

ROTARY CUTTERS

MODEL: TC96-700MC/TC96-800MC/TC96-1000MC

OPERATOR'S MANUAL AND PARTS BOOK

OPERATOR'S MANUAL PART# 62-99

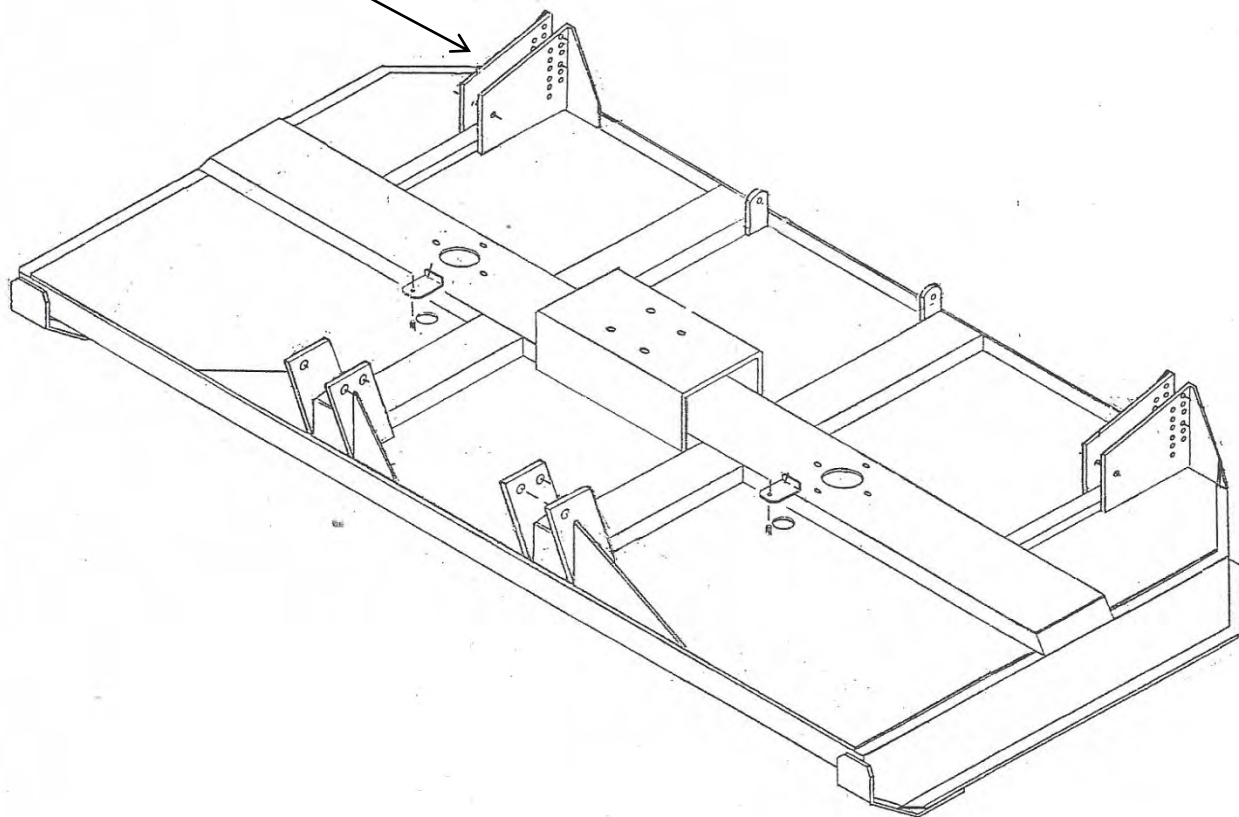


Tebben Enterprises - 10009 Highway 7 SE - Clara City, Minnesota 56222

Phone: (320)847-2200

SERIAL NUMBER LOCATION

48-105



Model Number _____

Serial Number _____

Always give your dealer the serial number of your Tebben Rotary Cutter when ordering parts or requesting service or other information.

The serial number plate is located where indicated. Please mark in the space provided for easy reference.

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INTRODUCTION

Congratulations on your choice of a Tebben Rotary Cutter to complement your mowing operation. This equipment has been designed and manufactured to meet the needs of a discriminating buyer for the efficient cutting of grass.

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



This manual covers the Tebben Rotary Cutter Models TC96-700MC, TC96-800MC, & TC96-1000MC. Differences are covered and explained where appropriate. Use the Table of Contents as a guide to locate required information.

Keep this manual handy for frequent reference and to pass on to new operator or owners. Call your Tebben dealer or distributor if you need assistance, information or additional copies of the manuals.

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

SAFETY

SAFETY ALERT SYMBOL

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

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



Why is **SAFETY** important to you?

3 BIG REASONS

Accidents Disable and Kill
Accidents Cost
Accidents Can Be Avoided

SIGNAL WORDS:

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

DANGER - An immediate and specific hazard which WILL result in severe personal injury or death if the proper precautions are not taken.

WARNING - A specific hazard or unsafe practice which COULD result in severe personal injury or death if proper precautions are not taken.

CAUTION - Unsafe practices which COULD result in personal injury if proper practices are not taken, or as a reminder of good safety practices.

SAFETY

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

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

- Rotary Cutter owners must give operating instructions to operators or employees before allowing them to operate the Cutter, and at least annually thereafter per OSHA (Occupational Safety and Health Administration) regulation 1928.57.
- The most important safety device on this equipment is a **SAFE** operator. It is the operator's responsibility to read and understand **ALL** Safety and Operating instructions in the manual and to follow these. All accidents can be avoided.
- In addition to the design and configuration of equipment, hazard control and accident prevention are dependant upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment. Train all new personnel and review instructions frequently with existing workers. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- Think **SAFETY!** Work **SAFELY!**

GENERAL SAFETY

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



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



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



4. Wear appropriate protective gear. This list includes but is not limited to:
 - A hard hat
 - Protective shoes with slip resistant soles
 - Protective goggles, glasses or face shield
 - Heavy gloves
 - Protective Clothing



5. Install and secure all guards before starting.

6. Do not allow riders.



7. Wear Suitable ear protection for prolonged exposure to excessive noise.
8. Place all controls in neutral, stop tractor engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
9. Clear the area of people, especially small children, before starting the unit.
10. Review safety related items annually with all personnel who will be operating or maintaining the Cutter.

OPERATING SAFETY

1. Read and understand the Operators Manual and all safety signs before operating, servicing, adjusting, repairing or unplugging.
2. **DO NOT** allow riders.
3. Install and secure all guards and shields before starting or operating.
4. Keep hands, feet, hair and clothing away from moving parts.
5. Place all controls in neutral, stop tractor engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
6. Place all tractor and machine controls in neutral before starting.
7. **NEVER** start operate machine unless sitting on tractor seat.
8. Clear the area of bystanders, especially small children, before starting.
9. Stay away from PTO shaft and machine when engaging PTO. Keep others away.
10. Clean reflectors, SMV and lights before transporting.
11. Use hazard flashers on tractor when transporting.
12. **DO NOT** put hands or feet under machine while tractor engine or machine is running.
13. **DO NOT** Operate Cutter in the raised position.
14. Objects can be thrown out from under machine with sufficient force to severely injure people. Stay away from machine when it is running. Keep others away.
15. Chain guard deflectors are recommended during operation.
16. Always know what you are cutting. Never operate Cutter in an area that has hidden obstacles. Remove sticks, stones, wire or other objects from working area before starting.
17. Review safety instructions with all operators annually.

MAINTENANCE SAFETY

1. Follow **ALL** the operating, maintenance and safety information in the manual.
2. Support the machine with blocks or safety stands when working beneath it.
3. Follow good shop practices
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.
4. Use only tools, jacks and hoists of sufficient capacity for the job.
5. **NEVER** work on blades or under the machine unless the tractor engine is off and driveline is disconnected.
6. Wear heavy canvas or leather gloves when handling sharp blades.
7. Make sure all guards are in place and properly secured when maintenance work is completed.
8. **NEVER** wear ill-fitting, baggy or frayed clothing when working around or on and of the drive system components.
9. Keep hands, feet, hair and clothing away from moving or rotating parts.
10. Clear the area of bystanders, especially small children, when carrying out any maintenance and repairs or making any adjustments.



TRANSPORT SAFETY

1. Make sure you are in compliance with all local regulations regarding transporting equipment on public roads and highways.
2. Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.
3. **DO NOT** allow anyone to ride on the CUTTER or tractor during transport.
4. **DO NOT** exceed 20 mph (32 kph). Reduce speed on rough roads and surfaces.
5. Use retainers on the mounting pins when attaching.
6. **ALWAYS** use hazard flashers on the tractor when transporting unless prohibited by law.

STORAGE SAFETY

1. Store the unit in an area away from human activity.
2. **DO NOT** permit children to play on or around the stored machine.
3. Store the unit in a dry, level area. Support the frame with planks if required.

SAFETY DECALS

1. Keep safety decals and sign clean and legible at all times.
2. Replace safety decals and signs that are missing or have become illegible.
3. Replaced parts that displayed a safety sign should also display the current sign.
4. Safety decals or signs are available from your dealer parts department or the manufacturer.

How to Install Safety Decals:

- Be sure that the installation area is clean and dry.
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of decal backing paper.

SIGN-OFF FORM

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

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

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

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

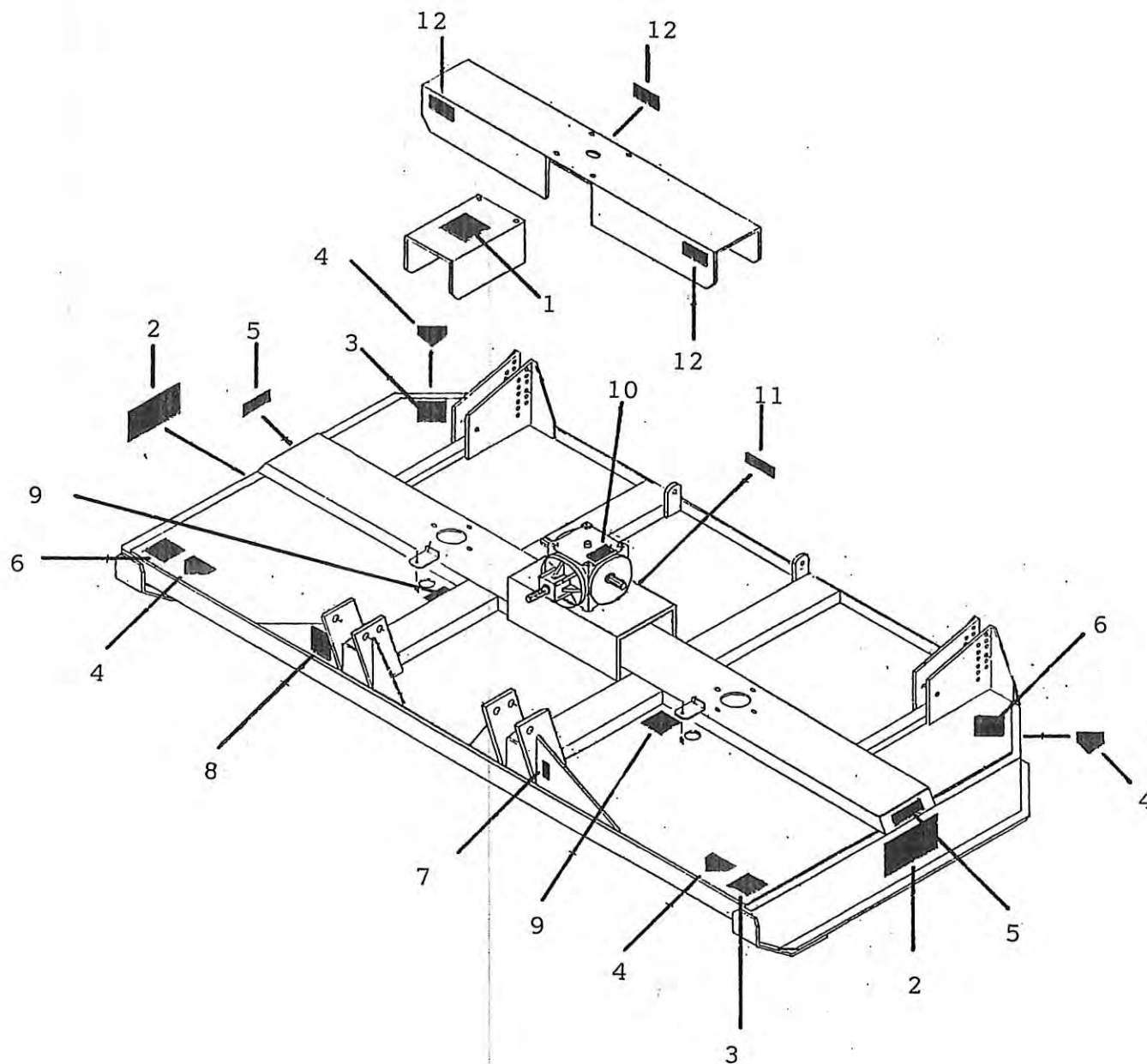
SIGN-OFF FORM

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SAFETY DECAL LOCATIONS

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

- Think SAFETY! Work SAFELY!



How to Install Decals:

- Be sure that the installation area is clean and dry.
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of decal backing paper.

ITEM NO. 3 PART NO. 60-96



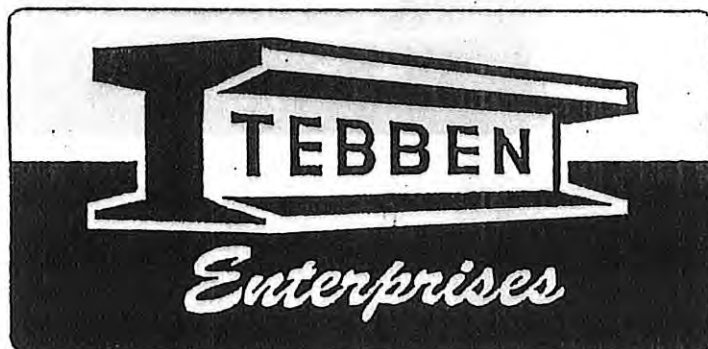
ITEM NO. 1 PART NO. 60-97



ITEM NO. 4 PART NO. 48-106



ITEM NO. 2 PART NO. 49-802



ITEM NO. 5 PART NO. 2-25



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

ITEM NO. 6
PART NO. 60-98



ITEM NO. 9
PART NO. 60-95



ITEM NO. 10
PART NO. 60-93



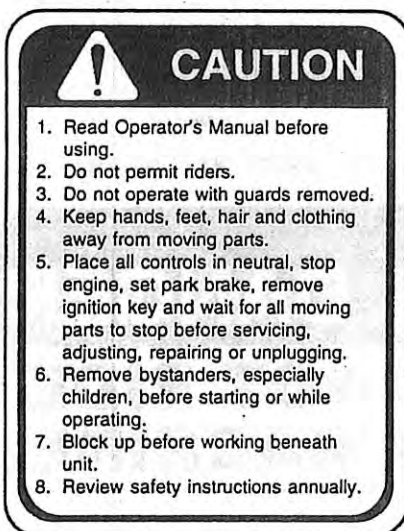
ITEM NO. 7 PART NO. 48-104



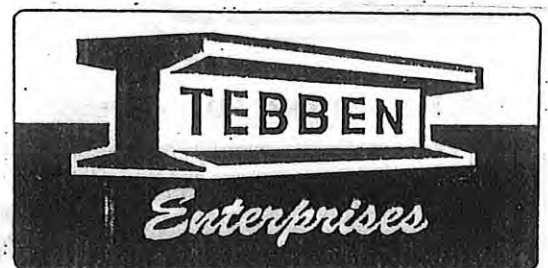
ITEM NO. 11 PART NO. 48-105



ITEM NO. 8 PART NO. 60-99



ITEM NO. 12 PART NO. TM76-11



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

OPERATION



OPERATING SAFETY

- | | |
|---|--|
| 1. Read and understand the Operator's Manual and all safety signs before operating, servicing, adjusting, repairing or unplugging. | 10. Clean reflectors, SMV and lights before transporting. |
| 2. Do not allow riders. | 11. Use hazard flashers on tractor when transporting. |
| 3. Install and secure all guards and shields before starting or operating. | 12. Do not put hands and feet under machine while tractor engine or machine is running. |
| 4. Keep hands, feet, hair and clothing away from moving parts. | 13. Do not operate Cutter in raised position. |
| 5. Place all controls in neutral, stop tractor engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing, or unplugging. | 14. Objects can be thrown out from under machine with sufficient force to severely injure people. Stay away from machine when it is running. Keep others away. |
| 6. Place all tractor and machine controls in neutral before starting. | 15. Operate only with chain guard deflectors installed. |
| 7. Never start or operate machine unless sitting on tractor seat. | 16. Always know what you are cutting. Never operate cutter in an area that has hidden obstacles. Remove sticks, stones, wire or other objects from working area before starting. |
| 8. Clear the area of bystanders, especially small children, before starting. | 17. Review safety instructions with all operators annually. |
| 9. Stay away from PTO shaft and machine when engaging PTO. Keep others away. | |

TO THE NEW OPERATOR OR OWNER

The Tebben Implement Rotary Cutter is designed to cut a variety of grasses and other ground covers. Rotational power to the blades is provided by the tractor PTO. Be familiar with the machine before starting.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependant upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment. It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine. Follow all safety instructions exactly. Safety is everyones business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the worksite. Untrained operators are not qualified to operate the machine. Many features incorporated into this machine are the result of suggestions made by customers ilke you. Read this manual carefully to learn how to operate the machine safely and how to set it to provide maximum field efficiency. By following the operating instructions in conjunction with a good maintenance program, your Cutter will provide many years of trouble-free service.

MACHINE BREAK-IN

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

- A. After operating for 1/2 hour or after completing 2 acres:
 - 1. Check all nuts, bolts and other fasteners. Tighten to their specified torque levels.
 - 2. Tighten blade bolts to their specified torque levels.
 - 3. Check that the blades are in good condition and swing freely.
 - 4. Check the oil level in the gear box. Add as required.
 - 5. Lubricate all grease points.
- B. After operating for 5 hours and 10 hours:
 - 1. Repeat items 1 through 5 of section A.
 - 2. Then go to the regular service schedule.

PRE-OPERATION CHECKLIST

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

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

- 1. Lubricate the machine per the schedule outlined in Section 5 Service and Maintenance.
- 2. Use only an Agricultural loader of horsepower within the limits of the machine specified in Table 1.
- 3. Check that the machine is properly attached to the loader. Be sure loader pins are locked!
- 4. Check the oil level in the gear box. Add as required.
- 5. Check the blades. Be sure they are not damaged or broken and swing freely on their mount. Repair or replace as required.
- 6. Check the blade bolts. Tighten to their specified torque.
- 7. Check for entangled material in all rotating parts. Remove this material.
- 8. Install and secure all guards, doors and covers before starting.

EQUIPMENT MATCHING

To insure the safe and reliable operation of the Rotary Cutter, it is necessary to use a tractor with the correct specifications. Use the following list as a guide in selecting a tractor to use on the machine.

1. Horsepower:

Minimum Tractor Horsepower is 40 HP.

Be sure your tractor is equipped with front weights.

2. Tire Configuration:

It is recommended that tires be set so the machine always covers the tracks. In this way, the machine will always cut where the tractor is driven.

3. 3 Point Hitch:

The Rotary Cutter is equipped with a category I or II 2 point hitch. Be sure the tractor 3 point hitch is in category I-II configuration.

4. Load Sensing Hydraulics:

Many newer tractors are equipped with "Load Sensing" hydraulics. It is the responsibility of the operator to set the tractor hydraulic system to provide "float" on the 3 point hitch. Refer to the tractor manual for details.

The float feature will allow the machine to follow the ground contours during operation.

5. PTO Shaft:

The tractor must have a 1-3/8 inch 6 spline 540 RPM PTO shaft to fit the driveline shaft supplied with the machine. Do not use shaft adapters or operate at any other speed.

It is not recommended that a tractor with variable speed PTO's be used on the Rotary Cutter. Operating at speeds faster than 540 RPM will overload the cutting components and lead to early failures.

ATTACHING/UNHOOKING

The Cutter should always be located on a level, dry area that is free of debris and other foreign objects. When attaching the machine to a tractor, follow this procedure.

1. Clear the area of bystanders, especially small children.
2. Be sure the tractor 3 point hitch is in the Category 1 configuration and the lift arms are in the non-sway configuration (See tractor manual).
3. Be sure that weights are added on the front of the tractor.
4. Make sure there is enough room and clearance to safely back up to the machine.
5. Attach the PTO driveline to the Cutter if it was removed for storage (See Assembly).
6. While backing up, align the lift arm balls with the mounting pins on the Cutter.

NOTE

It may be necessary to add weight to the 3 point hitch to lower the lift arms.

7. Stop tractor, set park brake, remove ignition key and wait for all moving parts to stop before dismounting.
8. Align the left lower link arm with the mounting pin.
9. Slide the ball over the pin and install the retainer.

10. Use the screw jack on the right lift arm to align the ball with the pin.
11. Slide the ball over the mounting pin and install the retainer.
12. Level the frame and lift arms using the screw jack.
13. Remove retainer and pin from the mast.
14. Align top link using the turnbuckle.
15. Insert pin and install retainer.
16. Set the mast using the turnbuckle to place the mounting pin in the center of its slot.
17. Attach the PTO driveline:
 - a. Check that the driveline telescopes easily and that the shield rotates freely.

IMPORTANT

Be sure that the driveline does not bottom out when going through its working angles

- b. Attach the driveline to the tractor by retracting the locking pin, slide the yoke over the shaft and push on the yoke until the lock pin clicks into position. Pull on the yoke to be sure it is locked in position.
18. Use the 3 point hitch to raise the machine.
19. Reverse the above procedure when unhooking from the tractor.

FIELD OPERATION



OPERATING SAFETY

1. Read and understand the Operator's Manual and all safety signs before operating, servicing, adjusting, repairing or unplugging.
2. Do not allow riders.
3. Install and secure all guards and shields before starting or operating.
4. Keep hands, feet, hair and clothing away from moving parts.
5. Place all controls in neutral, stop loader engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
6. Place all loader and machine controls in neutral before starting.
7. Never start or operate machine unless sitting on loader seat.
8. Clear the area of bystanders, especially small children, before starting.
10. Clean reflectors, SMV and lights before transporting.
11. Use hazard flashers on loader when transporting.
12. Do not put hands or feet under machine while loader engine or machine is running.
13. Do not operate Cutter in the raised position.
14. Objects can be thrown out from under machine with sufficient force to severely injure people. Stay away from machine when it is running. Keep others away.
15. Operate only with chain guard deflectors installed.
16. Always know what you are cutting. Never operate cutter in an area that has hidden obstacles. Remove sticks, stones, wire or other objects from working area before starting.
17. Review safety instructions with all operators annually.

Rotary Cutters are designed with the inherent flexibility of operating well in almost any kind of grass and terrain conditions. However the operator has the responsibility of being familiar with all operating and safety procedures and following them.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment. Each operator should review this section of the manual at the start of the season and as often as required to be familiar with

the machine. When using, follow this procedure:

1. Review and follow the Pre-Operation Checklist.
2. Attach the loader to the machine.
3. Before going to the cutting area review transporting.
4. Pull into the field and stop in a level area.
5. Lower into working position.

7. Align the unit with the working area.
8. Starting machine:
 - a. Run the engine at low idle.
 - b. Slowly bring the engine to the rated speed. Never exceed rated speed.
 - c. Lower the machine to the ground and proceed down the field.

9. Stopping machine:
 - a. Slowly decrease engine speed to low idle.



WARNING

Never operate Cutter in the raised position.



CAUTION

Place all controls in neutral, lower machine, stop engine, set park brake, remove ignition key and wait for all moving parts to stop before dismounting.

10. Ground speed:

Travel speed can vary between 3 and 8 mph (5 and 13 kph) depending on the grass and terrain conditions. It is the responsibility of the operator to note the condition of the job being done and set the speed to obtain a quality cutting job and maintain control of the machine.

The speed can be increased if a good job is being done.

Decrease speed if you are producing a ragged cut or leaving patches uncut.

11. Operating hints:

- a. Although it is best to cut when it is dry, the cutter works well in wet conditions as well. However, the operator will have to travel slower to do the same quality cutting. It will also be necessary to clean the machine more frequently to prevent caking and clogging of the blade area.
- b. The cutter should always be operated at the rate speed of 540 RPM. The cutting action is generated by the speed of the blade tip. When the speed drops below a certain rate (slowing of the input speed or RPM), the blades start to tear the material rather than cut it and will give a "ragged" looking cut.
- c. Forward travel speeds can range from 3 to 8 MPH, (5 to 13 km/h) or more depending on the type of terrain, grass or crop cover length, moisture level and power available. It is the operator's responsibility to determine and operate the machine at a safe speed at all times.
- d. If the crop or grass is tall, cut it twice to obtain the best results. This allows the unit to cut less material on each pass.
- e. When cutting a new area for the first time, always set the mower to cut high to clear unknown obstructions. If none are found, the cutter can be run lower for the second pass.
- f. Never cut grass shorter than recommended for your weather conditions. Short grass is less able to withstand hot and dry conditions. It is better for it to be cut more often at a longer length than to cut it.
- g. The blades will need sharpening when you see that the grass has not been cut evenly or it looks like the grass has been ripped off.

- h. The dished shape of the rotating plate under the deck acts as a "stump jumper". The concave shape allows the machine to go over stumps, rocks and other obstacles while operating.
- i. Always reduce ground speed when cutting around obstructions or in close quarters.
- j. The cutter should always be operated with its trailing wheel riding on the ground and not normally lifted for turns or corners unless the ground is very rough or rutted. If lifted, it should be dropped back on the ground as soon as the maneuvering or rough terrain is past.
- k. The cutter has two blades under its frame that are turning at a high rate of speed. With this speed, the blades can pick up objects on the ground and discharge them out from under the frame. It is extremely important that the operator be aware that objects can be discharged in this way and never point the discharge areas toward people, animals or property. These discharged objects are propelled at high rate of speed and are moving fast enough to cause serious injury to people, animals and damage to property. It is better to stop cutting when there are bystanders, especially children, than to take the chance of injury.



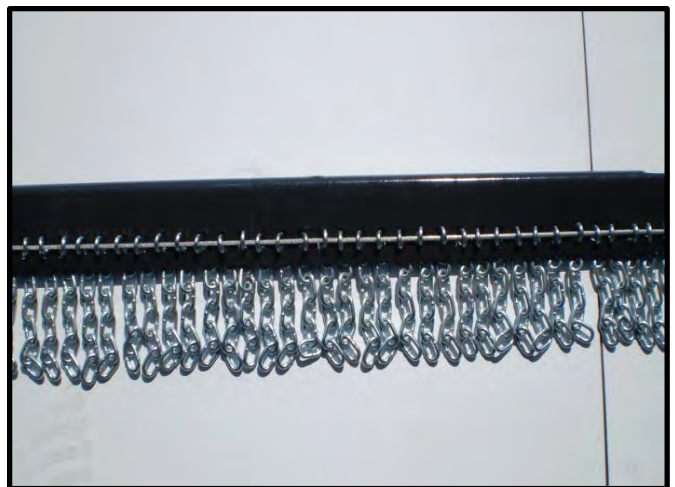
ROTATING BLADE



WARNING

The rotating blades can pick up objects and expel them at a high rate of speed. These projectiles can be a hazard to people and property. Always keep deflectors in place. Never operate cutter when there are bystanders, especially children around. Use extra care when operating in populated or congested areas.

If people or children approach the working area, stop machine immediately. Do not restart until the working area is cleared.



CHAIN GUARD DEFLECTORS

- l. The manufacturer recommends only operating with chain guard deflectors. These deflectors will reduce the amount of debris or number of objects expelled from under the machine.

TRANSPORTING



TRANSPORT SAFETY

1. Make sure you are in compliance with all local regulations regarding transporting equipment on public roads and highways.
2. Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.
3. Do not allow anyone to ride on the Cutter or skid loader during transport.
4. Do not exceed 20 mph (32 kph). Reduce speed on rough roads and surfaces.
5. Always use hazard flashers on the loader when transporting unless prohibited by law.

When transporting the machine, review and follow these instructions:

1. Be sure all bystanders are clear of the machine.
2. Be sure that the machine is securely attached to the loader and all pins are in locked position.
3. Clean the SMV sign, lights and reflectors and be sure they are working.
4. Be sure you are in compliance with all applicable lighting and marking regulations when transporting. Check with your local authorities.
5. Be sure your machine can clearly be seen by overtaking and oncoming traffic.
6. Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder if permitted by law.
7. Do not allow riders.

9. Always use the hazard flashers on the tractor unless prohibited by law.
10. Use pilot vehicles front and rear when transporting during times of limited visibility.

STORAGE



STORAGE SAFETY

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

11. Store the machine in an area away from human activity.
12. Do not allow children to play on or around the stored machine.

After the season's use, the machine should be thoroughly inspected and prepared for storage. Repair or replace any worn or damaged components to prevent any unnecessary down time at the start of next season. To ensure a long, trouble free life, this procedure should be followed when preparing the unit for storage:

1. Clear the area of bystanders, especially small children.
2. Thoroughly wash the machine using a pressure washer to remove all dirt, mud, debris and residue.
3. Inspect the blades and rotor for damage or entangled material. Repair or replace damaged parts. Remove all entangled material.
4. Lubricate all grease fittings. Make sure that all grease cavities have been filled with grease to remove any water residue from the washing.
5. Touch up all paint nicks and scratches to prevent rusting.
6. Move to storage area.
7. Select an area that is dry, level and free of debris.
8. Unhook from loader.
9. If the machine cannot be placed inside, cover with waterproof tarpaulin and tie securely in place.

SERVICE AND MAINTENANCE



MAINTENANCE SAFETY

1. Follow ALL the operating, maintenance and safety information in the manual.
2. Support the machine with blocks or safety stands when working beneath it.
3. Follow good shop practices
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.
4. Use only tools, jacks and hoists of sufficient capacity for the job.
5. Never work on blades or under the machine unless the tractor engine is off and driveline is disconnected.
6. Wear heavy canvas or leather gloves when handling sharp blades.
7. Make sure all guards are in place and properly secured when maintenance work is completed.
8. Never wear ill-fitting, baggy or frayed clothing when working around or on any of the drive system components.
9. Keep hands, feet, hair and clothing away from moving or rotating parts.
10. Clear the area of bystanders, especially small children, when carrying out any maintenance and repairs or making any adjustments.

FLUIDS AND LUBRICANTS

1. Grease:
Use an SAE multi-purpose high temperature grease with extreme pressure (EP) performance. Also acceptable is an SAE multi-purpose lithium base grease.
2. **Gear Box Oil**
Use 80W-90 gear lube of equivalent for all operating conditions.
3. Storing lubricants
Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

GREASING

Use the Maintenance Checklist provided to keep a record of all scheduled maintenance.

1. Use a hand-held grease gun for all greasing.
2. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
3. Replace and repair broken fittings immediately.
4. If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace any fitting if necessary.

SERVICING INTERVALS

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

8 Hours or Daily

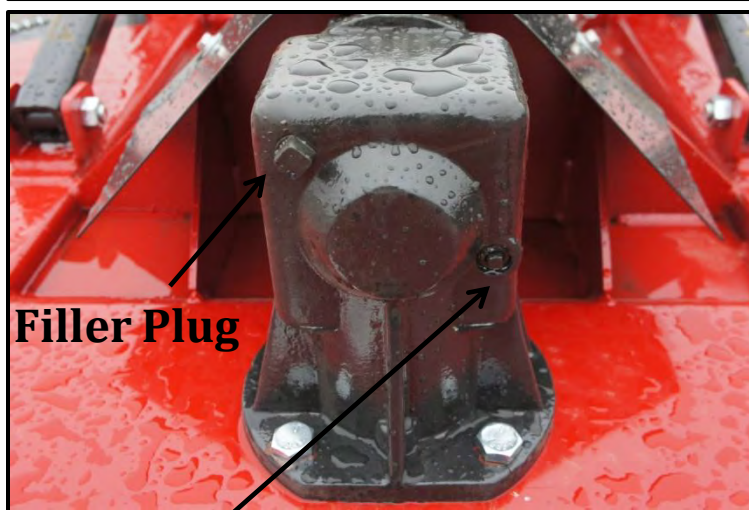
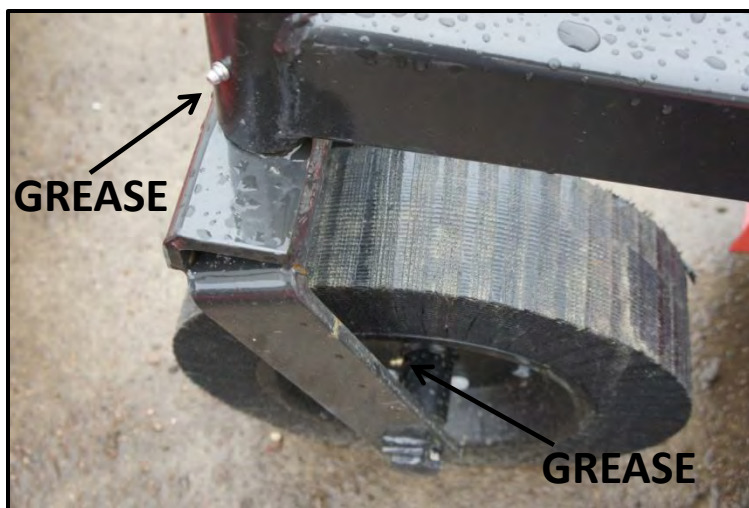
1. Lubricate castor shaft (1 location)
2. Lubricate castor wheel (1 Location)

40 Hours or Weekly

1. Check gearbox oil level. Add as required.
2. Check and clean if needed hydraulic quick coupler ends.
3. Check for hydraulic leaks and repair if leaking.

Annually

1. Wash machine.
2. Inspect unit for any broken or damaged parts and replace if necessary.



IMPORTANT: When Oil Reaches This Point The Gearbox Is At The Correct Oil Level For Operating!

SERVICE RECORD

ACTION CODE: X CHECK CL CLEAN L LUBRICATE

HOURS SERVICED BY																			
MAINTENANCE																			
8 Hours or Daily																			
L Castor Shaft & Wheel																			
40 Hours or Weekly																			
X Gear Box Oil Level																			
Annually																			
CL Machine																			

BLADE REPLACEMENT

A blade may become bent, chipped or broken when using and have to be replaced.

When replacing a blade, follow this procedure:

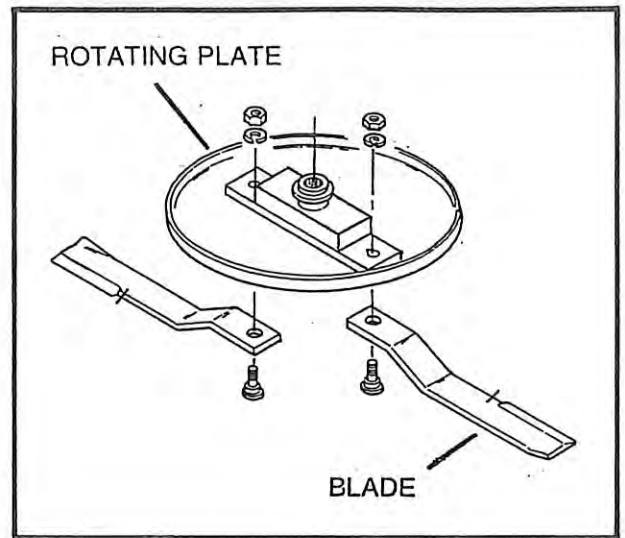
1. Clear the area of bystanders, especially small children.
2. Raise the machine above the ground to provide access to the blades.
3. Stop engine, set park brake, remove ignition key and wait for all moving parts to stop before dismounting.
4. Support the machine with large blocks or safety stands.
5. Remove the nut through the access cover.
6. Push or tap the blade pin down.
7. Remove the old blade and replace with a new one.
8. Tap or drive the blade bolt back into position.
9. Tighten the mounting bolt to its specified torque.
10. The blades and stump jumper assembly are matched at the factory to minimize vibration. In most cases, both blades should be replaced if one requires changing to keep the assembly in balance. This is particularly true if the remaining blade is badly worn.
11. Repeat with other blade.
12. Swing the access cover back over the hole and tighten the nut.



WARNING

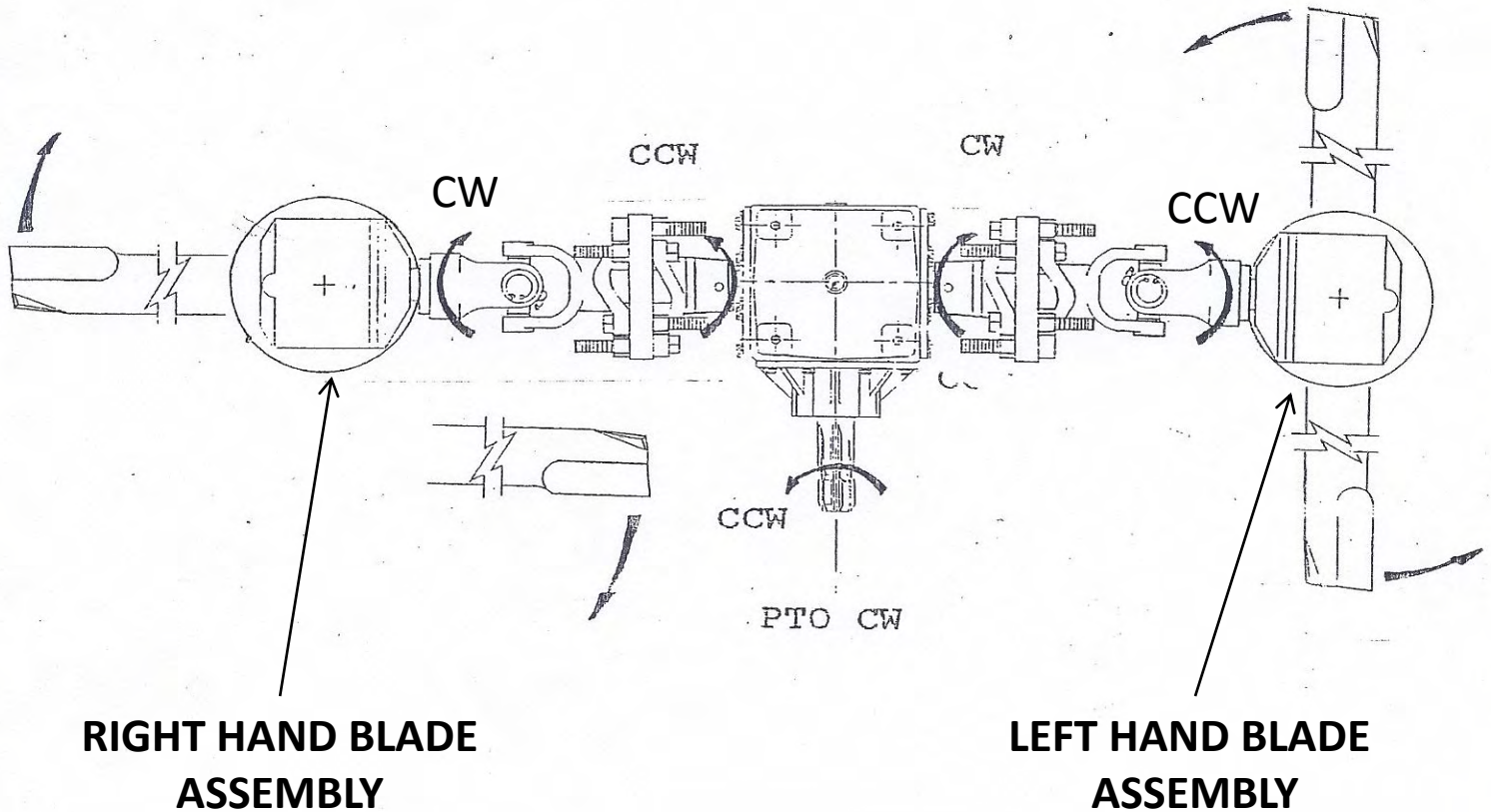
Do not operate the machine with the access cover open.

13. Remove the blocks or safety stands from under the frame.



BLADE LOCATION

Rear of Mower



NOTE: LOOKING FROM REAR OF UNIT!



The left and right hand blade assemblies are mounted perpendicular to one another so that blades clear each other during operation.

CW = CLOCK WISE ROTATION

CCW = COUNTER CLOCKWISE ROTATION

SLIP CLUTCH MAINTENANCE

Proper clutch operation requires that the friction plates be set at the required pressure and the material be clean. To insure these requirements, follow this procedure:

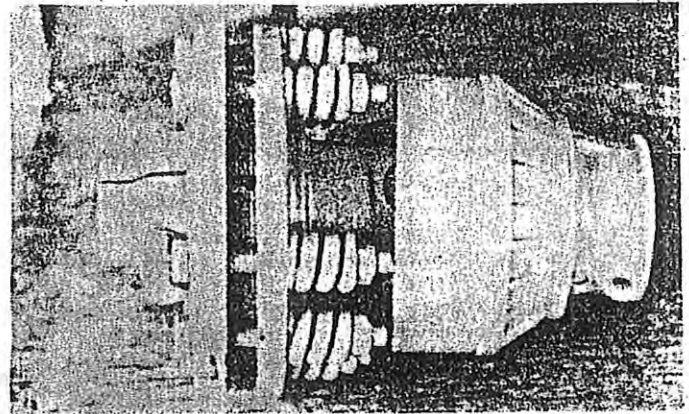
1. Before first use or after a long storage, loosen set screw on pressure nut.
2. Back off pressure nut to free clutch plates.
3. Tighten pressure nut until the clutch plates are snug. Then tighten pressure nut another 1/4 turn.



WARNING

Machine is shown with guard lifted for illustrative purposes only. Do not operate machine with guard lifted.

4. Run the driveline at low idle to slip the clutch until it starts to smoke. This will remove the dirt, corrosion and surface gloss from the clutch plate faces.
5. Tighten the pressure nut another 1/2 turn to set the clutch plate pressure.
6. Tighten the set screw in the pressure nut to lock it in place.
7. Normally the clutch will slip at a 20% higher torque after the "run in" than before.
8. Check the temperature of the clutch after running for 20 minutes and every 8 hours after that. If the clutch is hot to the touch or smokes, reset the pressure nut or the clutch plates will burn up and fail. Tighten the pressure nut in 1/4 turn increments and try during operation. Readjust again as required.
9. The clutch should be set so it does not slip during normal operation. It should slip when the unit is overloaded from heavy cutting or when striking an obstruction. If it is set for too high a torque to slip, components will fail.



Slip Clutch



WARNING

**STOP CUTTER BEFORE ANY
PTO OR CLUTCH ADJUSTMENTS.**

DRIVELINE MAINTENANCE

The PTO driveline is designed to telescope to allow for dimensional changes as the machine goes through its operating range. A tubular guard encloses the driving components and is designed to turn relative to the driving components. The driveline should telescope easily and the guard turn freely on the shaft at all times. Annual disassembly, cleaning and lubrication is recommended to insure that all components function as intended. To maintain the driveline, follow this procedure:

1. Remove the driveline from the machine.
2. Pull driveline apart.
3. Use a screwdriver to pry the tabs out of the sleeves on each end. There are 2 tabs per guard.
4. Pull the shaft out of the plastic tubular guard.
5. Use a solvent to clean the male and female portions of the telescoping ends.
6. Apply a light coat of grease to each end.
7. Use a solvent to wash the grooves on each end where the tabs are located. Clean each tab also.
8. Apply a light coat of grease to each groove.
9. Insert the shaft into its respective guard and align the slots with the groove.
10. Insert the tabs through the slots and seat in the groove.
11. Check that each guard turns freely on the shaft.
12. Assemble the driveline.
13. Check that the driveline telescopes easily.
14. Replace any components that are damaged or worn.
15. Install the driveline on the machine.

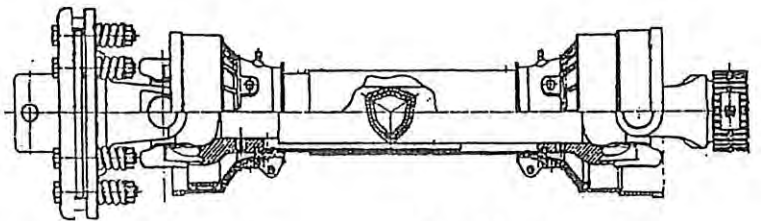
GEARBOX MAINTENANCE

The heavy duty gearbox used on the Cutter will give many years of trouble-free service with minimal maintenance requirements. Maintain the gearbox by following this procedure:

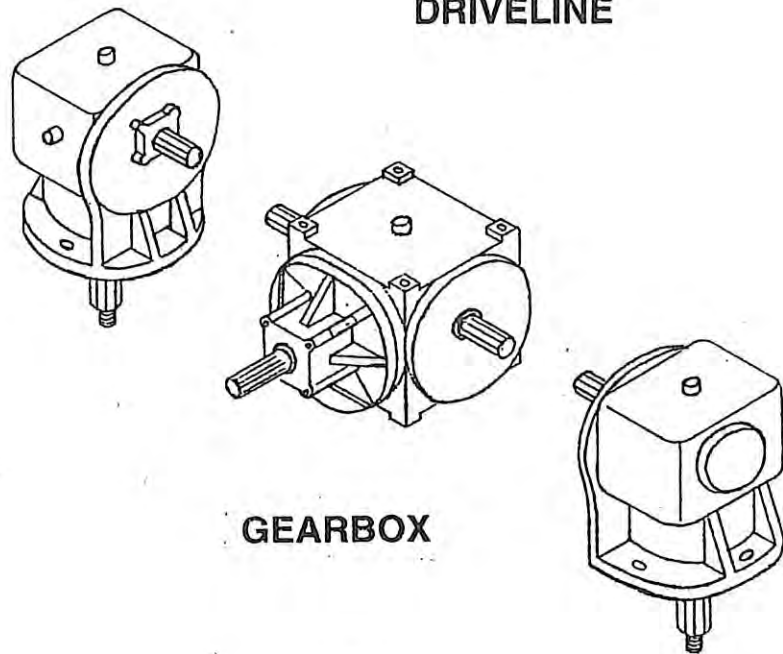
1. Oil level:
 - a. Remove the level plug from the front of the gearbox.
 - b. The oil should just fill a few of the threads.
 - c. Add through the fill plug if required.

IMPORTANT

Check the oil level only when the unit is cold and the machine is on the level.



DRIVELINE



GEARBOX

TROUBLE SHOOTING

The Tebben Rotary Cutter uses a pair of free-swinging blades on a rotor to cut grass and other types of weeds and brush. It is a simple and reliable system that requires minimal maintenance.

In the following section, we have listed many of the problems, causes, and solutions to the problems that you may encounter.

If you encounter a problem that is difficult to solve, even after having read through this trouble shooting guide, please call your local Tebben dealer or distributor. Before you call, please have this operator's manual from your machine and the model/serial number ready.

PROBLEM

CAUSE

SOLUTION

Blade pan and blades don't turn.

Broken shear pin.

Replace shear pin.

Poor cutting job.

Traveling too fast.

Slow down.

Blades dull.

Sharpen blades.

Grooves in grass.

Bent blade, straighten or replace blade.

Machine not level, level machine.

Scalping of grass.

Machine too low, raise machine.

Grass being left.

Traveling too fast, slow down.
Damaged blade, replace.

Gearbox seal leaking.

Oil overheating.
(Improper oil)

Improper oil should be replaced with specified oil (Section 5.1.1)

Worn seal.

Replace seal.

Improper installation of seal.

Replace seal.

Noisy gearbox.

Poor gear mesh.

Remove input shaft and gear, replace worn parts. Reassemble and use shims to give a gear backlash.

BOLT TORQUE

CHECKING BOLT TORQUE

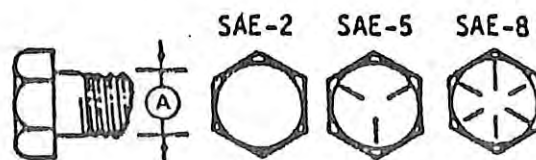
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

ENGLISH TORQUE SPECIFICATIONS

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

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

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



PARTS LIST

This manual contains a parts list for your machine. It is divided into major sections which correspond to the groups shown in the Table of Contents and the accompanying illustration.

The first page of each major section lists the contents of that section, each of which consists of exploded views and related tabular listings.

WHEN ORDERING PARTS

Always give your dealer the Model and Serial Number of your machine to assist him in ordering and obtaining the correct parts. Use the exploded view and tabular listing of the area of interest to exactly identify the required part.

USING THE MANUAL

Parts data consists of exploded view illustrations and associated parts list tables which are read as follows:

ITEM

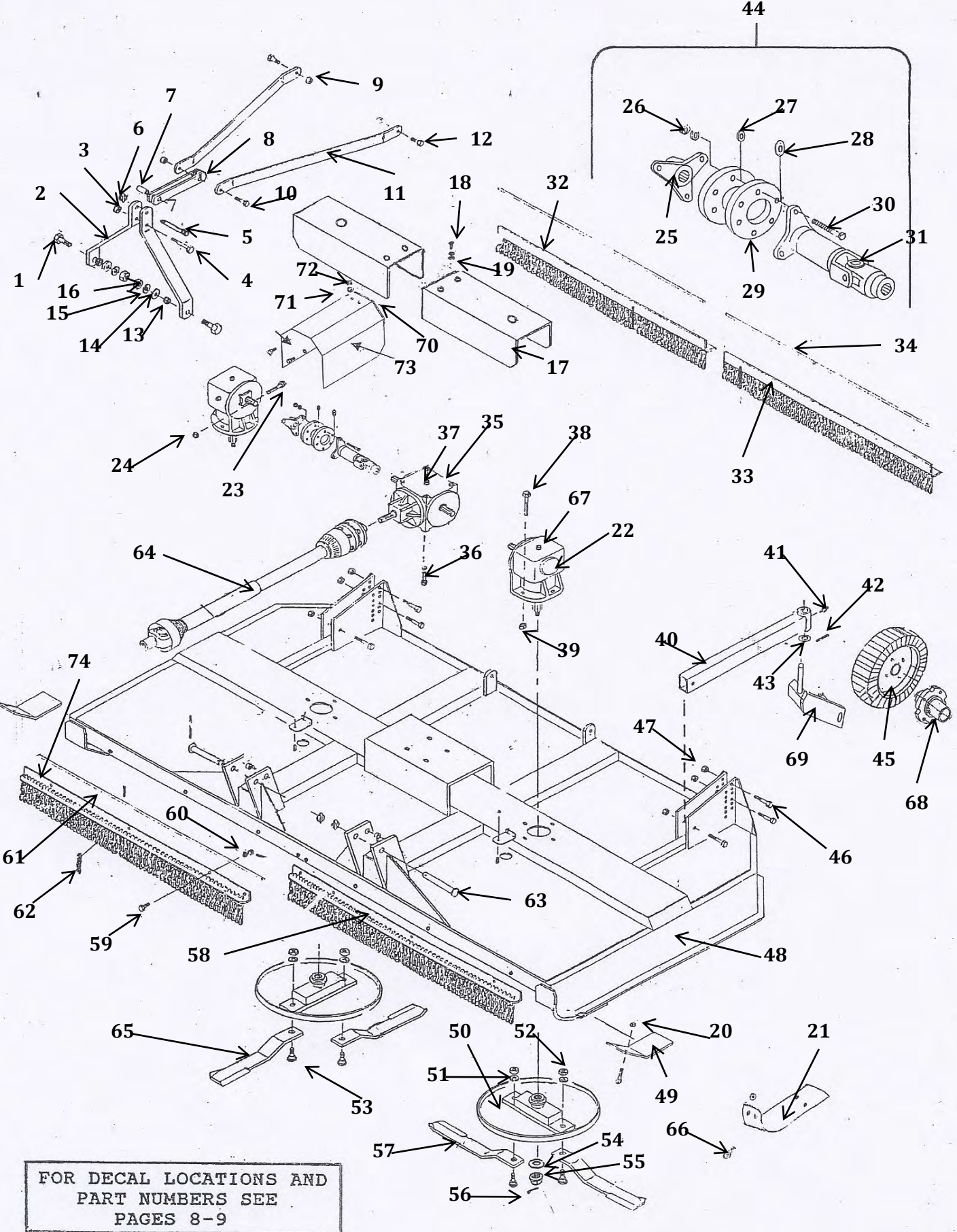
The item number is the identifier number from the illustration. For example, number 3 on an illustration points to a component which is item 3 on the accompanying table.

PART NUMEBER

The part number is the number by which the component may be identified and ordered from Tebben Enterprises and its network of dealers.

DESCRIPTION

This column contains the name and description of the part.



3PT DOUBLE CUTTER PARTS LIST

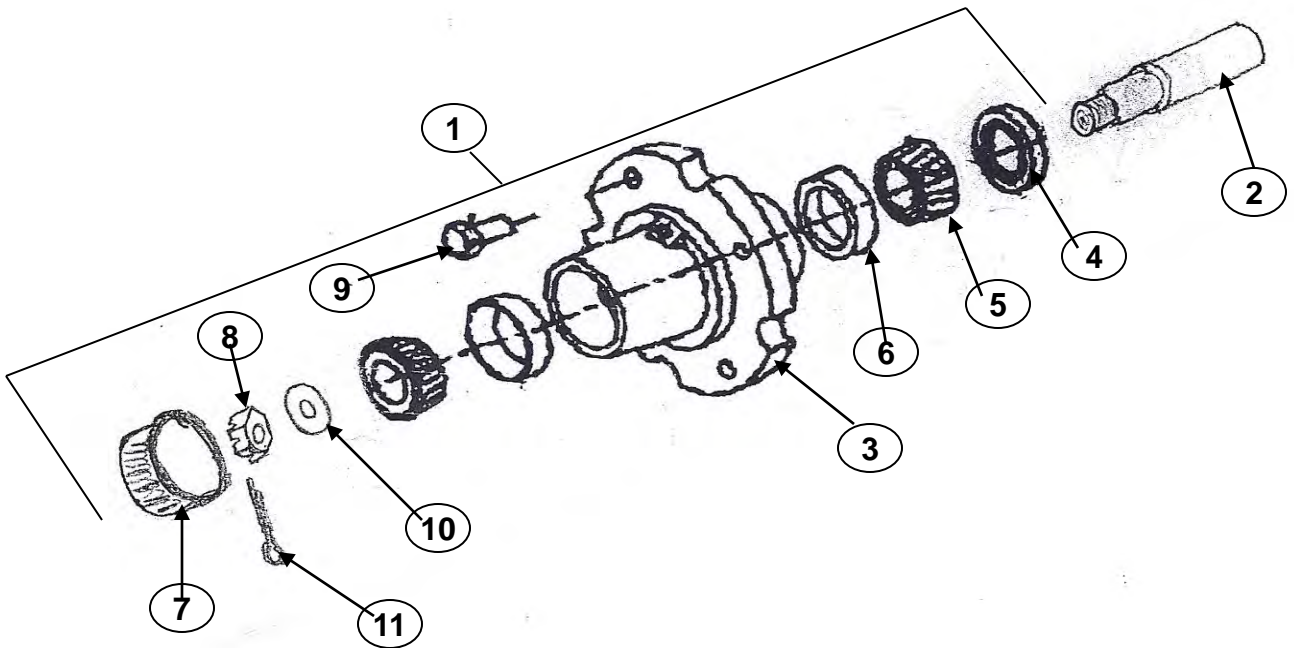
MODEL TC96-700MC
MODEL TC96-800MC
MODEL TC96-1000MC

<u>REF.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	60-907	7/8-9 X 2-1/2 HX BLT	2
2	61-204	UPRIGHT	2
3	CT84-141	CENTER LOCK NUT 3/4"	1
4	60-924	3/4-10 X 4 HX BLT	1
5	60-870	UPPER 3PT PIN	1
6	TZ75-00-34	LYNCH PIN	3
7	60-851	BUSHING, LARGE	1
8	61-237	LINKAGE ARM	1
9	60-838	5/8-11 CENTER LOCK NUT	3
10	60-908	5/8-11 X 2-1/2 HX BLT	1
11	61-2057	ATTACHING BRACE 7' MACHINE	2
	61-205	ATTACHING BRACE 8' MACHINE	2
	61-208	ATTACHING BRACE 10' MACHINE	2
12	60-898	5/8-11 X 1-1/2 HX BLT	2
13	60-852	UPRIGHT BUSHING	2
14	60-921	7/8 FLATWASHER	2
15	60-922	7/8 LOCKWASHER	2
16	60-923	7/8-11 HX NUT	2
17	61-2427	SIDE SHIELD, 7'	2
	61-242	SIDE SHIELD, 8'	2
	61-2421	SIDE SHIELD, 10'	2
18	60-931	1/2-13 X 1 HX BLT	4
19	61-623	1/2 LOCKWASHER	8
20	61-613	1/2 FLATWASHER	6
21	61-1292	SKID PLATE YEAR 2000 & NEWER	2
22	60-975	GEARBOX	2
23	61-611	5/16-18 X 2-3/4 HX BLT GR8	2
24	61-610	5/16-18 CENTER LOCK NUT	4
25	61-626	COUPLER END	2
26	61-627	LOCKNUT, METRIC	12
27	61-628	FLATWASHER, METRIC	18
28	61-630	CUP WASHER	12
29	61-629	RUBBER COUPLER DISK	4
30	61-631	HX BLT, METRIC 8.8 X 3.375	12
31	61-6321	COUPLER SHAFT - 10' MACHINE	2
	61-6328	COUPLER SHAFT - 8' MACHINE	2
	61-6327	COUPLER SHAFT - 7' MACHINE	2
32	61-2711	CHAIN GUARD, REAR RH 10' MACHINE	1
	61-271	CHAIN GUARD, REAR RH 8' MACHINE	1
	61-2717	CHAIN GUARD, REAR RH 7' MACHINE	1
33	61-2701	CHAIN GUARD, REAR LH 10' MACHINE	1
	61-270	CHAIN GUARD, REAR LH 8' MACHINE	1
	61-2707	CHAIN GUARD, REAR 7' MACHINE	1
34	61-2721	CHAIN GUARD CABLE, REAR 10' MACHINE	2
	61-272	CHAIN GUARD CABLE, REAR 8' MACHINE	2
	61-2727	CHAIN GUARD CABLE, REAR 7' MACHINE	2
35	61-6201	GEARBOX, CENTER 10' MACHINE	1
	61-6208	GEARBOX, CENTER 8' MACHINE	1
36	60-906	1/2-13 X 1-1/2 HX BLT	4
37	09-011	BREATHING, CENTER GEARBOX	1

NOTE: HUB ASSY BREAKDOWN ON PAGE 31

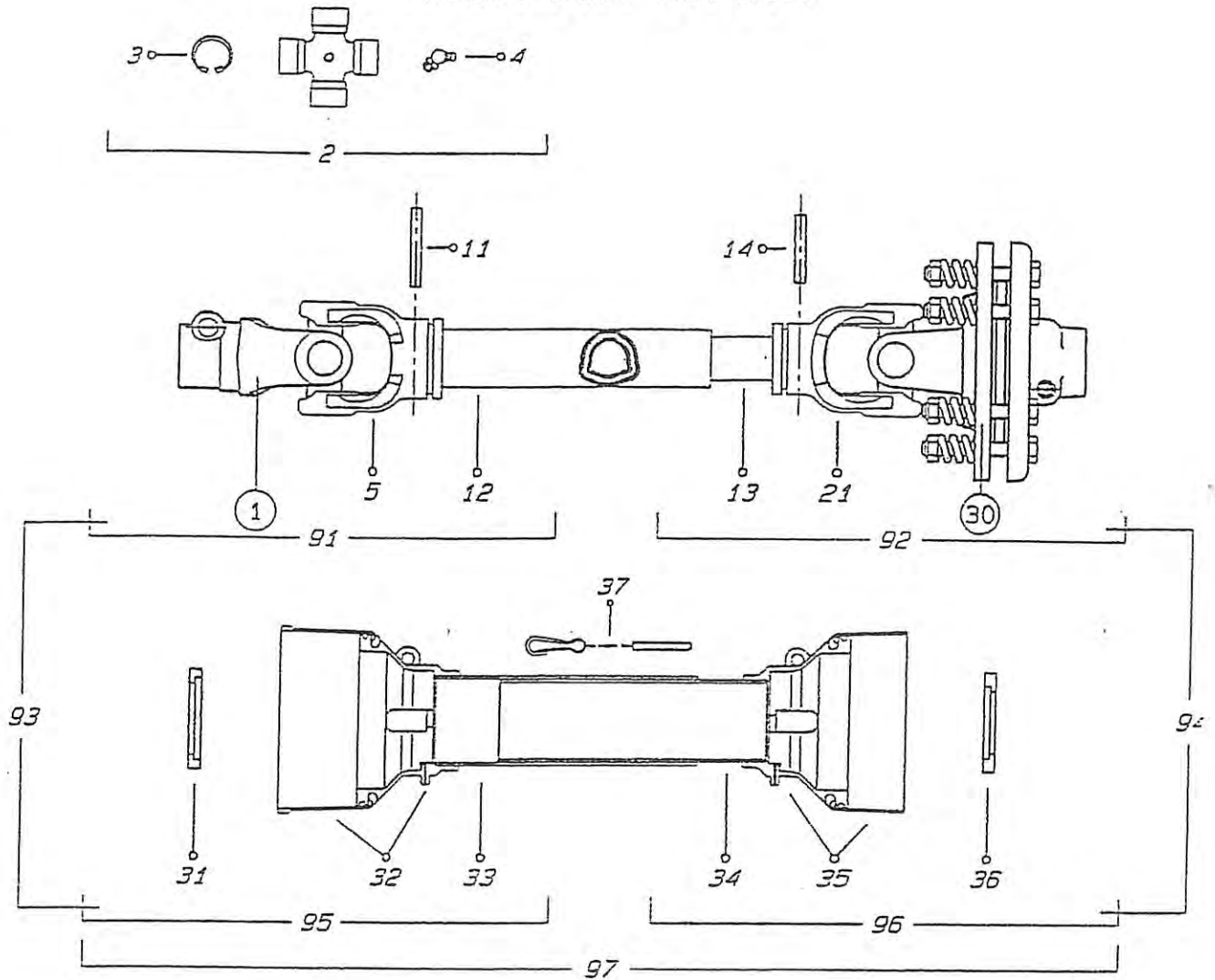
3PT DOUBLE CUTTER PARTS LIST			MODEL	TC96-700MC
			MODEL	TC96-800MC
			MODEL	TC96-1000MC
REF.	PART NO.	DESCRIPTION		QTY
38	60-934	3/4-10 X 2-1/2 HX BLT		8
39	60-925	3/4-10 NYLON LOCK NUT		8
40	60-725	REAR ARM		2
41	60-741	GREASE ZERK		2
42	60-742	ROLL PIN, 3/8 X 2-1/4		2
43	60-740	BUSHING WASHER, 1-1/4" ID		2
44	61-6321A	COUPLER SHAFT ASSEMBLY - 10' MACHINE		2
	61-6328A	COUPLER SHAFT ASSEMBLY - 8' MACHINE		2
	61-6327A	COUPLER SHAFT ASSEMBLY - 7' MACHINE		2
45	60-746	RIM & SEGMENTED TIRE		2
46	60-902	1/2-13 X 3 HX BLT GR5		6
47	60-903	1/2-13 CENTER LOCK NUT		12
48	61-1001	MOWER DECK, 10' MACHINE		1
	61-1008	MOWER DECK, 8' MACHINE		1
	61-1007	MOWER DECK, 7' MACHINE		1
49	61-675	SKID PLATE, 1999 & OLDER		2
50	60-757	DROP DOWN BLADE PAN		2
51	60-913	LOCK WASHER, BLADE BOLT		4
52	60-912	HX JAM NUT, BLADE BOLT		4
53	60-910	BLADE MOUNTING BOLT		4
54	61-660	SHIM WASHER, 1" ID 14GA		2
55	61-661	CASTLE NUT, 1" NF		2
56	61-662	COTTER PIN, 3/16 X 2-1/4		2
57	61-643	BLADE, LH 10' MACHINE		2
	61-640	BLADE, LH 8' MACHINE		2
	61-634	BLADE, LH 7' MACHINE		2
58	61-2761	CHAIN GUARD, FRONT LH 10' MACHINE		1
	61-276	CHAIN GUARD, FRONT LH 8' MACHINE		1
	61-2767	CHAIN GUARD, FRONT LH 7' MACHINE		1
59	TZ75-00-141	3/8-16 X 1 HX BLT		16
60	1403	3/8-16 CENTER LOCK NUT		16
61	61-2771	CHAIN GUARD CABLE, FRONT 10' MACHINE		2
	61-277	CHAIN GUARD CABLE, FRONT 8' MACHINE		2
	61-2777	CHAIN GUARD CABLE, FRONT 7' MACHINE		2
62	60-869	CHAIN, 7 LINK		1
63	60-991	LOWER 3PT PIN		2
64	60-9761	DRIVELINE W/ SLIP CLUTCH - 7', 8', & 10'		1
65	61-648	BLADE, RH 10' MACHINE		2
	61-645	BLADE, RH 8' MACHINE		2
	61-639	BLADE, RH 7' MACHINE		2
66	61-676	1/2-13 X 1-1/4 CRG BLT		6
67	09-008	BREATHER, OUTER GEARBOX		2
68	61-1190A	HUB ASSEMBLY COMPLETE		2
69	61-2560	PIVOTING WHEEL ASSEMBLY LESS HUB		2
	61-2560A	PIVOTING WHEEL ASSEMBLY W/ HUB ASSY		2
70	60-846	SHIELD BRACKET		1
71	60-927	3/8 LOCKWASHER		2
72	60-926	3/8 HX NUT		2
73	60-8450	SHIELD		1
74	61-2751	CHAIN GUARD, FRONT RH 10' MACHINE		1
	61-275	CHAIN GUARD, FRONT RH 8' MACHINE		1
	61-2757	CHAIN GUARD, FRONT 7' MACHINE		1
75	61-624	SPACER		12

HUB ASSEMBLY

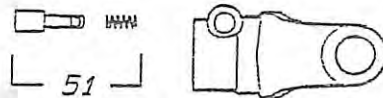


Ref. No.	Part No.	Description	QTY
1	61-1190A	Hub Assembly Complete	2
2	61-1178	Spindle Only	2
3	61-1190	Hub Only	2
4	61-2565	Seal	2
5	61-2566	Bearing Cone	4
6	61-2568	Bearing Cup	4
7	TZ75-00-101	Dust Cap	2
8	TZ75-00-102	Slotted Hex Nut – 5/8NF	2
9	61-2562	Bolt	8
10	TZ75-00-103	Washer – 5/8	2
11	TZ75-00-100	Cotter Pin – 5/32 X 1-1/2	2

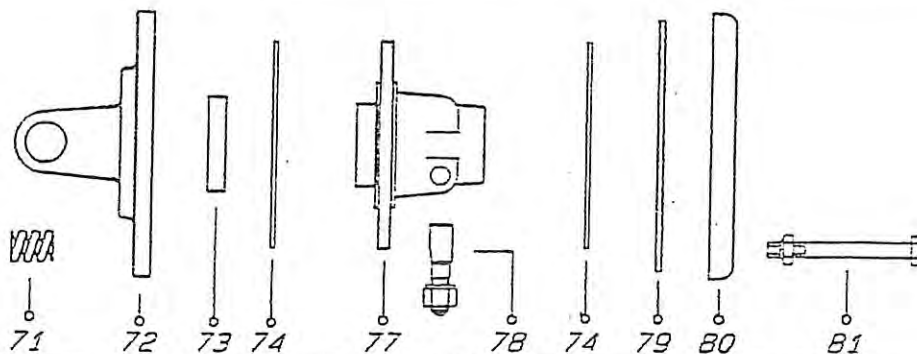
DRIVE SHAFT HEAVY DUTY CUTTERS



1



30

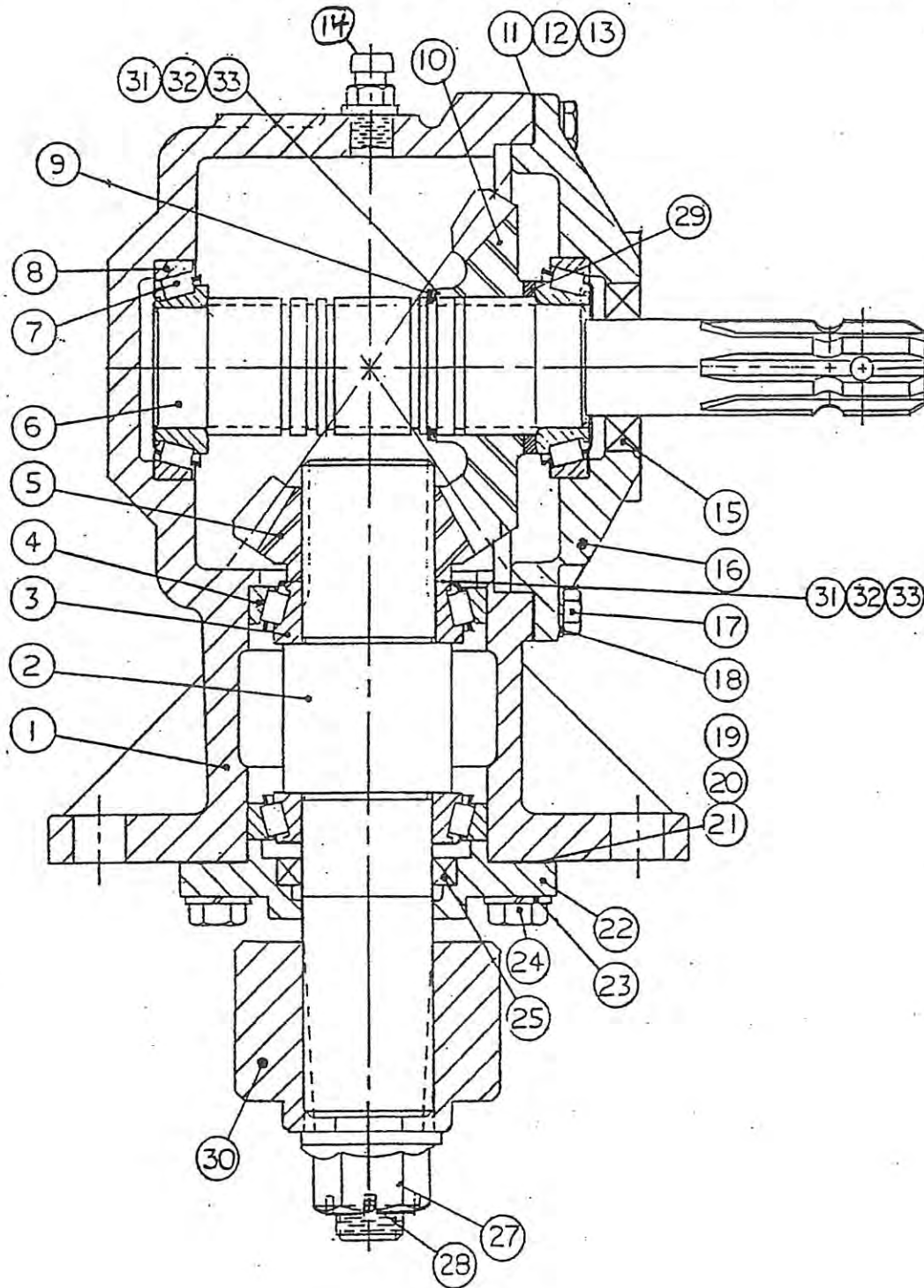


DRIVE SHAFT HEAVY DUTY CUTTERS

REF.	P/N-5'	P/N-6'	P/N-7'	DESCRIPTION
1	0800503	SAME-5'	0800603	QUICK RELEASE YOKE
2	08205	SAME-5'	08206	CROSS JOURNAL SET
3	099802030	SAME-5'	SAME-5'	CIRCLIP
4	099840081002	SAME-5'	SAME-5'	GREASE NIPPLE
5	08005021	SAME-5'	08006021	OUTER TUBE YOKE
11	098700870	SAME-5'	098701080	FLEXIBLE PIN OUTER TUBE
12	09881523100	SAME-5'	09881544100	OUTER CARDAN TUBE
13	09881454100	SAME-5'	SAME-5'	INNER CARDAN TUBE
14	098700865	SAME-5'	098701070	FLEXIBLE PIN INNER TUBE
21	08005011	SAME-5'	0800611	INNER TUBE YOKE
30	086205	SAME-5'	086206	FRICTION CLUTCH
31	0265250005	0265050005	0265260005	OUTER BEARING
32	0256050324	SAME-5'	SAME-5'	OUTER BASIC CONE
33	0988981B5094	0988981B5110	0988981B6133	OUTER SAFETY TUBE
34	0988975B5094	0988975B511	0988975B6133	INNER SAFETY TUBE
35	0256050325C	SAME-5'	SAME-5'	INNER SHORT CONE
36	0265250006	0265050006	0265260006	INNER BEARING
37	025200001	SAME-5'	SAME-5'	CHAIN
51	0986014047	SAME-5'	SAME-5'	COMPLETE PUSH BUTTON
71	09845257033	SAME-5'	SAME-5'	SPRING
72	086920105	SAME-5'	086920106	FLANGE YOKE
73	0981554125	SAME-5'	SAME-5'	BUSH
74	09833160	SAME-5'	SAME-5'	LINING
77	0869207060	SAME-5'	SAME-5'	HUB
78	0408000029	SAME-5'	SAME-5'	CONIC SCREW
79	0869219	SAME-5'	0869112	INNER PLATE
80	0869212	SAME-5'	SAME-5'	PRESSURE PLATE
81	099510085B	SAME-5'	SAME-5'	SCREW AND NUT
91	B509402	B511002	B613302	OUTER HALF SHAFT (W/O GAURD)
92	B509401255	B511001255	B613301255	INNER HALF SHAFT (W/O GAURD)
93	B5094E2	B5110E2	B6133E2	OUTER HALF SHAFT (WITH GAURD)
94	B5094E1255	B5110E1255	B6133E1255	INNER HALF SHAFT (WITH GAURD)
95	083E050942	083E051102	083E061332	OUTER HALF GAURD
96	083E050941C	083E051101C	083E061331C	INNER HALF SHORT GAURD
97	083E05094SC	083E05110SC	083E06133SC	COMPLETE GAURD

GEARBOX (75 HP.) HEAVY DUTY CUTTERS

Models: TC94-500MC, TC94-600MC, TC94-700MC, TC96-700MC
TC96-800MC, TC96-1000MC, TC94-700, TC94-800



MODELS

GEARBOX (75 H.P.) HEAVY DUTY CUTTERS

01-114 (5' & 6' HD CUTTER, 7', 8' AND 10' OUTER GEARBOX)

01-115 (7' HD CUTTER)

<u>REF.</u>	<u>PART NO.</u>	<u>QTY</u>	<u>DESCRIPTION</u>
1	18-027	1	HOUSING
2	02-053	1	OUTPUT SHAFT
3	04-010	2	#368 BEARING, CONE
4	04-009	2	#362 BEARING, CUP
5	03-061	1	OUTPUT PINION 13 TOOTH 5' & 6' HD, 7', 8' & 10' DBL
	03-062	1	OUTPUT PINION 14 TOOTH 7' HD CUTTER
6	02-054	1	INPUT SHAFT
7	04-007	2	#LM603049 BEARING, CONE
8	04-008	2	#LM603014 BEARING, CONE
9	21-001	1	RETAINING RING
10	03-060	1	INPUT GEAR, 19 TOOTH 5' & 6' HD, 7', 8' & 10' DBL
	03-063	1	INPUT GEAR, 17 TOOTH 7' HD CUTTER
11	08-006	VAR.	INPUT CAP GASKET 0.30
12	08-007	VAR.	INPUT CAP GASKET 0.25
13	08-008	VAR.	INPUT CAP GASKET 0.40
14	09-011	1	S PSI-M18 X 1.5 BREATHER
15	05-014	1	INPUT SHAFT OIL SEAL
16	20-026	1	INPUT CAP
17	06-017	8	3/8-16 UNC. 1-1/4 CAPSCREW
18	07-001	8	LOCKWASHER, 3/8"
19	08-001	VAR.	OUTPUT CAP GASKET 0.30
20	08-002	VAR.	OUTPUT CAP GASKET 0.25
21	08-003	VAR.	OUTPUT CAP GASKET 0.40
22	20-025	1	OUTPUT CAP
23	07-010	4	LOCKWASHER, 1/2"
24	06-018	4	1/2"-13 UNCX 1-1/2 CAPSCREW
25	05-003	1	OUTPUT SHAFT OIL SEAL
26	09-012	1	M18X1.5 OIL LEVEL PLUG
27	11-008	1	1" - 14 FLANGED NUT
28	12-003	1	COTTER PIN
29	10-027	1	GEAR SPACER, 5' & 6' HD, 7', 8' & 10' DBL CUTTER
	10-028	1	GEAR SPACER, 7' HD CUTTER
30	15-006	1	2-1/2" BLADE HUB
31	17-001	1	SHIM, .040
32	17-002	1	SHIM, .030
33	17-003	1	SHIM, .050

CENTER GEARBOX

61-6201

Ref.	Part No.	Qty	Description
1	05-014	2	Seal
2	20-021	2	Thru Cap
3	03-006	1	Gear, 14 Tooth
4	10-001	1	Spacer
5	09-013	2	M18 Socket HD Pipe Plug
6	02-045	1	Thru Shaft
7	18-020	1	Housing
8	04-011	4	Bearing
9	07-011	24	10 Lock washer
10	06-003	24	M10 X 1.5 X 30 Cap Screw
11	08-006	Var.	Gasket, 0.30
12	08-007	Var.	Gasket, 0.25
13	08-008	Var.	Gasket, 0.40
14	20-018	1	Input Hub Cap
15	11-012	1	Bearing Adj. Nut
16	12-008	1	Cotter Pin
17	05-012	1	Seal
18	02-017	1	Input Shaft
19	03-007	1	Gear, 17 Tooth
20	09-011	1	M18 Pipe Plug Vented

