

WOODS ROTARY MOWER

L503 F8N

OPERATOR'S MANUAL

WOODS

TO THE DEALER:

The rotary mower assembly and proper installation to the tractor is the responsibility of the WOODS dealer. Read manual instructions and safety rules. Make sure all items on the Pre-Delivery and Delivery Check Lists are completed before releasing equipment to the owner.

TO THE OWNER:

Read this manual before operating your WOODS rotary mower. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all the adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your dealer or, in the United States and Canada, by calling 1-800-319-6637.

The rotary mower you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the unit as specified. Observe all safety information in this manual and safety decals on the rotary mower and tractor.

For service, your authorized WOODS dealer has trained mechanics, genuine WOODS service parts, and the necessary tools and equipment to handle all your needs.

Use only genuine WOODS service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the serial number of your rotary mower in the space provided:

Model: _____

Serial Number: (see page 6 for location) _____

Provide this information to your dealer to obtain correct repair parts.

Throughout this manual, the term **IMPORTANT** is used to indicate that failure to observe can cause damage to equipment. The terms **CAUTION**, **WARNING** and **DANGER** are used in conjunction with the Safety-Alert Symbol, (a triangle with an exclamation mark), to indicate the degree of hazard for items of personal safety.



This Safety-Alert Symbol indicates a hazard and means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.



Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed.



Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

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GENERAL INFORMATION

The purpose of this manual is to assist you in operating and maintaining your mower. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance. These instructions have been compiled from extensive field experience and engineering data. Some information may be general in nature due to unknown and varying operating conditions. However, through experience and these instructions, you should be able to develop procedures suitable to your particular situation.

The illustrations and data used in this manual were current at the time of printing, but due to possible inline production changes, your machine may vary slightly in detail. We reserve the right to redesign and

change the machines as may be necessary without notification.



WARNING

■ Some illustrations in this manual show the mower with safety shields removed to provide a better view. The mower should never be operated with any safety shielding removed.

Throughout this manual, references are made to right and left direction. These are determined by standing behind the equipment facing the direction of forward travel. Blade rotation is clockwise as viewed from the top of the mower.

SPECIFICATIONS

Cutting Width	59"
Cutting Height Range	1.5" - 4"
Blade Speed (RPM)	2,760
Blade Tip Speed (feet per minute)	14,632
Blades Spindles	3
Number of Blades	3
Tractor PTO Speed RPM	540
Caster Wheels	3.25 x 6.25
Mower Frame Thickness	8 Gauge Deck

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



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

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

It has been said *"The best safety device is an informed, careful operator."* We ask you to be that kind of an operator.

The designed and tested safety of this equipment depends on it being operated within the limitations as explained in this manual.

TRAINING

- Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals are available from dealer or, in the United States and Canada, call 1-800-319-6637.) Failure to follow instructions or safety rules can result in serious injury or death.
- If you do not understand any part of this manual and need assistance, see your dealer.
- Know your controls and how to stop engine and attachment quickly in an emergency.
- Operators must be instructed in and be capable of the safe operation of the equipment, its attachments and all controls. Do not allow anyone to operate this equipment without proper instructions.
- Do not allow children or untrained persons to operate equipment.

PREPARATION

- Check that all hardware is tight and properly installed. Always tighten to torque chart specifications.
- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing and head.
- Ensure implement is properly attached, adjusted and in good operating condition.

■ Power unit must be equipped with ROPS or ROPS CAB and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS systems in "locked up" position at all times.

■ Remove accumulated debris from this equipment, tractor and engine to avoid fire hazard.

■ Ensure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)

■ Ensure shields and guards are properly installed and in good condition. Replace if damaged.

■ A minimum 20% of tractor and equipment weight must be on tractor front wheels with attachments in transport position. Without this weight, tractor could tip over causing personal injury or death. The weight may be attained with a loader, front wheel weights, ballast in tires or front tractor weights. When attaining the minimum 20% weight on the front wheels, you must not exceed the Roll Over Protection Structure (ROPS) weight certification. Weigh the tractor and equipment. Do not estimate.

■ Inspect and clear area of stones, branches or other hard objects that might be thrown, causing injury or damage.

OPERATIONAL SAFETY

- Keep bystanders away from equipment while it is in operation.
- Never go underneath equipment lowered to the ground or raised, unless it is properly blocked and secured. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death. Follow Operator's Manual instructions for working underneath and blocking requirements, or have work done by a qualified dealer.

(Safety Rules continued on next page)

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



(Safety Rules continued from previous page)

- Never direct discharge toward people, animals or property.
- Do not operate equipment while under the influence of alcohol or drugs.
- Operate only in daylight or good artificial light.
- Keep hands, feet, hair and clothing away from equipment while engine is running. Stay clear of all moving parts.
- Always comply with all state and local lighting and marking requirements.
- No riders are allowed on equipment.
- Power unit must be equipped with ROPS or ROPS CAB and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS systems in "locked up" position at all times.
- Always sit in tractor seat when operating controls or starting engine. Securely fasten seat belt, place transmission in neutral, engage brake and ensure all other controls are disengaged before starting tractor engine.
- Operate tractor PTO at RPM speed stated in "Specifications" section.
- Do not operate tractor PTO during transport.
- Look down and to the rear and make sure area is clear before operating in reverse.
- Do not operate on steep slopes.
- Do not stop, start or change directions suddenly on slopes.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Watch for hidden hazards on the terrain during operation.
- Stop tractor and implement immediately upon striking an obstruction. Turn off engine, remove key, inspect and repair any damage before resuming operation.
- Before dismounting tractor or performing any service or maintenance, disengage power to implement, lower the 3-point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, stop engine, set parking brake, remove key, and unfasten seat belt.

■ Lower mower to ground or block securely, turn tractor engine off, remove key, set parking brake and remove belt from tractor PTO sheave before performing any service or maintenance.

■ Before working underneath, raise mower to highest position and block securely. Blocking up prevents mower dropping from hydraulic leak down, hydraulic system failures, or mechanical component failures.

MAINTENANCE SAFETY

■ Before dismounting tractor or performing any service or maintenance, disengage power to implement, lower the 3-point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, stop engine, set parking brake, remove key, and unfasten seat belt.

■ Lower mower to ground or block securely, turn tractor engine off, remove key, set parking brake and remove belt from tractor PTO sheave before performing any service or maintenance.

■ Before working underneath, raise mower to highest position and block securely. Blocking up prevents mower dropping from hydraulic leak down, hydraulic system failures, or mechanical component failures.

■ Do not modify or alter or permit anyone else to modify or alter the equipment or any of its components in any way.

■ Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing and head.

■ Never go underneath equipment lowered to the ground or raised, unless it is properly blocked and secured. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death. Follow Operator's Manual instructions for working underneath and blocking requirements, or have work done by a qualified dealer.

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



■ Ensure implement is properly attached, adjusted and in good operating condition.

■ Keep all persons away from operator control area while performing adjustments, service or maintenance.

■ Make certain all movement of implement components has stopped before approaching for service.

■ Frequently check blades. They should be sharp, free of nicks and cracks and securely fastened.

■ Do not handle blades with bare hands. Careless or improper handling may result in serious injury.

■ Your dealer can supply genuine replacement blades. Substitute blades may not meet original equipment specifications and may be dangerous.

■ Tighten all bolts, nuts and screws to torque chart specifications. Check that all cotter pins are installed securely to ensure equipment is in a safe condition before operating.

■ Ensure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)

■ Ensure shields and guards are properly installed and in good condition. Replace if damaged.

■ Use care when installing or removing belt from spring-loaded idler. Springs store energy when extended and, if released suddenly, can cause personal injury.

STORAGE

■ Keep children and bystanders away from storage area.

NOTES

SAFETY DECALS

⚠ ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! ⚠
Replace Immediately If Damaged!

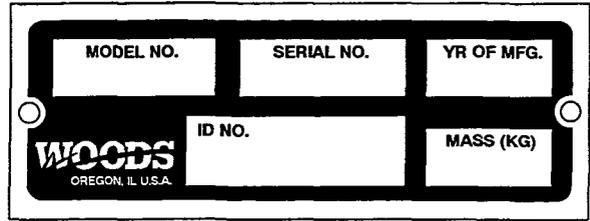
⚠ WARNING

TO AVOID SERIOUS INJURY OR DEATH,

- READ OPERATOR'S MANUAL AND FOLLOW ALL SAFETY PRECAUTIONS. (CONTACT DEALER FOR MANUALS.)
- KEEP SHIELDS AND GUARDS IN PLACE. KEEP CLEAR OF DRIVES AND BELTS.
- LOWER IMPLEMENT, STOP ENGINE AND REMOVE KEY BEFORE DISMOUNTING.
- BLOCK UP IMPLEMENT AND REMOVE KEY BEFORE WORKING UNDERNEATH.
- DO NOT OPERATE MOWER IN VICINITY OF OTHER PERSONS; NO RIDERS.
- KNOW HOW TO STOP TRACTOR AND EQUIPMENT QUICKLY IN AN EMERGENCY.
- CLEAR MOWING AREA OF DEBRIS.
- ALLOW NO CHILDREN OR UNQUALIFIED PERSONS TO RUN EQUIPMENT.
- BE CAREFUL ON UNEVEN TERRAIN. DECREASE SPEED WHEN TURNING.
- DO NOT OPERATE IN TRANSPORT POSITION.

25505

1 - PN-25505



4 - Serial Number Plate
 (Located on Rear Belt Shield)

⚠ DANGER

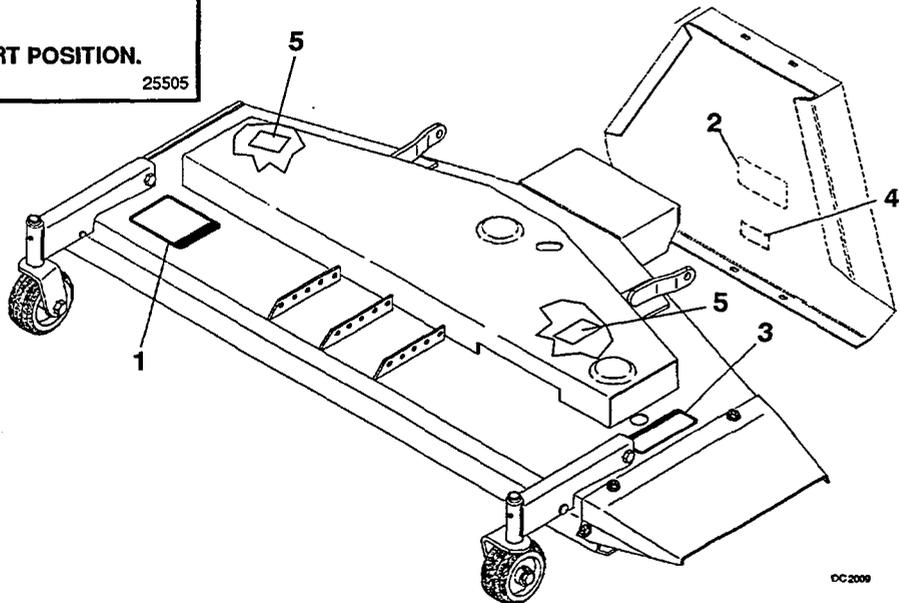
KEEP AWAY!

SHIELD MISSING FROM THIS AREA.

TO AVOID SERIOUS INJURY,

- DO NOT OPERATE WITHOUT THIS AND ALL OTHER SHIELDS IN PLACE AND IN GOOD CONDITION. 31516

5 - PN-31516



3 - PN-62098

2 - PN-62211

⚠ DANGER

KEEP AWAY!

THROWN OBJECTS OR BLADE CONTACT CAN CAUSE SERIOUS INJURY OR DEATH.

KEEP DISCHARGE CHUTE AND SHIELDS IN PLACE.

62098

⚠ WARNING

540 RPM SPEED RANGE ONLY

HIGHER PTO SPEEDS CAN CAUSE PERSONAL INJURY AND EQUIPMENT FAILURE.

62211

BOLT TORQUE CHART

After every ten (10) hours of operation, check all hardware and tighten where required.

SAE Series Torque Chart

DO NOT use these values if a different torque value or tightening procedure is listed for a specific application. Torque values listed are for general use only.

Fasteners should be replaced with the same grade.

Make sure fastener threads are clean and you properly start thread engagement. This will prevent them from failing when tightening.

SAE Bolt Head Identification



**SAE Grade 2
(No Dashes)**



**SAE Grade 5
(3 Radial Dashes)**



**SAE Grade 8
(6 Radial Dashes)**

Bolt Diameter "A"	Wrench Size	MARKING ON HEAD					
		SAE 2		SAE 5		SAE 8	
		Lbs.-Ft.	(N-m)	Lbs.-Ft.	(N-m)	Lbs.-Ft.	(N-m)
1/4"	7/16"	6	(8)	11	(15)	14	(19)
5/16"	1/2"	13	(18)	21	(28)	25	(34)
3/8"	9/16"	23	(31)	38	(52)	55	(75)
7/16"	5/8"	37	(50)	55	(75)	80	(110)
1/2"	3/4"	57	(77)	85	(115)	120	(165)
9/16"	13/16"	82	(111)	125	(170)	180	(245)
5/8"	15/16"	111	(150)	175	(240)	230	(310)
3/4"	1-1/8"	200	(270)	300	(410)	440	(600)
7/8"	1-5/16"	280	(380)	450	(610)	720	(975)
1"	1-1/2"	350	(475)	680	(925)	1035	(1400)
1-1/8"	1-11/16"	450	(610)	885	(1200)	<p>Bolt Diameter</p>	
1-1/4"	1-7/8"	600	(815)	1255	(1700)		
1-3/8"	2-1/16"	675	(915)	1620	(2200)		
1-1/2"	2-1/4"	920	(1250)	2200	(2900)		

Metric Series Torque Chart

Use only metric tools on metric hardware. Other tools may not fit properly. They may slip and cause injury.

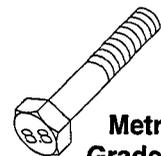
DO NOT use these values if a different torque value or tightening procedure is listed for a specific application. Torque values listed are for general use only.

Fasteners should be replaced with the same grade.

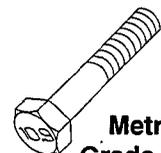
Make sure fastener threads are clean and you properly start thread engagement. This will prevent them from failing when tightening.

Bolt Diameter "A"	Wrench Size	MARKING ON HEAD			
		8.8		10.9	
		N-m	(Lbs.-Ft.)	N-m	(Lbs.-Ft.)
5 mm	8 mm	6	(4.5)	9	(6.5)
6 mm	10 mm	10	(7.5)	15	(11)
8 mm	13 mm	25	(18)	35	(26)
10 mm	16 mm	50	(37)	75	(55)
12 mm	18 mm	85	(63)	130	(97)
14 mm	21 mm	110	(80)	150	(110)
16 mm	24 mm	215	(159)	315	(232)
20 mm	30 mm	435	(321)	620	(457)
24 mm	36 mm	750	(553)	1070	(789)
30 mm	46 mm	1495	(1103)	2130	(1571)

Metric Bolt Head Identification



Metric Grade 8.8

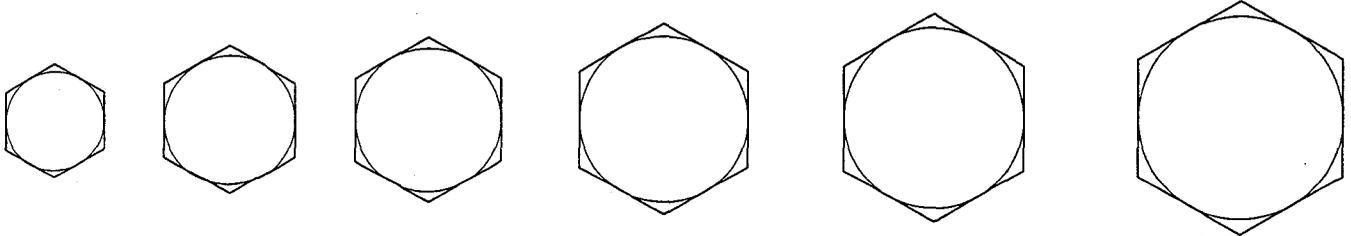
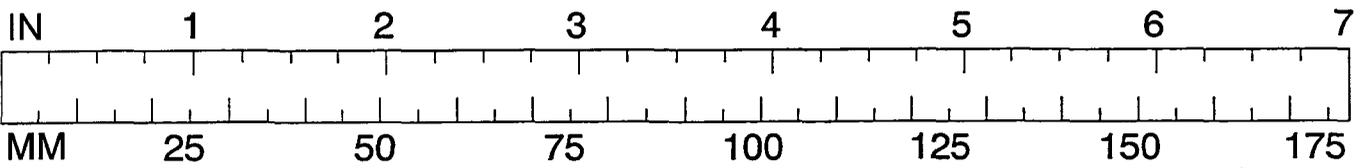
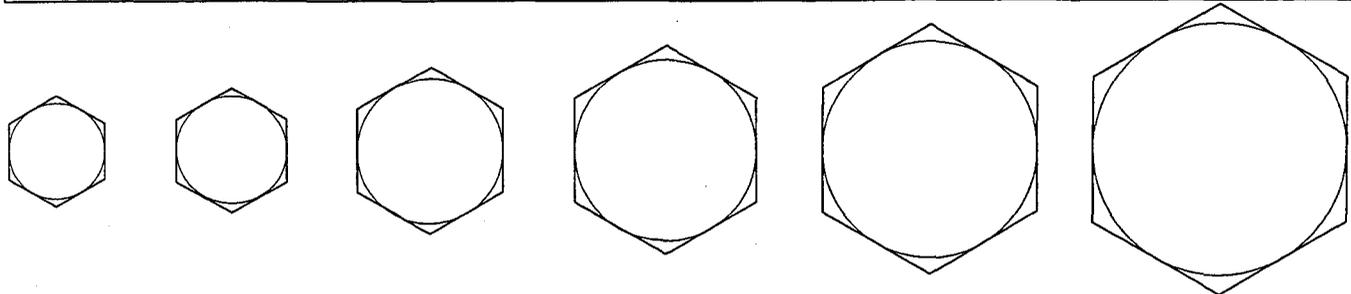


Metric Grade 10.9

BOLT SIZE CHART

NOTE: Chart shows bolt thread sizes and corresponding head (wrench) sizes for standard SAE and Metric Bolts.

SAE Bolt Thread Sizes					
5/16	3/8	1/2	5/8	3/4	7/8



Metric Bolt Thread Sizes					
8MM	10MM	12MM	14MM	16MM	18MM

NOTES

OPERATION

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

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

It has been said *"The best safety device is an informed, careful operator."* We ask you to be that kind of an operator.

The designed and tested safety of this machine depends on it being operated within the limitations as explained in the manual. Be familiar with and follow all safety rules in the manual, on the mower and on the tractor.

This mower is designed for lawn or grass mowing. It is not designed for rough conditions or heavy weed mowing. It is equipped with suction type blades for best results in lawn mowing. Optional low suction blades are available for use in sandy conditions.

The safe operation of this machine is the responsibility of the operator. The operator should be familiar with the mower, tractor and all safety practices before starting operation. Read the safety rules and decals on pages 3 through 6.

The warranty for this mower appears on the inside back cover of this manual. Record the model and serial number of your mower in the spaces provided on the inside front cover. Provide this information to your dealer to obtain correct repair parts.

Take all possible precautions when leaving tractor unattended: disengage PTO, lower mower, shift into neutral, set parking brake, stop engine and remove key from ignition.

WARNING

- Do not allow children or untrained persons to operate equipment.

DANGER

- Do not operate mower unless discharge chute is installed and in good condition. Replace if damaged.

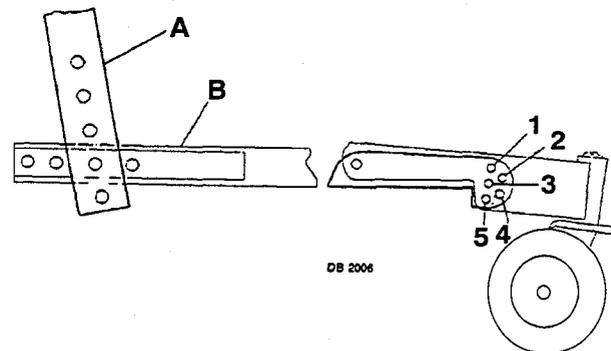
WARNING

- Keep bystanders away from equipment while it is in operation.
- Never direct discharge toward people, animals or property.
- Keep hands, feet, hair and clothing away from equipment while engine is running. Stay clear of all moving parts.
- No riders are allowed on equipment.
- Operate tractor PTO at RPM speed stated in "Specifications" section.

CUTTING HEIGHT ADJUSTMENT

Mower cutting height is raised, lowered, and maintained by adjusting caster wheels, push bar and channel arm settings.

It is important to run mower level. Refer to chart in Figure 1 to select your desired cutting height and set both front casters. Refer to attitude adjustment to determine proper settings for push bar and channel arms.



APPROXIMATE CUTTING HEIGHT	POSITION
1-1/2"	1
2-1/8"	2
2-3/4"	3
3-3/8"	4
4"	5

Figure 1. Cutting Height Adjustment

MOWER ATTITUDE (Figure 2)

Position front of mower level with or slightly below rear to provide closer cutting. Mowing with the front end high will produce ragged cuts with a scalloped look, excessive shredding, and will require extra power.

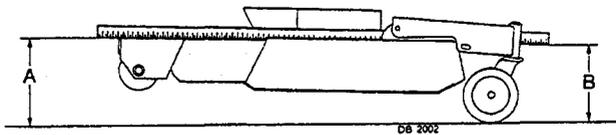


Figure 2. Mower Attitude

ATTITUDE ADJUSTMENT

Place tractor and mower on a level surface to check and adjust mower attitude.

For best mowing results, dimension "A" should not be more than 1/2" higher and never lower than dimension "B".

Dimension "B" is set by adjusting caster (refer to Figure 1).

Dimension "A" is set by raising or lowering channel arms in push bar.

IMPORTANT

- Any adjustment to either dimension "A" or "B" will require checking the other adjustment.

Set desired cutting height with casters and then adjust for dimension "A".

Check attitude by placing a straight edge along outside edge of mower as shown in Figure 2. Measure from bottom of straight edge to ground. The measurement at dimension "B" should be level with or approximately 1/2" lower than the rear. The measurement at dimension "A" should never be lower than the one at dimension "B".

Check that the mower is level side to side using these measurements. If it is not, check to be sure casters are set in same hole and that channel arms and push bars are set the same on each side.

When changes are made to cutting height or attitude, be sure to check belt alignment. Refer to Belt Alignment on page 26.

IMPORTANT

- Improper belt alignment can cause premature belt failure.
- The measurement at dimension "B" is not the cutting height. It should only be used to determine if the mower is in proper attitude adjustment. Cutting height is determined by the setting of the caster wheels. Refer to Figure 1.

PRE-OPERATION CHECK LIST

(OWNER'S RESPONSIBILITY)

- ___ Review and follow all safety rules and safety decal instructions on pages 3 through 6.
- ___ Check that all safety decals are installed and in good condition. Replace if damaged.
- ___ Check that all shields and guards are properly installed and in good condition. Replace if damaged.
- ___ Check that all hardware and cotter pins are properly installed and secured.
- ___ Check to ensure blades are sharp, in good condition, and installed correctly. Replace if damaged.
- ___ Check that equipment is properly and securely attached to tractor.
- ___ If the clutch or brake pedal mechanisms can contact mower components, you may not be able to stop the tractor safely; Do not operate until properly adjusted.
- ___ Inspect area and remove stones, branches or other hard objects that might be thrown, causing injury or damage.
- ___ Do not allow riders.
- ___ Check all lubrication points and grease as instructed in "Service, lubrication information".
- ___ Set tractor PTO at correct rpm for your equipment.
- ___ Make sure tractor ROPS and seat belt are in good condition. Keep seat belt securely fastened during operation.
- ___ Before starting engine, operator must be in tractor seat with seat belt fastened. Place transmission in neutral or park, engage brake and disengage tractor PTO.

STARTING & STOPPING MOWER



WARNING

- Operate tractor PTO at RPM speed stated in "Specifications" section.



CAUTION

- Stop tractor and implement immediately upon striking an obstruction. Turn off engine, remove key, inspect and repair any damage before resuming operation.

Power for operating the mower is supplied by tractor power take off (PTO). Refer to your tractor manual PTO operating instructions.

Should mower become plugged, causing belt to slip over two seconds, raise mower just enough to clear plug and continue running for at least two minutes, allowing pulleys to cool. Stopping the mower with belt in contact with a very hot pulley will bake and ruin belt. Do not raise mower higher than necessary, to reduce the risk of thrown objects.

Commencing Mowing

When engaging PTO, the engine rpm should always be low. Once engaged and ready to start mowing, increase PTO speed to 540 rpm and maintain throughout cutting operation.

During operation mower vibration tends to loosen hardware. All hardware should be checked regularly to maintain proper torque. It is good practice to check the mower each day before operation to ensure all hardware is tight.

IMPORTANT

- Always raise mower off casters when backing and turning at the same time to prevent caster from locking up on front tractor tires.

MOWING TECHNIQUES

Mowing Speed

The condition of the terrain to be cut will determine the smoothness of final results. For best results, mower blades should be kept sharp at all times and the mower as level as possible. When mower blades shown excessive wear, they should be replaced.

Proper ground speed for mowing will depend on the height, type and density of grass to be cut. Normally, ground speed will range from 2 to 5 mph. Tall, dense grass should be mowed at low speeds, while thin, medium height grass can be cut at a faster ground speed.

Always operate tractor PTO at 540 rpm maximum when mowing, This is necessary to maintain certain seasonal conditions, front tractor tires may roll some grass down and prevent them from being cut to the same height as the surrounding area. When this occurs, reduce the tractor ground speed, operating tractor PTO at 540 rpm. The slower speed will permit grass to partially rebound and be cut.

Under some conditions, the grass will not rebound enough to be cut evenly, resulting in an uneven appearance. In general, lower mowing heights give a more even cut with less tendency to leave tire tracks.

Mowing Tips

DANGER

- Do not operate mower unless discharge chute is installed and in good condition. Replace if damaged.

WARNING

- Inspect and clear area of stones, branches or other hard objects that might be thrown, causing injury or damage.
- Keep bystanders away from equipment while it is in operation.
- Keep hands, feet, hair and clothing away from equipment while engine is running. Stay clear of all moving parts.

Extremely tall grass should be mowed twice. Cut grass higher on first pass. Cut the second time at desired height at 90° to the first pass.

Remember, sharp blades produce cleaner cuts and use less power.

Before mowing, analyze the area to determine the best mowing procedure. Consider the height, type of grass and the terrain type (hill, level or rough).

Mow with uncut grass to the right. This will distribute the clippings over the cut area. Discharging clippings over uncut grass will cause a build-up and may prevent uniform cutting.

For a professional touch in large open areas, try the mowing pattern in Figure 3. Make two or three passes counter-clockwise to discharge clippings away from bordering objects. Then cut the lawn in half by mowing down the center. Turn clockwise to the right at end of area over grass previously mowed.

Plan your mowing pattern to travel straight forward whenever possible.

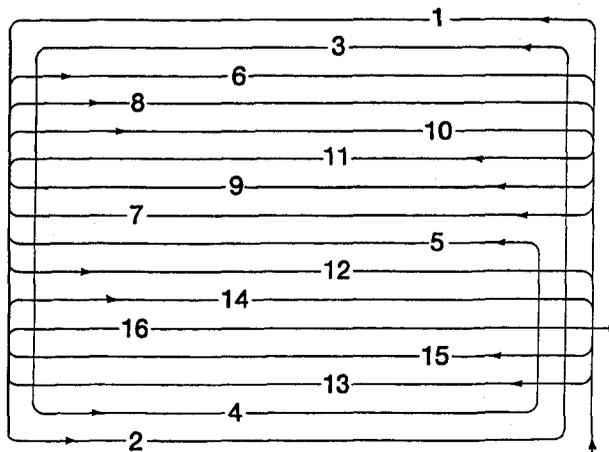


Figure 3. Mowing Pattern

It is better to mow grass more often rather than too short. Short grass deteriorates rapidly in hot weather and invites weed growth during growing seasons. Follow local recommendations for the suitable cutting height in your area.

Uneven Terrain



WARNING

- Use extreme care and reduce ground speed on slopes and rough terrain.

The addition of rear tire weights or liquid ballast in rear tires will increase tractor stability.

Pass diagonally through sharp dips and avoid sharp drops to prevent "hanging up" the tractor and mower. Practice will improve your skills in maneuvering rough terrain.

Avoid sudden starts and stops when traveling up or down hill. Always mow down steep slopes, never up or across the face.

Slow down on sharp turns and slopes to prevent tipping or loss of control.

NOTES

OWNER SERVICE

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

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

It has been said *"The best safety device is an informed, careful operator."* We ask you to be that kind of an operator.

The information in this section is written for operators who possess basic mechanical skills. Should you need help, your dealer has trained service technicians available. For your protection, read and follow all safety information in this manual.

CAUTION

- If you do not understand any part of this manual and need assistance, see your dealer.
- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing and head.

WARNING

- Never go underneath equipment lowered to the ground or raised, unless it is properly blocked and secured. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death. Follow Operator's Manual instructions for working underneath and blocking requirements, or have work done by a qualified dealer.
- Before dismounting tractor or performing any service or maintenance, disengage power to implement, lower the 3-point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, stop engine, set parking brake, remove key, and unfasten seat belt.

WARNING

- Keep all persons away from operator control area while performing adjustments, service or maintenance.

BLOCKING METHOD (Figure 4)

WARNING

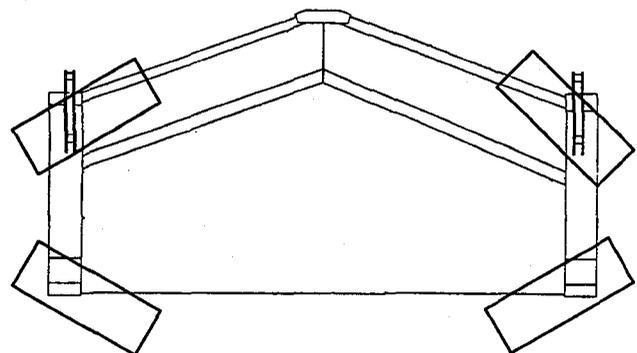
- Lower mower to ground or block securely, turn tractor engine off, remove key, set parking brake and remove belt from tractor PTO sheave before performing any service or maintenance.
- Before working underneath, raise mower to highest position and block securely. Blocking up prevents mower dropping from hydraulic leak down, hydraulic system failures, or mechanical component failures.

Do not work underneath mower unless it is properly attached to the tractor and blocked securely. When properly attached, the unit will be anchored to minimize front-to-rear movement.

Raise mower completely, set tractor brakes, turn engine off, remove key, block tractor wheel front and rear, and remove mower drive belt from tractor PTO sheave.

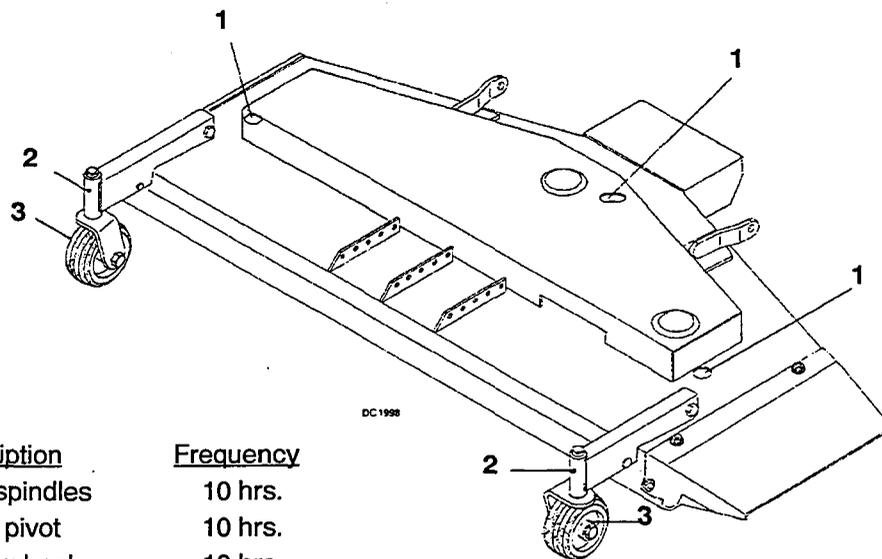
Install blocks securely under each corner of the mower, Figure 4.

When blocking, you must consider overall stability of the unit. Just blocking under the unit will not ensure your safety. The working surface must be level and solid to support the loaded weight of the blocks. Test blocking stability before working under any portion of the mower.



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Figure 4. Blocking Method



Ref No	Description	Frequency
1	Blade spindles	10 hrs.
2	Caster pivot	10 hrs.
3	Caster wheel	10 hrs.

Figure 5. Lubrication

LUBRICATION

(Figure 5)

WARNING

- Lower mower to ground or block securely, turn tractor engine off, remove key, set parking brake and remove belt from tractor PTO sheave before performing any service or maintenance.

Be familiar with all safety practices on pages 3 through 6.

Do not let excess grease collect on or around parts, particularly when operating in sandy areas. The accompanying illustration gives the lubrication in mower operating hours, based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication.

Use a SAE multi-purpose type grease for all locations shown. Be sure to clean fitting thoroughly before using grease gun.

IMPORTANT

- Do not over grease blade spindles. Excess grease could be transferred to the belt and cause slippage and premature failure.

OPERATION

Should you need to operate equipment while servicing, refer to Operation section for instructions, page 9.

BELT INSTALLATION

See Belt Installation in the Assembly section, page 24.

BLADE SERVICING

CAUTION

- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing and head.

WARNING

- Ensure shields and guards are properly installed and in good condition. Replace if damaged.
- Lower mower to ground or block securely, turn tractor engine off, remove key, set parking brake and remove belt from tractor PTO sheave before performing any service or maintenance.
- Before working underneath, raise mower to highest position and block securely. Blocking up prevents mower dropping from hydraulic leak down, hydraulic system failures, or mechanical component failures.
- Do not handle blades with bare hands. Careless or improper handling may result in serious injury.

CAUTION

■ Your dealer can supply genuine replacement blades. Substitute blades may not meet original equipment specifications and may be dangerous.

Inspect blades before each use to determine that they are mounted tightly and are in good condition. Replace any blade that is bent, excessively nicked, worn or has any other damage. Small nicks can be ground out when sharpening.

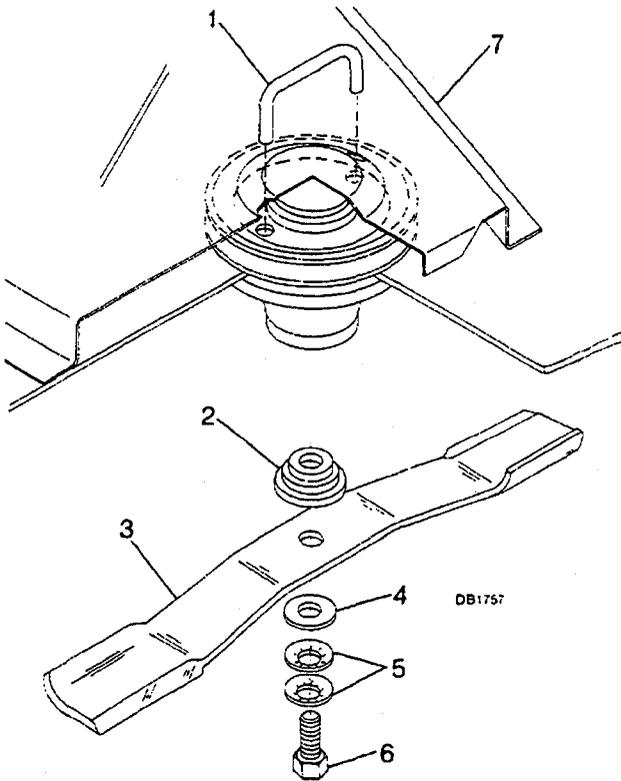
Blades must be removed before sharpening.

Blade Removal

(Figure 6)

Install spindle lock wrench (1) through belt shield (7) and into holes in spindle pulley as shown. Remove bolt (6) which had LEFT HAND THREADS. Remove cup washers (5), washer (4) and blade (3).

Shoulder washer (2) will not normally come off machine unless intentionally removed.



1. Spindle lock wrench
2. Shoulder washer
3. Blade
4. Washer
5. Cup washers
6. Bolt, special locking (left hand threads)
7. Belt shield

Figure 6. Blade Assembly

Blade Installation (Figure 6)

CAUTION

■ Your dealer can supply genuine replacement blades. Substitute blades may not meet original equipment specifications and may be dangerous.

Install spindle lock wrench (1) through belt shield (7) and into holes in spindle pulley as shown.

Install shoulder washers (2) (if removed) small end up. Make sure blade cutting edge is positioned to lead in counter-clockwise rotation, as viewed from top of mower.

Excessive blade slipping can cause cup washers to burn and lose their clamping force. Inspect cup washers to determine if they have burned or have lost their clamping force. Replace as necessary.

Install two cup washers (5) on bolt (6). Install washer (4) and blade (3) on bolt, remembering bolt has LEFT HAND THREADS, install bolt and blade assembly into spindle. Torque bolt to 170 lbs.-ft. Remove spindle lock wrench from pulley and shield and store it.

Blade Sharpening (Figure 7)

IMPORTANT

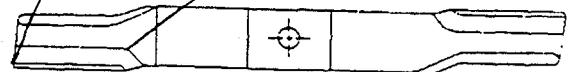
■ When sharpening blades be sure to balance them. Unbalanced blades will cause excessive vibration which can damage blade spindle bearings. Vibration may also cause structural cracks in mower housing.

Blades must be removed before sharpening.

Follow original sharpening pattern as shown. Do not sharpen blade to a razor edge, but leave a 1/32 to 1/16" blunt edge. Do not sharpen back side of blade.

MAINTAIN CORNER

FOLLOW ORIGINAL PATTERN



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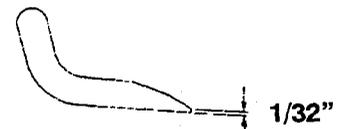


Figure 7. Blade Sharpening

DEALER SERVICE

The information in this section is written for dealer service personnel. The repair described herein requires special skills and tools. If your shop is not properly equipped or your mechanics are not properly trained in this type of repair, you may be time and money ahead to replace complete assemblies.

CAUTION

■ Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing and head.

WARNING

■ Ensure shields and guards are properly installed and in good condition. Replace if damaged.

■ Lower mower to ground or block securely, turn tractor engine off, remove key, set parking brake and remove belt from tractor PTO sheave before performing any service or maintenance.

OPERATION

Should you need to operate equipment while servicing, refer to Operation section for instructions, page 9.

BLADE SPINDLE

Inspection

Spindles are equipped with two tapered roller bearings. Adjustment is set by pressing a sleeve on the shaft until all end play is removed. Adjustment is maintained with a roll pin driven through the sleeve and shaft.

Periodically inspect blade spindle by grasping pulley, moving from side to side and up and down. Also rotate spindle. If end play or wobble is detected or if it feels rough when rotated (indicating bad bearings), repair or replace.

Removal from Mower

IMPORTANT

■ Although all three spindles are similar in appearance, they are not identical and cannot be interchanged. The left and center spindles are identical and can be interchanged. The right spindle may not be interchanged with either of the other spindles.

Remove blade from spindle. Refer to Blade Removal, page 15.

Remove belt shield and remove belt.

Disassemble split taper bushing (located on top of pulley) by removing the two bolts and inserting them into threaded holes. Tighten alternately to remove split taper bushing.

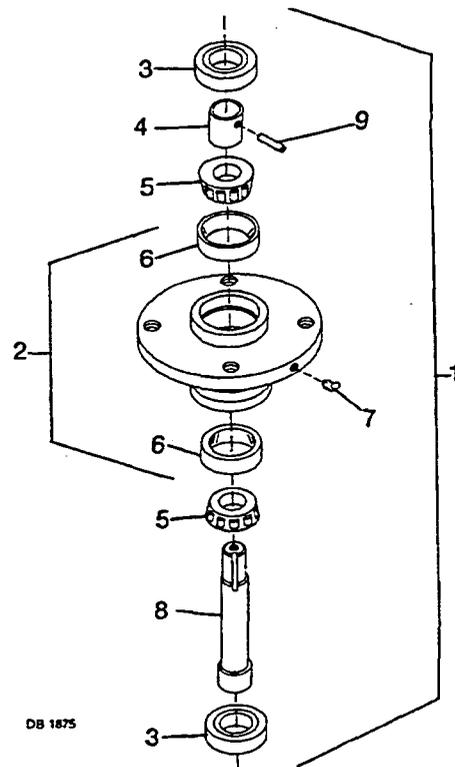
Remove key pulley.

Remove four spindle attaching bolts and remove spindle.

Spindle Repair (Figure 8)

IMPORTANT

■ Be sure to determine which spindle you are repairing and select correct repair parts.



- | | |
|-----------------------------|-------------------|
| 1. Blade spindle assembly | 5. Bearing cone |
| 2. Spindle housing and cups | 6. Bearing cup |
| 3. Seal | 7. Grease fitting |
| 4. Sleeve | 8. Spindle shaft |
| | 9. Roll pin |

Figure 8. Spindle Repair

Permatex 3D Aviation Form-A-Gasket®, or equivalent, is recommended as a sealant.

For reference, the short cup chamber is on top.

Cups and cones are a press fit to minimize wear.

Permatex Aviation 3D Form-A-Gasket is a registered trademark of the Permatex Corporation.

Disassembly

Drive roll pin out of sleeve and shaft.

Place spindle assembly in a press and press shaft down through housing.

Remove seals from housing.

Remove bearing cups from housing by placing a punch in slots provided and drive out. Alternate punch position from side to side. Take care to prevent housing damage.

Assembly

Bearing cones and cups are designed to mate. It is important to position them so bearing cone taper mates with cup taper.

Lubricate new cups with a light oil. Place them in spindle housing with tapers toward the outside.

Seat cups securely with a press or place a large soft drift on the flat lip of cup and drive them into housing until seated against machined shoulder of housing.

Polish areas of shaft and sleeve where seals will seat with emery cloth.

Place bottom bearing cone on spindle shaft so it will mate with cup, and press on until it seats on bottom shoulder of shaft.

Insert shaft and bearing through bottom of housing and seat against cup.

Fill housing cavity with a medium grade grease.

Install top bearing on shaft to mate with top cone and press on shaft until there is room for sleeve.

Apply a thin coat of Permatex to shaft area where sleeve will seat. Install sleeve on shaft and press sleeve and bearing down shaft until all end play is removed (similar to adjusting front wheel bearings on an automobile). Check by spinning spindle. It should turn freely. If it is too tight, hold spindle housing and hit spindle shaft with a lead hammer. Press again until the proper adjustment is obtained.

Be careful not to over-tighten bearings. Proper bearing adjustment is essential to good bearing life.

IMPORTANT

■ Improper positioning of seals can cause seal and spindle damage.

Proper seal installation is important. An improperly installed seal will leak and could cause bearing failure.

Pull the rubber portion of seal back and locate spring.

Lightly coat area of housing where seals seat with Permatex.

Install bottom seal with spring up toward center of housing.

Place seal squarely on housing and select pipe of tubing with an O.D. that will set on outside edge of seal. A tubing with an O.D. that is too small will bow seal cage.

Carefully guide seal lip over shaft and carefully press seal into housing. Be careful to prevent distortion to metal cage. Seal should seat firmly and squarely against machined shoulder in housing.

Make sure seal lip did not roll under. Distortion to seal case or damage to seal lip will cause seal to leak. Damaged seals must be replaced.

Carefully press top seal into housing with spring up and away from center of housing. Top seal should be flush with to 1/16" above housing.

Drill a 3/16" hole 9/32" down from top of sleeve and drive roll pin through sleeve and shaft to hold bearing adjustment.

Lubricate spindle with a medium grade grease. Turn spindle bottom up and vent bottom seal with a dull instrument such as a tongue depressor or letter opener.

Apply grease until it comes out where you are venting seal. Use care to prevent cutting or nicking seal.

Rotate spindle housing on shaft, checking for free movement.

Spindle Installation

IMPORTANT

■ Be sure you are installing correct spindle. Right spindles cannot be interchanged with left and center spindles.

Insert spindle up through bottom of mower frame. Position grease fitting for proper lubrication access and install the four mounting bolts.

PULLEY INSTALLATION

Install pulley onto spindle shaft. Install split taper bushing and key. Alternately tighten bolts to 12 lbs.-ft. Check that pulley is located on shaft to the dimensions shown in Figure 9. Dimensions are from top of mower frame to pulley center line.

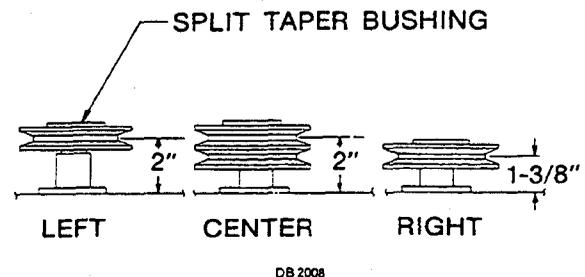


Figure 9. Pulley Installation

TROUBLE SHOOTING

MOWING CONDITIONS

Problem	Possible Cause	Solution
Grass cut higher in center of swath than at edge	Height of mower higher at rear than at front	Check cutting height adjustment. Refer to chart on page 7.
	Loose blade	Check clamping cup washers. Replace if flat or not holding.
Grass cut lower in center of swath than at edge	Height of mower lower at rear than at front	Adjust mower height and attitude so that mower rear and front are within 1/2" of same height.
	Loose blade	Check clamping cup washers. Replace if flat or not holding.
Grass cut higher on one side of swath than the other	Deck not running level	Check that both front caster arms are in same hole. Washers on front caster yoke shafts can be repositioned to help level deck.
Streaking conditions in swath	Conditions too wet for mowing	Allow grass to dry before mowing.
	Blades unable to cut that part of grass pressed down by path of tractor tires	Slow ground speed of tractor but keep PTO running at 540 rpm. Cutting lower will help. Under some conditions, it is impossible to pick up and cut grass pressed down by tires
	Dull blades	Sharpen or replace blades.
Material discharges from mower unevenly; bunches of material along swath	Loose blade	Check clamping cup washers. Replace if flat or not holding.
	Material too high and too much material	Reduce ground speed but operate tractor PTO at 540 rpm maximum, or make two passes over material. Raise mower for first pass. Lower to desired height for second and cut at 90° to first pass. Raise rear of mower high enough to permit material to discharge, but not so high that conditions listed above occur.
	Grass wet	Allow grass to dry before mowing. Slow ground speed of tractor but keep PTO running at 540 rpm. Cutting lower will help.
Erratic mower operation; mower slows down without tractor engine slowing	Rear of mower too low, trapping material under mower	Adjust mower height. Refer to chart on page 7.
	Clippings packed to underside of mower	Remove clippings and clean underside of mower.
	Belt slippage	See Belt Trouble Shooting.

TROUBLE SHOOTING

BELT CONDITIONS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Belt slippage	Mower overloading; material too tall or heavy	Reduce tractor ground speed but maintain full PTO rpm. Cut material twice, one high pass and then mow at desired height. Cut a partial swath.
	Oil on belt from overlubrication	Be careful not to overlubricate. Clean lubricant from belt and pulleys with clean rag. Replace oil-soaked belt.
	Belt hung up or rubbing	Check belt position in pulleys and idlers. Check belt for free travel in pulleys. Check under mower and around blade spindle shafts for wire, rags, or other foreign material. Clean all material from under mower.
Frayed edges on belt cover	Belt misaligned	Re-align belt. Be sure belt does not rub any other part while running.
	Pulley misalignment	Inspect to ensure belt is running in center of all idlers. Shim idler as necessary to align.
Belt rollover	Pulley misalignment	Re-align.
	Damaged belt	Replace belt.*
	Foreign object in pulley grooves	Inspect all pulley grooves for rust, paint or weld spots and remove.
	Worn pulley groove	Replace pulley.
Damaged belt	Rollover, high shock loads or installation damage	Replace belt.*
Belt breakage	High shock loads	Avoid abusive mowing. Avoid hitting the ground or large obstructions. Install optional front roller.
	Belt came off drive	Check pulleys for foreign material in grooves. Avoid hitting solid objects or ground. Check belt guide position (see Belt Installation instructions on page 24).

* Check belt for damage by laying it flat on floor. If belt does not lie flat (has humps or twists), which indicates broken or stretched cords, it must be replaced.

ASSEMBLY INSTRUCTIONS

DEALER SET-UP INSTRUCTIONS

Assembly of this mower is the responsibility of the Woods dealer. The mower should be delivered to the owner completely assembled, lubricated and adjusted for normal cutting conditions.

Using these instructions, set up mower as received from the factory.

Complete the check lists below when set-up is complete.

The mower is shipped partially assembled. Assembly will be easier if components are aligned and loosely assembled before tightening hardware. Recommended torque values for hardware are located on page 7. Use these values unless a specific torque value is given in the text.

Select a suitable working area. Open parts boxes and lay out parts and hardware to make location easy. Refer to illustrations, accompanying text, parts lists and exploded view drawings, for assembly.



CAUTION

■ Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing and head.

PRE-DELIVERY CHECK LIST

(DEALER RESPONSIBILITY)

Inspect the equipment thoroughly after assembly to ensure it is set up properly before delivering it to the customer.

The following check lists are a reminder of points to inspect. Check off each item as it is found satisfactory or after proper adjustment is made.

- ___ Check that all safety decals are installed and in good condition. Replace if damaged.
- ___ Check that shields and guards are properly installed and in good condition. Replace if damaged.
- ___ Properly attach implement to tractor and make all necessary adjustments.
- ___ Check all bolts to be sure they are tight.
- ___ Check that all cotter pins and safety pins are properly installed. Replace if damaged.
- ___ Check and grease all lubrication points as identified in "Service, lubrication information".

- ___ Check that blades have been properly installed.
- ___ Check to be sure there is 1/8" to 1/4" clearance between belt and all belt guides.
- ___ Check mower attitude and belt alignment.

DELIVERY CHECK LIST

(DEALER RESPONSIBILITY)

- ___ Show customer how to make adjustments and select proper PTO speed.
- ___ Instruct customer how to lubricate and explain importance of lubrication.
- ___ Point out the safety decals. Explain their meaning and the need to keep them in place and in good condition. Emphasize the increased safety hazards when instructions are not followed.
- ___ Present Operator's Manual and request that customer and all operators read it before operating equipment. Point out the manual safety rules, explain their meanings and emphasize the increased safety hazards that exist when safety rules are not followed.
- ___ Check mower attitude and belt alignment.
- ___ Show customer the safe, proper procedures to be used when mounting, dismounting, and storing equipment.
- ___ Make customer aware of optional equipment available so that customer can make proper choices as required.
- ___ Point out all guards and shields. Explain their importance and the safety hazards that exist when not kept in place and in good condition.

MOWER PREPARATION

Discharge Chute Installation (Figure 10)

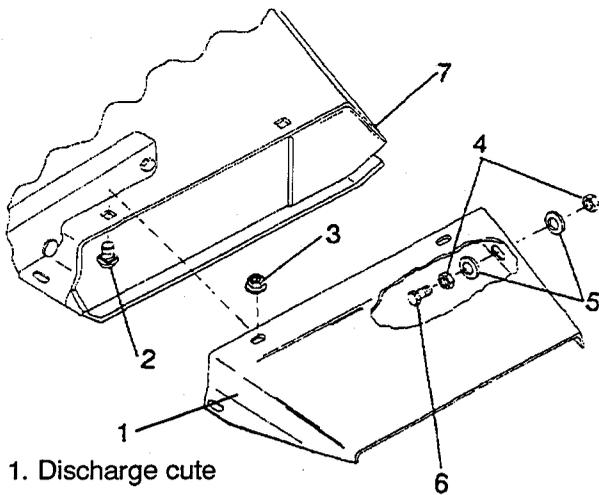


DANGER

■ Do not operate mower unless discharge chute is installed and in good condition. Replace if damaged.

Position discharge chute (1) on mower frame and secure with carriage bolts (2) and flange locknuts (3). Tighten hardware.

Run nut (4) on bolt (6) and install washer (5) on top of nut. Install through slot in discharge chute (1) as shown. Adjust for head of bolt (6) to rest on mower frame (7). Place washer (5) and nut (4) on bolt (6) and tighten.



1. Discharge chute
2. 3/8 x 3/4" Carriage bolt
3. 3/8 Flange locknut
4. 3/8" Nut
5. 3/8" Washer
6. 3/8 x 1-1/4" Bolt
7. Mower frame

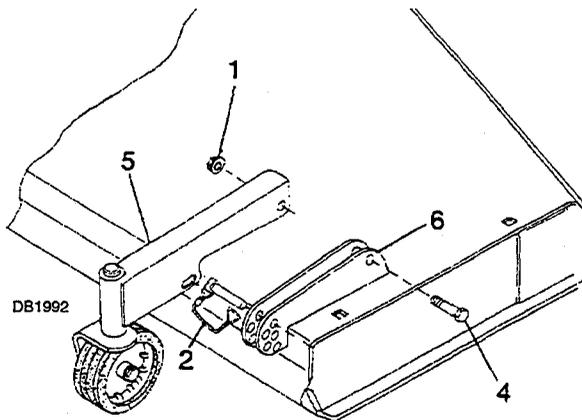
Figure 10. Discharge Chute Installation

Front Caster Installation

(Figure 11)

Place caster arm (5) over caster arm brackets (6) and secure with bolt (4) and nut (1). Make sure caster yoke is toward center of mower and wheel is outside as shown.

When adjusting cutting height, be sure to install lynch pin (2) from the inside out as shown.



1. 1/2" Flange locknut
2. 3/8 x 2-1/4" Lynch pin
4. 1/2 x 2-1/4 Bolt
5. Caster arm assembly
6. Caster arm brackets

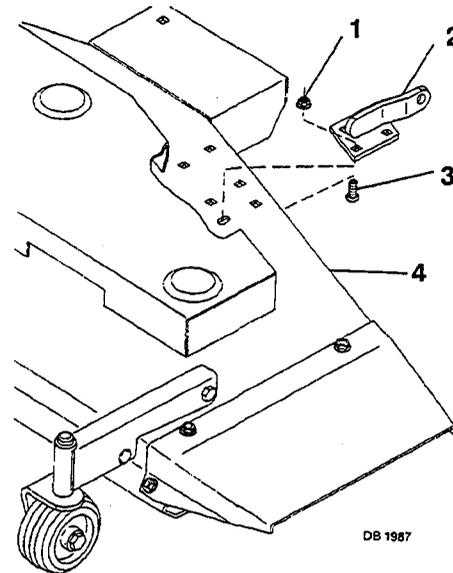
Figure 11. Front Caster Installation

Outer Channel Bracket Installation

(Figure 12)

Insert carriage bolt (3) up through mower frame, install channel bracket (2) with offset to the left, and secure with locknut (1).

Install right channel bracket in the same manner with offset to the right. It may be necessary to loosen this hardware when installing mower to tractor.



1. 3/8" Flange locknut
2. Outer channel bracket (left shown; right similar)
3. 3/8 x 1" Carriage bolt
4. Mower frame

Figure 12. Outer Channel Bracket Installation

Rear Crosswise Support & Push Channel Installation

Refer to Frame Mounting Assembly illustration, pages 32 & 33.

Install crosswise rear support (13) to rear of mower frame with lug forward and offset ends up as shown. Insert sleeve (51) in support (13) and secure with 1/2 x 2" bolt and 1/2" flange locknut.

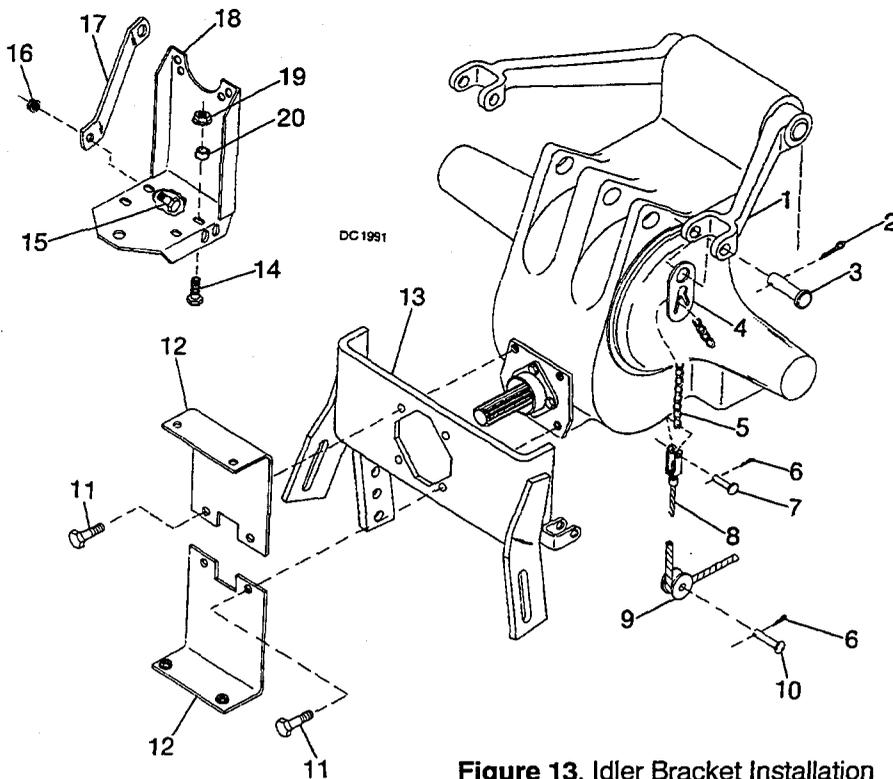
Install push channels (12) to crosswise support (13) and outer push channel bracket (14 & 15) with 5/8 x 1-1/2" clevis pins (48). Secure with 1/8" safety pins.

TRACTOR PREPARATION

Remove drawbar, lower 3-point lift arms and connecting links from tractor.

Adjust rear tractor tires so there is approximately 44-3/4" between them.

Remove the four bolts which attach swinging drawbar brackets on newer models and anti-sway chains on older tractors.



- * 1. Rockshaft arm
- * 2. Cotter pin
- * 3. Clevis pin
- 4. Rear lift lug
- 5. Chain
- 6. 3/16 x 1" Cotter pin
- 7. 1/2 x 2" Clevis pin
- 8. Cable with clevis
- 9. Cable idler
- 10. 1/2 x 2" Clevis pin
- *11. Bolt
- 12. Shield attaching bracket
- 13. Idler bracket assembly
- 14. 5/16 x 1-3/4" Bolt
- 15. 1/2 x 1-1/2" Bolt
- 16. 1/2" Flange locknut
- 17. Drawbar brace
- 18. Drawbar
- 19. 5/16" Flange locknut
- 20. 3/8 x 5/8" Spacer

* Tractor Parts

Figure 13. Idler Bracket Installation

Idler Bracket Installation (Figure 13)

You have the option of installing drawbar (18) or lower belt shield bracket (12).

Place idler bracket (13), top belt shield bracket (12), and either the lower belt shield bracket (12) or drawbar (18) over tractor PTO. Attach with bolts (11) removed from tractor.

If drawbar (18) was installed, attach drawbar brace (17) to drawbar (18) with bolt (15) and nut (16). Opposite end of brace to tractor will be connected when idler arm attachment bar is installed.

NOTE: Instructions are given to attach both sets of rear lift hardware. When installing on 8N and similar tractors that use lift bracket (17), pages 32-33, only one set will be required.

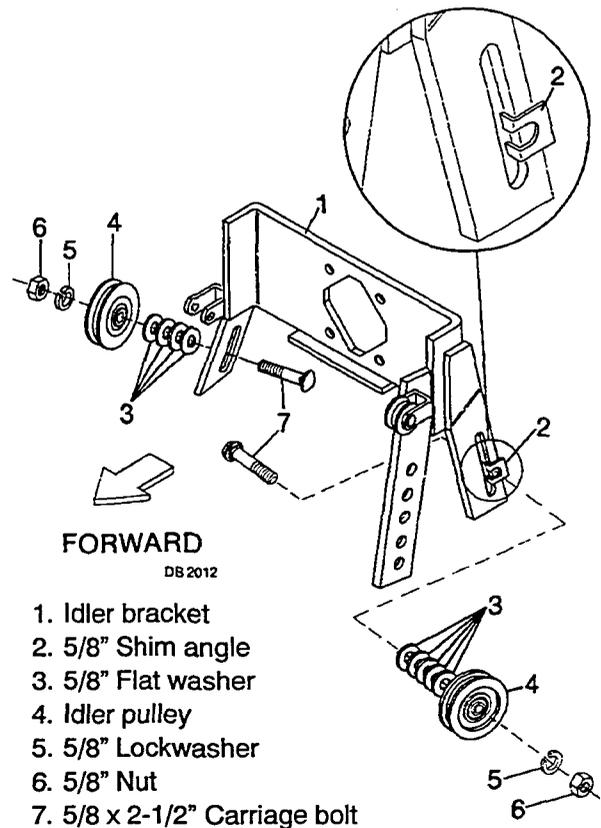
Pin rear lift lugs (4) to tractor rockshaft arms (1) with clevis pins (3) and cotter pins (2). Do not spread cotter pins until cable is installed.

Install both cable idlers (9) to idler bracket (13) with clevis pins (10) and cotter pins (6). Do not spread cotter pins until cable is installed.

Idler Pulley Installation (Figure 14)

IMPORTANT

■ Proper Installation is necessary to ensure proper belt alignment.



FORWARD
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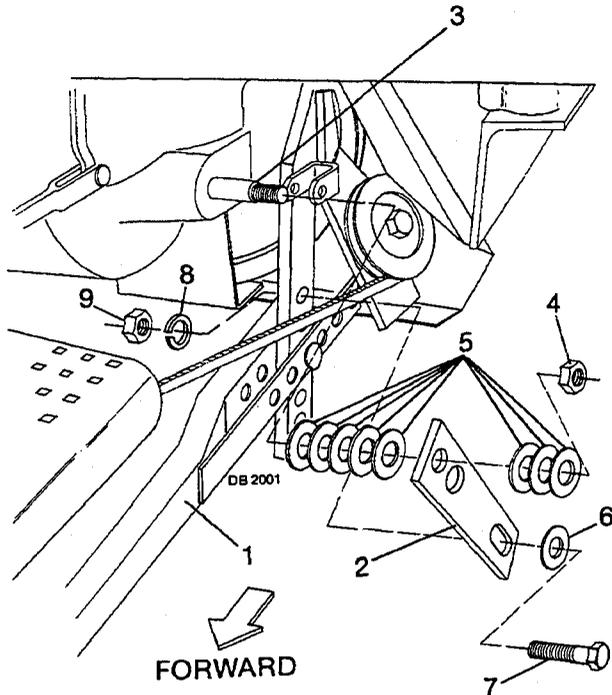
- 1. Idler bracket
- 2. 5/8" Shim angle
- 3. 5/8" Flat washer
- 4. Idler pulley
- 5. 5/8" Lockwasher
- 6. 5/8" Nut
- 7. 5/8 x 2-1/2" Carriage bolt

Figure 14. Idler Pulley Installation

Insert shim angle (2) into left idler slot from outside as shown. Make sure the legs of angle point to inside of slot.

Insert carriage bolt (7) through slot from inside trapping shim angle (2) at rear of slot. Place five washers (3) on bolt and install idler pulley (4), lockwasher (5) and nut (6). Insert carriage bolt (7) through right idler slot, place four flat washers (3) on bolt, and install idler pulley (4), lockwasher (5) and nut (6). Do not tighten hardware at this time.

Idler Bracket Attachment Bar Installation (Figure 15)



1. Channel arm
 2. Idler bracket attachment bar
 3. Lower left 3-point attachment pin
 - * 4. Nut
 5. 1" SAE Flat washer
 6. 5/8" Flat washer
 7. 5/8 x 2" Bolt
 8. 5/8" Lockwasher
 9. 5/8" Nut
- * Tractor Parts

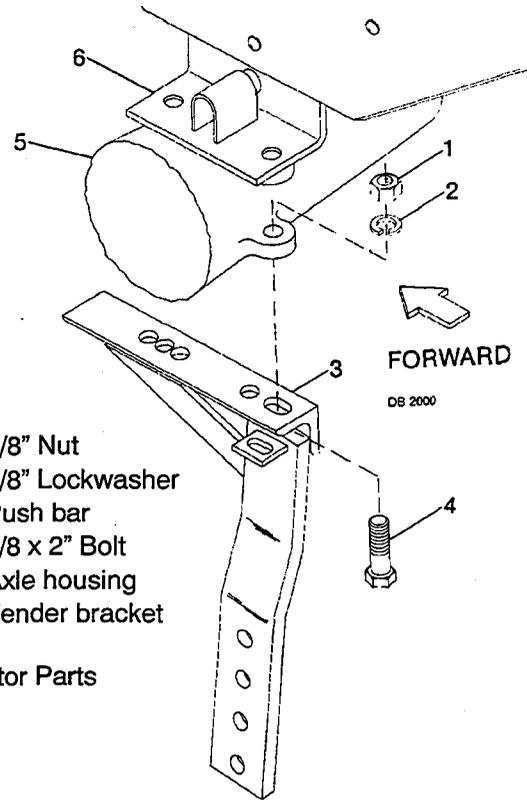
Figure 15. Idler Bracket Attachment Bar Installation

Install enough washers (5) over pin (3) to ensure bracket (2) is aligned with outside edge of idler bracket push bar. If drawbar bracket is installed, install drawbar bracket brace over pin (3), inside bracket (2), again using enough washers (5) to align bracket (2) with outside edge of bracket push bar. Install bracket (2) over pin (3), add three washers (5) and secure with nut (4).

Attach slotted end of bracket (2) to top hole of idler bracket push bar with bolt (7), washer (6), lockwasher (8) and nut (9). Torque to 150 lbs.-ft.

Tighten nut on pin (3) and bolt on drawbar where brace attaches.

Right Push Bar Installation (Figure 16)



1. 5/8" Nut
2. 5/8" Lockwasher
3. Push bar
4. 5/8 x 2" Bolt
- * 5. Axle housing
- * 6. Fender bracket

* Tractor Parts

Figure 16. Right Push Bar Installation

Mount push bar (3) to bottom of tractor axle housing (5) as shown. If the tractor fender bolts are long enough, use them. If the tractor fender bolts are not long enough, use bolts (4), lockwashers (2) and nuts (1) to attach push bar.

Lift Assembly Installation

Refer to pages 32-33, Mounting Assembly.

On 8N and 9N Fords and other tractors with a similar rounded clutch housing, install lift bracket (17) to the rear of the clutch housing on right side using 7/16" lockwashers and two 7/16 x 1-3/4" bolts. Install cable idler (24) to clevis on lift bracket with 1/2 x 2" clevis pin and a 3/16 x 1" cotter pin.

When mounting on 8N and similar tractors using lift bracket (17), install a lift clevis (19) to the right rear square hole of rear mower apron. Install cable idler (24) in clevis with clevis pin and cotter pin. Do not spread cotter pin until cable is installed.

On tractors such as the Ford N800 with a flat bottom pad on the transmission, attach lift bracket (18) with 5/8" lockwashers and 5/8 x 2" bolts.

Attach a lift clevis (19) to each end of lift bracket (18) with 3/8 x 1" carriage bolts and 3/8" flange locknuts. Install cable idlers (24) in each clevis with 1/2 x 2" clevis pins until lift clevis is installed.

Drive Pulley Installation (Figure 17)

1. 5/16 X 1" Bolt
2. Splined bushing
3. Drive pulley
4. Tractor PTO

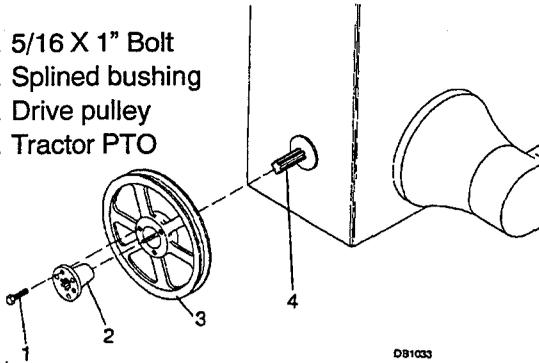


Figure 17. Drive Pulley Installation

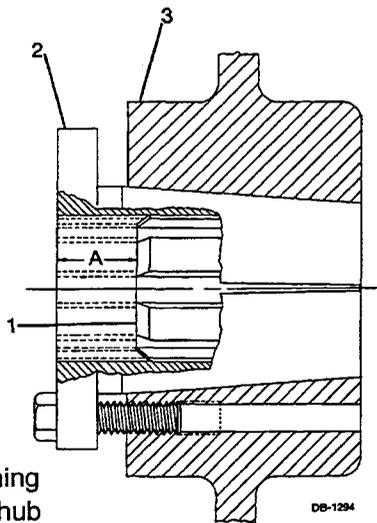
A split taper splined bushing is used to locate and secure drive pulley to tractor PTO. This provides an easy on-off feature.

To remove bushing, remove bolts securing it to pulley and place two of them into threaded bushing holes. Tighten evenly to press bushing out of pulley.

Two splined bushings are provided in parts box. Select the one that fits your tractor PTO shaft.

Remove all paint from center hole of drive pulley and insert splined bushing into hole. Insert bolts through unthreaded bushing holes and into threaded holes of drive pulley, but do not tighten.

Webs of pulley should be toward tractor. Slide pulley and bushing onto PTO shaft. When properly located, the bushing will overhand PTO spline approximately 15/16". (See dimension "A", Figure 17.)



1. Tractor PTO
2. Splined bushing
3. Drive pulley hub

Figure 18. Drive Pulley Overhang

Drive Pulley Alignment (Figure 19)

Align drive pulley with idler pulleys. Check with a straightedge. Alternately tighten splined bushing bolts to secure drive pulley to tractor PTO in proper alignment. Continue to alternate tightening sequence until assembly is tight and all bolts are torqued to 12 lbs.-ft.

IMPORTANT

- Be sure to torque bolts to exactly 12 lbs.-ft. Do not overtighten or pulley casting may crack.

Recheck drive pulley to idler pulley alignment. Correct if necessary.

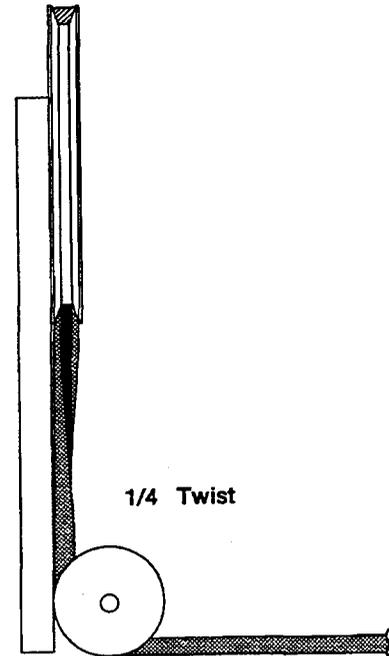


Figure 19. Drive Pulley Alignment

ATTACHING MOWER TO TRACTOR

Belt installation will be easier if belt is installed to mower deck before it is placed under tractor. Belt installation will be completed after mower is installed to tractor.

Belt Installation

Belt Routing (Figure 20)

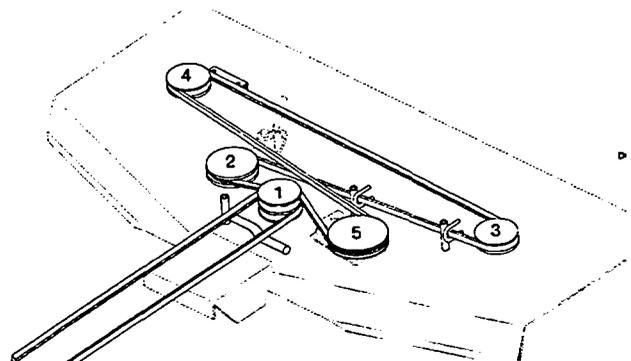


Figure 20. Belt Routing

Pulleys 1, 2 & 5 are moved back in the illustration to provide a clearer view. When the belt is installed on your mower, it will be routed as shown in the illustration but may not look exactly the same.

**Rear Belt Shield Installation
(Figure 28)**

⚠ WARNING

■ Operate tractor PTO at RPM speed stated in "Specifications" section.

Install belt shield (3) on belt shield brackets (1) and tighten bolts (2) into nuts welded to belt shield brackets (1).

If lower belt shield bracket (1) was omitted and optional drawbar was installed, it will be necessary to install a 3/8 x 5/8" spacer between drawbar and belt shield. Use a 5/16 x 1-3/4" bolt and a 5/16" locknut to attach lower portion of shield to drawbar.

Make sure all shielding is properly installed. Check all hardware to be sure it is properly torqued.

Complete the Pre-Delivery and Delivery Check Lists on page 20 before delivering equipment to the customer.

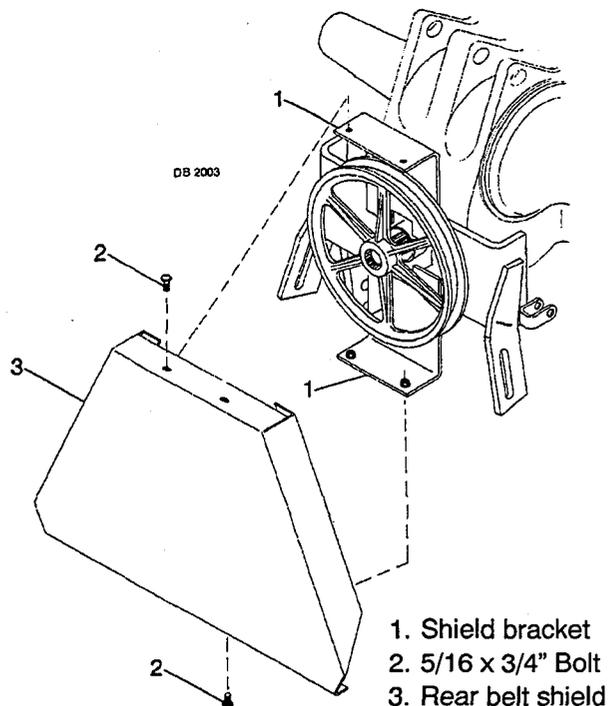


Figure 28. Rear Belt Shield Installation

NOTES

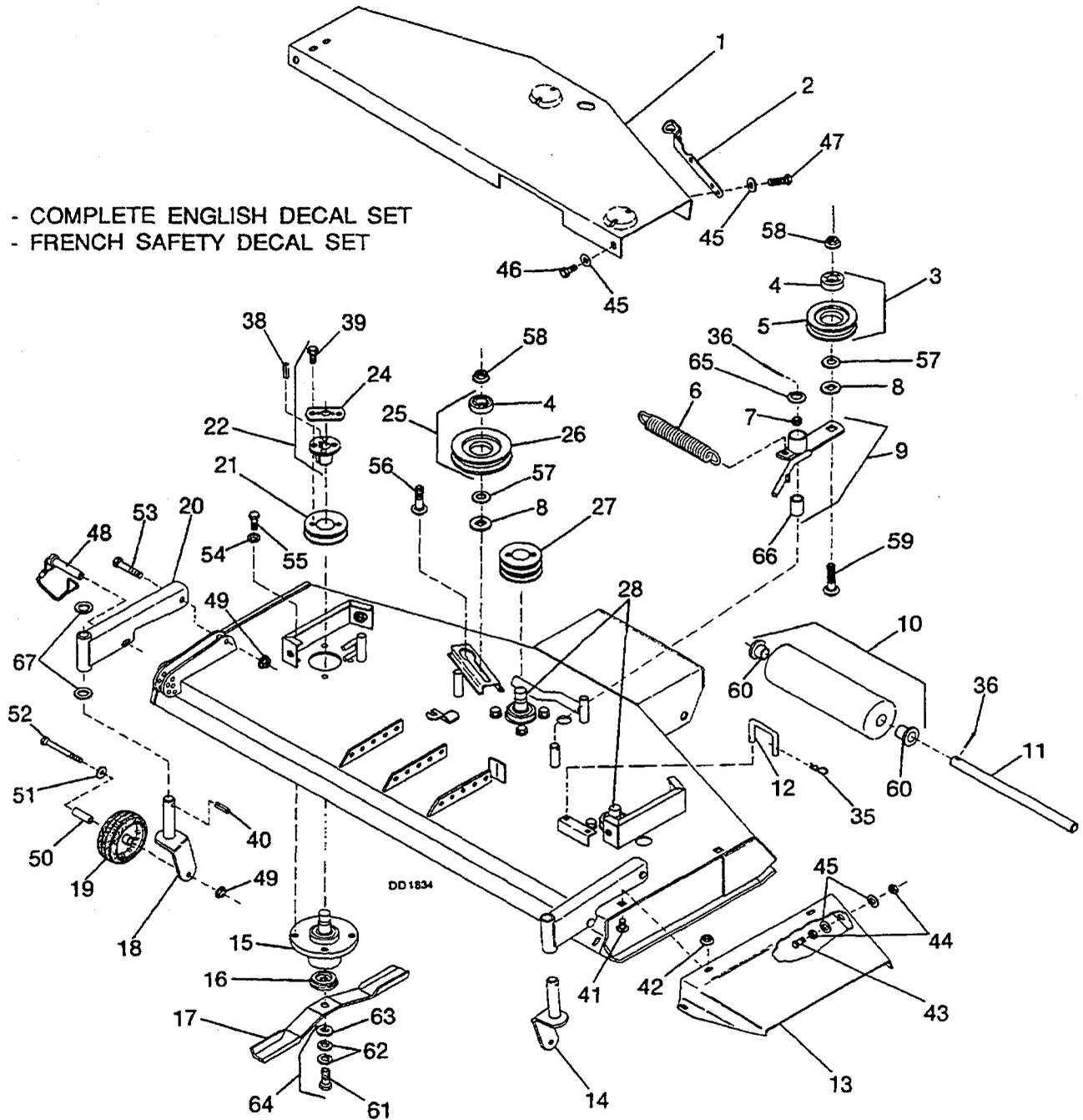
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MAIN FRAME ASSEMBLY	30 & 31
MOUNTING ASSEMBLY	32 & 33
SPINDLE ASSEMBLY	34

L503 F8N MAIN FRAME ASSEMBLY

23 - COMPLETE ENGLISH DECAL SET
29 - FRENCH SAFETY DECAL SET



L503 F8N MAIN FRAME ASSEMBLY

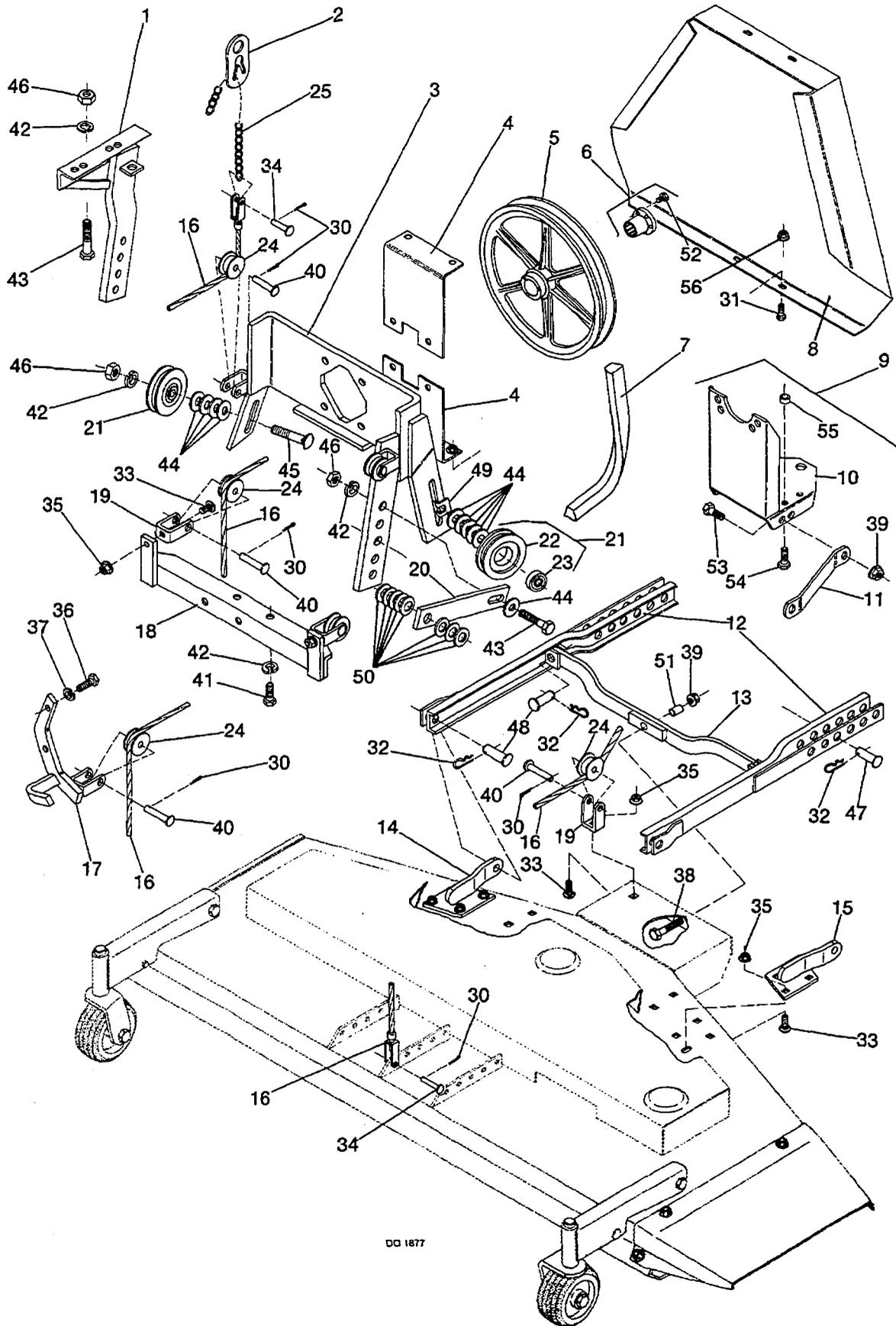
Ref No	Part No	No Used	Description
1	33038	1	Deck belt shield with guides
2	33072	1	Idler arm lock handle
3	24260	1	4-7/16 OD Flat idler and bearing
4	24259	2	.625 ID x 1.78 OD Ball bearing
5	31500	1	4.75 OD Flat idler sheave
6	31360	1	.2 x 1.45 x 8.1 Extension spring
7	22060	1	5/8x 1 x 1/4 Felt seal
8	33037	2	5/8 SQ x 2 x 7GA Washer
9	33035	1	Spring take-up idler arm assembly
10	24585	1	4 x 9-3/4 Roller
11	32854	1	Roller pin
12	33052	1	2-5/8 Spindle lock wrench
13	33047	1	Discharge chute
14	32833	1	Left caster yoke assembly
15	-----	1	Right spindle assembly (see page 34)
16	4110	3	Shoulder washer
17	31359	3	CCW 20-1/4 High lift blade
	-or-	-or-	
17	25997	3	CCW 20-1/4 Low suction blade (optional)
18	32832	1	Right caster yoke assembly
19	31745	2	6.25 x 3.25 x .75 Bore steel wheel
20	32837	2	Caster arm assembly
21	29159	2	1 BK 3.6H Sheave
22	4227	3	H 3/4 Straight bushing with bolts
23	33059	1	Complete English decal set
24	33045	3	Spindle blade lock bar
25	33042	1	5-7/16 OD Flat idler and bearing
26	33043	1	5-7/16 OD Flat idler sheave
27	33032	1	2 BK 3.6H Sheave
28	-----	2	Left and center spindle assembly (see page 34)
29	52311	1	French safety decal set

HARDWARE

Ref No	Part No	Description
35	16218 *	3/32 Safety pin
36	1266 *	3/16 x 1-1/2 Cotter pin
38	3885	3/16 x 3/16 x 1-1/4 Key
39	10378 *	1/4 NC x 1 Hex head cap screw GR5
40	5608 *	1/4 x 1-1/2 Spring pin
41	24597 *	3/8 NC x 3/4 Carriage bolt
42	14350	3/8 NC Flanged hex locknut
43	12169 *	3/8 NC x 1-1/4 Hex head cap screw GR5
44	835 *	3/8 NC Hex nut, plated
45	565 *	3/8 Standard flat washer
46	1686 *	3/8 NC x 3/4 Hex head cap screw GR5
47	839 *	3/8 NC x 1 Hex head cap screw GR5
48	33000	3/8 x 2-1/4 Lynch pin
49	11900 *	1/2 NC Flanged hex locknut
50	29368	1/2 x 3/4 x 3-3/8 Sleeve
51	854 *	1/2 Standard flat washer
52	23479	1/2 NC x 5 Hex head cap screw GR5
53	25474 *	1/2 NC x 2-1/4 Hex head cap screw GR5
54	855 *	1/2 Extra-heavy lockwasher
55	4119	1/2 NF x 1 Hex head cap screw GR5
56	33034	5/8 NC x 1-3/4 Carriage bolt
57	23306	5/8 x 1-1/16 x 10 GA Flat washer
58	6239 *	5/8 NC Hex locknut
59	2855 *	5/8 NC x 2 Carriage bolt
60	29610	5/8 x 7/8 x 7/8 Nylon flange bearing
61	10718	5/8 x 1-1/2 Nylok hex head cap screw HT (left hand threads)
62	10635	5/8 x 1-3/4 x 14 GA Cup washer
63	692 *	5/8 Standard flat washer
64	10951	Left blade bolt and washers complete
65	33041	3/4 x 1-3/8 x 18 GA Shim washer
66	28996	3/4 ID x 1 OD x 2 Bronze bushing
67	31303	1-1/16 x 1-9/16 x 10 GA Washer

*Obtain Locally

L503 F8N FRAME MOUNTING ASSEMBLY



DD 1877

L503 F8N FRAME MOUNTING ASSEMBLY

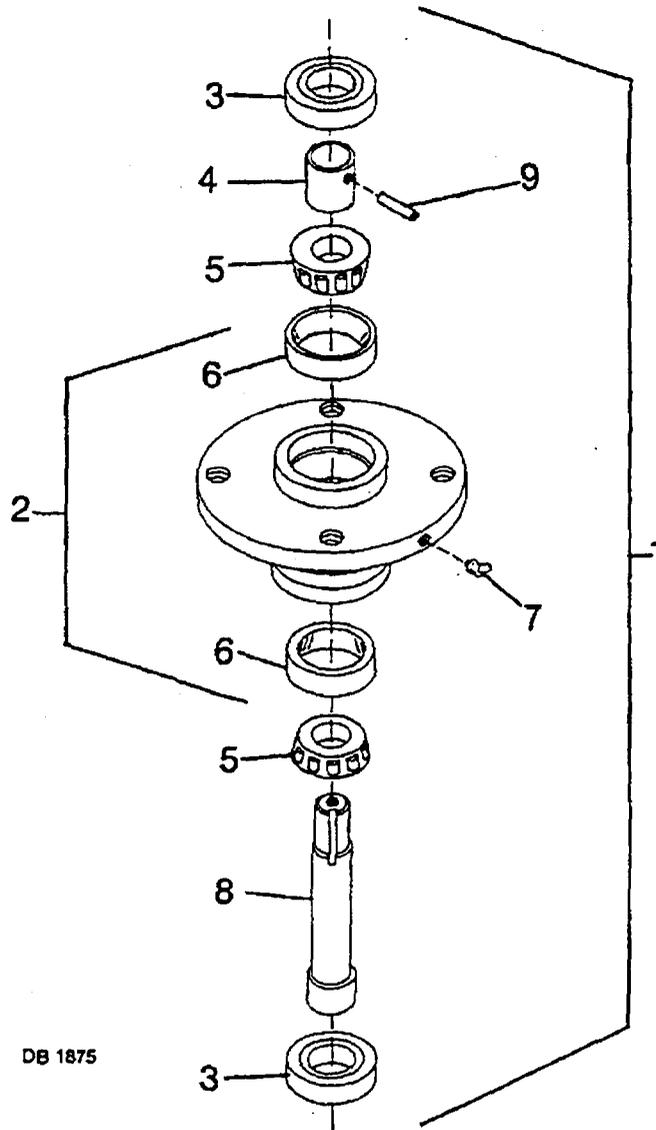
Ref No	Part No	No Used	Description
1	10966	1	Right mounting bracket
2	30169	2	Rear lift lug
3	10960	1	Idler bracket assembly
4	24310	1-2	Shield mounting bracket
5	18257	1	1 TB 18.4 Sheave
6	12743	1	P2 1-3/8 6B Splined bushing with bolts
	-or-		-or-
6	23125	1	P2 1-1/8 6B Splined bushing with bolts
7	33050	1	V-Belt W220
8	10975	1	V-Belt shield complete
9	24267	1	Drawbar complete (optional)
10	24265	1	Drawbar assembly
11	24266	1	Drawbar brace
12	13314	2	Push channel with clevis bar
13	3485	1	Crosswise rear support
14	33006	1	Right outer channel bracket
15	33007	1	Left outer channel bracket
16	33053	2	3/16 x 66 Cable with two clevis
17	10970	1	Lift bracket assembly
18	12027	1	Lift bracket assembly
19	6674	2	Lift clevis, short
20	10965	1	Idler bracket attachment bar
21	4336	2	V-Groove idler with bearing
22	4335	2	4.50 OD V-Groove idler without bearing
23	6095	2	.635 ID x 1.85 OD Ball bearing
24	33068	4	Cable idler casting
25	33046	2	4/0 Passing link chain, 20-link

HARDWARE

Ref No	Part No	Description
30	OL *	3/16 x 1 Cotter pin
31	6096	5/16 NC x 3/4 Hex head cap screw GR5
32	OL *	1/8 Safety pin
33	OL *	3/8 NC x 1 Carriage bolt
34	16120	3/8 x 1-1/4 Clevis pin
35	14350	3/8 NC Flanged hex locknut
36	OL *	7/16 NC x 1-3/4 Hex head cap screw GR5
37	OL *	7/16 Standard lockwasher
38	OL *	1/2 NC x 2 Hex head cap screw GR5
39	11900	1/2 NC Flanged hex locknut
40	409	1/2 x 2 Clevis pin
41	OL *	5/8 NC x 1-1/4 Hex head cap screw
42	OL *	5/8 Heavy lockwasher
43	OL *	5/8 NC x 2 Hex head cap screw HT
44	OL *	5/8 Standard flat washer
45	OL *	5/8 NC x 2-1/2 Carriage bolt
46	OL *	5/8 NC Hex nut
47	410	5/8 x 1-3/4 Clevis pin
48	4097	5/8 x 1-1/2 Clevis pin
49	13091	5/8 Special shim angle washer
50	1863	1" SAE Flat washer
51	3504	1/2 x 5/8 x 1-1/16 Sleeve HT
52	5295 *	5/16 NC x 1 Hex head cap screw
53	OL *	1/2 NC x 1-1/2 Hex head cap screw GR5
54	OL *	5/16 NC x 1-3/4 Hex head cap screw GR5
55	23218	3/8 Schedule 40 x 5/8 pipe
56	14139	5/16 NC Flanged hex locknut

*Obtain Locally

L503 F8N SPINDLE ASSEMBLY



Ref No	"A" Part No	"B" Part No	No Used	Description
1	33003	-----	1	5.5 CCW Blade spindle assembly
1	-----	33065	1	6.12 CCW Blade spindle assembly HT
2	27813	27813	1	Spindle housing with cups
3	5089	5089	2	Seal for 1-1/16 shaft
4	27809	-----	1	27/32 x 1-1/16 x 1-9/32 Sleeve
4	-----	4114	1	27/32 x 1-1/16 x 1-7/16 Sleeve

Ref No	"A" Part No	"B" Part No	No Used	Description
5	4107	4107	2	Cone #M12649
6	4106	4106	2	Cup #M12610
7	3584	3584	1	45° 1/4 Taper thread grease fitting
8	33004	-----	1	5.5 CCW Spindle shaft
8	-----	33066	1	6.12 CCW Spindle shaft HT
9	OL*	OL*	1	3/16 x 1-1/8 Spring pin

* Obtain Locally
A = Right Spindle Assembly
B = Left & Center Spindle Assembly

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TROUBLE SHOOTING

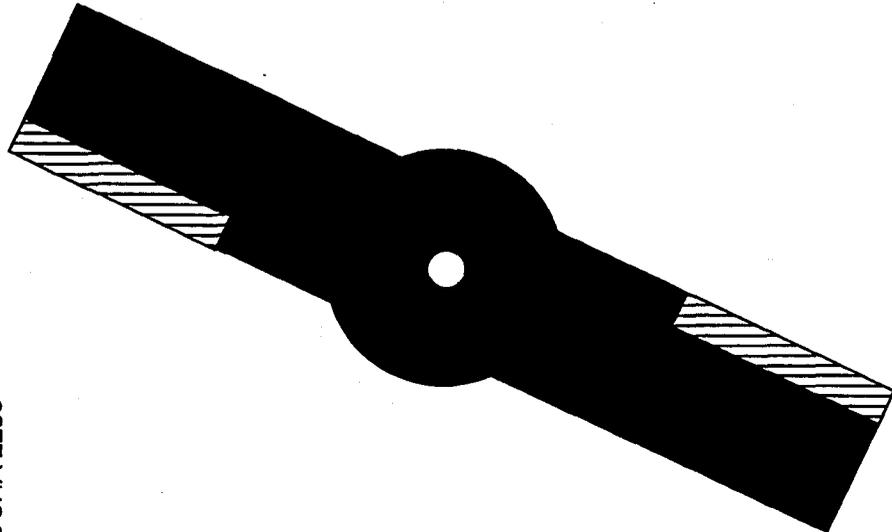
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Safety with Rotary Mowers



U.S. Department of Labor
Occupational Safety and
Health Administration
1976

OSHA 2283



An accident with a rotary mower can cost you your life! Following safety practices, using proper equipment correctly and keeping equipment in good repair are the best accident preventives.

A rotary mower can also injure innocent bystanders, so it is important that they, too, be alert and follow safety rules.

Many accidents have happened when basic safety rules weren't followed.

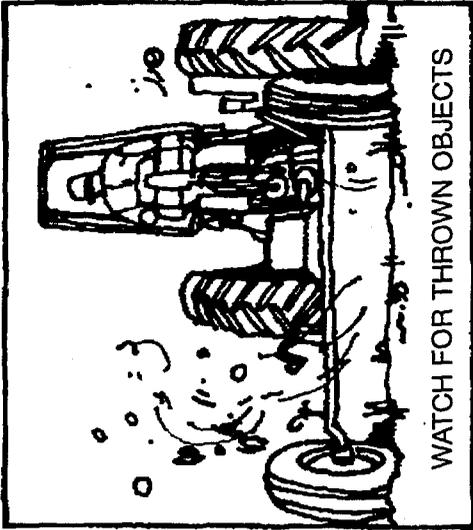
- A limb knocked a passenger off a tractor pulling a rotary mower. Before the tractor could be stopped, the rotary mower ran over the victim.
- An operator accidentally hit a stump while clearing out brush. He fell from the tractor and was run over by the mower.
- While watching a rotary mower in operation, a bystander was severely injured by a piece of barbed wire thrown by the mower blade.

These accidents, and many others, could have been prevented had safety practices been followed.

Safety Practices for Rotary Mowers

- Use the right type of mower for the job . . . Know the job you are going to do, and use the correct kind of mower for it. For example, don't try to cut brush with a mower designed only for forage. You could be exposed to hazards caused by machine failure. Use heavy-duty blades where they are needed, and use a large enough machine to do the job properly. Check your operator's manual for the type of job your mower is designed to do.
- Keep others away . . . Don't allow extra riders on your tractor, and keep other people out of your working area. Serious injury or death can result from falling off the tractor and being run over by the mower, the tractor wheel or being hit by a thrown

■ The mower . . . Watch for objects like tin cans, stones, wire or other items that could be hurled by the mower blades. These can cause serious injury.



WATCH FOR THROWN OBJECTS



WARNING

INSPECT AND CLEAN THE MOWING AREA.

Although carefully shielded, rotary mowers will sometimes discharge tin cans or other refuse with substantial force.

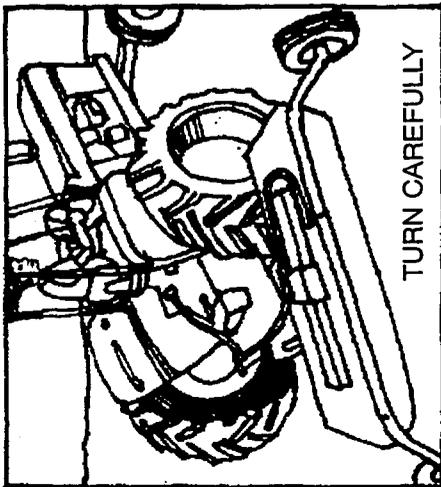
DON'T LET PEDESTRIANS COME NEAR WHEN MOWING.

SAFETY FIRST.

■ Be alert to obstacles . . . Obstacles such as ditches, rocks, and stumps can throw you off the tractor or cause a tractor to upset. Be especially alert when objects may be hidden by tall grass, weeds or brush. If your tractor is equipped with roll-over protection, use the seat belt.

SAFETY WITH ROTARY MOWERS

- Be careful when turning sharp corners . . . On pull-type mowers, the rear tractor wheels could catch the mower frame and throw it toward you. With three-point hitch mounted mowers, the mower swings outward when you make a turn. Front wheel weights may be needed to help you keep control.



TURN CAREFULLY

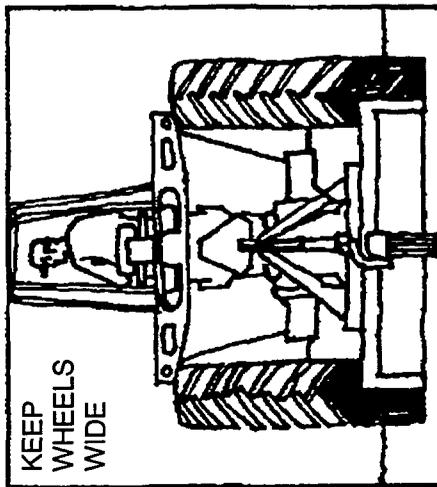
Maintenance for Safety

Before operating your mower, familiarize yourself with its maintenance procedures. Study your operator's manual carefully.

Begin your pre-operational check by making sure the power take-off is disengaged and the engine is shut off. Look for loose nuts and bolts.

Blade sharpness is a key to efficient mowing. Inspect the blades often, and when they become too dull for additional sharpening, replace them. Dull blades can be dangerous, because mowing will be more difficult. Hazards increase when you are having problems with the equipment.

Rotary mowers are often equipped with runners and safety chain guards. To avoid excessive wear on the runners, keep the mower just high enough so that it doesn't ride on the runner shoes.



KEEP WHEELS WIDE

- Be sure blades are stopped . . . Many rotary mowers have blades that continue to rotate for some time after the pto is disengaged. Be sure they have stopped turning before approaching the mower.

The chain guards reduce the possibility of objects being thrown from under the mower. Be sure chain guards are maintained and kept in place. If you must remove them or raise them for certain crops, be sure to replace or readjust them as soon as you are finished.

Power transmission shafts should be protected by shields or guards. Keep them in place on the machine. Always replace shields and guards after maintenance or repair jobs are complete.

If You Are Under 16

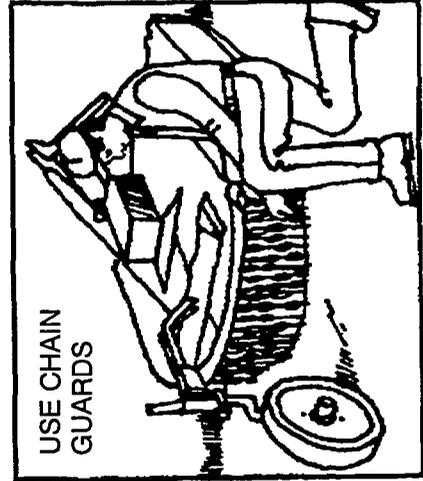
A Federal child labor law affects you. Unless you are working for your parent or guardian on a farm owned or operated by that person, you may not operate a tractor over 20 pto hp and certain other farm machinery. You may do so at age 14, if you have special training.

Young people under 14 may be employed to do any job that is not classified as particularly hazardous if they have the written consent of their parent or guardian. There is one exception: those under 12 are not permitted to work on farms that used 500 or more man-days of farm labor during any quarter of the preceding calendar year. Check with your county Extension office for full details.

See also "Farm Tractor Safety" (OSHA 2235)

by
David H. Loewer
Extension Agricultural Engineer
Purdue University

Developed under contract with the
U.S. Department of Labor
in cooperation with the
U.S. Department of Agriculture



USE CHAIN GUARDS

WARRANTY

Please enter information below and **SAVE FOR FUTURE REFERENCE.**

Date Purchased: _____ From (Dealer): _____

Model Number: _____ Serial Number: _____

WOODS warrants each new WOODS product to be free from defects in material and workmanship. This warranty is applicable only for the normal service life expectancy of the machine or components, not to exceed twelve consecutive months from the date of delivery of the new WOODS product to the original purchaser.

Genuine WOODS replacement parts and components will be warranted for 90 days from date of purchase, or the remainder of the original equipment warranty period, whichever is longer.

Under no circumstances will it cover any merchandise or components thereof, which, in the opinion of the company, has been subjected to negligent handling, misuse, alteration, an accident, or if repairs have been made with parts other than those obtainable through WOODS.

The company in no way warrants engines, batteries, tires or other trade accessories since these items are warranted separately by their respective manufacturers.

Our obligation under this warranty shall be limited to repairing or replacing, free of charge to the original purchaser, any part that in our judgement shall show evidence of such defect, provided further that such part shall be returned within thirty (30) days from date of failure to WOODS, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid.

This warranty shall not be interpreted to render us liable for injury or damages of any kind or nature to person or property. This warranty does not extend to loss of crops, loss because of delay in harvesting, or any expense or loss incurred for labor, supplies, substitute machinery, rental or for any other reason.

Except as set forth above, WOODS SHALL HAVE NO OBLIGATION OR LIABILITY OF ANY KIND ON ACCOUNT OF ANY OF ITS EQUIPMENT AND SHALL NOT BE LIABLE FOR SPECIAL OR CONSEQUENTIAL DAMAGES. WOODS MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND, SPECIFICALLY, WOODS DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SOME STATES OR PROVINCES DO NOT PERMIT LIMITATIONS OR EXCLUSIONS OF IMPLIED WARRANTIES OR INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE LIMITATIONS OR EXCLUSIONS IN THIS WARRANTY MAY NOT APPLY.

This warranty is subject to any existing conditions of supply which may directly affect our ability to obtain materials or manufacture replacement parts.

WOODS reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligations to owners of units previously sold.

No one is authorized to alter, modify, or enlarge this warranty nor the exclusions, limitations and reservations.

Woods Equipment Company

2606 Illinois Route 2 South
Post Office Box 1000
Oregon, Illinois 61061

815-732-2141 tel
815-732-7580 fax

WOODS

**WOODS
DUAL
GANNON
ALLOWAY
GILL**

**ENVELOPE
PART NUMBER
31533**

**Woods Equipment
Company**

2606 Illinois Route 2 South
Post Office Box 1000
Oregon, Illinois 61061

815-732-2141 tel
815-732-7580 fax

WOODS

LITHO IN USA