

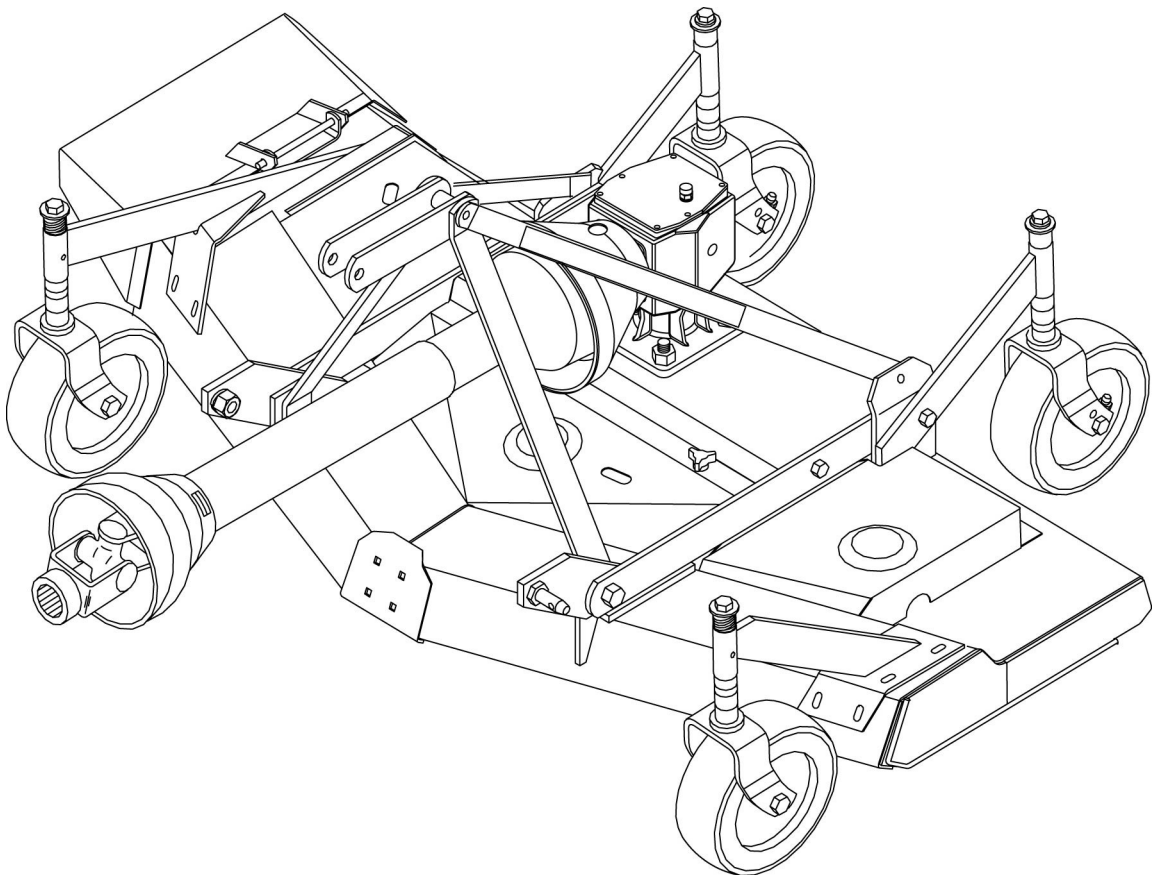
OPERATOR'S MANUAL

# GROOMING MOWERS

**GM1060**

**GM1072**

**SIDE DISCHARGE**



**FRONTIER**  
EQUIPMENT™

## TO THE DEALER:

Assembly and proper installation of this product is the responsibility of the Frontier 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 form, located on the Frontier website. **Failure to complete and return the form does not diminish customer's warranty rights.**

## TO THE OWNER:

Read this manual before operating your Frontier 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 the adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your selling dealer.

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

Use only genuine Frontier 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 **NOTICE** 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 is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

**IMPORTANT  
or NOTICE**

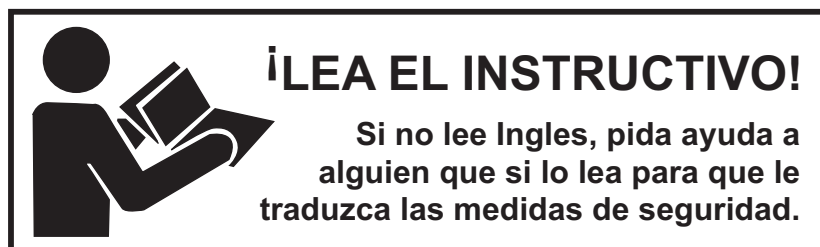
Is used to address practices not related to personal injury.

**NOTE**

Indicates helpful information.

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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>GM1060</u>	<u>GM1072</u>
3-Point Hitch	Category 1	Category 1
Cutting Width	60" (1524 mm)	72" (1829 mm)
Cutting Height Range	1.5" - 6" (38 - 152 mm)	1.5" - 6" (38 - 152 mm)
Shipping Weight (Approximate)	500 lbs (226.8 kg)	550 lbs (249.5 kg)
Blade Speed (feet per minute)	15,200	16,600
Blade Speed (RPM)	2,795	2,571
Blade Spindles	3	3
Number of Blades	3	3
Universal Drive Series	Category 3	Category 3
Caster Wheels	3.5" x 10.25" (89 - 260 mm)	3.5" x 10.25" (89 - 260 mm)
Tractor PTO Speed RPM	540	540
Recommended Maximum Tractor Horsepower	35	35
Mower Frame Thickness	8 GA	8 GA

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## GENERAL INFORMATION

 **WARNING**

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

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.

## 4 Introduction

5WPMAN0242 (Rev. 7/21/2008)

# 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.) 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.
- Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.
- Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death

from being run over or crushed. Keep foldable ROPS system in "locked up" position at all times.

- 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.
- A minimum 20% of tractor and equipment weight must be on the tractor front wheels when attachments are in transport position. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a loader, front wheel weights, ballast in tires or front tractor weights. Weigh the tractor and equipment. Do not estimate.
- Inspect and clear area of stones, branches, or other hard objects that might be thrown, causing injury or damage.

## **OPERATION**

- Do not put mower into service unless discharge chute is installed and in good condition. Replace if damaged.
- Keep bystanders away from equipment.
- Never direct discharge toward people, animals, or property.
- Do not operate or transport equipment while under the influence of alcohol or drugs.
- Operate only in daylight or good artificial light.
- Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.
- Always comply with all state and local lighting and marking requirements.
- Never allow riders on power unit or attachment.
- Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in "locked up" position at all times.
- Always sit in power unit seat when operating controls or starting engine. Securely fasten seat belt, place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting power unit engine.

*(Safety Rules continued on next page)*

# SAFETY RULES



**ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



*(Safety Rules continued from previous page)*

- Operate tractor PTO at 540 RPM. Do not exceed.
- Look down and to the rear and make sure area is clear before operating in reverse.
- Do not operate or transport on steep slopes.
- Do not stop, start, or change directions suddenly on slopes.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Watch for hidden hazards on the terrain during operation.
- Stop power unit and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operation.

## TRANSPORTATION

- Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in “locked up” position at all times.
- 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.
- Look down and to the rear and make sure area is clear before operating in reverse.
- Do not operate or transport on steep slopes.
- Do not operate or transport equipment while under the influence of alcohol or drugs.

## MAINTENANCE

- Before performing any service or maintenance, lower equipment to ground or block securely, turn off engine, remove key, and disconnect driveline from tractor PTO.
- 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.

- 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.
- Use a new Nylok blade bolt and cup washers when you replace the blade. Do not substitute any bolt for the special blade bolt. It is self-locking, meeting the non-loosening requirements for this application.
- 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.

## STORAGE

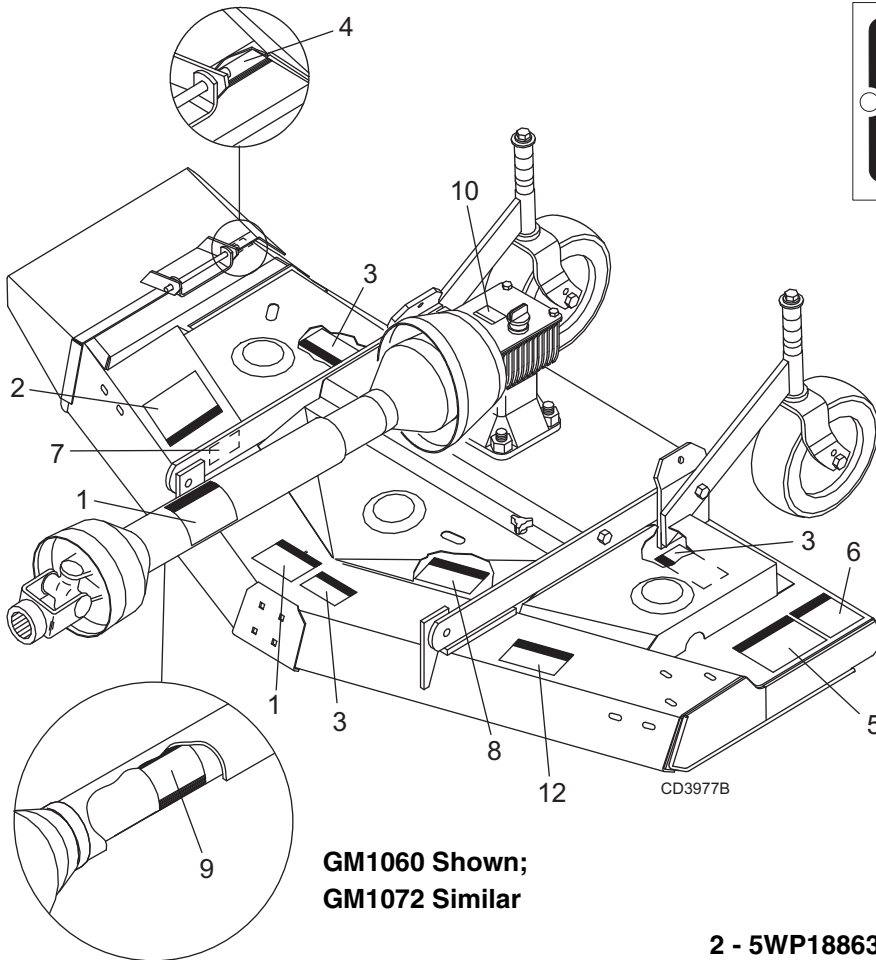
- Block equipment securely for storage.
- Keep children and bystanders away from storage area.
- Follow manual instructions for storage.



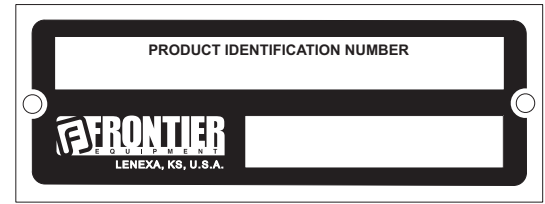


# SAFETY & INSTRUCTIONAL DECALS

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



GM1060 Shown;  
GM1072 Similar



7 - Serial Number Plate

9 - 5WP33347



1 - 5WP18864



2 - 5WP18863



(Safety Decals continued on next page)



# SAFETY & INSTRUCTIONAL DECALS

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



Replace Immediately If Damaged!

(Safety Decals continued from previous page)

**! DANGER**  
**SHIELD MISSING**  
 DO NOT OPERATE  
 PUT SHIELD ON  
18867-B

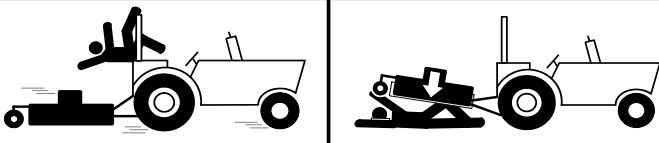
3 - 5WP18867

**! DANGER**  
**SHIELD MISSING**  
 DO NOT OPERATE - PUT SHIELD ON  
18869-B

4 - 5WP18869

5 - 5WP18865

**! WARNING**



**FALLING OFF CAN RESULT IN BEING RUN OVER.**

- Tractor must be equipped with ROPS (or ROPS CAB) and seat belt. Keep foldable ROPS systems in "locked up" position at all times.
- Buckle Up! Keep seat belt securely fastened.
- Allow no riders.

**RAISED EQUIPMENT CAN DROP AND CRUSH.**

- Before working underneath, follow all instructions and safety rules in operator's manual and securely block up all corners of equipment with jack stands.
- Securely blocking prevents equipment dropping from hydraulic leak-down, hydraulic system failures or mechanical component failures.

**FALLING OFF OR FAILING TO BLOCK SECURELY CAN RESULT IN SERIOUS INJURY OR DEATH.**  
18865-C

6 - 5WP18877

**! WARNING**

**TO AVOID SERIOUS INJURY OR DEATH:**

- Read Operator's Manual (available from dealer) and follow all safety precautions.
- Keep all shields in place and in good condition.
- Operate mower from tractor seat only.
- Lower mower, stop engine and remove key before dismounting tractor.
- Allow no children or untrained persons to operate equipment.
- Do not transport towed or semi-mounted units over 20 mph.

**FAILURE TO OPERATE SAFELY CAN RESULT IN INJURY OR DEATH.**  
18877-C

8 - 5WP18866

**! WARNING**

**DO NOT EXCEED PTO SPEED OF 540 RPM**

PTO speeds higher than 540 RPM can cause equipment failure and personal injury.  
18866-D

12 - 5WP1003751

**! WARNING**



**CRUSHING AND PINCHING HAZARD**

- Be extremely careful handling various parts of the machine. They are heavy and hands, fingers, feet, and other body parts could be crushed or pinched between tractor and implement.
- Operate tractor controls from tractor seat only.
- Do not stand between tractor and implement when tractor is in gear.
- Make sure parking brake is engaged before going between tractor and implement.
- Stand clear of machine while in operation or when it is being raised or lowered.

**FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS INJURY OR DEATH.**  
1003751-A

10 - 5WP1004114

**! DANGER**

If shaft connection is visible, shield is missing. Replace shield before operating equipment.  
1004114

## 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 dealer.



# OPERATION

The operator is responsible for the safe operation of the mower. The operator must be properly trained. Operators should be familiar with the mower, tractor, and all safety practices before starting operation. Read the safety rules and safety decals on pages 5 to 8.

This mower is designed for lawn and grass mowing. It is not designed for rough conditions or heavy weed mowing. It is equipped with suction type blades for best results in lawn mowing.

Recommended mowing speed for most conditions is from 2 to 5 mph.

## WARNING

- Never allow children or untrained persons to operate equipment.
- Keep bystanders away from equipment.
- Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.
- Operate tractor PTO at 540 RPM. Do not exceed.

## CAUTION

- Stop power unit and implement immediately upon striking an obstruction. Dismount power unit, using proper procedure. Inspect and repair any damage before resuming operation.
- 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.

## TRACTOR STABILITY

### WARNING

- A minimum 20% of tractor and equipment weight must be on the tractor front wheels when attachments are in transport position. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a loader, front wheel weights, ballast in tires or front tractor weights. Weigh the tractor and equipment. Do not estimate.

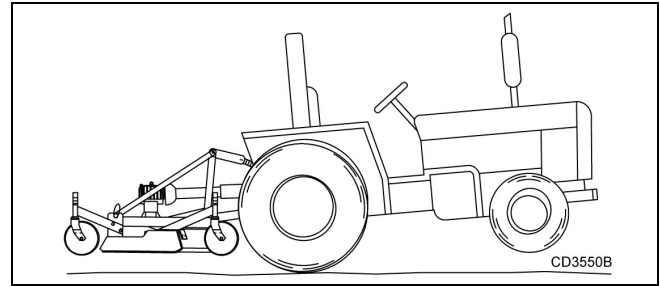


Figure 1. Tractor Stability

## ATTACHING MOWER TO TRACTOR

### WARNING

- Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.

The standard 1-3/8" 6-spline driveline with a QD yoke is used to connect the mower to the tractor.

1. Attach the mower hitch pins to the lower tractor lift arms and secure.
2. Attach tractor top link (1), Figure 2, to mower top link bracket attachment point A. Connect the driveline to the tractor PTO shaft.
3. Attach tether chain to tractor drawbar (Figure 3).
4. Adjust the tractor lower 3-point arm anti-sway devices to prevent mower from swinging side to side during transport.

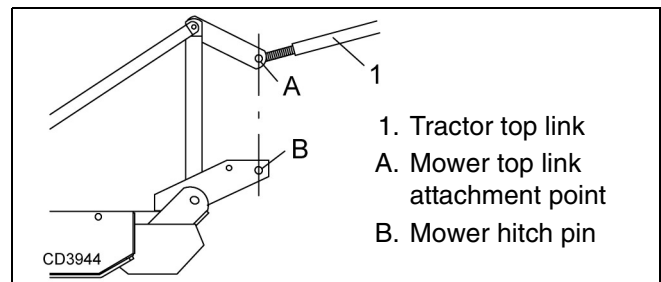


Figure 2. Attachment Points

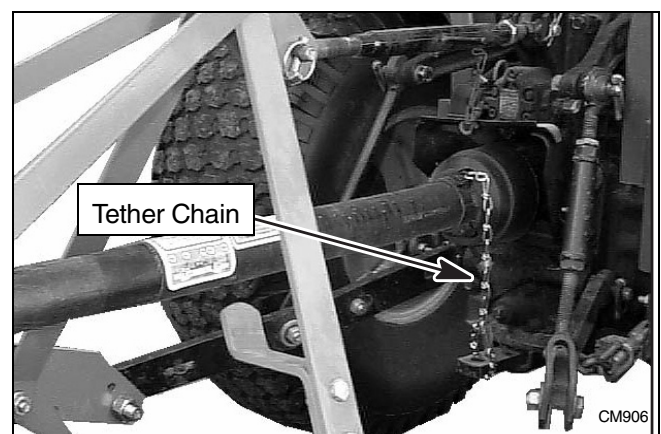


Figure 3. Attaching Mower to Tractor

## CUTTING HEIGHT ADJUSTMENT

### WARNING

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

### NOTICE

■ Avoid low cutting heights. Striking the ground with blades produces one of the most damaging shock loads a mower can encounter. Allowing blades to contact ground repeatedly will cause damage to mower and drive.

1. Level mower from side to side. Check by measuring from mower frame to the ground at each deck rail.

2. Adjust, using tractor 3-point arm leveling device.

**NOTE:** Best mowing results will be obtained with front of mower level with or slightly lower than the rear.

3. Control cutting height with tractor 3-point arms and front and rear caster wheel adjustment.

4. Raise rear of mower, move caster adjustment spacers under caster arms. Hex opening of blade wrench fits bolts on top of caster shaft.

5. Raise front of mower with tractor 3-point arms. Move spacers under front caster wheel arms.

**NOTE:** Cutting height is the distance between the blade and the ground. The blades are 7-3/4" below the top of the deck rail on the GM1060 and 8-3/4" below the top of the deck rail on the GM1072. To check cutting height, place a straight edge along top edge of deck rail as shown in Figure 4.

6. Measure from bottom of straight edge to the ground at locations A and B. Subtract 7-3/4" on GM1060 (8-3/4" on GM1072) from measurement B to determine cutting height.

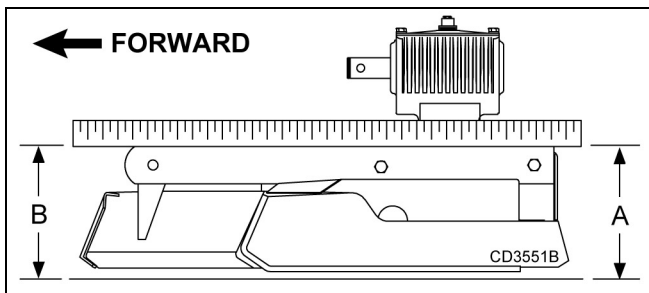


Figure 4. Cutting Height Adjustment

**NOTE:** Remember, measurement at location A, Figure 4, should not be less than location B and should not be over 1/2" greater than location B.

SPACERS REQUIRED UNDER CASTER ARM PIVOT TUBE				
Cut Height	1/2" Spacer	3/4" Spacer	1" Spacer	1-1/4" Spacer
1-1/2"				
2"	1			
2-1/2"			1	
3"	1		1	
3-1/2"			2	
4"	1		2	
4-1/2"		1	1	1
5"	1	1	1	1
5-1/2"		1	2	1
6"	1	1	2	1

Table 1: Cutting Height Chart

## TRACTOR TOP LINK ADJUSTMENT

When the cutting height is set, adjust tractor top link until mower top link attachment point A is aligned vertically with mower hitch pin B.

Adjust tractor top link so mower is level between caster wheel and ground (dimension C, Figure 6). This will allow the mower to follow ground contour.

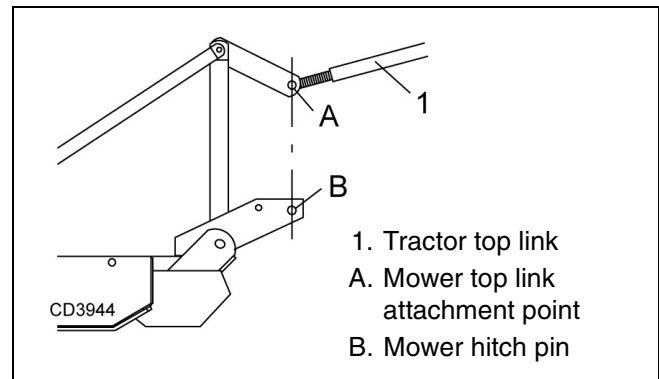


Figure 5. Top Link Adjustment

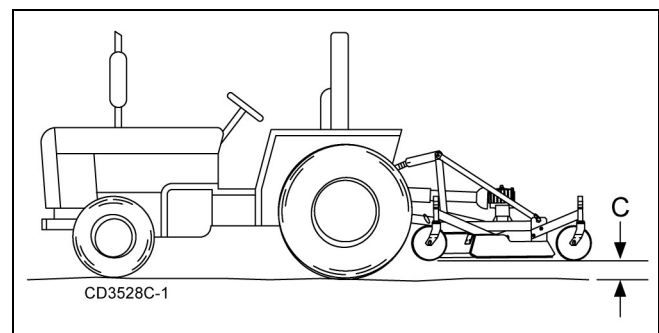


Figure 6. Gauge Wheel Distance

# 10 Operation

(Rev. 7/21/2008)  
5WPMAN0242 (Rev. 5/2/2008)

## **FRONT CASTER WHEEL INTERFERENCE CHECK**

### ***NOTICE***

■ **Do not operate tractor and mower until this interference check has been performed. If you change tractors, you must perform the check for that mounting.**

Perform this check with all of the spacers and springs above the caster wheel arm. This will place the caster wheels in their highest position and provide the lowest cutting height for the mower.

Raise mower with tractor hydraulics to 16" at dimension C or maximum height of tractor lift, whichever is less.

Pivot both front caster wheels forward and check that there is clearance between caster wheels and tractor tires. If there is interference, you must not use front caster wheels on the mower with this tractor.

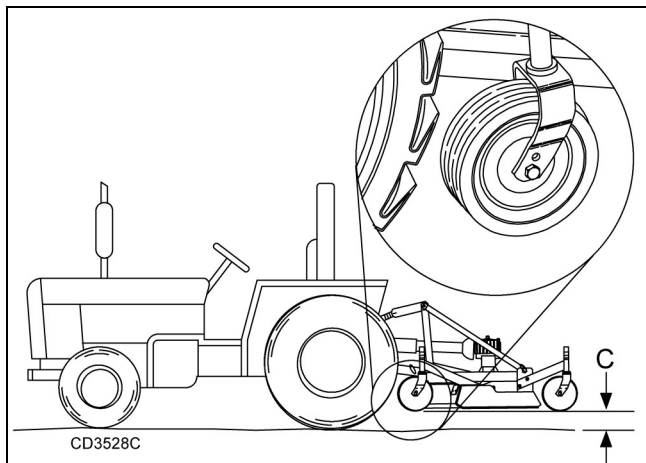


Figure 7. Front Gauge Wheel Interference Check

## **FRONT ROLLER (OPTIONAL)**

The caster wheels and side skids effectively reduce scalping in most cases. However, you may encounter areas where the caster wheels and/or side skids drop into depressions and allow center of mower to contact ground and scalp. An optional front roller may be installed to minimize scalping.

For Installation instructions See "Front Roller Installation (Optional)" on page 30.

Power for operating mower is supplied by tractor PTO. Operate PTO at 540 rpm. Know how to stop tractor and mower quickly in an emergency.

If mower becomes plugged causing belt to slip for over two seconds, follow these steps:

1. Maneuver equipment into a previously cut area and allow mower to clear accumulated material.

2. Continue running at least two minutes, allowing pulleys to cool. Stopping the mower in contact with a very hot pulley will bake and ruin belt.

Proper ground speed will depend upon the terrain, the height, and type and density of material to be cut.

Normally, ground speed will range from 2 to 5 mph. Tall dense material should be cut at a low speed; thin medium-height material can be cut at a faster ground speed.

## **OPERATING TECHNIQUE**

### **CAUTION**

■ **Stop power unit and implement immediately upon striking an obstruction. Dismount power unit, using proper procedure. Inspect and repair any damage before resuming operation.**

Always operate tractor PTO at 540 rpm to maintain proper blade speed and produce a clean cut.

Under certain conditions, tractor tires may roll some grass down and prevent it from being cut at the same height as the surrounding area. When this occurs, reduce your ground speed, but maintain PTO at 540 rpm. The lower ground speed will permit grass to partially rebound.

In general, lower cutting heights give a more even cut and leave less tire tracks. However, it is better to cut grass frequently 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.

## **OPERATING TIPS**

### **WARNING**

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

### ***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.**

Extremely tall material should be cut twice. Set mower at a higher cutting height for the first pass. Then cut at desired height, 90 degrees to the first pass.

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

Analyze area to be cut to determine the best procedure. Consider height and type of grass and terrain type: hilly, level, or rough.

Plan your mowing pattern to travel straight forward whenever possible. Mow with uncut grass to the right. This will distribute the clippings over the cut area.

## **UNEVEN TERRAIN**

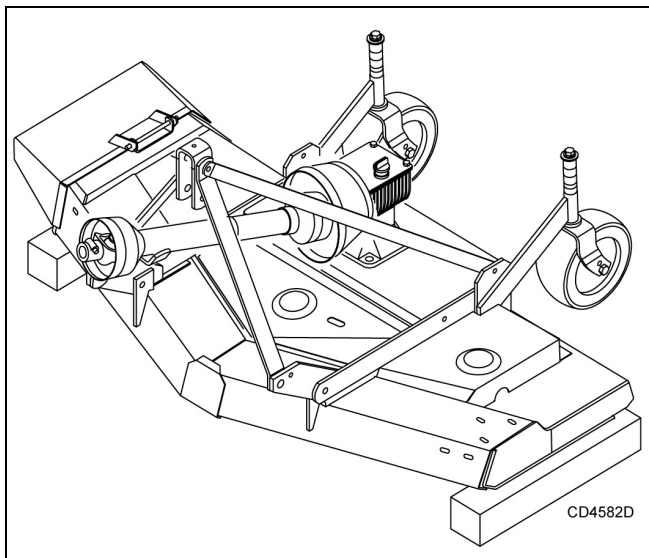
### **! WARNING**

- **Do not operate or transport 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.**

Pass diagonally through sharp dips and avoid sharp drops to prevent hanging up tractor and mower.

Practice will improve your skills in maneuvering rough terrain.

## **STORAGE**



**Figure 8.** Mower Storage Position

1. Disengage tractor PTO and raise mower with the 3-point hitch.

2. Collapse driveshaft as far as possible and store it in PTO hanger bracket to prevent ground contact.
3. Place blocks under mower side skids. Lower mower onto blocks, disconnect mower from tractor 3-point hitch, and carefully drive tractor away from mower.

## **PRE-OPERATION CHECK LIST**

(OWNER'S RESPONSIBILITY)

- \_\_\_ Review and follow all safety rules and safety decal instructions on pages 5 through 8.
- \_\_\_ Check that all safety decals are installed and in good condition. Replace if damaged.
- \_\_\_ Check that all shields and guards are properly installed and in good condition. Replace if damaged.
- \_\_\_ Check that all hardware and cotter pins are properly installed and secured.
- \_\_\_ Check to ensure blades are sharp, in good condition, and installed correctly. Replace if damaged.
- \_\_\_ Check that equipment is properly and securely attached to tractor.
- \_\_\_ Make sure driveline spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.
- \_\_\_ Make sure the driveline guards and tether chains are in good condition. Guards must rotate freely on driveline. Fasten tether chains to the tractor and the equipment as instructed.
- \_\_\_ Inspect area and remove stones, branches or other hard objects that might be thrown, causing injury or damage.
- \_\_\_ Do not allow riders.
- \_\_\_ Check all lubrication points and grease as instructed in Lubrication Information on page 14. Make sure the PTO slip joint is lubricated and that the gearbox fluid levels are correct.
- \_\_\_ Set tractor PTO at correct rpm for your equipment.
- \_\_\_ Make sure tractor ROPS or ROPS cab and seat belt are in good condition. Keep seat belt securely fastened during operation.
- \_\_\_ Before starting engine, operator must be in tractor seat with seat belt fastened. Place transmission in neutral or park, engage brake, and disengage tractor PTO.

# OWNER SERVICE

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

## CAUTION

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

## WARNING

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

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

■ Before working underneath, carefully read Operator's Manual instructions, disconnect driveline, raise mower, securely block up all corners with jackstands, and check stability. Secure blocking prevents equipment from dropping due to hydraulic leak down, hydraulic system failures, or mechanical component failures.

■ Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.

## BLOCKING METHOD

Jackstands, with a load rating of 1,000 pounds or more, are the only approved blocking device for this mower. A minimum of four jackstands, located under the mower as shown in Figure 9, must be installed before working underneath this unit. Do not position jackstands under wheels, axles, or wheel supports because these components can rotate.

Do not work underneath unless it is properly attached to tractor (see Operation section), the brakes set, key removed, and the mower blocked securely. Tighten tractor lower 3-point arm anti-sway mechanisms to prevent side to side movement.

When blocking, you must consider overall stability of the unit. Just placing jackstands under the unit will not ensure your safety. The working surface must be level and solid to support the weight on the jackstands. Ensure jackstands are stable both top and bottom, and mower is approximately level. With full mower weight lowered on jackstands, test blocking stability before working underneath mower.

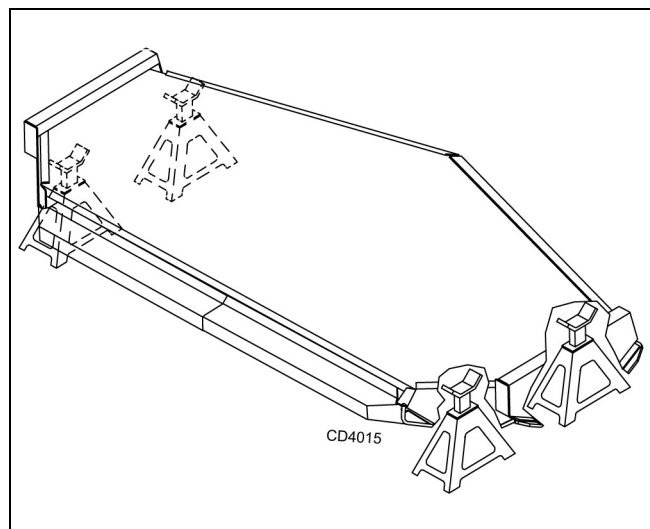
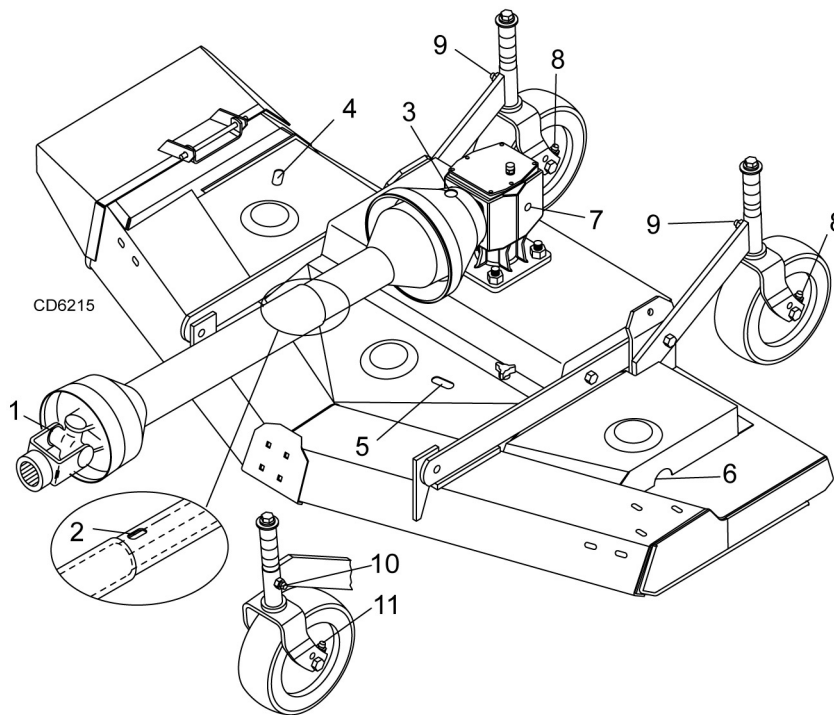


Figure 9. Blocking Method



Ref No.	Description	Frequency
1	Front U-Joint	8 Hours
2	Slip Joint (1 location on shaft, access through slot)	8 Hours
3	Rear U-Joint	8 Hours
4	Right Spindle (Access through slot)	24 Hours
5	Center Spindle (Access through slot)	24 Hours
6	Left Spindle (Access through slot)	24 Hours
7	Gearbox (Fill to center of horizontal shaft with SAE 80W or 90W gear lube)	Check Daily
8	Caster Wheel (Right and Left)	8 Hours
9	Caster Pivot (Right and Left)	8 Hours
10	Front Caster Wheel Pivot (Right and Left)	8 Hours
11	Front Caster Wheel (Right and Left)	8 Hours

**Figure 10.** Lubrication Points & Chart

## **LUBRICATION INFORMATION**

Do not let excess grease collect on or around parts, particularly when operating in sandy areas.

Figure 10 shows the lubrication points. The accompanying chart gives the frequency of lubrication in operating hours, based on normal operating conditions. Severe or unusual conditions may require more

frequent lubrication. Some reference numbers have more than one location; be sure you lubricate all locations.

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.

Use SAE 80W or 90W gear lube in the gearbox. Fill to plug on side of gearbox.

Check gearbox daily for evidence of leakage at both seals and the gasket between the housing and cover. If leakage is noted, repair immediately. There may be a small amount of lube emitted from the vent plug; this is not considered leakage.

Overfilling the gearbox will cause the excess gear lube to blow out vent plug and ruin the belt.

## Driveshaft Lubrication

Lubricate the driveshaft slip joint every 8 operating hours. Failure to maintain proper lubrication could result in damage to U-joints, gearbox, and driveshaft.

1. Lower mower to ground.
2. Apply grease at the three locations as shown in Figure 10.
3. Raise and lower mower several times to distribute grease.

## BELT

### Belt Replacement

One of the major causes of belt failure is improper installation. Before installing a new belt, check the following:

1. Check pulley shafts and bearings for wear.
2. Check pulley grooves for cleanliness.
3. 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.

## Belt Installation

*Refer to Figure 11.*

### **NOTICE**

■ Use care when installing or removing belt from spring-loaded idler at step 5. Springs store energy when extended and, if released suddenly, can cause personal injury.

1. Disconnect idler spring from deck lug.
2. Slide belt under drive pulley A and over idler arm. Position belt around drive pulley A.
3. Loosen bolt holding belt guide G and swing it away from pulley B. Route belt around pulley B, idler C and pulley D as shown.
4. Make sure belt is on drive pulley A, route around idler F, and connect idler spring to lug on deck.
5. Grasp belt between spindle pulley E, spring loaded idler F and spindle pulley D. Pull spring loaded idler with belt to obtain enough belt length to route it over pulley E. Make sure spring-loaded idler pivots freely with belt installed.
6. Adjust belt guide G to provide 1/16" to 1/8" clearance from belt. Tighten bolt to 85 lbs-ft.

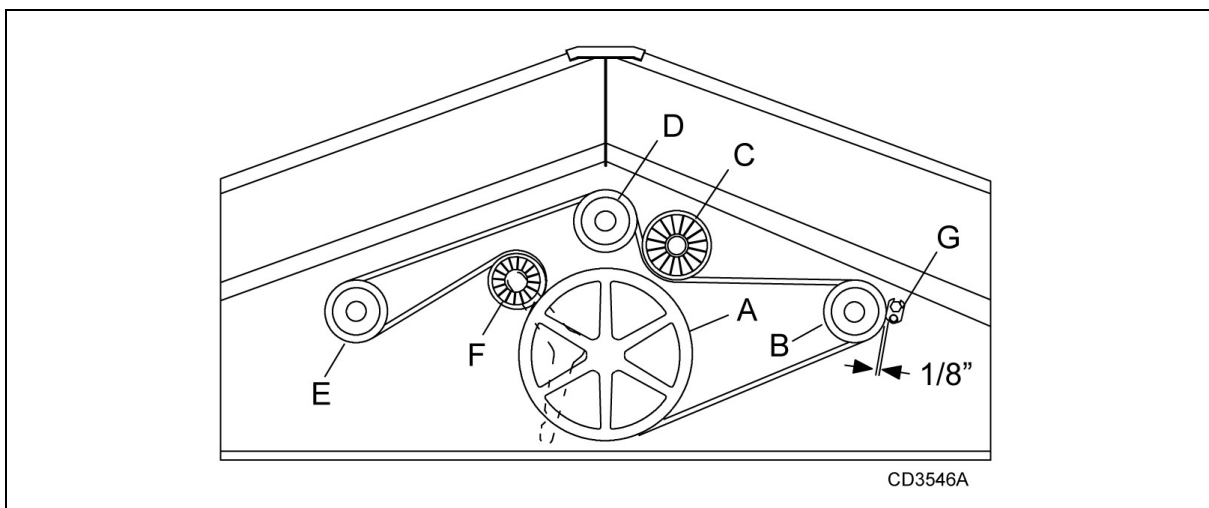


Figure 11. Belt Routing

## BLADE

### WARNING

■ 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.

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

Inspect blades for condition and proper installation each time before operation. Replace any blade that is bent, excessively nicked, worn or has any other damage. Small nicks can be ground out when sharpening.

## Blade Removal

### CAUTION

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

1. Remove belt shields.
2. Install blade spindle wrench (1) onto spindle pulley as shown.
3. Remove cap screw (7) which has RIGHT HAND THREADS, cup washers (6), washer (5), and blade (4).
4. Shoulder washer (3) will not normally come off unless intentionally removed.

## Blade Installation

### NOTICE

■ We recommend you install a new Nylok blade bolt when you replace the blade.

■ Do not substitute any bolt for the special blade bolt. It is self-locking, meeting the non-loosening requirements for this application.

1. Install spindle lock wrench (1) onto spindle pulley as shown.
2. Install shoulder washer (3) (if removed), small end up. Make sure blade cutting edge is positioned to

lead in clockwise rotation, as viewed from top of mower.

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

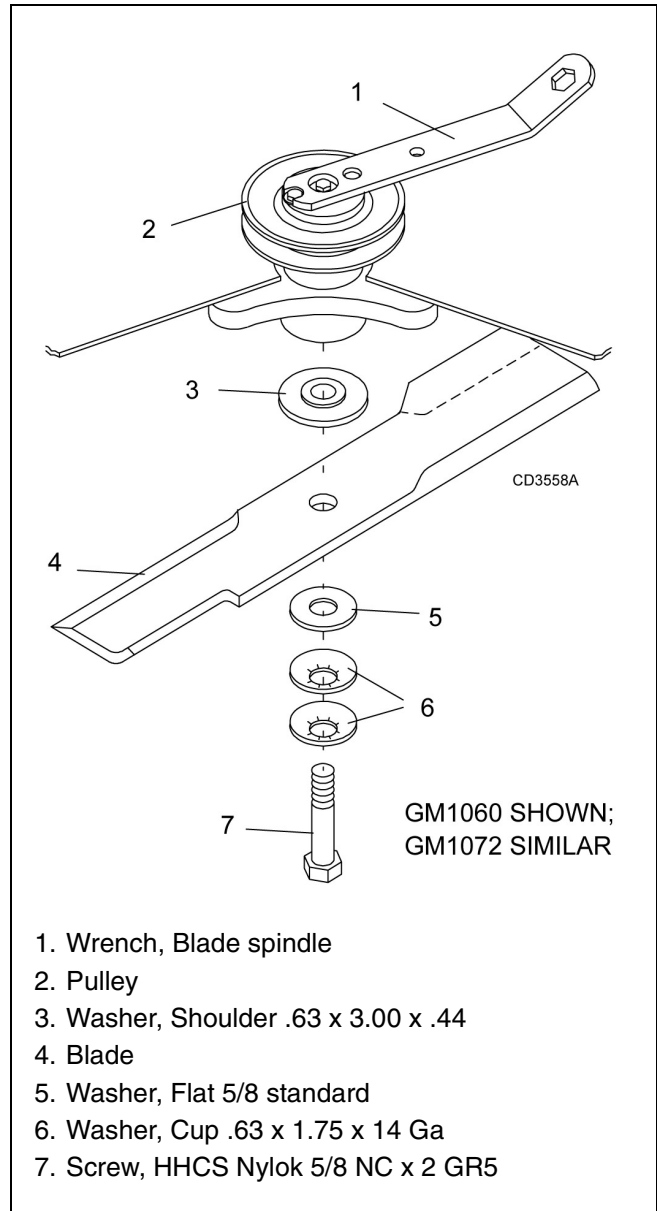


Figure 12. Blade Assembly

3. Install two cup washers (6), washer (5) and blade (4) on cap screw.
4. Install cap screw and blade assembly into spindle. Torque cap screw to 170 lbs-ft.
5. Remove blade wrench from pulley.
6. Replace belt shields.



## Blade 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 components.

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

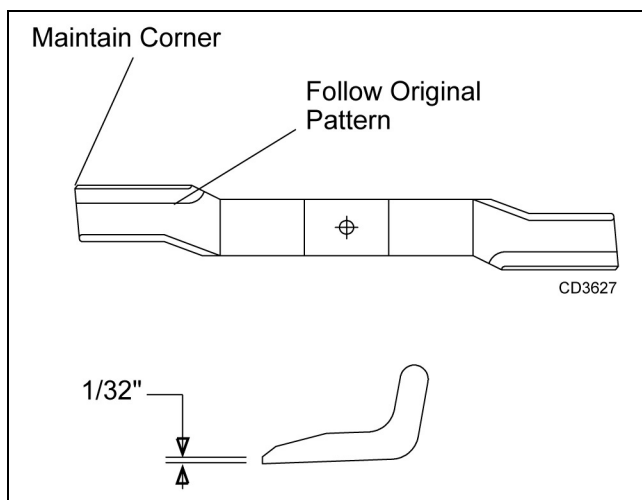


Figure 13. Blade Sharpening

## 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 spray paint of matching color (purchase from your dealer).
- Replace any safety decals that are missing or not readable (supplied free by your dealer). See Safety Decals section for location drawing.



# TROUBLESHOOTING

## MOWING CONDITIONS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Grass cut higher in center of swath than at edge	Height of mower higher at front than at rear	Adjust mower height and attitude so that mower rear and front are within 1/2" of same height. See Cutting Height Adjustment, page 10.
	Loose blade	Check clamping cup washers. Replace if flat or not holding.
Grass cut lower in center of swath than at edge	Height of mower lower at front than at rear	Adjust mower height and attitude so that mower rear and front are within 1/2" of same height. See Cutting Height Adjustment, page 10.
	Loose blade	Check clamping cup washers. Replace if flat or not holding.
Streaking conditions in swath	Conditions too wet for mowing	Allow grass to dry before mowing.
	Blades unable to cut grass that is pressed down by path of tractor tires	Slow ground speed of tractor but keep engine running at full PTO rpm. Cutting lower will help. Adjust tractor tire spacing if possible.
	Dull blades	Sharpen or replace blades.
Material discharges from mower unevenly; bunches of material along swath	Loose blade	Check clamping cup washers. Replace if flat or not holding.
	Material too high and too much material	Reduce ground speed but maintain 540 rpm at tractor PTO, or make two passes over material. Raise mower for the first pass and lower for the second and cut 90 degrees to first pass. Raise rear of mower high enough to permit material 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.
	Rear of mower too low, trapping material under mower	Adjust mower height and attitude. See Cutting Height Adjustment, page 10.

# TROUBLESHOOTING

## BELT CONDITIONS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Belt slippage	Mower overloading; Material too tall or heavy	Reduce tractor ground speed but maintain full PTO rpm. Cut material twice, one high pass and then mow at desired height. Cut 90 degrees to first pass.
	Oil on belt from over-lubrication	Be careful not to over-lubricate. Clean lubricant from belt and pulleys with clean rag. Replace oil-soaked belt.
	Belt hung up or rubbing	Check belt position in pulleys and idlers. Check belt for free travel in pulleys. Check under mower and around blade spindle shaft for wire, rags, or other foreign material. Clean all material from under mower.
Frayed edges on belt cover	Belt misaligned	Re-align belt. Be sure belt does not rub any other part while running.
	Pulley misaligned	Inspect to ensure belt is running in center of backside idler. Shim idler as necessary to align.
Belt rollover	Pulley misaligned	Re-align.
	Damaged belt	Replace belt*.
	Foreign object in pulley groove	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 damaged	Replace belt*.
Belt breakage	High shock loads	Avoid abusive mowing. Avoid hitting the ground or large obstructions.
	Belt came off drive	Check pulleys for foreign material in grooves. Avoid hitting solid objects or ground.

\* Check belt for damage by laying it flat on the floor. A belt that does not lie flat (has humps or twists, indicating broken or stretched cords) must be replaced.

# DEALER SERVICE

The information in this section is written for dealer service personnel. The repair described here 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, read manual instructions, securely block up, and check stability. Secure blocking prevents equipment from dropping due to hydraulic leak down, hydraulic system failure, or mechanical component failure.**

■ **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, hair, hands, hearing, and head; and respirator or filter mask where appropriate.**

## **BLADE SPINDLE SERVICE**

Spindle repair requires special skills and tools. If your shop is not properly equipped or your mechanics are not trained in this type of repair, you may be time and money ahead to use a new spindle assembly.

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

### **Spindle Removal**

1. Remove belt shield.
2. Remove blade from spindle. See Blade Removal, page 16.
3. Remove belt from pulleys.
4. Remove cap screw and flat washer from top of spindle assembly
5. Disassemble split taper bushing (located on top of pulley) by removing the two cap screws and inserting them into the threaded holes in bushing flange.

Tighten cap screws alternately to remove split taper bushing.

6. Remove pulley.
7. Remove grease fitting extension.
8. Remove the cap screws attaching spindle to mower frame and remove spindle.

### **Spindle Repair Tips**

As a reference point, the top of spindle housing is the short portion.

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

When disassembling, support housing casting to prevent damage.

Remove bearing cups by placing a punch in housing slots and drive cup out. Alternate punch positions from side to side. Use care to prevent housing damage.

Bore-tite® sealant is used on the outer diameter of the seals. Substitute seals may not meet original equipment specifications and could cause leakage.

### **Spindle Disassembly**

*Refer to Figure 14.*

1. Support spindle in a press and push shaft (7) down through housing (5).
2. Remove seals from housing.
3. Remove bearing cups by placing a punch in housing slots and drive cup out. Alternate punch positions from side to side. Use care to prevent housing damage.
4. Remove bearing cone (4) from shaft (7).

### **Spindle Assembly**

*Refer to Figure 14.*

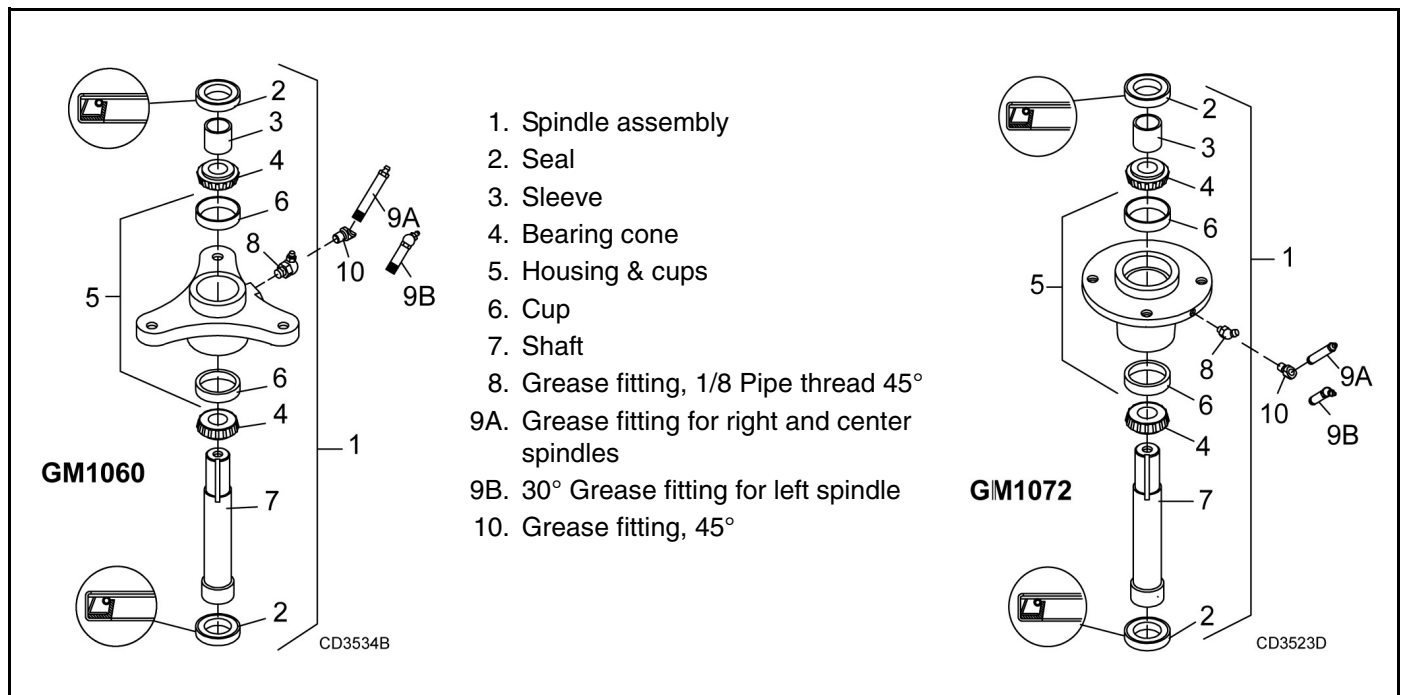
### **NOTICE**

■ **Bearing adjustment is set by pressing sleeve against bearing cone until proper adjustment is attained.**

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

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

2. Lubricate new cups (6) with a light oil. Place them in spindle housing (5) so they will mate with cones (4).
  3. Seat cups (6) against machined shoulder of housing with a press or by placing a large drift on the flat lip and driving them into housing.
  4. Place bottom bearing cone (4) onto spindle shaft (7) with taper up. Seat on bottom shoulder of shaft with a press.
  5. Insert shaft and bearing cone assembly through bottom of housing (5).
  6. Fill housing cavity with a lithium grease of #2 consistency with a MOLY (molybdenum disulfide) additive. Place top bearing cone (4) on shaft (7) to mate with top bearing cup.
  7. Install sleeve (3) on shaft and press sleeve and bearing cone 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).
  8. Check by spinning spindle. It should turn freely.
  9. Be careful not to overtighten bearings. Proper bearing adjustment is essential to good bearing life.
  10. 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.
11. Pull the rubber portion of seal back and locate spring.
  12. Apply a thin coat of lubricant to bottom seal (2) and install with spring up toward center of housing.
  13. Place bottom seal squarely on housing. Select a piece of pipe or tubing with an OD that will set on outside edge of seal. A tube that is too small will bow seal cage.
  14. Carefully press seal into housing, preventing distortion to metal seal cage. Seal should seat firmly and squarely against machined shoulder in housing.
  15. Make sure seal lip did not roll under. Distortion to seal cage or damage to seal lip will cause seal to leak. Damaged seals must be replaced.
  16. Apply a thin coat of lubricant to top seal (2) and install with spring up away from center of housing. Top seal should be flush with top of housing.
  17. Lubricate spindle with a lithium grease of #2 consistency with a MOLY (molybdenum disulfide) additive. Vent top seal with blunt edged tool, such as a letter opener, while filling with grease. Rotate housing on spindle shaft, checking for free movement.



**Figure 14.** GM1060 & GM1072 Spindle Assemblies

## Spindle Installation (Figure 15)

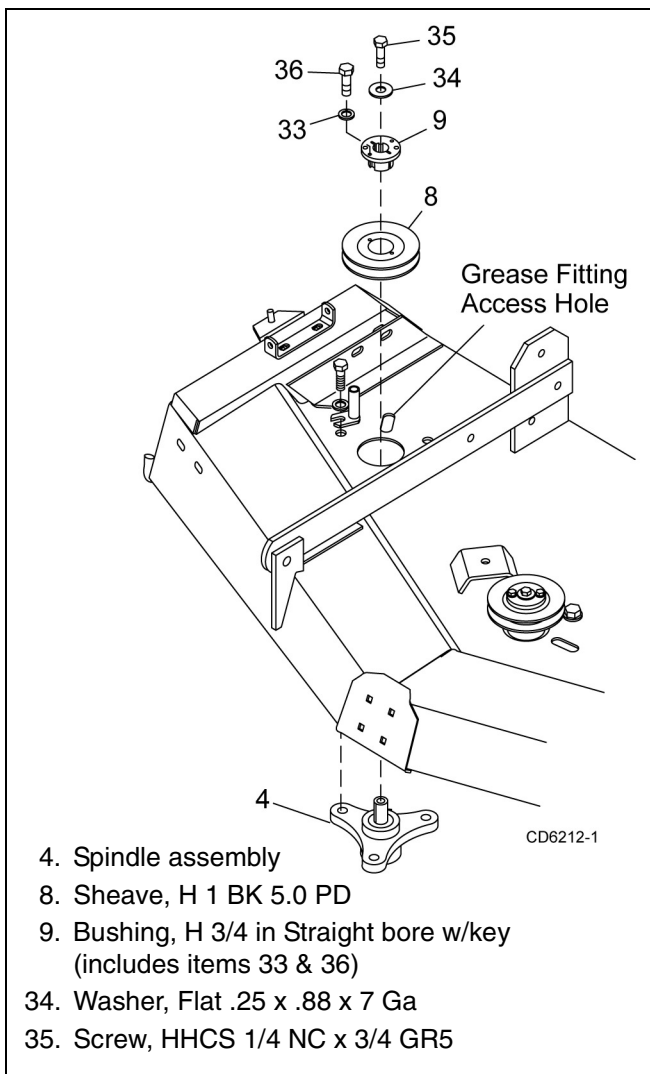


Figure 15. Spindle & Pulley Installation

### NOTICE

■ **Pulley installation sequence is very important for bearing life. Follow the sequence exactly.**

1. Install spindle (4) through bottom of mower and secure with cap screws and lock washers previously removed.
2. Be sure to position grease fittings toward lubrication access areas.
3. Reinstall grease fitting extension after spindle is secured in place.
4. Install sheave (8) and split taper bushing (9) with integral key on spindle shaft.
5. Install cap screw (35) and flat washer (34) in top of spindle shaft. Torque cap screw to 12 lbs-ft.
6. Align non-threaded holes on split taper bushing with threaded holes in pulley and insert cap screws (36) and lock washers (33).
7. Alternately tighten split taper bushing cap screws to 12 lbs-ft.

## GEARBOX REPAIR

**NOTE:** Repair to this gearbox is limited to replacing bearings, seals, and gaskets. Replacing gears, shafts, and a housing is not cost effective. Purchasing a complete gearbox is more economical.

Read this entire section before starting any repair. Many steps are dependent on each other.

Fill gearbox with SAE 80W or 90W gear lube until it runs out the side level plug.

Inspect gearbox for leakage and bad bearings.

Leakage is a very serious problem and must be corrected immediately.

Bearing failure is indicated by excessive noise and side-to-side or end play in gear shafts.

### Seal Replacement

Recommended sealant for gearbox repair is Permatex® Aviation 3D Form-A-Gasket or equivalent.

Leakage can occur at the vertical or horizontal gaskets and shaft seals.

Leakage at the horizontal gasket or seal can be repaired without removing the gearbox from the cutter.

### Seal Installation

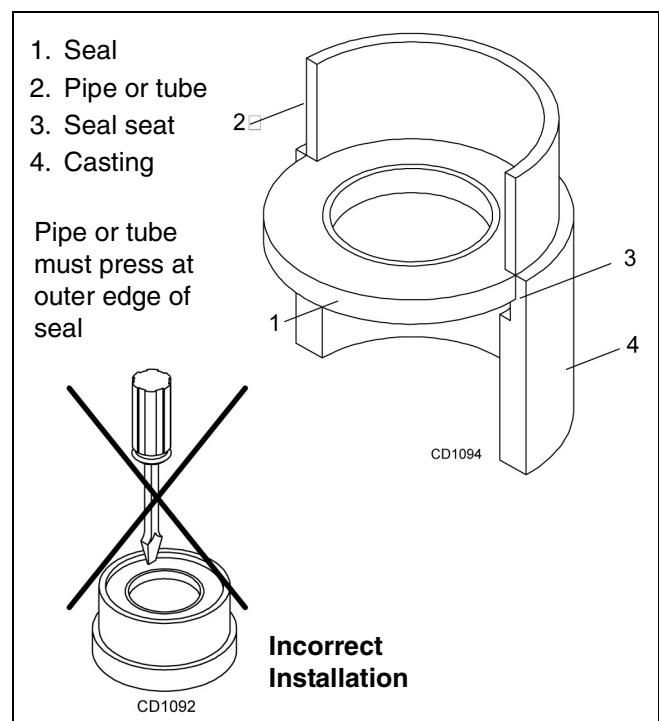


Figure 16. Seal Installation

**NOTE:** Proper seal installation is important. An improperly installed seal will leak.

1. Clean area in housing where seal outer diameter (OD) seats. Apply a thin coat of Permatex.

2. Inspect area of shaft where seal seats. Remove any burrs or nicks with an emery cloth.
3. Lubricate gear shaft and seal lips.
4. Place seal squarely on housing, spring-loaded lip toward housing. Select a piece of pipe or tubing with an OD that will sit on the outside edge of the seal but will clear the housing. Tubing with an OD that is too small will bow seal cage and ruin seal.
5. Carefully press seal into housing, avoiding distortion to the metal seal cage.

### Vertical Shaft Repair

1. Disconnect and remove the driveline from the gearbox.
2. Remove breather plug (24) and siphon gear lube from housing through this opening.
3. Remove gearbox stand from mower deck.
4. Remove gearbox and pulley from gearbox stand.
5. Remove vertical shaft seal (18). Replace with new seal (see Seal Replacement, page 22).

Vertical seal should be recessed in housing. Horizontal seal should be pressed flush with outside of housing.

**NOTE:** Distortion to seal cage or damage to seal lip will cause seal to leak.

6. Fill gearbox with SAE 80W or 90W gear lube until it runs out the level plug.
7. Assemble gearbox and pulley to gearbox stand. Attach gearbox stand to mower deck.

### Horizontal Leak Repair

1. Disconnect and remove the driveline from the gearbox.
2. Remove breather plug (24) and siphon gear lube from housing through this opening.
3. If the leak occurred at either end of horizontal shaft, remove oil cap (20) and/or oil seal (19). Replace with new one (refer to Seal Replacement, page 22).
4. Fill gearbox with SAE 80W or 90W gear lube until it runs out the level plug.

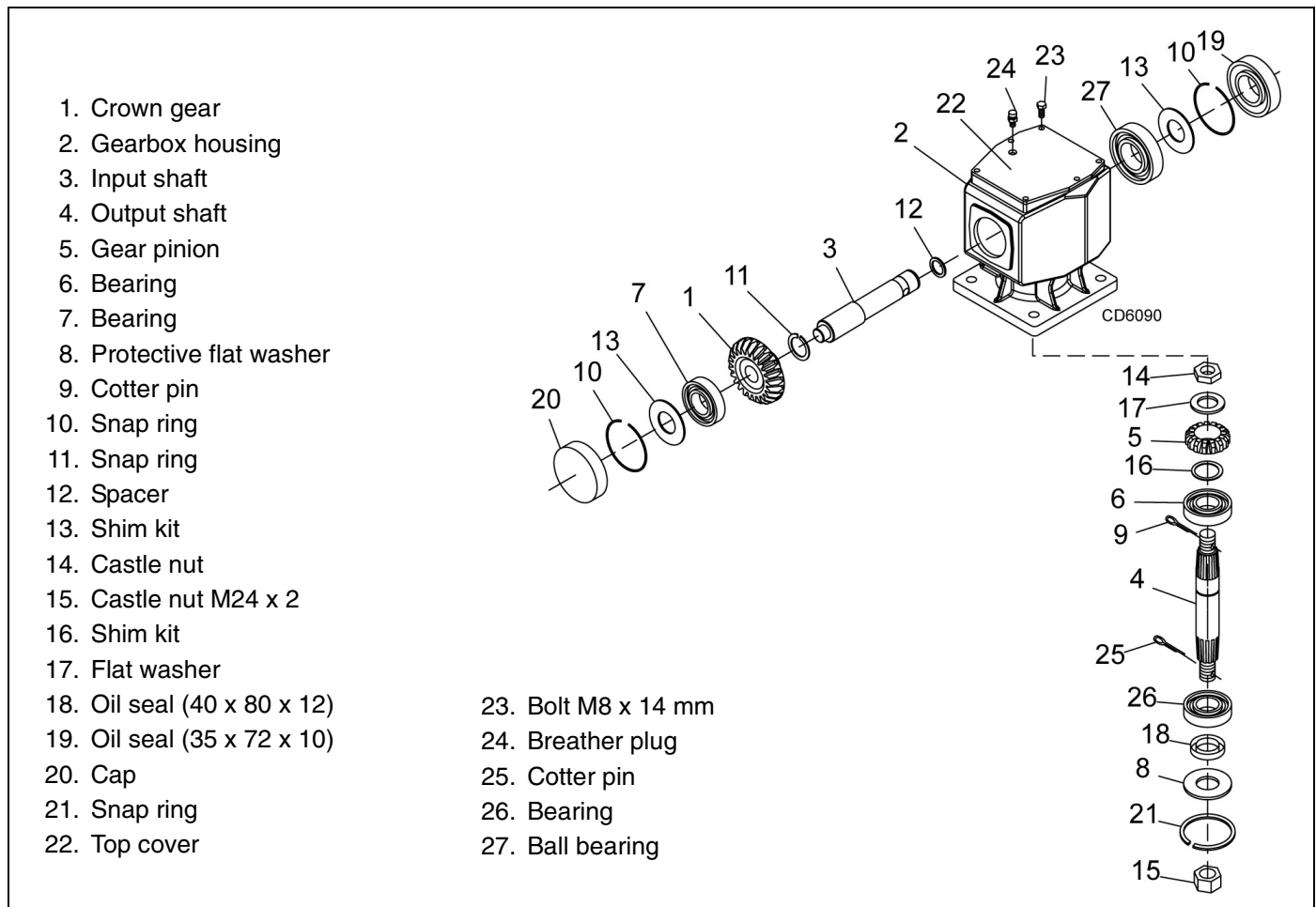
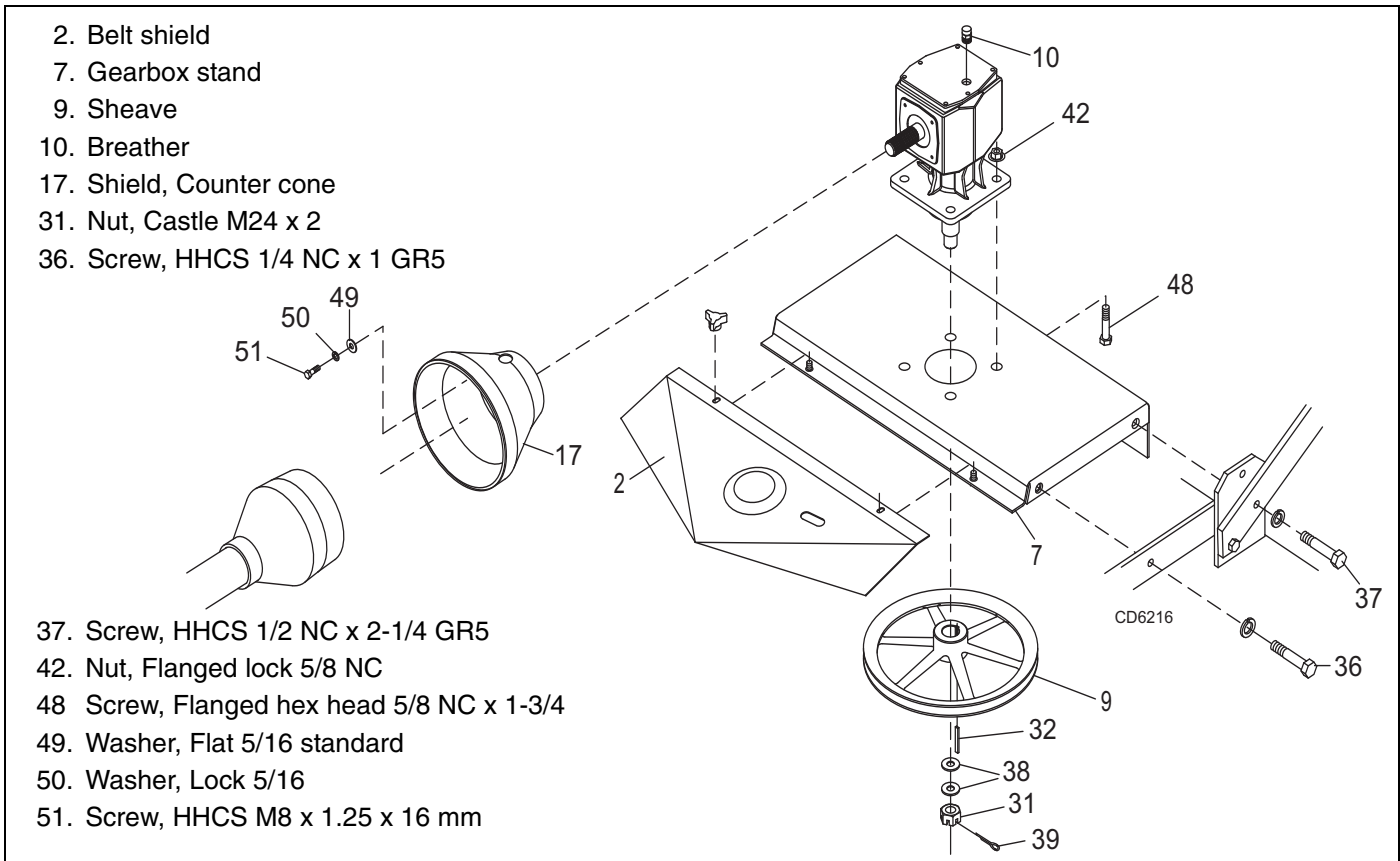
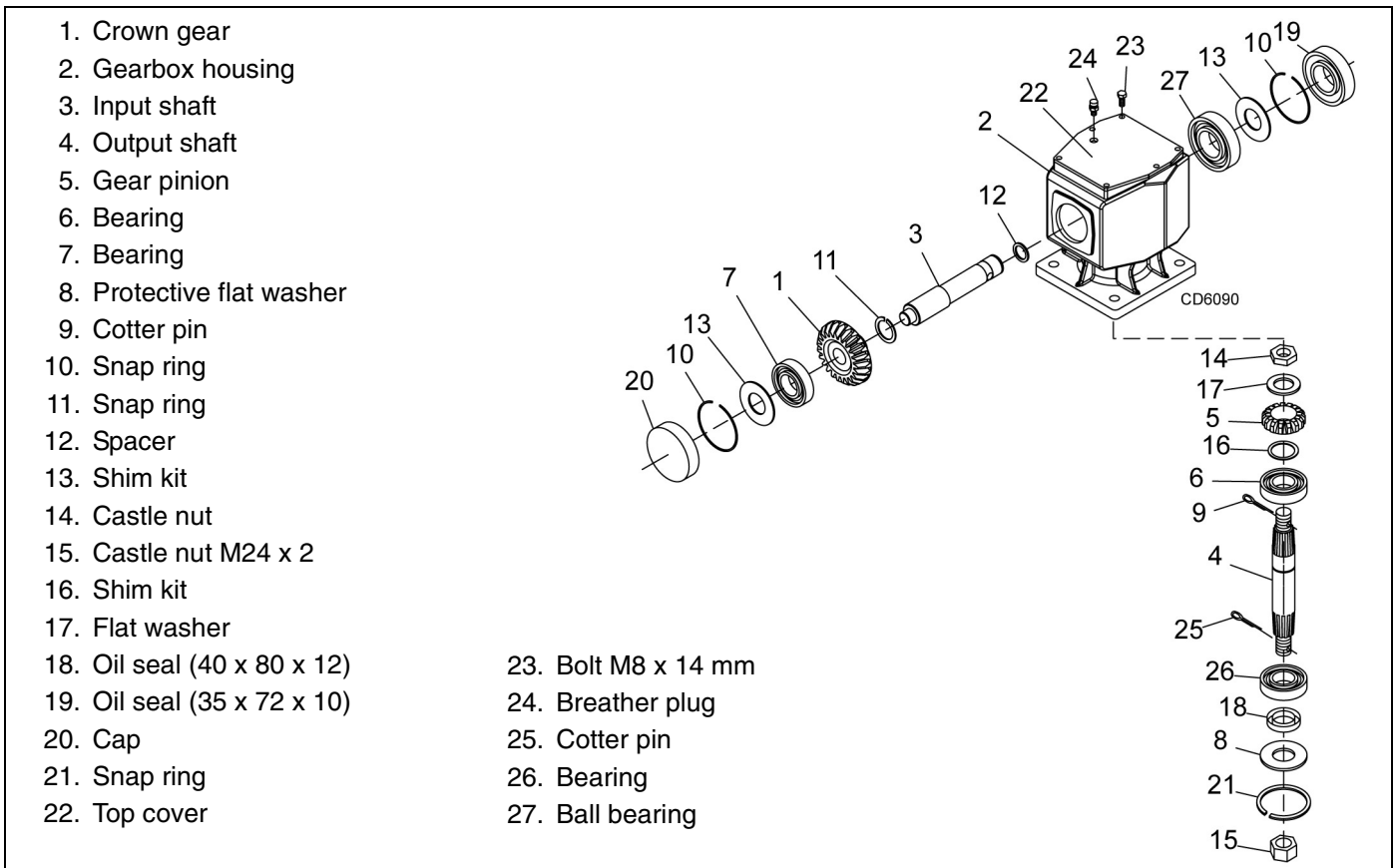


Figure 17. Gearbox Assembly



**Figure 18. Gearbox Stand Assembly**



**Figure 19. Gearbox Assembly**



## **Gearbox Removal**

**Refer to Figure 18.**

1. Disconnect and remove the rear driveline from the gearbox.
2. Remove center belt shield (2).
3. Remove breather (10) and siphon gear lube from housing through this opening.
4. Remove gearbox stand (7) from mower deck by removing cap screws (36 & 37) from each side of gearbox stand.
5. Remove four cap screws (51) and washers (50 & 49) and remove shield (17) from gearbox.
6. Remove castle nut (31) and hardware from output shaft of gearbox.
7. Remove sheave (9) from gearbox.
8. Remove four bolts (48) that attach gearbox to gearbox stand and remove gearbox.

## **Gearbox Disassembly**

**Refer to Figure 19.**

1. Remove top cover (22) from housing. Turn gearbox upside down and pour out remaining gear oil from gearbox.
2. Remove oil cap (20) (to be replaced).
3. Remove snap ring (10) and shim (13) from input shaft (3).
4. Support gearbox in hand press and push on input shaft (3) to remove bearing (7).
5. Remove gear (1) from inside housing.
6. Remove oil seal (19) from front of housing (to be replaced).
7. Remove snap ring (10) and shim (13) from front of housing (2).
8. Remove input bearing (7) by using a punch and hammer from outside of housing.
9. Support housing in vise in a horizontal position.
10. The castle nut (15) and cotter pin (25) are already removed with the drive sheave. Remove the snap ring (21), washer (8), and seal (18).
11. Remove cotter pin (9), castle nut (14), and washer (17) from output shaft (4).
12. Remove output shaft (4) by using a punch and hammer and tap on top to drive down.
13. Remove gear (5) and shim (16) from inside housing.
14. Remove bearing (26) by using a punch and hammer from the top, outside the housing.

15. Support housing upside down (top cover surface) and remove bearing (6) by using a punch and hammer from the bottom side of the housing.
16. Inspect gears for broken teeth and wear. Some wear is normal and will show on loaded side. Forged gear surfaces are rough when new. Check that wear pattern is smooth.
17. Inspect vertical and horizontal shafts for grooves, nicks, or bumps in the areas where the seals seat. Resurface any damage with emery cloth.
18. Inspect housing and caps for cracks or other damage.

## **Gearbox Reassembly**

**Refer to Figure 19.**

1. Clean housing, paying specific attention to areas where gaskets will be installed.
2. Wash housing and all components thoroughly. Select a clean area for gearbox assembly. Replace all seals, bearings, and gaskets. All parts must be clean and lightly oiled before reassembling.
3. Insert output bearings (6 & 26) in the housing, using a round tube of the correct diameter and a hand press.
4. Slide output shaft (4) through both bearings (6 & 26) until it rests against bearing (6).
5. Slide shim (16) over output shaft (4).
6. Press gear (5) onto output shaft (4) and secure with washer (17), castle nut (14), and cotter pin (9).
7. Apply grease to lower seal lips (18) and press seal over output shaft (4), using a tube of the correct diameter. Be sure not to damage the seal lip. Press in housing so that seal is recessed.
8. Insert protective washer (8) by hand. Install snap ring (21) and position it together with dual lip seal (18) by pressing it into position. Verify that snap ring is seated correctly.
9. Press bearing (7) into the housing, using a round tube of the correct diameter and a hand press. Secure with shim (13) and snap ring (10).
10. Secure snap ring (11) on input shaft (3) if not already secure.
11. Place gear (1) through top of housing and align gear (1) and gear (5) so that gear teeth are a match.
12. While holding gear (1) in place, slide input shaft (3) through gear (1) and bearing (7). Align splines on shaft (3) and gear (1).

13. Slide spacer (12) over input shaft (3) and press bearing onto input shaft (3), using a round tube of the correct diameter and a hand press.
14. Slide shim (13) over input shaft (3) and secure with snap ring (10).
15. Check input shaft end float by moving the input shaft (3) by hand. If end float is higher than 0.012", insert shim between input shaft (3) and rear bearing (7). Repeat until end float is less than 0.012". Check rotational torque by hand. The torque should be less than 2.2 lbs-inch.
16. Check that the gear backlash is between 0.006" and 0.016". You should not have to adjust the backlash.
17. Press in input oil seal (19), using tube of correct diameter. Be careful not to damage seal lip.
18. Press oil cap (20) on to cover the rear of housing, using a tube of the correct diameter.
19. Check gearbox housing for leaks by plugging all holes except one. Apply 4 psi compressed air and immerse the gearbox in water to verify that there are no leaks.
20. Remove gearbox from water and dry off with compressed air. Add SAE 80W or 90W EP oil until it runs out of side level hole. Tighten all plugs.

## Gearbox Installation

**NOTE:** Gearbox is heavy: do not attempt to move without mechanical assistance.

1. Set gearbox on gearbox stand and fasten with bolts and nuts. Torque bolts to 175 lbs-ft.
2. Attach drive sheave to output shaft. Secure using castle nut and hardware previously removed.
3. Attach Gearbox stand to mower using cap screws and washers previously removed.

## Drive Sheave Installation

1. When gear stand is installed on mower, dimension A (from the top of the mower deck to the center line of the drive pulley) must be 1-27/32" ( $\pm 1/32$ "). This is a critical dimension and must be carefully adjusted for proper belt life. Add or subtract shim washers under idler pulley to align with drive pulley.
2. Tighten gear stand hardware.
3. Fill gearbox half full with SAE 80W or 90W gear lube.
4. Check level after waiting five minutes to permit lube to work through bearings. Add lube, if necessary, until gearbox is half full.

5. Replace driveline shield. Attach driveline to gearbox.

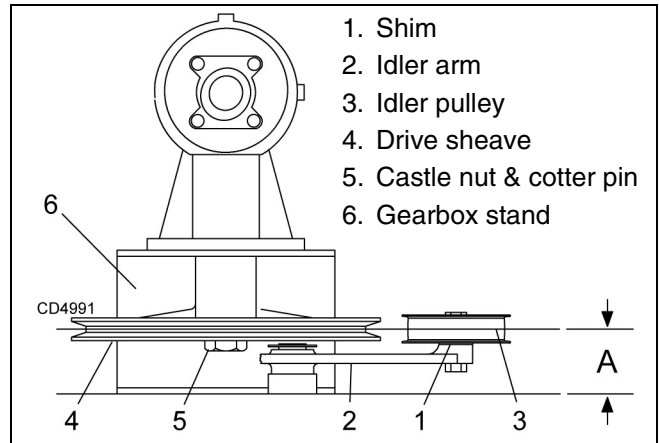


Figure 20. Drive Sheave Installation

## UNIVERSAL JOINT REPAIR

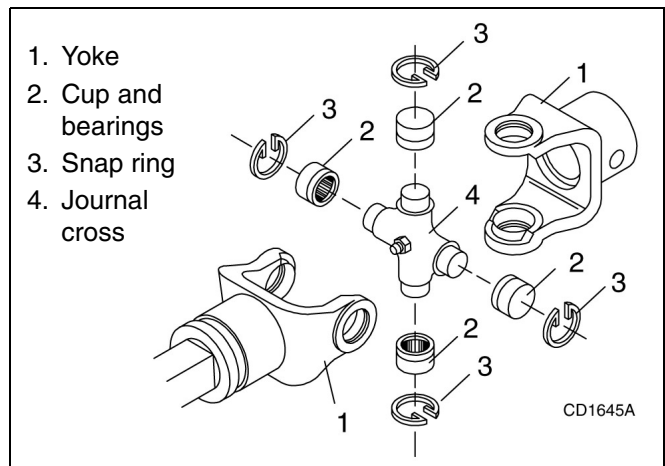


Figure 21. U-Joint Exploded View

## U-Joint Disassembly

1. Remove external snap rings from yokes in four locations as shown in Figure 22.

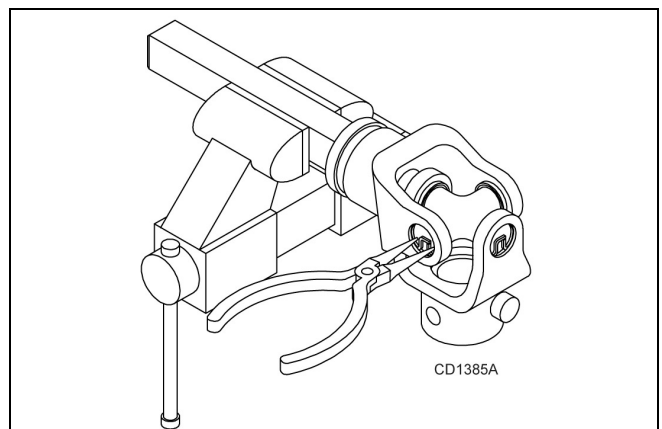
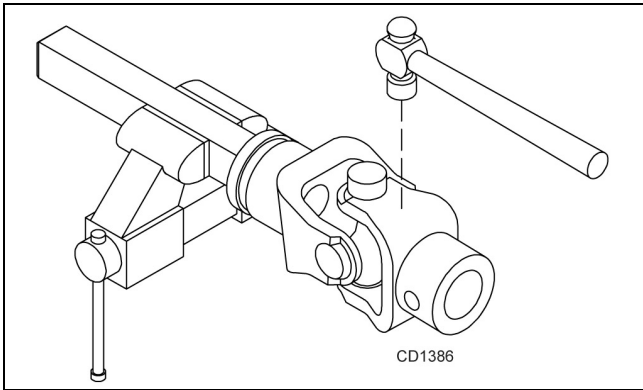
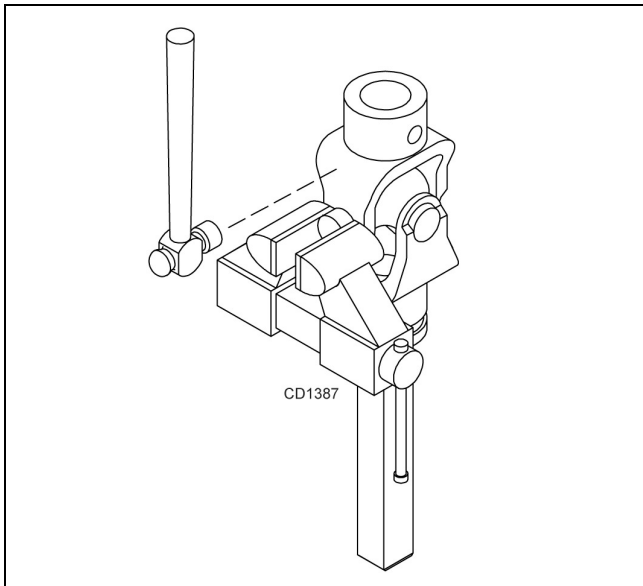


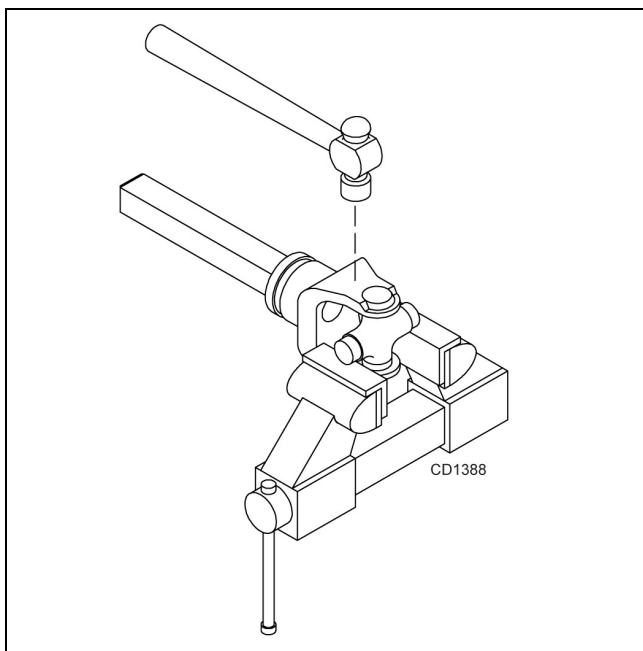
Figure 22



**Figure 23**



**Figure 24**

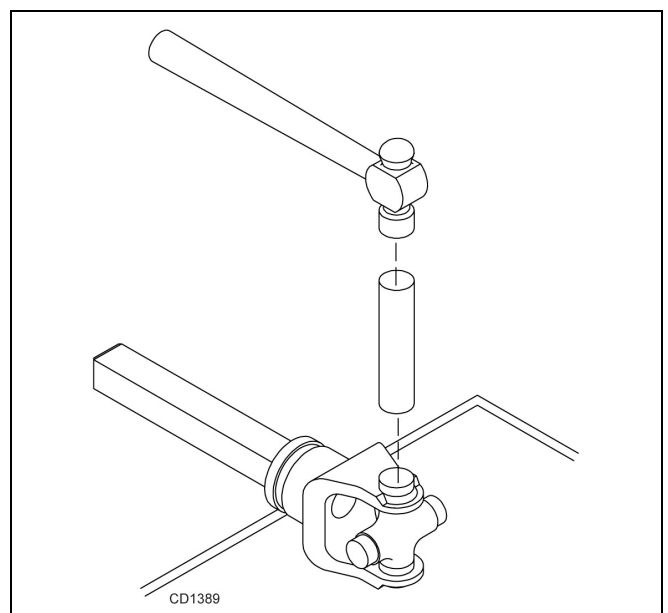


**Figure 25**

2. With snap rings removed, support drive in vise, hold yoke in hand and tap on yoke to drive cup up out of yoke. See Figure 23.
3. Clamp cup in vise as shown in Figure 24 and tap on yoke to completely remove cup from yoke. Repeat Step 2 and Step 3 for opposite cup.
4. Place universal cross in vise as shown in Figure 25 and tap on yoke to remove cup. Repeat Step 3 for final removal. Drive remaining cup out with a drift and hammer.

### U-Joint Assembly

1. Place seals securely on bearing cups. Insert cup into yoke from outside and press in with hand pressure as far as possible. Insert journal cross into bearing cup with grease fitting away from shaft. Be careful not to disturb needle bearings. Insert another bearing cup directly across from first cup and press in as far as possible with hand pressure.
2. Trap cups in vise and apply pressure. Be sure journal cross is started into bearings and continue pressure with vise, squeezing in as far as possible. Tapping the yoke will help.
3. Seat cups by placing a drift or socket (slightly smaller than the cup) on cup and rap with a hammer. See Figure 26. Install snap ring and repeat on opposite cup.
4. Repeat Step 1 and Step 2 to install remaining cups in remaining yoke.
5. Move both yokes in all directions to check for free movement. If movement is restricted, rap on yokes sharply with a hammer to relieve any tension. Repeat until both yokes move in all directions without restriction.



**Figure 26**

# ASSEMBLY INSTRUCTIONS

## DEALER SET-UP INSTRUCTIONS

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

Complete check lists on page 32 when you have completed the assembly.

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 46.

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

### **WARNING**

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

### **CAUTION**

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

## Remove Mower from Crate

1. Select a suitable working area.
2. Remove sides and top of mower shipping crate.
3. Remove lag screws and shipping brackets that secure mower to crate base. Replace hardware that is required for the unit.
4. Remove driveshaft, cone shield and discharge chute wired to mower deck.

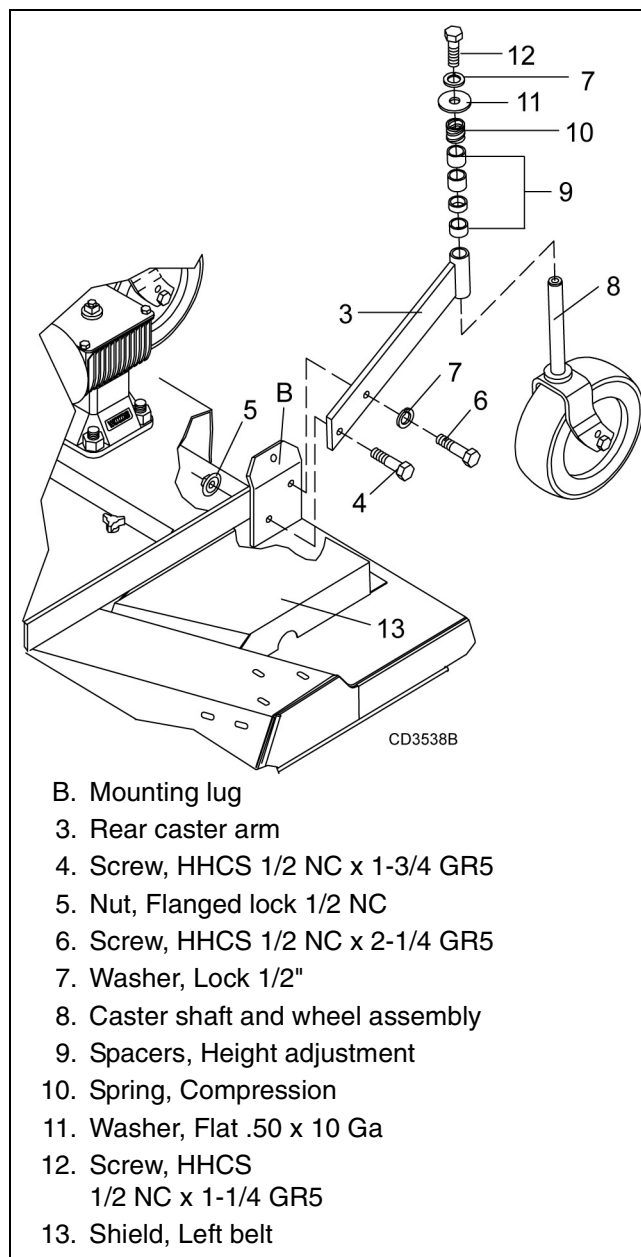
5. Remove lag screws that secure offset links to the crate base.

6. Remove rear caster arms from mower deck. Remove extra 1/2" hardware from caster arm. Save all hardware for later use.

**NOTE:** Rear caster wheels are assembled upside down in rear caster arms for shipment.

7. Remove rear caster wheels from rear caster arms.

## Install Rear Caster Arm



- B. Mounting lug  
3. Rear caster arm  
4. Screw, HHCS 1/2 NC x 1-3/4 GR5  
5. Nut, Flanged lock 1/2 NC  
6. Screw, HHCS 1/2 NC x 2-1/4 GR5  
7. Washer, Lock 1/2"  
8. Caster shaft and wheel assembly  
9. Spacers, Height adjustment  
10. Spring, Compression  
11. Washer, Flat .50 x 10 Ga  
12. Screw, HHCS 1/2 NC x 1-1/4 GR5  
13. Shield, Left belt

**Figure 27.** Rear Caster Assembly

1. Remove left belt shields (13).
  2. Remove cap screw (6) and lock washer (7) that secures gearbox stand to mounting lug (B). Remove cap screw (4) and flanged lock nut (5) from lower hole on mounting lug.
  3. Align upper hole of caster arm (3), upper hole of mounting lug, and gearbox stand. Secure with cap screw (6) and lock washer (7).
  4. Align lower hole of caster arm and lower hole of mounting lug and secure with cap screw (4) and flange lock nut (5).
  5. Insert caster yoke and wheel assembly (8) into caster arm. Install spacers (9) and spring (10). Secure using cap screw (12), lock washer (7), and flat washer (11).
- NOTE:** Make sure spacers are installed in the same orientation for all four caster wheels. See Cutting Height Chart, page 10
6. Repeat steps for right rear caster arm installation.
  7. Install left and right belt shields.

## Install Offset Link

See Figure 28.

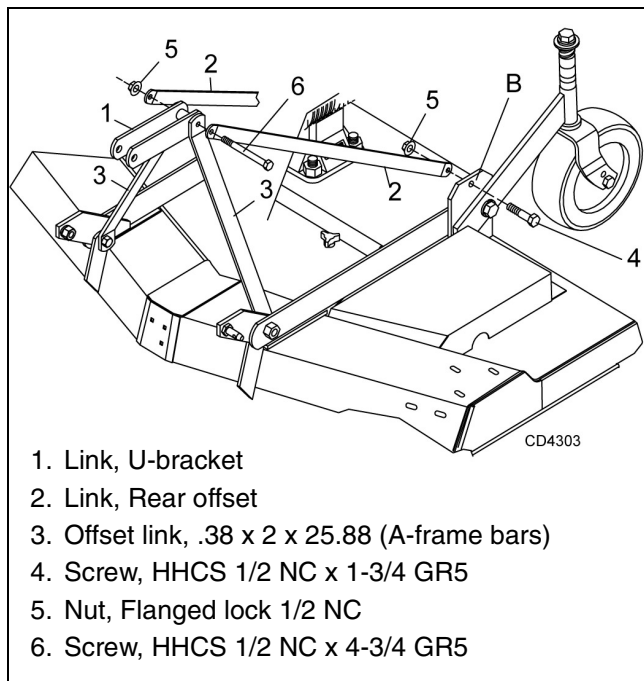


Figure 28. Offset Link Installed

1. Remove cap screw (6), flange lock nut (5), bushing (not shown), and U-link (1) from A-frame bars (3).

2. Attach offset link (2) to the top hole in left mounting lug (B). Secure using cap screw (4) and flange lock nut (5). Repeat for right side.
3. Place offset links on outside of A-frame bars.
4. Align the holes in offset links, A-frame bars, and U-link. Secure using cap screw (6), bushing, and flange lock nut (5) previously removed.

## Install Gearbox Shield & Driveline

See Figure 29.

1. Position gearbox shield (1) over gearbox input shaft and align holes.
2. Orient grease access hole and chain attachment lug as shown.
3. Secure shield to gearbox using four cap screws (2), flat washer (3), and lock washer (4).
4. Slide QD yoke (5) of driveshaft assembly onto gearbox input shaft. Make sure QD yoke is seated securely in groove of gearbox shaft. Attach shield anti-rotation chain (6) to drive shield as shown.
5. Place driveline in PTO hanger bracket.

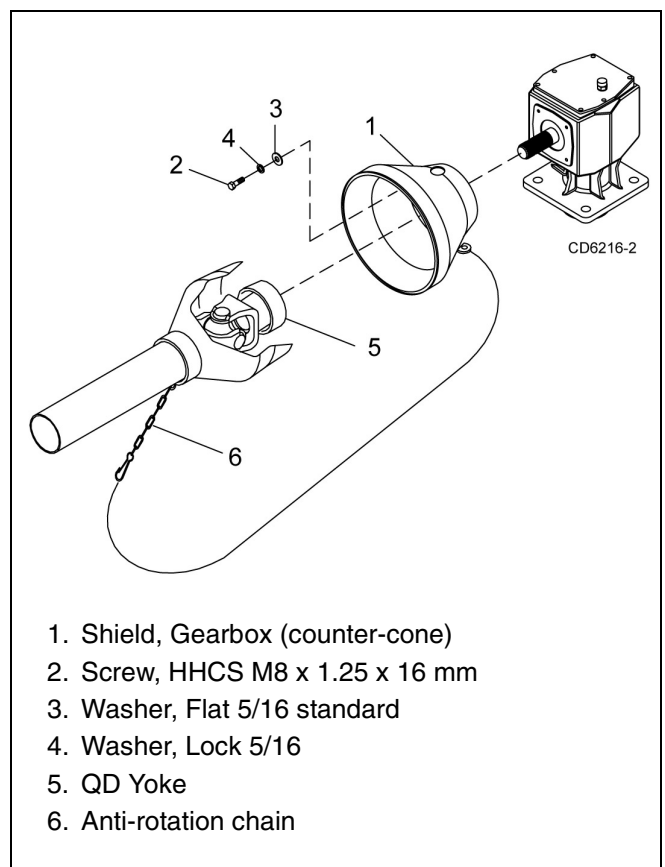


Figure 29. Shield & Driveline Installation

## Install Discharge Chute

See Figure 30.

1. Remove one cotter pin (31), washer (37), and pin (5) from discharge chute (6).
2. Align discharge with deck bracket (7). Insert pin (5) and secure with washer and cotter pin previously removed.
3. Secure discharge chute to deck using flange lock nut (38) and washer (37).

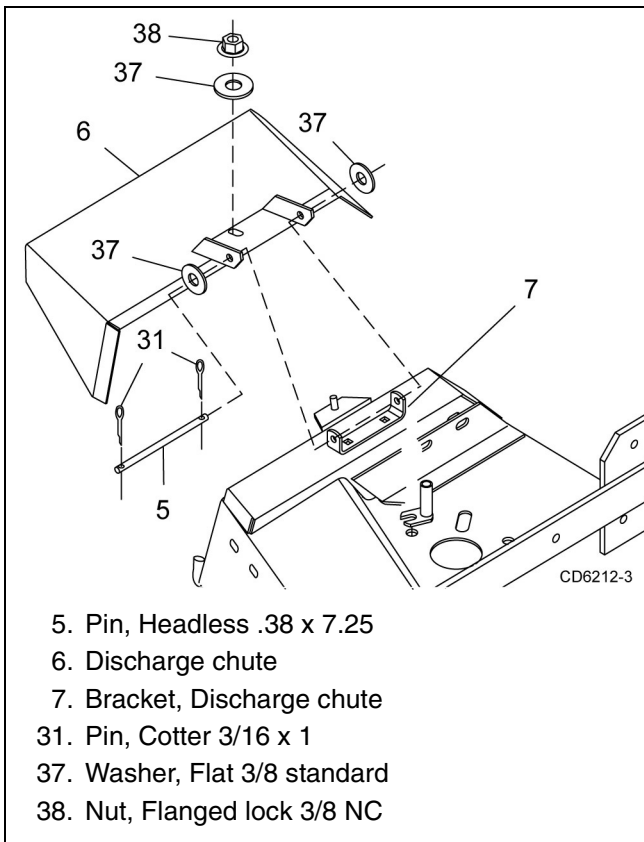


Figure 30. Discharge Chute Installation

## Torque Caster Arm Hardware

1. Lift mower off shipping pallet and set on a hard level surface. This allows clearance in the caster wheel assemblies to be equalized.
2. Tighten all cap screws and nuts on all four caster wheel arms.
3. Tighten all cap screws and nuts to specifications found in Bolt Torque Chart on page 46.

## Fill Gearbox

1. Make sure vent plug hole is clear. Fill gearbox half-full with high quality gear oil that has a viscosity index of 80W or 90W and an API service rating of GL-4 or GL-5.

2. Fill gearbox until oil runs out the side plug on gearbox.
3. Pour in one pint of gear lube, wait five minutes, and add additional gear lube until it just comes out of side hole.
4. Allow an additional five minutes for the lube to flow through bearings; then check to make sure oil level is at bottom of side hole. Replace side plug.
5. Install vent plug.

## NOTICE

■ Gearbox is not filled at the factory. Prior to delivery, make sure each gearbox is filled half-full with 80W or 90W API GL-4 or GL-5 gear lube.

## Front Roller Installation (Optional)

See Figure 31.

1. Insert four carriage bolts (5) through the front mower frame from inside out.
2. Place roller bracket (8) over bolts; then install flange whiz nuts (6) on bolts and tighten.
3. Place front roller (9), two bearings (10), spacer (7) and two SAE flat washers (4) between roller bracket as shown in Figure 31.
4. Insert cap screw (3) through bracket and roller.
5. Secure with flanged lock nut (2). Do not over-tighten; roller must spin freely.

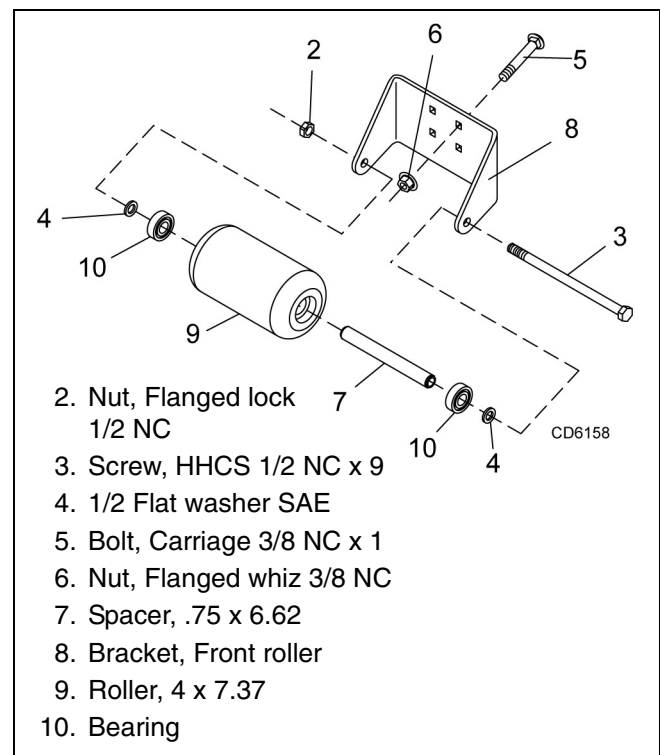


Figure 31. Front Roller Installation

## Quick Hitch Kit Installation (Optional) 5WP1005400

See Figure 32.

**NOTE:** This kit allows mower to fit only Cat. 1 standard ASAE quick hitch.

1. Attach offset link (1) to mounting pins, using 7/8" sleeve (8) and flat washer (9). Do not tighten hardware.
2. Attach upper end of offset link to pivot link, using flat washer (5), sleeves (6 & 10), flange lock nut (7), and 1/2" x 4-3/4" cap screw (4).

3. Remove rear offset links and replace with chains (2). Cut to required length.
4. Attach chain to top of A-frame as shown, using cap screw (4), flat washer (5), and nut.
5. Attach opposite end of chain (2) to rear mower frame as shown.
6. Cut chain to 37.5" in length. Vary length slightly as desired. Twist chain to make finite adjustments in length until unit lifts level.

**NOTE:** Do not bottom out the drive on front of deck.

7. Install sleeve (3) on mounting pins and retain with klik pin.

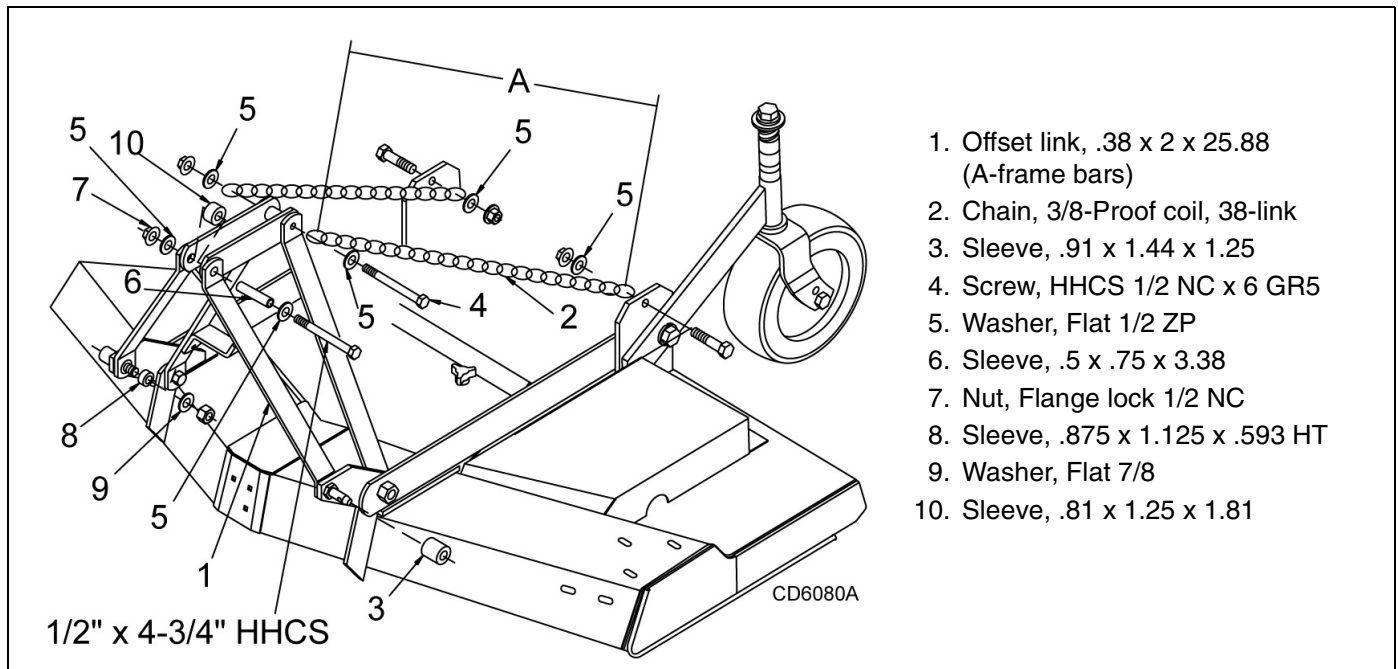


Figure 32. Quick Hitch Kit Installation (Optional)



# DEALER CHECK LISTS

## PRE-DELIVERY CHECK LIST

(DEALER'S RESPONSIBILITY)

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

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

- \_\_\_ Check that all safety decals are installed and in good condition. Replace if damaged.
- \_\_\_ Check that shields and guards are properly installed and in good condition. Replace if damaged.
- \_\_\_ Check all bolts to be sure they are properly torqued.
- \_\_\_ Check that all cotter pins and safety pins are properly installed. Replace if damaged.
- \_\_\_ Check and grease all lubrication points as identified in Lubrication Information on page 14.
- \_\_\_ Gearboxes are not filled at the factory. Prior to delivery, fill as specified in the Lubrication Information on page 14 and check to see that there are no leaking seals.
- \_\_\_ Check that blades have been properly installed.

## DELIVERY CHECK LIST

(DEALER'S RESPONSIBILITY)

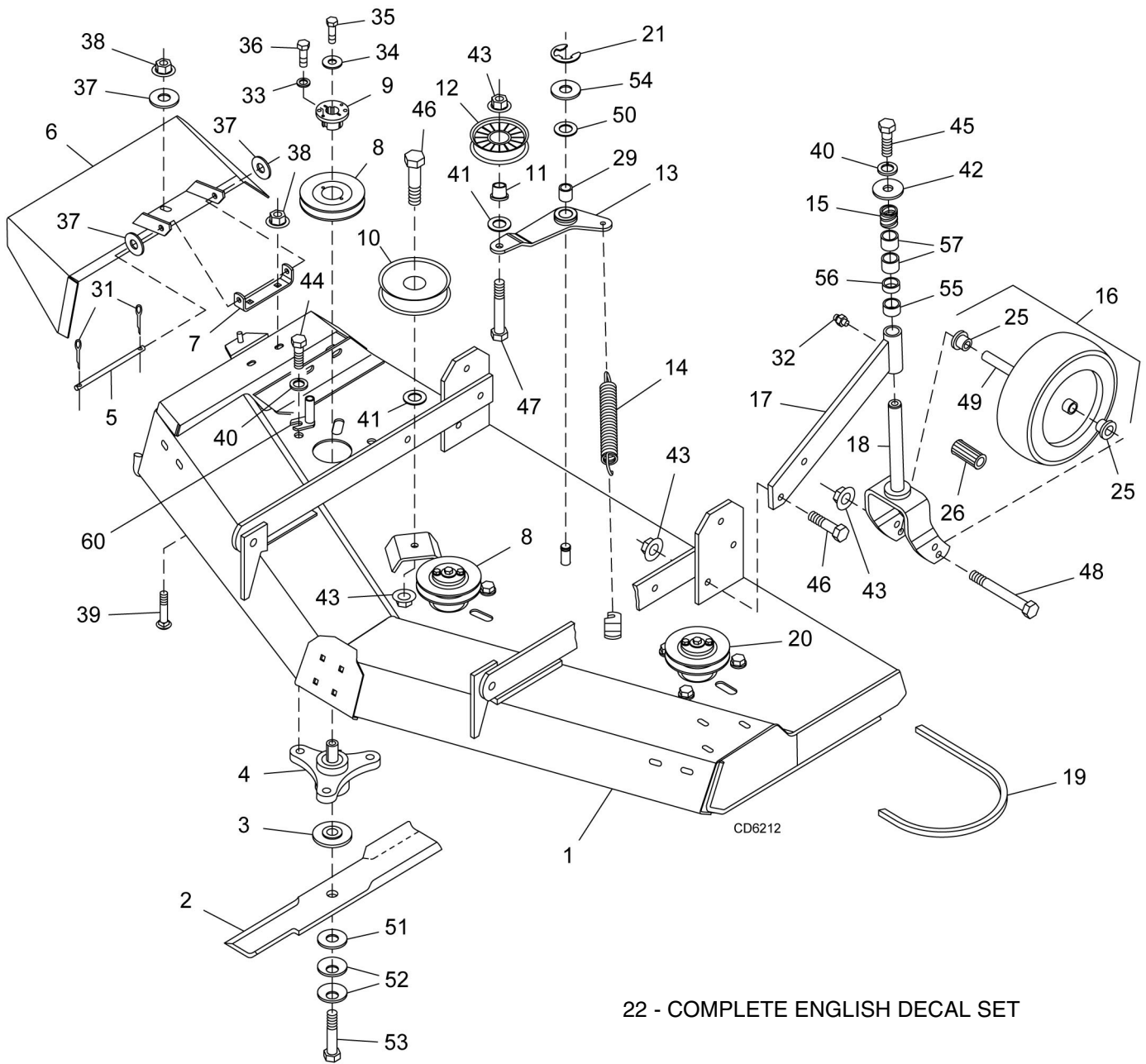
- \_\_\_ Show customer how to make adjustments and select proper PTO speed.
- \_\_\_ Instruct customer how to lubricate and explain importance of lubrication.
- \_\_\_ Point out the safety decals. Explain their meaning and the need to keep them in place and in good condition. Emphasize the increased safety hazards when instructions are not followed.
- \_\_\_ Present Operator's Manual and request that customer and all operators read it before operating equipment. Point out the manual safety rules, explain their meanings and emphasize the increased safety hazards that exist when safety rules are not followed.
- \_\_\_ Show customer how to make sure driveline is properly installed and that spring-activated locking pin or collar slides freely and is seated in groove on tractor PTO shaft.
- \_\_\_ Show customer the safe, proper procedures to be used when mounting, dismounting, and storing equipment.
- \_\_\_ Explain to customer the potential crushing hazards of going underneath raised equipment. Instruct that before going underneath to disconnect the driveline, securely block up all corners with jack stands and to follow all instructions in the Blocking Methods section of the operators manual. Explain that blocking up prevents equipment dropping from hydraulic leak down, hydraulic system failures or mechanical component failures.
- \_\_\_ For mounted units, add wheel weights, ballast in front tires, and/or front tractor weight to enhance front end stability. A minimum 20% of tractor and equipment gross weight must be on front tractor wheels. When adding weight to attain 20% of tractor and equipment weight on front tractor wheels, you must not exceed the ROPS weight certification. Weigh the tractor and equipment. Do not estimate!
- \_\_\_ Make customer aware of optional equipment available so that customer can make proper choices as required.
- \_\_\_ Point out all guards and shields. Explain their importance and the safety hazards that exist when not kept in place and in good condition.



**Side Discharge  
Grooming Mowers:  
GM1060  
GM1072**

MAIN FRAME ASSEMBLY	
GM1060 .....	34 - 35
GM1072 .....	36 - 37
MOUNTING ASSEMBLY .....	38 - 39
GEARBOX ASSEMBLY .....	40
DRIVESHAFT ASSEMBLY (WALTERSCHEID TWO-LOBE) .....	41
DRIVESHAFT ASSEMBLY (COMER) .....	42
BLADE & SPINDLE ASSEMBLIES .....	43
FRONT GAUGE WHEEL .....	44
FRONT ROLLER ASSEMBLY (OPTIONAL) .....	45
QUICK HITCH KIT (OPTIONAL) .....	45

# GM1060 MAIN FRAME ASSEMBLY



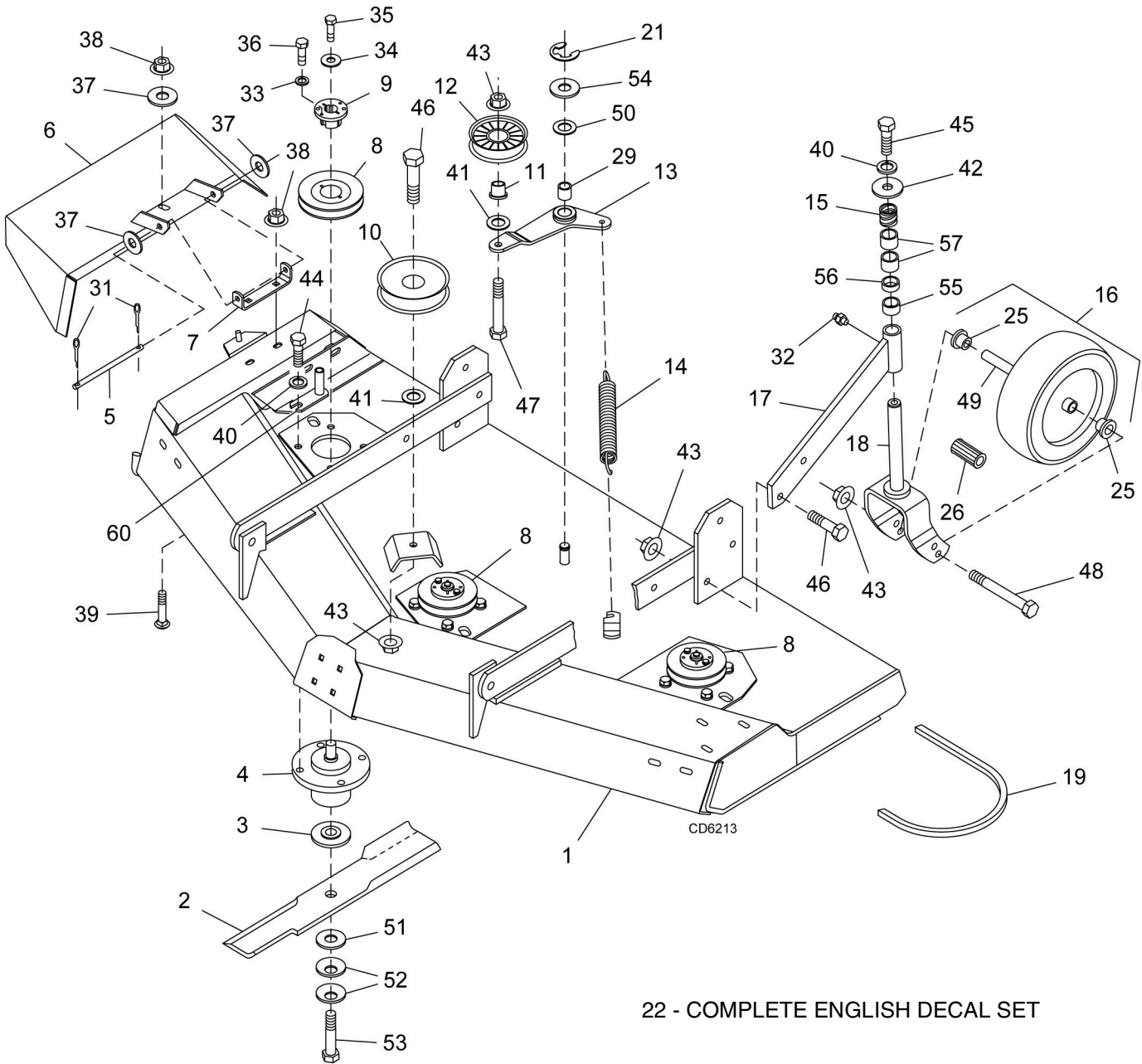
**34 Parts**

5WPMAN0242 (Rev. 7/21/2008)

## GM1060 MAIN FRAME ASSEMBLY PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1		1	Main Frame (not sold separately)	29	5WP35145	1	Bushing, Oilite .75 x 1.00 x 1.0
2	5WP34615KT	3	Blade Kit, High Suction 20.75" Standard	31		*	Pin, Cotter 3/16 x 1
	<b>-or-</b>	<b>-or-</b>		32		*	Grease Fitting, 1/4-28 x 15/32" long
2	5WP18881KT	3	Blade Kit, Medium Suction 20.75" Optional	33		*	Washer, Lock 1/4
3	5WP33736	3	Washer, Shoulder .63 x 3.00 x .44	34	5WP32806		Washer, Flat .25 x .88 x 7 Ga
4	5WP67285	3	Spindle, Assembly Complete (see page 43 for breakdown)	35		*	Screw, HHCS 1/4 NC x 3/4 GR5
5	5WP11760	1	Pin, Headless .38 x 7.25	36		*	Screw, HHCS, 1/4 NC x 1 GR5
6	5WP66866	1	Discharge Chute	37		*	Washer, Flat Standard 3/8
7	5WP66865	1	Bracket, Discharge Chute	38	5WP14350		Nut, Flanged Lock 3/8 NC
8	5WP33705	2	Sheave, H 1 BK 4.6 PD	39		*	Bolt, Carriage 3/8 NC x 3/4 GR2
9	5WP34756	3	Bushing, H 3/4 In Strt Bore w/Key (includes items 33 & 36)	40		*	Washer, Lock 1/2
10	5WP53595	1	Idler, Flat 5.0 Dia.	41	5WP31983		Washer, Shim .50 x .88 x 18 Ga
11	5WP67284	1	Sleeve, Shoulder .5 x .9 x .76	42	5WP33677		Washer, Flat .50 x 1.56 x 10 Ga
12	5WP67282	1	Idler, Flat 4.5 Dia.	43	5WP11900		Nut, Flanged Lock 1/2 NC
13	5WP51766	1	Idler Arm w/Bushing (item 29)	44	5WP4119		Screw, HHCS 1/2 NF x 1 GR5
14	5WP67131	1	Spring, Ext .177 x 1.22 x 9.88	45		*	Screw, HHCS 1/2 NC x 1-1/4 GR5
15	5WP67407	2	Spring, Comp 1.40 x .19 x 2.1, 257	46		*	Screw, HHCS 1/2 NC x 1-3/4 GR5
16	5WP18989	2	Wheel, 10 in. HD w/Brg & Slv Gray (includes items 25, 26 & 49)	47		*	Screw, HHCS 1/2 NC x 2-1/4 GR5
	<b>-or-</b>	<b>-or-</b>		48		*	Screw, HHCS 1/2 NC x 5 GR5 (for solid tire)
16	5WP19754	2	Wheel, 10 in. Pneumatic w/Brg & Slv Gray (includes items 25, 26 & 49)	48		<b>-or-</b>	<b>-or-</b>
17	5WP67300	2	Caster Arm Asy (includes item 32)	49	5WP29368		Screw, HHCS 1/2 x 5-1/2 GR5 (Pneumatic)
18	5WP67318	2	Caster Shaft & Yoke Asy (for heavy-duty wheel)	49		<b>-or-</b>	<b>-or-</b>
	<b>-or-</b>	<b>-or-</b>		49	5WP19749		Sleeve, .50 x .75 x 4.13 (Pneumatic)
18	5WP19747	2	Caster Shaft & Yoke Asy (for pneumatic wheel)	50	5WP22060		Seal, Felt .63 x 1.00 x .25
19	5WP20644	1	V-Belt W96	51		*	Washer, Flat Standard 5/8
20	5WP66694	1	Sheave, H 1 BK 4.17 PD	52	5WP10635		Washer, Cup .63 x 1.75 x 14 Ga
21	5WP35139	1	Ring Retaining Ext. 0.50 x .75	53	5WP34582		Screw, HHCS Nylok 5/8 NC x 2 GR5
22	5WP20657	1	Complete Decal Set	54	5WP24741		Washer, Flat .75 x 2.00 x 16 Ga
25	5WP65577	4	Bearing, Flngd Whl .75 x 1.415	55	5WP65129		Sleeve, 1.05 x 1.31 x .50
26	5WP34466	2	Bearing, Roller .75 x 1.38 x 1.5 (for heavy-duty wheel)	56	5WP33647		Sleeve, 1.05 x 1.31 x .75
	<b>-or-</b>	<b>-or-</b>		57	5WP65130		Sleeve, 1.05 x 1.31 x 1.00
26	5WP19756	2	Bearing, Roller .75 x 1.38 x 2.5 (for pneumatic wheel)	60	5WP15855	1	Guide, Belt .91 x 2.3
						*	Standard Hardware, Obtain Locally

# GM1072 MAIN FRAME ASSEMBLY



22 - COMPLETE ENGLISH DECAL SET

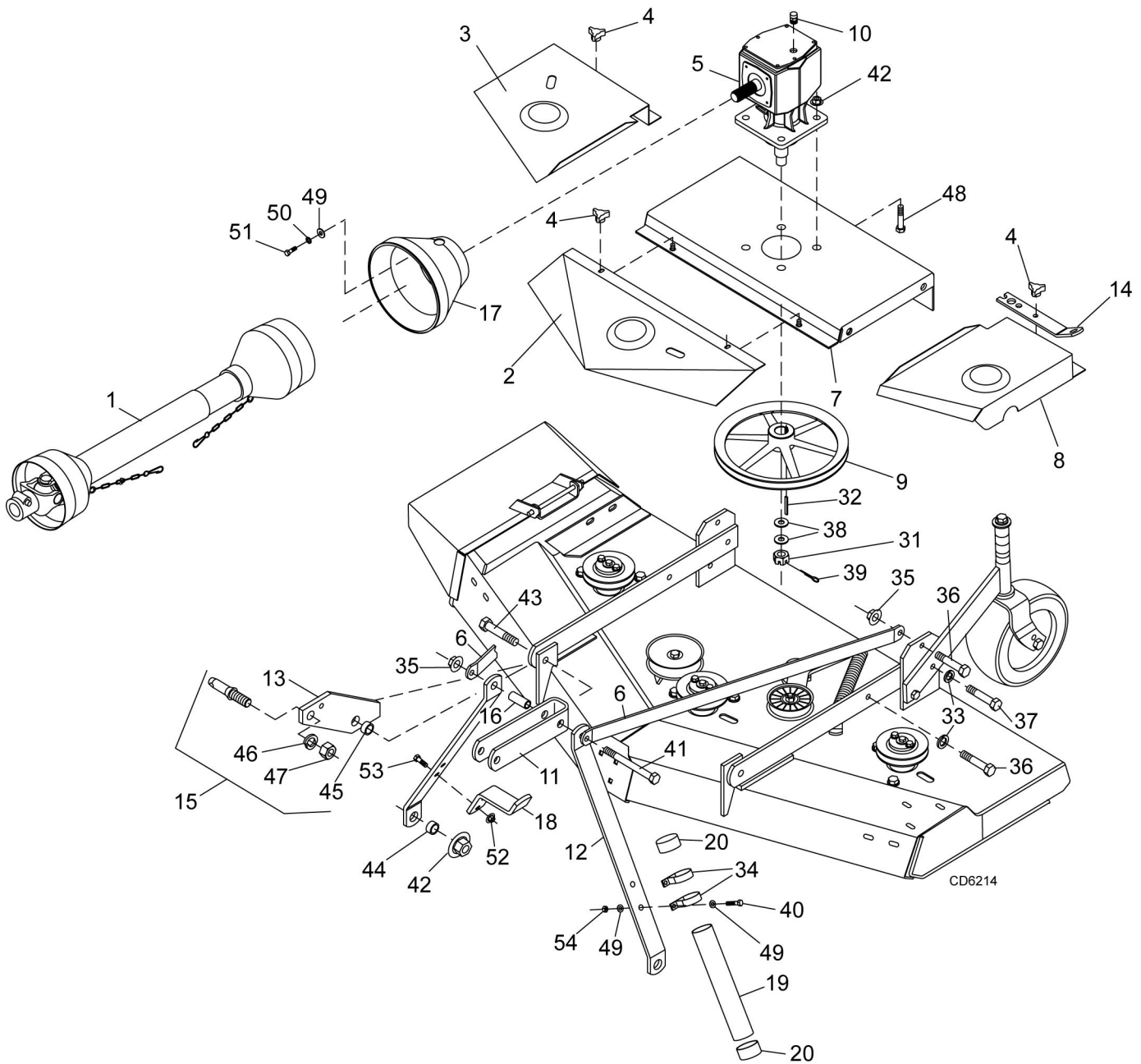
**36 Parts**

5WPMAN0242 (Rev. 7/21/2008)

## GM1072 MAIN FRAME ASSEMBLY PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1		1	Main Frame (not sold separately)	29	5WP35145	1	Bushing, Oilite .75 x 1.00 x 1.00
2	5WP15127KT	3	Blade Kit, High Suction 24.66" Standard	31		*	Pin, Cotter 3/16 x 1
	<b>-or-</b>	<b>-or-</b>		32		*	Grease Fitting 1/4-28, 15/32" Long
2	5WP18884KT	3	Blade Kit, Medium Suction 24.66" Optional	33		*	Washer, Lock 1/4
3	5WP33736	3	Washer, Shoulder .63 x 3.00 x .44	34	5WP32806		Washer, Flat .25 x .88 x 7 Ga
4	5WP18844	3	Spindle, Assembly Complete (see page 43 for breakdown)	35		*	Screw, HHCS 1/4 NC x 3/4 GR5
5	5WP11760	1	Pin, Headless .38 x 7.25	36		*	Screw, HHCS 1/4 NC x 1 GR5
6	5WP18857	1	Discharge Chute	37		*	Washer, Flat 3/8 Standard
7	5WP66865	1	Bracket, Discharge Chute	38	5WP14350		Nut, Flanged Lock 3/8 NC
8	5WP12622	3	Sheave, H 1 BK 5.0 PD	39		*	Bolt, Carriage 3/8 NC x 3/4 GR2
9	5WP34756	3	Bushing, H 3/4 in Strt Bore w/Key (includes items 33 & 36)	40		*	Washer, Lock 1/2
10	5WP53595	1	Idler, Flat 5.0 Dia	41	5WP31983		Washer, Shim .50 x .88 x 18 Ga
11	5WP67284	1	Sleeve, Shoulder .5 x .9 x .76	42	5WP33677		Washer, Flat .50 x 1.56 x 10 Ga
12	5WP67283	1	Idler, Flat 5.5 Dia	43	5WP11900		Nut, Flanged Lock 1/2 NC
13	5WP51766	1	Idler Arm w/Bushing (item 29)	44	5WP4358		Screw, HHCS 1/2 NF x 1-1/4 GR5
14	5WP67131	1	Spring, Ext. .177 x 1.22 x 9.88	45		*	Screw, HHCS 1/2 NC x 1-1/4 GR5
15	5WP67407	2	Spring, Comp 1.40 x .19 x 2.1, 257	46		*	Screw, HHCS 1/2 NC x 1-3/4 GR5
16	5WP18989	2	Wheel, 10 In HD w/Brg & Slv, Gray (includes items 25, 26 & 49)	47		*	Screw, HHCS 1/2 NC x 2-1/4 GR5
	<b>-or-</b>	<b>-or-</b>		48		*	Screw, HHCS 1/2 NC x 5 GR5
16	5WP19754	2	Wheel, 10 in. Pneumatic w/Brg & Slv Gray (includes items 25, 26 & 49)	48		*	Screw, HHCS 1/2 NC x 5 GR5 (for solid tire)
17	5WP18826	2	Caster Arm Asy (includes item 32)		<b>-or-</b>	<b>-or-</b>	
18	5WP67318	2	Caster Shaft & Yoke Asy (for heavy-duty wheel)	48		*	Screw, HHCS 1/2 x 5-1/2 GR5 (Pneumatic)
	<b>-or-</b>	<b>-or-</b>		49	5WP29368		Sleeve, .50 x .75 x 3.38 (for solid tire)
18	5WP19747	2	Caster Shaft & Yoke Asy (for pneumatic wheel)		<b>-or-</b>	<b>-or-</b>	
19	5WP18879	1	V-Belt W112	49	5WP19749		Sleeve, .50 x .75 x 4.13 (Pneumatic)
21	5WP35139	1	Ring, Retaining Ext. .050 x .75	50	5WP22060		Seal, Felt .63 x 1.00 x .25
22	5WP20657	1	Complete Decal Set	51		*	Washer, Flat 5/8 Standard
25	5WP65577	4	Bearing, Flngd Whl .75 x 1.415	52	5WP10635		Washer, Cup .63 x 1.75 x 14 Ga
26	5WP34466	2	Bearing, Roller .75 x 1.38 x 1.5 (for heavy-duty wheel)	53	5WP34582		Screw, HHCS Nylok 5/8 NC x 2 GR5
	<b>-or-</b>	<b>-or-</b>		54	5WP24741		Washer, Flat .75 x 2.00 x 16 Ga
26	5WP19756	2	Bearing, Roller .75 x 1.38 x 2.5 (for pneumatic wheel)	55	5WP65129		Sleeve, 1.05 x 1.31 x .50
				56	5WP33647		Sleeve, 1.05 x 1.31 x .75
				57	5WP65130		Sleeve, 1.05 x 1.31 x 1.00
				60	5WP53567	1	Guide, Belt 8 Ga Formed
						*	Standard Hardware, Obtain Locally

# GM1060 & GM1072 MOUNTING ASSEMBLY



CD6214

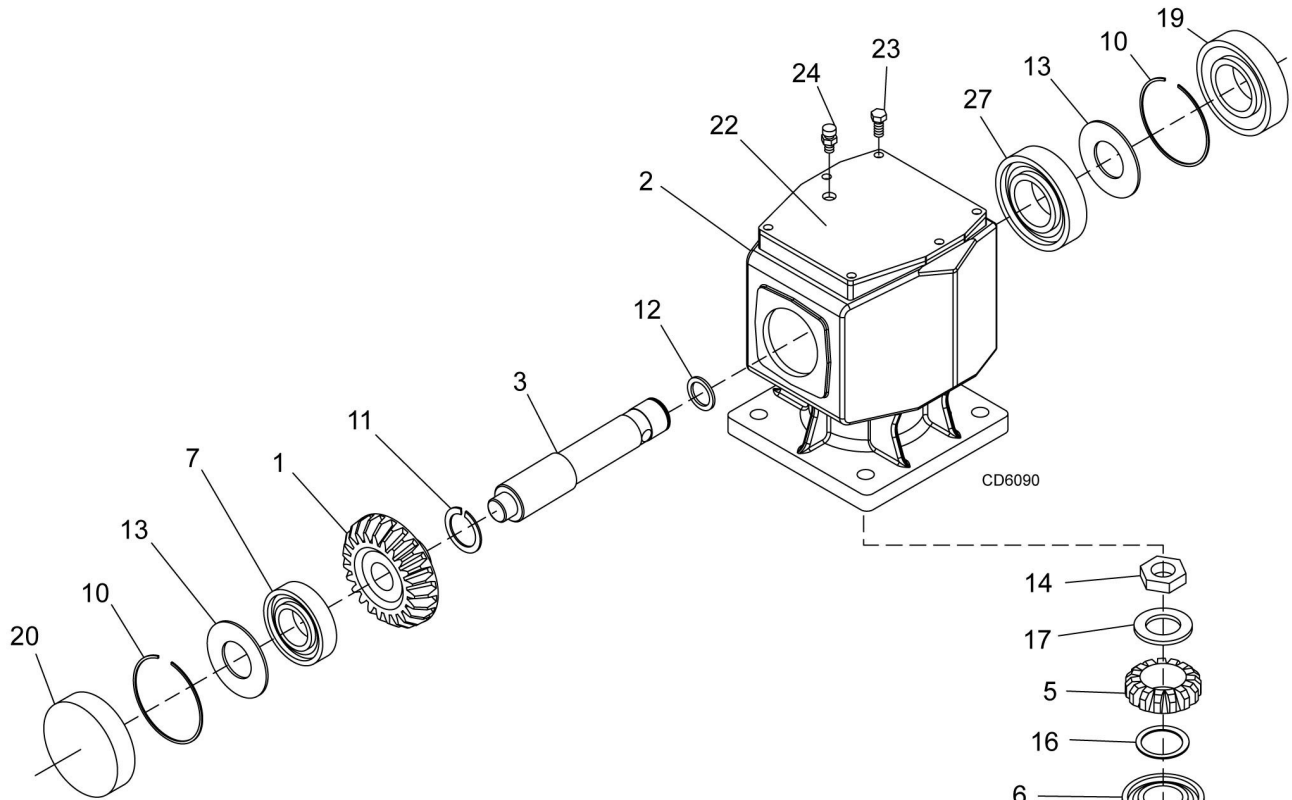
**38 Parts**

5WPMAN0242 (Rev. 7/21/2008)

## GM1060 & GM1072 MOUNTING ASSEMBLY PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1		1	Front and Rear Drives (see pages 41 & 42 for breakdown)	20	5WP1004657	2	Manual Tube Cap
2	5WP20633	1	Shield, Front Belt <b>GM1060 Only</b>	31	5WP51946		Nut, Castle M24 x 2
	<b>-or-</b>	<b>-or-</b>		32	5WP29792		Key, 1/4 x 1/4 x 1-1/4
2	5WP18851	1	Shield, Front Belt <b>GM1072 Only</b>	33		*	Washer, Lock 1/2
3	5WP20634	1	Shield, Right Belt <b>GM1060 Only</b>	34	5WP1004695		Clamp, 1.94
	<b>-or-</b>	<b>-or-</b>		35	5WP11900		Nut, Flngd Lock 1/2 NC
3	5WP18852	1	Shield, Right Belt <b>GM1072 Only</b>	36		*	Screw, HHCS 1/2 NC x 1-3/4 GR5
4	5WP66840	4	Knob, 3-Prong 3/8 NC	37		*	Screw, HHCS 1/2 NC x 2-1/4 GR5
5	5WP1002499	1	Gearbox, CW 1:1.92 (See page 40)	38	5WP20893		Washer, 25 mm x 44 mm x 4 mm
6	5WP19056	2	Link, Rear Offset	39		*	Pin, Cotter 3/16 x 2
7	5WP65195	1	Gearbox Stand	40		*	Screw, HHCS 5/16 NC x 1 GR5
8	5WP20635	1	Shield, Left Belt <b>GM1060 Only</b>	41		*	Screw, HHCS 1/2 NC x 4-3/4 GR5
	<b>-or-</b>	<b>-or-</b>		42	5WP19025		Nut, Flanged Lock 5/8 NC
8	5WP18853	1	Shield, Left Belt <b>GM1072 Only</b>	43		*	Screw, HHCS 5/8 NC x 3 GR5
9	5WP65197	1	Sheave, Offset 12.4 PD	44	5WP484		Sleeve, HT .63 x 1.00 x .44
10	5WP57076	1	Breather	45	5WP1791		Sleeve, HT .63 x 1.00 x .56
11	5WP19605	1	Link, U-Bracket	46		*	Washer, Lock 7/8
12	5WP19579	2	Link, Front Offset	47		*	Nut, Hex 7/8 NF
13	5WP67310	2	Bracket, Hitch Pin <b>GM1060 Only</b>	48	5WP19024		Screw, Flanged Hex Head 5/8 NC x 1-3/4
	<b>-or-</b>	<b>-or-</b>		49		*	Washer, Flat 5/16 Standard
13	5WP18824	2	Bracket, Hitch Pin <b>GM1072 Only</b>	50		*	Washer, Lock 5/16
14	5WP20669	1	Wrench, Blade Spindle	51	5WP39254		Screw, HHCS M8 x 1.25 x 16 mm
15	5WP33661	2	Pin, Mounting Category 1 w/Nut & Lock Washer	52	5WP14350		Nut, Flngd Lock 3/8 NC
16	5WP64814	1	Sleeve, .62 x .84 x 2.75	53		*	Screw, HHCS 3/8 NC x 1-1/4 GR5
17	5WP51849	1	Shield, Counter Cone	54		*	Nut, Lock 5/16 NC
18	5WP52893	1	Bracket, PTO Hanger			*	Standard Hardware, Obtain Locally
19	5WP1004656	1	Manual Tube - PVC				

# GM1060 & GM1072 GEARBOX ASSEMBLY



REF	PART	QTY	DESCRIPTION
A	5WP1002499	1	Gearbox Asy Complete
1	5WP57458	1	Gear Crown Z25 M5.3
2	NS	1	Gearbox Housing
3	5WP1005320	1	Shaft, Input 1-3/8 -6
4	5WP1005321	1	Shaft, Output 1-1/4
5	5WP57491	1	Pinion Gear Z13 M5.3
6	5WP57476	1	Bearing
7	5WP57462	1	Bearing
8	5WP20888	1	Washer, Protective Flat
9	*	1	Pin, Cotter B4 x 50
10	5WP57466	2	Snap Ring
11	5WP57467	1	Snap Ring
12	5WP57373	1	Spacer 35.5 x 48 x 2.5
13	5WP57328	2	Kit, Shim 60.3 x 71.6
14	5WP57468	1	Nut, Castle
15	5WP51946	1	Nut, Castle M24 x 2
16	5WP57328	1	Kit, Shim 30.3 x 44
17	5WP57473	1	Washer, Flat
18	5WP20900	1	Seal, Oil 40 x 80 x 12
19	5WP57463	1	Seal, Oil 35 x 72 x 10
20	5WP57374	1	Cap
21	5WP20897	1	Snap Ring

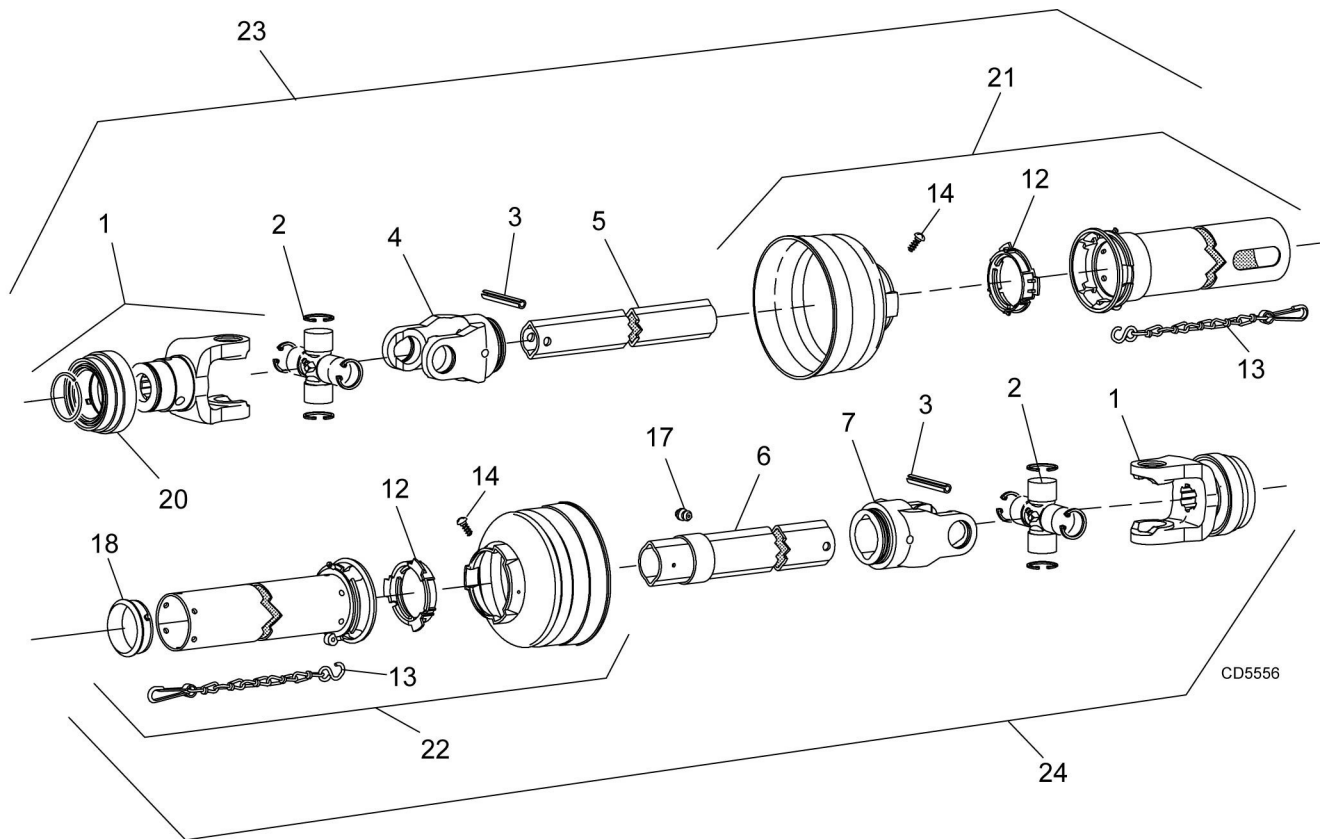
REF	PART	QTY	DESCRIPTION
22	5WP1005322	1	Cover, Top
23	*	6	Bolt 8 mm x 14 mm
24	5WP57076	1	Plug, Breather Level
25	*	1	Pin, Cotter 5 x 50
26	5WP57478	1	Bearing
27	5WP20890	1	Bearing, Ball
	NS		Not Serviced
	*		Standard Hardware - Obtain Locally

**40 Parts**

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## GM1060 & GM1072 DRIVESHAFT WALTERSCHEID (TWO-LOBE SHAFT)



NOTE: EXAMINE THE DRIVELINE PROFILE TO DETERMINE THE CORRECT REPAIR PARTS FOR THE UNIT

WALTERSCHEID  
PROFILE

COMER  
PROFILE



PG 41

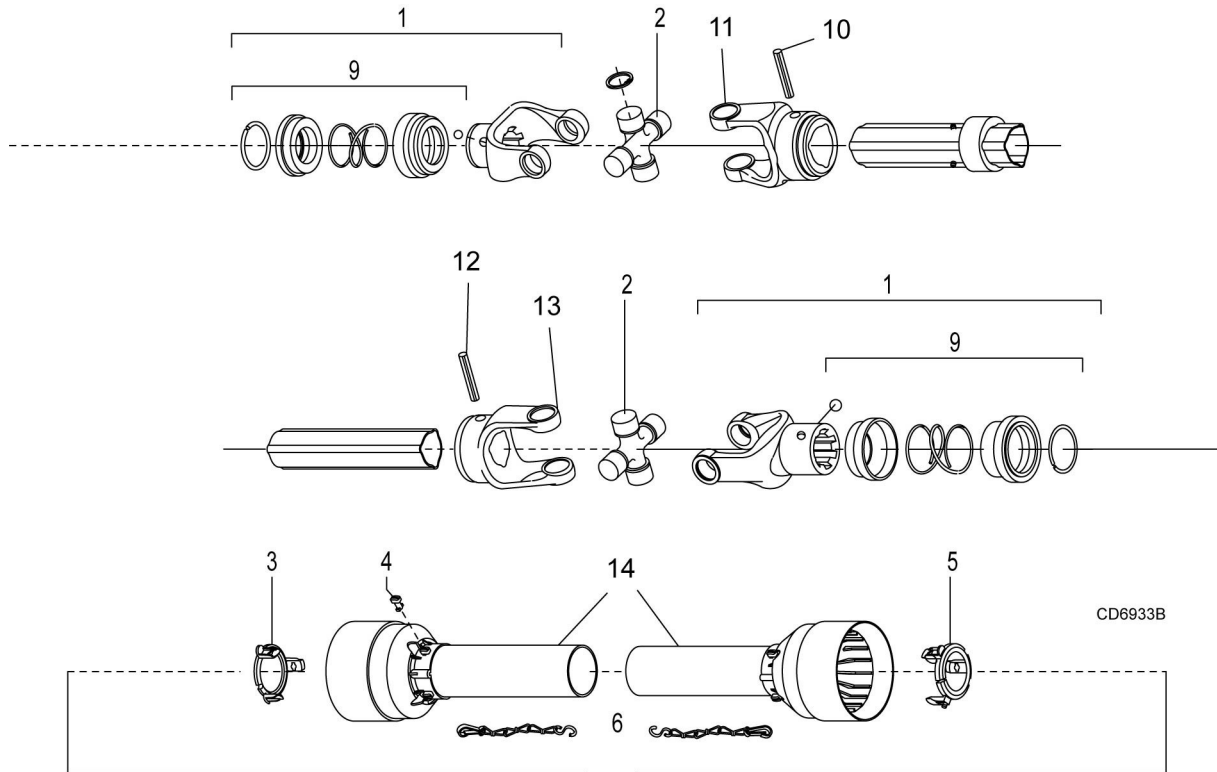


PG 42

REF	PART	QTY	DESCRIPTION
A	5WP40551	1	Complete Drive Shaft
1	5WP40571	2	Yoke, 1-3/8-6 Spline QD
2	5WP154	2	U-Joint Repair Kit L14R
3	5WP40775	2	Pin, Spring 10 mm x 65 mm
4	5WP40572	1	Yoke, Inner Profile
5	5WP40583	1	Drive Tube, Inner Profile
6	5WP40584	1	Drive Tube, Outer Profile
7	5WP40573	1	Yoke, Outer Profile
12	5WP40776	2	Bearing Ring, Guard
13	5WP40777	2	Chain, Guard Anti-Rotation
14	5WP40778	2	Screw, Guard Retainer

REF	PART	QTY	DESCRIPTION
17	5WP40779	1	Grease Zerk, Drive Line
18	5WP40780	1	Bearing, Guard Support
20	5WP40589	2	Slide Lock Collar Repair Kit (without yoke)
21	5WP40585	1	Guard, Outer Half (also includes items 12, 13, & 14)
22	5WP40586	1	Guard, Inner Half (also includes items 12, 13, 14, & 18)
23	5WP40581	1	Drive, Inner Half Complete
24	5WP40582	1	Drive, Outer Half Complete

## GM1060 & GM1072 DRIVESHAFT COMER



NOTE: EXAMINE THE DRIVELINE PROFILE TO DETERMINE THE CORRECT REPAIR PARTS FOR THE UNIT

WALTERSCHEID  
PROFILE



PG 41

COMER  
PROFILE



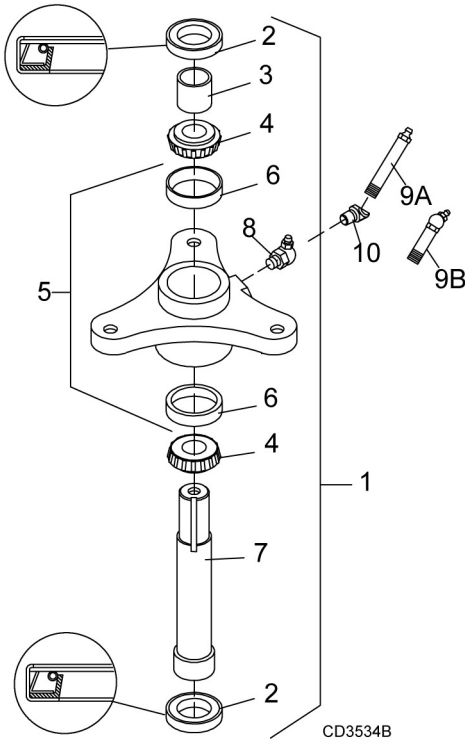
PG 42

REF	PART	QTY	DESCRIPTION
A	5WP1009508	1	Complete driveline asy
1	5WP1001300	2	Complete collar yoke C12 1-3/8 - 6
2	5WP38478	2	Cross and bearing kit
3	5WP1019442	1	Outer cone fix ring
4	5WP30922	6	Protection fixing screw
5	5WP1019444	1	Inner cone fix ring
6	5WP30917	2	Chain-shield tether
9	5WP1001340	1	Lock collar repair kit
10	5WP1001302	1	Flexible pin
11	5WP1001301	1	Outer yoke tube
12	5WP1001305	1	Flexible pin
13	5WP1001306	1	Inner tube yoke
14	5WP1021323	1	Complete shield

# 42 Parts

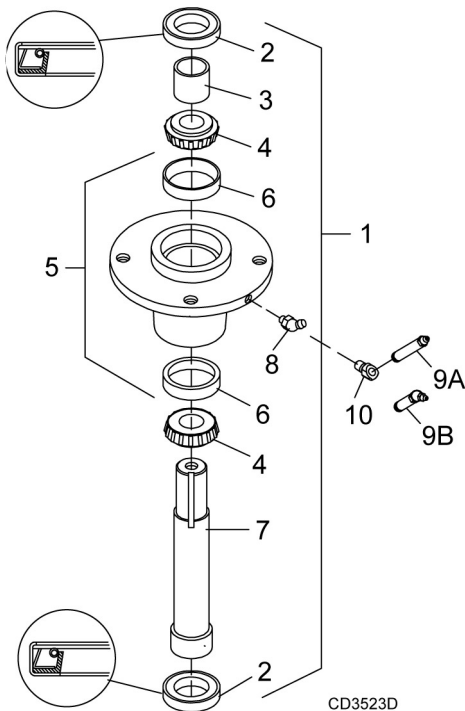
5WPMAN0242 (Rev. 7/21/2008)

## GM1060 BLADE SPINDLE ASSEMBLY



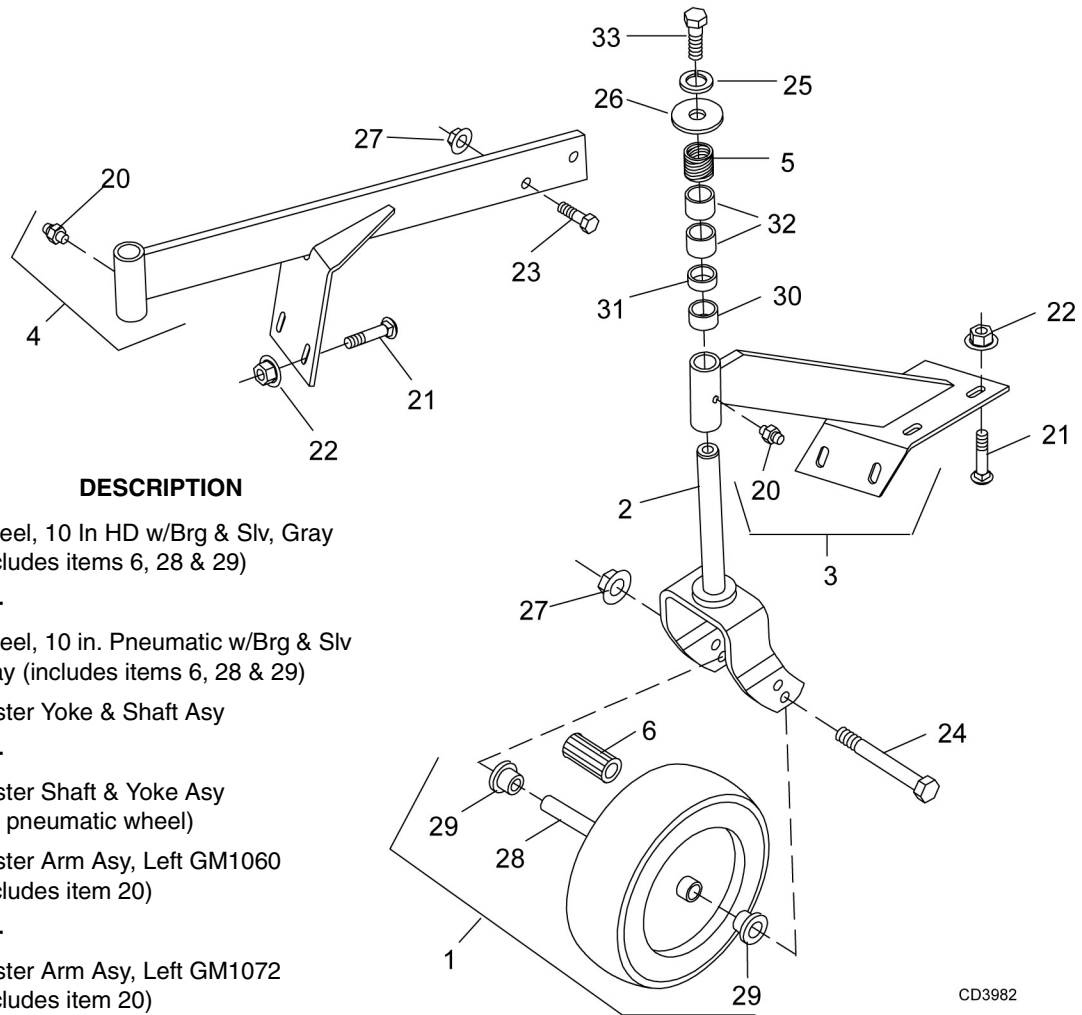
REF	PART	QTY	DESCRIPTION
1	5WP67285	--	Spindle Assembly Complete (includes items 2-8)
2	5WP66755	2	Seal, 1.06 x 2.00 x .25
3	5WP67287	1	Sleeve, .84 x 1.06 x 1.125
4	5WP4107	2	Bearing, Cone
5	5WP66843	1	Spindle, Housing w/Cups
6	5WP4106	2	Bearing, Cup
7	5WP67286	1	Shaft, Blade Spindle
8	*	1	Grease Fitting, 1/8 Pipe Thread 45°
9A	5WP18960	1	Grease Fitting, 1/8 M PTF x 2.63
9B	5WP64440	1	Grease Fitting, 1/8 M PTF x 2.09 30°
10	5WP18959	1	Grease Fitting, 1/8 F x 1/8 M PTF 45°
			* Standard Hardware, Obtain Locally

## GM1072 BLADE SPINDLE ASSEMBLY



REF	PART	QTY	DESCRIPTION
1	5WP18844	--	Spindle, Assembly Complete (includes items 2-8)
2	5WP66755	2	Seal, 1.06 x 2.00 x .25
3	5WP18822	1	Sleeve, .84 x 1.06 x .812
4	5WP4107	2	Bearing, Cone
5	5WP18875	1	Spindle, Housing w/Cups (includes items 6 & 8)
6	5WP4106	2	Bearing, Cup
7	5WP67451	1	Shaft, Blade Spindle
8	*	1	Grease Fitting, 1/4 Tapered Thread
9A	5WP18962	1	Grease Fitting, 1/8 M PTF x 1.75
9B	5WP64440	1	Grease Fitting, 1/8 M PTF x 2.09 30°
10	5WP18961	1	Grease Fitting, 1/8 F x 1/4-28 M 45°
			* Standard Hardware, Obtain Locally

## GM1060 & GM1072 FRONT GAUGE WHEEL



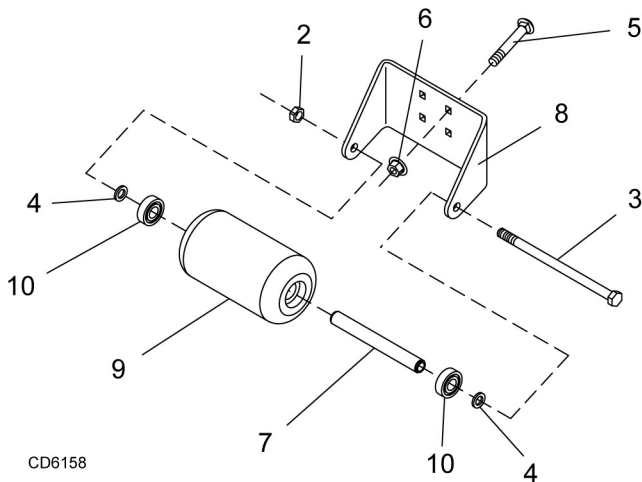
REF	PART	QTY	DESCRIPTION
1	5WP18989	2	Wheel, 10 In HD w/Brg & Slv, Gray (includes items 6, 28 & 29)
	-or-	-or-	
1	5WP19754	2	Wheel, 10 in. Pneumatic w/Brg & Slv Gray (includes items 6, 28 & 29)
2	5WP67318	2	Caster Yoke & Shaft Asy
	-or-	-or-	
2	5WP19747	2	Caster Shaft & Yoke Asy (for pneumatic wheel)
3	5WP67291	1	Caster Arm Asy, Left GM1060 (includes item 20)
	-or-	-or-	
3	5WP18828	1	Caster Arm Asy, Left GM1072 (includes item 20)
4	5WP67290	1	Caster Arm Asy, Right GM1060 (includes item 20)
	-or-	-or-	
4	5WP18832	1	Caster Arm Asy, Right GM1072 (includes item 20)
5	5WP67407	2	Spring, Compression
6	5WP34466	2	Bearing, Roller .75 x 1.38 x 1.5 (for heavy-duty wheel)
	-or-	-or-	
6	5WP19756	2	Bearing, Roller .75 x 1.38 x 2.5 (for pneumatic wheel)
20		*	Grease Fitting, 1/4-28, 15/32" long
21		*	Bolt, Carriage 3/8 NC x 1 GR5
22	5WP14350		Nut, Flanged Lock 3/8 NC
23		*	Screw, HHCS 1/2 NC x 1-1/2 GR5
24		*	Screw, HHCS 1/2 NC x 5 GR5 (for solid tire)
	-or-	-or-	
24		*	Screw, HHCS 1/2 x 5-1/2 GR5 (Pneumatic)

REF	PART	QTY	DESCRIPTION
25		*	Washer, Lock 1/2
26	5WP33677		Washer, Flat .50 x 1.56 x 10 Ga
27	5WP11900		Nut, Flanged Lock 1/2 NC
28	5WP29368		Sleeve, .50 x .75 x 3.38 (for solid tire)
	-or-	-or-	
28	5WP19749		Sleeve, .50 x .75 x 4.13 (Pneumatic)
29	5WP65577		Bearing, Flngd Whl .75 x 1.415
30	5WP65129		Sleeve, 1.05 x 1.31 x .50
31	5WP33647		Sleeve, 1.05 x 1.31 x .75
32	5WP65130		Sleeve, 1.05 x 1.31 x 1.00
33		*	Screw, HHCS 1/2 NC x 1-1/4 GR5
		*	Standard Hardware, Obtain Locally

# 44 Parts

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## GM1060 & GM1072 FRONT ROLLER ASSEMBLY (OPTIONAL)

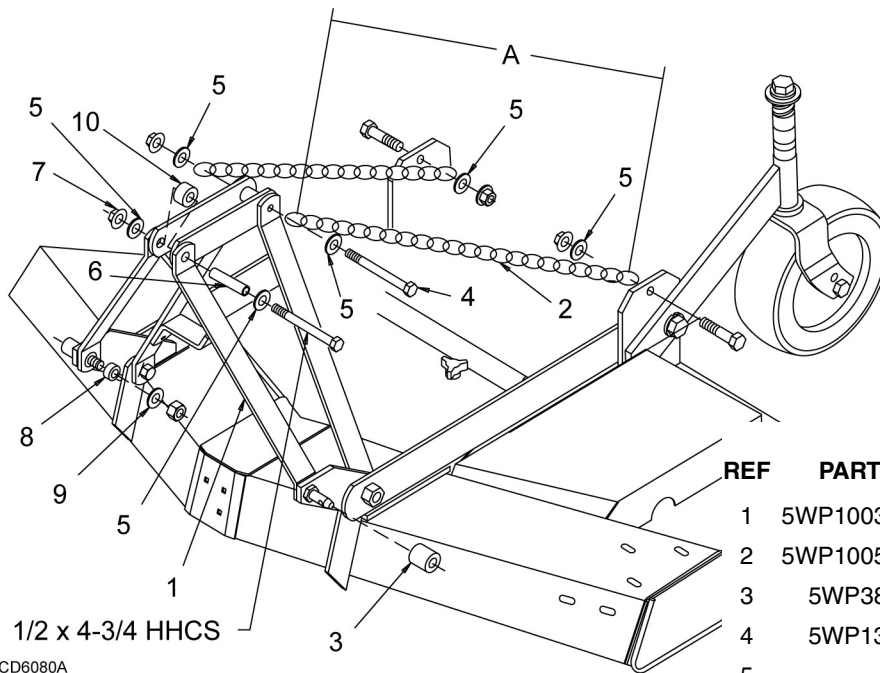


CD6158

REF	PART	QTY	DESCRIPTION
A	5WP1006425	1	Front roller kit, complete
2	5WP11900*	1	Nut, Flanged lock 1/2 NC
3	5WP38107	1	Screw, HHCS 1/2 NC x 9
4	*	2	1/2 Flat washer SAE
5	*	4	Bolt, Carriage 3/8 NC x 1
6	5WP70069	4	Nut, Flanged whiz 3/8 NC
7	5WP1006420	1	Spacer, .75 x 6.62
8	5WP1006424	1	Bracket, front roller
9	5WP1006418	1	Roller, 4 x 7.37
10	5WP35193	2	Bearing

\* Standard Hardware, Obtain Locally

## QUICK HITCH KIT (OPTIONAL) - 5WP1005400



CD6080A

REF	PART	QTY	DESCRIPTION
1	5WP1003692	2	Link, Offset .38 x 2.0 x 15
2	5WP1005401	2	Chain 3/8 Prf Coil 38 Link
3	5WP38214	2	Sleeve, .91 x 1.44 x 1.25
4	5WP13563	1	Screw, HHCS 1/2 NC x 6 GR5
5	*	6	Washer, Flat 1/2 ZP
6	5WP29368	1	Sleeve, .50 x .75 x 3.38
7	5WP11900	1	Nut, Flange Lock 1/2 NC
8	5WP29281	2	Sleeve, 7/8 x 1-1/8 x 19/32 HT
9	*	2	Washer, Flat 7/8
10	5WP1003614	1	Sleeve, .81 x 1.25 x 1.81

\* Standard Hardware, Obtain Locally

# BOLT TORQUE CHART

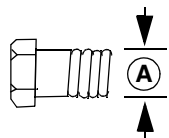
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

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

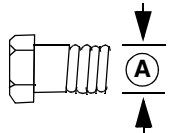


SAE Grade 5  
(3 Radial Dashes)



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



Metric  
Grade 8.8

Metric Bolt Head Identification

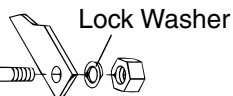


Metric  
Grade 10.9

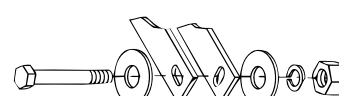
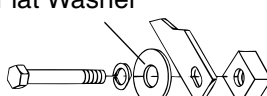
Ⓐ Diameter & Thread Pitch (Millimeters)	Wrench Size	COARSE THREAD				FINE THREAD				Ⓐ Diameter & Thread Pitch (Millimeters)
		MARKING ON HEAD								
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9		
		N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	
6 x 1.0	10 mm	8	6	11	8	8	6	11	8	6 x 1.0
8 x 1.25	13 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

Bolt



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.

## SAE Bolt Thread Sizes

5/16

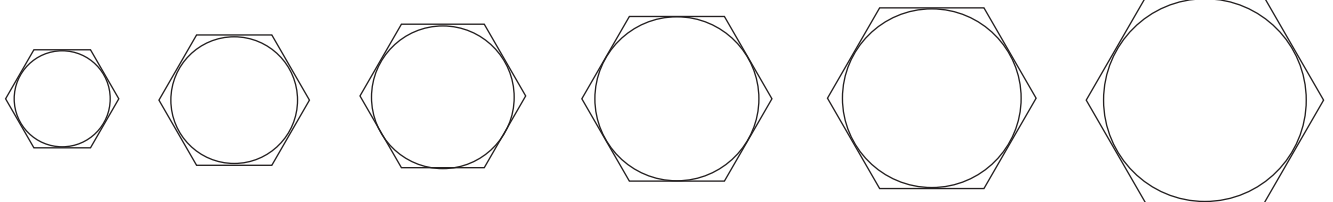
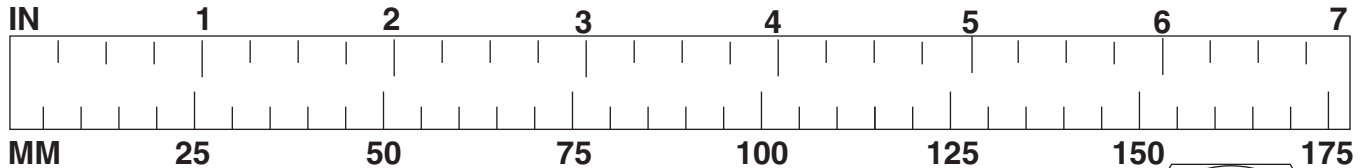
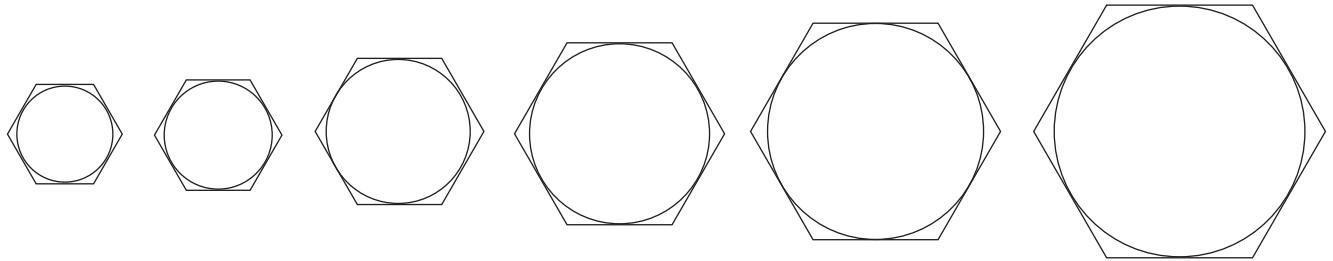
3/8

1/2

5/8

3/4

7/8



## Metric Bolt Thread Sizes

8MM

10MM

12MM

14MM

16MM

18MM

## ABBREVIATIONS

AG .....	Agriculture	MPa.....	Mega Pascal
ASABE.....	American Society of Agricultural & Biological Engineers (formerly ASAE)	N.....	Newton
ASAE .....	American Society of Agricultural Engineers	NC .....	National Coarse
ATF .....	Automatic Transmission Fluid	NF .....	National Fine
BSPP .....	British Standard Pipe Parallel	NPSM.....	National Pipe Straight Mechanical
BSPTM .....	British Standard Pipe Tapered Male	NPT .....	National Pipe Tapered
CV.....	Constant Velocity	NPT SWF .....	National Pipe Tapered Swivel Female
CCW .....	Counter-Clockwise	ORBM .....	O-Ring Boss - Male
CW.....	Clockwise	P.....	Pitch
F .....	Female	PBY .....	Power-Beyond
FT .....	Full Thread	psi.....	Pounds per Square Inch
GA .....	Gauge	PTO .....	Power Take Off
GR (5, etc.) .....	Grade (5, etc.)	QD.....	Quick Disconnect
HHCS .....	Hex Head Cap Screw	RH.....	Right Hand
HT.....	Heat-Treated	ROPS .....	Roll-Over Protective Structure
JIC .....	Joint Industry Council 37° Degree Flare	RPM .....	Revolutions Per Minute
LH.....	Left Hand	RT .....	Right
LT.....	Left	SAE .....	Society of Automotive Engineers
m.....	Meter	UNC .....	Unified Coarse
mm.....	Millimeter	UNF .....	Unified Fine
M.....	Male	UNS.....	Unified Special

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# NOTES



# WARRANTY

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.

The warranty periods for certain components are listed below:

Model No.	Part Warranted	Duration
GM1060, GM1072, GM1084, FM1012, FM1015, FM1017 and GM1190	Gearbox components	5 years from the date of delivery to the original purchaser
	Blade spindles	3 years from the date of delivery to the original purchaser
GM3054, GM3060, GM3072	Gearbox components	3 years from the date of delivery to the original purchaser (1 year if used in rental or commercial applications)

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.

For warranty services contact your selling dealer.





## WARRANTY for Replacement Parts

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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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, service person, 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.

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**PART NUMBER**  
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