Service Guide

Models

920402 – Sno-Tek 24E
(SN 250000 +)

920406 – Sno-Tek 20E
(SN 000101 +)

920313 – Sno-Tek 24E CE
(SN 250000 +)

920314 – Sno-Tek 28E CE
(SN 250000 +)

920315 – Sno-Tek 22E CE
(SN 250000 +)

E10 E15 E20 E85

EN ENGLISH

04854400D • 10/17

TABLE OF CONTENTS

WELCOME

Before operating or servicing the unit, carefully and completely read the Operator's Manual and engine manual provided with the unit at time of purchase. They contain important safety instructions and information about unit controls.

Have Questions or Need Assistance?

ariensstore.com (Dealer Locator)
ariens.custhelp.com (Self-Support)

A parts manual and an operator's manual for your unit are available for free download or purchase at ariens.com.

Ariens recommends using only genuine Ariens replacement parts on this unit. Using unauthorized parts may adversely affect the performance, durability or safety of this unit and may void the warranty. Installing unauthorized parts will not automatically void the warranty; however, the warranty will not apply if the installation and use of unauthorized parts damages the unit. The Ariens warranty applies solely to defects in Ariens materials and / or factory workmanship. Ariens disclaims liability for any claims or damages – whether warranty, property damage, personal injury or death – arising from using unauthorized replacement parts.

Be aware of your mechanical aptitude when applying information in this manual for service and / or repairs. If you are not comfortable or capable of completing service and / or repairs to the machine, take the machine to an authorized Ariens service dealer.

SAFETY

Read these safety rules and follow them closely. Failure to follow these rules could lead to loss of control of unit, severe personal injury or death to you or bystanders, or result in damage to property or the machine.

PRACTICES & LAWS

Practice usual and customary safe working precautions. Learn applicable rules and laws in your area. Always follow the practices set forth in this manual.

EMISSION CONTROL SYSTEM

This equipment and/or its engine may include exhaust and evaporative emissions control system components required to meet U.S. Environmental Protection Agency (EPA) and/or California Air Resources Board (CARB) regulations. Tampering with emission controls and components by unauthorized personnel may result in severe fines or penalties. Emission controls and components can only be adjusted by an Ariens Company dealer or an authorized engine manufacturer's service center. Contact your Ariens Company Equipment Retailer concerning emission controls and component questions.

REQUIRED OPERATOR TRAINING

Read and understand the Operator's Manual and decals on the unit. This information is for your safety and the proper use of your equipment. Failure to follow these instructions and warnings may cause death or serious injury. If you have purchased this product from an Ariens dealer, the dealer can provide you with training.

Familiarize yourself and any other operators with all controls and the safe use of the features of this unit. If you loan, rent or sell this product to others, provide them with all manuals.

If you have any questions, please call our customer support line at 920-756-4688 or contact us at www..com. Do not use this equipment if, after reading the Operator's Manual and the on-board decals, you have any questions about the safe use of this product.

WARNING: AVOID INJURY. This snow thrower is capable of crushing or amputating body parts. Failure to observe the safety instructions in the manuals and on decals could result in serious injury or death.

ALWAYS disengage auger, stop unit and engine, remove key and allow moving parts to stop before leaving operator’s position.

SAFETY ALERT SYMBOL

This is the safety alert symbol. It means:

- **ATTENTION!**
- **YOUR SAFETY IS INVOLVED!**

When you see this symbol:

- **BECOME ALERT!**
- **OBEY THE MESSAGE!**

SIGNAL WORDS

The safety alert symbol above and signal words below are used on decals and in this manual. Read and understand all safety messages.

1. Danger

DANGER: Indicates an IMMINENTLY HAZARDOUS SITUATION! If not avoided, WILL RESULT in death or serious injury.

2. Warning

WARNING: Indicates a POTENTIALLY HAZARDOUS SITUATION! If not avoided, COULD RESULT in death or serious injury.

3. Caution

CAUTION: Indicates a POTENTIALLY HAZARDOUS SITUATION! If not avoided, MAY RESULT in minor or moderate injury. It may also be used to alert against unsafe practices.

4. Notice

NOTICE: Indicates information or procedures that are considered important but not hazard related. If not followed, property damage could result.

5. Important

IMPORTANT: Indicates general reference information worthy of special attention.

SAFETY DECALS

The safety decals on your machine are visual reminders of the important safety information in this manual. All messages on your unit must be fully understood and carefully followed. Safety decals on the machine are explained below.

Always replace missing or damaged safety decals. Replacement decal information is in the parts manual for your machine. Decals can be ordered from your dealer.

See Figure 1 for safety decal locations.

Safety Decal Locations

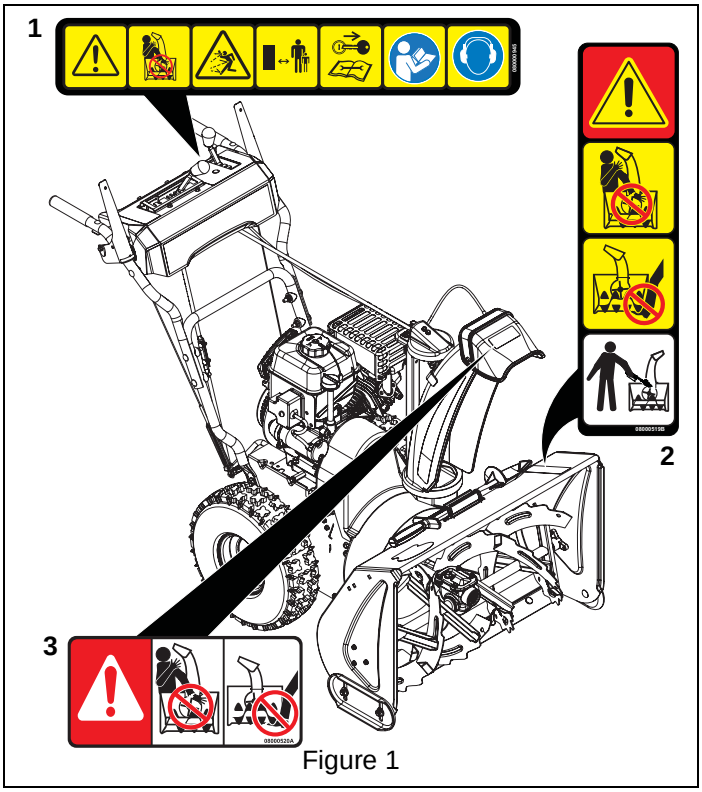


Figure 1

Safety Decal Descriptions

1. CAUTION!

Danger!

Only use clean-out tool to clear blockages. NEVER use your hands.

NEVER direct discharge towards persons or property that may be injured or damaged by thrown objects.

Keep people away from unit while operating. Keep children out of work area and under watchful care of a responsible adult.

Stop engine, remove key, and read manual before making any repairs or adjustments.

Read Operator's Manual.

Wear appropriate hearing protection.

2. DANGER!

Danger!

ROTATING PARTS! Only use clean-out tool to clear blockages. NEVER use your hands.

High-speed auger/impeller rotates below discharge opening. Wait for all moving parts to stop before removing clogs or servicing.

3. DANGER!

Danger!

ROTATING PARTS! Keep clear of auger while engine is running.

- Read Operator's Manual.
- Allow operation only by properly-trained adult, never children.
- Stop engine and remove ignition key prior to leaving the operator's position for any reason.
- Keep all controls, guards and safety devices properly serviced and functional.
- NEVER direct discharge towards persons or property that may be injured or damaged by thrown objects.

SAFETY RULES

The following safety instructions are based on the B71.3 specifications of the American National Standards Institute in effect at the time of production.

Training

Read, understand and follow all instructions on the machine and in the manual(s) before operating this unit. Be thoroughly familiar with the controls and the proper use of the equipment. Know how to stop the unit and disengage the controls quickly.

Never allow children to operate or play on or near the equipment. Never allow adults to operate the equipment without proper instruction.

Keep the area of operation clear of all persons, particularly small children. Be alert and shut off unit if children enter area.

Exercise caution to avoid slipping or falling, especially when operating the snow thrower in reverse.

Always remove key and/or wire from spark plug before assembly, maintenance or service. Unintentional engine start up can cause death or serious injury.

Complete a walk-around inspection of the unit to understand the unit, your work area and all safety decals.

Understand how to operate all controls, the functions of all controls and how to STOP in an emergency.

Preparation

Always check overhead and side clearances carefully before operation.

Always be aware of traffic when operating near streets or along curbs.

Thoroughly inspect the area where the equipment is to be used and remove all doormats, sleds, boards, toys, wires and other foreign objects.

Disengage all clutches and shift into neutral before starting the engine.

Use extension cords and receptacles as specified by the manufacturer for all units with electric drive motors or electric starting motors.

Handle fuel with care; it is highly flammable.

- Use an approved fuel container.
- Never add fuel to a running engine or hot engine.
- Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.
- Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground, away from your vehicle, before filling.
- When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
- Keep the nozzle in contact with the rim of the fuel tank or container opening at all times, until refueling is complete. Do not use a nozzle lock-open device.
- Replace gasoline cap securely and wipe up spilled fuel.
- If fuel is spilled on clothing, change clothing immediately.

Adjust the auger / impeller housing height to clear gravel or crushed rock surface.

Never attempt to make any adjustments while the engine is running (except when specifically recommended by manufacturer).

Always allow unit and engine to adjust to outdoor temperature before clearing snow.

Operation

Disengage all controls before starting engine.

Never leave a running unit unattended. Always stop engine and remove key before leaving unit to prevent unauthorized use.

Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times.

Moving and/or rotating parts can cut off body parts such as fingers or a hand. NEVER place your hands, other body part or clothing near any moving parts while unit is running.

Always keep hands away from all pinch points.

Do not touch parts which might be hot from operation. Allow parts to cool before attempting to maintain, adjust or service.

Thrown objects can cause injury. Check for weak spots on docks, ramps or floors. Avoid uneven work areas and rough terrain and stay alert for hidden hazards.

Exercise extreme caution when operating on or crossing gravel drives, walks or roads. Stay alert for hidden hazards or traffic.

After striking a foreign object, stop the engine, remove the wire from the spark plug, disconnect the cord on electric motors, thoroughly inspect the snow thrower for any damage, and repair the damage before restarting and operating the snow thrower.

If the unit should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.

Stop the engine whenever you leave the operating position, before unclogging the auger / impeller housing or discharge chute, and when making any repairs, adjustments or inspections.

When cleaning, repairing or inspecting the snow thrower, stop the engine and make certain the auger / impeller and all moving parts have stopped. Disconnect the spark plug wire and keep the wire away from the plug to prevent someone from accidentally starting the engine.

Do not run the engine indoors, except when starting the engine and for transporting the snow thrower in or out of the building. Open the outside doors; exhaust fumes are dangerous.

Never operate the snow thrower without proper guards, and other safety protective devices in place and working.

Always stand clear of the discharge area when operating this unit.

Never direct the discharge toward people or areas where injury or property damage can occur from thrown objects. Keep children and others away.

Do not overload the machine capacity by attempting to clear snow at too fast a rate.

Never operate the machine at high transport speeds on slippery surfaces. Look behind and use care when operating in reverse.

Do not operate in reverse unless absolutely necessary. Always back up slowly and look down and behind before and while backing.

Do not carry passengers.

Disengage attachment when not in use and when traveling from one work area to another.

Disengage power to the auger / impeller when snow thrower is transported or not in use.

Use only attachments and accessories approved by the manufacturer of the snow thrower (such as wheel weights, counterweights or cabs).

This product is equipped with an internal combustion engine. Do not use unit on or near any unimproved, forest-covered or brush-covered land unless exhaust system is equipped with a spark arrester meeting applicable local, state or federal laws. A spark arrester, if used, must be maintained in effective working order by operator.

Never operate the snow thrower without good visibility or light. Always be sure of your footing, and keep a firm hold on the handles. Walk; never run.

Never operate unit after or during the use of medication, drugs or alcohol. Safe operation requires complete and unimpaired attention at all times.

Never allow anyone to operate this unit when their alertness or coordination is impaired.

Never touch a hot engine or muffler.

Avoid contact with sharp edges; sharp edges can cut.

Do not throw snow higher than necessary.

Clearing a Clogged Discharge Chute

Hand contact with the rotating auger / impeller inside the discharge chute is the most common cause of injury associated with snow throwers. Never use your hand to clean out the discharge chute.

To clear the chute:

1. SHUT THE ENGINE OFF!
2. Wait 10 seconds to be sure the auger / impeller blades have stopped rotating.
3. Always use a clean-out tool, not your hands.

Maintenance and Storage

Secure unit so it will not tip over during maintenance.

Before cleaning, removing clogs or making any inspections, repairs, etc., disengage clutch(es), stop engine, remove key, allow moving parts to stop and hot parts to cool.

Check shear bolts and other bolts at frequent intervals for proper tightness to be sure the equipment is in safe working condition.

Check clutch and brake operation frequently.

Do not change engine governor settings and do not over-speed engine.

Adjust and service as required. Motion of drive wheels and auger / impeller must stop quickly when clutch levers are released.

Always maintain unit in safe operating condition. Damaged or worn out muffler can cause fire or explosion.

Keep unit free of ice or other debris. Clean up oil or fuel spills.

Always keep protective structures, guards, and panels in good repair and secured in place. Never modify or remove safety devices.

Never store the machine with fuel in the fuel tank inside a building where ignition sources are present such as hot water heaters, space heaters or clothes dryers. Close fuel valve and allow the engine to cool completely before storing in any enclosure or covering the unit.

Always refer to operator's manual for important details if the snow thrower is to be stored for an extended period.

Maintain or replace safety and instruction labels as necessary.

Run the machine a few minutes after throwing snow to prevent freeze-up of the auger / impeller.

Personal Protection

Do not operate the equipment without wearing adequate winter garments. Avoid loose fitting clothing that can get caught in moving parts. Wear footwear that will improve footing on slippery surfaces.

Wear adequate safety gear, including safety glasses with side shields and protective gloves.

Do not wear loose clothing or jewelry, and tie back hair that may get caught in rotating parts.

NEVER attempt to unclog or clean unit while engine is running. Rotating auger / impeller can cause serious injury.

Protect eyes, face and head from objects that may be thrown from unit. Wear appropriate hearing protection.

Always wear safety glasses or eye shields during operation or while performing an adjustment or repair to protect eyes from foreign objects that may be thrown from the machine.

Slope Operation

Exercise extreme caution when operating on slopes. DO NOT operate on steep slopes. DO NOT clear snow across the face of slopes; go up and down. Keep all movement on slopes slow and gradual.

Use a slow speed to avoid stops or shifts on slopes. Avoid starting or stopping on a slope. Do not park unit on a slope unless absolutely necessary. When parking on a slope always block the wheels.

Do not operate near drop-offs, ditches, or embankments. Unit can suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.

Fuel

DO NOT run engine in an enclosed area. Always provide good ventilation. Fumes from engine exhaust can cause injury or death.

Fuel is highly flammable and its vapors are explosive. Handle with care. Use only an approved gasoline container with an appropriately-sized dispensing spout.

No smoking, no sparks, no flames. Always allow engine to cool before servicing.

Never fill fuel tank when engine is running or hot from operation.

Never fill or drain fuel tank indoors.

Replace fuel cap securely and clean up spilled fuel.

Never fill fuel containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.

When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel on a trailer with a portable container, rather than from a gasoline dispenser nozzle.

Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.

If fuel is spilled on clothing, change clothing immediately.

Properly remove fuel before tipping unit up onto housing to avoid spills.

Towing/Transporting

Always stop engine, remove key and close fuel valve or drain fuel when transporting unit on a truck or trailer.

Use extra care when loading or unloading unit onto trailer or truck. Secure unit chassis to transport vehicle. Never secure from rods or linkages that could be damaged. Do not transport machine while engine is running.

Accessories

Use only Ariens Company-recommended attachments or accessories that are designed for your unit and that are appropriate to your use and can be used safely in your application.

DRAINING FUEL SYSTEM

1. Move unit to an open, well-ventilated area with no flames or sparks.
2. Remove cap from fuel tank and siphon fuel into a clean, clearly-marked gasoline container.
3. Reinstall fuel tank cap and tighten.
4. Start engine to burn remaining fuel in fuel system and leave engine running until it “runs dry” and stops. Refer to Operator’s Manual for engine start procedure.
5. Stop engine, remove key and close fuel valve.

SERVICE POSITION

See Figure 2.

WARNING: AVOID INJURY. Before placing unit in service position, drain fuel from tank and fuel system. See *Draining Fuel System* on page 7. Make sure unit is secure and will not tip.

NOTICE: NEVER store unit in service position.

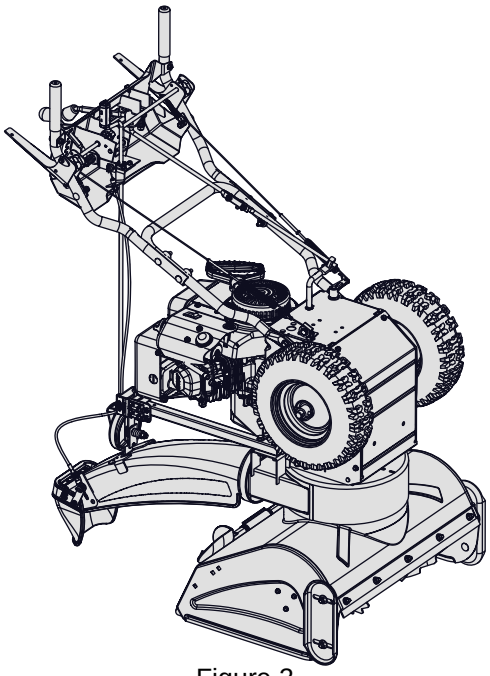


Figure 2

SEPARATE HOUSING FROM FRAME

Remove Auger Housing

IMPORTANT: Save all hardware for reinstallation.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Remove cable hanger from chute rotation rod.

See Figure 3.

4. Remove spring clip from chute rotation rod and remove rod from chute gear socket.

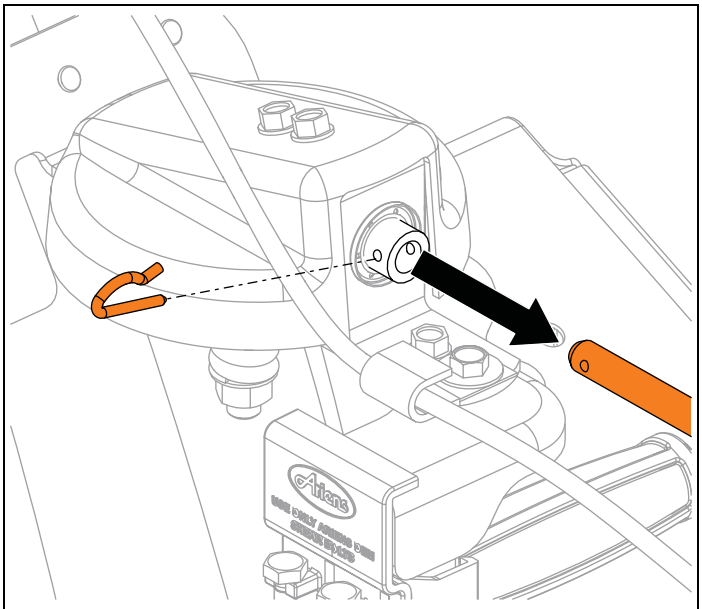


Figure 3

5. *Models 920406, 920313, 920315:* Advance to step 8.

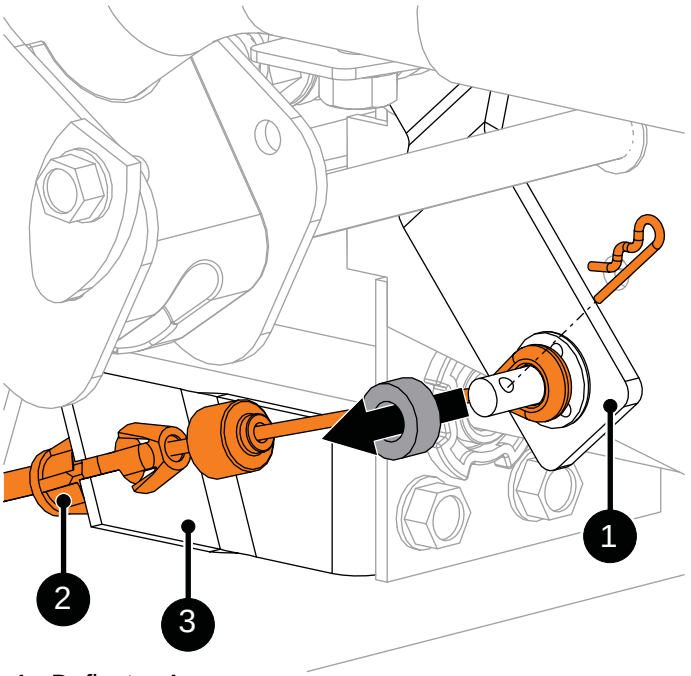
Models 920402, 920314

See Figure 4.

6. Remove hairpin, sleeve bushing and cable eyelet from deflector arm under dash panel.

IMPORTANT: Reinstall sleeve bushing and hairpin so parts are not misplaced.

7. With a pliers, squeeze tabs on cable anchor and remove from deflector bracket.



1. Deflector Arm
2. Cable Anchor
3. Deflector Bracket

Figure 4

8. Loosen, but DO NOT remove hardware retaining belt cover and remove belt cover. See Figure 5.

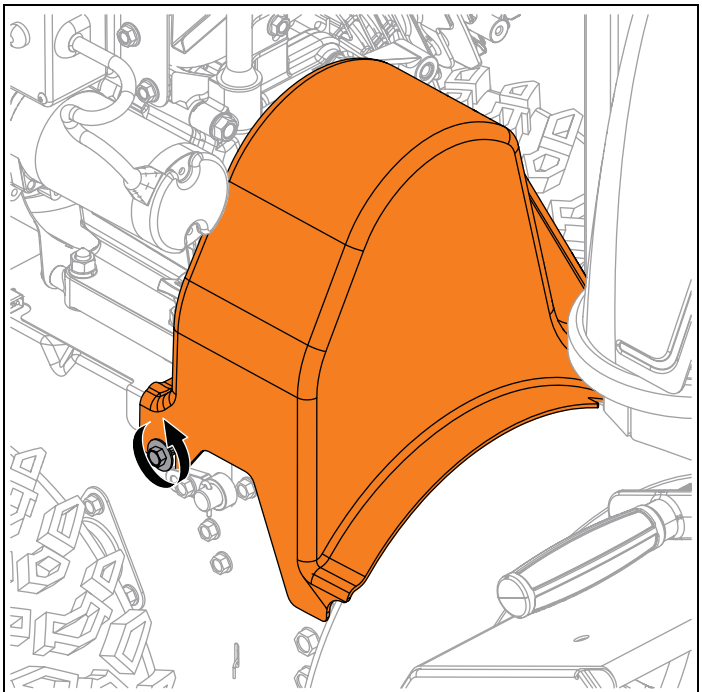


Figure 5

See Figure 6.

9. Remove hardware retaining belt finger and remove belt finger.

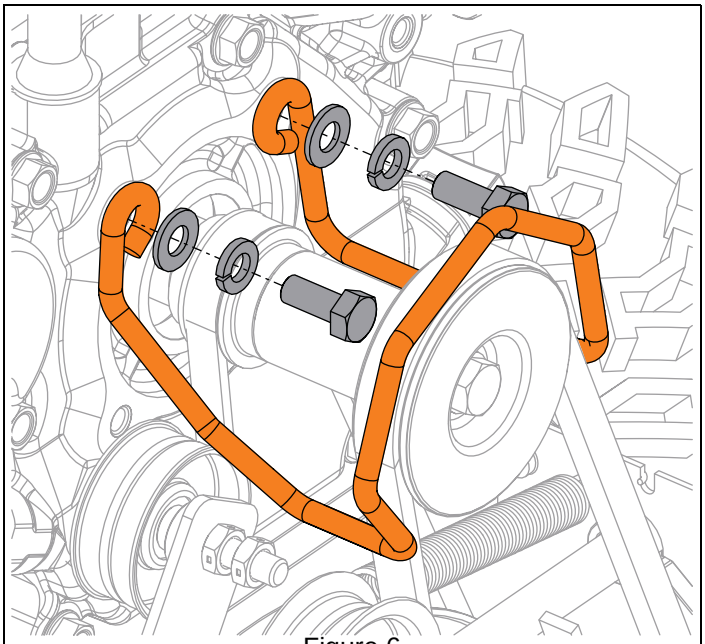


Figure 6

WARNING: AVOID INJURY. Attachment sheave edges are sharp. Wear thick gloves to remove belt from attachment sheave.

See Figure 7.

10. Remove attachment drive belt from attachment sheave.

To assist belt removal, slowly pull recoil starter handle while gently guiding belt out of attachment sheave.

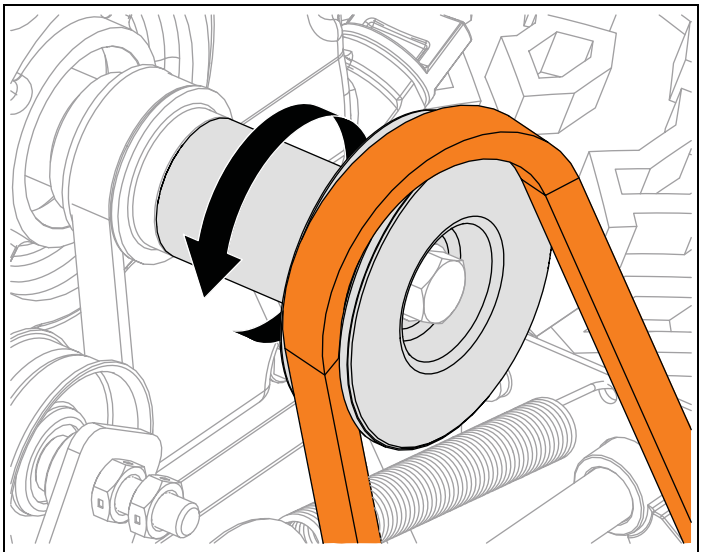


Figure 7

See Figure 8.

11. Position support, such as a trash can, under handlebars so tractor / frame remains upright when separated from auger housing.
12. Chock or block wheels to prevent tractor / frame movement.

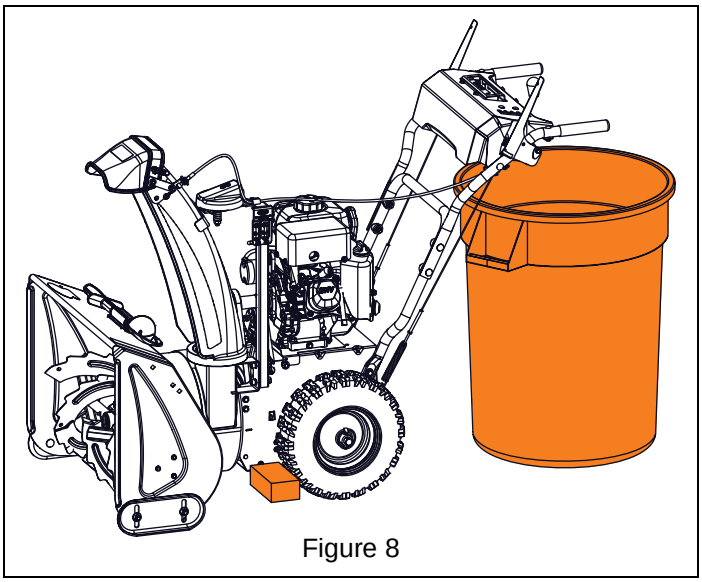


Figure 8

See Figure 9.

13. Remove hardware securing auger housing to frame.
14. Lift auger housing rear slightly to disengage mount brackets from mount rod. Separate housing from unit.

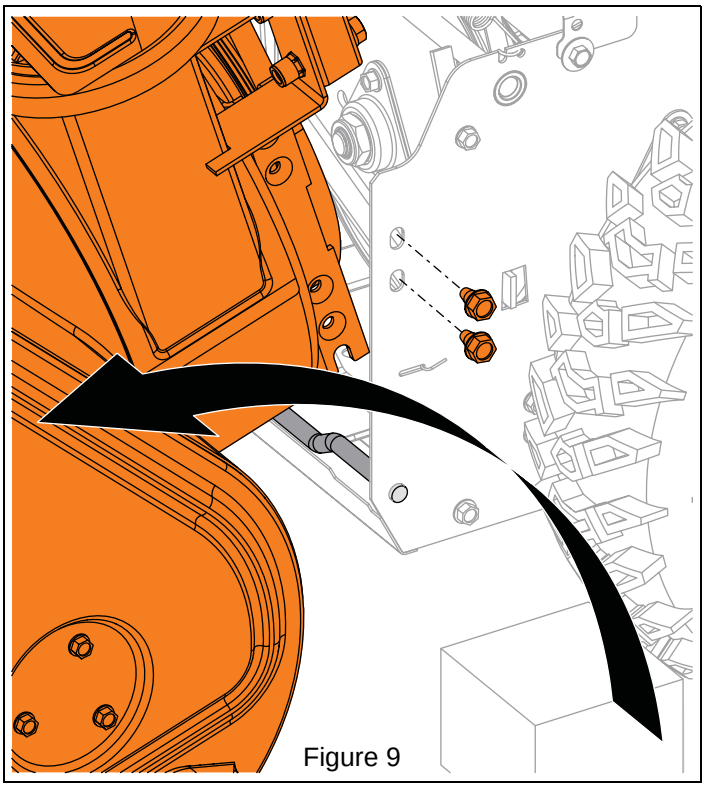


Figure 9

Reinstall Auger Housing

See Figure 10.

1. With assistance from an adult helper, engage attachment clutch lever so attachment brake will not obstruct attachment drive pulley in step 2.
2. Tilt auger housing rear up and lower mount brackets onto mount rod.

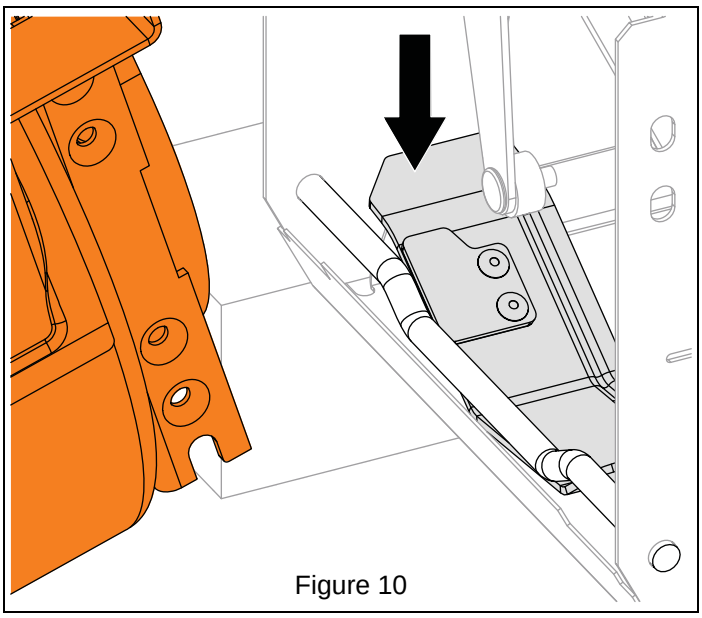


Figure 10

3. Release attachment clutch lever.
4. Align holes in mount brackets with holes in frame and secure housing to frame with four tapping screws, but DO NOT tighten.

IMPORTANT: Unit must be on a flat, level surface during steps 5 – 7.

5. Check tire pressure and adjust if necessary. Refer to Operator's Manual for specification.
6. Torque hex bolts installed in step 4 to 22.8 N•m – 34.1 N•m (16.8 lb-ft – 25.2 lb-ft).
7. Loosen skid shoe hardware and adjust skid shoes. Refer to Operator's Manual for adjustment procedure.

See Figure 11.

WARNING: AVOID INJURY. Attachment sheave edges are sharp. Wear thick gloves to install belt onto attachment sheave.

8. Reinstall attachment drive belt onto attachment sheave.

To assist belt installation, slowly pull recoil starter handle while gently guiding belt onto attachment sheave.

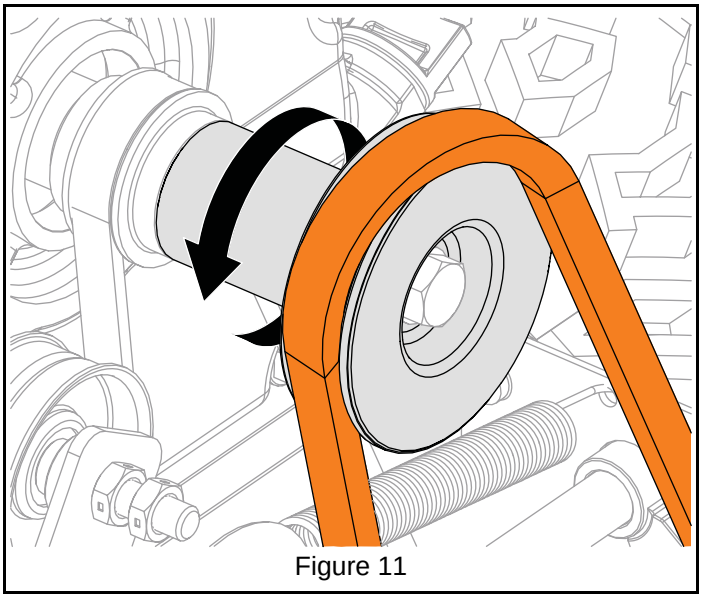


Figure 11

See Figure 12.

9. Reinstall belt finger and secure with two flat steel washers, two locking washers and two hex bolts.
10. Check belt finger clearance:
    - Engage attachment clutch lever and make sure belt finger located opposite belt idler is less than 3.2 mm (1/8") from belt, but not touching the belt.
    - If needed, adjust clearance by loosening belt finger hardware, repositioning belt finger, and tightening hardware.

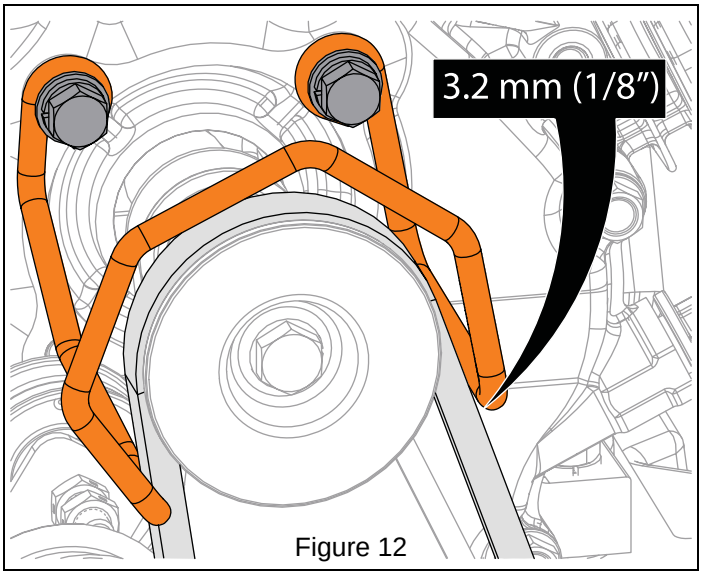


Figure 12

11. Reinstall belt cover and tighten hardware.
12. Reinstall chute rotation rod into chute rotation gear and secure with spring clip.
13. *Models 920406, 920313, 920315:* Advance to step 17.

Models 920402, 920314

14. Reinstall cable hanger onto chute rotation rod.
15. Insert chute deflector cable anchor into deflector bracket. See Figure 4.
16. Remove sleeve bushing and hairpin from deflector arm, reinstall cable eyelet onto deflector arm and secure with sleeve bushing and hairpin. See Figure 4.
17. Adjust attachment clutch / brake. Refer to Operator's Manual for adjustment procedure.
18. Reconnect spark plug wire.

IMPORTANT: Check all adjustments after first use.

WARNING: AVOID INJURY. Auger / impeller must stop within 5 seconds when attachment clutch lever is released.

BOTTOM COVER REMOVAL

IMPORTANT: Save all hardware for reinstallation.

WARNING: AVOID INJURY. Before placing unit in service position, drain fuel from tank and fuel system. See *Draining Fuel System* on page 7. Make sure unit is secure and will not tip.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Place unit in service position. See *Service Position* on page 7.
4. Remove hardware retaining bottom cover to frame and remove cover. See Figure 13.

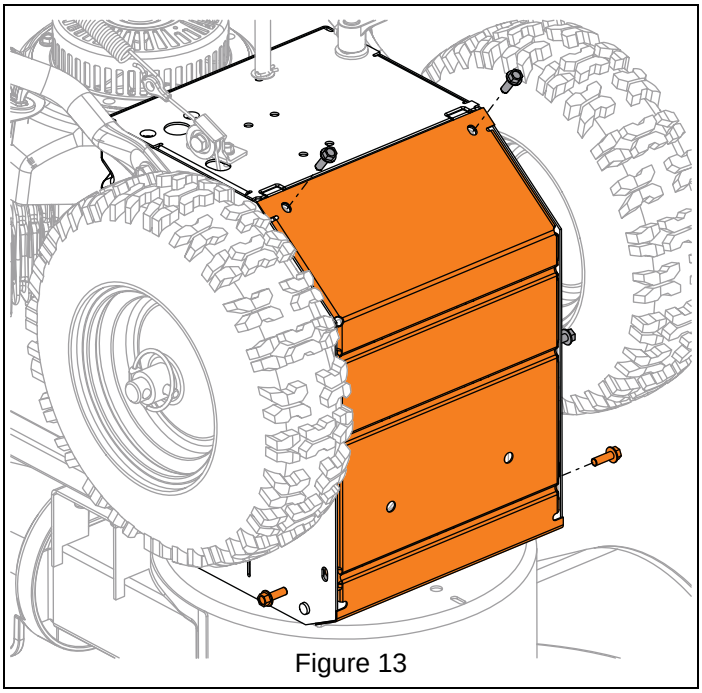


Figure 13

Install Bottom Cover

1. Secure bottom cover to frame with six hex screws.
2. Return unit to operating position.
3. Reconnect spark plug wire and fill fuel tank.

ATTACHMENT DRIVE BELT REPLACEMENT

Remove Attachment Drive Belt

IMPORTANT: Save all hardware for reinstallation.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Remove auger housing. See *Separate Housing from Frame* on page 7.
4. Remove attachment drive belt from attachment drive pulley. See Figure 14.

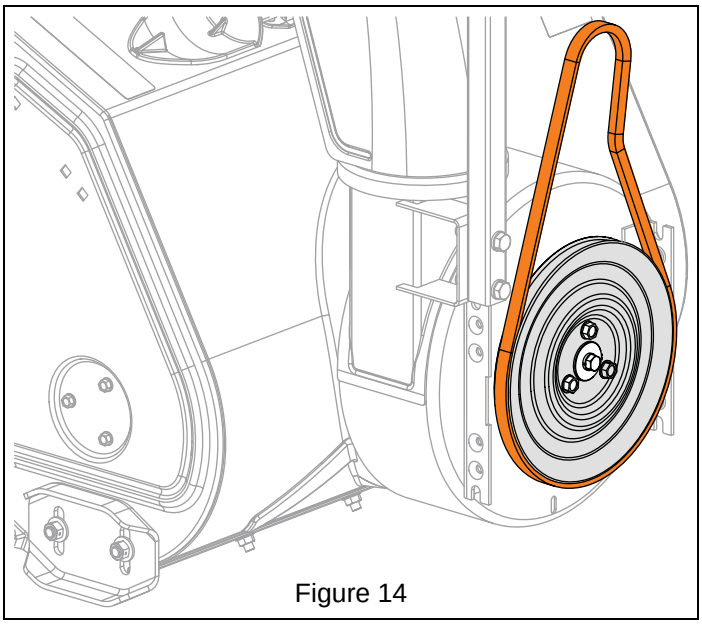


Figure 14

Install Attachment Drive Belt

1. Install belt onto attachment drive pulley.
2. Reinstall auger housing to frame. See *Reinstall Auger Housing* on page 9.
3. Adjust attachment clutch / brake. Refer to Operator's Manual for adjustment procedure.
4. Reconnect spark plug wire.

IMPORTANT: Check all adjustments after first use.

WARNING: AVOID INJURY. Auger / impeller must stop within 5 seconds when attachment clutch lever is released.

TRACTION DRIVE BELT REPLACEMENT

Remove Traction Drive Belt

IMPORTANT: Save all hardware for reinstallation.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Loosen traction drive clutch cable. See Figure 15.

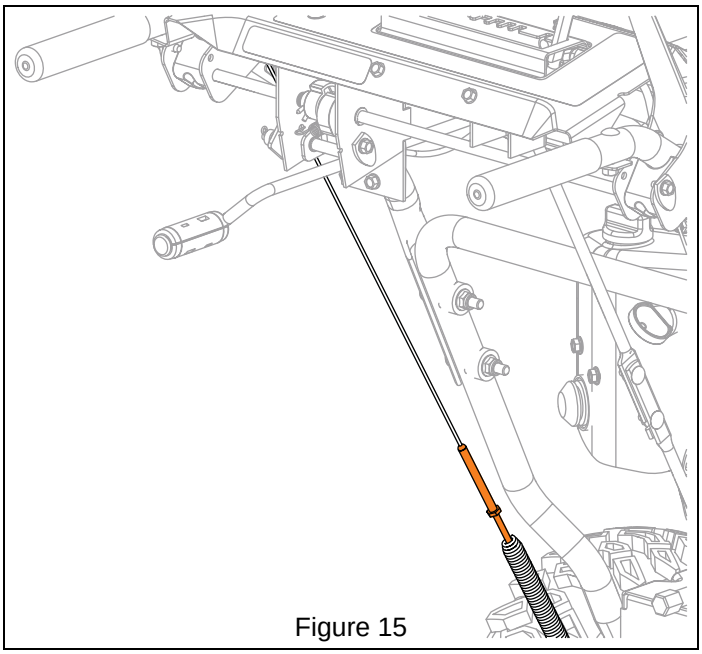
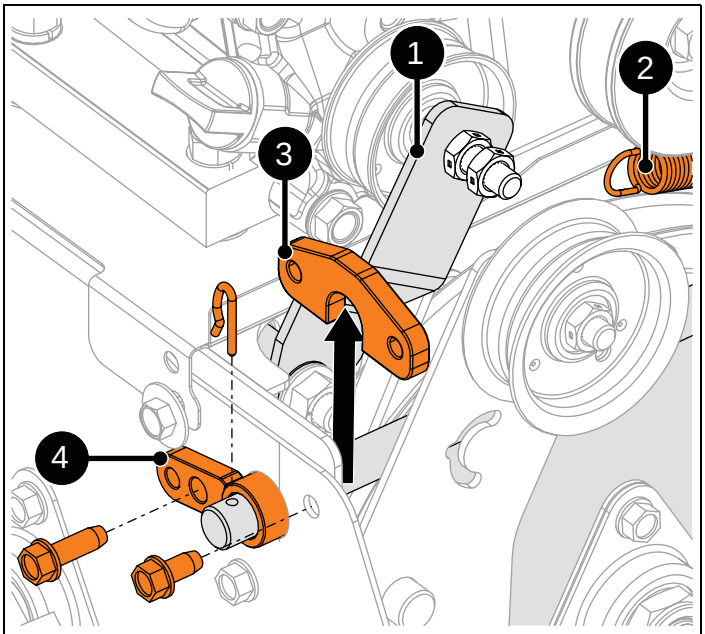


Figure 15

4. Remove auger housing. See *Separate Housing from Frame* on page 7.

See Figure 16.

5. With a flathead screwdriver or similar pry bar, disconnect idler spring from traction drive idler.
6. Remove hardware retaining swing gate spacer and remove spacer.
7. Remove spring clip from swing gate pivot rod and remove support bushing.

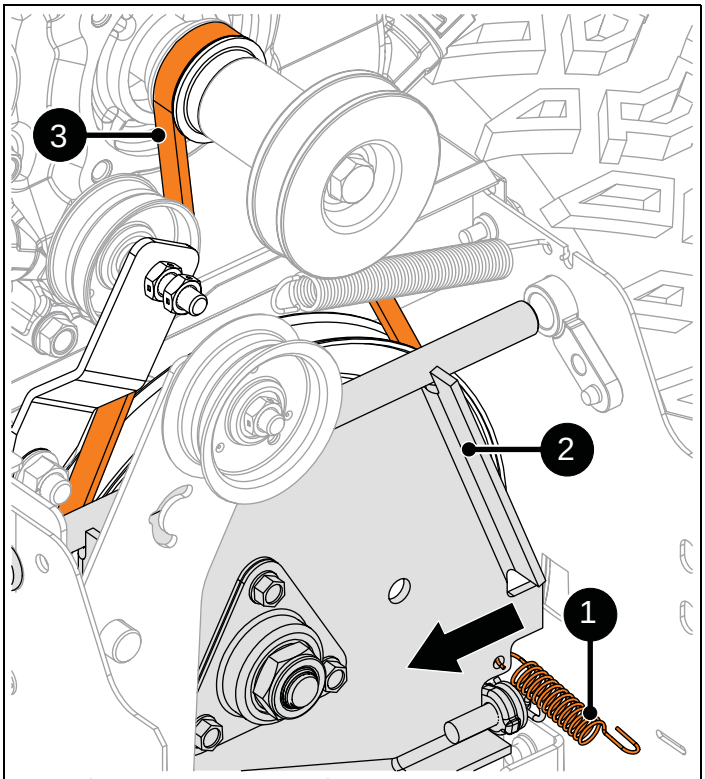


1. Traction Drive Idler
2. Idler Spring
3. Swing Gate Spacer
4. Support Bushing

Figure 16

See Figure 17.

8. With a flathead screwdriver or similar pry bar, disconnect swing gate return spring from frame.
9. Move swing gate left until swing gate tab is out of stop hole in frame.
10. Move swing gate slightly forward to access traction drive belt and remove belt.



1. Swing Gate Return Spring
2. Swing Gate
3. Traction Drive Belt

Figure 17

Install Traction Drive Belt

See Figure 18.

1. Install belt onto traction drive pulley.
2. Install belt onto traction sheave.

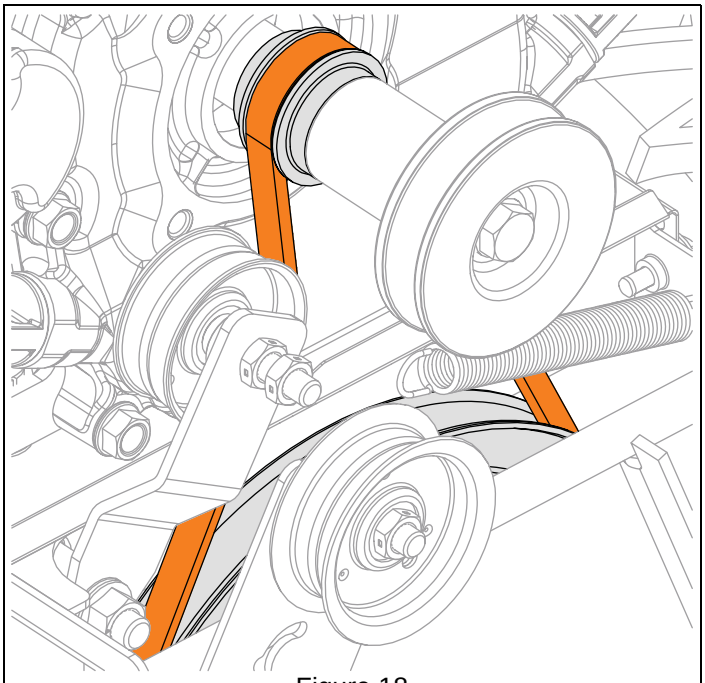
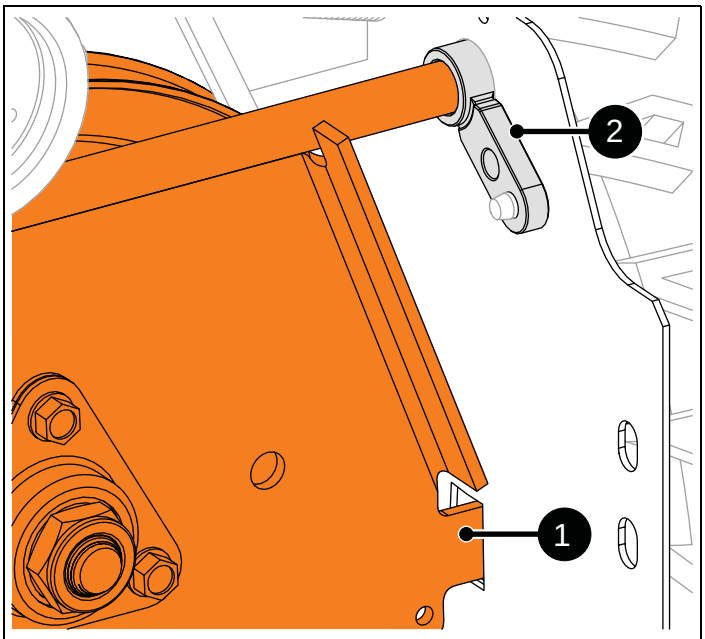


Figure 18

3. Align swing gate tab with stop hole in frame and insert pivot rod through support bushing. See Figure 19.



1. Swing Gate Tab
2. Support Bushing

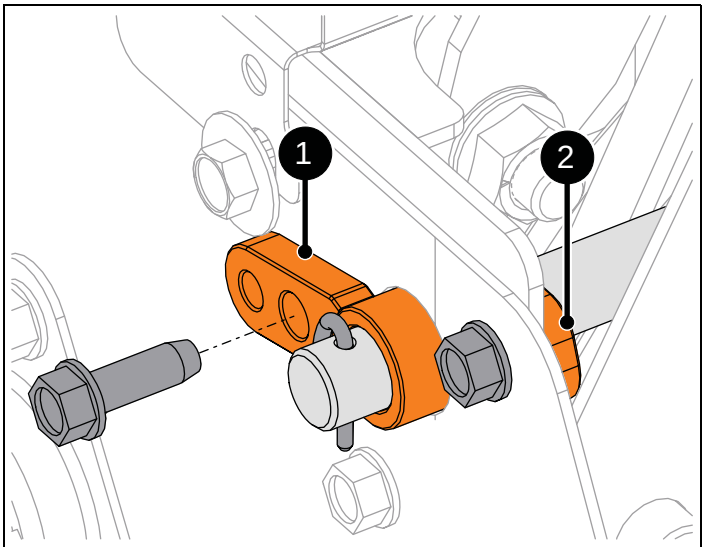
Figure 19

See Figure 20.

4. Reinstall support bushing onto swing gate pivot rod.
5. Reinstall spring clip into pivot rod.

NOTICE: Support bushing MUST be correctly seated in and flush with frame.

6. Reinstall swing gate spacer, align with support bushing and secure with 2 tapping screws.



1. Support Bushing
2. Swing Gate Spacer

Figure 20

See Figure 21.

7. Reconnect idler spring to traction drive idler.
8. Reconnect swing gate return spring to frame.

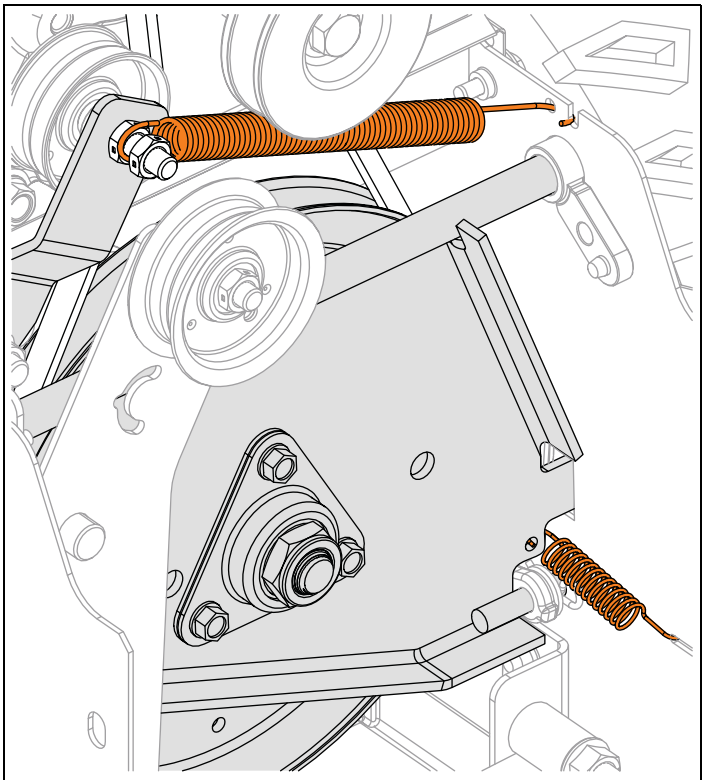


Figure 21

9. Reinstall housing to frame. See *Reinstall Auger Housing* on page 9.
10. Adjust traction drive clutch. Refer to Operator's Manual for adjustment procedure.
11. Reconnect spark plug wire.

IMPORTANT: Check all adjustments after first use.

ATTACHMENT BRAKE REPLACEMENT

Remove Attachment Brake

IMPORTANT: Save all hardware for reinstallation.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Remove auger housing. See *Separate Housing from Frame* on page 7.

See Figure 22.

4. With a flathead screwdriver or similar pry bar, disconnect extension spring from frame.
5. Remove hardware securing brake arm to brake mount bracket and remove brake arm.
6. Remove extension spring from brake arm.

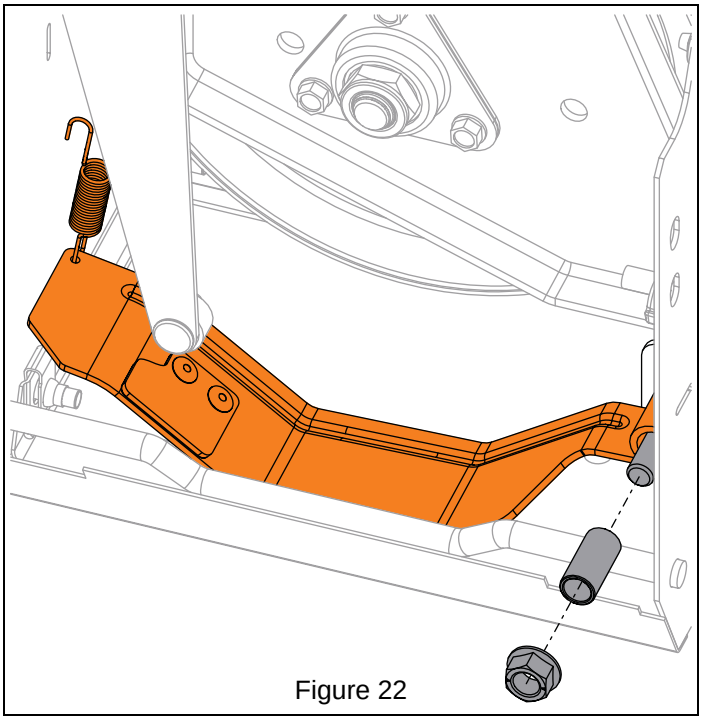


Figure 22

Install Attachment Brake

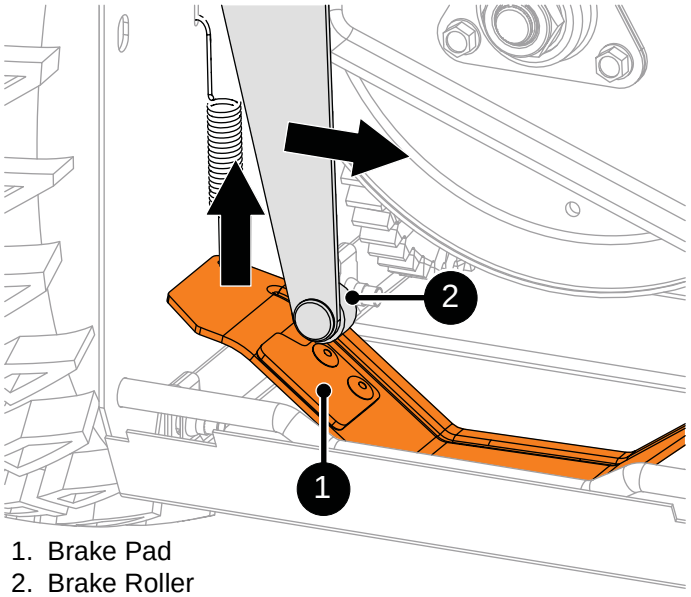
1. Reinstall hex bolt through brake mount bracket.
2. Install extension spring onto brake arm.
3. Reinstall sleeve bushing into attachment brake arm and install brake arm onto hex bolt. Secure with top locking flange nut, but DO NOT overtighten.
4. With a flathead screwdriver or similar pry bar, reconnect extension spring to frame.

See Figures 23 and 24.

5. Engage and disengage attachment clutch to verify that brake roller on attachment idler does not interfere with brake pad.

IMPORTANT: Make sure brake roller does not bind.

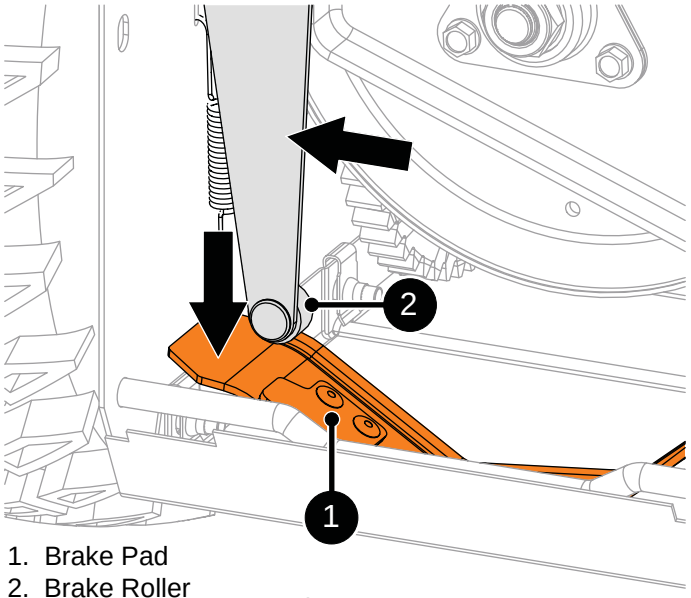
Attachment Clutch Disengaged / Brake Engaged



1. Brake Pad
2. Brake Roller

Figure 23

Attachment Clutch Engaged / Brake Disengaged



1. Brake Pad
2. Brake Roller

Figure 24

6. Reinstall auger housing to frame. See *Reinstall Auger Housing* on page 9.

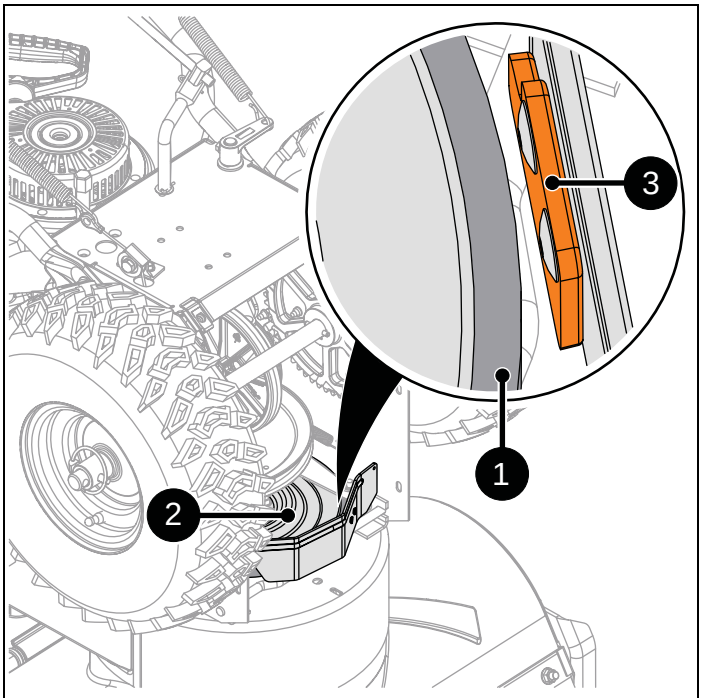
WARNING: AVOID INJURY. Before placing unit in service position, drain fuel from tank and fuel system. See *Draining Fuel System* on page 7. Make sure unit is secure and will not tip.

7. Place unit in service position and remove bottom cover. See *Service Position* on page 7 and *Bottom Cover Removal* on page 11.

See Figure 25.

8. Check attachment brake:
   - When attachment clutch is disengaged, brake must contact attachment belt or pulley, whichever is closest.
   - When attachment clutch is engaged, brake must be more than 1.6 mm (1/16") away from attachment belt or pulley, whichever is closest.

IMPORTANT: If attachment clutch / brake is out of adjustment, refer to Operator's Manual for adjustment procedure.



1. Attachment Belt
2. Attachment Pulley
3. Brake Pad

Figure 25

4. Reinstall bottom cover and secure with six hex screws.
5. Return unit to operating position.
6. Reconnect spark plug wire and fill fuel tank.

IMPORTANT: Check all adjustments after first use.

WARNING: AVOID INJURY. Auger / impeller must stop within 5 seconds when attachment clutch lever is released.

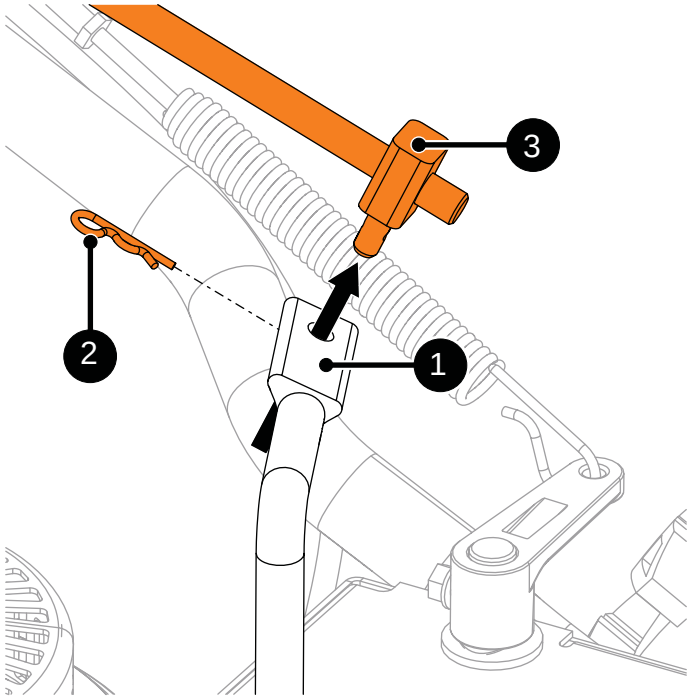
FRICTION DISC REPLACEMENT

Remove Friction Disc

IMPORTANT: Save all hardware for reinstallation.

WARNING: AVOID INJURY. Before placing unit in service position, drain fuel from tank and fuel system. See *Draining Fuel System* on page 7. Make sure unit is secure and will not tip.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Place unit in service position. See *Service Position* on page 7.
4. Remove hairpin from adjustment pivot pin and remove pin from shift arm. See Figure 25.



1. Speed Selector Arm
2. Hairpin
3. Adjustment Pivot Pin

Figure 25

5. Remove lock pin from left wheel and remove wheel from axle. See Figure 26.

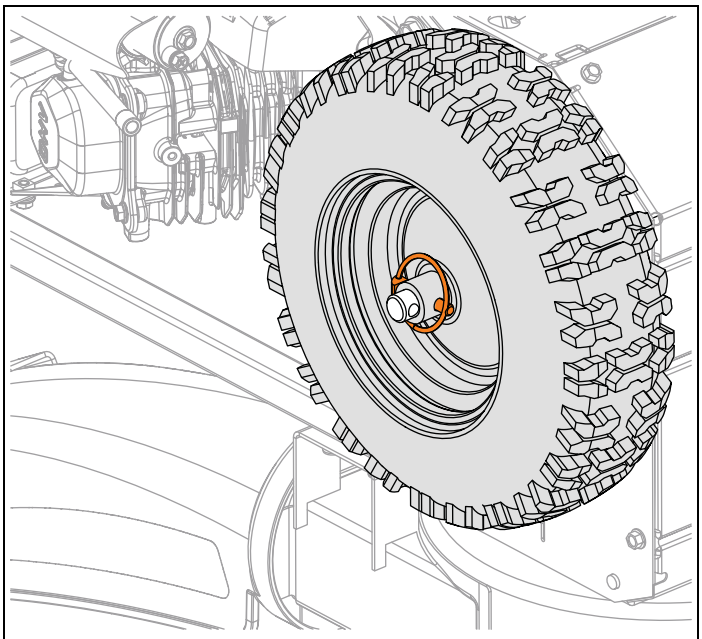


Figure 26

6. Remove bottom cover. See *Bottom Cover Removal* on page 11.
7. Remove hardware retaining left bearing flange to frame and remove bearing flange and bearing. See Figure 27.

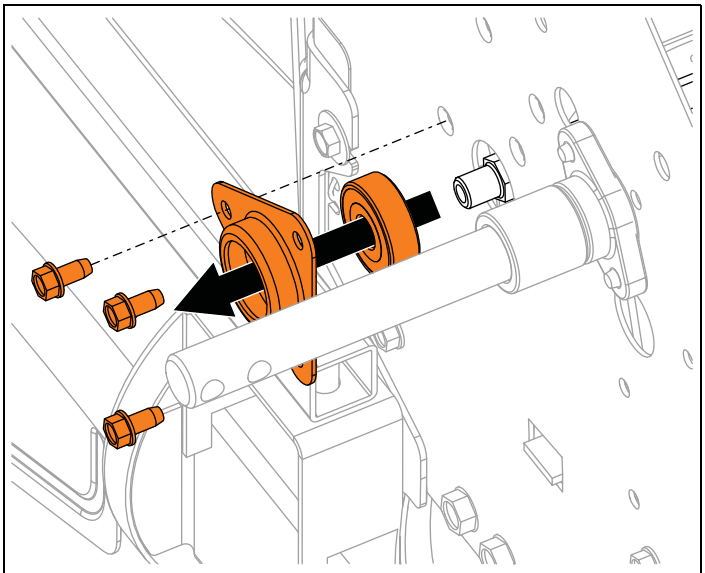


Figure 27

8. Remove spring clips from hex shaft. See Figure 28.

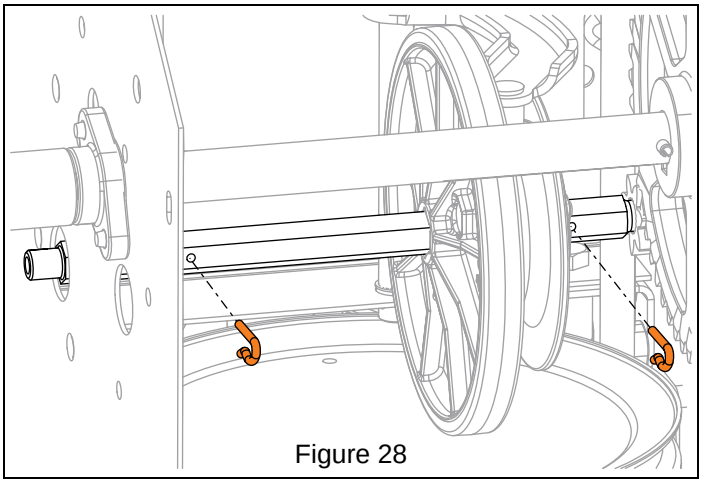


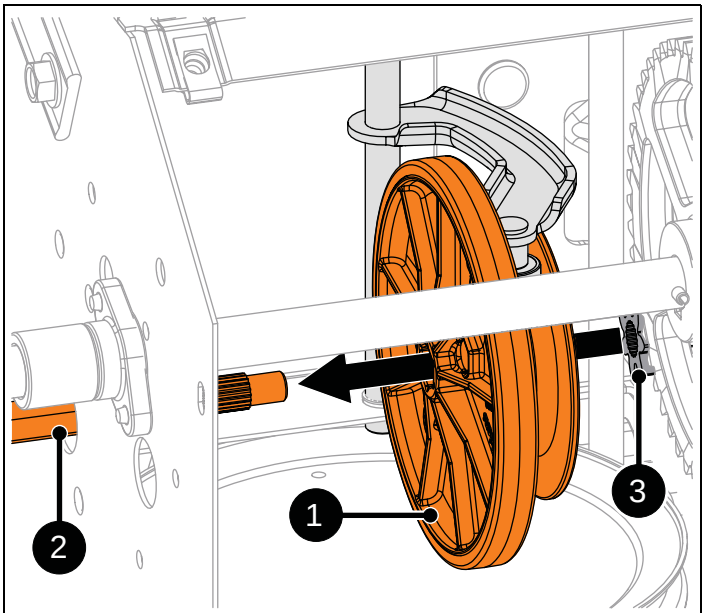
Figure 28

See Figure 29.

9. Remove hex shaft from pinion gear and friction disc assembly.

IMPORTANT: One flat steel washer is positioned between pinion gear and frame.

10. Remove friction disc assembly.



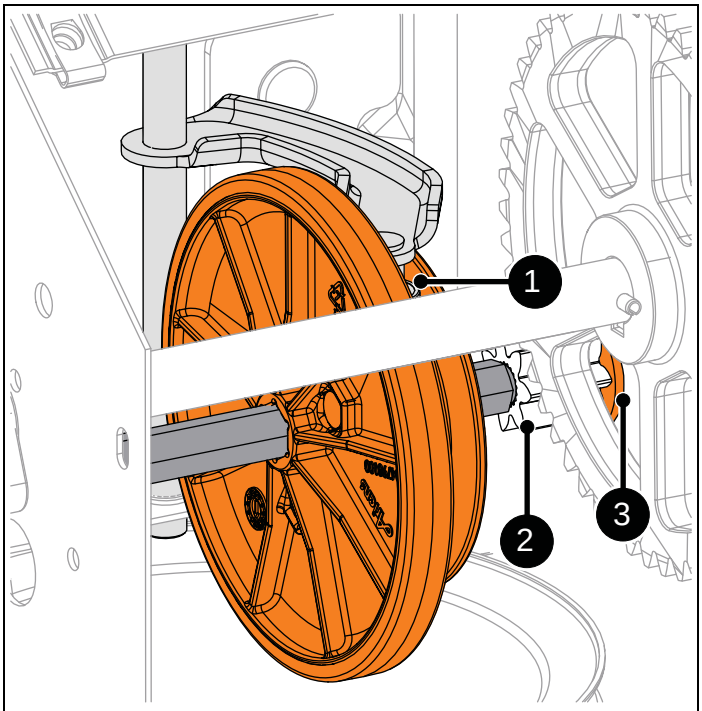
1. Friction Disc Assembly
2. Hex Shaft
3. Pinion Gear

Figure 29

Install Friction Disc

See Figure 30.

1. Install friction disc assembly around shift fork roller bearing and align with hex shaft.
2. Position flat steel washer and pinion gear against frame and align with friction disc center.
3. Reinstall hex shaft through friction disc, pinion gear, flat steel washer and into bearing.



1. Shift Fork Roller Bearing
2. Pinion Gear
3. Flat Steel Washer

Figure 30

See Figure 31.

4. Reinstall spring clips into hex shaft.
5. Reinstall bearing onto hex shaft end.
6. Reinstall bearing flange over bearing and secure to frame with three tapping screws.

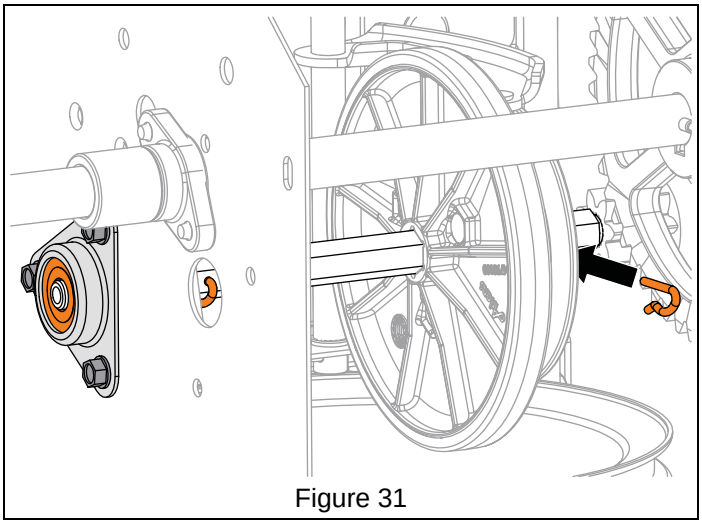


Figure 31

7. Reinstall bottom cover and secure with six hex screws.
8. Reinstall left wheel onto axle and secure with lock pin.

IMPORTANT: At least one lock pin MUST be inserted through wheel hub and axle.

9. Reinstall adjustment pivot pin into shift arm and secure with hairpin. See Figure 25.
10. Return unit to operating position.
11. Reconnect spark plug wire and fill fuel tank.
12. Adjust speed selector lever. Refer to Operator's Manual for adjustment procedure.

IMPORTANT: Check all adjustments after first use.

HEX SHAFT BEARING REPLACEMENT

Remove Bearing

IMPORTANT: Save all hardware for reinstallation.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.

See Figure 32.

3. Remove hardware retaining bearing flange to frame and remove flange.
4. Remove bearing from hex shaft.

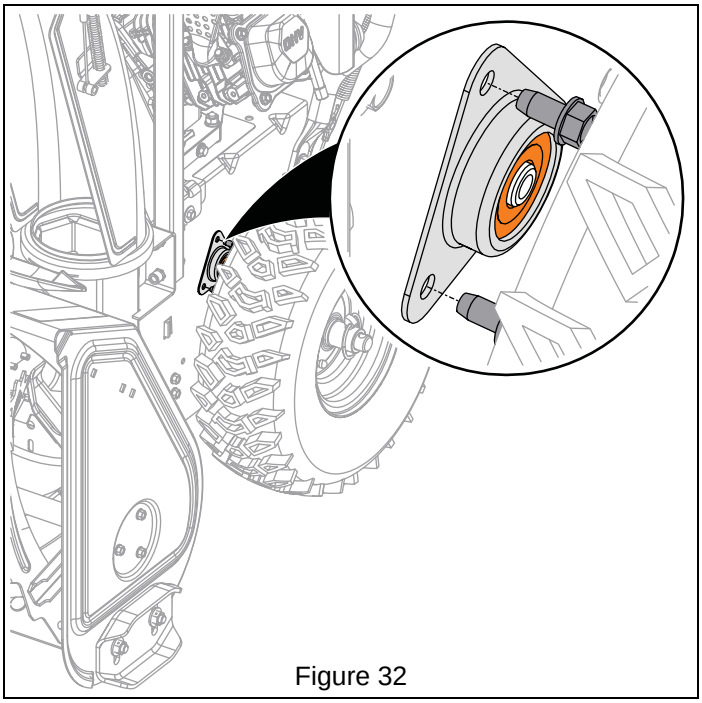


Figure 32

Install Bearing

1. Install bearing onto hex shaft end.
2. Install bearing flange over bearing and secure to frame with three tapping screws.
3. Reconnect spark plug wire.

SWING GATE REPLACEMENT

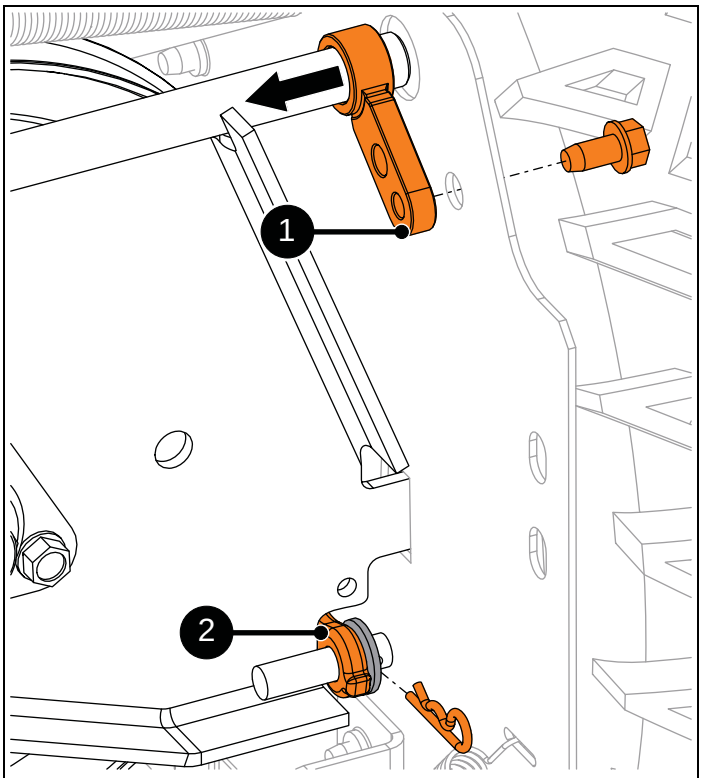
Remove Swing Gate

IMPORTANT: Save all hardware for reinstallation.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Remove auger housing. See *Remove Auger Housing* on page 7.
4. Remove traction drive belt. See *Remove Traction Drive Belt* on page 12.

See Figure 33.

5. Remove hardware retaining traction drive clutch cable to swing gate and remove cable.
6. Remove hardware retaining support bushing and disengage support bushing from frame.
7. Remove swing gate and remove support bushing from swing gate.



1. Support Bushing
2. Traction Drive Clutch Cable

Figure 33

Install Swing Gate

See Figure 34.

1. Install support bushing onto swing gate pivot rod and position swing gate in frame.
2. Align pivot rod with hole in frame and align swing gate tab with stop hole.
3. Secure support bushing to frame with one tapping screw.

NOTICE: Support bushing MUST be correctly seated in and flush with frame.

4. Reinstall traction drive clutch cable onto swing gate and secure with one flat steel washer and hairpin.

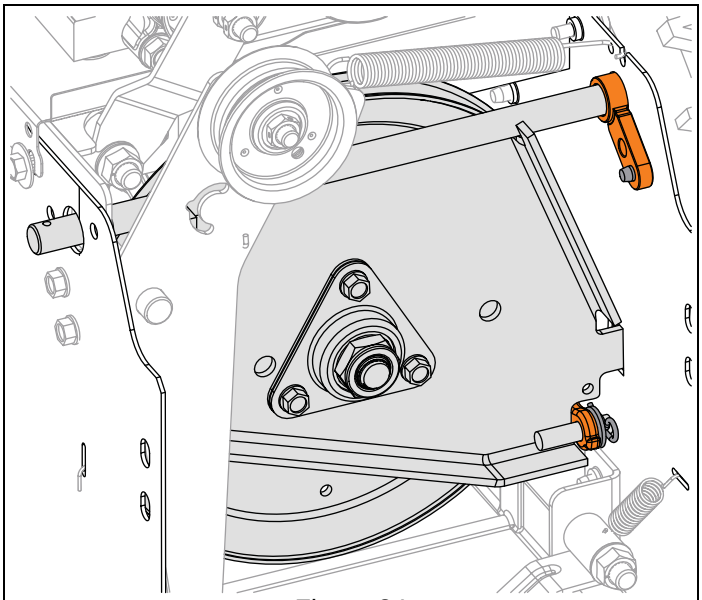


Figure 34

See Figure 35.

5. Install traction drive belt onto traction drive pulley.
6. Install traction drive belt onto traction sheave.

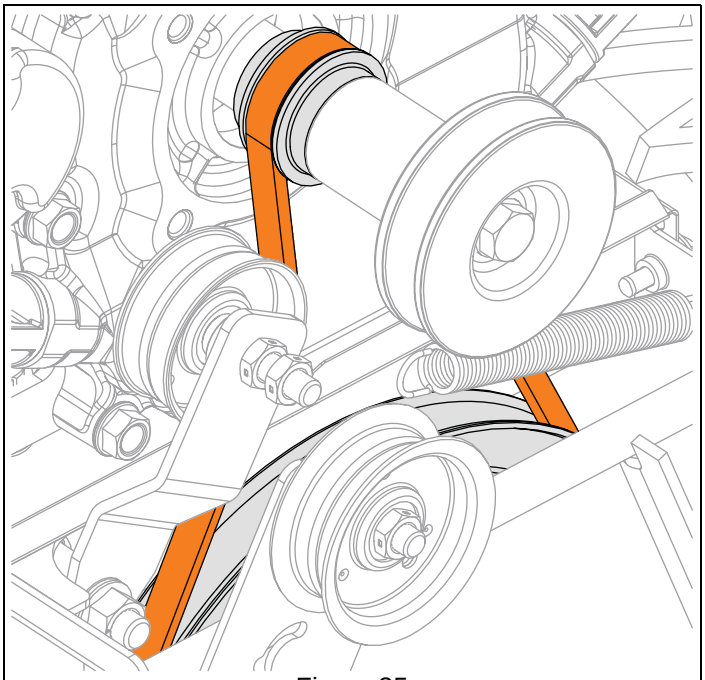


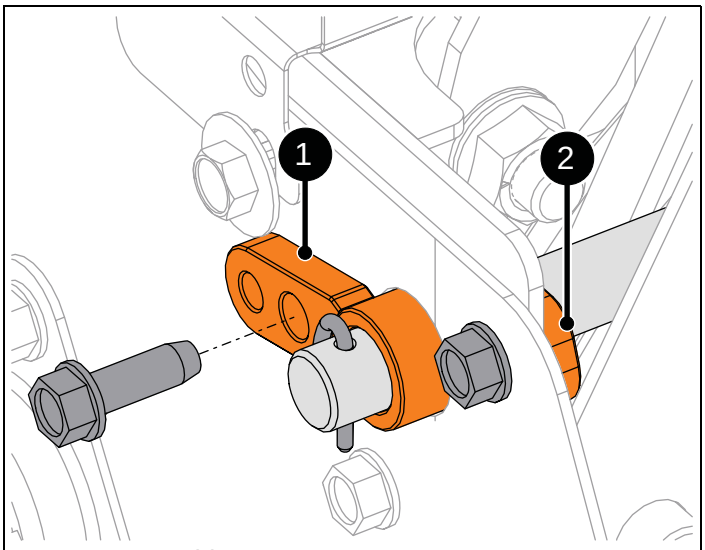
Figure 35

See Figure 36.

7. Reinstall support bushing onto swing gate pivot rod.
8. Reinstall spring clip into pivot rod.

NOTICE: Support bushing MUST be correctly seated in and flush with frame.

9. Reinstall swing gate spacer and align with support bushing. Secure with two tapping screws.



1. Support Bushing
2. Swing Gate Spacer

Figure 36

See Figure 37.

10. Reconnect idler spring to traction drive idler.
11. Reconnect swing gate return spring to frame.

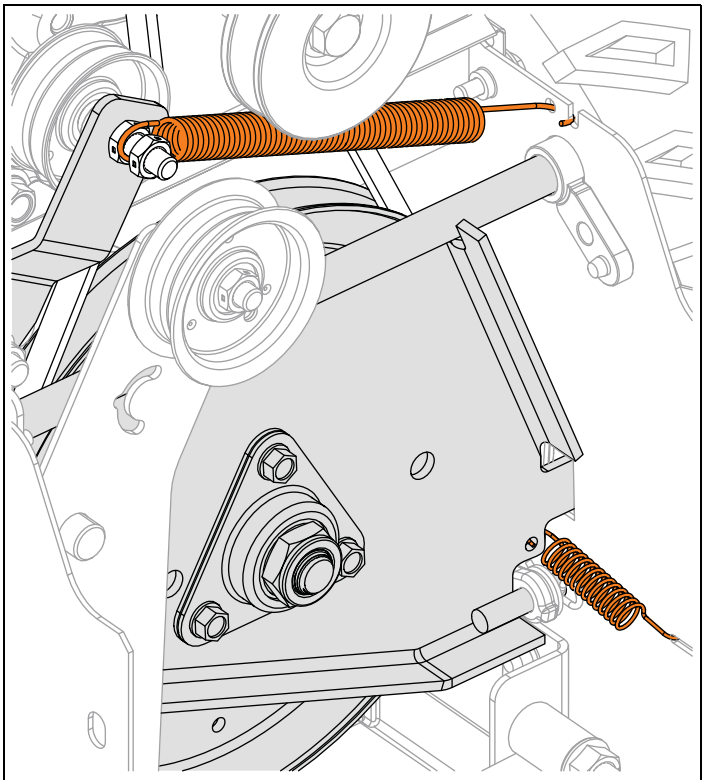


Figure 37

12. Reinstall housing to frame. See *Reinstall Auger Housing* on page 9.
13. Adjust traction drive clutch. Refer to Operator's Manual for adjustment procedure.
14. Reconnect spark plug wire.

IMPORTANT: Check all adjustments after first use.

AUGER REPLACEMENT

Remove Auger

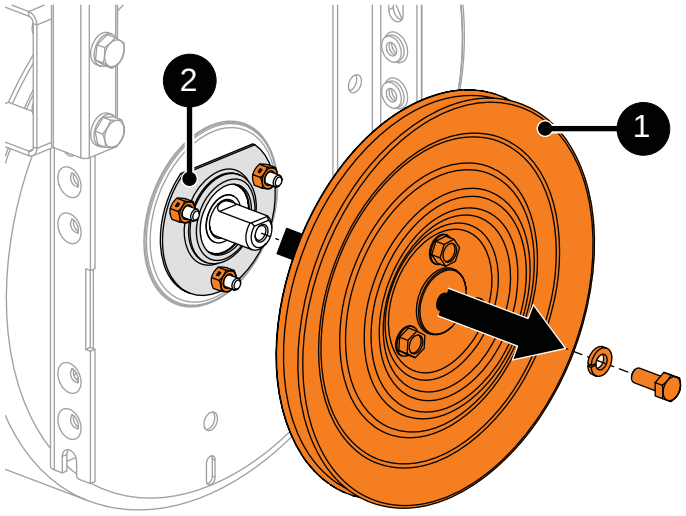
IMPORTANT: Save all hardware for reinstallation.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Remove auger housing. See *Separate Housing from Frame* on page 7.

See Figure 38.

> **CAUTION:** AVOID INJURY. Attachment drive pulley edges are sharp. Wear gloves when handling pulley.

4. Hold attachment drive pulley in place and remove hardware securing pulley to impeller shaft.
5. Remove pulley from impeller shaft.
6. Loosen, but DO NOT remove bearing plate hardware.



1. Attachment Pulley
2. Bearing Plate

Figure 38

7. Remove hardware securing auger support bushings to auger housing. See Figure 39.

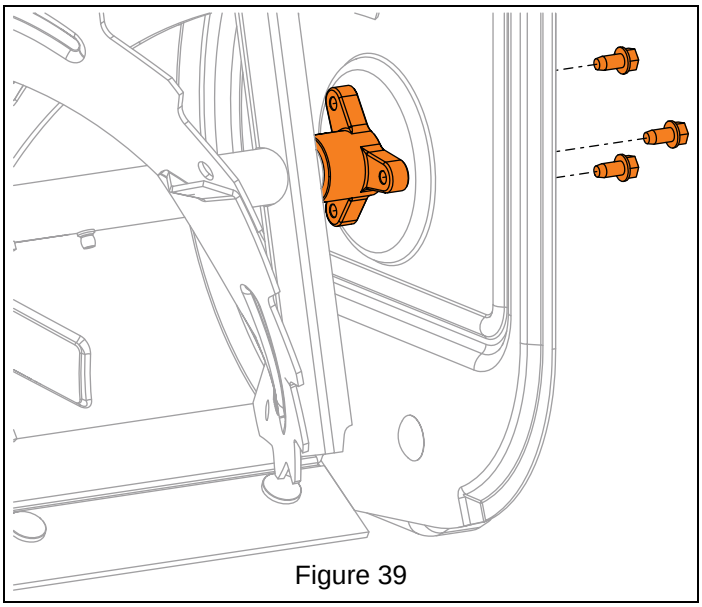


Figure 39

8. Remove auger assembly from housing. See Figure 40.

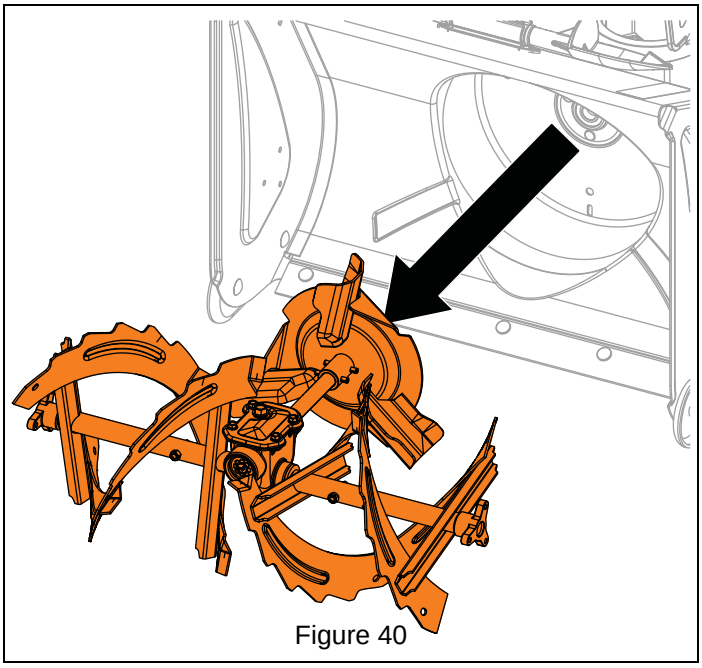


Figure 40

See Figure 41.

9. Remove nylon bushing and auger bushing from shaft end.
10. Remove shear bolt from auger shaft.
11. Remove auger from auger shaft. Use of penetrating oil or heat may be necessary to remove auger.

IMPORTANT: If rust is present on auger shaft, remove with sand paper and wipe clean with oil.

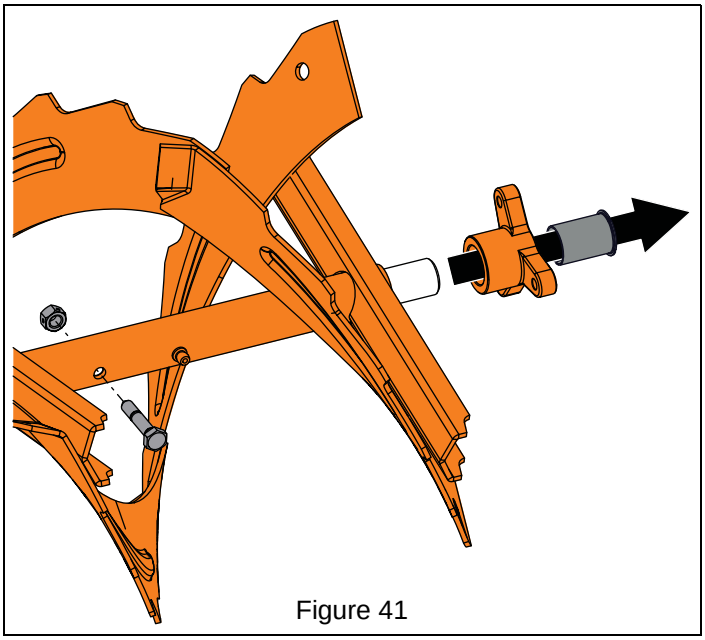


Figure 41

Install Auger

See Figure 42.

1. Install auger onto auger shaft with auger kickers positioned toward gearcase.

IMPORTANT: Make sure auger helix direction matches the original auger orientation.

2. Apply grease to grease zerk and spin auger by hand to spread grease along auger shaft. Repeat.
3. Align holes in auger with holes in auger shaft and reinstall shear bolt. Torque bolt to 7.9 N•m – 16.5 N•m (5.8 lb-ft – 12.2 lb-ft). If torque wrench is unavailable, tighten until bolts no longer spin freely. DO NOT overtighten.

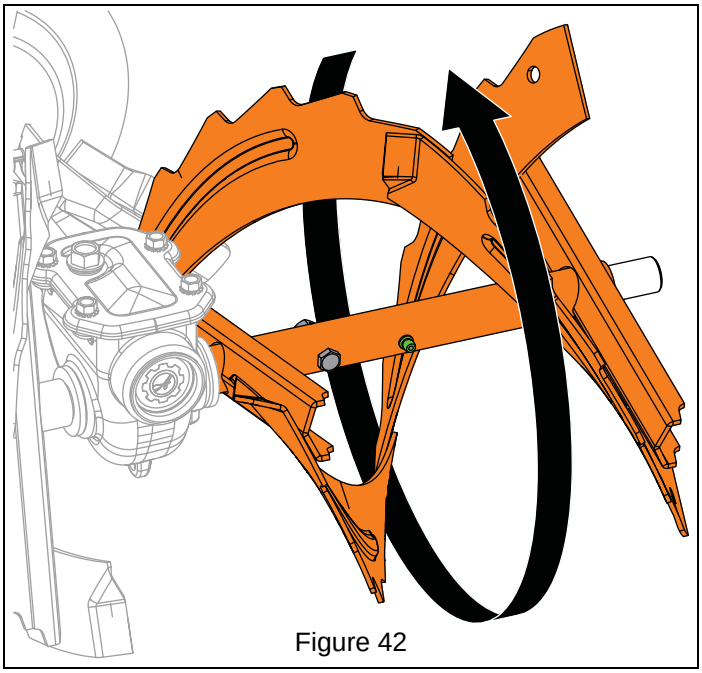


Figure 42

4. Reinstall nylon bushing into auger bushing and install onto auger shaft end.
5. Reinstall auger assembly into housing so impeller shaft is seated in ball bearing at housing rear. See Figure 43.

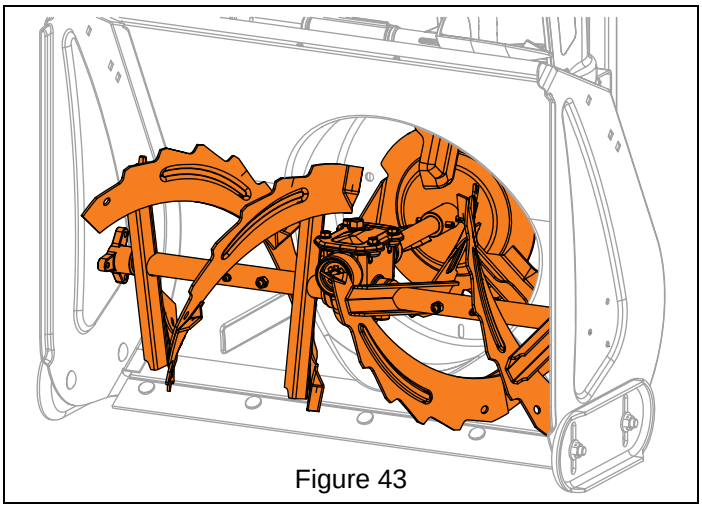


Figure 43

See Figure 44.

6. Align support bushings with auger housing and partially thread all six tapping screws.
7. Tighten tapping screws.

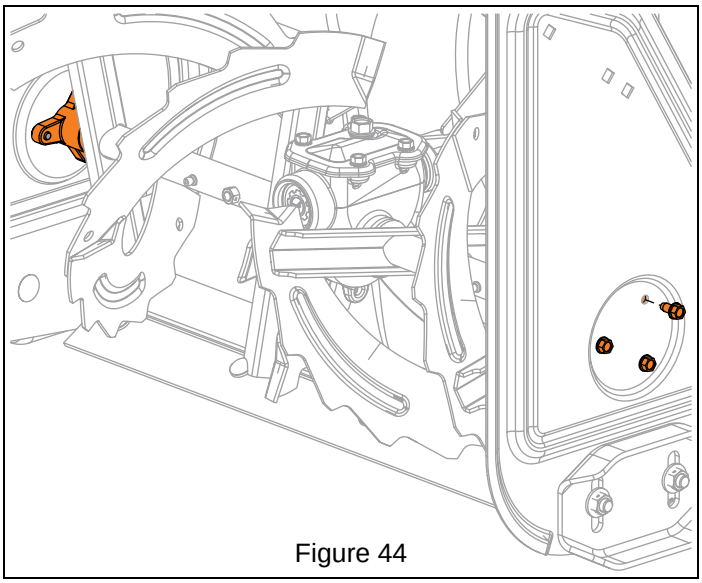


Figure 44

See Figure 45.

8. Tighten bearing plate hardware.
9. Apply a thin layer of anti-seize to impeller shaft end.
10. Reinstall attachment drive pulley onto impeller shaft and secure with locking washer and hex bolt. Torque to 8 N•m – 16.5 N•m (5.8 lb-ft – 12.2 lb-ft).

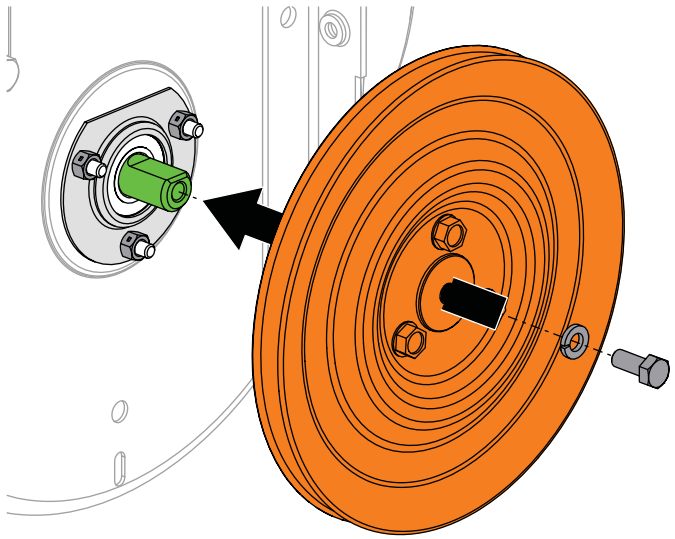


Figure 45

11. Reinstall housing to frame. See *Reinstall Auger Housing* on page 9.
12. Reconnect spark plug wire.

IMPELLER REPLACEMENT

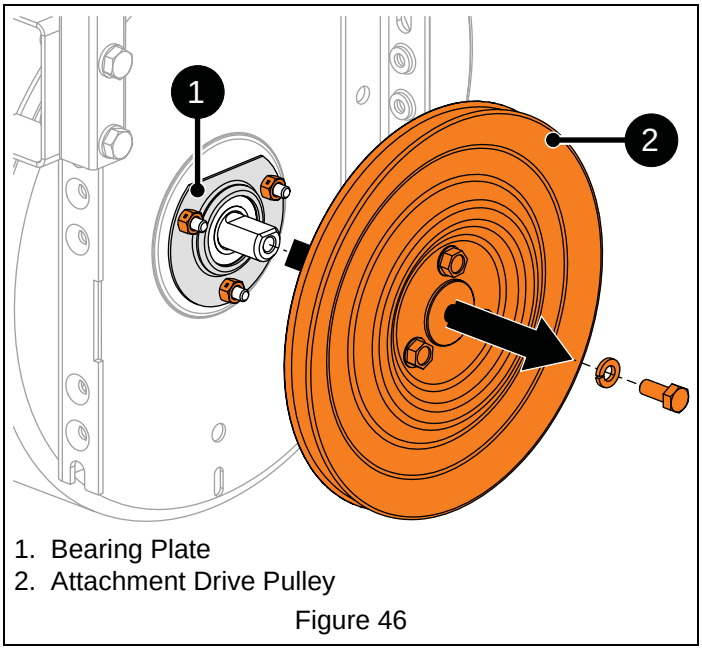
Remove Impeller

IMPORTANT: Save all hardware for reinstallation.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Remove auger housing. See *Separate Housing from Frame* on page 7.

See Figure 46.

4. Remove hardware retaining attachment drive pulley to impeller shaft and remove pulley.
5. Loosen, but DO NOT remove bearing plate hardware.



1. Bearing Plate
2. Attachment Drive Pulley

Figure 46

6. Remove hardware securing auger support bushings to auger housing. See Figure 39.
7. Remove auger assembly from housing. See Figure 40.

See Figure 47.

8. Remove roll pins retaining impeller and remove impeller.

IMPORTANT: Use of penetrating oil or heat may be necessary to remove impeller.

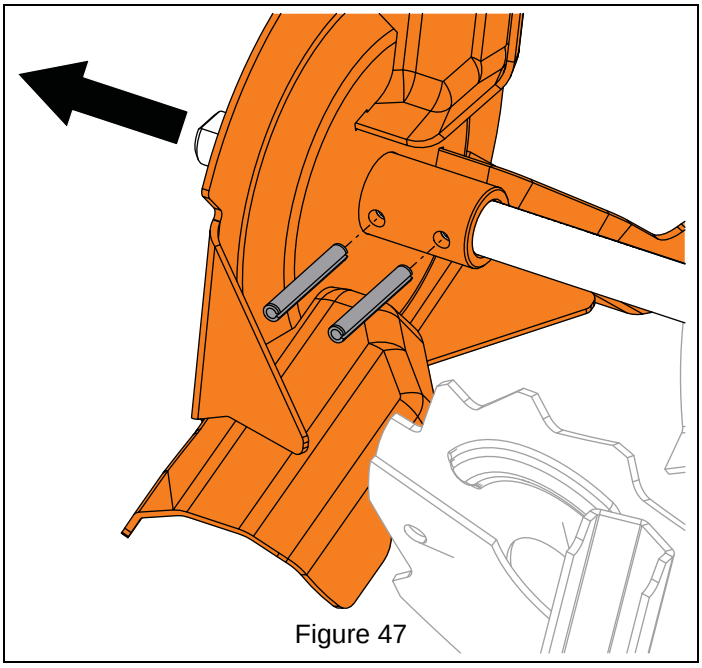


Figure 47

Install Impeller

See Figure 48.

1. Apply a thin layer of anti-seize to impeller shaft.
2. Install impeller onto impeller shaft.
3. Align impeller with holes in impeller shaft and reinstall roll pins.

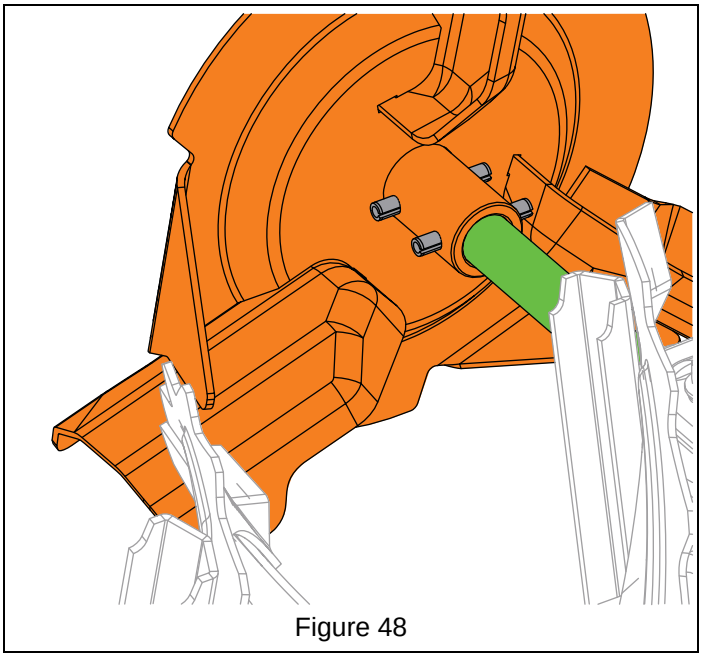


Figure 48

4. Reinstall auger assembly into housing so impeller shaft is seated in ball bearing at housing rear. See Figure 43.
5. Secure support bushings to auger housing with six tapping screws. See Figure 44.

See Figure 49.

6. Tighten bearing plate hardware.
7. Apply a thin layer of anti-seize to impeller shaft end.

IMPORTANT: Reinstall attachment drive pulley onto impeller shaft and secure with locking washer and hex bolt. Torque to 7.9 N•m – 16.5 N•m (5.8 lb-ft – 12.2 lb-ft).

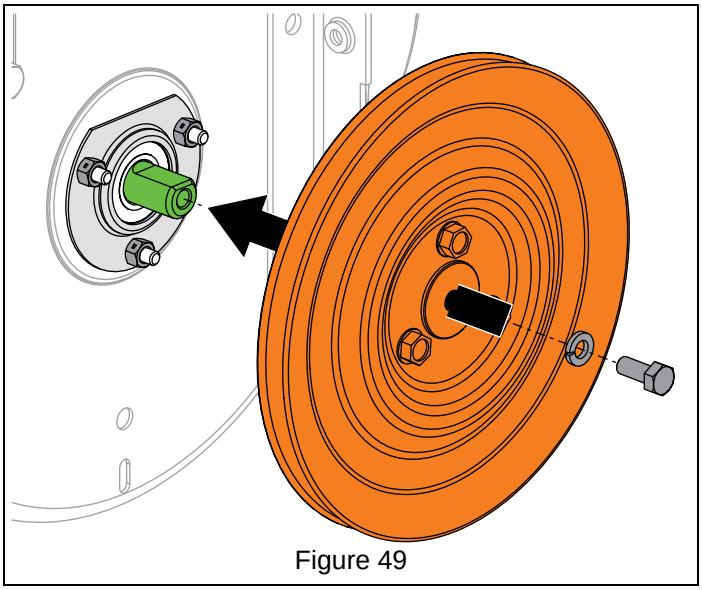


Figure 49

8. Reinstall auger housing to frame. See *Reinstall Auger Housing* on page 9.
9. Reconnect spark plug wire.

AUGER GEARCASE REPLACEMENT

Remove Gearcase Assembly

IMPORTANT: Save all hardware for reinstallation.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Remove augers. See *Remove Auger* on page 21.

See Figure 50.

4. Remove flat steel washers from auger shaft.
5. Remove roll pins retaining impeller and remove impeller.

IMPORTANT: Use of penetrating oil or heat may be necessary to remove impeller.

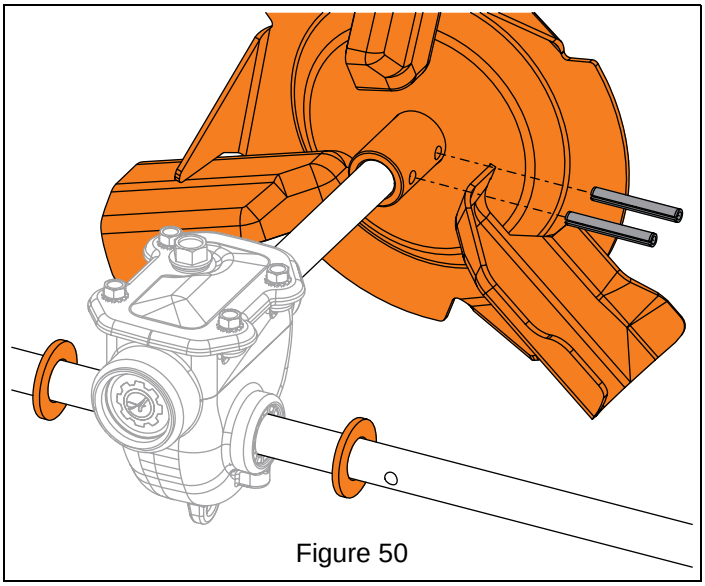


Figure 50

Install Gearcase Assembly

1. Apply a thin layer of anti-seize to impeller shaft.
2. Install impeller onto impeller shaft.
3. Align holes in impeller with holes in impeller shaft and reinstall roll pins.
4. Reinstall one flat steel washer onto each auger shaft end.
5. Reinstall augers onto auger shaft. See *Install Auger* on page 22.
6. Reconnect spark plug wire.

ENGINE REPLACEMENT

Remove Engine

IMPORTANT: Save all hardware for reinstallation.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Drain gasoline from fuel system and tank. See *Draining Fuel System* on page 7.
4. Remove belt cover. See Figure 5.
5. Remove hardware securing belt finger to engine and remove belt finger. See Figure 6.
6. Remove idler spring from traction drive idler. See Figure 51.

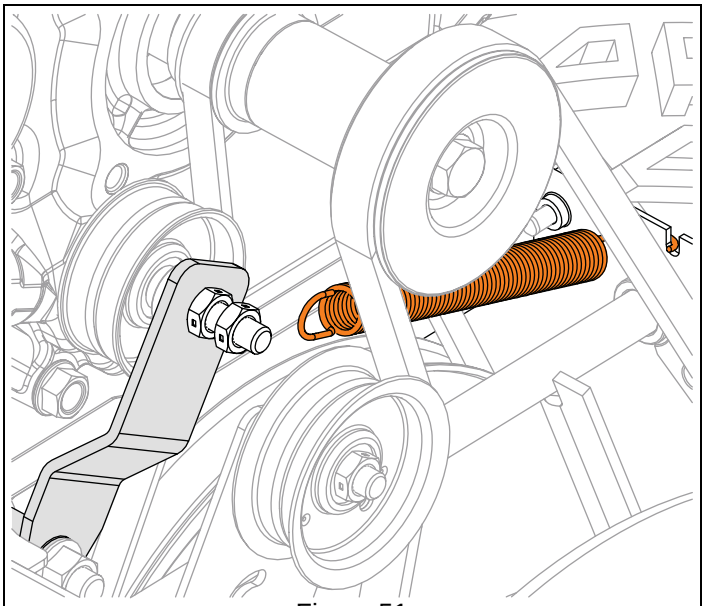


Figure 51

7. Remove hardware securing engine mount to frame. See Figure 52.

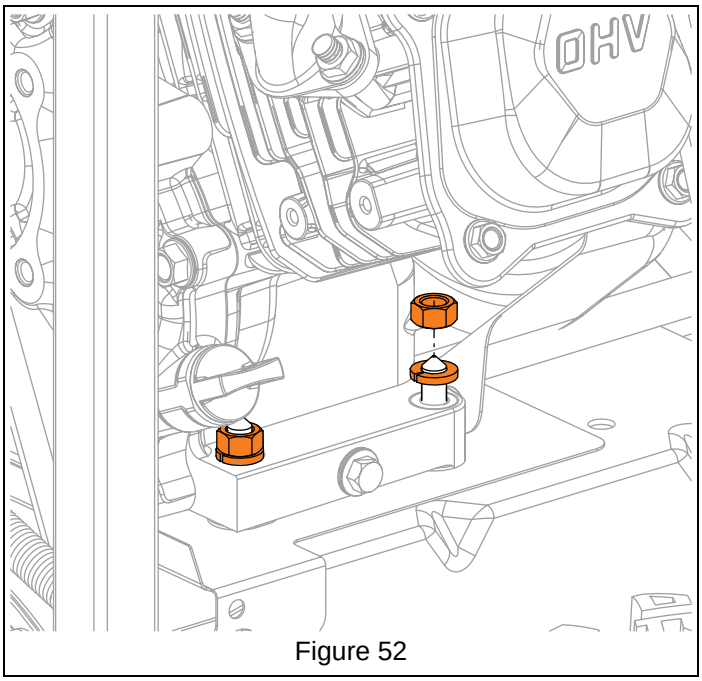


Figure 52

WARNING: AVOID INJURY. Engine is heavy. NEVER lift engine without a suitable lifting device or adult assistant.

8. Using a suitable lifting device or help from an adult assistant, lift engine and tilt forward slightly to relieve tension from belts. Remove belts from engine sheaves. See Figure 53.

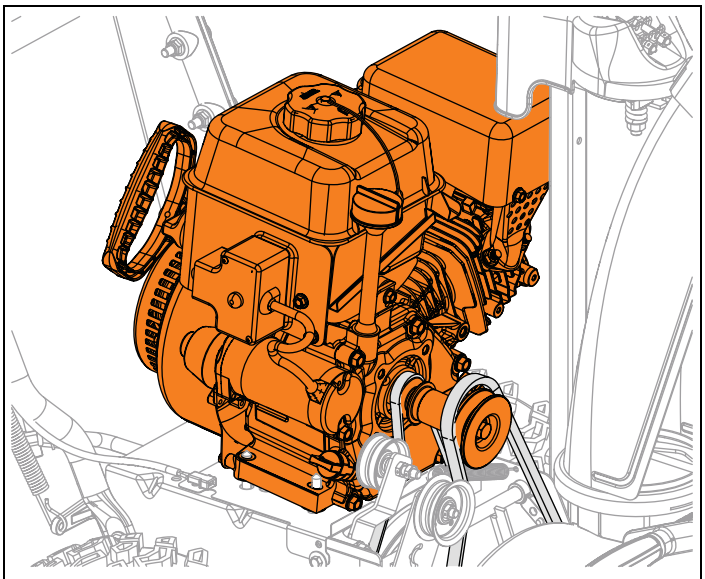


Figure 53

9. Lower engine onto a flat, level surface. See Figure 54.
10. Remove hardware securing attachment sheave to crankshaft.
11. Remove attachment sheave and traction sheave halves from crankshaft.

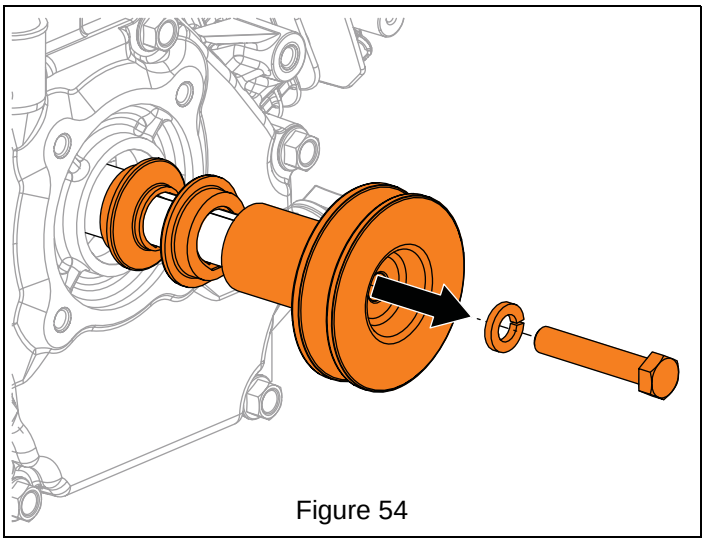


Figure 54

Install Engine

WARNING: AVOID INJURY. Engine is heavy. NEVER lift engine without a suitable lifting device or adult assistant.

1. Using a suitable lifting device or help from an adult assistant, lift engine and lower onto bolts in frame.
2. Position belts over crankshaft.
3. Secure engine mount to frame with four lock washers and four hex nuts. Torque to 11.9 N•m – 17.9 N•m (8.8 lb-ft – 13.2 lb-ft).

See Figure 55.

4. Reinstall traction sheave halves onto crankshaft.

IMPORTANT: Traction sheave halves must be reinstalled in the orientation shown in Figure 55.

5. Reinstall traction drive belt onto traction sheave.
6. Reinstall attachment sheave onto crankshaft.

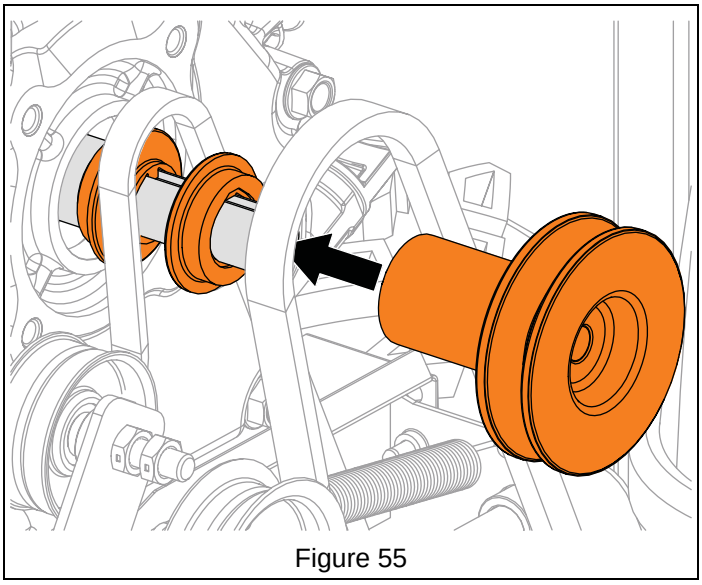


Figure 55

See Figure 56.

7. Secure attachment sheave to crankshaft with one locking washer and hex bolt.
8. Reinstall idler spring to traction drive idler.

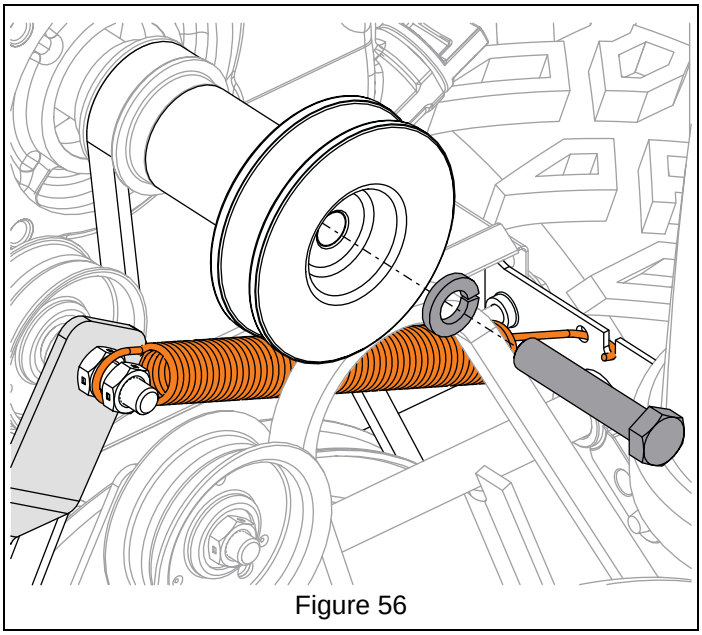


Figure 56

WARNING: AVOID INJURY. Attachment sheave edges are sharp. Wear thick gloves to install belt onto attachment sheave.

See Figure 57.

9. Reinstall attachment drive belt onto attachment sheave.

To assist belt installation, slowly pull recoil starter handle while gently guiding belt into attachment sheave.

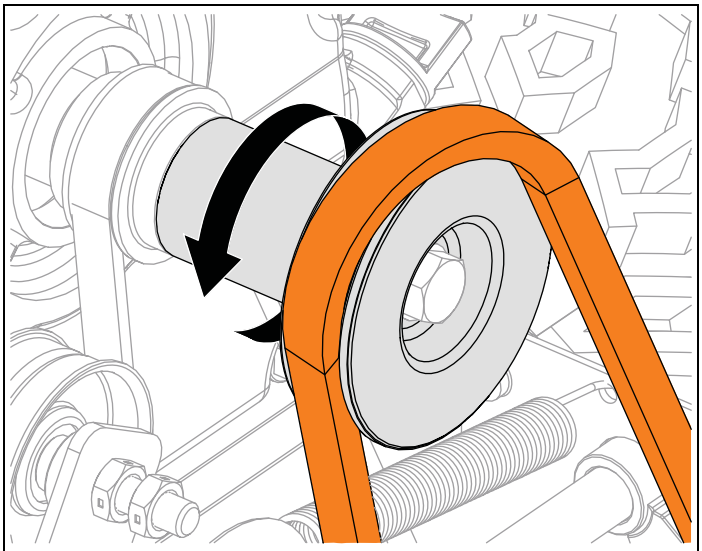


Figure 57

10. Reinstall belt finger and secure with two flat steel washers, two locking washers and two hex bolts as shown in Figure 6.
11. Check belt finger clearance:
    - Engage attachment clutch lever and make sure belt finger located opposite belt idler is less than 3.2 mm (1/8") from belt, but not touching the belt.
    - If needed, adjust clearance by loosening hex bolts, repositioning belt finger, and tightening bolts.
12. Reinstall belt cover and tighten hardware.
13. Reconnect spark plug wire and fill fuel tank.

TRACTION DRIVE CLUTCH CABLE REPLACEMENT

Remove Cable

IMPORTANT: Save all hardware for reinstallation.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Loosen traction drive clutch cable. See Figure 15.
4. Under dash panel, remove hardware retaining upper traction clutch cable to clutch lever and remove cable. See Figure 58.

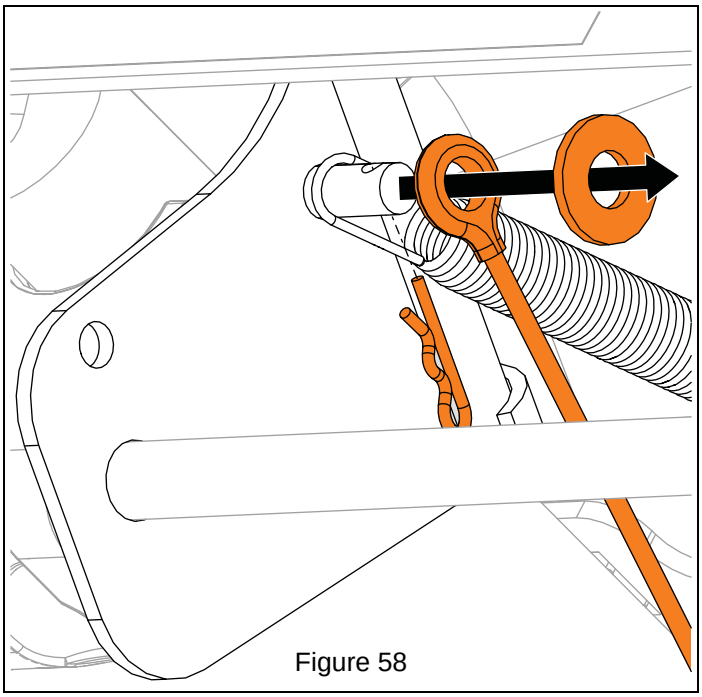


Figure 58

See Figure 59.

5. Disconnect upper traction drive clutch cable from lower traction drive clutch cable.
6. Loosen, but DO NOT remove shoulder bolt retaining cable pulley to cable pulley bracket.

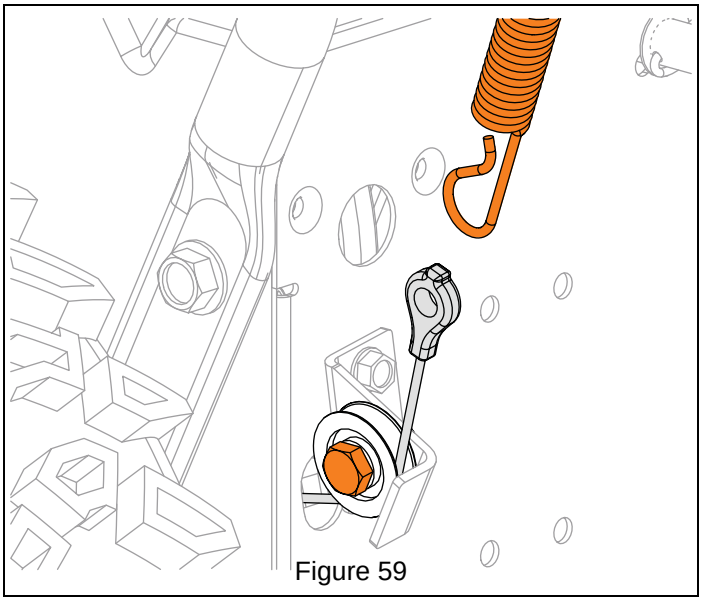


Figure 59

WARNING: AVOID INJURY. Before placing unit in service position, drain fuel from tank and fuel system. See *Draining Fuel System* on page 7. Make sure unit is secure and will not tip.

7. Rotate unit to service position and remove bottom cover. See *Service Position* on page 7 and *Bottom Cover Removal* on page 11.

See Figure 60.

8. Remove hardware retaining cable end to swing gate and remove cable.

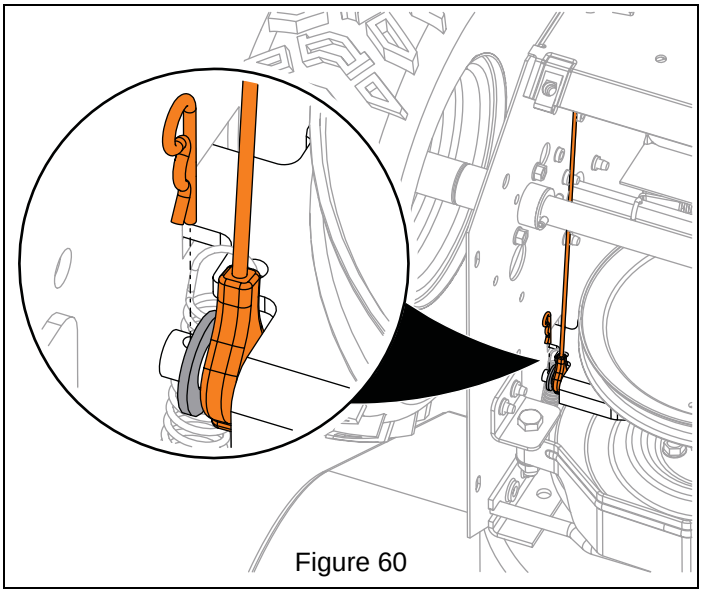


Figure 60

Install Traction Drive Cable

1. Install cable eyelet onto swing gate and secure with flat steel washer and hairpin.

IMPORTANT: Hairpin must be reinstalled in the orientation shown in Figure 60 so it does not interfere with swing gate return spring.

See Figure 61.

2. Route cable end through hole in frame rear.
3. Align cable in cable pulley and tighten shoulder bolt.
4. Connect upper traction drive clutch cable to lower cable.

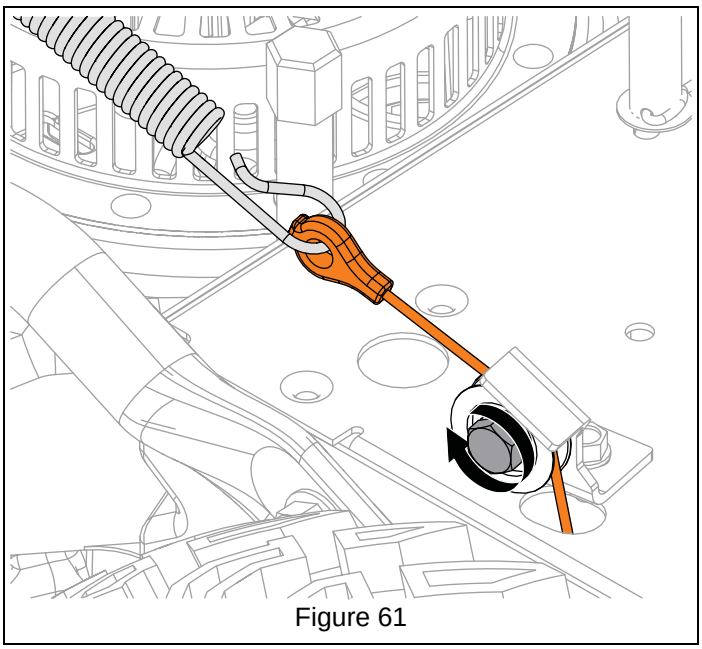


Figure 61

5. Reinstall upper traction drive clutch cable to traction clutch lever. Secure with one flat steel washer and hairpin. See Figure 58.
6. Reinstall bottom cover and secure with six hex screws.
7. Return unit to operating position.
8. Reconnect spark plug wire and fill fuel tank.
9. Adjust traction drive clutch. Refer to Operator's Manual for adjustment procedure.

IMPORTANT: Check all adjustments after first use.

AXLE BUSHING REPLACEMENT

Remove Axle Bushing

IMPORTANT: Save all hardware for reinstallation.

WARNING: AVOID INJURY. Before placing unit in service position, drain fuel from tank and fuel system. See *Draining Fuel System* on page 7. Make sure unit is secure and will not tip.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Place unit in service position and remove bottom cover. See *Service Position* on page 7 and *Bottom Cover Removal* on page 11.
4. Remove wheel from side of unit receiving a replacement bushing.
5. Place speed selector lever in the fastest forward position.

See Figure 62.

6. Remove sleeve bushing from axle.
7. Remove hardware securing axle bushing to frame and remove bushing.

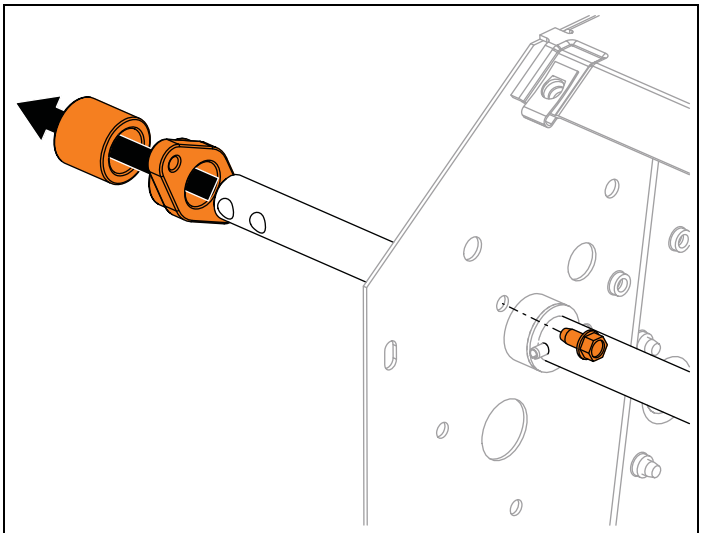


Figure 62

IMPORTANT: If replacing bushing on right side of frame, remove roll pin from left side of axle and move axle and spur gear left to access hardware. See Figure 63.

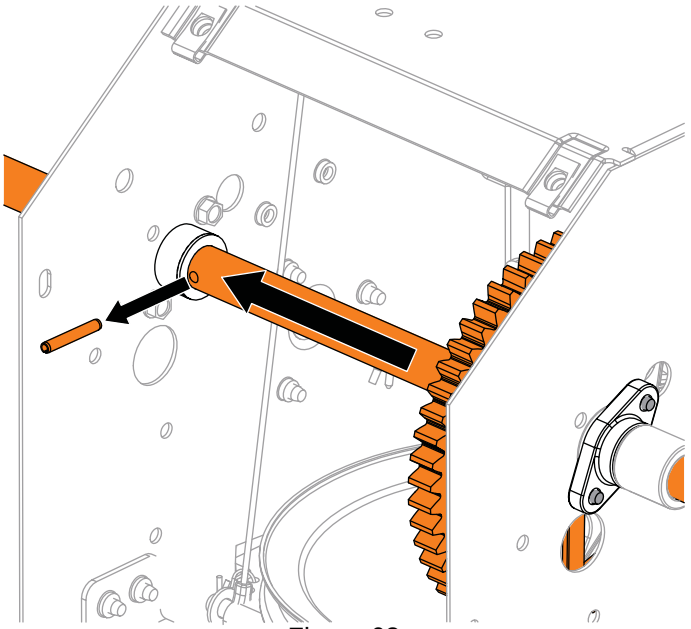
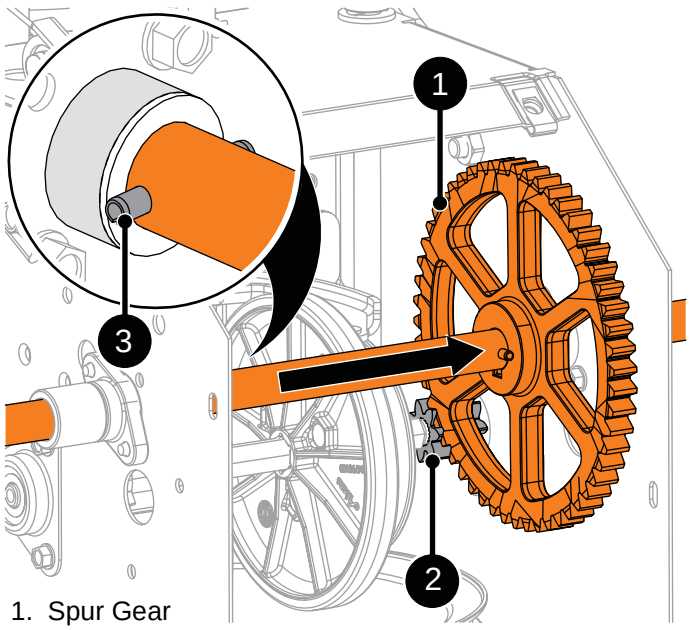


Figure 63

Install Axle Bushing

1. Pre-tap new axle bushings with original tapping screws.
2. Install axle bushing onto axle and secure to frame with original tapping screws from inside frame.

IMPORTANT: If reinstalling right axle bushing, align spur gear with pinion gear, position axle as far to the right as possible and reinstall roll pin into left side of axle. Position sleeve bushing and flat steel washer against frame before reinstalling roll pin. See Figure 64.



1. Spur Gear
2. Pinion Gear
3. Roll Pin

Figure 64

3. Reinstall sleeve bushing onto axle.
4. Reinstall bottom cover and secure with six hex screws.
5. Reinstall wheels and secure with lock pins.

IMPORTANT: At least one lock pin MUST be inserted through wheel hub and axle.

6. Return unit to operating position.
7. Reconnect spark plug wire and fill fuel tank.

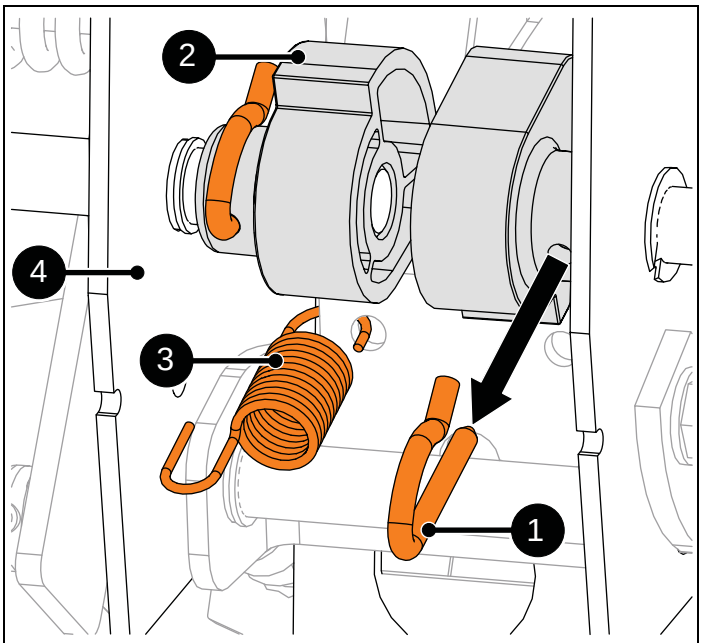
DUAL-HANDLE INTERLOCK CAM REPLACEMENT

Remove Interlock Cam

IMPORTANT: Save all hardware for reinstallation.

See Figure 65.

1. Disconnect spring from interlock bracket.
2. Remove spring clips securing interlock cams to camshafts.



1. Spring Clip
2. Interlock Cam
3. Spring
4. Interlock Bracket

Figure 65

IMPORTANT: Interlock cams will fall from camshafts in next step.

3. Remove hardware retaining camshafts to clutch levers and remove camshafts. See Figure 66.

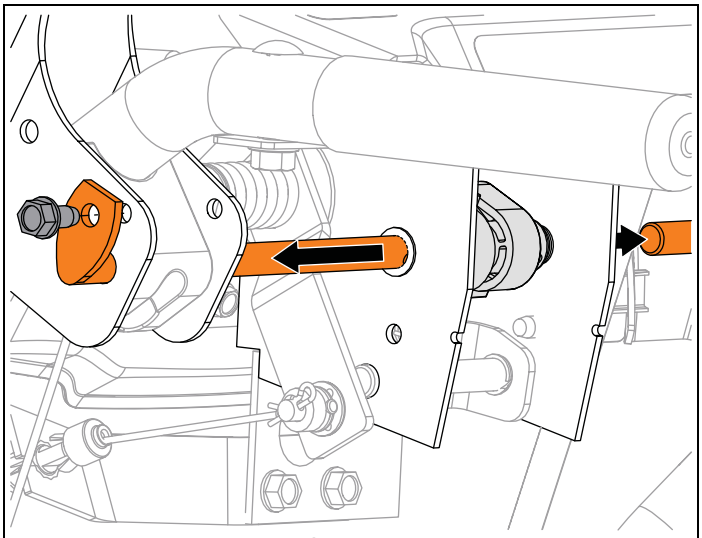


Figure 66

Install Interlock Cams

IMPORTANT: Make sure nylon bushings are seated in interlock bracket. See Figure 67.

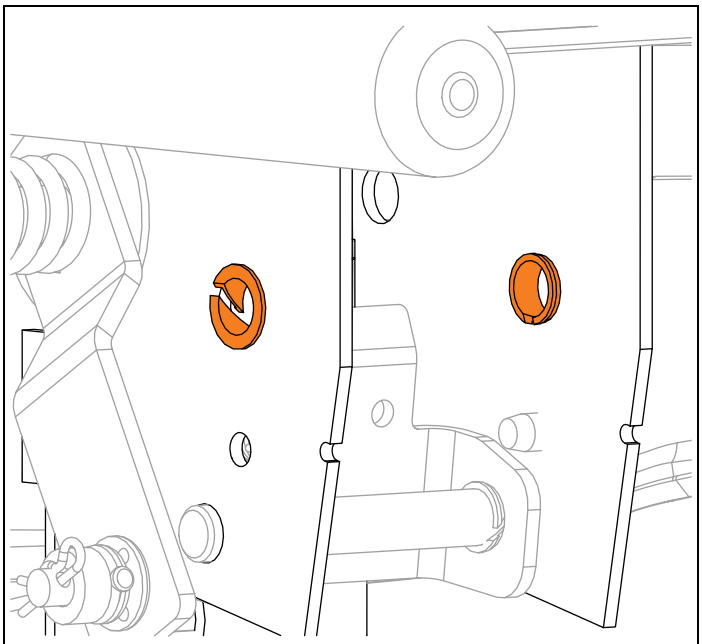


Figure 67

1. Reinstall right camshaft through interlock bracket and secure to clutch lever with one tapping screw.
2. Install interlock cam onto camshaft so flat edge is positioned downward and secure with spring clip. See Figure 68.

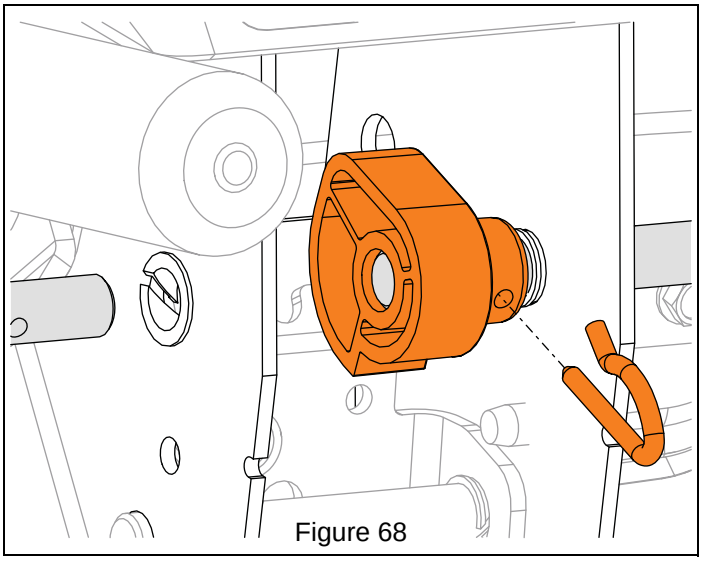


Figure 68

3. Position left interlock cam inside interlock bracket and align with left camshaft.
4. Insert camshaft through cam.
5. Secure camshaft to clutch lever with one tapping screw.

See Figure 69.

6. Rotate cam so flat edge is positioned upward and secure with spring clip.
7. Reconnect spring to interlock bracket.

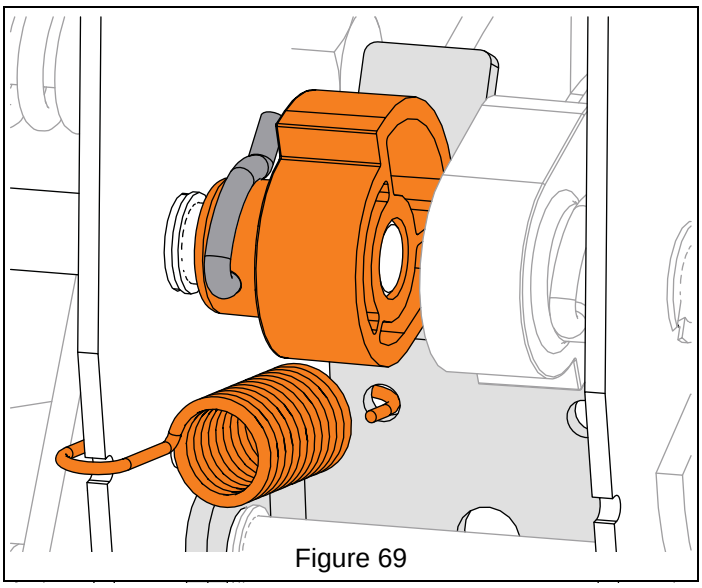


Figure 69

CHUTE GEAR REPLACEMENT

Remove Pinion Gear

IMPORTANT: Save all hardware for reinstallation unless specified otherwise.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.

See Figure 70.

3. Remove hardware retaining chute gear cover to chute pedestal and remove cover.
4. Remove spring clip from chute rotation rod and remove rod from chute gears.

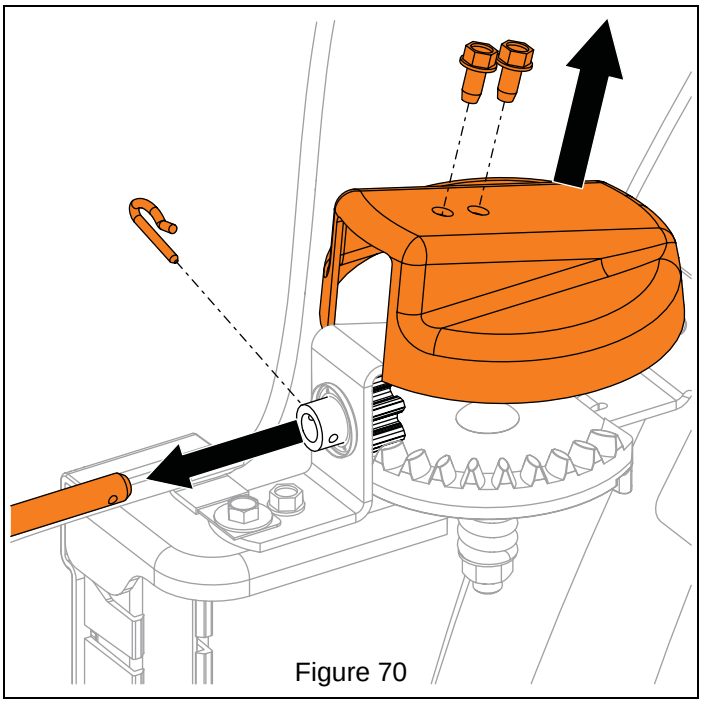


Figure 70

IMPORTANT: Support discharge chute so it remains upright.

See Figure 71.

5. *Models 920402, 920314:* Remove chute deflector cable from J-clamp.
6. Remove hardware securing pinion gear bracket to chute pedestal and remove bracket.

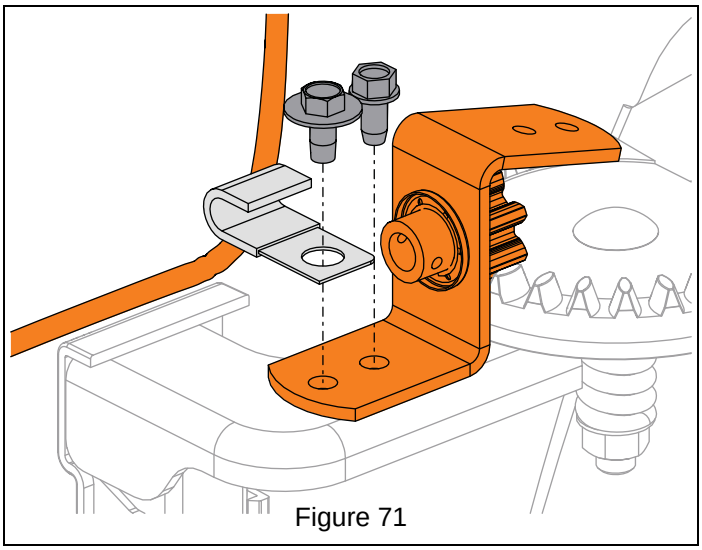
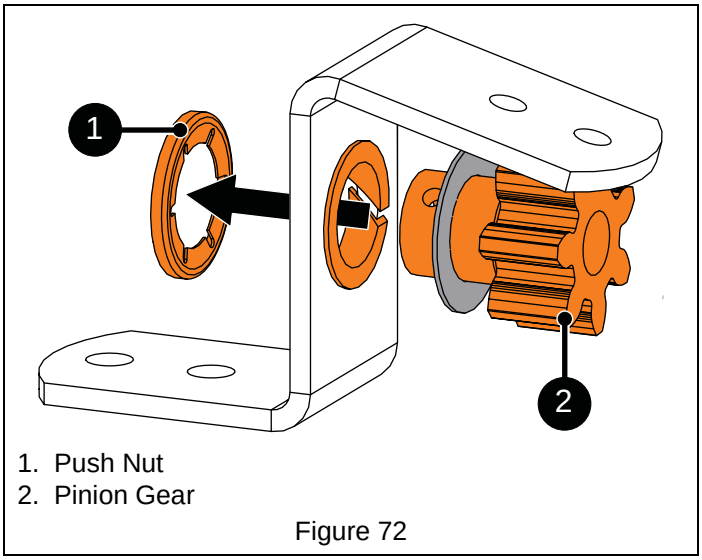


Figure 71

See Figure 72.

7. Remove push nut from pinion gear and discard.
8. Remove pinion gear from pinion gear bracket and remove flat steel washer from pinion gear.



1. Push Nut
2. Pinion Gear

Figure 72

Install Pinion Gear

1. Install flat steel washer onto pinion gear.
2. Insert pinion gear through pinion gear bracket and secure with new push nut.
3. Reinstall pinion gear bracket to chute pedestal and secure with two tapping screws.
4. Reinstall chute rotation rod and secure with spring clip.
5. *Models 920402, 920314:* Reinstall chute deflector cable into J-clamp. Bend J-clamp slightly to retain cable.
6. Reinstall chute gear cover and secure with two tapping screws.
7. Reconnect spark plug wire.

Remove Chute Rotation Gear

IMPORTANT: Save all hardware for reinstallation.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.

See Figure 73.

3. Remove hardware retaining chute gear cover to chute pedestal and remove cover.
4. Remove spring clip from chute rotation rod and remove rod from chute gears.

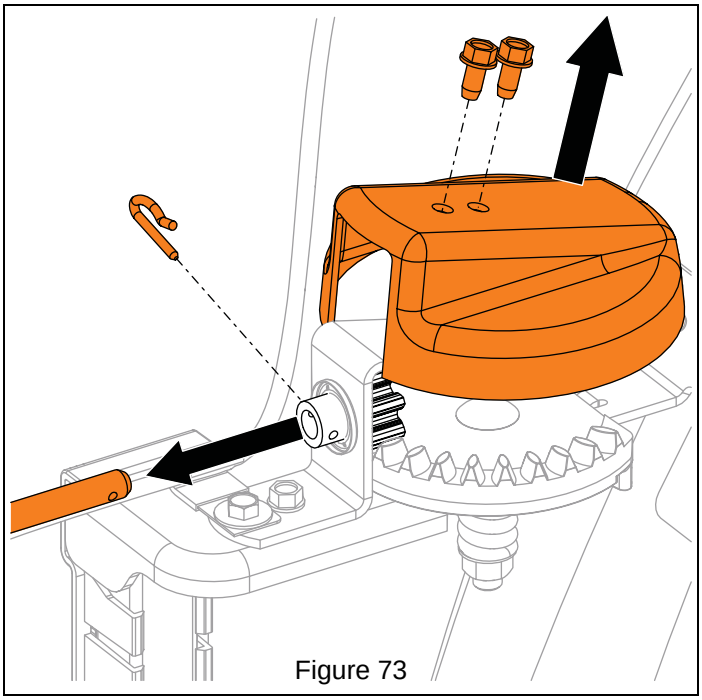


Figure 73

IMPORTANT: Support discharge chute so it remains upright.

5. Remove hardware securing pinion gear bracket to chute pedestal and remove bracket. See Figure 71.

See Figure 74.

6. Remove top locking flange nut, compression spring, friction plate and friction washer from round head square neck bolt.
7. Remove round head square neck bolt and chute rotation gear.

IMPORTANT: Friction washer and flat steel washer may remain in original positions. See detailed view in Figure 74.

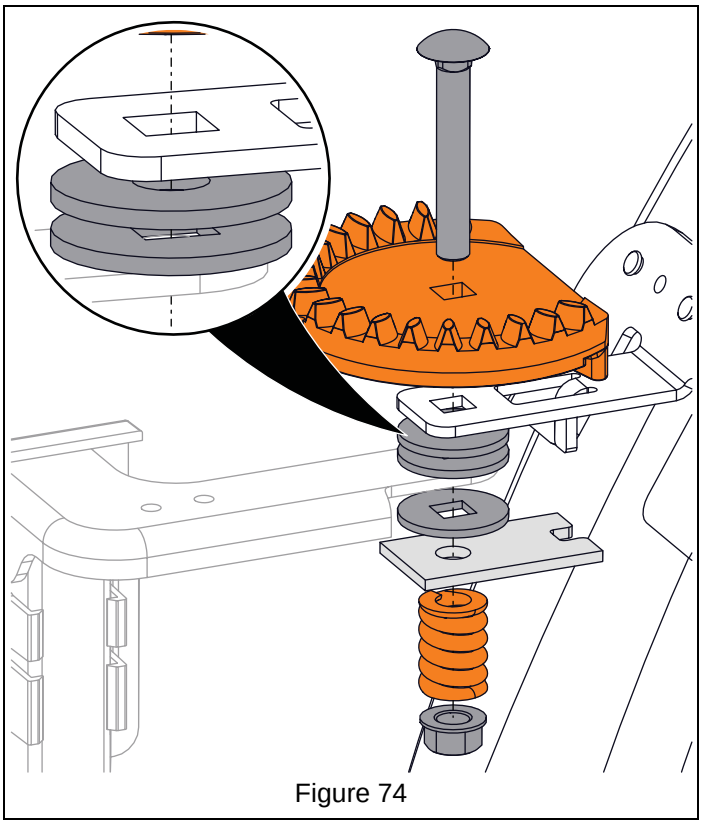


Figure 74

Install Chute Rotation Gear

1. Position discharge chute facing forward.

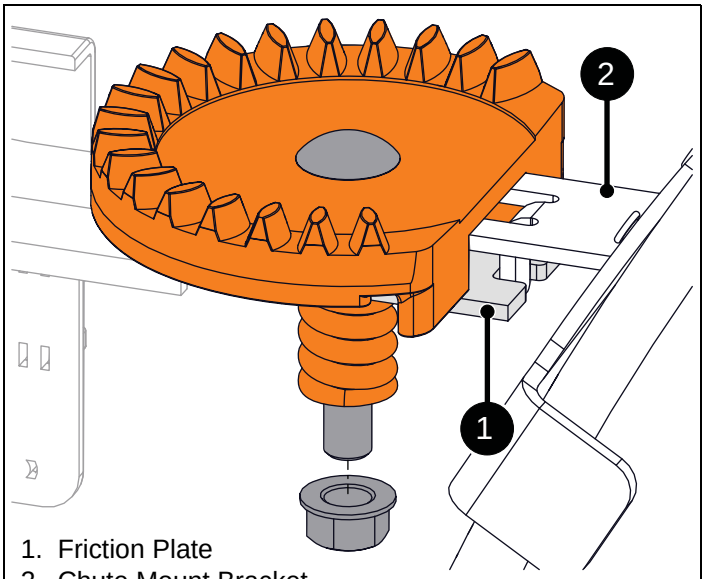
See Figure 75.

2. Position chute rotation gear on chute mount so gear edge is square with chute mount bracket.

IMPORTANT: Make sure flat steel washer and friction washer are positioned between chute mount bracket and pedestal plate. See Figure 75.

3. Insert round head square neck bolt through chute gear.
4. Reinstall friction washer, friction plate and compression spring onto bolt and secure with top locking flange nut.

IMPORTANT: Make sure notch in friction plate aligns with tab on chute mount bracket.



1. Friction Plate
2. Chute Mount Bracket

Figure 75

5. Secure pinion gear bracket to pedestal plate with two tapping screws.
6. Reinstall chute rotation rod into pinion gear socket and secure with spring clip.
7. Reinstall chute gear cover and secure with tapping screw.
8. Reconnect spark plug wire.
9. Adjust discharge chute. Refer to Operator's Manual for adjustment procedure.

IMPORTANT: Check all adjustments after first use.

SCRAPER BLADE REPLACEMENT

Remove Scraper Blade

IMPORTANT: Save all hardware for reinstallation.

WARNING: AVOID INJURY. Before tipping unit onto handlebars, drain fuel from tank and fuel system. See *Draining Fuel System* on page 7. Make sure unit is secure and will not fall.

1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Slowly tip unit back onto handlebars.

See Figure 76.

4. Remove hardware securing scraper blade to auger housing and remove scraper blade.

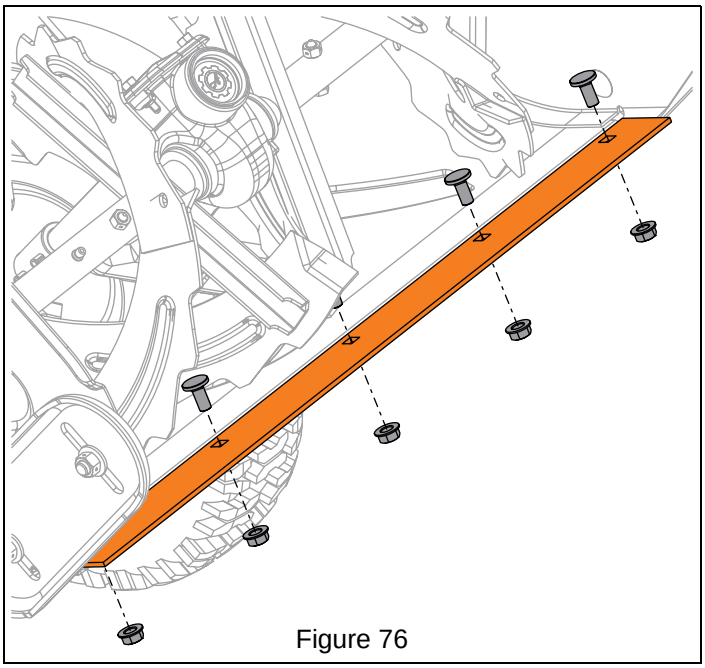


Figure 76

Install Scraper Blade

1. Secure scraper blade to auger housing with five flat head square neck bolts and five top locking flange nuts.

IMPORTANT: Scraper blade is installed inside auger housing.

2. Return unit to operating position.
3. Reconnect spark plug wire and fill fuel tank.
4. Adjust scraper blade and skid shoes. Refer to Operator's Manual for adjustment procedures.

IMPORTANT: Check all adjustments after first use.

GEARCASE REBUILD

Disassemble Gearcase

IMPORTANT: Save all parts for reassembly, unless otherwise specified.

1. Remove gearcase. See *Remove Gearcase Assembly* on page 25.
2. Remove any rust, if present, from auger and impeller shafts with sandpaper. Wipe clean with oil.
3. Remove drain plug and seal washer from gearcase. See Figure 77.

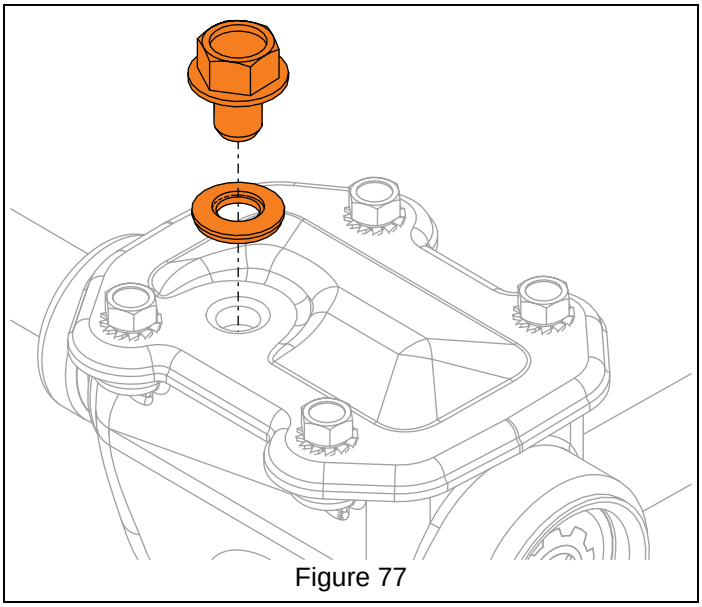


Figure 77

See Figure 78.

4. Remove hardware retaining gearcase cover and remove cover.
5. Remove gasket and drain gearcase.

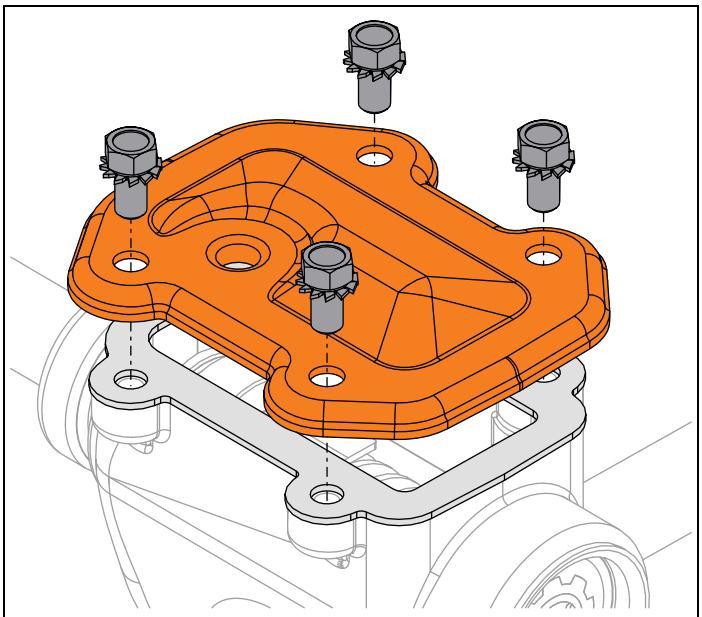


Figure 78

6. Remove bushing retainer from gearcase. See Figure 79.

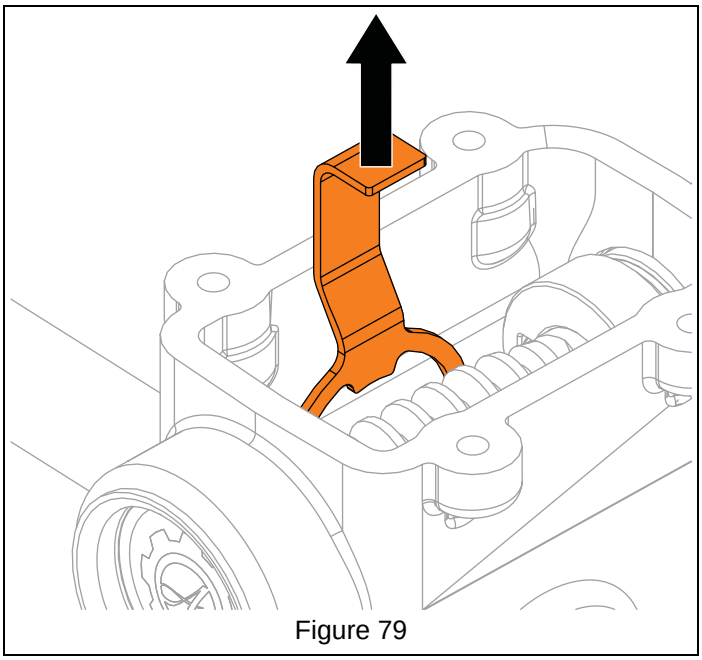


Figure 79

See Figure 80.

7. Press auger shaft through the right side of gearcase.

NOTICE: DO NOT strike auger shaft end; use a press.

8. Remove seal, bushing and washer from auger shaft.

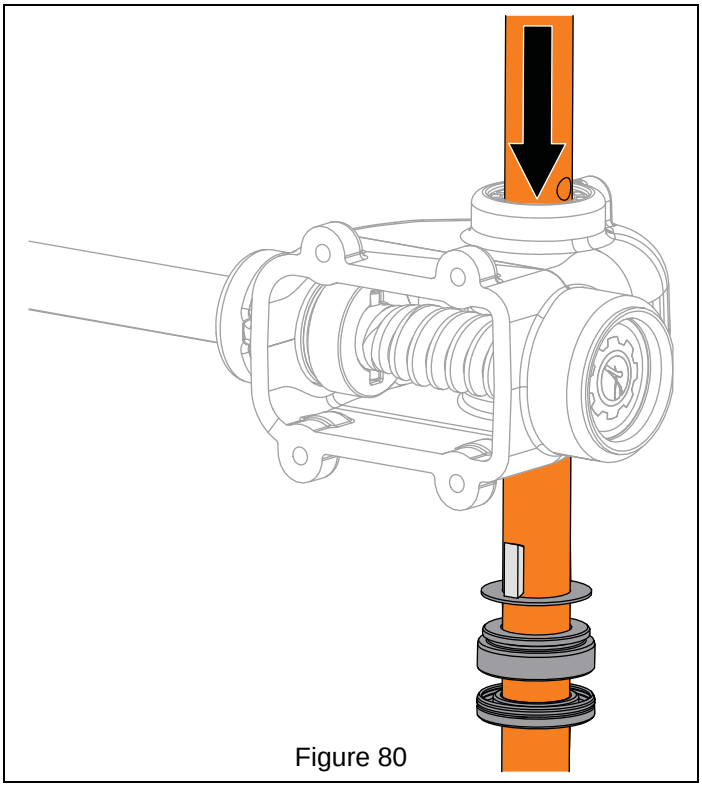


Figure 80

9. With a flathead screwdriver or similar pry bar, remove front seal cover and discard. See Figure 81.

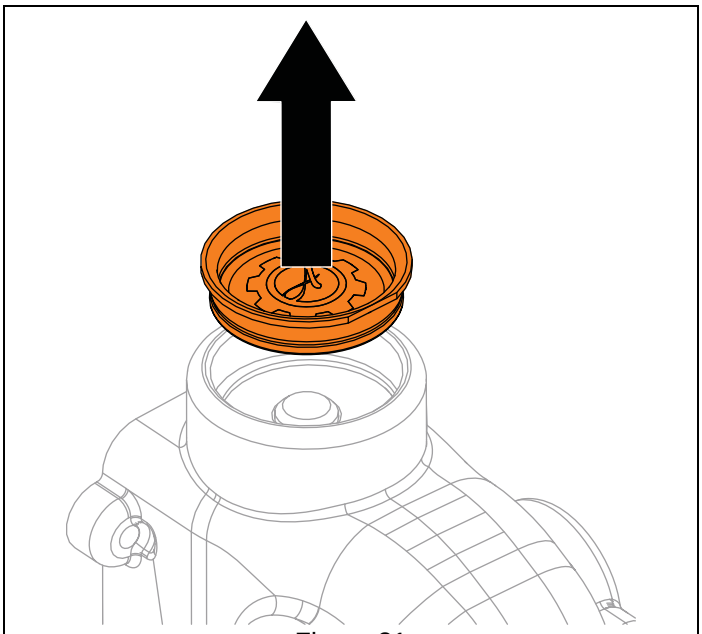


Figure 81

10. With a snap ring pliers, remove retaining ring. See Figure 82.

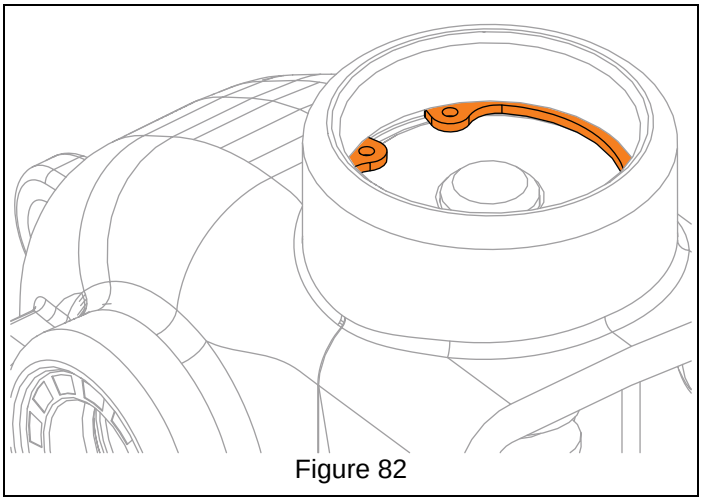


Figure 82

See Figure 83.

11. With a driver, strike impeller shaft end until shaft is through front of gearcase.

NOTICE: DO NOT strike impeller shaft end without using a driver.

12. Remove pin and bushing from impeller shaft.

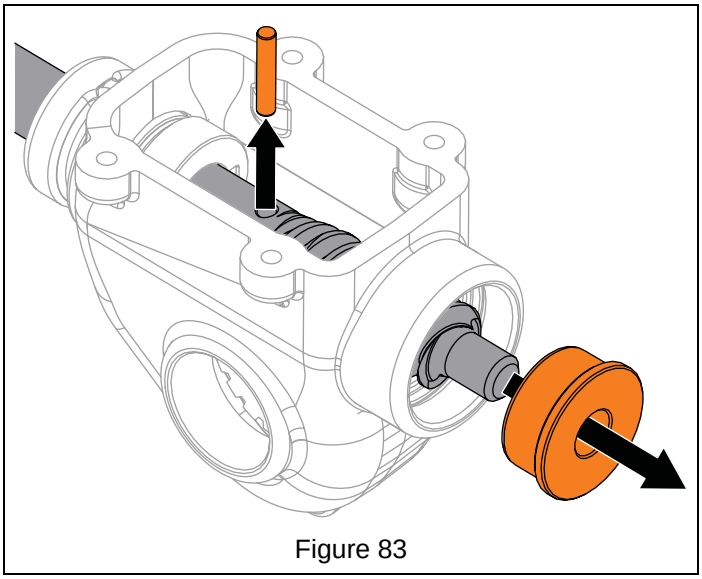


Figure 83

13. Remove impeller shaft from gearcase and remove all loose parts from inside gearcase.
14. Remove seals and flange bushings from gearcase. See Figure 84.

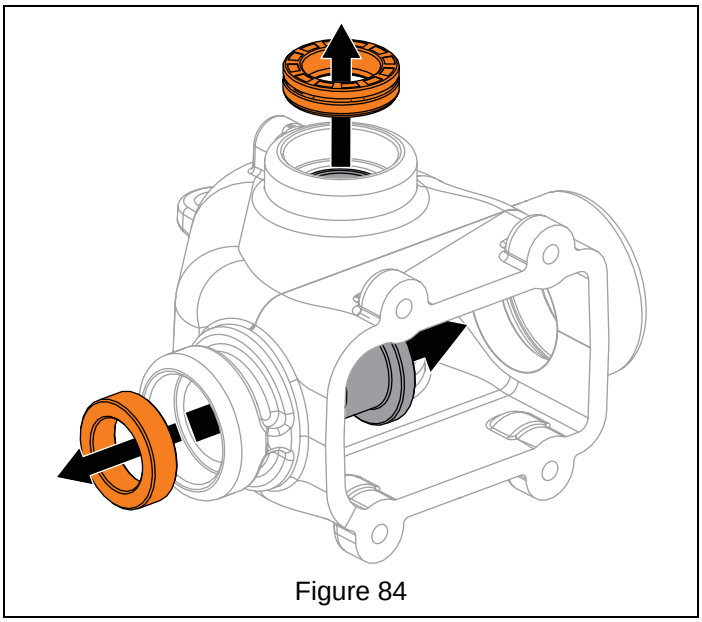


Figure 84

Assemble Gearcase

See Figure 85.

1. Press rear seal into gearcase until flush with gearcase exterior.
2. Reinstall right and rear flange bushings.

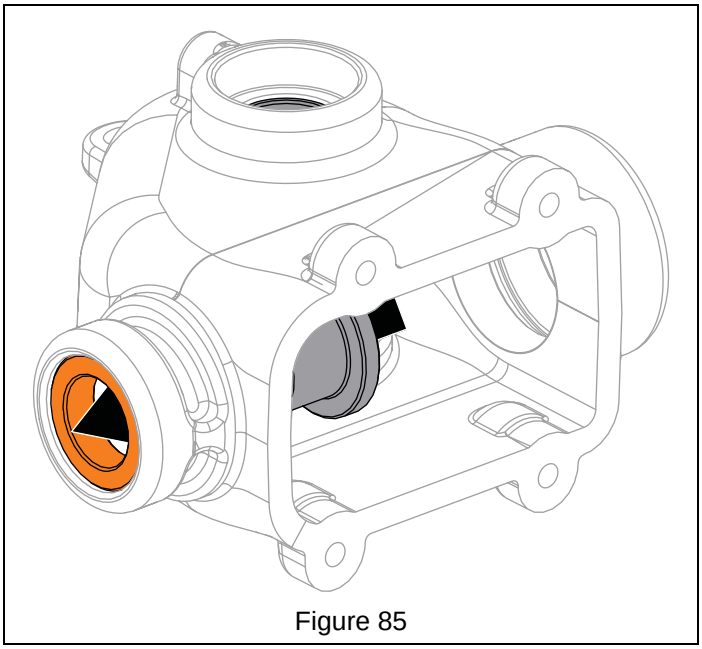


Figure 85

3. Install gear into gearcase. See Figure 86.

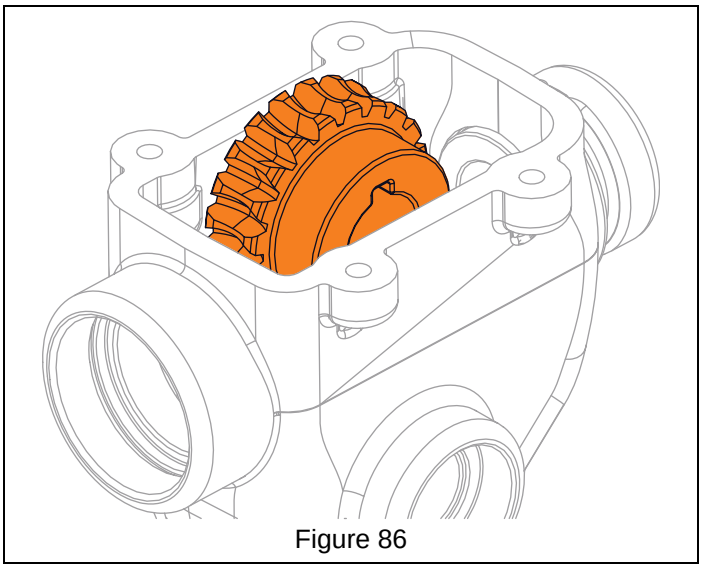


Figure 86

See Figure 87.

4. Reinstall impeller shaft through gearcase front and reinstall thrust collar onto impeller shaft end.
5. Wrap a seal protector over impeller shaft end and reinstall shaft through gearcase seal. Remove seal.

NOTICE: Unprotected seals can be damaged when installed over rough edges in shaft, such as holes.

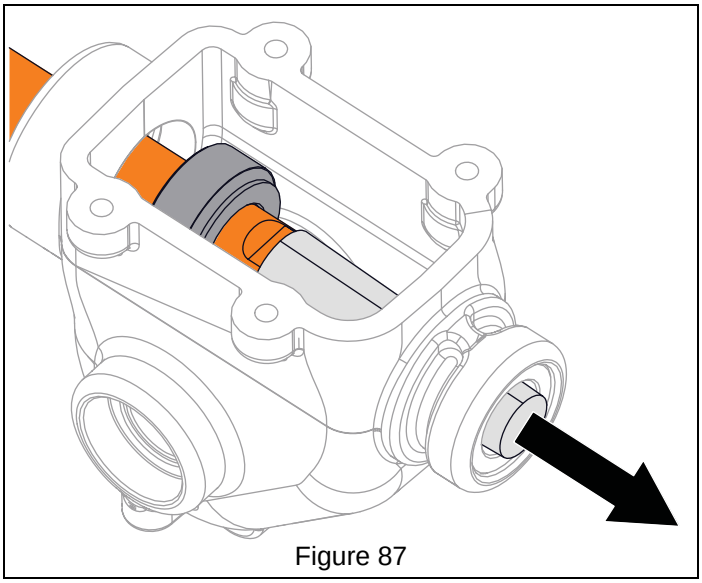


Figure 87

See Figure 88.

6. Reinstall pin into impeller shaft. Turn shaft so pin is horizontal.
7. Reinstall thrust collar over pin and position impeller shaft as far to gearcase rear as possible.

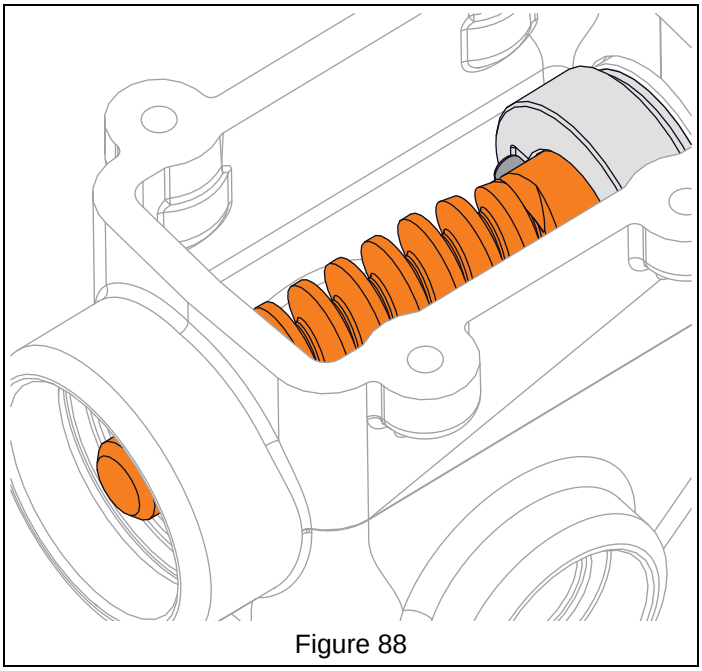


Figure 88

8. Reinstall flange bushing onto impeller shaft end. With a driver, strike bushing until positioned just below retaining ring groove. See Figure 89.

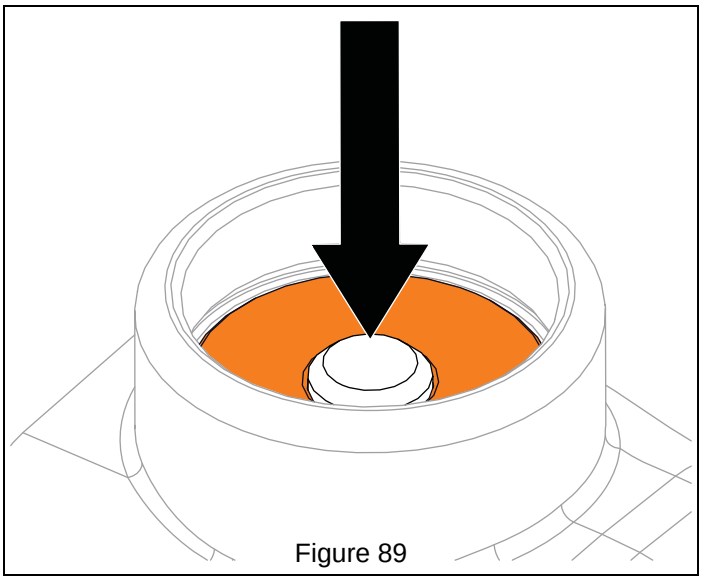


Figure 89

9. Reinstall retaining ring. See Figure 90.

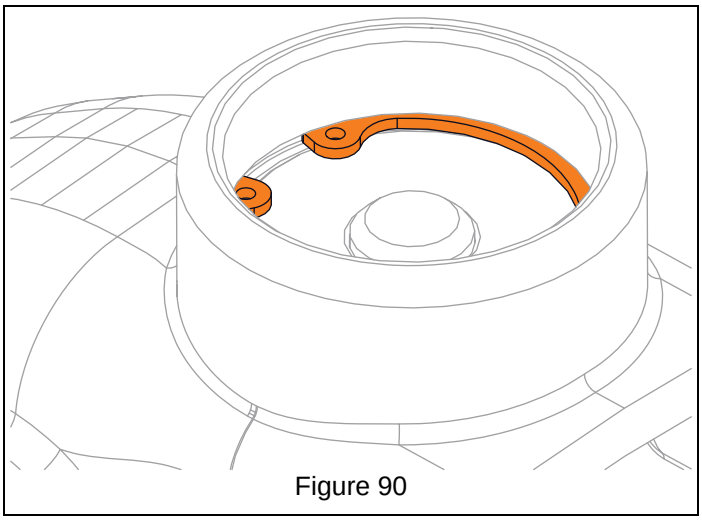


Figure 90

10. Turn impeller shaft by hand to make sure shaft rotates easily.

See Figure 91.

11. Reinstall one flat steel washer into left side of gearcase.
12. Align washer with gearcase hole and reinstall auger shaft through gear.

IMPORTANT: Make sure auger shaft key aligns with gear keyway.

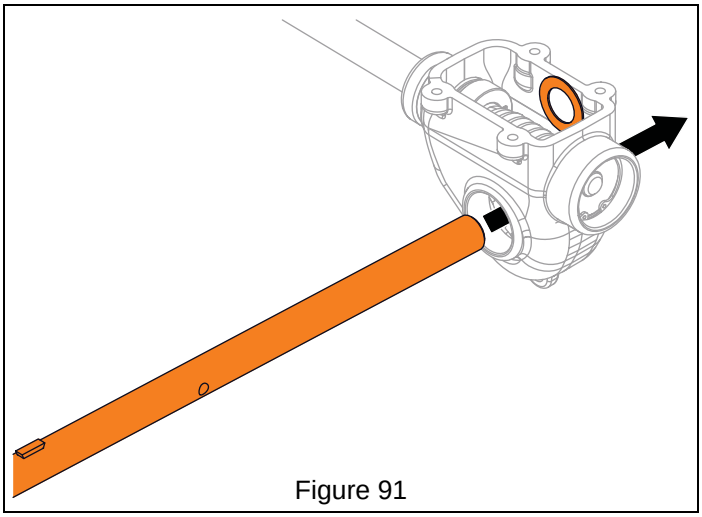


Figure 91

See Figure 92.

13. Reinstall one flat steel washer and bushing onto right auger shaft end.

IMPORTANT: Stepped-down side of bushing MUST be positioned toward gearcase.

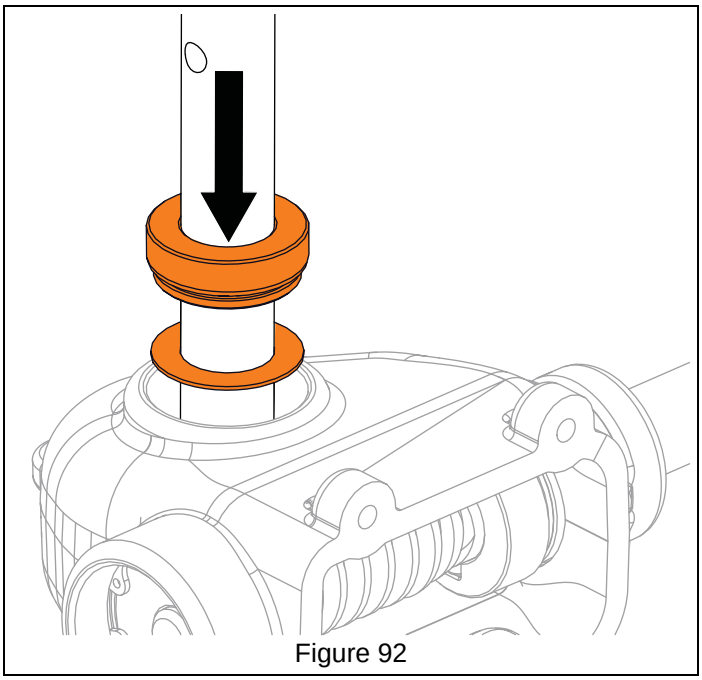


Figure 92

14. With a driver, such as a 1 1/4" deep-well socket, drive bushing into gearcase until groove is just beyond interior gearcase wall. See Figure 93.

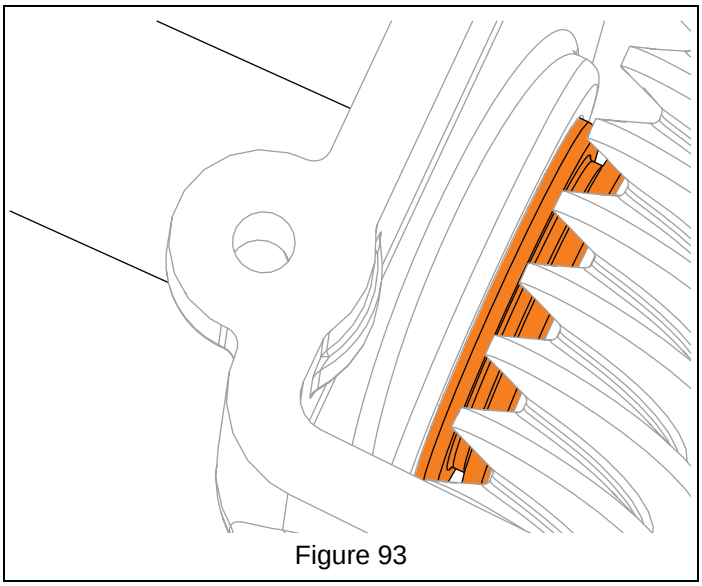


Figure 93

See Figure 94.

15. Wrap seal protector around each auger shaft end so they cover the shear bolt holes.

NOTICE: Unprotected seals can be damaged when installed over rough edges in shaft, such as holes.

16. Install gearcase seals over seal protectors and press into gearcase until each seal is flush with gearcase exterior.
17. Remove seal protectors.

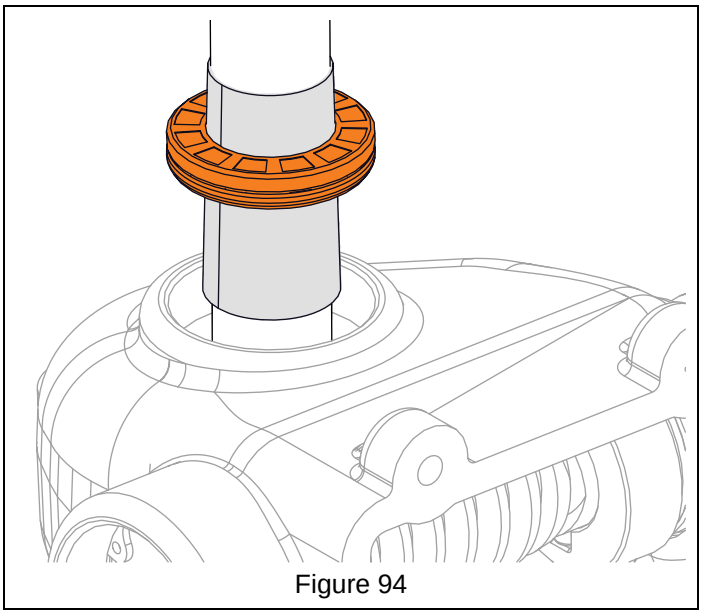


Figure 94

18. Turn auger shaft by hand to make sure shaft rotates easily.
19. Reinstall bushing retainer into flange bushing groove. See Figure 95.

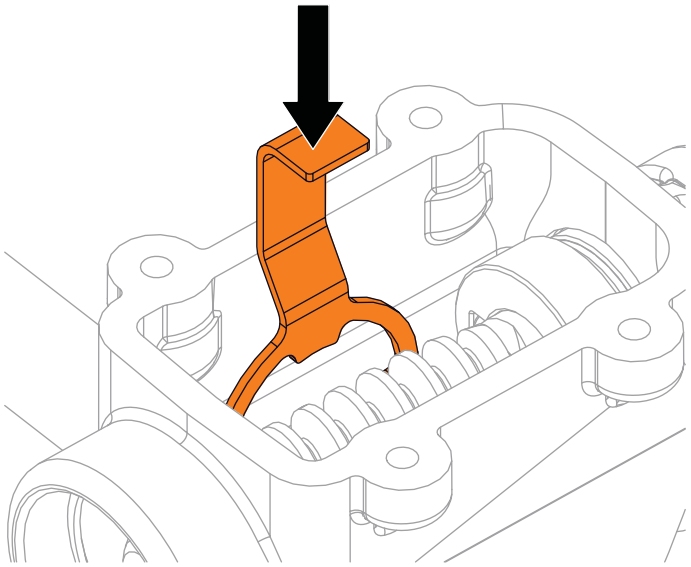


Figure 95

See Figure 96.

20. Reinstall gearcase gasket.
21. Secure cover to gearcase with four external tooth locking washer bolts.

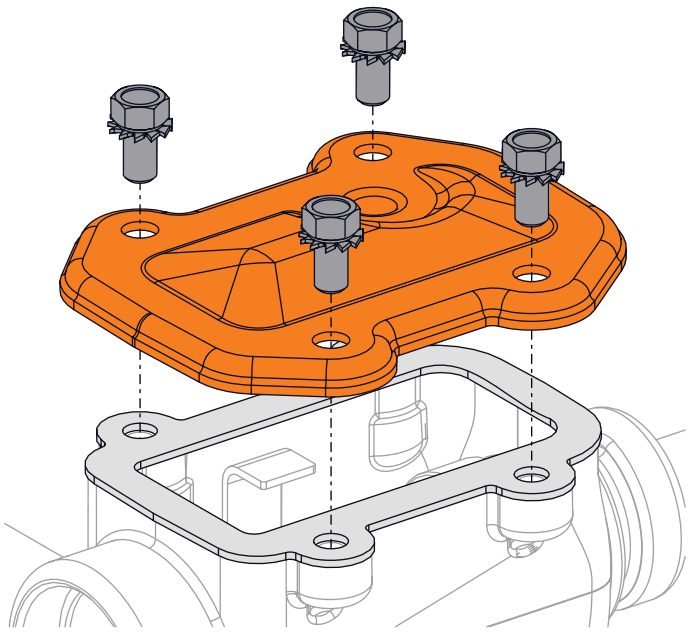


Figure 96

See Figure 97.

22. Press a new front cover into gearcase.
23. Add gearcase oil. Oil level MUST be 6.1 cm – 6.7 cm (2.4" – 2.6") from the flat surface of the gearcase cover.

IMPORTANT: Ariens recommends using only Ariens L3 synthetic severe duty gear lube. Using other lubricants will not automatically void unit warranty, but the warranty will not cover damage caused by using unauthorized lubricants. Refer to the Operator's Manual for your unit for the service part numbers.

24. Reinstall seal washer (rubber side down) and oil fill plug. Torque to 9 N•m (80 lb-in). DO NOT over-torque.

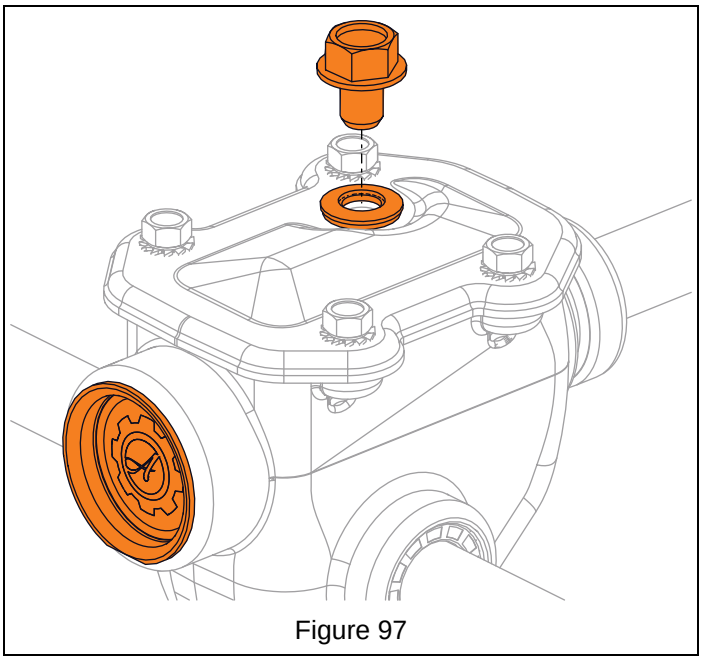


Figure 97

SERVICE RECORD

DATE	SERVICE COMPLETED	NOTES

SNO-TEK®

655 West Ryan Street
Brillion, WI 54110

ariensstore.com
arienscusthelp.com

GENUINE A OEM PARTS

parts.ariens.com

WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.

PRINTED in WISCONSIN

An Ariens Company Brand