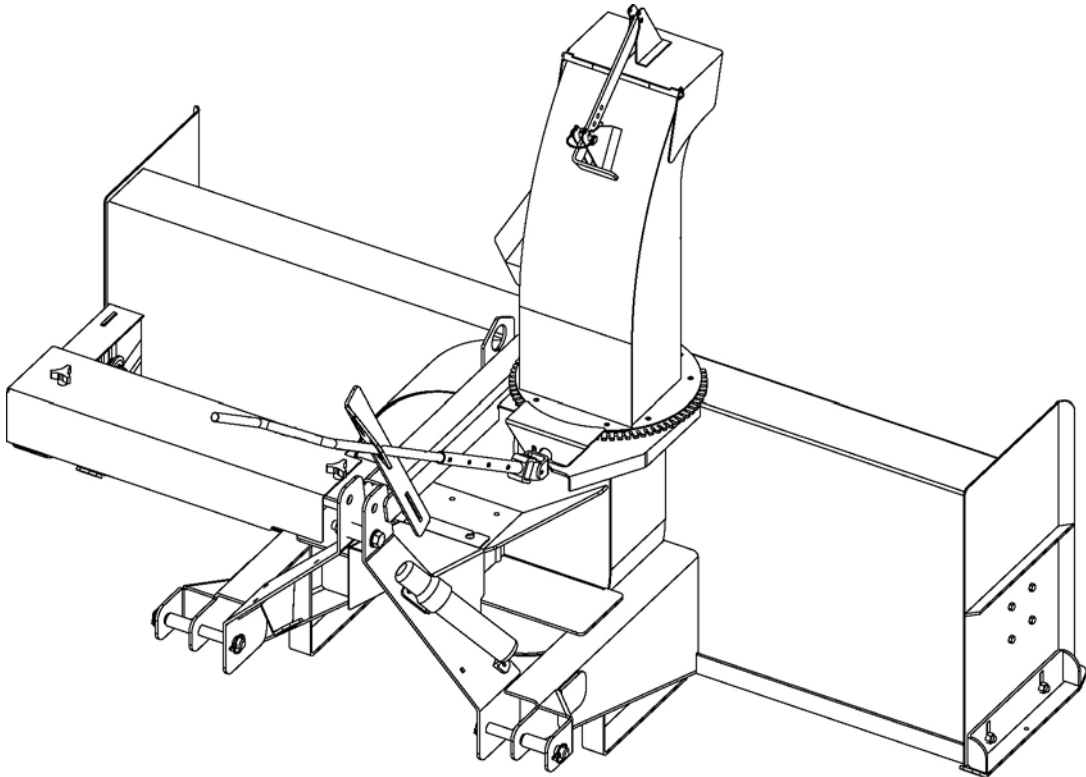


# WOODS SNOWBLOWER

**SB54S**  
**SB64S**  
**SB74C**  
**SB84C**



**MAN0869**

(Rev. 12/6/2011)

**WOODS®**

OPERATOR'S MANUAL

## TO THE DEALER:

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

**The dealer must complete the online Product Registration form at the Woods Dealer Website** which certifies that all Dealer Check List items have been completed. Please contact your dealer to complete this form. Dealers can register all Woods product at dealer.WoodsEquipment.com under Product Registration.

**Failure to register the product does not diminish customer's warranty rights.**

## TO THE OWNER:

Read this manual before operating your Woods equipment. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your dealer. To locate your nearest dealer, check the Dealer Locator at [www.WoodsEquipment.com](http://www.WoodsEquipment.com), or in the United States and Canada call 1-800-319-6637.

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

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

Use only genuine Woods service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the model number and serial number of your equipment in the spaces provided:

**Model:** \_\_\_\_\_ **Date of Purchase:** \_\_\_\_\_

**Serial Number: (see Safety Decal section for location)** \_\_\_\_\_

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

Throughout this manual, the term **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 physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



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



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



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

**IMPORTANT  
or NOTICE**

Is used to address practices not related to physical injury.

**NOTE**

Indicates helpful information.

**ALITEC™**

**BMP®**

**CENTRAL FABRICATORS®**

**GANNON®**

**GILL®**

**WAIN-ROY®**

**WOODS®**


**WOODS®**

## 2 Introduction

Gen'l (Rev. 12/5/2011)


# TABLE OF CONTENTS

INTRODUCTION . . . . .	2
SPECIFICATIONS . . . . .	4
GENERAL INFORMATION . . . . .	4
SAFETY RULES . . . . .	5
SAFETY DECALS . . . . .	8
OPERATION . . . . .	10
OWNER SERVICE . . . . .	16
TROUBLE SHOOTING . . . . .	20
ASSEMBLY INSTRUCTIONS . . . . .	21
DEALER CHECK LIST . . . . .	26
INDEX TO PARTS LISTS . . . . .	27
BOLT TORQUE CHART . . . . .	38
BOLT SIZE CHART & ABBREVIATIONS . . . . .	39
PRODUCT WARRANTY . . . . .	40
REPLACEMENT PARTS WARRANTY . . . . .	Inside Back Cover



**¡LEA EL INSTRUCTIVO!**

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



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

# SPECIFICATIONS

Width Of Cut:	SB54S	.54"
	SB64S	.64"
	SB74C	.74"
	SB84C	.84"
Cutting Height	24"(S Models) , 26"(C Models)	
Number of Augers	1	
Auger Diameter	.15"	
Fan Diameter	SB54S/SB64S	.22"
	SB74C/SB84C	.24"
Auger Flighting Thickness	.5/16" x 2"	
Roller Chain	#50	
Chute Rotation	270 Deg.	
Chute Length	SB54S/SB64S	24-1/4"
	SB74C/SB84C	.29"
Operating Weight	SB54S	415lbs
	SB64S	436lbs
	SB74C	592lbs
	SB84C	632lbs
PTO Horsepower Requirement:	SB54S	< = 25 H.P.
	SB64S	15 - 35 H.P.
	SB74C	30 - 50 H.P.
	SB84C	35 - 60 H.P.
Tractor Hitch	SB54S/SB64S	Limited CAT1 & CAT1
	SB74C/SB84C	CAT1 & CAT2
PTO Input	540 RPM	
Auger Speed	180 RPM	
Gearbox Oil Capacity	0.52 Qt SAE 80W-90	

## 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 snowblower. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance. These instructions have been compiled from extensive field experience and engineering data. Some information

may be general in nature due to unknown and varying operating conditions. However, through experience and these instructions, you should be able to develop procedures suitable to your particular situation.

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

Throughout this manual, references are made to right, left, forward and rearward directions. These are determined by sitting in the tractor operator's seat facing the direction of forward travel.

## 4 Introduction

MAN0869 (04/13/2011)

# SAFETY RULES



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



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

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

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

## TRAINING

- **Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals and safety decals are available from your dealer. To locate your nearest dealer, check the Dealer Locator at [www.WoodsEquipment.com](http://www.WoodsEquipment.com), or in the United States and Canada call 1-800-319-6637.) Failure to follow instructions or safety rules can result in serious injury or death.**
- **If you do not understand any part of this manual and need assistance, see your dealer.**
- **Know your controls and how to stop engine and attachment quickly in an emergency.**
- **Operators must be instructed in and be capable of the safe operation of the equipment, its attachments, and all controls. Do not allow anyone to operate this equipment without proper instructions.**
- **Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.**
- **Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result. CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.**
- **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.**
- **Air in hydraulic systems can cause erratic operation and allows loads or equipment components to drop unexpectedly. When connecting equipment or hoses or performing any hydraulic maintenance, purge any air in hydraulic system by operating all hydraulic functions several times. Do this before putting into service or allowing anyone to approach the equipment.**
- **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 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.**
- **Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.**
- **A minimum 20% of tractor and equipment weight must be on the tractor front wheels when attachments are in transport position. Without this weight, front tractor wheels could raise up resulting in loss of steering. The weight may be attained with 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

- **Never place hands or body into discharge chute or auger to unclog. Stored energy can cause auger to quickly rotate when unclogging occurs and cause severe injury or amputation. Stop engine, remove key, disconnect driveline, and carefully unclog, using a sturdy piece of wood.**
- **Keep bystanders away from equipment.**
- **Never direct discharge toward people, animals, or property.**

# SAFETY RULES



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



- 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.
- 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.
- Operate tractor PTO at RPM listed on safety decal located on fan housing above gearbox. Do not exceed.
- 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 stop, start, or change directions suddenly on slopes.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Use extreme care when working close to fences, ditches, other obstructions, or on hillsides.
- Watch for hidden hazards on the terrain during operation.
- Watch for traffic when operating near or crossing roadways.
- Stop power unit and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operation.
- 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.
- Before performing any service or maintenance, disconnect driveline from tractor PTO.

## MAINTENANCE

- Before dismounting power unit or performing any service or maintenance, follow these steps:

disengage power to equipment, lower the 3-point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, set parking brake, stop engine, remove key, and unfasten seat belt.

- Before performing any service or maintenance, disconnect driveline from tractor PTO.
- **NEVER GO UNDERNEATH EQUIPMENT.** 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.
  - Service work does not require going underneath implement.
  - Read Operator's Manual for service instructions or have service performed by a qualified dealer.
- Service and maintenance work not covered in OWNER SERVICE must be done by a qualified dealership. Special skills, tools, and safety procedures may be required. Failure to follow these instructions can result in serious injury or death.
- Do not modify or alter or permit anyone else to modify or alter the equipment or any of its components in any way.
- Your dealer can supply original equipment hydraulic accessories and repair parts. Substitute parts may not meet original equipment specifications and may be dangerous.
- 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.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.
- 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.

■ Do not disconnect hydraulic lines until engine is stopped, power unit is properly secured, equipment and all components are lowered to the ground, and system pressure is released by operating all valve control levers.

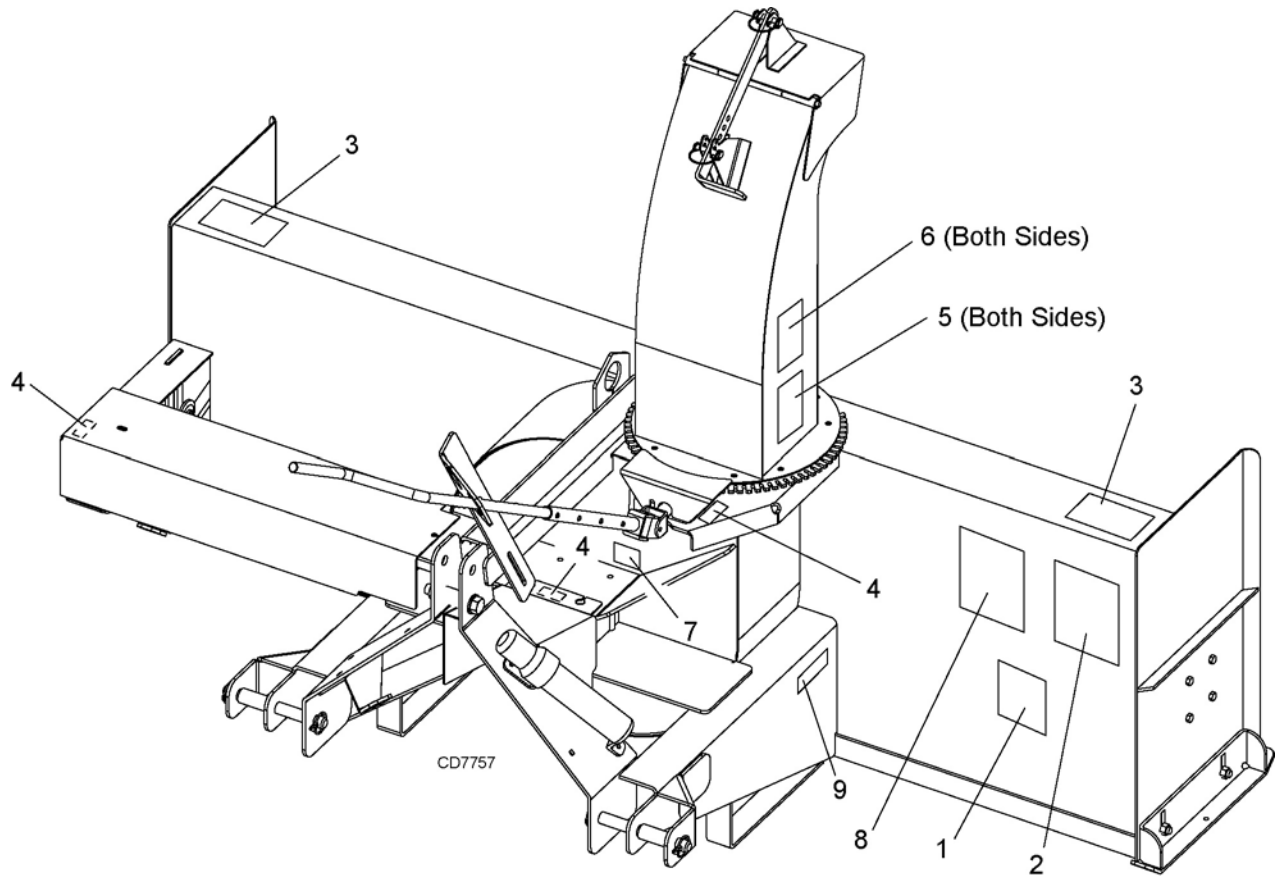
■ Use a suitable lifting device of sufficient capacity. Use adequate personnel to handle heavy components.

### **STORAGE**

■ Block equipment securely for storage.

■ Keep children and bystanders away from storage area.

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



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# SAFETY & INSTRUCTIONAL DECALS

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

### Replace Immediately If Damaged!

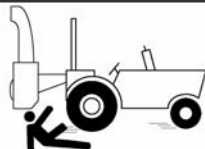


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<b>⚠ WARNING</b>
<p style="text-align: center;"><b>TO AVOID SERIOUS INJURY OR DEATH:</b></p> <ul style="list-style-type: none"> <li>■ Read Operator's Manual before operating, servicing or repairing equipment. Follow all safety rules and instructions. (Manuals are available from dealer or call 1-800-319-6637.)</li> <li>■ Operate from tractor seat only.</li> <li>■ Lower equipment to ground, stop engine, remove key and set brake before dismounting tractor.</li> <li>■ Never allow children or untrained persons to operate equipment.</li> <li>■ Never allow riders.</li> <li>■ Keep all shields in place and in good condition.</li> <li>■ Never direct discharge towards people, buildings, cars, etc.</li> <li>■ Keep hands, feet, hair and clothing away from moving parts.</li> <li>■ Stop machine and wait for all movement to stop before unclogging or servicing machine.</li> <li>■ Make sure everyone is clear of machine before starting and during operation.</li> <li>■ Watch for hidden hazards on terrain during operation.</li> <li>■ Never go under raised equipment.</li> </ul> <p style="text-align: center;">FAILURE TO FOLLOW THESE INSTRUCTIONS CAN SERIOUS RESULT IN INJURY OR DEATH.</p>
<b>⚠ AVERTISSEMENT</b>
<p><b>POUR ÉVITER LES ACCIDENTS GRAVES OU MORTELS :</b></p> <ul style="list-style-type: none"> <li>■ Lire le manuel d'utilisation avant d'utiliser, d'entretenir ou de réparer l'équipement. Respecter toutes les règles et instructions de sécurité. (Les manuels peuvent être obtenus auprès du concessionnaire ou en appelant, aux Etats-Unis, le -800-319-6637.)</li> <li>■ Ne faire fonctionner qu'à partir du siège du tracteur.</li> <li>■ Abaisser l'équipement au sol, arrêter le moteur, retirer la clé et serrer le frein avant de quitter le siège du tracteur.</li> <li>■ Ne jamais laisser un enfant ou une personne non formée se servir de l'équipement.</li> <li>■ Passagers interdits.</li> <li>■ Maintenir toutes les protections en place et en bon état.</li> <li>■ Ne jamais diriger l'évacuation vers des personnes, des bâtiments, des automobiles, etc.</li> <li>■ Ne pas approcher les mains, les pieds, les cheveux ou les vêtements des pièces en mouvement.</li> <li>■ Arrêter la machine et attendre la cessation complète de tout mouvement avant de procéder au débouchage ou à l'entretien de la machine.</li> <li>■ S'assurer que personne ne se trouve à proximité de la machine avant de la mettre en marche et pendant son utilisation.</li> <li>■ Durant l'utilisation, se méfier des dangers que peut receler un terrain.</li> <li>■ Ne jamais se placer sous un équipement lorsqu'il est relevé.</li> </ul> <p style="text-align: center;">LE NON-RESPECT DE CES INSTRUCTIONS PEUT PROVOQUER DES BLESSURES GRAVES, VOIRE LA MORT.</p>

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<b>⚠ WARNING</b>

<p style="text-align: center;"><b>FALLING OFF CAN RESULT IN BEING RUN OVER.</b></p> <ul style="list-style-type: none"> <li>■ Tractor must be equipped with ROPS (or ROPS CAB) and seat belt. Keep foldable ROPS systems in "locked up" position at all times.</li> <li>■ Buckle Up! Keep seat belt securely fastened.</li> <li>■ Allow no riders.</li> </ul> <p style="text-align: center;"><b>RAISED IMPLEMENT CAN DROP AND CRUSH.</b></p> <ul style="list-style-type: none"> <li>■ Never go underneath raised implement which can drop from equipment or tractor</li> <li>■ 3-point hitch hydraulic leak down, hydraulic system failures, movement of control levers, or mechanical linkage failures.</li> <li>■ Service work does not require going underneath implement. Read manual instructions.</li> </ul> <p style="text-align: center;">FALLING OFF OR GOING UNDERNEATH IMPLEMENT CAN RESULT IN SERIOUS INJURY OR DEATH.</p>
<b>⚠ AVERTISSEMENT</b>
<p style="text-align: center;"><b>UNE PERSONNE QUI TOMBE RISQUE DE SE FAIRE ÉCRASER.</b></p> <ul style="list-style-type: none"> <li>■ Le tracteur doit être équipé d'un cadre de protection (ou d'une cabine de sécurité ROPS) et d'une ceinture de sécurité. Toujours garder les systèmes ROPS pliables en position "verrouillée".</li> <li>■ Boucler la ceinture de sécurité et la garder fermement bouclée.</li> <li>■ Passagers interdits.</li> </ul> <p style="text-align: center;"><b>UN ACCESSOIRE RELEVÉ EST SUSCEPTIBLE DE RETOMBER SUR QUELQU'UN.</b></p> <ul style="list-style-type: none"> <li>■ Ne jamais se placer sous un accessoire relevé susceptible de retomber sous l'effet d'une fuite hydraulique de l'équipement ou de l'attelage 3 points du tracteur, d'une défaillance du circuit hydraulique, du déplacement des leviers de commande ou d'une défaillance de la tringlerie mécanique.</li> <li>■ Il n'est pas nécessaire de se placer sous l'accessoire pour les opérations d'entretien. Consulter les instructions du manuel.</li> </ul> <p style="text-align: center;">UNE PERSONNE QUI TOMBE DE L'ACCESSOIRE OU SE PLACE ESSOUS S'EXPOSE À DES BLESSURES GRAVES VOIRE MORTELLES.</p>

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<b>⚠ DANGER</b>

<b>ROTATING AUGER KEEP AWAY!</b>
<ul style="list-style-type: none"> <li>■ Keep hands, feet and clothing away from rotating auger.</li> <li>■ Lower equipment to ground, stop engine, remove key and set brake before servicing.</li> </ul> <p style="text-align: center;">FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.</p>
<b>VS SANS FIN EN ROTATION NE PAS S'APPROCHER !</b>
<ul style="list-style-type: none"> <li>■ Ne pas approcher les mains, les pieds ou les vêtements de la vis sans fin en rotation.</li> <li>■ Abaisser l'équipement au sol, arrêter le moteur, retirer la clé et serrer le frein avant toute opération d'entretien.</li> </ul> <p style="text-align: center;">LE NON-RESPECT DE CES INSTRUCTIONS PEUT PROVOQUER DES BLESSURES GRAVES VOIRE MORTELLES.</p>

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<b>⚠ DANGER</b>

<b>KEEP AWAY!</b>
<ul style="list-style-type: none"> <li>■ Keep hands, feet and face away from opening.</li> </ul> <p style="text-align: center;">FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.</p>
<b>NE PAS S'APPROCHER !</b>
<ul style="list-style-type: none"> <li>■ Ne pas approcher les mains, les pieds ou le visage de l'ouverture.</li> </ul> <p style="text-align: center;">LE NON-RESPECT DE CES INSTRUCTIONS PEUT PROVOQUER DES BLESSURES GRAVES VOIRE MORTELLES.</p>

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<p>Model# Serial#</p> <div style="border: 1px solid black; width: 100%; height: 20px; margin: 5px 0;"></div> <p style="text-align: center;">(BAR CODE)</p>
<p><b>WOODS</b> Woods Equipment Company Oregon, Illinois 61061 USA</p>

**BE CAREFUL!**

Use a clean, damp cloth to clean safety decals.

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

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

MAN0869 (04/13/2011)

# Safety 9

# OPERATION

The operator is responsible for the safe operation of the snowblower. The operator must be properly trained. Operators should be familiar with the tractor, snowblower, and all safety practices before starting operation. Read through safety rules and decals on page 5 through page 9.

## WARNING

■ Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals and safety decals are available from your dealer. To locate your nearest dealer, check the Dealer Locator at [www.WoodsEquipment.com](http://www.WoodsEquipment.com), or in the United States and Canada call 1-800-319-6637.) Failure to follow instructions or safety rules can result in serious injury or death.

■ 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.

■ 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.

■ Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.

■ Never allow children or untrained persons to operate equipment.

■ 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 bystanders away from equipment.

■ Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.

■ Never place hands or body into discharge chute or auger to unclog. Stored energy can cause auger to quickly rotate when unclogging occurs and cause severe injury or amputation. Stop engine,

remove key, disconnect driveline, and carefully unclog, using a sturdy piece of wood.

■ Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.

■ Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result. CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.

## WARNING

■ Before dismantling 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.

■ 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.

■ Make sure attachment is properly secured, adjusted, and in good operating condition.

## CAUTION

■ If you do not understand any part of this manual and need assistance, see your dealer.

■ Always wear relatively tight and belted clothing to avoid 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.

## NOTICE

■ Be sure to complete the Pre-Operation Check List on page 15 prior to operating this Snowblower.

## PRINCIPAL COMPONENTS

The snowblower has three main operating components. A 15" diameter auger dislodges the snow and carries it to a central fan. The snow is then discharged by the fan and directed away from the blower through a controllable spout.

The snowblower is mounted on a tractor 3-point hitch and driven by the tractor PTO. A centrally located gearbox directs power to the fan and auger.

## **TRACTOR REQUIREMENTS**

### **3-Point Hitch**

The compact snowblower (C series) requires the tractor to be equipped with a Category 1 or 2 three-point hitch. The sub-compact (S series) snowblower requires the tractor to be equipped with a limited Category 1 or Category 1 three-point hitch.

### **Hydraulic Circuit**

Either closed-center or open-center systems can be used for the optional hydraulic spout control.

### **Tire Configuration**

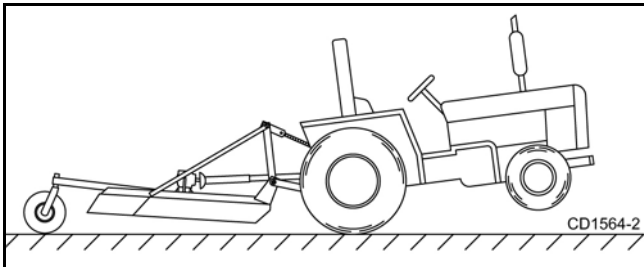
For best results, the tractor wheels should be set narrower than the cutting width of the snowblower. Wider wheel settings will cause snow to be pulled under the tractor and may require additional passes.

### **PTO Shaft**

The tractor must be configured to accept a 1-3/8" 6-spline 540 RPM system and must meet horsepower specifications. See specifications, page 4.

### **Tractor Stability**

■ **A minimum 20% of tractor and equipment weight must be on the tractor front wheels when attachments are in transport position. Without this weight, front tractor wheels could raise up resulting in loss of steering. The weight may be attained with front wheel weights, ballast in tires or front tractor weights. Weigh the tractor and equipment. Do not estimate.**



**Figure 1.** Tractor Stability (Typical)

## **ATTACHING SNOWBLOWER TO TRACTOR**

1. Move the tractor into position in front of the snowblower. Move back slowly and carefully, not allowing anyone to be between the tractor and the snowblower.
2. Turn off tractor engine.
3. Attach two lower arms of 3-point hitch with the two hitch-pin assemblies.

4. Attach tractor center link to upper hitch point of snowblower. Adjust length of center link until the top edge of the frame ends are parallel to ground.
5. Adjust tractor lower 3-point arm anti-sway devices to prevent snowblower from swinging side to side during transport.
6. Attach front PTO driveline from snowblower to tractor. Slide front section of PTO driveline into back section. Slide PTO shaft onto rear of tractor.

## **NOTICE**

■ **If the PTO driveline is too long, severe driveline and gearbox damage is possible when hooking up the PTO driveline from the rotary snowblower to the tractor. The front PTO driveline is long enough to fit a variety of tractors. It is possible that the front PTO driveline will need to be cut. There will be NO benefit by cutting only one telescoping section. Both sections of the driveline must be cut. DO NOT FORCE THE PTO TO FIT.**

■ **If attaching with quick hitch, the distance between the tractor PTO and gearbox input shaft will increase. Please follow the steps as you would for a 3-point hitch to insure proper engagement.**

■ **When attaching snow blower to multiple tractors consider the drive length needed for each tractor and whether the drive line will work in all combinations.**

■ **WARRANTY IS VOID IF THE PTO DRIVELINE IS TOO LONG, resulting in gearbox, PTO, yoke or cross bearing damage.**

**NOTE:** The PTO driveline, when attached to the tractor and gearbox, must not extend so there is less than 10-3/4" (bilobe) or 4-1/2" (trilobe) of overlap within the PTO driveline.

## **DRIVELINE ATTACHMENT**

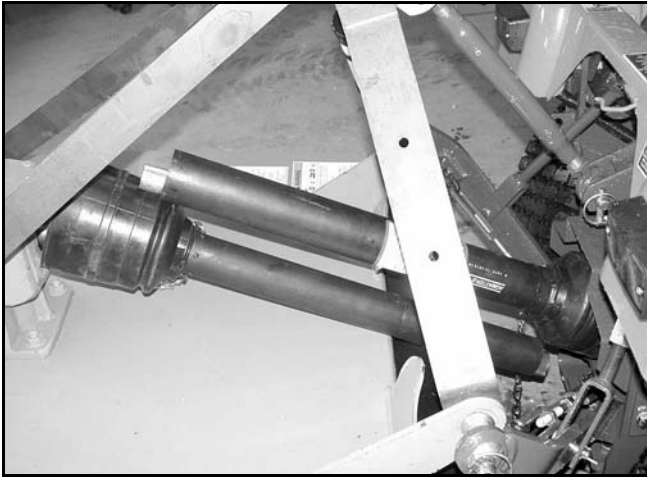
Attach snowblower to tractor 3-point hitch (or quick hitch if available). Do not attach driveline the first time you attach the snow blower to the tractor. Raise and lower snowblower to determine maximum and minimum distance between tractor PTO shaft and gearbox input shaft. If distance is too large, driveline will be too short for proper engagement. If distance is too small, driveline may bottom out in operation and damage snowblower or tractor.

If driveline is too short, please call your Woods dealer for a longer driveline.

If driveline is too long, please follow instructions for shortening driveline.

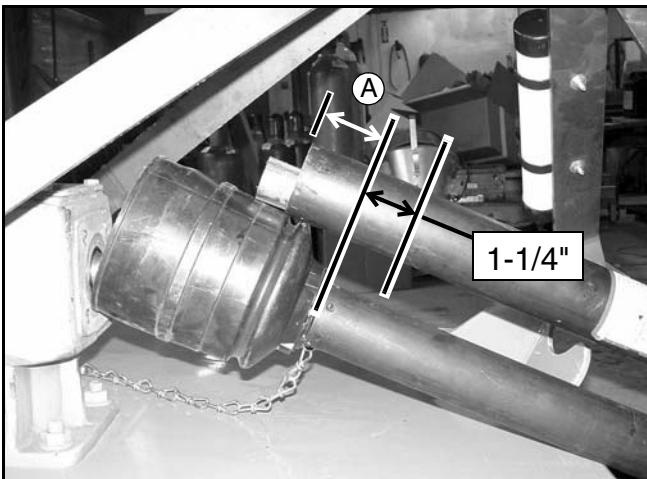
## **SHORTENING DRIVELINE**

1. Move snowblower up and down to get shortest possible distance between tractor PTO shaft and gearbox input shaft. Leave snowblower in minimum distance position. Install jack stands under snowblower for support.
2. Separate driveline into two halves and connect them to tractor and gearbox.
3. Place driveline halves parallel to one another to determine how much to shorten the driveline.



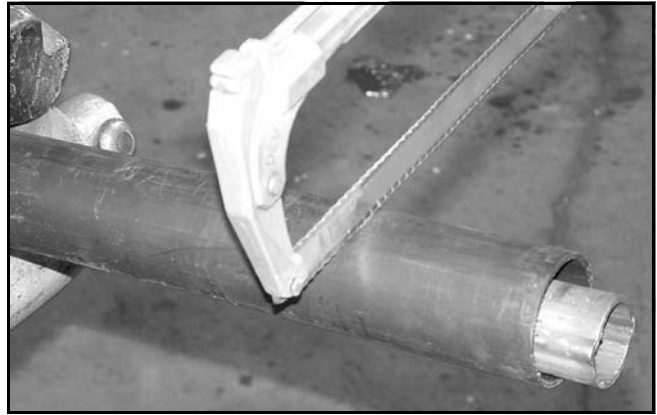
**Figure 2.** Drive Halves Placed Parallel

4. Measure from end of upper shield to base of bell on the lower shield (A). Add 1-1/4" to dimension (A).



**Figure 3.** Determine Shield Length

5. Cut upper shield to this overall dimension



**Figure 4.** Cut Shield

6. Place cut portion of shield against end of shaft and use as a guide. Mark and cut shaft.



**Figure 5.** Cut Shaft to Length

7. Repeat step 4 through 6 for other half of drive.
8. File and clean the cut ends of both drive halves. Ensure the drive halves slide smoothly together.

Do not run tractor if proper driveline engagement cannot be obtained through these methods.

Connect driveline to tractor PTO shaft, making sure spring-activated locking collar slides freely and locks driveline to PTO shaft.

### **MACHINE BREAK-IN**

Although there are no operational restrictions on the snowblower when used for the first time, the following items are to be checked.

#### **A. After operating for 1/2 hour:**

1. Check all nuts, bolts and other fasteners. Tighten to their specified torque level.
2. Check drive chain tension. Adjust as required.
3. Check that auger, fan and spout are in good condition.

4. Check oil level in the gearbox. Add as required.
5. Lubricate all grease points.

**B. After operating for 5 to 10 hours:**

1. Repeat items 1 through 4 of Section A.
2. Then go to normal Owner Service Section, page 16.

**OPERATION**

Each operator should review this section of the manual at the start of the season and as often as required to be familiar with the machine. When using, follow this procedure:

1. Review and follow the "Pre-Operation Check List," page 15.
2. Review "Attaching Snowblower to Tractor" section, page 11.
3. Before going to the field, review "Transporting" section, page 14.
4. Position snowblower in a level area and lower into working position.
5. Starting Snowblower:
  - Be sure area is clear of all bystanders.
  - Run engine at low idle.
  - Slowly engage PTO control to start machine.
  - Slowly bring engine to rated PTO speed. Never exceed rated speed
6. Stopping Machine:
  - Slowly decrease engine speed to low idle.
  - Wait until PTO drive and snowblower have slowed to low engine idle speed before disengaging PTO drive.



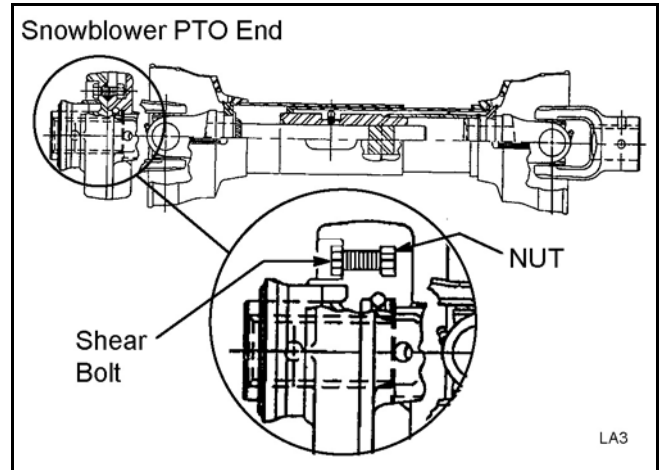
**WARNING**

■ **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.**

■ **Before performing any service or maintenance, disconnect driveline from tractor PTO.**

7. Do not operate with bystanders in area. The machine can pick up stones, sticks, wire and other debris and throw it out with enough force to cause severe injury or death to bystanders. Shut down machine and wait for moving parts to stop before approaching machine.

8. Ground Speed: Travel speed can vary between 1.5 and 8 mph depending on material and terrain conditions. It is the responsibility of the operator to note the condition of the job being done and set the speed to obtain proper feeding rate and maintain safe control of machine.
9. The PTO driveline is equipped with a shear bolt, Figure 6, that protects drive system components from shock loads if machine strikes an obstruction. See parts section for bolt size and grade.



**Figure 6.** Shear Bolts

10. Operating Requirements:



**WARNING**

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

■ Know where you are operating. Remove all unwanted trash and debris before starting. It can wrap around auger or be thrown out of machine during operation.

■ Keep auger and fan in good condition. Do not operate with a damaged fan or auger.

■ Do not allow the auger to hit and scalp ground during operation. Hitting ground will pick up soil or rocks that can be thrown out of machine.

■ To change direction of snow discharge, rotate the discharge chute. It will rotate 270°.

To move a discharge chute equipped with an optional hydraulic control, use tractor hydraulic control to direct discharge left or right within its 270° range. It will not rotate a full 360°.

**NOTE:** For hydraulic rotator option, if chute turns too quickly, adjust flow control on tractor hydraulics.

**NOTE:** Operating hydraulic deflector cylinder requires low tractor flow rates. When initially operating cylinder reduce tractor hydraulic flow rate to

prevent deflector damage and improve resolution of deflector adjustment.

### Adjusting Discharge Chute Position

■ The height of snow discharge is controlled by position of chute deflector on discharge chute (8), Figure 7. Remove clevis pin (5), and slide adjustment strap (9) to selected discharge height. Reinstall clevis pin (5).

**NOTE:** If possible, blow snow with the wind. Beware of people or buildings in the area.

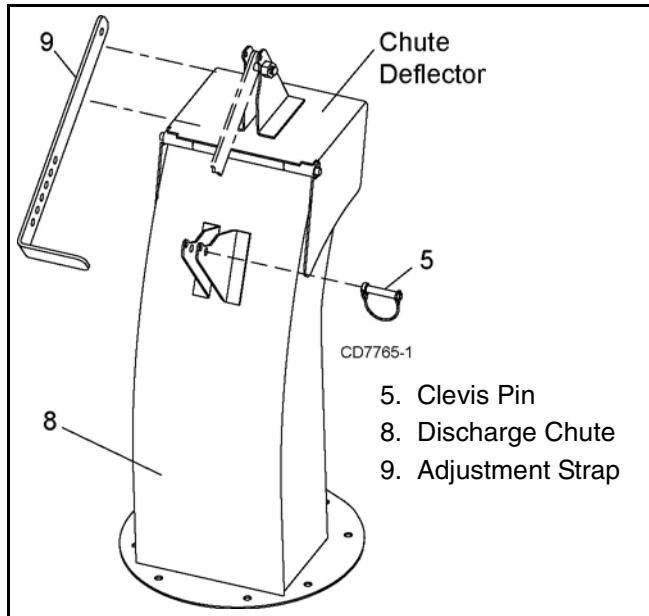


Figure 7. Discharge Chute Position

- Keep bystanders away from equipment.
- Wear appropriate hearing protection.

11. Depth of cut can be controlled with the skid shoes or by tilting the blower forward or backward. Excessive forward or backward tilt may cause U-joint to flutter resulting in PTO shear bolt failure. Do not run the PTO shaft at more than a 15° angle.
12. Allow the snowblower to work its way through the snow rather than forcing it.
13. In deep snow it may be necessary to raise the snowblower for the first pass through and clean up the remainder with a second pass.
14. Do not feed snow through snowblower when raising or lowering.

### TRANSPORTING

#### **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, front tractor wheels could raise up resulting in loss of steering. The weight may be attained with front wheel weights, ballast in tires or front tractor weights. Weigh the tractor and equipment. Do not estimate.

- Never allow riders on power unit or attachment.
- Do not operate PTO during transport.

#### **CAUTION**

- Always comply with all state and local lighting and marking requirements.

#### **NOTICE**

- Do not exceed 20 mph (32km/h). Reduce speed on rough roads and surfaces.

When transporting snowblower, review and follow this procedure:

- Be sure all bystanders are clear of machine.
- Be sure that machine is securely attached to tractor and all retainer pins are installed.
- Raise machine.
- Do not allow riders.

### STORAGE

#### **WARNING**

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

After season's use, machine should be thoroughly inspected and prepared for storage. Repair or replace any worn or damaged components to prevent any unnecessary down time at start of next season.

To insure a long, trouble free life, this procedure should be followed when preparing unit for storage.

1. Clear area of bystanders.
2. Thoroughly wash machine to remove all dirt, mud, debris or residue.
3. Check auger, fan and drivelines for damage or entangled material. Repair or replace damaged parts. Remove the entangled material.
4. Inspect all hydraulic hoses, fittings, lines and couplers. Tighten any loose fittings. Replace any hose that is cut, nicked or abraded or is separating from crimped end of fitting.
5. Change oil in gearbox.

6. Lubricate all grease fittings. Make sure that all grease cavities have been filled with grease to remove any water residue from washings.
7. Touch up all paint nicks and scratches to prevent rusting.
8. Move to storage area.
9. Select an area that is dry, level and free of debris.
10. Unhook from tractor (see page 11).
11. Store machine in an area away from human activity.
12. Do not allow children to play on or around stored machine.

## **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 remaining debris using a low-pressure water spray.
  1. Be careful when spraying near scratched or torn safety decals or near edges of decals as water spray can peel decal off surface.
  2. Be careful when spraying near chipped or scratched paint as water spray can lift paint.
  3. If a pressure washer is used, follow the advice of the pressure washer manufacturer.
- Inspect machine and replace worn or damaged parts.
- Sand down scratches and the edges of areas of missing paint and coat with Woods spray paint of matching color (purchase from your Woods dealer).

- Replace any safety decals that are missing or not readable (supplied free by your Woods dealer). See Safety Decals section for location drawing.

## **PRE-OPERATION CHECK LIST** **(OWNER'S RESPONSIBILITY)**

- \_\_\_ Review and follow all safety rules and safety decal instructions on pages page 5 through page 9.
- \_\_\_ 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 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.
- \_\_\_ Inspect area and remove stones, branches or other hard objects that might be thrown, causing injury or damage.
- \_\_\_ Do not allow riders.
- \_\_\_ Check the drive chain for tension. If too loose, adjust the idler sprocket. A 1/4" sag in the bottom span is satisfactory.
- \_\_\_ Check all lubrication points and grease as instructed in "Service, lubrication information". 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.
- \_\_\_ Check that all hydraulic hoses and fittings are in good condition and not leaking before starting tractor. Check that hoses are not twisted, bent sharply, kinked, frayed or pulled tight. Replace any damaged hoses immediately.
- \_\_\_ Make sure tractor ROPS or ROPS CAB and seat belt are in good condition. Keep seat belt securely fastened during operation.

# OWNER SERVICE

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

## **WARNING**

■ **Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals and safety decals are available from your dealer. To locate your nearest dealer, check the Dealer Locator at [www.WoodsEquipment.com](http://www.WoodsEquipment.com), or in the United States and Canada call 1-800-319-6637.) Failure to follow instructions or safety rules can result in serious injury or death.**

■ **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.**

■ **NEVER GO UNDERNEATH EQUIPMENT. 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.**

- **Service work does not require going underneath implement.**
- **Read Operator's Manual for service instructions or have service performed by a qualified dealer.**

■ **Before performing any service or maintenance, disconnect driveline from tractor PTO.**

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

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

■ **Make sure attachment is properly secured, adjusted, and in good operating condition.**

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

## **CAUTION**

■ **If you do not understand any part of this manual and need assistance, see your dealer.**

■ **Always wear relatively tight and belted clothing to avoid 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.**

■ **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.**

## SERVICE AND MAINTENANCE INTERVALS

By following a careful service and maintenance program, you will prolong the life of your machine.

The service intervals recommended are based on normal operating conditions. Severe or unusual conditions may require more frequent service.

### **Lubrication Information**

1. Do not let excess grease collect on or around parts, particularly when operating in sandy areas.
2. Use a hand-held grease gun for all greasing.
3. Use a lithium grease of #2 consistency with a MOLY (molybdenum disulfide) additive for all locations unless otherwise noted. Be sure to clean fittings thoroughly before attaching grease gun.
4. If grease fitting will not take grease, remove and clean thoroughly. Also clean lubricant passage way. Replace fitting if necessary.
5. Two good pumps of most grease guns is sufficient when the lubrication schedule is followed.

### **Driveline Lubrication**

1. Lubricate the driveline slip joint every 8 hours of operation. Failure to maintain proper lubrication could result in damage to u-joints, gearbox, and driveline.
2. Lower snow blower to ground, disconnect driveline from tractor PTO shaft, and slide halves apart. Do not disconnect the halves from each other.
3. Apply a bead of grease completely around male half where it meets female half. Slide drive halves over each other several times to distribute grease.



4. Apply one pump of grease to each driveline u-joint grease fitting.
5. Apply one pump of grease to each of the plastic driveline shield bearings.
6. On the shear pin driveline, lubricate the shear yoke with grease to prevent galling.
7. Periodically check the yokes on the front PTO. Make sure the bolt and nut are tight and the yoke is not moving on the gearbox shaft.

### Driveline Shear Bolt Replacement

PTO drivelines are equipped with shear bolts to protect against overloads.

■ **Always use approved shear bolt as replacement part. Using a hardened bolt or shear pin may result in damage to driveline or gearbox.**

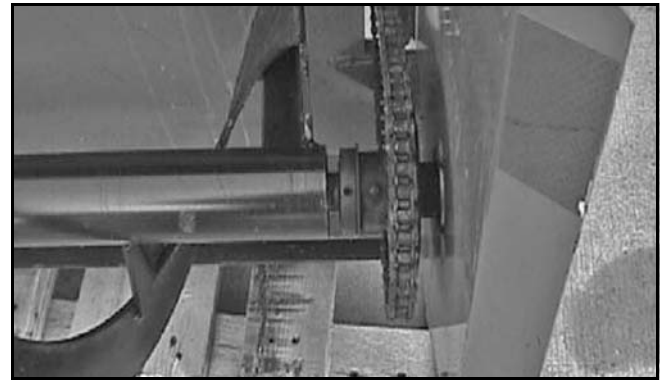

**WARNING**

■ **Before proceeding, read and follow all safety rules.**

1. Disconnect driveline from tractor PTO shaft.
2. Remove gearbox shield by removing thumb screws.
3. Remove damaged bolt from yoke on input shaft of snow blower gearbox.
4. Rotate driveline to align holes in yoke and shaft. Install new shear bolt and secure with lock nut. Tighten to torque specification given on Torque Chart.
5. Reinstall gearbox shield and reconnect driveline to tractor PTO shaft.

### Chain Maintenance

The auger chain should be inspected every 25 hours. New chain has a tendency to stretch, so it is necessary to check the chain tension to prevent flopping around, thus causing potential problems. Chain tension is pre-set at the factory. If chain becomes excessively loose, it may be necessary to readjust the idler sprocket, Figure 9.



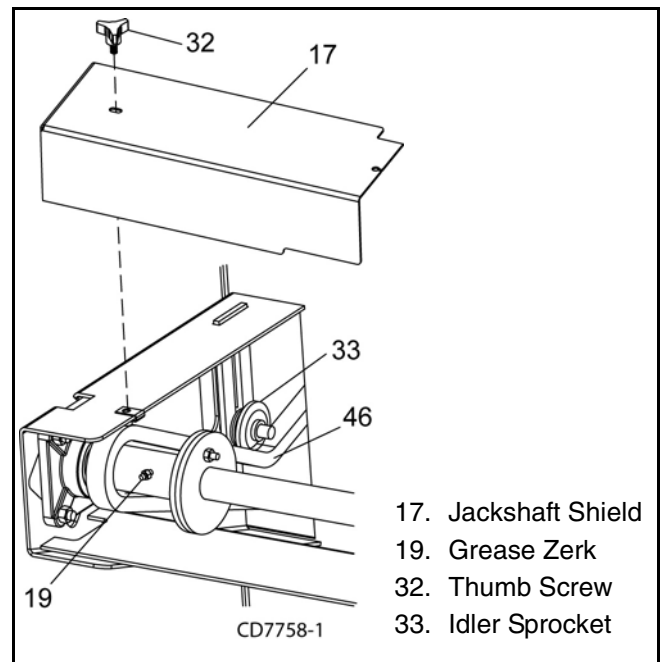
**Figure 8.** Drive Chain Lubrication

1. Apply grease to drive sprocket grease zerk (See Figure 8).
2. Apply grease or oil to the drive chain regularly, especially after using (See Figure 8).

### NOTICE

■ **Replacement chain should be only high quality original equipment chain for longer life.**

1. Remove jackshaft shield (17) by removing thumb screws (32).
2. Loosen cap screw and nut on idler sprocket.
3. Move idler sprocket (33) to obtain 1/4 inch sag along bottom span of chain (46).
4. Re-tighten idler sprocket and reinstall jackshaft shield.



**Figure 9.** Auger Drive Chain Adjustment

## Auger Drive Shear Bolt Replacement

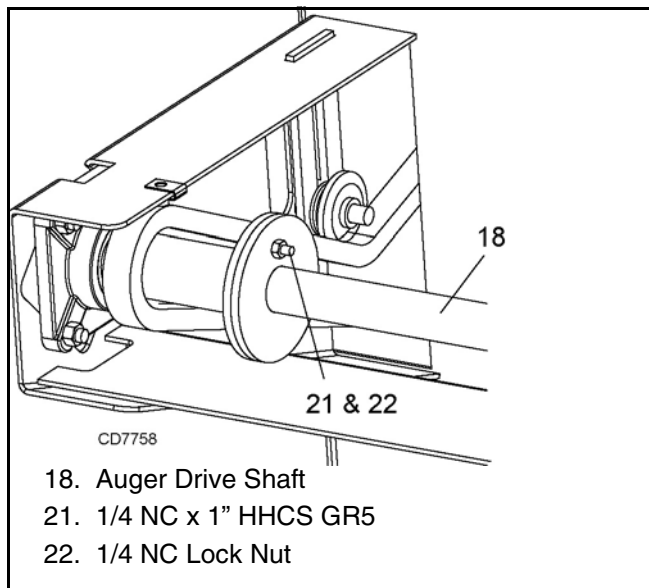
■ **Always use approved shear bolt as replacement part. Using a hardened bolt or shear pin may result in damage to driveline or gearbox.**

Remove any obstructions from the auger, chain, or drive sprocket.

Remove jackshaft shield by removing thumb screws.

Remove damaged bolt from shear plates on drive sprocket and/or jackshaft (18).

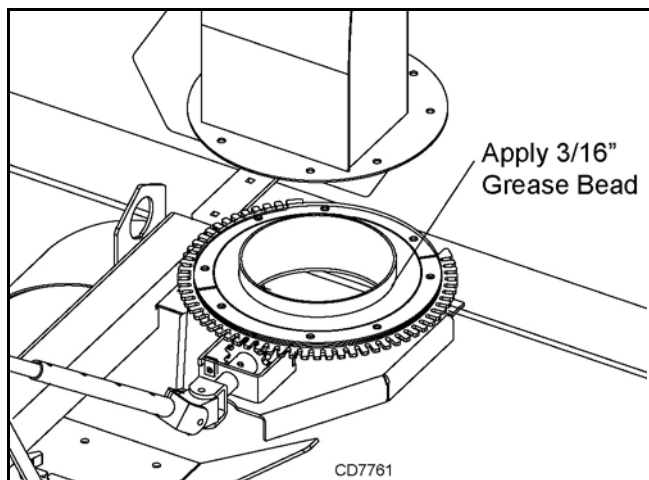
Rotate drive sprocket to align holes in sprocket and shaft. Install new shear bolt (21) and secure with lock nut (22). Tighten to torque specification given on Torque Chart.



**Figure 10.** Auger Drive Shear Bolt Replacement

## Discharge Chute Lubrication

1. Apply grease between the discharge chute base and ring on the frame tube, Figure 11, annually.



**Figure 11.** Chute Base and Rotator Ring

## Gearbox

The gearbox is almost maintenance-free, but should be checked quarterly to be sure that the oil level is maintained at half full. A high quality gear oil with a viscosity index of 80W or 90W and an API service rating of GL-4 or -5 is recommended for use in the gearbox. Oil should be changed after the first 30 hours or 30 days of operating. Then, normal change should be adequate. In the case of seasonal usage, it is best to change the oil at the end of the season to remove moisture and corrosive contaminants.

### **WARNING**

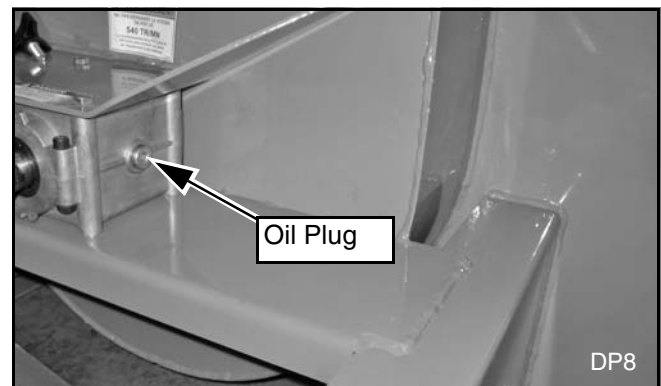
■ **Before proceeding, read and follow all safety rules.**

To change the oil, follow this procedure, Figure 12:

1. Suction out oil in gearbox through side plug using a hand pump.

**NOTE:** It is best to drain the oil when the gearbox is warm to remove the most contaminants.

2. Add 0.52 quart SAE 85W90 gear oil through side plug. Use level hole (halfway up the backside of gearbox) to check oil level. Add oil accordingly.
3. Install and tighten plug.



**Figure 12.** Gearbox Oil

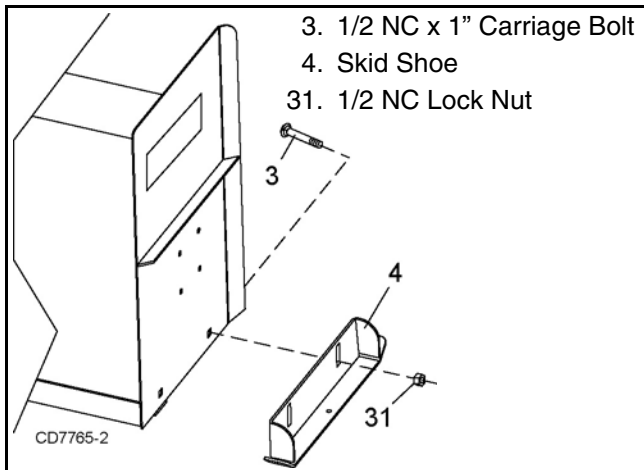
## Skid Shoes

The machine is equipped with skid shoes on bottom side of each side plate to prevent wearing frame and to provide depth control. They should be checked occasionally for wear and replaced if required.

### **WARNING**

■ **Before proceeding, read and follow all safety rules.**

1. Place a 4" x 4" block under each end of snowblower frame.
- NOTE:** Block only high enough for the skid shoes to clear ground.
2. Lower snowblower to sit securely on blocks.
  3. Properly secure tractor and release all hydraulic pressure.
  4. Loosen and remove skid shoe mounting bolts (3) and nuts (31).
  5. Remove skid shoe and inspect (4).
  6. Adjust skid shoe (4) to provide correct depth of cut.
  7. Tighten mounting bolts (3) and nuts (31). Tighten to specifications given on torque chart.



**Figure 13.** Skid Shoe Adjustment

#### PTO Driveline Guard

The shield must turn freely on PTO shaft. Daily lubrication of both shield bearings and periodic cleaning will ensure safe operation of the shield.

If shield is damaged or worn, replace components with genuine Woods service parts.

#### Walterscheid Driveline

1. Remove Phillips screw on driveline bell shield.

**NOTE:** In order to slide new bell over shaft guard, place bell in water at 180° F or in sun to expand bell temporarily.

2. Rotate bell shield until three reliefs align with white plastic collar.
3. Remove bell housing and shaft.
4. Replace components as needed. Follow steps 1 through 3 in reverse.



**Figure 14.** Walterscheid Driveline

#### Comer Driveline

1. Rotate three rectangular plastic pins with a screw driver 90°.
2. Lift pins out with screw driver.
3. Remove bell housing and shaft.
4. Replace components as needed. Follow steps 1 through 3 in reverse.



**Figure 15.** Comer Driveline

# TROUBLE SHOOTING

PROBLEM	PROBLEM CAUSES	SUGGESTED SOLUTION
PTO Shaft shear bolt continues to shear	PTO shaft at too great an angle.	Do not exceed a 15 degree angle at PTO shaft.
	PTO shear bolt is too soft.	Use a grade 5 shear bolt. (GKN) Use a grade 10.9 bolt. (Comer 20 series) Use a grade 8.8 bolt. (Comer 40 series)
	Tilt on the snowblower is too great causing an excessive knuckle angle.	Reduce tilt on snowblower by adjusting upper 3-point link.
Snowblower augers continue to plug	Tractor ground speed is too fast.	Reduce ground speed to allow augers to clear better.
	Insufficient fan speed.	Increase tractor PTO speed to 540 RPM.
Snow does not discharge properly	Insufficient fan speed.	Maintain a PTO speed of 540 RPM.
	Augers are overloaded with snow.	Reduce ground speed.
	Snow is wet and sticky.	Reduce ground speed to allow for better aeration of snow.
Snowblower tends to dig or float on snow	Tilt on snowblower not adjusted properly.	Adjust upper link on 3-point to level the blower.
	Skid Shoes not adjusted properly.	Adjust skid shoes to be even with cutting edge.
Chute will not turn	Insufficient lubrication. Incorrect number of spacers.	Lubricate chute base and rotator ring. Check that 3 spacers are being used.
Auger fails to turn	Auger drive shear bolt has sheared.	Replace auger drive shear bolt.

# ASSEMBLY INSTRUCTIONS

## DEALER SET-UP INSTRUCTIONS

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

The snowblower 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 38.

Select a suitable working area. A smooth hard surface, such as concrete, will make assembly much quicker. Open parts boxes and lay out parts and hardware to make location easy. Refer to illustrations, accompanying text, parts lists and exploded view drawings.

## All Models

1. Remove parts from crate in a suitable work area. Check packing list to ensure all parts are present.

**NOTE:** Leave all hardware loose until all components are completely assembled.

2. Remove driveshaft from snowblower. Slide implement PTO shaft on gearbox shaft. Pull back spring actuated collar as driveline is installed on gearbox shaft, releasing collar when driveline is installed.

**NOTE:** Check that drive shaft is fully engaged in gearbox shaft groove.

3. Remove hardware (37) and (38) from front right mast plate hole and rotate drive holder (16) until holes are aligned, Figure 16.

4. Reinstall hardware (37) and (38).

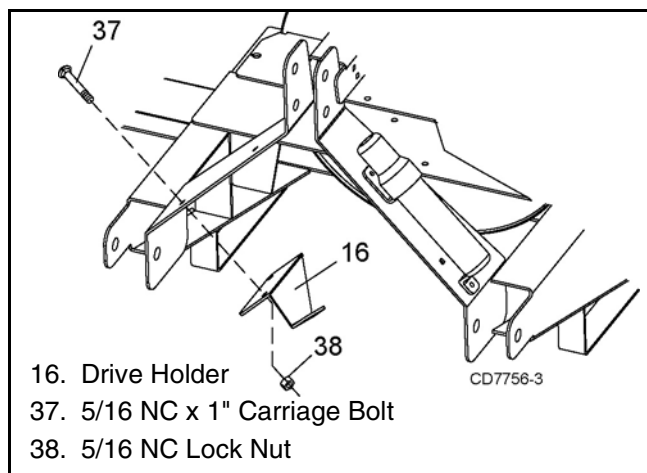


Figure 16. Install Drive Holder

5. Remove plug from gearbox and add .52 quart of SAE85W-90 gear oil, Figure 12.
6. Remove hardware (37) and (38) from SMV bracket (34) and rotate bracket facing up. Reinstall hardware (37) and (38), Figure 17.

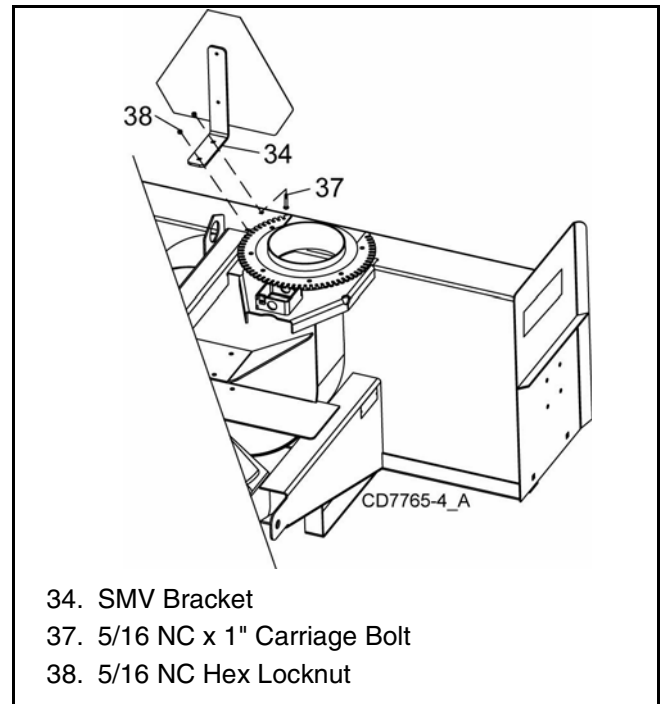


Figure 17. SMV Installation

7. Remove plastic cable tie holding auger chain in place.

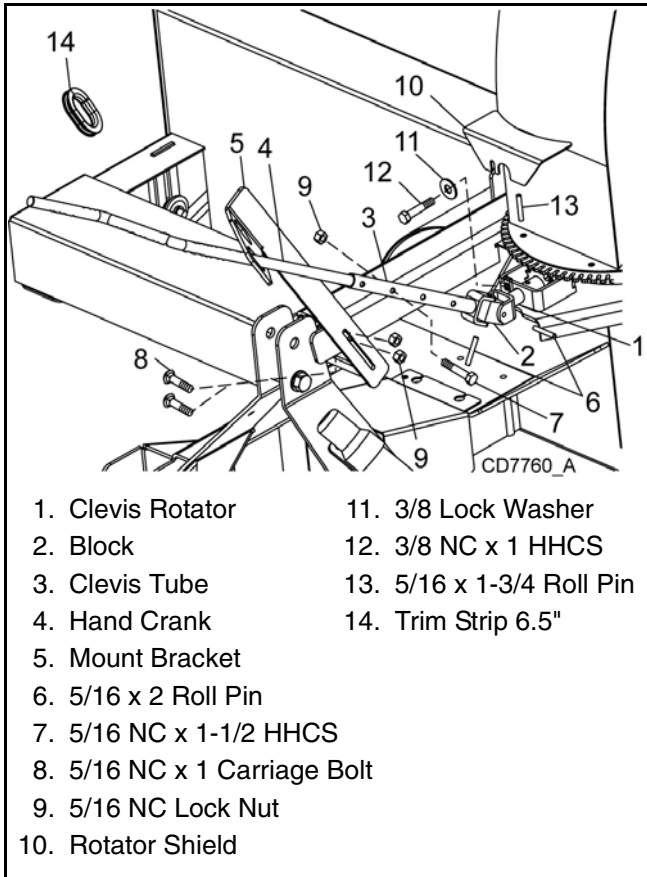
## Install Hand Crank (Figure 18)

8. Fasten mount bracket (5) to upper three-point channel using two carriage bolts (8) and lock nuts (9).

**NOTE:** Bracket is adjustable and can be rotated or slide up or down for best fit with tractor.

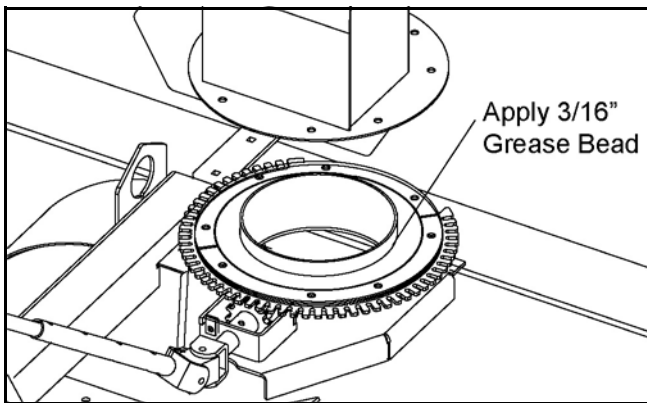
9. Connect clevis rotator (1) to block (2) and clevis tube (3) with roll pins (6).
10. Remove rotator sprocket from lower hitch pin. Install in square opening on chute adapter with block and pin assembly using roll pins (6) and (13). Hole in sprocket rotator should face towards tractor hitch.
11. Install trim strip (6.5" long) in slot on mount bracket (5) which hand crank (4) will protrude through.
12. Slide hand crank (4) through mount bracket (5) and into clevis tube (3). Align hand crank and clevis tube holes for correct length and install cap screws (7) and hex nut (9).

**NOTE:** Make sure handle will not protrude into rear window of a tractor equipped with cab by checking the highest 3-point hitch position.



**Figure 18.** Hand Crank Installation

13. Apply grease to discharge tube ring and frame.



**Figure 19.** Apply Grease to Discharge Chute Ring

14. Loosen discharge chute hardware and remove washers. Washers will not be reused.

**Install Discharge Chute (Figure 20)**

15. Attach discharge chute (8) to chute base using spacers (35), (6 total, 3 each side), discharge chute clamp (40), and hardware.

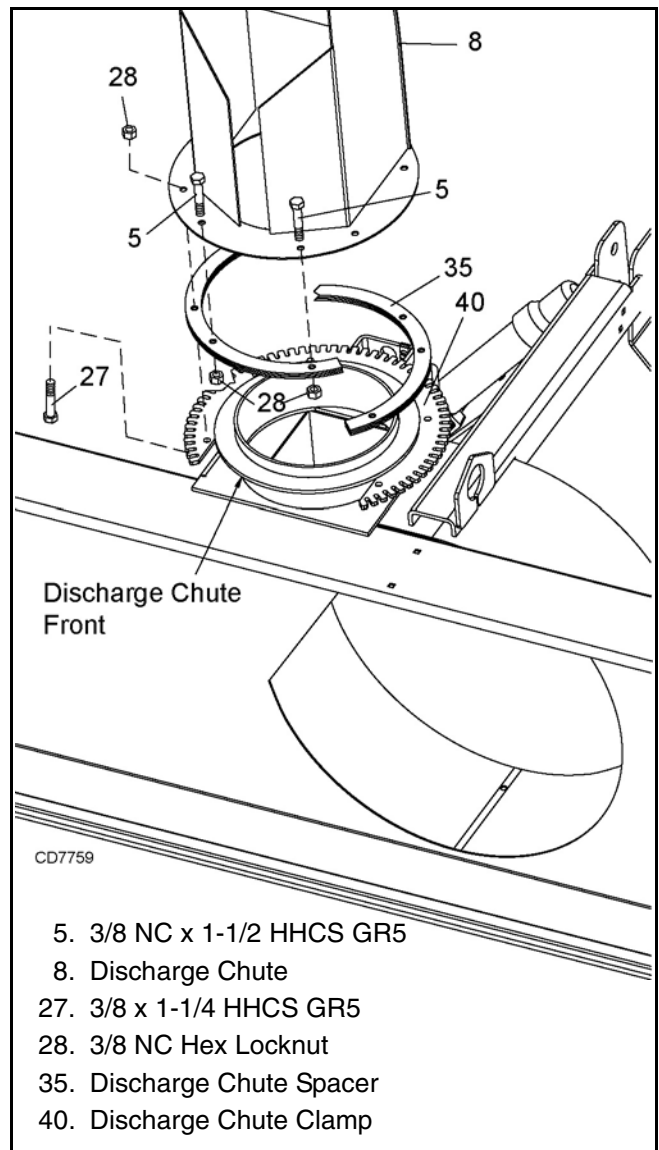
**NOTE:** Refer to Figure 20 for proper orientation and installation of hardware.

16. Install two cap screws (5) through front two holes of discharge chute (8) and discharge chute spacers (35). Secure with nuts (28). Leave hardware loose.

17. Install six cap screws (27) through discharge chute clamp (40), discharge chute spacers (35) and discharge chute (8). Secure with nuts (28).

18. Tighten hardware.

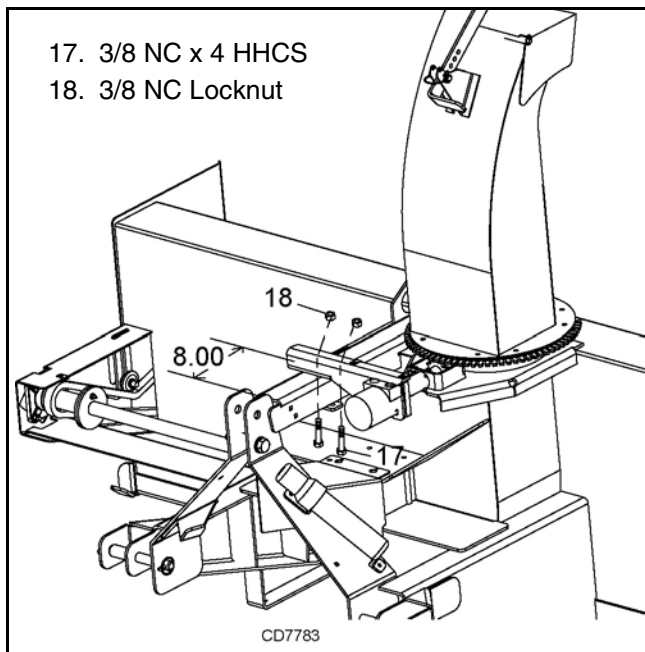
19. Operate hand crank to check ease of block and pin and chute rotation. If hand crank turns too hard, adjust mounting bracket for a reduced angle. If chute does not rotate freely check spacers and chute hardware for binding.



**Figure 20.** Install Discharge Chute

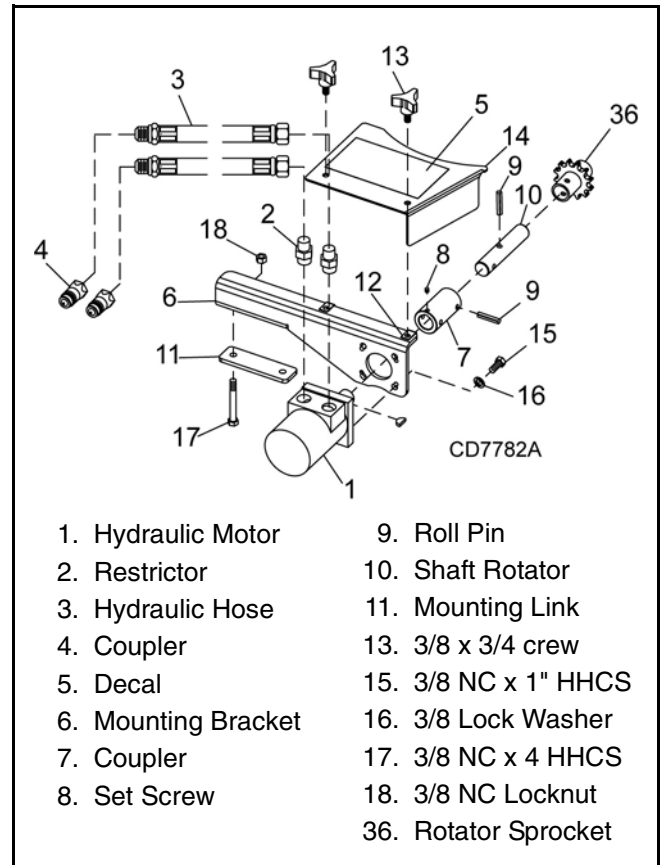
## **MOUNTING HYDRAULIC CHUTE ROTATOR OPTION (FIGURE 22)**

1. Fasten coupler (7) to hydraulic motor (1) using woodruff key and set screw (8).
2. Fasten hydraulic motor assembly to hydraulic motor mount bracket (6) using cap screws (15) and lock washers (16).
3. Fasten hydraulic motor coupler (7) to shaft rotator (10) using roll pin (9).
4. Fasten hydraulic motor mount to upper three-point channel with cap screws (17), link (11), and hex nuts (18).



**Figure 21.** Motor Mount Position 8" from Front

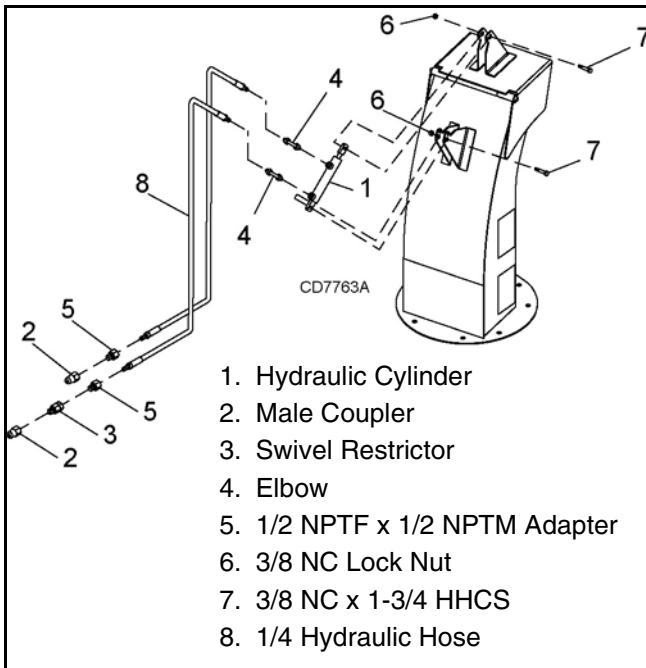
5. Remove rotator sprocket from lower hitch pin. Position rotator sprocket in square opening on chute adapter with hole facing towards hitch. Slide hydraulic motor and channel assembly into rotator sprocket and fasten using roll pin.
6. Fasten flow restrictors (2) to hydraulic motor.
7. Fasten hydraulic hose (3) to restrictors (2).
8. Fasten couplers (4) to ends of hoses (3).



**Figure 22.** Hydraulic Chute Rotator Installation

## MOUNTING HYDRAULIC CHUTE DEFLECTOR (FIGURE 25)

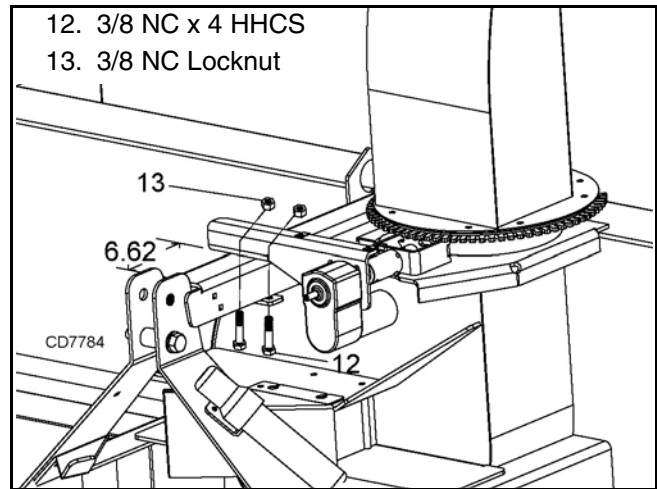
1. Fasten cylinder (1) to discharge chute (8) using hardware (6) and (7). Do not over tighten.
2. Fasten elbows (4) to cylinder (1).
3. Fasten hoses (8) to elbows (4).
4. Fasten adapters (5) to hoses (8).
5. Fasten restrictor (3) to adapter (5).
6. Fasten couplers (2) to adapter (5) and restrictor (3).



**Figure 23.** Hydraulic Chute Deflector Installation

## MOUNTING ELECTRIC CHUTE ROTATOR OPTION (FIGURE 25)

1. Remove rotator sprocket from lower hitch pin. Position rotator sprocket in square opening on chute adapter with hole facing towards hitch. Install shaft (7) into rotator sprocket (36) using roll pin (6). Make sure second hole on shaft is facing towards hitch.
2. Fasten rotary actuator (1) to mounting bracket (3) using hardware from actuator.
3. Fasten mounting bracket (3) and actuator (1) to upper three point channel using cap screws (12), link (8), and nuts (13). Leave hardware loose (See Figure 24).



**Figure 24.** Motor Mount Position 6.62" from Front

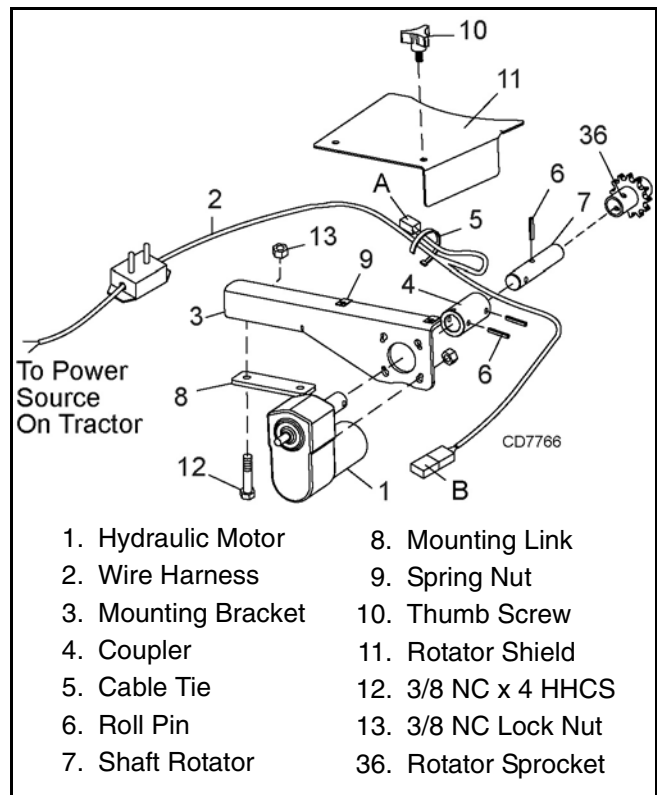
4. Fasten coupler (4) to shaft (7) with roll pin (6).
5. Slide rotary actuator and channel assembly into coupler (4) and attach with roll pin (6). Tighten loose hardware.

### **Install Wiring Harness**

6. Attach connector "A" to the rotary actuator (1), (12" long from splice).

**NOTE:** Attach connector "B" to linear actuator on deflector, if equipped, (36" long from splice).

7. Tie the wire harness away from movable parts and pinching points using cable ties (5).

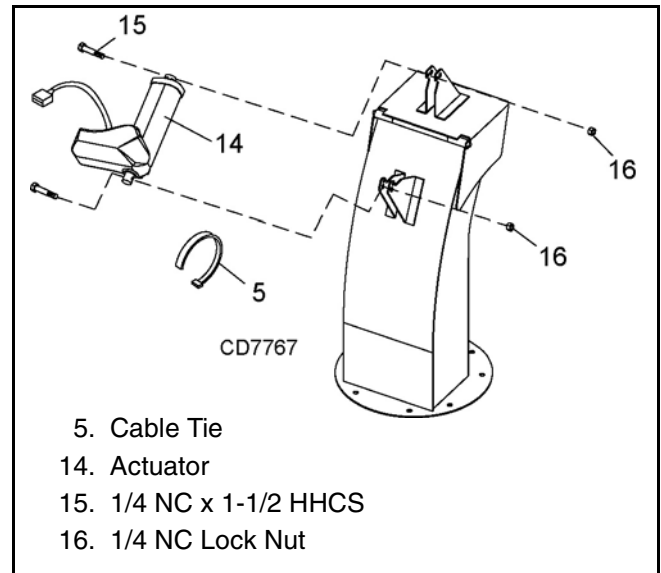


**Figure 25.** Electric Chute Rotator Installation



## **MOUNTING ELECTRIC CHUTE DEFLECTOR (FIGURE 26)**

1. Install remote deflection option by fastening actuator (14) using cap screws (15) and nuts (16). Do not over tighten hardware.



**Figure 26.** Electric Chute Deflector Installation

2. Attach control box in tractor operator area. Attach end to a power source and ground on the tractor, (see tractors operator's manual).

# DEALER CHECK LISTS

## PRE-DELIVERY CHECK LIST

### (Dealer Responsibility)

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

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

- \_\_\_ Check that all safety decals are installed and in good condition. Replace if damaged.
- \_\_\_ Check that shields and guards are properly installed and in good condition. Replace if damaged.
- \_\_\_ Check all bolts to be sure they are tight.
- \_\_\_ Check that all cotter pins and safety pins are properly installed. Replace if damaged.
- \_\_\_ Check and grease all lubrication points as identified in "Service, lubrication information".
- \_\_\_ Check the level of gearbox fluids before delivery. Service, if required, as specified in the "Service, lubrication information."

## DELIVERY CHECK LIST

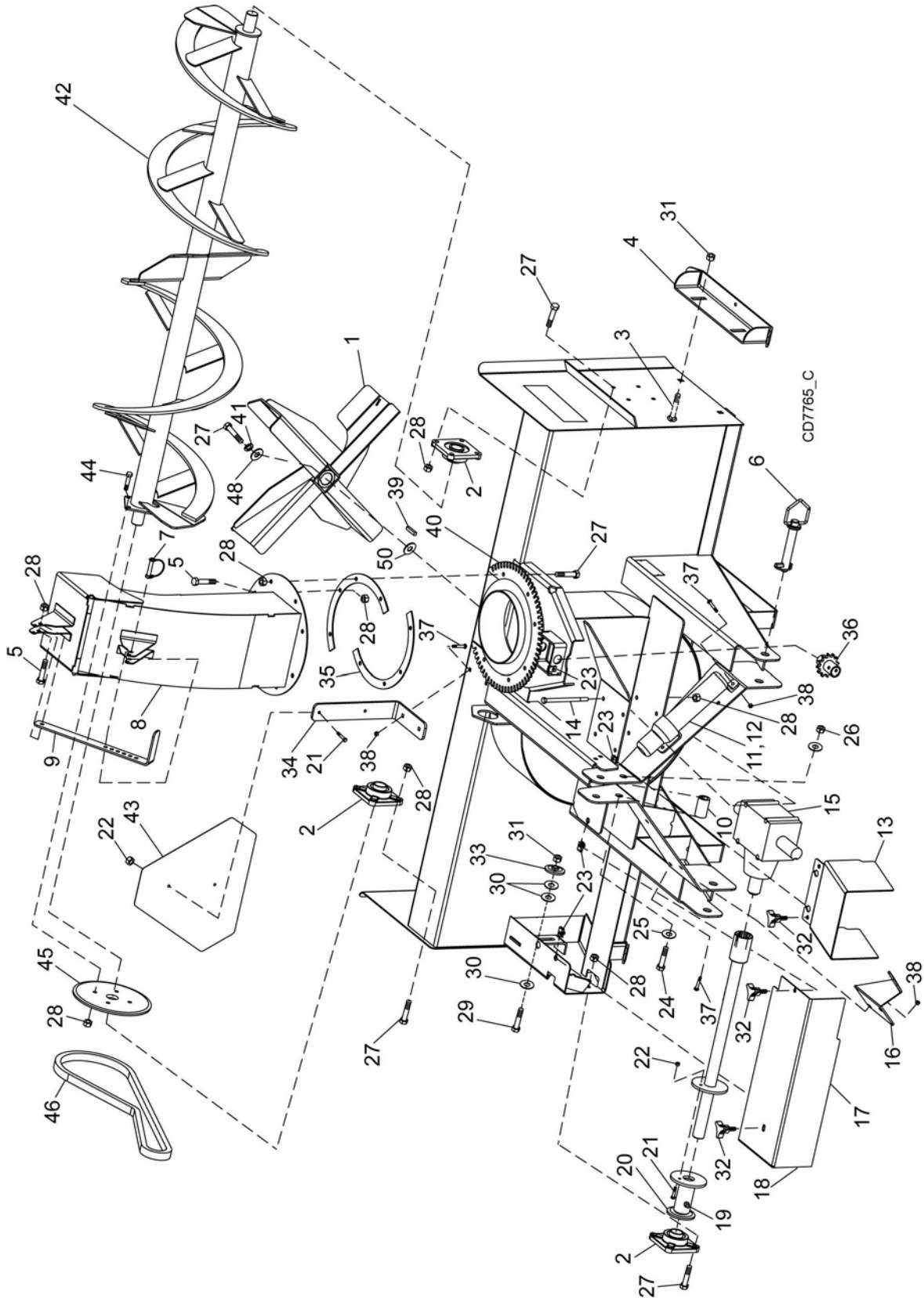
### (Dealer Responsibility)

- \_\_\_ Show customer how to make adjustments and select proper PTO speed.
- \_\_\_ Instruct customer how to lubricate and explain importance of lubrication.
- \_\_\_ Point out the safety decals. Explain their meaning and the need to keep them in place and in good condition. Emphasize the increased safety hazards when instructions are not followed.
- \_\_\_ Present Operator's Manual and request that customer and all operators read it before operating equipment. Point out the manual safety rules, explain their meanings and emphasize the increased safety hazards that exist when safety rules are not followed.
- \_\_\_ 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.
- \_\_\_ Explain to customer the potential crushing hazards of going underneath raised equipment. Instruct customer that service work does not require going underneath unit and never to do so.
- \_\_\_ Point out the correct mounting and routing of hydraulic hoses. Explain that during operation, mounting, dismounting and storage, care must be taken to prevent hose damage from pulling, twisting and kinking.
- \_\_\_ Show customer the safe, proper procedures to be used when mounting, dismounting, and storing equipment.
- \_\_\_ 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.

## **SB54S, SB64S, SB74C & SB84C SNOWBLOWER**

SB54S & SB64S ASSEMBLY . . . . .	28 - 29
SB74C & SB84C ASSEMBLY . . . . .	30 - 31
HAND CRANK ASSEMBLY . . . . .	31
GEARBOX ASSEMBLY . . . . .	32
DRIVE ASSEMBLIES . . . . .	33 - 35
HYDRAULIC CHUTE ROTATOR & DEFLECTOR (OPTIONAL) . . . . .	36
ELECTRIC REMOTE CHUTE ROTATOR & DEFLECTOR (OPTIONAL) . . . . .	37

# SB54S, SB64S SUBCOMPACT SNOWBLOWER ASSEMBLY



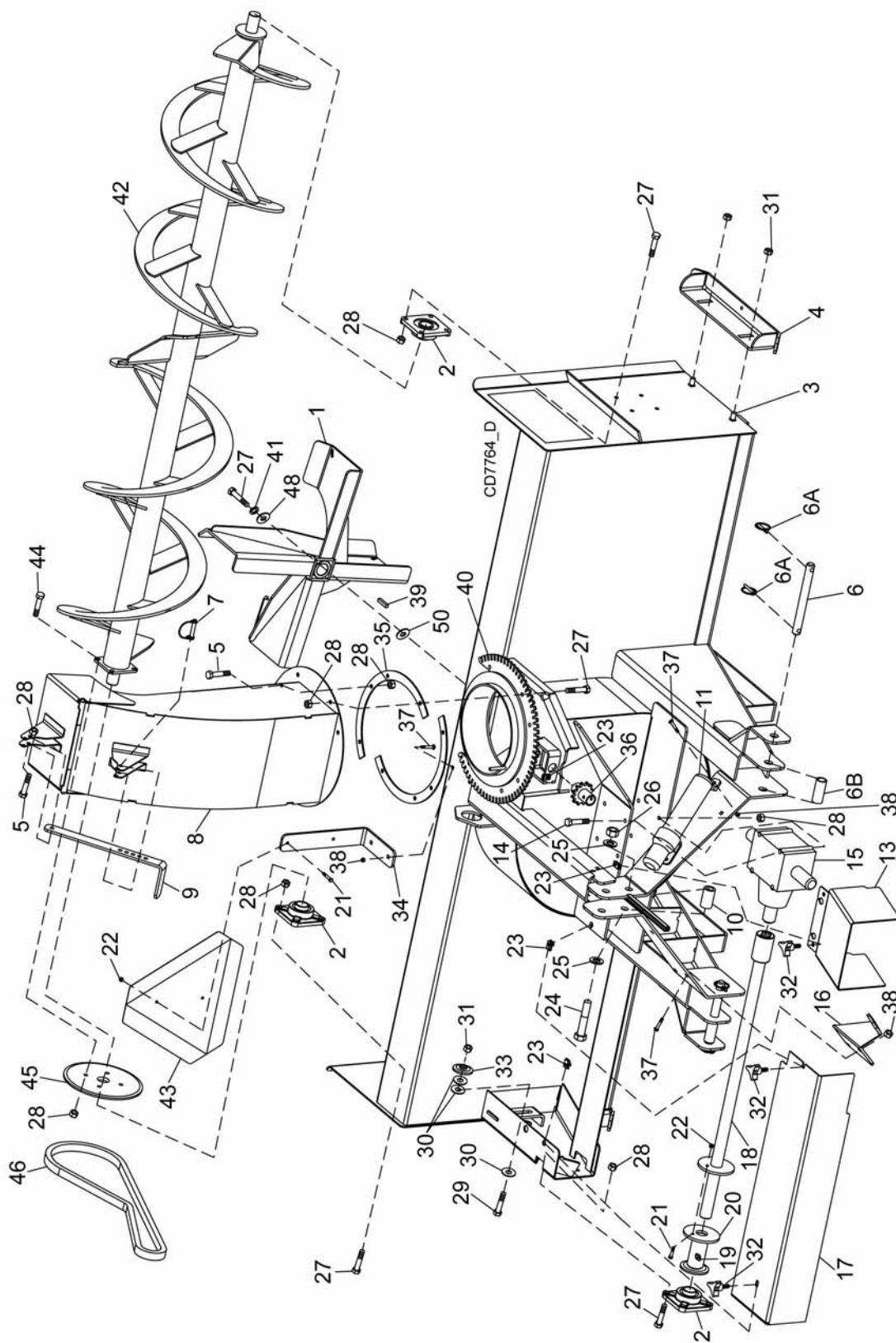
**28 Parts**

(Rev. 10/4/2011)  
MAN0869 (04/13/2011)

## SB54S, SB64S SUBCOMPACT SNOWBLOWER PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1033318	1	Fan	30	3598 *	3	1/2 Flat Washer
2	1033190	3	Bearing	31	765 *	5	1/2 NC Lock Nut
3	29893 *	4	1/2 NC x 1-1/2 Carriage Bolt	32	1033294	3	3/8 x 3/4 Thumb Screw
4	1033313	2	Skid Shoe	33	90311033	1	Idler Bearing
5	976 *	3	3/8 NC x 1-1/2 HHCS GR5	34	1033263	1	SMV Bracket
6	SU105	2	CAT 1 Drawbar Pin	35	1033286	6	Discharge Chute Spacer
7	90025028	1	3/8 x 1-3/4 Pin	36	12020256	1	Sprocket Rotator
8	1033346	1	Discharge Chute	37	51243 *	6	5/16 NC x 1" Carriage Bolt GR5
9	1033339	1	Deflector Handle	38	6778 *	6	5/16 NC Lock Nut
10	1002018	1	Sleeve, .81 x 1-1/4 x 2-1/8	39	24549	1	5/16 x 5/16 x 1-3/4 Key
11	1026530	1	Manual Tube	40	1033317	1	Discharge Chute Clamp
13	1033298	1	Gearbox Shield	41	838 *	1	3/8 Lock Washer
14	1033291 *	4	3/8 NC x 5-1/2 HHCS GR5	42	103329554	1	Auger - <b>SB54S</b>
15	1033222	1	Gearbox	42	103329564	1	Auger - <b>SB64S</b>
16	1033312	1	Drive Holder	43	24611	1	SMV Sign
17	103329754	1	Jackshaft Shield - <b>SB54S</b>	44	839 *	4	3/8 NC x 1" HHCS GR5
17	103329764	1	Jackshaft Shield - <b>SB64S</b>	45	1033213	1	Sprocket
18	103321454	1	Auger Drive Shaft - <b>SB54S</b>	46	1033277	1	Chain
18	103321464	1	Auger Drive Shaft - <b>SB64S</b>	47	1033977	1	Safety Decal Set
19	12296 *	1	1/4-28 Straight Grease Fitting	48	33677	1	Washer, 1/2 x 1-9/16 x 10 GA
20	1033211	1	Drive Sprocket	49	1033956	1	Model Decal Set - <b>SB54S &amp; SB64S</b>
21	10378 *	3	1/4 NC x 1 HHCS GR5	50	565 *	A/R	Washer, 3/8 Flat (SN 1188497 & Below)
22	6128 *	3	1/4 NC Lock Nut	51	73163 *	2	Nut, Whiz 5/16 NC Flange
23	1033293	4	3/8 Spring Nut				
24	31207 *	1	3/4 NC x 4 HHCS GR5		HHCS		Hex Head Cap Screw
25	2864 *	2	3/4 Flat Washer		*		Standard Hardware - Obtain Locally
26	2371 *	1	3/4 NC Lock Nut		A/R		As Required
27	12169 *	19	3/8 NC x 1-1/4 HHCS GR5				
28	6698 *	29	3/8 NC Lock Nut				
29	24576 *	1	1/2 NC x 1-3/4 HHCS GR5				

# SB74C, SB84C COMPACT SNOWBLOWER ASSEMBLY



**30 Parts**

(Rev. 10/4/2011)

MAN0869 (04/13/2011)

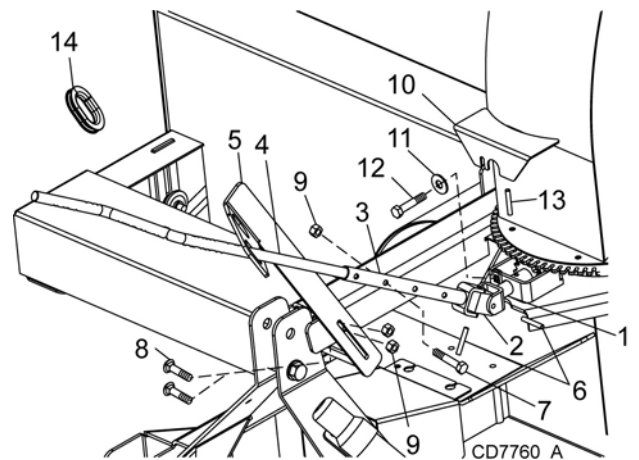
## SB74C, SB84C COMPACT SNOWBLOWER PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1033218	1	Fan	28	6698 *	29	3/8 NC Lock Nut
2	1033190	3	Bearing	29	24576 *	1	1/2 NC x 1-3/4 HHCS GR5
3	29893 *	4	1/2 NC x 1-1/2 Carriage Bolt	30	3598 *	3	1/2 Flat Washer
4	1033226	2	Skid Shoe	31	765 *	5	1/2 NC Lock Nut
5	976 *	3	3/8 NC x 1-1/2 HHCS GR5	32	1033294	3	3/8 x 3/4 Thumb Screw
6	HBL233	2	Pin	33	90311033	1	Idler Bearing
6A	27542	4	Kliik Pin	34	1033263	1	SMV Bracket
6B	56598	2	Sleeve	35	1033253	6	Discharge Chute Spacer
7	90025028	1	3/8 x 1-3/4 Pin	36	12020256	1	Sprocket Rotator
8	1033246	1	Discharge Chute	37	51243 *	6	5/16 NC x 1" Carriage Bolt GR5
9	1033239	1	Deflector Handle	38	6778 *	6	5/16 NC Lock Nut
10	1002018	1	Sleeve, .81 x 1-1/4 x 2-1/8	39	24549	1	5/16 x 5/16 x 1-3/4 Key
11	1026530	1	Manual Tube	40	1033278	1	Discharge Chute Clamp
13	1033298	1	Gearbox Shield	41	838 *	1	3/8 Lock Washer
14	1033291 *	4	3/8 NC x 5-1/2 HHCS GR5	42	103319574	1	Auger - <b>SB74C</b>
15	1033222	1	Gearbox	42	103319584	1	Auger - <b>SB84C</b>
16	1033227	1	Drive Holder	43	24611	1	SMV Sign
17	103329774	1	Jackshaft Shield - <b>SB74C</b>	44	839 *	4	3/8 NC x 1" HHCS GR5
17	103329784	1	Jackshaft Shield - <b>SB84C</b>	45	1033213	1	Sprocket
18	103321474	1	Auger Drive Shaft - <b>SB74C</b>	46	1033244	1	Chain
18	103321484	1	Auger Drive Shaft - <b>SB84C</b>	47	1033977	1	Safety Decal Set
19	12296	1	1/4-28 Straight Grease Fitting	48	33677	1	Washer, 1/2 x 1-9/16 x 10 GA
20	1033211	1	Drive Sprocket	49	1033957	1	Model Decal Set - <b>SB74C &amp; SB84C</b>
21	10378 *	3	1/4 NC x 1 HHCS GR5	50	565 *	A/R	Washer, 3/8 Flat (SN 1188497 & Below)
22	6128 *	3	1/4 NC Lock Nut	51	73163 *	2	Nut, Whiz 5/16 NC Flange
23	1033293	4	3/8 Spring Nut				
24	31207 *	1	3/4 NC x 4 HHCS GR5				
25	2864 *	2	3/4 Flat Washer				
26	2371 *	1	3/4 NC Lock Nut				
27	12169 *	19	3/8 NC x 1-1/4 HHCS GR5				

HHCS      Hex Head Cap Screw  
 \*            Standard Hardware - Obtain Locally  
 A/R        As Required

### HAND CRANK ASSEMBLY

REF	PART	QTY	DESCRIPTION
1	1033342	1	Rotator Shaft
2	1033345	1	Block
3	1033340	1	Clevis and Tube Assembly
4	12030315	1	Hand Crank
5	1033284	1	Handle Mount
6	481757	2	5/16 x 2 Roll Pin
7	24408 *	1	5/16 NC x 1-1/2 HHCS GR5
8	51243 *	2	5/16 NC X 1 HHCS GR5
9	6778 *	3	5/16 NC Hex Nut
10	1033299	1	Shield Rotator
11	838 *	1	3/8 Lock Washer
12	839 *	1	3/8 NC x 1 HHCS GR5
13	41	1	5/16 x 1-3/4 Roll Pin
14	1033774	1	Trim Strip, 6.5" Long

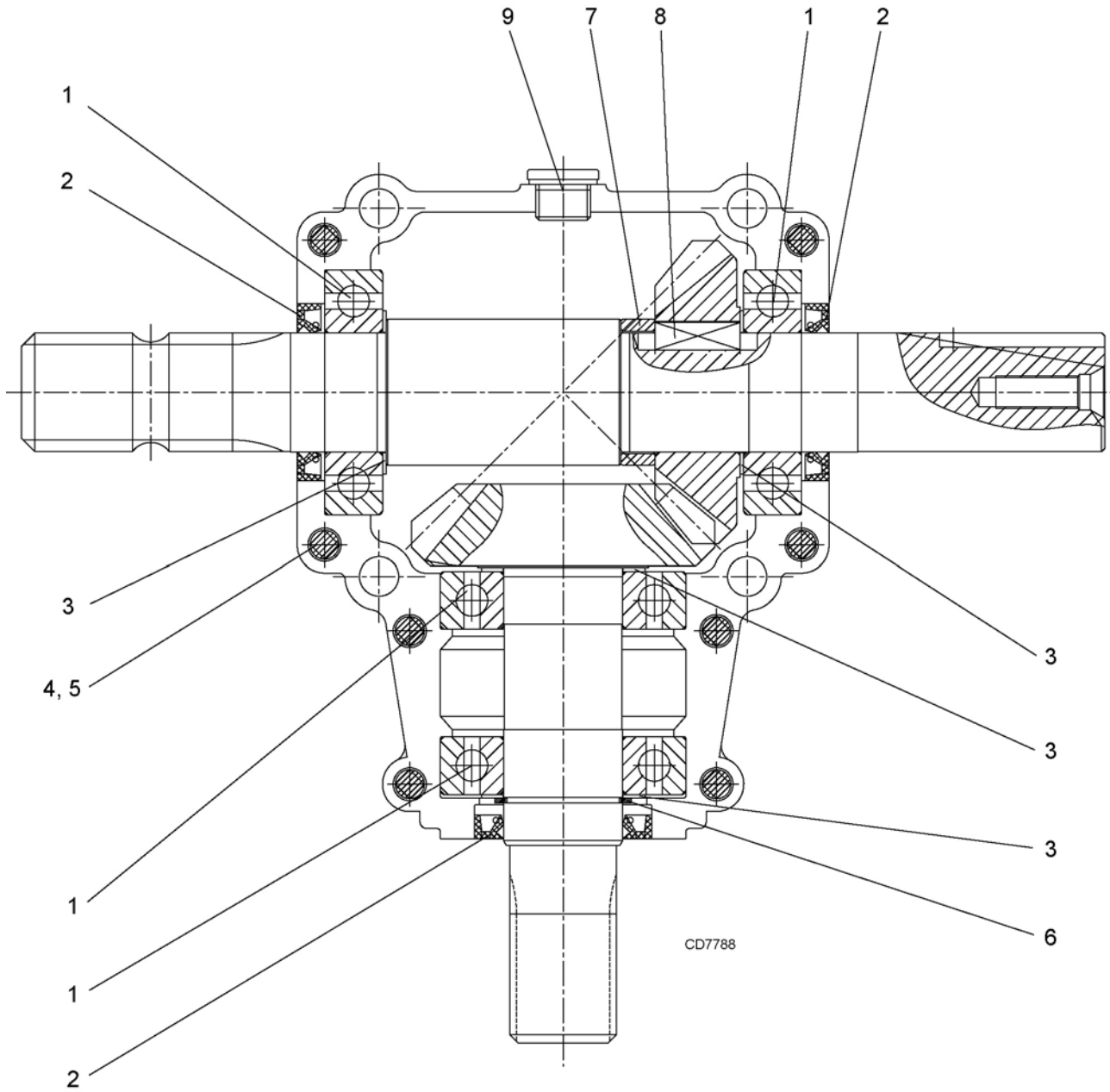


HHCS      Hex Head Cap Screw  
 \*            Standard Hardware, Obtain Locally

(Rev. 10/4/2011)  
 MAN0869 (04/13/2011)

# Parts 31

## GEARBOX ASSEMBLY



CD7788

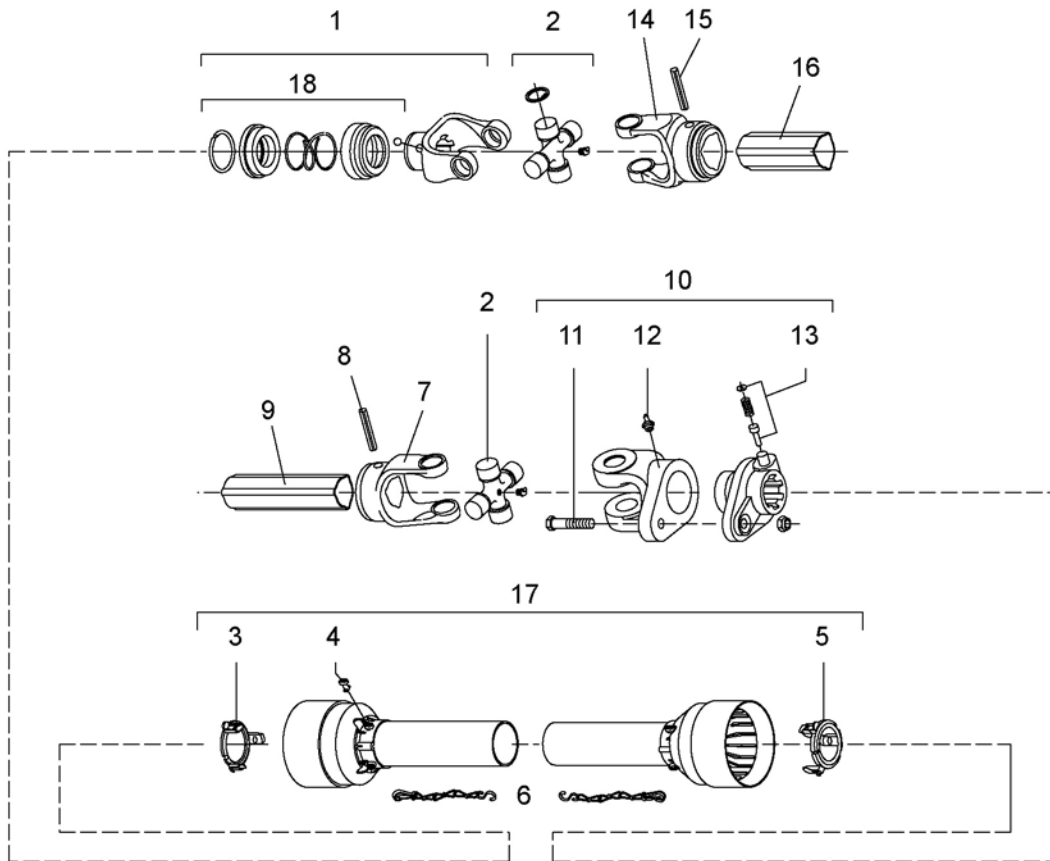
REF	PART	QTY	DESCRIPTION
1	438	4	Ball Bearing
2	20901	3	Seal
3	1007866	4	Shim Pack
4	307126	8	M8 x 55 Socket Head Cap Screw
5	30515	8	M8 Hex Nut
6	1007859	1	External Circlip, 35 x 1.5
7	1033764	1	Spacer
8	1033765	1	Key
9	1033766	1	Gasket and Plug

**32 Parts**

MAN0869 (04/13/2011)



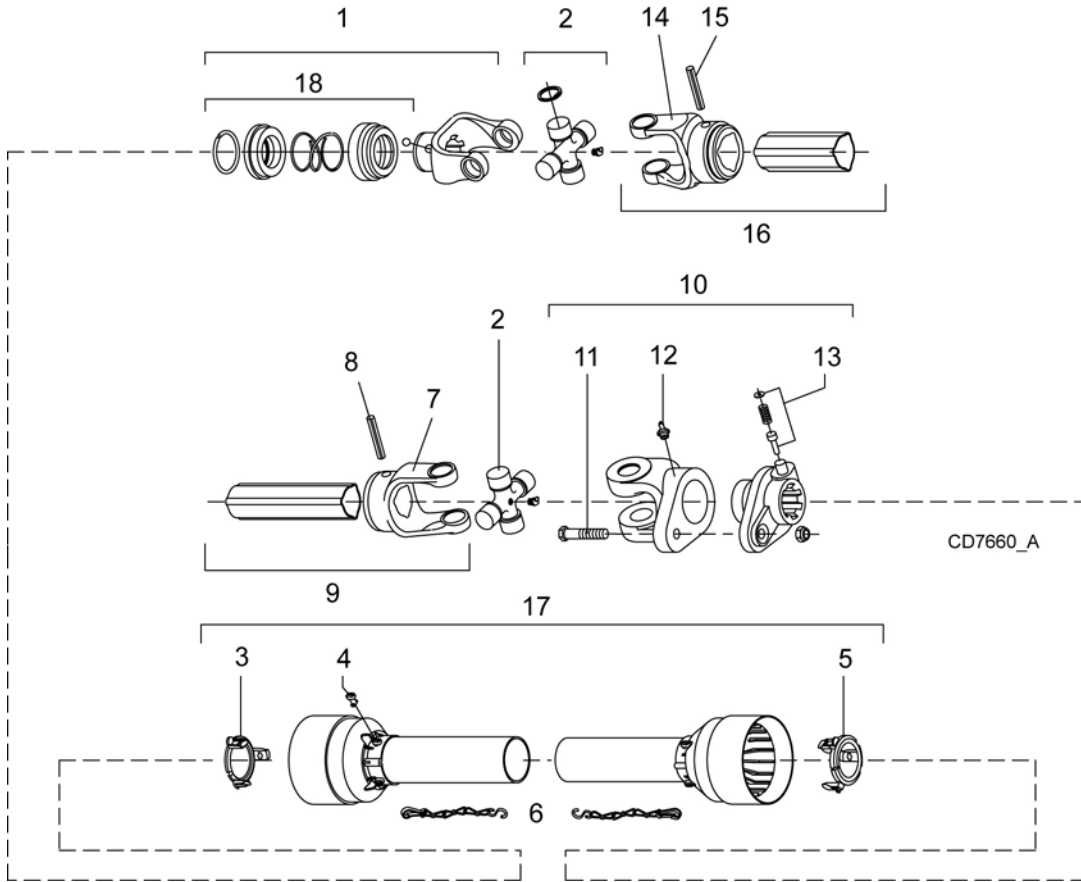
**1031908 - COMER SHEAR BOLT DRIVE ASSEMBLY (OPTIONAL)**  
**SB54S, SB64S**



CD7660

REF	PART	QTY	DESCRIPTION
A	1031908	1	Complete 540 driveline and shear bolt assembly
1	1032411	1	Complete collar yoke C12 1-3/8
2	41534	2	Cross & bearing kit
3	37167	1	Collar, outer tube
4	30922	6	Shield retainer
5	37172	1	Collar, inner tube
6	30917	2	Shield tether chains
7	1032414	1	Yoke, inner tube
8	1032415	1	Flexible pin
9	1032416	1	Inner profile tube
10	1032428	1	Shear yoke assembly
11	1032429	1	Bolt and Nut M6 x 40 cl 10.9
12	1032430	1	Grease fitting
13	30913	1	1-3/8 Push pin set
14	1032423	1	Yoke, outer tube
15	1001305	1	Flexible pin
16	1032425	1	Outer profile tube
17	1025873	1	Complete shield kit
18	1001340	1	Lock collar repair kit

**1031826 - COMER SHEAR BOLT DRIVE ASSEMBLY (OPTIONAL)**  
**SB74C, SB84C**



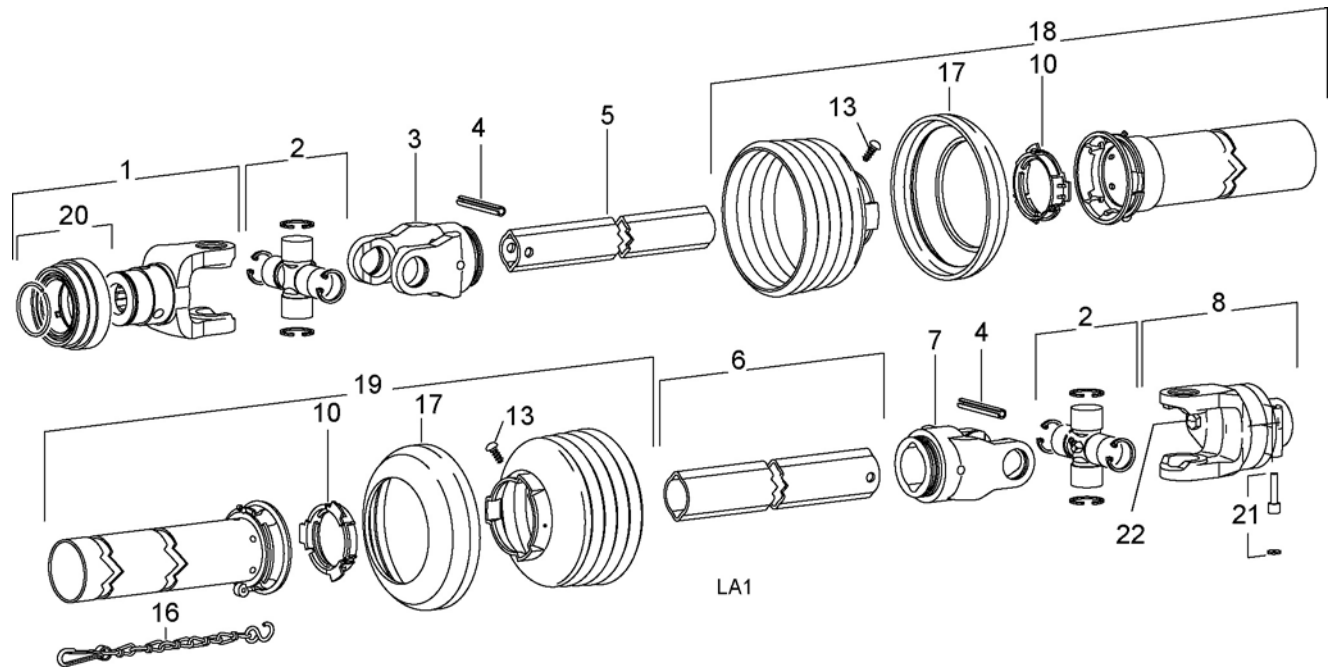
REF	PART	QTY	DESCRIPTION
A	1031826	1	Complete 540 driveline and shear bolt assembly
1	1001300	1	Complete collar yoke C12 1-3/8
2	38478	2	Cross & bearing kit
3	1019442	1	Collar, outer tube
4	30922	6	Shield retainer
5	1019444	1	Collar, inner tube
6	30917	2	Shield tether chains
7	1001306	1	Yoke, inner tube
8	1001305	1	Flexible pin
9	30928	1	Inner profile tube & yoke
10	1032435	1	Shear yoke assembly
11	1032436	1	Bolt and Nut M8 x 50 cl 8.8
12	1032430	1	Grease fitting
13	30913	1	1-3/8 Push pin set
14	1001301	1	Yoke, outer tube
15	1001302	1	Flexible pin
16	30926	1	Outer profile tube & yoke
17	1021552	1	Complete shield kit
18	1001340	1	Lock collar repair kit

**34 Parts**

(Rev. 10/4/2011)  
 MAN0869 (04/13/2011)

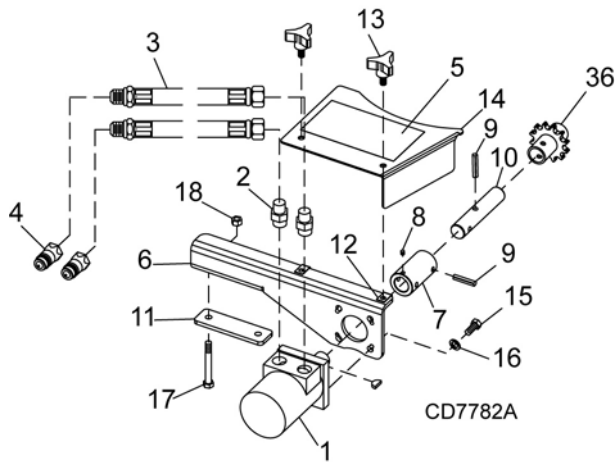
# 1033266- WALTERSCHEID DRIVE ASSEMBLY (OPTIONAL)

SB54S, SB64S, SB74C, SB84C

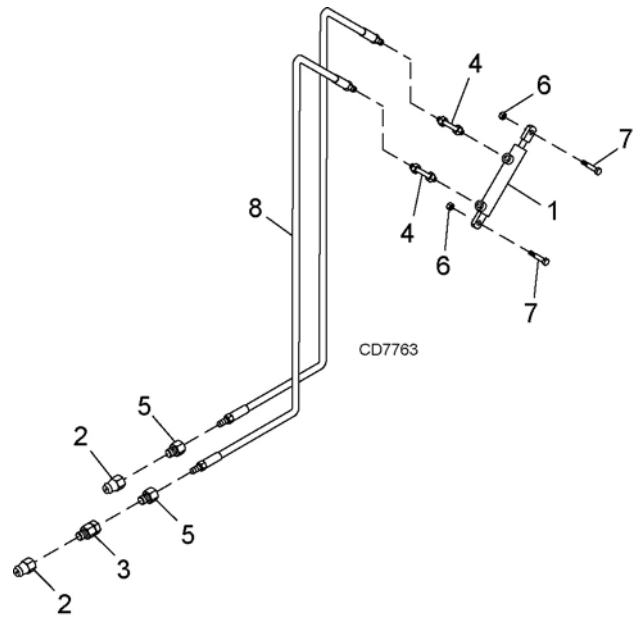


REF	PART	QTY	DESCRIPTION
A	1033266	1	Complete 540 Driveline Assembly
1	38498	1	Yoke Assembly
2	38478	2	Cross Bearing Kit
3	415147	1	Inboard Yoke
4	415146	2	Spring Pin
5	40587	1	Inner Profile
6	40588	1	Outer Profile
7	1029940	1	Inboard Yoke
8	1029941	1	Shearbolt Clutch
10	40766	2	Bearing Ring
13	40778	2	Screw, M3.5 x 10 mm
16	40777	1	Chain
17	1029932	2	Collar
18	1029943	1	Kit - Outer Guard Complete (includes items 9, 10, 11, 13, 14 & 17)
19	1029942	1	Kit - Inner Guard Complete (includes items 9, 10, 12, 13, 16 & 17)
20	40589	1	Collar Repair Kit
21	1005784	1	Quick Disconnect Pin Kit
22	1032436	1	M8 x 50 CL 8.8, Shear Bolt & Nut

## HYDRAULIC CHUTE ROTATOR (OPTIONAL)



## HYDRAULIC CHUTE DEFLECTOR (OPTIONAL)

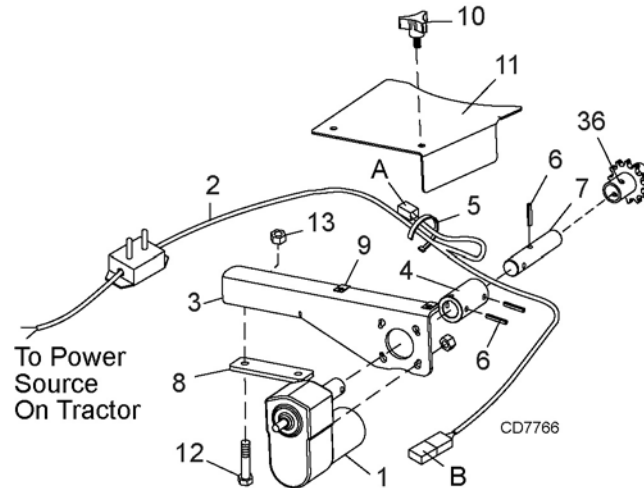


REF	PART	QTY	DESCRIPTION
1	90405236	1	Hydraulic Motor
2	90519159	2	.031 x 6MJIC 10MORG Restrictor
3	90519160	2	3/8 x 6JICF x 8 MORB Hose, 54"L
4	64332	2	Male Quick Coupler
5	1033603	1	Decal, WRNG - Hydraulic Pressure
6	1033611	1	Motor Mount Channel
7	10430071	1	Motor Coupler
8	301605 *	1	5/16 NC x 3/8 SHSS
9	41	2	5/16 x 1-3/4 Roll Pin
10	1033613	1	Shaft Rotator
11	1033614	1	Mounting Link
12	1033293	2	3/8 -16 U-Tapped Spring Nut
13	1033294	2	3/8 x 3/4 Thumb Screw
14	1033737	1	Safety Shield
15	839 *	4	3/8 NC x 1 HHCS GR5
16	838 *	4	3/8 Lock Washer
17	14478 *	2	3/8 NC x 4 HHCS GR5
18	6698 *	2	3/8 NC Lock Nut

HHCS Hex Head Cap Screw  
 SSSS Socket Head Set Screw  
 \* Standard Hardware, Obtain Locally

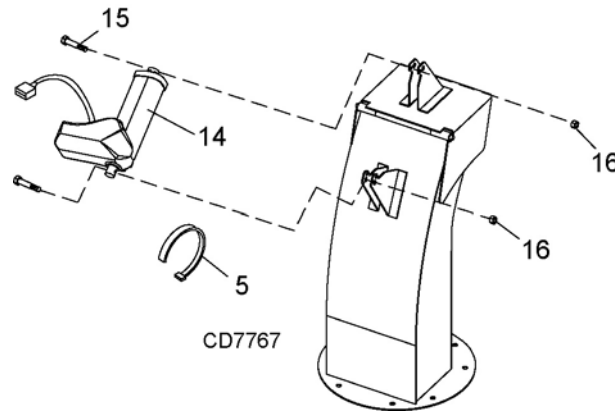
REF	PART	QTY	DESCRIPTION
1	1033300	1	Hydraulic Cylinder 1 x 3 x 7.75
2	66511	2	1/2 NPT Male Coupler
3	90501531	1	1/2" Swivel Restrictor
4	8572	2	1/4 Elbow
5	11893	2	1/4 NPTF x 1/2 NPTM Adapter
6	6698 *	2	3/8 NC Lock Nut
7	920 *	2	3/8 NC x 1-3/4 HHCS GR5
8	21020219	2	1/4 Hose, 1/4MP x 1/4MP, 101"L
	HHCS		Hex Head Cap Screw
	*		Standard Hardware, Obtain Locally

## ELECTRIC CHUTE ROTATOR (OPTIONAL)



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	12030819	1	Rotary Actuator	10	1033294	2	3/8 x 3/4 Thumb Screw
2	12030802	1	Wiring Harness	11	1033736	1	Rotator Shield
3	1033611	1	Motor Mount	12	14478 *	2	3/8 NC x 4 HHCS GR5
4	10430071	1	Motor Coupling	13	6698 *	2	3/8 NC Lock Nut
5	88	2	Plastic Tie (Ty-Rap) 3/16 x 14-1/4	36	12020256	1	Sprocket Rotator
6	41	3	5/16 x 1-3/4 Roll Pin				
7	1033613	1	Shaft, Hydraulic Rotator		HHCS		Hex Head Cap Screw
8	1033614	1	Mounting Link		*		Standard Hardware - Obtain Locally
9	1033293	2	3/8-16 U-Tapped Spring Nut				

## ELECTRIC CHUTE DEFLECTOR (OPTIONAL)



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
5	88	1	Plastic Tie (Ty-Rap) 3/16 x 14-1/4				
14	1033727	1	Linear Actuator		HHCS		Hex Head Cap Screw
15	62788 *	1	1/4 NC x 1-1/2 HHCS GR5		*		Standard Hardware, Obtain Locally
16	6128 *	2	1/4 NC Lock Nut				

# BOLT TORQUE CHART

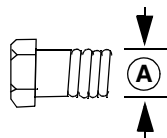
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

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

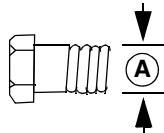


SAE Grade 5  
(3 Radial Dashes)



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

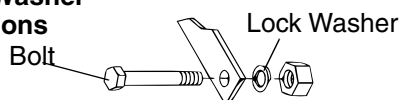
Metric Bolt Head Identification



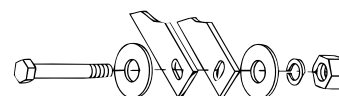
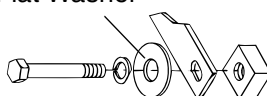
Metric  
Grade 10.9

Ⓐ 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



### 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

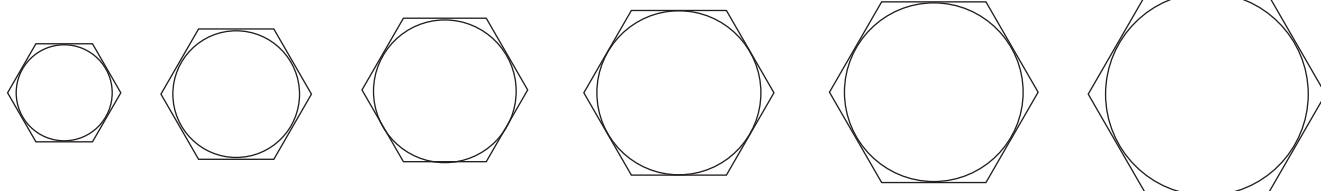
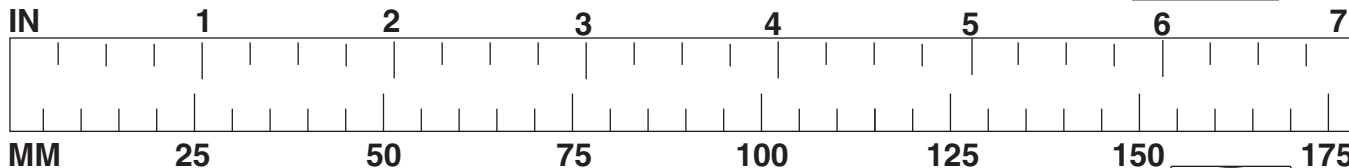
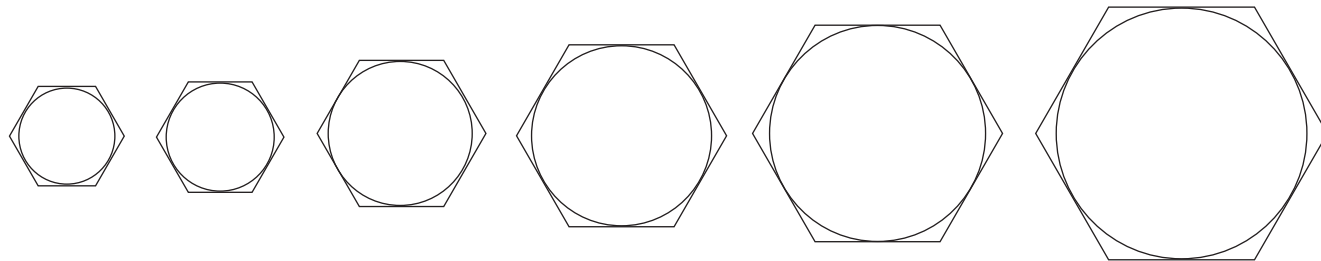
3/8

1/2

5/8

3/4

7/8



## Metric Bolt Thread Sizes

8MM

10MM

12MM

14MM

16MM

18MM

## ABBREVIATIONS

AG ..... Agriculture  
 ASABE..... American Society of Agricultural & Biological Engineers (formerly ASAE)  
 ASAE ..... American Society of Agricultural Engineers  
 ATF ..... Automatic Transmission Fluid  
 BSPP ..... British Standard Pipe Parallel  
 BSPTM ..... British Standard Pipe Tapered Male  
 CV ..... Constant Velocity  
 CCW ..... Counter-Clockwise  
 CW ..... Clockwise  
 F ..... Female  
 FT ..... Full Thread  
 GA ..... Gauge  
 GR (5, etc.) ..... Grade (5, etc.)  
 HHCS ..... Hex Head Cap Screw  
 HT ..... Heat-Treated  
 JIC ..... Joint Industry Council 37° Degree Flare  
 LH ..... Left Hand  
 LT ..... Left  
 m ..... Meter  
 mm ..... Millimeter  
 M ..... Male

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



# WARRANTY

All Models Except Mow'n Machine™ Zero-Turn Mowers

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.

All current model loaders and backhoes are warranted for two (2) years from the date of delivery to the original purchaser.

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

Part or Condition Warranted	Model Number	Duration (from date of delivery to the original purchaser)
Gearbox Seals	All units listed below	2 years
Gearbox components	BW1260, BW1620, BW1800, BW2400	8 years
	BW240HD, BW180HD, BW180HB, BW126HB	7 years
	BB48X, BB60X, BB72X, BB84X, BB600X, BB720X, BB840X, BB6000X, BB7200X, BB8400X, DS1260, DSO1260, DS1440, TS1680, BW126-3, BW180-3, BW240	6 years
	PHD25, PHD35, PHD65, PHD95, 2162, 3240, DS96, DS120, RCC42, RM550-2, RM660-2, RD990X, PRD6000, PRD7200, PRD8400, S15CD, S20CD, S22CD, S25CD, S27CD, BW180LH, TC/R74, TC/R68, TC/R60, TBW144, TBW180, TBW204	5 years
	RDC54, RD60, RD72, TBW150C, TS/R60, TS/R52, TS/R44	3 years (1 year if used in rental or commercial applications)
Blade spindles	RM550-2, RM660-2, RD990X, PRD6000, PRD7200, PRD8400, TBW144, TBW180, TBW204	3 years
Rust-through	BB600, BB720, BB840, BB6000, BB7200, BB8400, BW126-3, BW126HB, BW180-3, BW180HB, BW180HD, BW1260, BW1800, BW240, BW240HD, 2162, 3240, DS1260, DSO1260, DS1440, TS1680	10 years

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

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

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

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

No agent, representative, dealer, distributor, serviceperson, salesperson, or employee of any company, including without limitation, WOODS, its authorized dealers, distributors, and service centers, is authorized to alter, modify, or enlarge this Warranty. Answers to any questions regarding warranty service and locations may be obtained by contacting:

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**CENTRAL FABRICATORS®**  
**GANNON®**  
**GILL®**  
**WAIN-ROY®**  
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### Woods Equipment Company

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800-399-6637 fax  
www.WoodsEquipment.com





## WARRANTY

(Replacement Parts For All Models Except Mow'n Machine™  
Zero-Turn Mowers)

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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