

WOODS ROTARY MOWER

L59A-3
L306A-3

**For use on International Harvester
A, Super A, 100, 130 & 140**

15148

Rev. 2/9/2007

WOODS®
Tested. Proven. Unbeatable.

OPERATOR'S MANUAL

TO THE DEALER:

Assembly and proper installation of this product is the responsibility of the Woods® dealer. Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery and Delivery Check Lists in the Operator's Manual are completed before releasing equipment to the owner.

The dealer must complete the Product Registration included with the Operator's Manual. The customer must sign the registration which certifies that all Dealer Check List items have been completed. The dealer is to return the prepaid postage portion to Woods, give one copy to the customer, and retain one copy. **Failure to complete and return this card does not diminish customer's warranty rights.**

TO THE OWNER:

Read this manual before operating your Woods equipment. 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 adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.

The equipment 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 equipment.

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 model number and serial number of your equipment in the spaces provided:

Model: _____ **Date of Purchase:** _____

Serial Number: (see Safety Decal section 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.



Indicates that failure to observe can cause damage to equipment.



Indicates helpful information.

WOODS®

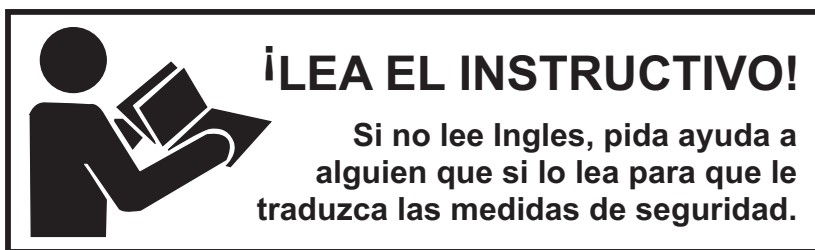
ALITEC™
BMP®
CENTRAL FABRICATORS®
GANNON®
GILL®
WAIN-ROY®
WOODS®

2 Introduction

Gen'l (Rev. 2/5/2007)

TABLE OF CONTENTS

INTRODUCTION	2
SPECIFICATIONS	4
GENERAL INFORMATION	4
SAFETY RULES	5
SAFETY DECALS	7
OPERATION	8
OWNER SERVICE	12
DEALER SERVICE	15
TROUBLESHOOTING	17
ASSEMBLY	19
DEALER CHECK LISTS	26
PARTS LISTS	31
BOLT TORQUE CHART	45
BOLT SIZE CHART & ABBREVIATIONS	46
INDEX	47
REPLACEMENT PARTS WARRANTY	48
PRODUCT WARRANTY	INSIDE BACK COVER



This Operator's Manual should be regarded as part of the machine. Suppliers of both new and second-hand machines must make sure that this manual is provided with the machine.

SPECIFICATIONS

<u>MODEL</u>	<u>L59A-3</u>	<u>L306A-3</u>
Cutting Width	60"	72"
Cutting Height Range	1-1/2" - 4-1/4"	1-1/2" - 4-1/4"
Blade Speed (RPM)	2,786	2,173
Blade Tip Speed (feet per minute)	14,770	13,938
Blade Spindles	3	3
Number of Blades	3	3
Caster Wheels	Optional	Optional
Caster Size	3" x 8-1/2"	3-1/4" x 10-1/2"
Mower Frame Thickness	7 GA	7 GA

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. However, 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.

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

 **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.



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 an operator's single careless act.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, judgement, 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 operator.

TRAINING

- **Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals and safety decals are available from your dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, 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.**
- **Never allow children or untrained persons to operate equipment.**

PREPARATION

- **Check that all hardware is properly installed. Always tighten to torque chart specifications unless instructed otherwise in this manual.**
- **Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.**
- **Make sure attachment is properly secured, adjusted, and in good operating condition.**
- **Remove accumulated debris from this equipment, power unit, and engine to avoid fire hazard.**

- **Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)**

- **Make sure shields and guards are properly installed and in good condition. Replace if damaged.**

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

OPERATION

- **You may not be able to stop the tractor safely if the clutch or brake pedal mechanisms are improperly adjusted, allowing them to contact mower components.**

- **When the mower lift stops are installed as instructed in this manual, properly adjusted clutch and brake pedal mechanisms will not contact mower components. You should frequently check that the tractor clutch and brake pedal mechanisms are in adjustment.**

- **If the clutch or brake pedal mechanisms can contact mower components, do not put mower into service until properly adjusted.**

- **Do not put mower into service unless discharge chute is installed and in good condition. Replace if damaged.**

- **Keep bystanders away from equipment.**

- **Do not operate or transport equipment while under the influence of alcohol or drugs.**

- **Never direct discharge toward people, animals, or property.**

- **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.**

- **Never allow riders on power unit or attachment.**

- **Always sit in power unit seat when operating controls or starting engine. Place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting power unit engine.**

- **Look down and to the rear and make sure area is clear before operating in reverse.**

- **Do not operate or transport on steep slopes.**

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



- 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 power unit and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operation.

TRANSPORTATION

- Always comply with all state and local lighting and marking requirements.
- Never allow riders on power unit or attachment.
- Do not operate PTO during transport.
- Watch for hidden hazards on the terrain.
- Do not operate or transport on steep slopes.
- Do not operate auxiliary hydraulics during transport.
- Do not operate or transport equipment while under the influence of alcohol or drugs.

MAINTENANCE

- Before dismounting power unit or performing any service or maintenance, follow these steps: disengage power to equipment, lower the 3-point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, set parking brake, stop engine, remove key, and unfasten seat belt.
- 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 getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.
- Never go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. Never place any part of the body under-

neath 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.

- Make sure attachment is properly secured, 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 equipment 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 putting unit into service.
- Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)
- Make sure shields and guards are properly installed and in good condition. Replace if damaged.
- Wear gloves when installing belt. Be careful to prevent fingers from being caught between belt and pulley.

STORAGE

- Block equipment securely for storage.
- Keep children and bystanders away from storage area.



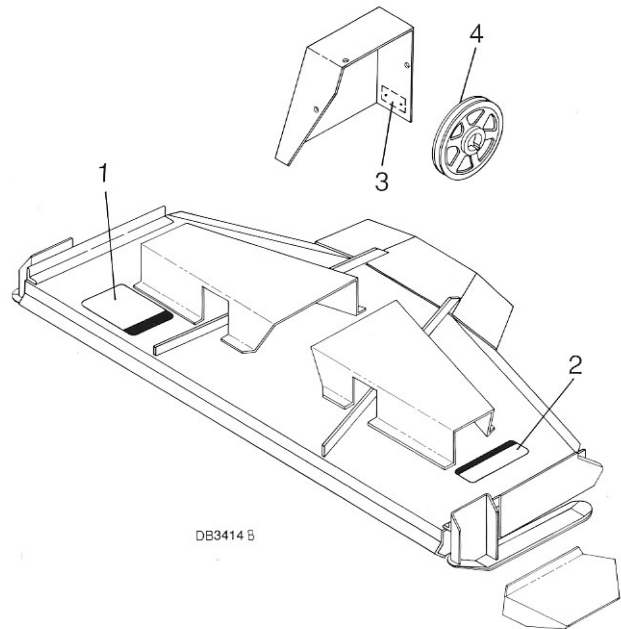


SAFETY & INSTRUCTIONAL DECALS

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



3 - Serial Number Plate



1 - 25505

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. Never allow riders.
- Know how to stop tractor and equipment quickly in an emergency.
- Clear mowing area of debris.
- Never allow children or unqualified persons to operate equipment.
- Be careful on uneven terrain. Decrease speed when turning.
- Do not operate in transport position.

25505-G

2 - 53425

DANGER

ROTATING BLADES AND THROWN OBJECTS

- Do not put hands or feet under or into mower when engine is running.
- Before mowing, clear area of objects that may be thrown by blade.
- Keep bystanders away.
- Keep discharge chute and guards in place and in good condition.

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

53425-B

4 - 18869

DANGER

SHIELD MISSING

DO NOT OPERATE - PUT SHIELD ON

18869-B

OPERATION

WARNING

- Do not allow children or unqualified persons to operate equipment.
- Keep bystanders away from equipment while it is in operation.
- Before working underneath, block mower securely. Hydraulic system leak down and failure of mechanical or hydraulic system can cause equipment to drop.
- Keep all persons away from operator control area while performing adjustments, service or maintenance.

CAUTION

- Stop mower and tractor immediately upon striking an obstruction. Turn off engine, remove key, inspect and repair any damage before resuming operation.
- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hands, hearing and head.

These mowers are manufactured for use on many tractors. Some components may be standard or optional on some mountings. Therefore, some equipment described in this manual may not apply to your mower. Woods **L59** and **L306** mowers are designed for lawn or grass mowing, not for rough conditions or heavy weed mowing.

They are equipped with suction-type blades for best results in lawn mowing. Optional low-suction blades are available. Refer to Optional Equipment section for details.

Recommended mowing speed for most conditions is from two to five mph.

The safe operation of this mower 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 information on page 5 through page 7.

ADJUSTMENTS

Cutting Height Adjustment

NOTICE

- Avoid very low cutting heights. Striking the ground with blades produces one of the most damaging shock loads a mower can encounter and, if this happens repeatedly, will cause damage to the mower and drive.

Mower cutting height is raised and lowered with a manual or hydraulic lift. It may be adjusted using optional caster wheels, push bar and channel arm settings.

With Lift Chains

Refer to Figure 17, page 23. Adjust lift chain (8) in key-hole lift lug (11) to make sure the lift is in its highest position before any part of the mower or casters is within 1/4" of tractor bottom. Improper chain adjustment will result in damage to the lift mechanism, mower and/or tractor.

When the lift chain is adjusted, cut off any excess to prevent it from becoming entangled.

With Optional Casters

On **L59**, adjustment is made by placing axle in upper and lower hole in yoke, or by moving spacers to top or bottom of pivot shaft.

On **L306**, the caster arm has five holes for adjustment. Cutting height is adjusted by changing adjustment bracket hole alignment with caster arm.

Whenever adjustments are made with casters, carefully raise mower to ensure casters do not come in contact with any part of the tractor. Should any interference occur, readjust lift chains.

NOTICE

- Too much slack will allow chain to drag on drive belt. Proper lower quadrant stop setting is important.
- Always raise mower off casters when backing up and turning at the same time to prevent casters from locking up on front tractor tires.
- Whenever adjustments are made, carefully raise mower to ensure casters do not come in contact with any part of the tractor.

Side Skid Adjustment

When properly adjusted, side skids are designed to carry mower over uneven ground to minimize scalping. Set side skids 1/2" above ground after cutting height has been established. This should allow skids to clear level ground but hit when passing over rough or uneven areas. Take into consideration that when casters are used, they will sink into the turf. Adjust skids to carry mower when casters drop into depressions. Never operate with full weight of mower on side skids constantly.

Mower Attitude

Position front of mower level with or slightly below the rear. Mowing with the front end high will produce ragged cuts with a scalloped look, excessive shredding and will require extra power. See instructions in Optional Equipment section, page 26, when using leaf mulcher.

Adjustment

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 casters or lift chains.

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

NOTICE

■ **Any adjustment to either dimension "A" or "B" will require adjustment to the other.**

Check cutting height and attitude by placing a straight-edge along the outside edge of mower frame as shown in Figure 1.

Measure from bottom edge of straightedge at the front and rear at least 32" apart. The front measurement should be approximately 1/2" lower than the rear.

To determine cutting height, it is necessary to subtract the distance the blade is below the mower frame from the front measurement. On the **L59**, the blade is 4-5/8" below the mower frame. On the **L306**, it is 4-7/8" below.

When checking cutting height, be sure to take measurements on both sides of mower. Make sure mower is level from side-to-side using these measurements.

When changes are made to cutting height or attitude, be sure to check belt alignment and tension.

NOTICE

■ **Improper belt alignment or tension can cause premature belt failure.**

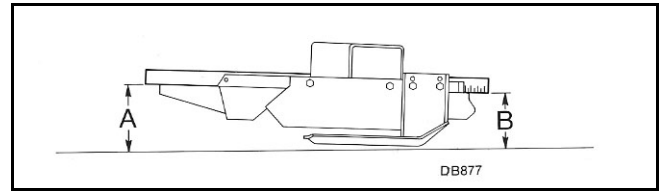


Figure 1. Attitude Adjustment

STARTING AND STOPPING MOWER

NOTICE

■ **Mower vibration tends to loosen bolts during operation. All hardware should be checked regularly to maintain proper torque. It is a good practice to check mower before each operation to ensure all hardware is secure.**

Power for operating the mower is supplied from the tractor power-take-off (PTO). Refer to your tractor manual for instructions for engaging and disengaging the PTO. Always operate engine at full rated PTO rpm. Learn how to stop tractor and mower quickly in case of an emergency.

Should mower become plugged, causing belt to slip for 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; this will reduce the risk of thrown objects.

WARNING

■ **A minimum 20% of tractor and equipment weight must be on tractor front wheels with mower in transport position. Without this weight, tractor could tip over causing personal injury or death. The weight may be attained with 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.**

PRE-OPERATION CHECK LIST

(Owner Responsibility)

- ___ Review and follow safety rules and safety decals on page 5 through page 7.
- ___ Do not operate mower unless discharge chute or side shield is installed.
- ___ Check that mower is properly and securely attached to tractor.

- ___ Check to ensure blades are sharp and secure and cutting edge is positioned to lead in a counter-clockwise rotation.
- ___ Check that all hardware is properly installed and secured.
- ___ Check to ensure spindles and caster wheels are lubricated.
- ___ Clear area to be mowed of debris that could be picked up and thrown by mower.
- ___ Check mower cutting height and attitude adjustment.
- ___ Check that all shields and guards are properly installed and in good condition.
- ___ Place tractor PTO and transmission in neutral before attempting to start engine.
- ___ Raise mower carefully and check to be sure it does not come in contact with bottom of tractor.
- ___ Check belt tension; refer to page 25 for instructions.

TRANSPORTING

WARNING

- **Do not operate tractor PTO during transport.**

COMMENCING MOWING

DANGER

- **Do not operate mower unless either discharge chute or side shield is installed.**

WARNING

- **Never direct discharge toward anyone.**

A side shield and discharge chute are provided for the left side. The side shield should be used for normal mowing. Use the discharge chute to replace the side shield in very heavy material.

CAUTION

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

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

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 platform as level as possible. When mower blades show excessive wear, they should be replaced.

MOWING TECHNIQUES

Mowing Speed

Proper ground speed for mowing will depend on the height, type and density of grass to be cut.

Normally, ground speed will range from two to five miles per hour. Tall dense grass should be mowed at low speeds, while thin medium-height grass can be cut at a faster ground speed.

Always operate PTO at full rpm when mowing. This is necessary to maintain proper blade speed to produce a clean cut.

Under certain seasonal conditions, front tractor tires or casters may roll some grasses down and prevent them from being cut to the same height as the surrounding area. When this occurs, reduce tractor ground speed. The slower speed will permit grasses to at least partially rebound and be cut.

Under some conditions, the grasses 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

Extremely tall grass should be mowed twice. Raise mower for first pass. Then lower to desired height for second pass and cut 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 and type of grass and the terrain type (hilly, level or rough).

When using the discharge chute, 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.

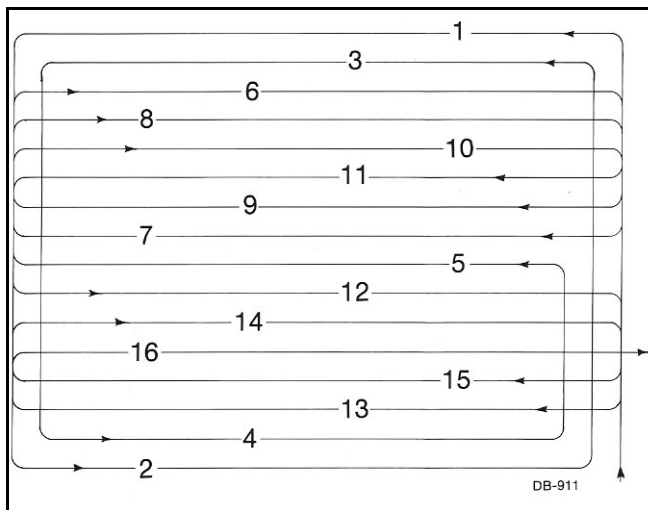


Figure 2. Mowing Pattern

For a professional touch in large open areas, try the mowing pattern in Figure 2. 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 each end of area over grass previously mowed.

Plan your mowing pattern to travel straight forward whenever possible.

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

- **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.**

The addition of rear tractor weight 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.

OWNER SERVICE

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.

WARNING

- Before working underneath, block mower securely. Hydraulic system leak down and failure of mechanical or hydraulic system can cause equipment to drop.
- Keep all persons away from operator control area while performing adjustments, service or maintenance.

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, hands, hearing and head.

LUBRICATION

Do not let excess grease collect on or around parts, particularly when operating in sandy areas. The accompanying illustrations show lubrication points. Lubrication intervals are based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication.

Use a lithium grease of #2 consistency with a MOLY (molybdenum disulfide) additive for all locations. Be sure to clean fittings thoroughly before attaching grease gun. When applied according to the lubrication chart, one good pump of most guns is sufficient.

Spindle Lubrication

There are grease zerks on each of the three blade spindles. They are accessible without shield removal. Grease each spindle every 24 hours of operation with a good grade light-to-medium grease gun.

NOTICE

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

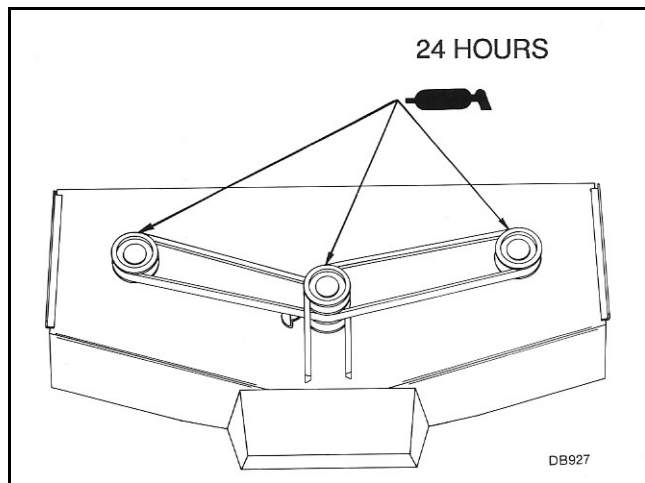


Figure 3. Spindle Lubrication

Caster Lubrication

Lubricate the caster pivot and caster wheel every eight hours of operation.

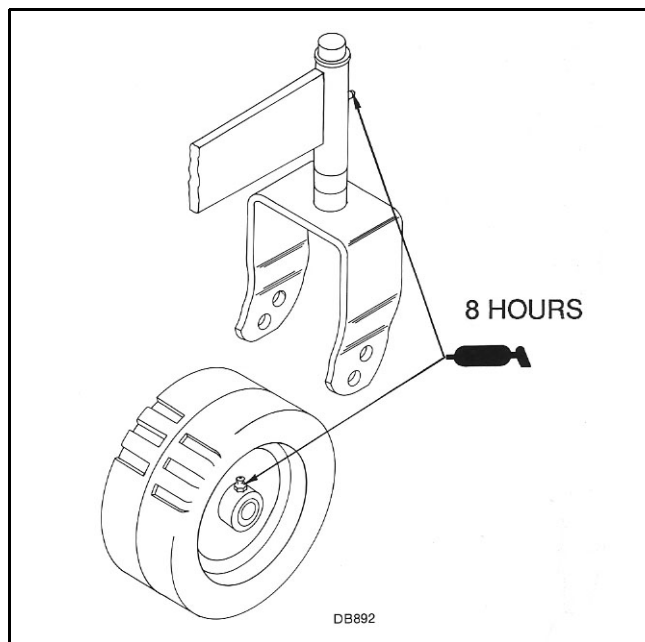


Figure 4. Caster Lubrication

BLADE SERVICING

Inspect blades before each use to determine that they are securely fastened and 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.

Sharpening

NOTICE

■ 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.

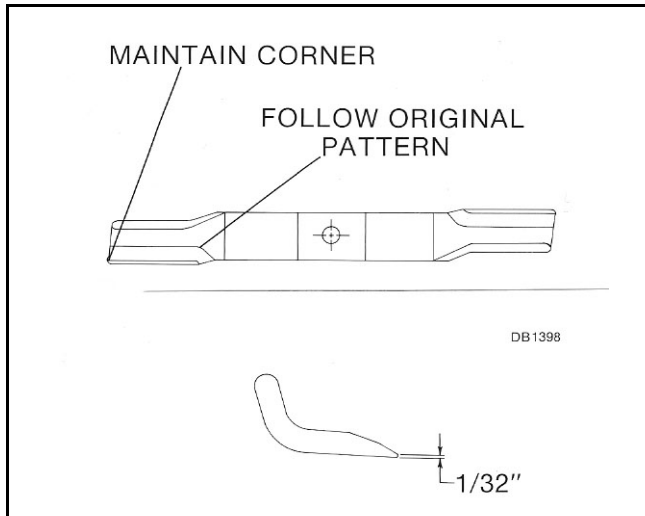


Figure 5. Blade Sharpening

Remove blades. Always sharpen both ends at the same time to maintain balance. Follow the original sharpening pattern. Do not sharpen blade to a razor edge. Leave from 1/32" to 1/16" blunt edge. Do not sharpen backside.

CAUTION

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

Removal and Installation

Wedge a block of wood between blade and mower housing, or install blade wrench over spindle pulley bolts to prevent spindle from rotating while removing bolts. Loosen the Nylok blade bolt, which has **left hand threads**.

L59 Removal

Remove the bolt, two cup washers, flat washers and blade. The shoulder washer will not normally come off the machine unless intentionally removed.

L59 Installation

Install shoulder washer (if removed) small end up.

Position blade. Be sure cutting edge is positioned to lead in counter-clockwise rotation, as viewed from top of mower.

Install flat washer, cup washers and bolt. Torque bolt to 170 lbs-ft.

Excessive blade slippage can cause the cup washers to burn and lose their clamping force. If this happens, the cup washers must be replaced.

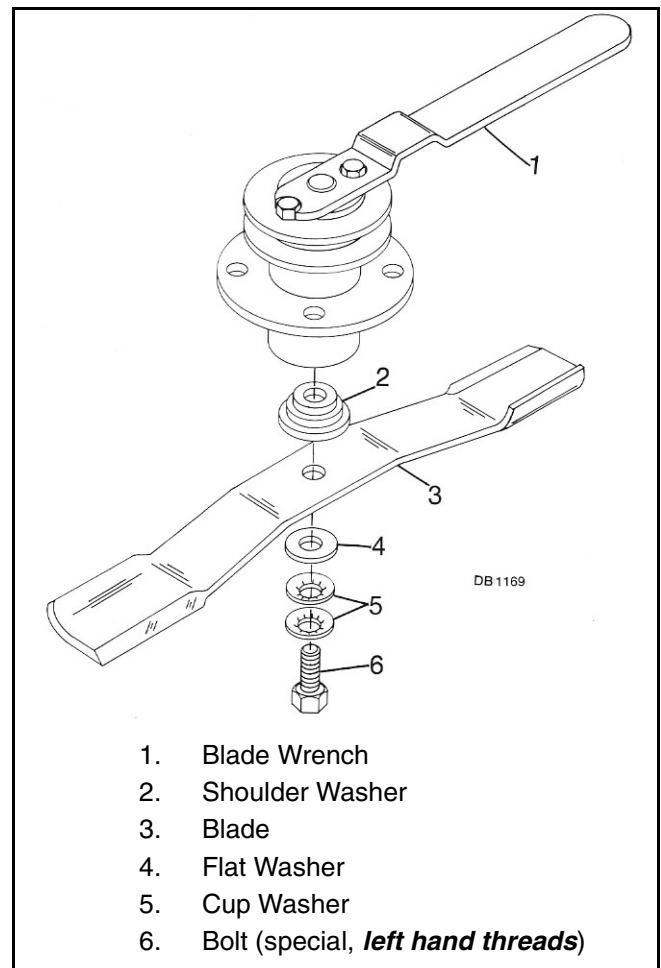


Figure 6. Blade Assembly

L306 Removal

Remove bolt, special heat-treated washer, sleeve, cup washers, shim washer, blade, blade stop and clutch disc. The shoulder washer will not normally come off the machine unless intentionally removed.

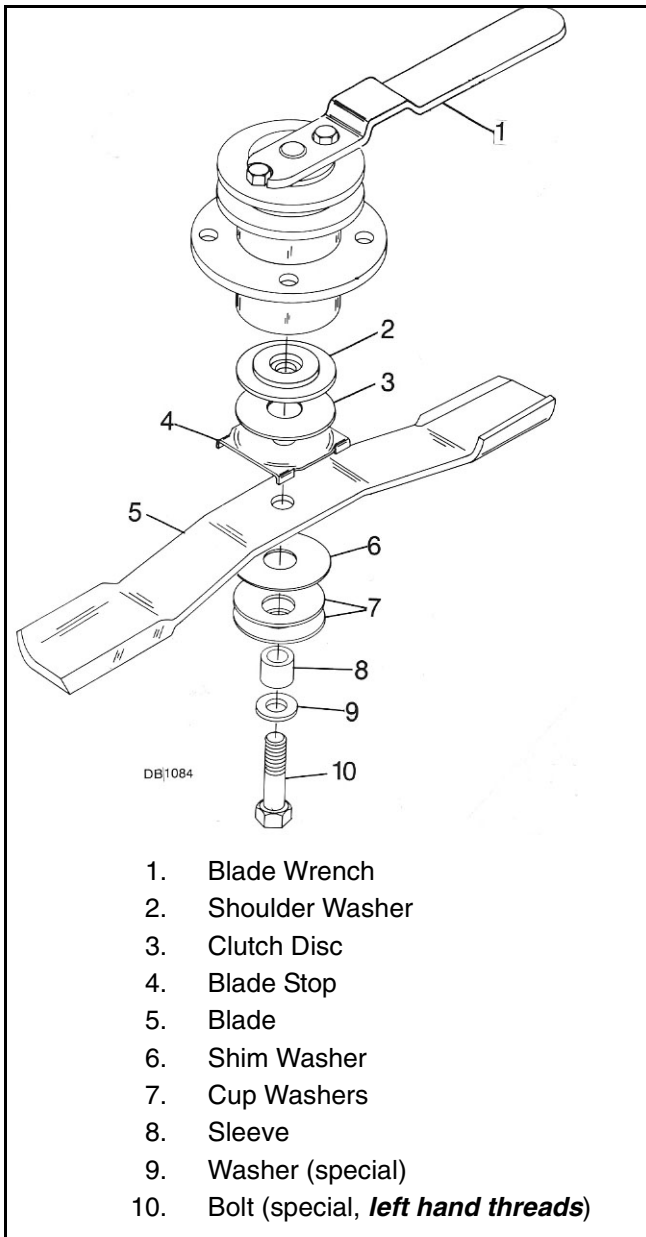


Figure 7. Blade Assembly L306

L306 Installation

Assemble shoulder washer (small end up, if removed), clutch disc, blade stop and blade. Ensure cutting edge is positioned to lead in counter-clockwise rotation, as viewed from top of mower.

Position shim under blade. Install cup washers sleeve, special heat-treated washer, and special Nylok bolt.

Shims should be added to blade installation to leave approximately 1/32" cup in the cup washers when blade bolt is torqued to 170 lbs-ft.

Excessive blade slipping can cause the cup washers to burn and lose their clamping force. If this happens, the cup washers must be replaced.

The **L306** mower blades have friction clutch discs. The clutch is designed to slip only when striking a solid object. If slippage occurs during normal mowing, it may be necessary to add a thin shim washer over sleeve.

Belt Replacement

One of the major causes of belt failure is improper installation. Before a new belt is installed, check pulley shafts and bearings for wear. Check pulley grooves for cleanliness. Make sure spindles turn freely and without wobble.

If grooves require cleaning, moisten a cloth with a non-flammable, non-toxic degreasing agent or commercial detergent and water.

Avoid excessive force during installation.

Do not use tools to pry belt into pulley groove. Do not roll belt over pulleys to install. This can cause hidden damage and premature belt failure.

Refer to Assembly instructions section, page 20, for belt installation.

CLEANING

After Each Use

- Remove large debris such as clumps of dirt, grass, crop residue, etc. from machine.
- Inspect machine and replace worn or damaged parts.
- Replace any safety decals that are missing or not readable.

Periodically or Before Extended Storage

- Clean large debris such as clumps of dirt, grass, crop residue, etc. from machine.
- Remove the remainder using a low-pressure water spray.
 1. Be careful when spraying near scratched or torn safety decals or near edges of decals as water spray can peel decal off surface.
 2. Be careful when spraying near chipped or scratched paint as water spray can lift paint.
 3. If a pressure washer is used, follow the advice of the pressure washer manufacturer.
- Inspect machine and replace worn or damaged parts.
- Sand down scratches and the edges of areas of missing paint and coat with Woods spray paint of matching color (purchase from your Woods dealer).
- Replace any safety decals that are missing or not readable (supplied free by your Woods dealer). See Safety Decals section for location drawing.

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.

WARNING

- **Before working underneath, block mower securely. Hydraulic system leak down and failure of mechanical or hydraulic system can cause equipment to drop.**
- **Keep all persons away from operator control area while performing adjustments, service or maintenance.**

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, hands, hearing and head.**

BLADE SPINDLE REPAIR

Removal

Remove blade from spindle. Remove belt shield. Remove belt from pulleys.

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

Remove four bolts attaching spindle to mower frame and remove spindle.

Repair Tips

As a reference point, the grease fitting is in the top portion of spindle housing.

To minimize wear, bearing cups, cones and sleeves are press fit to shaft and will require a press of similar device for removal.

When disassembling, support housing casting to prevent damage. Remove bearing cups by placing a punch in housing slots and driving out. Alternate punch

positions from side to side. Use care to prevent housing damage.

Permatex 3D Aviation Form-A-Gasket[®] or equivalent is recommended as a sealant for spindle repair.

Disassembly

Drive spring pin (5) out of spindle shaft (9). Support spindle in a press and push shaft (9) down through housing (2). Remove seals from housings. Remove bearing cups from housings. Remove bearing cone from spindle shaft.

Assembly

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

Lubricate new cups (7) with a light oil. Place them in spindle housing (2) so they will mate with cones (6). Seat cups (7) against machined shoulder of housing with a press or by placing a large soft drift on the flat lip and driving them into housing.

Place bottom bearing cone (6) onto spindle shaft (9) with taper up. Seat on bottom shoulder of shaft with a press.

Insert shaft and bearing cone assembly through bottom of housing (2). Fill housing cavity with a lithium grease of #2 consistency with a MOLY (molybdenum disulfide) additive.

Place top cone (6) on shaft (9), taper down.

Apply a thin coat of Permatex[®] to shaft area where sleeve (4) will seat.

Insert sleeve (4) on shaft (9) and press sleeve and bearing onto shaft until all bearing free play is removed and there is a slight drag (similar to adjusting the front wheel bearings on an automobile). Check by spinning spindle. It should turn freely.

Be careful not to overtighten bearings. Proper bearing adjustment is essential to good bearing life.

Should you overtighten bearings, hold spindle housing and rap spindle shaft with a lead hammer to loosen bearings. Readjust bearings until proper setting is obtained.

NOTICE

- **Improper positioning of seals can cause seal failure.**

Proper seal installation is important. An improperly installed seal will leak and could cause bearing failure. Lightly coat area of housing where seals seat with Permatex®.

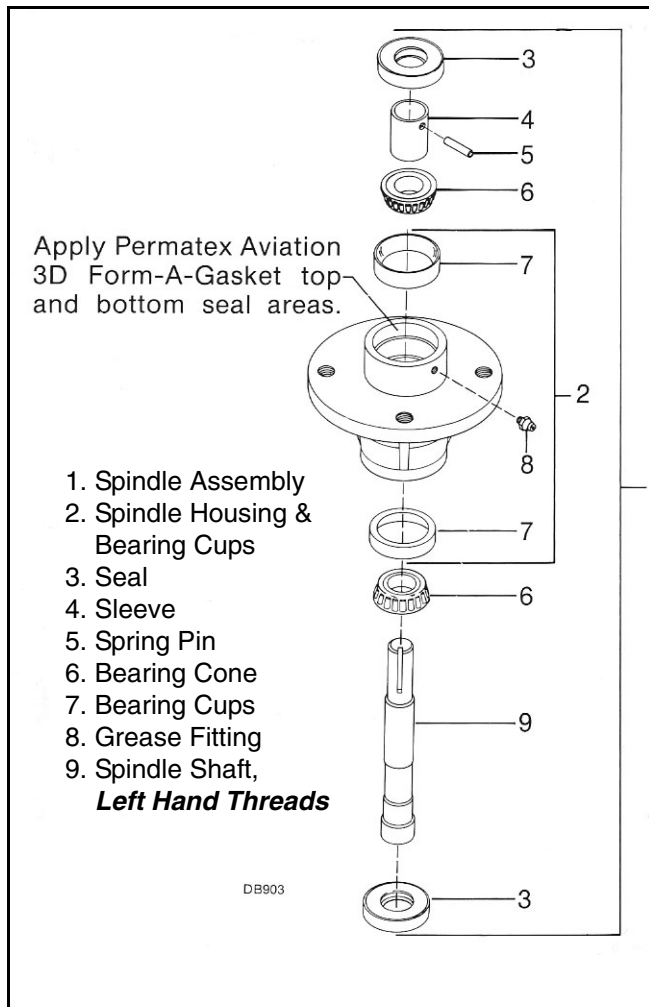


Figure 8. Spindle Assembly

Pull the rubber portion of seal back and locate spring.

Apply a thin coat of lubricant to bottom seal and install with spring up toward center of housing.

Place seal squarely on housing. Select a piece of pipe or tubing with an outside diameter that will set on outside edge of seal. A tube that is too small will bow seal cage.

Carefully press seal into housing, preventing distortion to metal seal care. Seal should seat firmly and squarely against machined shoulder in housing.

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

Apply a thin coat of lubricant to top seal and install with spring up away from center of housing. Top seal should be flush with, to 1/16" above, housing.

NOTICE

■ **Bearing adjustment is set by pressing sleeve against bearing until proper adjustment is attained. Adjustment is maintained by drilling a hole through sleeve (4) and spindle shaft (9) and inserting a spring pin.**

■ **Bearing cups and cones may vary; therefore it is necessary to drill a new hole through shaft (9) to maintain proper adjustment of new bearings. Drill hole 90° to the original hole.**

Place a rag over seal for protection and drill a 3/16" hole 9/32" down from top of sleeve (4) and 90° to original hole in shaft (9). Drive spring pin (5) through sleeve and shaft to hold bearing adjustment. Make sure spring pin does not extend past outer diameter of sleeve on either side. File pin off if necessary.

Lubricate spindle with a medium grade grease, venting top seal with a blunt edged tool such as a letter opener while filling with grease.

Rotate housing on spindle shaft, checking for free movement.

Installation

Insert spindle through bottom of mower deck and secure with four mounting bolts. Be sure to position grease fittings toward lubrication access areas. Refer to Lubrication in Owner Service section, page 12.

Install pulley, split taper bushing and key on spindle shaft and adjust to height indicated. Alternately tighten split taper bushing bolt to 12 lbs-ft. Check to make sure pulley is adjusted to the proper dimensions as shown in Figure 9.

Dimensions are from top of mower deck to pulley centerline.

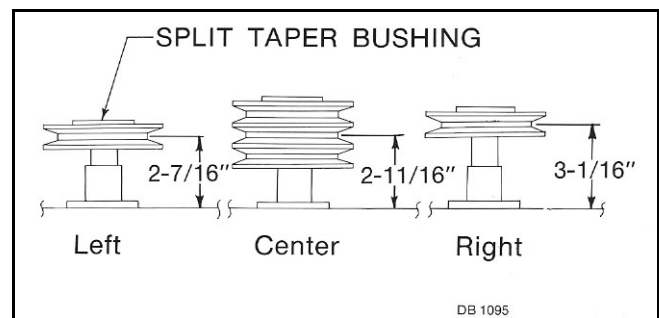


Figure 9. Blade Spindle Installation

TROUBLESHOOTING 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	Adjust mower height and attitude so that mower rear and front are within 1/2" of same height.
	Loose blade	Check clamping cup washers. If flat or not holding, replace.
Grass cut lower in center of swath than at edge	Height of mower lower	Adjust mower height and attitude so that mower rear and front are within 1/2" of same height.
	Loose blade	Check clamping cup washers. If flat or not holding, replace.
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 or casters	Slow ground speed of tractor but keep engine running at full PTO 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 blades	Check clamping cup washers. If flat or not holding, replace.
	Material too high or too much material	Reduce ground speed but maintain full rpm at tractor PTO, or make two passes over material. Raise mower for first pass. Lower to desired height for second pass 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 engine running at full PTO rpm. Cutting lower will help.
	Rear of mower too low trapping material under mower	Adjust mower height and attitude.

TROUBLESHOOTING BELT CONDITIONS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Belt slippage	Belt too loose	Re-tension belt.
	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 over lubrication	Be careful not to over lubricate. Clean lubricant from belt and pulleys with a clean rag. Replace oil-soaked belt.
	Belt hung up or rubbing	Check belt for free travel in pulleys and belt guides. Check under mower and around blade spindle shafts for wire, rags, or other foreign material. Clean all material from under mower.
	Belt or pulleys worn out	If the belt rides in bottom of pulley groove, either belt or pulley is worn and must be replaced.
Frayed edges on cover	Belt misalignment or belt rubbing guide	Re-align belt or guide. Be sure belt doesn't rub any other part while running.
Belt rollover	Pulley misalignment	Realign.
	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 ground or large obstructions.
	Belt came off drive	Check drive alignment for foreign material in grooves. Ensure proper tension. Avoid hitting solid objects or ground.

* 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

DEALER SET-UP INSTRUCTIONS

This mower is equipped with suction type blades for best results in lawn mowing.

WARNING

- Before working underneath, block mower securely. Hydraulic system leak down and failure of mechanical or hydraulic system can cause equipment to drop.
- Keep all persons away from operator control area while performing adjustments, service or maintenance.

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, hands, hearing and head.

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 45.

Optional equipment such as front roller, leaf mulcher or blades should be installed before mower is mounted on tractor. Casters are easier to install after mower is mounted on tractor. See the Optional Equipment section, page 26, for installation instructions.

Select a suitable working area to assemble mower. Open accompanying parts box and lay parts out to make location easy.

Side Skid Installation

Attach side skids to the outer rail with 3/8 x 1-1/4" bolts. Final alignment of skids will be necessary when cutting height is established.

Side Shield or Discharge Chute Installation

DANGER

- Do not operate mower unless either discharge chute or side shield is installed.

Attach side shields to right and left side of the mower. The baffle shield fits the left side.

A side discharge chute may be used in place of the left side shield for mowing in heavy material. Mount the shields or discharge with 3/8 x 1" bolts and flange lock nuts.

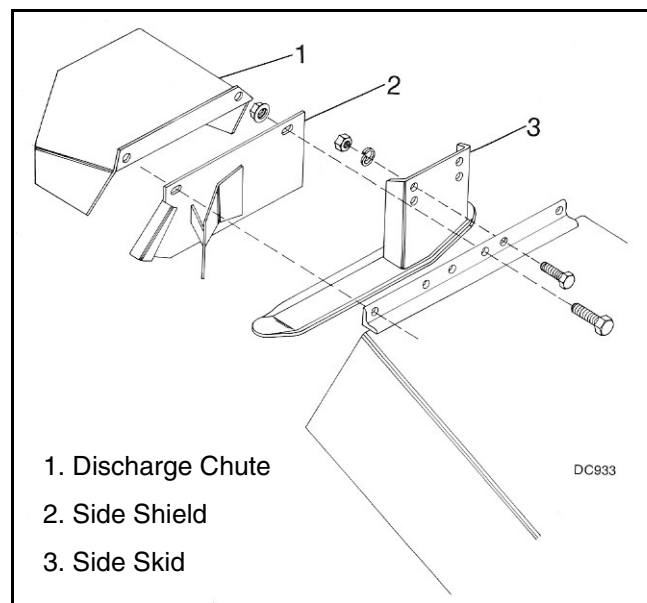


Figure 10. Side Skid, Discharge Chute & Side Shield Installation

Crosswise Support Installation

Attach crosswise support (1) to mower deck, welded lug forward. Insert spacer bushing (2) into hole, insert bolt through deck and slide support onto bolt. Secure with nut.

Center Belt Shield

See page 36. Assemble center belt shield bracket (21) to mower deck with a 3/8 NC x 1 hex head cap screw (31). Secure with 3/8 lock washer (32) and 3/8 NC hex nut (33). Attach center belt shield (22) to screws welded into mower deck just forward of center blade spindle sheave and secure with 3/8 lock washer (32) and 3/8 NC hex nut (33). Secure center belt shield to center belt shield bracket with 3/8 lock washer (32) and 3/8 NC hex nut (33).

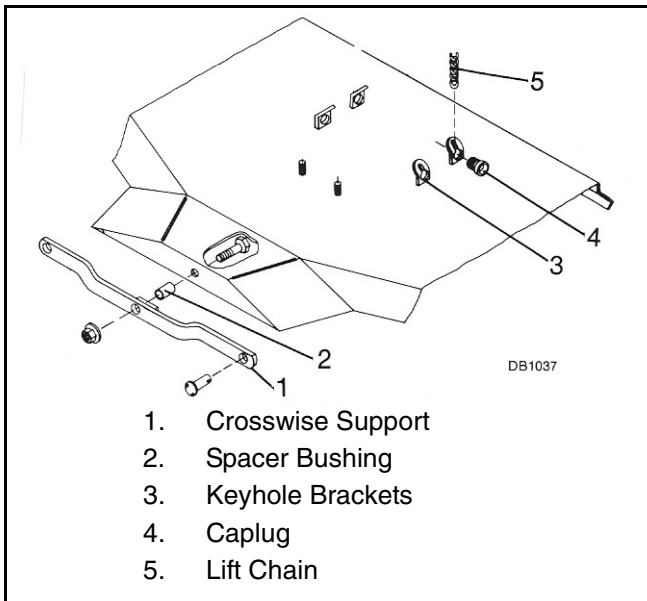


Figure 11. Crosswise Support Installation

Belt Installation

One of the major causes of belt failure is improper installation. Before a new belt is installed, check pulley shafts and bearings for wear. Check pulley grooves for

cleanliness. Make sure spindles turn freely and without wobble.

If grooves require cleaning, moisten a cloth with a non-flammable, non-toxic degreasing agent or commercial detergent and water.

Avoid excessive force during installation. Do not use tools to pry belt into pulley groove. Do not roll belt over pulleys to install. This can cause hidden damage and premature belt failure.

The belt may be completely installed with mower mounted on tractor. However, it is easier to install belt on mower deck with mower detached.

Remove all belt shields.

Be sure belt clears guide 1/8". Reform guide if necessary. See Figure 12.

Step 1: Insert belt in bottom right hand groove of center pulley and route around left pulley.

Step 2: Bring belt back to center pulley and insert in middle groove and thread around right pulley.

Step 3: Route belt to center pulley, insert in top groove and pull to rear.

Belt installation will be completed after mower is attached to tractor. See page 24.

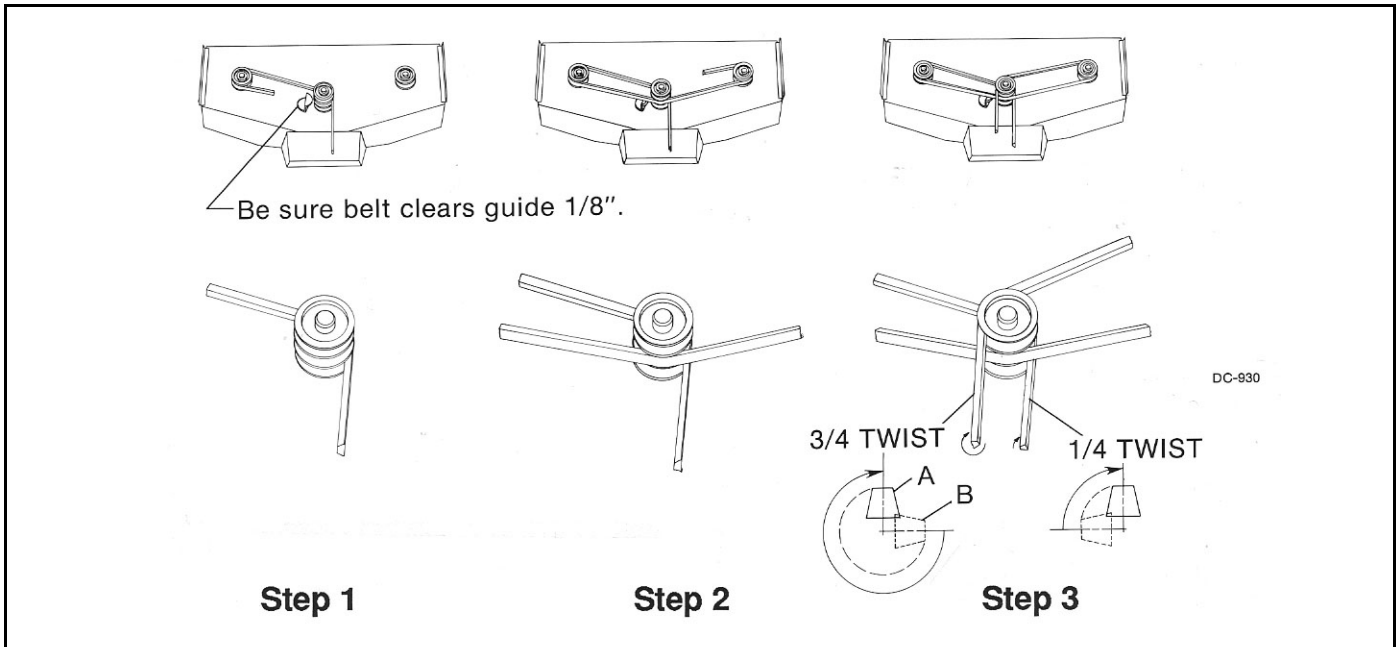


Figure 12. Belt Installation

Lift Chain Installation on Deck

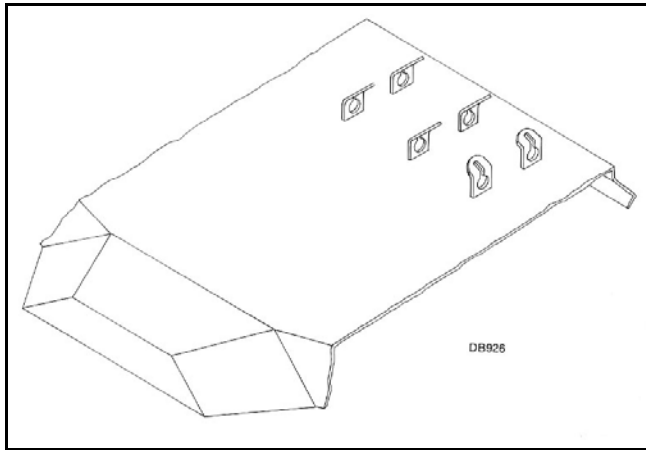


Figure 13. Lift Chain Installation
(L306 Deck Shown)

Lift chains are inserted into keyhole brackets on mower deck and secured with caplugs.

On **L59** mowers, there are two sets of keyhole brackets - front and rear. Attach lift chains in the front brackets.

On **L306** mowers, there are two sets of three keyhole brackets. All mounts use the front outside brackets.

TRACTOR PREPARATION

Idler Bracket Installation

NOTICE

■ It may be necessary to cut off front corners of drawbar on older tractors to clear idler bracket push arms.

Locate idler bracket (4) up against inside gear housing (6) and determine if any of the drawbar will need to be removed to ensure a good fit. Cut drawbar if necessary.

Install idler bracket (4) with 3/4" hardware as shown in Figure 14 and torque bolts to 300 lbs-ft.

NOTICE

■ On some older tractors, it may be necessary to substitute 5/8" hardware for the 3/4" hardware. The 5/8" hardware is not furnished with parts package. If your wheel housing only has two holes in front, it will be sufficient. Frequently check that these bolts are tight to prevent idler bracket from moving. Torque 5/8" bolts to 175 lbs-ft.

■ If your tractor is equipped with a fast hitch, move hitch as far as possible to the right to prevent interference with belt and idlers.

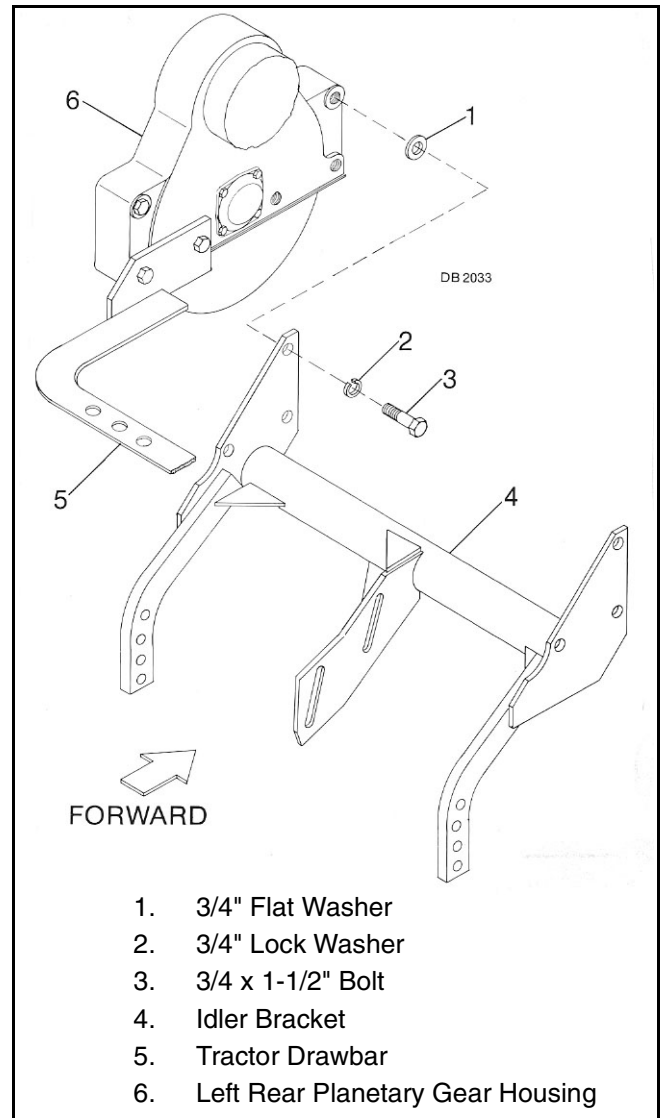


Figure 14. Idler Bracket Installation

NOTICE

■ Proper installation is necessary to ensure proper belt alignment.

Insert carriage bolt (4), from the left, through front slot. Place three washers (5) on bolt and install pulley (1), lock washer (6) and nut (7).

Install carriage bolt (4) through rear slot, placing belt guide (2) on left side of idler slot. Then place three washers (5), pulley (1), lock washer (6) and nut (7) on bolt.

Do not tighten this hardware until belt is installed.

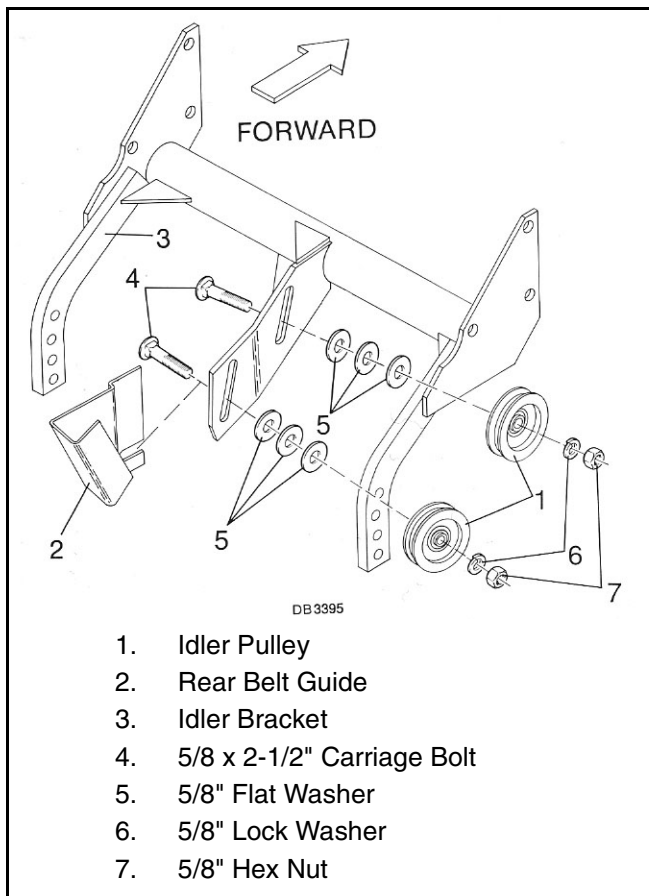


Figure 15. Idler Pulley Installation

Drive Pulley Installation

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

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

Clean paint from center pulley hole and insert split taper bushing into hole. Insert bolts through unthreaded bushing holes and into threaded holes of drive pulley, but do not tighten.

Install drive pulley over belt pulley shaft as far as possible.

Alternately tighten the splined bushing bolts to secure the drive pulley. Continue to alternate the tightening sequence until assembly is tight and all bolts are torqued to 12 ft-lbs.

NOTICE

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

Install belt shield bracket (5) to PTO housing as shown in Figure 16 with bolt (10) and lock washer (11). Install belt shield bracket (3) to tractor bracket as shown with bolt (10), lock washer (11), and nut (12).

Do not install belt shield until belt has been installed. Shield will bolt to brackets (3 & 5).

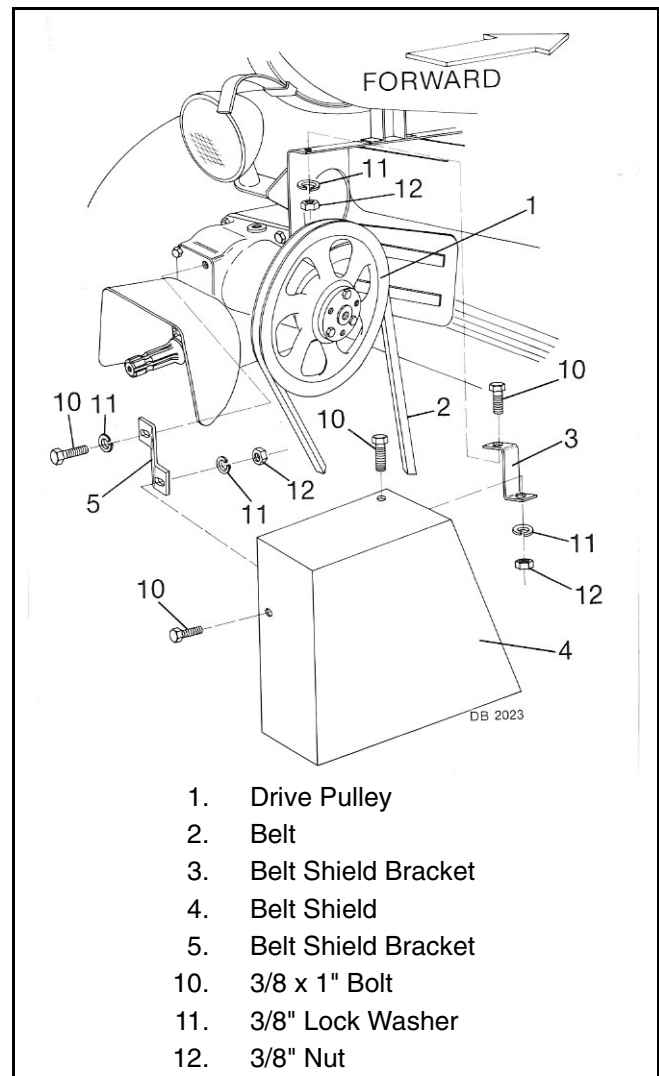


Figure 16. Drive Pulley Installation

Manual Lift Installation

Attach lift attachment bracket (3) to transmission housing (6) and hole just behind starter (5) with hardware as shown. Be sure to attach spring (7) to lower front bolt for **L306** installation only.

Use spacer tube (4), if necessary, at rear of bracket. Tube will not be required on all tractors.

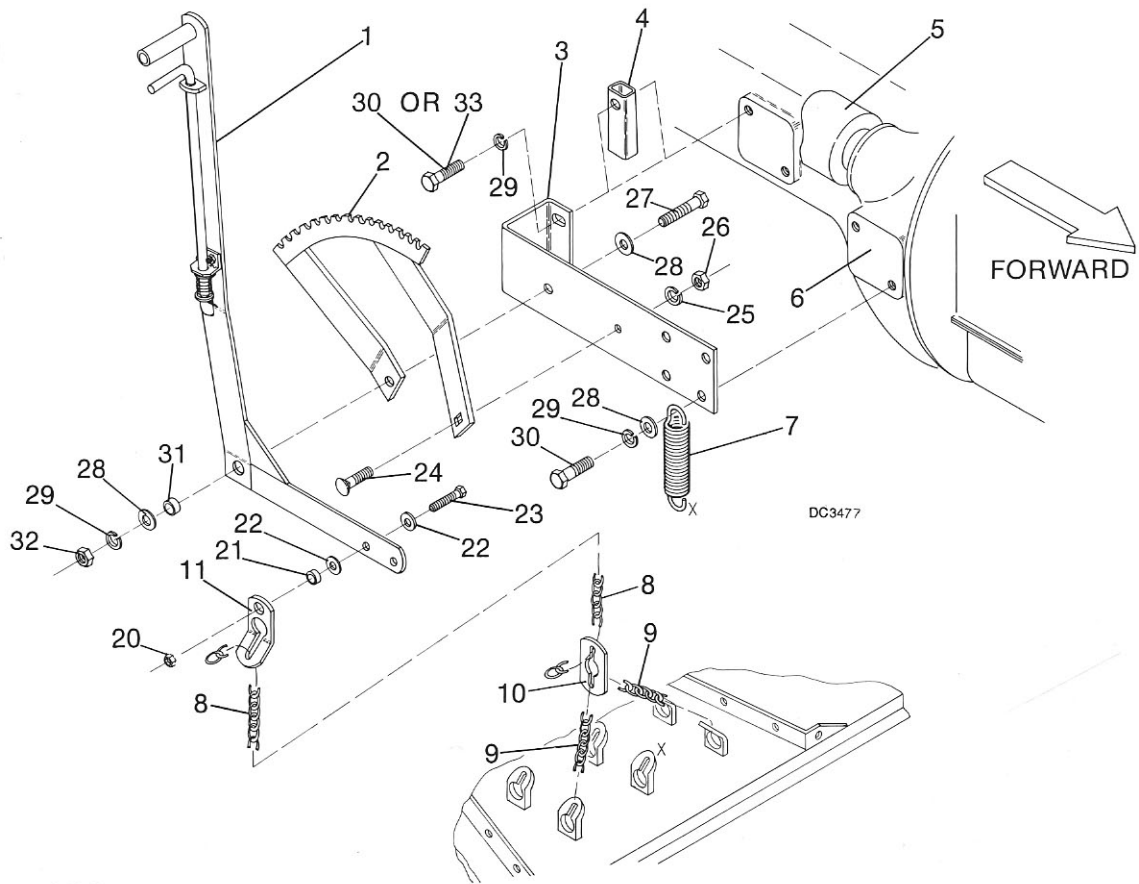
Attach front leg of lift sector (2) to bracket (3) with bolt (24), lock washer (25) and nut (26).

Place washer (28) on bolt (27) and insert through bracket (3), rear leg of lift sector (2), and lift lever (1).

Then install sleeve (31), washer (28), lock washer (29), and nut (32). Tighten all hardware.

NOTE: Install left lever (1) between steering wheel rod and gas tank.

Place washer (22) on bolt (23) and insert through second hole from front of left lever (1). Then install washer (22), sleeve (21), lift lug (11), and nut (20) on bolt and tighten.



- | | | | |
|-----|------------------------------------|-----|------------------------------|
| 1. | Lift Lever | 23. | 3/8 x 2" Bolt |
| 2. | Lift Sector | 24. | 1/2 x 1-3/4" Carriage Bolt |
| 3. | Lift Attachment Bracket | 25. | 1/2" Extra-Heavy Lock Washer |
| 4. | Spacer Tube | 26. | 1/2" Heavy Nut |
| 5. | Starter Motor* | 27. | 5/8 x 2-3/4" Bolt |
| 6. | Transmission Housing* | 28. | 5/8" Flat Washer |
| 7. | Extension Spring, L306 Only | 29. | 5/8" Heavy Lock Washer |
| 8. | 13 Link Chain | 30. | 5/8 x 1-1/4" Bolt |
| 9. | 33 Link Chain | 31. | 5/8 x 1 x 7/16" Sleeve |
| 10. | Chain Bracket | 32. | 5/8" Nut |
| 11. | Keyhole Lift Lug | 33. | 5/8 x 2-1/4" Bolt |
| 20. | 3/8" Nut | | |
| 21. | 3/8 x 1/2 x 1/4" Sleeve | | |
| 22. | 3/8" Flat Washer | | |

* Tractor Parts

Figure 17. Manual Lift Installation

Hydraulic Lift Installation

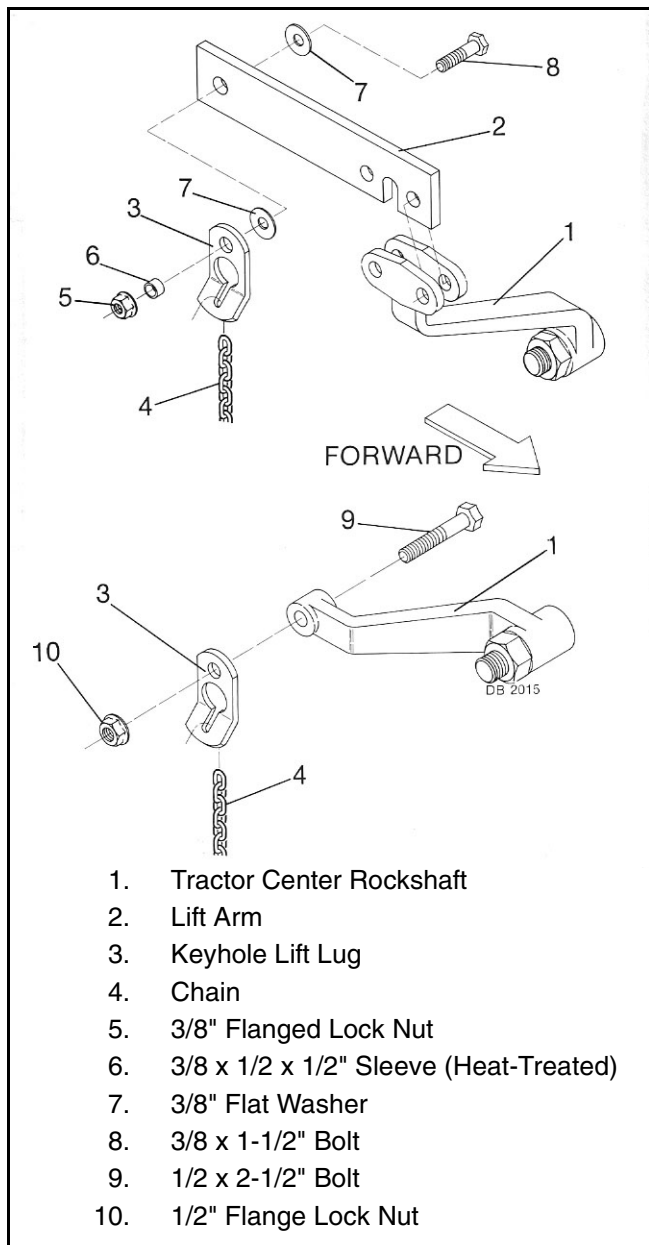


Figure 18. Hydraulic Lift Installation

For **IH A** tractors, pin lift arm (2) with tractor spring-loaded locking device to rockshaft (1) as shown. Place washer (7) on bolt (8) and insert through lift bar (2). Then install washer (7), lift lug (3), sleeve (6), and nut (5) on bolt and tighten. Be sure lift lug pivots around sleeve.

For **IH 140**, secure lift lug (3) to rockshaft as shown with bolt (9) and nut (10).

On tractors equipped with fast hitch, as shown in Figure 19, be sure to use bracket furnished with tractor to support front end of fast hitch ball when attaching mower with fast hitch in place.

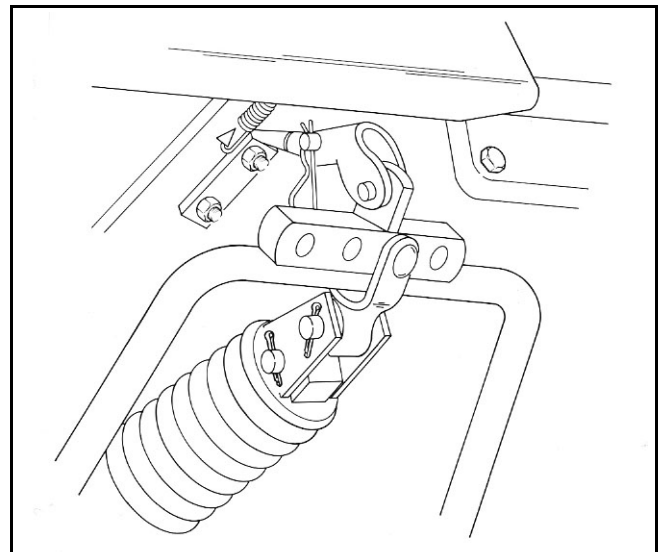


Figure 19. Fast Hitch

ATTACHING MOWER TO TRACTOR

Position mower under tractor. It will be necessary to lift front wheels off the ground. If a lifting device is not available, back tractor over mower, using care to prevent damage to painted surface of mower.

Remove by driving forward over mower.

Push Channel Arm Attachment

Install push channel arms to mower deck with 5/8 x 1-1/2" clevis pins and secure with safety pins.

Attach crosswise support to push channel arms with 5/8 x 1/2" clevis pins and secure with safety pins. Attach push channel arms to idler bracket with 5/8 x 1-3/4" clevis pins and secure with safety pins.

Belt Installation

Bring belt to rear of tractor. Give belt a 3/4 twist between mower center pulley and front idler. Belt should have a 1/4 twist ahead of rear idler. A 1/2 twist between front idler and drive pulley is required.

Should there be any twist other than those described above, the belt is incorrectly installed. Recheck installation procedures and correct as necessary.

Belt Alignment

Belt alignment and tension should be set at the same time. It is suggested that you read both the alignment and tensioning sections before attempting either.

Improper tension or alignment will affect belt life.

Remove rear belt shield. With mower level and cutting height set, check belt alignment.

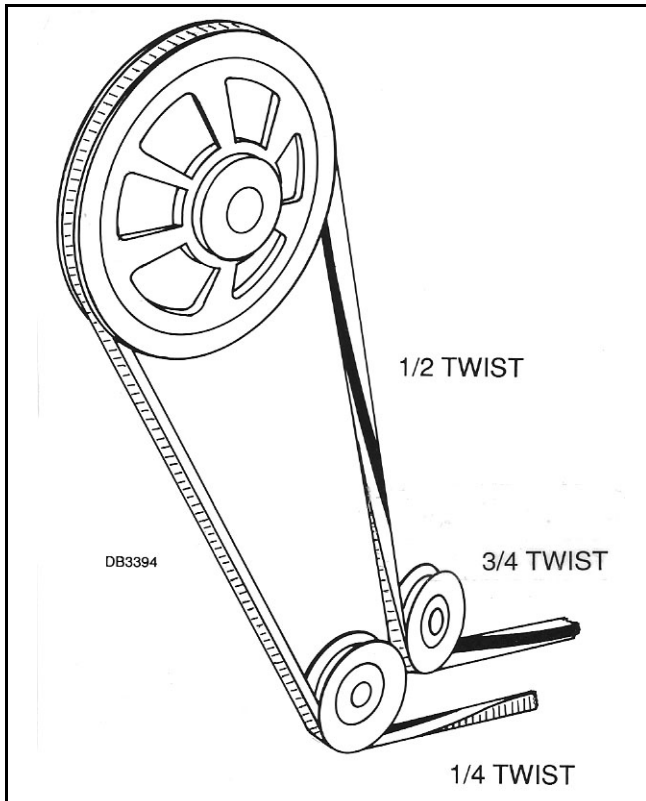


Figure 20. Drive Pulley to Idler Alignment

Belt alignment is accomplished by adjusting idler pulleys and/or moving the mower forward or rearward with push channel arm adjustment.

Alignment tolerances are shown in Figure 21 thru Figure 26. The best idler alignment is shown in Figure 21 & Figure 24. However, it is not always possible to achieve. Alignment may be set within the tolerances given, but the left idler must always be at least 1" higher than the right.

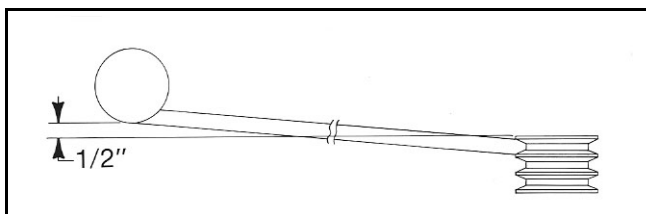


Figure 21. Best Possible Alignment of Left Idler

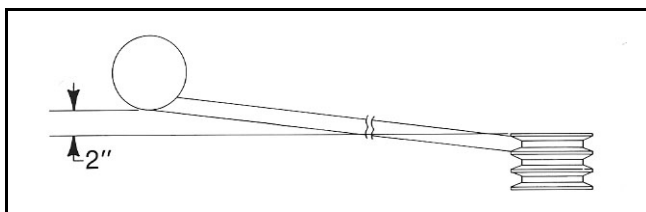


Figure 22. Maximum Left Idler Should Be Raised

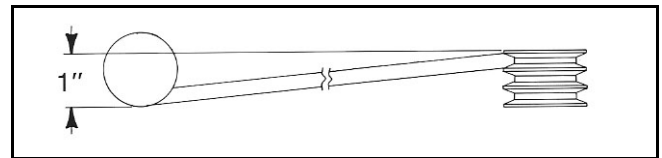


Figure 23. Maximum Left Idler Should Be Lowered

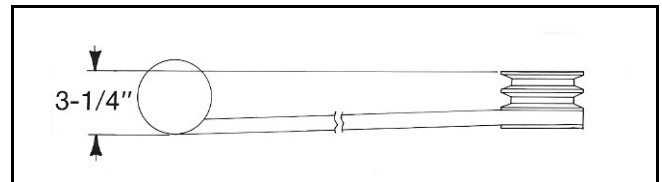


Figure 24. Best Possible Alignment for Right Idler

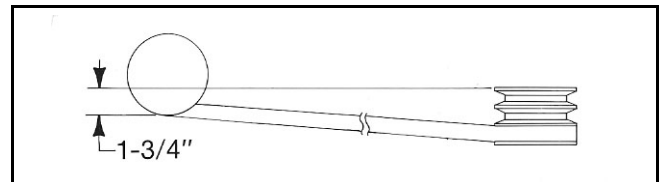


Figure 25. Maximum Right Idler Should Be Raised

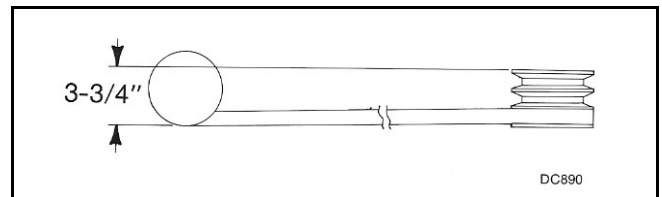


Figure 26. Maximum Right Idler Should Be Lowered

NOTICE

- Belt must not rub deck or crosswise support.

Belt Tension

Cycle belt through at least two revolutions after any adjustment before checking tension.

Set belt tension using a spring scale or other force measuring device. Remove left belt shield and attach scale between the center and left pulleys. Apply between three and four pounds of force. Belt deflection should measure 5/16" for normal conditions. Tension may be increased if necessary to prevent belt from slipping in heavy mowing conditions.

When checking tension without a force measuring device, the belt, when properly set, should feel very tight. These belts are very strong and need to be adjusted very tightly. Belts are more likely to be damaged by excessive slippage than from being overtightened.

Minor tension adjustments are made by moving idler pulleys up or down. Major tension adjustments are made by moving mower deck forward or rearward.

NOTICE

- Alignment must be rechecked if it is necessary to move idler pulleys or the mower deck to get proper belt tension.
- Tension on a new belt should be readjusted every half hour for the first two hours and then checked every eight hours of operation.

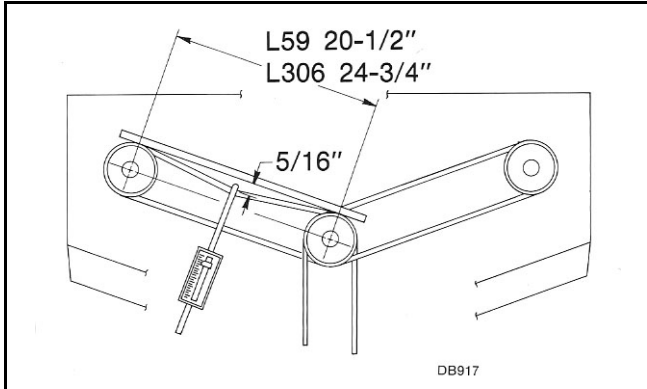


Figure 27. Proper Belt Tension

Rear Belt Shield Installation

Place stud welded on bottom of belt shield in small hole of idler bracket drawbar.

Install clevis pin through belt shield brackets and top link bracket.

Secure with safety pins.

PRE-DELIVERY CHECK LIST

(Dealer Responsibility)

Inspect the mower thoroughly after assembly to be certain it is set up properly before delivering it to the customer. The following check list is 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 shielding is in place.
- ___ Check all bolts to be sure they are correctly torqued.
- ___ Check that all cotter pins are properly installed.
- ___ Lubricate all grease fittings; check to make sure a small amount of grease comes out of seal.
- ___ Check that blades have been properly installed.
- ___ Check mower attitude and belt alignment.

DELIVERY CHECK LIST

(Dealer Responsibility)

- ___ Show customer how to make adjustments.

- ___ Explain importance of lubrication and show customer lubrication points on tractor and mower.
- ___ Point out safety features and optional equipment.
- ___ Present Operator's Manual to customer and recommend they become familiar with all sections.

OPTIONAL EQUIPMENT AVAILABLE

A leaf mulcher, low-suction blades, front roller, and casters are offered as optional equipment for this mower. Some options may not be available for some mountings.

Blades

Low-suction blades are optional for this mower. In sandy areas where abrasive action could cause excessive blade wear, low-suction blades are recommended.

Casters

Casters are used to adjust cutting height.

Leaf Mulcher

Bothersome leaf raking, bagging or burning can be minimized by equipping your mower with a leaf mulcher attachment. With this attachment, your mower will dispose of leaves by quickly and thoroughly shredding them. The shredded matter will decompose and form humus.

The use of standard-suction blades is recommended with the leaf mulcher. It is also recommended that the leaf mulcher be removed for grass mowing.

Adjust mower with blades approximately 1-1/2" above ground and with front of mower slightly higher than the rear. Operate tractor at a slow ground speed with the PTO at full rpm.

Front Roller

The front roller should be used when scalping occurs. Side skids and casters effectively reduce scalping in most cases.

You may encounter areas where the side skids or casters will drop into depressions and allow the center of the mower to contact the ground and scalp. When this occurs, you should install a front roller in the center of the mower.

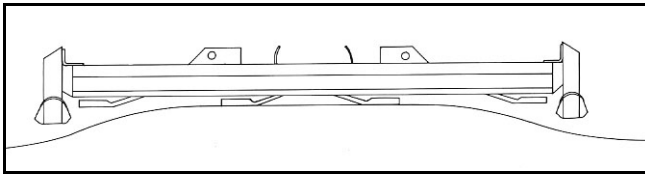


Figure 28. Scalping without Front Rollers

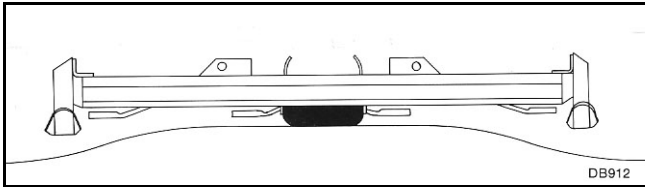


Figure 29. Front Rollers Reduce Scalping

OPTIONAL EQUIPMENT INSTALLATION

⚠ WARNING

■ Before working underneath, block mower securely. Hydraulic system leak down and failure of mechanical or hydraulic system can cause equipment to drop.

⚠ CAUTION

■ Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

Caster Installation

L59 Caster Installation

Remove skids.

Insert $3/8 \times 1-1/4$ " bolts through outer frame rail. Mount caster arm over bolts.

Insert two $3/8 \times 1-1/4$ " bolts through the front two holes of outer frame. Mount caster arm over bolts, making sure offset is outward. Install side skid and secure with lock washer and nut.

Raise mower deck slowly to check for any interference between casters and tractor.

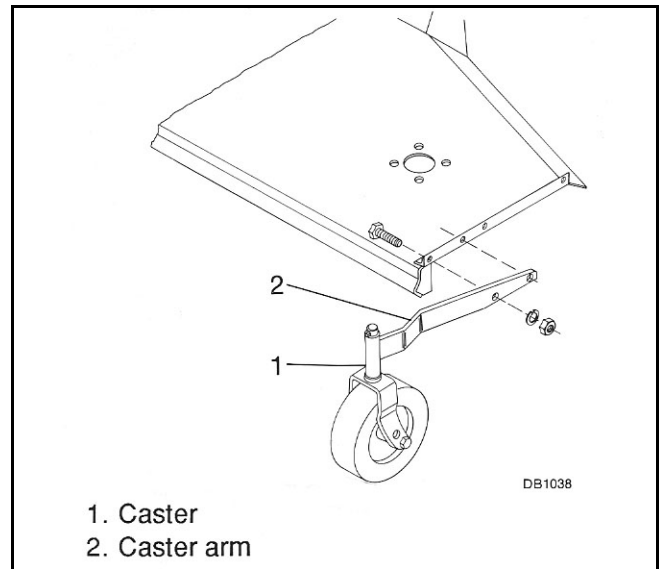


Figure 30. Caster Installation L59

L306 Caster Installation

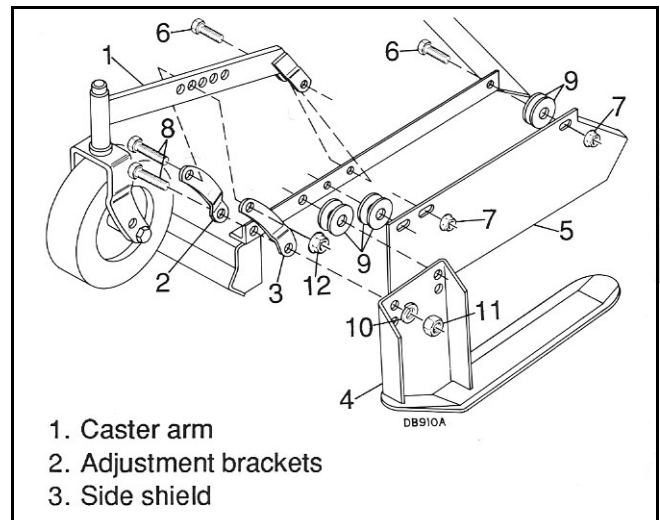


Figure 31. Caster Installation L306

Mount casters on **L306** mowers to the outside deck rails. Attach rear of caster arm in fourth hole from front of deck rail with a $3/8 \times 1-1/2$ " bolt and secure with lock washer and nut. The arm may be mounted in the third hole to obtain more height and caster adjustment.

Attach right and left adjustment brackets, offset down and in front hole as shown, on each side of deck angle and inside the side skid. Use two $1/2$ " flat washers as spacers at the rear side shield hole.

Select the desired cutting height and install adjustment brackets to caster arm with $1/2 \times 1-3/4$ " bolts and secure with $1/2$ " flanged lock nuts.

Adjust side skids to ride at least $1/2$ " above ground.

Front Roller Installation

Place and secure mower in vertical position to make front roller installation easier.

Four holes for mounting the front roller are provided in the front center mower deck. Mount the left and right roller brackets in these holes. The hole pattern for the roller brackets determines which bracket is used for right and/or left.

On the **L59** mower, the left roller bracket should be installed so highest hole is placed to the rear with bracket angle extending left, (1). Install right roller bracket so highest hole is to the rear with bracket angle extending right, (3).

On the **L306** mower, the left roller bracket angle should be installed so highest hole is to the front with bracket angle extending left, (5). Install right roller bracket with highest hole forward and with bracket angle extending right, (4).

Attach brackets with 3/8 x 1" carriage bolts and flanged lock nuts.

Insert rod through roller and install into the rear roller bracket holes. Secure each end of the rod with a 3/16" cotter pin. Turn roller by hand to ensure it rolls freely.

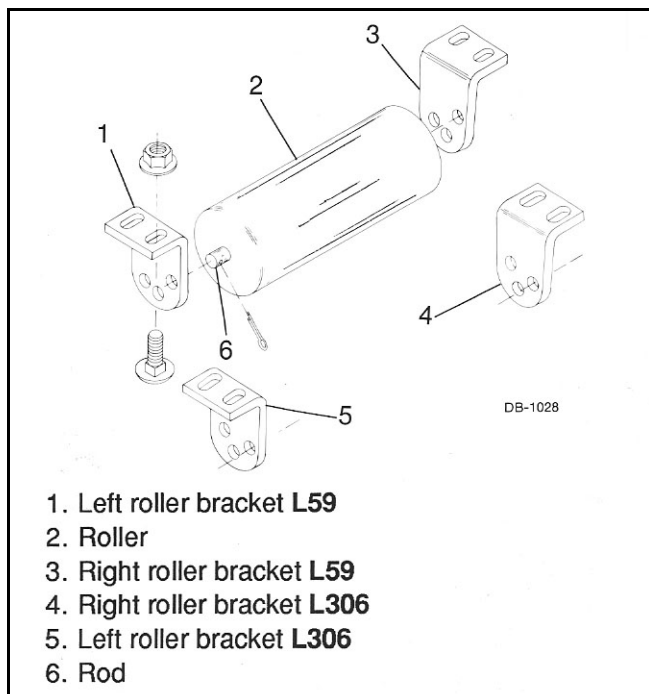


Figure 32. Front Roller

Leaf Mulcher Installation

Installation of the leaf mulcher on **L59** and **L306** mowers is very similar. Instructions are given together except for differences which are noted separately.

Place mower upside-down on saw horses or other supports.

Remove side shields but do not remove side skirts.

Remove front roller if installed.

Remove center baffle and brackets.

On **L59** installations, measure 14" from the center slot in front of mower to each side and mark. Measure 7/8" down from top of mower deck and drill two 7/16" holes.

On **L306** installations, measure 17" from the mower centerline to each side and mark. Measure 7/8" down from top of mower deck and drill three 7/16" holes.

On **L59** installations, the angle lugs have a bolt hole and a slot. Insert a 3/8 x 1" bolt in the bolt hole and attach to leaf mulcher side brackets.

On **L306** installations, install attachment angle to leaf mulcher side brackets. Note the shape of attachment angle. Position as illustrated and attach with a 3/8 x 1" bolt, flat washer, lock washer and nut.

Place leaf mulcher over blades.

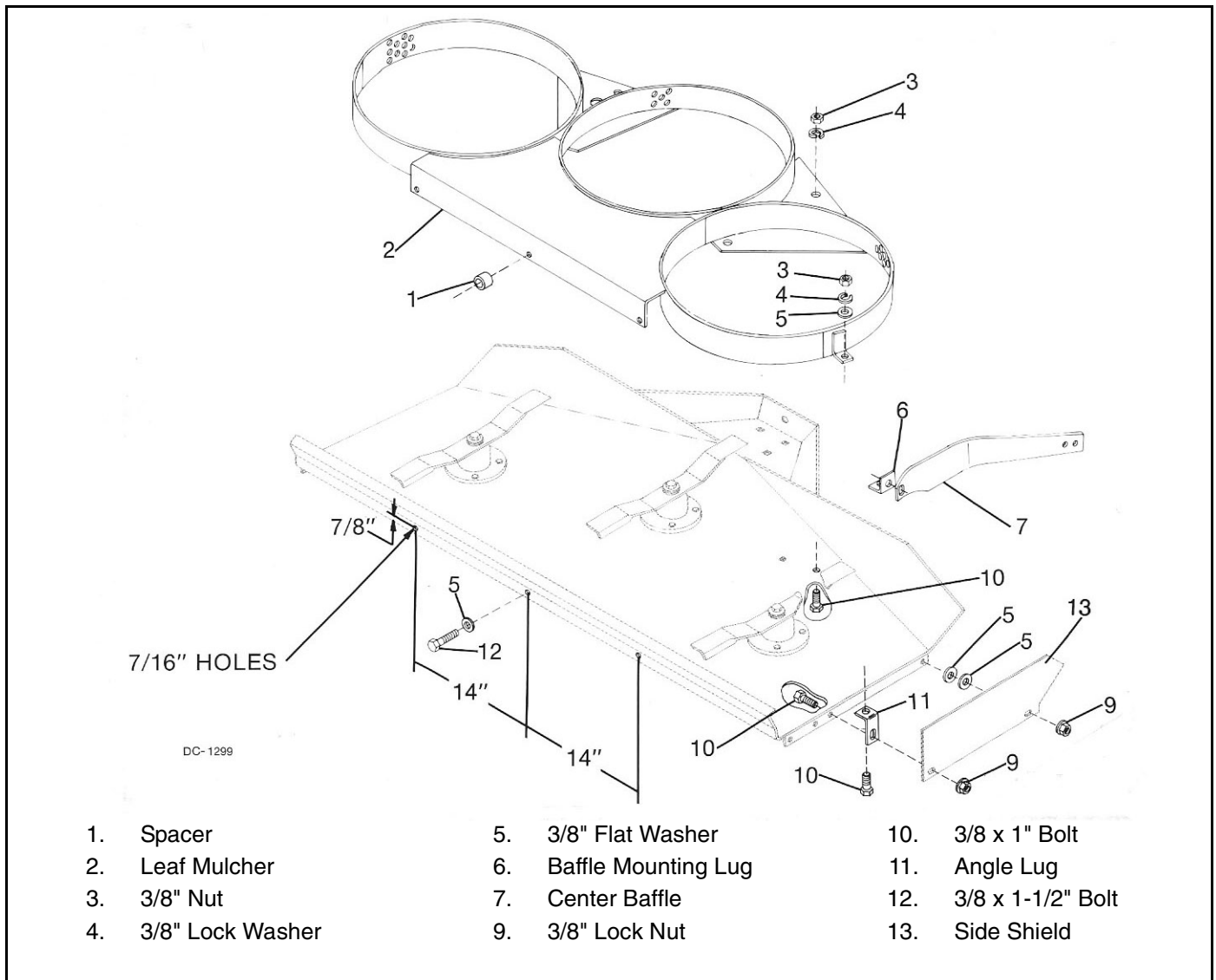


Figure 33. Leaf Mulcher **L59**

On **L59** installations, align attachment angles with third hole from front of mower and install between side shields and deck angle. Secure with 3/8 x 1" bolts.

On **L306** installations, align attachment angles with fourth hole from front of mower and install between side shield and deck angle. Attach with 3/8 x 1-1/2" bolt and flanged lock nut. Use two 3/8" flat washers as shims between side shield and deck angle rear hole.

On **L59** installations, insert three 3/8 x 1-1/2" bolts through holes drilled in front lip of mower. Insert a 5/8" pipe spacer on each bolt between deck and leaf mulcher. If pipe spacer is too long, substitute 3/8" washers for spacers.

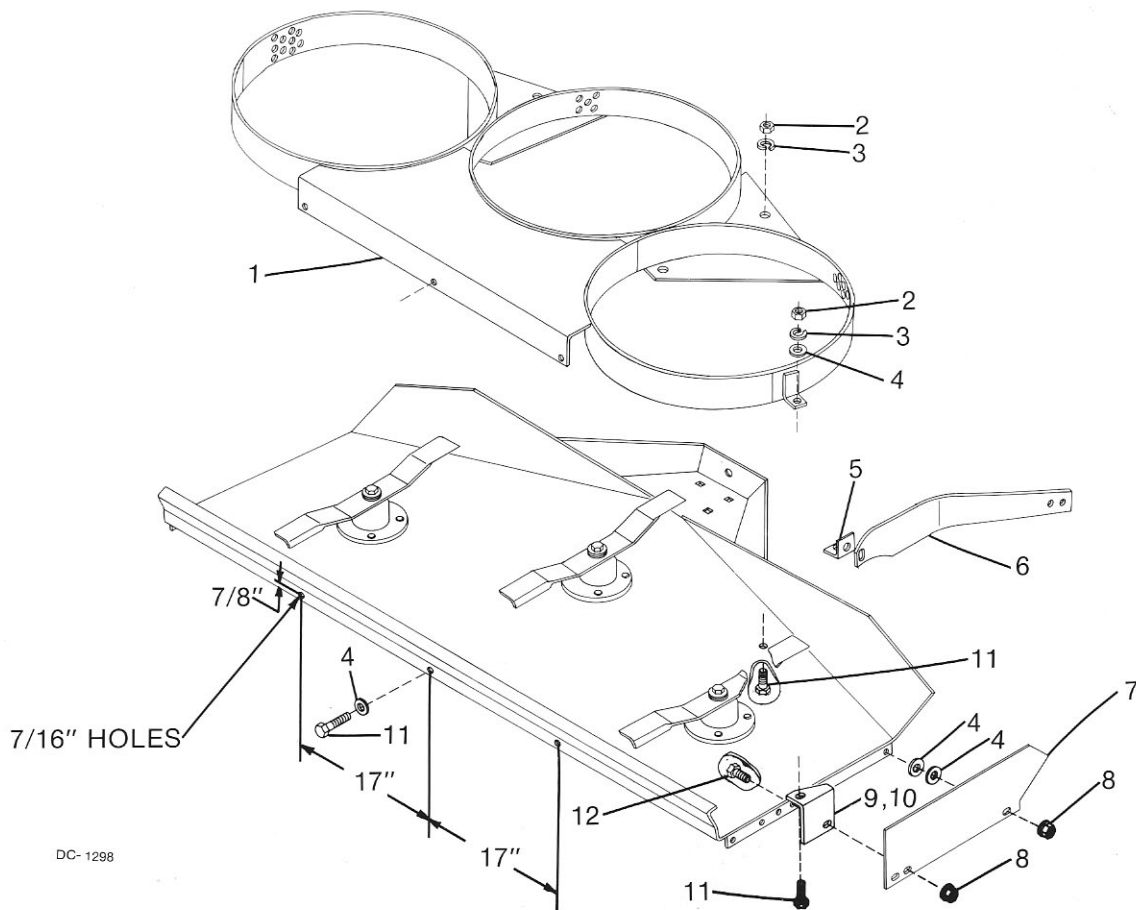
On **L306** installations, insert three 3/8 x 1" bolts through holes drilled in front lip of mower. Attach leaf mulcher directly to front lip of mower.

On **L59** mowers, drill four 7/16" holes in mower deck using existing holes in leaf mulcher attachment plate as templates. On **L306**, only two holes are required.

Insert 3/8 x 1" bolts through these holes and secure with a lock washer and 3/8" nut

Tighten all bolts in leaf mulcher assembly.

Check blade clearance by turning each one by hand. Should a blade contact a mulcher ring, reshape the ring as necessary. Be sure to have 1/8" minimum clearance between blade tip and mulcher.



- | | | |
|------------------------|----------------------------------|----------------------------------|
| 1. Leaf Mulcher | 6. Center Baffle | 10. Mounting Bracket - Left Hand |
| 2. 3/8" Nut | 7. Side Shield | 11. 3/8 x 1" Bolt |
| 3. 3/8" Lock Washer | 8. 3/8" Lock Nut | 12. 3/8 x 1-1/2" Bolt |
| 4. 3/8" Flat Washer | 9. Mounting Bracket - Right Hand | |
| 5. Baffle Mounting Lug | | |

Figure 34. Leaf Mulcher L306

Parts Index

L59 & L306 A-3

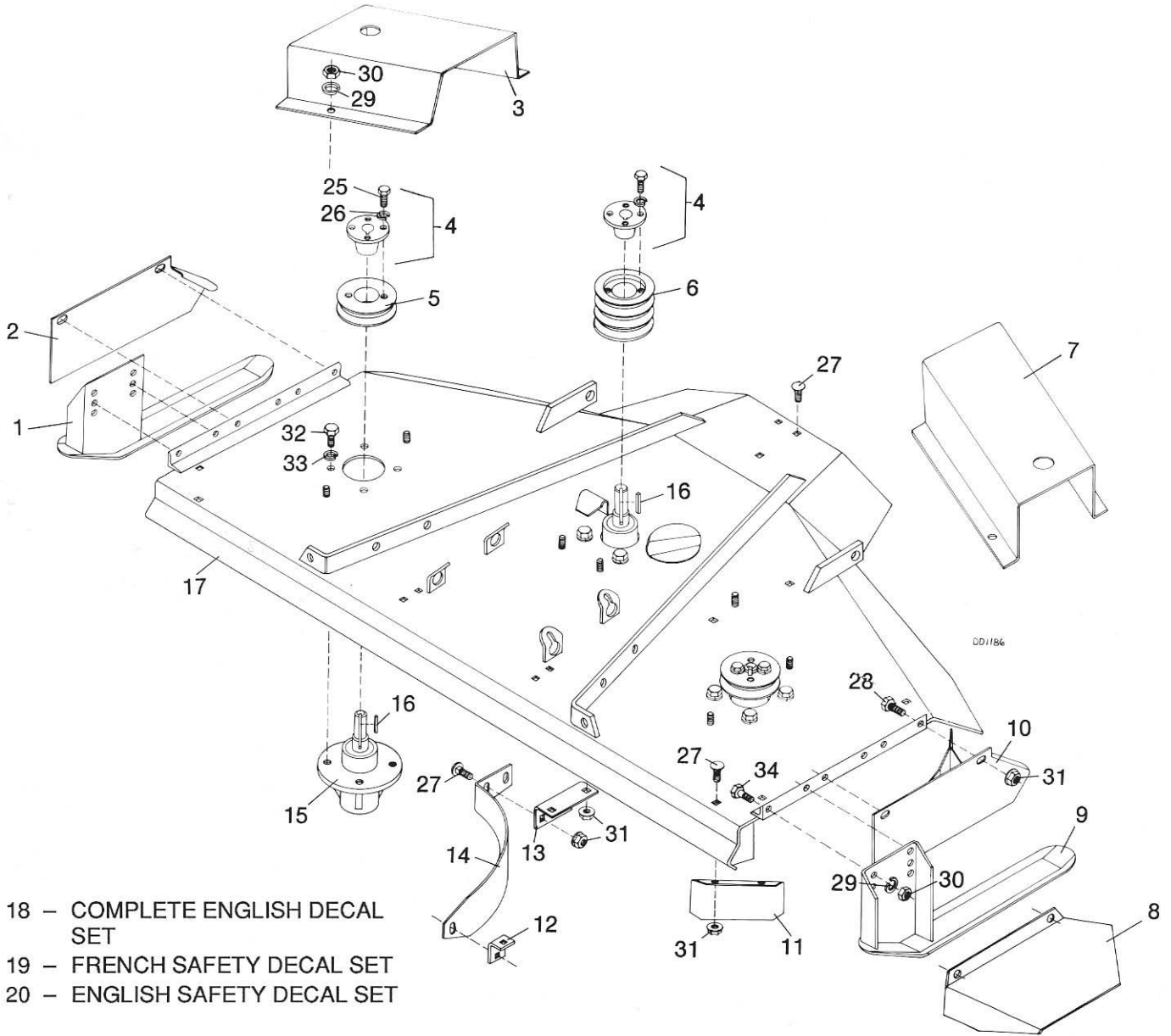
L59 A-3

FRAME ASSEMBLY	32
MOUNTING ASSEMBLY	36
MANUAL HEIGHT ADJUSTMENT ASSEMBLY	38
BLADE ASSEMBLY	39
BLADE SPINDLE ASSEMBLY	40
FRONT ROLLER ASSEMBLY (OPTIONAL)	40
CASTER ASSEMBLY (OPTIONAL)	41
LEAF MULCHER ASSEMBLY (OPTIONAL)	43

L306 A-3

FRAME ASSEMBLY	34
MOUNTING ASSEMBLY	36
MANUAL HEIGHT ADJUSTMENT ASSEMBLY	38
BLADE ASSEMBLY	39
BLADE SPINDLE ASSEMBLY	40
FRONT ROLLER ASSEMBLY (OPTIONAL)	40
CASTER ASSEMBLY (OPTIONAL)	42
LEAF MULCHER ASSEMBLY (OPTIONAL)	44

L59 A-3 FRAME ASSEMBLY



- 18 - COMPLETE ENGLISH DECAL SET
- 19 - FRENCH SAFETY DECAL SET
- 20 - ENGLISH SAFETY DECAL SET

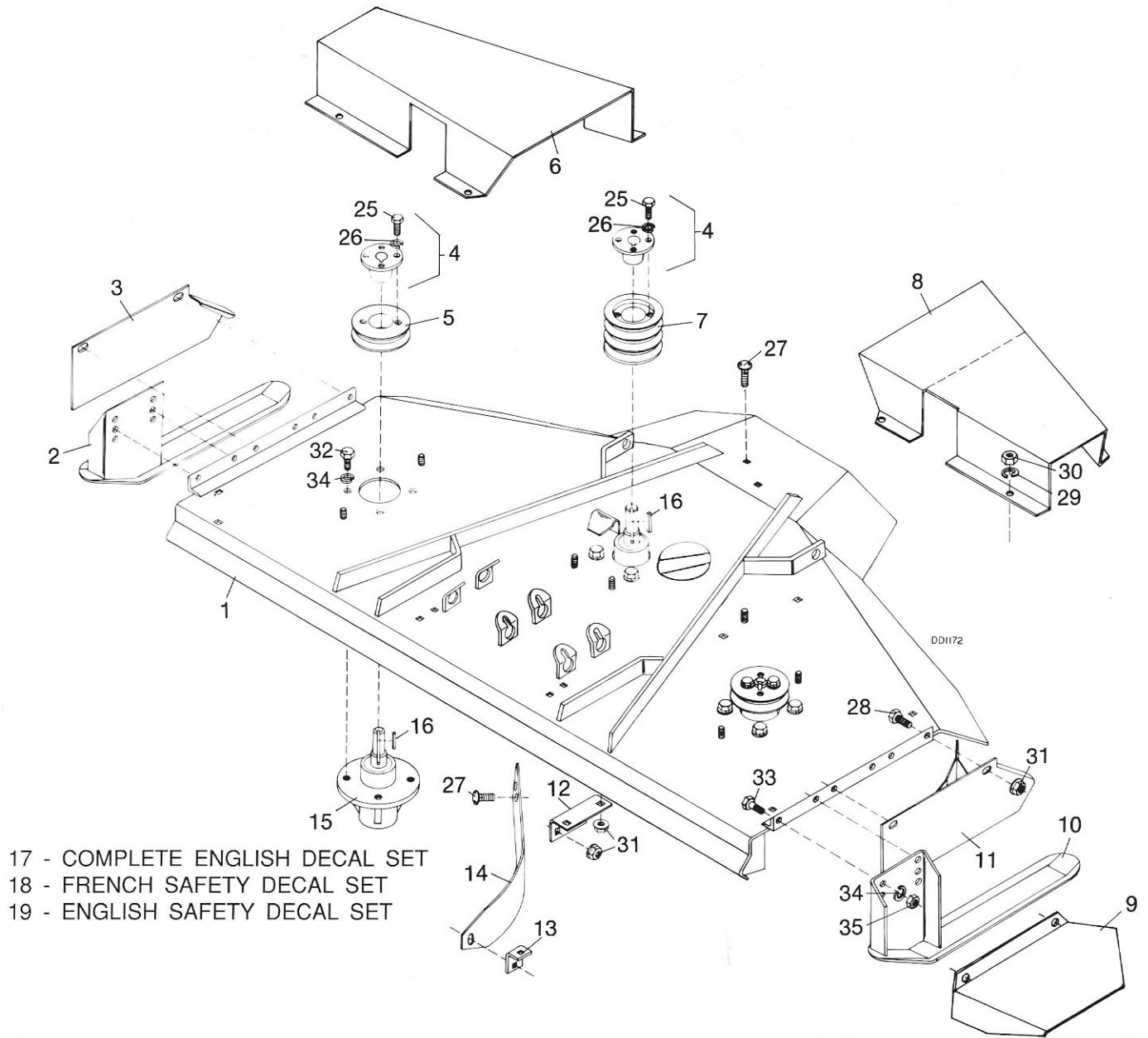
32 Parts

15148 (Rev. 2/9/2007)

L59 A-3 FRAME ASSEMBLY

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	4141	1	Right side skid	17	9701	1	Frame w/baffling (includes spindle, shield, etc.
2	25510	1	Right side shield	18	5753	1	Complete English decal set
3	25506	1	Right belt shield	19	52311	1	French safety decal set
4	4227	3	H 3/4 Straight bushing w/bolt	20	1019623	1	English safety decal set
5	4226	2	1 BK 3.9 H Sheave				HARDWARE
6	6126	1	3 BK 3.9 H Sheave	25	10378 *		1/4 NC x 1 HHCS GR5
7	25507	1	Left belt shield	26	1985 *		1/4 Standard lock washer
8	26521	1	Side discharge chute	27	24597 *		3/8 NC x 3/4 Carriage bolt
9	4142	1	Left side skid	28	839 *		3/8 NC x 1 HHCS GR5
10	25511	1	Left side shield w/baffle	29	838 *		3/8 Standard lock washer
11	25508	1	Front corner baffle	30	835 *		3/8 NC Hex nut, plated
12	25531	1	Center baffle front mounting lug	31	14350		3/8 NC Flanged hex lock nut
13	25532	1	Center baffle rear mounting angle	32	4119		1/2 NF x 1 HHCS GR5
14	25509	1	Center baffle	33	855 *		1/2 Extra-heavy lock washer
15	3761	3	Spindle (see page 40)	34	12169 *		3/8 NC x 1-1/4 HHCS GR5
16	3885 *	3	3/16 x 3/16 x 1-1/4 Key				* Standard hardware, obtain locally

L306 A-3 FRAME ASSEMBLY



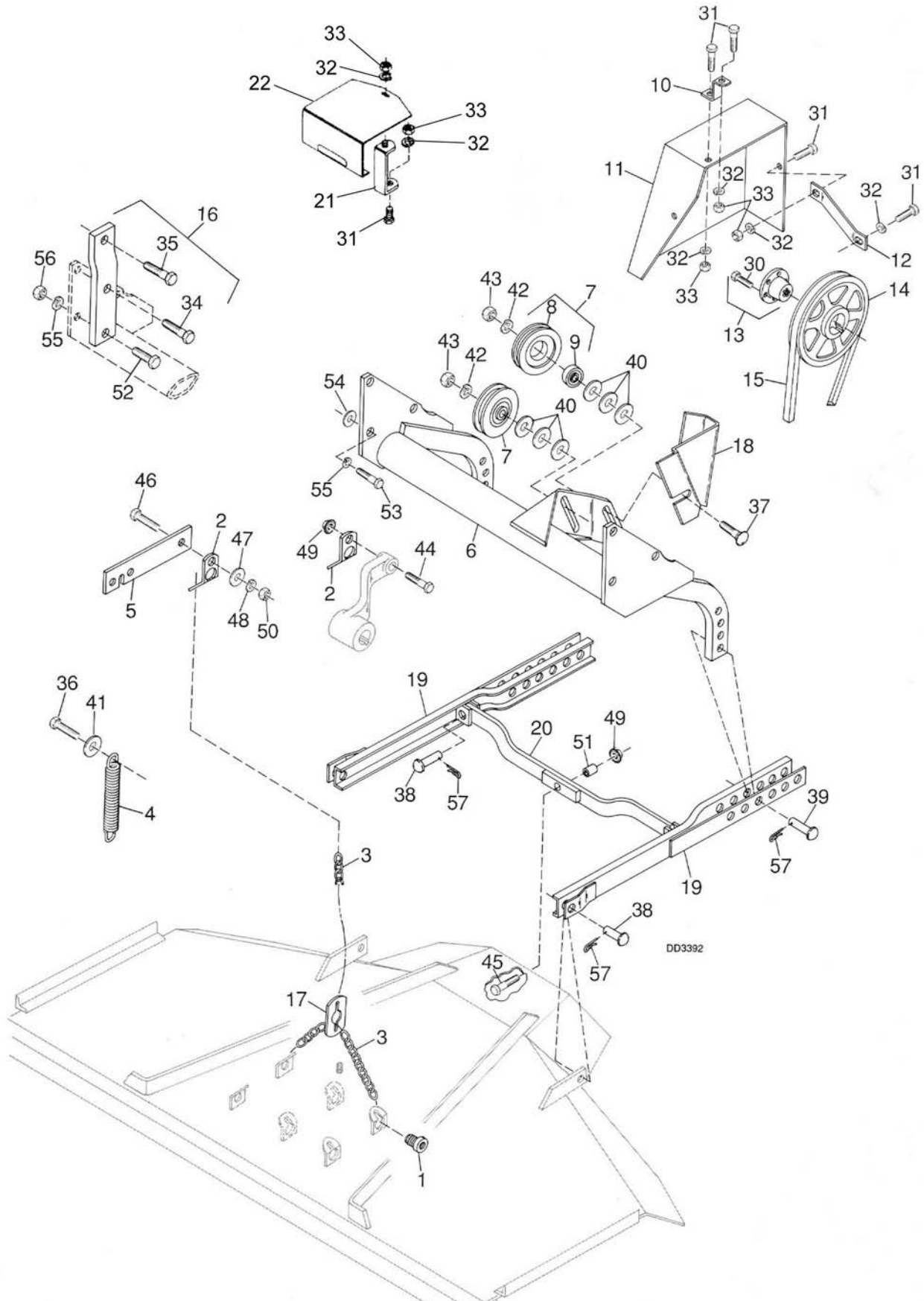
34 Parts

15148 (Rev. 2/9/2007)

L306 A-3 FRAME ASSEMBLY

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	9702	1	Frame w/baffling, spindles, shields, etc.	17	13421	1	Complete English decal set
2	13428	1	Right side skid	18	52311	1	French safety decal set
3	24188	1	Right side shield	19	1019623	1	English safety decal set
4	4227	3	H 3/4 Straight bushing w/bolts				HARDWARE
5	12622	2	1 KB 5.0 H Sheave	25	10378 *		1/4 NC x 1 HHCS GR5
6	25528	1	Right belt shield	26	1985 *		1/4 Standard lock washer
7	13417	1	3 BK 5.0 H Sheave	27	24597 *		3/8 NC x 3/4 Carriage bolt
8	25529	1	Left belt shield	28	839 *		3/8 NC x 1 HHCS GR5
9	26522	1	Side discharge chute	29	838 *		3/8 Standard lock washer
10	13429	1	Left side skid	30	835 *		3/8 NC Hex nut, plated
11	24189	1	Left side shield	31	14350		3/8 NC Flanged hex lock nut
12	25532	1	Center baffle rear mounting angle	32	4119		1/2 NF x 1 HHCS GR5
13	25530	1	Center baffle front mounting lug	33	6100 *		1/2 NC x 1-1/4 HHCS GR5
14	25533	1	Center baffle	34	855 *		1/2 Extra-heavy lock washer
15	3761	3	Spindle (see page 40)	35	1093 *		1/2 NC Heavy hex nut
16	3885 *	3	3/16 x 3/16 x 1-1/4 Key			*	Standard hardware, obtain locally

L59 A-3 & L306 A-3 MOUNTING ASSEMBLY



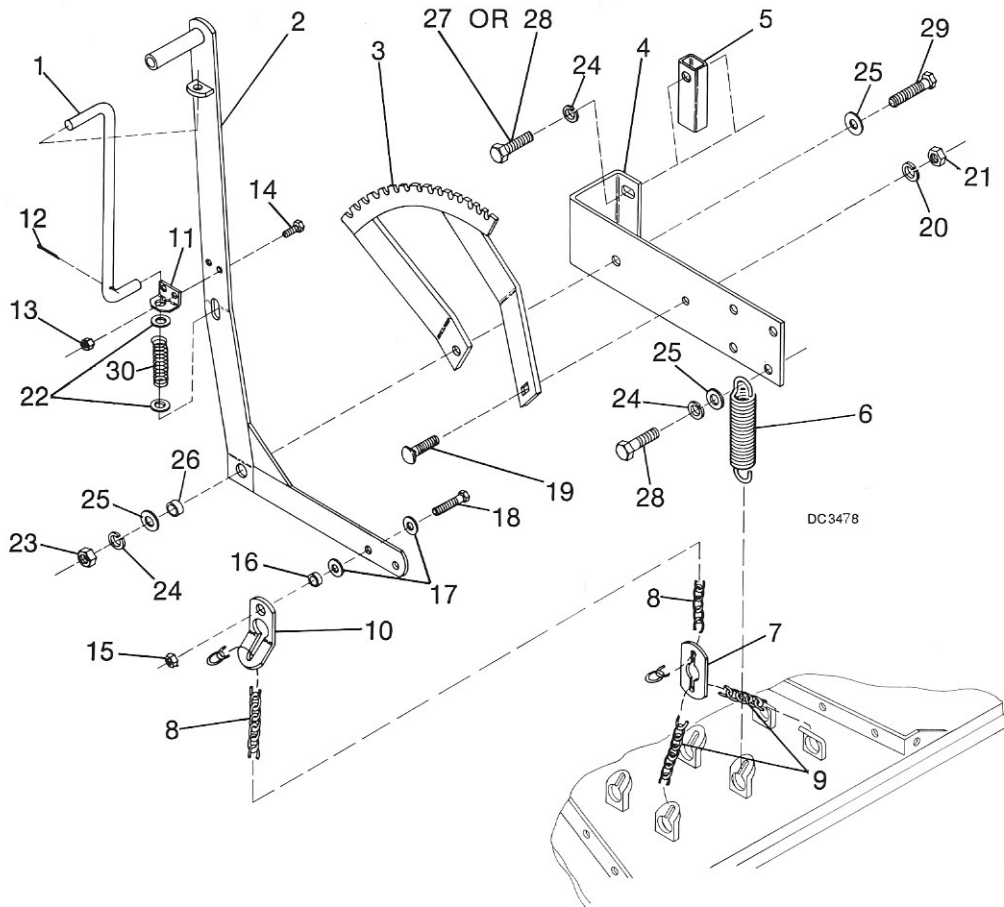
36 Parts

15148 (Rev. 2/9/2007)

L59 A-3 & L306 A-3 MOUNTING ASSEMBLY

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
							HARDWARE
1	18336	2	1-1/16 121 D SAE Thread caplug	30	----- *		5/16 NC x 1 HHCS
2	24803	1	Rear keyhole lift lug	31	839 *		3/8 NC x 1 HHCS GR5
3	4154	2	4/0 Passing link chain, 33 links	32	838 *		3/8 Standard lock washer
4	13006	1	13-1/4 Long extension spring (used on L306 only)	33	835 *		3/8 NC Hex nut, plated
5	27656	1	Lift arm	34	1605 *		5/8 NC x 4 HHCS GR5
6	9238	1	Idler bracket assembly	35	23141 *		5/8 NC x 3-1/2 HHCS GR5
7	4336	2	V-Groove idler w/bearing	36	4548 *		5/8 NC x 1-3/4 HHCS GR5 (L306 only)
8	4335	2	4.50 OD V-Groove idler	37	5836 *		5/8 NC x 2-1/2 Carriage bolt GR5
9	6095	2	.626 ID x 1.85 OD Ball bearing	38	4097		5/8 x 1-1/2 Clevis pin
10	3665	1	V-Belt shield bracket	39	410		5/8 x 1-3/4 Clevis pin
11	25550	1	Upper belt shield	40	692 *		5/8 Standard flat washer
12	1635	1	Rear shield bracket	41	1517		5/8 x 1-3/8 x 7 GA Flat washer (L306 only)
13	3651	1	P 1, 1-1/8 6-Splined bushing	42	1286 *		5/8 Heavy lock washer
14	1481	1	1 TB 9.4 PD Sheave	43	230 *		5/8 NC Hex nut
15	4152	1	W180 V-Belt (for L59) -or-	44	639 *		1/2 NC x 2-1/2 HHCS GR5
15	3652	1	W189 V-Belt (for L59 with AV kit) (order separately) -or-	45	3699 *		1/2 NC x 2 HHCS GR5
15	5711	1	W201 V-Belt (for L306) -or-	46	3379 *		1/2 NC x 1-1/2 HHCS GR5
15	10859	1	W208 V-Belt (for L306 with AV Kit) (order separately)	47	854 *		1/2 Standard flat washer
16	18260	1	AV Conversion bundle (optional)(includes 2 mounting bars and hardware to convert stan- dard mounting to fit AV tractors; bars are not sold separately)	48	855 *		1/2 Extra-heavy lock washer
17	23966	1	Check chain bracket	49	11900 *		1/2 NC Flanged hex lock nut
18	25554	1	Rear belt guide	50	1093 *		1/2 NC Heavy hex nut
19	13314	2	Push channel with clevis bar (for L59) -or-	51	3504		1/2 x 5/8 x 1-1/16 Sleeve HT
19	23942	2	Push channel assembly, 27-1/4" long (for L306)	52	735 *		3/4 NC x 2 HHCS GR5
20	3485	1	Crosswise rear support	53	4616 *		3/4 NC x 1-1/2 HHCS GR5
21	25557	1	Center belt shield bracket	54	1257 *		3/4 Standard flat washer
22	25555	1	Center belt shield	55	2522 *		3/4 Standard lock washer
				56	1450 *		3/4 NC Hex nut
				57	2688 *		5/32 Hair pin cotter
						*	Standard hardware, obtain locally

L59 A-3 & L306 A-3 MANUAL HEIGHT ADJUSTMENT ASSEMBLY



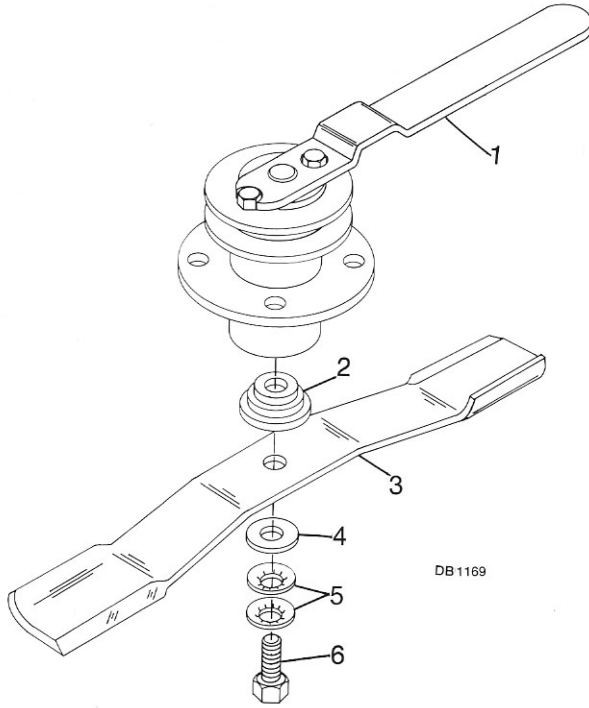
REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	10699	1	Manual height adjustment rod	15	835 *		3/8 NC Hex nut, plated
2	10693	1	Manual height adjustment lever assembly	16	27851		3/8 x 1/2 x 1/4 Heat-treated sleeve
3	10702	1	Manual lift sector assembly	17	565 *		3/8 Standard flat washer
4	9045	1	Manual lift attachment plate bundle (includes items 5, 7, 8, and 24-27)	18	3231 *		3/8 NC x 2 HHCS GR5
5	10708	1	Manual height adjustment spacer	19	12735 *		1/2 NC x 1-3/4 Carriage bolt GR5
6	13006	1	13-1/4 Long extension spring (L306 only)	20	855 *		1/2 Extra-heavy lock washer
7	23966	1	Check chain bracket	21	1093 *		1/2 NC Heavy hex nut
8	18264	1	2/0 Straight link chain, 13 links	22	3598 *		1/2 SAE Flat washer
9	4154	1	4/0 Passing link chain, 33 links	23	230 *		5/8 NC Hex nut
10	24803	1	Rear keyhole lift lug	24	1286 *		5/8 Heavy lock washer
11	10701	1	Manual height adjustment clip	25	692 *		5/8 Standard flat washer
HARDWARE				26	484		5/8 x 1 x 7/16 HT Sleeve
12	3597 *		1/8 x 1 Cotter pin	27	12274 *		5/8 NC x 2-1/4 HHCS GR5
13	6128 *		1/4 NC Hex lock nut	28	6268 *		5/8 NC x 1-1/4 HHCS
14	10378 *		1/4 NC x 1 HHCS GR5	29	986 *		5/8 NC x 2-3/4 HHCS GR5
				30	10706		3-3/8 Long compression spring

* Standard hardware, obtain locally

38 Parts

15148 (Rev. 2/9/2007)

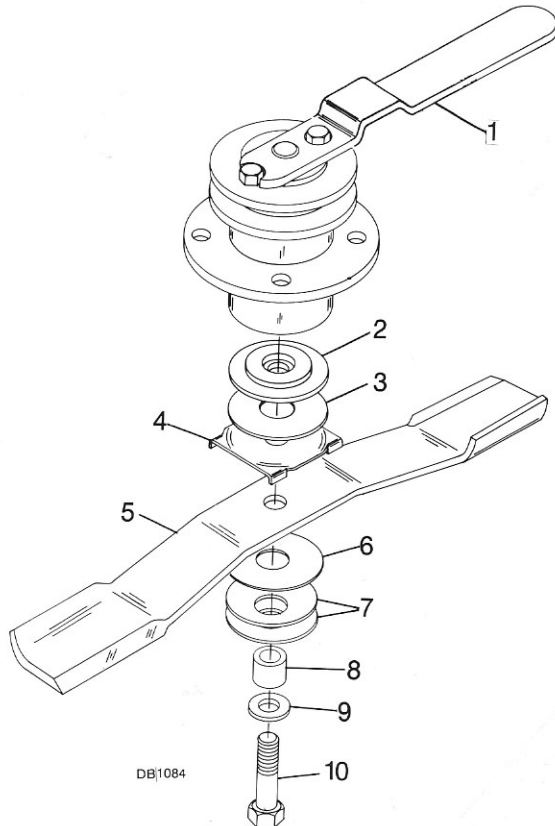
L59 A-3 BLADE ASSEMBLY



REF	PART	QTY	DESCRIPTION
1	2974	1	Spindle lock wrench
2	4110	1	Shoulder washer
3	23825KT	1	CCW 20-1/4 Blade (Standard suction) -or-
3	25997KT	1	CCW 20-1/4 Blade (Low suction)
4	692 *	1	5/8 Standard flat washer
5	10635	2	5/8 x 1-3/4 x 14 GA Cup washer
6	10718	1	5/8 NC x 1-1/2 Nylok hex head cap screw GR5 (left hand threads)

* Standard hardware, obtain locally

L306 A-3 BLADE ASSEMBLY

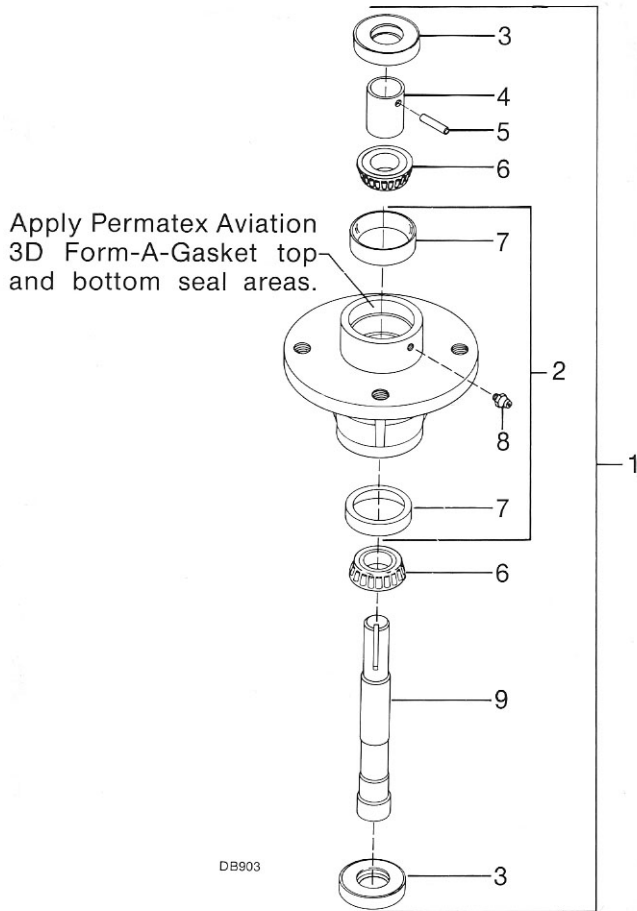


REF	PART	QTY	DESCRIPTION
1	2974	1	Spindle lock wrench
2	13409	1	5/8 ID x 3 Shoulder washer
3	13402	1	1 x 3 Friction disc
4	13403	1	Blade lock
5	13404KT	1	CCW 24-1/2 Blade (standard suction) -or-
5	28328KT	1	CCW 24-1/2 Blade (low suction)
6	13405	A/R	1 x 3 x 20 GA Shim washer
7	13401	2	1 x 2-3/4 x 11 GA Cup washer
8	12313	4	5/8 ID x 1 OD x 13/16 Sleeve HT
9	13451	1	5/8 x 1-1/4 x 13/64 Sleeve HT
10	24184	1	5/8 NC x 2-3/8 Nylok cap screw GR5 (left hand threads)

A/R As required

* Standard hardware, obtain locally

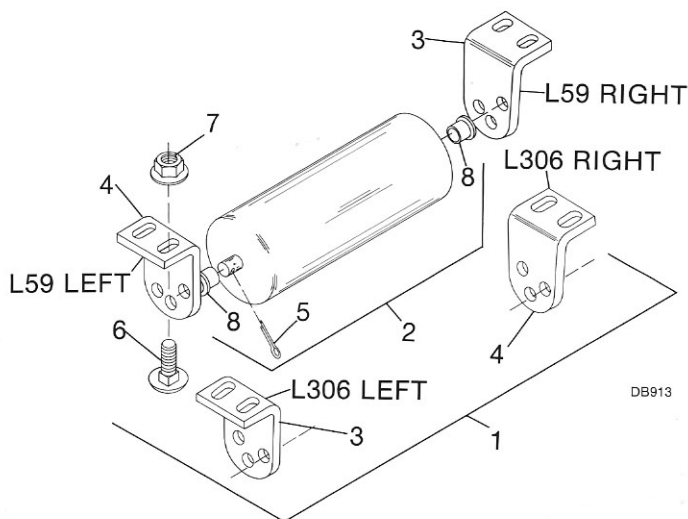
L59 A-3 & L306 A-3 BLADE SPINDLE ASSEMBLY



REF	PART	QTY	DESCRIPTION
1	3761	1	Fixed blade spindle (left hand rotation)
2	4117	1	Spindle housing (includes bearing cups)
3	5089	2	Seal for 1-1/16 shaft
4	4114	1	27/32 x 1-1/16 x 1-7/16 Sleeve
5	4115 *	1	3/16 x 1-1/8 Spring pin
6	4107	2	Bearing cone
7	4106	2	Bearing cup
8	1972 *	1	1/4 - 28 Tapered thread grease fitting
9	28897	1	Spindle shaft HT (left hand threads)

* Standard hardware, obtain locally

L59 A-3 & L306 A-3 FRONT ROLLER ASSEMBLY (OPTIONAL)



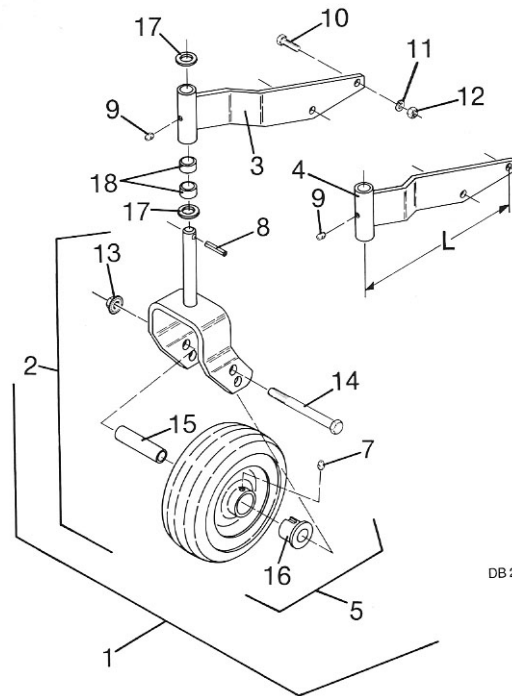
REF	PART	QTY	DESCRIPTION
1	24650	1	Front roller, complete
2	24583	1	Front roller, bearing and rod
3	24586	1	Right front roller bracket
4	24587	1	Left front roller bracket
5	1256 *	-	3/16 x 1 Cotter pin
6	6697 *	-	3/8 NC x 1 Carriage bolt GR5
7	14350	-	3/8 NC Flanged hex lock nut
8	29610	2	5/8 x 7/8 x 7/8 Flange bearing

* Standard hardware, obtain locally

40 Parts

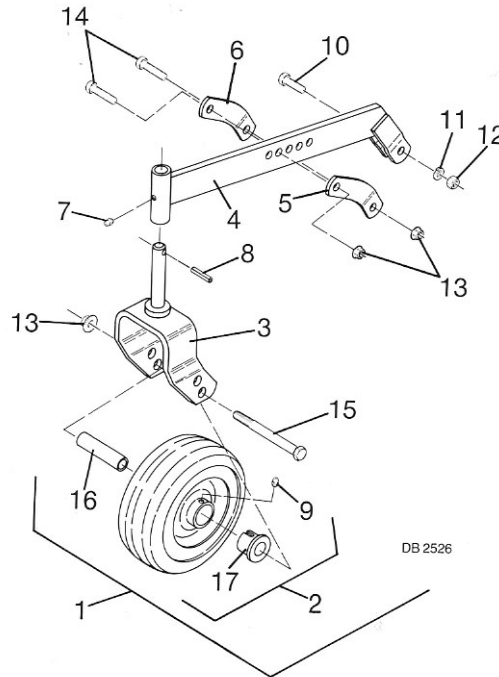
15148 (Rev. 2/9/2007)

L59 A-3 CASTER ASSEMBLY (OPTIONAL)



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	29750	1	Right & left castor bundle	12	835 *	2	3/8 NC Hex nut, plated
2	12243	1	Caster yoke w/axle (includes bolt, nuts & sleeve)	13	765 *	1	1/2 NC Hex lock nut
3	29746 (a)	1	Right castor arm assembly (shown) 13-5/32" long -or-	14	23479	1	1/2 NC x 5 HHCS GR5
3	6761 (a)	1	Right castor arm assembly, 16-5/32" long	15	29368 (c)	1	1/2 x 3/4 OD x 3-3/8 Sleeve -or-
4	29747 (a)	1	Left castor arm assembly, 13-5/32 long -or-	15	12242 (c)	1	17 GA Wall x 5/8 OD x 3-3/8 tube
4	18424 (a)	1	Left castor arm assembly, 16-5/32" long	16	29375 (b)	2	3/4 Bore flanged bearing for 1-1/8 hole -or-
5	19703	1	8-1/2 Castor wheel with sleeve	16	4228 (b)	2	5/8 Bore flanged bearing for 1-3/8 hole -or-
7	----- *	1	Straight 1/4 self-tap grease fitting (for steel wheel) -or-	16	65578 (b)	2	3/4 Bore x 1.385 flanged wheel bearing with groove
7	195 *	1	Straight 1/8 pipe thread grease fitting (for polyethylene wheel)	17	22240	2	3/4 x 1-3/16 x 10 GA Flat washer
8	21020	1	1/4 x 1-1/4 Spiral pin -or-	18	4181	2	25/32 x 1 x 1/2 HT Sleeve
8	1285 *	1	1/4 x 1-1/2 Cotter pin			(a)	For proper castor arm identification, refer to dimension "L" as shown on drawing. Castor arms may be used on either side to obtain best fit.
9	12296 *	1	1/4-28 Straight grease fitting, 15/32"			(b)	Measure old bearing.
10	12169 *	2	3/8 NC x 1-1/4 HHCS GR5			(c)	Measure outside diameter of old sleeve.
11	838 *	2	3/8 Standard lock washer			*	Standard hardware, obtain locally

L306 A-3 CASTER ASSEMBLY (OPTIONAL)



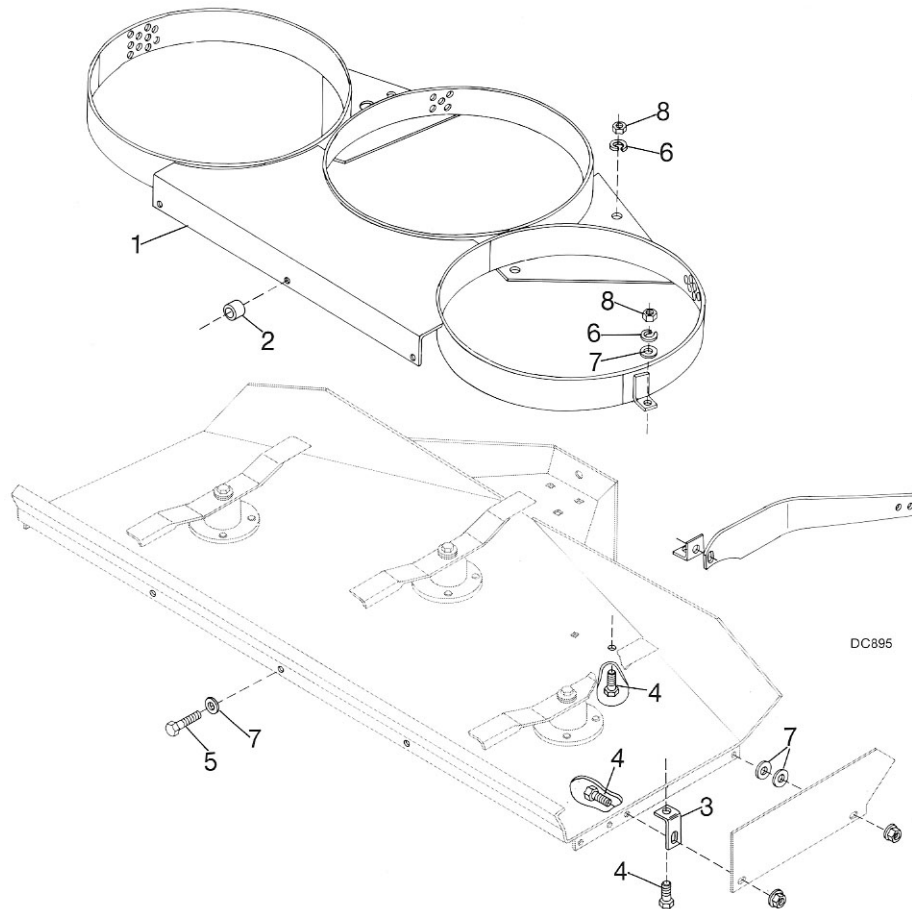
A – CASTER BUNDLE

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
A	24095	-	L306 Caster assembly bundle	14	24576	2	1/2 NC x 1-3/4 HHCS GR5
1	13400	1	Caster assembly	15	23479	1	1/2 NC x 5 HHCS GR5
2	15638	1	Wheel, 10" C-flange w/sleeve	16	29368 (c)	1	1/2 x 3/4 OD x 3-3/4 HT Sleeve -or-
3	23857	1	Caster wheel yoke assembly	16	12242 (c)	1	17 GA Wall x 5/8 OD x 3-3/8 tube
4	13435	1	Caster arm assembly	17	29375 (b)	2	3/4 Bore flanged bearing for 1-1/8 hole -or-
5	13444	1	Left caster adjustment bracket	17	4228 (b)	2	5/8 Bore flanged bearing for 1-3/8 hole -or-
6	13444	1	Right caster adjustment bracket	17	2905 (b)	2	5/8 Bore flanged bearing for 1-1/8 hole -or-
7	12296 *	1	1/4-28 Straight grease fitting, 15/32" long	17	65578 (b)	2	3/4 Bore x 1.385 flanged wheel bearing with groove -or-
8	21020	1	1/4 x 1-1/4 Spirol pin -or-	17	65577 (b)	2	3/4 Bore x 1.385 flanged wheel bearing with notch
8	1285 *	1	1/4 x 1-1/2 Cotter pin				
9	----- *	1	Straight 1/4 self-tap grease fitting (for steel wheel) -or-				
9	195 *	1	Straight 1/8 pipe thread grease fitting (for polyethylene wheel)				
10	976 *	1	3/8 NC x 1-1/2 HHCS GR5			*	Standard hardware, obtain locally
11	838 *	2	3/8 Standard lock washer			(b)	Measure old bearing.
12	835 *	2	3/8 NC Hex nut, plated			(c)	Measure outside diameter of old sleeve.
13	11900 *	3	1/2 NC Flanged hex lock nut				

42 Parts

15148 (Rev. 2/9/2007)

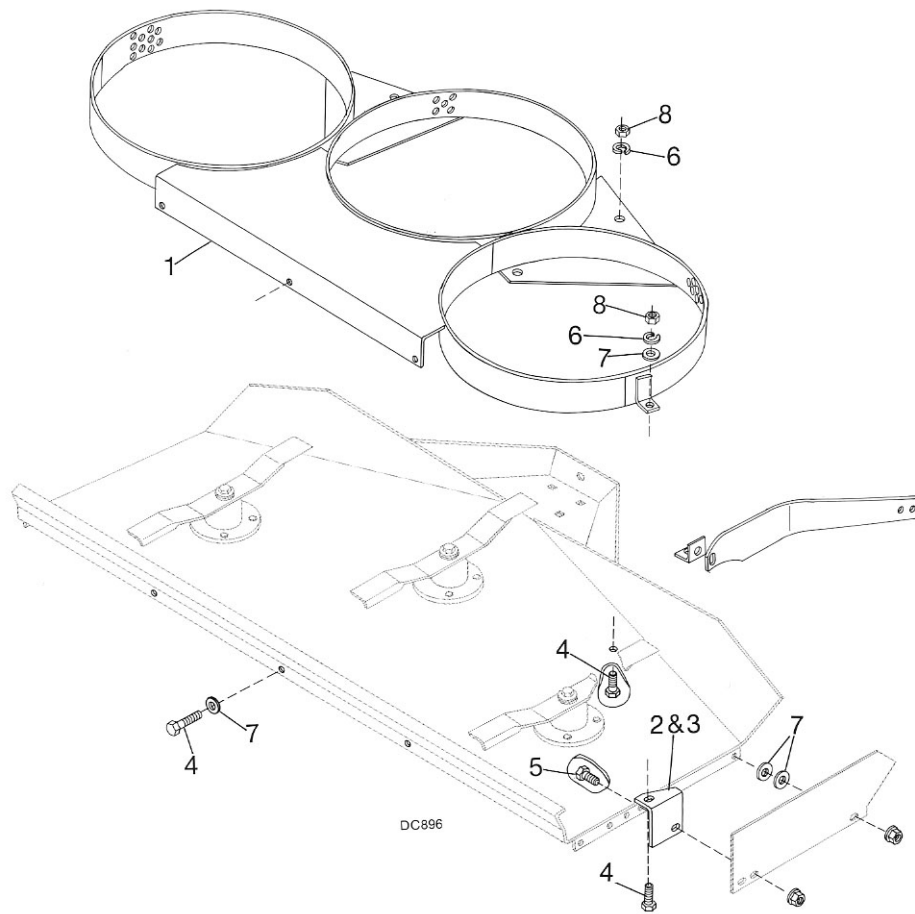
L59 A-3 LEAF MULCHER ASSEMBLY (OPTIONAL)



REF	PART	QTY	DESCRIPTION
A	7080	1	Leaf mulcher complete
1	-----	1	Leaf mulcher weldment
2	23218	3	3/8 Schedule 40 x 5/8 pipe
3	7076	2	Angle lug
4	839 *	-	3/8 NC x 1 HHCS GR5
5	976 *	-	3/8 NC x 1-1/2 HHCS GR5
6	838 *	-	3/8 Standard lock washer
7	565 *	-	3/8 Standard flat washer
8	835 *	-	3/8 NC Hex nut, plated

* Standard hardware, obtain locally

L306 A-3 LEAF MULCHER ASSEMBLY (OPTIONAL)



REF	PART	QTY	DESCRIPTION
A	13482	1	Leaf mulcher complete
1	----	1	Leaf mulcher weldment
2	13224	1	Leaf mulcher right mounting bracket
3	13225	1	Leaf mulcher left mounting bracket
4	839 *	-	3/8 NC x 1 HHCS GR5
5	976 *	-	3/8 NC x 1-1/2 HHCS GR5
6	838 *	-	3/8 Standard lock washer
7	565 *	-	3/8 Standard flat washer
8	835 *	-	3/8 NC Hex nut, plated

* Standard hardware, obtain locally

44 Parts

15148 (Rev. 2/9/2007)

BOLT TORQUE CHART

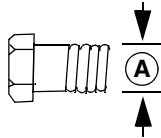
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

Fasteners must always be replaced with the same grade as specified in the manual parts list.

Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for metric hardware.

Make sure fastener threads are clean and you start thread engagement properly.

All torque values are given to specifications used on hardware defined by SAE J1701 MAR 99 & J1701M JUL 96.



SAE SERIES TORQUE CHART



SAE Grade 2
(No Dashes)

SAE Bolt Head
Identification

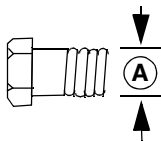


SAE Grade 5
(3 Radial Dashes)



SAE Grade 8
(6 Radial Dashes)

Ⓐ Diameter (Inches)	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	10	13	14	18
5/16"	1/2"	12	17	19	26	27	37
3/8"	9/16"	23	31	35	47	49	67
7/16"	5/8"	36	48	55	75	78	106
1/2"	3/4"	55	75	85	115	120	163
9/16"	13/16"	78	106	121	164	171	232
5/8"	15/16"	110	149	170	230	240	325
3/4"	1-1/8"	192	261	297	403	420	569
7/8"	1-5/16"	306	416	474	642	669	907
1"	1-1/2"	467	634	722	979	1020	1383



METRIC SERIES TORQUE CHART



8.8
Metric
Grade 8.8

Metric Bolt Head
Identification



10.9
Metric
Grade 10.9

Ⓐ Diameter & Thread Pitch (Millimeters)	Wrench Size	COARSE THREAD				FINE THREAD				Ⓐ Diameter & Thread Pitch (Millimeters)
		MARKING ON HEAD				MARKING ON HEAD				
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9		
		N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	
6 x 1.0	10 mm	8	6	11	8	8	6	11	8	6 x 1.0
8 x 1.25	13 mm	20	15	27	20	21	16	29	22	8 x 1.0
10 x 1.5	16 mm	39	29	54	40	41	30	57	42	10 x 1.25
12 x 1.75	18 mm	68	50	94	70	75	55	103	76	12 x 1.25
14 x 2.0	21 mm	109	80	151	111	118	87	163	120	14 x 1.5
16 x 2.0	24 mm	169	125	234	173	181	133	250	184	16 x 1.5
18 x 2.5	27 mm	234	172	323	239	263	194	363	268	18 x 1.5
20 x 2.5	30 mm	330	244	457	337	367	270	507	374	20 x 1.5
22 x 2.5	34 mm	451	332	623	460	495	365	684	505	22 x 1.5
24 x 3.0	36 mm	571	421	790	583	623	459	861	635	24 x 2.0
30 x 3.0	46 mm	1175	867	1626	1199	1258	928	1740	1283	30 x 2.0

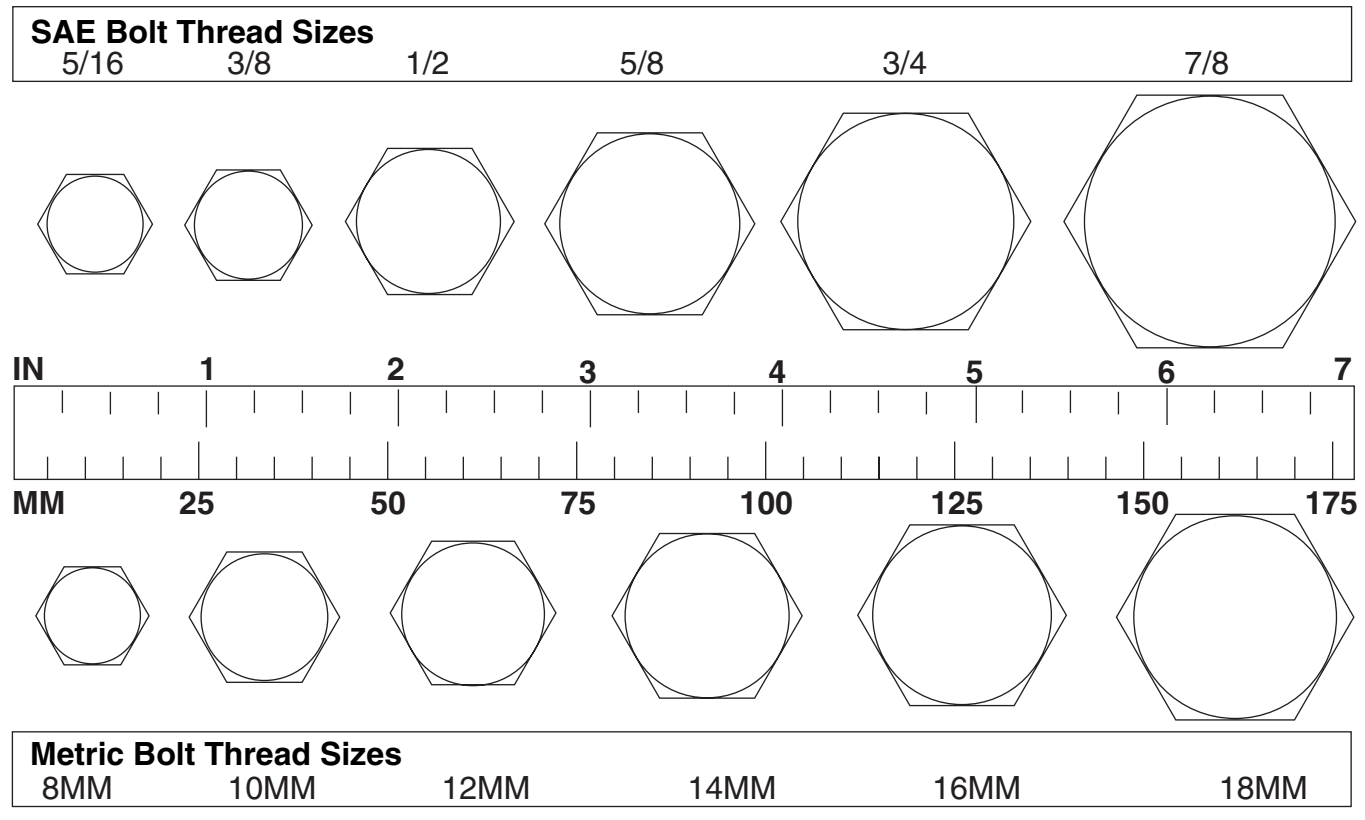
Typical Washer Installations

Bolt Lock Washer Flat Washer

8/9/00

BOLT SIZE CHART

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



ABBREVIATIONS

AG Agriculture
 ATF Automatic Transmission Fluid
 BSPP British Standard Pipe Parallel
 BSPTM British Standard Pipe Tapered Male
 CV Constant Velocity
 CCW Counter-Clockwise
 CW Clockwise
 F Female
 GA Gauge
 GR (5, etc.) Grade (5, etc.)
 HHCS Hex Head Cap Screw
 HT Heat-Treated
 JIC Joint Industry Council 37° Degree Flare
 LH Left Hand
 LT Left
 m Meter
 mm Millimeter
 M Male
 MPa Mega Pascal
 N Newton

NC National Coarse
 NF National Fine
 NPSM National Pipe Straight Mechanical
 NPT National Pipe Tapered
 NPT SWF National Pipe Tapered Swivel Female
 ORBM O-Ring Boss - Male
 P Pitch
 PBY Power-Beyond
 psi Pounds per Square Inch
 PTO Power Take Off
 QD Quick Disconnect
 RH Right Hand
 ROPS Roll-Over Protective Structure
 RPM Revolutions Per Minute
 RT Right
 SAE Society of Automotive Engineers
 UNC Unified Coarse
 UNF Unified Fine
 UNS Unified Special

INDEX

ASSEMBLY

- Attaching Mower to Tractor 24
- Dealer Set-Up Instructions 19
- Delivery Check List 26
- Optional Equipment Available 26
- Optional Equipment Installation 27
- Pre-Delivery Check List 26
- Tractor Preparation 21

DEALER SERVICE

- Blade Spindle Repair 15
 - Assembly 15
 - Disassembly 15
 - Installation 16
 - Removal 15
 - Repair Tips 15

GENERAL

- Abbreviations 46
- Bolt Size Chart 46
- Bolt Torque Chart 45
- General Information 4
- General information 4
- Introduction 2
- Obtaining Replacement Manuals 2
- Specifications 4
- Warranty
 - Product 81
 - Replacement Parts 1

OPERATION

- Adjustment 8
 - Cutting Height 8
 - Cutting Height with Lift Chains 8

- Cutting Height with Optional Casters 8
- Mower Attitude 9
 - Adjustment 9
 - Side Skids 9
- Commencing Mowing 10
- Mowing Techniques 10
 - Mowing Speed 10
 - Mowing Tips 10
 - Uneven Terrain 11
- Pre-Operation Check List 9
- Starting & Stopping Mower 9
- Transporting 10

OWNER SERVICE

- Blade Servicing 12
 - Removal and Installation 13
 - Sharpening 13
- Cleaning 14
- Lubrication 12
 - Caster Lubrication 12
 - Spindle Lubrication 12

PARTS

- Parts Index 31

SAFETY

- Safety & Instructional Decals 7
- Safety Rules 5
- Safety Symbols Explained 2

TROUBLESHOOTING

- Mower Conditions 17
- Belt Conditions 18

WARRANTY

(All Models Except Mow'n Machine™ Zero-Turn Mowers and Woods Boundary™ Utility Vehicles)

Please Enter Information Below and Save for Future Reference.

Date Purchased: _____ From (Dealer): _____

Model Number: _____ Serial Number: _____

Woods Equipment Company ("WOODS") warrants this product to be free from defect in material and workmanship. Except as otherwise set forth below, the duration of this Warranty shall be for TWELVE (12) MONTHS COMMENCING ON THE DATE OF DELIVERY OF THE PRODUCT TO THE ORIGINAL PURCHASER.

Woods backhoe models BH70-X, BH80-X, and BH90-X are warranted for two (2) years from the date of delivery to the original purchaser.

The warranty periods for specific parts or conditions are listed below:

Model Number	Part or Condition Warranted	Duration (from date of delivery to the original purchaser)
PHD25, PHD35, PHD65, PHD95, 1260, 2162, 3240, BB48, BB60, BB72, BB84, BB600, BB720, BB840, BB6000, BB7200, BB8400, BW180-2, BW1800, DS96, DS120, DS1260, DSO1260, DS1440, TS1680, RCC42, RM550-2, RM660-2, RM990-3, PRD6000, PRD7200, PRD8400, 7144RD-2, 9180RD-2, 9204RD-2, S15CD, S20CD, S22CD, S25CD, S27CD	Gearbox components	5 years
RDC54, RD60, RD72	Gearbox components	3 years (1 year if used in rental or commercial applications)
RM550-2, RM660-2, RM990-3, PRD6000, PRD7200, PRD8400, 7144RD-2, 9180RD-2, 9204RD-2	Blade spindles	3 years
BB600, BB720, BB840, BB6000, BB7200, BB8400, BW126, BW180, BW1260, BW1800, 1260, 2162, 3240	Rust-through	10 years

Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of WOODS, has been subjected to improper operation, improper maintenance, misuse, or an accident. This Warranty does not apply in the event that the product has been materially modified or repaired by someone other than WOODS, a WOODS authorized dealer or distributor, and/or a WOODS authorized service center. This Warranty does not cover normal wear or tear, or normal maintenance items. This Warranty also does not cover repairs made with parts other than those obtainable through WOODS.

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Answers to any questions regarding warranty service and locations may be obtained by contacting:

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800-319-6637 tel
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WARRANTY

(Replacement Parts For All Models Except Mow'n Machine™
Zero-Turn Mowers and Woods Boundary™ Utility Vehicles)

Woods Equipment Company ("WOODS") warrants this product to be free from defect in material and workmanship for a period of ninety (90) days from the date of delivery of the product to the original purchaser with the exception of V-belts, which will be free of defect in material and workmanship for a period of 12 months.

Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of WOODS, has been subjected to improper operation, improper maintenance, misuse, or an accident. This Warranty does not cover normal wear or tear, or normal maintenance items.

This Warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third party purchaser in any way. There are no third party beneficiaries of this Warranty.

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