Ariens®

Sno-Thro®

THE KING OF SNOW®

Service Guide

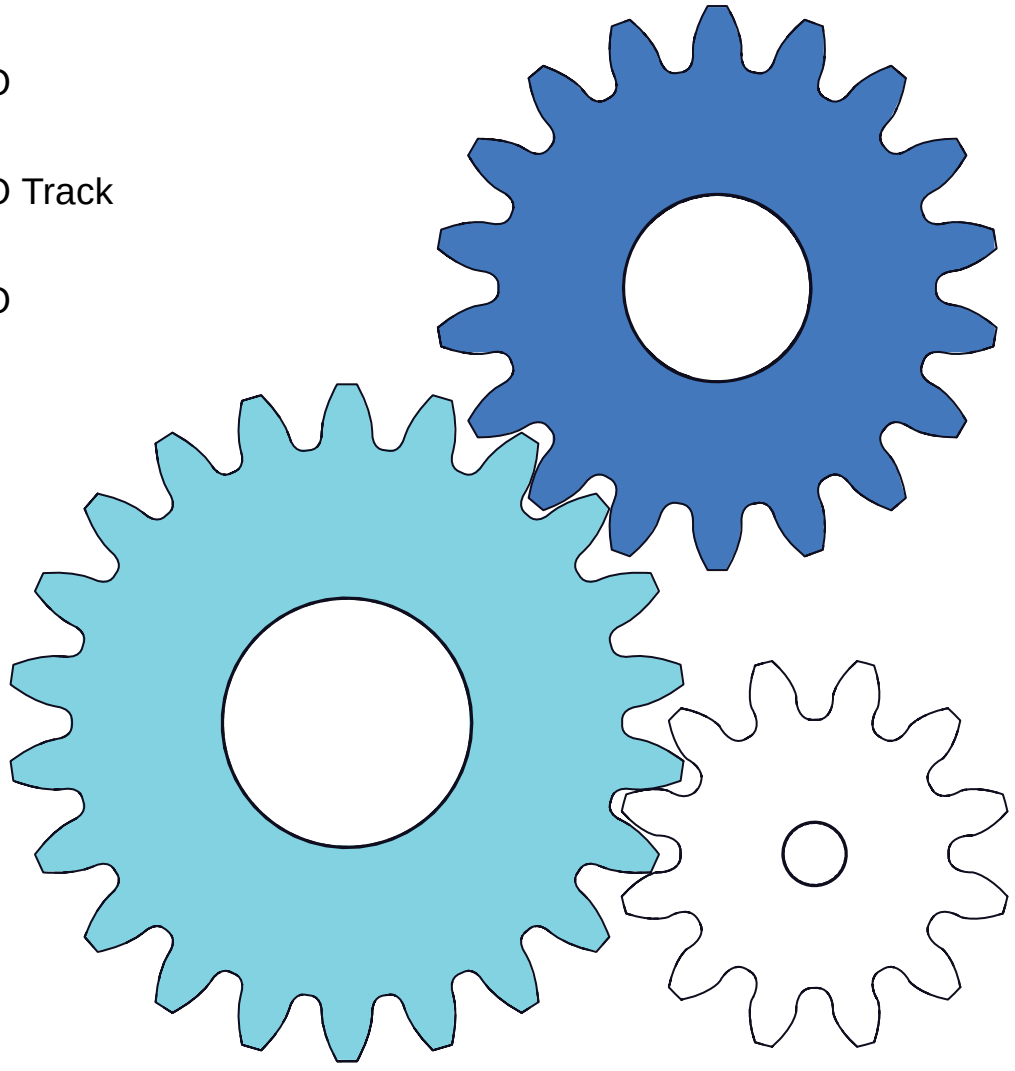
Platinum Series

Models

921038 – Platinum 24 SHO
(SN 100000 +)

921039 – Platinum 28 SHO Track
(SN 000101 +)

921040 – Platinum 30 SHO
(SN 100000 +)



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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.

REQUIRED OPERATOR TRAINING

The original purchaser of this unit was instructed by the seller on safe and proper operation. If unit is to be used by someone other than the original purchaser, loaned, rented, or sold, ALWAYS provide this manual and any needed safety training before operation.

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

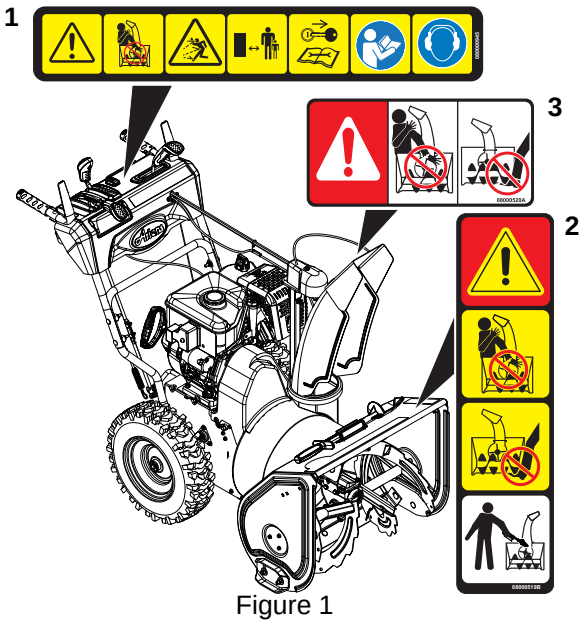


Figure 1

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 gasoline container.
3. Reinstall cap onto fuel tank 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

WARNING: AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. Make sure unit is secure and will not tip.

See Figure 2.

IMPORTANT: NEVER store unit in service position.

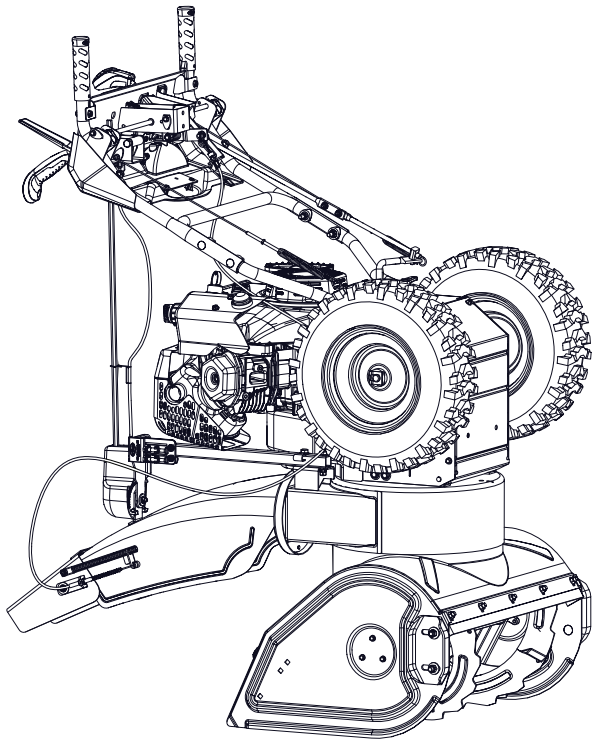


Figure 2

BOTTOM COVER REMOVAL

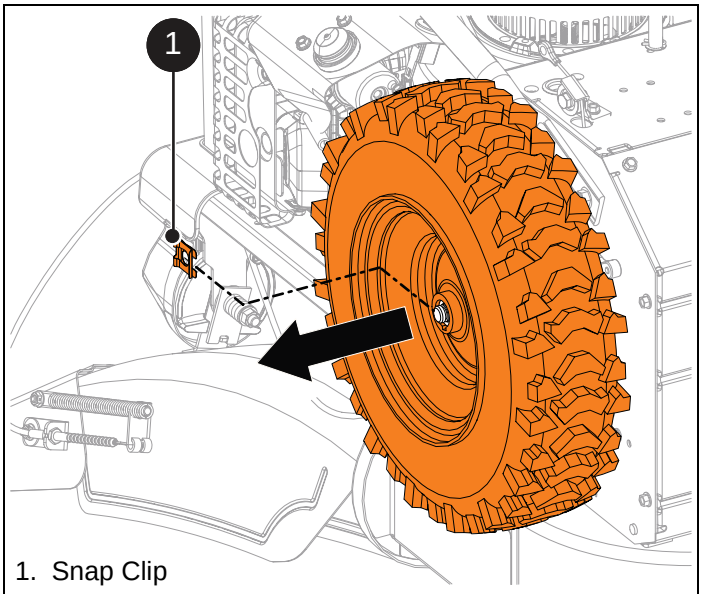
WARNING: AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. Make sure unit is secure and will not tip.

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 8.

See Figure 3.

4. Remove snap clips from axle ends and remove wheels.

NOTICE: For track models, it is not necessary to remove tracks to remove bottom cover.

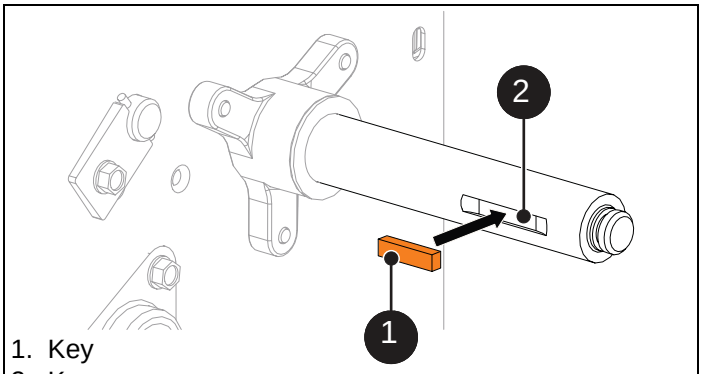


1. Snap Clip

Figure 3

See Figure 4.

IMPORTANT: Be aware of key on axle ends. If key is removed, reinstall before reinstalling wheel.

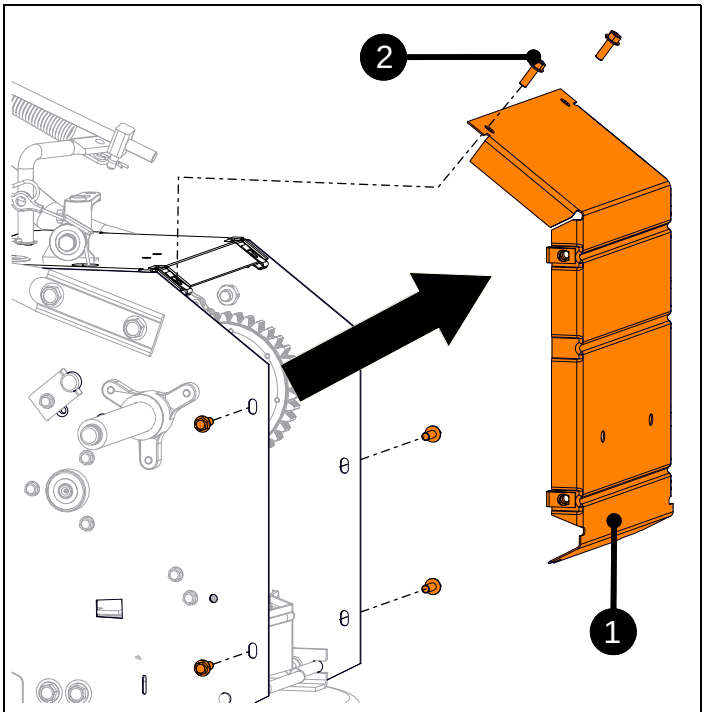


1. Key
2. Keyway

Figure 4

See Figure 5.

5. Remove hardware retaining bottom cover to frame and remove cover.



1. Bottom Cover
2. Hex Bolt

Figure 5

NOTICE: For track models, track angle must be in the “Raised Position” to remove bottom cover. Refer to Operator’s Manual. See Figure 6.

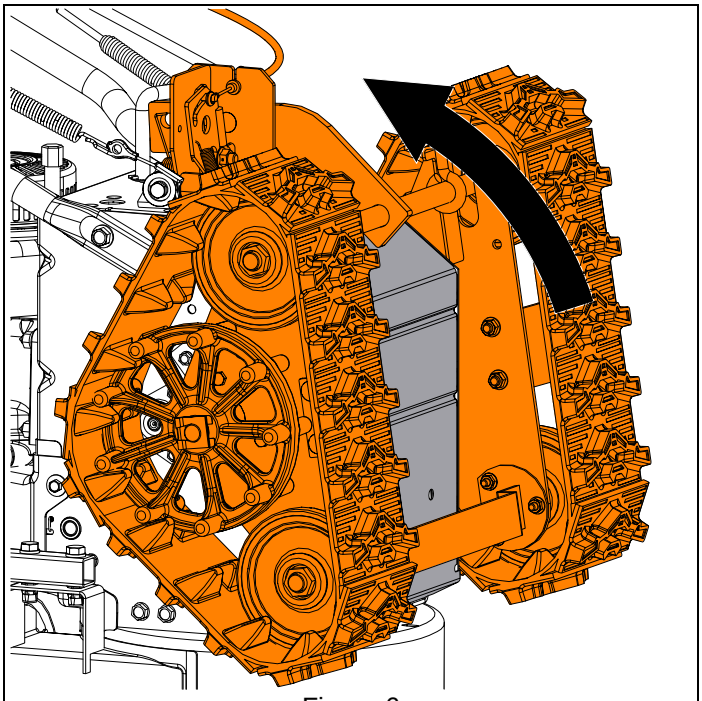


Figure 6

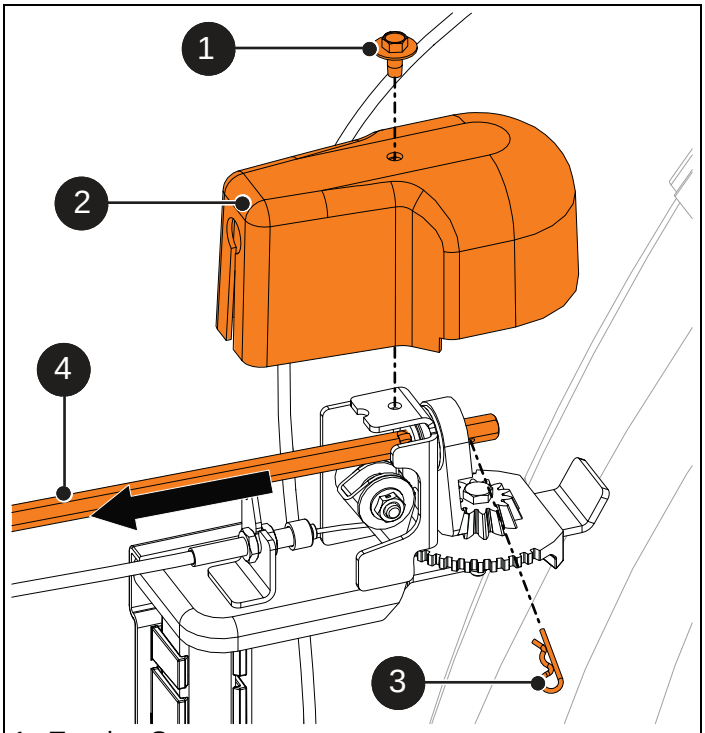
SEPARATE AUGER HOUSING FROM FRAME

NOTICE: 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 7.

3. Remove hardware retaining chute gear cover to chute pedestal and remove cover.
4. Remove hairpin from hex rod and remove hex rod from chute gears.



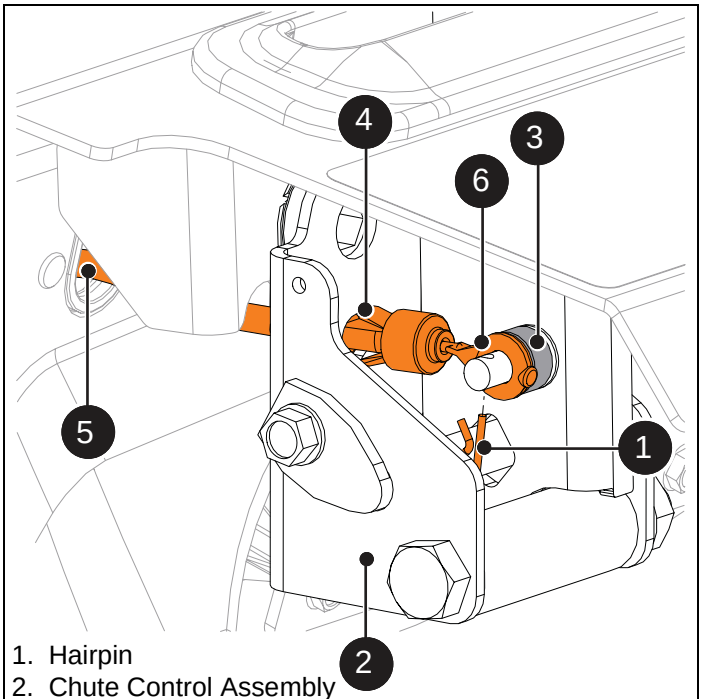
1. Tapping Screw
2. Chute Gear Cover
3. Hairpin
4. Hex Rod

Figure 7

5. Remove cable hanger from hex rod.
6. Remove hex rod from dash panel.

See Figure 8.

7. Remove hairpin and cable eyelet from chute control assembly.
8. With a pliers, squeeze tabs on cable snap and remove cable snap from chute control assembly.
9. Guide cable end through lower hole in chute control assembly and through hole in dash panel.
10. Reinstall hairpin to chute control assembly so sleeve bushing and hairpin are not misplaced.

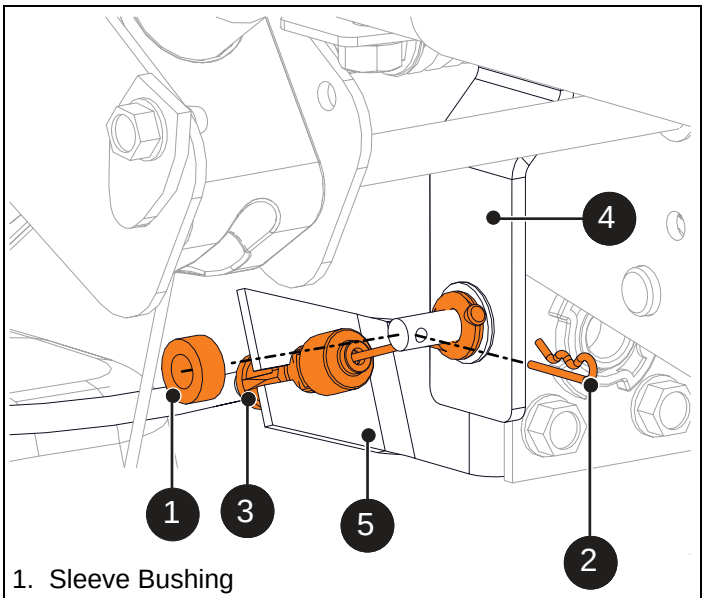


1. Hairpin
2. Chute Control Assembly
3. Sleeve Bushing
4. Cable Snap
5. Chute Lock Cable
6. Cable Eyelet

Figure 8

See Figure 9.

11. Remove hairpin, sleeve bushing and cable eyelet from deflector arm under dash panel.
12. Remove cable snap from deflector anchor.

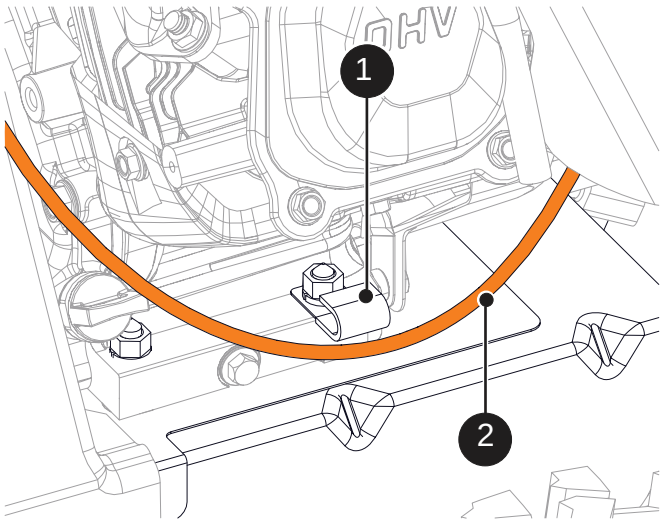


1. Sleeve Bushing
2. Hairpin
3. Cable Snap
4. Deflector Arm
5. Deflector Anchor

Figure 9

See Figure 10.

13. Remove chute deflector cable from J-clamp on engine mount.

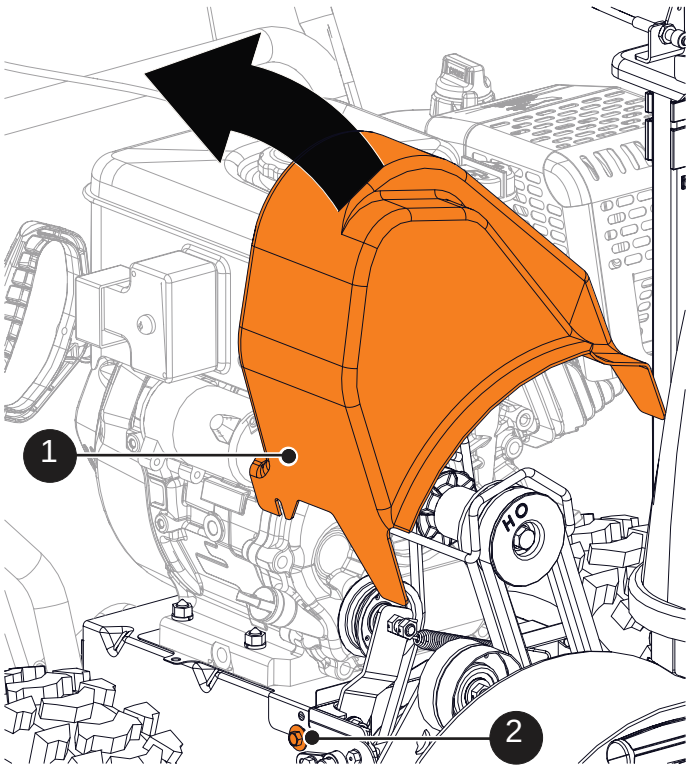


1. J-Clamp
2. Chute Deflector Cable

Figure 10

See Figure 11.

14. Loosen, but DO NOT remove hardware securing belt cover to unit, and remove belt cover.

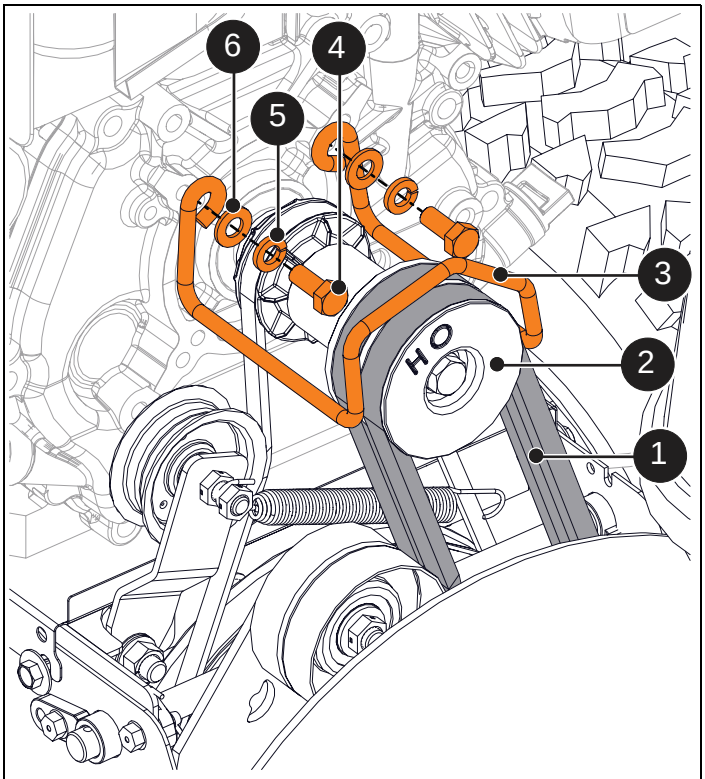


1. Belt Cover
2. Tapping Screw

Figure 11

See Figure 12.

15. Remove hardware securing belt finger to engine and remove belt finger.
16. Remove attachment drive belts from attachment sheave.



1. Attachment Drive Belt
2. Attachment Sheave
3. Belt Finger
4. Hex Bolt
5. Locking Washer
6. Flat Steel Washer

Figure 12

See Figure 13.

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

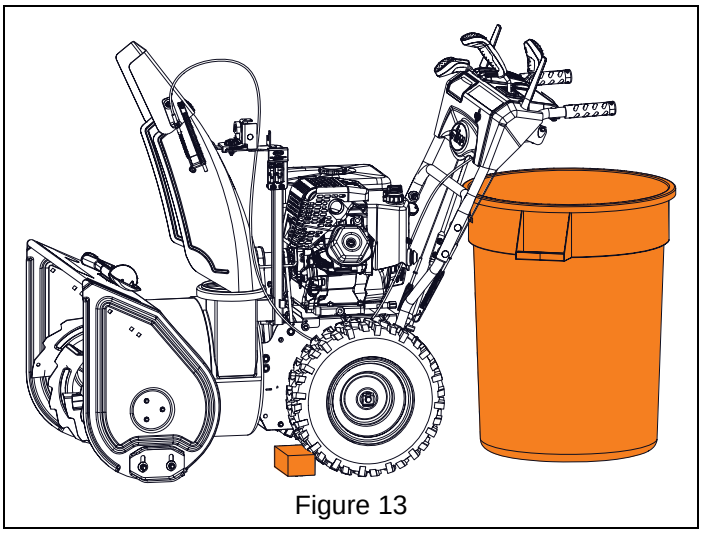
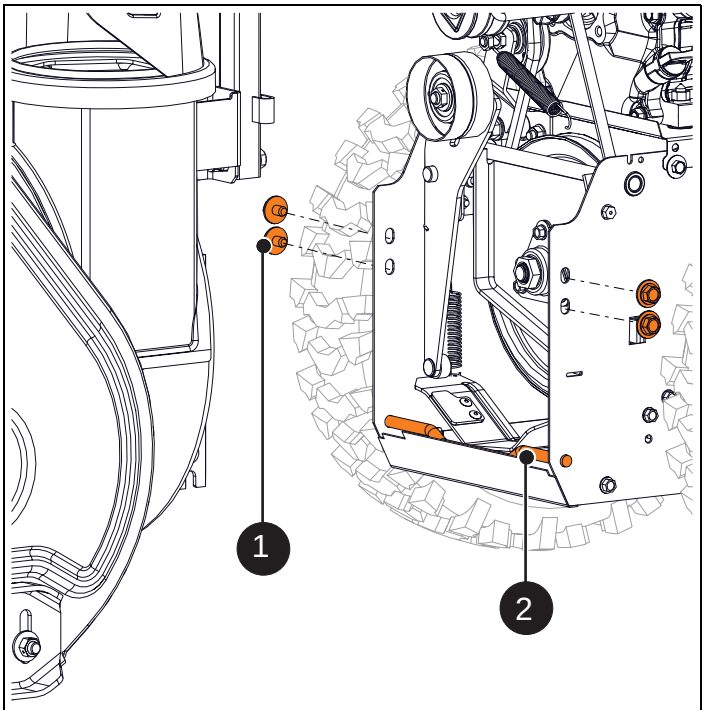


Figure 13

See Figure 14.

19. Remove hardware securing auger housing to frame.
20. Tip auger housing apart from frame on mount rod and separate housing from unit.



1. Tapping Screw
2. Mount Rod

Figure 14

ATTACHMENT DRIVE BELT REPLACEMENT

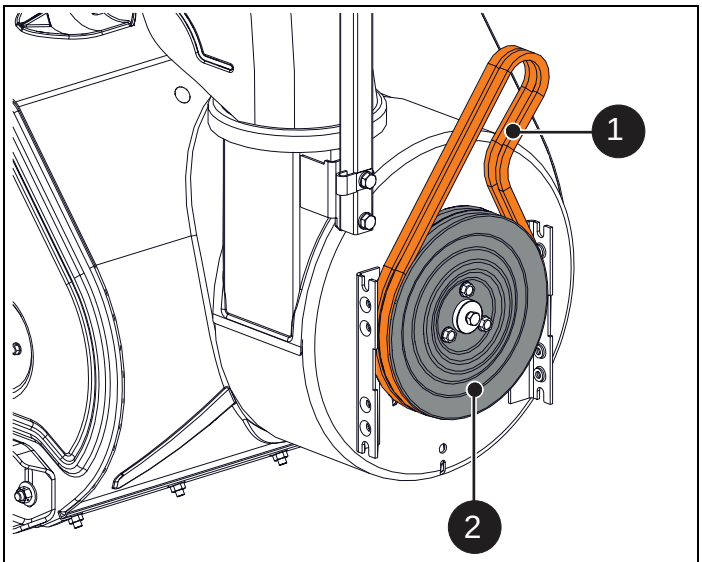
Remove Attachment Drive Belts

NOTICE: 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. Separate auger housing from frame. See *Separate Auger Housing From Frame* on page 10.

See Figure 15.

4. Remove attachment drive belts from attachment drive pulley.



1. Attachment Drive Belt
2. Attachment Drive Pulley

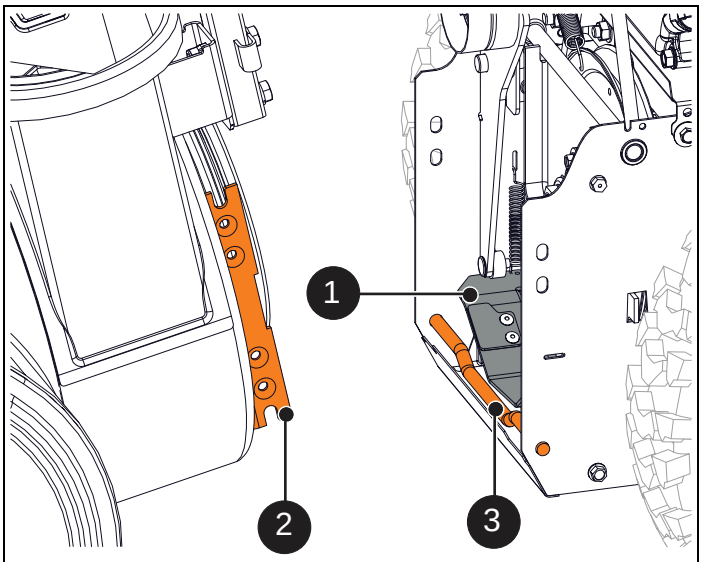
Figure 15

Install Attachment Drive Belts

1. Install belts onto attachment drive pulley

See Figure 16.

2. With a helper, engage attachment clutch lever so attachment brake will not obstruct attachment drive pulley in step 3.
3. Tilt auger housing rear up and lower into frame so housing mount brackets sit on mount rod.



1. Attachment Brake
2. Mount Bracket
3. Mount Rod

Figure 16

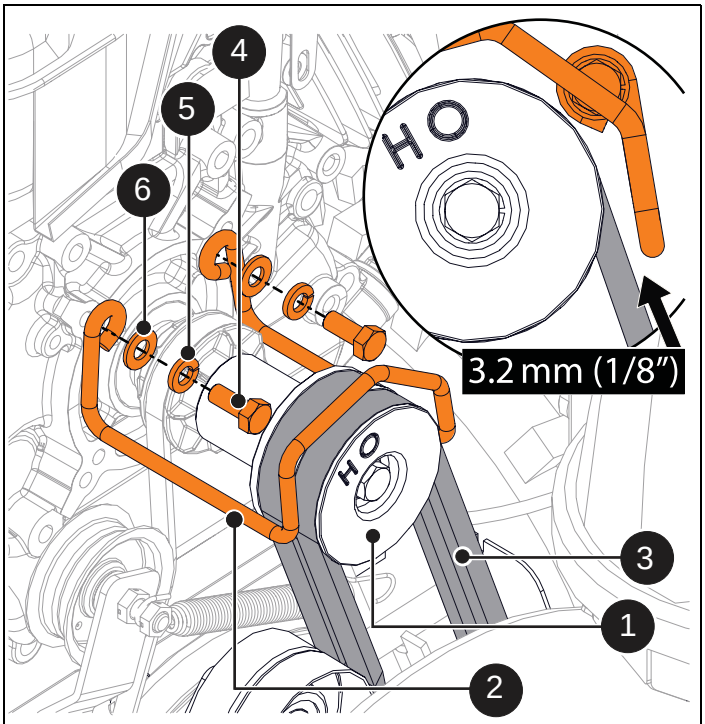
4. Release attachment clutch lever.
5. Align top holes in housing mount brackets with holes in frame and reinstall, but DO NOT tighten, four tapping screws.

IMPORTANT: Unit must be on a flat, level surface during steps 6 – 8.

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

See Figure 17.

9. Install belts onto attachment sheave.
10. Reinstall belt finger and secure with two flat steel washers, two locking washers and two hex bolts.
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.



1. Attachment Sheave
2. Belt Finger
3. Attachment Drive Belts
4. Hex Bolt
5. Locking Washer
6. Flat Steel Washer

Figure 17

12. Reinstall belt cover and tighten hardware.
13. Insert hex rod end without ears into dash panel until opposite end clears chute gear.
14. Position discharge chute facing forward.
15. Position chute rotation lever upright and insert hex rod through chute gear until it stops. Secure with hairpin.
16. Reinstall chute gear cover and secure with tapping screw.
17. Reinstall chute deflector cable into J-clamp on engine mount.
18. Reinstall chute deflector cable snap into deflector anchor and secure cable eyelet to deflector arm with sleeve bushing and hairpin. See Figure 9.
19. Insert chute lock cable through hole in dash panel and insert cable snap into chute control assembly.
20. Remove hairpin from chute control assembly and reinstall cable eyelet onto assembly. Reinstall hairpin.
21. Adjust attachment clutch / brake. Refer to Operator's Manual for adjustment procedure.
22. 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

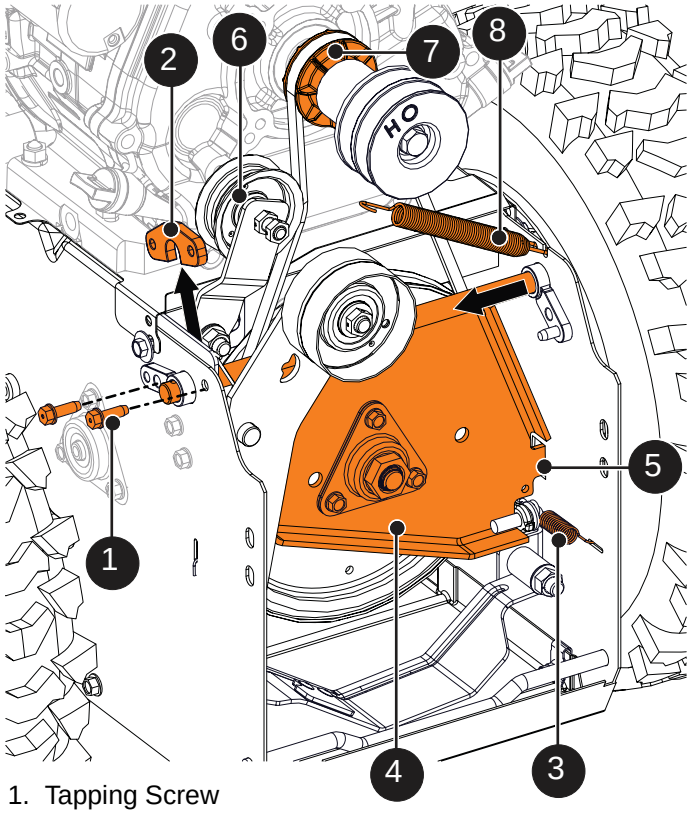
Remove Traction Drive Belt

NOTICE: 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. Separate auger housing from frame. See *Separate Auger Housing From Frame* on page 10.

See Figure 18.

4. Disconnect idler spring from traction drive idler.
5. Disconnect swing gate return spring from frame.
6. Remove hardware securing swing gate spacer to frame and remove swing gate spacer.
7. Move swing gate left so swing gate tab is out of stop hole in frame.
8. Move swing gate forward to access traction drive belt and remove belt.



1. Tapping Screw
2. Swing Gate Spacer
3. Swing Gate Return Spring
4. Swing Gate
5. Swing Gate Tab & Stop Hole
6. Traction Drive Idler
7. Traction Sheave
8. Idler Spring

Figure 18

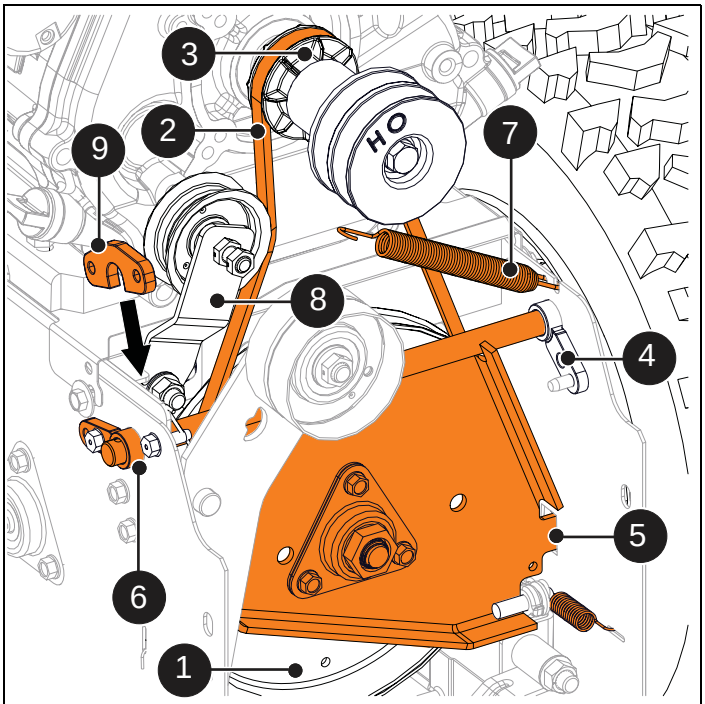
Install Traction Drive Belt

See Figure 19.

1. Install belt onto traction drive pulley.
2. Install belt onto traction sheave.
3. Move swing gate so swing gate tab aligns with stop hole in frame.
4. Move swing gate right so top of swing gate inserts through support bushing and swing gate tab inserts through stop hole.
5. Reinstall swing gate spacer, but DO NOT secure with hardware.

IMPORTANT: Make sure pivot bushing is correctly seated in frame and is flush with frame.

6. Align pivot bushing holes with holes in frame and swing gate spacer. Secure with two tapping screws.
7. Reconnect idler spring to traction drive idler.
8. Reconnect swing gate return spring to frame.



1. Traction Drive Pulley
2. Traction Drive Belt
3. Traction Sheave
4. Support Bushing
5. Swing Gate Tab & Stop Hole
6. Pivot Bushing
7. Idler Spring
8. Traction Drive Idler
9. Swing Gate Spacer

Figure 19

9. Reinstall attachment drive belts. See *Install Attachment Drive Belts* on page 13.
10. Adjust attachment clutch / brake. Refer to Operator's Manual for adjustment procedure.

11. Adjust traction drive clutch. Refer to Operator's Manual for adjustment procedure.
12. Reconnect spark plug wire.

IMPORTANT: Check all adjustments after first use.

ATTACHMENT BRAKE REPLACEMENT

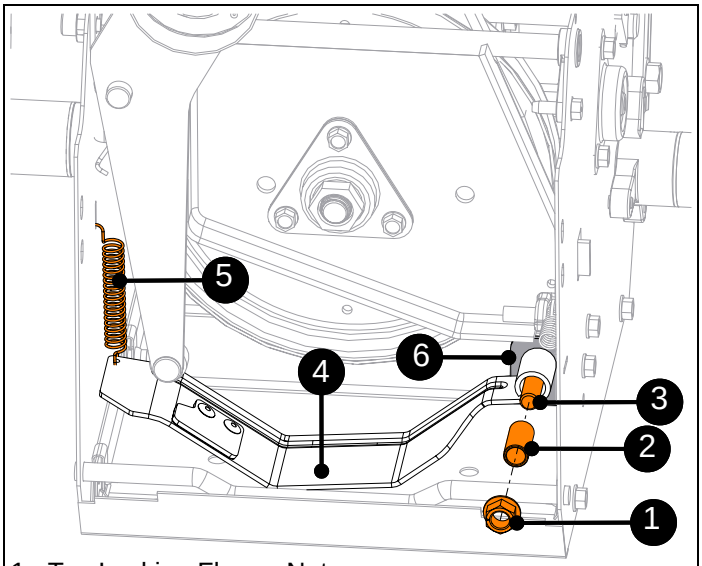
Remove Attachment Brake

NOTICE: 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. Separate auger housing from frame. See *Separate Auger Housing From Frame* on page 10.

See Figure 20.

4. Remove hardware securing attachment brake to brake mount bracket.
5. Disconnect extension spring from attachment brake arm and remove attachment brake arm.



1. Top Locking Flange Nut
2. Sleeve Bushing
3. Hex Bolt
4. Attachment Brake Arm
5. Extension Spring
6. Brake Mount Bracket

Figure 20

Install Attachment Brake

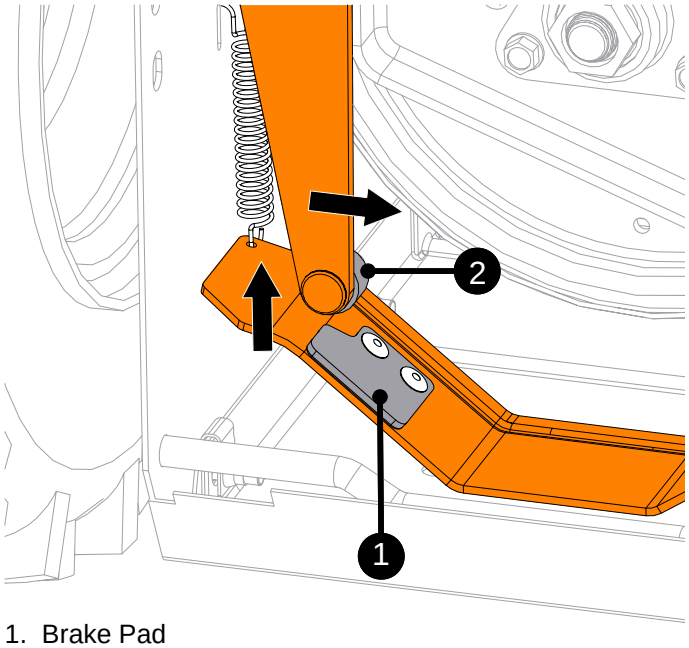
1. Install hex bolt through brake mount bracket.
2. Install attachment brake arm onto hex bolt.
3. Reinstall sleeve bushing into attachment brake arm.
4. Secure attachment brake arm to brake mount bracket with top locking flange nut, but DO NOT overtighten.
5. With flathead screwdriver or similar pry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

See Figures 21 and 22.

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

IMPORTANT: Make sure brake roller does not bind.

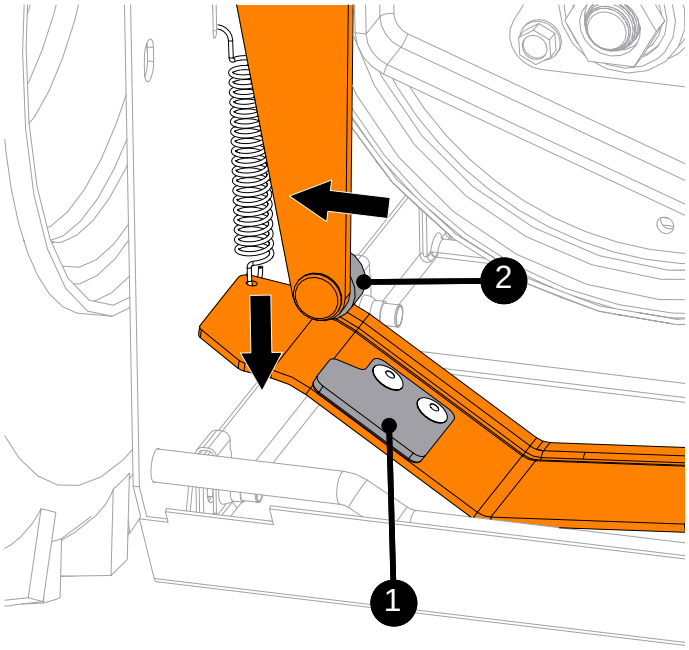
Attachment Clutch Disengaged / Brake Engaged



1. Brake Pad
2. Brake Roller

Figure 21

Attachment Clutch Engaged / Brake Disengaged



1. Brake Pad
2. Brake Roller

Figure 22

7. Reinstall attachment drive belts. See *Install Attachment Drive Belts* on page 13.

WARNING: AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. Make sure unit is secure and will not tip.

8. Place unit in service position. See *Service Position* on page 8.
9. Remove bottom cover. See *Bottom Cover Removal* on page 9.

See Figure 23.

10. Check attachment brake:
    - Brake must contact attachment belt when attachment clutch is disengaged.
    - Brake must be more than 1.6 mm (1/16”) away from attachment belt when attachment clutch is engaged.

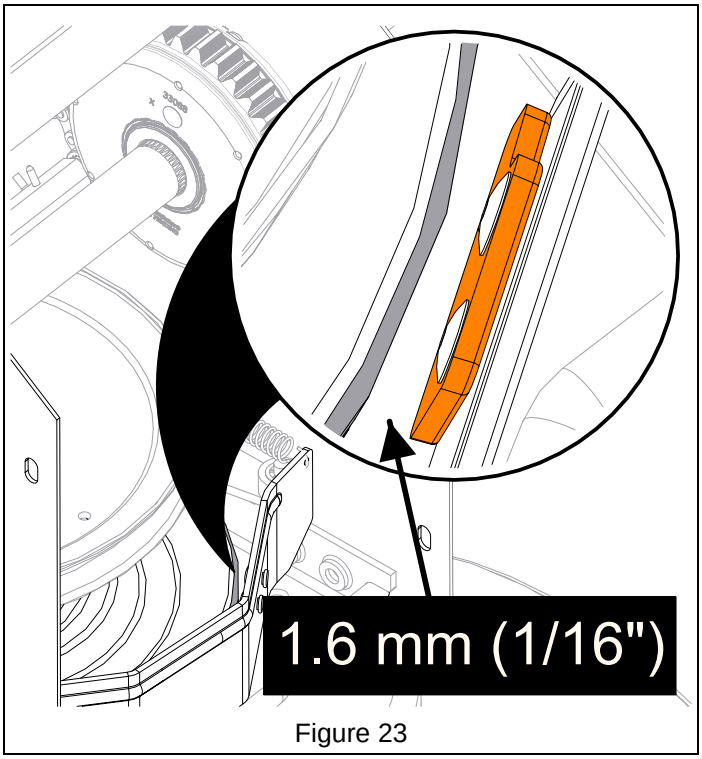


Figure 23

11. Reinstall bottom cover and secure with six hex bolts.
12. For wheel models, align wheel keyways with axle keys and reinstall wheels. Secure with snap clips.
13. Return unit to operating position.
14. Adjust attachment clutch / brake. Refer to Operator’s Manual for adjustment procedure.
15. 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.

FRICTION DISC REPLACEMENT

Remove Friction Disc

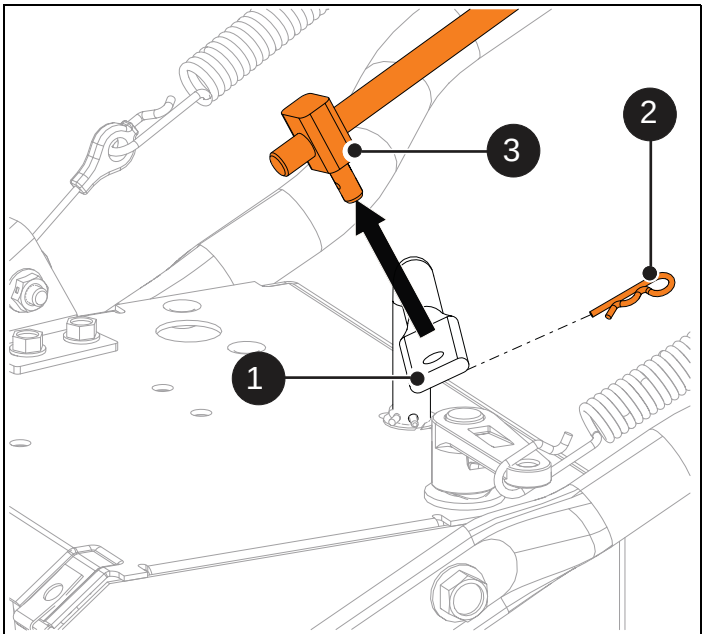
NOTICE: Save all hardware for reinstallation.

WARNING: AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. 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 8.
4. Remove bottom cover. See *Bottom Cover Removal* on page 9.

See Figure 24.

5. Remove hairpin securing adjustment pivot pin to speed selector arm and remove adjustment pivot pin.

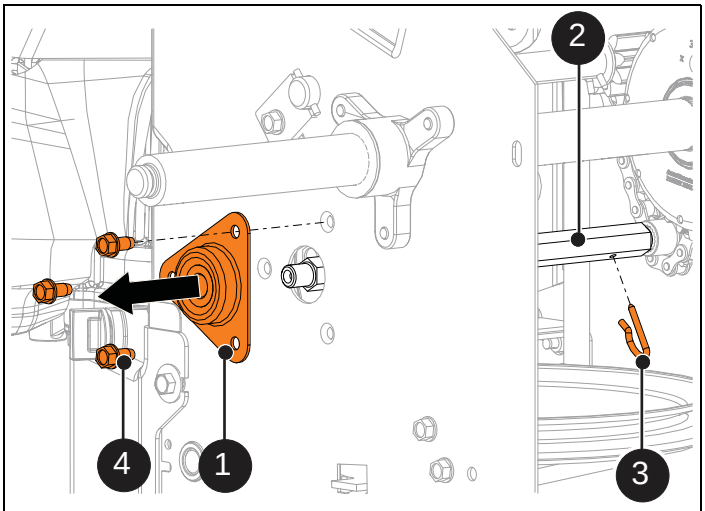


1. Speed Selector Arm
2. Hairpin
3. Adjustment Pivot Pin

Figure 24

See Figure 25.

6. Remove spring clip from right side of hex shaft.
7. Remove hardware securing bearing flange to left side of frame and remove bearing flange.



1. Bearing Flange
2. Hex Shaft
3. Spring Clip
4. Tapping Screw

Figure 25

NOTICE: For track models, track angle must be in the "Lowered Position" to remove hex shaft. Refer to Operator's Manual. See Figure 26.

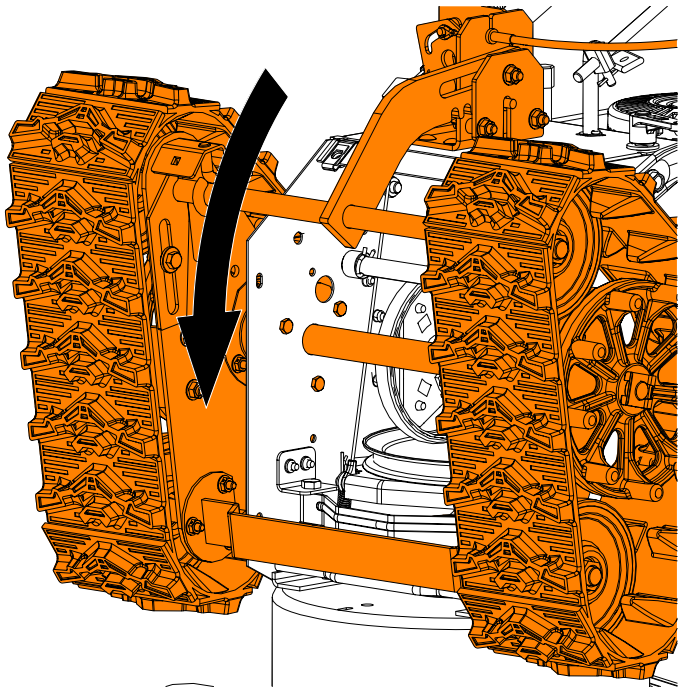


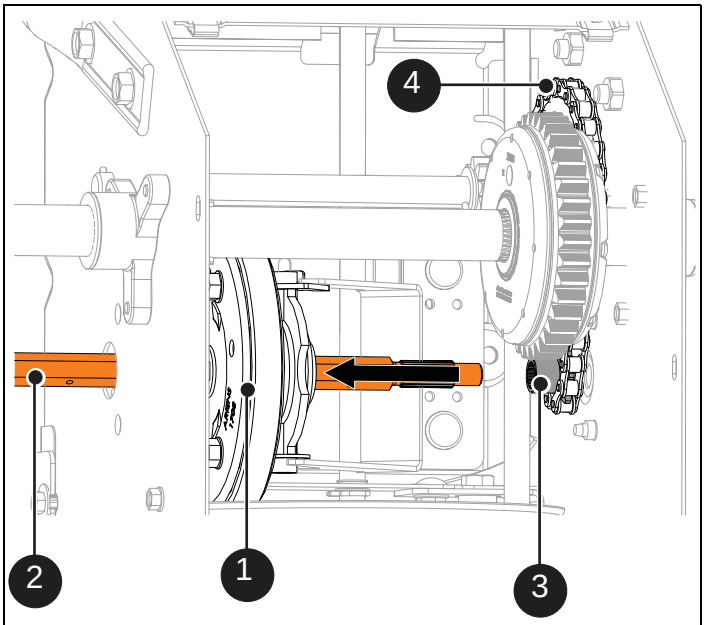
Figure 26

See Figure 27.

8. Disconnect hex shaft from sprocket and remove sprocket from chain.
9. Move hex shaft left until removed from friction disc assembly.

NOTICE: For ease of removal on track models, position friction disc assembly as far left as possible.

10. Remove friction disc assembly from unit.

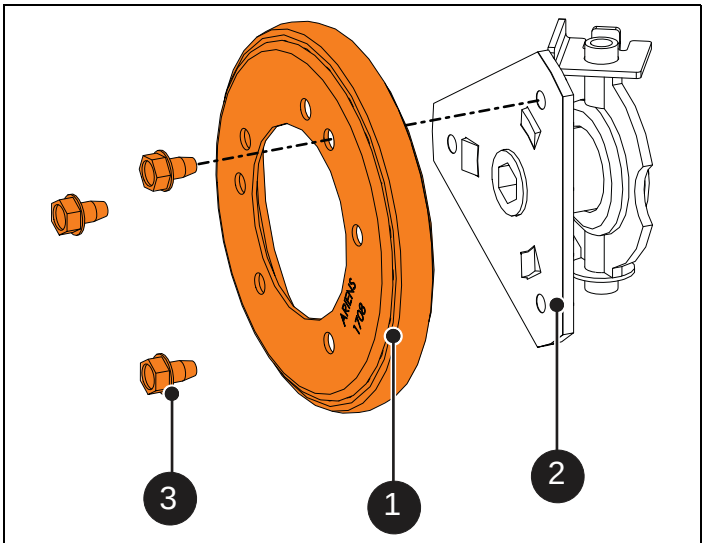


1. Friction Disc Assembly
2. Hex Shaft
3. Sprocket
4. Chain

Figure 27

See Figure 28.

11. Remove hardware securing friction disc to drive carrier and remove friction disc.



1. Friction Disc
2. Drive Carrier
3. Tapping Screw

Figure 28

Install Friction Disc

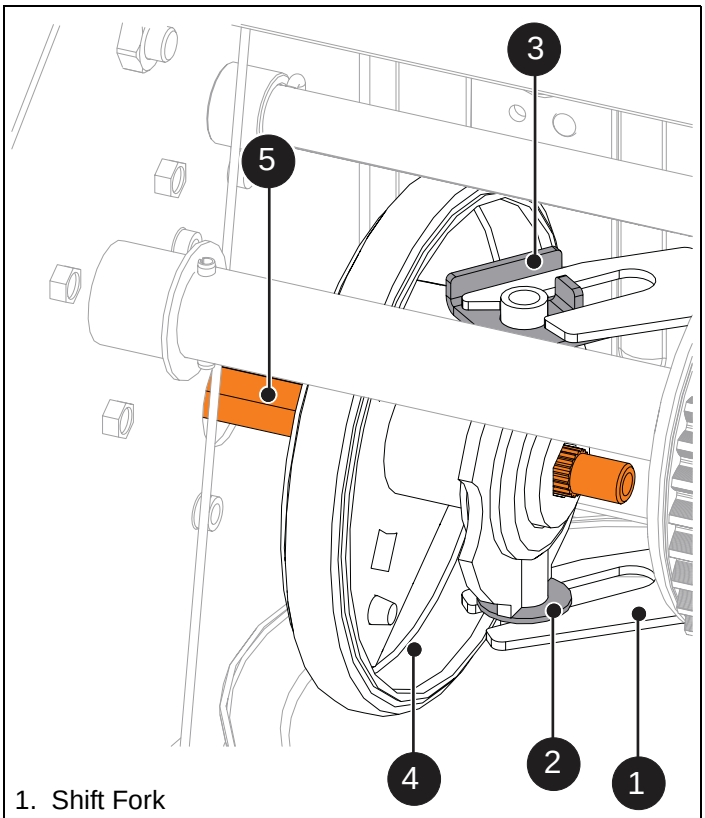
1. Install friction disc to drive carrier with cup side positioned toward drive carrier.
2. Secure friction disc to drive carrier with three tapping screws. Torque to 7 – 8 N•m (5 – 6 lb-ft).

See Figure 29.

3. Reinstall friction disc assembly into shift fork so shift fork bracket and flat steel washer are positioned against shift fork as shown.

NOTICE: Move shift fork left for easy access.

4. Reinstall hex shaft through frame and friction disc assembly.

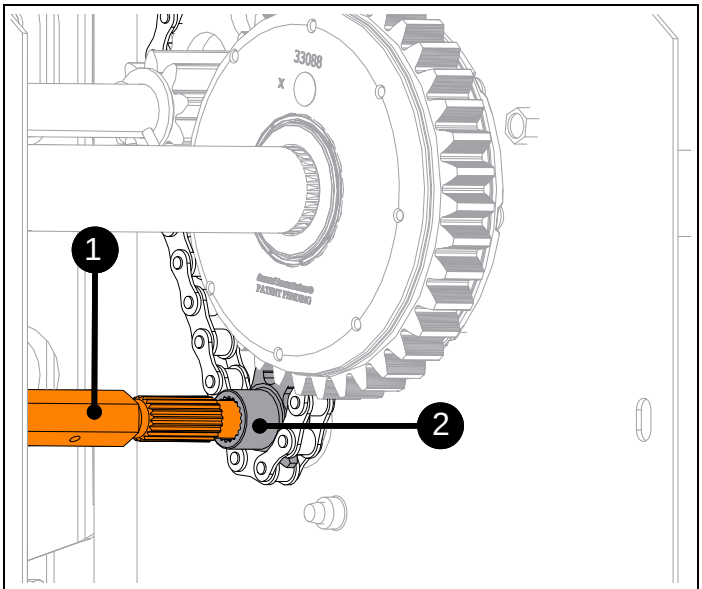


1. Shift Fork
2. Flat Steel Washer
3. Shift Fork Bracket
4. Friction Disc Assembly
5. Hex Shaft

Figure 29

See Figure 30.

5. Reinstall sprocket into chain.
6. Insert hex shaft through sprocket and into bearing on right side of frame.



1. Hex Shaft
2. Sprocket

Figure 30

7. Reinstall bearing flange and secure with three tapping screws.
8. Reinstall spring clip into hex shaft.
9. Reinstall adjustment pivot pin onto speed selector arm and secure with hairpin.
10. Reinstall bottom cover and secure with six hex bolts.
11. For wheel models, align wheel keyways with axle keys and reinstall wheels. Secure with snap clips.
12. Return unit to operating position.
13. Reconnect spark plug wire.
14. Adjust speed selector lever. Refer to Operator's Manual for adjustment procedure.

IMPORTANT: Check all adjustments after first use.

AUGER REPLACEMENT

Remove Auger

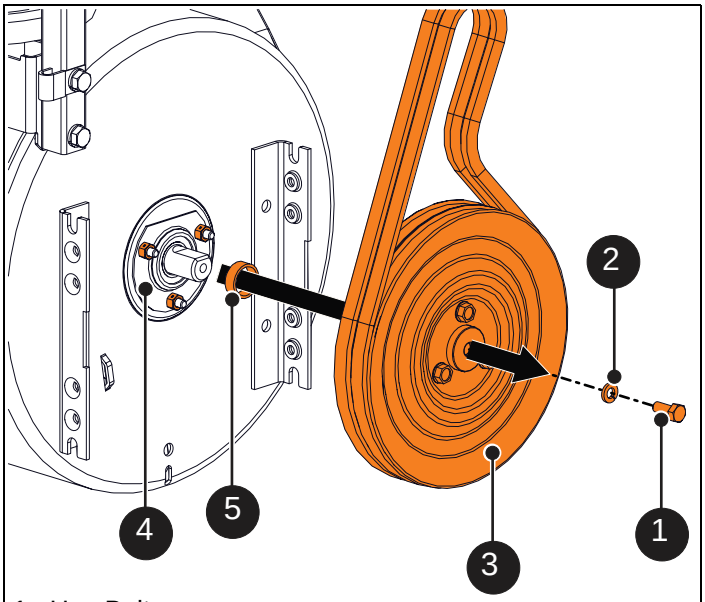
NOTICE: Save all hardware for reinstallation.

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. Separate auger housing from frame. See *Separate Auger Housing From Frame* on page 10.

See Figure 31.

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 assembly to impeller shaft.
5. Remove spacer bushing from impeller shaft.
6. Loosen, but DO NOT remove hardware securing bearing plate to auger housing.

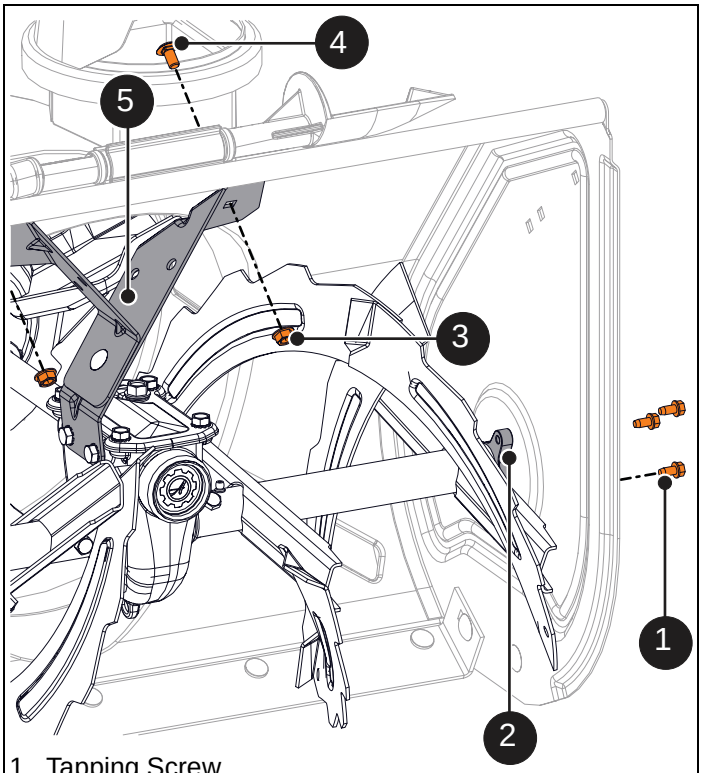


1. Hex Bolt
2. Locking Washer
3. Attachment Drive Pulley Assembly
4. Bearing Plate
5. Spacer Bushing

Figure 31

See Figure 32.

7. Remove hardware securing support bushings to auger housing.
8. Remove hardware securing support brackets to auger housing.



1. Tapping Screw
2. Support Bushing
3. Top Locking Flange Nut
4. Round Head Square Neck Bolt
5. Support Bracket

Figure 32

See Figure 33.

9. Remove auger assembly from housing.

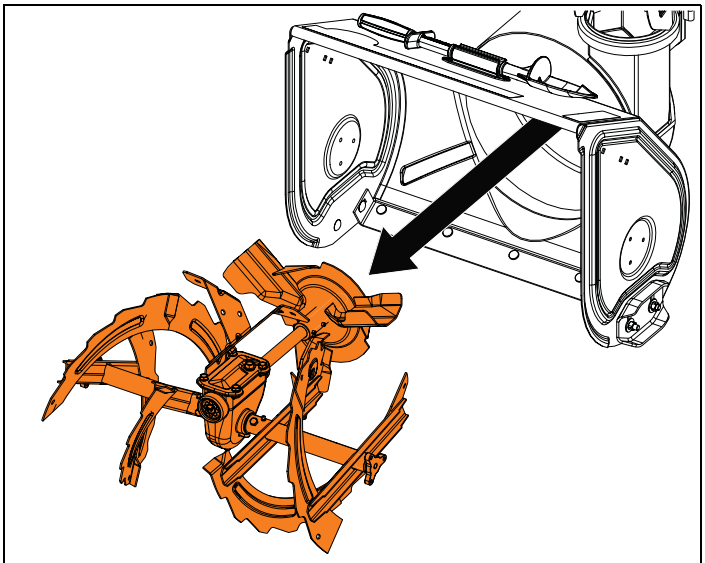
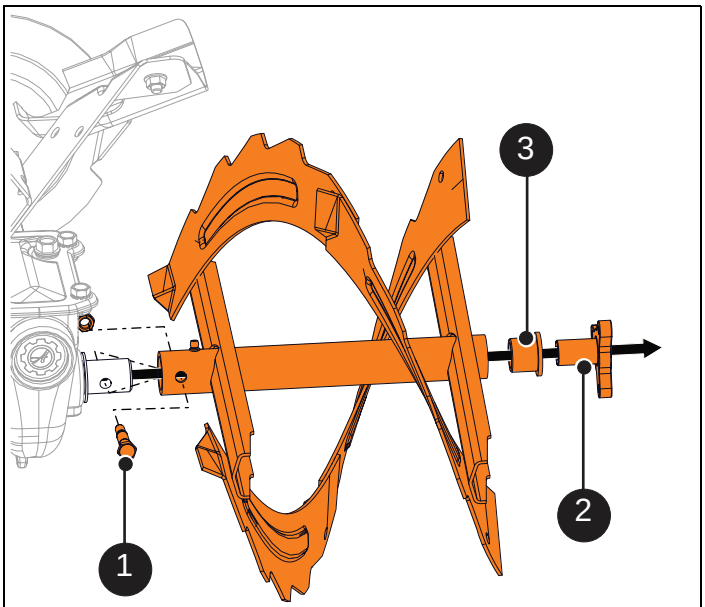


Figure 33

See Figure 34.

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

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



1. Shear Bolt
2. Support Bushing
3. Flange Bushing

Figure 34

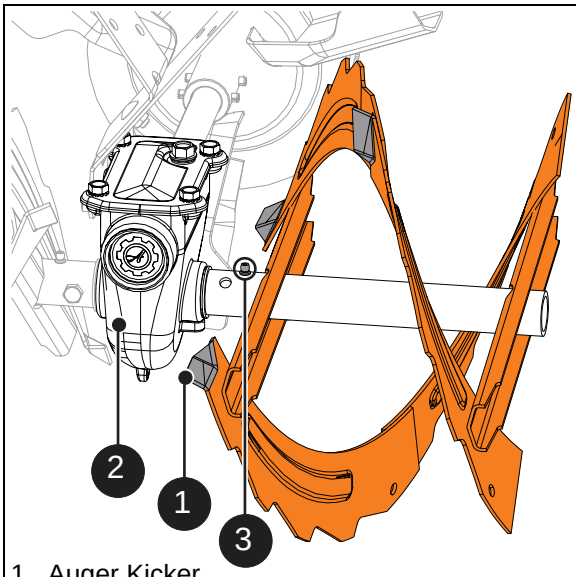
Install Auger

See Figure 33.

1. Install auger onto auger shaft with auger kickers facing 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 around auger shaft.



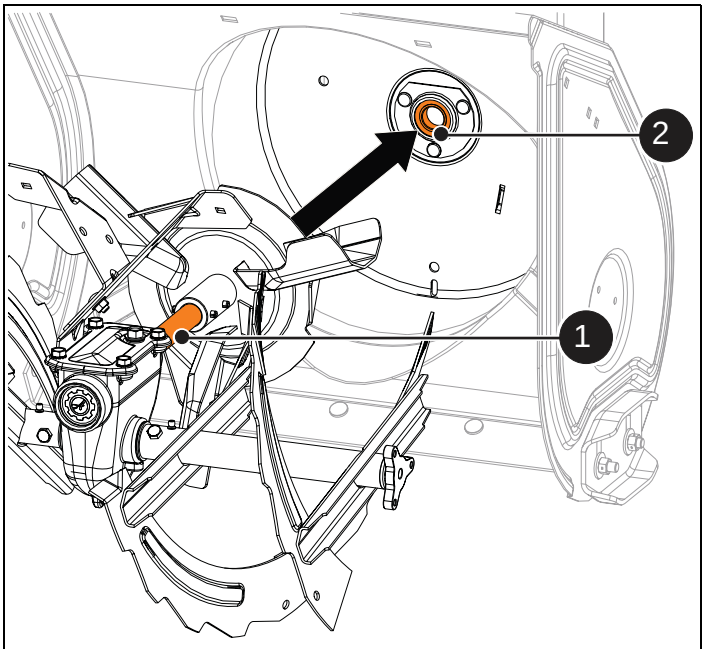
1. Auger Kicker
2. Gearcase
3. Grease Zerk

Figure 35

3. Align holes in auger with holes in auger shaft and reinstall shear bolt. Torque bolt to 7.9 – 16.5 N•m (5.8 – 12.2 lb-ft). If torque wrench is unavailable, tighten until bolts no longer spin freely. DO NOT overtighten.
4. Reinstall flange bushing and support bushing onto auger shaft end.

See Figure 36.

5. Reinstall auger assembly into housing so impeller shaft is seated in ball bearing at housing rear.



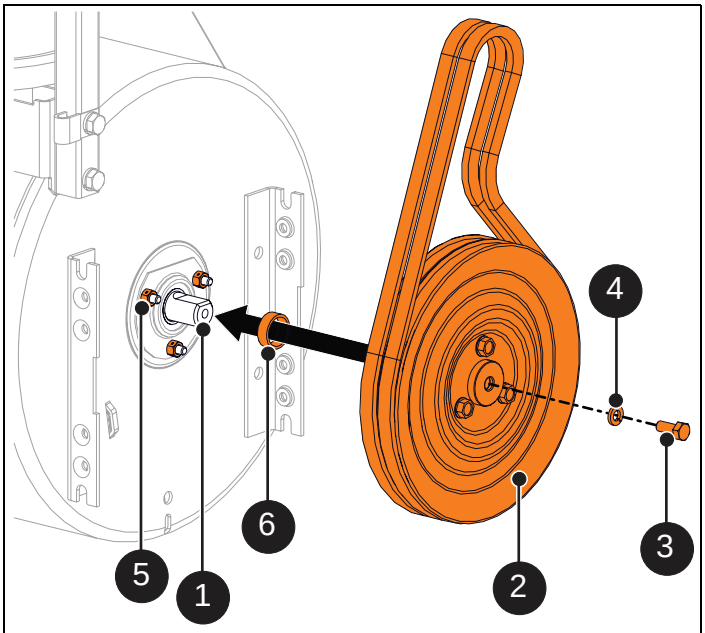
1. Impeller Shaft
2. Ball Bearing

Figure 36

6. Align holes in bushings on auger ends with holes in housing and partially thread all six tapping screws.
7. Tighten tapping screws.
8. Secure support brackets to auger housing with two round head square neck bolts and two top locking flange nuts.

See Figure 37.

9. Tighten three hex nuts securing bearing plate to housing.
10. Apply anti-seize compound to impeller shaft end.
11. Reinstall spacer bushing onto impeller shaft.
12. Reinstall attachment pulley assembly onto impeller shaft and secure with locking washer and hex bolt. Torque to 8 – 16.5 N•m (5.8 – 12.2 lb-ft).



1. Impeller Shaft
2. Attachment Drive Pulley
3. Hex Bolt
4. Locking Washer
5. Hex Nut
6. Spacer Bushing

Figure 37

13. Reinstall attachment drive belts. See *Install Attachment Drive Belts* on page 13.
14. Adjust attachment clutch / brake. Refer to Operator's Manual for adjustment procedure.
15. Reconnect spark plug wire.

IMPORTANT: Check all adjustments after first use.

AUGER GEARCASE REPLACEMENT

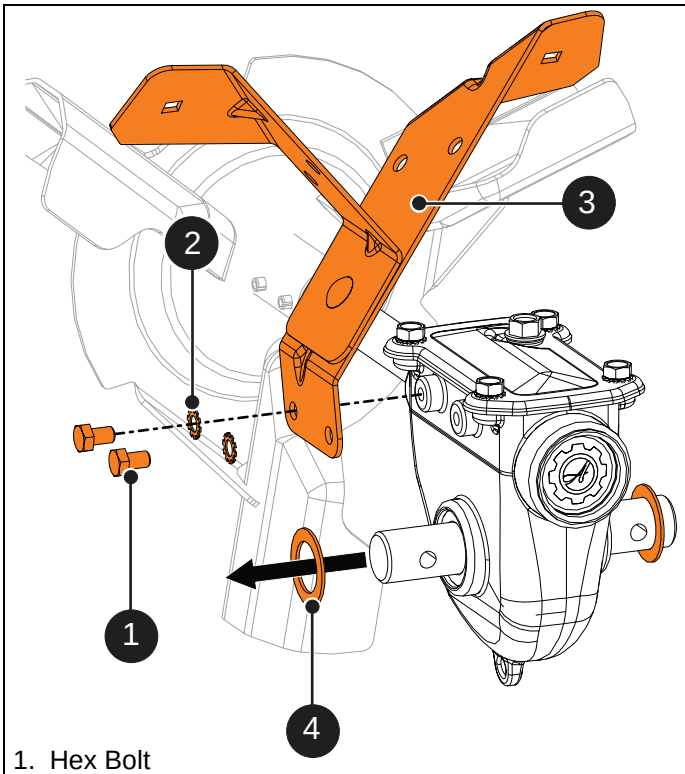
Remove Gearcase Assembly

NOTICE: 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 19.

See Figure 38.

4. Remove hardware securing support bracket to auger gearcase and remove support brackets.
5. Remove flat steel washers from auger shaft.

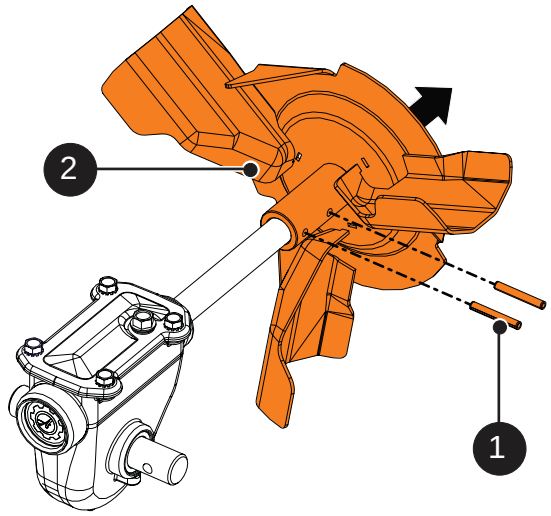


1. Hex Bolt
2. Extension Locking Washer
3. Support Bracket
4. Flat Steel Washer

Figure 38

See Figure 39.

6. Remove two roll pins securing impeller to impeller shaft and remove impeller. Use of penetrating oil or heat may be necessary to remove impeller.



1. Roll Pin
2. Impeller

Figure 39

Install Gearcase Assembly

1. Install impeller onto impeller shaft.
2. Align holes in impeller with holes in impeller shaft and reinstall roll pins.
3. Reinstall support bracket to gearcase with two extension locking washers and two hex bolts.
4. Reinstall one flat steel washer onto each auger shaft end.
5. Install augers. See *Install Auger* on page 20.
6. Reconnect spark plug wire.

IMPELLER REPLACEMENT

Remove Impeller

NOTICE: 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. Separate auger housing from frame. See *Separate Auger Housing From Frame* on page 10.

See Figure 31.

4. Remove hardware securing attachment drive pulley assembly to auger housing and remove assembly.
5. Remove spacer bushing from impeller shaft.
6. Loosen, but DO NOT remove hardware securing bearing plate to housing.
7. Remove hardware securing auger bushings to auger housing.

See Figure 32.

8. Remove hardware securing support bracket to auger housing.

See Figure 33.

9. Remove auger assembly from housing.

See Figure 39.

10. Remove two roll pins securing impeller to impeller shaft and remove impeller. Use of penetrating oil or heat may be necessary to remove impeller.

Install Impeller

1. Install impeller onto impeller shaft.
2. Align holes in impeller with holes in impeller shaft and reinstall roll pins.

See Figure 36.

3. Reinstall auger assembly into housing so impeller shaft is seated in ball bearing at housing rear.

See Figure 32.

4. Align holes in bushings on auger ends with holes in auger housing and secure with six tapping screws. Tighten hardware.
5. Align holes in support brackets with holes in auger housing. Secure brackets to housing with two round head square neck bolts and two top locking flange nuts.

See Figure 37.

6. Tighten three hex nuts securing bearing plate to housing.
7. Apply anti-seize compound to impeller shaft end.
8. Reinstall spacer bushing onto impeller shaft.
9. Reinstall attachment pulley assembly onto impeller shaft and secure with locking washer and hex bolt. Torque to 8 – 16.5 N•m (5.8 – 12.2 lb-ft).
10. Reinstall attachment drive belts. See *Install Attachment Drive Belts* on page 13.
11. Adjust attachment clutch / brake. Refer to Operator's Manual for adjustment procedure.
12. Reconnect spark plug wire.

IMPORTANT: Check all adjustments after first use.

ENGINE REPLACEMENT

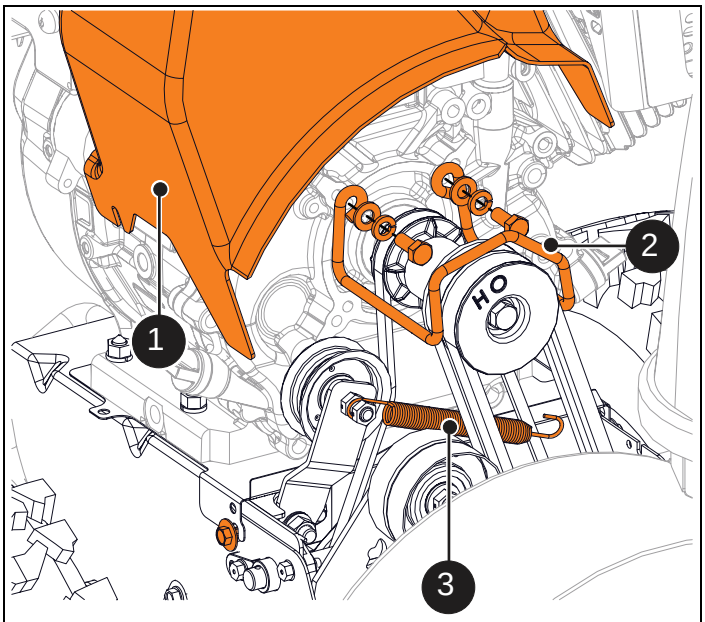
Remove Engine

NOTICE: Save all hardware for reinstallation.

1. Drain gasoline from fuel system and tank. See *Draining Fuel System* on page 8.
2. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
3. Disconnect spark plug wire from engine.

See Figure 40.

4. Loosen, but DO NOT remove hardware retaining belt cover to unit and remove belt cover.
5. Disconnect idler spring from traction drive idler and frame and remove spring.
6. Remove hardware retaining belt finger to engine and remove belt finger.

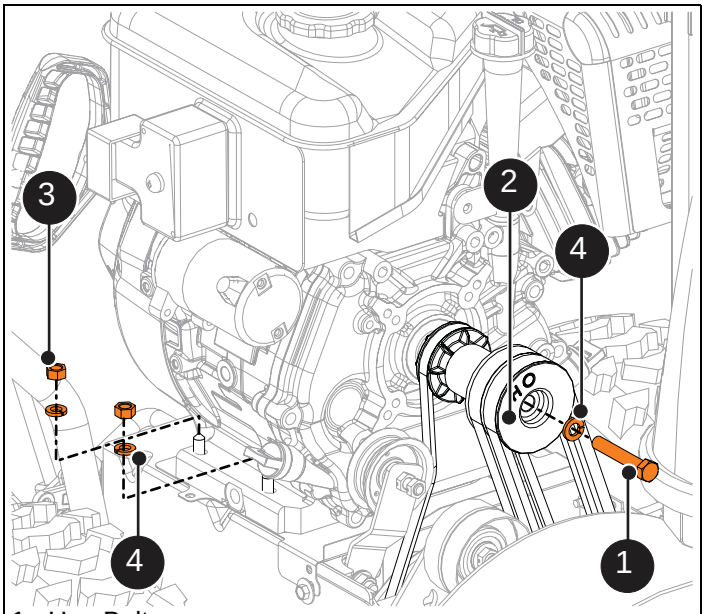


1. Belt Cover
2. Belt Finger
3. Idler Spring

Figure 40

See Figure 41.

7. Remove attachment drive belt from attachment sheave.
8. Remove hardware securing attachment sheave to crankshaft.
9. Remove hardware securing engine to frame.

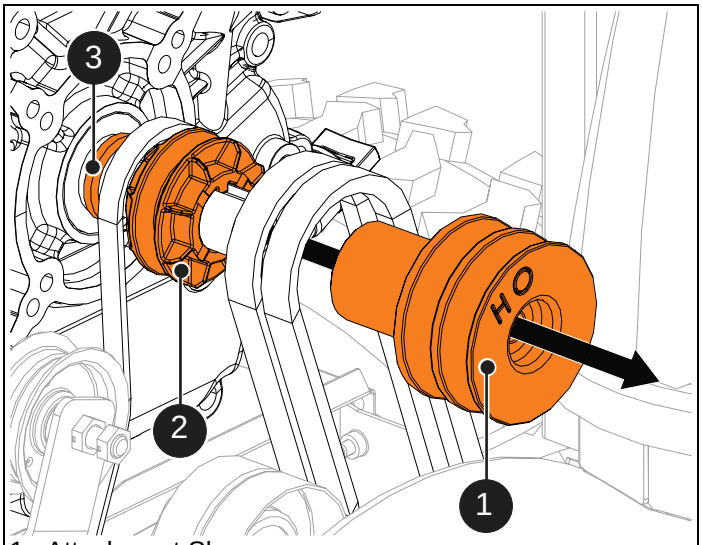


1. Hex Bolt
2. Attachment Sheave
3. Hex Nut
4. Locking Washer

Figure 41

See Figure 42.

10. Remove attachment sheave, traction sheave and flat nylon washer from crankshaft.
11. Move attachment drive belt and traction drive belt off crankshaft.
12. Lift engine off frame and lower onto a flat, level surface.



1. Attachment Sheave
2. Traction Sheave
3. Flat Nylon Washer

Figure 42

Install Engine

1. Lower engine onto frame so weld screws in frame insert through mounting holes in engine base.
2. Reinstall four locking washers over weld screws and secure with hex nuts. Torque to 11.9 – 17.9 N•m (8.8 – 13.2 lb-ft).
3. Reinstall flat nylon washer onto crankshaft.
4. Align traction sheave key with crankshaft keyway and reinstall traction sheave onto crankshaft.

IMPORTANT: Traction sheave must be reinstalled in the orientation shown in Figure 43.

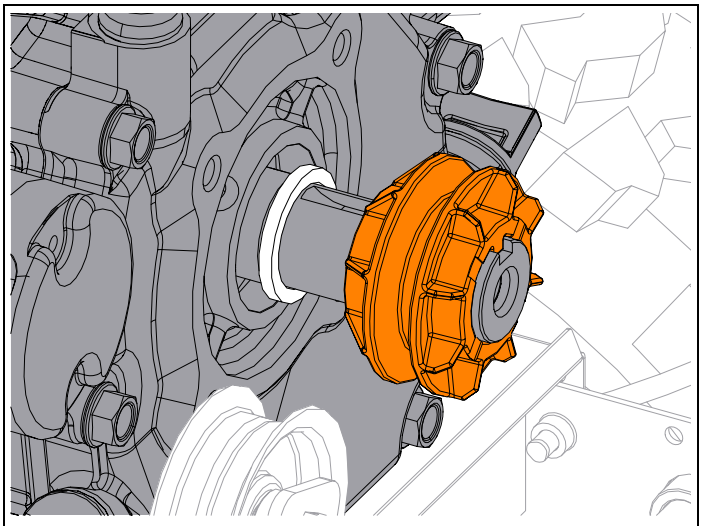


Figure 43

5. Reinstall traction drive belt onto traction sheave.
6. Reinstall idler spring to traction drive idler and frame.
7. Align attachment sheave key with crankshaft keyway and reinstall attachment sheave onto crankshaft. Secure with locking washer and hex bolt and tighten hardware.
8. Reinstall attachment drive belts onto attachment sheave.
9. Reinstall belt finger and secure with two flat steel washers, two locking washers and two hex bolts as shown in Figure 17.
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 hex bolts, repositioning belt finger, and tightening bolts.
11. Reinstall belt cover and tighten hardware.
12. Adjust attachment clutch / brake. Refer to Operator's Manual for adjustment procedure.
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.

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

TRACTION DRIVE CABLE REPLACEMENT

Remove Traction Drive Cable

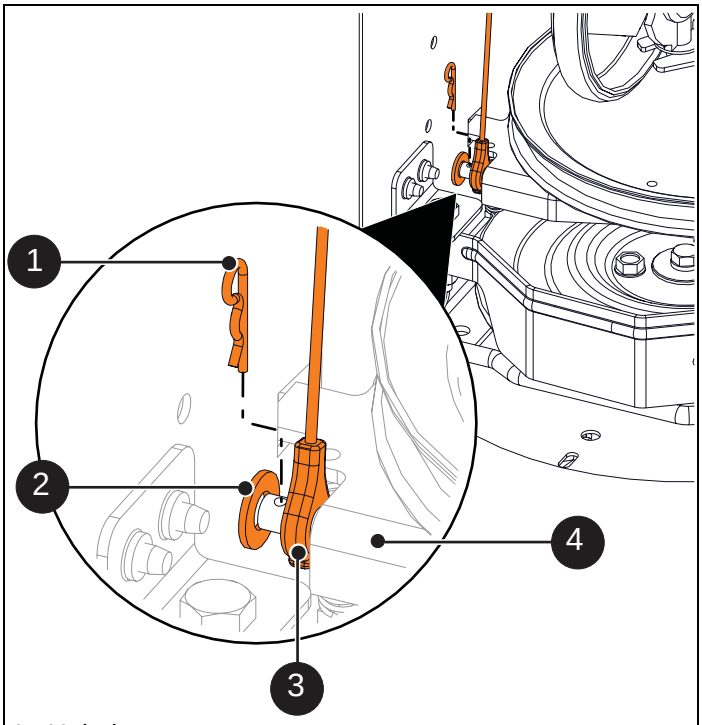
NOTICE: Save all hardware for reinstallation.

WARNING: AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. 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 8.
4. Remove bottom cover. See *Bottom Cover Removal* on page 9.

See Figure 44.

5. Remove hairpin and flat steel washer securing cable eyelet to swing gate and remove cable.

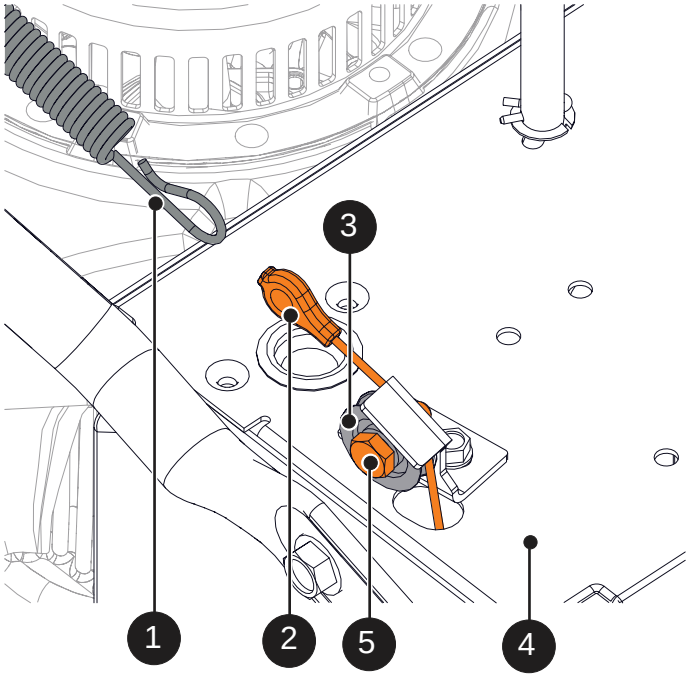


1. Hairpin
2. Flat Steel Washer
3. Cable Eyelet
4. Swing Gate

Figure 44

See Figure 45.

6. Disconnect lower traction drive cable from upper traction drive cable.
7. Loosen, but DO NOT remove shoulder bolt retaining cable pulley to cable pulley bracket.
8. Remove cable from cable pulley and remove cable from unit.



1. Upper Traction Drive Cable
2. Lower Traction Drive Cable
3. Cable Pulley
4. Back Cover
5. Shoulder Bolt

Figure 45

Install Traction Drive Cable

1. Connect lower traction drive cable to upper traction drive cable.
2. Feed cable end through hole in back cover.
3. Align cable with cable pulley and tighten shoulder bolt.
4. Install cable eyelet onto swing gate and secure with flat steel washer and hairpin.
5. Reinstall bottom cover and secure with six hex bolts.
6. For wheel models, align wheel keyways with axle keys and reinstall wheels. Secure with snap clips.
7. Return unit to operating position.
8. Adjust traction drive clutch. Refer to Operator's Manual for adjustment procedure.
9. Reconnect spark plug wire.

IMPORTANT: Check all adjustments after first use.

AXLE BUSHING REPLACEMENT (LEFT SIDE)

Remove Left Axle Bushing

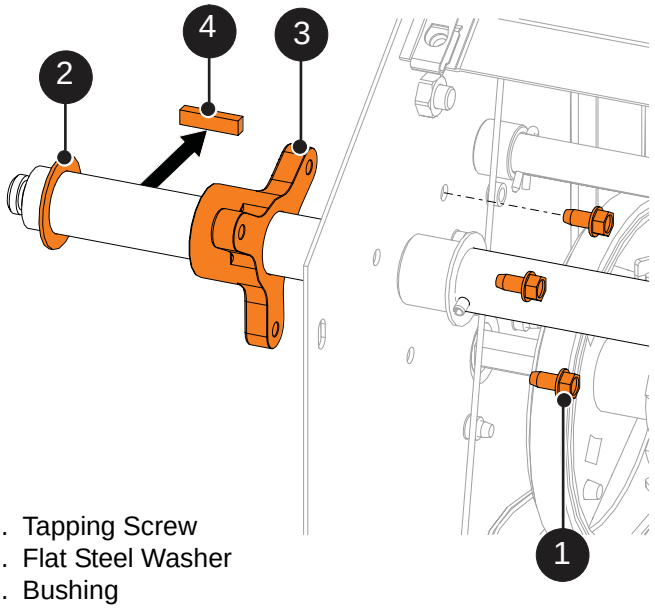
NOTICE: Save all hardware for reinstallation.

WARNING: AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. 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 8.
4. Remove bottom cover. See *Bottom Cover Removal* on page 9.
5. Place speed selector lever in the fastest forward position.

See Figure 46.

6. Remove key and flat steel washer from axle.
7. Remove hardware securing bushing to frame.
8. Remove bushing.



1. Tapping Screw
2. Flat Steel Washer
3. Bushing
4. Key

Figure 46

Install Axle Bushing

1. Pre-tap new bushing with original tapping screws.
2. Install bushing onto axle.
3. Secure bushing to frame with three tapping screws from inside frame and tighten hardware.
4. Reinstall flat steel washer and key onto axle.
5. Reinstall bottom cover and secure with six hex bolts.
6. Align wheel keyways with axle keys and reinstall wheels. Secure with snap clips.
7. Return unit to operating position.
8. Reconnect spark plug wire.

AXLE BUSHING REPLACEMENT (RIGHT SIDE)

Remove Axle Bushing

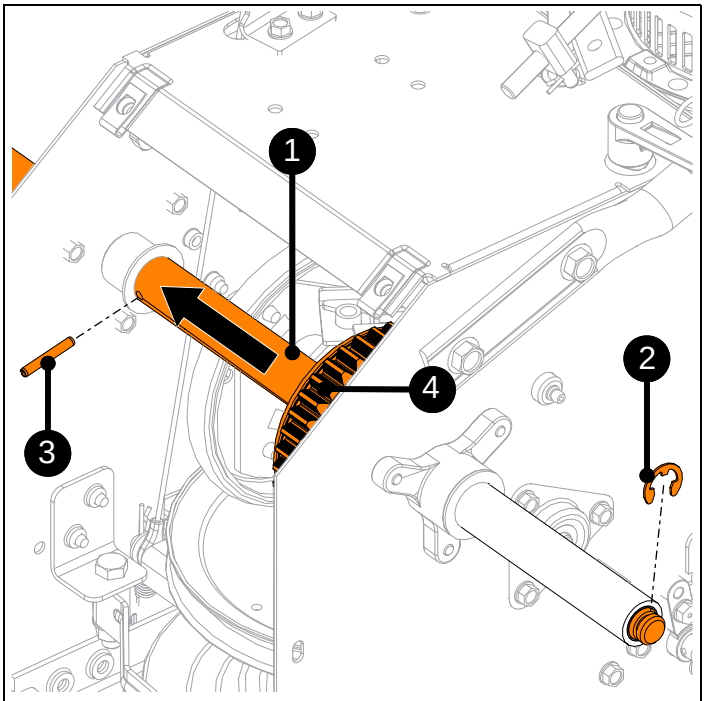
NOTICE: Save all hardware for reinstallation.

> **WARNING:** AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. 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 8.
4. Remove bottom cover. See *Bottom Cover Removal* on page 9.
5. Place speed selector lever in the fastest forward position.

See Figure 47.

6. Remove E-ring from axle end.
7. Remove roll pin from long axle and move long axle left. Move differential gear with long axle to access bushing hardware.

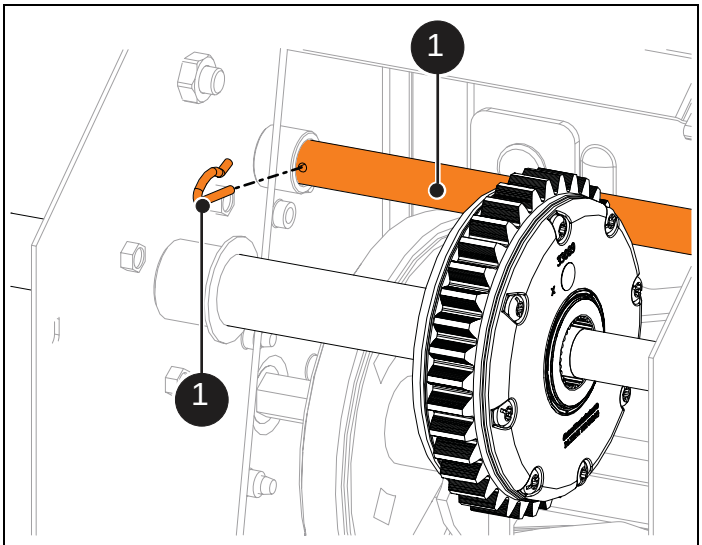


1. Long Axle
2. E-Ring
3. Roll Pin
4. Differential Gear

Figure 47

See Figure 48.

8. Remove spring clip from left side of pinion shaft.



1. Spring Clip
2. Pinion Shaft

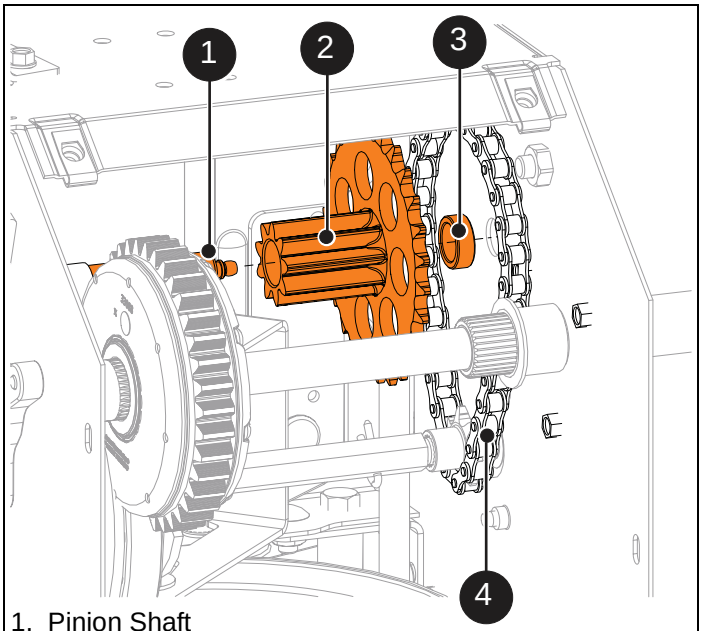
Figure 48

See Figure 49.

NOTICE: Sleeve bushing between pinion sprocket and frame will fall from pinion shaft in next step.

9. Move pinion shaft left and separate from pinion sprocket.
10. Remove pinion sprocket from chain.

IMPORTANT: Flange bushings in pinion sprocket are not to be removed.

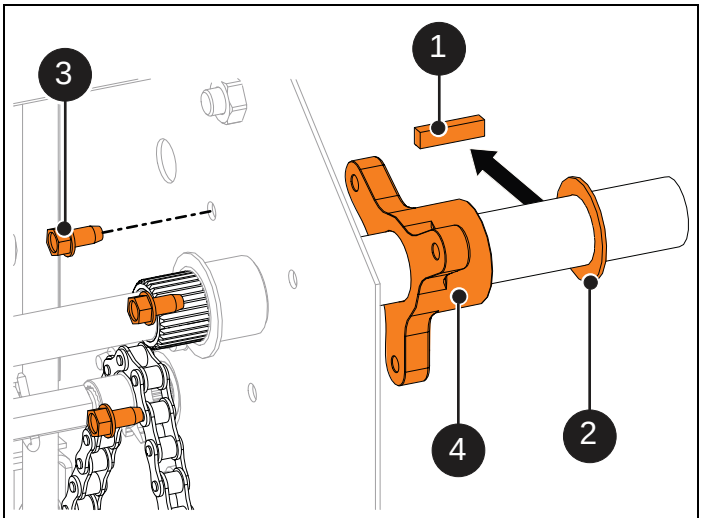


1. Pinion Shaft
2. Pinion Sprocket
3. Sleeve Bushing
4. Chain

Figure 49

See Figure 50.

11. Remove key and flat steel washer from axle.
12. Remove hardware securing bushing to frame.
13. Remove bushing.



1. Key
2. Flat Steel Washer
3. Tapping Screw
4. Bushing

Figure 50

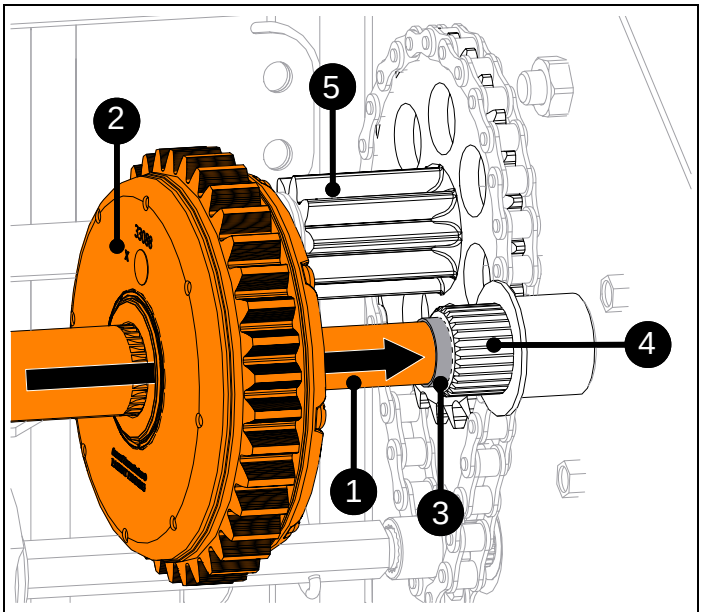
Install Axle Bushing

1. Pre-tap new bushing with original tapping screws.
2. Install bushing onto axle.
3. Secure bushing to frame with three tapping screws from inside frame and tighten hardware.
4. Reinstall flat steel washer and key onto axle.
5. Reinstall pinion sprocket into chain.
6. Position sleeve bushing between pinion sprocket and frame.
7. Insert pinion shaft through pinion sprocket, sleeve bushing and frame.
8. Reinstall spring clip into left side of pinion shaft.

See Figure 51.

9. Move long axle right until differential gear meets short axle. Align differential with pinion sprocket and reinstall onto short axle.

IMPORTANT: Make sure sleeve bushing is positioned outside long axle and inside short axle.

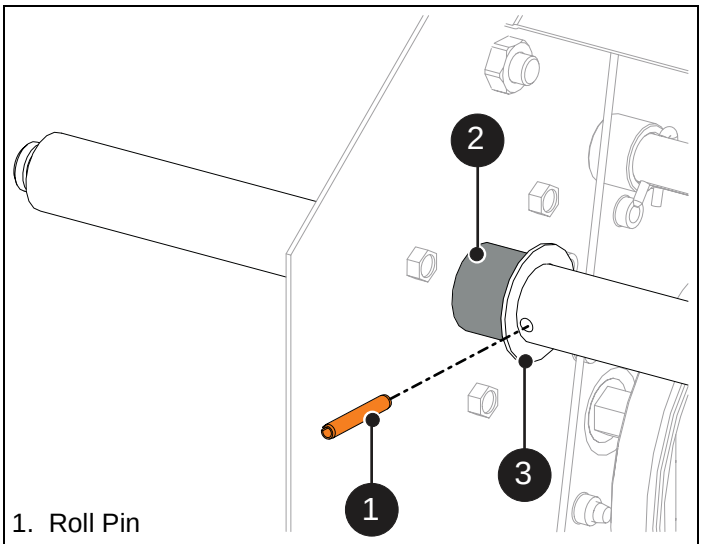


1. Long Axle
2. Differential Gear
3. Sleeve Bushing
4. Short Axle
5. Pinion Sprocket

Figure 51

See Figure 52.

10. Move sleeve bushing and flat steel washer against frame and reinstall roll pin into axle.



1. Roll Pin
2. Sleeve Bushing
3. Flat Steel Washer

Figure 52

11. Reinstall E-ring onto right axle end.
12. Reinstall flat steel washer and key onto axle.
13. Reinstall bottom cover and secure with six hex bolts.
14. Align wheel keyways with axle keys and reinstall wheels. Secure with snap clips.
15. Return unit to operating position.
16. Reconnect spark plug wire.

FLANGE BUSHING REPLACEMENT

Remove Flange Bushing

NOTICE: Save all hardware for reinstallation.

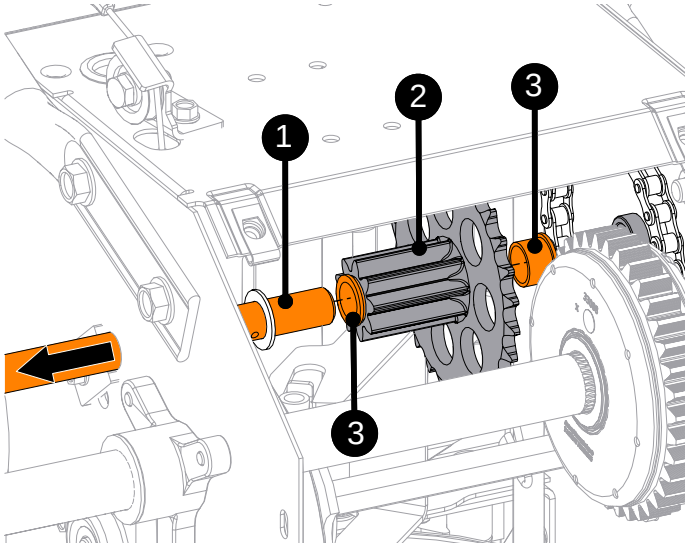
> **WARNING:** AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. Make sure unit is secure and will not tip.

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 8.
4. Remove bottom cover. See *Bottom Cover Removal* on page 9.
5. Remove spring clip from left side of pinion shaft as shown in Figure 48.

See Figure 53.

NOTICE: Sleeve bushing between pinion sprocket and frame will fall when pinion shaft is removed.

6. Move pinion shaft left until removed from pinion sprocket.
7. Remove pinion sprocket from chain.
8. Remove flange bushings from pinion sprocket.



1. Pinion Shaft
2. Pinion Sprocket
3. Flange Bushings

Figure 53

Install Flange Bushings

1. Insert flange bushings into pinion sprocket
2. Reinstall pinion sprocket into chain.
3. Position sleeve bushing between pinion sprocket and frame.
4. Insert pinion shaft through pinion sprocket, sleeve bushing and frame.
5. Make sure pinion shaft is centered and spacer bushing on pinion shaft is against frame.
6. Reinstall spring clip into left side of pinion shaft.
7. Reinstall bottom cover and secure with six hex bolts.
8. For wheel models, align wheel keyways with axle keys and reinstall wheels. Secure with snap clips.
9. Return unit to operating position.
10. Reconnect spark plug wire.

BEARING FLANGE REPLACEMENT

Remove Bearing Flange

NOTICE: Save all hardware for reinstallation.

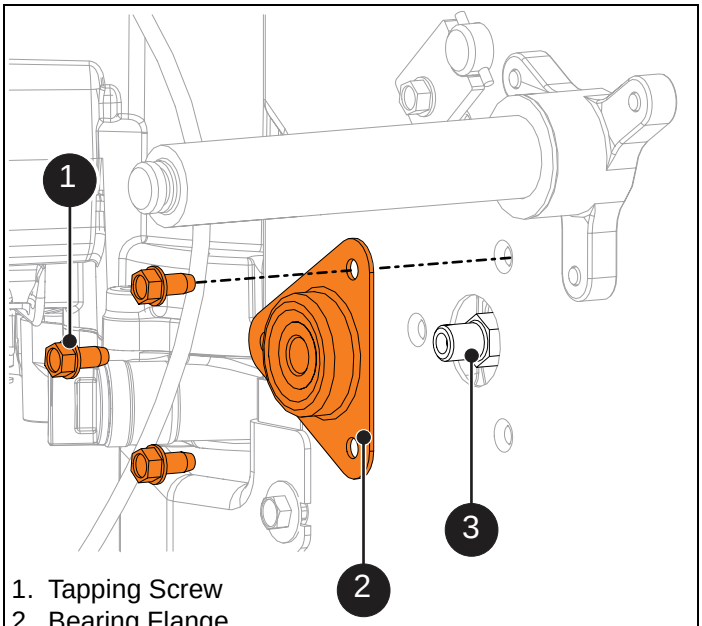
WARNING: AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. Make sure unit is secure and will not tip.

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 8.
4. For wheel models, remove snap clips securing wheels to axle and remove wheels. See Figure 3.

IMPORTANT: Be aware of key on axle ends. If key is removed, reinstall before reinstalling wheel.

See Figure 54.

5. Remove hardware securing bearing flange to frame and remove bearing flange.



1. Tapping Screw
2. Bearing Flange
3. Hex Shaft

Figure 54

Install Bearing Flange

1. Install bearing flange onto hex shaft end and secure to frame with three tapping screws.
2. For wheel models, align wheel keyways with axle keys and reinstall wheels. Secure with snap clips.
3. Return unit to operating position.
4. Reconnect spark plug wire.

DIFFERENTIAL GEAR REPLACEMENT

Remove Differential Gear

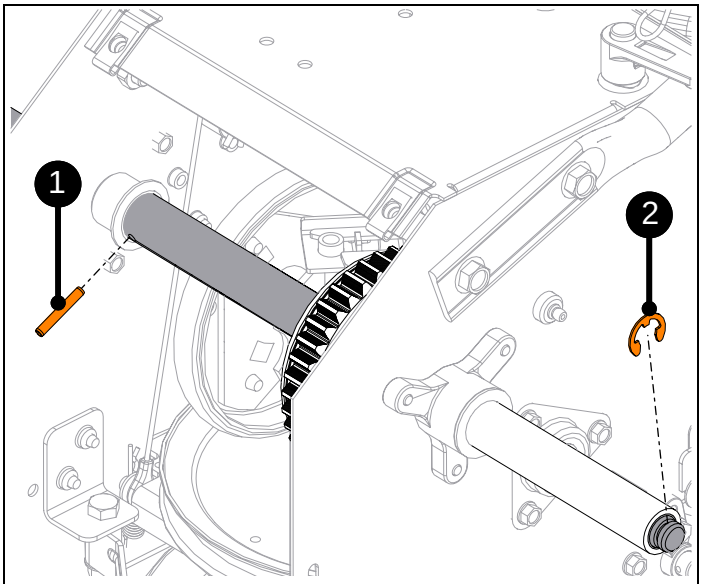
NOTICE: Save all hardware for reinstallation.

WARNING: AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. 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 8.
4. Remove bottom cover. See *Bottom Cover Removal* on page 9.

See Figure 55.

5. Remove roll pin from axle.
6. Remove E-ring from axle end.



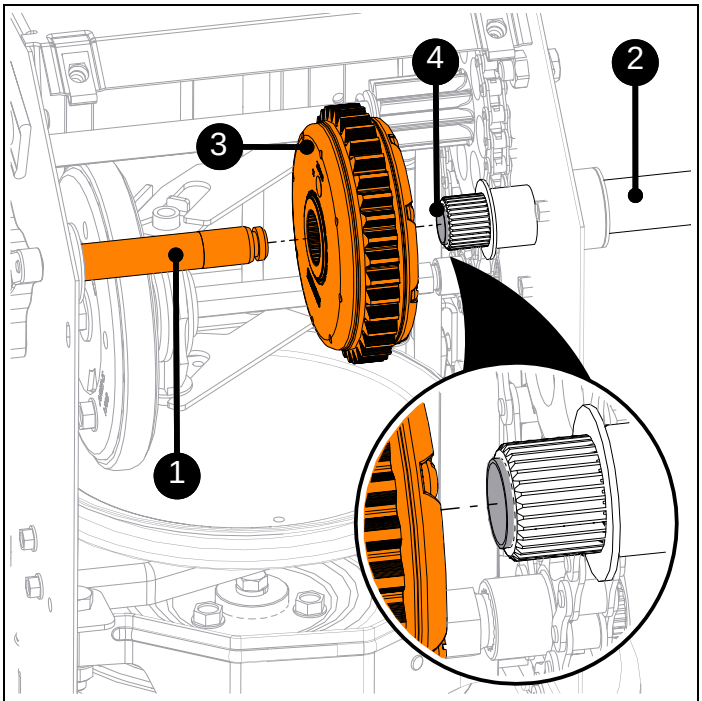
1. Roll Pin
2. E-Ring

Figure 55

See Figure 56.

7. Move long axle left and remove from differential gear.
8. Remove differential gear from short axle.

IMPORTANT: Make sure sleeve bushing remains inside short axle.



1. Long Axle
2. Short Axle
3. Differential Gear
4. Sleeve Bushing

Figure 56

Install Differential Gear

1. Align differential gear with pinion sprocket and install onto short axle.
2. Reinstall long axle into differential gear.
3. Reinstall E-ring onto axle end.
4. Reinstall roll pin into axle.
5. Reinstall bottom cover and secure with six hex bolts.
6. For wheel models, align wheel keyways with axle keys and reinstall wheels. Secure with snap clips.
7. Return unit to operating position.
8. Reconnect spark plug wire.

CHUTE GEAR REPLACEMENT

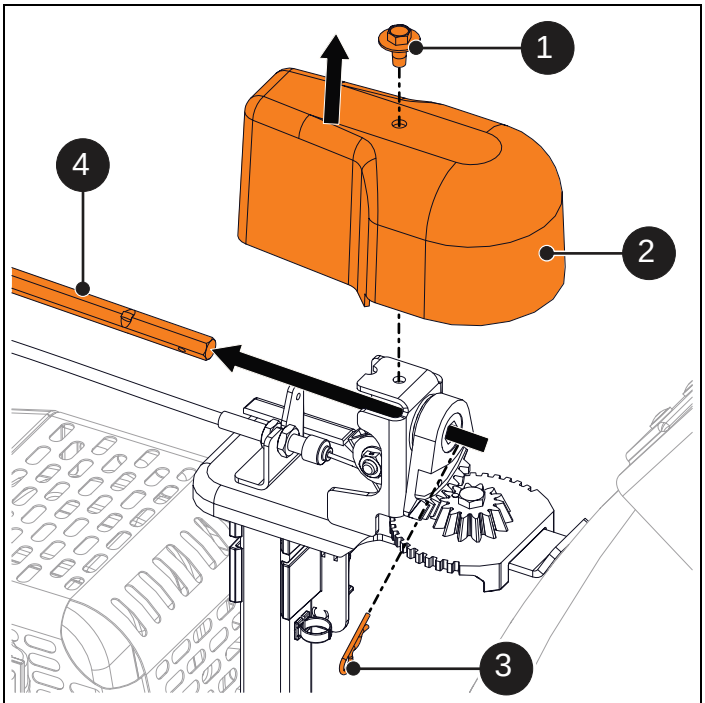
Remove Chute Rotation Gear

NOTICE: 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 57.

3. Position discharge chute facing forward.
4. Remove hardware retaining chute gear cover to chute pedestal and remove cover.
5. Remove hairpin from hex rod and remove hex rod from chute gear.



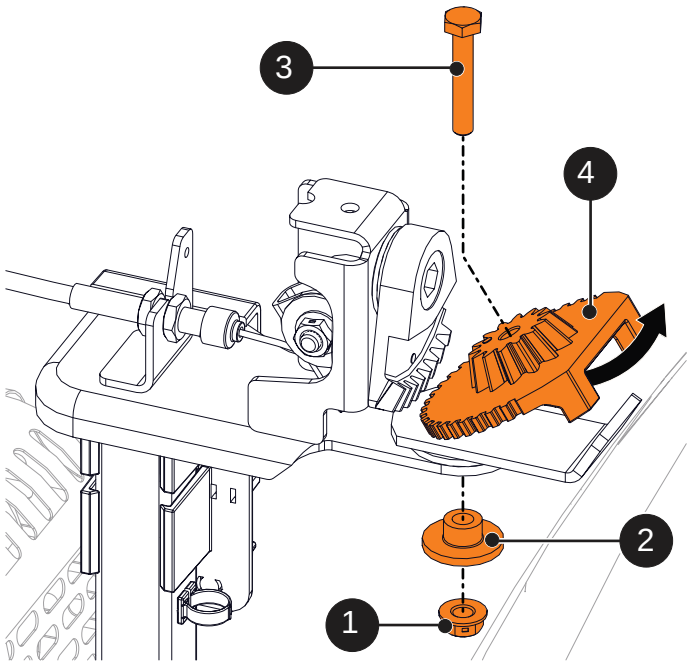
1. Tapping Screw
2. Chute Gear Cover
3. Hairpin
4. Hex Rod

Figure 57

See Figure 58.

IMPORTANT: Support discharge chute so it remains upright.

6. Remove hardware securing chute rotation gear to pedestal plate and remove chute gear.

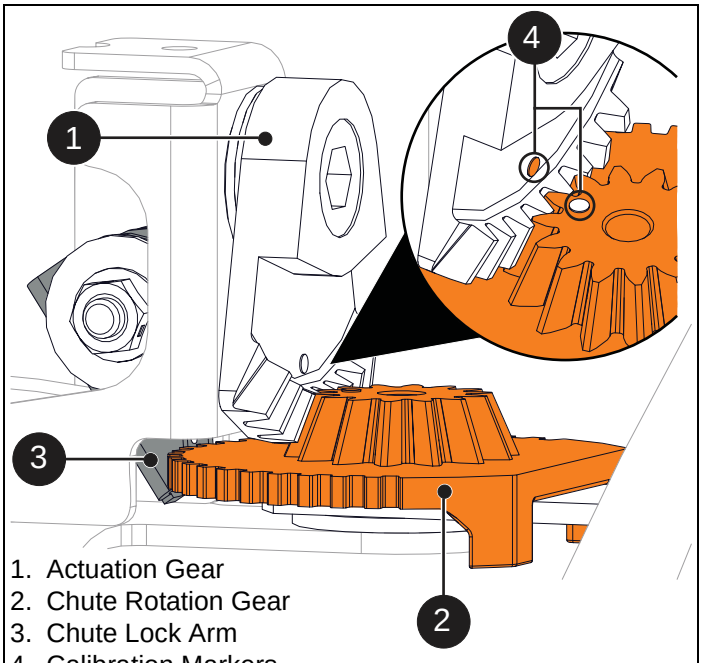


1. Center Locking Flange Nut
2. Flange Bushing
3. Hex Bolt
4. Chute Rotation Gear

Figure 58

Install Chute Rotation Gear

1. Position actuation gear so gear teeth are at lowest position.
2. Install chute rotation gear so midpoint of lower gear teeth are seated in chute lock arm.
3. Make sure calibration markers on actuation gear and chute rotation gear are aligned.



1. Actuation Gear
2. Chute Rotation Gear
3. Chute Lock Arm
4. Calibration Markers

Figure 59

4. Position chute rotation lever upright.
5. Position discharge chute facing forward.
6. Reinstall hex rod into chute gear and secure with hairpin.
7. Reinstall chute gear cover and secure with tapping screw.
8. Adjust discharge chute. Refer to Operator's Manual for adjustment procedure.
9. Reconnect spark plug wire.

IMPORTANT: Check all adjustments after first use.

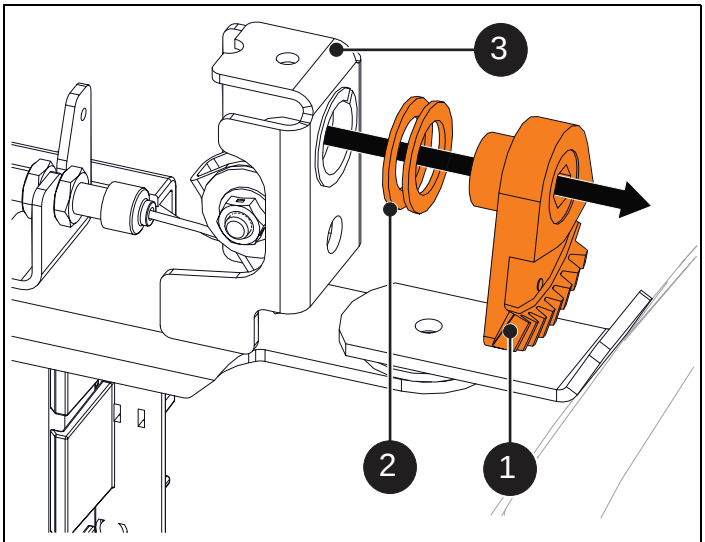
Remove Actuation Gear

NOTICE: 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 chute rotation gear. See *Remove Chute Rotation Gear* on page 32.

See Figure 60.

4. Remove actuation gear and two flat steel washers from chute gear bracket.



1. Actuation Gear
2. Flat Steel Washer
3. Chute Gear Bracket

Figure 60

Install Actuation Gear

1. Install two flat steel washers onto actuation gear.
2. Install actuation gear into chute gear bracket and position so gear teeth are at lowest position.
3. Reinstall chute rotation gear. See *Install Chute Rotation Gear* on page 33.

SCRAPER BLADE REPLACEMENT

Remove Scraper Blade

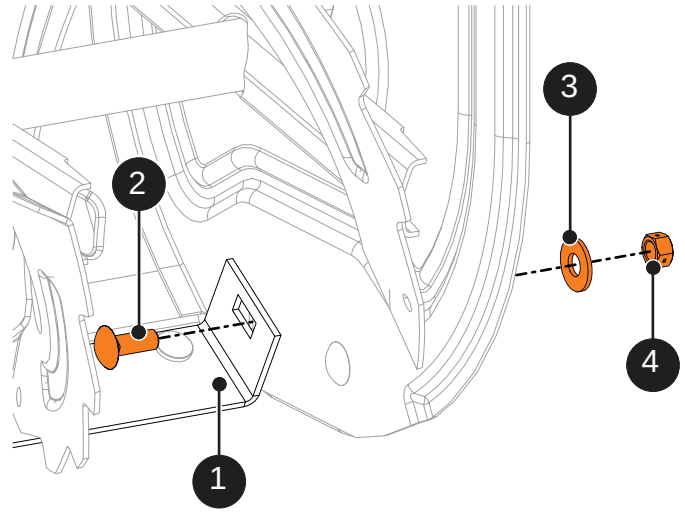
NOTICE: Save all hardware for reinstallation.

WARNING: AVOID INJURY. Before tipping unit onto handlebars, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. 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.

See Figure 61.

3. Remove hardware securing scraper blade ends to auger housing.

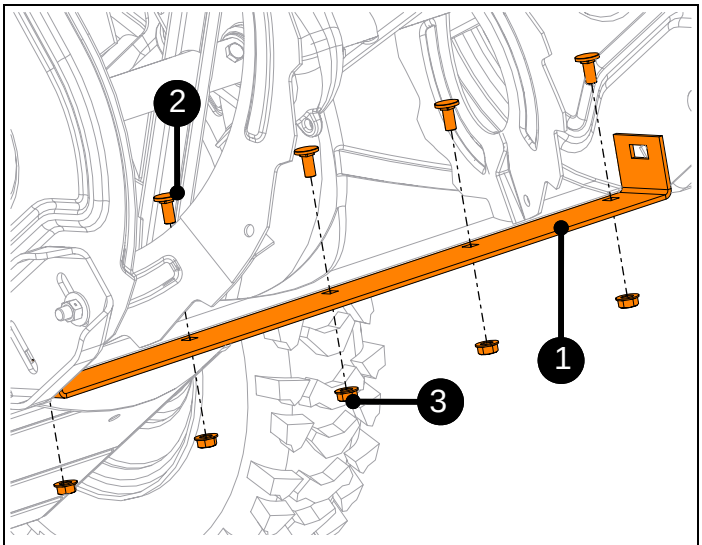


1. Scraper Blade
2. Round Head Square Neck Bolt
3. Flat Steel Washer
4. Hex Nut

Figure 61

See Figure 62.

4. Slowly tip unit back so it rests on handlebars.
5. Remove remaining hardware securing scraper blade to auger housing and remove scraper blade.



1. Scraper Blade
2. Flat Head Square Neck Bolt
3. Top Locking Flange Nut

Figure 62

Install Scraper Blade

1. Position scraper blade inside auger housing and align with holes in housing.
2. Insert five flat head square neck bolts through scraper blade and auger housing from inside housing. Secure with top locking flange nuts.
3. Insert two round head square neck bolts through scraper blade ends, auger housing and skid shoes from inside housing. Secure with two flat steel washers and two hex nuts.
4. Return unit to operating position.
5. Adjust scraper blade and skid shoes. Refer to Operator's Manual for adjustment procedures.
6. Reconnect spark plug wire.

IMPORTANT: Check all adjustments after first use.

TRACK DRIVE WHEEL REPLACEMENT

Remove Track Drive Wheel

NOTICE: Save all hardware for reinstallation.

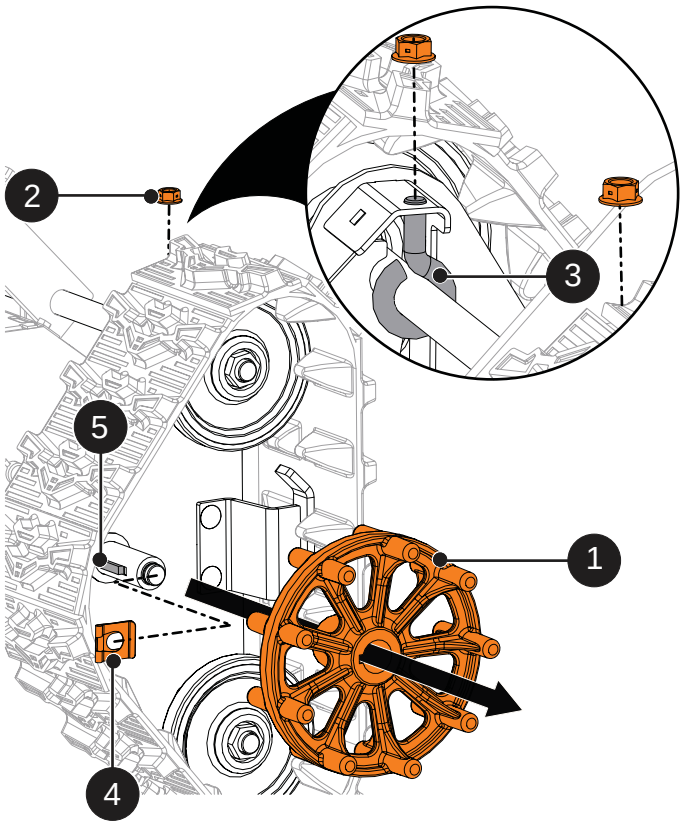
WARNING: AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. Make sure unit is secure and will not tip.

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 8.

See Figure 63.

4. Remove center locking flange nuts from eye bolts on carriage assembly to release track tension.
5. Remove snap clip retaining track drive wheel to drive axle and remove wheel.

IMPORTANT: Be aware of key on axle ends. If key is removed, reinstall before reinstalling wheel.



1. Track Drive Wheel
2. Center Locking Flange Nut
3. Eye Bolt
4. Snap Clip
5. Key

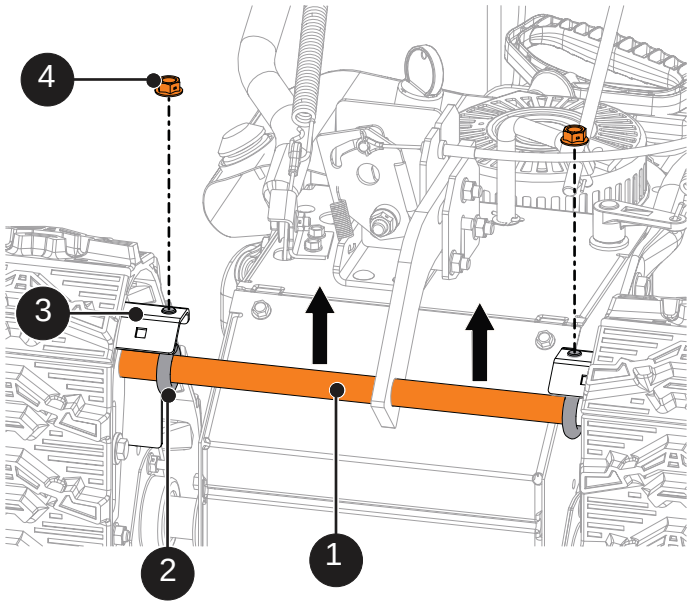
Figure 63

Install Track Drive Wheel

1. Align keyway in track drive wheel with key on drive axle and install wheel onto axle.
2. Align track drive wheel with track center and secure with snap ring.

See Figure 64.

3. With a helper, pull up on rear track axle so eye bolts insert through tension brackets. Secure with center locking flange nuts.



1. Rear Track Axle
2. Eye Bolt
3. Tension Bracket
4. Center Locking Flange Nut

Figure 64

4. Return unit to operating position.
5. Adjust track tension. Refer to Operator's Manual for adjustment procedure.
6. Reconnect spark plug wire.

IMPORTANT: Check all adjustments after first use.

TRACK REPLACEMENT

Remove Track

NOTICE: Save all hardware for reinstallation.

WARNING: AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. 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 8.
4. Remove track drive wheel. See *Remove Track Drive Wheel* on page 35.

See Figure 65.

5. Remove track from carriage assembly.

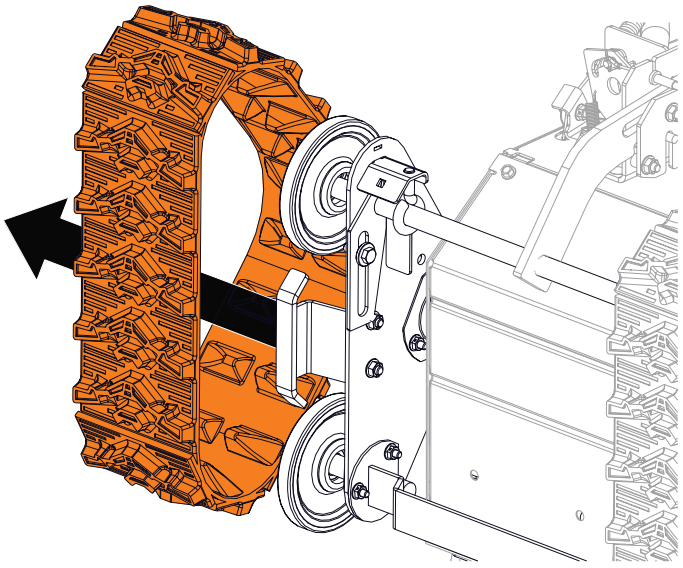


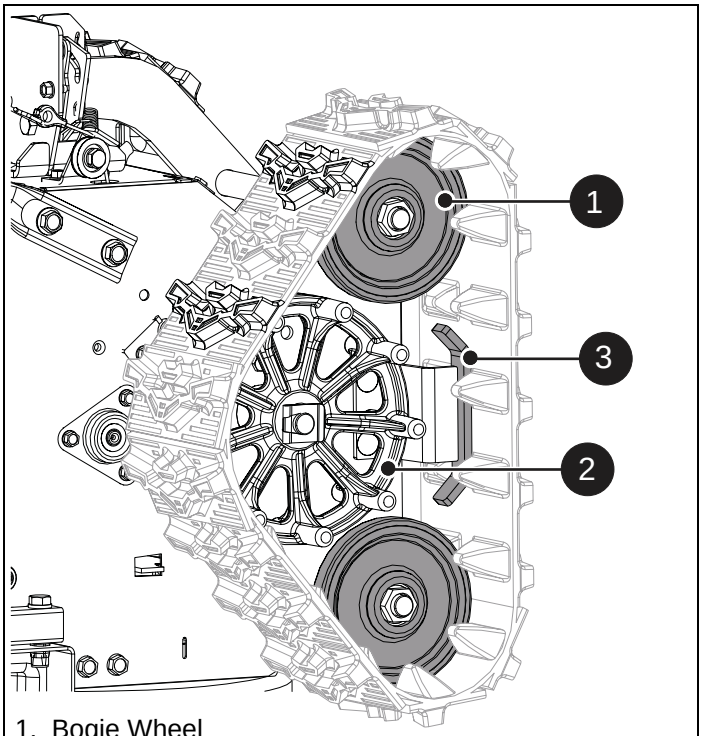
Figure 65

Install Track

See Figure 66.

IMPORTANT: Tracks are directional and must be installed with treads in the orientation shown in Figure 66.

1. Install track onto carriage assembly so bogie wheels and track runner are seated in track center.
2. Reinstall track drive wheel. See *Install Track Drive Wheel* on page 35.



1. Bogie Wheel
2. Drive Wheel
3. Track Runner

Figure 66

3. Return unit to operating position.
4. Adjust track tension. Refer to Operator's Manual for adjustment procedure.
5. Reconnect spark plug wire.

IMPORTANT: Check all adjustments after first use.

BOGIE WHEEL REPLACEMENT

Remove Bogie Wheel

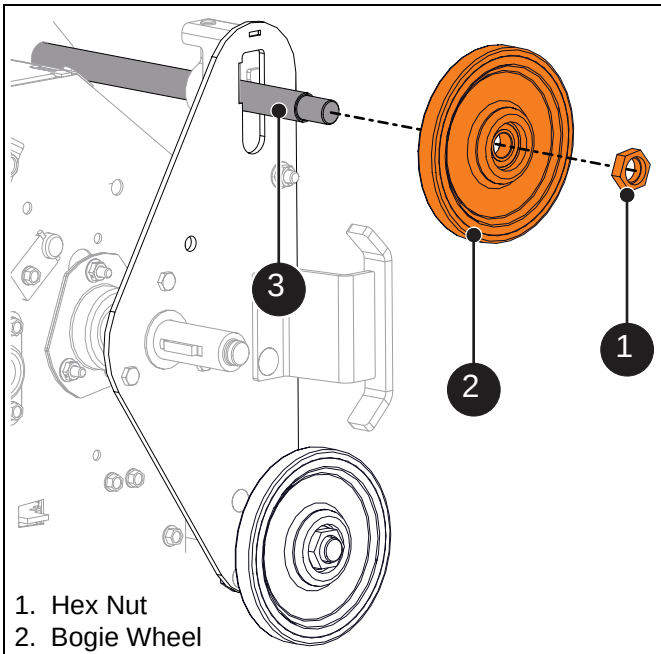
NOTICE: Save all hardware for reinstallation.

WARNING: AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. 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 8.
4. Remove track. See *Remove Track* on page 36.

See Figure 67.

5. Remove hex nut securing bogie wheel to track axle and remove bogie wheel.



1. Hex Nut
2. Bogie Wheel
3. Track Axle

Figure 67

Install Bogie Wheel

1. Install bogie wheel onto track axle and secure with hex nut, but DO NOT overtighten.

NOTICE: Bogie wheel should spin freely.

2. Reinstall track. See *Install Track* on page 36.
3. Return unit to operating position.
4. Adjust track tension. Refer to Operator's Manual for adjustment procedure.
5. Reconnect spark plug wire.

IMPORTANT: Check all adjustments after first use.

BEARING FLANGE REPLACEMENT (TRACK MODELS)

Remove Bearing Flange From Left Side of Unit

NOTICE: Save all hardware for reinstallation.

WARNING: AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. Make sure unit is secure and will not tip.

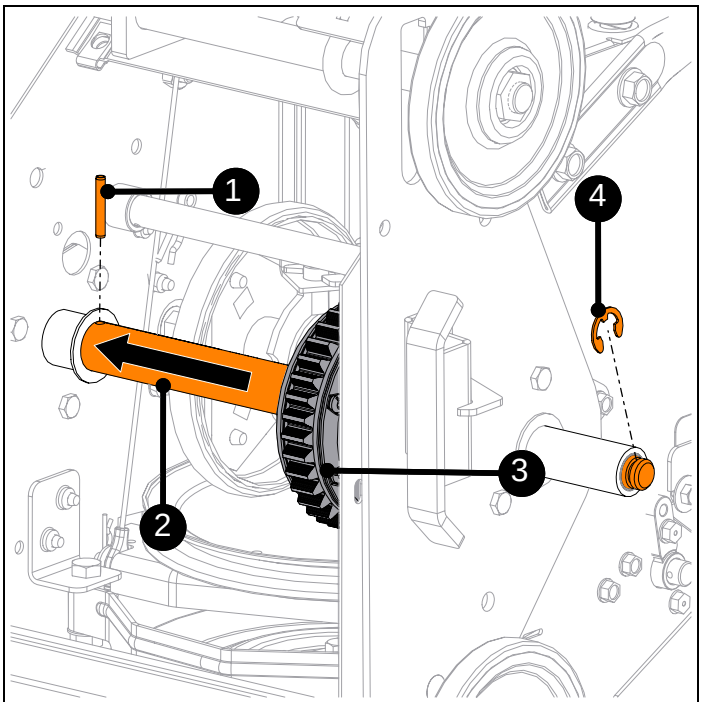
1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Place unit in service position. See *Service Position* on page 8.
4. Remove tracks. See *Remove Track* on page 36.

NOTICE: Position carriage assembly in the "Raised Position" to remove bottom cover. Refer to Operator's Manual.

5. Remove hardware securing bottom cover to unit and remove bottom cover.

See Figure 68.

6. Remove E-ring from right axle end.
7. Remove roll pin from axle.
8. Move long axle left and remove from differential gear.

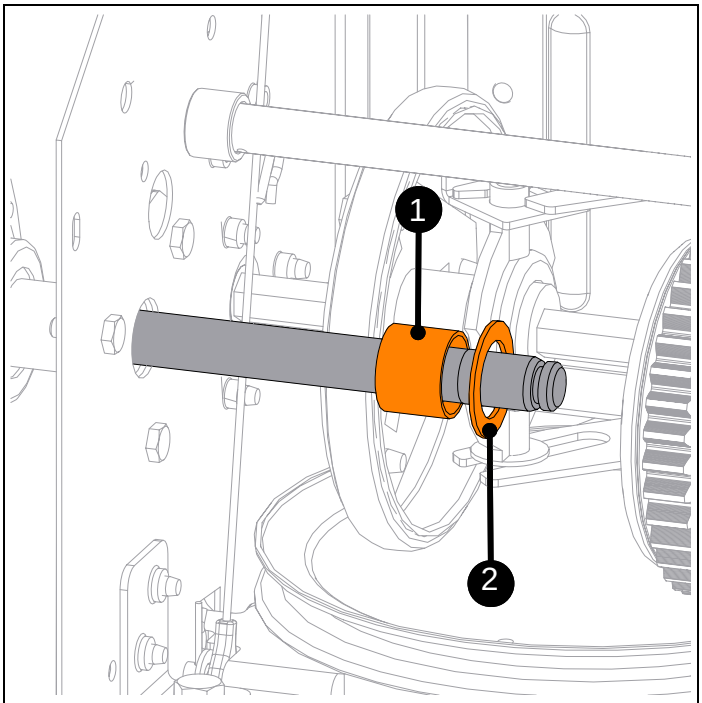


1. Roll Pin
2. Drive Axle
3. Differential Gear
4. E-ring

Figure 68

See Figure 69.

9. Remove flat steel washer and sleeve bushing from axle.
10. Remove axle from unit.

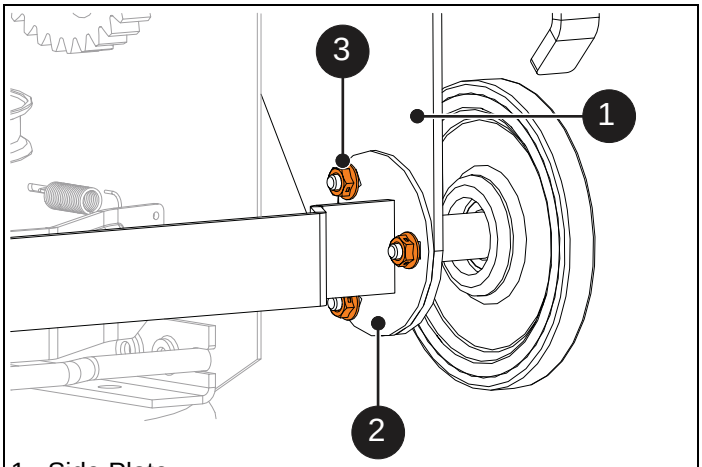


1. Sleeve Bushing
2. Flat Steel Washer

Figure 69

See Figure 70.

11. Loosen, but DO NOT remove hardware securing mount plates to side plates on track carriage.



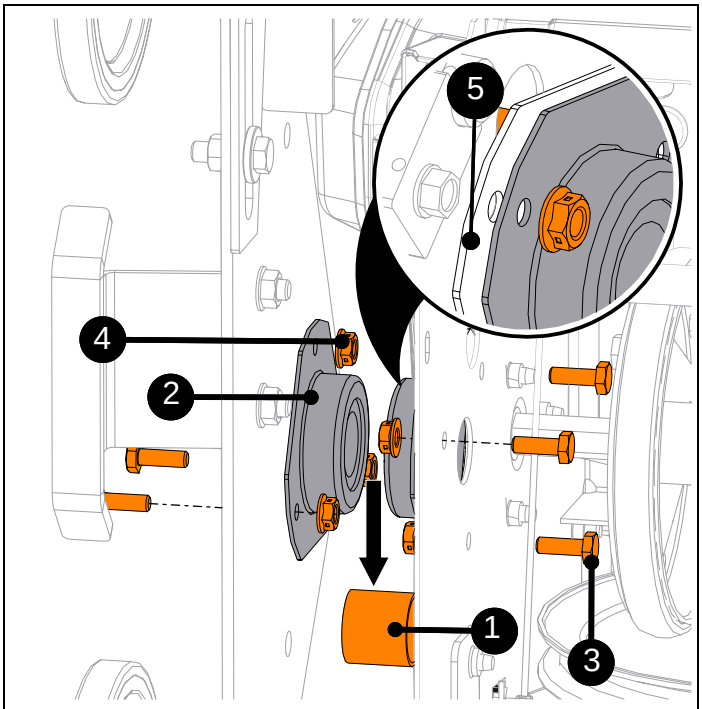
1. Side Plate
2. Mount Plate
3. Center Locking Flange Nut

Figure 70

See Figure 71.

12. Remove sleeve bushing seated between bearing flanges on side plate and frame.
13. Remove hardware securing bearing flange and remove bearing flange.

NOTICE: Bearing plate is not a wear item and is not necessary to replace.



1. Sleeve Bushing
2. Bearing Flange
3. Hex Bolt
4. Locking Nut
5. Bearing Plate

Figure 71

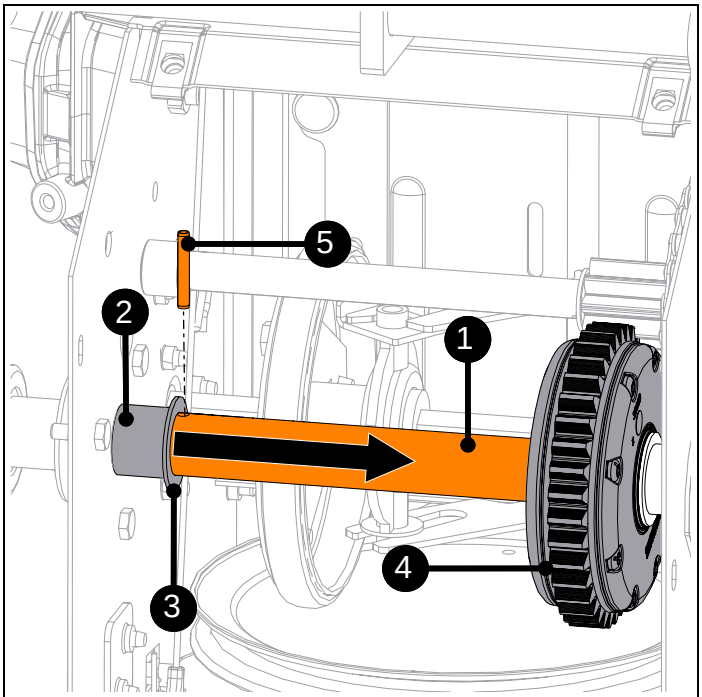
Install Bearing Flange to Left Side of Unit

IMPORTANT: Bearing plates are ONLY installed with bearing flanges on frame. Bearing plates are NOT installed with bearing flanges on side plates.

1. Install bearing flange and secure with three hex bolts and three locking nuts. Tighten hardware.
2. Reinstall sleeve bushings between bearing flanges on side plate and frame.

See Figure 72.

3. Reinstall stepped-down end of long axle through side plate and frame until halfway through frame.
4. Reinstall sleeve bushing and flat steel washer onto axle.
5. Reinstall long axle into differential gear.
6. Reinstall roll pin into axle.
7. Reinstall E-ring onto axle end.



1. Long Axle
2. Sleeve Bushing
3. Flat Steel Washer
4. Differential Gear
5. Roll Pin

Figure 72

8. Tighten six locking nuts securing mount plates to track carriage.
9. Reinstall bottom cover and secure with six hex bolts. Tighten hardware.
10. Reinstall track drive wheels. See *Install Track Drive Wheel* on page 35.
11. Reinstall tracks. See *Install Track* on page 36.
12. Return unit to operating position.
13. Adjust track tension. Refer to Operator's Manual for adjustment procedure.
14. Reconnect spark plug wire.

IMPORTANT: Check adjustments after first use.

Remove Bearing Flange From Right Side of Unit

NOTICE: Save all hardware for reinstallation.

WARNING: AVOID INJURY. Before placing unit in service position, close fuel valve and drain fuel from tank and fuel system. See *Draining Fuel System* on page 8. Make sure unit is secure and will not tip.

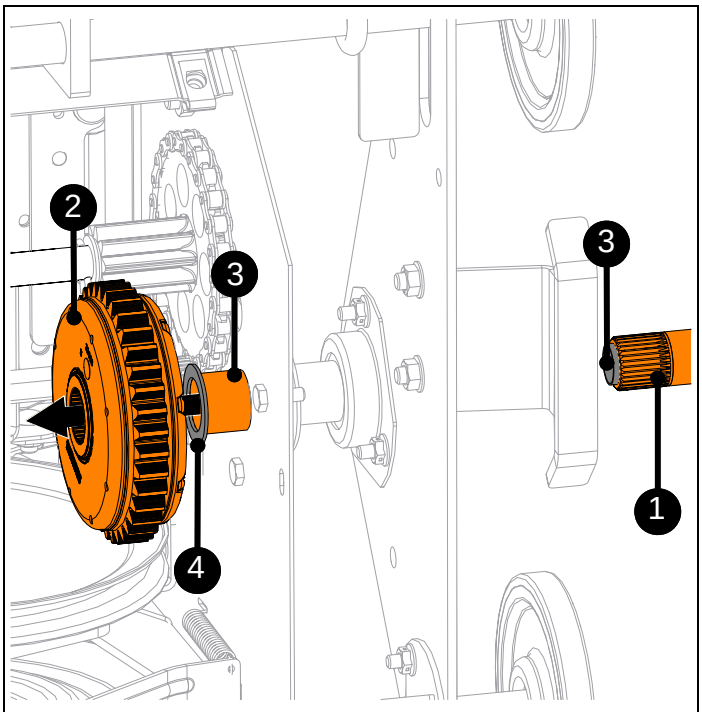
1. Stop engine, remove key and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire from engine.
3. Place unit in service position. See *Service Position* on page 8.
4. Remove tracks. See *Remove Track* on page 36.
5. Remove hardware securing bottom cover to unit and remove bottom cover.

See Figure 73.

6. Remove roll pin and E-ring from long axle and move axle left until halfway through frame, but DO NOT remove axle from unit. See Figure 68.
7. Remove differential gear, flat steel washer and sleeve bushing from short axle.

IMPORTANT: Make sure sleeve bushings remain in each end of short axle.

8. Remove short axle from unit.



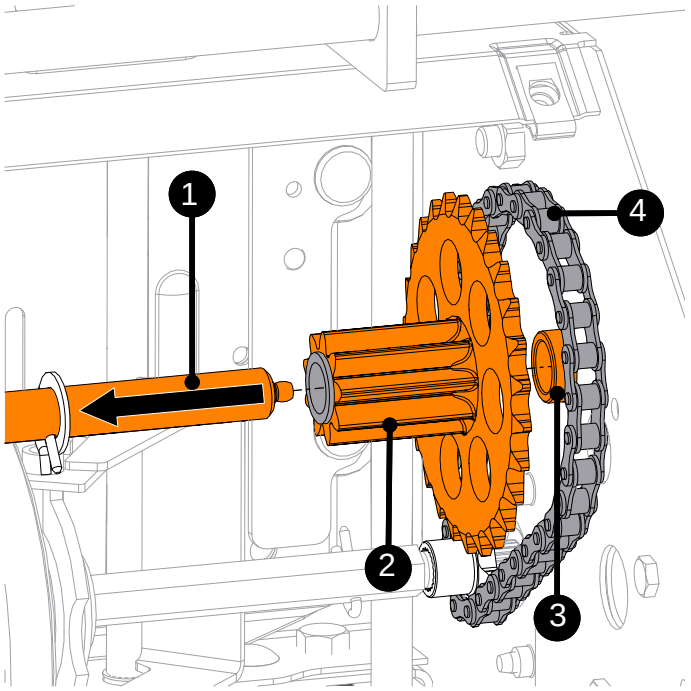
1. Short Axle
2. Differential Gear
3. Sleeve Bushing
4. Flat Steel Washer

Figure 73

See Figure 74.

NOTICE: Sleeve bushing against frame interior will become free when pinion shaft is moved in next step.

9. Remove spring clip from left side of pinion shaft and move pinion shaft left until removed from pinion sprocket.
10. Remove pinion sprocket from chain.



1. Pinion Shaft
2. Pinion Sprocket
3. Sleeve Bushing
4. Chain

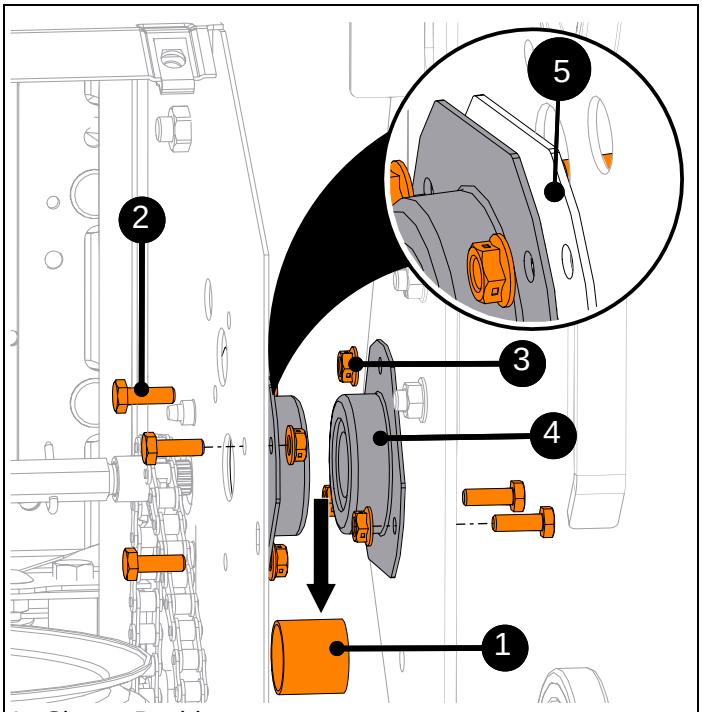
Figure 74

11. Loosen, but DO NOT remove hardware securing mount plates to side plates on track carriage. See Figure 70.

See Figure 75.

12. Remove sleeve bushing seated between bearing flanges on side plate and frame.
13. Remove hardware securing bearing flange and remove bearing flange.

NOTICE: Bearing plate is not a wear item and is not necessary to replace.



1. Sleeve Bushing
2. Hex Bolt
3. Locking Nut
4. Bearing Flange
5. Bearing Plate

Figure 75

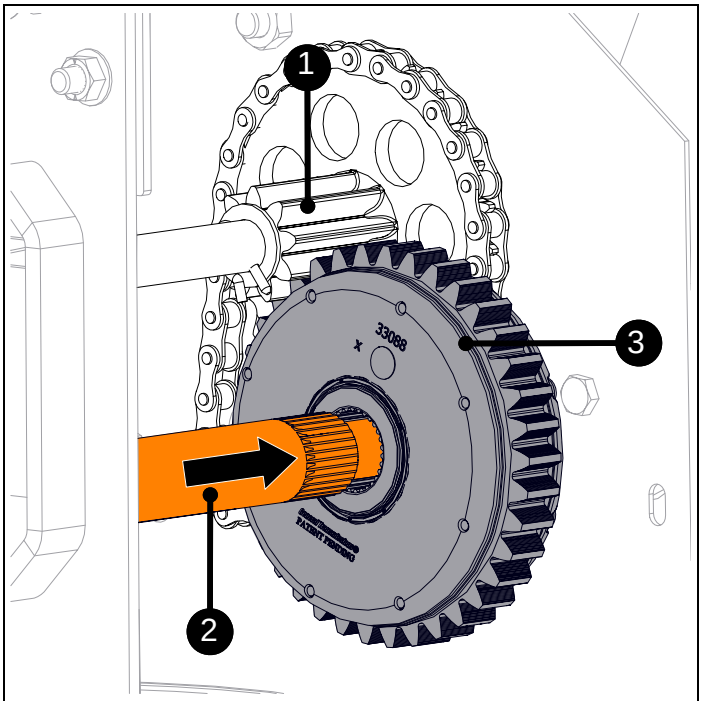
Install Bearing Flange to Right Side of Unit

IMPORTANT: Bearing plates are ONLY installed with bearing flanges on frame. Bearing plates are NOT installed with bearing flanges on side plates.

1. Install bearing flange and secure with three hex bolts and three locking nuts. Tighten hardware.
2. Reinstall sleeve bushings between bearing flanges on side plate and frame.
3. Reinstall pinion sprocket into chain.
4. Position sleeve bushing and pinion sprocket against frame and move pinion shaft right through pinion sprocket, sleeve bushing and frame.
5. Make sure sleeve bushing at left side of pinion shaft is positioned against frame and reinstall spring clip into pinion shaft.
6. Reinstall short axle through side plate and frame.
7. Reinstall sleeve bushing and flat steel washer onto short axle.

See Figure 76.

8. Reinstall differential gear onto short axle and align with pinion sprocket.
9. Reinstall long axle into differential gear.



1. Pinion Sprocket
2. Long Axle
3. Differential Gear

Figure 76

10. Reinstall roll pin into axle.
11. Reinstall E-ring onto right axle end.
12. Tighten six locking nuts securing mount plates to track carriage.
13. Reinstall bottom cover and secure with six hex bolts. Tighten hardware.
14. Reinstall track drive wheels. See *Install Track Drive Wheel* on page 35.
15. Reinstall tracks. See *Install Track* on page 36.
16. Return unit to operating position.
17. Adjust track tension. Refer to Operator's Manual for adjustment procedure.
18. Reconnect spark plug wire.

IMPORTANT: Check all adjustments after first use.

SERVICE PARTS

Description	Part No.
Spark Plug	21547400
Attachment Drive Belt	07200703
Traction Drive Belt	07200717
Friction Disc	00170800

SERVICE RECORD

DATE	SERVICE PERFORMED	NOTES

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