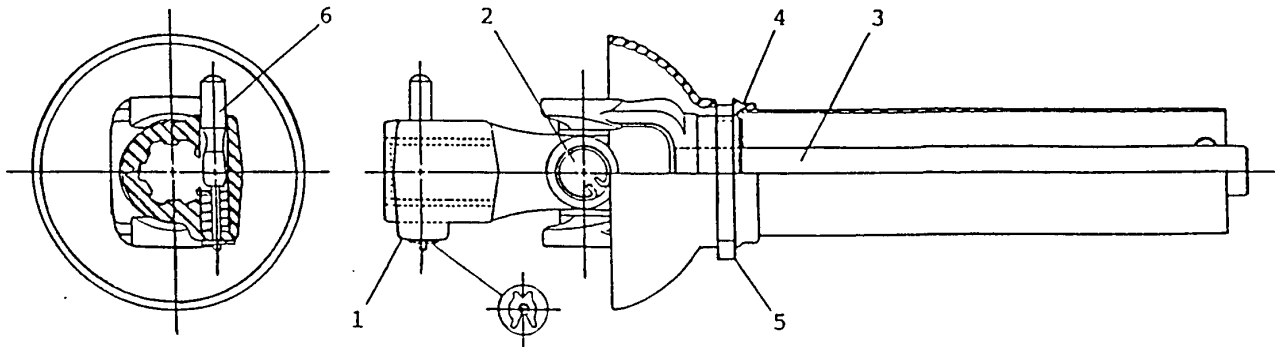
ITEM PART NO. QTY DESCRIPTION

1	001718	1	Pinion
2	001719	1	Seal
3	001717	1	Nut
4	001720	1	Spring Washer
5	00754757	2	Bearing, Roller
6	001716	1	Spacer
7	00754752	2	Circlip, Internal
8	001722	2	Bearing, Roller
9	00753222	2	Shim
10	00754761	1	Shim
11	001724	1	Seal
12	001725	1	Shaft
13	00754459	1	Bearing Ball
14	001708	8	Bolt
15	001710	1	Cover
16	00752931	2	Plug
17	000055	2	Plug, Drain
18	001714	1	Crown Wheel



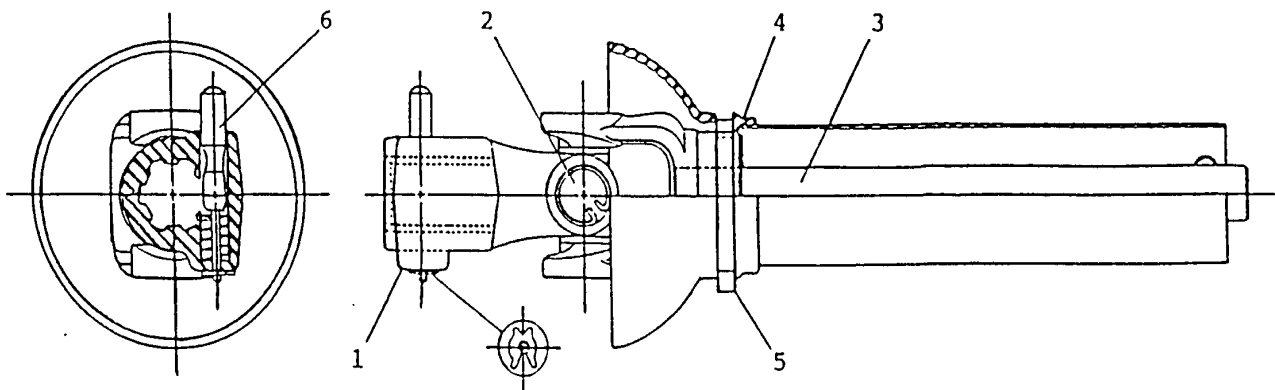
PARTS

DRIVELINE ASSEMBLY



ITEM PART NO. QTY DESCRIPTION

-	701408	1	Tube Half, Complete
1	000299	1	Yoke & Pin Assembly
2	000300	1	Cross & Bearing kit
3	000706	1	Tube & Yoke Weldment
4	701494	1	Shield Assembly
5	001119	2	Nylon Retaining Clip
6	001118	1	Nylon Support Bearing
7	001468	ref	Pin Kit(incl. Lock Pin, Spring & Retainer)



ITEM PART NO. QTY DESCRIPTION

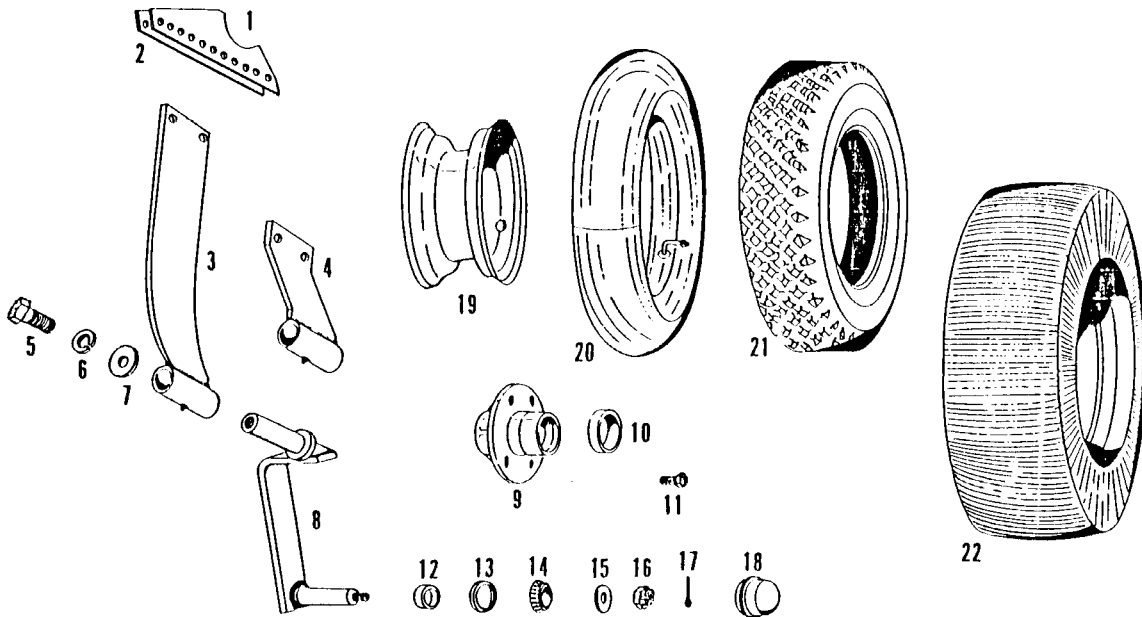
-	701409	1	Shaft Half, Complete
1	000299	1	Yoke & Pin Assembly
2	000300	1	Cross & Bearing kit
3	000677	1	Shaft & Yoke Weldment
4	701495	1	Shield Assembly
5	001119	2	Nylon Retaining Clip
6	001468	ref	Pin Kit(incl. Lock Pin, Spring & Retainer)

PARTS

OPTIONAL EQUIPMENT, AND PACKAGES

702321	Knife Grinder (Sharpens all ALAMO GROUP Flail Mower Knives)
700413	Knife Straightener Set (Two 102092 Slotted Bars)
107176	62" Rubber Covered Roller
107177	74" Rubber Covered Roller
107178	88" Rubber Covered Roller
703262	62" Rubber Covered Roller Assembly
703261	74" Rubber Covered Roller Assembly
703260	88" Rubber Covered Roller Assembly
703602	62" Roller Scraper Kit
703603	74" Roller Scraper Kit
703604	88" Roller Scraper Kit

(All above Caster Wheel Packages include Fasteners)



PARTS

ITEM	PART NO.	QTY	DESCRIPTION	ITEM	PART NO.	QTY	DESCRIPTION
1	100752	2	Right Caster Bracket	13	000201	2	Seal
2	100753	2	Left Caster Bracket	14	000225	4	Bearing Cone
3	702698	2	360 Deg. Caster Socket Assembly w/Grease Fitting	15	101780	2	Washer
5	00749171	2	Bolt	16	000122	2	Nut
6	00019600	2	Lockwasher	17	000123	2	Cotter Pin
7	103767	2	Washer	18	000247	2	Hub Cap
8	100141	2	Caster Half Fork		000620	2	Hub Complete (incl. 9, 12-14, 18)
9	000621	2	Hub w/Bearing Cups		702272	2	Lower Fork Assembly (Incl. 8, 9, 12-18)
10	000226	4	Bearing Cups	19	000619	2	Wheel (tube type tire)
11	000622	8	Hub Bolt w/item 19	20	000623	2	Tube
	00749171	8	Hub Bolt	21	000618	2	Tire (tube type)
	00019600	8	Lockwasher		000617	2	Wheel, Tire and Tube Assembly (incl. 19-21)
12	000573	2	Spacer	22	700280	2	Laminated Tire/Wheel Assembly



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.

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- 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.**

