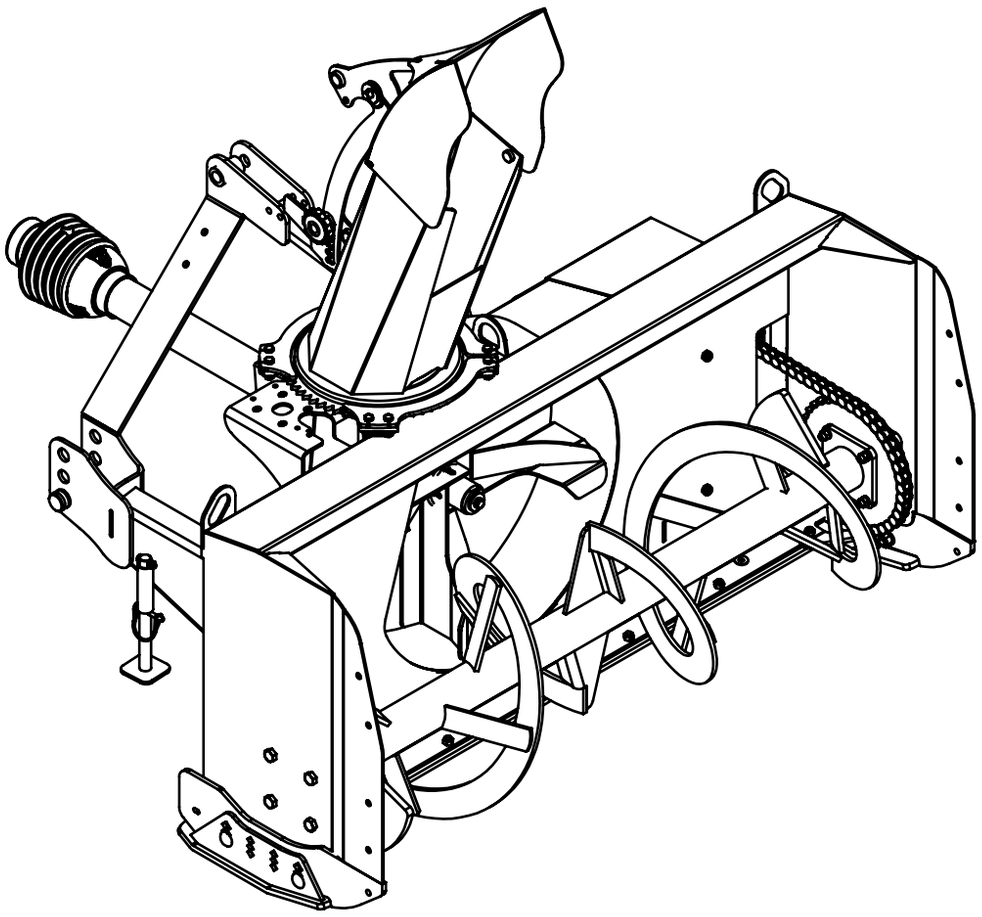
SNOW BLOWER

SB54.30
SB64.30
SB74.30
SB84.30



OPERATOR'S MANUAL

MAN1367
(Rev 11/02/2023)

WOODS®

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 Checklists 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 Checklist items have been completed. 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 obtain complete warranty details, visit WoodsEquipment.com/warranty. You may also request a hard copy by calling 1-800-319-6637 or mail your request to: Woods Equipment Company, Attn: Warranty Dept. 2606 South Illinois Route 2, Oregon, IL 61061. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.

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

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

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

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

Serial Number: (see Safety Decal section for location) _____

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

Throughout this manual, the term **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.

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

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

⚠ CAUTION 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.

TABLE OF CONTENTS

¡LEA EL INSTRUCTIVO!

Si no lee Ingles, pida ayuda a alguien que si lo lee 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

Model Number	**SB54.30**	**SB64.30**	**SB74.30**	**SB84.30**
Type	2 Stage	2 Stage	2 Stage	2 Stage
Working Width	54"	64"	74"	84"
Working Height	25-1/4"	27-1/2"	27-1/2"	27-1/2"
Operating Weight	465 Lbs	540 Lbs	640 Lbs	700 Lbs
Input Driveline Spec	Series 40	Series 40	Series 50	Series 50
Driveline Torque Protection	Shear Bolt	Shear Bolt	Shear Bolt	Shear Bolt
Fan Diameter	22"	24"	24"	24"
Fan Depth	6"	7"	9"	9"
Number of Fan Blades	4	4	4	4
Fan Shaft Diameter	1-3/8"	1-3/8"	1-3/8"	1-3/8"
Fan Speed	540 RPM	540 RPM	540 RPM	540 RPM
Gearbox Ratio	1 : 1	1 : 1	1 : 1	1 : 1
Side Drive Shaft	1-3/8"	1-3/8"	1-3/8"	1-3/8"
Side Drive Sprocket	12	12	12	12
Number of Augers	1	1	1	1
Auger Diameter	15"	15"	15"	15"
Auger Speed	170 RPM	170 RPM	200 RPM	200 RPM
Auger Flighting Size	5/16" x 2"	5/16" x 2"	5/16" x 2"	5/16" x 2"
Auger Tube	2-7/8"	2-7/8"	2-7/8"	2-7/8"
Auger Drive Chain Size	#60	#60	#60	#60
Auger Torque Protection	Shear Bolt	Shear Bolt	Shear Bolt	Shear Bolt
Auger Sprocket	38	38	32	32
Bearing Type	4-Bolt Flange	4-Bolt Flange	4-Bolt Flange	4-Bolt Flange
Bearing Diameter	1-1/4"	1-1/4"	1-1/4"	1-1/4"
Chute Shape	Octagonal	Octagonal	Octagonal	Octagonal
Chute Diameter	9"	9"	11"	11"
Chute Rotation Angle	320°	320°	320°	320°
Standard Chute Rotation	Manual	Manual	Manual	Manual
Optional Chute Rotation	Hydraulic Motor	Hydraulic Motor	Hydraulic Motor	Hydraulic Motor
Standard Chute Deflector	Manual	Manual	Manual	Manual
Optional Chute Deflectors	Hydraulic Cylinder, or Electric Actuator			
Cutting Edge Type	Reversible & Replaceable			
Cutting Edge Size	3/8" x 1-1/2"	3/8" x 1-1/2"	3/8" x 1-1/2"	3/8" x 1-1/2"
Skid Shoe Type	3-Position, Reversible & Replaceable			
Shipping Weight - Crated	590 Lbs	680 Lbs	800 Lbs	860 Lbs
Overall Width	54-3/4"	64-3/4"	75-1/4"	85-1/4"
Overall Height	53"	55"	59"	59"
Overall Length	40-1/2"	40-1/2"	45-1/2"	45-1/2"
Tractor PTO Speed	540 RPM	540 RPM	540 RPM	540 RPM
Tractor PTO Horsepower	15 - 30	20 - 40	30 - 50	30 - 50
Tractor 3-Point Hitch	Category 1	Category 1	Category 1 or 2	Category 1 or 2
Quick Hitch Compatible	Standard	Standard	Standard	Standard

GENERAL INFORMATION

⚠ WARNING

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

The purpose of this manual is to assist you in operating and maintaining your snow blower. 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.

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

- **This machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.**
- **Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals and safety decals are available from your dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.) Failure to follow instructions or safety rules can result in serious injury or death.**
- **If you do not understand any part of this manual and need assistance, see your dealer.**
- **Know your controls and how to stop engine and attachment quickly in an emergency.**
- **Operators must be responsible, trained, familiar with the instructions and be physically 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 Bolt 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.**
- **Route hydraulic hoses carefully to prevent damage. Hoses must not be twisted, bent sharply, kinked, frayed, pinched, or come into contact with any moving parts. Operate moveable components through full operational range to check clearances. Replace any damaged hose immediately.**
- **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.**
- **Do not leave a running machine unattended. Always park on level ground, disengage tractor PTO, set parking brake, and stop engine.**
- **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, front tractor weights or front loader. Weigh the tractor and equipment. Do not estimate.**

SAFETY RULES

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

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

TRANSPORTATION

- **Always comply with all state and local lighting and marking requirements.**
- **Do not operate PTO during transport.**
- **Do not operate or transport on steep slopes.**
- **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.**

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 the area of operation clear of all bystanders, particularly small children [within 300 ft (92 m)]. Stop the machine and attachments(s) if anyone enters the area.**
- **Be alert and turn the machine off if children enter the work area.**
- **Before and when backing, look behind for small children.**
- **Never carry children while operating the machine. They may fall off and be seriously injured or interfere with the safe operation of the machine.**
- **Use extra care when approaching blind corners, shrubs, trees, or other obstructions that might hide children from sight.**
- **Keep bystanders away from equipment.**
- **Never direct discharge toward people, animals, or property. Rocks, snow, ice and other materials can be thrown up to 300 feet during operation.**
- **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.**
- **Never allow riders on power unit or attachment.**
- **Power unit must be equipped with Roll Over Protection System (ROPS) or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in “locked up” position at all times.**
- **Always sit in power unit seat when operating controls or starting engine. Securely fasten seat belt, place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting power unit engine.**
- **Operate tractor PTO at 540 RPM. Do not exceed.**
- **Connect PTO driveline directly to power unit PTO shaft. Never use adapter sleeves or adapter shafts. Adapters can cause driveline failures due to incorrect spline or incorrect operating length and can result in personal injury or death.**
- **Only engage power when equipment is at ground operating level. Always disengage power when equipment is raised off the ground.**
- **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.**
- **Use extreme caution when operating on, or crossing a gravel driveway and direct discharge in a safe direction.**

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

- **If the implement starts to vibrate abnormally, disengage the PTO, stop the engine immediately and check for cause.**

- **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.**

- **Always make sure any material and waste products from the repair and maintenance of the implement are properly collected and disposed.**

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

- **Tighten all bolts, nuts, and screws to Bolt 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.**

- **For continued protection against risk of fire, replace ONLY with a fuse of the same type and having the same electrical rating.**

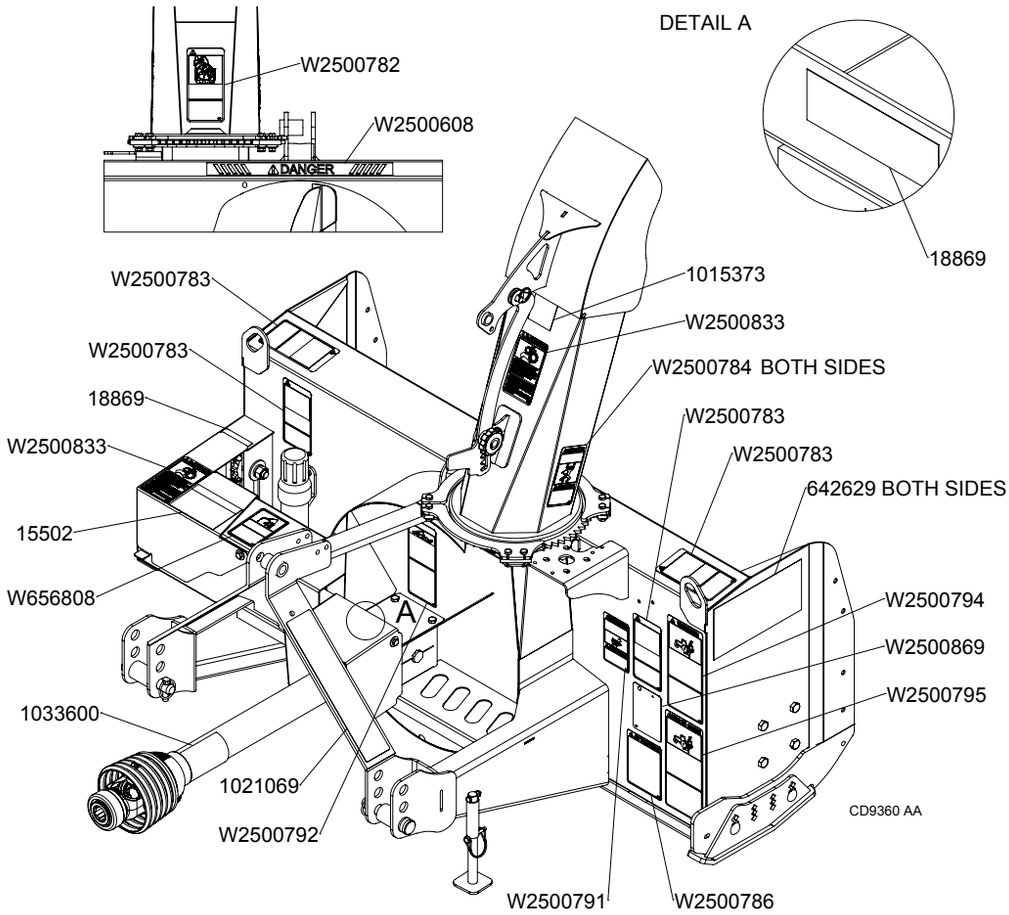
STORAGE

- **Block equipment securely for storage.**
- **Keep children, bystanders and animals away from the equipment and the storage area.**

SAFETY & INSTRUCTIONAL DECALS

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

Replace Immediately If Damaged!



1033600

W656808

SERIAL NUMBER PLATE

W2500608

W2500782

BE CAREFUL!

Keep safety decals clean and visible.

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.

Replace safety decals if they are missing or illegible.

Replacement safety decals can be ordered free from your Woods dealer, or in the United States and Canada call 1-800-319-6637.

SAFETY & INSTRUCTIONAL DECALS

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Replace Immediately If Damaged!

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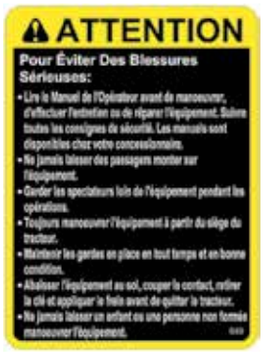

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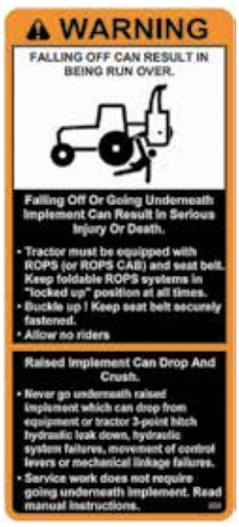

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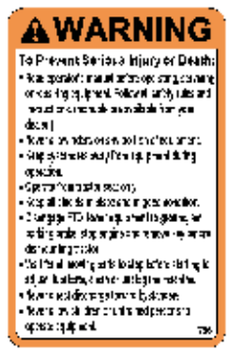


OPERATION

The operator is responsible for the safe operation of the snow blower. The operator must be properly trained. Operators should be familiar with the tractor, snow blower, 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, 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 responsible, trained, familiar with the instructions and be physically 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.
- **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.**
- **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 19 prior to operating this Snow Blower.**

PRINCIPAL COMPONENTS

The snow blower has three main operating components. An 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 chute.

The snow blower 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 SB54.30 and SB64.30 snow blowers require the tractor to be equipped with a Category 1 three-point hitch. The SB74.30 and SB84.30 snow blowers require the tractor to be equipped with a Category 1 or Category 2 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 snow blower. 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, front tractor weights or front loader. Weigh the tractor and equipment. Do not estimate.**

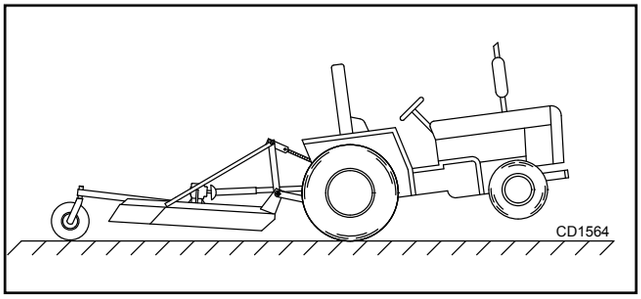


Figure 1. Tractor Stability (Typical)

ATTACHING SNOW BLOWER TO TRACTOR WITH A 3-POINT HITCH

Figure 2

1. Make sure the parking stand is lowered. To do this, remove the round wire lock pin (item 9) from the parking stand (item 8), lower the parking stand and insert the round wire lock pin (item 9) under the snow blower attachment tube.
2. Move the tractor into position in front of the snow blower. Move back slowly and carefully, not allowing anyone to be between the tractor and the snow blower.
3. Turn off the tractor engine.
4. Attach the tractor lower arms (item 2) with the two pins (item 1) and secure in place with the 7/16" ring pins (item 3) in the upper holes (item 10) for small tractors and in the lower or middle holes (item 4) for larger tractors.
5. Attach the tractor top link (item 5) between the upper attachment plates of the snow blower (item 7) with the pin and the ring pin (item 6) provided with the tractor.
6. Adjust the snow blower using the tractor top link so that the back of the snow blower housing is perpendicular to the ground.
7. Adjust the anti-sway devices of the tractor to prevent lateral swinging of the snow blower. Make sure there is no contact with the tires.
8. Raise the parking stand. To do this, remove the round wire lock pin (item 9) from the parking stand (item 8), raise the parking stand and insert the round wire lock pin (item 9) over the snow blower attachment tube.
9. Go to Driveline Attachment section for further instructions.

⚠ CAUTION

- **Before connecting the snow blower driveline to tractor drive shaft, make sure driveline is not too long in raised, lowered and middle position. If the driveline is too long it must be shortened, to avoid damaged to tractor. See pages 13 to 15 for instructions.**

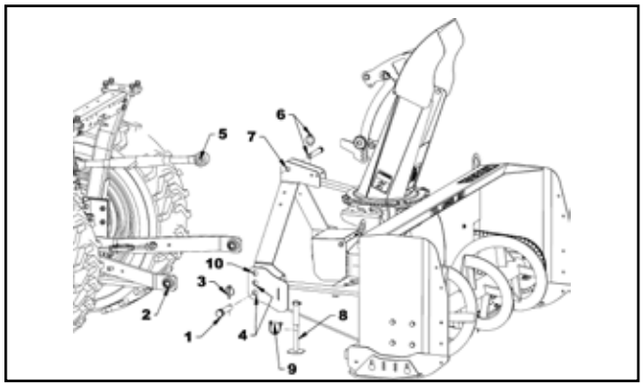


Figure 2. Attaching with a 3-Point Hitch

ATTACHING SNOW BLOWER TO TRACTOR WITH A QUICK HITCH

Figure 3

1. Make sure the parking stand is lowered. To do this, remove the round wire lock pin (item 9) from the parking stand (item 8), lower the parking stand and insert the round wire lock pin (item 9) under the snow blower attachment tube.
2. Move the tractor into position in front of the snow blower. Move back slowly and carefully, not allowing anyone to be between the tractor and the snow blower.
3. Turn off the tractor engine.
4. Insert a 1-7/16" OD x 2-3/16" long bushing (item 10) between the plates of the snow blower lower hitch and secure in the upper hole (item 4) with the pin (item 1) and the 7/16" linchpin (item 3). Do the same on the other side.
5. Insert a Insert a 1-1/4" OD x 1-13/16" long long bushing (item 11) between the plates of the snow blower upper hitch (item 7) and secure with the pin and the linchpin (item 6) provided with the tractor.
6. Make sure that the quick release latches (item 2) are securely closed. Lower the 3-Point so that the hooks on the quick hitch (item 2) are lower than the snow blower pins and bushings (items 1 and 10). Reverse the tractor slowly until the hooks are under snow blower pins and bushings (items 1 and 10). Then, raise the 3-Point until the quick-release latches (item 2) snap on the pins with the snow blower bushings (items 1 and 10) to lock the system.
7. Adjust the snow blower using the tractor top link so that the back of the snow blower housing is perpendicular to the ground.
8. Raise the parking stand. To do this, remove the round wire lock pin (item 9) from the parking stand (item 8), raise the parking stand and insert the round wire lock pin (item 9) over the snow blower attachment tube.
9. Go to Driveline Attachment section for further instructions.

⚠ CAUTION

- **Before connecting the snow blower driveline to tractor drive shaft, make sure driveline is not too long in raised, lowered and middle position. If the driveline is too long it must be shortened, to avoid damaged to tractor. See pages 13 to 15 for instructions.**

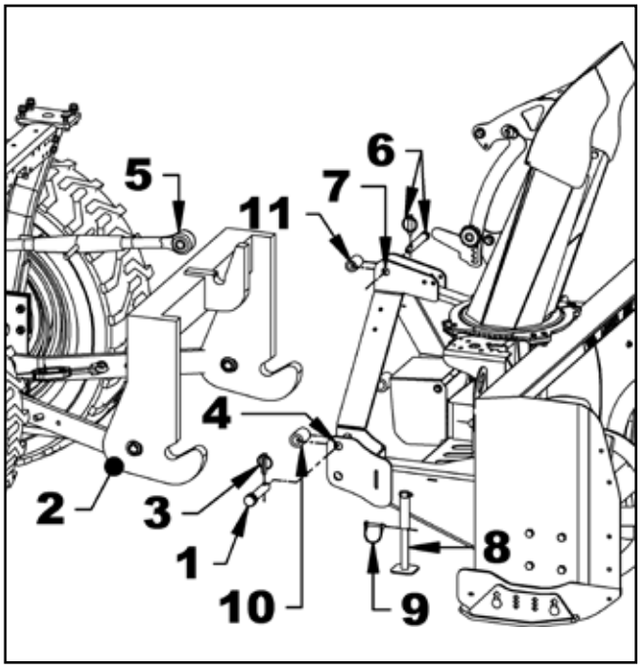


Figure 3. Attaching with a Quick Hitch

NOTICE

- **If the PTO driveline is too long, severe driveline and gearbox damage is possible when hooking up the PTO driveline from the rotary snow blower 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.**

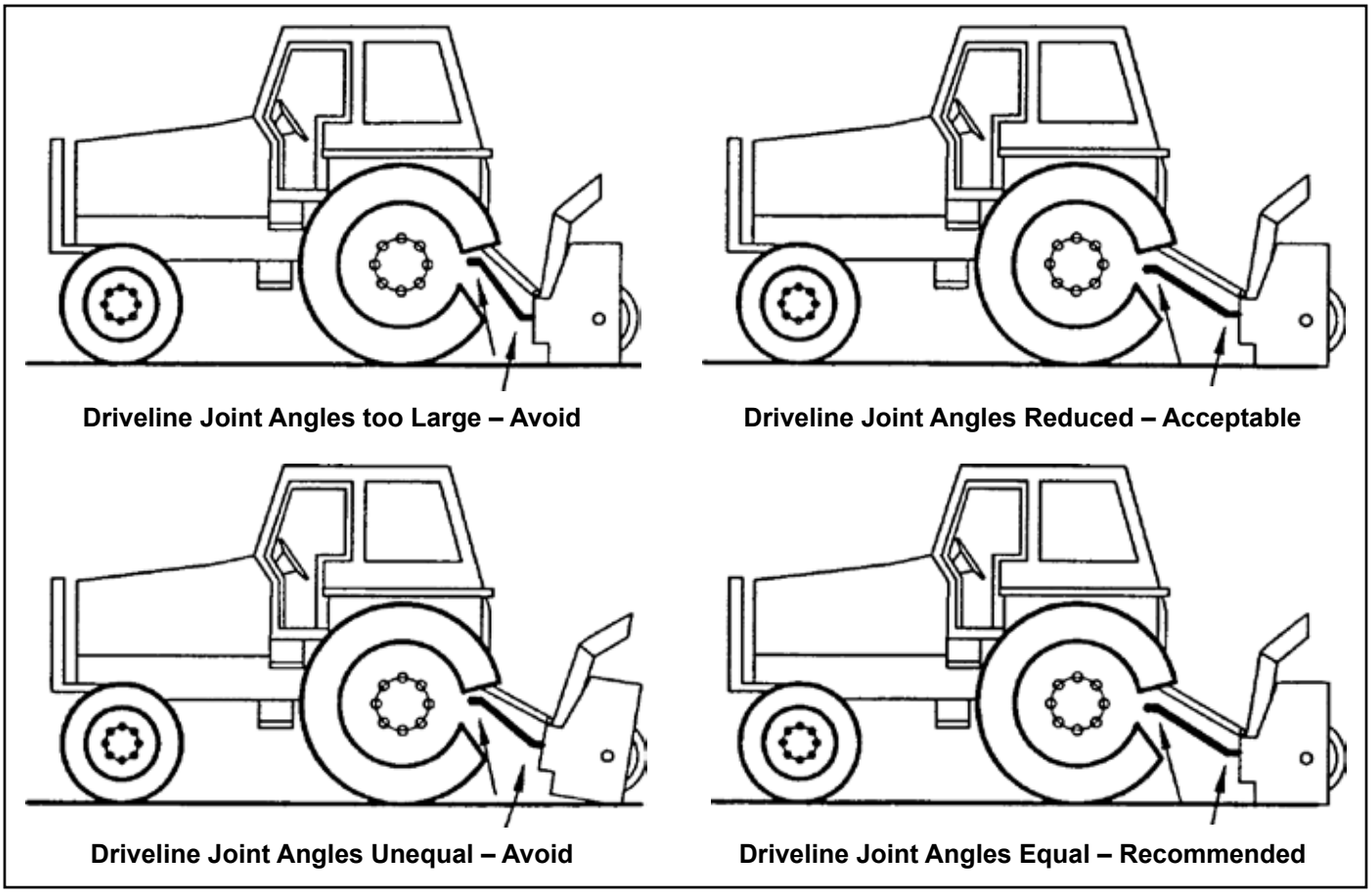


Figure 4. Driveline Joint Angles

DRIVELINE ATTACHMENT

Preparation of the Driveline

IMPORTANT: To obtain the proper universal joint angles, it is recommended to adjust the 3-Point hitch at the furthest point from the tractor recommended by the manufacturer. The universal joint angle is directly related with the life of driveline. To reduce the angle, it is necessary to increase the distance between the snow blower and the tractor.

IMPORTANT: Do not change the snow blower angle on the tractor hitch to obtain a better scraping effect. Avoid this practice as it can damage the driveline since the joint angle at each end is unequal. This results in a fan speed variation as well as an increased load on driveline bearings. It is always recommended to keep tractor PTO shaft and snow blower input shaft parallel.

Determining Driveline Length

Figures 5 & 6

Model	Minimum Tube Overlap	Y
SB54.30 < 20 PTO Hp	5-1/4"	5"
SB54.30 > 20 PTO Hp	7-1/2"	5"
SB64.30	7-1/2"	5"
SB74.30	7-1/2"	5-1/2"
SB84.30	7-1/2"	5-1/2"

IMPORTANT: Before using the snow blower, make sure the driveline is the proper length. There must be sufficient overlap of the inner and outer drive tubes but there must not be any interference.

1. To determine the "**L**" length for your tractor model first find the "**X**" distance by measuring between the end of the tractor's PTO shaft and the end of the snow blower's input shaft when the snow blower is in transport position as shown, when raised to maximum height.

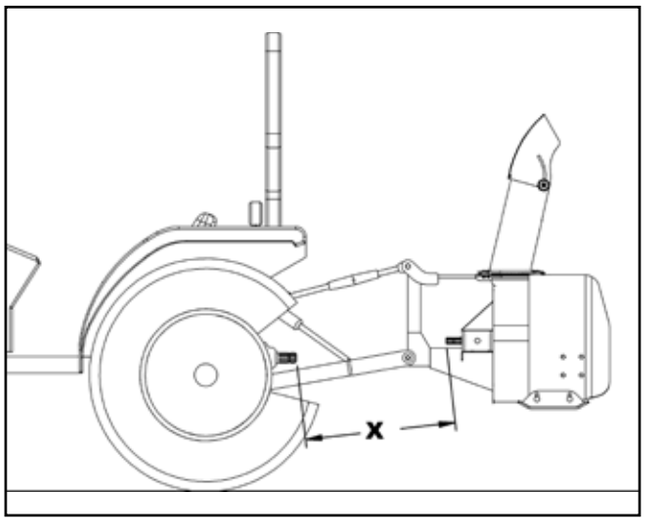


Figure 5. Find the “X” Distance

2. From the table on the preceding page, use the “**Y**” value according to the snow blower model and subtract that number from the “**X**” distance measured previously to determine “**L**”.
3. Hold the two half-shafts side by side and locate the “**L**” length between the two center-to-center half-shaft universal joints. Mark off the zone to be cut on both halves opposite each half-shaft guard as shown in Figure 5.
4. Cut inner and outer plastic guard tubes.
5. Cut the steel tubes to leave the 1-1/4" between the end of the guard and the end of each tube.
6. File the ends of the tubes to remove burrs and clean out any chips.
7. Apply grease to the inside of the female tube section.

Driveline Installation

Figure 7

1. Remove the paint from the gearbox shaft (item 1) and grease if needed. Grease also the sliding surfaces and yoke (item 2) of the driveline.
2. Remove the bolts (item 3) from the yoke (item 2) and connect the yoke to the gearbox shaft (item 1). Secure the driveline by reinstalling the bolts and nuts (items 3-4) in the order shown. Tighten all bolts according to the Bolt Torque Chart specifications at the end of the manual.
3. Install the driveline (item 5) on the tractor’s PTO shaft.
4. Raise the snow blower slowly to the maximum height while ensuring that there is enough room between the two sections of the driveline. Also make sure it is long enough when lowered.

⚠ WARNING

- **Avoid serious injury or death – This shaft rotates at high speed (540 RPM). If the quick release system is not securely locked on the tractor shaft, (a click must be heard), or if the coupling to the snow blower is not secured correctly, the driveline can be released with force which can cause serious injury or death.**

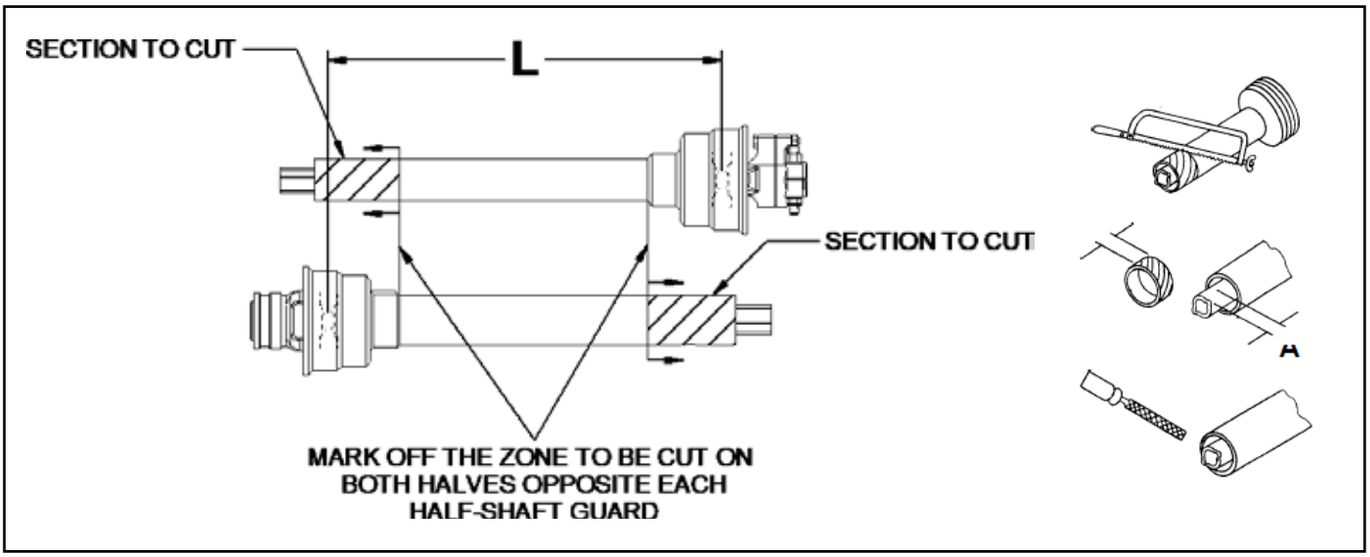


Figure 6. Determining Driveline Length

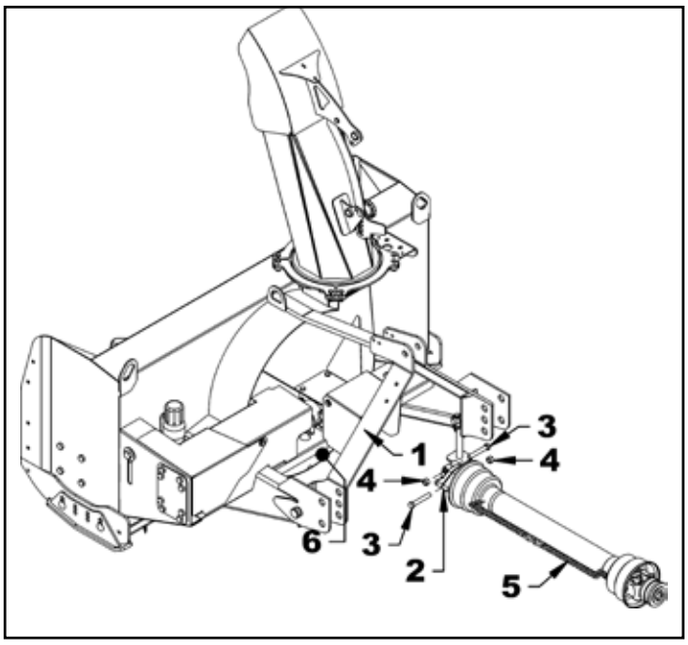


Figure 7. Driveline Installation

MACHINE BREAK-IN

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

After operating for 1/2 hour:

1. Check all nuts, bolts and other fasteners. Tighten to the specifications shown in the Bolt Torque Chart.
2. Check drive chain tension. Adjust as required.
3. Check that auger, fan and chute are in good condition.
4. Check oil level in the gearbox. Add as required.
5. Lubricate all grease points.

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 20.

OPERATING TECHNIQUE

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 19.
2. Review “Attaching Snow Blower to Tractor” section, page 11.
3. Before going to the field, review “Transporting” section, page 17.
4. Position snow blower in a level area and lower into working position. Make sure the parking stand is in the raised position and that the snow blower is clear of snow and other material.
5. Starting Snow Blower:
   - 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 snow blower 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 7 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 input driveline and side drive shaft are both protected by shear bolts in case of shock load from striking an obstruction. To access the shear bolts, lift the guards, (items 3 and 4). See parts section for bolt size and grade.

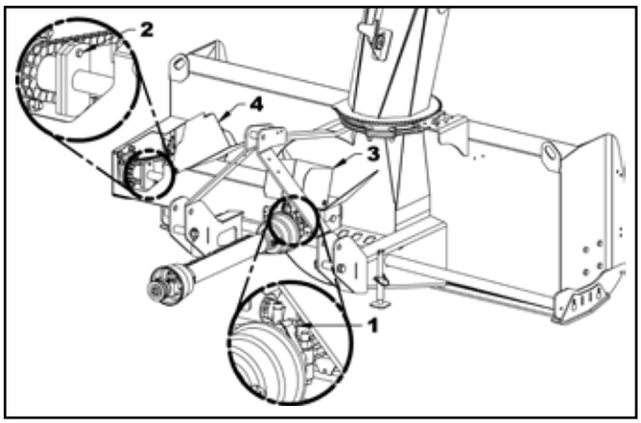


Figure 8. Shear Bolts

⚠ WARNING

- **Never direct discharge toward people, animals, or property. Rocks, snow, ice and other materials can be thrown up to 300 feet during operation.**
- **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.**

Adjusting Discharge Direction

To change direction of snow discharge, turn the manual rotation handle clockwise to turn the chute to the right.

If this snow blower is equipped with the optional hydraulic chute rotation, activate the appropriate tractor controls to rotate the chute. Reverse hoses if the rotation is not in the desired direction.

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 toprevent deflector damage and improve resolution of deflector adjustment.

Adjusting Discharge Chute Deflector Position

The height of snow discharge is controlled by position of chute deflector on discharge chute.

To adjust the deflector angle, unscrew the plastic handle and select a notch at the desired angle. It is recommended to use the notches, but it is possible to adjust the angle between two notches. Tighten the plastic handle.

If this snow blower is equipped with a hydraulic deflector, activate the tractor controls to move the deflector. Reverse hoses if movement of the deflector is not in the desired direction.

If this snow blower is equipped with an electric deflector, operate the switch to move the deflector.

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

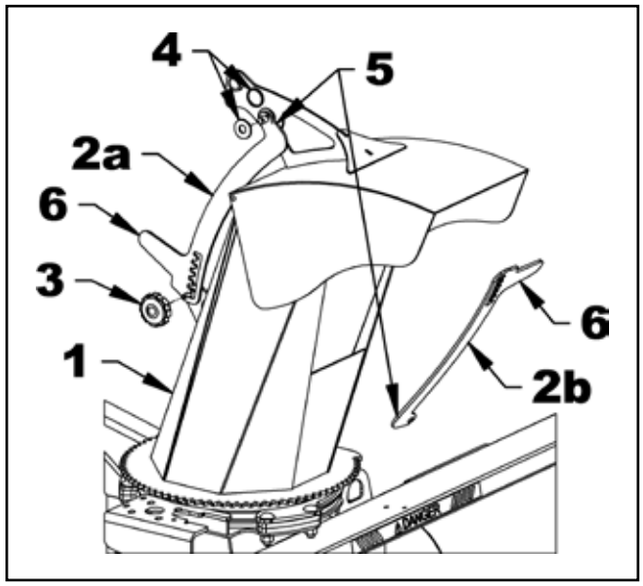


Figure 9. Discharge Chute Position

⚠ WARNING

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

10. Depth of cut can be controlled with the skid shoes.

11. Adjust the snow blower so that the skid shoes run level and according to the surface conditions so that stones are not thrown with the snow. Make sure the skid shoes are at the same height to keep cutting edge leveled. To adjust, remove the bolts (item 2) and reinsert them in the appropriate hole according to the following:

- On level paved surfaces - Use the lower holes.
- On uneven surfaces or gravel - Use the middle or upper holes.

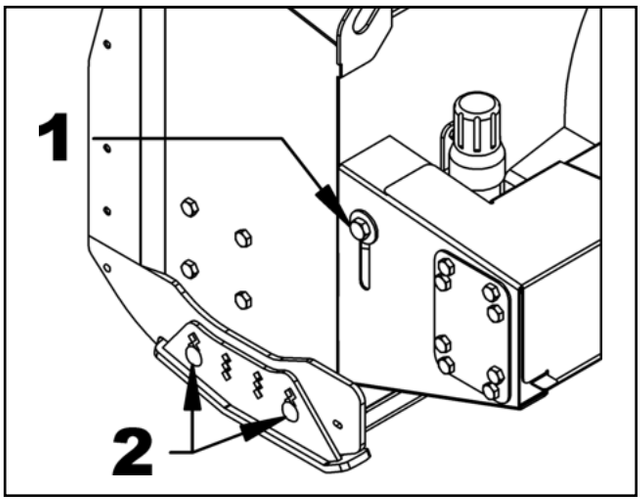


Figure 10. Skid Shoe Adjustment

12. Allow the snow blower to work its way through the snow rather than forcing it.

13. In deep snow it may be necessary to raise the snow blower for the first pass through and clean up the remainder with a second pass.

14. Do not feed snow through snow blower 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, front tractor weights or front loader. 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 snow blower, review and follow this procedure:

⚠ CAUTION

- **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.**

SNOW REMOVAL METHODS

When removing snow, do not use the snow blower as a dozer blade to push snow. Let the snow blower work its way through deep drifts. If the speed of your tractor is too fast, the snow blower may become overloaded and clog. For best results, raise the snow blower and remove a top layer of snow. A second pass with the snow blower will remove the remaining snow.

IMPORTANT: Use full 540 RPM power when removing wet, sticky snow. Low RPM power will tend to clog the chute.

⚠ WARNING

- **Do not use hands or feet to unclog chute. Do not attempt to clear clogged chute of snow while tractor engine is running. If the chute clogs, disengage the PTO according to owner's manual, shut off the tractor engine, remove the ignition key, wait for all movement to stop, and then clear the snow from the chute.**

A definite pattern of operation is required to thoroughly clean the snow area. These patterns will avoid throwing snow in unwanted places as well as eliminating a need to perform a second pass with the snow blower.

Where it is possible to throw the snow to the left and right (see next page), as on a long driveway, it is advantageous to start in the middle. Plow from one end to the other, throwing snow to both sides without changing the direction of the chute.

If the snow can only be thrown to one side of the driveway or sidewalk (see next page), start on the opposite side. At the end of the first pass, rotate the discharge guide 180 degrees for the return pass. At the end of each succeeding pass, rotate the chute 180 degrees to maintain the direction of throw in the same area.

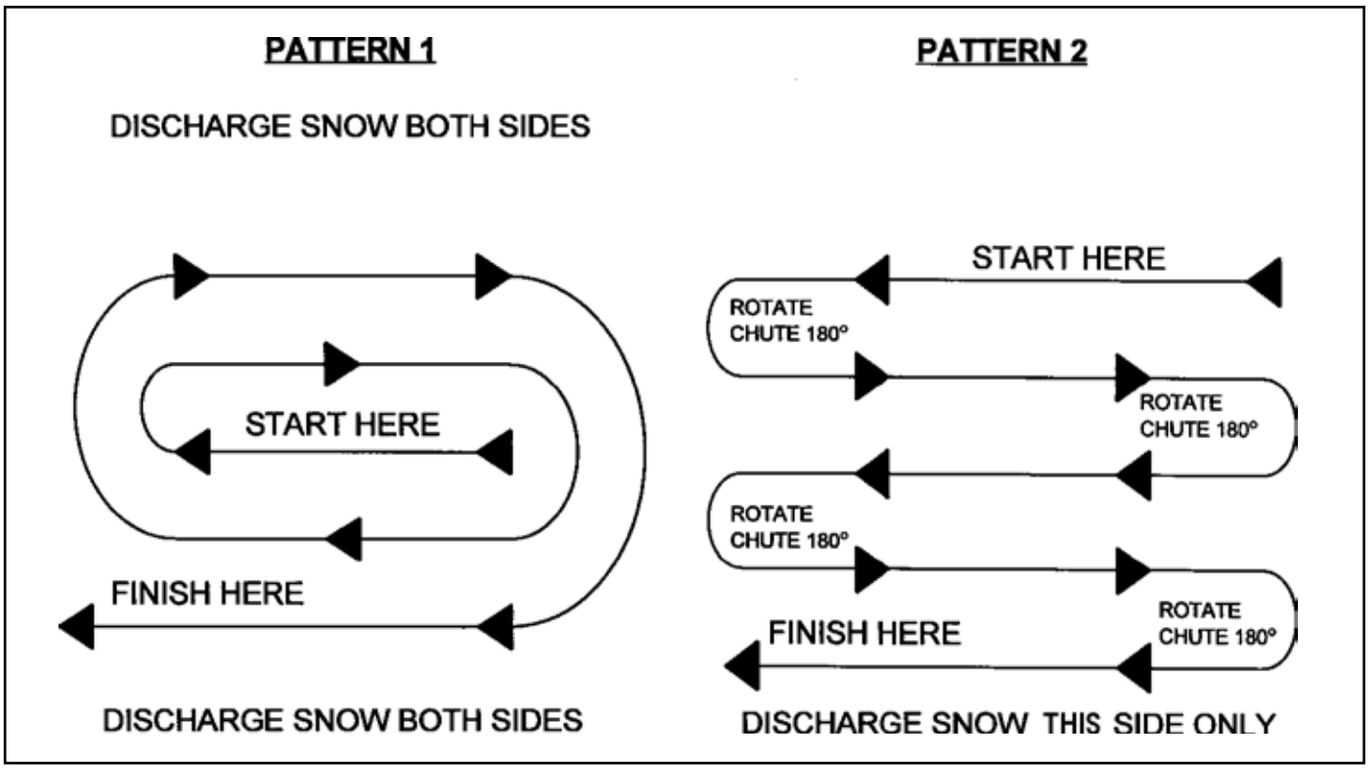


Figure 11. Snow Removal Patterns

STORAGE

⚠ WARNING

- **Block equipment securely for storage.**
- **Keep children, bystanders, and animals away from the equipment and the 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 CHECKLIST

(OWNER'S RESPONSIBILITY)

_____ Review and follow all safety rules and safety decal instructions on 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 540 RPM only.

_____ 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. If you need help, your dealer has trained service technicians available. For your protection, read and follow the 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, 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.**
- **If you do not understand any part of this manual and need assistance, see your dealer.**
- **For continued protection against risk of fire, replace ONLY with a fuse of the same type and having the same electrical rating.**
- **Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.**
- **Tighten all bolts, nuts, and screws to Bolt 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.

Shear Bolt Replacement

The input driveline and side drive shaft are both protected by shear bolts in case of shock load from striking an obstruction. To access the shear bolts, lift the guards, (items 3 and 4). See parts section for bolt size and grade.

⚠ WARNING

- **Always use approved shear bolt as replacement part. Using a hardened bolt or shear pin may result in damage to driveline or gearbox.**
- **Before proceeding, read and follow all safety rules.**

1. Shut off tractor and remove the key.
2. Remove any obstructions from the auger, chain, or sprockets.
3. To access the shearbolts, (items 1 and 2), lift the guards, (items 3 and 4).
4. Remove the damaged bolt and rotate the auger by hand to align the holes.
5. Install new shear bolt and nut shown in the parts lists and tighten to the specification shown in the Bolt Torque Chart.

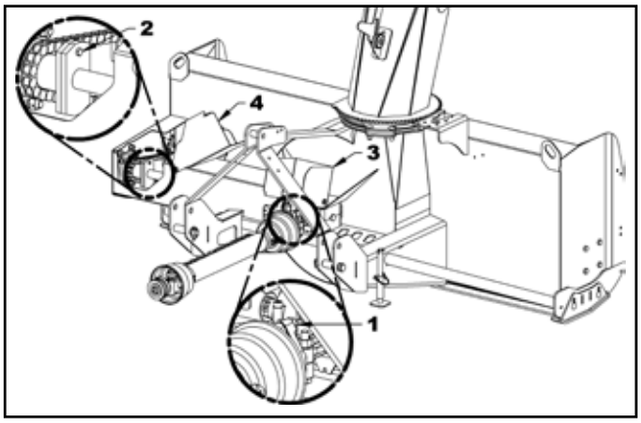


Figure 12. Shear Bolts

Auger Drive 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 preset at the factory. If chain becomes excessively loose, it may be necessary to readjust the idler sprocket, Figure 9.

NOTICE

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

Drive Chain Adjustment

IMPORTANT: A tension too tight can cause premature wear of the chain. It is important not to tighten the chain to its maximum. Adjust the chain according to the following steps:

1. Loosen the bolt (item 1) securing the idler sprocket to the snow blower.
2. Adjust the bolt height to obtain a deflection of 1/8” in one chain length.
3. Securely tighten the bolt (item 1) securing the idler sprocket.

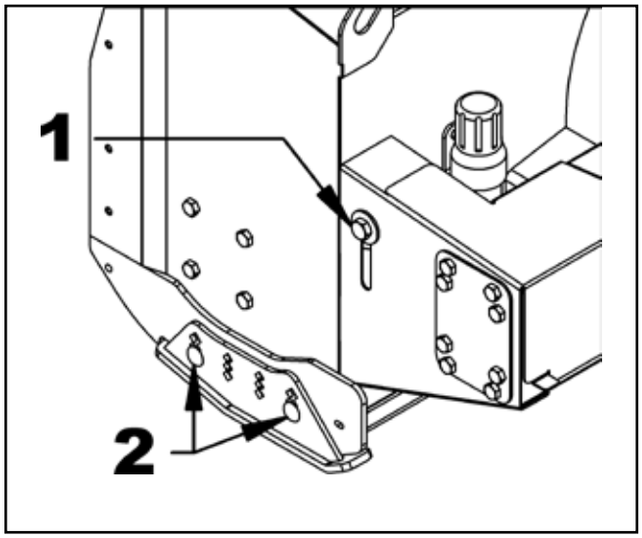


Figure 13. Drive Chain Adjustment

Lubrication

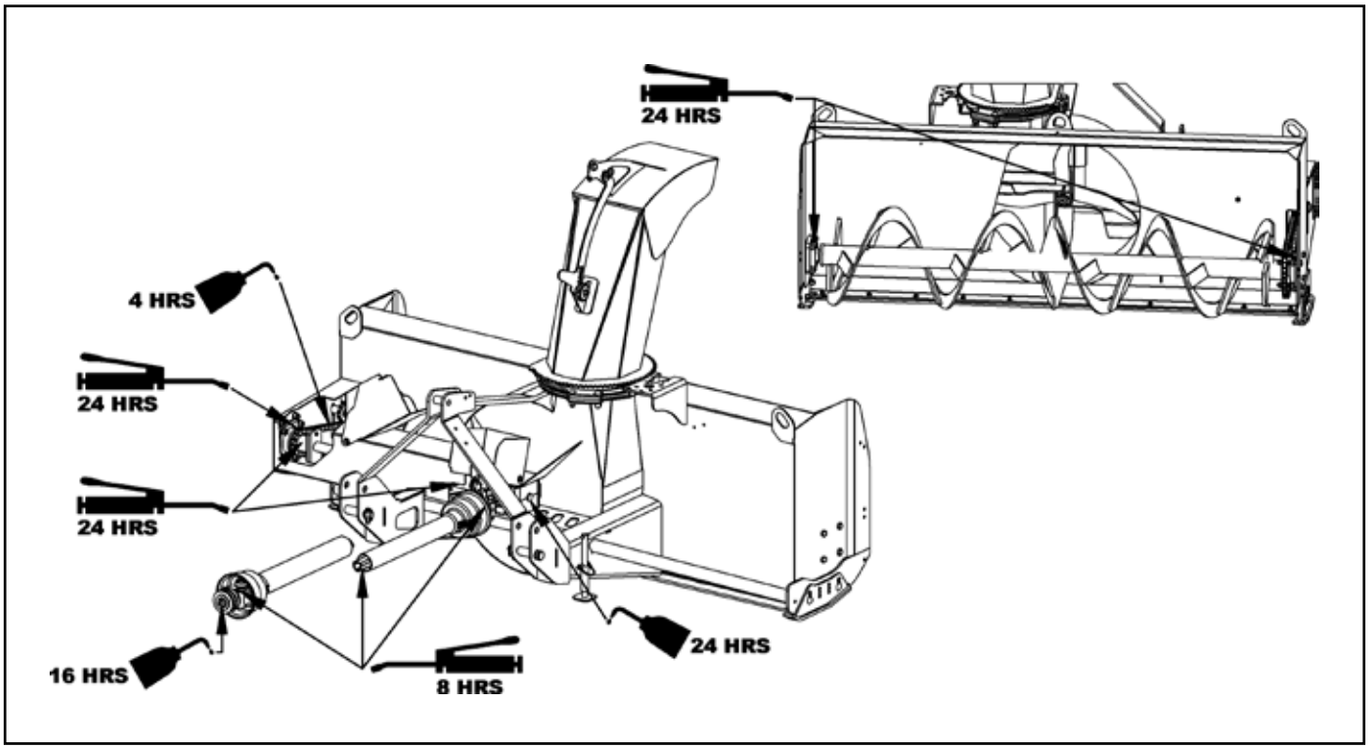


Figure 14. Lubrication

IMPORTANT: Perform all the maintenance section without taking into account the hours given in the following cases:

- At least once a year if the snow blower is used less than 20 hours annually.
- After each storage period.
- After each wash.

DESCRIPTION	INTERVAL	REQUIRED LUBRICATION
Gearbox	Monthly	Check oil level. If needed, add extreme pressure oil, SAE 80W90 gear oil or equivalent
	Once a year	Replace Oil.
Drive chain	4 hours and after each operation	Lubricate with chain saw lubricant.
Drive shaft	24 hours of operation	Grease at the shear plate and the grooved section with the grease fittings. Use a Shell Gadus S5 V100 grease or equivalent.
Bearings	24 hours of operation	Grease each auger and drive shaft bearings and the grease fitting of the shear plate. Use a Shell Gadus S5 V100 grease or equivalent.
Driveline	8 hours	Grease each universal joint. Separate the sliding parts and cover each with grease.
	16 hours	Oil the quick connect yokes.

Gearbox

Change oil in the gearbox after the first 30 hours, or 30 days of operation. After that, follow the lubrication chart instructions to check monthly. It is best to change the oil at the end of the season to remove moisture and contaminants.

⚠ WARNING

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

To check oil level:

1. Remove the plug (1).
2. If the oil level is not up to the bottom of the hole, fill with SAE 80W90 oil until it flows out the level plug hole.
3. Reinstall the plug (1).

To change the oil:

1. Run the snow blower briefly to warm the oil and suspend the contaminants.
2. Remove the plug (1).
3. Remove the oil through the level plug hole using a suction pump.
4. Refill with SAE 80W90 oil until it flows out the level plug hole.
5. Reinstall the plug (1).

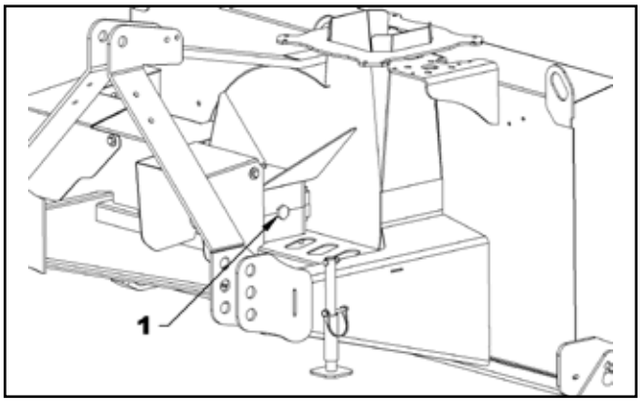


Figure 15. Gearbox Oil

Skid Shoe Adjustment

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 snow blower frame.

   NOTE: Block only high enough for the skid shoes to clear ground.
2. Lower snow blower to sit securely on blocks.
3. Properly secure tractor and release all hydraulic pressure.
4. Loosen and remove skid shoe mounting bolts and nuts (2).
5. Remove skid show and inspect for wear or other damage - Replace as needed.
6. Reassemble skid shoe and adjust for the desired height.
7. Tighten mounting bolts and nuts (2) per specifications in the Bolt Torque Chart.

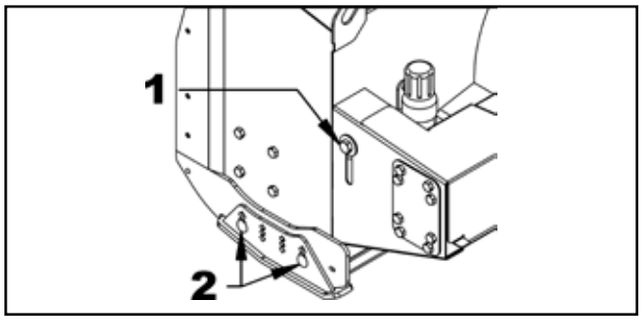


Figure 16. Skid Shoe Adjustment

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.

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 17. Comer Driveline

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	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 8.8 bolt. (Comer 40 series)
	Tilt on the snow blower is too great causing an excessive knuckle angle.	Reduce tilt on snow blower by adjusting upper 3-point link.
Snow Blower 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.
Snow Blower tends to dig or float on snow	Tilt on snow blower not adjusted properly.	Adjust upper link on 3-point to level the blower.
	Skid Shoes not adjusted prop-erly.	Adjust skid shoes to be even with cutting edge.
Auger fails to turn	Auger drive shear bolt has sheared.	Replace auger drive shear bolt.

ASSEMBLY

DEALER SET-UP INSTRUCTIONS

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

The snow blower is shipped partially assembled. Assembly will be easier if components are aligned and loosely assembled before tightening hardware. Recommended torque values for hardware are shown in the Bolt Torque Chart.

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.

⚠ WARNING

- **To avoid serious injury or death: Read and understand the Safety Rules at the beginning of this manual before assembly. Support the snow blower securely during assembly.**

Preparation

1. Remove the top and sides of the crate. Carefully cut bands and straps securing the chute assembly, driveline and SMV sign and set aside.
2. Using a lifting device with a capacity of at least 1000 lb., support the snow blower and remove hardware attaching it to the crate base.
3. Raise the snow blower, slide the crate base out and lower the snow blower to the ground.

Chute Installation

Figure 18

1. Place the rotation bearing (1) on the snow blower chute base (4).
2. Install the chute (2) over the rotation bearing and install the four 3/8" spacers (3a) and the four 1/16" spacers (3b) on the chute base (4).

   NOTE: If the chute has too much play and makes chute rotation difficult, you may remove 1/16" spacers to adjust.
3. Apply grease under the retaining plates (5, 6) before installation.

   NOTE: Use high quality grease designated “extreme pressure” and containing molybdenum disulfide. The label may specify “Moly EP”.
4. Install the two retaining plates with 3 holes (5) by placing the 2-hole section toward the plate of the rotation support and place the retaining plate with 2 holes (6) following the two other retaining plates. Secure with eight 5/16" x 1-1/4 bolts, lockwashers and nuts (7, 8, 9).
5. Tighten all bolts to the specifications in the Bolt Torque Chart at the end of this manual.

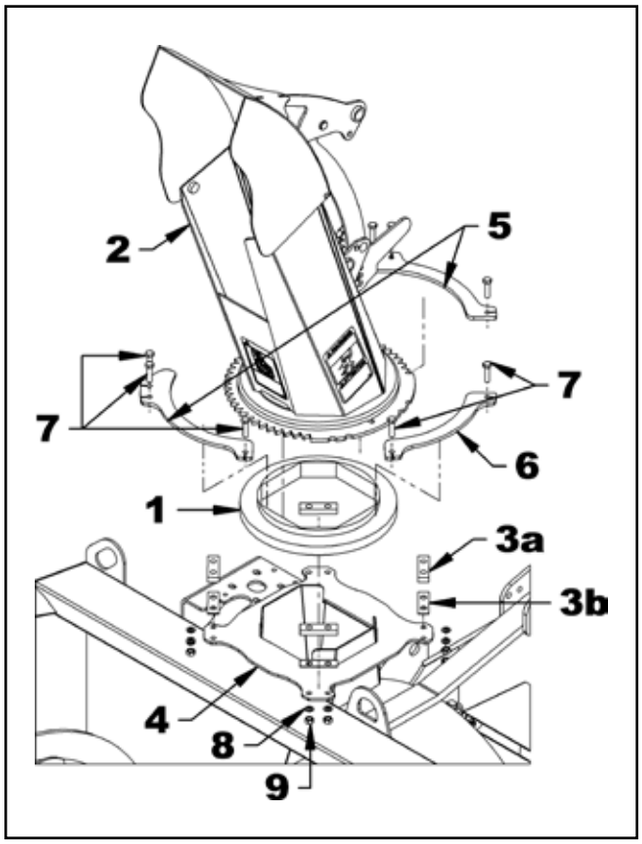


Figure18. Chute Installation

Manual Rotator Installation

Figures 19, 20 & 21

1. Figure 19 – Remove the 1/4" hardware from the rotator worm assembly (1) and install on the chute base and loosely reinstall the hardware.
2. Figure 20 – Install the handle support bracket (1) on the right side of the snow blower three-point hitch using two 3/8" NC x 1-1/4" bolts, lockwashers and nuts (2, 3, 4). Tighten securely.
3. Install lower handle support (5) on the bracket (1) using a 3/4" NC x 1-1/2" blot, lockwasher and nut (6, 7, 8).
4. Insert the plastic grommet (9) in the upper handle support (10).
5. Insert the upper handle support (10) into the lower handle support (5). Fasten loosely with a 3/8" x 1/2" set screw (11). The height will be adjusted later for a convenient position on your tractor.

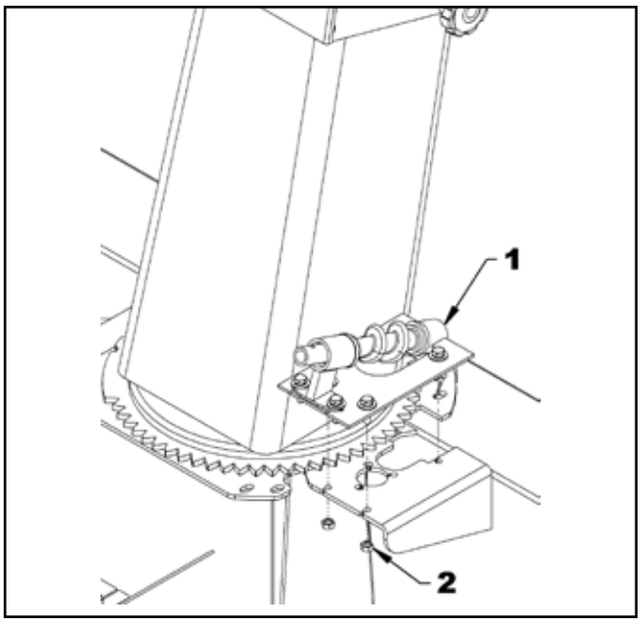


Figure 19. Rotator Support Assembly

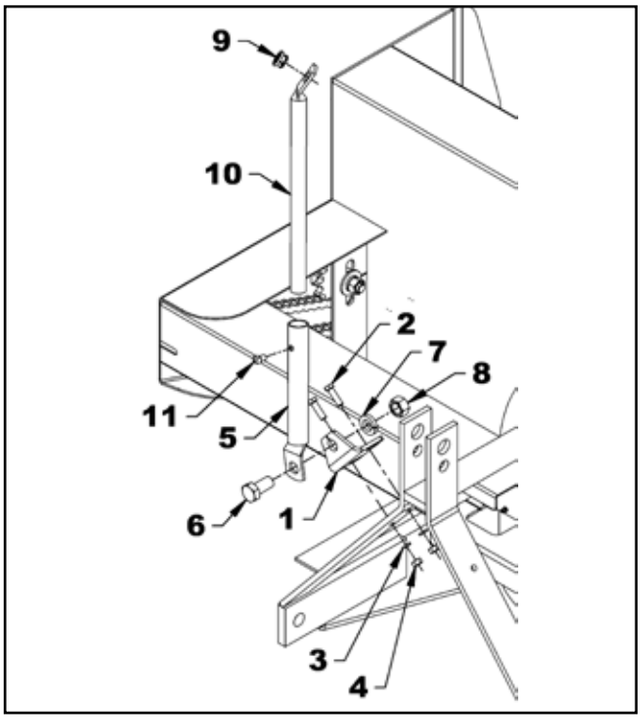


Figure 20. Handle Support Assembly

6. Figure 21 – Install plastic handle (5) over rotation handle (6).

7. Insert rotation tube (1) inside the rotation worm assembly (2). Align holes and insert a 10-24 x 1" socket head capscrew (3) and secure with nylon insert locknut (4).

8. Insert the rotation handle (6) through the grommet in upper handle support (7) and into the rotation tube (1). Select desired length, align nearest holes and secure with a 4mm x 80mm hairpin (8). The length will be adjusted later for a convenient position on your tractor.

9. Adjust the rotator worm assembly (2) so it fits snugly against the teeth on the chute, but still turns freely. Tighten the 1/4" NC x 1" bolts and nuts slightly.

10. Rotate the chute completely to the right then to the left using the rotation handle.

- If the chute is too hard to turn it's because the rotation worm is engaged too deep between the gear teeth, move the worm slightly away from the gear teeth and try again.
- If the chute rotates with difficulty because the teeth do not engage or engage incorrectly, adjust the rotation handle support toward the chute and redo the steps.
- If the handle hairpin interferes with the chute adjustment arm, reverse the direction of the handle support bracket (5) for more clearance.

11. When the chute rotates easily and completely, tighten the 1/4" NC bolts and nuts to the specification in the Bolt Torque Chart and lubricate the rotation worm.

12. After the snow blower has been attached to the tractor, adjust the rotation handle height and length to a comfortable position that does not contact any part of the tractor as the three-point hitch is raised.

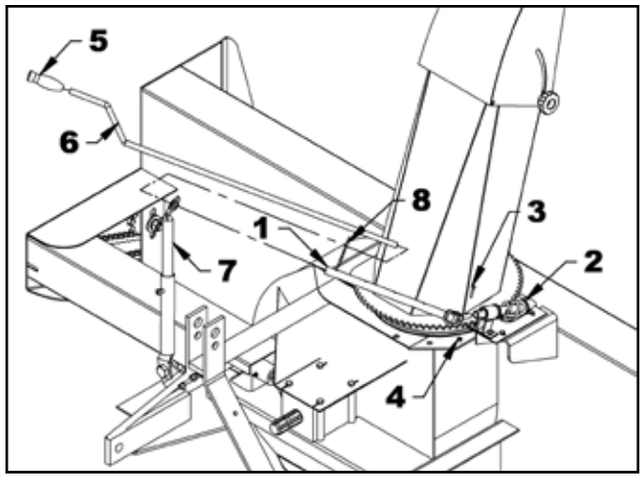


Figure 21. Rotator Handle Assembly

Optional Hydraulic Rotator Installation

Figures 22 - 27

- **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.**

1. Figure 22: Place the motor spacer (2) on the motor top (1) by aligning the holes. Install the motor (1) under the frame base of the snow blower and secure with four 3/8''NC x 1'' bolts, lockwashers, and flat washers (3, 4, 5). Torque slightly.
2. Make sure the Woodruf key is on the motor shaft and insert the motor gear (6) on the shaft. Secure with a 1/4''NC x 3/4'' bolt, lockwasher, and flat washer (7, 8, 9)

   NOTE: The chute may need to be loosened to align the motor gear.
3. Figure 23: Using thread sealant, install a 1/4"NPT female x 1/2" NPT male reducer (2), a male quick coupler (3) and a dust cap (4) on the straight end of each hose (1).

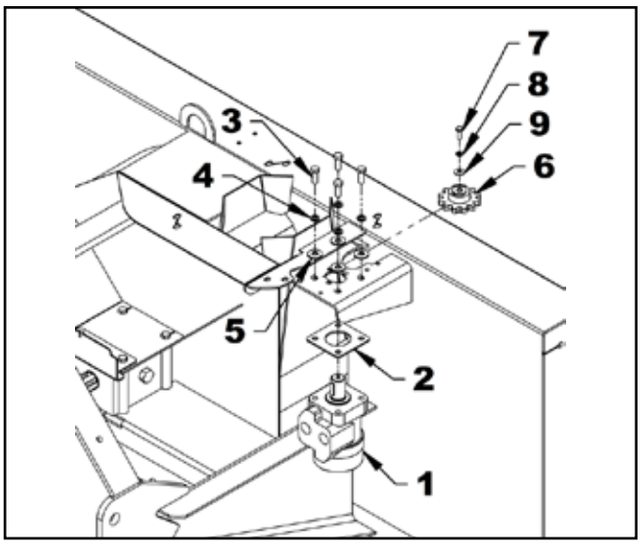


Figure 22. Motor Assembly

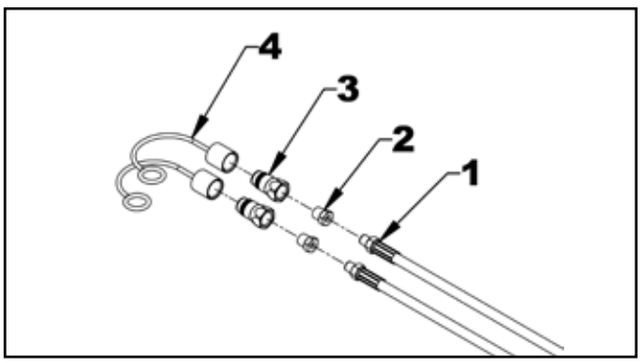


Figure 23. Quick Coupler Assembly

4. Figure 24: Install a 0.052" flow restrictor (2) in each motor port (1).

⚠ WARNING

5. Connect the two hoses (3) to the motor flow restrictors (2). Direct the hose elbows toward the snow blower upper hitch arm.
6. Position hoses on the snow blower, staying away from sharp edges and snow blower maintenance points. Attach to the left snow blower three point arm using hose clamp (4), with 3/8" NC x 1-1/4" bolt and nylon insert locknut (5, 6).

   NOTE: When hoses are connected to the tractor, make sure they do into interfere with any parts and are long enough to prevent tension on the hose as the three-point hitch is lowered and raised.

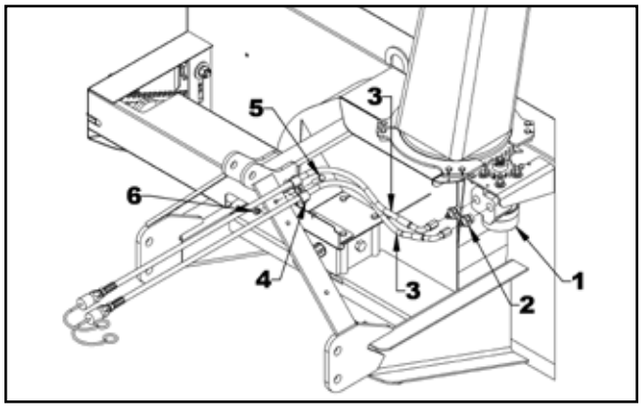


Figure 24. Hose Assembly

7. Figure 25: Push the motor toward the chute to fully engage the gear teeth without binding. Securely tighten the four 3/8" NC x 1" bolts (2). If the rotator does not operate smoothly, redo the adjustment.
8. Install the gear shield (3) and secure with two 1/4" NC x 3/4" bolts, lockwashers and nuts (4, 5, 6) as illustrated.

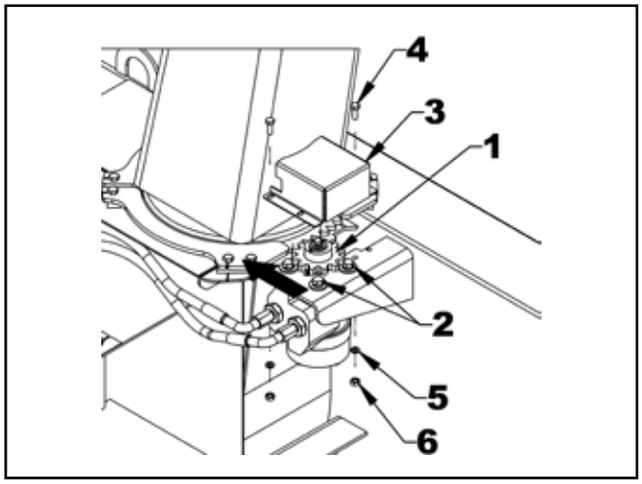


Figure 25. Motor Adjustment

9. Figure 26: Assemble the hose support (1) on the side of the upper 3-point hitch with two 3/8"NC x 1-1/4" bolts and nylon insert locknuts (2, 3).

IMPORTANT: Tighten all hydraulic fittings to specifications shown in the Fitting Torque Chart at the end of this manual.

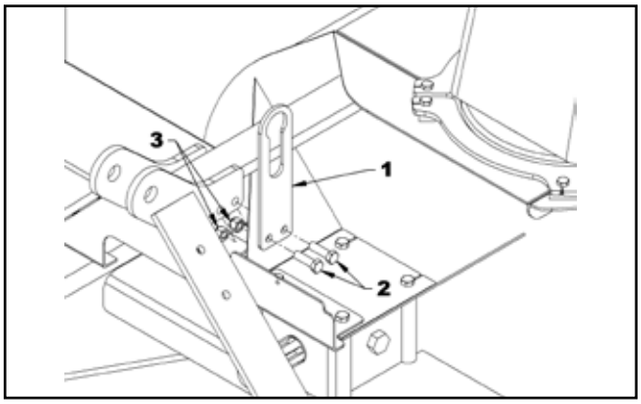


Figure 26. Hose Support Assembly

NOTE: When the snow blower is removed from the tractor, store the hoses as shown in Figure 27

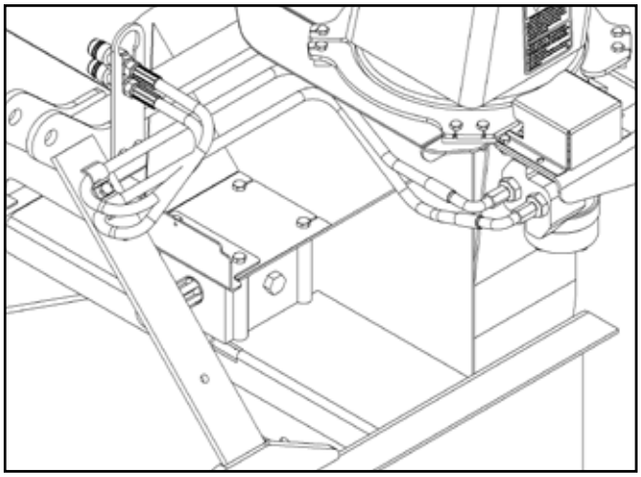


Figure 27. Hose Storage

Hydraulic Rotator Troubleshooting

Figure 28

If the snow blower chute rotates too slowly, or not at all:

1. Check the function of the tractor valve by plugging in another piece of equipment. If it does not work properly, refer to the tractor operator's manual.

2. Check if the chute rotates well. To do so, remove the 1/4'' NC x 3/4'' bolt, lockwasher and flat washer (3, 4, 5) and the motor gear (2) attached to the motor shaft (1) and check if the chute rotates well in both directions by turning it by hand. If it does not rotate smoothly, correct the problem by checking if there is excess wear or debris between components.

3. Check if there is contamination in the hydraulic circuit.

- To do so, first verify if the chute rotates well in one direction. If so, remove the 1/4''NC x 3/4'' bolt, lockwasher and flat washer (3, 4, 5) and the motor gear (2) attached to the motor shaft (1) and activate the rotation in the direction the motor turns well for approximately 1 minute to expel the contaminates. Then rotate the chute in the direction it did not turn well and check if the problem is resolved.
- If not or if the chute does not rotate well in either direction, disconnect the motor hoses, remove the two flow restrictors (6) attached to the motor ports (1) and clean the holes of the two flow restrictors.
- If no contamination is present, disconnect hoses and clean them with compressed air.
- If the problem persists, check if there is residue inside the motor (1) and clean the two motor ports with compressed air.

IMPORTANT: When removing hydraulic fittings, install plugs and caps to prevent contamination of the hydraulic circuit and obstruction of the flow restrictor hole.

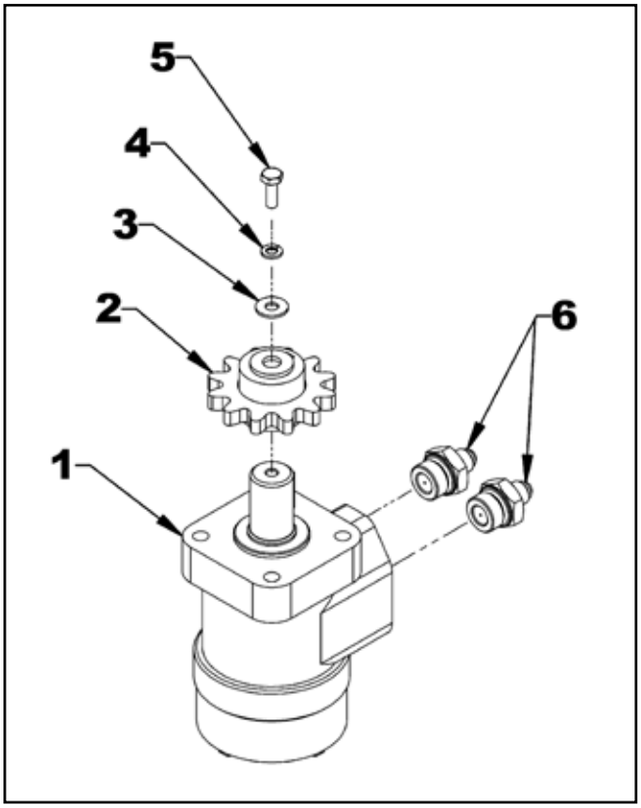


Figure 28. Motor Troubleshooting

Optional Hydraulic Chute Deflector

Figures 29 - 36

⚠ WARNING

- **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.**

1. Figure 29: Remove the adjustment arm (1) by removing the knob (2), the 5/16" x 1" carriage bolt (3) and the nylon washer (4) at the chute base. Remove the circle cotter (5), the adjustment arm (1) and the two 1/2" flat washers (6).

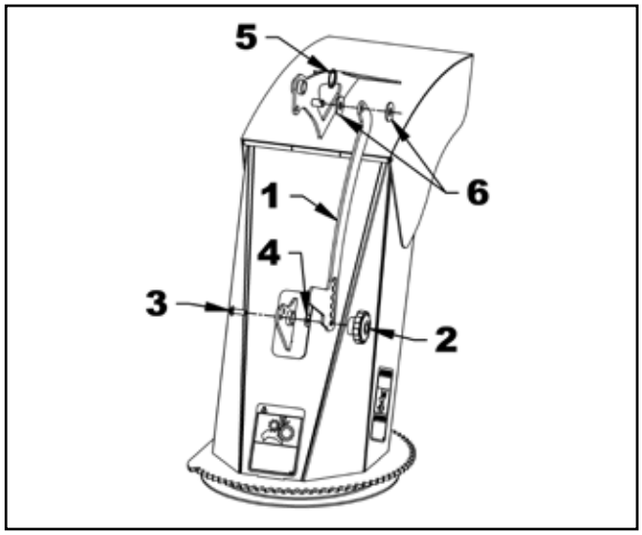


Figure 29. Remove Adjustment Arm

2. Figure 30: Attach the cylinder base (1a) to the chute base (2) with the pin (3) provided with the cylinder and the cotter pin (4). Attach the cylinder rod end (1b) to the deflector (item 5) with the pin (item 3) provided with the cylinder and the cotter pin (item 4).

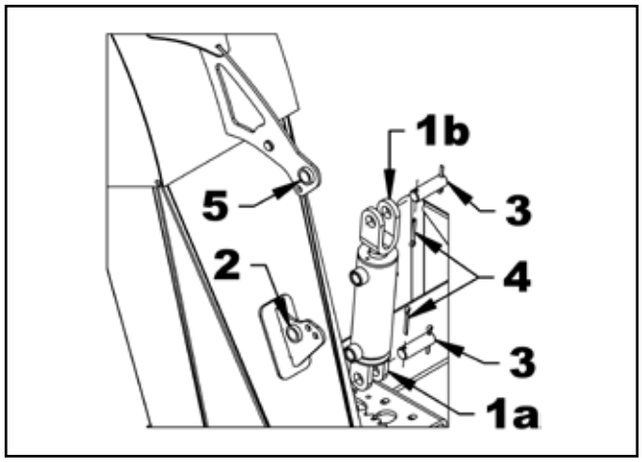


Figure 30. Attach Hydraulic Cylinder

3. Figure 31: Using thread sealant, install a 90° 3/8" NPT male x 1/4" NPT swivel female elbow (1a) on the port of the cylinder rod side, pointing upwards and parallel to the cylinder (2). Install a 90° 3/8" NPT male x 1/4" NPT swivel female (1b) on the port of the cylinder base at an angle of 10° to the cylinder (2).

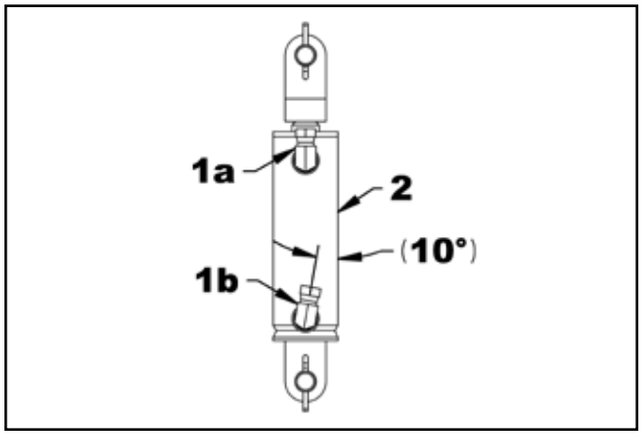


Figure 31. Orient Fittings

4. Figure 32: Using thread sealant, install a 1/4" NPT female x 1/2" NPT male reducer (2), a male quick coupler (3) and a dust cap (4) on the end of the two hoses (1).

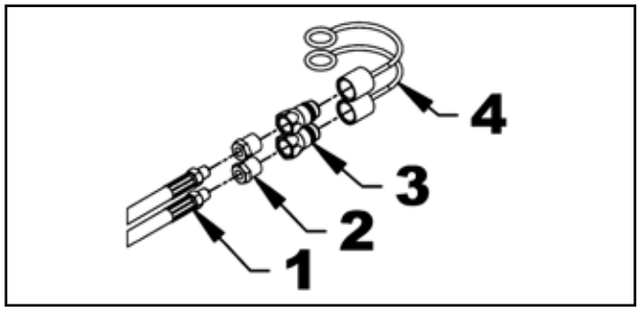


Figure 32. Assemble Quick Couplers

5. Figure 33: Connect the two hoses (1) to the 90° 3/8" NPT male x 1/4" NPT swivel female elbows (2) of the cylinder. Secure the hoses (1) with a nylon tie (3) as shown in the figure.

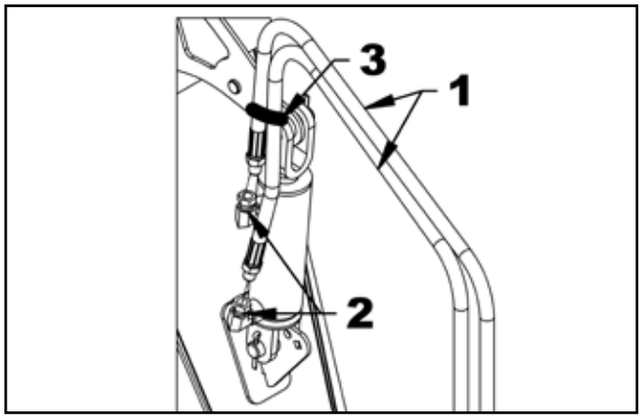


Figure 33. Connect Hoses

6. Figure 34: Attach the hose support (1) on the upper 3-point right hitch (2) with two 3/8" NC x 1 1/4" bolts (3) and 3/8" nylon insert locknuts (4).

   NOTE: If there is already a shorter hose support of the hydraulic rotation kit that is installed on the snow blower, remove the hose support to replace it with the hose support supplied in this kit.

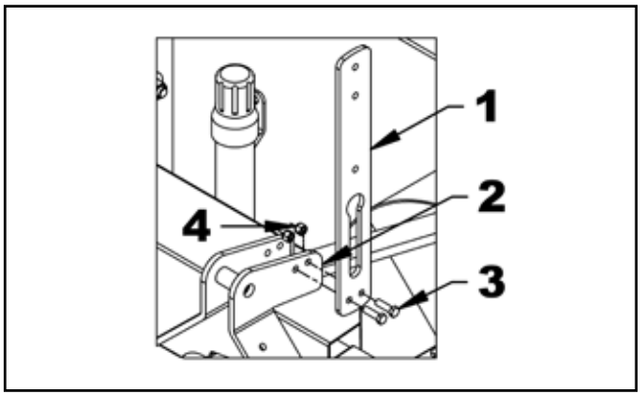


Figure 34. Attach Hose Support

7. Figure 35: Run the hoses (1) over the snow blower with a large bend radius, without interfering with the sharp edges or maintenance of the snow blower. Secure in the two top holes of the hose support (2) with two hose clamps (3), two 3/8" NC x 1-1/4" bolts and nylon insert locknuts (4, 5). Do not over-tighten to avoid damaging the hoses.

   IMPORTANT: Tighten all hydraulic fittings to specifications shown in the Fitting Torque Chart at the end of this manual.

   NOTE : This is a suggested routing of the hoses. In this way, there is less risk of the hoses being caught in the rotation system of the chute. However, other configurations are also possible. Make sure that there is enough hose length so that the chute can rotate to the maximum right and left without pulling on the hoses.

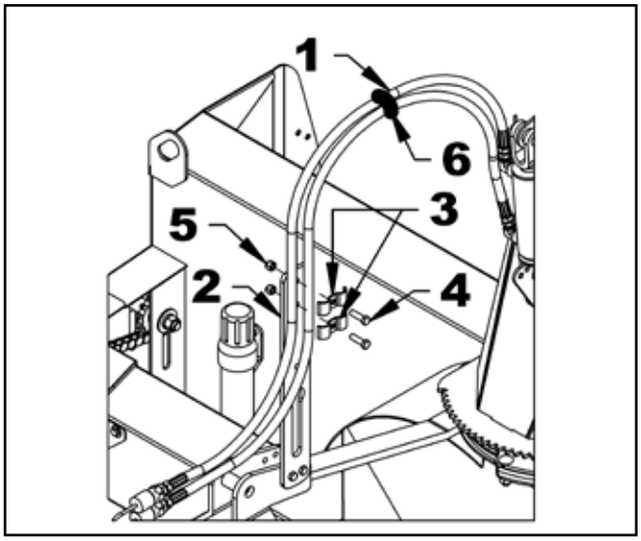


Figure 35. Secure Hoses

8. Connect the hoses to the tractor, raise and lower the snow blower, and rotate the chute to all positions to confirm the hoses are long enough and do not interfere with any component. Attach the hoses with a nylon tie (6) halfway between the cylinder and the hose support.

   NOTE: If deflector movement is too fast, it is possible to replace the elbows by flow restrictors.

   NOTE: Figure 36 - The hose support is equipped with a hose storage slot. When disconnecting the quick couplings from the tractor, install the dust caps on the quick couplers (item 1). Insert the hoses with the dust caps into the top opening (item 2) of the hose support and slide down into the slot.

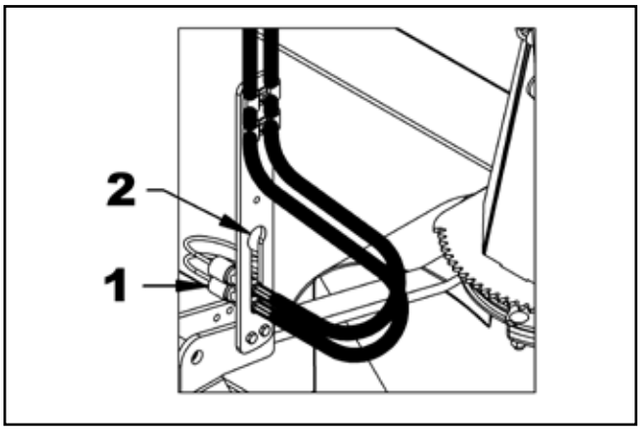


Figure 36. Store Hoses

Optional Electric Chute Deflector

Figures 37 - 43

1. Figure 37: Remove the adjustment arm (1) by removing the knob (2), the 5/16" x 1" carriage bolt (3) and the nylon washer (4) at the chute base. Remove the circle cotter (5), the adjustment arm (1) and the two 1/2" flat washers (6).

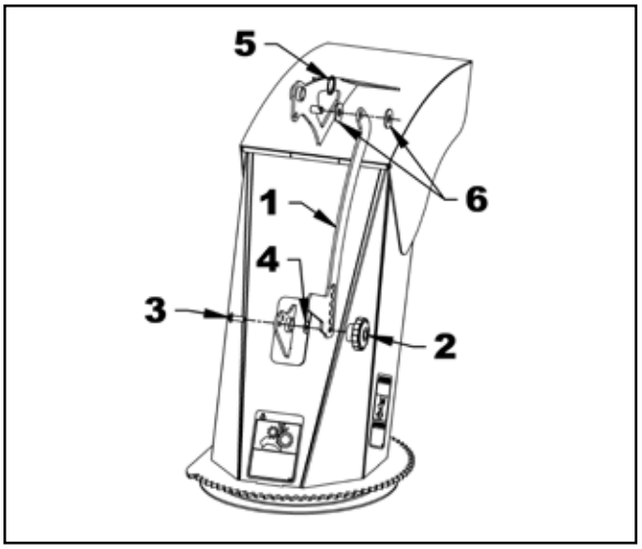


Figure 37. Remove Adjustment Arm

2. Figure 38: Attach the electric actuator rod (1a) to the base of the chute (item 2) with a 3/8" x 1-1/2" hex bolt and nylon insert locknut (3, 4). Attach the base side of the electric cylinder (1b) to the deflector (5) with a 3/8" x 1-1/2" hex bolt and nylon insert locknut (3, 4). Do not over tighten the bolts to allow free movement of the electric cylinder.

   NOTE : Be sure to attach the actuator as shown in the figure to avoid damaging the electric cylinder.

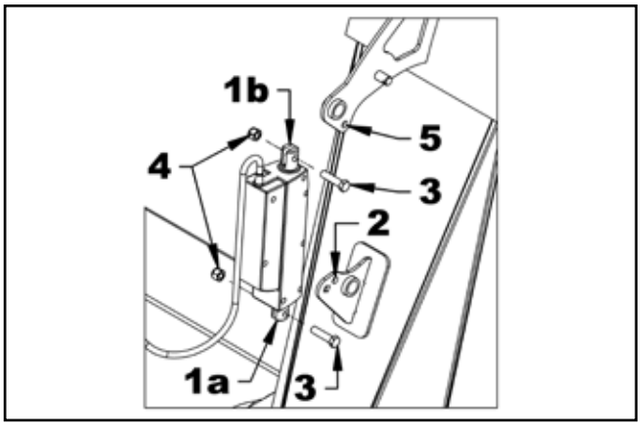


Figure 38. Attach Electric Actuator

3. Figure 39: Attach the hose support (1) to the right bracket (2) of the upper three-point hitch using two 3/8"NC x 1-1/2" hex bolts and nylon insert locknuts (3, 4).

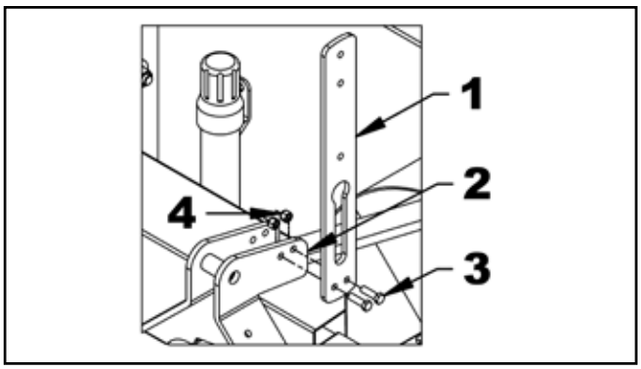


Figure 39. Attach Hose Support

4. Figure 40: Run the actuator electric harness (1) over the snow blower without interfering with the sharp edges, or maintenance of the snow blower. Secure it on the hose support (2) with a nylon tie (3), leaving a gap on the harness length. Rotate the chute to maximum right and left, check if the harness is long enough and does not interfere with any snow blower component.

   NOTE : This is a suggested routing of the electric harness of the actuator. In this way, there is less risk of the harness being caught in the rotation system of the chute. However, other configurations are also possible. In any case, make sure that there is enough harness length so that the chute can rotate to the maximum right and left without forcing on the harness.

5. Install the snow blower on the tractor by following the instructions of the Operation Section.

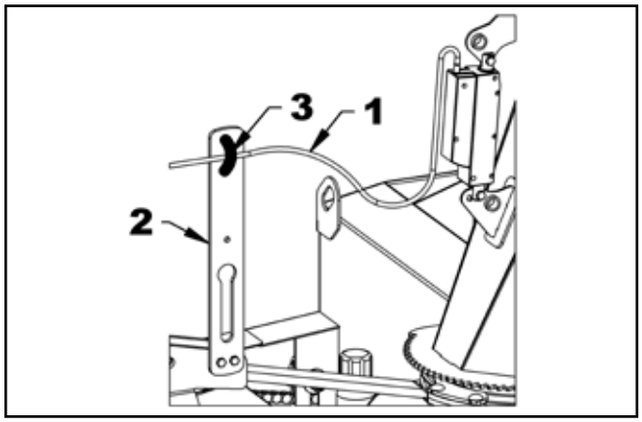


Figure 40. Secure Wiring Harness

6. Figure 41: Attach the switchbox (1) to the rod of the valve lever (2) with a switchbox clamp (3), two 1/4" x 1" hex bolts and lockwashers (4, 5) Do not tighten to allow position adjustment the later.

   NOTE : If your tractor is not equipped with a valve lever, it is possible to position the switch in another place so that it is easily accessible but it must not interfere with the controls already present on the tractor.

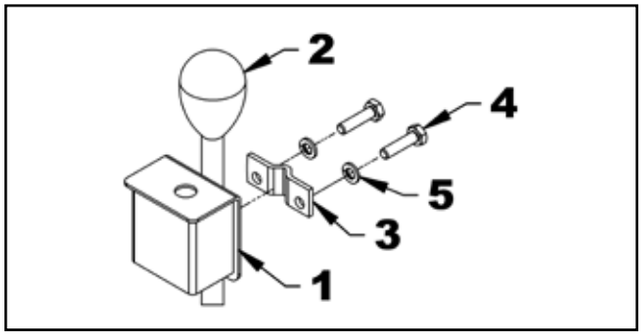


Figure 41. Attach Switch Box

7. Figure 42: Connect the 2-connector terminal of the 187" electric harness (blue and black) to the 2-connector terminal of the actuator.

8. Run the 187" electric harness (blue and black) in the tractor to the switchbox. Raise and lower the snow blower to maximum positions to check if the harness is long enough and does not interfere with any component.

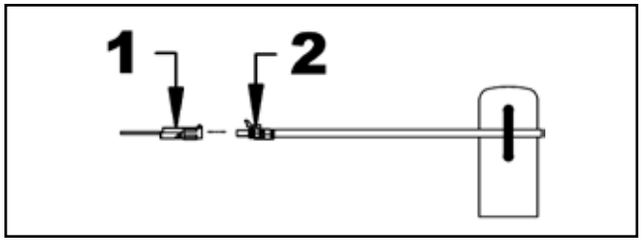


Figure 42. Connect Wiring Harness

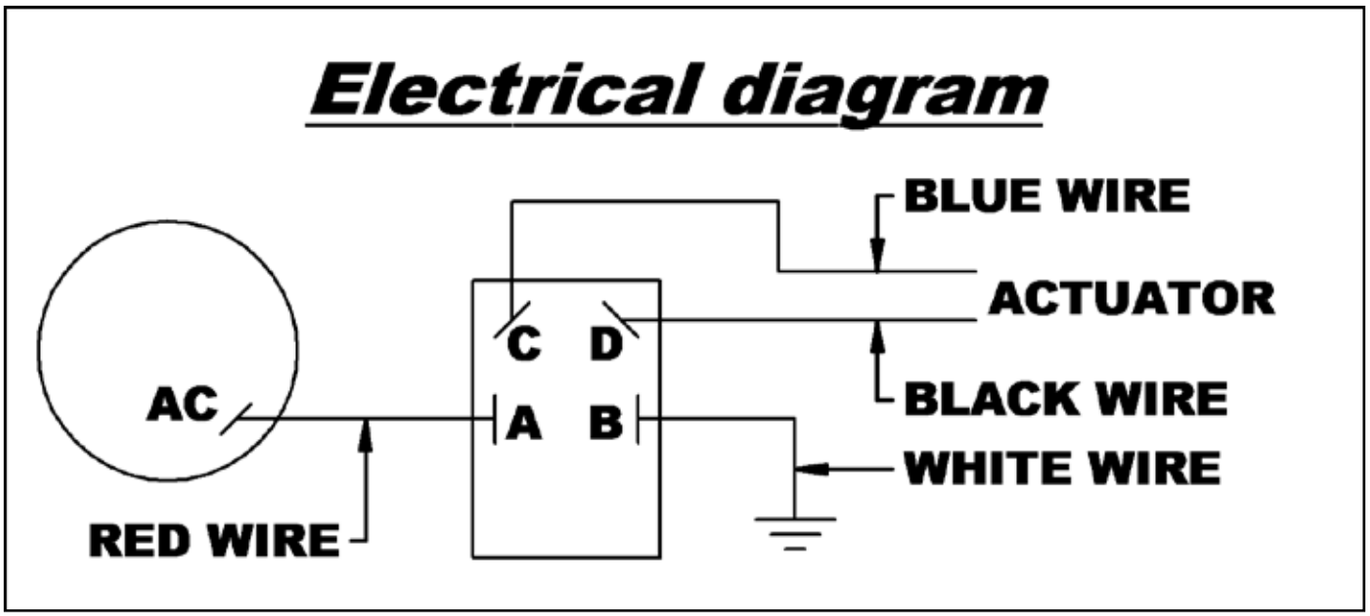


Figure 43. Electrical Diagram

9. Figure 43: Connect the flat terminal of the 72" red wire to terminal A of the switch. Then connect the flat terminal of the white wire to terminal B of the switch.

10. Simulate the position of the switch in the switchbox and cut off the excess of the blue wire. Strip the end of the wire 1/4", insert a shrink tubing and crimp a 1/4" female flat terminal. Then reassemble the shrink tubing on the terminal and heat with a hot air gun. Connect this wire to terminal C of the switch.

11. Cut off the excess of the black wire. Strip the end of the wire 1/4", insert a shrink tubing and crimp a 1/4" female flat terminal. Then reassemble the shrink tubing on the terminal and heat with a hot air gun. Connect this wire to terminal D of the switch.

12. 1Attach the switch (1) to the switchbox (2) with its nut and knurled nut and install the switch cap (3). Paste the decal (4) on the switchbox (2).

13. Position the switchbox (2) in a comfortable operating position and tighten the two 1/4" x 1" hex bolts to secure the switchbox to the valve lever. Secure the wires to the switchbox and the valve lever with a nylon tie wrap using the notches provided on the switchbox.

14. Locate a wire on the tractor that is an accessory power source, that is, that has current only when the ignition is switched on.

15. Secure the tap connector to the selected power source and bring the red wire to the tap connector, cutting off the excess if necessary. Secure in place by lowering the metal blade of the connector.

16. Find a bolt on the tractor that can be used as a ground connection. Bring the white wire to this location and securely fasten to the chosen bolt.

17. Install the protective loom on both wires (blue and black) from the snow blower to the switchbox and cut off the excess. Install the protective loom on the two power wires (red and white) and cut off the excess. Apply electrical tape to hold enclosures closed. Fasten everything in place on the tractor with nylon tie wraps.

18. Make sure to lower and rise the snow blower and rotate the chute into all positions to see if the electric harness is long enough and do not interfere with any component.

NOTE: If the functions are opposite to the direction of the switch, only reverse the blue wire and the black wire.

⚠ CAUTION

- **For continued protection against risk of fire, replace ONLY with a fuse of the same type and having the same electrical rating.**

DEALER CHECKLISTS

DEALER PRE-DELIVERY CHECKLIST

(DEALER'S RESPONSIBILITY)

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

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

_____ Check that all safety decals are installed and in good condition. Replace if damaged.

_____ Check that shields and guards are properly installed and in good condition. Replace if damaged.

_____ Check all bolts to be sure they are 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 CHECKLIST

(DEALER'S RESPONSIBILITY)

_____ Show customer how to make adjustments and select proper PTO speed.

_____ Instruct customer how to lubricate and explain importance of lubrication.

_____ Point out the safety decals. Explain their meaning and the need to keep them in place and in good condition. Emphasize the increased safety hazards when instructions are not followed.

_____ Present Operator's Manual and request that customer and all operators read it before operating equipment. Point out the manual safety rules, explain their meanings and emphasize the increased safety hazards that exist when safety rules are not followed.

_____ Show customer how to make sure driveline is properly installed and that spring-activated locking pin or collar slides freely and is seated in groove on tractor PTO shaft.

_____ 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.

NOTES

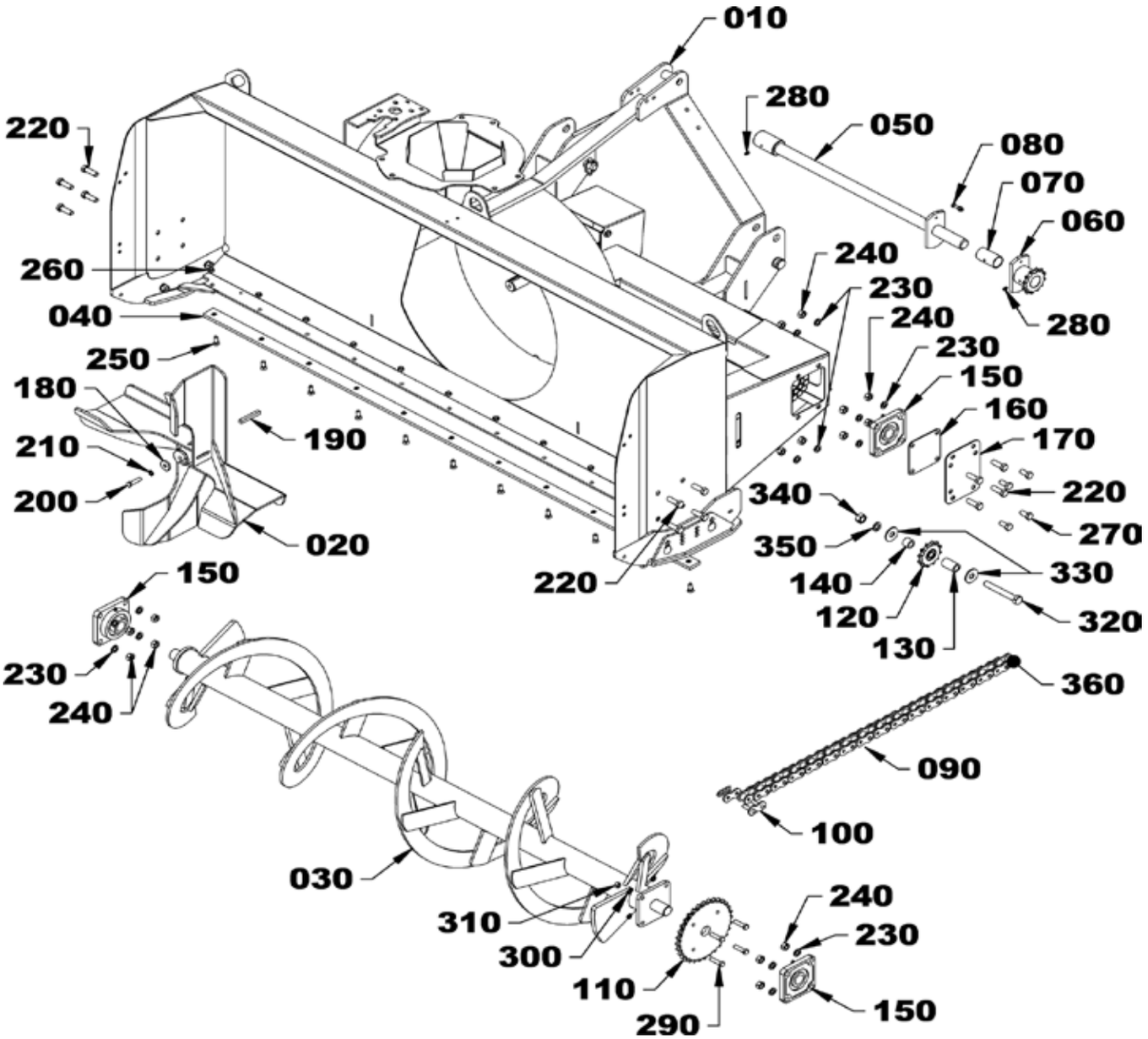
WOODS®

PARTS INDEX

SNOW BLOWER

SB54.30
SB64.30
SB74.30
SB84.30

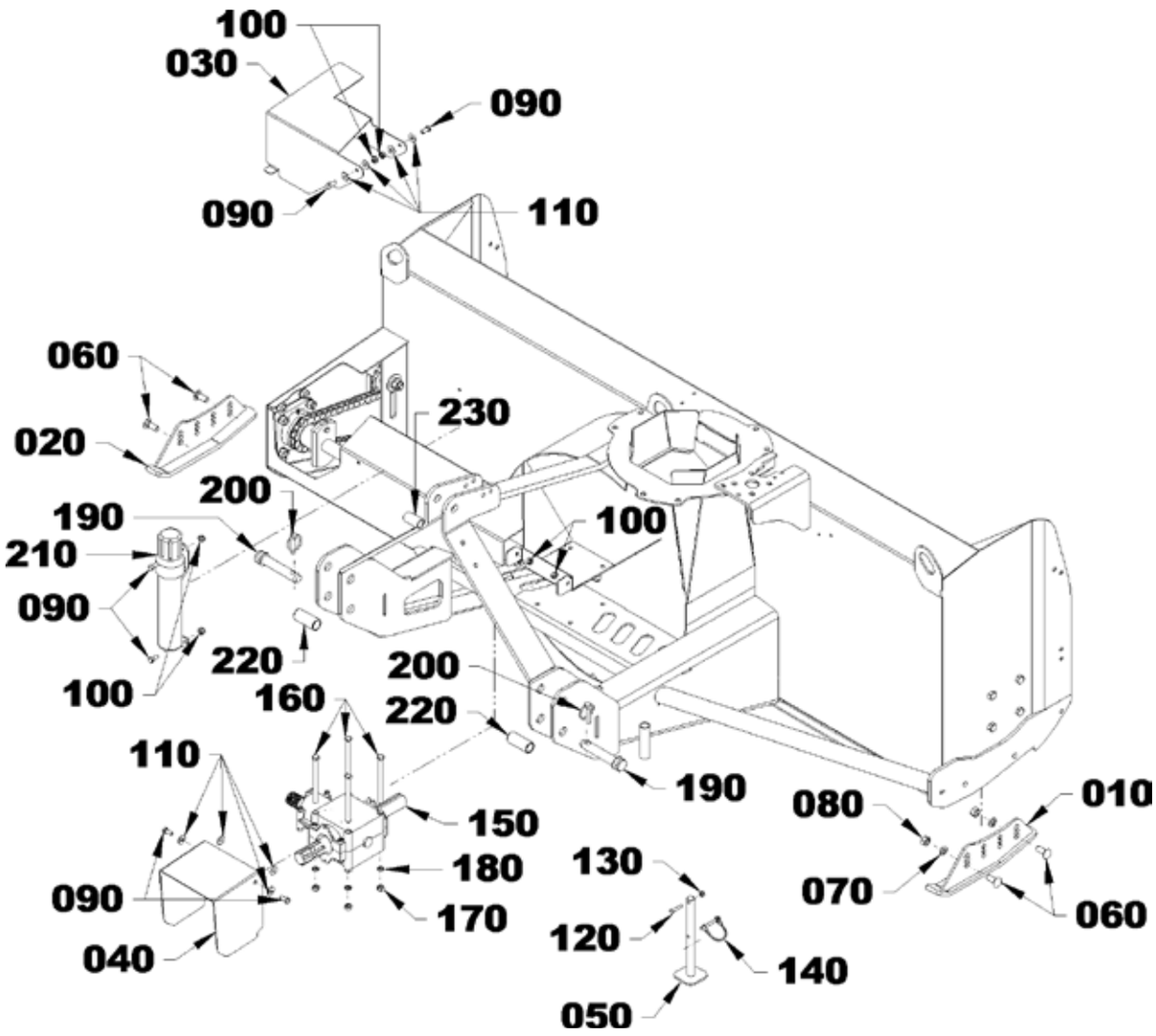
SB54.30, SB64.30, SB74.30, SB84.30 FAN, AUGER & DRIVE



SB54.30, SB64.30, SB74.30, SB84.30 FAN, AUGER & DRIVE PARTS

REF	PART	QTY	DESCRIPTION
10	N/A	1	Housing (without gearbox)
20	639924	1	Fan, 4 blade, 6" x 22" CCW - SB54.30
20	639942	1	Fan, 4 blade, 7" x 24" CCW - SB64.30
20	644865	1	Fan, 4 blade, 9" x 24" CCW - SB74.30, SB84.30
30	639925	1	Auger, SB54.30
30	639943	1	Auger, SB64.30
30	644866	1	Auger, SB74.30
30	644870	1	Auger, SB84.30
40	639926	1	Cutting edge, SB54.30
40	639944	1	Cutting edge, SB64.30
40	644867	1	Cutting edge, SB74.30
40	644871	1	Cutting edge, SB84.30
50	639927	1	Drive shaft, SB54.30
50	640015	1	Drive shaft, SB64.30
50	644868	1	Drive shaft, SB74.30
50	644872	1	Drive shaft, SB84.30
60	639928	1	Shear plate
70	639929	1	Oilite bushing
80	639930	1	Shearbolt, 1/4-20 NC x 1-1/4 Grade 2 Only (pack of 5)
90	639932	1	Chain #60 x 73 links - SB54.30
90	640017	1	Chain #60 x 78 links - SB64.30, SB74.30, SB84.30
100	639933	1	Connecting link #60
110	639934	1	Sprocket 60A38
120	639935	1	Idler Sprocket 60A12
130	639936	1	Spacer ring 0.656" x 1" x 1.725"
140	640019	1	Spacer ring 0.656" x 1" x 0.772"
150	639937	3	Bearing 1-1/4" – 4 holes
160	639938	1	Spacer plate
170	639939	1	Drive support
180	639940	1	Flat washer for fan
190	*	1	Key 3/8" x 3/8" x 2-3/4" Lg.
200	976*	1	Bolt hex 3/8"NC x 1-1/2" Gr.5
210	838*	1	Lockwasher 3/8"
220	3379*	12	Bolt hex 1/2"NC x 1-1/2" Gr.5
230	855*	16	Lockwasher 1/2"
240	1093*	16	Nut hex 1/2"NC
250	301802*	7	Plow bolt 3/8" x 1" Gr.5
260	B0618*	7	Stover lock nut 3/8"NC
270	24575*	4	Bolt hex 1/2"NC x 1" Gr.5
280	1972*	2	Grease fitting 1/4"NF
290	976*	4	Bolt hex 3/8"NC x 1-1/2" Gr.5
300	2472*	4	Lockwasher 3/8"
310	835*	4	Nut hex 3/8"NC
320	3097*	1	Bolt hex 5/8"NC x 4-1/2" Gr.5
330	3632*	2	Flat washer 5/8"
340	230*	1	Nut hex 5/8"NC
350	58121*	1	Lockwasher 5/8"
360	639941	1	Half-link #60 - SB54.30 only
	*		Standard hardware, obtain locally

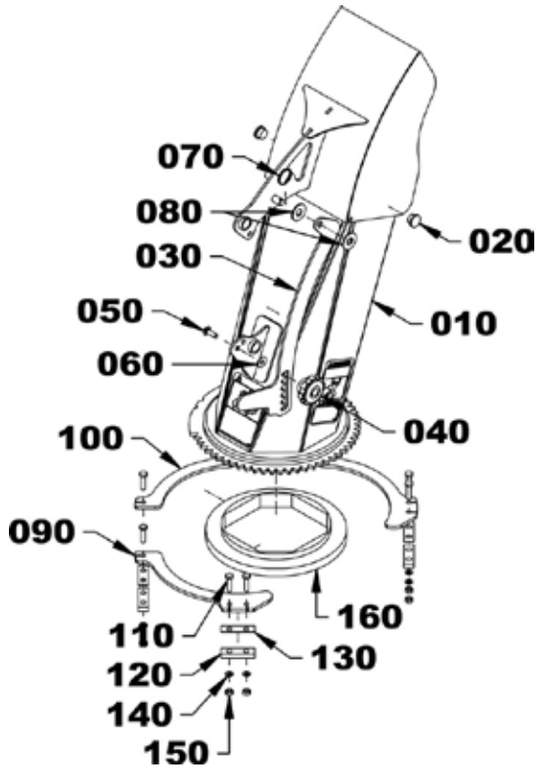
SB54.30, SB64.30, SB74.30, SB84.30 GEARBOX, HITCH & SKIDS



REF	PART	QTY	DESCRIPTION
10	644873	1	Right skid shoe
20	644874	1	Left skid shoe
30	644875	1	Access panel - shearbolts
40	644876	1	Driveline shield
50	644877	1	Parking stand
60	2615*	4	Carriage bolt1/2"NC x 1-1/4"
70	855*	4	Lockwasher 1/2"
80	1093*	4	Nut hex 1/2"NC
90	6096*	6	Bolt hex 5/16"NC x 3/4" Gr.5
100	FA220*	6	Nylon insert locknut 5/16"NC
110	644878	8	Nylon flat washer 11/32"
120	3184*	1	Bolt hex 1/4"NC x 1-1/4" Gr.5
130	FA254*	1	Nylon insert locknut 1/4"NC

REF	PART	QTY	DESCRIPTION
140	22411	1	Round wire lock pin 1/4" x 1-3/4"
150	644894	1	Gearbox CCW
160	1017402	4	Bolt hex 3/8"NC x 5" Gr.5
170	835*	4	Nut hex 3/8"NC
180	838*	4	Lockwasher 3/8"
190	SU105	2	Pin cat.1 0.866" x 4-7/16" Lg.
200	27542*	2	Linchpin 7/16"
210	1026530	1	Manual holder
220	W1003831	2	Bushing category 1 & 2
230	30067	1	Bushing category 1 & 2
		*	Standard hardware, obtain locally

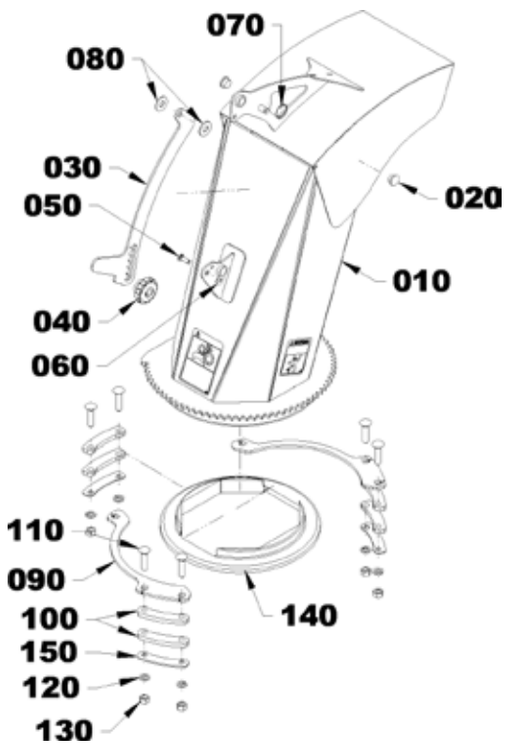
SB54.30, SB64.30 CHUTE & DEFLECTOR



REF	PART	QTY	DESCRIPTION
10	644879	1	Chute assembly
20	644880	2	Plastic bushing
30	644881	1	Adjustment arm
40	644882	1	Knob 5/16"NC
50	24409*	1	Carriage bolt 5/16"NC x 1"
60	644878	1	Nylon flat washer 11/32"
70	644883	1	Circle cotter
80	3598*	2	Flat washer 1/2"
90	644884	2	Retaining plate – 3 holes
100	644885	1	Retaining plate – 2 holes
110	6250*	8	Bolt hex 5/16"NC X 1 1/4" Gr.5,
120	644886	4	Retaining plate spacer 3/8" x 3/4" x 2-1/2"
130	644887	4	Retaining plate spacer 1/16" x 3/4" x 2-1/2"
140	2472*	8	Lockwasher 5/16"
150	4529*	8	Nut hex 5/16"NC
160	644888	1	Rotation bushing

* Standard hardware, obtain locally

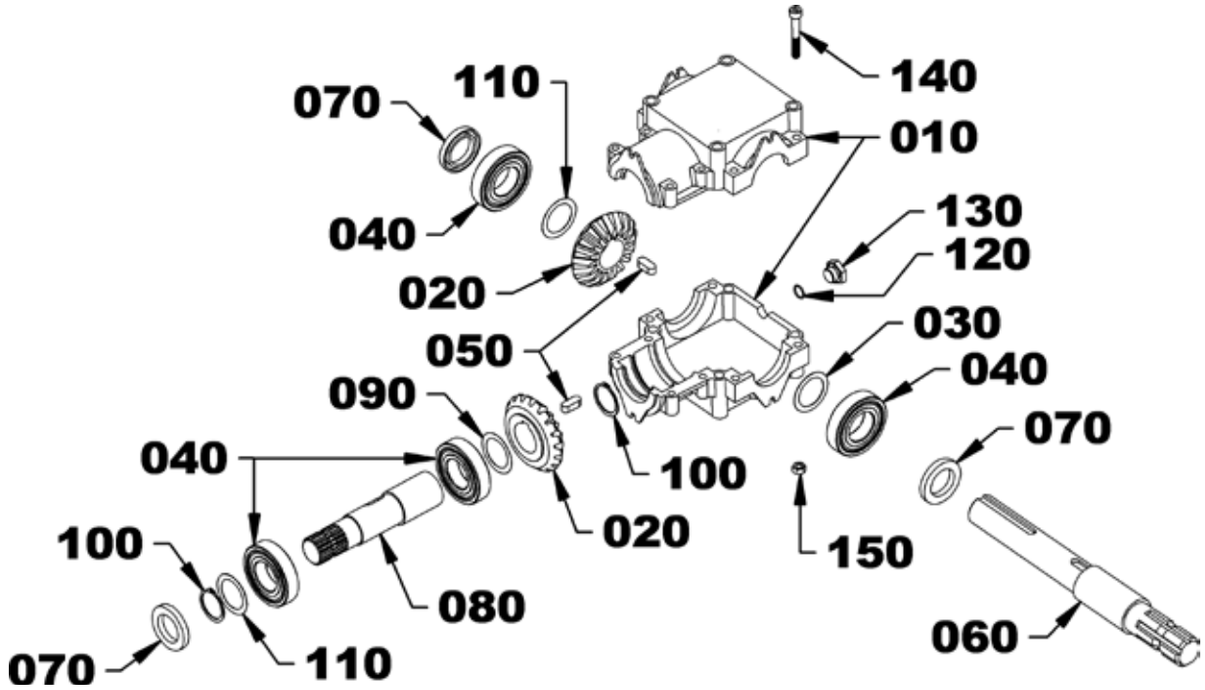
SB74.30, SB84.30 CHUTE & DEFLECTOR



REF	PART	QTY	DESCRIPTION
10	644889	1	Chute assembly
20	644880	2	Plastic bushing
30	644881	1	Adjustment arm
40	644882	1	Knob 5/16"NC
50	24409*	1	Carriage bolt 5/16"NC x 1"
60	644878	1	Nylon flat washer 11/32"
70	644883	1	Circle cutter
80	3598*	2	Flat washer 1/2"
90	644890	2	Retaining plate – 3 holes
100	644891	6	Retaining plate spacer 3/8" thick
110	10284*	6	Carriage bolt 1/2"NC x 2"
120	855*	6	Lockwasher 1/2"
130	1093*	6	Nut hex 1/2"NC
140	644892	1	Rotation bushing
150	644893	3	Retaining plate spacer 11GA, thin
160	644888	1	Rotation bushing

* Standard hardware, obtain locally

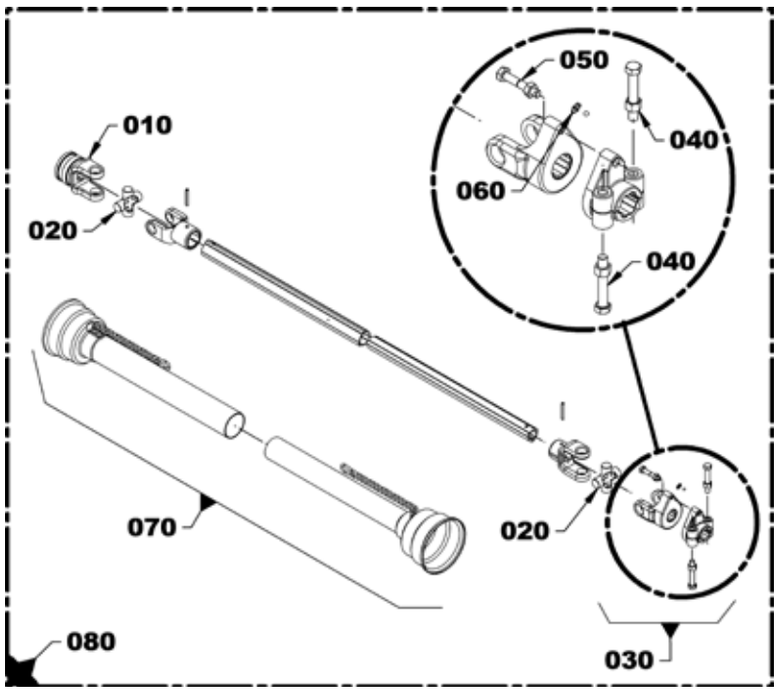
SB54.30, SB64.30, SB74.30, SB84.30 GEARBOX



REF	PART	QTY	DESCRIPTION
-	644894	1	Gearbox assembly
10	N/A	2	Casting
20	N/A	2	Gear
30	644895	1	Spacer
40	644896	4	Bearing
50	644897	2	Parallel key
60	N/A	1	Input shaft
70	644898	3	Seal kit
80	N/A	1	Output shaft
90	644899	1	Spacer
100	644900	2	Retaining ring
110	644901	2	Spacer
120	644902	1	O-ring
130	644903	1	Plug
140	307126*	8	Socket head cap screw M8 x 1.25 x 55mm Gr.8.8
150	30515*	8	Nut hex M8 x 1.25

* Standard hardware, obtain locally

DRIVELINES



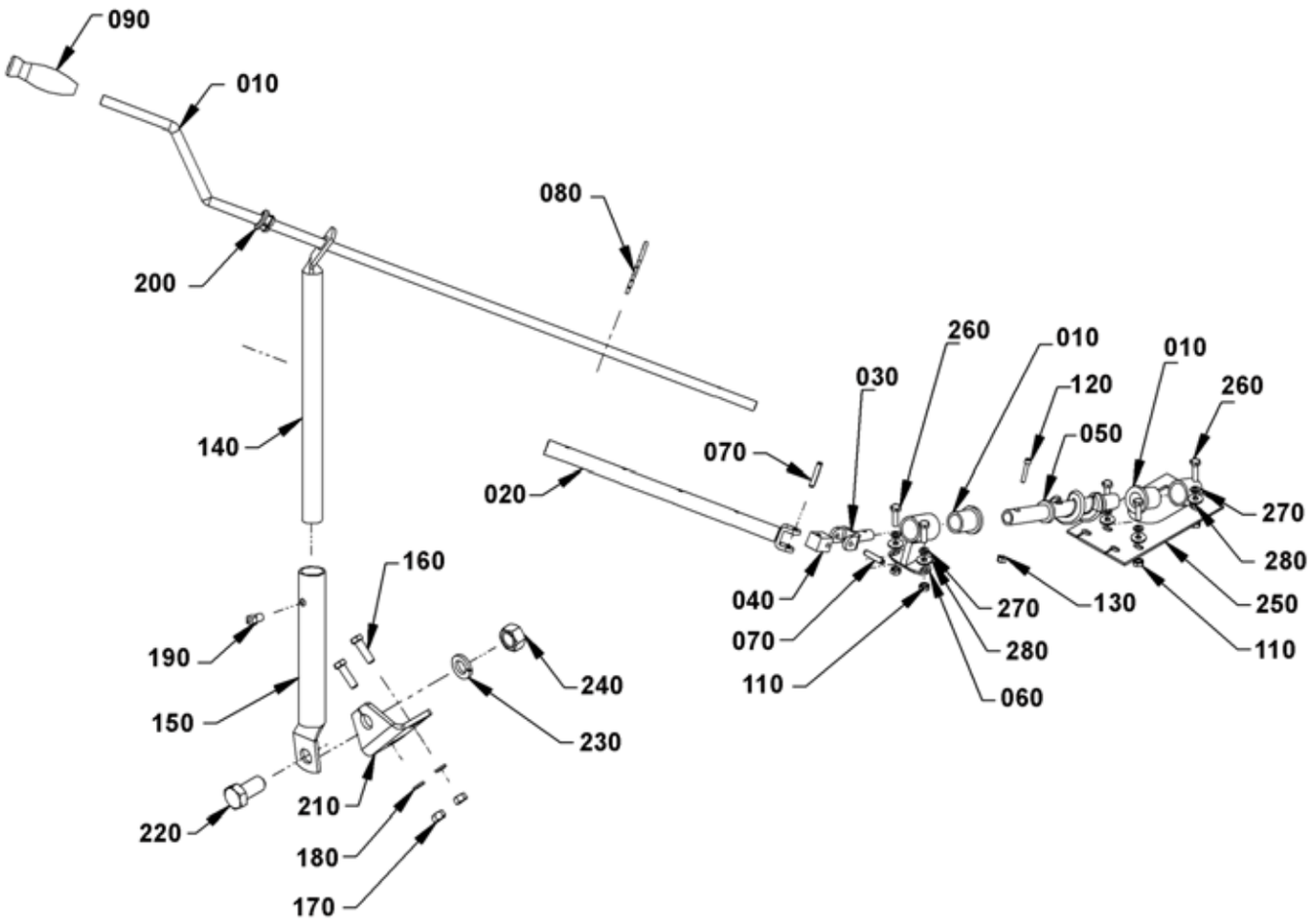
SB54.30 & SB64.30

REF	PART	QTY	DESCRIPTION
10	1001300	1	Yoke assembly
20	W38478	2	Universal joint kit
30	644906	1	Yoke and hub assembly
40	644982	2	Bolt M12 x 1.25 x 70mm Gr.8.8 & nut
50	645088	1	Shearbolt M8 x 50mm Gr.8.8 & Nylok nut (pack of 5)
60	*	1	Grease fitting
70	639713	1	Shields with safety chain
80	644908	1	Driveline 40 series assembly
	*		Standard hardware, obtain locally

SB74.30 & SB84.30

REF	PART	QTY	DESCRIPTION
10	1028775	1	Yoke assembly
20	36990	2	Universal joint kit
30	645089	1	Yoke and hub assembly
40	644982	2	Bolt M12 x 1.25 x 70mm Gr.8.8 & nut
50	644972	1	Shearbolt M8 x 50mm Gr.8.8 & Nylok nut (pack of 5)
60	*	1	Grease fitting
70	1028787	1	Shields with safety chain
80	644913	1	Driveline 50 series assembly
	*		Standard hardware, obtain locally

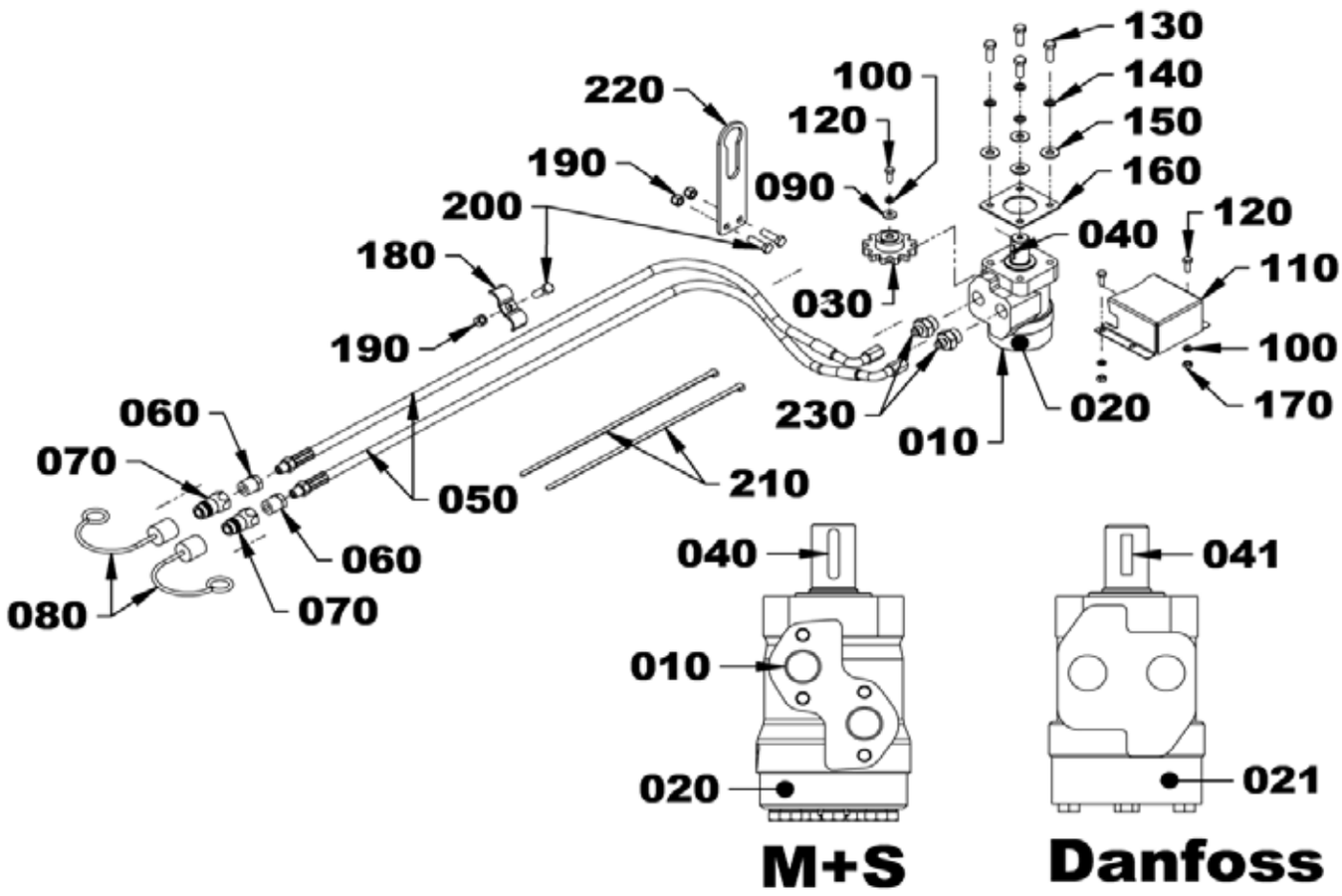
SB54.30, SB64.30, SB74.30, SB84.30 MANUAL CHUTE ROTATOR



REF	PART	QTY	DESCRIPTION
10	644914	1	Rotation handle
20	644915	1	Rotation tube
30	644916	1	Rotation yoke
40	644917	1	Universal block
50	644918	1	Rotation worm
60	644919	1	Rotation worm support
70	21020	2	Spring pin 1/4" x 1-1/4"
80	18270*	1	Hairpin 4mm x 80mm,
90	644920	1	Plastic handle
100	644921	2	Bushing 1-5/16" Lg.
110	5288*	5	Nut hex 1/4",
120	*	1	Socket heat capscrew 10-24NC x 1" Gr.5
130	*	1	Nylon insert locknut 10-24 NC,
140	644922	1	Handle support
150	644923	1	Handle support bracket

REF	PART	QTY	DESCRIPTION
160	12169*	2	Bolt hex 3/8"NC x 1-1/4" Gr.5,
170	835*	2	Nut hex 3/8" NC
180	838*	2	Lockwasher 3/8",
190	*	1	Setscrew 3/8" x 1/2", square head
200	644924	1	Plastic Grommet
210	644925	1	Bracket
220	4616*	1	Bolt hex 3/4" NC x 1-1/2" Gr.5,
230	2522*	1	Lockwasher 3/4",
240	1450*	1	Nut hex 3/4" NC,
250	644926	1	Rotation tube support
260	10378*	5	Bolt hex 1/4" NC x 1 " Gr.5,
270	1985*	5	Lockwasher 1/4"
280	5336*	5	Flat washer 1/4"
	*		Standard hardware, obtain locally

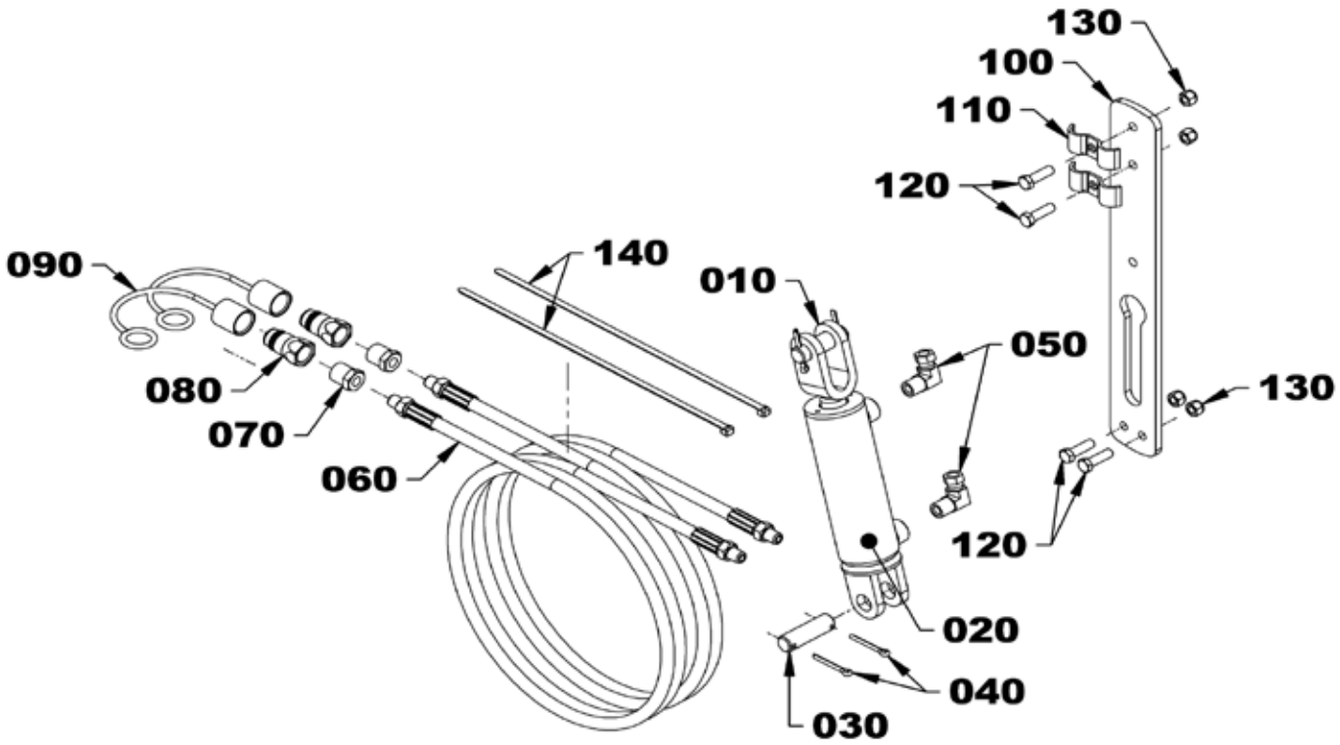
SB54.30, SB64.30, SB74.30, SB84.30 HYDRAULIC CHUTE ROTATOR



REF	PART	QTY	DESCRIPTION
-	640007	1	Hydraulic Rotator Kit
10	644927	1	Hydraulic motor 50cc
20	644928	1	Seal kit - M+S Hydraulic Motor
21	644929	1	Seal kit - Danfoss Hydraulic Motor
30	644930	1	Motor gear
40	*	1	Key 1/4" x 1/4" x 1" - M+S hydraulic motor (incl. w/ 644927)
41	*	1	Key 1/4" x 1" woodruff – Danfoss hydraulic motor
50	644931	2	Rubber hose 1/4" x 75"lg w/shield
60	W11893*	2	Reducer 1/4"NPT female x 1/2"NPT male
70	66511	2	Male quick coupler
80	5052	2	Dust cap
90	5336*	1	Flat washer 1/4"
100	1985*	3	Lockwasher 1/4"

REF	PART	QTY	DESCRIPTION
110	644932	1	Gear shield
120	300057*	3	Bolt hex. 1/4"NC x 3/4"
130	839*	4	Bolt hex. 3/8"NC x 1"
140	838*	4	Lockwasher 3/8"
150	21757*	4	Flat washer 3/8"
160	644933	1	Motor spacer
170	5288*	2	Nut hex. 1/4"NC
180	644934	1	Hose clamp
190	*	3	Nylon insert locknut 3/8"NC
200	12169*	3	Bolt hex. 3/8"NC x 1-1/4"
210	W8641*	2	Tie wrap 0.30" x 14-7/8"
220	644935	1	Hose support
230	644936	2	Flow restrictor 0.052"
	*		Standard hardware, obtain locally

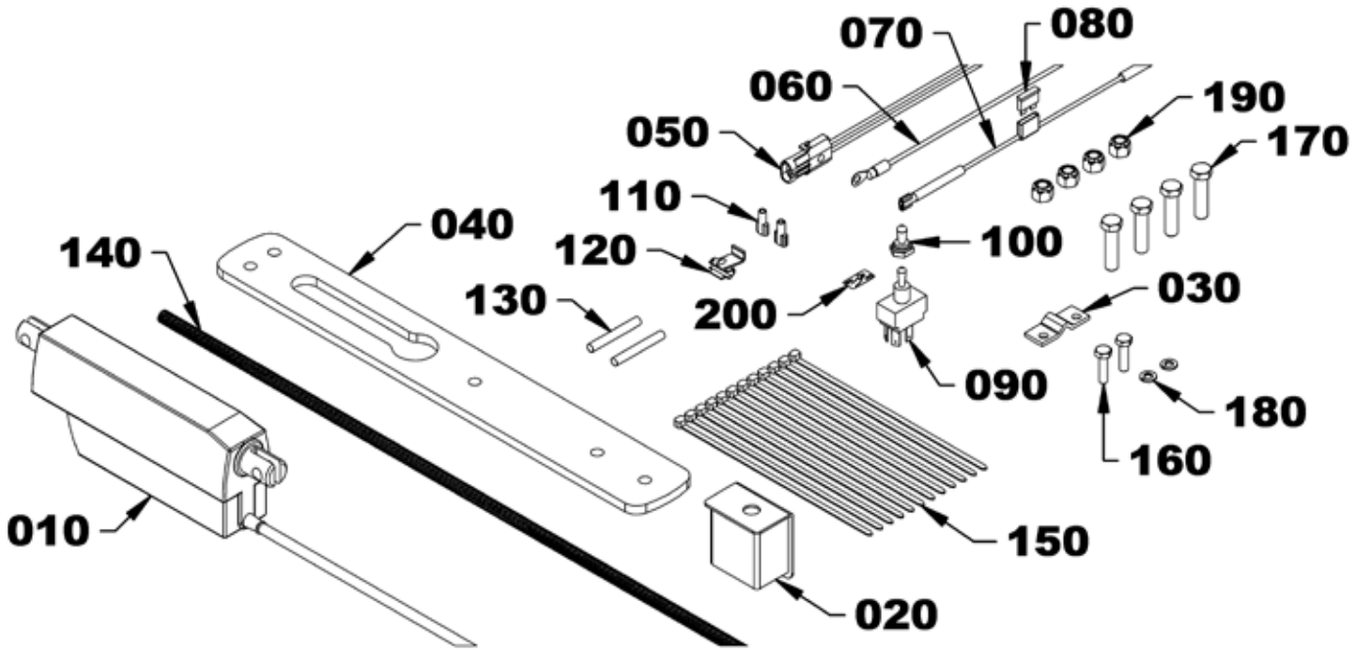
SB54.30, SB64.30, SB74.30, SB84.30 HYDRAULIC CHUTE DEFLECTOR



REF	PART	QTY	DESCRIPTION
-	640009	1	Hydraulic Deflector Kit
10	644937	1	Cylinder 2" x 5"
20	644938	1	Seal kit
30	603640	2	Pin 3/4" x 2-1/2"
40	1266*	4	Cotter pin 3/16" x 1-1/2"
50	8151	2	Elbow 90° 3/8 NPT M x 1/4 NPT SWF
60	644939	2	Hose 1/4" x 90"- 1/4"NPT M x 1/4"NPT M
70	W11893*	2	Reducer 1/2"NPT M x 1/4"NPT F
80	66511	2	Male Quick Coupler 1/2" NPT
90	5052	2	Dust cap
100	644940	1	Hose support
110	644934	2	Hose clamp
120	12169*	4	Bolt hex 3/8"NC x 1-1/4" Gr.5
130	*	4	Nylon insert locknut 3/8"NC

* Standard hardware, obtain locally

SB54.30, SB64.30, SB74.30, SB84.30 ELECTRIC CHUTE DEFLECTOR



REF	PART	QTY	DESCRIPTION
-	640008	1	Electric Deflector Kit
10	644910	1	Actuator and connector ass'y
20	644942	1	Switchbox
30	644945	1	Switchbox clamp PTD
40	644940	1	Hose support
50	644907	1	Wire asy – power supply
60	644912	1	Wire asy, 14ga x 72" negative power supply
70	644959	1	Power supply red wire 14ga x 72" with fuse
80	*	1	Fuse ATO 5 amps
90	644943	1	Switch 4 connections
100	644944	1	Rubber cap

REF	PART	QTY	DESCRIPTION
110	644904	2	Terminal, flat female 1/4" 16-14ga insulated
120	644949	1	Tap connector
130	644905	2	Thermoset splice ø1/4"X 2" lg
140	644909	1	Loom ø1/4" x 187"
150	88*	12	Nylon tie wrap 8" x 4.8mm black
160	10378*	2	Bolt hex 1/4"NC x 1" Gr.5 PTD
170	976*	4	Bolt hex 3/8"NC x 1-1/2" Gr.5 PTD
180	1985*	2	Lockwasher 1/4" PTD
190	*	4	Nylon insert locknut 3/8"NC PTD
200	644911	1	Decal, chute deflector switch
	*		Standard hardware, obtain locally

BOLT TORQUE CHART

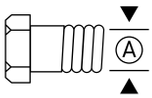
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

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

Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for metric hardware. Make sure fastener threads are clean and you start thread engagement properly.

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

SAE SERIES TORQUE CHART



SAE Bolt Head Identification

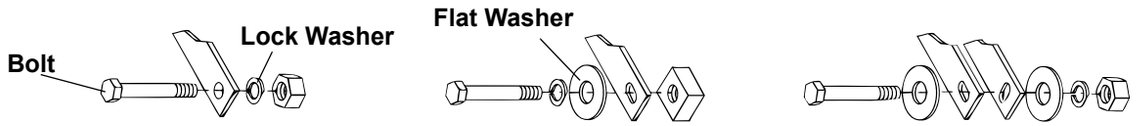
SAE Grade 2
(No Dashes)

SAE Grade 5
(3 Radial Dashes)

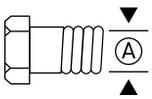
SAE Grade 8
(6 Radial Dashes)

Ⓐ		Marking on Head					
		SAE 2		SAE 5		SAE 8	
Diameter (Inches)	Wrench Size	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

TYPICAL WASHER INSTALLATIONS



METRIC SERIES TORQUE CHART



Metric Bolt Head Identification

Metric
Grade 8.8

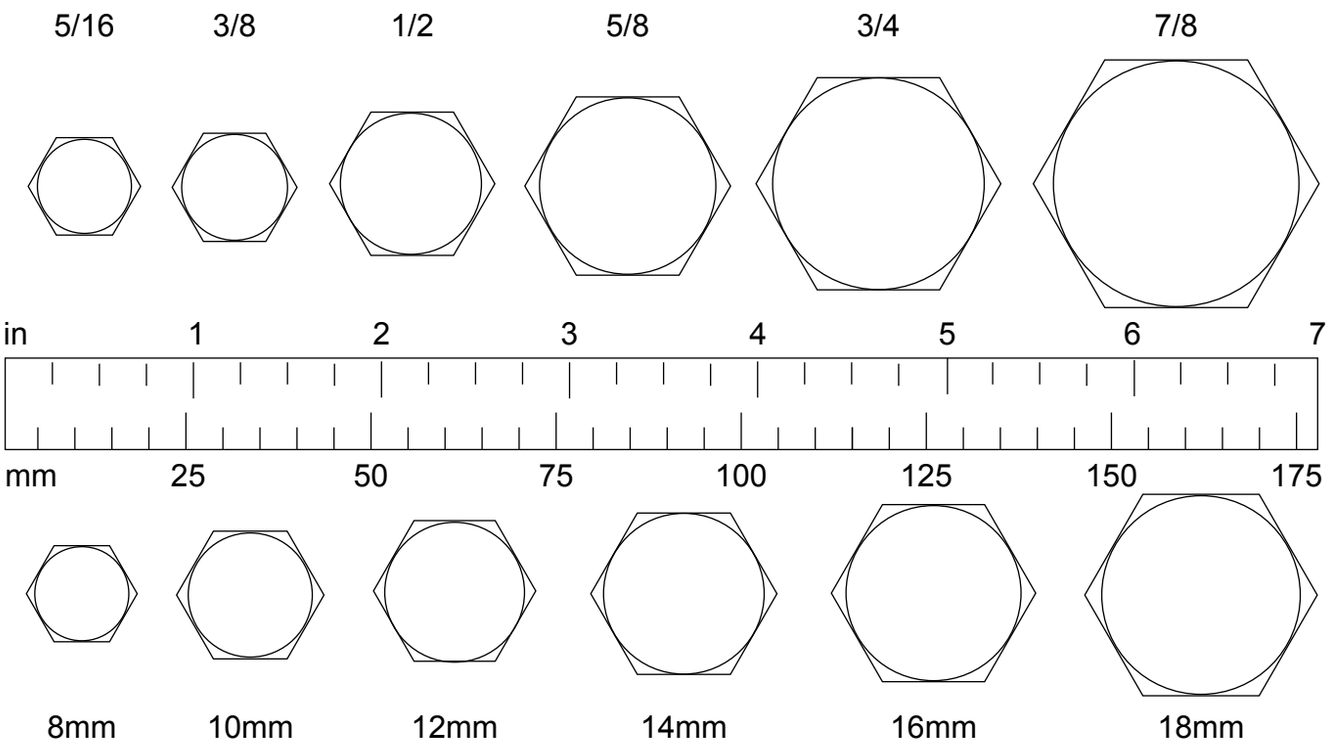
Metric
Grade 10.9

Ⓐ		Coarse Thread				Fine Thread				Ⓐ
		Marking on Head				Marking on Head				
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9		
Diameter & Thread Pitch (Millimeters)	Wrench Size	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	Diameter & Thread Pitch (Millimeters)
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

BOLT SIZE CHART

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

SAE BOLT THREAD SIZES



METRIC BOLT THREAD SIZES

ABBREVIATIONS

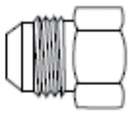
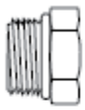
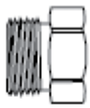
AG . . . . . Agriculture
ASABE . . . . . American Society of Agricultural & Biological Engineers (formerly ASAE)
ASAE . . American Society of Agricultural Engineers
ATF . . . . . Automatic Transmission Fluid
BSPP . . . . . .British Standard Pipe Parallel
BSPTM . . . . . British Standard Pipe Tapered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

FITTING TORQUE CHART

Always tighten fittings to these values unless a different torque value is listed for a specific service procedure.

Make sure fastener threads are clean and threads are engaged properly.

All torque values are adopted from SAE J514 and SAE J1453.

			
Size	**SAE (JIC) 37° Flare Thread Size**	**O-Ring Style Straight Thread Size**	**Seal-Lok Thread (Face Seal)**
2	5/16 - 24	5/16 - 24	---
3	3/8 - 24	3/8 - 24	---
4	7/16 - 20	7/16 - 20	9/16 - 18
5	1/2 - 20	1/2 - 20	---
6	9/16 - 18	9/16 - 18	11/16 - 16
8	3/4 - 16	3/4 - 16	13/16 - 16
10	7/8 - 14	7/8 - 14	1 - 14
12	1-1/16 - 12	1-1/16 - 12	1-3/16 - 12
14	1-3/16 - 12	1-3/16 - 12	---
16	1-5/16 - 12	1-5/16 - 12	1-7/16 - 12
20	1-5/8 - 12	1-5/8 - 12	1-11/16 - 12
24	1-7/8 - 12	1-7/8 - 12	2 - 12
32	2-1/2 - 12	2-1/2 - 12	---

SAE Dash Size	**TORQUE**					
	SAE 37° Flare		**O-Ring Straight Thread**		**Seal-Lok**	
	Lbs.-Ft.	**N-m**	**Lbs.-Ft.**	**N-m**	**Lbs.-Ft.**	**N-m**
2	4	5	4	5	---	---
3	8	11	9	12	---	---
4	12	16	16	22	18	25
5	15	20	22	30	---	---
6	18	25	35	48	27	37
8	37	50	60	82	40	54
10	48	65	105	143	63	86
12	74	100	140	190	92	125
14	88	120	184	250	---	---
16	100	135	221	300	122	165
20	133	180	258	350	147	200
24	166	225	317	430	166	225
32	236	320	---	---	---	---

PART NO.

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