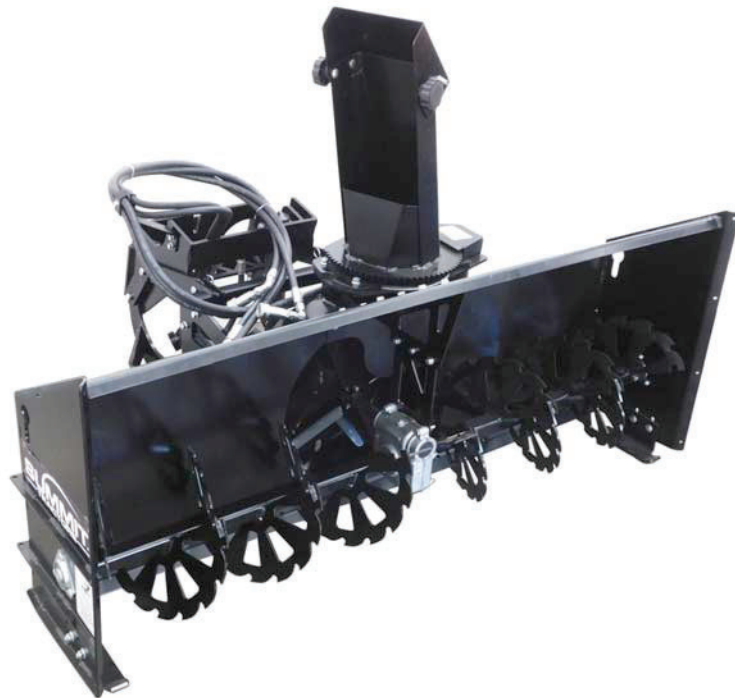


# SUMMIT FRONT MOUNT SNOWBLOWER

## OWNERS MANUAL OPERATORS INSTRUCTIONS SERVICE AND PARTS INFORMATION

(SBX60)



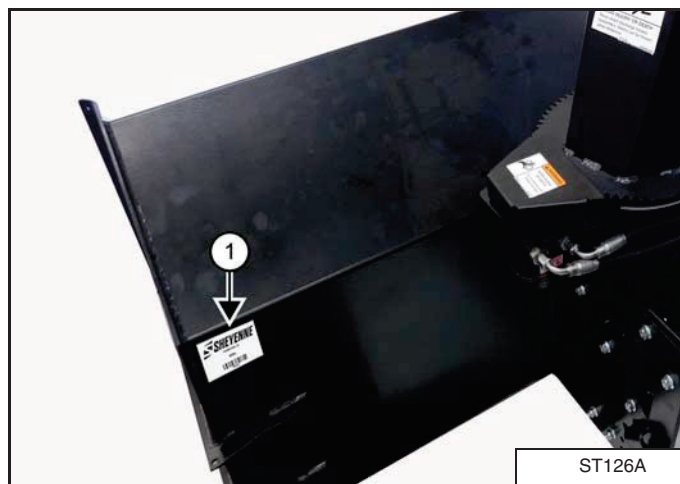


# TABLE OF CONTENTS

SERIAL NUMBER LOCATION . . . . .	2
SNOWBLOWER IDENTIFICATION AND DECALS . . . . .	3
FEATURES AND ACCESSORIES . . . . .	5
SAFETY . . . . .	6
DAILY INSPECTION .. . . .	9
INITIAL SETUP . . . . .	11
OPERATING PROCEDURE WITH COMPACT TRACTOR . . . . .	16
LIFTING THE SNOWBLOWER . . . . .	35
TRANSPORTING THE SNOWBLOWER ON A TRAILER . . . . .	36
TRANSPORTING THE SNOWBLOWER AND COMPACT TRACTOR ON A TRAILER . . . . .	36
MAINTENANCE SAFETY . . . . .	37
SERVICE SCHEDULE . . . . .	38
REGULAR MAINTENANCE ITEMS. . . . .	39
LUBRICATING THE SNOWBLOWER. . . . .	50
AUGER GEARBOX FLUID CHANGE. . . . .	51
SKID SHOE REMOVE AND INSTALLATION . . . . .	52
ATTACHMENT STORAGE AND RETURN TO SERVICE . . . . .	53
PARTS MANUAL . . . . .	54
FRONT MOUNT SNOWBLOWER SPECIFICATIONS . . . . .	62
WARRANTY . . . . .	64
ALPHA INDEX . . . . .	66

## SERIAL NUMBER LOCATION

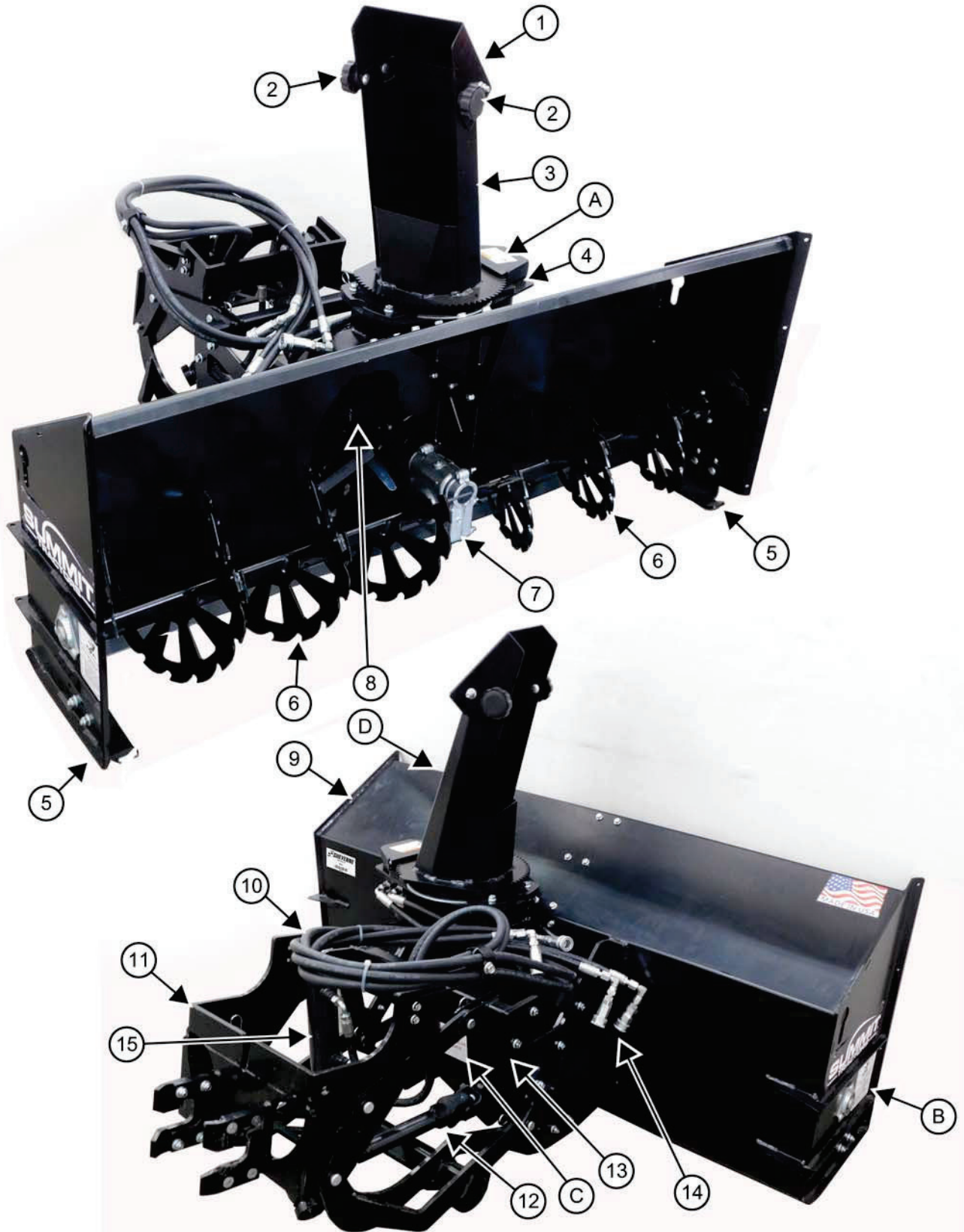
Figure 1



The snowblower serial number plate (Item 1) [Figure 1] is located on the left frame.

Always use the serial number of the snowblower when requesting information or when ordering parts.

SNOWBLOWER IDENTIFICATION AND DECALS



ST131A

# SNOWBLOWER IDENTIFICATION AND DECALS

## Identification

ITEM	DESCRIPTION
1	Deflector
2	Adjustment Knobs
3	Discharge Chute
4	Discharge Chute Rotation Motor
5	Skid Shoes
6	Augers
7	Gear Box
8	Fan
9	Snowblower Frame
10	Hydraulic Hoses
11	Lifting Frame
12	PTO
13	Chain Case
14	Hydraulic Hose Couplers
15	Lift Cylinder

## Decals

ITEM	DESCRIPTION	DECAL
A	WARNING - Do Not Remove Shields (P/N 322-6-0002 (1))	
B	WARNING - Rotating Auger Flighting - Keep Away (P/N 320-3-1966 (2))	
C	WARNING - Keep Shields In Place (P/N 320-3-1266) (1)	
D	WARNING - Stay Clear (P/N 322-6-0001 (1))	

## **FEATURES AND ACCESSORIES**

### **Standard Items**

The snowblower is equipped with the following standard items.

- Compact Tractor mounting frame.
- Cutting edge.
- Hydraulic discharge chute rotation.
- Manually adjustable deflector.
- Protected with Grade 2 sheer bolts.
- PTO - driveline.
- Reversible and replaceable skid shoes.

## SAFETY

### Safety Instructions

“Safety is the Operator’s responsibility!”



This symbol with a warning statement means: “Warning, be alert! Your safety is involved!” Carefully read the message that follows.



The signal word **DANGER** on the machine and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.



Operator must have instructions before operating the machine. Untrained operators can cause injury or death.

The signal word **WARNING** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



This Important notice identifies procedures which must be followed to avoid damage to the machine.

---

### Safe Operation Needs A Qualified Operator!

- Read and understand the compact tractor and the snowblower Operator’s Manual before operating the machine.
- Do Not permit personnel in the work area when operating the compact tractor.
- When learning to operate the compact tractor with the snowblower, do it at a slow rate in an area clear of by-standers.
- Be aware of overhead and under ground utilities. Call 811 before doing any digging.
- Do Not go near the PTO shafts or auger. Always turn engine off before leaving compact tractor or when servicing the snowblower.
- Be aware of the work conditions. ie., excessive slopes, obstructions, holes, bumps. working near an edge.



## SAFETY (CONT'D)

### Safe Operation Needs A Qualified Operator! (Cont'd)

For an operator to be qualified, he or she must not use drugs or alcoholic drinks which impair alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate a machine and the attachment.

- Read and understand the compact tractor and the snowblower Operator's Manuals and then machine signs (decals).
- Check the rules and regulations at your location. The rules may include an employer's work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.
- The new operator must start in an area without bystanders and use all the compact tractor controls until he or she can operate the compact tractor and snowblower safely under all conditions of the work area.
- The operator must know about excessive slopes, slippery areas, drop offs, etc. Walk the area being worked and remove any materials that could affect the operator or the compact tractor.
- Know the location of any underground lines. Call the local utilities or dial 811 in the USA or call 1-888-258-0808 in the USA & Canada and have the area checked and marked for any utilities.

### Safety Rules

- Read and follow instructions in the compact tractor and the snowblowers Operator's Manual before operating.
- Check for underground utilities and obstructions before operating snowblower.
- In addition to the design of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.
- Operate the compact tractor only from the operator's position.
- Operate the snowblower according to the Operator's Manual.
- When learning to operate the snowblower, do it at a slow rate in an area clear of bystanders.
- DO NOT permit personnel to be in the work area when operating the compact tractor and the snowblower.
- DO NOT make any adjustments or repairs on the compact tractor or snowblower while the engine is running.
- Keep PTO shields, guards and decals in place. Replace if damaged.
- Keep bystanders away from PTO driven equipment, and never allow children near machines.
- Read and understand the manuals for the PTO driven equipment and be aware of safe operating procedures and hazards that may not be readily apparent.
- Always walk around equipment to avoid coming near a turning PTO driveline. Stepping over, leaning across or crawling under a turning PTO driveline can cause entanglement.
- Do not wear loose or bulky clothing around the PTO or other moving parts.
- Use caution when raising PTO driven attachment. Excessive driveline angle can cause driveline damage. Use stops if needed.

## **SAFETY (CONT'D)**

### **Avoid Silica Dust**

Concrete containing sand or rock containing quartz may result in exposure to silica dust. Do not exceed Permissible Exposure Limits (PEL) to silica dust as determined by OSHA or other local Rules and Regulations. Use a respirator, water spray or other means to control dust. Silica dust can cause lung disease and is known to the state of California to cause cancer.

### **Maintenance**

Flammable debris (leaves, straw, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation.

All fuels, and most lubricants are flammable. Flammable fluids that are leaking or spilled onto hot surfaces or onto electrical components can cause a fire.

### **Operation**

Do not use the compact tractor where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases.

### **Welding And Grinding**

Always clean the snowblower before welding. Cover rubber hoses, and all other flammable parts. Keep a fire extinguisher near the snowblower when welding.

Have good ventilation when grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.

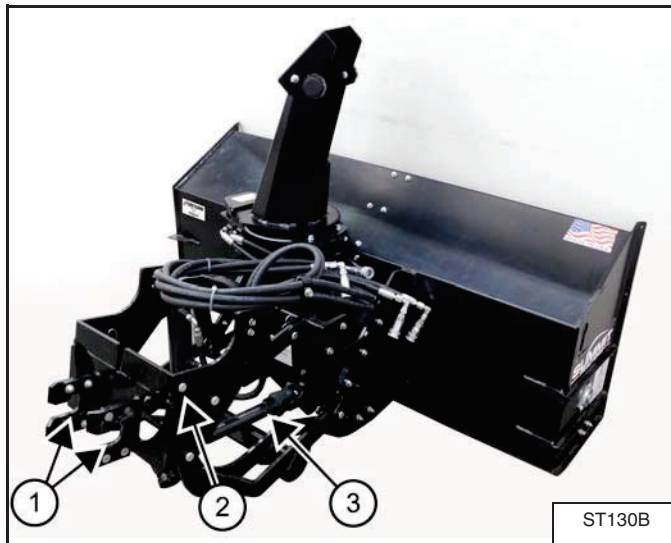
### **Fire Extinguishers**

Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the fire extinguisher instructions plate.

## DAILY INSPECTION

### Attachment Mounting Frame

Figure 2



Inspect the snowblower mounts (Item 1), the retaining pin (Item 2), all welds on the mounting frame and the attachment for wear and damage. Inspect the mounting hardware for correct torque or damage. Inspect the input PTO driveline (Item 3) [Figure 2] for damage.

Check the following items at the start of a work day:

- Check for damaged or missing decals. Replace if necessary.
- Replace any worn or damaged parts immediately.

### Compact Tractor Front Hitch

## ! WARNING

### AVOID INJURY OR DEATH

- Disengage the PTO (rear and mid), engage the parking brake, stop the engine and make sure all rotating components are completely stopped before connecting, disconnecting, adjusting or cleaning any PTO driven equipment.
- Always keep PTO shields and all guards in place when using PTO driven equipment.
- Disengage PTO (rear and mid) for road travel.
- Keep hands, feet and clothing away.

ST-W-1101

## ! WARNING

### AVOID INJURY OR DEATH

The parking brake must be engaged before leaving the operator's seat. Rollaway can occur because the transmission may not prevent machine movement. Lock the brake pedals together (if equipped) before activating the parking brake.

ST-W-1102

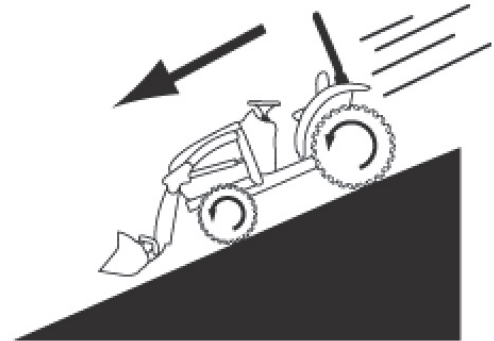


Figure 3



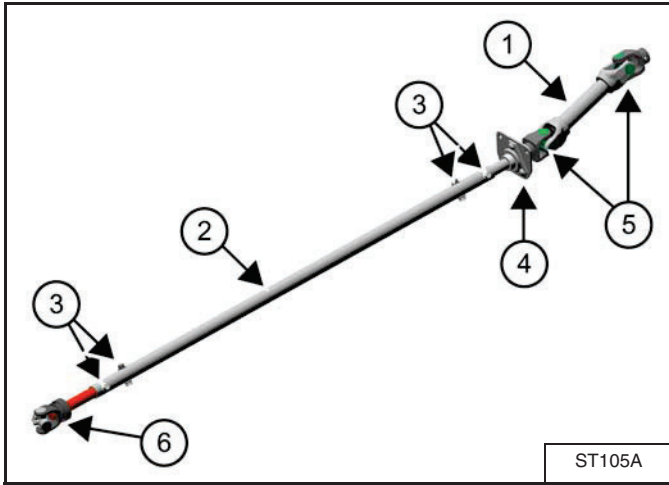
Inspect the front mounts and all welds for wear and damage each time the snowblower is removed from the compact tractor [Figure 3].

Repair or replace damaged parts.

## DAILY INSPECTION (CONT'D)

### Compact Tractor PTO Driveline

Figure 4



Inspect the compact tractor PTO driveline assembly (Item 1 and 2), and the retaining hardware (Item 3), bearing and bearing carrier (Item 4) [Figure 4] for wear or damage.

**NOTE: Pay attention to damaged or worn U-joints (Item 5 and 6) [Figure 4] and shaft splines.**

Repair or replace damaged parts.

## INITIAL SETUP

### Front Mount Installation

Figure 5



A video of the Front Mount Installation instructions shown below, is available and can be accessed using the QR code shown [Figure 5].

To access a QR code, open your smartphone's camera app, point it at the code, and wait for a notification to appear. Tap the notification to be taken to the video link or for information embedded in the QR code. If your camera doesn't automatically scan, check your device's settings to ensure the QR code scanner is enabled or try a dedicated QR code reader app.

## WARNING

### AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

ST-W-1103

## WARNING

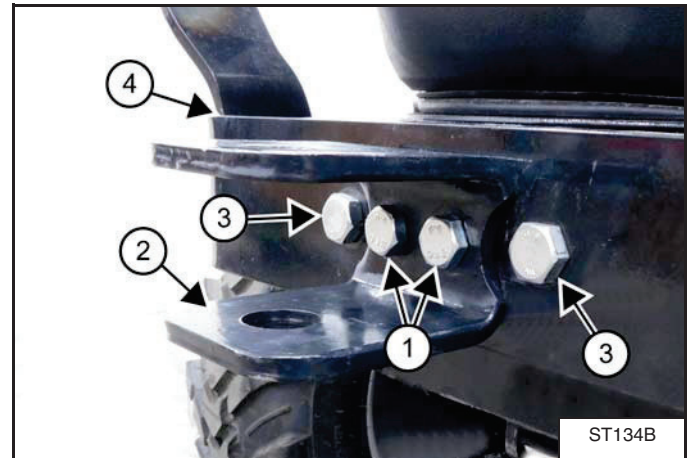
### AVOID INJURY OR DEATH

- Keep PTO shields and all guards in place.
- Keep away from moving parts.
- Keep bystanders away.
- Do NOT exceed 300 rear - PTO RPM.

ST-W-1104

Remove the loader (if equipped). (See the Operators Manual for correct procedure.)

Figure 6



Remove the two bolts (Item 1) and remove the front hitch (Item 2) [Figure 6]. Save these parts for reuse.

Installation: Tighten the two bolts to 200 N•m (145 ft-lb) torque.

Remove the two bolts (Item 3) and remove the front plate / grill guard (Item 4) [Figure 6]. Save these parts for reuse.

## WARNING

### CHEMICAL HAZARD

Contact with or ingestion of battery acid can cause serious injury or death.

- Batteries contain acid that burns eyes and skin on contact. Wear safety goggles, protective clothing, and rubber gloves to keep acid off body.
- In case of acid contact, wash immediately with water. In case of eye contact, get prompt medical attention and wash eye with clean, cool water for at least 5 minutes.
- If electrolyte is ingested, drink large quantities of water or milk! DO NOT induce vomiting. Get prompt medical attention.

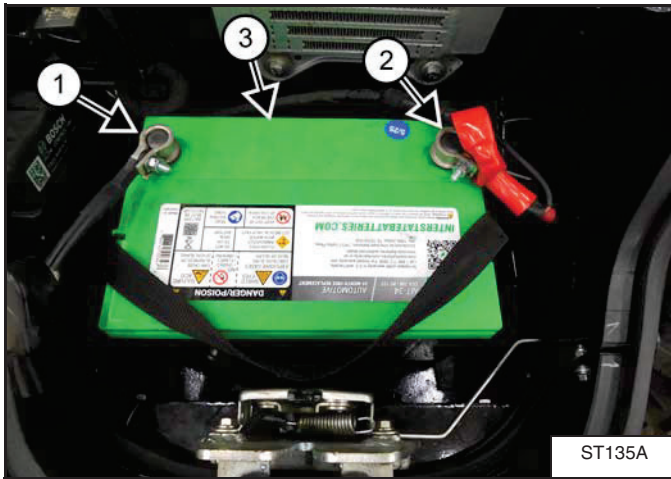
ST-W-1105



## INITIAL SETUP (CONT'D)

### Front Mount Installation (Cont'd)

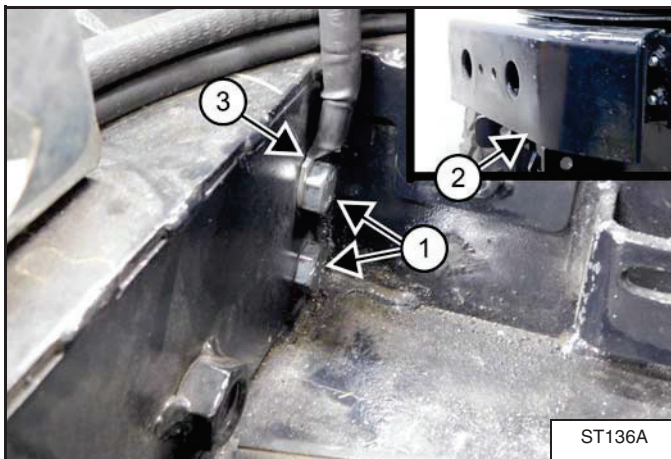
Figure 7



Open the engine cover.

Disconnect the negative battery cable (Item 1) first and then disconnect the positive battery cable (Item 2) [Figure 7]. Remove the battery (Item 3) [Figure 7] and set aside for reuse.

Figure 8

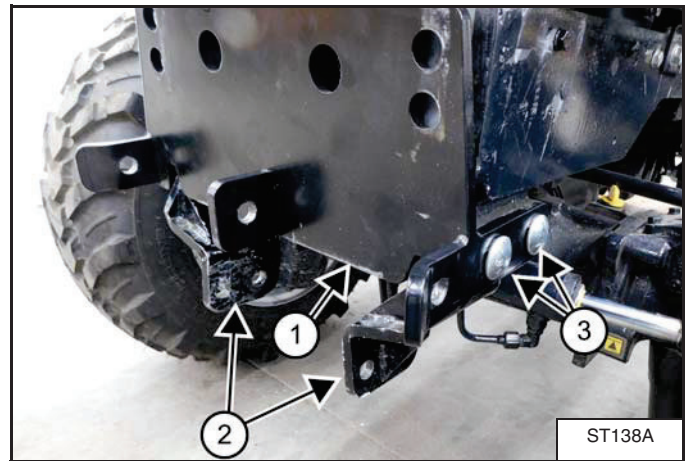


Loosen the four bolts (Item 1) [Figure 8] (two bolts located on each sides of the battery box).

Hold securely the front plate (Item 2) and remove the four bolts (Item 1) [Figure 8]. Save these parts for reuse.

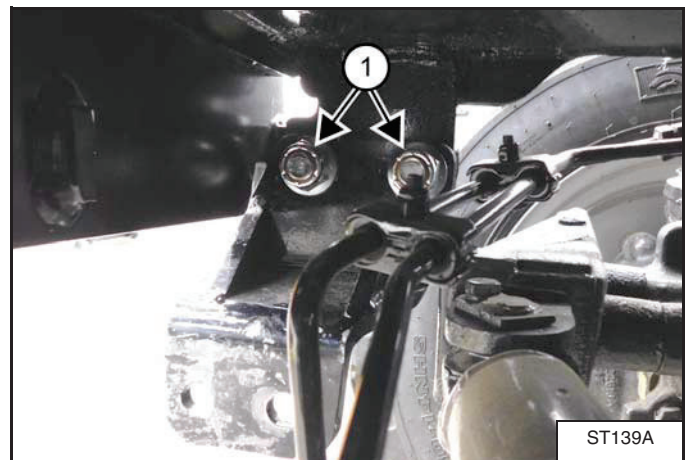
When reinstalling these parts, make sure to reinstall the negative battery cable (Item 3) [Figure 8] in the location shown.

Figure 9



Position the new front mount (Item 1) to the front and front sides of the compact tractor frame, install the left and right side mounts (Item 2) and install the four bolts (Item 2) [Figure 9] (two bolts from each side of the front mount.)

Figure 10

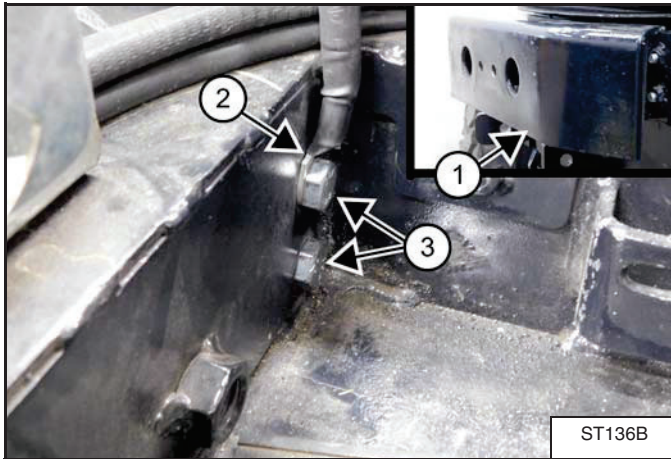


Continue holding the front mounts (Item 1 and 2) [Figure 9] in place, and install the four nuts (Item 1) [Figure 10]. Do not tighten at this time.

## INITIAL SETUP (CONT'D)

### Front Mount Installation (Cont'd)

Figure 11



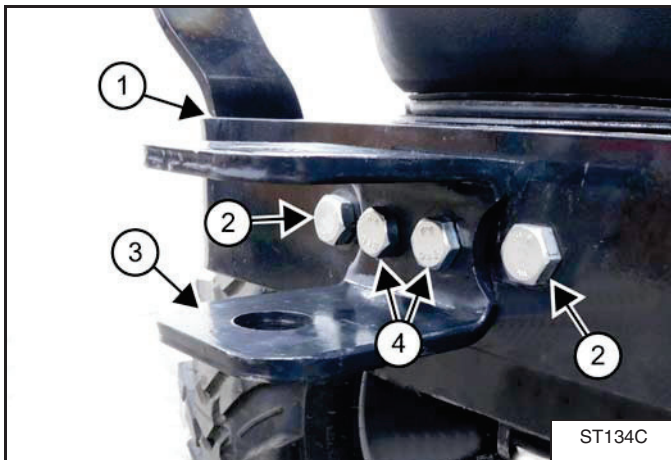
Position the existing front plate (Item 1) [Figure 11] to the front of the compact tractor frame.

Install the negative battery cable (Item 2) and install the four bolts (Item 3) [Figure 11].

Installation: Tighten the four bolts to 45 N•m (35 ft-lb) torque.

Installation: Now tighten the four nuts (Item 1) [Figure 10] to 203 N•m (150 ft-lb) torque.

Figure 12



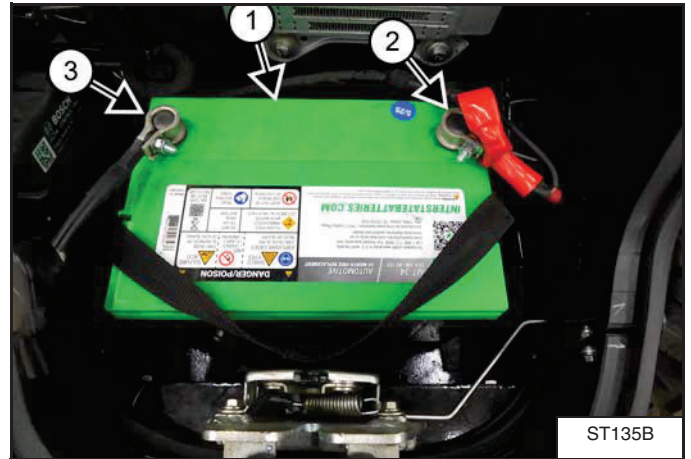
Reinstall the front plate / grill guard (Item 1) with the two bolts (Item 2) [Figure 12].

Installation: Tighten the two bolts (Item 2) [Figure 12] to 108 N•m (80 ft-lb) torque.

Reinstall the hitch (Item 3) with the two bolts (Item 4) [Figure 12].

Installation: Tighten the two bolts (Item 4) [Figure 12] to 149 N•m (110 ft-lb) torque.

Figure 13



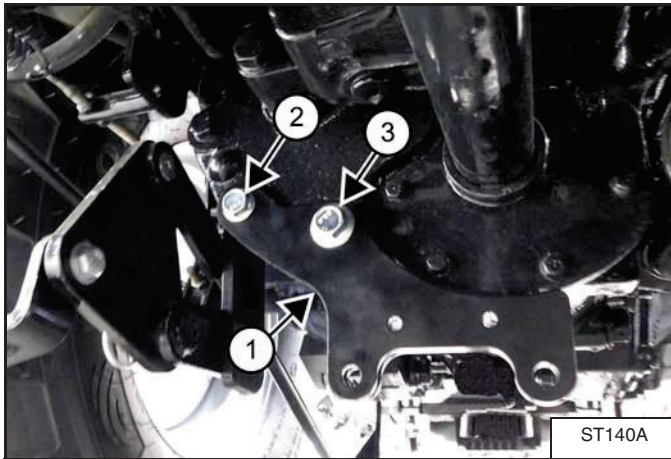
Reinstall the battery (Item 1) [Figure 13].

Connect the positive cable (Item 2) first, and then connect the negative cable (Item 3) [Figure 13].

Close the engine cover.

## PTO Shaft Installation To The Compact Tractor

Figure 14

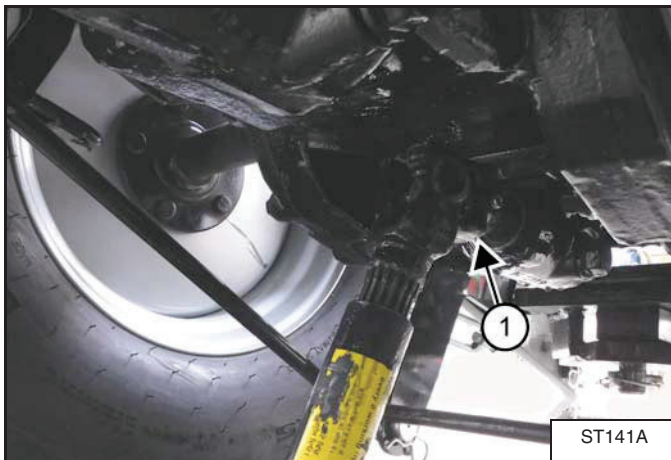


Install the center PTO mount (Item 1) with the two bolts (Item 2 and 3) [Figure 14].

Installation: Tighten the M10 bolt (Item 2) [Figure 12] to 45 N•m (34 ft-lb) torque.

Installation: Tighten the M12 bolt (Item 3) [Figure 12] to 80 N•m (58 ft-lb) torque.

Figure 15



**NOTE:** The mid PTO shaft should have a cover over the shaft splines. Remove and save this cover for when the snowblower / PTO is removed from the compact tractor. See the compact tractors Operators Manual for details on the mid PTO cover.

Install the PTO U-joint (Item 1) [Figure 15] to the compact tractor mid PTO shaft.

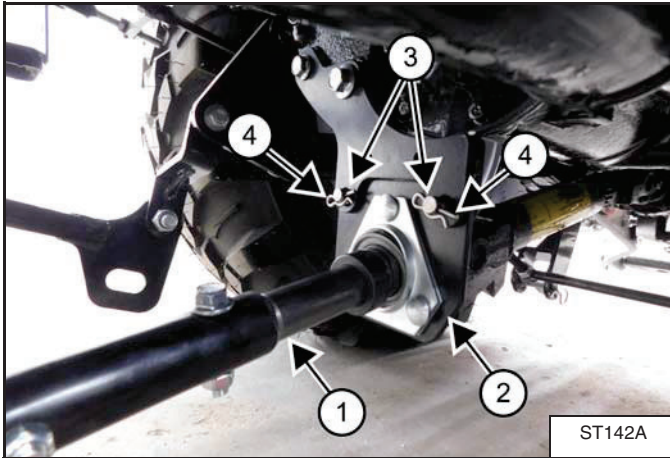
**NOTE:** The PTO u-joint must have a retaining device (a sliding collar, a retaining pin, or other type of retainer) to securely retain the PTO u-joint to the splined shaft. Once installed, pull and push on the PTO shaft to make sure it is securely fastened.



## INITIAL SETUP (CONT'D)

### PTO Shaft Installation To The Compact Tractor (Cont'd)

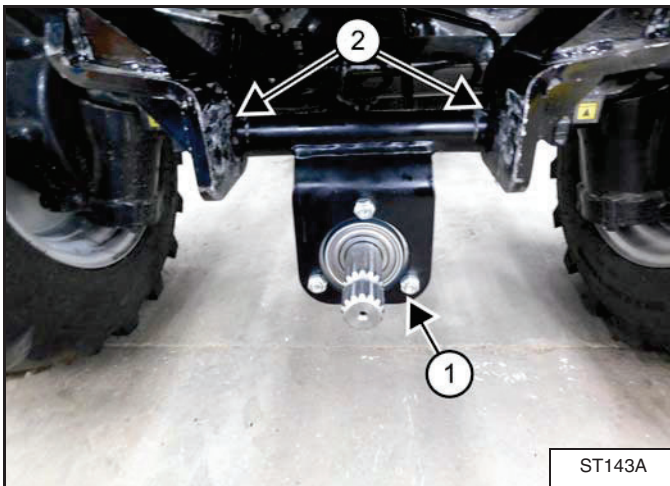
Figure 16



Raise the PTO shaft assembly (Item 1) until the center bearing carrier plate (Item 2) [Figure 16] is aligned with the mount.

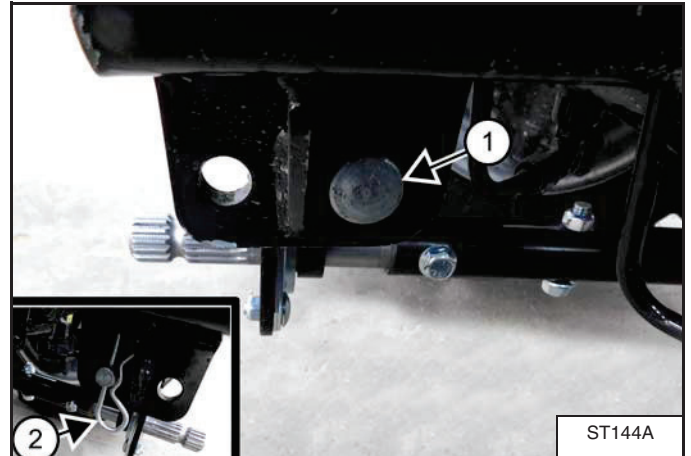
Install two pins (Item 3) and two retainer pins (Item 4) [Figure 16].

Figure 17



Raise the front of the PTO shaft assembly (Item 1) and position it between the front mount (Item 2) [Figure 17].

Figure 18

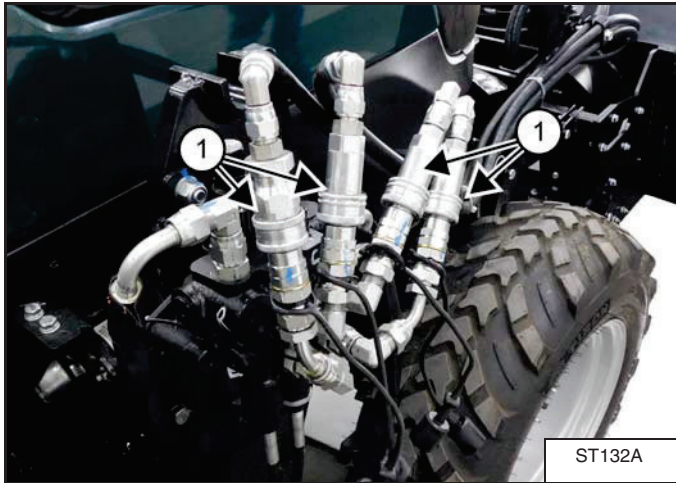


Install the pin (Item 1) and the retaining pin (Item 2) [Figure 18] to secure the PTO shaft assembly to the mount.

## OPERATING PROCEDURE WITH COMPACT TRACTOR

### Hydraulic Couplers

Figure 19



#### *To Connect*

Remove the dust plugs. Remove dirt or debris from the both the female and male couplers. Visually check the couplers for corrosion, damage or excessive wear, if any of these conditions exist, the couplers must be replaced. Retract the sleeve on the female coupler (Item 1) [Figure 19]. Insert the female coupler and push the couplers tightly together. Pull back firmly on the female coupler to make sure the couplers have engaged properly.

#### *To Disconnect*

Hold the male coupler and retract the sleeve on the female coupler. Pull to disengage the female coupler. Reinstall the dust plugs.

### Relieve Hydraulic Pressure

Figure 20



Turn engine start key to the OFF position. If equipped with an attachment / implement, fully lower the attachment / implement flat on the ground. See the compact tractor Operators Manual for correct procedure.

Move the joystick lever (Item 1) [Figure 20] forward / back and side to side several times to relieve the hydraulic pressure at the couplers (Item 1) [Figure 19].

## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Approved Compact Tractor Models And Requirements

Figure 21

TRACTOR MODEL	SBX60
Summit TX25	X

(X = Approved)

The chart [Figure 21] lists the compact tractor models approved for use with the front mount snowblower.

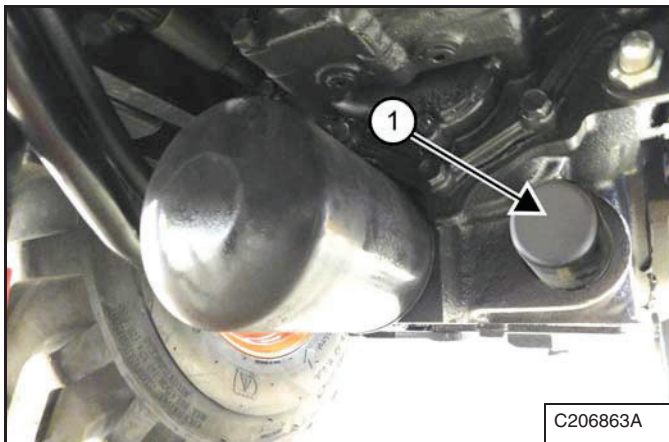
**Warranty on this attachment is void if used on a non-approved carrier. See your Summit dealer for a current list of approved carriers.**



Use of unapproved attachments, implements and buckets can cause injury or death. Attachments, implements and buckets for safe loads of specified densities are approved for each model. Never use attachments, implements or buckets which are not approved by the manufacturer.

ST-W-1106

Figure 22



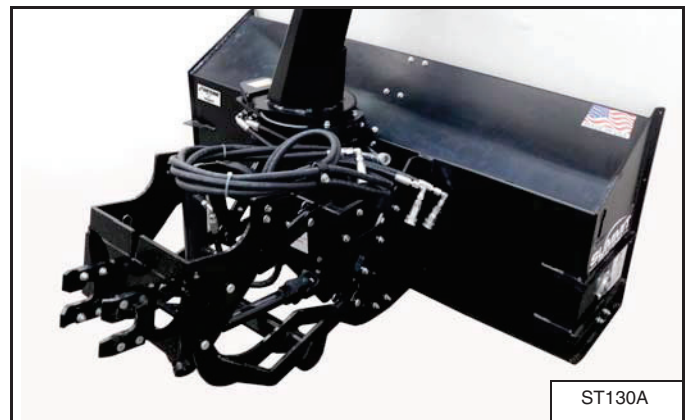
The compact tractor must be equipped with the mid-PTO kit (Item 1) [Figure 22]. See your Summit compact tractor dealer for an available kit for your model compact tractor (if compact tractor is NOT already equipped with the mid-PTO).

Figure 23



The compact tractor must be equipped with the front snow blower mount and PTO [Figure 23]. See your Summit compact tractor dealer for an available kit for your model compact tractor.

Figure 24



The snow blower must be equipped with the front hitch [Figure 24]. See your Summit compact tractor dealer for an available kit for your model compact tractor.

### Machine / Attachment Setup

#### Tire Pressure

Install tires with the correct snowblower rating and inflate to the pressures recommended for use with a snowblower before installing the front mount snowblower on the compact tractor. See the compact tractor's Operator Manual for tire information.



## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Entering And Exiting The Compact Tractor

# WARNING

#### GENERAL HAZARD

Failure to follow instructions can cause serious injury or death.

- Use ROPS in “locked up” position at all times. Keep seat belt fastened.
- Install the correct ballast (if required).
- Never modify equipment. Never use unapproved attachments or implements.
- Operate the machine from the operator position only.
- Keep bystanders away. Never carry riders.

ST-W-1107

#### Entering

Figure 25



Use the floorboards, steps, grab handle and steering wheel to get on and off the compact tractor [Figure 25]. Do not jump.

**NOTE: Maintain three-point contact at all times when getting on and off the compact tractor. Do not jump.**

Enter the compact tractor.

Figure 26



When ROPS is in the UP and locked position, fasten the seat belt [Figure 26]. Adjust the belt so that it fits snug around the lower part of your hips.

**NOTE: Do not wear the seat belt when the ROPS is in the lowered position.**

See the compact tractor's Operator Manual for detailed information on operating the compact tractor.

#### Exiting

1. Fully lower the loader arms and put the attachment flat on the ground (if equipped).
2. Fully lower the attachment (if equipped).
3. Lock brake pedals together (if equipped) and engage the parking brake.
4. Place all controls in neutral.
5. Stop the engine, unfasten the seat belt and remove the key.
6. Exit the compact tractor.

Make sure the PTO driveline and all rotating components have come to a complete stop before exiting the compact tractor (if applicable).

## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Installation

#### Front Snowblower

Figure 27



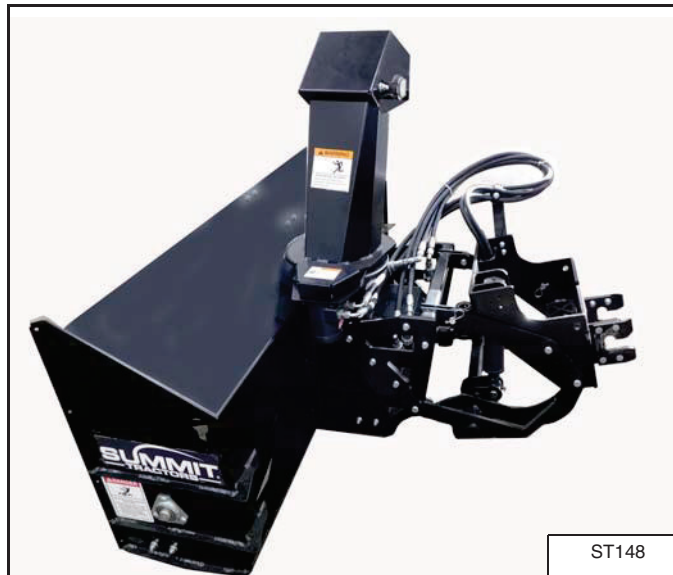
A video of the Front Mount Snowblower Installation and Removal instructions shown below, is available and can be accessed using the QR code shown [Figure 6].

To access a QR code, open your smartphone's camera app, point it at the code, and wait for a notification to appear. Tap the notification to be taken to the video link or for information embedded in the QR code. If your camera doesn't automatically scan, check your device's settings to ensure the QR code scanner is enabled or try a dedicated QR code reader app.

Always inspect the compact tractor's front hitch and attachment front hitch mounting frame before installation. See the compact tractor's Operator Manual. (See Attachment Mounting Frame on Page 9.)

Always inspect the compact tractor's front hitch and attachment front hitch mounting frame before installation. See the compact tractor's Operator Manual. (See Attachment Mounting Frame on Page 9.)

Figure 28



1. The snowblower and the mounting linkage come assembled from the factory. Remove the snowblower from the shipping pallet [Figure 28].

**! WARNING**

**AVOID INJURY OR DEATH**

**Keep fingers and hands out of pinch points when installing and removing implement or attachment.**

ST-W-1109

**! WARNING**

**AVOID INJURY OR DEATH**

**Keep fingers and hands out of pinch points when installing and removing implement or attachment.**

W-2571-1212

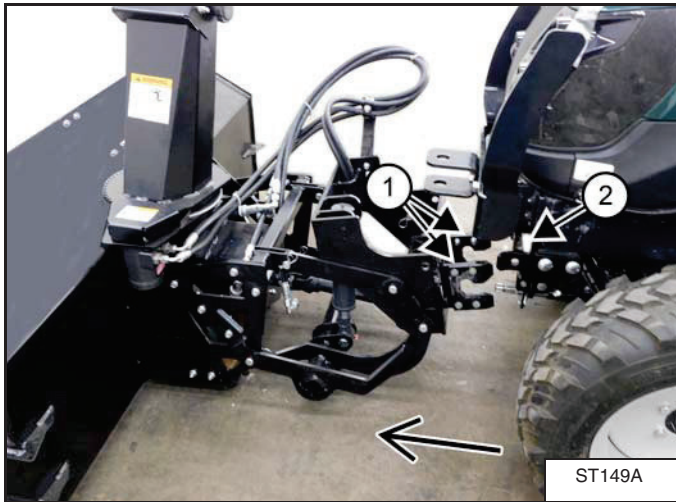
Enter the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.) Start the engine and release the parking brake. See the compact tractor's Operator Manual.

## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Installation (Cont'd)

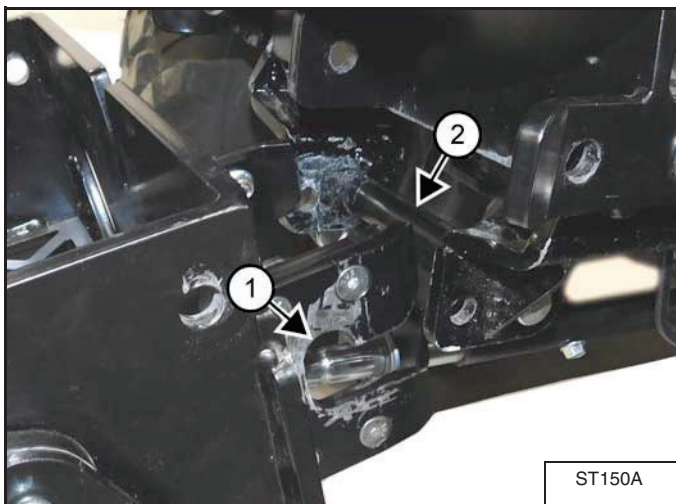
#### Front Snowblower (Cont'd)

Figure 29



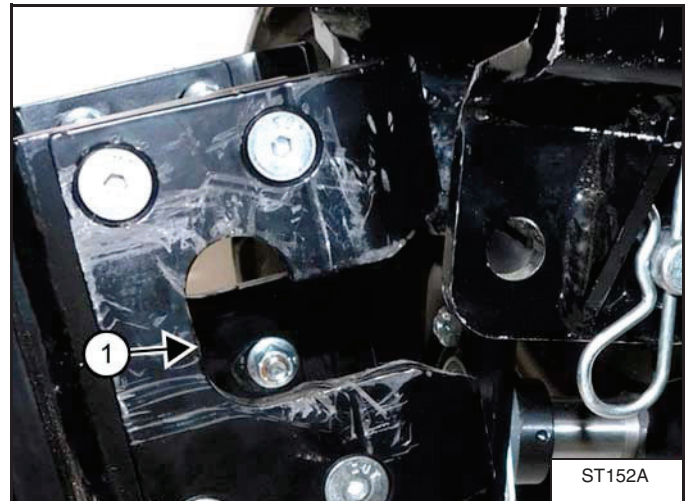
2. Drive the compact tractor to the attachment and align the snowblower mounting linkage (Item 1) with the compact tractor front mount (Item 2) [Figure 29].

Figure 30



3. The two mounting hooks (Item 1) must be raised enough to go over the top of the mount cross tube (Item 2) [Figure 30].
4. Raise and block the rear of the snowblower so that the hooks are slightly higher than the cross tube (if necessary).

Figure 31



5. Continue to slowly drive forward until the rear of the snowblower mounts (Item 1) [Figure 31] contact the cross tube.
6. Stop the engine and exit the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.)

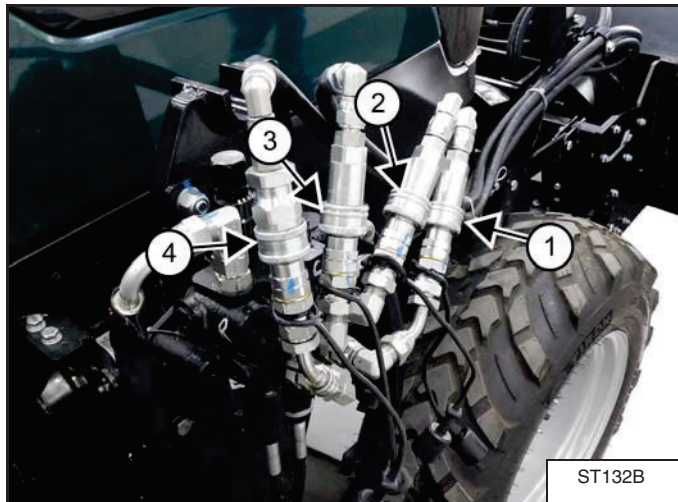


## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Installation (Cont'd)

#### Front Snowblower (Cont'd)

Figure 32



## IMPORTANT

To prevent hose damage caused by dragging on the ground, rubbing, pinching or PTO entanglement:

- Support attachment and implement hydraulic hoses using available hose guides or supports.
- Contact your implement or attachment dealer for available hose guides or supports.

S-I-I 001

The hydraulic hoses will need to be connected to the compact tractor quick couplers for rotating the snowblower mounting frame into position to connect to the compact tractor mounting frame.

#### 7. Connecting the hoses:

- Connect the hose from the left port on chute rotation motor to the hydraulic quick coupler (Item 1) [Figure 32].
- Connect the hose from the right port on chute rotation motor to the hydraulic quick coupler (Item 2) [Figure 32].
- Connect the hose from the lift cylinder rod end port to the hydraulic quick coupler (Item 3) [Figure 32].
- Connect the hose from the lift cylinder base end port to the hydraulic quick coupler (Item 4) [Figure 32].

Figure 33

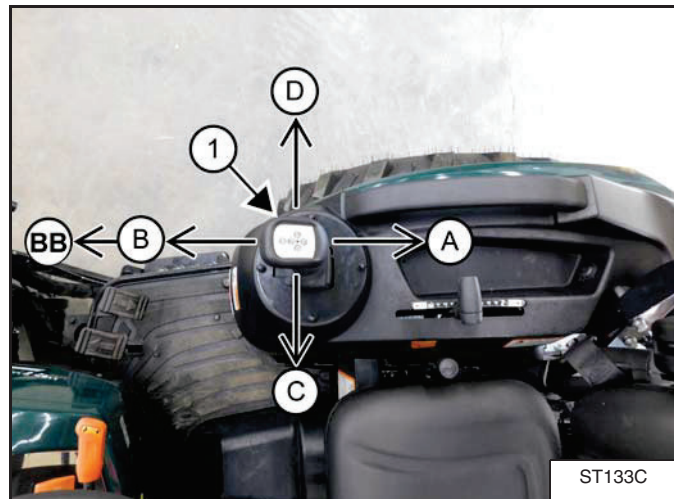
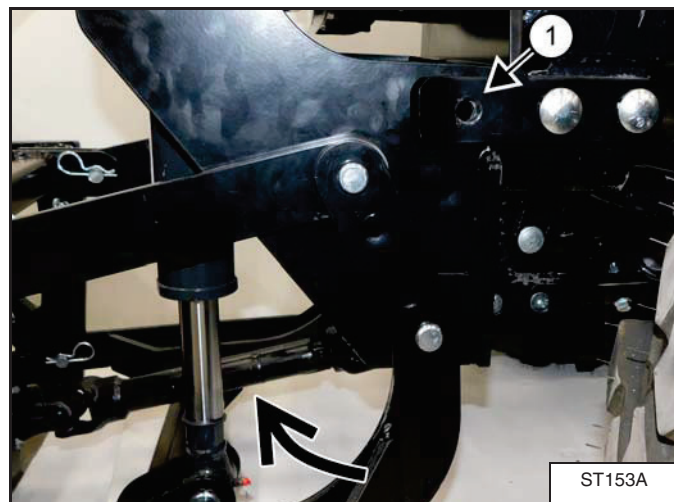


Figure 34



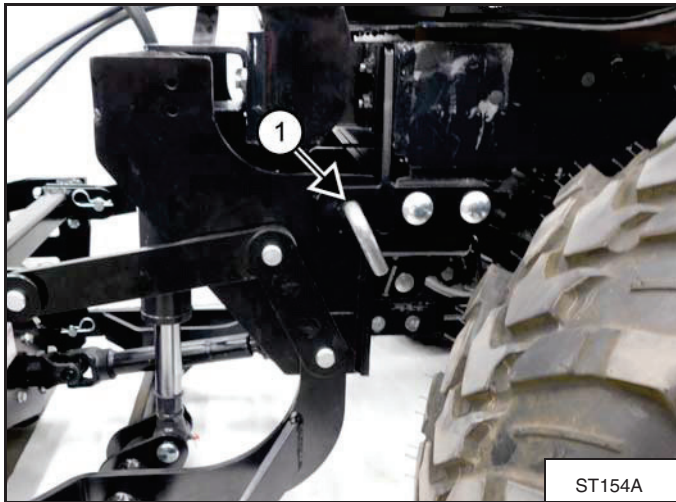
8. Enter the compact tractor and start the engine.
9. Move the joystick lever (Item 1) forward (Item A) [Figure 33] to slowly move the snowblower until the mounting holes (Item 1) [Figure 34] are aligned.
10. Stop the engine and exit the compact tractor.

## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Front Power Take-Off (PTO)

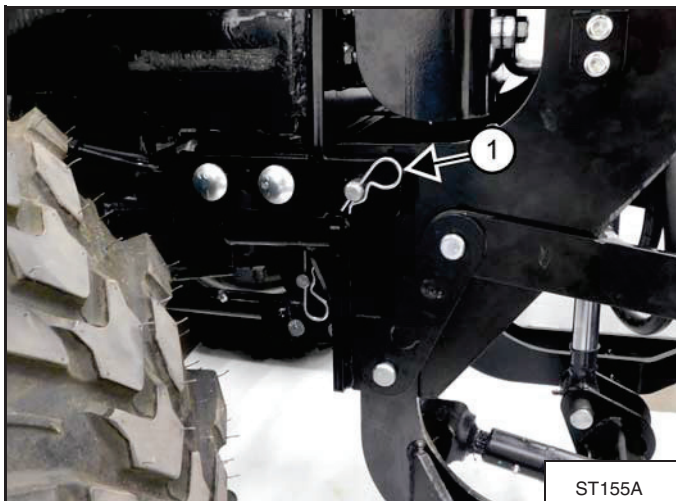
#### Installation

Figure 35



11. Install the lift pin (Item 1) [Figure 35] through the mounting brackets.

Figure 36



12. Install the retainer pin (Item 1) [Figure 36] to the lift pin.

13. Connect the snowblower PTO shaft to the compact tractor. (See Front Power Take-Off (PTO) on Page 22.)

## **WARNING**

### AVOID INJURY OR DEATH

Before you leave the operator's seat:

- Fully lower the loader arms, put the attachment flat on the ground (if equipped).
- Fully lower the implement(s) to the ground (if equipped).
- Lock brake pedals together (if equipped) and engage the parking brake.
- Place all controls in neutral.
- Stop the engine, unfasten the seat belt, and remove the key.

ST-W-1110

## **WARNING**

### AVOID INJURY OR DEATH

- Keep PTO shield and all guards in place.
- Keep away from moving parts.
- Keep bystanders away.
- Do NOT exceed PTO RPM.

ST-W-1111



Always park on flat level ground. Fully lower the front hitch and put the attachment flat on the ground.

Fully lower the three-point and put the implement flat on the ground (if equipped).

Stop the engine and exit the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.)

Make sure the PTO driveline and all rotating components have come to a complete stop before exiting the compact tractor (if applicable).

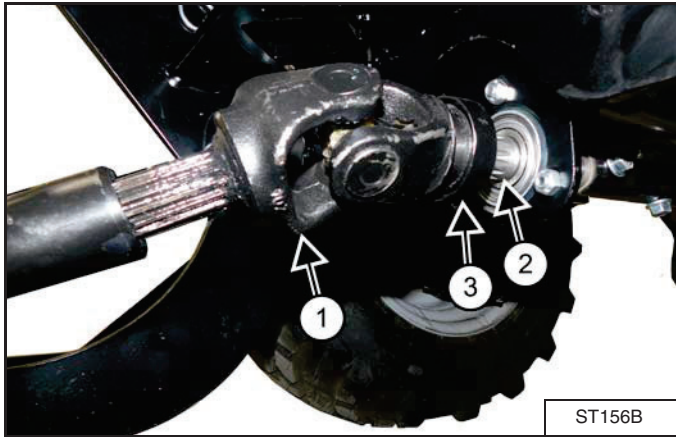


## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Front Power Take-Off (PTO)

#### Installation

Figure 37



1. Connect the snowblower PTO shaft (Item 1) to the front-PTO shaft (Item 2) **[Figure 37]**.
2. Retract the collar (Item 3) **[Figure 37]** and slide the snowblower PTO driveline onto the compact tractor's front-PTO shaft.
3. Release the collar and the driveline will lock onto the front-PTO shaft.
4. Push and pull the PTO driveline back and forth several times and make sure it is securely attached to the front-PTO shaft.

## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Front Power Take-Off (PTO) (Cont'd)

#### Removal

Always park on flat level ground. Fully lower the front hitch and put the snowblower flat on the ground.

Fully lower the three-point and put the implement flat on the ground (if equipped).

Stop the engine and exit the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.)

Make sure the PTO driveline and all rotating components have come to a complete stop before exiting the compact tractor (if applicable).

Place the PTO driveline so that it will not be damaged when the snowblower is removed from the compact tractor.

Remove the snowblower from the compact tractor. (See Removal on Page 33.)

## WARNING

### AVOID INJURY OR DEATH

Before you leave the operator's seat:

- Fully lower the loader arms, put the attachment flat on the ground (if equipped).
- Fully lower the implement(s) to the ground (if equipped).
- Lock brake pedals together (if equipped) and engage the parking brake.
- Place all controls in neutral.
- Stop the engine, unfasten the seat belt, and remove the key.

ST-W-1110

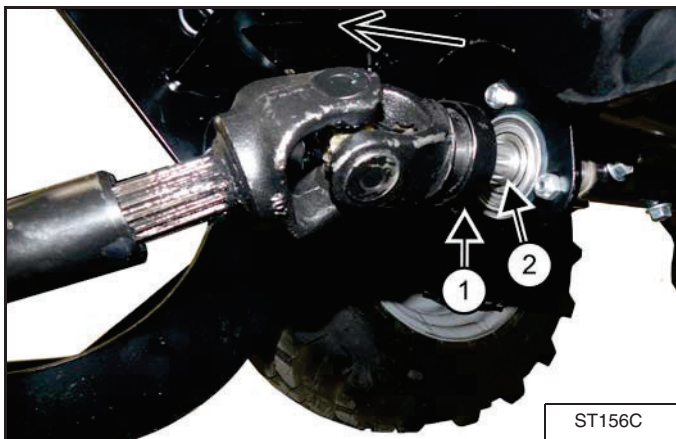
## WARNING

### AVOID INJURY OR DEATH

- Do NOT exceed the rated implement / attachment PTO speed.
- Stay clear of rotating driveline.
- Keep bystanders away.
- Keep hands, feet, clothing and long hair away.
- Keep PTO shields and all guards in place.
- Disengage PTO (rear and mid), engage the parking brake, stop the engine and make sure all rotating components are stopped before exiting compact tractor.
- Do NOT service the tractor or implement / attachment with the PTO (rear or mid) engaged.
- Do NOT service the implement in a raised position unless properly blocked and with all rotating components stopped.
- Disengage PTO (rear and mid) for road travel.

ST-W-1112

Figure 38



Retract the collar (Item 1) and pull the attachment PTO driveline off the compact tractor's front-PTO shaft (Item 2) [Figure 38].

## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Hydraulic Quick Couplers

# IMPORTANT

Contain and dispose of any oil leakage in an environmentally safe manner.

ST-I-1102

# IMPORTANT

Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the system.

ST-I-1103

New attachments and new compact tractors are factory equipped with poppet style couplers. If installing an attachment equipped with other couplers, the attachment couplers will have to be changed to match the compact tractor. See your Summit dealer for parts information.

**NOTE: Make sure the quick couplers are fully engaged. If the quick couplers do not fully engage, check to see that the couplers are the same size and type.**

# ! WARNING

## AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running machine and attachments. Be careful when connecting and disconnecting quick couplers.

ST-W-1113

*To Connect:*

1. Remove the dust plugs and clear away any dirt or debris from both the female and male couplers. (Visually check the couplers for corrosion, damage or excessive wear, if any of these conditions exist, the couplers must be replaced.)
2. Retract the sleeve on the female coupler and insert the male coupler. Push the couplers tightly together.
3. Pull back firmly on the male coupler to make sure the couplers have engaged properly.

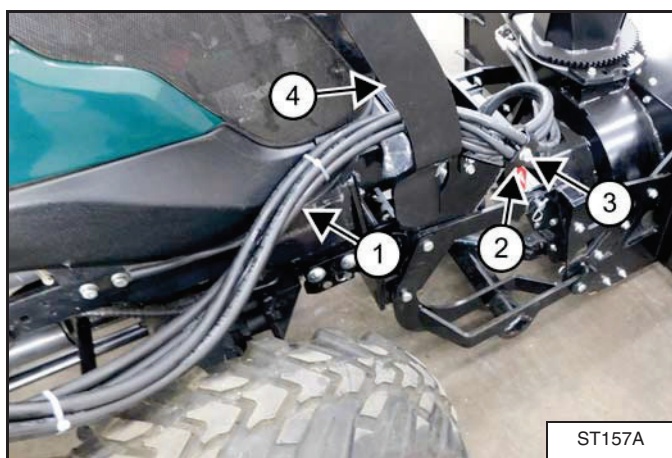
*To Disconnect:*

1. Push the couplers together, retract the sleeve on the female coupler until the couplers disconnect.
2. Reinstall the dust plugs.

*For First Time Installation*

With the compact tractor engine off, connect the snowblower couplers to the compact tractor couplers. Check that the snowblower hoses are not twisted and route to the compact tractor without contacting any moving parts. Tighten all connections before starting the compact tractor.

Figure 39



The hydraulic hoses (Item 1) are factory adjusted to the correct length and secured with the hose bracket / clamp (Item 2) [Figure 39].

Route the hoses (Item 1) between the compact tractor engine cover and the grille guard (Item 4) [Figure 39] and back to the control valve.

Make sure the hoses do not contact any moving parts. If the hoses need to be adjusted, loosen the bolt (Item 3), adjust as needed and then tighten the bolt (Item 3) [Figure 39].

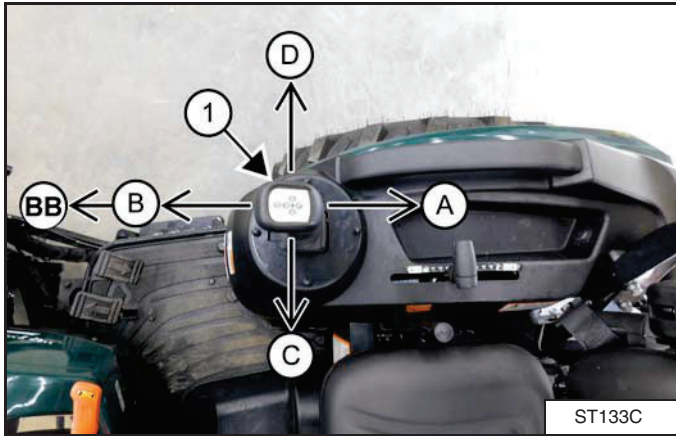
## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Control Functions For Front Snowblower Attachment

#### Front Hitch

The joystick control lever (Item 1) [Figure 40] will be used to control the raising / lowering and chute rotation on the snowblower.

Figure 40



Move the joystick control lever (Item 1) backward (Item A) [Figure 40] to raise the snowblower.

Move the joystick control lever (Item 1) forward (Item B) [Figure 40] to lower the snowblower.

Move the joystick control lever (Item 1) all the way forward to the detent position (Item BB) [Figure 40] to allow the snowblower to be in the float position.

To disengage from the float position, move the joystick control lever backward to the neutral position.

**NOTE: The float position is recommended for use with the front mount snowblower, allowing the front mount snowblower to follow the contour of the ground.**

#### Hydraulic Discharge Chute Rotation

Use the joystick control lever to rotate the discharge chute clockwise or counterclockwise.

Move the joystick control lever (Item 1) left (Item C) [Figure 40] to rotate discharge chute to the left (counterclockwise).

Move the joystick control lever (Item 1) right (Item D) [Figure 40] to rotate discharge chute to the right (clockwise).

## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Control Functions For Front Snowblower Attachment (Cont'd)

#### Manual Deflector Adjustment

Stop the engine and exit the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.)

Make sure the PTO driveline and all rotating components have come to a complete stop before exiting the compact tractor (if applicable).

**Figure 41**



The deflector (Item 1) [Figure 41] can be adjusted to control the distance snow is thrown.

To adjust the deflector (Item 1), loosen the two knobs (Item 2) [Figure 41] on the retaining bolts. Adjust the deflector up or down, then tighten the knobs of the retaining bolts.

## **WARNING**

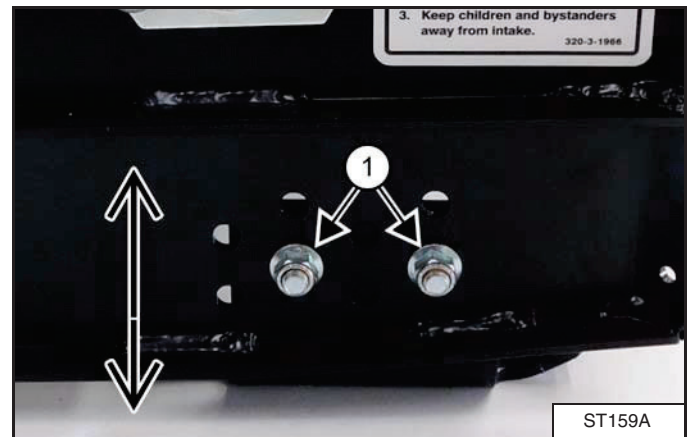
### **AVOID INJURY OR DEATH**

**Never direct discharge toward bystanders, building or other property. Foreign objects or ice chunks can be thrown great distances.**

ST-W-1114

#### Skid Shoe Adjustment

**Figure 42**



There are four skid shoes to adjust on the snowblower, one on each side and two in the back.

Slightly raise the snowblower and place blocks under the frame to support the snowblower to adjust the skid shoes.

There are four sets of holes in the snowblower frame that are used for positioning the skid shoes for adjustment.

Remove the nuts and bolts (Item 1) [Figure 42].

Raise skid shoe to lower cutting edge [Figure 42].

Lower skid shoe to raise cutting edge [Figure 42].



## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Control Functions For Mid-PTO

**NOTE:** Mid-PTO controls operate the Front-PTO.

*Safety Rules For PTO Operation*

## **WARNING**

### AVOID INJURY OR DEATH

- Do **NOT** exceed the rated implement / attachment PTO speed.
- Stay clear of rotating driveline.
- Keep bystanders away.
- Keep hands, feet, clothing and long hair away.
- Keep PTO shields and all guards in place.
- Disengage PTO (rear and mid), engage the parking brake, stop the engine and make sure all rotating components are stopped before exiting compact tractor.
- Do **NOT** service the tractor or implement / attachment with the PTO (rear or mid) engaged.
- Do **NOT** service the implement in a raised position unless properly blocked and with all rotating components stopped.
- Disengage PTO (rear and mid) for road travel.

ST-W-1112

## **WARNING**

### AVOID INJURY OR DEATH

Before you leave the operator's seat:

- Fully lower the loader arms, put the attachment / implement flat on the ground (if equipped).
- Fully lower the attachment to the ground (if equipped).
- Lock brake pedals together (if equipped) and engage the parking brake.
- Place F-N-R lever in neutral (SST models only).
- Place all controls in neutral.
- Stop the engine, unfasten the seat belt, and remove the key.

ST-W-1115

## **WARNING**

Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause serious injury or death.

ST-W-1108

- Keep all shields in place. Replace damaged or missing shields before operating.
- Follow warnings and instructions on machine signs (decals). Replace damaged or missing decals.
- Do not wear loose or bulky clothing around the PTO or other moving parts.
- Keep bystanders away from PTO driven equipment, and never allow children near machines.
- Read and understand the manuals for the PTO driven equipment and be aware of safe operating procedures and hazards that may not be readily apparent.
- Always walk around equipment to avoid coming near a turning PTO driveline. Stepping over, leaning across or crawling under a turning PTO driveline can lead to entanglement.
- Do not install an adapter between the compact tractor PTO shaft and attachment PTO driveline.
- Never overspeed the PTO. See attachment's Operator Manual for correct PTO speed.
- Position the compact tractor and snowblower hitch correctly to prevent driveline stress and separation.
- Use caution when turning. Turning too sharp can cause driveline damage.

## **WARNING**

### DRIVELINE ENTANGLEMENT OR OVERSPEEDING PTO CAN CAUSE SERIOUS INJURY OR DEATH

- **DO NOT** install an adapter between the machine PTO shaft and implement / attachment PTO driveline.
- An adapter can extend the driveline universal joint and connecting yoke beyond the PTO shields.
- An adapter can overspeed the implement / attachment PTO causing driveline or implement / attachment damage.

ST-W-1116

## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Control Functions Mid-PTO (Cont'd)

#### *Engaging The Mid-PTO*

Enter the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.)

Start the engine and release the parking brake.

Lower the front hitch, keeping the front mount snowblower 76 - 101 mm (3 - 4 in) from the ground. (See Control Functions For Front Snowblower Attachment on Page 26.)

Move the engine speed control lever to low engine speed

#### *Disengaging The Mid-PTO*

Move the engine speed lever back to the low idle position.

Disengage the mid-PTO system. (See the compact tractor's Operator Manual.)

## IMPORTANT

**To avoid start-up overload on PTO driveline, reduce engine speed to low idle when engaging the PTO. After PTO driveline is rotating, increase engine speed.**

ST-I-1104

Engage the mid-PTO system (See the compact tractor's Operator Manual).

The mid-PTO driveline will start to rotate.

**NOTE: When the mid-PTO is engaged, the rear-PTO is also engaged on certain compact tractor models.**

Move the engine speed lever to increase engine speed to the correct rpm as indicated on the tachometer. This will cause the mid-PTO shaft to rotate at 2200 rpm.

Do not exceed the recommended mid-PTO speed for your model. See Operator Manual for additional information.

## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Operation With The Compact Tractor

#### *Driving The Compact Tractor And Attachment To Worksite*

Read and understand the snowblower's Operator Manual and the compact tractor's Operator Manual prior to installing or using any attachment.

## WARNING

### AVOID INJURY OR DEATH

- Steering and braking can be affected by the loader attachment, implements, front wheel assist and the rear differential lock. Always install the correct ballast. Do not exceed the Loader or Three-Point Hitch lift capacities.
- Always carry loads low. Slow down when turning.
- Always lock the brake pedals together (if equipped) for road travel.
- Unlock the brake pedals (if equipped) only when using brake pedals to assist in slow speed turns in work applications.
- Make sure that the brakes are adjusted correctly so the tractor does not pull to one side when braking.

ST-W-1117

## WARNING

### GENERAL HAZARD

Failure to follow instructions can cause serious injury or death.

- Use ROPS in "locked up" position at all times. Keep seat belt fastened.
- Install the correct ballast (if required).
- Never modify equipment. Never use unapproved attachments or implements.
- Operate the machine from the operator position only.
- Keep bystanders away. Never carry riders.

ST-W-1107

Figure 43



Enter the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.) Start the engine.

Raise the front mount snowblower to the travel position [Figure 43]. (See Control Functions For Front Snowblower Attachment on Page 26.)

**NOTE: Damage to front mount snowblower and tractor may be caused if PTO is engaged while in the travel position.**

Drive the compact tractor and snowblower to the worksite.

When operating on a public road or highway, always follow local regulations. For example: Slow Moving Vehicle (SMV) emblem or directional signals and hazard / flasher lights may be required.



## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Operation With The Compact Tractor (Cont'd)

#### Operating The Front Mounted Snowblower

Figure 44



The front mount snowblower is used to clear snow from sidewalks, driveways and parking lots [Figure 44].

**NOTE: Damage to front mount snowblower and tractor may be caused if PTO is engaged while in the travel position.**

## **WARNING**

### **AVOID INJURY OR DEATH**

**Never direct discharge toward bystanders, building or other property. Foreign objects or ice chunks can be thrown great distances.**

ST-W-1114

Adjust the skid shoes to set the cutting edge height. (See Skid Shoe Adjustment on Page 27.)

Adjust deflector to control the distance the snow is thrown. (See Manual Deflector Adjustment on Page 27.)

Enter the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.) Start the engine.

Rotate the discharge chute to the desired position. (See Hydraulic Discharge Chute Rotation on Page 26.)

Lower the snowblower, keeping the snowblower 76 - 101 mm (3 - 4 in) from ground. (See Control Functions For Front Snowblower Attachment on Page 26.)

Engage the mid-PTO. (See Engaging The Mid-PTO on Page 29.)

1. Lower the front mount snowblower setting the skid shoes on the ground.
2. Start driving the compact tractor forward. Watch for and avoid obstructions and obstacles that may cause damage to the front mount snowblower and compact tractor.

**NOTE: Damage to the snowblower and compact tractor may occur by hitting objects that can be easily hidden in the snow.**

3. When at the other end, stop and raise the front mount snowblower 76 - 101 mm (3 - 4 in) from ground. Use caution when raising the front mount attachment when the PTO is engaged, if the front mount snowblower is raised too high the attachment PTO shaft may bind causing damage.

**NOTE: Use care when raising the front mount snowblower when PTO is engaged. PTO driveline damage can occur if fully raised with PTO engaged.**

**NOTE: If additional lift height is required for travel, disengage mid-PTO, then raise the front mount snowblower to desired height.**

4. Drive the compact tractor to the desired starting point, moving over up to 3/4 the width of the front mount snowblower.
5. Follow steps 1 through 4 until the area is cleared.

The compact tractor speed is determined by the depth and density of the snow.

## **WARNING**

### **FLYING OBJECTS AND ROTATING PARTS CAN CAUSE INJURY OR DEATH**

- **Stay at least 3 m (10 ft) away from operating equipment.**
- **Stop engine before cleaning or servicing.**
- **Keep all guards in place.**

ST-W-1118

## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Operation With The Compact Tractor (Cont'd)

Disengage the mid-PTO when finished clearing snow from the work area. (See Disengaging The Mid-PTO on Page 29.)

#### *Clearing The Discharge Chute*

If the discharge chute becomes plugged, disengage the mid-PTO system (See the compact tractor's Operator Manual).

## **WARNING**

### **AVOID INJURY OR DEATH**

**Before you leave the operator's seat:**

- **Fully lower the loader arms, put the attachment / implement flat on the ground (if equipped).**
- **Fully lower the attachment to the ground (if equipped).**
- **Lock brake pedals together (if equipped) and engage the parking brake.**
- **Place F-N-R lever in neutral (SST models only).**
- **Place all controls in neutral.**
- **Stop the engine, unfasten the seat belt, and remove the key.**

ST-W-1115

Always park on flat level ground. Fully lower the snowblower and put the attachment flat on the ground. Lock brake pedals together and engage the parking brake.

Place all controls in NEUTRAL. Stop the engine and exit the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.)

Make sure the PTO driveline and all rotating components have come to a complete stop before exiting the compact tractor.



## **DANGER**



D-1104

### **AVOID INJURY OR DEATH**

- **Stop engine before placing hand in discharge chute.**
- **Rotating fan blades can crush and dismember.**

ST-D-1004

Remove the snow or foreign material plugging the discharge chute.

Verify shear bolt(s) are still intact, and not missing. Replace the shear bolt(s) if necessary.

Enter the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.) Start the engine.

Drive the tractor to the desired starting point.

Engage the mid-PTO system (See Engaging The Mid-PTO on Page 29.)

Slowly start driving forward into the snow to make sure the discharge chute is unplugged.

## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Removal

#### *Removing The Snowblower*

**NOTE:** In muddy conditions or to prevent the attachment from freezing to the ground, put the attachment on planks or blocks before removing the attachment from the compact tractor.

## **WARNING**

### **AVOID INJURY OR DEATH**

**Before you leave the operator's seat:**

- Fully lower the loader arms, put the attachment flat on the ground (if equipped).
- Fully lower the implement(s) to the ground (if equipped).
- Lock brake pedals together (if equipped) and engage the parking brake.
- Place all controls in neutral.
- Stop the engine, unfasten the seat belt, and remove the key.

ST-W-1110

Always park on flat level ground. Fully lower the front hitch and put the attachment flat on the ground.

Fully lower the three-point implement (if equipped) and put the snowblower flat on the ground.

Stop the engine and release auxiliary hydraulic pressure (if applicable). (See the compact tractor's Operator Manual for correct procedure.)

Exit the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.)

Disconnect auxiliary hydraulics. (See Hydraulic Quick Couplers on Page 25.)

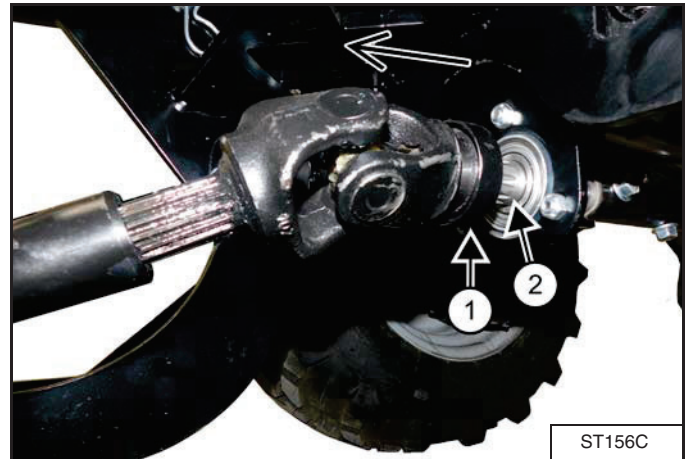
Disconnect the PTO driveline. (See Front Power Take-Off (PTO) on Page 22.)

Enter the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.) Start the engine.

With the parking brake set, slightly raise the front hitch.

Stop the engine and exit the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.)

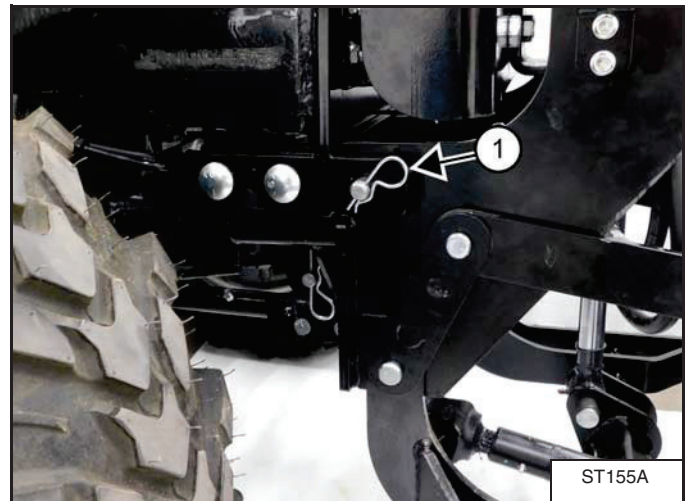
Figure 45



1. Retract the collar (Item 1) and pull the snowblower PTO driveline off the compact tractor's front-PTO shaft (Item 2) [Figure 45].

Place the PTO driveline so that it will not be damaged when the snowblower is removed from the compact tractor.

Figure 46



2. Remove retainer pin (Item 1) [Figure 46].

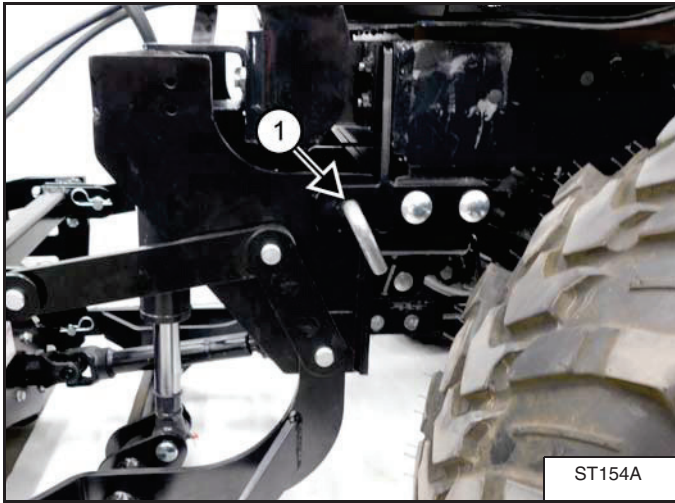


## OPERATING PROCEDURE WITH COMPACT TRACTORS (CONT'D)

### Removal (Cont'd)

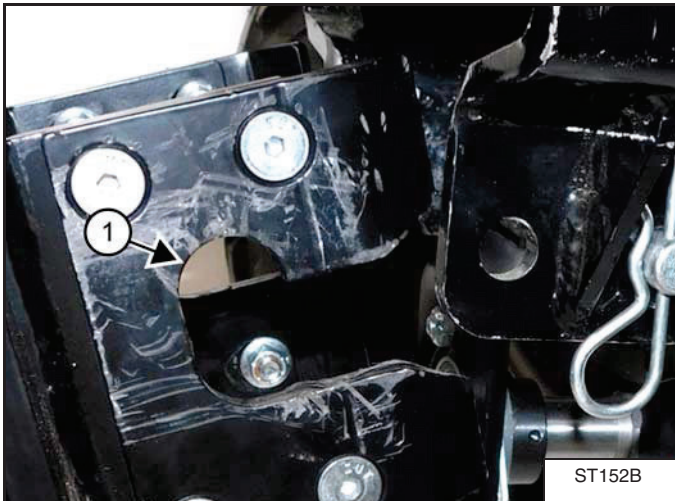
#### Removing The Snowblower (Cont'd)

Figure 47



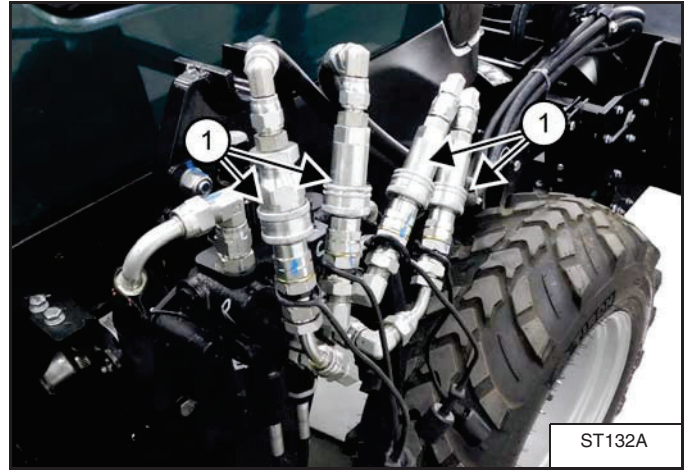
3. Remove the retaining pin (Item 1) [Figure 47].
4. Enter the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.) Start the engine.

Figure 48



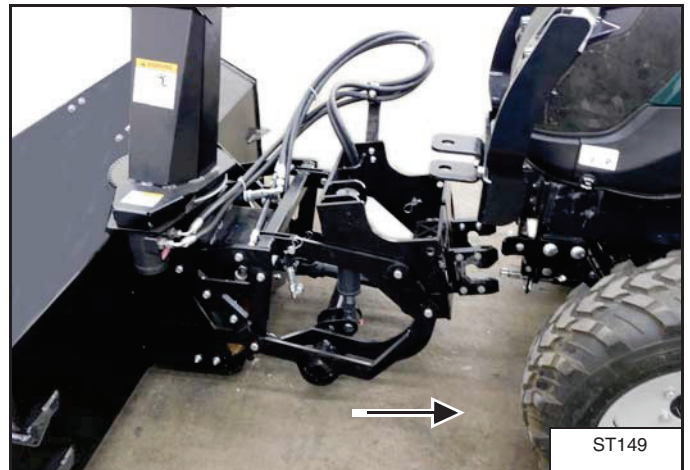
5. Using the compact tractor joystick lever, extend the snowblower cylinder until the mounting frame (Item 1) [Figure 48] rotates away from the compact tractor mounting tube. (See Control Functions For Front Snowblower Attachment on Page 26.)

Figure 49



6. Stop the engine and release auxiliary hydraulic pressure (if applicable). (See the compact tractor's Operator Manual for correct procedure.)
7. Disconnect the four hydraulic couplers (Item 1) [Figure 49]. Put caps and plugs onto the hydraulic quick couplers, and secure the hydraulic hose to the snowblower.

Figure 50



8. Enter the compact tractor. (See Entering And Exiting The Compact Tractor on Page 18.) Start the engine.
9. Slowly drive the compact tractor away from the snowblower [Figure 50].

Procedure



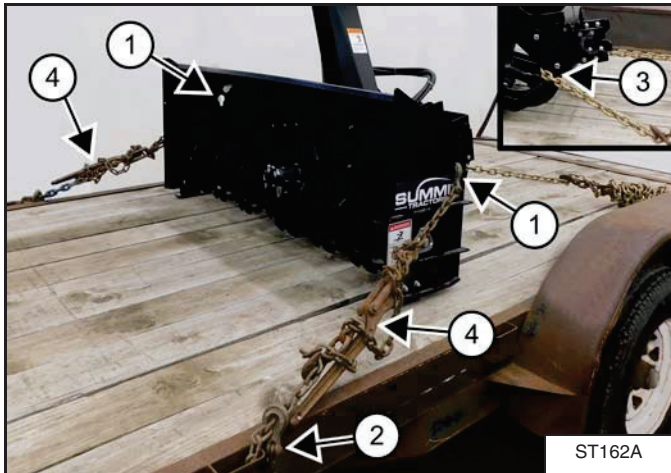
Fasten the lifting chains (Item 1) [Figure 51] to the snowblower and to an overhead hoist.

**NOTE:** Use chains that are in good condition and of adequate size to lift the attachment.

## TRANSPORTING THE SNOWBLOWER ON A TRAILER

### Fastening

Figure 52



With the front mount snowblower on the transport vehicle, connect the chains to the tie down points (Item 1) on the snowblower and the opposite end of the chain to the tie down points (Item 2) on the trailer. Route the rear chain through the snowblower mounting linkage (Item 3) [Figure 52] and the opposite end of the chains to the tie down points.

Use chain binders (Item 4) [Figure 52] to prevent the snowblower from moving during transport.

## TRANSPORTING THE SNOWBLOWER AND COMPACT TRACTOR ON A TRAILER

### Loading And Fastening

# ! WARNING

### INSTABILITY HAZARD

Wood ramps can break and cause personal injury. Use adequately designed ramps of sufficient strength to support the weight of the machine loading onto a transport vehicle.

ST-W-1119

Be sure the transport and towing vehicles are of adequate size and capacity for weight of machine and attachment combination. (See machine and attachment Operation & Maintenance Manuals for specifications.)

### Loading

The rear of the trailer must be blocked or supported when loading and unloading to prevent the front of the trailer from raising.

- Load the heaviest end of the machine and attachment combination first.
- Lower the attachment to the floor.
- Stop the engine.
- Engage the parking brake (if equipped).
- Exit the machine. (See the compact tractor Operator Manual for the correct procedure.)

### Fastening

Install the chains at the front and rear tie-down positions on the compact tractor. (See the compact tractor Operator Manual to properly chain the machine to the transport vehicle.)

- Install chains on the snowblower (if needed).
- Fasten each end of the chain to the transport vehicle.

**NOTE: Use chain binders to prevent the snowblower and the compact tractor from moving during transport.**

## MAINTENANCE SAFETY

- Never service snowblower without instructions. Read and understand the Operator Manual before servicing your snowblower.
- Cleaning and maintenance are required daily.
- Always fully lower the snowblower flat on the ground before lubricating or servicing.
- Avoid contact with leaking hydraulic fluid under pressure. It can penetrate skin or eyes.
- Keep body, loose objects and clothing away from moving parts.
- Safety glasses are needed for eye protection from electrical arcs, battery acid, compressed springs, fluids under pressure and flying debris or when tools are used. Use eye protection approved for type of welding.

## TROUBLESHOOTING

### Chart

PROBLEM	CAUSE	CORRECTION
Snowblower does not operate.	Damaged or incorrect attachment of the PTO shaft.	Check connection, connect properly, repair or replace.
	Shear bolt(s) has sheared / missing.	Replace bolt.
Snowblower cuts too low / too high.	Skid shoes out of adjustment.	Raise or lower skid shoes as needed.
Chute does not rotate.	Damaged quick couplers.	Replace quick couplers.
	Damaged hydraulic motor.	Repair or replace.
	Worn teeth on gear (motor or chute).	Adjust gear mesh by adjusting hydraulic motor placement, or replace gears.

## SERVICE SCHEDULE

### Description

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and early failures.



## WARNING

Instructions are necessary before operating or servicing snowblower. Read and understand the Operation & Maintenance Manual, Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

ST-W-1120

SERVICE SCHEDULE		FREQUENCY		
ITEM	SERVICE REQUIRED	DAILY	10 HOURS	50 HOURS/ YEARLY
Implement Frame Inspection	Inspect for cracks or damage.	X		
Skid Shoe Inspection	Inspect for excess wear, cracks, damage and loose hardware.	X		
Grease PTO Shaft And All Grease Fittings	Grease PTO shaft and knuckles.		X	
Gearbox Lubrication Level	Check for proper level of fluid.		X	
Check Chain Tension	Replace chain as required.			X
Change Lubrication	Change Gearbox Oil.			X



## REGULAR MAINTENANCE ITEMS

### Auger Gearbox Fluid

# ! WARNING

#### AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

ST-W-1103

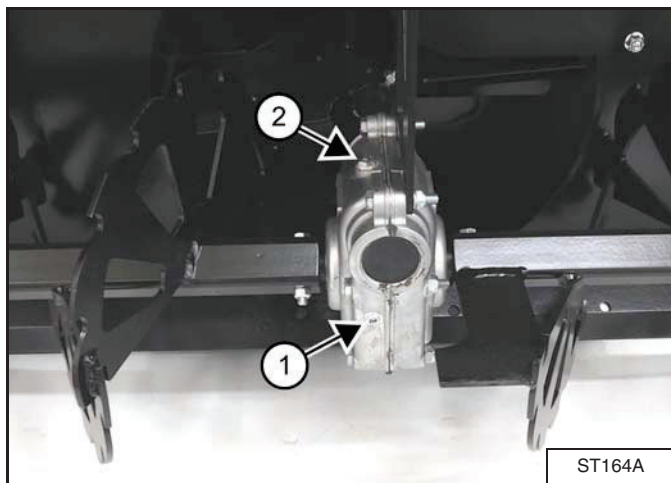
# IMPORTANT

#### ENVIRONMENTAL HAZARD

Fluid such as engine oil, hydraulic fluid, coolants, grease, etc. must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for the correct disposal methods.

ST-I-1105

Figure 53



Check for proper oil level in the auger gearbox.

1. Remove the fluid level plug (Item 1) [Figure 53]. The oil should flow from the check port.
2. If the oil does not flow out of the check port, remove breather / fill plug (Item 2) [Figure 53].
3. Add oil (EP80W-90 Gear Lube) until the oil begins to flow out of the check port.
4. Reinstall fluid level plug and breather / fill plug.

### Cleaning The Front Mount Snowblower

# ! WARNING

#### AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

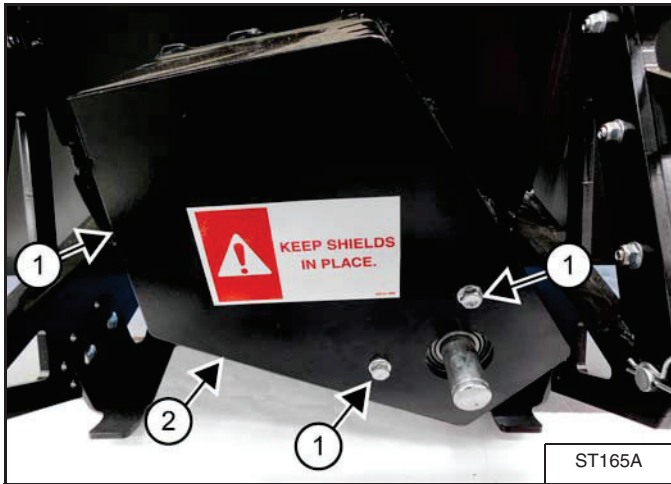
ST-W-1103

1. Stop the machine and attachment on a flat level surface. Engage the parking brake. Disengage the mid-PTO and place all controls in neutral. Fully lower the snowblower to the ground. Stop the engine, unfasten the seat belt, remove the key and exit the compact tractor.
2. Disconnect the PTO driveline.
3. Use water or air pressure to clean debris from the front mount snowblower.
4. Use care when removing any obstructions that are wrapped around auger or driveline.

## REGULAR MAINTENANCE ITEMS (CON'T)

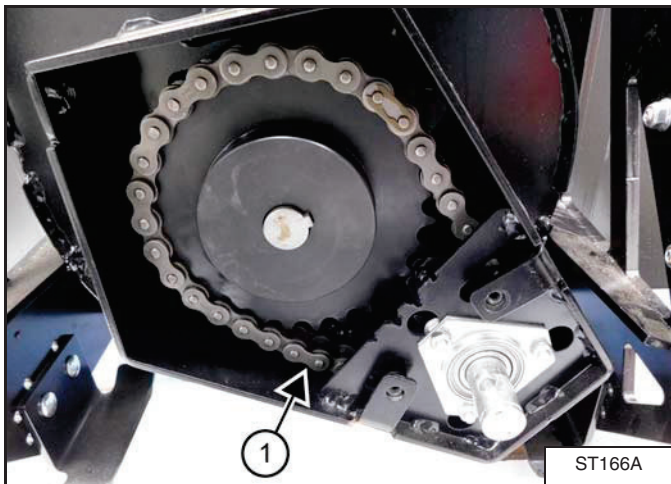
### Drive Chain Inspection

Figure 54



With the PTO driveline removed, remove the three bolts (Item 1) and cover (Item 2) [Figure 54].

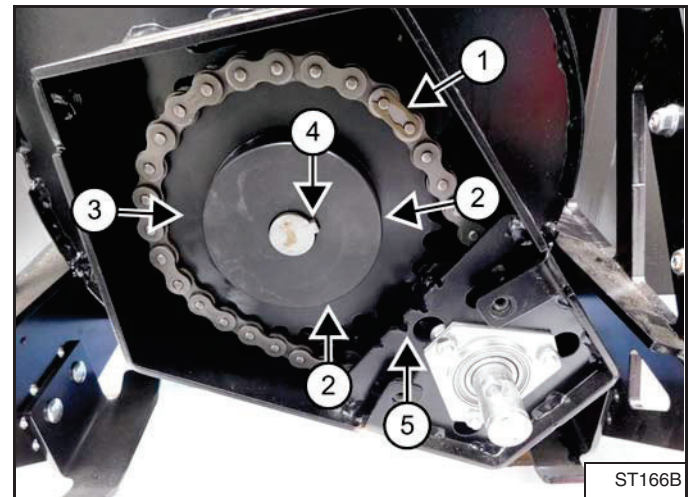
Figure 55



The chain (Item 1) [Figure 55] is maintenance free and is set at the factory. If the chain sag exceeds 22,6 mm (0.875 in) the chain will need to be replaced.

### Drive Chain Replacement And Gear Alignment

Figure 56



1. With the PTO driveline removed, remove the three bolts (Item 1) and cover (Item 2) [Figure 54].
2. Remove the master link (Item 1) [Figure 56]
3. Loosen the two set screws (Item 2) [Figure 57] holding the sprocket to the shaft.
4. Remove the sprocket (Item 3) and key (Item 4) [Figure 57]. The chain will need to be repositioned as the sprocket is removed.
5. The sprocket teeth will need to be aligned with the teeth cut outs (Item 5) [Figure 57] in the bracket to remove the sprocket.

#### Aligning the gears.

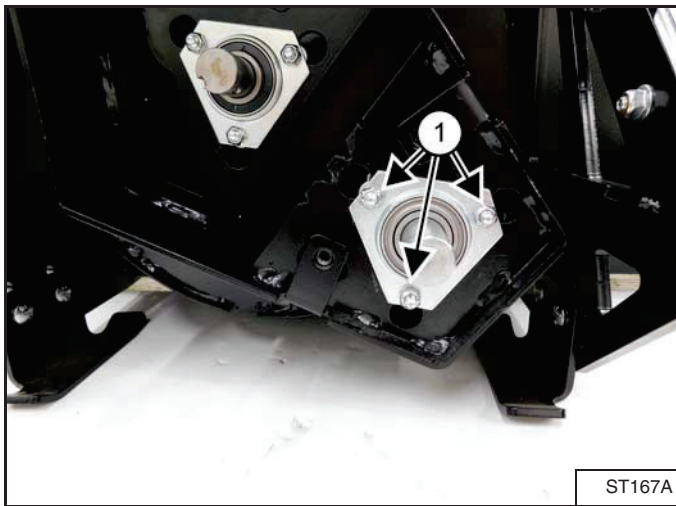
1. After the new chain is installed and the gear (Item 3) [Figure 57] is back on the shaft, align the two gears so that the chain runs straight on the gear teeth.
2. Position a straight edge over the outside face of the two gears.
3. Slide the sprocket (Item 3) [Figure 57] on the shaft until the straight edge fully contacts the face of the two gears.
4. Tighten the two set screws (Item 2) [Figure 57].
5. Lubricate the chain.
6. Rotate the input shaft by hand and check for smooth operation. Adjust if necessary.
7. Install the cover (Item 2) with the three bolts (Item 1) [Figure 54].

## REGULAR MAINTENANCE ITEMS (CON'T)

### Input Shaft Gear And Bearings

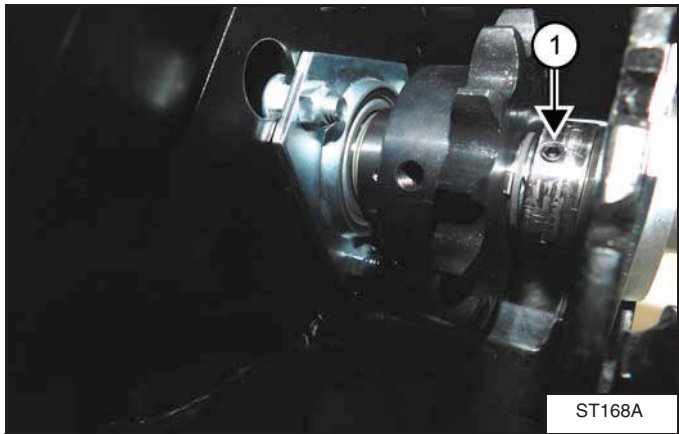
#### Removal

Figure 57



1. Remove the gear and drive chain [Figure 56]. (See Drive Chain Replacement And Gear Alignment on Page 40.)
2. Remove the three nuts (Item 1) [Figure 57] and bolts.

Figure 58

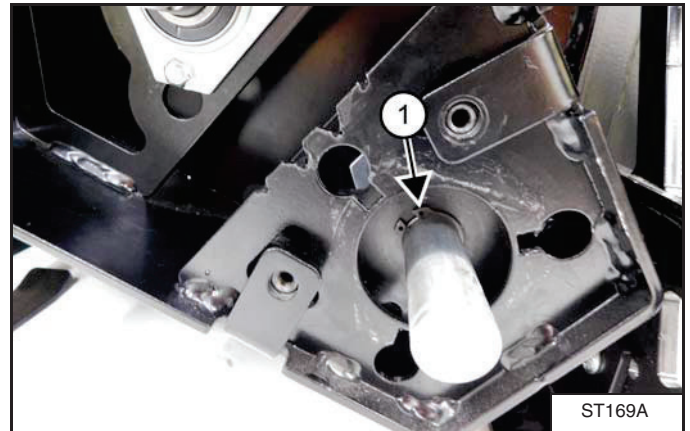


3. Loosen the locking collar set screw (Item 1) [Figure 58] completely.

**NOTE:** The locking collar is an eccentric collar that locks the collar onto the shaft. The collar must be loosened using punch and hammer to rotate the collar in the opposite direction than the PTO shaft rotates. (Opposite direction to loosen the collar, same direction as the PTO shaft rotates to tighten the collar onto the shaft.)

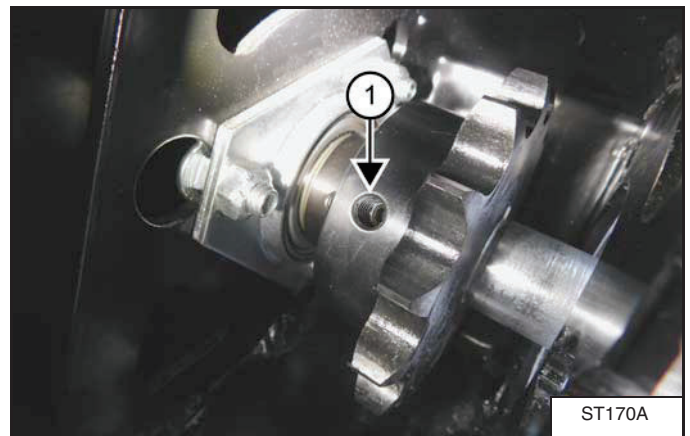
4. Using the collar hole on the opposite side that the set screw is located, insert the punch at an angle into the hole and tap with the hammer until the collar rotates and loosens on the shaft.
5. Remove the bearing retainer cover and the locking collar.

Figure 59



6. Remove the snap ring (Item 1) [Figure 59].

Figure 60



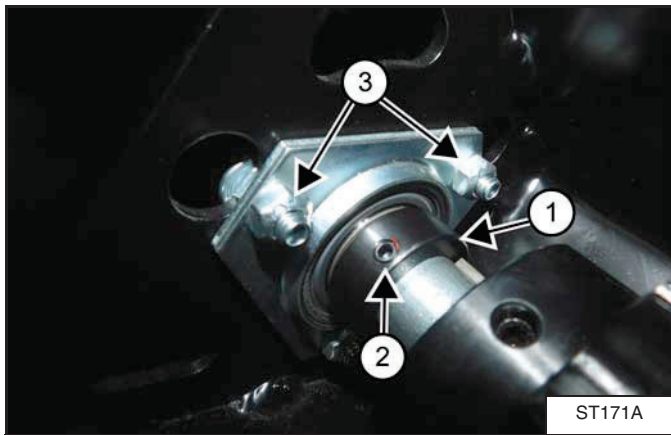
7. Remove the set screw (Item 1) [Figure 60] from the lower gear and slide the gear outwards as far as possible.

## REGULAR MAINTENANCE ITEMS (CON'T)

### Input Shaft Gear And Bearings (Cont'd)

*Removal (Cont'd)*

**Figure 61**



8. The inner locking collar (Item 1) will now need to be removed. Loosen the set screw (Item 2) [Figure 57].
9. Follow the same procedure used for removing the outer locking collar in steps 3 and 4 [Figure 58]
10. Loosen the three nuts (Item 3) [Figure 61] and bolts.
11. Remove the shaft, sprocket, key and collar.
12. Remove the bearing and bearing retainer plates.

#### *Installation*

1. Installation will be in the reverse order of the removal process, except as outlined below.
2. Install new bearing and components as needed.
3. The correct locking direction for the locking collars will need to be determined so they are install on the shaft in the correct direction.
4. When installing the lower gear, leave the set screw loose so that the gear alignment procedure can be performed. (See Drive Chain Replacement And Gear Alignment on Page 40.)
5. Before tightening the gear set screws, apply thread lock adhesive to the setscrew threads. Tighten the set screws to 21 N•m (180 in-lb) torque.
6. Lubricate the chain.
7. Rotate the input shaft by hand and check for smooth operation. Adjust as necessary.

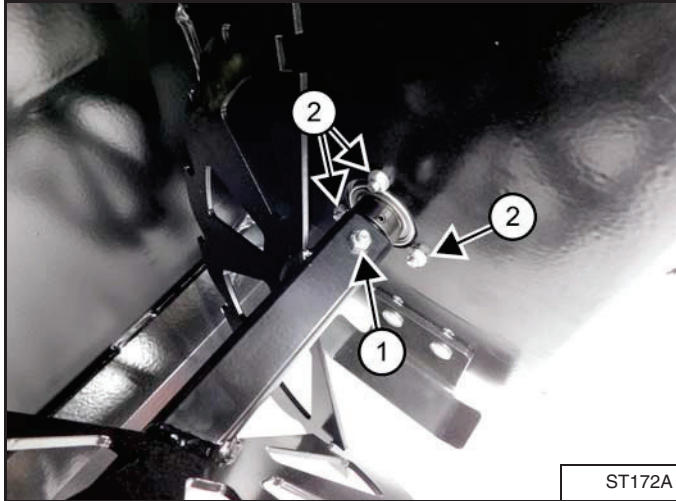


## REGULAR MAINTENANCE ITEMS (CON'T)

### Auger Removal And Installation

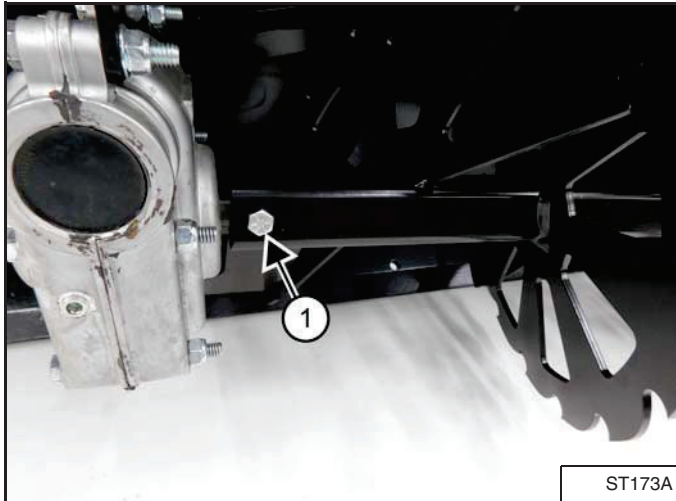
**NOTE:** The augers are different between the left and right flighting. Mark the correct location of the augers before removing.

Figure 62



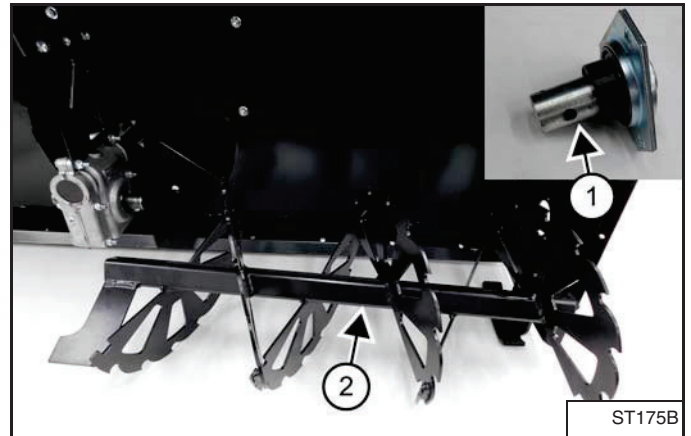
1. Remove the auger nut (Item 1) [Figure 62] and bolt.
2. Remove the three nuts (Item 1) [Figure 62] and bolts from the end bearing. Tighten the nuts to 22 N•m (16 ft-lb) torque.

Figure 63



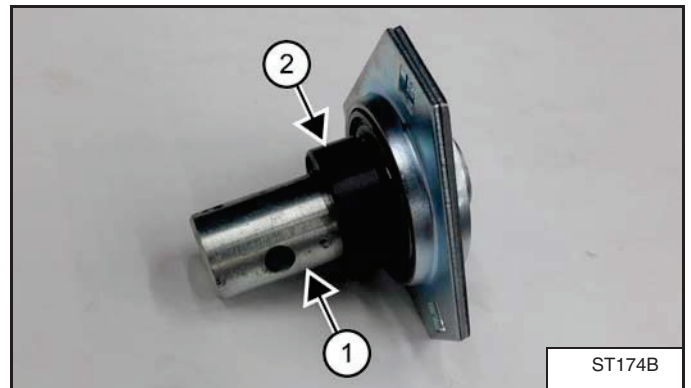
3. Remove the shear bolt (Item 1) [Figure 63] and nut.

Figure 64



4. Remove the shaft and bearing assembly (Item 1) and remove the auger (Item 2) [Figure 64].

Figure 65



5. If the shaft and bearing assembly (Item 1) [Figure 65] need to be serviced, the locking collar (Item 2) [Figure 65] will need to be removed
6. Loosen the locking collar set screw completely.

**NOTE:** The locking collar is an eccentric collar that locks the collar onto the shaft. The collar must be loosened using punch and hammer to rotate the collar in the opposite direction than the PTO shaft rotates. (Opposite direction to loosen the collar, same direction as the PTO shaft rotates to tighten the collar onto the shaft.)

7. Using the collar hole on the opposite side that the set screw is located, insert the punch at an angle into the hole and tap with the hammer until the collar rotates and loosens on the shaft.
8. Remove the bearing retainer cover and the locking collar.

For information on installing the locking collar, (See Input Shaft Gear And Bearings (Cont'd) on Page 42.), *Installation.*



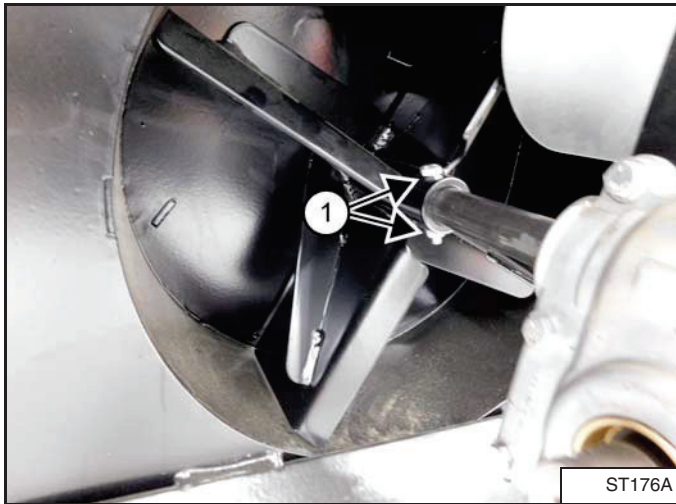
## REGULAR MAINTENANCE ITEMS (CON'T)

### Gear Box Removal And Installation

#### Removal

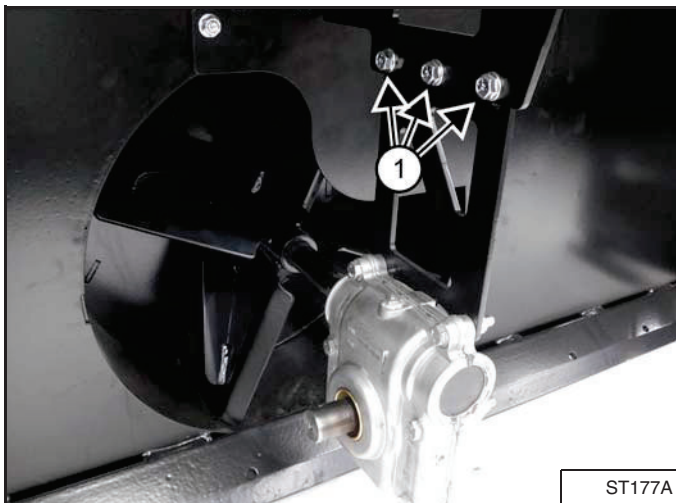
1. Remove the left and right augers. (See Auger Removal And Installation on Page 43.)

**Figure 66**



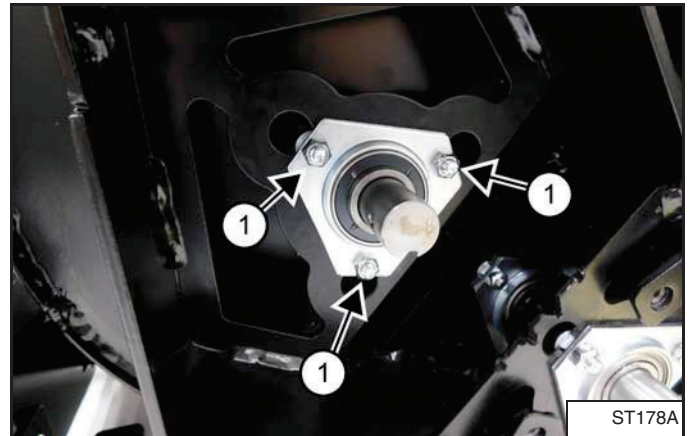
1. Remove the impeller shear bolt and nut (Item 1) [Figure 66].

**Figure 67**



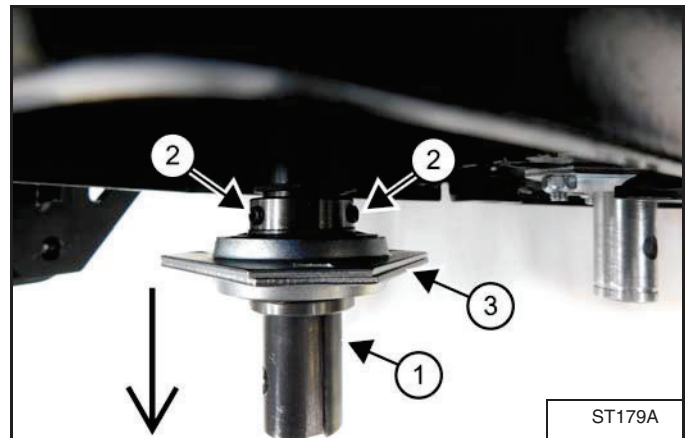
2. Remove the three bolts (Item 1) [Figure 67] and nuts.
3. Remove the drive chain and gear from the impeller shaft. (See Drive Chain Replacement And Gear Alignment on Page 40.)

**Figure 68**



4. Remove the three nuts (Item 1) [Figure 68] and bolts from the rear bearing assembly.

**Figure 69**

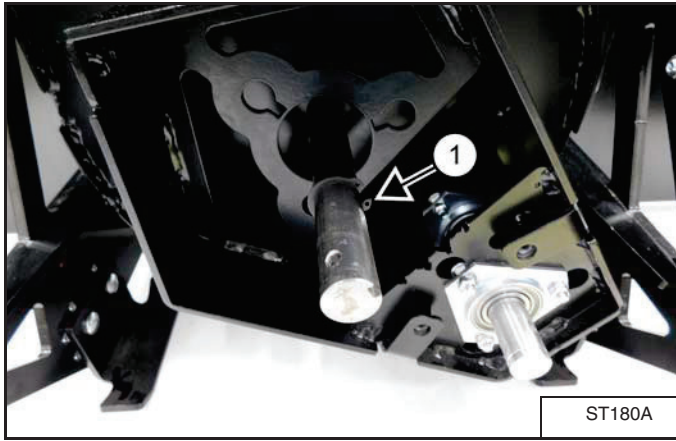


5. Slide the impeller shaft (Item 1) [Figure 69] back to access the bearing set screws.
6. Loosen the two set screws (Item 2) and remove the bearing assembly (Item 3) [Figure 69] from the shaft.

**REGULAR MAINTENANCE ITEMS (CON'T)**  
**Gear Box Removal And Installation (Cont'd)**

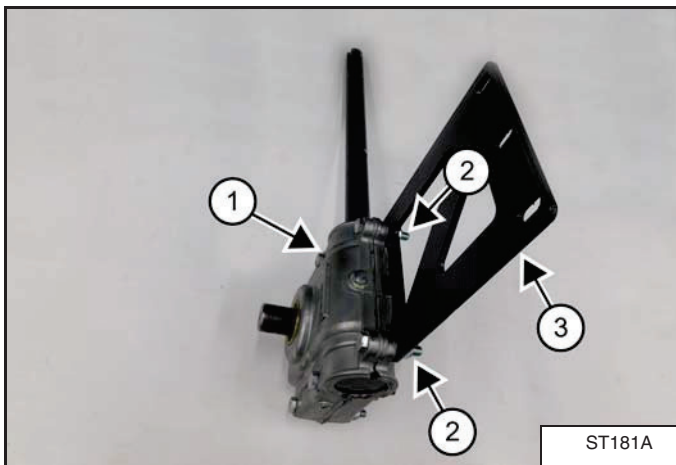
*Removal (Cont'd)*

**Figure 70**



7. Remove the snap ring (Item 1) [Figure 70] from the impeller shaft.

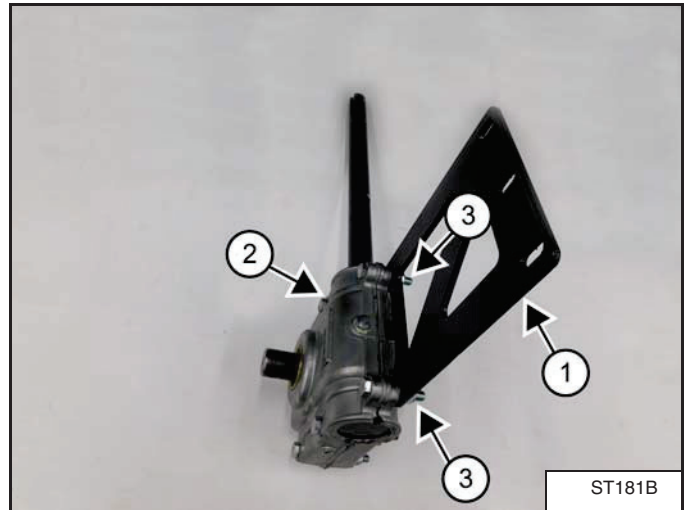
**Figure 71**



8. Remove the gear box assembly (Item 1) [Figure 71] from the impeller.
9. Remove the two nuts (Item 2) and bolts and remove the bracket (Item 3) [Figure 71].

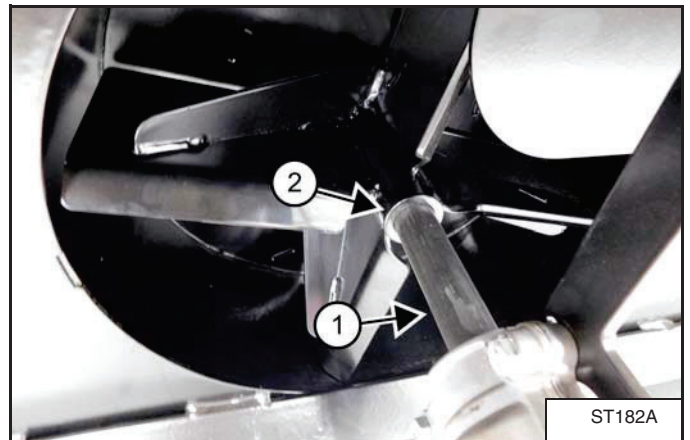
*Installation*

**Figure 72**



1. Install the bracket (Item 1) to the gear box (Item 2) with the two nuts (Item 3) [Figure 72] and bolts.

**Figure 73**

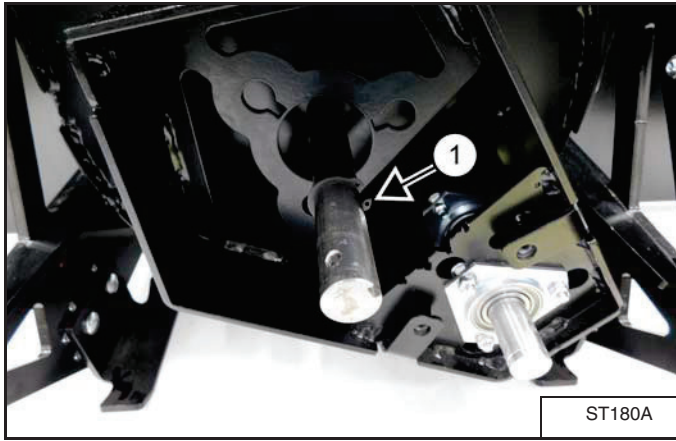


2. Install the gear box shaft (Item 1) into the impeller (Item 2) [Figure 73] and through the rear of the snowblower frame.

**REGULAR MAINTENANCE ITEMS (CON'T)**  
**Gear Box Removal And Installation (Cont'd)**

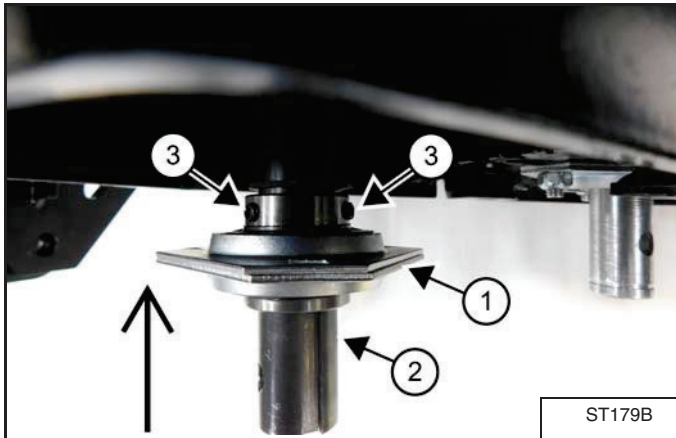
*Installation (Cont'd)*

**Figure 74**



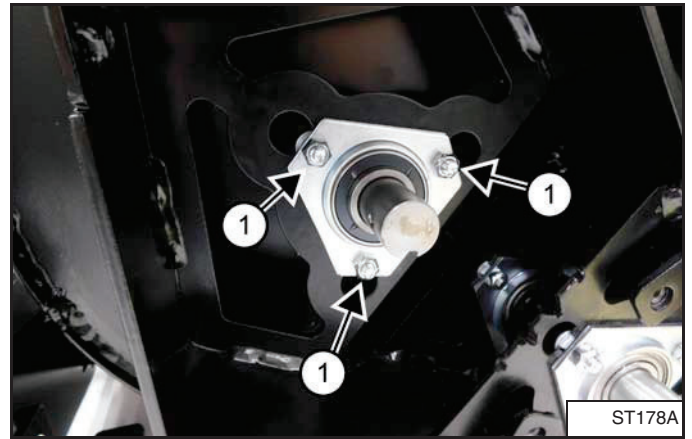
3. Install the snap ring (Item 1) [Figure 74] onto the impeller shaft.

**Figure 75**



4. Slide the bearing assembly (Item 1) onto the impeller shaft (Item 2) [Figure 75] so it is tight to the snap ring (Item 1) [Figure 74].
5. Tighten the two set screws (Item 3) [Figure 75].

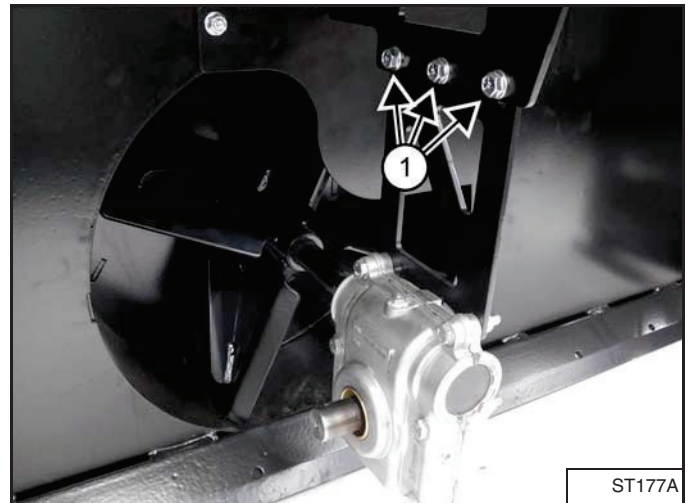
**Figure 76**



6. Loosely install the three nuts (Item 1) [Figure 76] and bolts to the rear bearing assembly.

**NOTE: The nuts will be tightened later in this procedure.**

**Figure 77**



7. Loosely install the three bolts (Item 1) [Figure 77] and nuts to the gear box bracket.
8. Adjust the gear box up and down while checking the impeller outer diameter for clearance to the snowblower housing
9. Tighten the three bolts and nuts (Item 1) [Figure 77] to 22 N•m (16 ft-lb) torque.

Make sure the impeller clearance to the housing has been maintained, readjust if necessary.

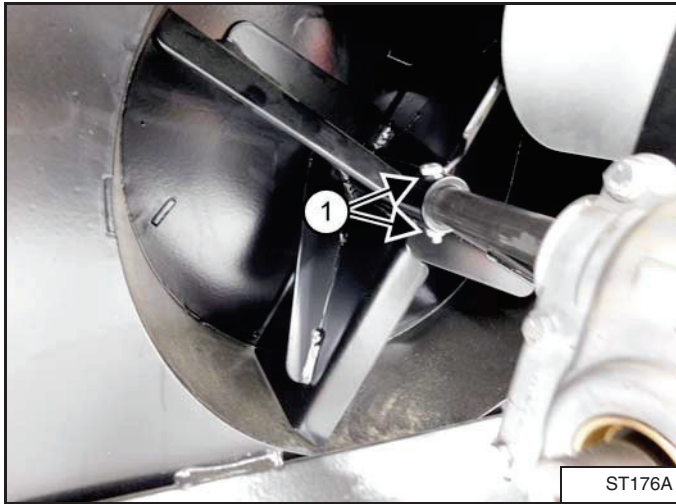


## REGULAR MAINTENANCE ITEMS (CON'T)

### Gear Box Removal And Installation (Cont'd)

*Installation (Cont'd)*

**Figure 78**



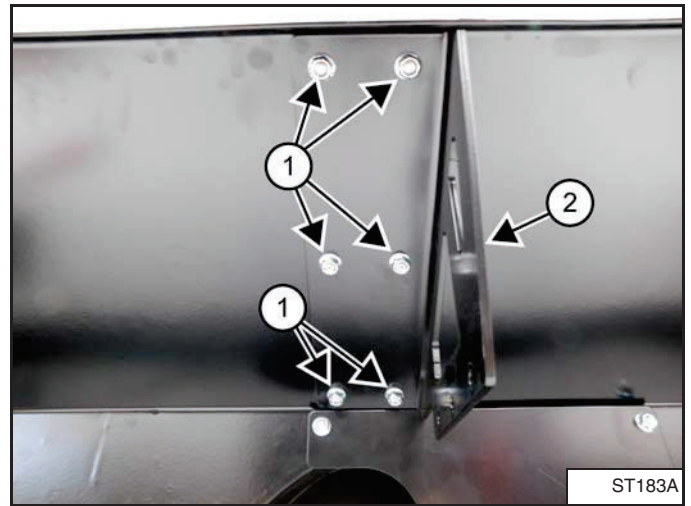
10. Install and tighten the shear bolts (Item 1) [Figure 78] and nuts.
11. Tighten the three bearing assembly nuts (Item 1) [Figure 76] to 19 N•m (14 ft-lb) torque.
12. Install the drive chain and gear to the impeller shaft. (See Drive Chain Replacement And Gear Alignment on Page 40.)
13. Install the left and right augers. (See Auger Removal And Installation on Page 43.)

### Impeller Removal And Installation

*Removal*

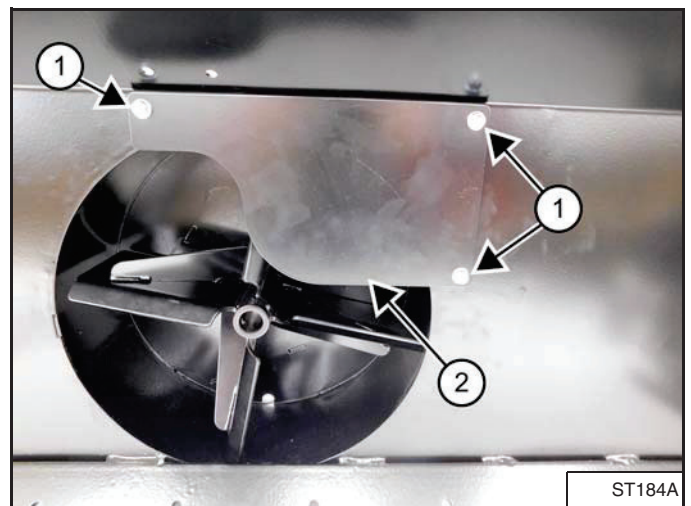
1. Remove the augers. (See Auger Removal And Installation on Page 43.)
2. Remove the gear box. (See Gear Box Removal And Installation on Page 44.)

**Figure 79**



3. Remove the six nuts and bolts (Item 1) and remove the bracket (Item 2) [Figure 79] from the snowblower frame.

**Figure 80**



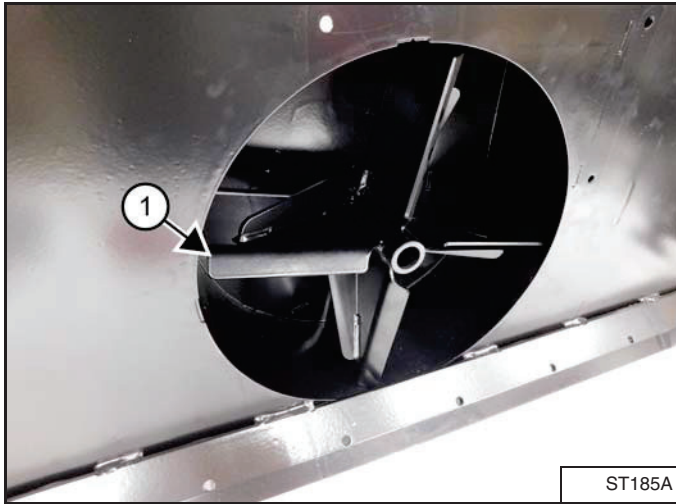
4. Remove the three bolts (Item 1) and nuts and remove the bracket (Item 2) [Figure 80].

## REGULAR MAINTENANCE ITEMS (CON'T)

### Impeller Removal And Installation (Cont'd)

*Removal (Cont'd)*

**Figure 81**



5. Remove the impeller (Item 1) **[Figure 81]**.

#### *Installation*

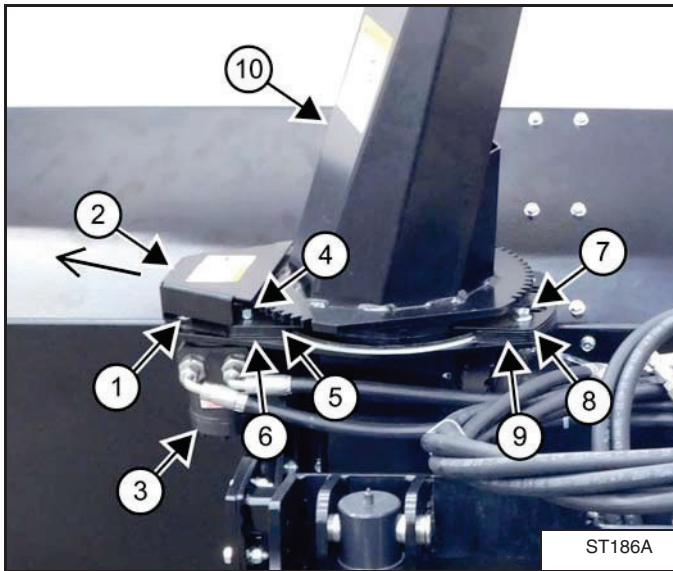
1. Place the impeller (Item 1) **[Figure 81]** into the snowblower housing.
2. Install the bracket (Item 2) with the three bolts (Item 1) **[Figure 80]** and nuts. Tighten the bolts and nuts to 22 N•m (16 ft-lb) torque.
3. Install the bracket (Item 2) with the six bolts (Item 1) **[Figure 79]** and nuts. Tighten the bolts and nuts to 22 N•m (16 ft-lb) torque.
4. Reinstall the gear box. (See Gear Box Removal And Installation on Page 44.)
5. Install the drive chain and gear. (See Drive Chain Replacement And Gear Alignment on Page 40.)
6. Install the augers. (See Auger Removal And Installation on Page 43.)



## REGULAR MAINTENANCE ITEMS (CON'T)

### Chute And Chute Motor Removal And Installation

Figure 82



1. Loosen the outer two gear motor bolts (Item 1) **[Figure 82]**. *Installation:* Tighten the bolts to 51 N•m (38 ft-lb) torque.
2. Remove the cover (Item 2) **[Figure 82]** by sliding it to the left.
3. Remove the two set screws holding the gear to the motor shaft. *Installation:* Apply thread lock adhesive to the set screw threads and tighten.
4. Support the motor (Item 3) and remove the four bolts (Item 4) **[Figure 82]**. Set the motor to the side in a secure position. *Installation:* Tighten the bolts to 51 N•m (38 ft-lb) torque.
5. Remove the top plate (Item 5) and the shim plates (Item 6) **[Figure 82]**. Keep the left shims together to make sure the correct number of shims and that they are reinstalled on the same side of the chute.
6. Secure the chute from tipping, remove the bolts (Item 7), the top plate (Item 8) and the shim plates (Item 9) **[Figure 82]**. Keep the right shims together to make sure the correct number of shims and that they are reinstalled on the same side of the chute. *Installation:* Tighten the bolts to 51 N•m (38 ft-lb) torque.
7. Remove the chute (Item 10) **[Figure 82]**.

**NOTE:** When reinstalling the motor (Item 3) **[Figure 82]** and motor gear, the motor will need to be adjusted so there is a small gap between the motor gear teeth and the chute gear teeth. Pre-mature tooth wear will occur if there is no gap between the teeth.

## LUBRICATING THE ATTACHMENT

### Lubrication Locations

# WARNING

### AVOID INJURY OR DEATH

If equipped with a loader, attachment, or implement, always have the attachment or implement fully lowered on the ground. Stop the engine and engage the parking brake before doing any maintenance to the tractor. Do Not work under raised loader arms or raised implement.

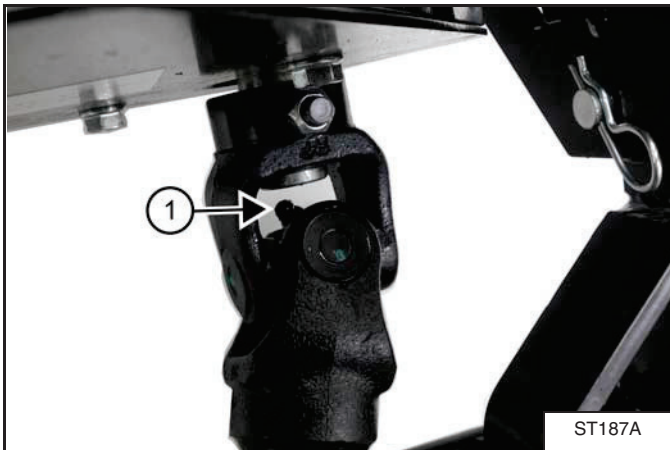
ST-W-1121

Lubricate as specified for the best performance of the front mount snowblower.

Always use a good quality lithium based multipurpose grease. Apply lubricant until extra grease shows.

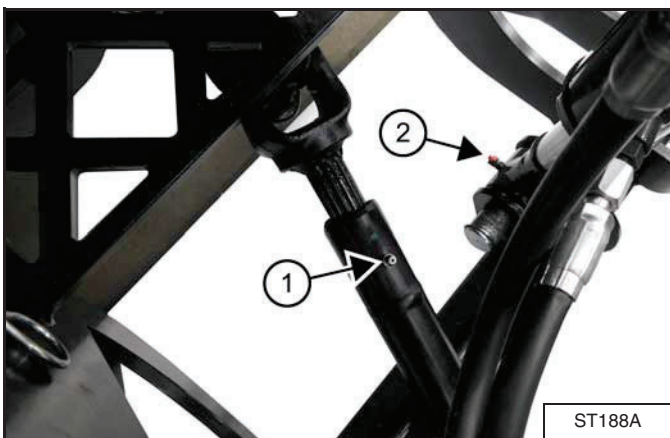
Lubricate the following:

#### Figure 83



The four drive shaft u-joints each have a grease fitting (Item 1) [Figure 83].

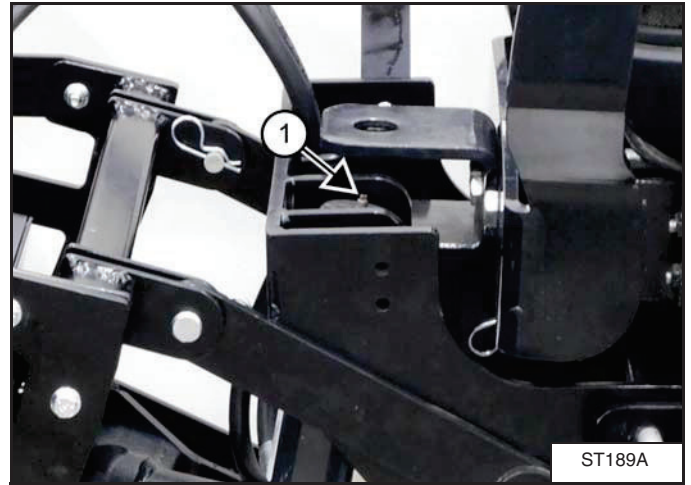
#### Figure 84



The two drive shaft slip joint (Item 1) [Figure 84].

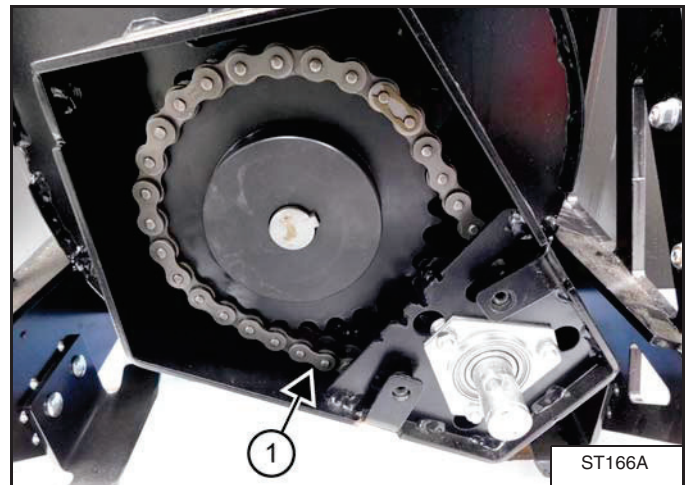
The cylinder rod end (Item 2) [Figure 84].

#### Figure 85



The cylinder base end (Item 2) [Figure 85].

#### Figure 86



Use chain lube and lubricate the drive chain (Item 1) [Figure 86].

## AUGUR GEARBOX FLUID CHANGE

### Procedure

# ! WARNING

### AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

ST-W-1103

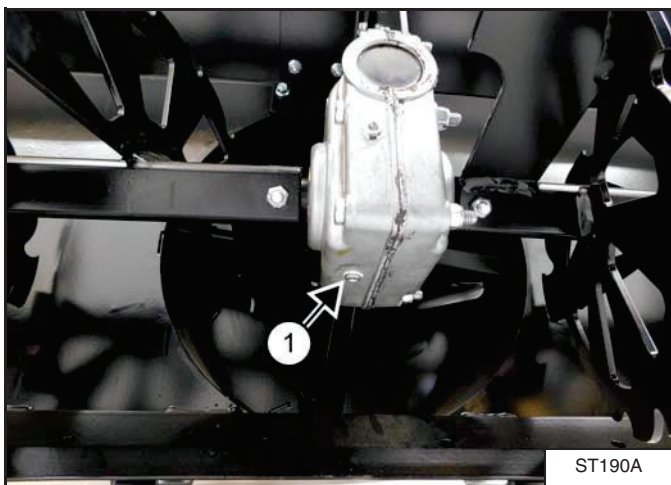
# IMPORTANT

### ENVIRONMENTAL HAZARD

Fluid such as engine oil, hydraulic fluid, coolants, grease, etc. must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for the correct disposal methods.

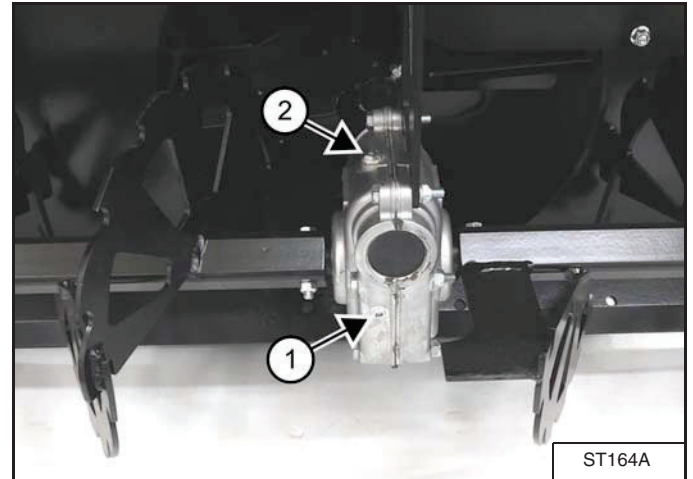
ST-I-1105

Figure 87



1. Remove drain plug (Item 1) [Figure 87] from the bottom side of the auger gearbox, draining the fluid into an approved container and cleaning up any spills.
2. Install and tighten drain plug.

Figure 88



Check for proper oil level in the auger gearbox.

1. Remove the fluid level plug (Item 1) [Figure 88].
2. Remove the breather / fill plug (Item 2) [Figure 88].
3. Add oil (EP80W-90 Gear Lube) until the oil begins to flow out of the check port.
4. Install and tighten fluid level plug and breather / fill plug.

## REMOVAL AND INSTALLATION

### Skid Shoe Replacement

# ! WARNING

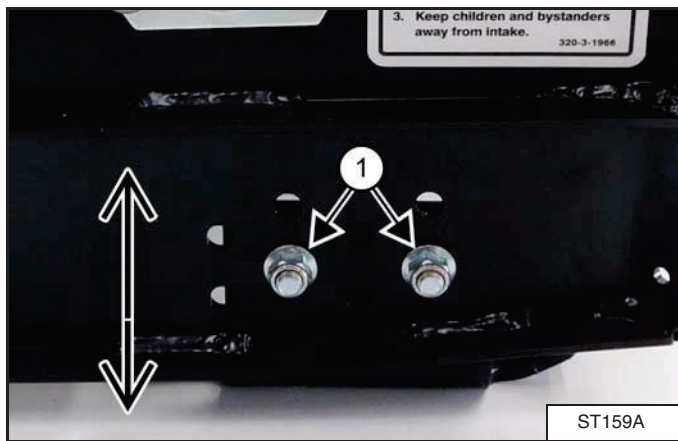
### AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

ST-W-1103

Figure 89



To remove a skid shoe, lift and block the snowblower. Remove the bolts and nuts (Item 1) [Figure 89] and remove the skid shoe.

**Installation:** Realign holes, tighten nuts to 36 N•m (27 ft-lb) of torque.

# ! WARNING

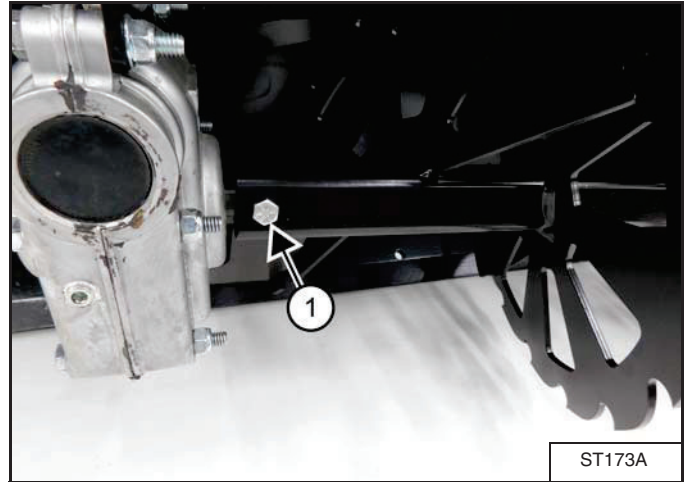
### AVOID INJURY OR DEATH

Securely block up the implement before working underneath.

ST-W-1122

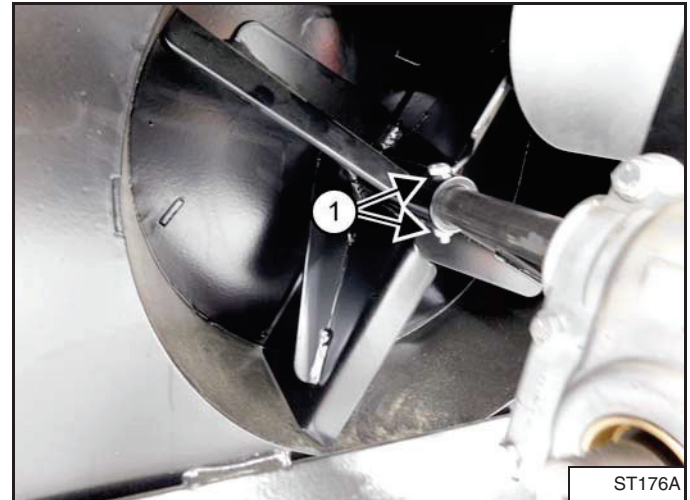
### Shear Bolt Replacement

Figure 90



Shear bolts are located at both augers (Item 1) [Figure 90], next to the gear box, and at the impeller (Item 1) [Figure 91].

Figure 91



Remove any remaining portion of the old shear bolt from the shaft (Item 1) [Figure 90] and (Item 1) [Figure 91].

**NOTE:** Use only shear bolts recommended by Summit.

**Installation:** Realign holes, tighten bolt and nut.



## ATTACHMENT STORAGE AND RETURN TO SERVICE

### Storage

Sometimes it may be necessary to store your snowblower for an extended period of time. Below is a list of items to perform before storage:

- Thoroughly clean and wash the snowblower.
- Lubricate the snowblower.
- Inspect the front hitch mounts, mounting pins and all welds on the snowblower for wear and damage.
- Check for loose hardware, missing guards, or damaged parts.
- Replace worn or damaged parts.
- Check for damaged or missing decals. Replace if necessary.
- Place the snowblower in a dry protected shelter.
- Place the snowblower flat on the ground.

**NOTE: In muddy conditions or to prevent the snowblower from freezing to the ground, put the snowblower on planks or blocks before removing the snowblower from the machine.**

### Return To Service

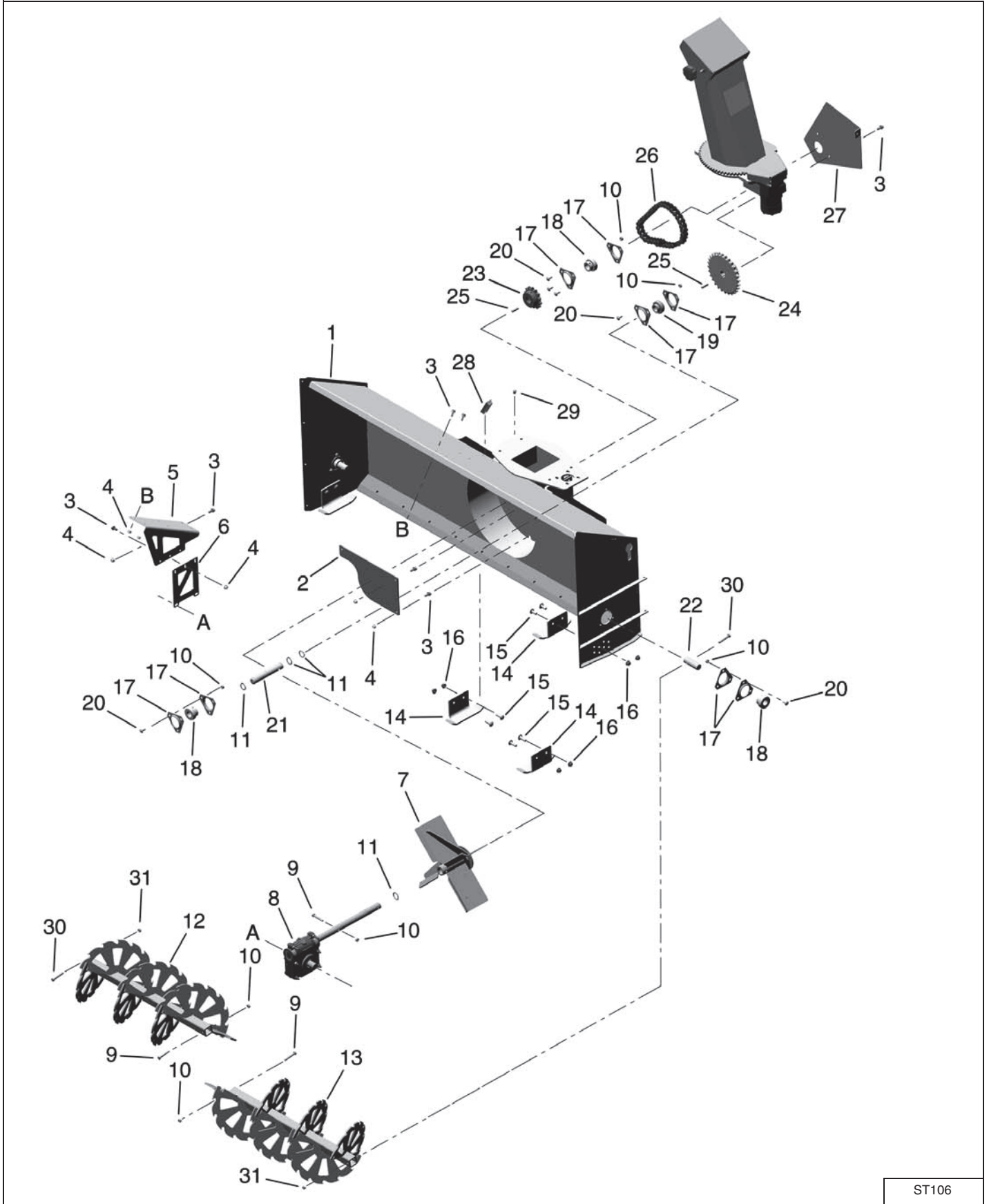
After the snowblower has been in storage, it is necessary to follow a list of items to return the snowblower to service:

- Check for damaged or missing decals. Replace if necessary.
- Be sure all shields and guards are in place.
- Lubricate the snowblower.
- Check for loose hardware, missing or damaged parts.
- Check for leaks. Repair as needed.
- Check oil level in the gearbox.
- Lubricate the drive chain.
- Install and operate the snowblower, check for correct function.



# PARTS MANUAL

## Snowblower



ST106

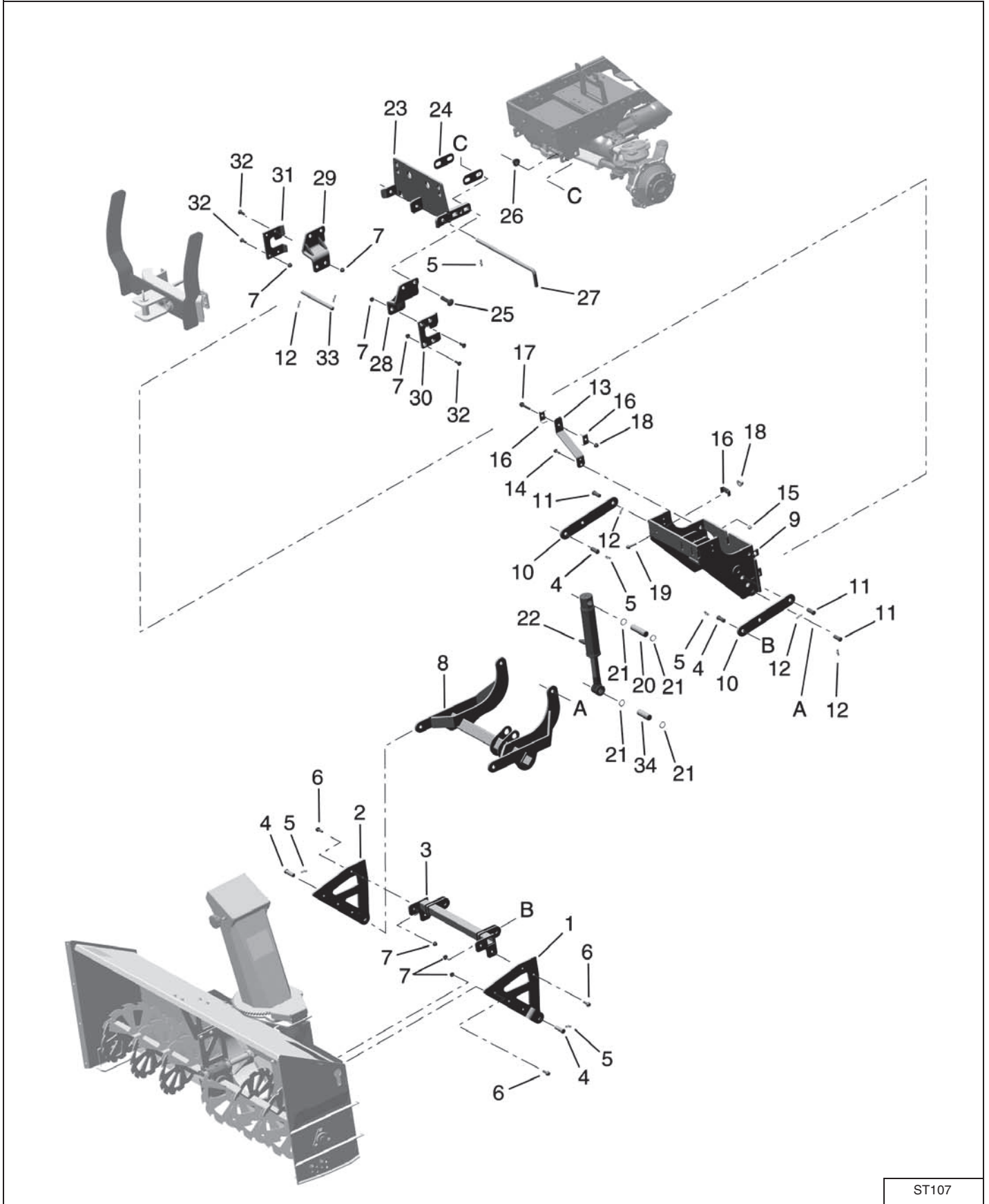
## PARTS MANUAL (CONT'D)

### Snowblower (Cont'd)

REF.	PART NO.	DESCRIPTION	QTY.
	322-1-0001	BLOWER ASSY., Front Mount, 60" Inc. 1 - 31	1
1	322-2-0001	MAIN FRAME, 60"	1
2	322-3-0052	GUSSET, Fan Chamber	1
3	11126962	BOLT, Hex Flange, 5/16" - 18 x 3/4 inch	4
4	900-06529	NUT, Lock, Hex Flange, 5/16" - 18	10
5	322-3-0022	MOUNT, Gearbox, Worm	1
6	322-3-0023	MOUNT, Gearbox, Work	1
7	322-2-0002	FAN	1
8	322-7-0001	GEARBOX, Worm, 5:1	1
9	900-29185	BOLT, Shear, 5/16", Gr. 8	3
10	900-06498	NUT, Lock, 5/16 - 18	13
11	900-39047	RING, Snap, Ext. HD 1 inch Shaft	3
12	322-2-0007	AUGER, RH	1
13	322-2-0006	AUGER, LH	1
14	322-3-0028	SKID, Shoe	4
15	900-01818	BOLT, Carriage, 3/8 - 18 x 1", Gr. 5	8
16	900-06014	NUT, Lock, 3/8 - 18, Gr. 5 CZ	8
17	322-7-0010	FLANGE, Shaft Mounting, 3-Hole	10
18	322-7-0011	BEARING	3
19	322-7-0006	BEARING	1
20	900-01890	BOLT, Carriage, 5/16" x 3/14", Gr. 2	15
21	322-3-0088	SHAFT, Drive, Input	1
22	322-3-0051	SHAFT, Auger End	2
23	322-7-0003	SPROCKET, 14T	1
24	22-7-0002	SPROCKET, 28T	1
25	322-3-0089	KEY, Square, 1/4" x 1-1/4"	2
26	322-7-0005	CHAIN, SB140	1
27	322-3-0021	COVER, Gear Housing	1
28	900-38000	PLUG, 3" x 1"	1
29	900-38001	PLUG, Rubber, 0.31"	1
30	900-00802	SCREW, Hex, 5/16 - 18 x 2"	2
31	900-06498	NUT, Lock, 5/16 - 18	2

# PARTS MANUAL (CONT'D)

## Front Mounting Linkage



ST107

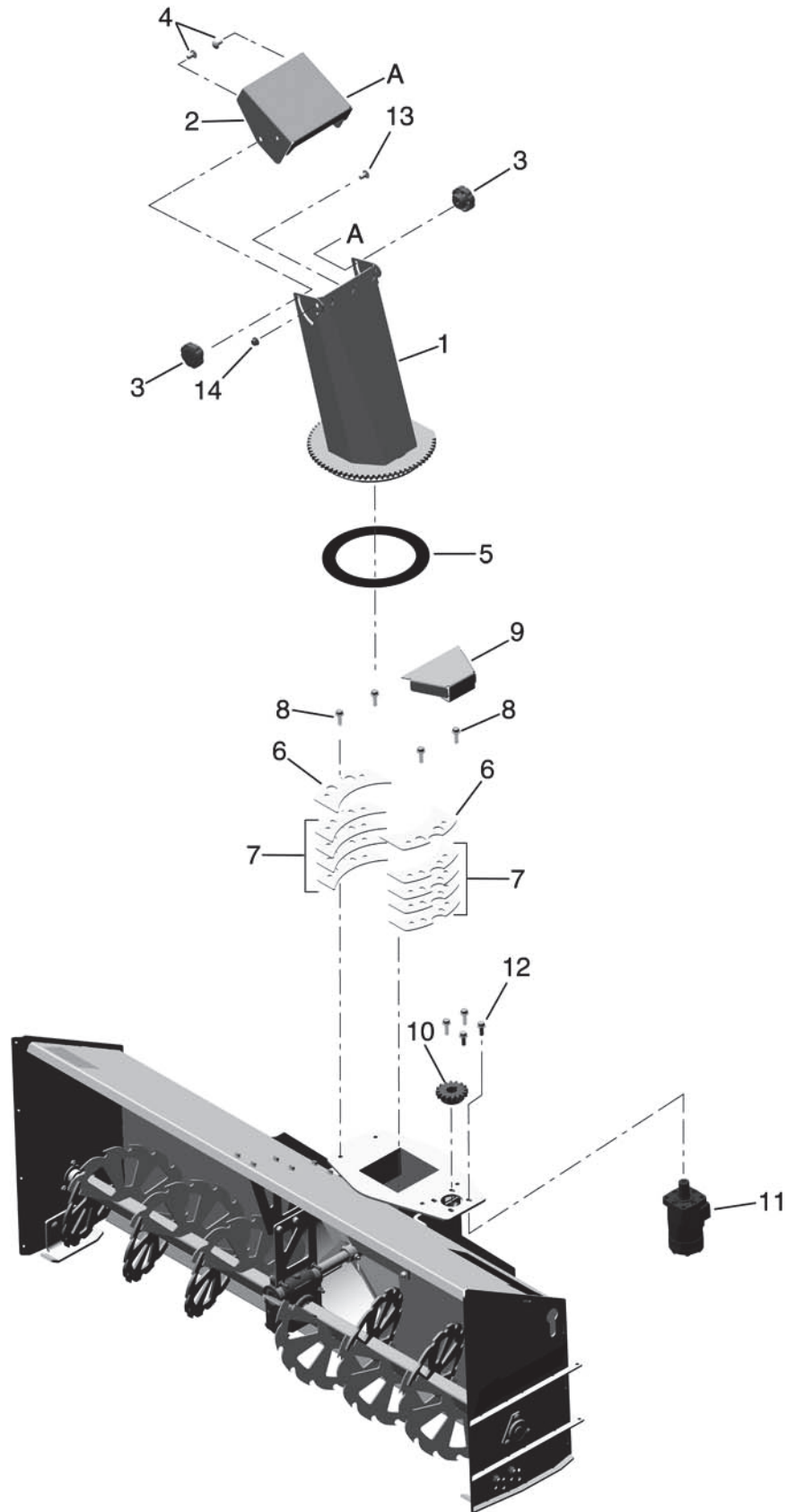
## PARTS MANUAL (CONT'D)

### Front Mounting Linkage (Cont'd)

REF.	PART NO.	DESCRIPTION	QTY.
	322-1-0004	ADAPTER ASSY., Includes 1 - 7	1
1	322-2-0013	BRACKET, Adapter, RH, Summit	1
2	322-2-0015	BRACKET, Adapter, LH, Summit	1
3	322-2-0014	TUBE, Adapter Cross	1
4	900-01386	PIN, Mounting, 5/8" x 1-3/4"	2
5	900-25018	PIN, Cotter, 7/64"	2
6	900-0112	BOLT, Hex Flange, 3/8" x 1-1/4" ZP	10
7	900-06014	NUT, Lock, 3/8", Gr. 5 CZ	10
	322-1-0003	KIT, Lift, Summit, Includes 8 – 34, 5 & 7	1
8	322-2-0009	ARM, Lift, Lower	1
9	322-2-0008	BRACKET, Mounting, Cylinder	1
10	322-3-0069	ARM, Lift, Upper	2
11	900-01385	PIN, Mounting, 5/8" x 1-1/4"	4
12	900-25018	PIN, Cotter, 7/64"	4
13	322-3-0080	PLATE, Hose Retention	1
14	900-01060	BOLT, Hex Flange, 5/16" x 1", Gr. 5 ZP	2
15	900-06529	NUT, Hex Flange, 5/16 - 18	2
16	300-3-1167	BRACKET, Hose Mounting	3
17	900-03447	BOLT, Serrated Flange, 3/8" x 2-1/4", Gr. 5 CZ	1
18	900-06014	NUT, Lock, Hex Flange, 3/8", Gr. 5 CZ	3
19	900-03440	BOLT, Hex Flange	1
20	322-3-0090	PIN, Mounting	1
21	900-39046	RING, Snap	4
22	904-01020	CYLINDER, Hydraulic Lift	1
23	322-2-0012	ADAPTER, Tractor Frame	1
24	322-3-0081	SHIM, Bracket	2
25	900-02368	BOLT, Carriage, 5/8" x 2-1/2" NC, Gr. 5	4
26	900-06593	NUT, Lock, Hex Flange, 5/8"	4
27	322-3-0058	PIN, Lift	1
28	322-2-0010	BRACKET, Mounting, LH	1
29	322-2-0011	BRACKET, Mounting, RH	1
30	322-3-0079	PLATE, Pin, Bracket, LH	1
31	322-3-0078	PLATE, Pin, Bracket, RH	1
32	900-02369	BOLT, Flathead, 3/8 - 16 x 1-1/4", CZ	8
33	322-3-0059	PIN, Lift, Snow Blower	1
34	322-3-0082	PIN, Mounting, Cylinder	1

# PARTS MANUAL (CONT'D)

## Discharge Chute



ST108



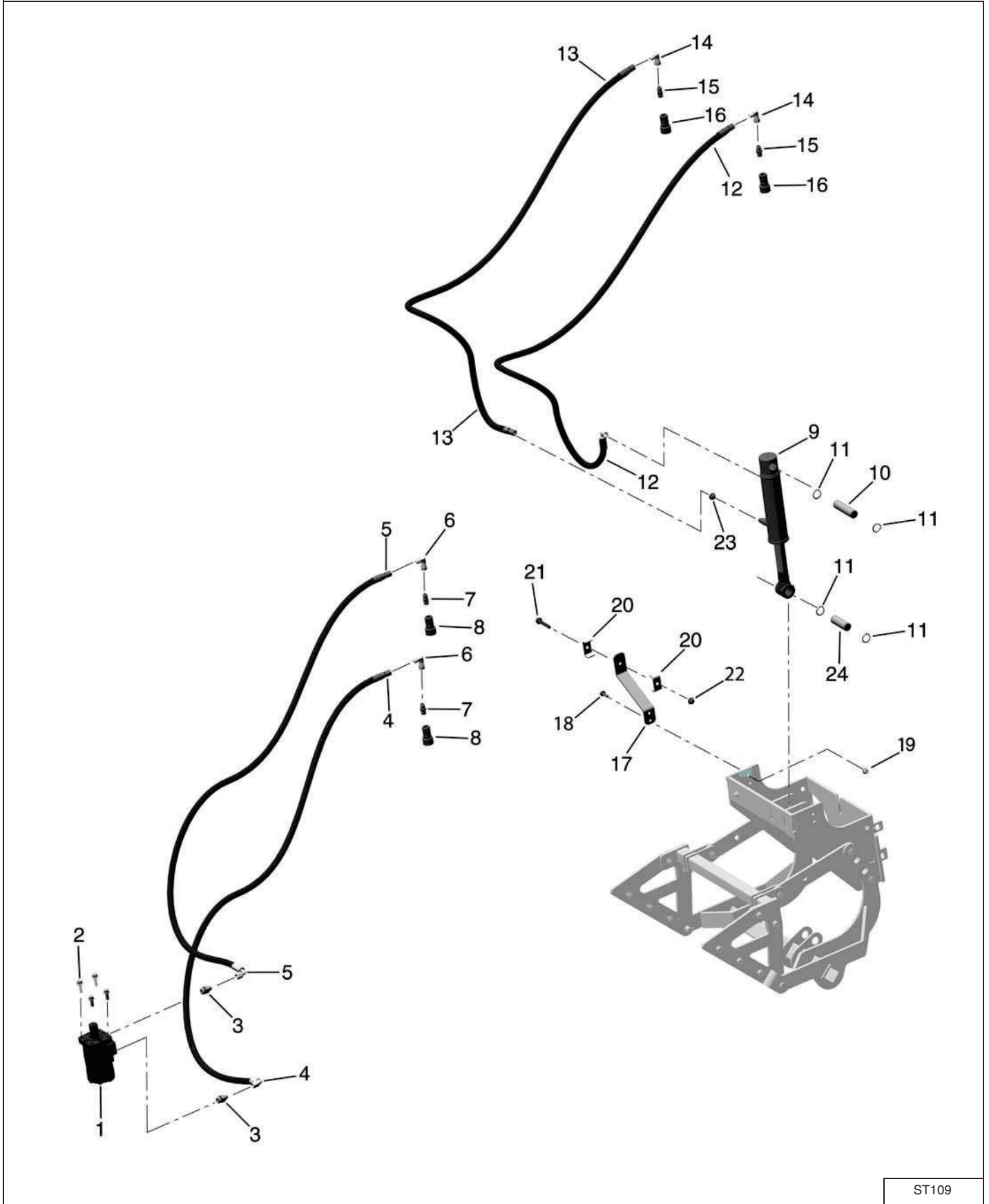
## PARTS MANUAL (CONT'D)

### Discharge Chute (Cont'd)

REF.	PART NO.	DESCRIPTION	QTY.
	322-01-001	BLOWER ASSY., Front Mount, 60", Includes 1 - 14	1
1	322-2-0005	CHUTE, Snow	1
2	322-3-0046	DEFLECTOR	1
3	322-5-0005	KNOB, Adjustment & Clamping	2
4	900-01816	BOLT, Carriage, 3/8" x 3/4", Gr. 5	2
5	907-15140	RING	1
6	322-3-0038	PLATE, Chute Hold Down	2
7	322-3-0039	SHIM, Chute Base	8
8	900-01112	BOLT, Hex Flange, 3/8" x 1-1/4" ZP	4
9	322-3-0047	COVER, Chute Drive	1
10	322-7-0012	GEAR, Motor, 16T	1
11	322-7-0013	MOTOR, Hydraulic	1
12	11126971	BOLT, Hex Flange, 3/8 - 16 x 1", Gr. 8	4
13	900-01818	BOLT, Carriage, 3/8" x 1", Gr. 5	2
14	900-0614	NUT, Lock, Hex Flange, 3/8", Gr. 5	2

# PARTS MANUAL (CONT'D)

## Hydraulic Components



ST109

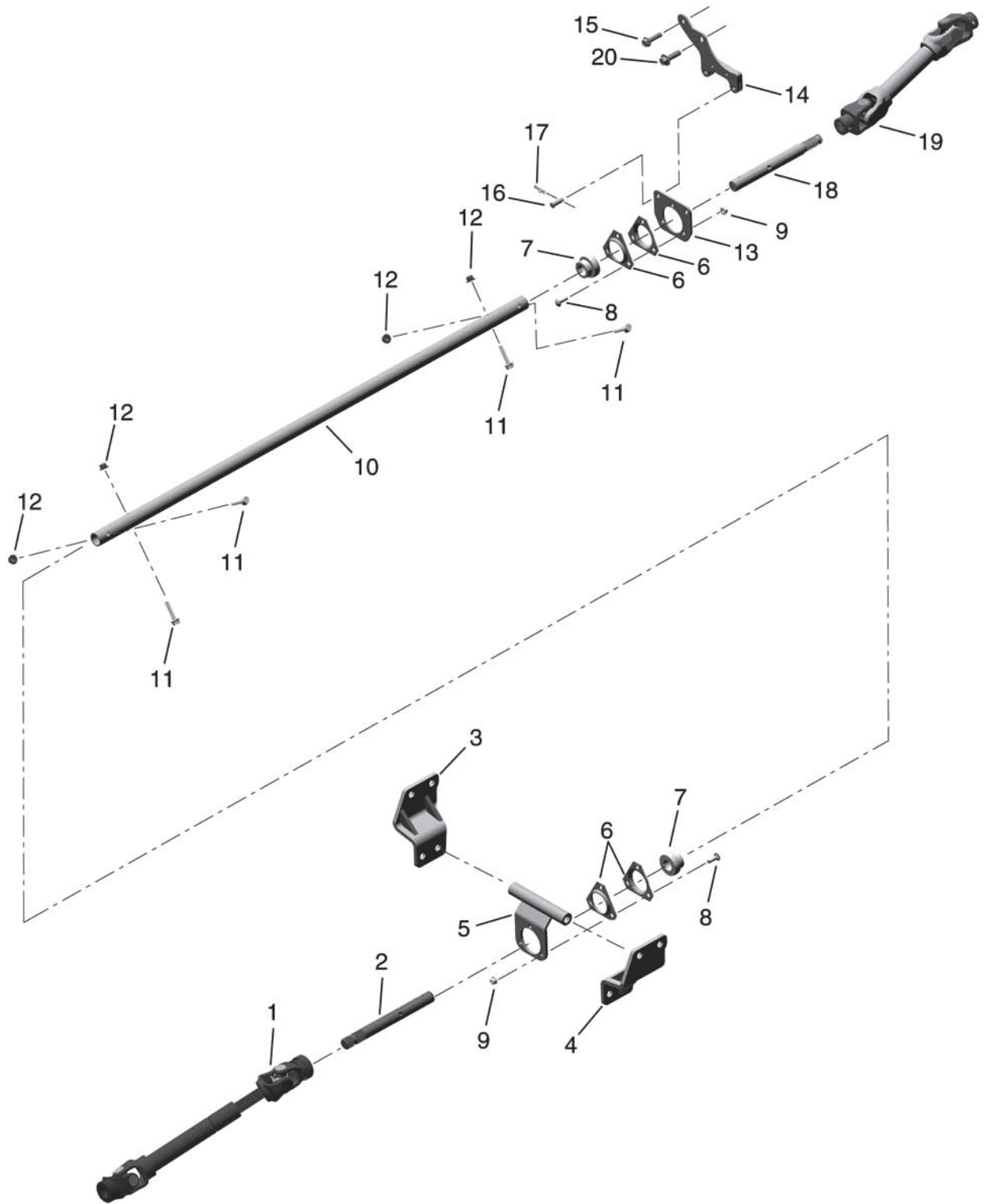
## PARTS MANUAL (CONT'D)

### Hydraulic Components (Cont'd)

REF.	PART NO.	DESCRIPTION	QTY.
	322-1-0001	BLOWER ASSY., Front Mount, 60", Includes 1 - 8	1
1	322-7-0013	MOTOR, Hydraulic	1
2	11126971	BOLT, Hex Flange, 3/8 - 16 x 1", Gr. 8	4
3	904-08073	FITTING	2
4	322-5-0001	HOSE, 90°, 3/8" x 78.5", 6FX x 6FJ	1
5	322-5-0002	HOSE, 90°, 3/8" x 74.5", 6FX x 6FJ	1
6	904-08035	ELBOW, 90°	2
7	904-05513	ADAPTER, 6MB – 6MJ	2
8	322-5-0006	COUPLER, Female	2
	322-1-0003	KIT, Lift, Summit, Includes 9 - 24	1
9	904-01020	CYLINDER, Lift	1
10	322-3-0090	PIN, Mounting, Cylinder	1
11	900-39046	RING, Snap	4
12	322-5-0003	HOSE, 90°, 3/8" x 84.5", 6FJ x 6FJ	1
13	322-5-0004	HOSE, 3/8" x 80", 6FJ x 6FJ	1
14	904-08035	ELBOW, 90°, 6MJ x 6FJ	2
15	904-05513	ADAPTER, 6MB-6MJ	2
16	322-5-0006	COUPLER, Female	2
17	322-3-0080	BRACKET, Mounting, Hose	1
18	900-01060	BOLT, Hex Flange, 5/16" x 1", Gr. 5 ZP	2
19	900-06529	NUT, Lock, Hex Flange, 5/16 - 18	2
20	300-3-1167	BRACKET, Hose	2
21	900-03447	BOLT, Serrated Flange, 3/8" x 2-1/4", Gr. 5, CZ	1
22	900-06014	NUT, Lock, Hex Flange, 3/8", Gr. 5 CZ	1
23	322-3-0091	ORFICE	1
24	322-3-0082	PIN, Mounting, Cylinder	1

# PARTS MANUAL (CONT'D)

## PTO Components



ST110



## PARTS MANUAL (CONT'D)

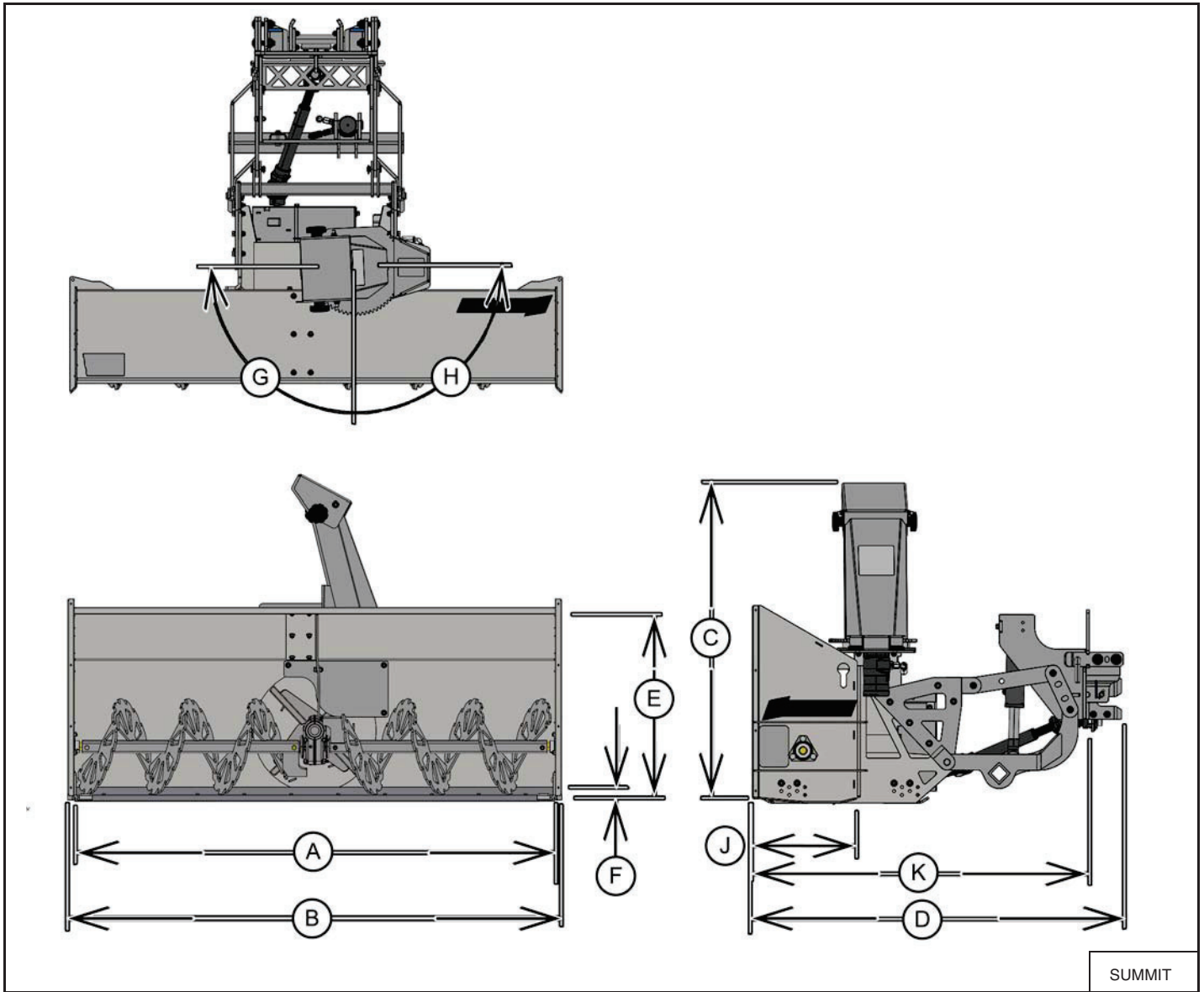
### PTO Components (Cont'd)

REF.	PART NO.	DESCRIPTION	QTY.
	322-12-0002	DRIVE ASSY., PTO, Includes 1 - 20	1
1	322-7-0008	SHAFT, Drive, 6E	1
2	322-3-0037	SHAFT, PTO Stub	1
3	322-2-0011	BRACKET, Mounting, RH	1
4	322-2-0010	BRACKET, Mounting, LH	1
5	322-2-0004	BRACKET, Mounting, Mid PTO, Front	1
6	322-7-0010	FLANGE, 3-Hole	4
7	322-7-0011	BEARING	2
8	900-01669	BOLT, Carriage, 5/16" x 1", Gr. 5	6
9	900-06529	NUT, Lock, Hex Flange	6
10	322-3-0033	TUBE, PTO	1
11	900-03481	BOLT, Serrated Flange, 3/8" x 1-3/4", Gr. 5 CZ	4
12	900-06014	NUT, Lock, Hex Flange	4
13	322-3-0029	PLATE, Mounting, Lower, Rear PTO Bracket	1
14	322-2-0003	BRACKET, Mounting, Mid PTO Rear Bracket	1
15	900-35000	BOLT, Serrated Flange, M10 x 1.5 x 40, Gr. 8.8 ZP	1
16	900-25019	PIN, Mounting, 3/8" x 7/8"	2
17	900-25018	PIN, Cotter, 7/64"	2
18	322-3-0034	SHAFT, PTO	1
19	322-7-0009	SHAFT, Drive, PTO	1
20	900-35001	BOLT, Serrated Flange, M12 x 1.5 x 40, Gr. 8.8 ZP	1

# FRONT MOUNT SNOWBLOWER SPECIFICATIONS

## Dimensions

- Where applicable, specifications conform to **SAE and ISO** standards and are subject to change without notice.



## FRONT MOUNT SNOWBLOWER SPECIFICATIONS (CONT'D)

DESCRIPTION	FSX60
Cutting Width (A)	1524 mm (60 in)
Overall Width (B)	1566,2 mm (61.36 in)
Height (Maximum) (C)	1059,2 mm (41.7 in)
Length (D)	838,2 mm (33.0 in)
Intake Height (E)	642,6 mm (25.3 in)
Fan Diameter	381 mm (15 in)
Auger Diameter	304,8 mm (12 in)
Skid Shoe Adjustment (F)	0 - 38 mm (0 - 1.5 in)
Chute Arc Right (G)	130°
Chute Arc Left (H)	130°
Intake Depth (J)	326,4 mm (12.85 in)

### Performance

DESCRIPTION	SBX60
Weight	249 kg (550 lb)
Main Drive	60H 0.750 Pitch Chain
Main Drive Reduction	2 : 1
Gear Box Ratio	5 : 1
Deflector Control	Manual Clamp Handle
Discharge Chute Control	Hydraulic
Cutting Edge	6,4 x 114,3 mm (0.25 x 4.5 in)
Skid Shoes	Adjustable / Replaceable

### Capacities

DESCRIPTION	SBX60
Auger Gearbox	0,3 L (10.24 fl oz) of EP80W90

## WARRANTY

**SHEYENNE TOOLING & MANUFACTURING warrants each new product to be free from defects in material and workmanship. This warranty is applicable only for the normal service life expectancy of the machine or components, not to exceed twelve consecutive months from the date of delivery of the new SHEYENNE TOOLING & MANUFACTURING product to the original purchaser.**

Genuine SHEYENNE TOOLING & MANUFACTURING replacement parts and components will be warranted for 90 days from date of purchase, or the remainder of the original equipment warranty period, whichever is longer. Warranty is not applicable for normal wear and usage.

Under no circumstances will it cover any merchandise or components thereof, which in the opinion of the company, has been subject to negligent handling, misuse, alteration, an accident, or if repairs have been made with parts other than those obtainable through SHEYENNE TOOLING & MANUFACTURING.

Our obligation under this warranty shall be limited to repairing or replacing, free of charge to the original purchaser, any part that in our judgment shall show evidence of such defect, provided further that such part shall be returned within thirty (30) days from the date of failure to SHEYENNE TOOLING & MANUFACTURING.

This warranty shall not be interpreted to render us liable for injuries or damages of any kind or nature of person or property.

Except as set forth above, SHEYENNE TOOLING & MANUFACTURING shall have no obligation of liability of any kind on account of any of its equipment and shall not be liable for special or consequential damage. SHEYENNE TOOLING & MANUFACTURING makes no other warranty, express or implied, and, specifically, SHEYENNE TOOLING & MANUFACTURING disclaims any implied warranty of merchantability of fitness for a particular purpose. Some states or providences do not permit limitations or exclusions of implied warranties of incidental or consequential damages, so the limitations or exclusions in this warranty may not apply.

This warranty is subject to any existing conditions of supply, which may directly affect our ability to obtain materials or manufacture replacement parts.

SHEYENNE TOOLING & MANUFACTURING reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligation to owners of units previously sold.

No one is authorized to alter, modify or enlarge neither this warranty nor the exclusions, limitations and reservations.

I have read and understand the above instructions and warranty. I have also read the owner's manual and understand all safety precautions. **Warranty is invalid until both copies are completed and signed. Customer copy retained, and the manufactures copy returned.**

Date Purchased \_\_\_\_\_

Model Number \_\_\_\_\_

Serial Number \_\_\_\_\_

Customer Information: Name (Please print) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

E-Mail (If Applicable) \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

**CUSTOMER COPY  
KEEP COPY IN THE OPERATOR'S MANUAL**



PLEASE ENTER INFORMATION BELOW AND RETURN TO SHEYENNE TOOLING & MANUFACTURING

# WARRANTY

SHEYENNE TOOLING & MANUFACTURING warrants each new product to be free from defects in material and workmanship. This warranty is applicable only for the normal service life expectancy of the machine or components, not to exceed twelve consecutive months from the date of delivery of the new SHEYENNE TOOLING & MANUFACTURING product to the original purchaser.

Genuine SHEYENNE TOOLING & MANUFACTURING replacement parts and components will be warranted for 90 days from date of purchase, or the remainder of the original equipment warranty period, whichever is longer. Warranty is not applicable for normal wear and usage.

Under no circumstances will it cover any merchandise or components thereof, which in the opinion of the company, has been subject to negligent handling, misuse, alteration, an accident, or if repairs have been made with parts other than those obtainable through SHEYENNE TOOLING & MANUFACTURING.

Our obligation under this warranty shall be limited to repairing or replacing, free of charge to the original purchaser, any part that in our judgment shall show evidence of such defect, provided further that such part shall be returned within thirty (30) days from the date of failure to SHEYENNE TOOLING & MANUFACTURING.

This warranty shall not be interpreted to render us liable for injuries or damages of any kind or nature of person or property.

Except as set forth above, SHEYENNE TOOLING & MANUFACTURING shall have no obligation of liability of any kind on account of any of its equipment and shall not be liable for special or consequential damage. SHEYENNE TOOLING & MANUFACTURING makes no other warranty, express or implied, and, specifically, SHEYENNE TOOLING & MANUFACTURING disclaims any implied warranty of merchantability of fitness for a particular purpose. Some states or providences do not permit limitations or exclusions of implied warranties of incidental or consequential damages, so the limitations or exclusions in this warranty may not apply.

This warranty is subject to any existing conditions of supply, which may directly affect our ability to obtain materials or manufacture replacement parts.

SHEYENNE TOOLING & MANUFACTURING reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligation to owners of units previously sold.

No one is authorized to alter, modify or enlarge neither this warranty nor the exclusions, limitations and reservations.

I have read and understand the above instructions and warranty. I have also read the owner's manual and understand all safety precautions. **Warranty is invalid until both copies are completed and signed. Customer copy retained, and the manufactures copy returned.**

Date Purchased \_\_\_\_\_

Model Number \_\_\_\_\_

Serial Number \_\_\_\_\_

Customer Information: Name (Please print) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

E-Mail (If Applicable) \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Please return via; regular mail or email: to  
address -  
Sheyenne Tooling & Manufacturing  
PO Box 647  
Cooperstown, ND 58425  
email - [trishae@sheyennemfg.com](mailto:trishae@sheyennemfg.com)



## ALPHABETICAL INDEX

ATTACHMENT STORAGE AND RETURN TO SERVICE .....	53
AUGUR GEARBOX FLUID CHANGE .....	51
DAILY INSPECTION .....	9
FEATURES AND ACCESSORIES .....	5
FRONT MOUNT SNOWBLOWER SPECIFICATIONS .....	62
INITIAL SETUP .....	11
LIFTING THE SNOWBLOWER .....	35
LUBRICATING THE ATTACHMENT .....	50
MAINTENANCE SAFETY .....	37
OPERATING PROCEDURE WITH COMPACT TRACTOR .....	16
PARTS MANUAL .....	54
REGULAR MAINTENANCE ITEMS .....	39
REMOVAL AND INSTALLATION .....	52
SAFETY .....	6
SERIAL NUMBER LOCATION .....	2
SERVICE SCHEDULE .....	38
SNOWBLOWER IDENTIFICATION AND DECALS .....	3
TRANSPORTING THE SNOWBLOWER AND COMPACT TRACTOR ON A TRAILER .....	36
TRANSPORTING THE SNOWBLOWER ON A TRAILER .....	36
TROUBLESHOOTING .....	37





**701 Lenham Ave. - P.O. Box 647**

**Cooperstown, ND 58425**

**Office (701) 797-2584**

**Tool Free (800) 797-1883**

**[www.sheyennemfg.com](http://www.sheyennemfg.com)**