

# WOODS ROTARY MOWER

**59HC-1**

For use on IH "C" and "240"

**29931**  
Rev. 6/29/2007

**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](http://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.

**IMPORTANT**  
or **NOTICE**

Indicates that failure to observe can cause damage to equipment.

**NOTE**

Indicates helpful information.

**WOODS®**

**ALITEC™**  
**BMP®**  
**CENTRAL FABRICATORS®**  
**GANNON®**  
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## 2 Introduction

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

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## GENERAL INFORMATION

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


The illustrations and data used in this manual were current at the time of printing but, due to possible inline production changes, your mower may vary slightly in detail. We reserve the right to redesign and change the cutters as may be necessary without notification.

Throughout this manual, references are made to right and left directions. These are determined by standing behind the mower facing the direction of forward travel.



**¡LEA EL INSTRUCTIVO!**

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



**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.**

# 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](http://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

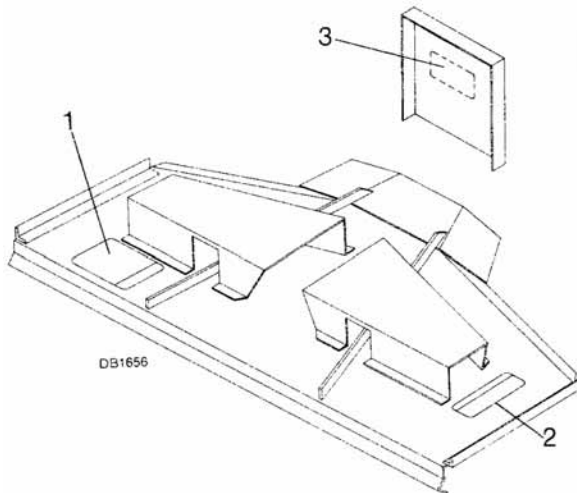
- Block equipment securely for storage.
- Keep children and bystanders away from storage area.



# SAFETY & INSTRUCTIONAL DECALS



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



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



3 - SERIAL NUMBER PLATE

### BE CAREFUL!

Use a clean, damp cloth to clean safety decals.

Avoid spraying too close to decals when using a pressure washer; high-pressure water can enter through very small scratches or under edges of decals causing them to peel or come off.

Replacement safety decals can be ordered free from your Woods dealer. To locate your nearest dealer, check the Dealer Locator at [www.WoodsEquipment.com](http://www.WoodsEquipment.com), or in the United States and Canada call 1-800-319-6637.

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

## 6 Safety

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# OPERATION

## WARNING

- Do not allow children or unqualified persons to operate equipment.
- Keep bystanders away from equipment while it is in operation.

## 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.

## MOWING GRASS

Woods model **59**, **L59**, and **L306** series mowers are equipped with suction-type blades which make them ideal for finish mowing large areas of lawn. The machine should be run level when mowing, and the uncut area should be kept to the left side (right side on left-handed machine). This prevents a small windrow that might otherwise occur.

## Streaking

With certain types of grass and under certain seasonal conditions, the front caster wheels may roll the grass down enough that it will not come all the way back up and will not be cut as short as the surrounding area. This may appear to be a streak left by the spindle, but it is not. The only solution, under these conditions, is to carry the weight of the machine on the lift chains with the caster wheels adjusted up so they carry the weight when riding a high ridge or high spot.

## TRACTOR OPERATING INSTRUCTIONS

Operate the tractor at full governed rpm when doing normal mowing. If the forward speed is too high, a lower gear can be used.

## Height Adjustment (Without Casters)

The mower is raised or lowered and the mowing height is maintained by the tractor hydraulic system.

Set the hydraulic control lever stop for the desired mowing level. Adjust the side skids so that they just

clear the ground. The side skids will minimize scalping by lifting the mower over bumps.

## Height Adjustment (With Casters)

Adjustment for **59** and **L59** casters is made by placing axle in upper and lower holes in the yoke, or by moving spacers on top or bottom of the pivot shaft. On **L306**, adjust by using various holes in the caster arm. Adjust side skids 1/2" above the ground.

Raise mower off the ground when backing and turning at the same time.

## Mower Attitude

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

## Attitude Adjustment (Figure 1)

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, gauge wheels 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 the mower frame as shown in Figure 3.

Measure from the bottom edge of the straight edge 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 mower frame from the front measurement. On **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 the mower. Be sure the 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.

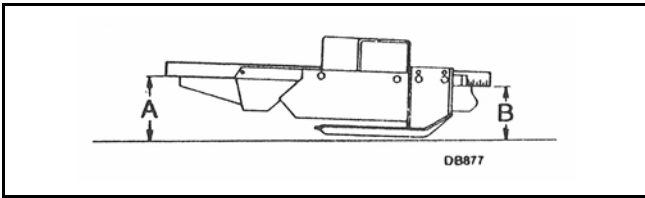


Figure 1. Attitude Adjustment

### NOTICE

- Improper belt alignment or tension can cause premature belt failure.

### Lubrication

Grease caster pivot and wheel every 8 hours of operation.

There are grease fittings on each of the three blade spindles, which are accessible without shield removal. Grease 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.

### Belt Tension (Figure 2)

Set belt tension using a spring scale or other force measuring device. Remove left belt shield. Attach scale between center and left pulley. Apply between 3 and 4 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.

Cycle belt through at least two revolutions after any adjustment before checking tension. These belts are very strong and need to be adjusted very tight. Belts are more likely to be damaged by excessive slippage than from being overtightened.

### NOTICE

- Belt must not rub deck or crosswise support.

Tension adjustments may be made by moving the idler pulleys up or down.

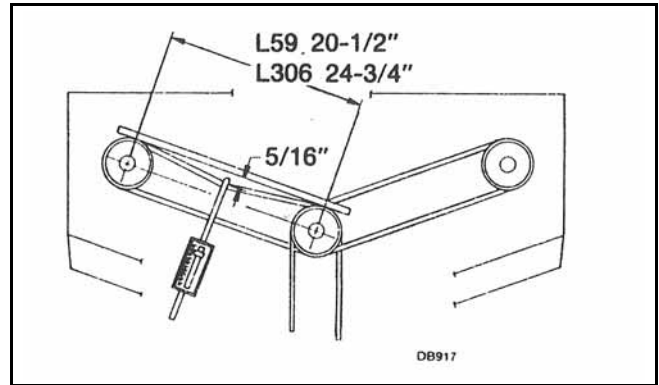


Figure 2. Proper Belt Tension

### NOTICE

- Alignment must be rechecked if it is necessary to move idler pulleys 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 8 hours of operation.

### Side Shield & Discharge Chute

Side shield and discharge chute are provided for discharge end of mower (left end on white frames and right end on yellow frames). Use side shield for normal mowing and in areas where other persons may be present. Use discharge chute for very heavy mowing conditions.

### NOTICE

- Always use either side shield or discharge chute.

### Optional Equipment

Optional equipment available for this equipment includes casters for cutting height control, front roller to minimize scalping, low and extra suction blades, and a leaf mulcher. Low suction blades are for sandy areas where abrasive action could cause excessive blade wear. Extra suction blades are designed to lift up fragile downed grasses for better cutting results and are also recommended for use with Woods lawn vacuum and leaf mulcher attachments.

### Mower Spindle Assemblies

Mower spindle assemblies are equipped with two tapered roller bearings. Bearing adjustment is held by a roll pin. Adjustment should not be necessary. Repair requires special skills and tools. You may save time and money by using a new spindle assembly.



## Blade Servicing

Keep blades sharp for a good mowing job. Sharpen both ends of the blade the same amount to maintain balance. Do not sharpen blade to a razor edge, but leave a 1/16" blunt edge. Do not sharpen back side of blade. When replacing blades, do not substitute any bolt for the special Nylok blade bolt. The Nylok bolt is self-locking, meeting the non-loosening requirements for this application.

### NOTICE

■ On mowers with white frames, the blade bolts have left hand threads.

Both **59** and **306** mowers use cup washers under blades. These washers will burn and lose their clamping force if excess slippage occurs. Inspect and replace as necessary. The **L306** mower incorporates a friction clutch disc which is designed to slip only when striking a solid object. Should blade slip during mowing, tighten by adding thin shim washers over bushing, between top cup washer and blade, until blades will hold desired load. Blade bolts should be torqued to 170 lbs-ft.

## HOW TO SOLVE BELT PROBLEMS

Assemble as shown on mower decal. If not installed correctly, more twist will result than is allowable.

Belt whip is caused by belt misalignment unless mower is driven by a rough-running or 2-cylinder engine.

Proper position of **L59** and **L306**: Adjust mower forward and back to such a position that the rear take-up idlers are near the bottom of their slots when the belt lines up with the proper groove in the center pulley and is tight. Never run the idlers high in the slots as this will cause misalignment.

It is assumed that the mower is adjusted to run approximately level. If the front of the mower is down, the idlers will have to be raised. If the back of the mower is down, the idlers will have to be down further. Belts must be in proper alignment with sheave grooves as shown in Figure 4 and Figure 5.

PTO pulleys must be moved in or out to cause the belt to be in alignment with the idlers.

**Belt Tension:** Run belts very tight. Present belt designs are much stronger than we are accustomed to and will stand more tension. Slipping will heat and ruin a belt but tension is not harmful. You can minimize the amount of change in belt length as mower is raised and

lowered by keeping the rear idlers adjusted to a low position.

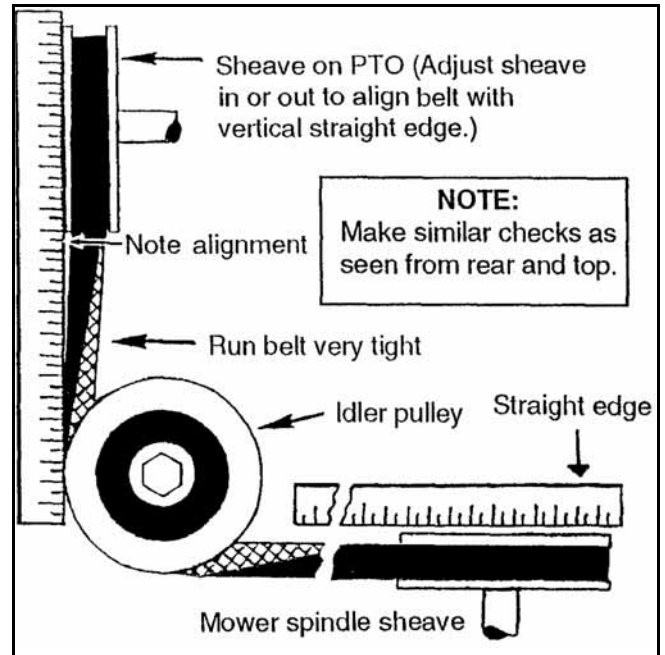


Figure 3. Use of Straight Edge (Side View)

## How to Align a Twisted Belt

Right: Inside edge of belt are approximately lined up with the sheave.

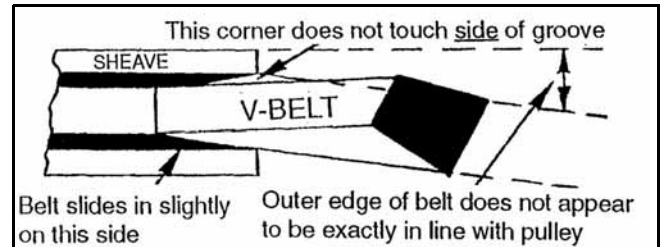


Figure 4.

Wrong: Outer edge of belt appears to be in line.

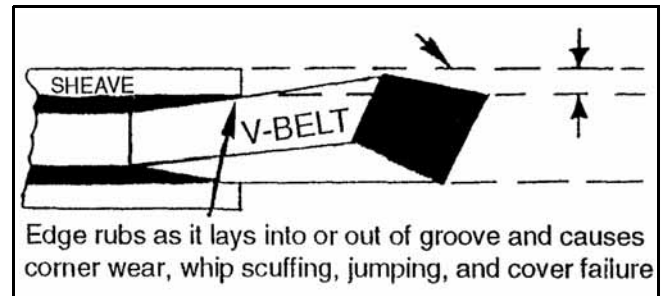


Figure 5.

# ASSEMBLY

On tractors with fast hitch, complete fast hitch must be removed. Bolt lug (17) to sides of transmission housing using bolts removed from tractor, and bolt idler bracket and left mounting bracket to bottom hole of lug (17). Use 5/8 ID x 1-3/8 x 5/8 thick flat washer (65) between tractor and idler bracket and left mounting bracket.

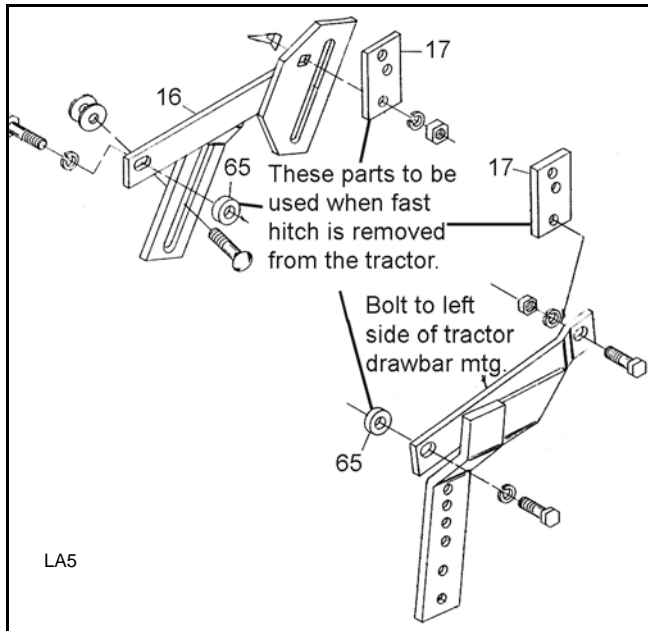


Figure 6. Tractors with Fast Hitch

## Idler Bracket Assembly (Figure 7)

Attach the front end of the idler bracket (16) to right side of the tractor drawbar support bracket front pivot hole.

Remove the existing bolt and replace with a 5/8 x 2-1/4 bolt (59), and lock washer (63). Adjust drawbar bracket so upper rear hole in bracket bolts to upper hole in differential case.

Bolt rear end of idler bracket (16) to center hole in drawbar bracket using 5/8 x 1-1/2 carriage bolt (60), lock washer (63), and hex nut (62). Install the large flat idler pulley (9) to the long front vertical slot using a 5/8 x 2-1/2 carriage bolt (61), with four flat washers (64) installed between the idler and bracket. Secure with lock washer (63), and hex nut (62).

Install 5/8 NC x 3-1/2 hex head cap screws (67) through V-idler (13). Place two 5/8 flat washers (64) and special 5/8 washer (15) over bolt. Install assembly in rear slot in idler bracket (16). Secure with 5/8 flat washer (64) and hex nut (62).

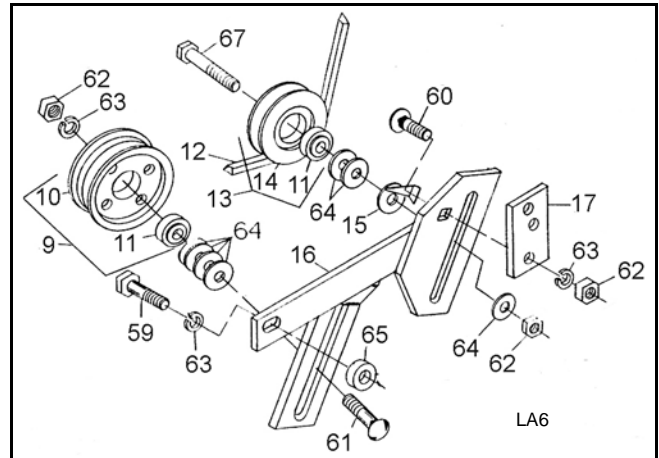


Figure 7. Idler Bracket Assembly

## Left Mounting Bracket (See page 16)

Attach left mounting bracket (23) to left side of drawbar support bracket in the same manner as the idler bracket was attached to the right side.

NOTE: On "240" utility, it is necessary to cut 3-1/2" off the bottom of (8) and (23).

## Right Mounting Bracket

Remove the "U" bolt holding the right fender in place and using the right fender as a top clamp plate, bolt the right mounting bracket (8) to the bottom of the axle with 1/2 x 5" bolts (54). Secure with lock washer (56) and hex nut (55). Allow approximately 26-1/2" between mounting bracket push arms, and tighten all bolts. When fender is removed from tractor, use right top axle clamp (25) in its place.

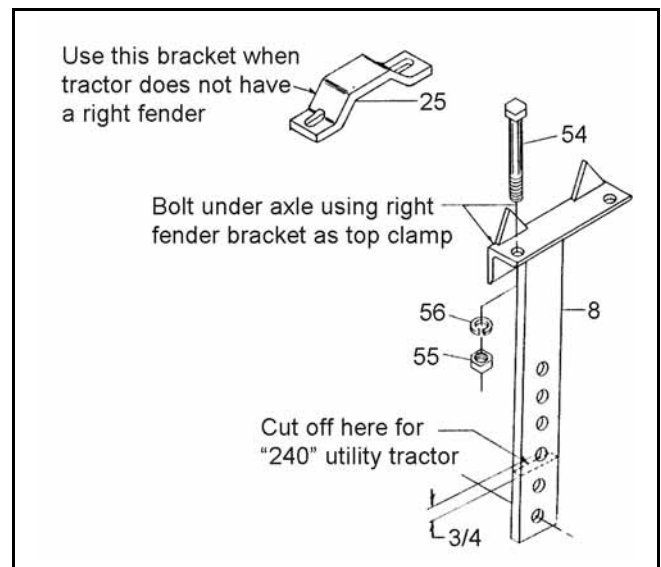


Figure 8. Right Mounting Bracket

Slide mower under tractor and pin the push arms to the inside of the mounting brackets using 5/8 x 1-3/4 clevis pin (66) and safety pin (48).

### Shield Attaching Bracket

Remove belt pulley and install shield bracket (21) to upper bolt on end seal cap of belt pulley housing, with short flange pointing outward.

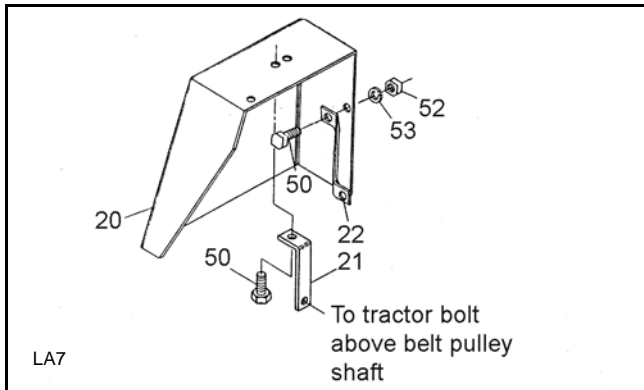


Figure 9. Shield Attaching Bracket

### Drive Sheave

Remove paint from bore of large drive sheave and attach it to the tractor belt pulley shaft using splined bushing (19) provided, with flange on the outside. Position so the face of the bushing is about flush with the end of the shaft and torque bushing bolts evenly to 12 lbs-ft alternating back and forth at least six times.

### Belt Assembly & Adjustment

Put the belt on the drive according to the pictures and instructions on page 12.

**NOTE:** Make major adjustments by sliding the mower fore and aft using the five holes in the end of the channel arms as required. Make minor adjustments with idlers but keep them slightly above being in line with the groove in which the belt runs on the mower center sheave.

### Upper Belt Shield

Bolt the angle bracket (22) to the back of the PTO shield support bracket using the existing right hand bolt. Install so the bracket angles rearward and outward.

Attach the shield (20) to the two attaching angles (21 & 22) using 3/8 NC x 3/4 hex head cap screw (50) and secure with lock washer (53) and hex nut (52).

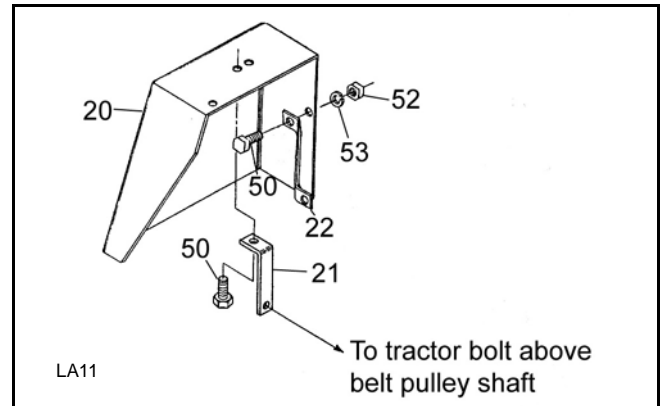


Figure 10. Upper Belt Shield

### Lower Belt Shield

Install lower belt shield (26) over bolt holding rear V-idler to idler bracket. Secure with a 5/8" flat washer on each side and a 5/8" nut. See page 16.

### Lift Assembly

Attach lift arm (6) to rockshaft on right side of tractor with large hole to rear. Attach lower lift bar (5) to lift arm (6) using 5/8 x 1" bolt, flat washer and spacer bushing (7). Attach lift chains to keyholes in mower lift lugs and secure with plastic caplug (4). Hook eye bolt through top of chain and into cross plate of lift bar.

Raise the mower on the tractor hydraulic system slightly and adjust eye bolts to carry mower level. Adjust so mower does not hit tractor or tires when fully raised.

**NOTE:** On "240" with rear rockshaft, it is necessary to use manual lift. See page 24.

### Casters

If casters are used see page 19 and page 20.

### Manual Lift Assembly

See page 24 for manual lift assembly installation instructions.

### Belt Assembly and Adjustment

Models used on: 59C, L59, and L306 model AC52, AC54, BMC, B-25, D, D10-D12, F, F10, H3, GM2, GM4, JD85, JD95, JM, K17, K22, K28, KD, KL, K210, K260, MF, M25, S, S55, VC, U, etc.

First put belt on the bottom groove, right hand side of the center sheave. Then thread it to left, around the left hand sheave.

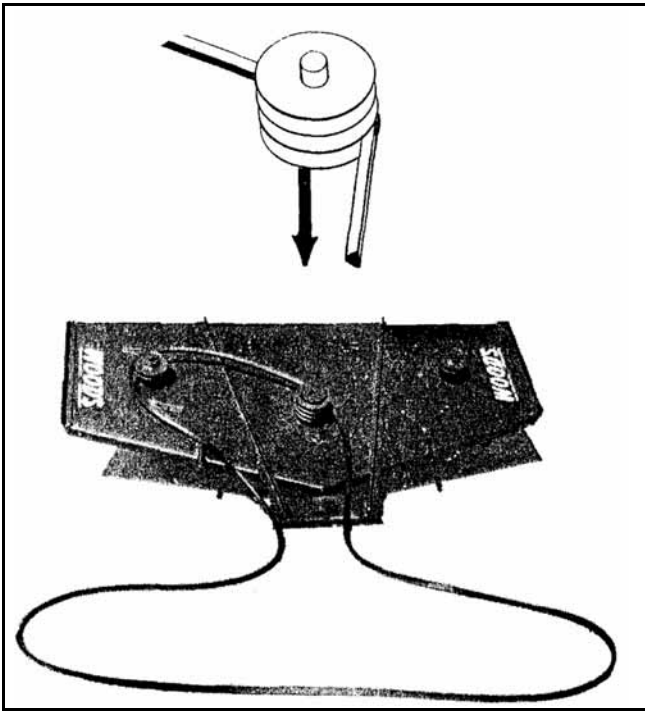


Figure 6.

Bring the belt back across the center sheave in the center groove over to the right outside sheave.

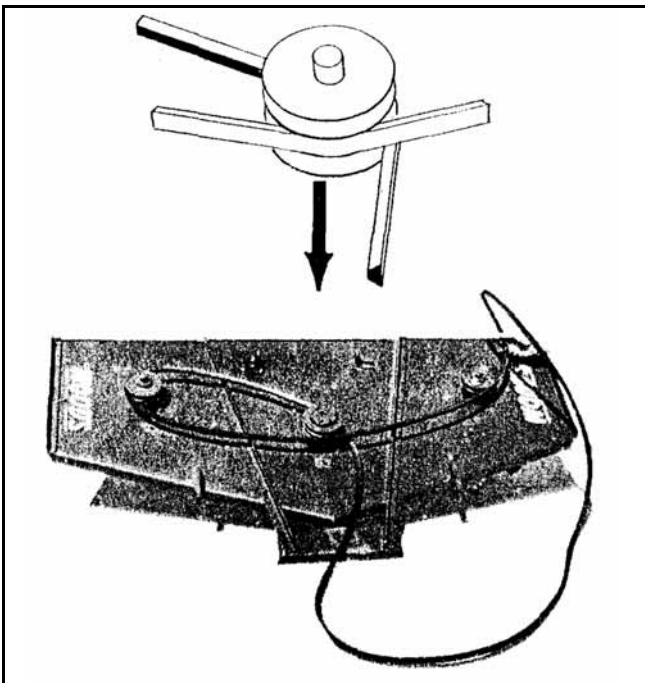


Figure 7.

Then thread it back across the front of the center sheave in the top groove.

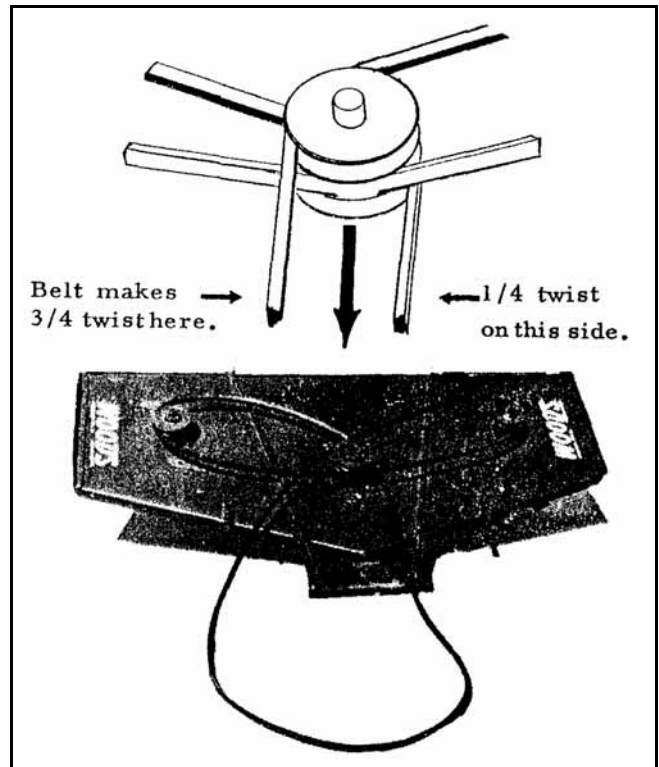


Figure 8.

**Proper Twist:** The belt then follows with a 3/4 twist back under the left V-idler, up over the drive sheave and back down under the right idler pulley. This will leave a 1/4 twist in the section of belt extending from the right V-idler to lower groove of the center mower sheave.

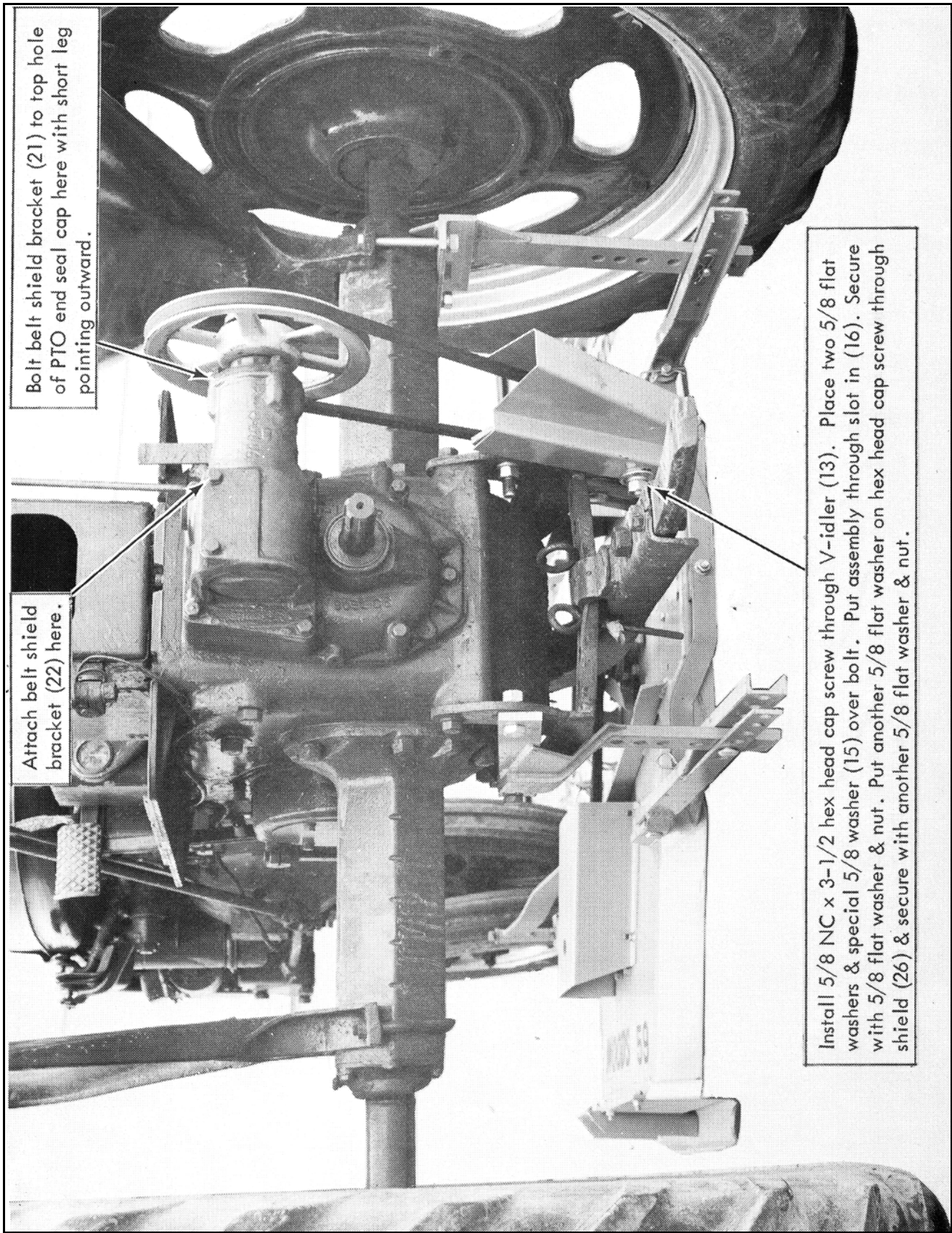
Adjust the mower to proper cutting height. The front of the mower should be slightly lower than the rear of the best cutting and least power requirement.

**Idler Adjustment:** Make minor belt adjustment with idlers but keep left idler about 1" above being in line with the groove in which the belt runs on the center sheave of the mower and right idler about 1" below. Move mower fore and aft for major adjustments. On L306K210, K260, S, and F10, use belt take-up idlers on mower deck for major adjustment.

### **LEAF MULCHER (OPTIONAL)**

1. Turn the mower upside down on saw horses. If mower has a bolt-on front shield, adjust shield all the way down in long slots. Remove side shields. Leave side skids on. If optional front roller has been installed, it must be removed.
2. On mowers with bent-down front frame, remove center baffle and drill three 7/16 diameter holes (two on 59's) in front of mower at the diameter shown on drawing.

3. Attach slotted angles (2) or (3 & 4) to leaf mulcher as shown on drawing.
4. Place leaf mulcher over blades on mower. Attach angles (2) or (3 & 4) and mower side shield to side frame angle on mower. All **59** mowers and **L306** mowers with bolt-on front shield will use front shield hole to attach angles (2) or (3 & 4). **L306** mowers with bent-down front frame will use 2nd hole behind skid to attach angles (3 & 4). Bolt side shields to mower using 3/8 flat washers for spacers.
5. On mowers with bolt-on front shield, bolt front of leaf mulcher to bottom of slots in front shield with 3/8 x 1" bolts and flat washers. On mowers with bent-down front frame, bolt leaf mulcher to inside of mower in holes drilled in front frame using 3/8 x 1" bolts on **L306**, and on **L59's** use 3/8 x 1-1/2 bolts and 5/8 long pipe spacers between leaf mulcher and mower. On some mowers where 5/8" pipe may be too long, substitute 3/8 flat washers.
6. Drill 7/16 holes in rear of mower deck through holes in leaf mulcher rear plates and bolt rear of leaf mulcher to deck using 3/8 x 1" bolts.
7. Tighten all bolts securely. Turn each blade individually inside the leaf mulcher to see that it clears the leaf mulcher rings. If necessary, the rings may be re-shaped with a hammer to clear the leaf mulcher rings.



Bolt belt shield bracket (21) to top hole of PTO end seal cap here with short leg pointing outward.

Attach belt shield bracket (22) here.

Install 5/8 NC x 3-1/2 hex head cap screw through V-idler (13). Place two 5/8 flat washers & special 5/8 washer (15) over bolt. Put assembly through slot in (16). Secure with 5/8 flat washer & nut. Put another 5/8 flat washer on hex head cap screw through shield (26) & secure with another 5/8 flat washer & nut.

Figure 9. 59-HC Idler and Mounting Bracket Assembly

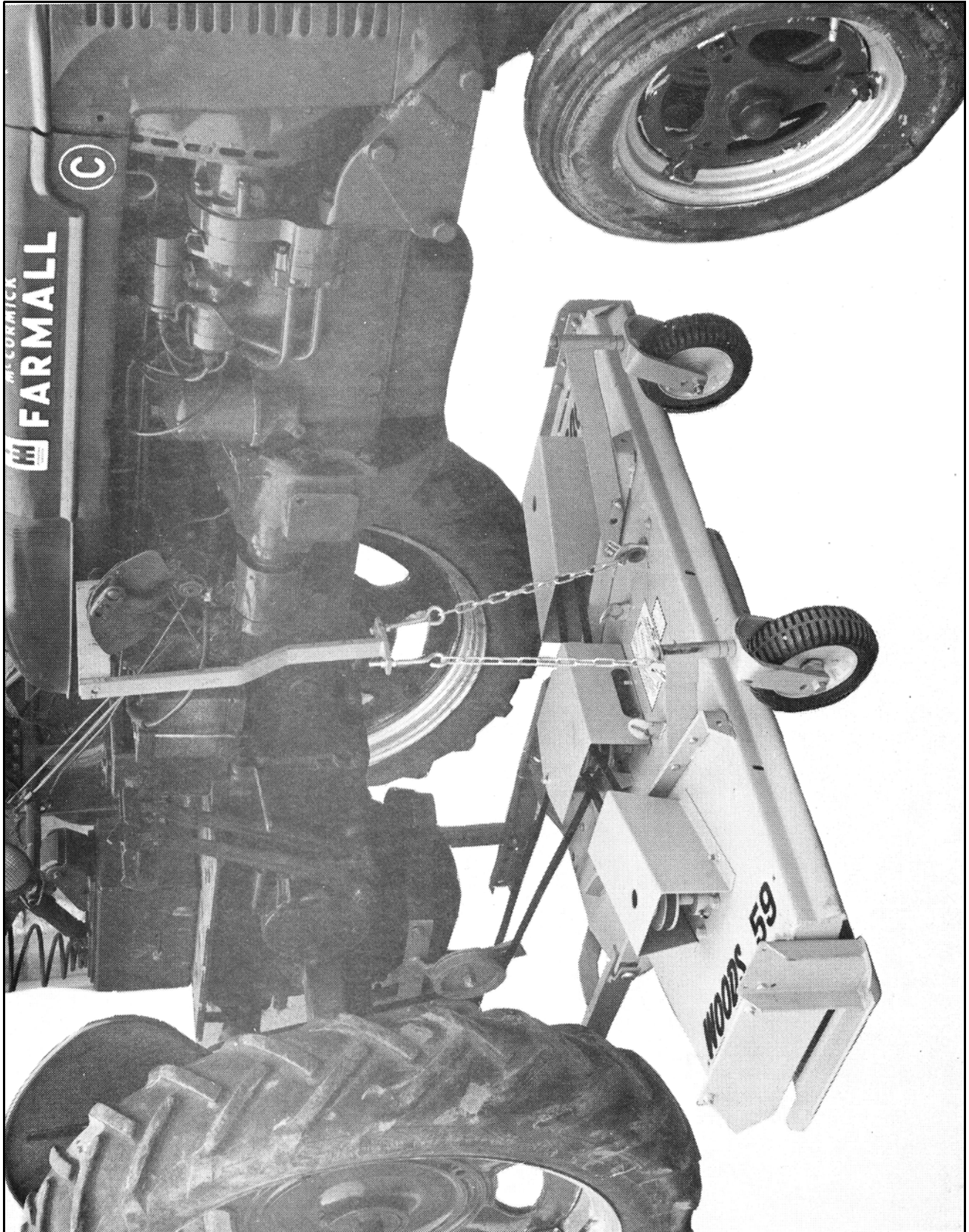
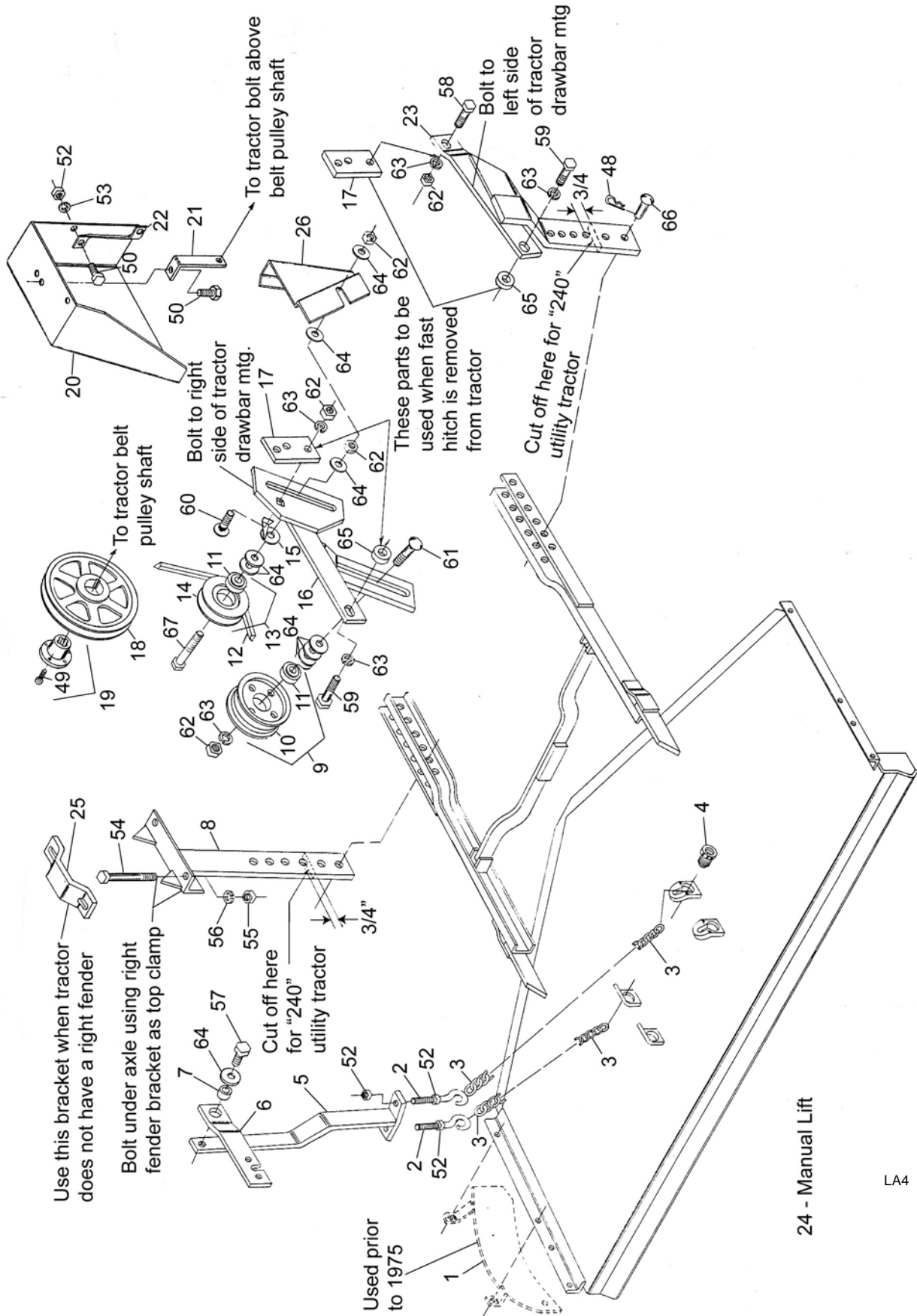


Figure 10. 59-HC Lift and Caster Assembly

# 59HC MOUNTING FRAME ASSEMBLY



**16 Parts**

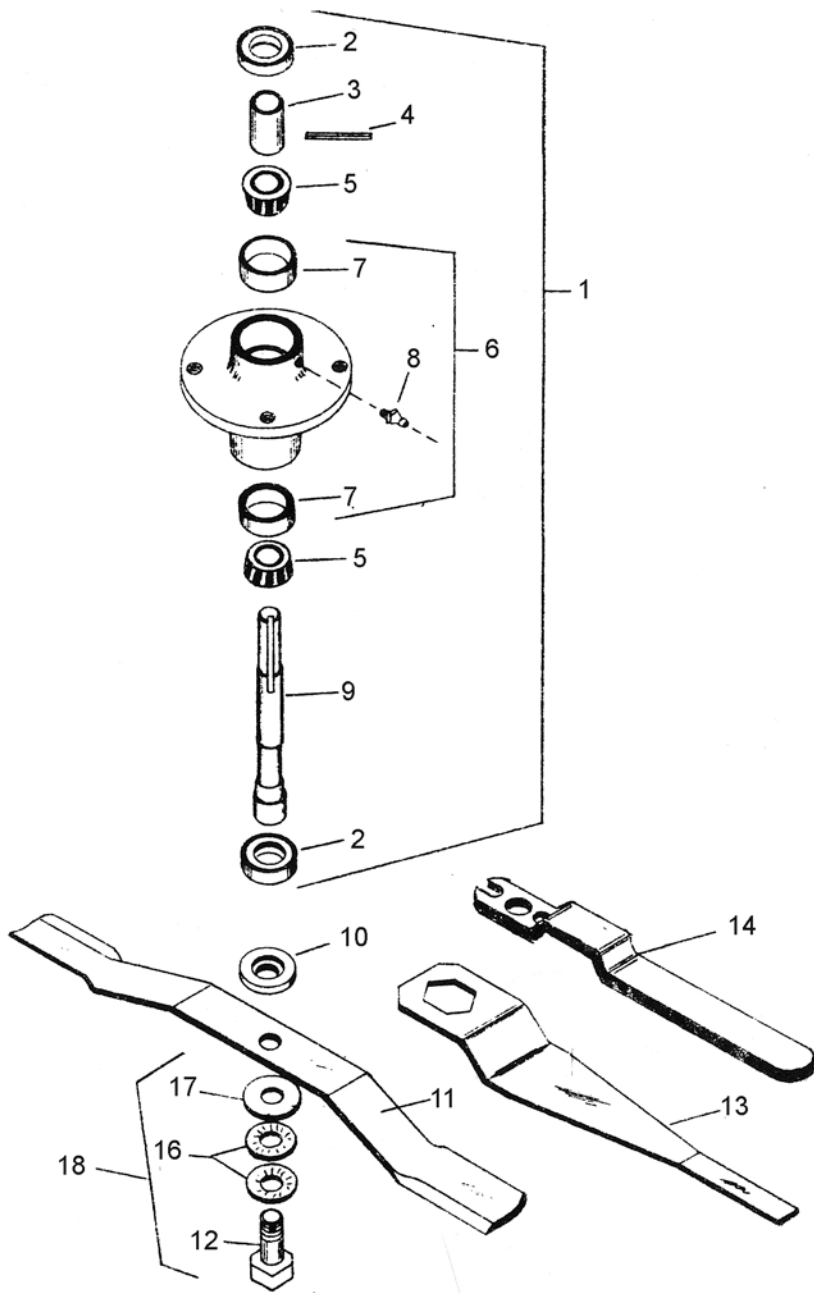
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## 59-HC MOUNTING FRAME ASSEMBLY

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
							<b>HARDWARE</b>
1	----	1	Diverter baffle (used on earlier models)	48	2688 *		1/8 Safety pin
2	4153	2	Eye bolt (3/8 NC x 5)	49	14562 *		5/16 NC x 1 HHCS GR5
3	4215	2	10 Link chain	50	1686 *		3/8 NC x 3/4 HHCS GR5
4	18336	2	Plastic K plug	51	839 *		3/8 NC x 1 HHCS GR5
5	3661	1	Lower lift arm	52	835 *		3/8 NC Hex nut
6	3663	1	Lift arm	53	838 *		3/8 Lock washer
7	484	1	Sleeve	54	23479 *		1/2 NC x 5 HHCS GR5
8	10636	1	Right mounting bracket assembly	55	1093 *		1/2 NC Hex nut
9	7452	1	Flat idler 6-1/4 OD with bearing	56	855 *		1/2 Lock washer
10	13098	1	Flat idler 6-1/4 OD less bearing	57	1739 *		5/8 NC x 1 HHCS GR5
11	6095	2	Bearing for items 4336 and 7452	58	4548 *		5/8 NC x 1-3/4 HHCS GR5
12	3652	1	V-belt, special	59	12274 *		5/8 NC x 2-1/4 HHCS GR5
13	4336	1	Idler with bearing	60	5607 *		5/8 NC x 1-1/2 Carriage bolt
14	4335	1	Idler without bearing	61	5836 *		5/8 NC x 2-1/2 Carriage bolt
15	10648	1	Special 5/8" washer (with welded on clip)	62	230 *		5/8 NC Hex nut
16	10645	1	Idler bracket assembly	63	1286 *		5/8 Lock washer
17	13857	1	Quick hitch replacement lug	64	692 *		5/8 Flat washer
18	1481	1	Sheave less bushing	65	13258		5/8 x 1-3/8 x 5/8 Flat washer
19	3651	1	Bushing with bolts	66	410		5/8 x 1-3/4 Clevis pin
20	25550	1	Shield	67	23141 *		5/8 NC x 3-1/2 HHCS GR5
21	10659	1	Shield bracket			*	Standard hardware, obtain locally
22	1635	1	Shield bracket				
23	10640	1	Left mounting bracket				
24	----	1	Manual lift (see page 24)				
25	23901	1	Right top axle clamp				
26	25558	1	Rear lower belt shield				

## SPINDLE ASSEMBLY



REF	PART	QTY	DESCRIPTION
1	4116	1	Spindle
2	5089	2	Seal
3	4114	1	Sleeve
4	4115	1	Pin
5	4107	2	Bearing cone
6	4117	1	Housing with cups
7	4106	2	Bearing cup
8	1972	1	Grease fitting
9	4105	1	Spindle shaft
10	4110	1	Shoulder washer
11	12170KT	1	16-13/16 Medium suction blade (std for RM48) <b>-or-</b>
11	26548KT	1	16-13/16 Low suction blade (optional for RM48) <b>-or-</b>
11	6950KT	1	20-1/4 Medium suction blade (std for 59) <b>-or-</b>
11	26559KT	1	20-1/4 Low suction blade (optional for 59)
12	10658	1	5/8 NC x 1-1/2 Nylok bolt
13	3490	1	Blade bolt wrench (used prior to 1964)
14	2974	1	Spindle lock wrench
16	10635	2	5/8 Cup washer
17	692	1	5/8 Flat washer
18	1015825	1	Blade bolt and washers complete (not shown)

NOTE: When difficulty is experienced with a mower spindle, time and trouble will be saved by buying a complete new assembly.

\*For maximum suction for difficult mowing.

\*\*For use in sandy areas or where high abrasive wear occurs on fin of standard blade.

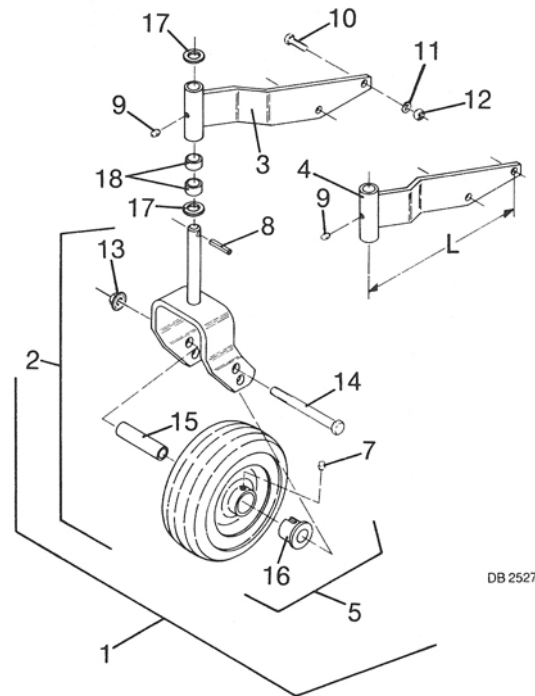
NOTE: Repair shaft (9) and repair sleeve (3) do not have a hole drilled in them for pin (4). After new parts have been assembled and proper bearing adjustment obtained, drill a 3/16 diameter hole through sleeve and shaft. Drive in Sel-lock pin to hold proper bearing adjustment.

**18 Parts**

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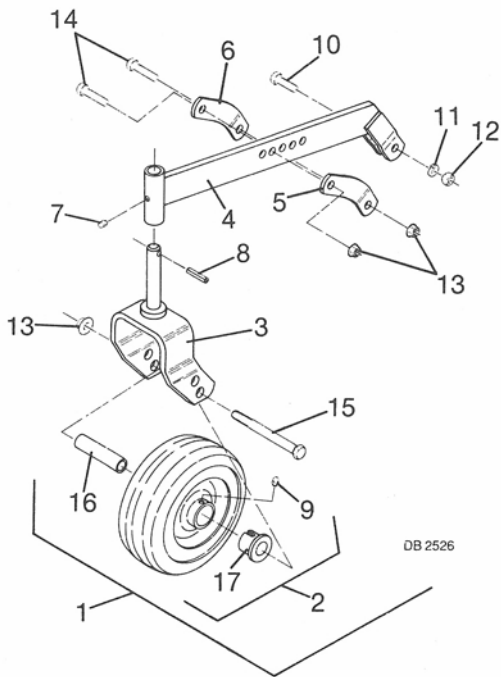
## 59 & L59 CASTERS

REF	PART	QTY	DESCRIPTION
1	29750	1	59 & L59 Right & left caster bundle
2	12243	1	Caster yoke (includes bolt, nut & 2 sleeves)
3	29746 (a)	1	Right caster arm asy, 13-5/32" long <b>-or-</b>
3	6761 (a)	1	Right caster arm 15-5/32" long
4	29747 (a)	1	Left caster arm asy, 13-5/32" long <b>-or-</b>
4	18424 (a)	1	Left caster arm, 16-5/32" long
5	19703	1	8" HD Caster wheel with sleeve
7	-----	*	Straight 1/4 self-tapping grease fitting (for steel wheel) <b>-or-</b>
7	195	*	Straight 1/8P thread grease fitting (for polyethylene wheel)
8	21020	1	1/4 x 1-1/4 Spirol pin <b>-or-</b>
8	1285	*	1/4 x 1-1/2 Cotter pin
9	12296	*	1/4 - 28 Straight grease fitting, 15/32" long
10	12169	*	2 3/8 NC x 1-1/4 HHCS GR5
11	838	*	2 3/8 Standard lock washer
12	835	*	2 3/8 NC Hex nut, plated
13	765	*	1 1/2 NC Hex lock nut
14	23479	1	1/2 NC x 5 HHCS GR5
15	29368 (c)	1	1/2 x 3/4 OD x 3-3/8 Sleeve <b>-or-</b>
15	12242 (c)	1	17 GA Wall x 5/8 OD x 3-3/8 tube
16	29375 (b)	2	3/4 Bore flanged bearing for 1-1/8 hole <b>-or-</b>
16	4228 (b)	2	5/8 Bore flanged bearing for 1-3/8 hole <b>-or-</b>
16	2905 (b)	2	5/8 Bore flanged bearing for 1-1/8 hole <b>-or-</b>
16	65578 (b)	2	3/4 Bore x 1.385 flanged wheel bearing with groove
17	22240	2	3/4 x 1-3/16 x 10 GA Washer
18	4181	2	25/32 x 1 x 1/2 Heat-treated sleeve



- \* Standard hardware, obtain locally
- a For proper caster arm identification, refer to dimension "L" as shown on drawing. The caster arms may be used on either side to obtain best fit.
- b Measure old bearing.
- c Measure outside diameter of old sleeve.

## L306 CASTERS



A - CASTER BUNDLE

REF	PART	QTY	DESCRIPTION
A	24095	-	L306 Caster assembly bundle
1	13400	1	Caster assembly
2	15638	1	10" Caster wheel with sleeve
3	23857	1	Caster wheel yoke assembly
4	13435	1	Caster arm assembly
5	13444	1	Left caster adjustment bracket
6	13444	1	Right caster adjustment bracket
7	1972 *	1	1/7 - 28 Straight thread grease fitting, 15/32" L
8	21020	1	1/4 x 1-1/4 Spirol pin <b>-or-</b>
8	1285 *	1	1/4 x 1-1/2 Cotter pin
9	----- *	1	Straight 1/4 self-tapping grease fitting (for steel wheel) <b>-or-</b>
9	195 *	1	Straight 1/8P thread grease fitting (for polyethylene wheel)
10	976 *	1	3/8 NC x 1-1/2 HHCS GR5
11	838 *	1	3/8 Standard lock washer
12	835 *	1	3/8 NC Hex nut, plated
13	11900	3	1/2 NC Flanged hex lock nut
14	24576	2	1/2 NC x 1-3/4 HHCS GR5
15	23479	1	1/2 NC x 5 HHCS GR5
16	29368 (c)	1	1/2 x 3/4 OD x 3-3/8 Sleeve, HT <b>-or-</b>
16	12242 (c)	1	17 GA Wall x 5/8 OD x 3-3/8 tube
17	29375 (b)	2	3/4 Bore flanged bearing for 1-1/8 hole <b>-or-</b>
17	4228 (b)	2	5/8 Bore flanged bearing for 1-3/8 hole <b>-or-</b>
17	2905 (b)	2	5/8 Bore flanged bearing for 1-1/8 hole <b>-or-</b>
17	65578 (b)	2	3/4 Bore x 1.385 flanged wheel bearing with groove

\* Standard hardware, obtain locally

a For proper caster arm identification, refer to dimension "L" as shown on drawing. The caster arms may be used on either side to obtain best fit.

b Measure old bearing.

c Measure outside diameter of old sleeve.

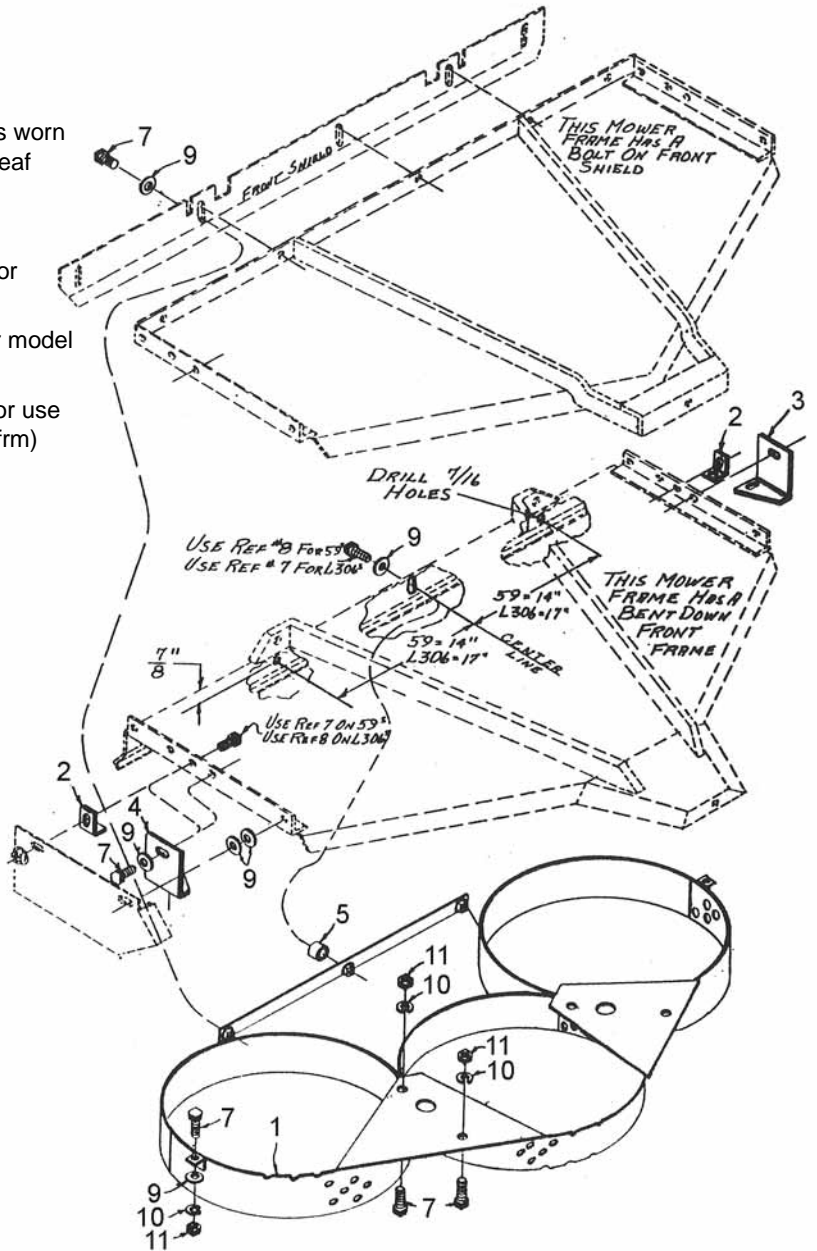
# LEAF MULCHER

REF	PART	QTY	DESCRIPTION
A	7080	1	Model 59 leaf mulcher <b>-or-</b>
A	13482	1	Model L306 leaf mulcher
1	-----	1	Leaf weldment (if this part is worn out, order a complete new leaf mulcher)
2	7076	1	Angle lug (for model 59)
3	13224	1	Right attachment bracket (for model L306)
4	13225	1	Left attachment bracket (for model L306)
5	23218	1	3/8 Scdl 40 pipe 5/8 long (for use only on 59 w/bent down frt frm)
7	839 *	1	3/8 NC x 1 HHCS GR5
8	25475 *	1	3/8 NC x 1-1/2 HHCS GR5
9	565 *	1	3/8 Flat washer
10	838 *	1	3/8 Lock washer
11	835 *	1	3/8 NC Hex nut

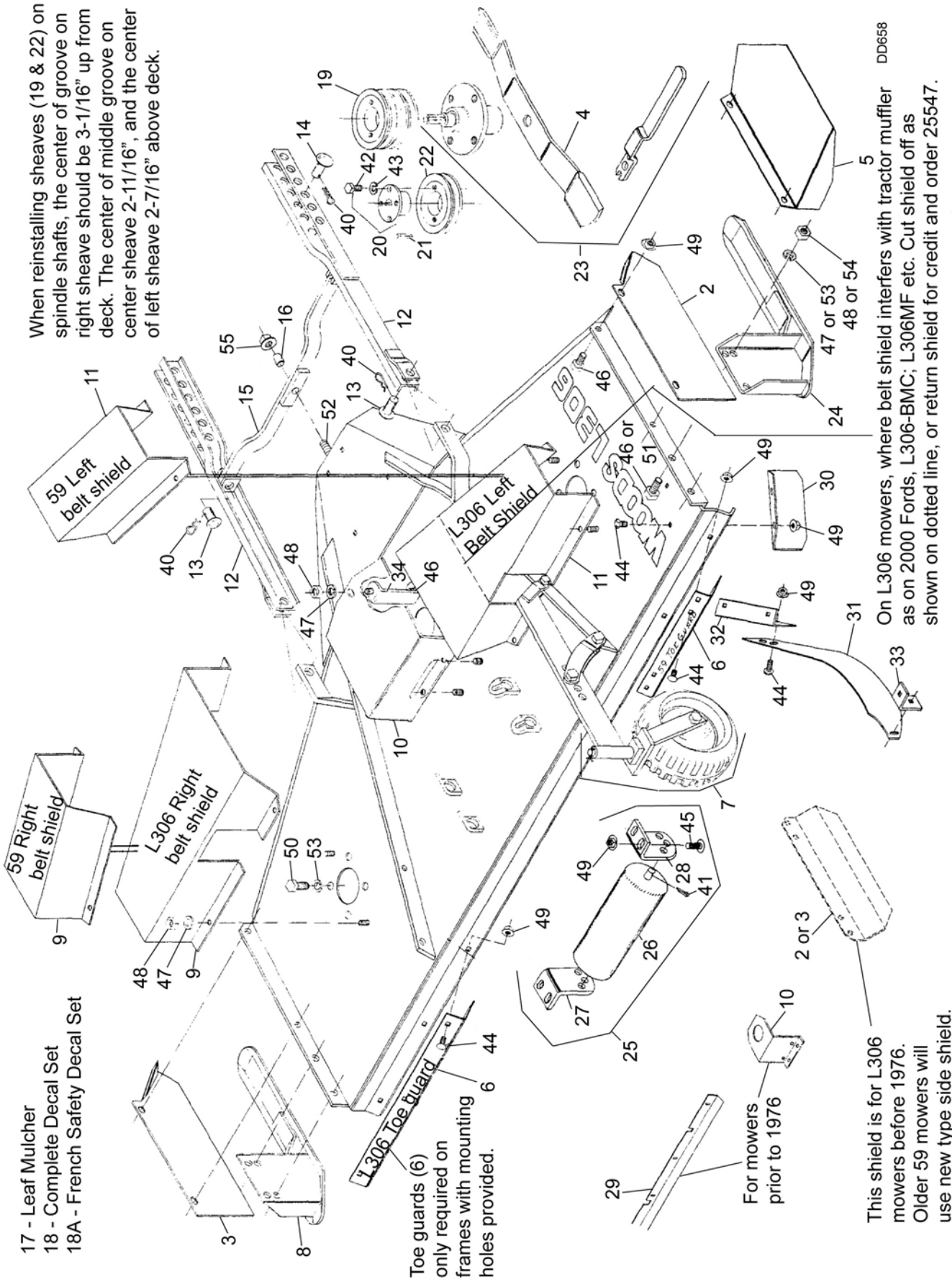
\* Standard hardware, obtain locally

## Operation

To do a satisfactory job of leaf mulching, the mower should be adjusted so blades are about 1-1/2" above ground and the back of the mower slightly lower than the front. The mower should be run at full RPM with tractor in first or second gear.



# 59, L59 & L306 Mower Frame Assembly



DD658

**22 Parts**

29931 (Rev. 6/29/2007)

## 59, L59, & L306 Mower Frame Assembly

REF	Model Red & Yellow Mowers	Model L59 White Mowers	L306 Mowers 1976 & Later	L306 Mowers Prior to 1976	QTY	DESCRIPTION
1	9700	9701	9702	9702	1	Frame only
2	25513	25511	24189	13426	1	Left side shield
3	25512	25510	24188	13426	1	Right side shield
4	6950	23825	13404	13404	3	Blade, medium suction (std)
	-or-	-or-	-or-	-or-		
4	26559	25997	28328	28328	3	Blade, low suction (opt)
5	26520	26521	26522	-----	1	Side discharge chute

(a) For all 59, L59 models except: GM2, LB, F10, F13, F15, H284, JD85, JD95, K17, K18, K210, K260, S, S55, S-BL, TB, YM; For all L306 models except: AC54, GM2, GM4, H284, JD85, JD95, K22, K24, K210, K260 & S-BL.

(b) For use on 59, L59 models: LB, K17, K18, K210, K260, S55, S-BL, TB, YM; For use on L306 models: AC54, GM2, K22, K24, K210, K260 & S-BL.

(c) For F10, F13, F15, GM4, H284, JD85, JD95, S; See mounting frame assembly drawing for items 12 & 15.

REF	59 & L59 3-Spindle 5' Swath	L306 3-Spindle 6' Swath	QTY	DESCRIPTION
6	26516	25623	2	Front toe guard
7	-----	-----	1pr	Casters (opt) (see page 19 & page 20)
8	4141	13428	1	Right side skid
9	25506	25528	1	Right belt shield
10	25555	25555	1	Center belt shield (use when front of mower is bent down)
				-or-
10	4130	4130	1	Center belt shield (use when front shield is bolted on mower)
11	25507	25529	1	Left belt shield -or-
11	-----	25547	1	L306 Left belt shield, short
12	13314	23942	2	Channel arms (see a & b)
				-or-
12	18241	23928	2	Channel arms (see b & c)
13	4097	4097	4	5/8 x 1-1/2 Clevis pin
14	410	410	2	5/8 x 1-3/4 Clevis pin
15	3485	3485	1	Crosswise rear support (see a & c) -or-
15	18245	18245	1	Crosswise rear support (see b & c)
16	3504	3504	1	1/2 x 5/8 x 1-1/16 Sleeve, HT
17	-----	-----	1	Leaf mulcher (opt)(see page 21)
18	5753	13421	1	Complete decal set -or-
18	52311	52311	1	French safety decal set
19	6126	13417	1	Sheave (3-groove)
20	4227	4227	3	H3/4 St bushing with bolts
21	3885	3885	* 3	3/16 x 3/16 x 1-1/4 Key
22	4226	12622	2	Sheave (single-groove)
23	-----	-----	3	Spindle, blade & wrench kit (white, left-hand blade rotation) (see page 18) -or-
23	-----	-----	3	Spindle, blade & wrench kit (red or yellow, right hand blade rotation) (see page 18)

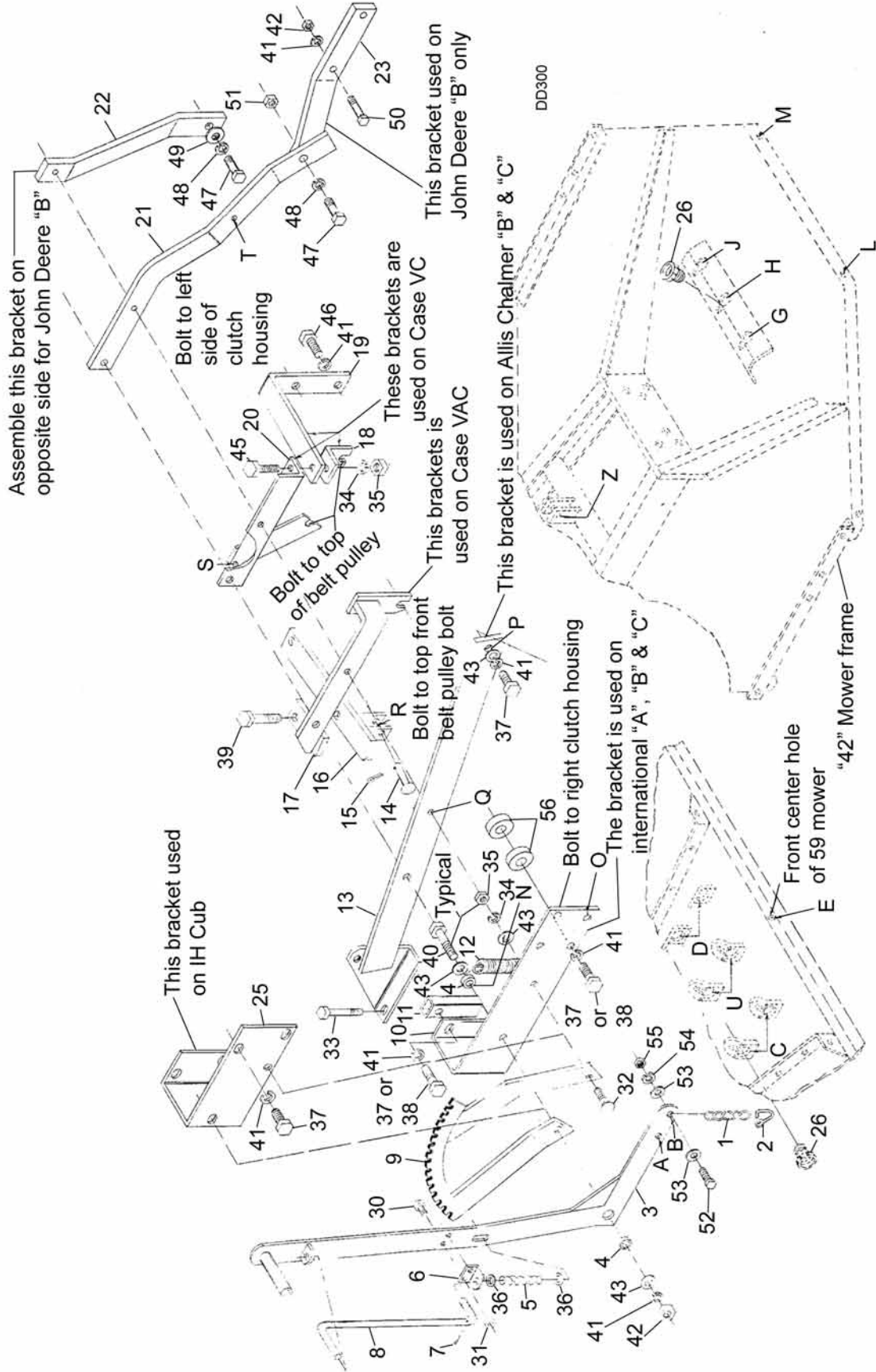
REF	59 & L59 3-Spindle 5' Swath	L306 3-Spindle 6' Swath	QTY	DESCRIPTION
24	4142	13429	1	Left side skid
25	24650	24650	1	Front roller complete (opt)
26	24583	24583	1	Front roller, bearing & rod
27	24587	24587	1	Left front roller bracket
28	24586	24586	1	Right front roller bracket
29	5818	-----	1	Front shield (for mowers prior to 1976)
30	25508	-----	† 1	Front corner baffle
31	25509	25533	1	Center baffle
32	25532	25532	1	Rear mounting angle
33	25531	25530	1	Front mounting lug
34	25557	25557	1	Center belt shield bracket

REF	PART	DESCRIPTION
40	2688	* 1/8 Safety pin
41	1256	* 3/16 x 1 Cotter pin
42	10378	* 1/4 NC x 1 HHCS GR5
43	1985	* 1/4 Standard lock washer
44	24597	* 3/8 NC x 3/4 Carriage bolt
45	6697	* 3/8 NC x 1 Carriage bolt
46	839	* 3/8 NC x 1 HHCS GR5
47	838	* 3/8 Standard lock washer
48	835	* 3/8 NC Hex nut, plated
49	14350	3/8 NC Flange hex lock nut
50	4119	1/2 NF x 1 HHCS GR5
51	6100	* 1/2 NC x 1-1/4 HHCS GR5
52	3699	* 1/2 NC x 2 HHCS GR5
53	855	* 1/2 Extra-heavy lock washer
54	1093	1/2 NC Heavy hex nut
55	11900	1/2 NC Flange hex lock nut

\* Standard hardware, obtain locally

† For mowers sold after 1976. Mower frame will have front of mower formed down. Before this time, mower had a bolt-on front shield.

# Manual Height Adjustment



**24 Parts**

29931 (Rev. 6/29/2007)



## Manual Height Adjustment

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	-----	-	Chain (see chart for chain used on your mounting)	25	17410	1	IH Cub manual lift mounting plate
2	4155	2-3	1/4 Cold shut repair link	26	18336	2	Caplug, 1-1/16 - 121D SAE thread
3	10693	1	Manual height adjustment lever assembly	30	2457	*	1/4 NC x 3/4 HHCS GR5
4	484	1-2	5/8 x 1 x 7/16 HT Sleeve	31	6128	*	1/4 NC Hex lock nut
5	10706	1	3-3/8 Long compression spring	32	12735	*	1/2 NC x 1-3/4 Carriage bolt GR5 <b>-or-</b>
6	10701	1	Manual height adjustment clip	32	10284	*	1/2 NC x 2 Carriage bolt
7	3597	* 1	1/8 x 1 Cotter pin	33	3489	*	1/2 NC x 3 HHCS GR5
8	10699	1	Manual height adjustment rod	34	855	*	1/2 Extra-heavy lock washer
9	10702	1	Manual lift sector assembly	35	1093	*	1/2 NC Heavy hex nut GR5
10	9045 NS	1	IHC Manual lift attachment plate (includes hardware & spacer)	36	3598	*	1/2 SAE Flat washer
11	10708	1	IHC Manual height adjustment spacer (used on IHC "B" & "C")	37	6268	*	5/8 NC x 1-1/4 HHCS GR5
12	10707	1	8-1/8 Long extension spring (used on 42's & 59's) <b>-or-</b>	38	12274	*	5/8 NC x 2-1/4 HHCS GR5
12	13006	1	13-1/4 Long extension spring (used on L306's)	39	11854	*	5/8 NC x 2-1/2 HHCS GR8
13	10750	1	Allis Chalmers "B" & "C" lift mounting frame assembly	40	986	*	5/8 x 2-3/4 HHCS GR5
14	409	1	1/2 x 2 Clevis pin	41	1286	*	5/8 Heavy lock washer
15	1256	* 1	3/16 x 1 Cotter pin	42	230	*	5/8 NC Hex nut
16	10735	1	Lift attachment assembly	43	692	*	5/8 Standard flat washer
17	9046	1	Case VAC manual lift mounting	45	24576	*	1/2 NC x 1-3/4 HHCS GR5
18	-----	1	Case VC lift mounting lug (no longer available)	46	7832	*	5/8 NC x 1-1/2 HHCS GR5
19	-----	1	Case VC manual lift bracket (no longer available)	47	4616	*	3/4 NC x 1-1/2 HHCS GR5
20	-----	1	Case VC manual lift weldment (no longer available)	48	2522	*	3/4 Standard lock washer
21	11445	1	Manual lift radius bracket	49	1257	*	3/4 Standard flat washer
22	11446	1	Manual lift bar	50	902	*	5/8 NC x 2 HHCS GR5
23	11489	1	John Deere "B" offset manual lift brace	51	1450	*	3/4 NC Hex nut
24	13450	1	1/4 Keystone connecting link	52	3231	*	3/8 NC x 2 HHCS GR5
				53	565	*	3/8 Standard flat washer
				54	838	*	3/8 Standard lock washer
				55	835	*	3/8 NC Hex nut, plated
				56	25728		5/8 x 2 x 1/2 Flat washer (for IH "B" only)
						*	Obtain locally

## Lift Chain Hook-Up Table

Mower Model Number	Chains Used			Lift Chain Attach Plt		Holes Used for Spring		Special Notes
	Part No	No Used	Description	To Lift Lever Hole	To Holes in Mower	Upper End to Hole Lettered:	Lower End to Hole Lettered:	
42A, HB	4154	1	33 Link Chain	B	H&G	O	See note 4	(10)
L42AC, B&C	4154	1	33 Link Chain	B	G	P	H	(5)
42C	4154	1	33 Link Chain	B	L&M	See note (8)	Z	(8)
L42U	17477	1	84" Twisted cut off excess	B	H	T	H	
L42VAC	6673	1	78" Twisted	B	H	R	J	
L42VC	4154	1	33 Link Chain	B	G	S	J	
L59A, 59HB, & L306A	4154 18264	1 1	33 Link Chain 13 Link Chain	A or B Opt	E E	N N	C&D C&D	(1, 3, 8, 10) (1, 3, 8, 10)
59HC	18264	3	13 Link Chain	A or B Opt	E	N	C&D	(1, 3, 8, 9)
L59AC, B&C	4154	1	33 Link Chain	A	C&D	Q	E	(5)
L306AC, B&C	18264	1	13 Link Chain	A	C&D	Q	E	(5)
59C	4154	2	33 Link Chain	A	C&D	See note (8)	See note (1,3)	(8)
L59U, L306U	17477 18264	1 1	84" Twisted 13 Link Chain	B B	C&D C&D	T T	See note (3) See note (3)	(1) (7)
L59VAC, L306VAC	17477	1	84" Twisted	B B	E U	R R	E E	(7)
L59VC, L306VC	4154 18264	1 1	33 Link Chain 13 Link Chain	B B	E U	S S	C&D C&D	(1, 3, 8) (7)

### Special Notes (Refer to numbers in parentheses in above table)

1. Hook one 13-link chain between holes "C" & "D".
2. Fasten one 10-link and one 7-link chain together.
3. Hook lower end of spring in crotch chain.
4. Hook spring into chain just above hole "H".
5. Clamp offset end spring under flat washer on out-of-way side of bracket, where indicated.
6. Fasten two 10-link chains together for lift chain.
7. On L306 models, use heavy spring furnished with mower rather than lighter spring furnished with manual lift kit. Hook to a point on tractor so most of mower weight is held by spring which will allow lift to work easier.
8. Hook upper end of spring over bushing (4). Bolt lift chain to lift lever with 3/8 x 2 bolt and nut.
9. Bolt two 13-link chains together for lift chain.
10. On IH "A" lift lever (3) goes inside steering rod. On IH "B" it goes outside steering rod. For IH "B" shim attachment plate (10) out away from tractor using spacer (11), four washers (56) and bolts (38). Lift lever may have to be bent out slightly to clear steering rod.

# BOLT TORQUE CHART

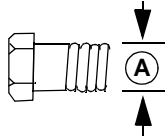
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

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

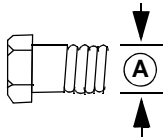


SAE Grade 5  
(3 Radial Dashes)



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

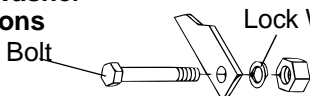
Metric Bolt Head Identification



10.9  
Metric  
Grade 10.9

Ⓐ Diameter & Thread Pitch (Millimeters)	Wrench Size	COARSE THREAD				FINE THREAD				Ⓐ Diameter & Thread Pitch (Millimeters)
		MARKING ON HEAD								
		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



Lock Washer

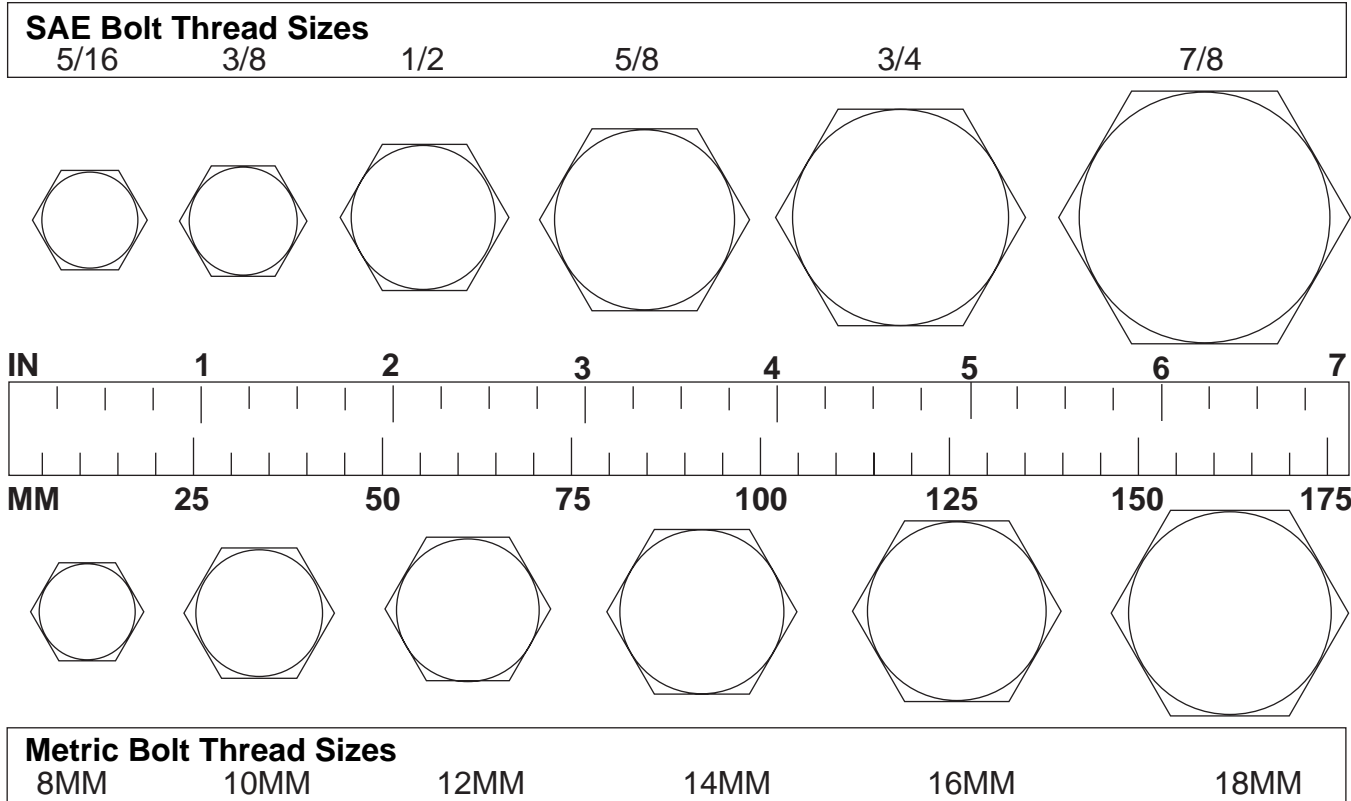
Flat Washer



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  
 ASABE ..... American Society of Agricultural & Biological Engineers (formerly ASAE)  
 ASAE ..... American Society of Agricultural Engineers  
 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  
 FT ..... Full Thread  
 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

# 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:

Part or Condition Warranted	Model Number	Duration (from date of delivery to the original purchaser)
Gearbox components	BW1260, BW1800	8 years
	BB48X, BB60X, BB72X, BB84X, BB600X, BB720X, BB840X, BB6000X, BB7200X, BB8400X, DS1260, DSO1260, DS1440, TS1680, BW126-2, BW180-2	6 years
	PHD25, PHD35, PHD65, PHD95, 2162, 3240, DS96, DS120, RCC42, RM550-2, RM660-2, RM990-3, PRD6000, PRD7200, PRD8400, 7144RD-2, 9180RD-2, 9204RD-2, S15CD, S20CD, S22CD, S25CD, S27CD	5 years
	RDC54, RD60, RD72	3 years (1 year if used in rental or commercial applications)
Blade spindles	RM550-2, RM660-2, RM990-3, PRD6000, PRD7200, PRD8400, 7144RD-2, 9180RD-2, 9204RD-2	3 years
Rust-through	BB600, BB720, BB840, BB6000, BB7200, BB8400, BW126-2, BW180-2, BW1260, BW1800, 2162, 3240, DS1260, DSO1260, DS1440, TS1680	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.

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.

WOODS makes no warranty, express or implied, with respect to engines, batteries, tires or other parts or accessories not manufactured by WOODS. Warranties for these items, if any, are provided separately by their respective manufacturers.

WOODS' obligation under this Warranty is limited to, at WOODS' option, the repair or replacement, free of charge, of the product if WOODS, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. **The product must be returned to WOODS with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid.** WOODS shall complete such repair or replacement within a reasonable time after WOODS receives the product. **THERE ARE NO OTHER REMEDIES UNDER THIS WARRANTY. THE REMEDY OF REPAIR OR REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY.**

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

No agent, representative, dealer, distributor, serviceperson, salesperson, or employee of any company, including without limitation, WOODS, its authorized dealers, distributors, and service centers, is authorized to alter, modify, or enlarge this Warranty.

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

**Woods Equipment Company**

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

800-319-6637 tel  
 800-399-6637 fax  
 www.WoodsEquipment.com



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- GANNON®**
- GILL®**
- WAIN-ROY®**
- WOODS®**



# 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.

WOODS' obligation under this Warranty is limited to, at WOODS' option, the repair or replacement, free of charge, of the product if WOODS, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. **The product must be returned to WOODS with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid.** WOODS shall complete such repair or replacement within a reasonable time after WOODS receives the product. THERE ARE NO OTHER REMEDIES UNDER THIS WARRANTY. THE REMEDY OF REPAIR OR REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY.

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