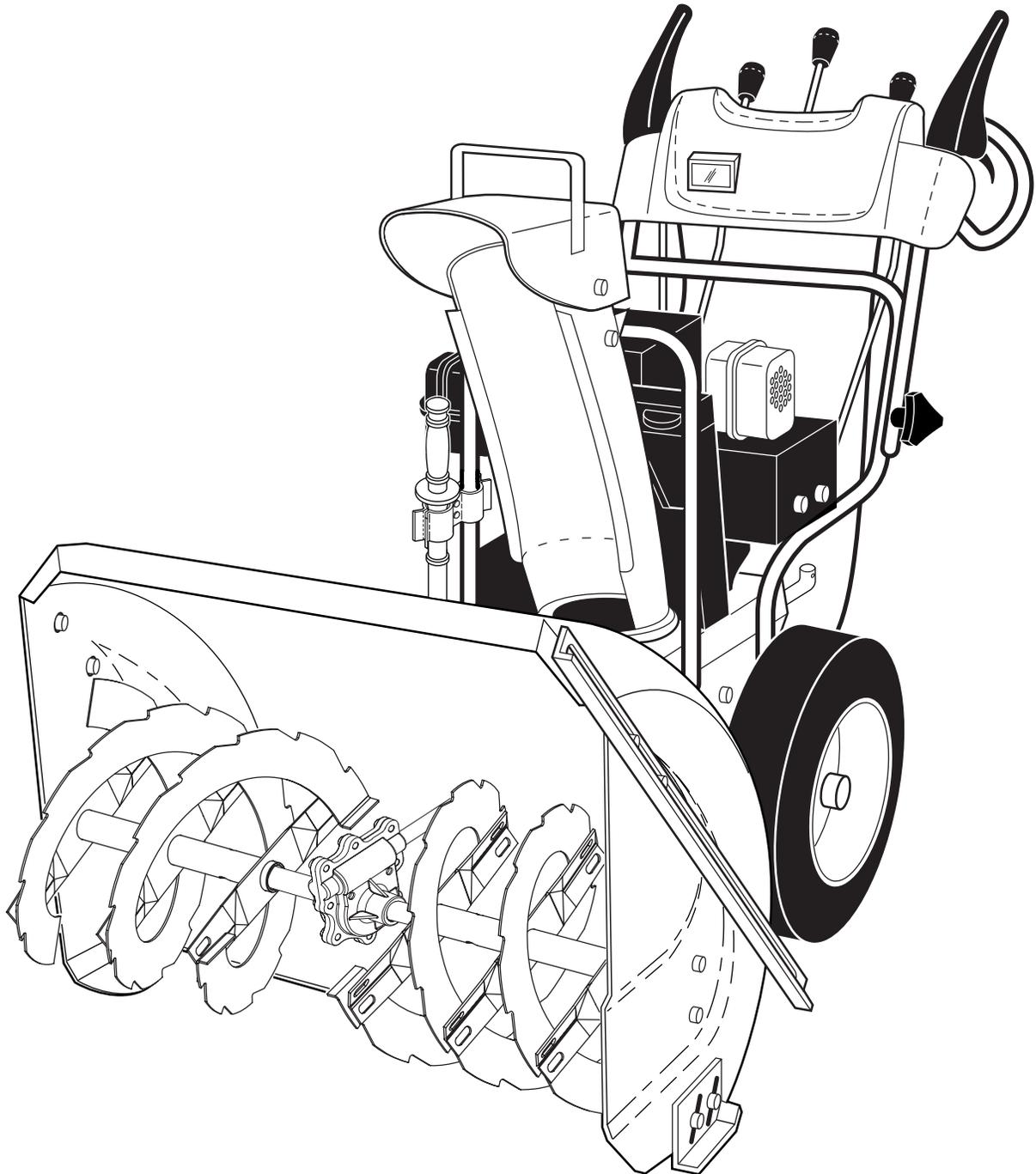


**SERVICE
MANUAL**

SNOW THROWERS
MODEL YEAR 2004



Electrolux

HOME PRODUCTS

To the technician using this manual:

This technical manual includes sections of the consumer's Owner's Manual to allow you to see the instructions given to the consumer (or retail store). These pages will have the word "consumer" in the heading at the top of each page.

For the purpose of this manual we selected a model that has as many features as possible. You may work on models that do not have power steering, a headlight, or drift cutters, for example. The augers may be 24, 27, or 30 inches wide. The engine might be a Briggs & Stratton model, rather than the Tecumseh most often used. This manual is written to cover the most complex repairs.

Section 7 will deal with *Systems and Repair Procedures*. Included in this section will be the exploded parts lists from a full-featured Snow Thrower. This will allow you to compare those illustrations with the photos and instructions in this manual. The part numbers will not be shown, as they change from model to model. When ordering parts, always refer to the parts list(s) for the specific model you are working on.

When working on a Snow Thrower (or any lawn and garden equipment), you should always follow safe working practices, such as:

- Wear appropriate, close-fitting clothing.
- Use appropriate safety equipment (i.e. gloves, safety glasses, hearing protection, etc.).
- Always remove the spark plug wire from the spark plug when working on a machine.
- Use proper tools and a torque wrench on fasteners where indicated in this manual.
- Use power tools only to loosen threaded fasteners.
- Be extremely careful with fuel. Keep the lid and vent closed on gasoline containers and keep them away from sunlight, heat, flames, and sparks.
- Follow safety recommendations from other manuals and the consumer's Safety Rules shown on pages 4 and 5 of this manual. We should always set a good example for the customer by following the practices we expect them to follow.

The following section is in the consumer's Owner's Manual:

CUSTOMER RESPONSIBILITIES

- Read and observe the safety rules.
- Follow a regular schedule in maintaining, caring for and using your Snow Thrower.
- Follow the instructions under "Maintenance" & "Storage" sections of Owner's Manual.

TABLE OF CONTENTS

| Section | | Page |
|----------------|---|--------------|
| 1 | Safety Rules | 4-5 |
| 2 | Specifications | 6 |
| 3 | Consumer Assembly | 7-11 |
| 4 | Consumer Operation, Maintenance, Service & Adjustment and Storage..... | 12-24 |
| 5 | Troubleshooting..... | 25 |
| 6 | Adjustments..... | 26-29 |
| 7 | Systems and Repair Procedures | 30-50 |
| 8 | Typical Engine Breakdowns | 51-57 |

SECTION 1: SAFETY RULES



SAFETY RULES



Safe Operation Practices for Snow Throwers

IMPORTANT: This machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.



Look for this symbol to point out important safety precautions. It means **CAUTION!!! BECOME ALERT!!! YOUR SAFETY IS INVOLVED.**



WARNING: Always disconnect spark plug wire and place it where it cannot contact plug in order to prevent accidental starting when setting up, transporting, adjusting or making repairs.



WARNING: This snow thrower is for use on sidewalks, driveways and other ground level surfaces. Caution should be exercised while using on sloping surfaces. Do not use snow thrower on surfaces above ground level such as roofs of residences, garages, porches or other such structures or buildings.



WARNING: Snow throwers have exposed rotating parts, which can cause severe injury from contact, or from material thrown from the discharge chute. Keep the area of operation clear of all persons, small children and pets at all times including startup.



CAUTION: Muffler and other engine parts become extremely hot during operation and remain hot after engine has stopped. To avoid severe burns on contact, stay away from these areas.



WARNING: Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TRAINING

- Read the operating and service instruction manual carefully. 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 the equipment. Never allow adults to operate the equipment without proper instruction.
- Keep the area of operation clear of all persons, particularly small children and pets.
- Exercise caution to avoid slipping or falling especially when operating in reverse.

PREPARATION

- Remove foreign objects. Thoroughly inspect the area where the equipment is to be used and remove all doormats, sleds, boards, wires, rocks & landscaping.
- Disengage all clutches before starting engine (motor).
- Do not operate the equipment without wearing adequate winter outer garments. Avoid loose, dangling clothing, such as scarves, which can get caught in rotating parts. Wear footwear that will improve footing on slippery surfaces.
- Handle fuel with care; it is highly flammable.
 - Never smoke while refueling.
 - Use an approved fuel container.
 - Never remove fuel tank cap or add fuel to a running engine (motor) or hot engine (motor).
 - Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.
 - Replace fuel cap securely and wipe up spilled fuel.
 - Never store fuel or snow thrower with fuel in the tank inside of a building where fumes may reach an open flame or spark.
 - Check fuel supply before each use, allowing space for expansion as the heat of the engine (motor) and/or sun cause fuel to expand.

STATIC ELECTRICITY HAZARD -

- 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 opening at all times, until refueling is complete. Do not use a nozzle lock-open device.
- If fuel is spilled on clothing, change clothing immediately.
- For all units with electric starting motors use electric starting extension cords certified CSA/UL. Use only with a receptacle that has been installed in accordance with local inspection authorities.
- If snow thrower must be operated over gravel surface, use extra caution and be sure skid plates are adjusted to lowest (highest scraper clearance) position.
- Never attempt to make any adjustments while the engine (motor) is running (except when specifically recommended by manufacturer).

SAFETY RULES

- Let engine (motor) and snow thrower adjust to outdoor temperatures before starting to clear snow.
- 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 snow thrower.

OPERATION

- Do not operate this machine if you are under the influence of alcohol or taking drugs or other medication which can cause drowsiness or affect your ability to operate this machine.
- Do not use this machine if you are mentally or physically unable to operate this machine safely.
- Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening and front auger area at all times.
- 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 (motor), remove wire from the spark plug, thoroughly inspect 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 (motor) and check immediately for the cause. Vibration is generally a warning of trouble.
- Stop the engine (motor) 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, make certain all controls are disengaged and the auger/impeller and all moving parts have stopped. Disconnect the spark plug wire and keep the wire away from the spark plug to prevent accidental starting.
- Take all possible precautions when leaving the snow thrower unattended. Disengage the auger/impeller, stop engine (motor), and remove key.
- Do not run the engine (motor) indoors, except when starting the engine (motor) and for transporting the snow thrower in or out of the building. Open the outside doors.
- Do not clear snow across the face of slopes. Exercise extreme caution when changing direction on slopes. Do not attempt to clear steep slopes.
- Never operate the snow thrower without proper guards, plates or other safety protective devices in place.
- Never operate the snow thrower near glass enclosures, automobiles, window wells, drop-offs, and the like without proper adjustment of the snow discharge angle. Keep children and pets 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 backing up.
- Never direct discharge at bystanders or allow anyone in front of the unit.
- 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, cabs, tire chains, electric start kits, etc.).
- 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.
- Do not overreach. Keep proper footing and balance at all times.
- This snow thrower is for use on sidewalks, driveways and other ground level surfaces.
- Do not use the snow thrower on surfaces above ground level such as roofs of residences, garages, porches or other such structures or buildings.

MAINTENANCE AND STORAGE

- Check shear bolts and other bolts at frequent intervals for proper tightness to be sure the equipment is in safe working condition.
- Never store the snow thrower with fuel in the tank inside a building where ignition sources are present such as hot water and space heaters, clothes dryers, and the like. Allow the engine (motor) to cool before storing in any enclosure.
- Always refer to operator's guide instructions 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 snow thrower, with auger engaged, a few minutes after throwing snow to clear the machine and prevent freeze-up of the auger/impeller.



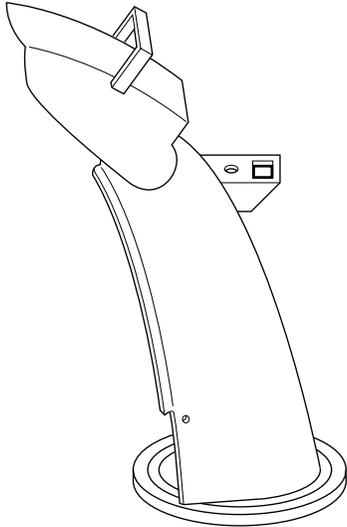
WARNING: Exhaust fumes are dangerous (containing CARBON MONOXIDE, an ODORLESS and DEADLY GAS).

SECTION 2: SPECIFICATIONS

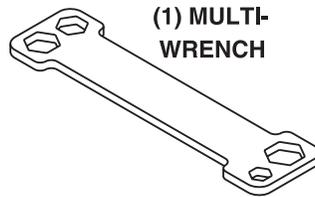
| ENGINE | <u>Tecumseh OHV</u> | <u>Briggs & Stratton OHV</u> |
|--|--|--|
| Gasoline Capacity | 2.0 Quarts (5 HP models) 3.5 Quarts (5.5 HP models) 4.0 Quarts (8.5 HP to 11 HP models) | 4.0 Quarts (all models) |
| Gasoline Type | Unleaded Regular Only | Unleaded Regular Only |
| Oil Type | SAE 30 (above 40° F) | SAE 5W-30 or 10W30 |
| (API SG–SL) | SAE 5W-30 or 10W30 (0° to 40° F) SAE 0W-30 (below 0° F) | (0° to 40° F) or Synthetic SAE 5W-30 (below 0° F) |
| Oil Capacity..... | 21 Ounces (5 HP and 5.5 HP models)..... 26 Ounces (8.5 HP to 11 HP models) | 26 Ounces (all models) |
| Spark Plug | Champion RN4C (OHV models) | Champion RC12YC |
| (Gap: 0.030") | Champion RJ-19LM ("L" Heads) | (all models) |
| Engine Speed | 3600 ± 150 RPM (all models) | 3500 ± 150 (all models) |
| Alternator | Models with Headlight option only | |
| Electric Starter | Available on selected models only | |
| DRIVE SYSTEM | Traction Disc System with Gears (Brake: none) or Hydrostatic Transmission (Brake: none) | |
| Traction Belt (Use OEM only)..... | P/N 179092 V-Belt (Std. Shift models w/Tecumseh) P/N 193363 V-Belt (Std. Shift models w/B&S OHV) P/N 187788 V-Belt (Hydro models w/Tecumseh) P/N 192383 V-Belt (Hydro models w/B&S OHV) | |
| Wheels | 13" or 16" (Tire Pressure 14 to 17 PSI) | |
| AUGER SYSTEM | 24", 27" or 30" Widths | |
| Auger Belt (Use OEM only)..... | P/N 183533 (Tecumseh - regular speed Impeller) P/N 183534 (Tecumseh - high speed Impeller) P/N 184496 (all B&S OHV - regular speed Impeller) | |
| Gearbox | Worm with Gear (no maintenance required) or Hydrostatic Transmission | |
| Scraper Bar..... | Reversible / Replaceable | |
| Skid Plates | Adjustable / Replaceable | |
| FASTENERS WHICH MUST BE TORQUED: | | |
| Bolts securing Engine to Chassis:..... | 25 to 30 ft. lbs. | |
| Lower Handle Bolts | 25 to 30 ft. lbs. | |
| Auger Bearing Screws | 5 to 8 ft. lbs. | |
| Pivot Bolt for Idler Bracket (on Engine) | 12 to 16 ft. lbs. | |
| Belt Guide Bolt (on Engine) | 12 to 16 ft. lbs. | |
| Bolt securing Auger Housing to snowthrower | 25 to 30 ft. lbs. | |
| Bolt securing Traction Drive and Auger Pulleys | 15 to 20 ft. lbs. | |
| Standard Shift models only: | | |
| Bolts securing Pulley for Rubber Ring | 14 to 18 ft. lbs. | |
| Screws securing Flange Bearing Assemblies | 14 to 18 ft. lbs. | |
| Nuts securing Intermediate Gear | 15 to 20 ft. lbs. | |
| Screws securing Gearbox | 15 ft. lbs. MAX | |
| NOTE: Metallic Anti-Seize required on Power Steering Spline and Impeller Shaft. | | |

SECTION 3: CONSUMER ASSEMBLY

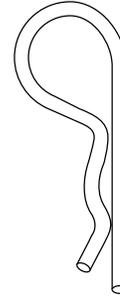
PARTS PACKED SEPARATELY IN CARTON



(1) DISCHARGE CHUTE



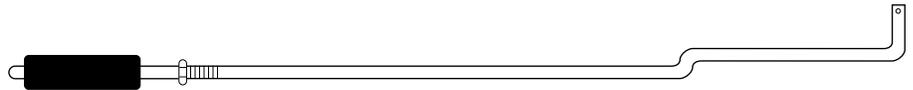
(1) MULTI-WRENCH



(3) RETAINER SPRINGS



(1) TRACTION DRIVE CONTROL ROD



(1) AUGER CONTROL ROD

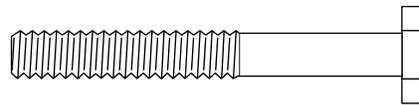
EXTRA SHEAR BOLTS AND NUTS



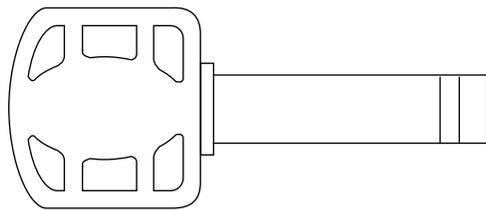
(4) SHOULDER BOLTS
1/4-20 x 2 (AUGER SHAFT)



(8) LOCKNUTS
1/4-20

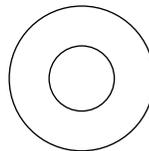


(4) CAPSCREWS
1/4-20 x 1-5/8 (IMPELLER)

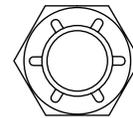


(2) SAFETY IGNITION KEYS

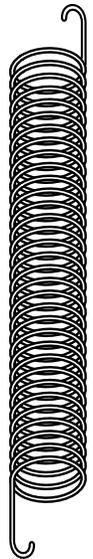
ROTATER HEAD MOUNTING



(1) WASHER 3/8

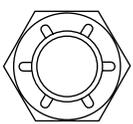


(1) LOCKNUT 3/8

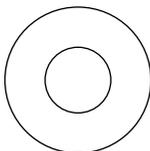


(1) SPRING

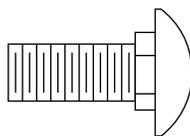
CHUTE DEFLECTOR REMOTE CONTROL



(1) LOCKNUT
5/16-18



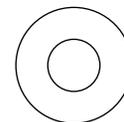
(1) WASHER



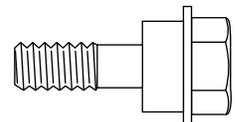
(1) CARRIAGE
BOLT 5/16-18 x 5/8



(1) LOCKNUT
1/4-20



(1) NYLON
WASHER



(1) SHOULDER
BOLT 1/4-20

CONSUMER ASSEMBLY / PRE-OPERATION

Read these instructions and this manual in its entirety before you attempt to assemble or operate your new snow thrower.

Your new snow thrower has been assembled at the factory with the exception of those parts left unassembled for shipping purposes. All parts such as nuts, washers, bolts, etc., necessary to complete the assembly have been placed in the parts bag. To ensure safe and proper operation of your snow thrower, all parts and hardware you assemble must be tightened securely. Use the correct tools as necessary to ensure proper tightness.

REMOVE SNOW THROWER FROM CARTON

1. Remove all accessible loose parts and parts boxes from carton.
2. Cut down all four corners of carton and lay panels flat.
3. Remove all packing materials except plastic tie holding speed control rod to lower handle.
4. Remove snow thrower from carton and check carton thoroughly for additional loose parts.

HOW TO SET UP YOUR SNOW THROWER

TOOL BOX (See Fig. 11)

A toolbox is provided on your snow thrower. The toolbox is located on top of the belt cover. Store the extra shear bolts, nuts and multi-wrench provided in parts bag in the toolbox.

NOTE: The multi-wrench may be used for assembly of the chute rotator head to snow thrower and making adjustments to the skid plates.

UNFOLD UPPER HANDLE

1. Raise upper handle to the operating position and tighten handle knobs securely.

INSTALL SPEED CONTROL ROD (STD. SHIFT MODELS) (See Figs. 1A & 2A)

1. Remove plastic tie securing rod to lower handle.
2. Insert rod into speed control bracket and secure with retainer spring.

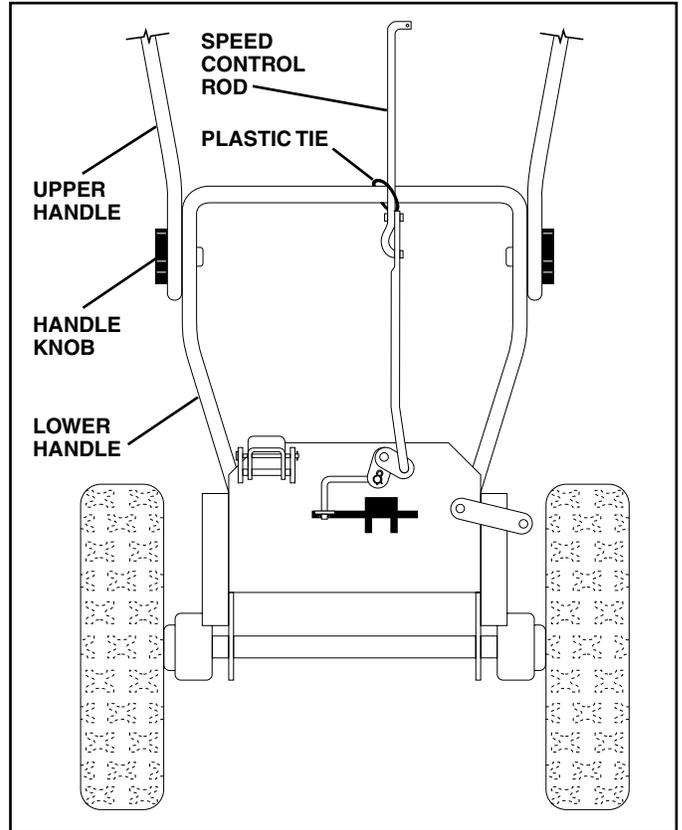


FIG. 1A

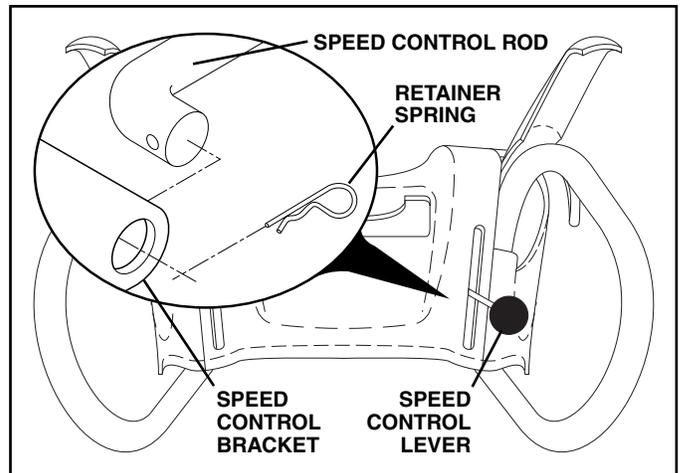


FIG. 2A

CONSUMER ASSEMBLY / PRE-OPERATION

INSTALL SPEED CONTROL ROD (HYDRO MODELS) (See Figs. 1B and 2B)

1. Remove plastic tie securing rod to lower handle.
2. Insert rod into speed control bracket and speed control arm and secure with retainer springs.

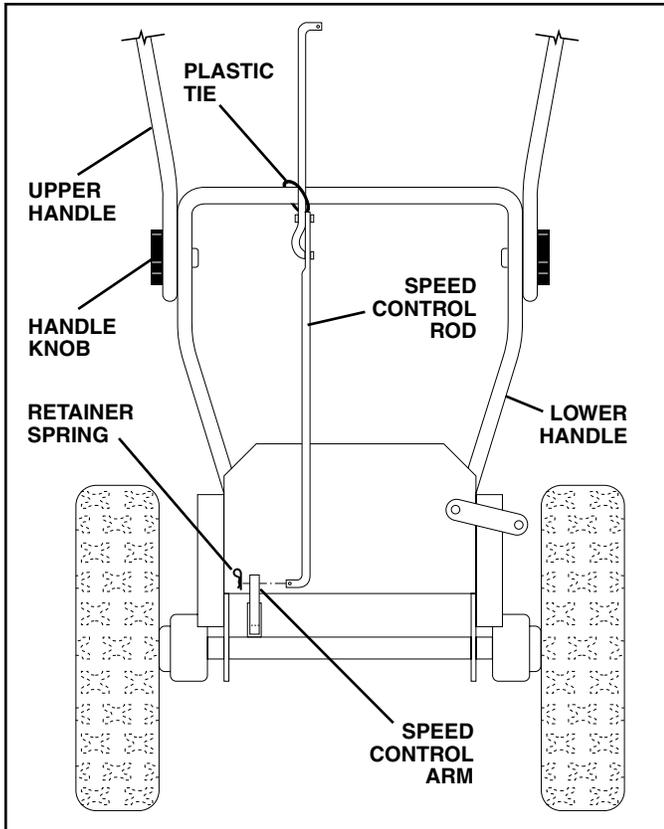


FIG. 1B

INSTALL TRACTION DRIVE CONTROL ROD (STD. SHIFT MODELS) (See Figs. 3A & 4A)

The traction drive control rod has the long loop on the end of the spring as shown.

1. Slide rubber sleeve up rod and hook end of spring into pivot bracket with loop opening down as shown.
2. With top end of rod positioned under left side of control panel, push rod down and insert top end of rod into hole in drive control bracket. Secure with retainer spring.

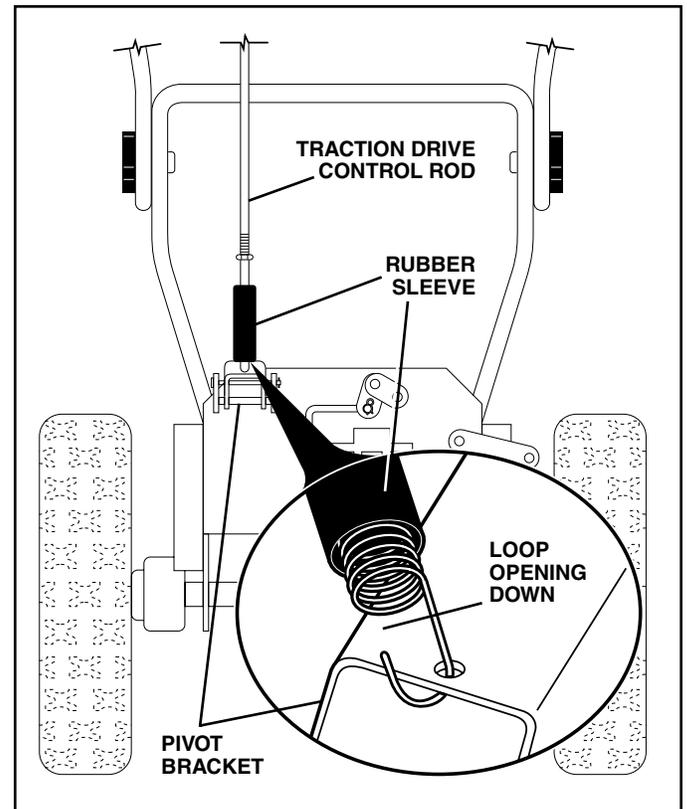


FIG. 3A

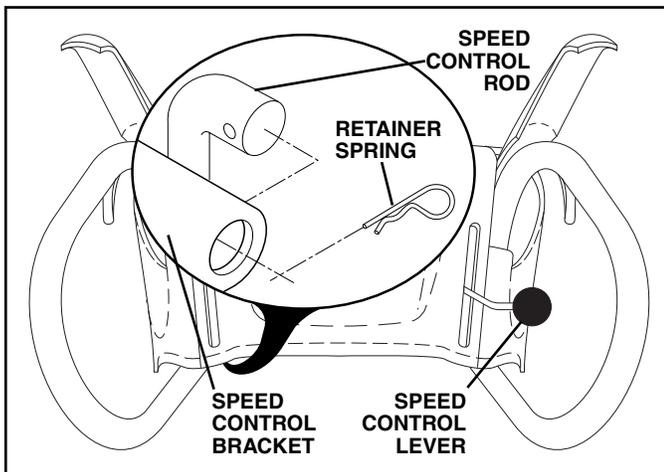


FIG. 2B

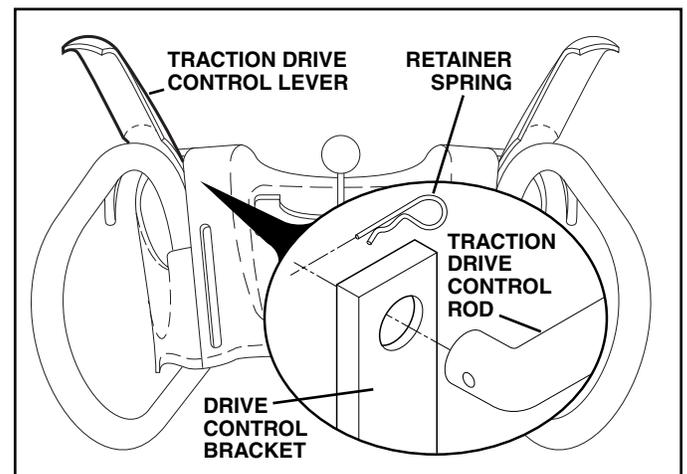


FIG. 4A

CONSUMER ASSEMBLY / PRE-OPERATION

INSTALL TRACTION DRIVE CONTROL ROD (HYDRO MODELS) (See Figs. 3B and 4B)

The traction drive control rod has the long loop on the end of the spring as shown.

1. Slide rubber sleeve up rod and hook end of spring into eye of cable with loop opening down as shown.
2. With top end of rod positioned under left side of control panel, push rod down and insert top end of rod into hole in drive control bracket. Secure with retainer spring.

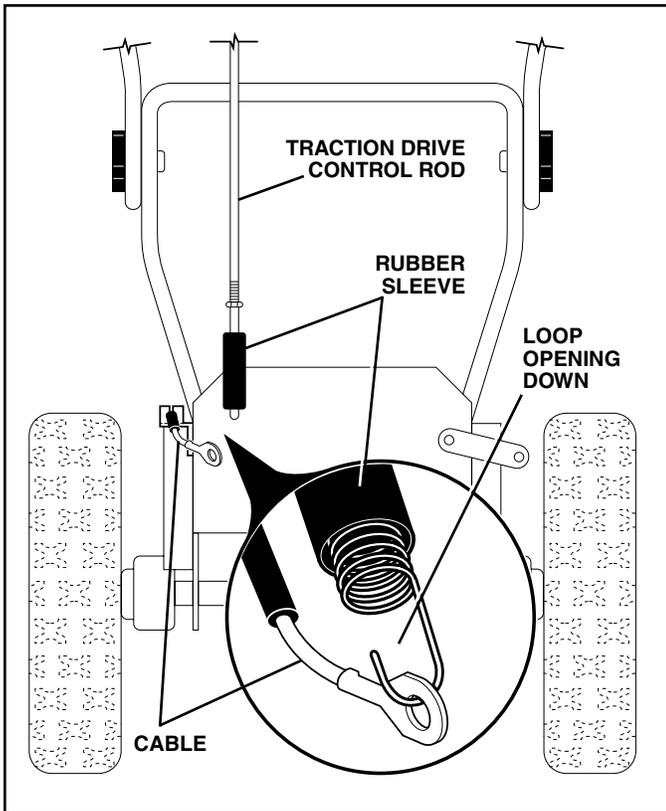


FIG. 3B

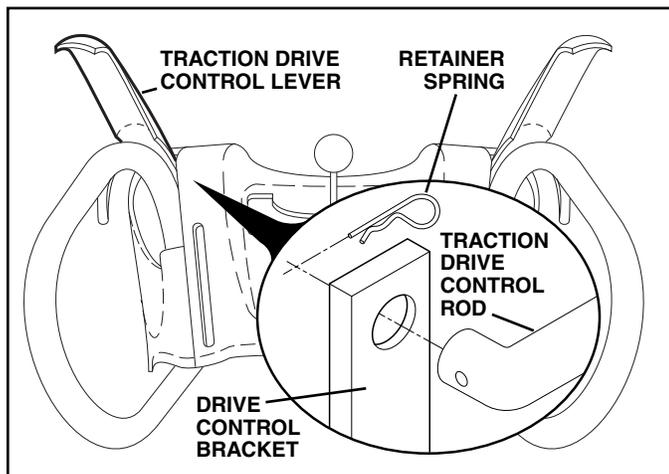


FIG. 4B

INSTALL AUGER CONTROL ROD (See Figs. 5 and 6)

The auger control rod has the short loop on the end of the spring as shown.

1. Slide rubber sleeve up rod and hook end of spring into eye of control arm with loop opening up as shown.
2. With top end of rod positioned under right side of control panel, push down on rod and insert end of rod into hole in auger control bracket. Secure with retainer spring.

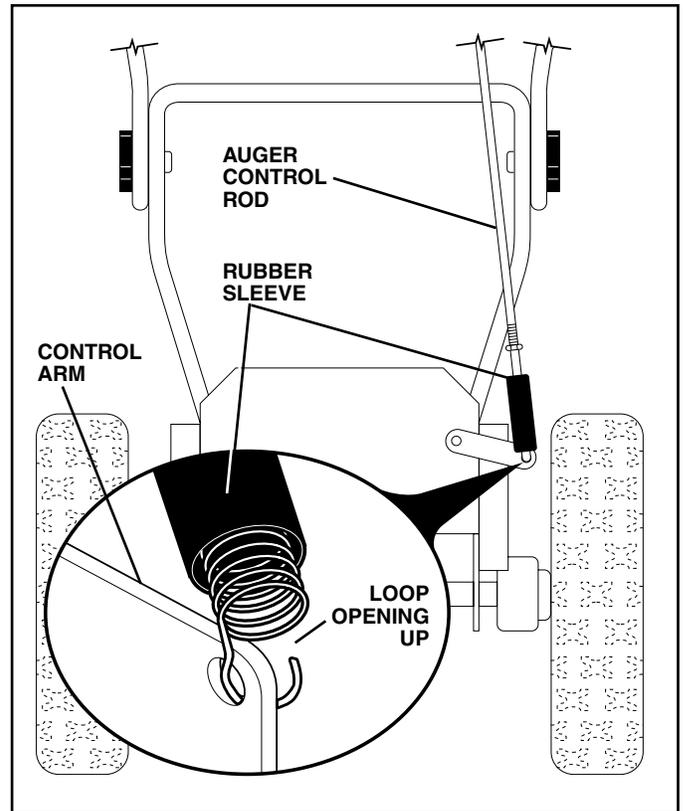


FIG. 5

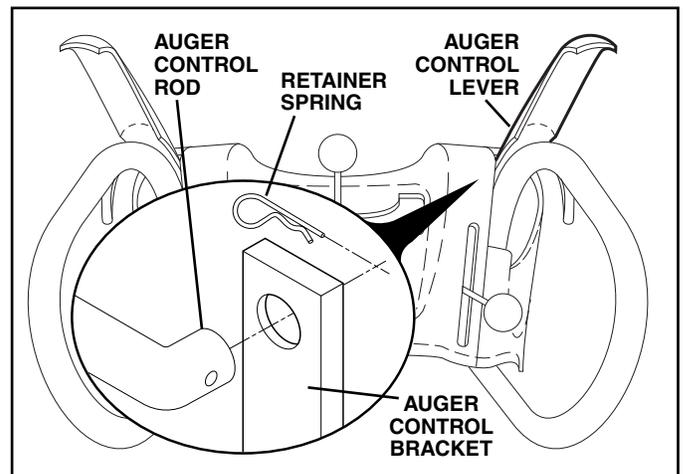


FIG. 6

CONSUMER ASSEMBLY / PRE-OPERATION

INSTALL DISCHARGE CHUTE / CHUTE ROTATER HEAD (See Fig. 7)

NOTE: The multi-wrench provided in your parts bag may be used to install the chute rotater head.

1. Place discharge chute assembly on top of chute base with discharge opening toward front of snow thrower.
2. Position chute rotater head over chute bracket. If necessary, rotate chute assembly to align square and pin on underside of chute rotater head with holes in chute bracket.
3. With chute rotater head and chute bracket aligned, position chute rotater head on pin and threaded stud of mounting bracket.
4. Install 3/8 washer and locknut on threaded stud and tighten securely.

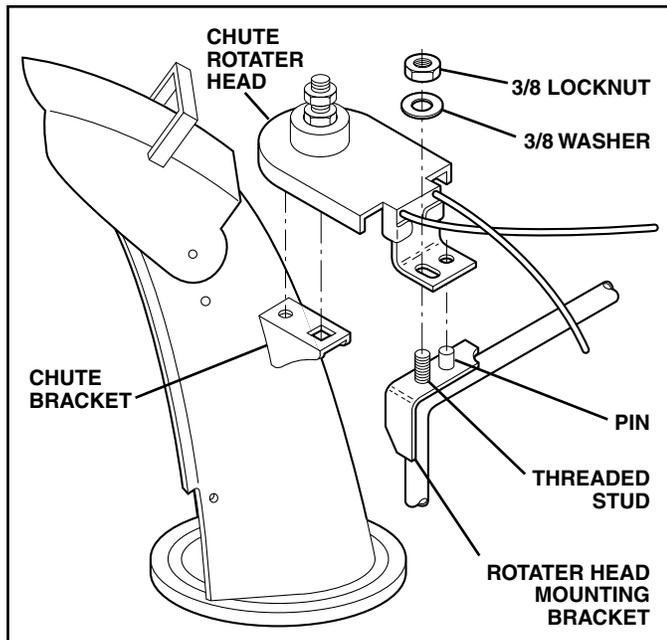


FIG. 7

INSTALL CHUTE DEFLECTOR REMOTE CONTROL (See Figs. 8 and 9)

1. Install remote cable bracket to discharge chute with 5/16-18 carriage bolt, 5/16 flat washer and 5/16-18 locknut as shown. Tighten securely.
2. Install remote cable eyelet to chute deflector with 1/4-20 shoulder bolt, nylon washer and 1/4-20 locknut as shown. Tighten securely.
3. Install spring hooks between hex nuts on chute rotater head and into hole in chute deflector as shown.

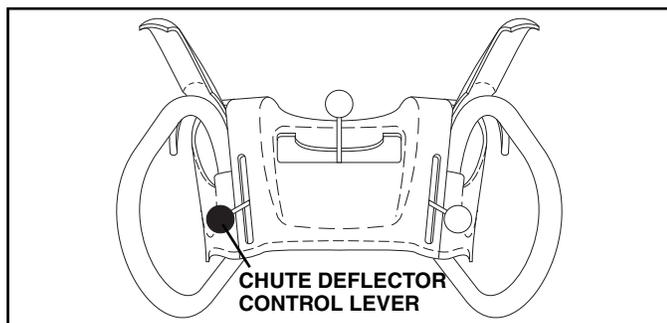


FIG. 8

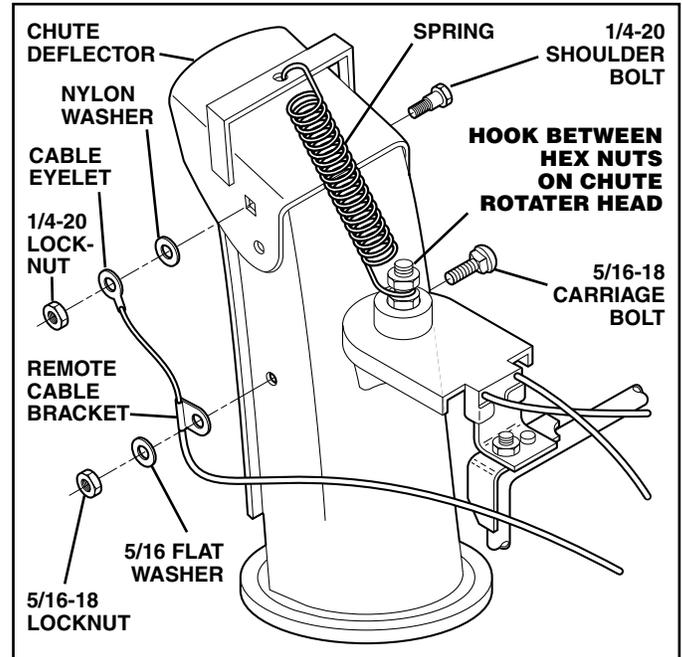


FIG. 9

INSTALL WEIGHT BAR (See Fig. 10)

Though seldom required, the weight bar will reduce the tendency of the auger housing to ride up on hard, icy drifts. Should conditions require it, install as follows:

1. Shut off engine and wait for all moving parts to stop.
2. Secure weight bar to auger housing with carriage bolts and hex nuts as shown. Tighten securely.

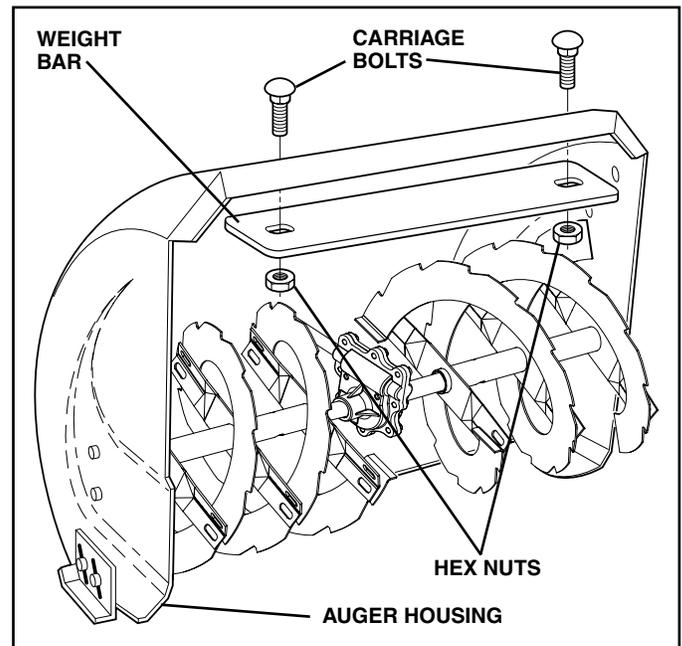


FIG.10

CHECK TIRE PRESSURE

The tires on your snow thrower were overinflated at the factory for shipping purposes. Correct and equal tire pressure is important for best snow throwing performance.

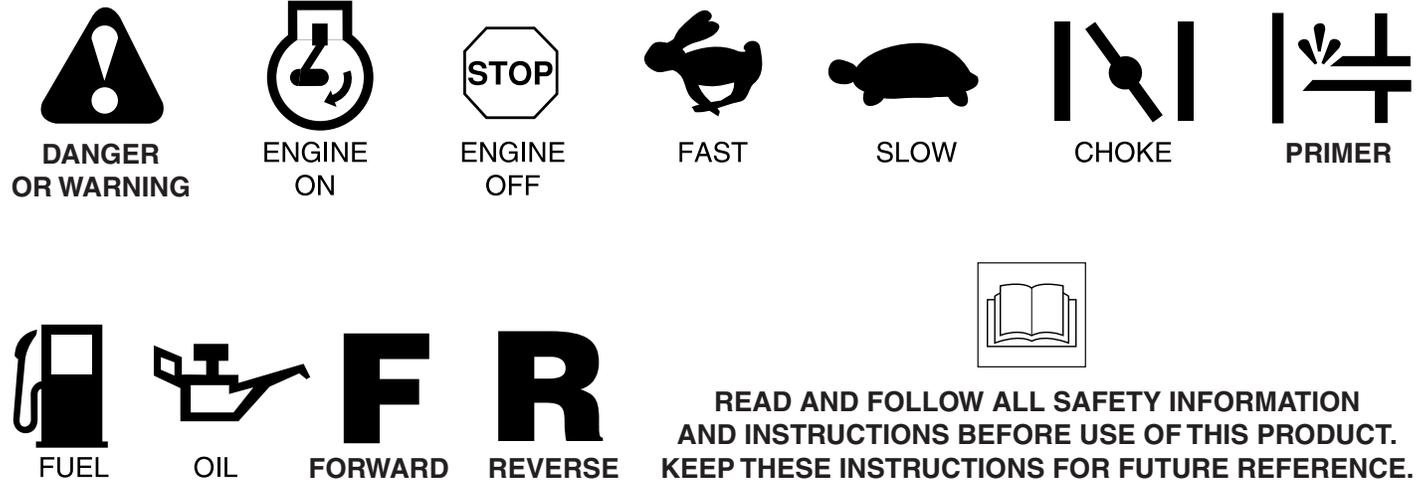
- Reduce tire pressure to 14-17 PSI.

SECTION 4: CONSUMER OPERATION

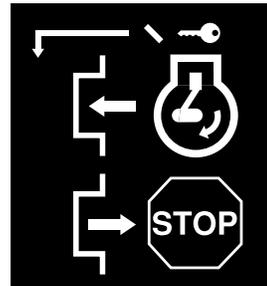
KNOW YOUR SNOW THROWER

READ THIS OWNER'S MANUAL AND ALL SAFETY RULES BEFORE OPERATING YOUR SNOW THROWER. Compare the illustrations with your snow thrower to familiarize yourself with the location of various controls and adjustments. Save this manual for future reference.

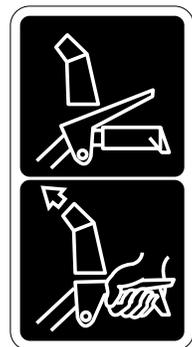
These symbols may appear on your snow thrower or in literature supplied with the product. Learn and understand their meaning.



READ AND FOLLOW ALL SAFETY INFORMATION AND INSTRUCTIONS BEFORE USE OF THIS PRODUCT. KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE.



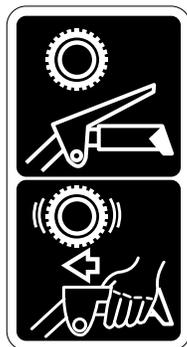
IGNITION KEY. INSERT TO START AND RUN, PULL OUT TO STOP.



SNOW DISCHARGE

DISENGAGED

ENGAGED



TRACTION DRIVE CONTROL



CONSUMER OPERATION

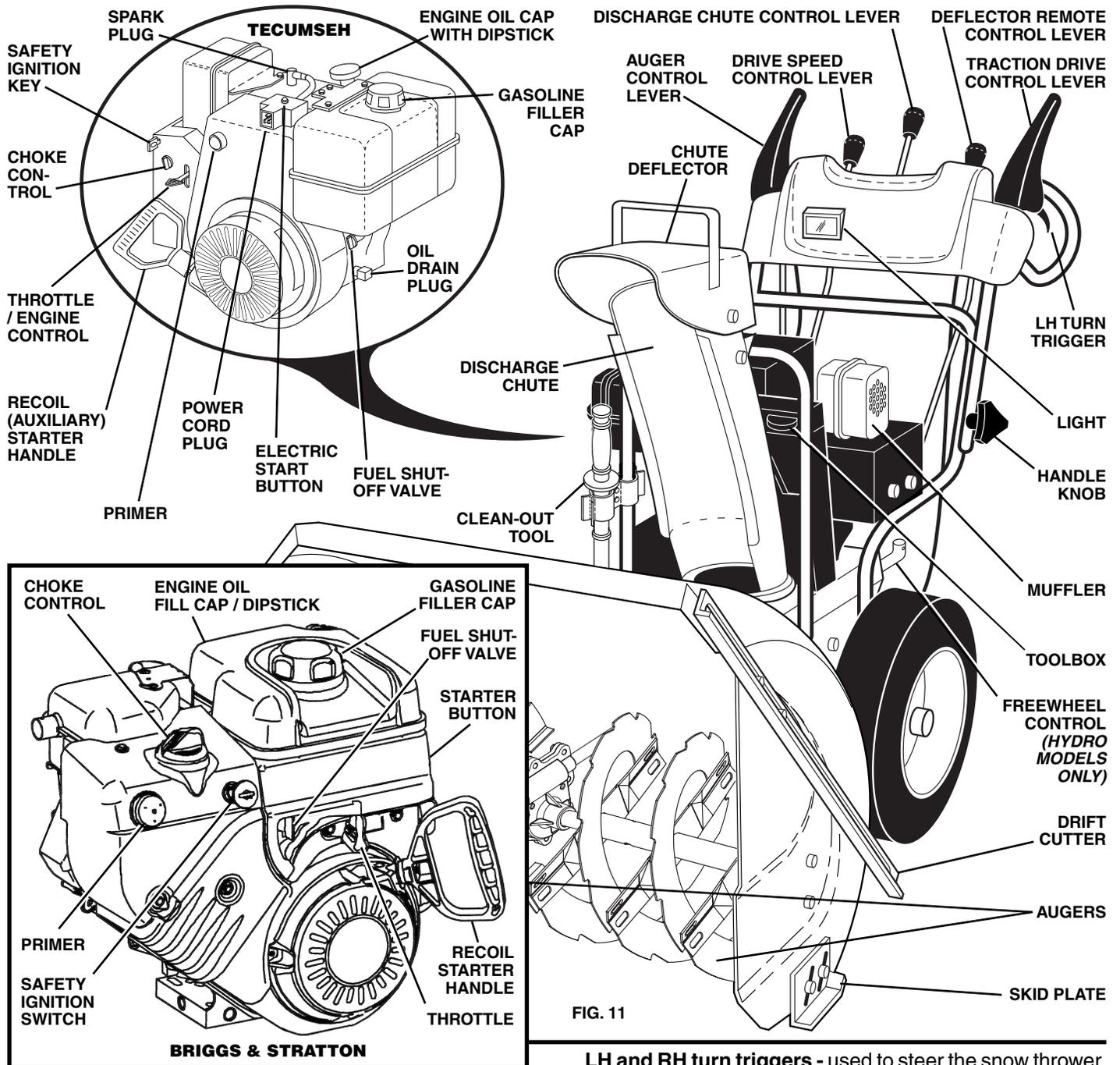


FIG. 11

MEETS A.N.S.I. SAFETY REQUIREMENTS

Our snow throwers conform to the standards of the American National Standards Institute.

Toolbox - used to store spare shear bolts, locknuts, wrench.

Safety ignition key - must be inserted for the engine to start and run. Remove when snow thrower is not in use.

Electric start button - used for starting the engine.

Recoil (auxiliary) starter handle - used for starting engine.

Primer - pumps additional fuel from the carburetor to the cylinder for use when starting a cold engine.

Choke Control - used for starting a cold engine.

Throttle/engine control - used to select either FAST or SLOW engine speed and to STOP the engine.

LH and RH turn triggers - used to steer the snow thrower.

Drive speed control lever - used to select forward or reverse motion and speed of snow thrower.

Traction drive control lever - used to engage power-propelled forward or reverse motion of snow thrower.

Auger control lever - used to engage auger motion (throw snow).

Discharge chute control lever - used to change the direction the snow is thrown.

Deflector remote control lever - used to change the distance the snow is thrown.

Skid plate - used to adjust height of scraper bar from ground.

Drift cutter - used to cut through deep snowdrifts.

Freewheel control (hydro models only) - disengages transmission for pushing the snowthrower with engine off.

CONSUMER OPERATION



The operation of any snow thrower can result in foreign objects thrown into the eyes, which can result in severe eye damage. Always wear safety glasses or eye shields while operating your snow thrower or performing any adjustments or repairs. We recommend standard safety glasses or a wide vision safety mask worn over spectacles.

HOW TO USE YOUR SNOW THROWER

Know how to operate all controls before adding fuel or attempting to start the engine.

STOPPING

TRACTION DRIVE

- Release traction drive control lever to stop the forward or reverse movement of the snow thrower.

AUGER

- Release the auger control lever to stop throwing snow.

ENGINE

- Move throttle control to "STOP" position.
- Remove (do not turn) safety ignition key to prevent unauthorized use.

NOTE: Never use choke to stop engine.

TO USE FUEL SHUT-OFF VALVE (See Fig. 12)

The fuel shut-off valve is located beneath the fuel tank on the engine. Always operate the snow thrower with the fuel shut-off valve in the OPEN position.

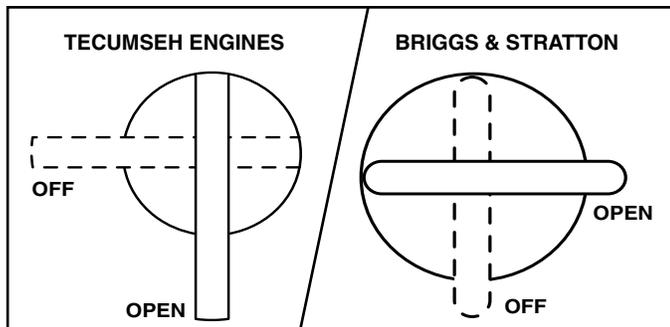


FIG. 12

TO USE THROTTLE CONTROL (See Fig. 13)

The throttle control is located on the engine. Always operate the snow thrower with the engine at full throttle. Full throttle offers the best snow thrower performance.

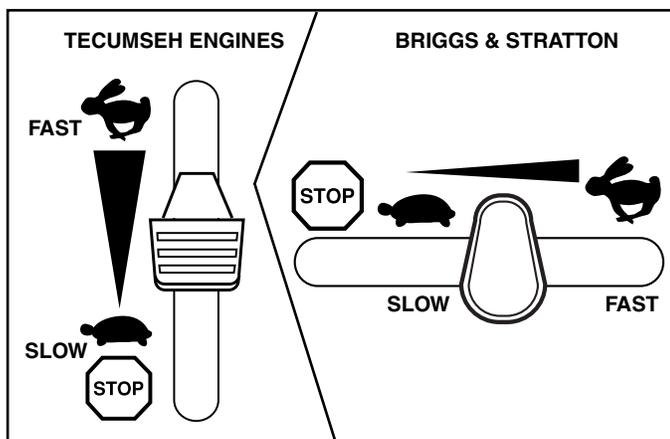


FIG. 13

TO USE CHOKE CONTROL (See Fig. 14)

The choke control is located on the engine. Use the choke control whenever you are starting a cold engine. Do not use to start a warm engine.

- To engage choke, turn knob clockwise. Slowly turn knob counterclockwise to disengage.

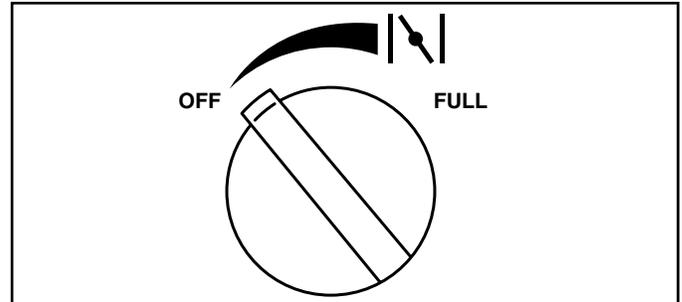


FIG. 14

TO CONTROL SNOW DISCHARGE (See Fig. 15)



WARNING: Snow throwers have exposed rotating parts, which can cause severe injury from contact, or from material thrown from the discharge chute. Keep the area of operation clear of all persons, small children and pets at all times including startup.



WARNING: If the discharge chute or auger become clogged, shut-off engine and wait for all moving parts to stop. Use the clean-out tool, NOT YOUR HANDS, to unclog the chute and/or auger.

The **DIRECTION** in which snow is to be thrown is controlled by the discharge chute control lever.

- To change the discharge chute position, press downward on discharge chute control lever and move lever left or right until chute is in desired position. Be sure lever springs back and locks into desired position.

The **DISTANCE** that snow is thrown is controlled by the position of the chute deflector. Set the deflector low to throw snow a short distance; set the deflector higher to throw snow farther.

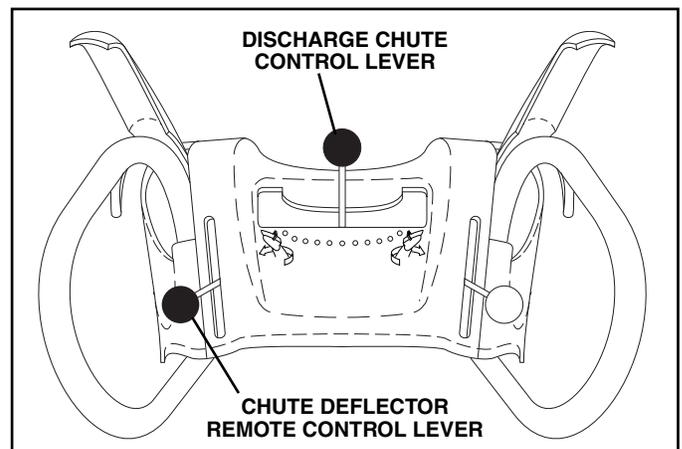


FIG. 15

CONSUMER OPERATION

- Press downward on chute deflector control lever and move lever forward to lower the deflector and decrease the distance. Move lever back to raise the deflector and increase the distance. Be sure lever springs back and locks into desired position.

TO THROW SNOW (See Fig. 16)

The auger rotation is controlled by the auger control lever located on the right side handle.

- Squeeze auger control lever to handle to engage the auger and throw snow.
- Release the auger control lever to stop throwing snow.

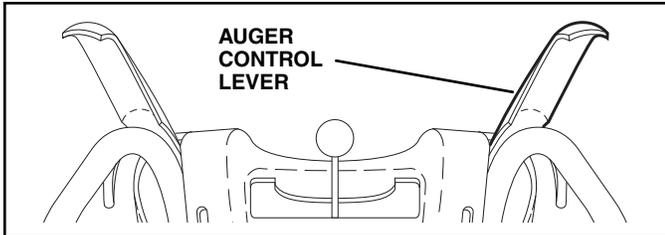


FIG. 16

USING THE CLEAN-OUT TOOL (See Fig. 17)

In certain snow conditions, the discharge chute may become clogged with ice and snow. Use the clean-out tool to dislodge this blockage.

When cleaning, repairing, or inspecting, make certain all controls are disengaged and the auger/impeller and all moving parts have stopped. Disconnect the spark plug wire and keep the wire away from the spark plug to prevent accidental starting.

- Release the auger control lever and shut off the engine.
- Remove the clean-out tool from its mounting clip. Grasp the tool firmly by the handle and push and twist the tool into the discharge chute to dislodge the blockage.

After the packed snow has been dislodged, return the clean-out tool to its mounting clip by pushing it into the clip.

- Make sure the discharge chute is pointed in a safe direction (no vehicles, buildings, people, or other objects are in the direction of discharge) before restarting the engine.
- Restart the engine, then squeeze the auger control lever to the handle to clear snow from the auger housing and the discharge chute.

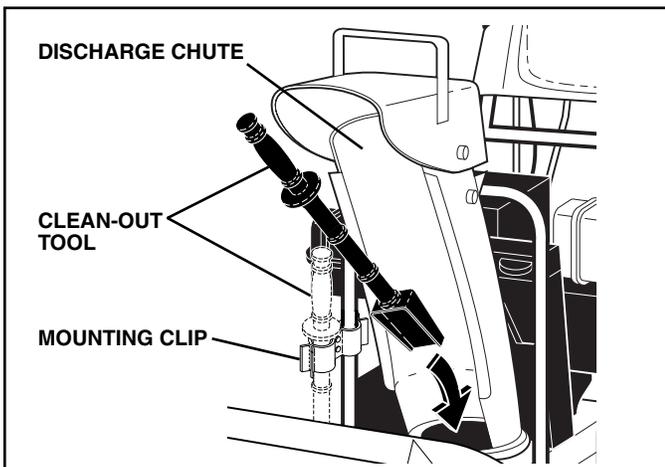


FIG. 17

TO MOVE FORWARD AND BACKWARD (STD. SHIFT MODELS) (See Fig. 18A)

SELF-PROPELLING, forward and reverse movement of the snow thrower, is controlled by the traction drive control lever located on the left side handle.

- Squeeze traction drive control lever to handle to engage the drive system.
- Release traction drive control lever to stop the forward or reverse movement of the snow thrower.

SPEED and DIRECTION are controlled by the drive speed control lever.

- Press downward on the speed control lever and move lever to desired position BEFORE engaging the traction drive control lever. Be sure lever springs back and locks into desired position.

CAUTION: Do not move speed control lever when traction drive control lever is engaged. Damage to the snow thrower can result.

- Slower speeds are for heavier snow and faster speeds are for light snow and transporting the snow thrower. It is recommended that you use a slower speed until you are familiar with the operation of the snow thrower.

NOTE: When both traction drive and auger control levers are engaged, the traction drive control lever will lock the auger control lever in the engaged position. This will allow you to release your right hand from the handle and adjust the discharge chute direction without interrupting the snow throwing process.

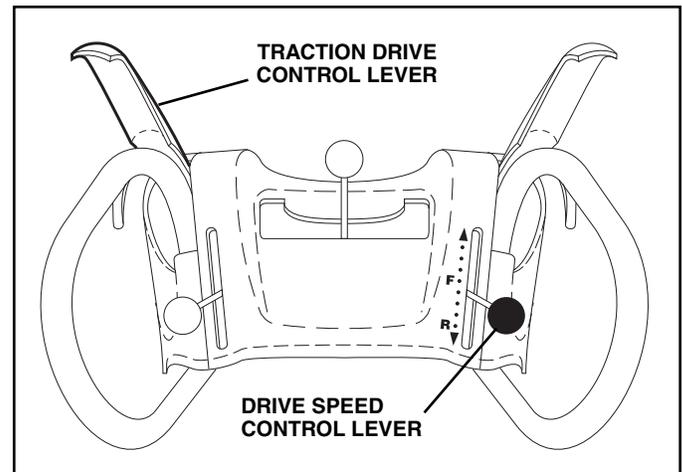


FIG. 18A

TO MOVE FORWARD AND BACKWARD (HYDRO MODELS) (See Fig. 18B)

SELF-PROPELLING, forward and reverse movement of the snow thrower, is controlled by the traction drive control lever located on the left side handle.

- Squeeze traction drive control lever to handle to engage the drive system.
- Release traction drive control lever to stop the forward or reverse movement of the snow thrower.

SPEED and DIRECTION are controlled by the drive speed control lever.

CONSUMER OPERATION

- Squeeze traction drive control lever to handle to engage the drive system, then slowly move drive speed control lever to desired "FORWARD" or "REVERSE" setting.

Forward ground speed will increase as the lever is moved forward, allowing the operator to vary the speed of the unit while it is moving.

- To reverse direction, slowly pull lever back until snow thrower stops, then pull lever further back.

Reverse ground speed will increase as the lever is pulled backward, allowing the operator to vary the speed of the unit while it is moving.

- Slower speeds are for heavier snow and faster speeds are for light snow and transporting the snow thrower. It is recommended that you use a slower speed until you are familiar with the operation of the snow thrower.

NOTE: When both traction drive and auger control levers are engaged, the traction drive control lever will lock the auger control lever in the engaged position. This will allow you to release your right hand from the handle and adjust the discharge chute direction without interrupting the snow throwing process.

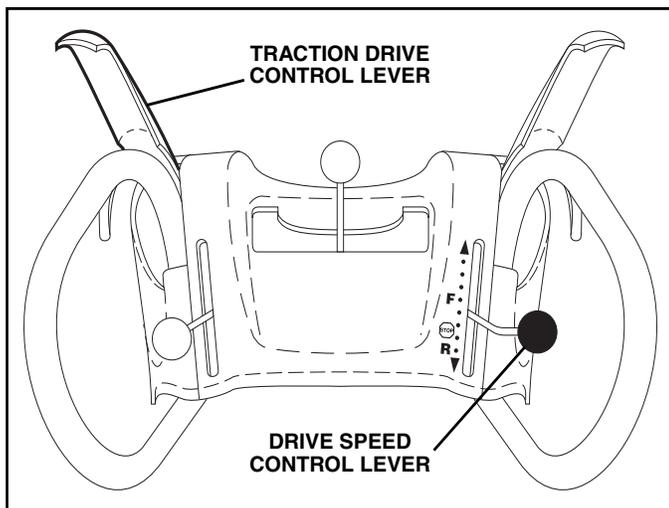


FIG. 18B

POWER STEERING OPERATION (See Fig. 19)

Steering triggers are used to assist in steering your snow thrower. The triggers are located on the underside of each handle. When a trigger is squeezed, it disengages the drive wheel on that side of snow thrower and allows it to turn in that direction.

- To turn left – squeeze left side trigger.
- To turn right – squeeze right side trigger.

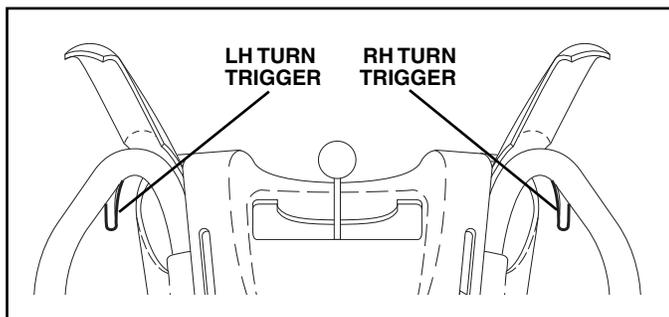


FIG. 19

TO ADJUST SKID PLATES (See Fig. 20)

NOTE: The wrench provided in your parts bag may be used to adjust the skid plates.

Skid plates are located on each side of the auger housing and adjust the clearance between the scraper bar and the ground surface. Adjust skid plates evenly to proper height for current surface conditions. For removal of snow in normal conditions, such as a paved driveway or sidewalk, place skid plates in the highest position (lowest scraper clearance) to give a 1/8" clearance between the scraper bar and the ground. Use a middle position if the surface to be cleared is uneven.

NOTE: It is not recommended to operate the snow thrower over gravel or rocky surfaces. Objects such as gravel, rocks or other debris, can easily be picked up and thrown by the impeller, which can cause serious personal injury, property damage or damage to the snow thrower.

- If snow thrower must be operated over gravel surface, use extra caution and be sure skid plates are adjusted to lowest (highest scraper clearance) position.
1. Shut off engine and wait for all moving parts to stop.
 2. Adjust skid plates by loosening the rear 1/2" hex nut only, then moving skid plate to desired position. Be sure both plates are adjusted evenly. Tighten securely.

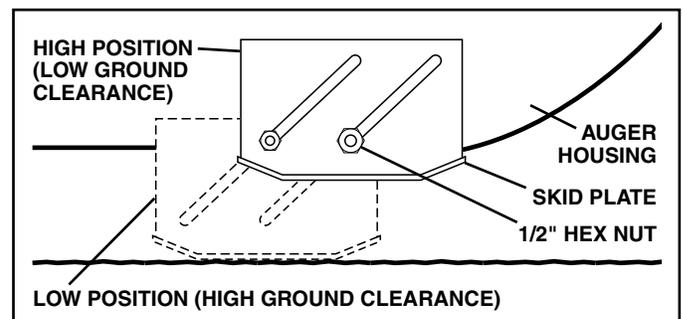


FIG. 20

SCRAPER BAR

The scraper bar is not adjustable, but is reversible. After considerable use it may become worn. When it has worn almost to the edge of the housing, it can be reversed, providing additional service before requiring replacement. Replace a damaged or worn scraper bar.

TO USE DRIFT CUTTERS (See Fig. 21)

Use the drift cutters to cut through deep snowdrifts that are higher than the front of the snow thrower.

- Loosen upper adjustment nut enough to allow drift cutter to be raised to highest position and tighten nut securely. Repeat for opposite side of snow thrower.
- When not using drift cutters, loosen adjustment nut, lower to storage position and tighten nut securely.

CONSUMER OPERATION

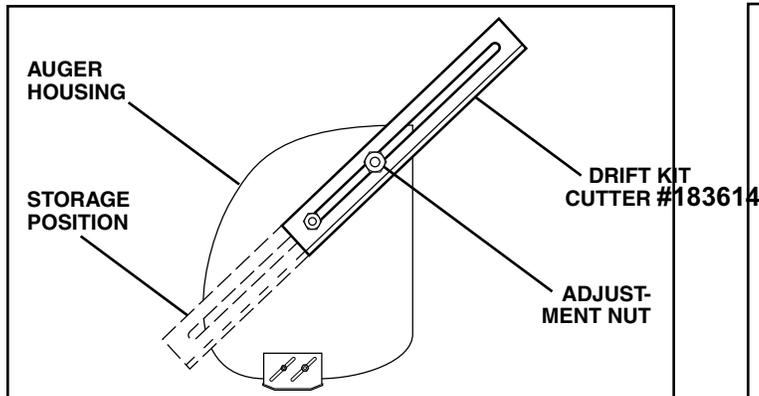


FIG. 21

TO TRANSPORT (See Fig. 11)

When pushing or towing your snowthrower, be sure to disengage transmission by placing freewheel control into FREEWHEEL position. Freewheel control is located at the rear of snowthrower.

- Pull freewheel control out to FREEWHEEL position.
- To reengage transmission, reverse above procedure.

BEFORE STARTING THE ENGINE

CHECK ENGINE OIL LEVEL (See Fig. 22)

The engine on your snow thrower has been shipped, from the factory, already filled with oil.

1. Check engine oil with snow thrower on level ground.
 2. Remove oil fill cap/dipstick and wipe clean, reinsert the dipstick and screw tight, wait for a few seconds, remove and read oil level. If necessary, add oil until "FULL" mark on dipstick is reached. Do not overfill.
- To change engine oil, see "TO CHANGE ENGINE OIL" in the Maintenance section of this manual.

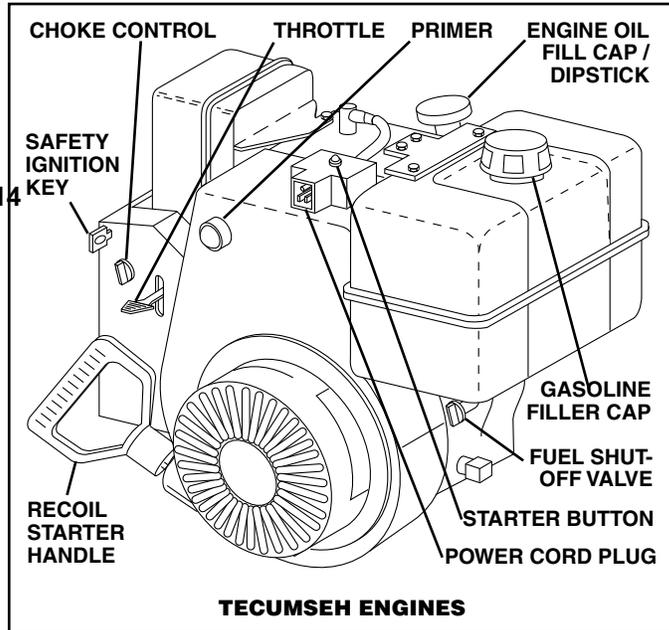
ADD GASOLINE (See Fig. 22)

- Fill fuel tank to bottom of tank filler neck. Do not overfill. Use fresh, clean, regular unleaded gasoline with a minimum of 87 octane. Do not mix oil with gasoline. Purchase fuel in quantities that can be used within 30 days to assure fuel freshness.

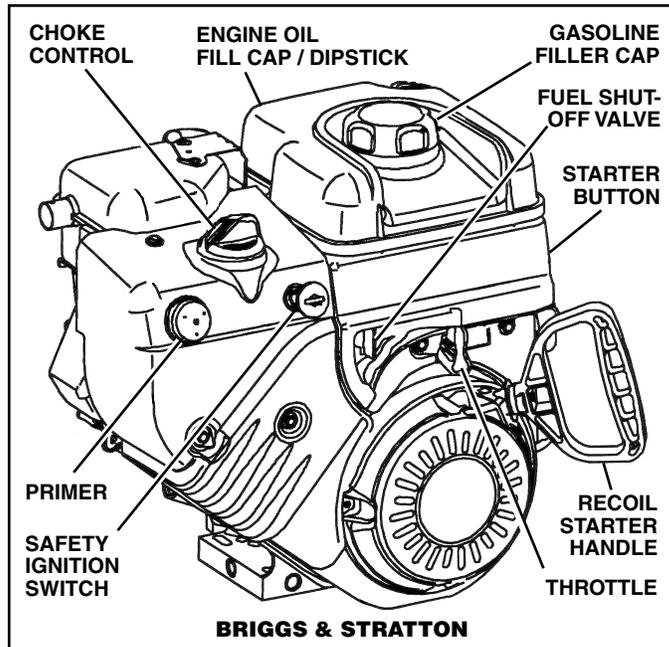


WARNING: Wipe off any spilled oil or fuel. Do not store, spill or use gasoline near an open flame.

CAUTION: Alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage. To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer. Drain the gas tank, start the engine and let it run until the fuel lines and carburetor are empty. Use fresh fuel next season. See Storage Instructions for additional information. Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.



TECUMSEH ENGINES



BRIGGS & STRATTON

FIG. 22

TO START ENGINE

- Be sure fuel shut-off valve is in the OPEN position.

Your snow thrower engine is equipped with both a 120 Volt A.C. electric starter and a recoil starter. The electric starter is equipped with a three-wire power cord and plug and is designed to operate on 120 Volt A.C. household current.

- Be sure your house is a 120 Volt A.C. three-wire grounded system. If you are uncertain, consult a licensed electrician.



WARNING: Do not use the electric starter if your house is not a 120 Volt A.C. three-wire grounded system. Serious personal injury or damage to your snow thrower could result.

CONSUMER OPERATION

COLD START - ELECTRIC STARTER

1. Insert safety ignition key into the ignition slot until it clicks. DO NOT turn the key. Keep the extra safety ignition key in a safe place.
2. Place throttle control in FAST position.
3. Rotate choke control to FULL position.
4. Connect the power cord to the engine.
5. Plug the other end of the power cord into a three-hole grounded 120 Volt A.C. receptacle.

NOTE: Do not use primer when starting engine with the electric starter.

6. Push starter button until engine starts.

IMPORTANT: Do not crank engine more than five continuous seconds between each time you try to start. Wait 5 to 10 seconds between each attempt.

7. When the engine starts, release the starter button and slowly move the choke control to the OFF position.
8. Disconnect the power cord from the receptacle first, then from the engine.

Allow the engine to warm up for a few minutes. Engine will not develop full power until it has reached normal operating temperature.

WARM START - ELECTRIC STARTER

Follow the steps above, keeping the choke control in the OFF position.

COLD START - RECOIL STARTER

1. Insert safety ignition key into the ignition slot until it clicks. DO NOT turn the key. Keep the extra safety ignition key in a safe place.
2. Place throttle control in FAST position.
3. Rotate choke control to FULL position.
4. Push the primer four (4) times if the temperature is below 15°F, or two (2) times if temperature is between 15° and 50°F. If temperature is above 50°F, priming is not necessary.

NOTE: Over priming may cause flooding, preventing the engine from starting. If you do flood the engine, wait a few minutes before attempting to start and DO NOT push the primer.

5. Pull recoil starter handle quickly. Do not allow starter rope to snap back.
6. When the engine starts, release the recoil starter handle and slowly move the choke control to the OFF position.

Allow the engine to warm up for a few minutes. Engine will not develop full power until it has reached normal operating temperature.

WARM START - RECOIL STARTER

Follow the steps above, keeping the choke in the OFF position. DO NOT push the primer.

BEFORE STOPPING

Run the engine for a few minutes to help dry off any moisture on the engine.

To avoid possible freeze-up of the starter, proceed as follows:

ELECTRIC STARTER

1. Connect the power cord to the engine.
2. Plug the other end of the power cord into a three-hole grounded 120 Volt A.C. receptacle.
3. While the engine is running, push starter button and spin the starter for several seconds.

NOTE: The unusual sound made while starter is spinning will not harm the engine or starter.

4. Disconnect the power cord from the receptacle first, then from the engine.

RECOIL STARTER

1. While the engine is running, pull the recoil starter handle with rapid, full arm strokes three or four times.

NOTE: The unusual sound made while pulling the recoil starter handle will not harm the engine or starter.

IF RECOIL STARTER HAS FROZEN

If the recoil starter has frozen and will not turn the engine, proceed as follows:

1. Grasp the recoil starter handle and slowly pull as much rope out of the starter as possible.
2. Release the recoil starter handle and let it snap back against the starter.

If the engine still fails to start, repeat the above steps or use the electric starter.

SNOW THROWING TIPS

- Always operate the snow thrower with the engine at full throttle. Full throttle offers the best performance.
- Go slower in deep, freezing or heavy wet snow. Use the drive speed control, NOT the throttle, to adjust speed.
- It is easier and more efficient to remove snow immediately after it falls.
- The best time to remove snow is the early morning. At this time the snow is usually dry and has not been exposed to the direct sun and warming temperatures.
- Slightly overlap each successive path to ensure all snow will be removed.
- Throw snow downwind whenever possible.
- Adjust the skid plates to proper height for current snow conditions. See "TO ADJUST SKID PLATES" in this section of this manual.
- For extremely heavy snow, reduce the width of snow removal by overlapping previous path and moving slowly.
- Keep engine clean and clear of snow during use. This will help air flow and extend engine life.
- After snow-throwing is completed, allow engine to run for a few minutes to melt snow and ice off the engine.
- Clean the entire snow thrower thoroughly after each use and wipe dry so it is ready for next use.



WARNING: Do not operate snow thrower if weather conditions impair visibility. Throwing snow during a heavy, windy snowstorm can blind you and be hazardous to the safe operation of the snow thrower.

CONSUMER MAINTENANCE

V-BELTS

Check V-belts for deterioration and wear after every 50 hours of operation and replace if necessary. The belts are not adjustable. Replace belts if they begin to slip from wear. (See "TO REMOVE BELT COVER" in the Service and Adjustments section of this manual).

The V-belts on your snow thrower are of special construction and should be replaced by original equipment manufacturer (OEM) belts available from your nearest dealer. Using other than OEM belts can cause personal injury or damage to the snow thrower.

AUGER GEAR CASE

- The gear case was filled with lubricant to the proper level at the factory. The only time the lubricant needs attention is if service has been performed on the gear case.
- If lubricant is required, use only Ronex ED #1 grease.

TRACTION DRIVE SYSTEM

DO NOT lubricate the drive components inside the snow thrower. The sprockets, hex shafts, drive disc and friction wheel require no lubrication. The bearings and bushings are lifetime lubricated and require no maintenance.

CAUTION: Any lubricating of the above components can cause contamination of the friction wheel and damage to the drive system of your snow thrower.

HYDRO TRANSMISSION

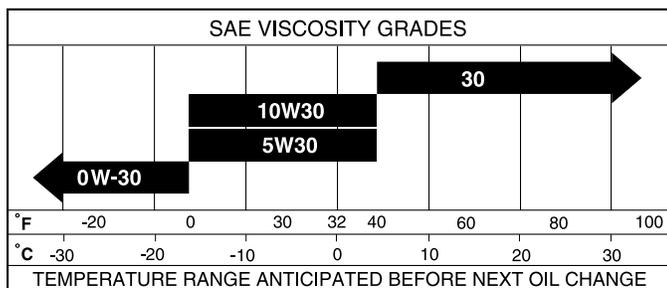
The hydro transmission is a sealed, self-contained unit. It does not require additional fluid or lubrication. There is no way to check the fluid level in the transmission. If a serious leak develops and a significant amount of fluid is lost, the hydro transmission should be replaced.

ENGINE

See engine manual.

LUBRICATION

Use only high quality detergent oil rated with API service classification SG–SL. Select the oil's SAE viscosity grade according to your expected operating temperature.



NOTE: Although multi-viscosity oils (5W30, 10W30 etc.) improve starting in cold weather, these multi-viscosity oils will result in increased oil consumption when used above 32°F. Check your engine oil level more frequently to avoid possible engine damage from running low on oil.

Change the oil after every 50 hours of operation or at least once a year if the snow thrower is not used for 50 hours in one year.

Check the crankcase oil level before starting the engine and after each five (5) hours of continuous use. Tighten oil fill cap / dipstick securely each time you check the oil level.

TO CHANGE ENGINE OIL

Determine temperature range anticipated before next oil change. All oil must meet API service classification SG–SL.

- Be sure snow thrower is on level surface.
- Oil will drain more freely when warm.
- Catch oil in a suitable container.

NOTE: The left side wheel may be removed from snow thrower for easier access to the oil drain plug and placement of a suitable container. The unit tilted, resting on the frame with the left wheel removed, will help drain any oil trapped inside the engine. (See "TO REMOVE WHEELS" in the Service and Adjustments section of this manual).

1. Disconnect spark plug wire from spark plug and place wire where it cannot come in contact with plug.
2. Clean area around drain plug.
3. Remove drain plug and drain oil in a suitable container.
4. Install drain plug and tighten securely.
5. Wipe off any spilled oil from snow thrower and engine.
6. Install left wheel (if removed for draining oil). Be sure to install klick pin into proper hole in wheel axle (See "TO REMOVE WHEELS" in the Service and Adjustments section of this manual).
7. Remove oil fill cap/dipstick. Be careful not to allow dirt to enter the engine.
8. Refill engine with oil through oil dipstick tube. Pour slowly. Do not overfill. For approximate capacity see "PRODUCT SPECIFICATIONS" section of this manual.
9. Use gauge on oil fill cap/dipstick for checking level. Be sure dipstick cap is tightened securely for accurate reading. Keep oil at "FULL" line on dipstick.
10. Wipe off any spilled oil.

MUFFLER

Inspect and replace corroded muffler as it could create a fire hazard and/or damage.

SPARK PLUG

Replace spark plug at the beginning of each season or after every 100 hours of operation, whichever occurs first. Spark plug type and gap setting are shown in the "PRODUCT SPECIFICATIONS" section of this manual.

CLEANING

IMPORTANT: For best performance, keep snow thrower housing free of any dirt or trash. Clean the outside of your snow thrower after each use.



WARNING: Disconnect spark plug wire from spark plug and place wire where it cannot come in contact with plug.

- Keep finished surfaces/wheels free of gasoline, oil, etc.
- We do not recommend using a garden hose to clean your snow thrower unless the electrical system, muffler and carburetor are covered to keep water out. Water in engine can result in shortened engine life.

CONSUMER SERVICE AND ADJUSTMENTS

WARNING: To avoid serious injury, before performing any service or adjustments:

1. Be sure throttle is in STOP position.
2. Remove safety ignition key.
3. Make sure the augers and all moving parts have completely stopped.
4. Disconnect spark plug wire from spark plug and place wire where it cannot come in contact with plug.



SNOW THROWER

TO ADJUST SNOW THROWER HEIGHT

See "TO ADJUST SKID PLATES" and "SCRAPER BAR" in the Operation section of this manual.

CHUTE DEFLECTOR

The chute deflector, attached to the top of the discharge chute, is provided to direct discharging snow away from the operator. If the deflector becomes damaged, it should be replaced.



WARNING: To avoid serious injury, never operate your snow thrower with the deflector removed or damaged.

- To change direction and/or distance snow is discharged, see "TO CONTROL SNOW DISCHARGE" in the Operation section of this manual.

SHEAR BOLTS (See Fig. 23)

AUGER SHEAR BOLTS

Both right and left-hand augers are secured to the auger shaft with a shoulder/shear bolt and hex nut. Should a foreign object or ice become lodged in the augers, the shear bolts are designed to break, preventing damage to any other components. If one or both augers do not turn when auger control lever is engaged, check to see if one or both of the bolts have sheared. To replace the shear bolts:

1. Disengage all controls and move throttle control to STOP position. Wait for all moving parts to stop.
2. Disconnect spark plug wire from spark plug and place wire where it cannot come in contact with plug.
3. Align hole in auger hub with hole in auger shaft and install a new 1/4-20 x 2" shoulder/shear bolt. Install 1/4-20 lock nut and tighten securely.

CAUTION: Do not substitute. Use only original equipment shear bolts as supplied with your snow thrower.

4. Connect spark plug wire to spark plug.

IMPELLER SHEAR BOLTS

The impeller is secured to the impeller shaft with two (2) capscrew/shear bolts and hex nuts. Should a foreign object or ice become lodged in the impeller, the capscrews are designed to break, preventing damage to any other components. If impeller does not turn when auger control lever is engaged, check to see if the capscrews have sheared. To replace the capscrew/shear bolts:

1. Disengage all controls and move throttle control to STOP position. Wait for all moving parts to stop.
2. Disconnect spark plug wire from spark plug and place wire where it cannot come in contact with plug.
3. Align holes in impeller hub with holes in impeller shaft and install two (2) new 1/4-20 x 1-5/8" capscrew/shear bolts. Install 1/4-20 locknuts and tighten securely.

CAUTION: Do not substitute. Use only original equipment capscrew/shear bolts as supplied with your snow thrower.

4. Connect spark plug wire to spark plug.

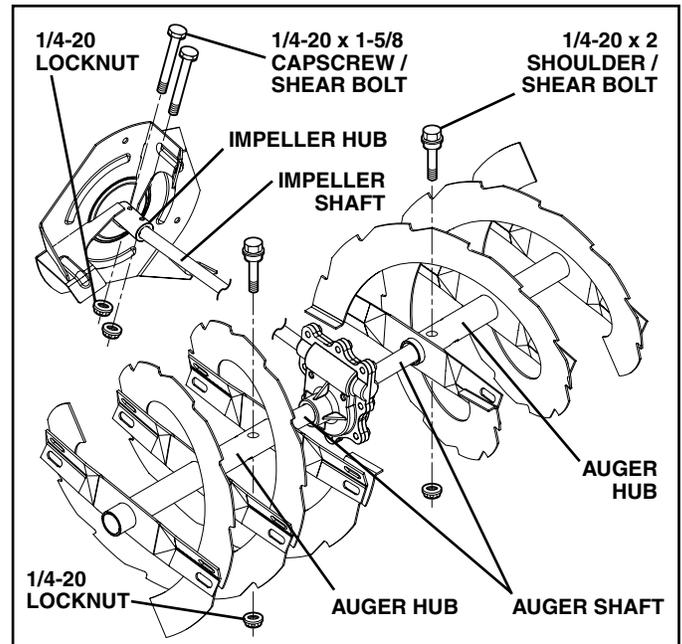


FIG. 23

TO REMOVE BELT COVER (See Fig. 24)

1. Remove the two (2) screws securing belt cover to frame.
 2. Remove belt cover.
- Replace belt cover by installing cover and screws and tighten securely.

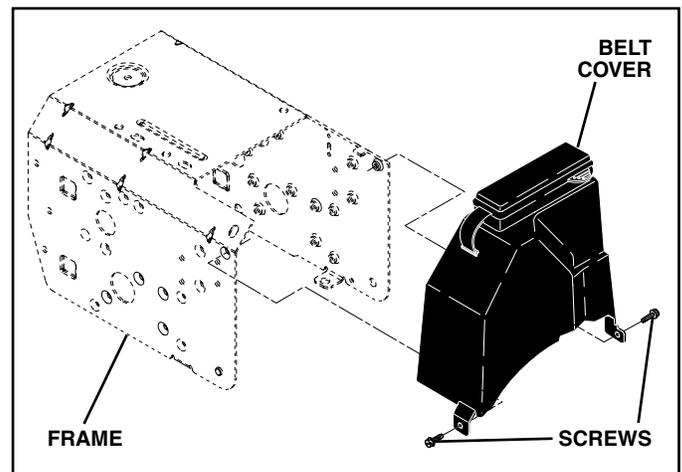


FIG. 24

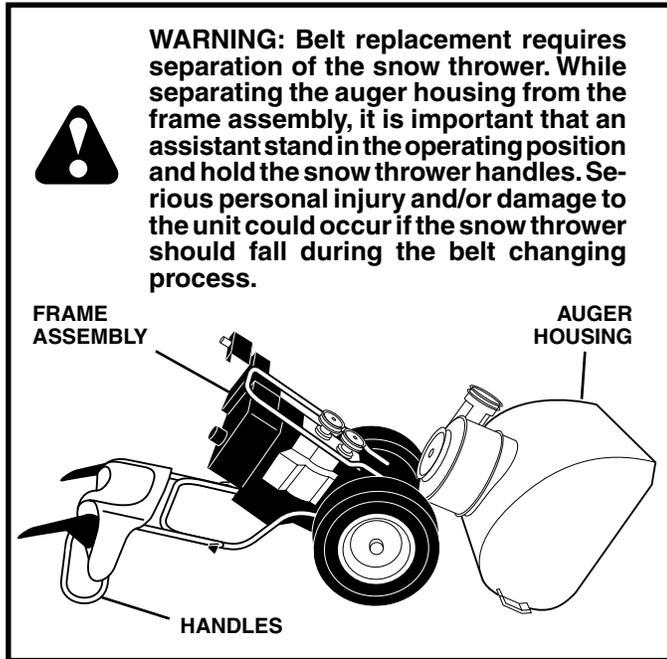
CONSUMER SERVICE AND ADJUSTMENTS

TO REPLACE BELTS (See Fig. 25)

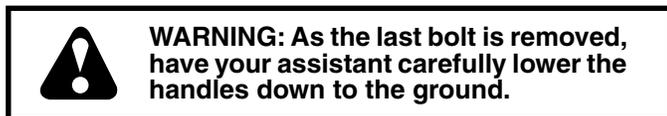
The auger and traction drive belts are not adjustable. If the belts are damaged or begin to slip from wear, they should be replaced. It is recommended that the belt(s) be replaced by a qualified service center.

NOTE: It is recommended that both the auger and traction drive belt be replaced at the same time.

The V-belts on your snow thrower are of special construction and should be replaced by original equipment manufacturer (OEM) belts available from your nearest dealer. Using other than OEM belts can cause personal injury or damage to the snow thrower.



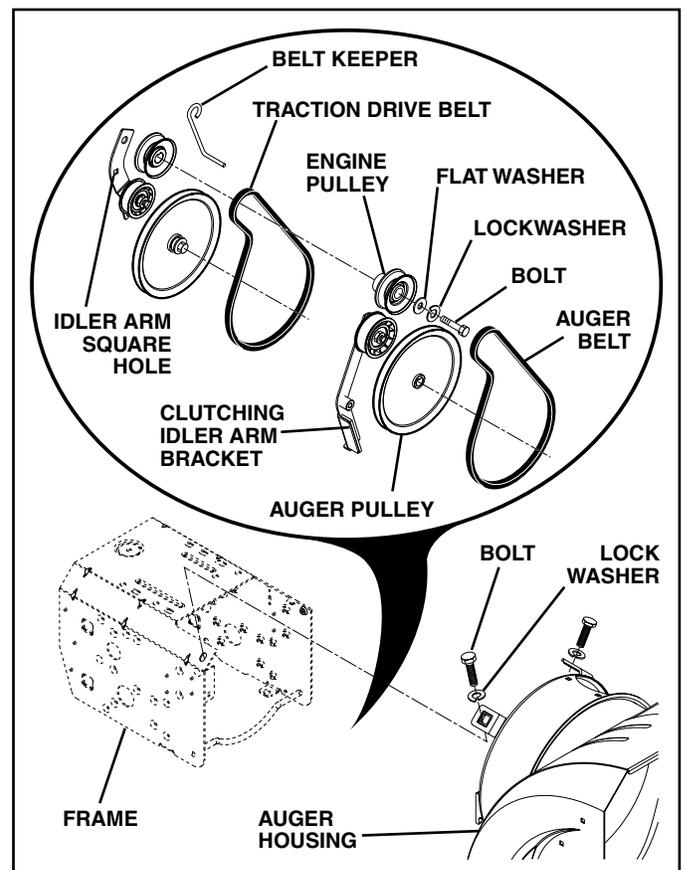
1. REMOVE GASOLINE FROM FUEL TANK - Drain gasoline from fuel tank into a suitable container, outdoors, away from fire or flame. Wipe up any spilled gasoline.
2. REMOVE DISCHARGE CHUTE - Loosen locknut securing chute rotator head to mounting bracket only enough to allow chute rotator head to be raised and discharge chute to be removed from snow thrower.
3. REMOVE BELT COVER - See "TO REMOVE BELT COVER" in this section of this manual.
4. REMOVE ENGINE PULLEY - Remove bolt, lockwasher and flat washer securing pulley to engine crankshaft. Remove outside (auger) pulley only from crankshaft.
5. SEPARATE SNOW THROWER - With your assistant standing in the operating position holding the handles, remove the two (2) bolts and lock washers holding auger housing and frame together.



6. REMOVE AUGER BELT from around pulley.
7. RELIEVE TENSION ON TRACTION DRIVE BELT IDLER and remove traction drive belt from around pulleys.

HINT: Insert a 3/8" drive ratchet (in the "ON" position) into the square hole in idler arm and rotate ratchet clockwise to relieve tension.

8. With tension relieved on idler, install new traction drive belt around pulleys and inside belt keepers.
9. Place auger belt around and inside the groove of auger pulley only.
10. While your assistant slowly raises handles to rejoin the auger housing and frame assembly, pull up on the auger belt and squeeze sides together above pulley so belt is fully seated in groove of pulley.
11. Bring snow thrower completely together and check carefully for proper routing of belts. If auger belt has become dislodged from the pulley (by catching the idler arm bracket while bringing snow thrower together), separate the snow thrower and repeat step 10. Belt must be fully seated in pulley groove when bringing the snow thrower together.
12. Install the two (2) hex bolts and lock washers and tighten securely.
13. INSTALL ENGINE PULLEY - Place belt in pulley groove and slide pulley on crankshaft. Install flat washer, lockwasher and bolt and tighten securely (30-35 ft. lbs. torque). Make sure belt is inside belt keeper.
14. INSTALL BELT COVER and two (2) screws. Tighten securely.
15. INSTALL DISCHARGE CHUTE - See "INSTALL DISCHARGE CHUTE / CHUTE ROTATER HEAD" in the Assembly / Pre-Operation section of this manual.



CONSUMER SERVICE AND ADJUSTMENTS

TO REMOVE WHEELS (MODELS WITH POWER STEERING) (See Fig. 26A)

- Remove the klik pin and remove wheel from axle.

IMPORTANT: When installing wheel, be sure to use the innermost hole in axle and the wheel hub hole. To disengage drive system from the wheels (for pushing or transporting the snow thrower), remove klik pin from wheel hub and insert pin into the outermost hole in axle only.

NOTE: To seal punctures or prevent flat tires due to slow leaks, tire sealant may be purchased from your local parts dealer. Tire sealant also prevents tire dry rot and corrosion.

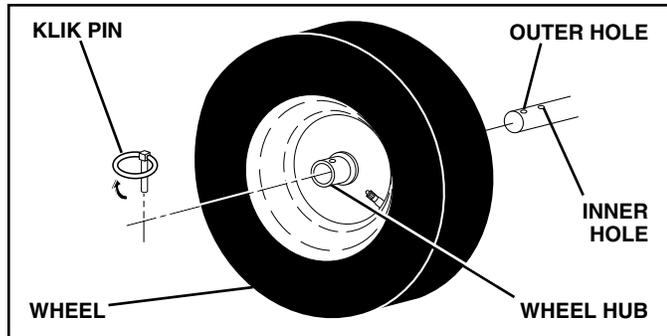


FIG. 26A

TO REMOVE WHEELS (MODELS WITHOUT POWER STEERING) (See Fig. 26B)

- Remove the klik pin and remove wheel from axle.

IMPORTANT: When installing wheel, be sure to use the axle hole closest to the end of the shaft – *do not* use the hole in the wheel hub (if equipped). Inner hole in axle and hole in wheel hub are not used for your model snow thrower.

NOTE: To seal punctures or prevent flat tires due to slow leaks, tire sealant may be purchased from your local parts dealer. Tire sealant also prevents tire dry rot and corrosion.

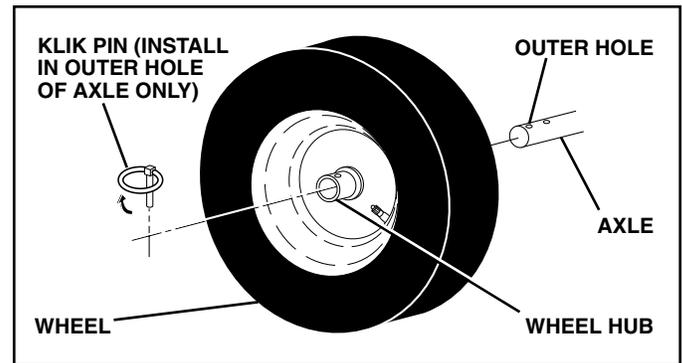


FIG. 26B

ENGINE

See engine manual.

CARBURETOR

Your carburetor is not adjustable. Engine performance should not be affected at altitudes up to 7,000 feet (2,134 meters). If your engine does not operate properly due to suspected carburetor problems, take your snow thrower to a qualified service center.

ENGINE SPEED

Never tamper with the engine governor, which is factory set for proper engine speed. Overspeeding the engine above the factory high speed setting can be dangerous and will void the warranty. If you think the engine-governed high speed needs adjusting, contact a qualified service center, which has proper equipment and experience to make any necessary adjustments.

CONSUMER STORAGE

Immediately prepare your snow thrower for storage at the end of the season or if the unit will not be used for 30 days or more.



WARNING: Never store the snow thrower with gasoline in the tank inside a building where fumes may reach an open flame, spark or pilot light as on a furnace, water heater, clothes dryer or gas appliance. Allow the engine to cool before storing in any enclosure.

SNOW THROWER

When snow thrower is to be stored for a period of time, clean it thoroughly, remove all dirt, grease, leaves, etc. Store in a clean, dry area.

1. Clean entire snow thrower (See “CLEANING” in the Maintenance section of this manual).
2. Inspect and replace belts, if necessary (See “TO REPLACE BELTS” in the Service and Adjustments section of this manual).
3. Lubricate as shown in the Maintenance section of this manual.
4. Be sure that all nuts, bolts, screws, and pins are securely fastened. Inspect moving parts for damage, breakage and wear. Replace if necessary.
5. Touch up all rusted or chipped paint surfaces; sand lightly before painting.

ENGINE

See engine manual.

FUEL SYSTEM

IMPORTANT: It is important to prevent gum deposits from forming in essential fuel system parts such as carburetor, fuel hose, or tank during storage. Also, alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage.

- Empty the fuel tank by starting the engine and letting it run until the fuel lines and carburetor are empty.
- Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.
- Use fresh fuel next season.

NOTE: Fuel stabilizer is an acceptable alternative in minimizing the formation of fuel gum deposits during storage. Add stabilizer to gasoline in fuel tank or storage container. Always follow the mix ratio found on stabilizer container. Run engine at least 10 minutes after adding stabilizer to allow the stabilizer to reach the carburetor. Do not drain the gas tank and carburetor if using fuel stabilizer.

ENGINE OIL

Drain oil (with engine warm) and replace with clean engine oil. (See “ENGINE” in the Maintenance section of this manual).

CYLINDER

1. Remove spark plug.
2. Pour one ounce (29 ml) of oil through spark plug hole into cylinder.
3. Pull recoil starter handle slowly a few times to distribute oil.
4. Replace with new spark plug.

OTHER

- Do not store gasoline from one season to another.
- Replace your gasoline can if your can starts to rust. Rust and/or dirt in your gasoline will cause problems.
- If possible, store your snow thrower indoors and cover it to protect it from dust and dirt.
- Cover your snow thrower with a suitable protective cover that does not retain moisture. Do not use plastic. Plastic cannot breathe, which allows condensation to form and will cause your snow thrower to rust.

IMPORTANT: Never cover snow thrower while engine/exhaust area is still warm.

SECTION 5: TROUBLESHOOTING

See appropriate section in manual unless directed to a qualified service center.

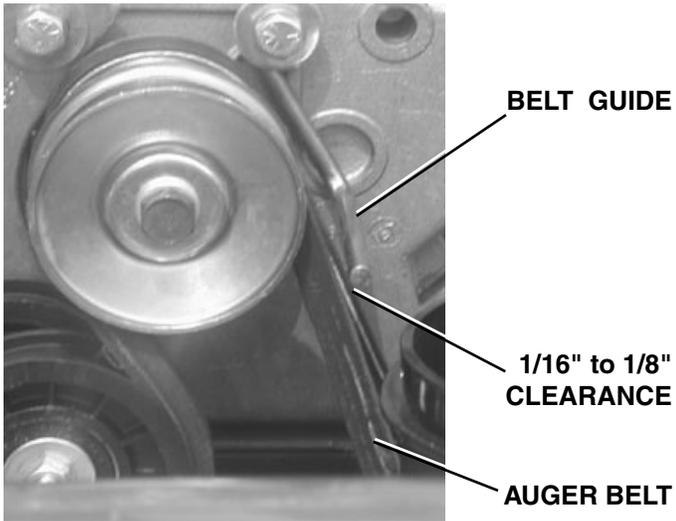
| PROBLEM | CAUSE | CORRECTION |
|--|---|---|
| Does not start | <ol style="list-style-type: none"> 1. Fuel shut-off valve (if so equipped) in OFF position. 2. Safety ignition key is not inserted. 3. Out of fuel. 4. Throttle in STOP position. 5. Choke in OFF position. 6. Primer not depressed. 7. Engine is flooded. 8. Spark plug wire is disconnected. 9. Bad spark plug. 10. Stale fuel. 11. Water in fuel. | <ol style="list-style-type: none"> 1. Turn fuel shut-off valve to OPEN position. 2. Insert safety ignition key. 3. Fill fuel tank. 4. Move throttle to FAST position. 5. Move to FULL position. 6. Prime as instructed in the Operation section of this manual. 7. Wait a few minutes before restarting, DO NOT prime. 8. Connect wire to spark plug. 9. Replace spark plug. 10. Empty fuel tank and carburetor, refill tank with fresh gasoline. 11. Empty fuel tank and carburetor, refill tank with fresh gasoline. |
| Loss of power | <ol style="list-style-type: none"> 1. Spark plug wire loose. 2. Throwing too much snow. 3. Fuel tank cap is covered with ice or snow. 4. Dirty or clogged muffler. | <ol style="list-style-type: none"> 1. Reconnect spark plug wire. 2. Reduce speed and width of swath. 3. Remove ice and snow on and around fuel tank cap. 4. Clean or replace muffler. |
| Engine idles or runs roughly | <ol style="list-style-type: none"> 1. Choke is in FULL position. 2. Blockage in fuel line. 3. Stale fuel. 4. Water in fuel. 5. Carburetor is in need of adjustment or overhaul. | <ol style="list-style-type: none"> 1. Move choke to OFF position. 2. Clean fuel line. 3. Empty tank and refill with fresh, clean fuel. 4. Empty fuel tank and carburetor, refill tank with fresh gasoline. 5. Contact a qualified service center. |
| Excessive vibration | <ol style="list-style-type: none"> 1. Loose parts or damaged augers or impeller. | <ol style="list-style-type: none"> 1. Tighten all fasteners. Replace damaged parts. If vibration remains, contact a qualified service center. |
| Recoil starter is hard to pull | <ol style="list-style-type: none"> 1. Frozen recoil starter. | <ol style="list-style-type: none"> 1. See "IF RECOIL STARTER HAS FROZEN" in the Operation section of this manual. |
| Loss of traction drive / slowing of drive speed | <ol style="list-style-type: none"> 1. Drive belt is worn. 2. Drive belt is off of pulley. 3. Friction drive wheel is worn. | <ol style="list-style-type: none"> 1. Check / replace drive belt. 2. Check / reinstall drive belt. 3. Contact a qualified service center. |
| Loss of snow discharge or slowing of snow discharge | <ol style="list-style-type: none"> 1. Auger belt is off of pulley. 2. Auger belt is worn. 3. Clogged discharge chute. 4. Augers / impeller jammed. | <ol style="list-style-type: none"> 1. Check / reinstall auger belt. 2. Check / replace auger belt. 3. Clean snow chute. 4. Remove debris or foreign object from augers / impeller. |

SECTION 6: ADJUSTMENTS

| | | |
|------|--|----|
| 6.01 | Belt Guide Clearance | 26 |
| 6.11 | Wheel Klik Pin Position – Power Steering models | 26 |
| 6.12 | Wheel Klik Pin Positions – Standard Steering models | 26 |
| 6.21 | Drive Control Rod Adjustment..... | 27 |
| 6.22 | Traction Disc Ring Adjustment | 27 |
| 6.23 | Auger Control Rod Adjustment..... | 28 |
| 6.24 | Speed Control Rod Adjustment..... | 28 |
| 6.31 | Power Steering Slippage – Adding Shim Washer(s) Procedure..... | 29 |

6.01 BELT GUIDE CLEARANCE

1. Disconnect spark plug wire from spark plug.
2. Engage Auger Lever and adjust clearance between belt and belt guide to 1/16" to 1/8".



6.11 WHEEL KLIK PIN POSITION – POWER STEERING MODELS



NOTE: Klik Pin must be in this position only for the Power Steering to work. The hole in the wheel hub is **NEVER** used on Power Steering models.

6.12 WHEEL KLIK PIN POSITION – STANDARD STEERING MODELS



NOTE: To push the snowthrower easily (“free-wheeling” mode), install the Klik Pin in the outer axle hole, with the wheel hub to the inside.



NOTE: For the wheel to drive, the Klik Pin must be installed through both the wheel hub and the inner axle hole.

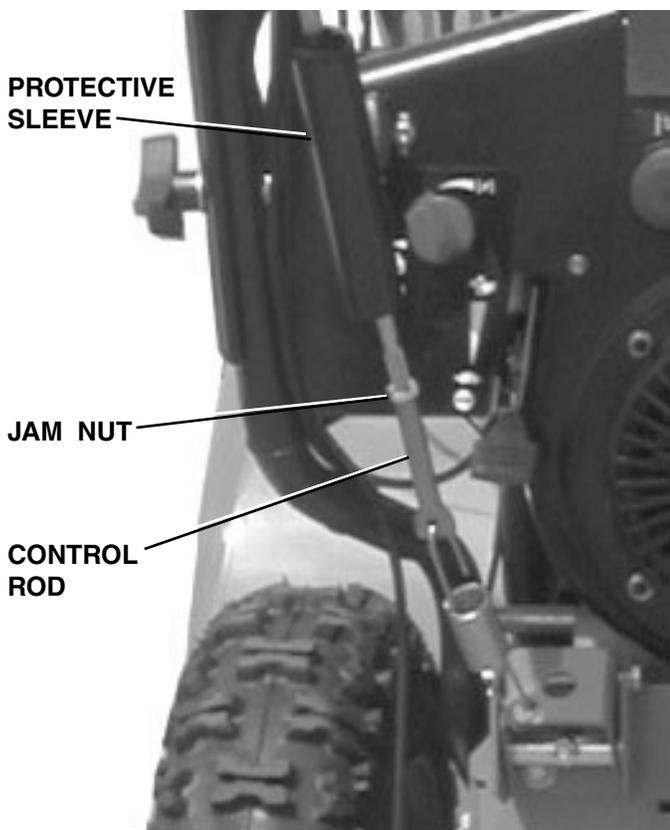
6.21 DRIVE CONTROL ROD ADJUSTMENT

STANDARD SHIFT MODELS:

The drive system Control Rod is located on the left side of the handle. Adjustment is required if engagement is sluggish or if there is creep.

1. Loosen jam nut, remove hairpin, and disconnect control rod from control lever. Turn the rod counter-clockwise to lengthen, clockwise to shorten. Reconnect the control rod lever. The rod should be snug with no slack. If not, readjust to remove slack. Tighten jam nut.

If this adjustment is not successful, use anti-seize to lubricate the Hex Short Shaft (Page 39, Key 28) on the Drive Plate Assembly (Key 26). See Section 7.45 for disassembly information.



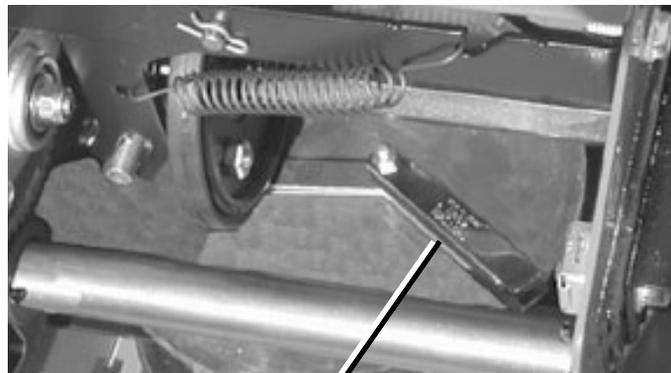
HYDRO MODELS:

The hydrostatic transmission is a sealed, self-contained unit. It does not require additional fluid or lubrication. There is no way to check the fluid level in the transmission. If a serious leak develops and a significant amount of fluid is lost, the hydro transmission should be replaced.

6.22 TRACTION DISC RING ADJUSTMENT (STANDARD SHIFT MODELS ONLY)

Remove spark plug wire from spark plug when making adjustments.

1. Position snowthrower with auger down and remove Bottom Pan to inspect the Traction Disc (see Section 7.42).



2. If the rubber ring on the traction disc is missing chunks, has deep cracks, or is worn to the point where the rubber ring clamp plates are 1/16" or less from the drive plate (in engaged position), the rubber ring must be replaced.
3. If the rubber ring passes inspection, adjust the clearance between it and the Drive Plate to 0.125"–0.140" (in disengaged position).
4. If there is a complaint that the drive does not disengage properly, check to see that this dimension is at least 0.125".



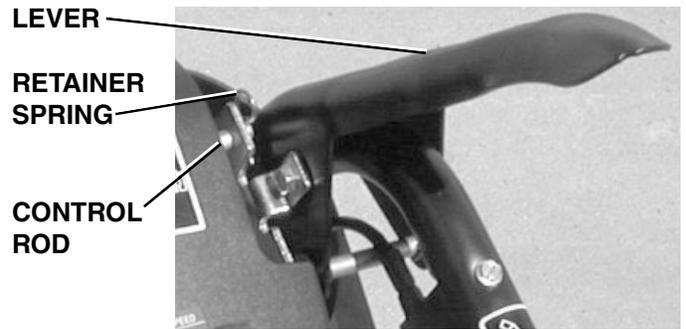
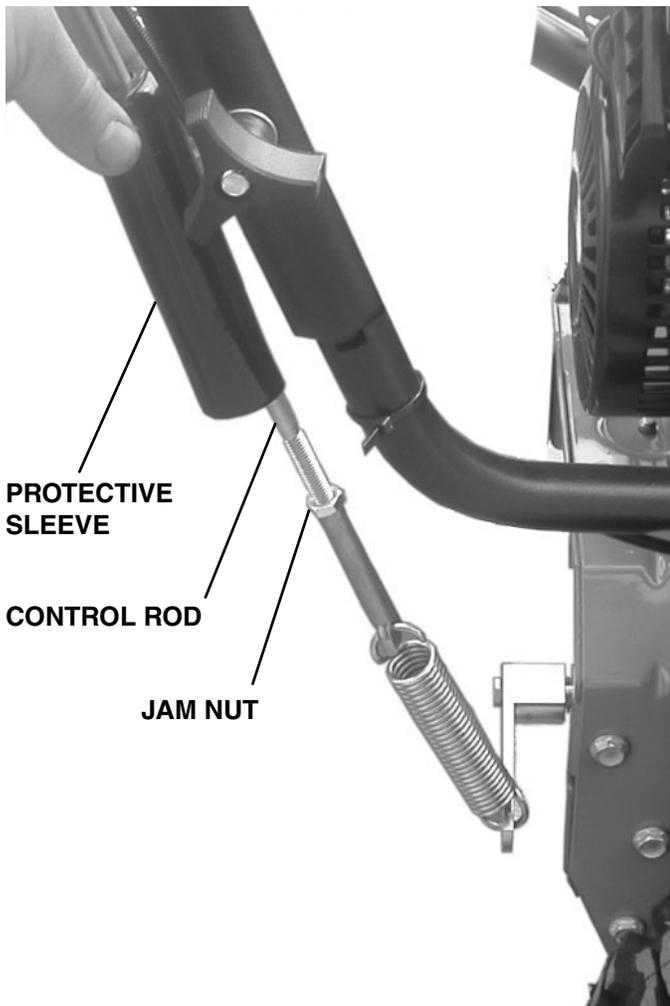
5. To adjust clearance, locate the 9/16" nut connecting the bellcrank to the clutch rod. It is at bottom end of the Drive Control Rod (Page 35, Key 36). When a new rubber ring is installed, this nut should be adjusted so that two threads are showing past the nut. As the ring wears, it can be adjusted to the point where 1/2" of rod is showing past the nut. This increases the force of the drive plate on the rubber ring to stop slipping. Never allow more than 1/2" of rod to show past the nut (see Section 7.43).

NOTE: If the plates supporting the Rubber Ring have come into contact with the Drive Plate (Page 39, Key 26), extreme wear may have occurred, requiring those parts to be replaced.

6.23 AUGER CONTROL ROD ADJUSTMENT

The Auger Control Rod is located on the right side of the handle. **Adjustment is required if engagement is sluggish or if augers do not stop within 5 seconds of release of the auger engagement lever.**

1. Raise protective sleeve to expose jam nut.
2. Loosen jam nut.
3. Remove hairpin and disconnect control rod from control lever.
4. Turn the rod counter-clockwise to lengthen, clockwise to shorten.
5. Reconnect the control rod to the control lever. The linkage should be slightly loose. If not, readjust, then tighten jam nut.
6. Test auger disengagement. Stopping time must be 5 seconds or less.
7. If stopping time is more than 5 seconds, readjust control rod to add slack. Remove belt cover and verify that idler arm moves freely when auger control lever is engaged. Retest stopping time after each adjustment.

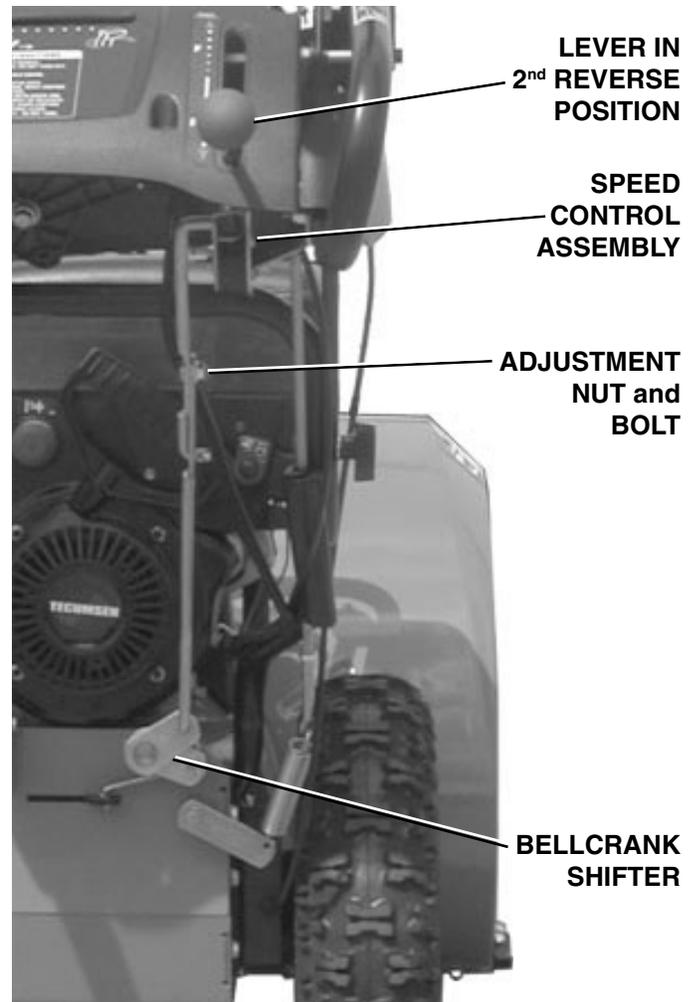


6.24 SPEED CONTROL ROD ADJUSTMENT

STANDARD SHIFT MODELS:

The Speed Control Rod is attached to the speed selector at the right side of the operator's console. Adjustment is required when there are less than two speed positions for reverse.

1. Place lever in the lowest notch (2nd reverse).
2. Loosen nut and bolt at the middle of the rod.
3. Hold Bellcrank Shifter (Page 36, Key 33) in maximum counter-clockwise position with one hand, tighten nut and bolt with other hand.



HYDRO MODELS:

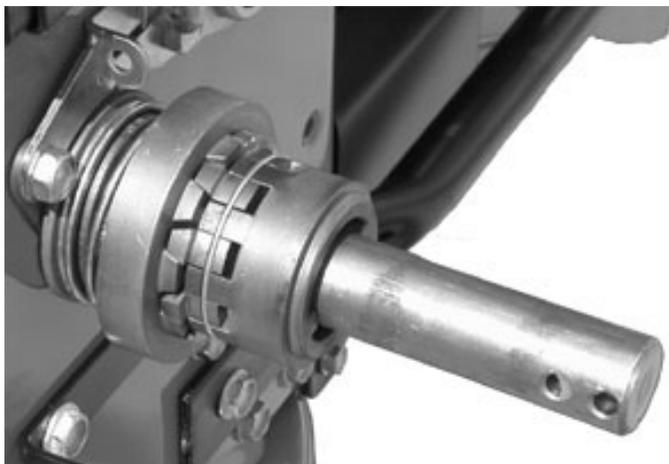
The speed control rod on hydro models requires no adjustment.

6.31 POWER STEERING SLIPPAGE – ADDING SHIM WASHER(S) PROCEDURE

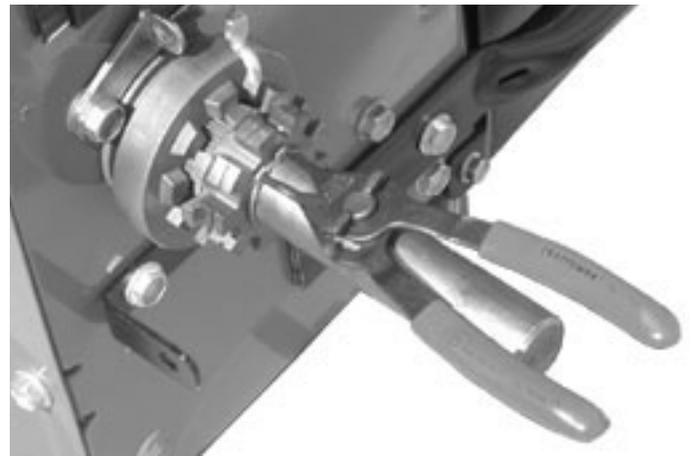
1. Operate snowthrower to determine which side is slipping.
2. Drain fuel tank.
3. Place snowthrower with Auger end down.



4. Remove the wheel and power steering components on the side with slipping power steering (see section 7.22).

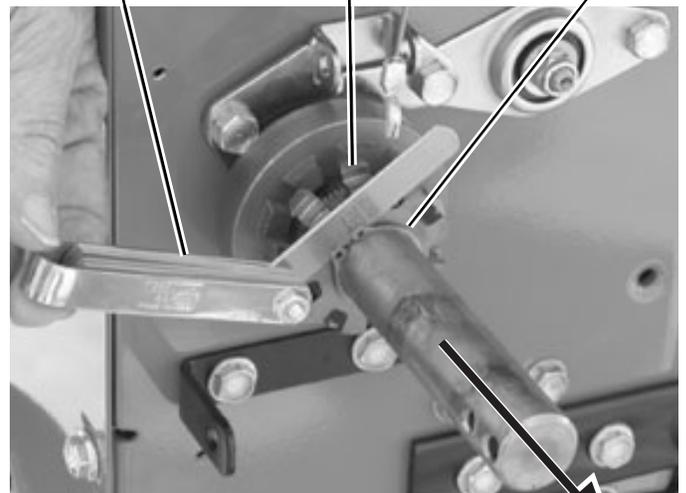


5. Reinstall Hardened Thrust Washer (Page 36, Key 28), Axle Lobe (Key 26), Wheel Lobe (Key 23), and Retaining Ring (Key 33).



6. Pull axle shaft outward to maximize tolerances.
7. Measure the gap between the Wheel Lobe (Key 23, part number 179136) and the Retaining Ring (Key 33).
8. If the gap is 0.030" or more, install a Hardened Thrust Washer (part number 174697) next to the Axle Bearing. Recheck gap.

FEELER GAUGE WHEEL LOBE RETAINING RING



PULL AXLE SHAFT OUTWARD

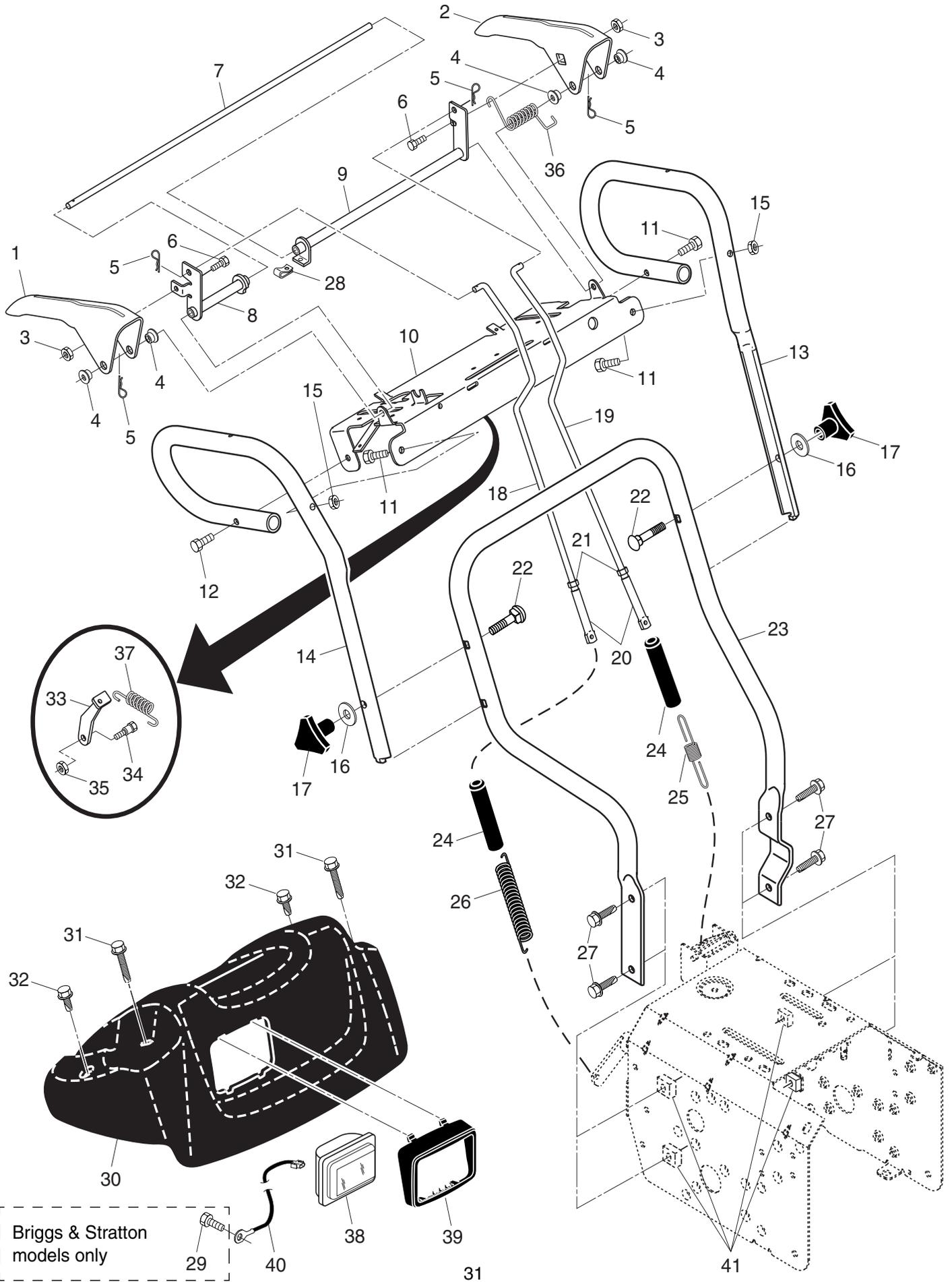
9. Reinstall all components with as many Hardened Thrust Washers as required to reduce gap to less than 0.030". This will eliminate the Power Steering slippage on that side.

NOTE: A metallic anti-seize compound must be used on splined parts during reassembly. See Page 36 for an exploded parts view of these components.

SECTION 7: SYSTEMS and REPAIR PROCEDURES

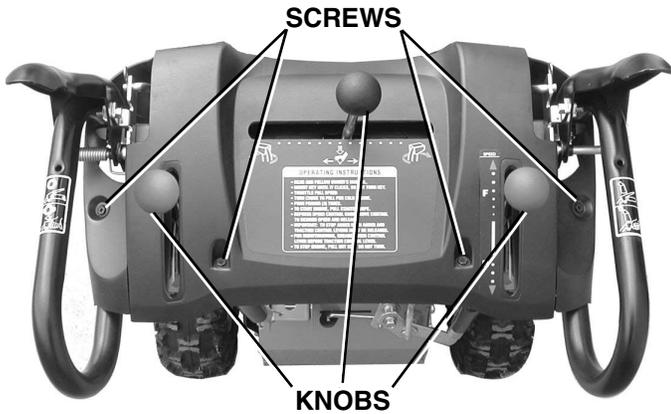
| | | |
|------|---|----|
| 7.10 | Handles and Console Panel – Exploded Parts View | 31 |
| 7.11 | Console Panel removal – to service controls and handles..... | 32 |
| 7.12 | Auger Engagement Interlock..... | 32 |
| 7.13 | Headlight replacement | 32 |
| 7.14 | Control Panel, Discharge Chute, Controls – Exploded Parts View | 33 |
| 7.16 | Discharge Chute Control Cable replacement..... | 34 |
| 7.17 | Discharge Deflector Control Cable replacement..... | 34 |
| 7.18 | Speed Control Linkage / Speed Control Assembly replacement | 35 |
| 7.19 | Power Steering Control Cable removal / replacement | 35 |
| 7.21 | Power Steering and Wheels - Exploded Parts View | 36 |
| 7.22 | Power Steering Clutch repair | 37 |
| 7.23 | Power Steering Slippage..... | 37 |
| 7.24 | Klik Pin – Power Steering models uses one position only..... | 37 |
| 7.25 | Klik Pin – Standard Drive models “Drive” and “Freewheeling” positions | 37 |
| 7.31 | Idlers, Belts and Pulleys – Exploded Parts View | 38 |
| 7.32 | Auger Belt replacement..... | 39 |
| 7.33 | Belt Guide dimensions | 40 |
| 7.34 | Traction Drive Belt replacement | 40 |
| 7.35 | Traction Drive Pulley replacement..... | 40 |
| 7.36 | Idler Spring locations..... | 40 |
| 7.37 | Engine removal / replacement..... | 41 |
| 7.41 | Friction Disc, Friction Plate and Gears – Exploded Parts View | 42 |
| 7.42 | Bottom Pan removal..... | 43 |
| 7.43 | Rubber Wheel Ring / Hex Shaft replacement..... | 43 |
| 7.44 | Intermediate Gear replacement | 44 |
| 7.45 | Drive Plate replacement..... | 44 |
| 7.46 | Drive Plate / Drive Pulley disassembly..... | 45 |
| 7.47 | Drive Axle / Gear replacement | 45 |
| 7.50 | Hydrostatic Transmission Removal | 46 |
| 7.51 | Discharge Chute removal – to service other items | 47 |
| 7.61 | Auger Housing removal – to service other items..... | 47 |
| 7.62 | Auger, Impeller and Auger Housing – Exploded Parts View | 48 |
| 7.63 | Shear Bolt replacement..... | 49 |
| 7.65 | Auger / Impeller / Housing disassembly | 49 |
| 7.66 | Auger / Impeller / Housing reassembly | 50 |
| 7.67 | Scraper Bar reversal / replacement..... | 50 |
| 7.68 | Gearbox Repair Information | 50 |

SECTION 7.10 – HANDLES and CONSOLE PANEL

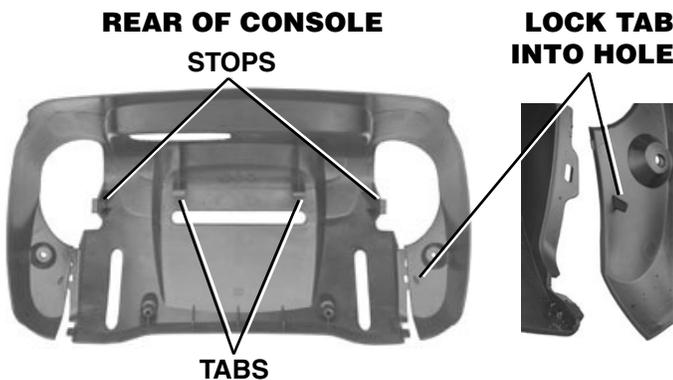


7.11 CONSOLE PANEL REMOVAL – TO SERVICE CONTROLS AND HANDLES

1. Remove the four 5/16" screws that hold the Console Panel to the Handles.
2. Remove all of the Knobs and the Headlight (see Section 7.13).



3. Carefully separate lock tab at each side and remove Console Panel from snowthrower. (Check picture below for position of tabs and stops on the back side of Console Panel).



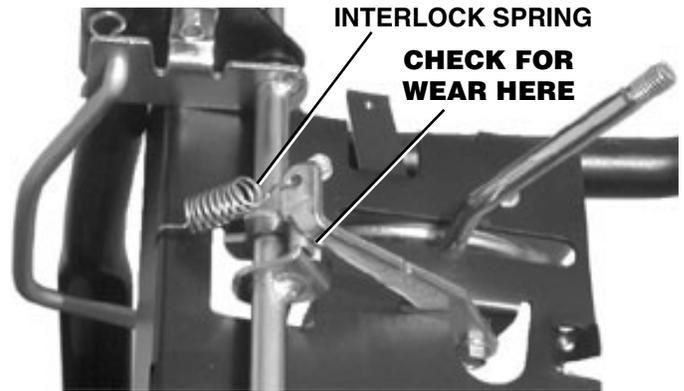
4. Reverse the above steps to reassemble. Be carefull not to overtighten the screws.

7.12 AUGER ENGAGEMENT INTERLOCK

When both Auger and Traction Engagement Levers are engaged, releasing the Auger Engagement Lever will not disengage the augers (as long as the Traction Engagement Lever remains held down). This interlock allows the operator to adjust the direction of discharge without stopping.



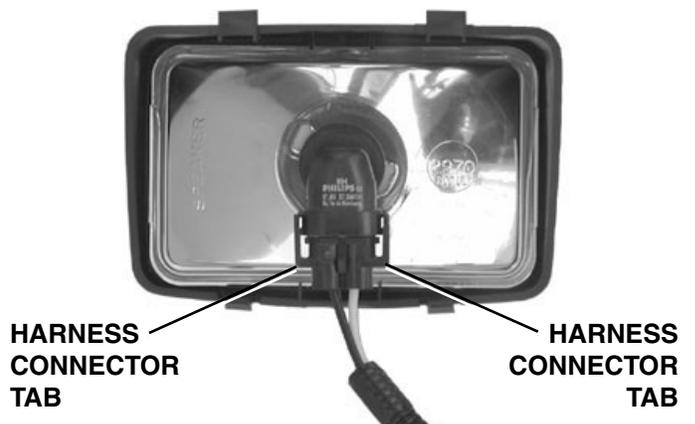
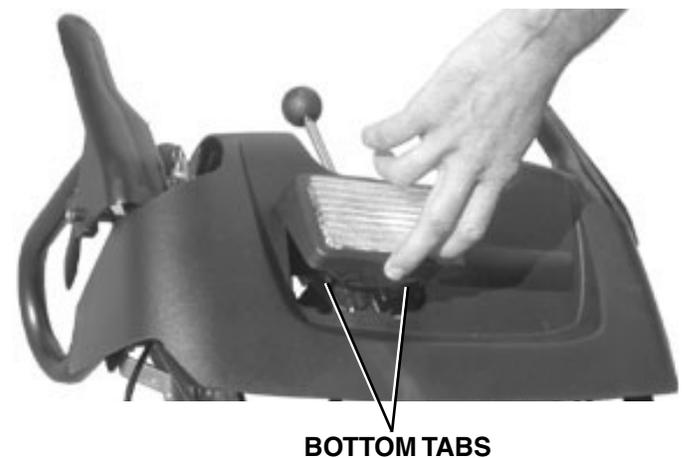
1. Remove Console Panel (see Section 7.11).
2. Check the Spring and look for wear on the Bracket, located on the right side. Replace parts as required.



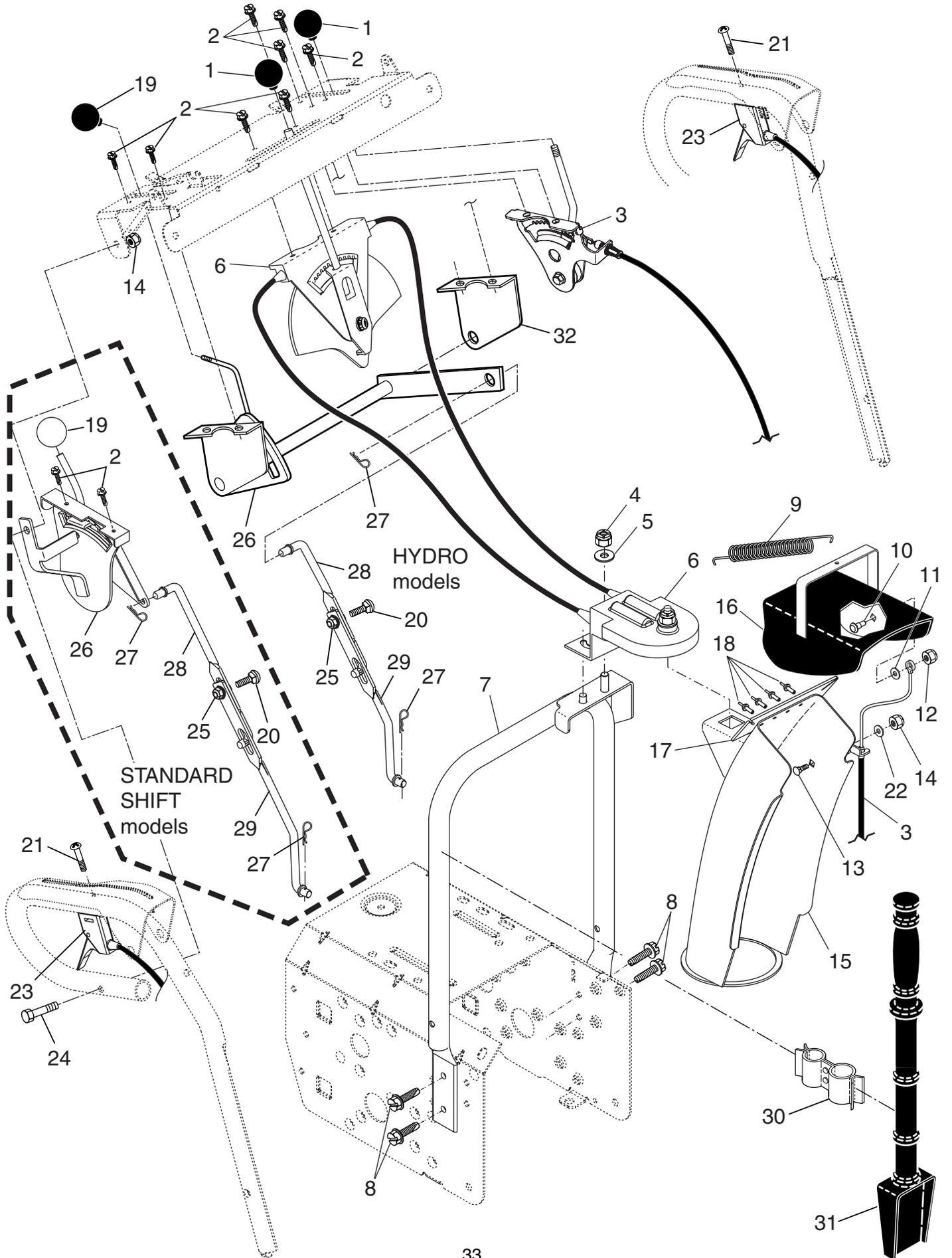
7.13 HEADLIGHT REPLACEMENT

1. Use two fingers to push up on Headlight Bezel to release bottom tabs. Remove Headlight.
2. To remove harness connector, pull tabs on both sides outward with one hand while pulling connector from Headlight with the other.

NOTE: Headlight is ON whenever engine is running. There is no switch. See engine manufacturer's manual for charging system information.

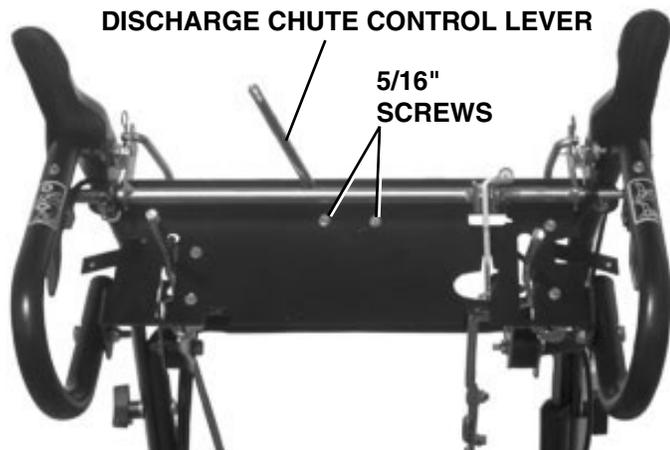


SECTION 7.14 – CONTROL PANEL, DISCHARGE CHUTE and CONTROLS



7.16 DISCHARGE CHUTE CONTROL CABLE

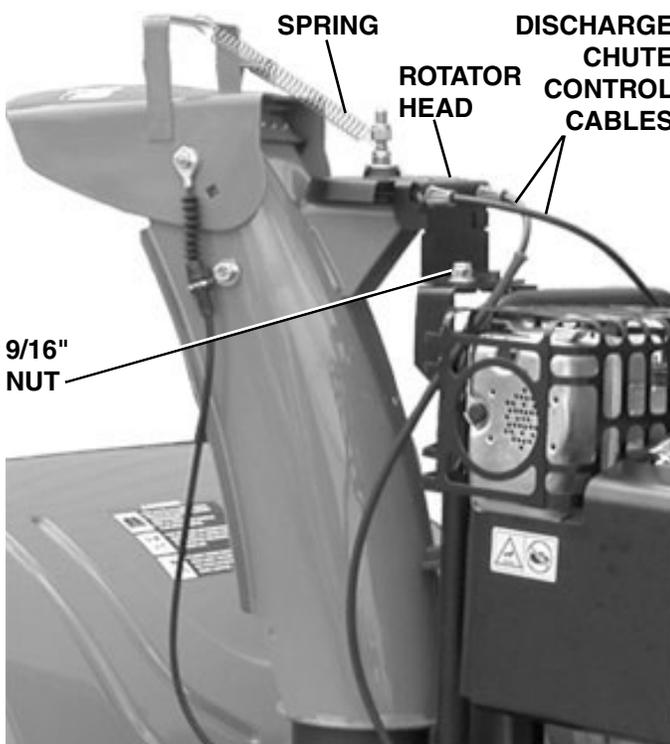
1. Remove Console Panel (see Section 7.11).
2. Remove both 5/16" screws holding Discharge Chute Control Lever to Console Panel.



3. Remove spring from Discharge Deflector.
4. Remove 9/16" nut holding Rotator Head to Pivot Support, then remove Control Cables from Rotater Head.

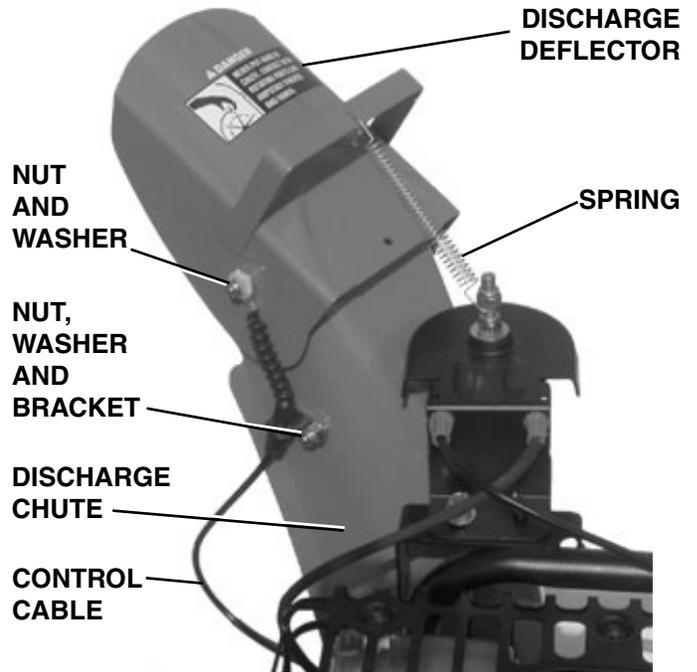
NOTE: The Chute will no longer be secured at the top, DO NOT allow the Chute to fall.

5. Note the routing of the Control Cables and the locations of plastic ties securing it, particularly at the lower handle. Cut all plastic ties, then remove Control Cables from snowthrower.
6. Reverse the above steps to reassemble. Be sure to use new plastic ties where removed.

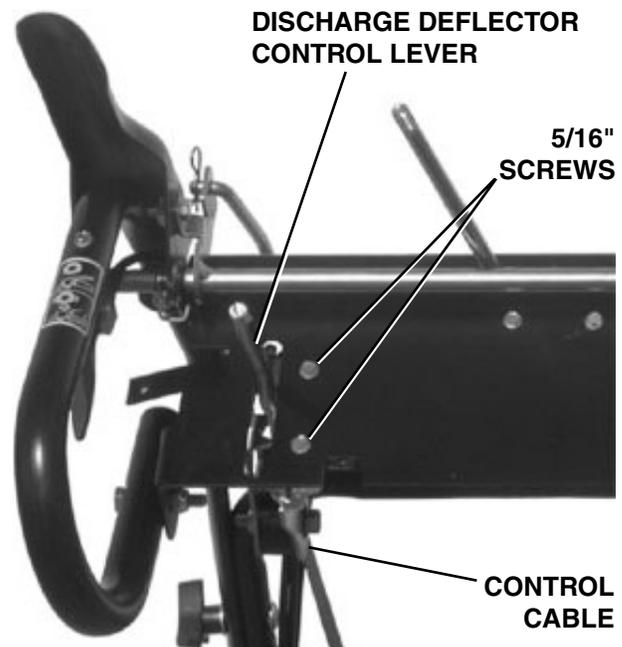


7.17 DISCHARGE DEFLECTOR CONTROL CABLE

1. Remove Console Panel (see Section 7.11).
2. Remove the nut and washer securing the cable eyelet to the Discharge Deflector.
3. Remove the nut, washer and bracket securing Control Cable to the Discharge Chute.



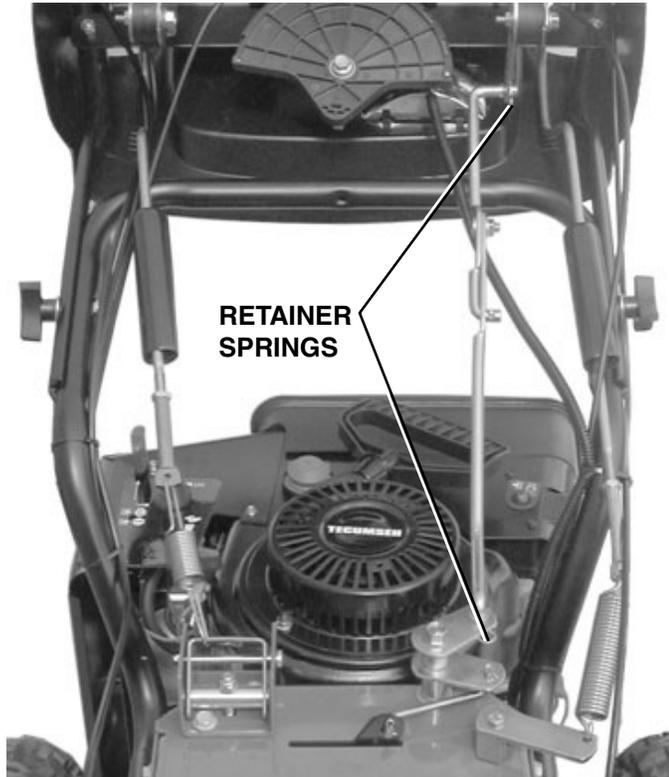
4. Remove both 5/16" screws holding Discharge Deflector Control Lever to Console Panel.
5. Note the routing of the Control Cable and the locations of plastic ties securing it. Cut all plastic ties, then remove Control Cable.
6. Reverse the above steps to reassemble. Be sure to use new plastic ties where removed.



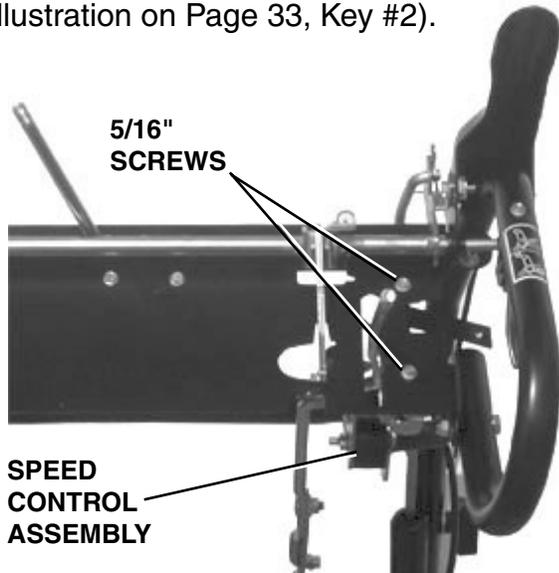
7.18 DRIVE SPEED CONTROL LINKAGE / SPEED CONTROL ASSEMBLY REPLACEMENT

Check for proper linkage adjustment before replacing parts (see Section 6.24). If replacement is required, proceed as follows:

1. Remove Console Panel (see Section 7.11).
2. To replace linkage, remove retainer springs from both ends of linkage.



3. To replace Speed Control Assembly, remove both 5/16" screws securing the Drive Speed Control Lever to the Console Panel. Hydro models have four of these screws (see the illustration on Page 33, Key #2).

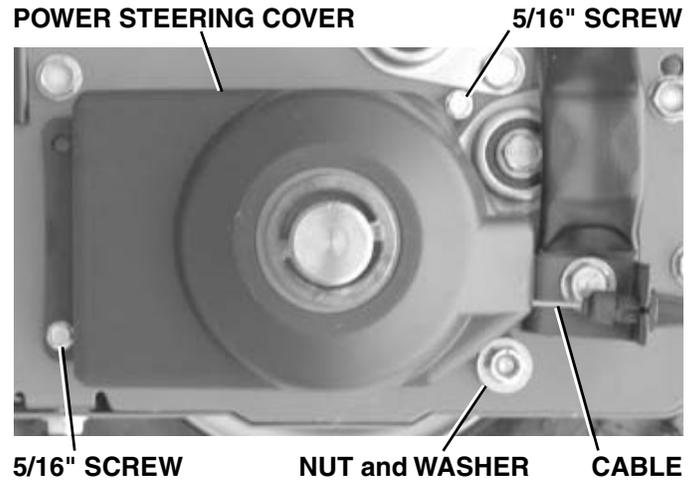


6. Reverse the above steps to reassemble. Be sure to readjust linkage (see Section 6.24).

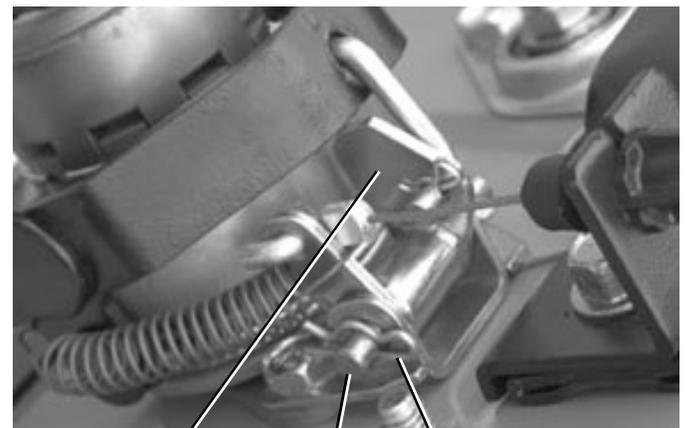
7.19 POWER STEERING CONTROL CABLE

NOTE: The procedure is the same for both sides.

1. Drain fuel tank and position snowthrower as described in Section 6.31, steps 2 and 3.
2. Remove Klik Pin securing Wheel and remove Wheel (see Section 6.11).
3. Remove the 5/16" screws, the nut and the washer securing Power Steering Cover.



4. Note the routing of the Power Steering Control Cable and the locations of plastic ties securing it. Cut all plastic ties, then remove cable.
5. Remove retainer spring and pin from Bellcrank.
6. Unhook cable from Bellcrank.

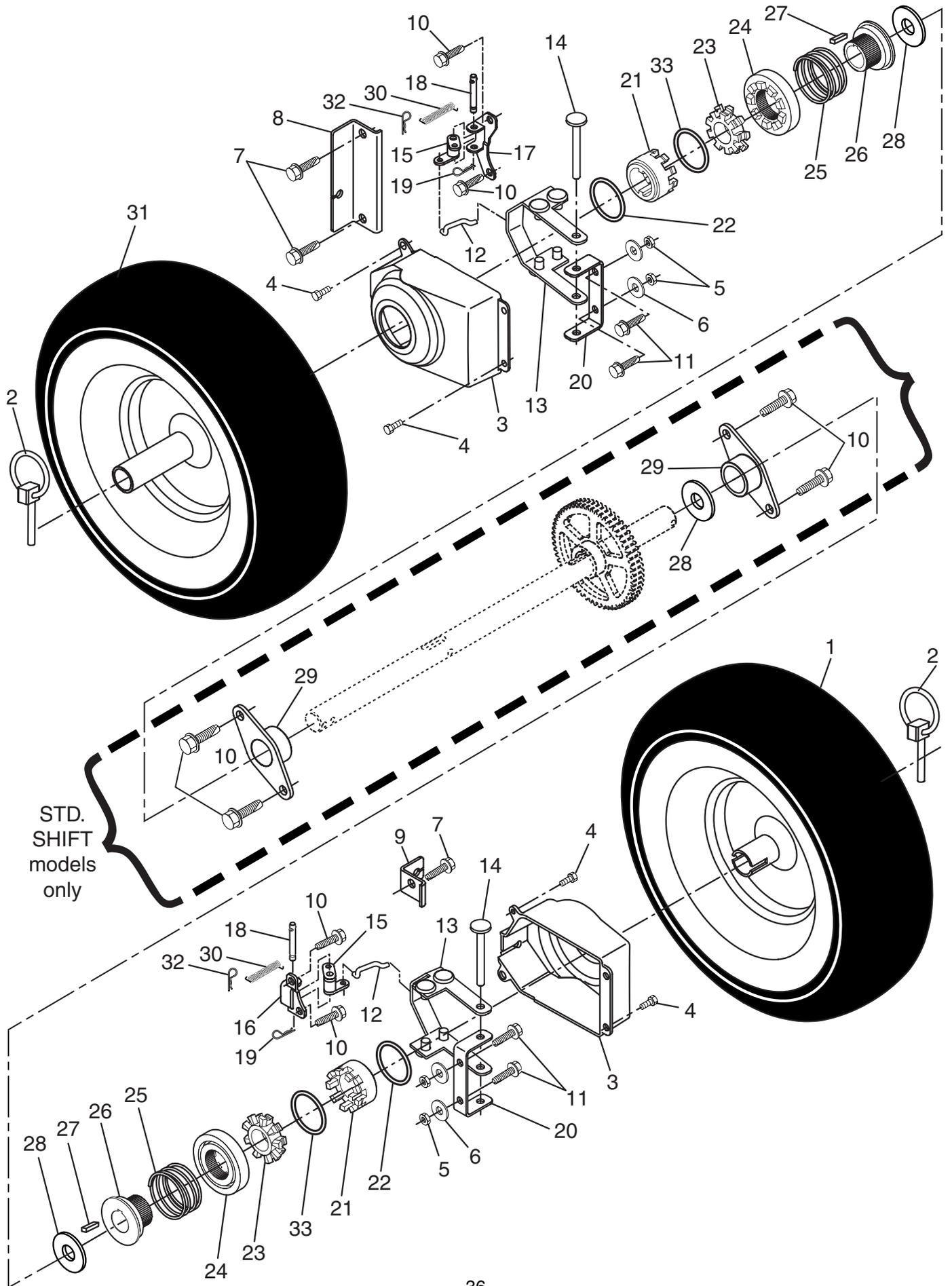


9. Remove 5/16" screws securing Turn Trigger to Handle. Remove cable from Turn Trigger.



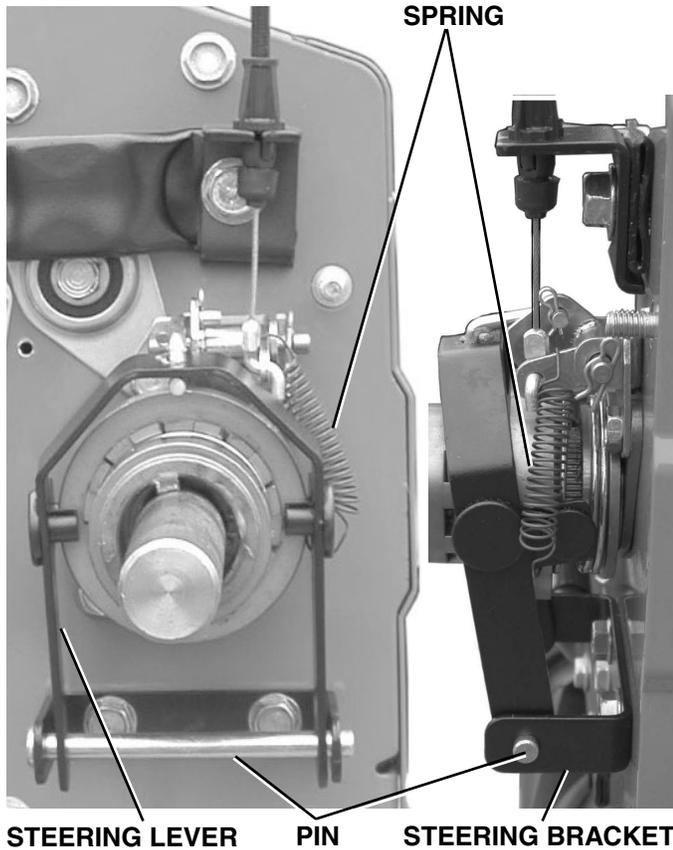
10. Reverse the above steps to reassemble.

SECTION 7.21 – POWER STEERING and WHEELS

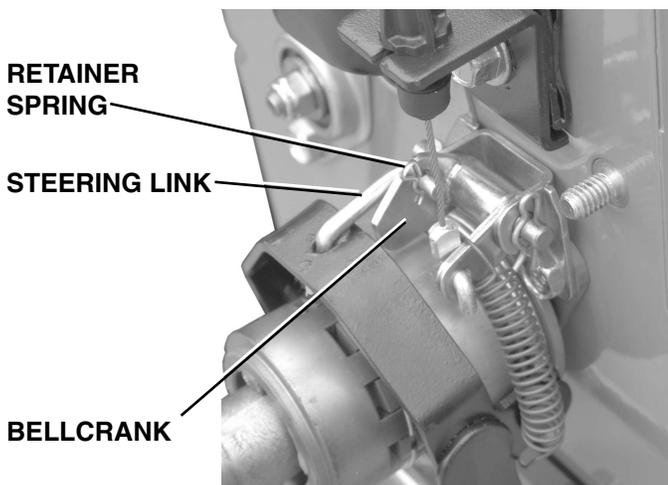


7.22 POWER STEERING CLUTCH REPAIR

1. Prepare snowthrower and remove Power Steering Cover as described in Section 7.19, steps 1 through 5.
2. Remove Spring from Steering Lever.



3. Remove Retainer Spring securing Steering Link to Bellcrank, then remove Steering Link from Bellcrank.



4. Remove Pin securing Steering Bracket, then remove Steering Bracket from snowthrower.
5. Remove Wheel Driver (Page 35, Key 21), Retaining Ring (Key 33), Wire Retainer (Key 22) and Wheel Lobe (Key 23) to gain access to Clutch (Key 24) and Clutch Spring (Key 25).
6. Reverse the above steps to reassemble.

NOTE: A metallic anti-seize compound must be used on splined parts during reassembly.

7.23 POWER STEERING SLIPPAGE

If power steering slips on one side, add Shim Washer(s) as required (see Section 6.31).

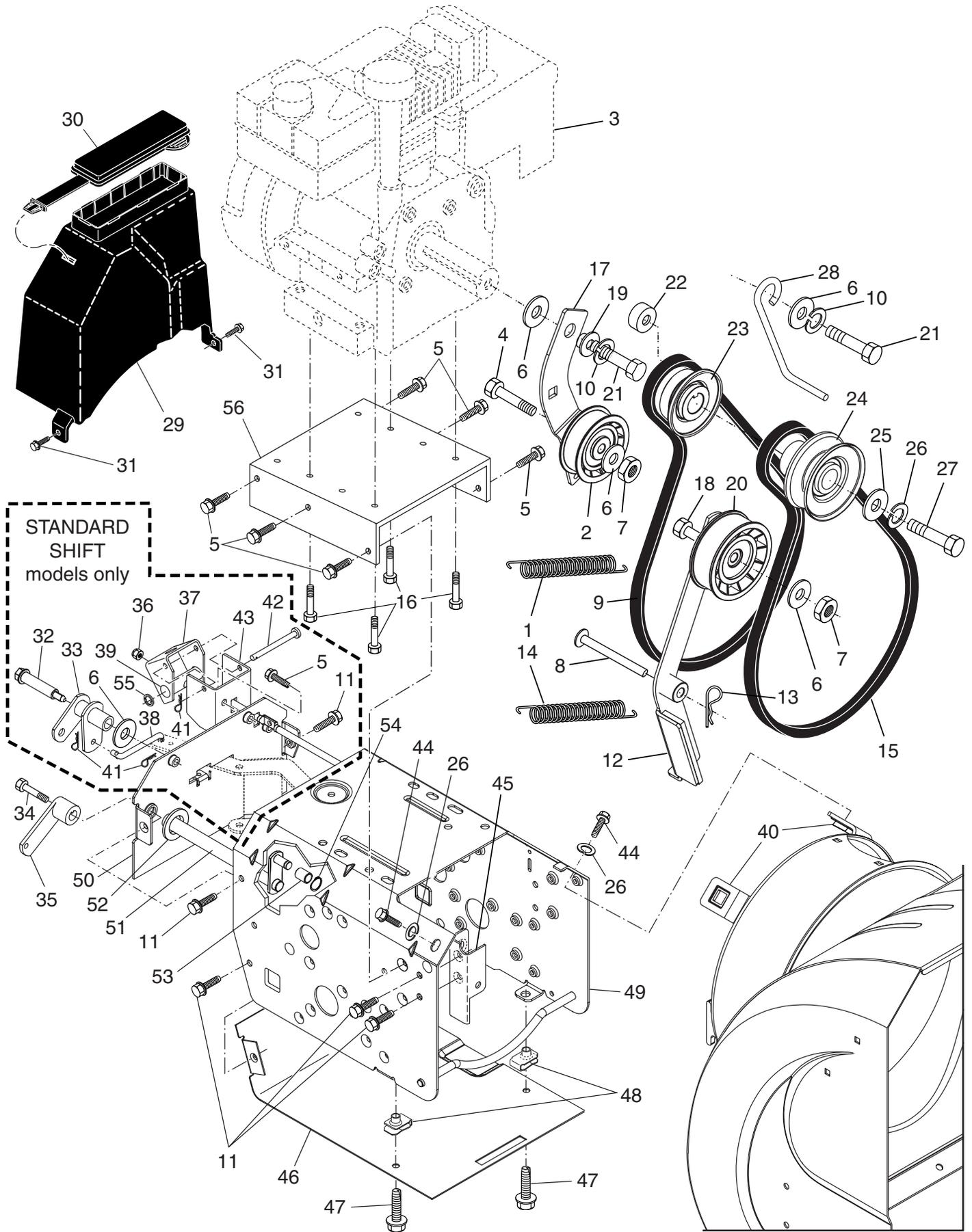
7.24 KLIK PIN – POWER STEERING MODELS USE ONE POSITION ONLY

See Section 6.11 for detailed information.

7.25 KLIK PIN – STANDARD DRIVE MODELS “DRIVE” and “FREEWHEELING” POSITIONS

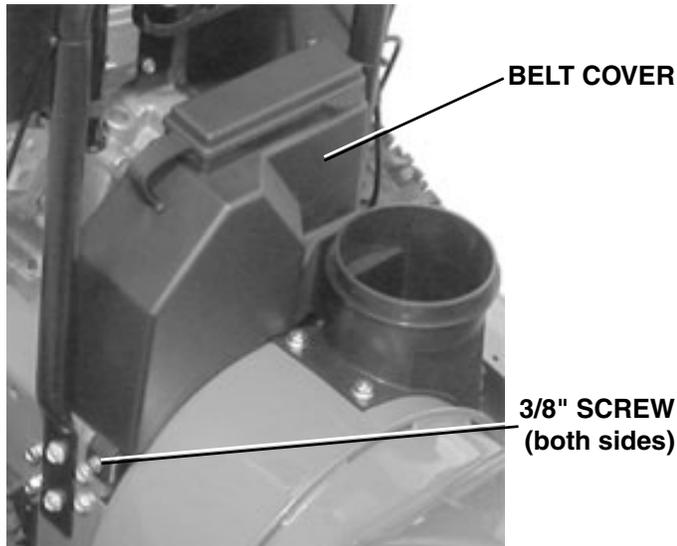
See Section 6.12 for detailed information.

SECTION 7.31 – IDLERS, BELTS and PULLEYS

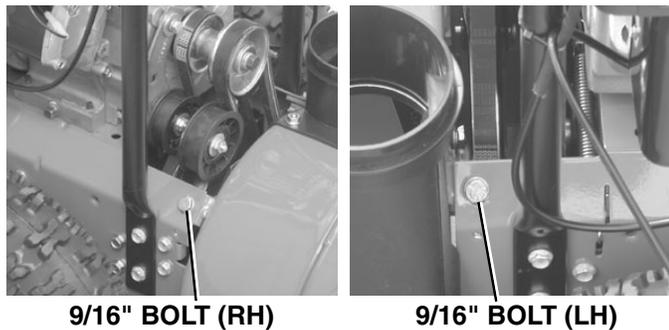


7.32 AUGER BELT REPLACEMENT

1. Disconnect spark plug wire from spark plug.
2. Remove Discharge Chute (see Section 7.51).
3. Remove both 3/8" screws securing Belt Cover, then remove Belt Cover from snowthrower.



4. Remove both 9/16" hex bolts securing the Auger Housing to the snowthrower.

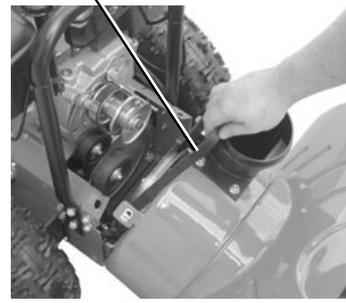


5. Separate Auger Housing from snowthrower. Use a chair or saw horse to support handle.

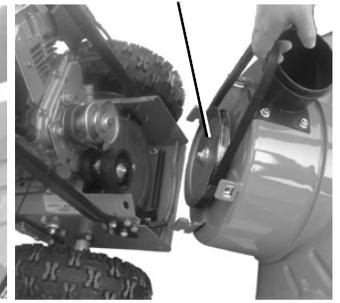


6. Remove Auger Belt from Auger Pulley.
7. Place new belt on Auger Pulley.

AUGER BELT



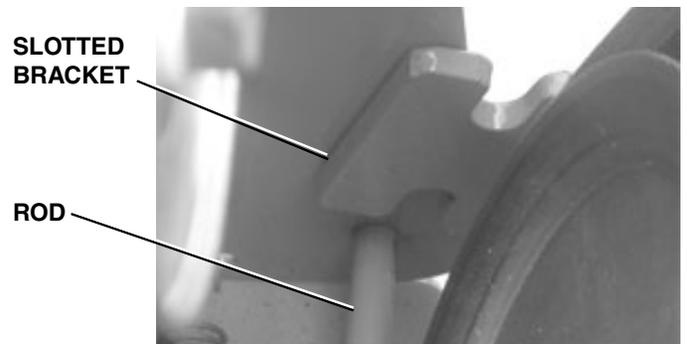
AUGER PULLEY



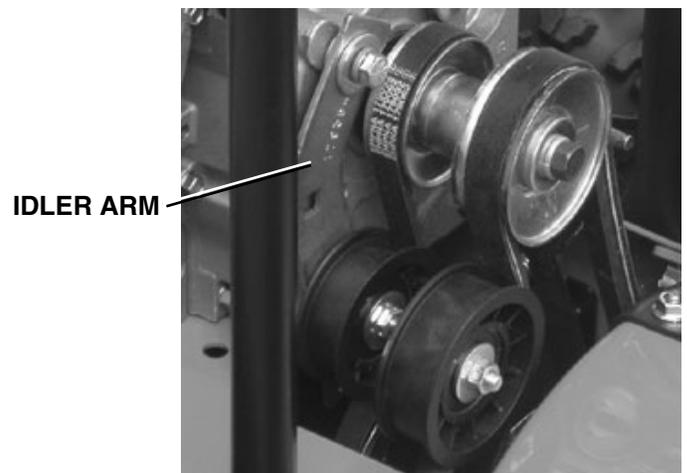
8. Ensure that Idler Spring is in place before re-attaching Auger Housing to snowthrower. Put tape over the spring hook (on outside of housing) to keep spring in proper position.



9. Align Auger Housing with snowthrower. Be sure to place the slotted brackets of Auger Housing onto the Rods at the base of snowthrower.



10. Route new belt around pulleys, checking that the belt does not snag on the Idler Brackets, Springs or the Idler Arm.



11. Reattach Auger Housing to snowthrower and secure with 9/16" hex bolts.
12. Reattach Discharge Chute (see Section 7.51) and Belt Cover. Secure with 3/8" screws.
13. Reconnect spark plug wire to spark plug.

7.33 BELT GUIDE DIMENSIONS

See Section 6.01 for detailed information.

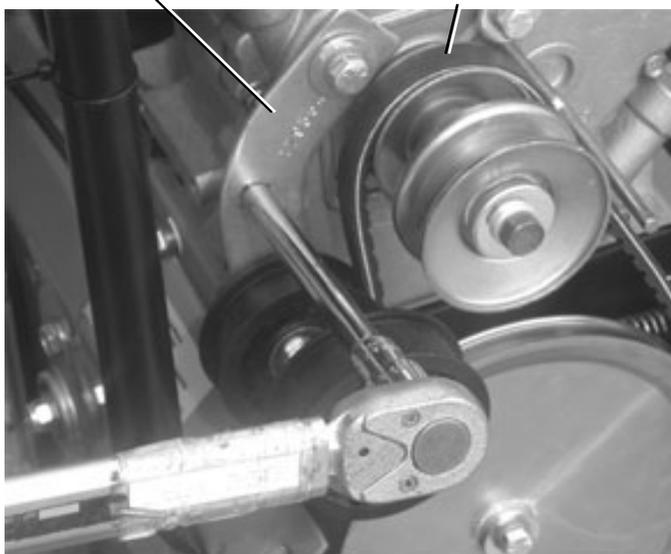
7.34 TRACTION DRIVE BELT REPLACEMENT

1. Separate Auger Housing from snowthrower as described in Section 7.32, steps 1–5.
2. THIS STEP IS FOR STANDARD SHIFT MODELS ONLY: Insert a 3/8" ratchet with 6" extension into the square opening on the Idler Arm. Turn ratchet clockwise to rotate idler arm and release tension on the Traction Drive Belt.
3. Remove defective belt from pulleys and replace with new Traction Drive Belt.

NOTE: Idlers, Idler Brackets, and Springs for both belts are now accessible.

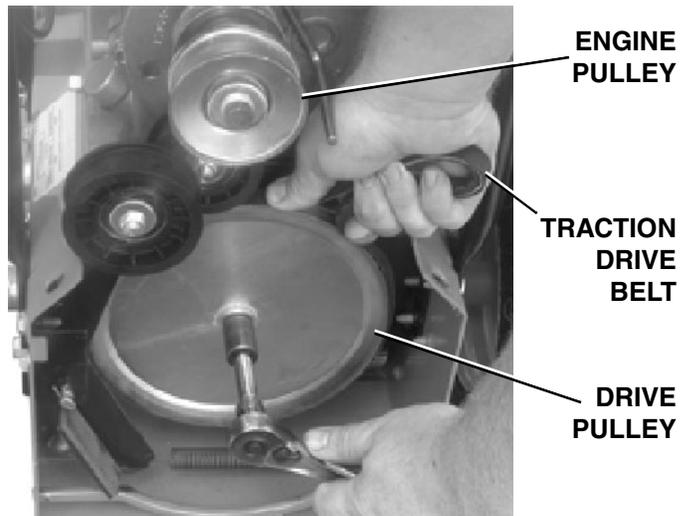
4. Reattach Auger Housing to snowthrower as described in Section 7.32, steps 8, 9 and 11.

IDLER ARM **TRACTION DRIVE BELT**



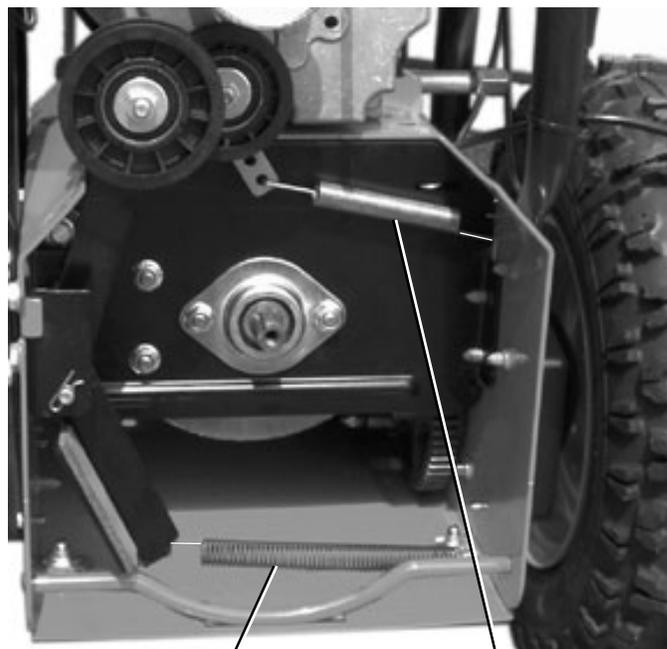
7.35 TRACTION DRIVE PULLEY

1. Separate Auger Housing from snowthrower as described in Section 7.32, steps 1–5.
2. Remove traction drive belt from Engine Pulley as described in Section 7.34, steps 1–4.
3. Remove 1/2" bolt and washer securing Drive Pulley. A tight grip on the traction drive belt will prevent Drive Pulley from turning.



4. Put anti-seize compound on the bolt before installing new Drive Pulley. Reinstall bolt and washer. Torque to 15-20 ft. lbs.
5. Reinstall traction drive belt on Engine pulley.
6. Reattach Auger Housing to snowthrower and secure with 9/16" hex bolts.

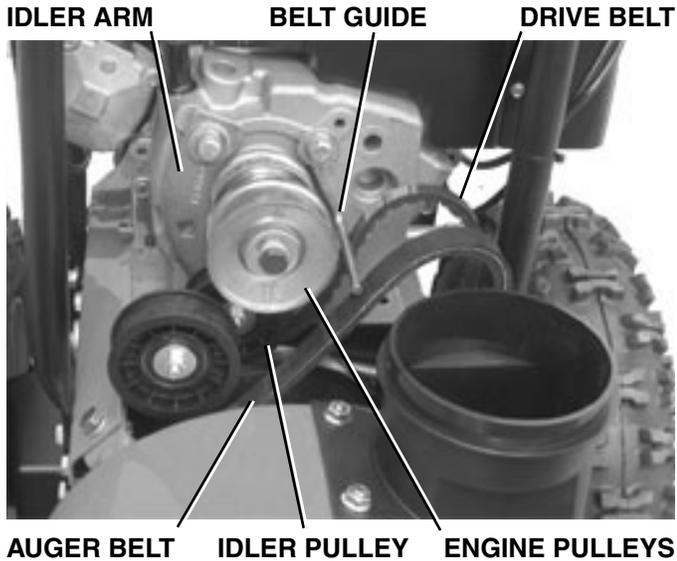
7.36 IDLER SPRING LOCATIONS



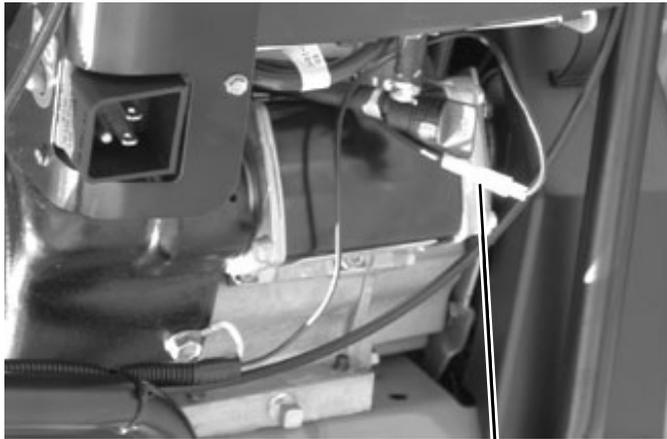
40 **AUGER BELT SPRING** **TRACTION BELT SPRING**

7.37 ENGINE REMOVAL / REPLACEMENT

1. Remove belt cover (Section 7.32, step 3).
2. Remove both belts from Engine Pulleys as described in Sections 7.32 and 7.34.
3. Tape Idler Spring to outside of snowthrower as described in Section 7.32, step 8.
4. Remove Idler Arm (with Idler Pulley), Belt Guide and Engine Pulleys from snowthrower.

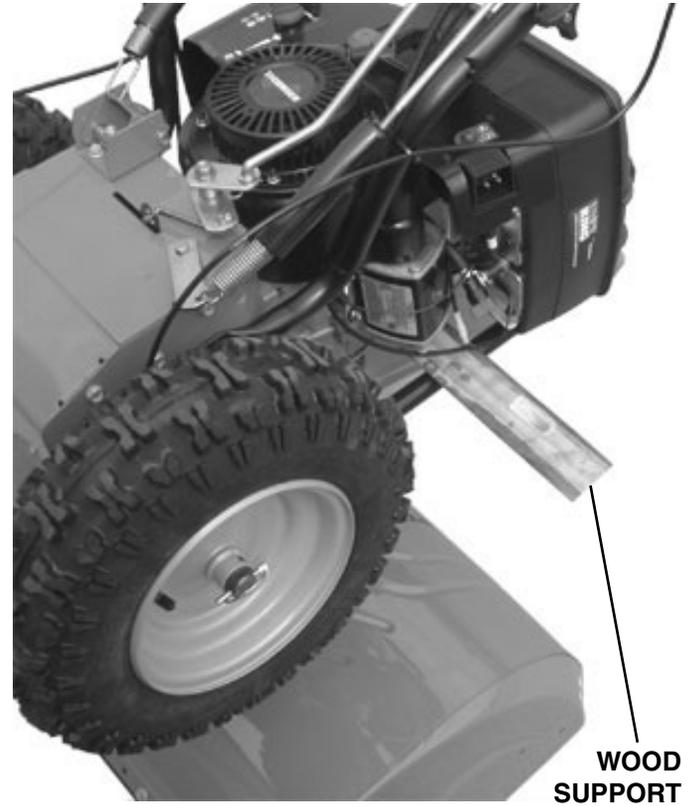


5. Disconnect Headlight Wiring Harness from Engine at the Barrel Connector.



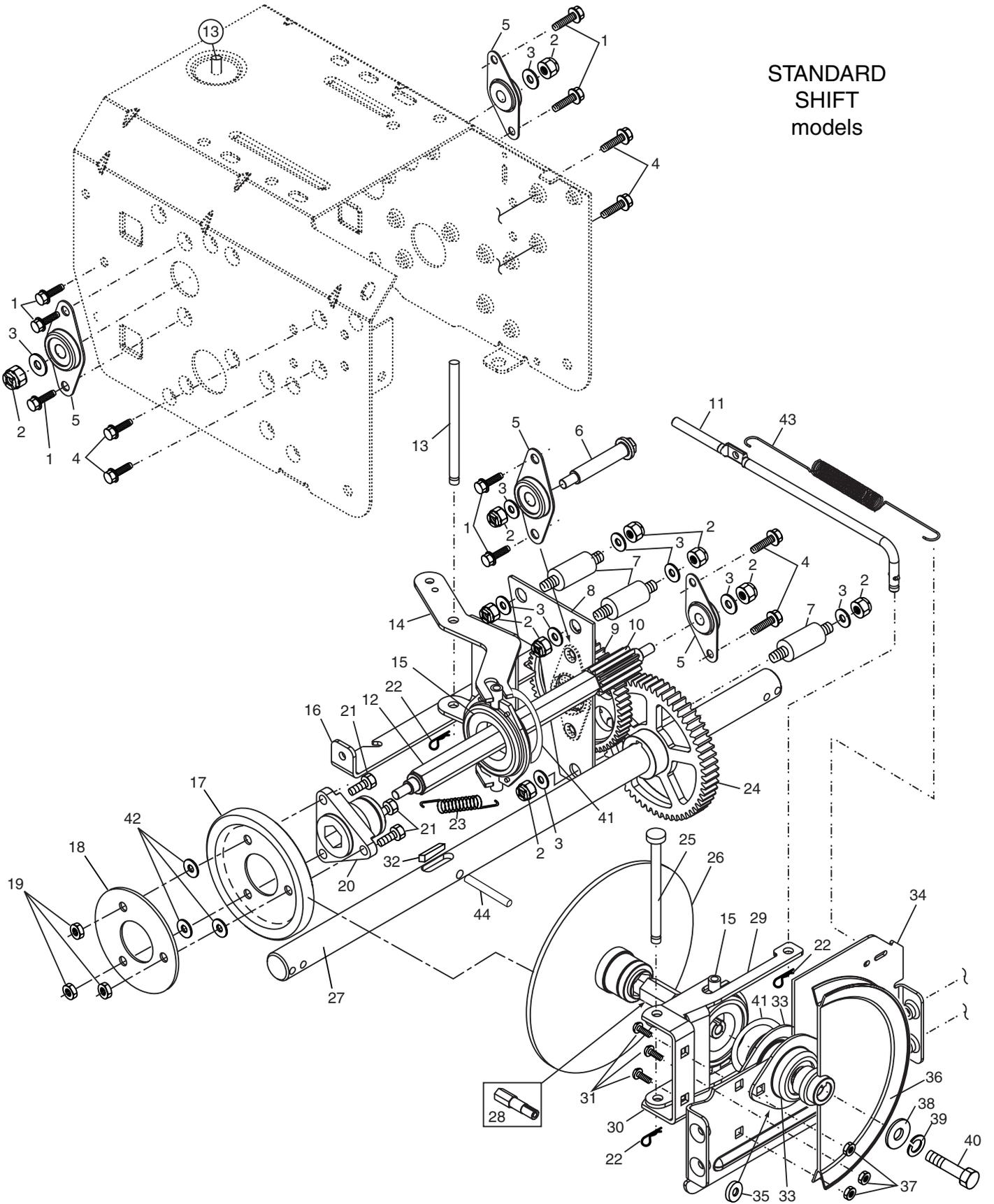
6. Drain fuel tank and position snowthrower as described in Section 6.31, steps 2 and 3.
7. Remove Bottom Pan (see Section 7.42).
8. Remove Drive Plate (see Section 7.45).

9. Place a piece of wood (15" long by 3/4" thick) between Engine and Pivot Support.



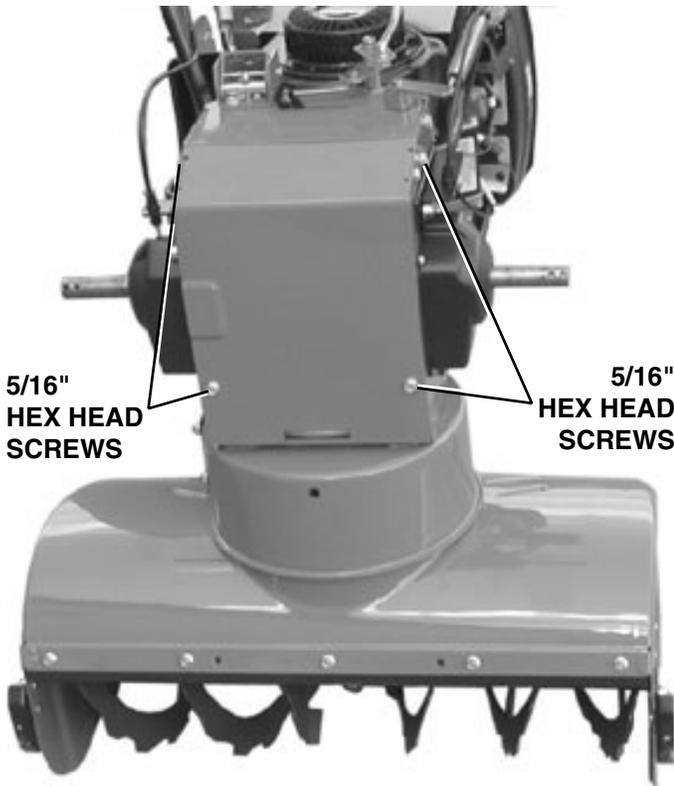
10. Use a 1/2" socket with 15" extension to remove Engine mounting bolts (Page 35, Key 16).
 11. Remove Engine from snowthrower.
 12. Place new Engine on piece of wood and align engine with mounting screw holes.
 13. Install Engine mounting screws and torque to 25-30 ft. lbs.
 14. Reinstall Drive Plate (Section 7.45).
 15. Reinstall Engine Pulleys, Idler Arm (with Idler Pulley), Belt Guide and both belts.
- NOTE:** With Bottom Pan removed, the pulleys are accessible from below for installation of belts. Be sure to reinstall both belts fully before reinstalling the Bottom Pan.
16. Reinstall Bottom Pan. Tip snowthrower back to operating position.
 17. Adjust Belt Guide as shown in Section 6.01.
 18. Reinstall Belt Cover.

SECTION 7.41 – FRICTION PLATE, FRICTION DISC and GEARS



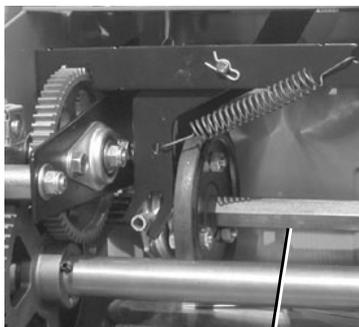
7.42 BOTTOM PAN REMOVAL

1. Drain fuel tank and position snowthrower as shown in Section 6.31.
2. Remove both Wheels.
3. Remove the four 5/16" Hex Head Screws that hold the Bottom Pan to the chassis.
4. Reverse the above steps to reattach.



7.43 RUBBER WHEEL RING / HEX SHAFT (STANDARD SHIFT MODELS ONLY)

1. Drain fuel tank and position snowthrower as described in Section 6.31, steps 2 and 3.
2. Remove both Wheels.
3. Remove Bottom Pan (see Section 7.42).
4. While holding the shaft in place with a 3/4" wrench, remove the 5/16" Nut (right side).

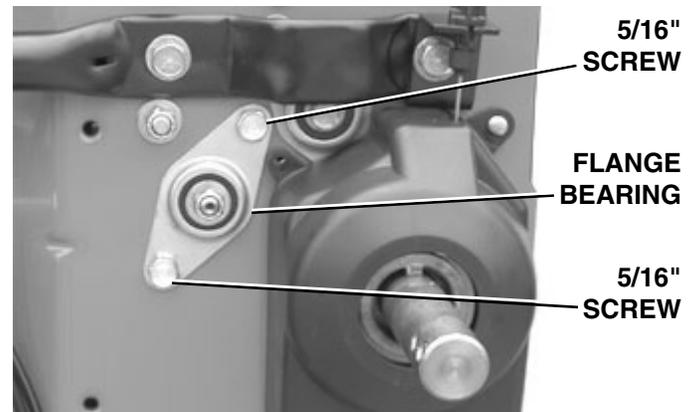


HEX SHAFT



5/16" NUT

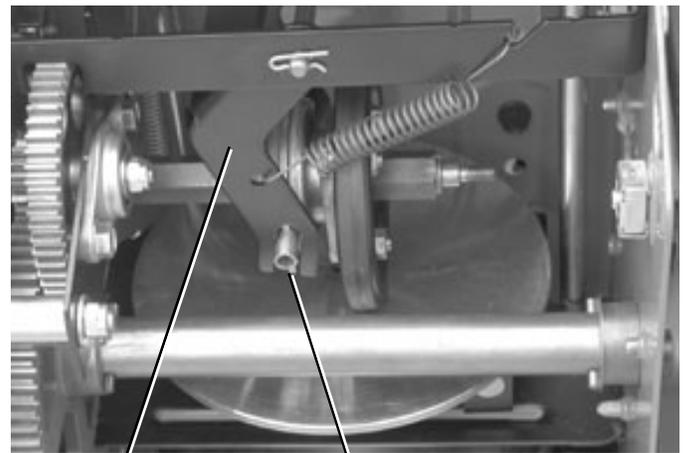
5. Remove the 5/16" Screws securing the Flange Bearing on the left side.



6. Remove the Flange Bearing and Hex Shaft (as an assembly) from left side of snowthrower.
7. Remove the 5/16" Nuts securing the Rubber Wheel Ring. Remove the Rubber Wheel Ring, Nuts and Bolts from the Shifter Fork and Support Plates.
8. Reverse the above steps to install new Rubber Wheel Ring. Torque Bolts to 14-18 ft. lbs.

NOTE: A metallic anti-seize compound must be used on the hex shaft before reassembly.

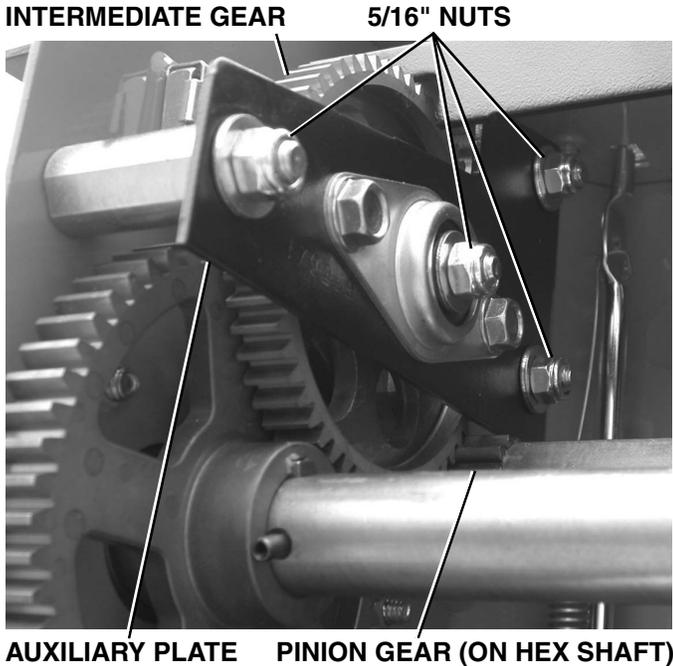
9. Be sure round tabs of Trunnion Bearing are positioned in the slots of the Shifter Lever.



SHIFTER LEVER TRUNNION BEARING ROUND TAB

7.44 INTERMEDIATE GEAR (STANDARD SHIFT MODELS ONLY)

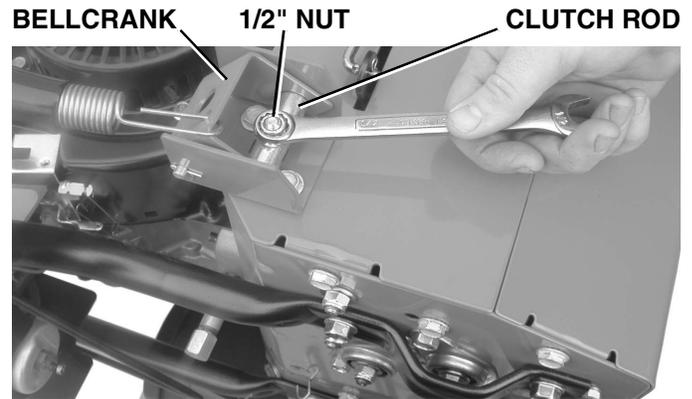
1. Drain fuel tank and position snowthrower as described in Section 6.31, steps 2 and 3.
2. Remove both Wheels.
3. Remove Bottom Pan (see Section 7.42).
4. Remove 3/8" Bolts (Page 28, Key 27) securing Lower Handle (Key 23) to left side of chassis.
5. Remove 5/16" Nuts securing the Pinion Gear Bolt and the Auxiliary Plate.



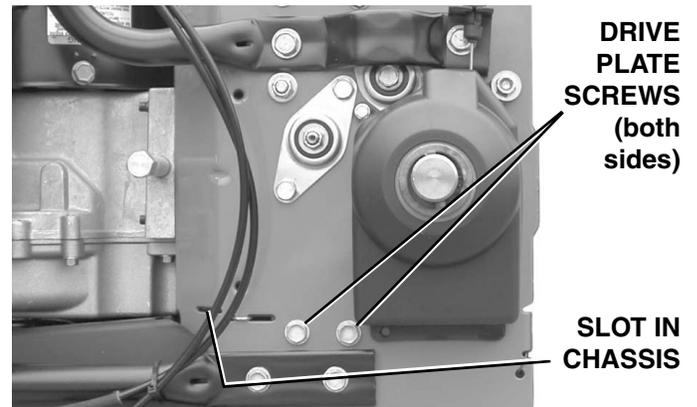
6. Remove Bolt from old Intermediate Gear and install on new Gear.
7. Inspect Pinion Gear (on Hex Shaft) for damage. Replace Pinion Gear if damaged.
8. Lubricate center of new Intermediate Gear with grease.
9. Reverse the above steps to install new Intermediate Gear. Torque Nuts to 4-6 ft. lbs.

7.45 DRIVE PLATE REPLACEMENT (STANDARD SHIFT MODELS ONLY)

1. Remove Drive Belt (see Section 7.32).
2. If snowthrower is equipped with power steering, remove the Power Steering Covers as described in Section 7.19, steps 1-3).
3. Remove the 1/2" Nut securing the Clutch Rod to the Bellcrank.



4. Remove the 4 screws securing Drive Plate to chassis. Note that the zinc plated Screws removed from the left side are slightly longer.



5. Remove Drive Belt from pulleys. You can now remove the Drive Plate.

NOTE: We strongly recommend lubrication of the Hex Shaft with anti-seize compound whenever the Drive Plate is removed from the snowthrower.

6. Reinstall Drive Belt on pulleys.
7. Reverse above steps to install new Drive Plate.

NOTE: Be sure the end of the Clutch Rod is through the hole in the top left of the Drive Plate, and that the top left corner of the Drive Plate is in the slot in the chassis.

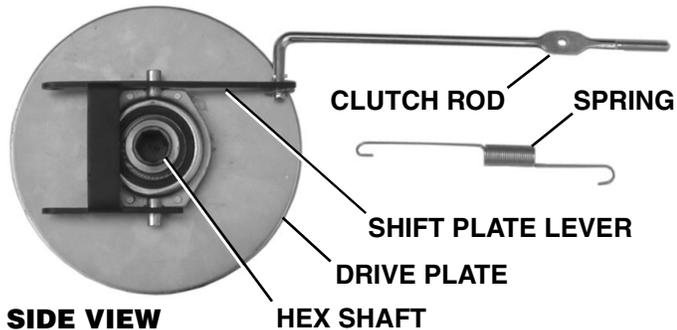
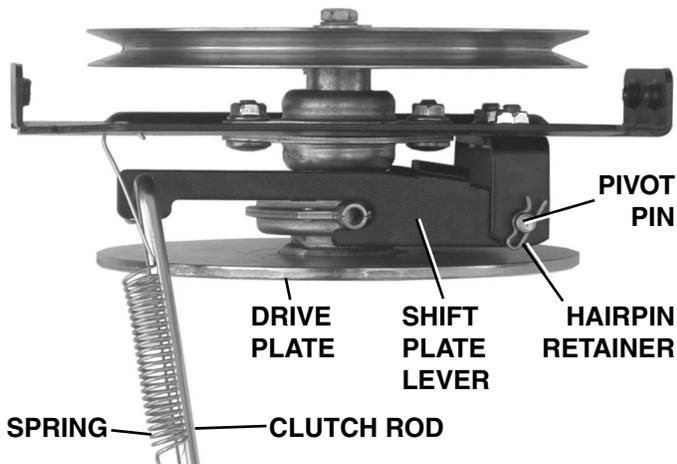
NOTE: Tighten the 1/2" Nut until two threads of the Clutch Rod are showing.

7.46 DRIVE PLATE / PULLEY DISASSEMBLY (STANDARD SHIFT MODELS ONLY)

1. Remove Bottom Pan (see Section 7.42).
2. Unhook Spring from Clutch Rod.
3. Remove Hairpin Retainer from Shift Plate Lever.
4. Remove Pivot Pin and separate Drive Plate from Hex Shaft.
5. Inspect parts for wear, replace as required.

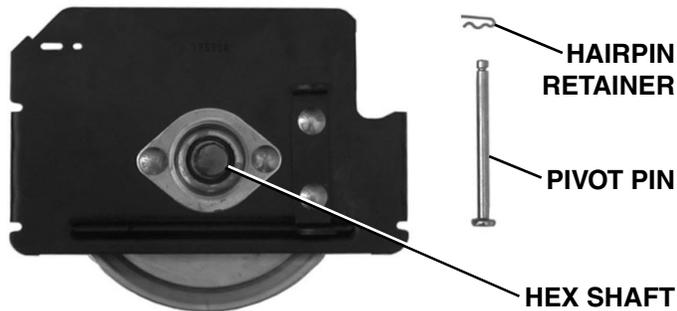
NOTE: We strongly recommend lubrication of the Hex Shaft with anti-seize compound whenever the Drive Plate is removed from the snowthrower.

6. Reverse the above steps to reassemble.



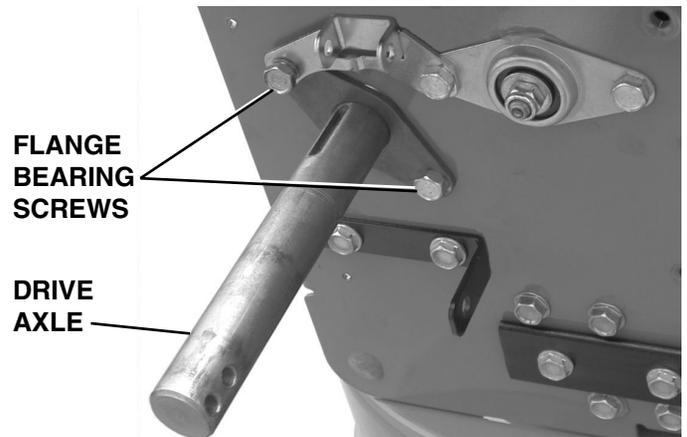
SIDE VIEW

FRONT VIEW

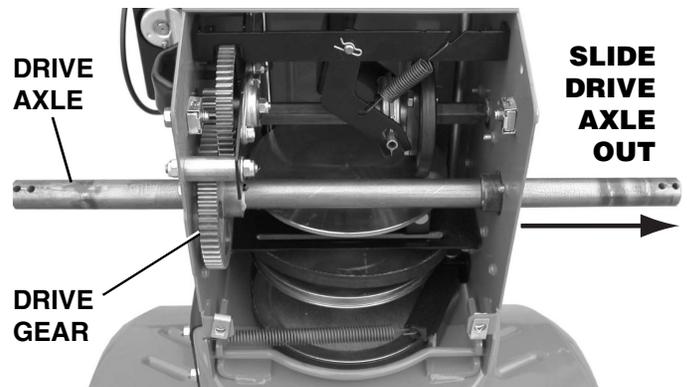


7.47 DRIVE AXLE / GEAR REPLACEMENT (STANDARD SHIFT MODELS ONLY)

1. Prepare snowthrower and remove Power Steering Covers as described in Section 7.19, steps 1 through 3.
2. Remove all Power Steering components from Axle Shaft as described in Section 7.22.
3. Remove 5/16" Screws securing Flange Bearing to chassis (right side of Snow Thrower). Loosen the Screws on the left side.

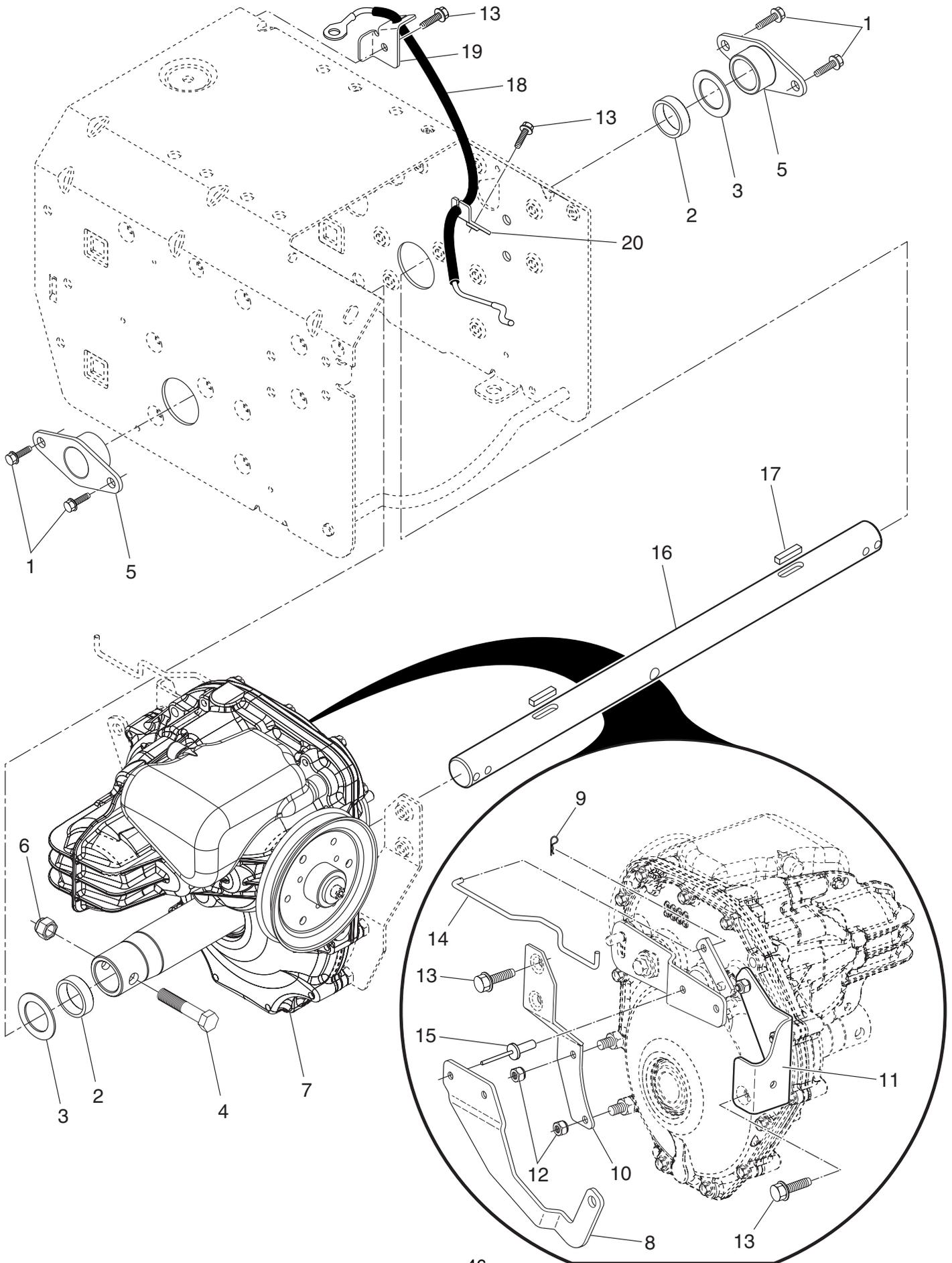


4. Remove Axle (from right side of snowthrower).



5. Inspect parts for wear, replace as required.
6. Reverse the above steps to reassemble. Make sure the Square Key (Page 38, Key 32) and the Roll Pin (Key 44) are located between the Gear (Key 24) and the Axle Bearing (Key 5).

SECTION 7.50 – HYDROSTATIC TRANSMISSION



NOTE: The hydro transmission is a sealed, self-contained unit. It does not require additional fluid or lubrication. There is no way to check the fluid level in the transmission. If a serious leak develops and a significant amount of fluid is lost, the hydro transmission should be replaced.



7.50 HYDRO TRANSMISSION REMOVAL

1. Separate Auger Housing from snowthrower as described in Section 7.32, steps 1–5.
2. Remove belt from pulleys.
3. Drain fuel tank and position snowthrower as shown in Section 6.31.
4. Remove both wheels.
5. Remove Retainer Springs securing Speed Control Rod (Page 33, Key #28 and 29) to Speed Control Arm (Page 46, Key #8) and Speed Control Bracket (Page 33, Key #26). Remove Speed Control Rod from unit.
6. Remove Bottom Pan as described in Section 7.42.
7. Remove End Plate (Page 38, Key #50), Rear Cable Bracket (Page 46, Key #19) and Speed Control Arm (Page 46, Key #8) from unit.
8. If unit has power steering, remove all power steering components from Axle. Note order of removal of these components (refer to the illustration on page 36 if necessary).
9. Remove the three Screws securing Torque Strap (Page 46, Key #10) and Anti-Rotate Bracket (Page 46, Key #11) to frame.
10. Remove the Screws (Page 46, Key #1) securing the Axle Bearings (Page 46, Key #5) to frame. Remove Axle Bearings from unit.
11. Remove Axle (Page 46, Key #16) and Transmission (Page 46, Key #7) from unit.
12. Reverse the above steps to install the new Transmission.
13. Reattach Auger Housing to snowthrower as described in Section 7.32, steps 8, 9 and 11.

7.51 DISCHARGE CHUTE REMOVAL (TO SERVICE OTHER ITEMS)

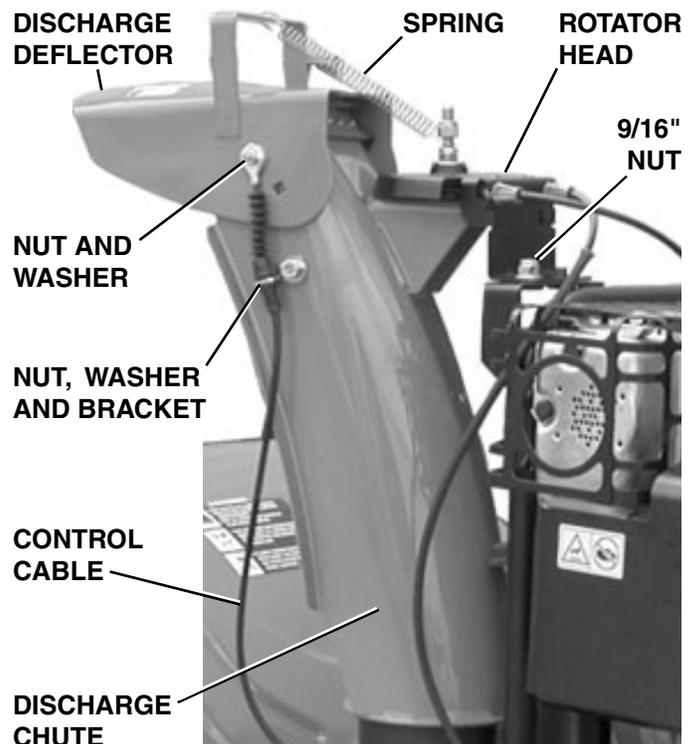
1. Remove the Spring securing the Discharge Deflector to the Rotator Head.

NOTE: If snowthrower uses a Knob to adjust the Discharge Deflector position, skip to step 4.

2. Remove the nut and washer securing the Cable eyelet to the Discharge Deflector.
3. Remove the nut, washer and bracket securing the Control Cable to the Discharge Chute.
4. Remove 9/16" nut securing Rotator Head to Pivot Support.

NOTE: The Discharge Chute can now be separated from the snowthrower. DO NOT allow the Discharge Chute to fall.

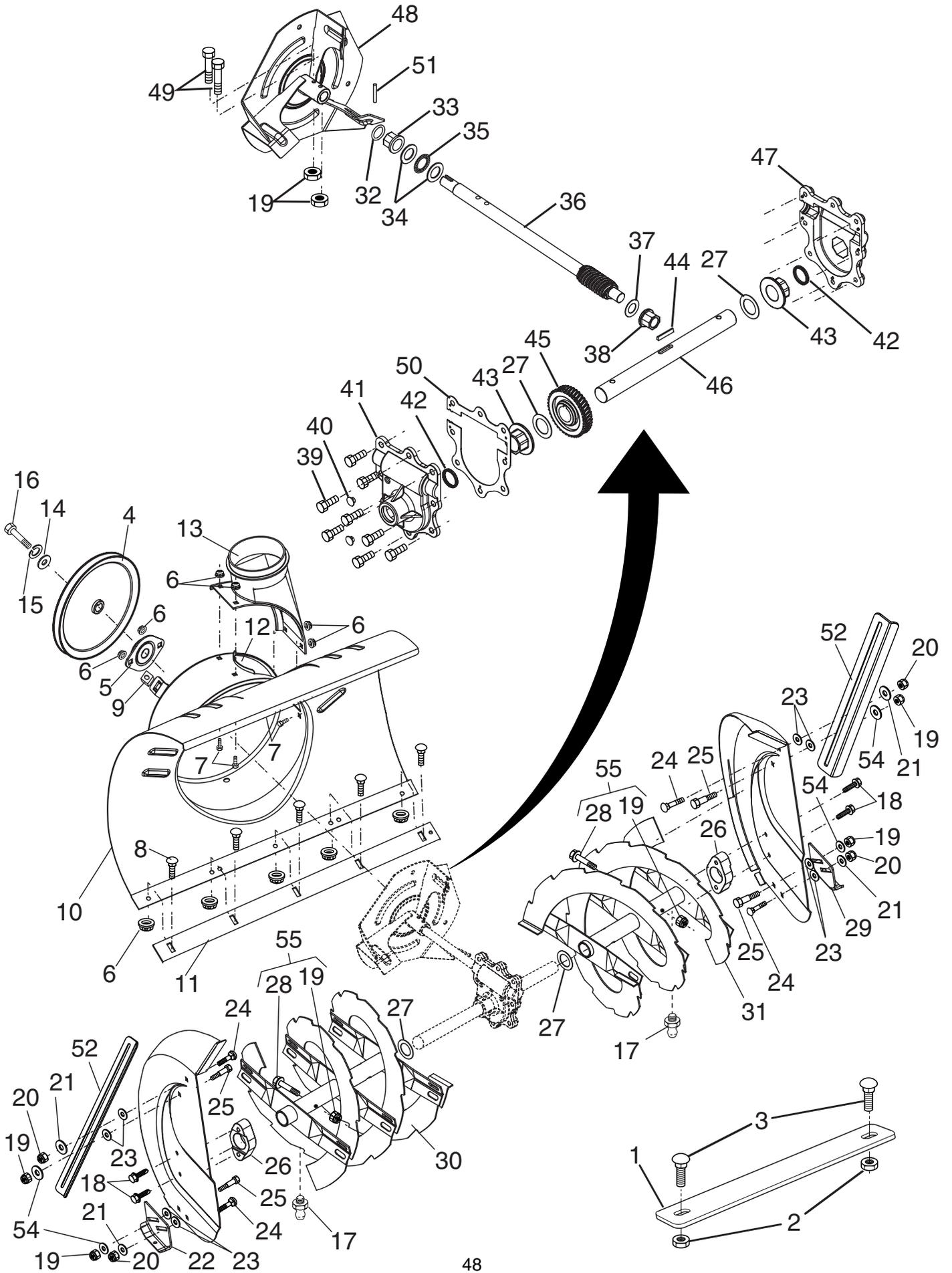
5. Reverse the above steps to reinstall.



7.61 AUGER HOUSING REMOVAL (TO SERVICE OTHER ITEMS)

1. Remove Auger Housing from snowthrower as described in Section 7.32, steps 1–5.
3. Reattach Auger Housing to snowthrower as described in Section 7.32, steps 8–13.

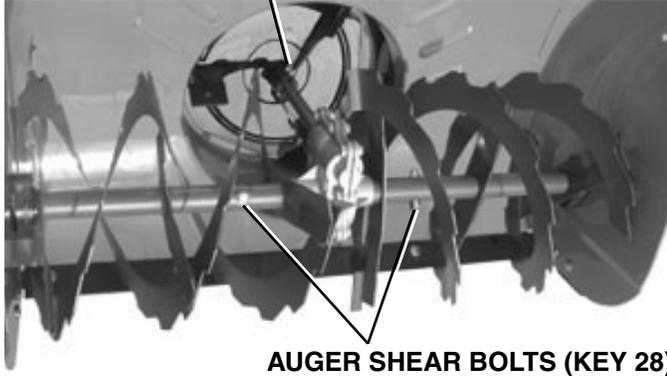
SECTION 7.62 – AUGER / IMPELLER / HOUSING ASSEMBLY



7.63 SHEAR BOLT REPLACEMENT

CAUTION: Use only OEM Shear Bolts. Use of any other hardware could result in severe damage to the Auger, Impeller or Gearbox, requiring expensive repairs.

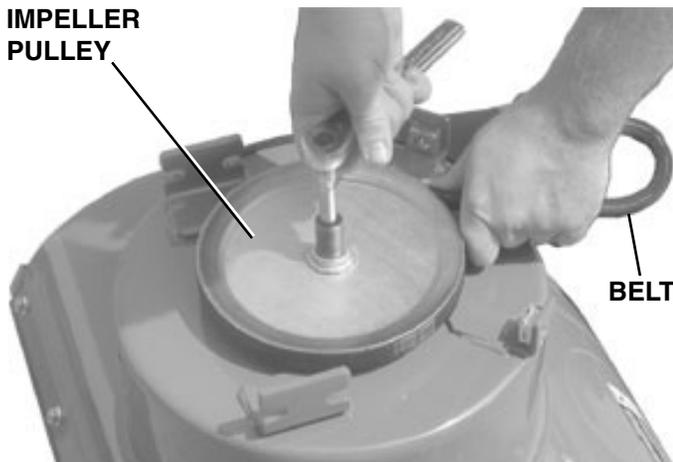
IMPELLER SHEAR BOLTS (KEY 49)



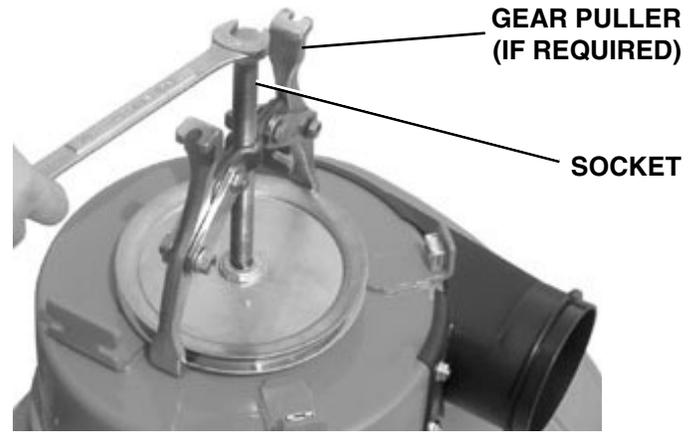
| KEY NO. | PART NO. | DESCRIPTION |
|---------|----------|----------------------|
| 28 | 192090 | Shear Bolt, Auger |
| 49 | 74780426 | Shear Bolt, Impeller |

7.65 AUGER/IMPELLER/AUGER HOUSING DISASSEMBLY

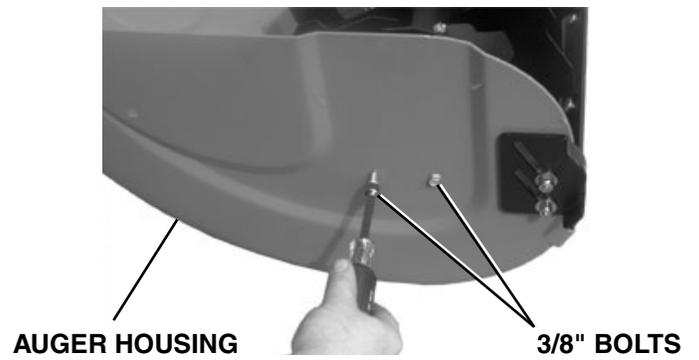
1. Remove Auger Housing from snowthrower as described in Section 7.32, steps 1–5.
2. Remove the 1/2" Bolt and Washers securing the Impeller Pulley. A tight grip on the belt will prevent Impeller Pulley from turning.



3. Remove the Impeller Pulley from the shaft. A gear puller may be required. If so, it will help to put a socket between the screw of the gear puller and the shaft.

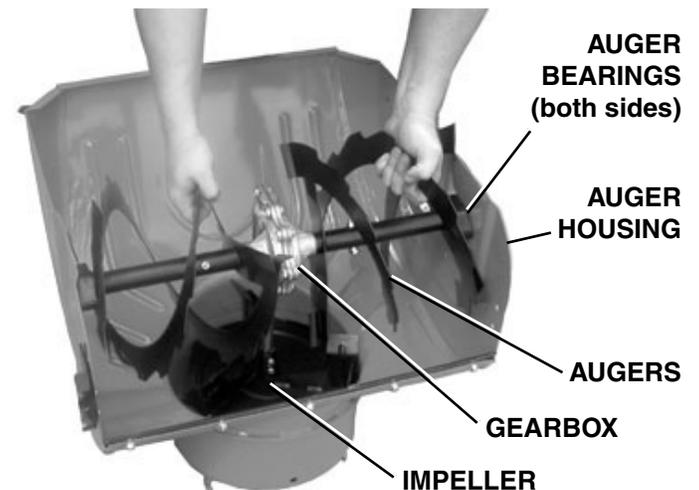


4. Use an emery cloth to clean and smooth the surface of the shaft.
5. Remove the 3/8" Bolts securing the Auger Bearings to the Auger Housing (both sides).



6. Remove the Augers, Impeller, Gearbox and Auger Bearings from the Auger Housing as an assembly.

NOTE: It may be necessary to use a file to smooth the edges of the keyway on the shaft in order for it to slide out easily.

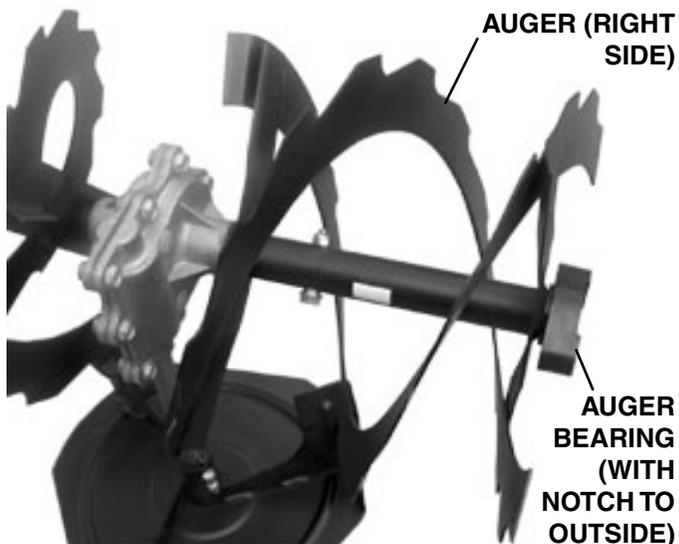


7. To replace an Auger, remove the Shear Bolt on the appropriate side and slide Auger off of the Auger shaft.
8. To replace the Impeller, remove it's Shear Bolts and slide Impeller off of the Gearbox shaft.

7.66 AUGER / IMPELLER / AUGER HOUSING REASSEMBLY

NOTE: Before reassembling, use an emery cloth to clean the area on the impeller shaft where the Auger Pulley will be installed. Be sure to lubricate the end of the shaft with anti-seize compound.

1. Place Augers on auger shaft.



NOTE: Be sure the LH Auger is on the LH side. Stamped into the end of each auger “flight” is an “L” or a “R” for Left or Right side. The stamped number is the auger width in inches.



INDICATES “LEFT SIDE”
AUGER, 30" WIDTH

2. Place Auger Bearings at both ends of auger shaft with the notch in the center of the bearings facing outward (toward Auger Housing).
3. Place Auger Housing in an upright position (as shown in Section 7.65, step 6). Insert the Augers, Impeller, Gearbox and Auger Bearings into place as an assembly.
4. Reinstall the 3/8" Bolts securing the Auger Bearings to the Auger Housing (as shown in Section 7.65, step 5).
5. Return Auger Housing to normal position.
6. Lubricate end of Impeller shaft with anti-seize compound, then reinstall Auger Pulley (see Section 7-65, step 2 for detailed information). Torque 1/2" Bolt and Washers to 15-20 ft. lbs.

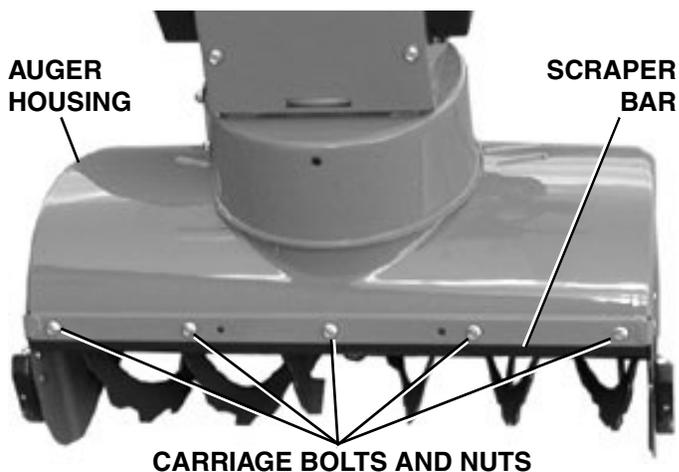


7. Reinstall Belt and reattach Auger Housing to snowthrower as described in Section 7.32, steps 7–13.

7.67 SCRAPER BAR REVERSAL / REPLACEMENT

NOTE: The Scraper Bar is reversible. Inspect both sides of Scraper Bar (while on snowthrower) to see if it has already been reversed before ordering a replacement.

1. Drain fuel tank and position snowthrower as described in Section 6.31, steps 2 and 3.
2. Remove the Nuts and Carriage Bolts securing the Scraper Bar to the Auger Housing.
3. If Scraper Bar has not yet been reversed, turn it over and reinstall with Nuts and Carriage Bolts previously removed. If it has already been reversed, install a new Scraper Bar.



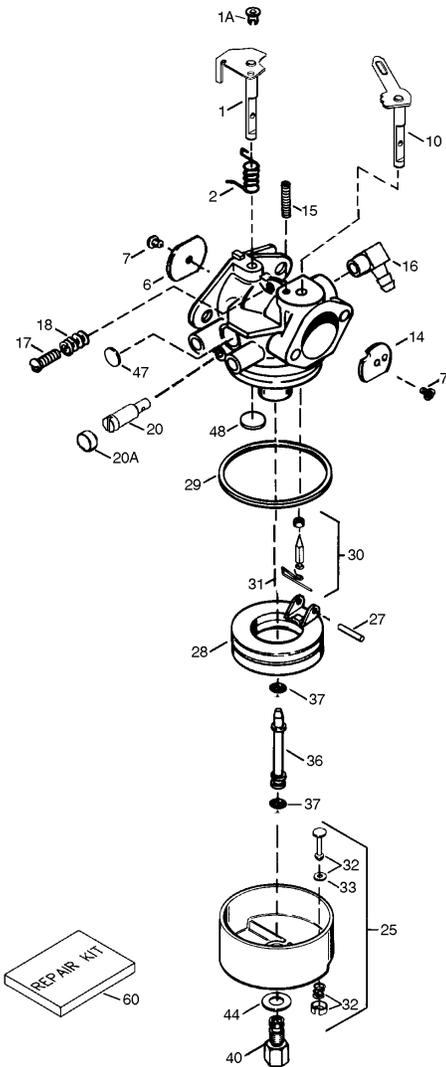
7.68 GEARBOX REPAIR INFORMATION

Replace worn or damaged parts as required. Always replace Gasket. Use 750369 Grease. Torque self-tapping screw to 15 ft. lbs. MAX.

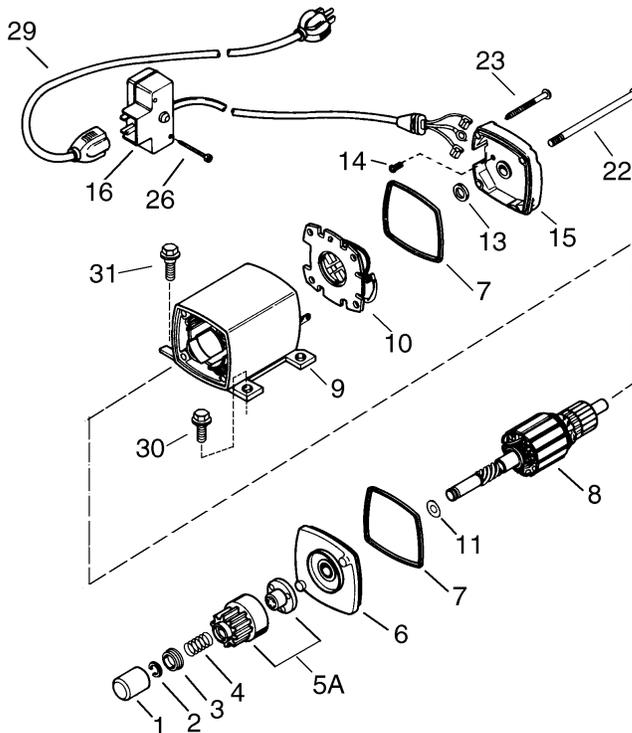
TECUMSEH 4-CYCLE O.H.V. ENGINE (TYPICAL)

| KEY NO. | DESCRIPTION | KEY NO. | DESCRIPTION | KEY NO. | DESCRIPTION |
|---------|--|---------|--|---|--|
| 1 | Cylinder (Includes Key Numbers 2, 20 and 72) | 103 | Screw, T-15 #10-24 x 15/16" | 276 | Locking Plate |
| 2 | Dowel Pin | 110 | Ground Wire | 277 | Screw 5/16-18 x 4-1/2" |
| 3 | Screw 1/4-20 x 1/2" | 110A | Ground Wire | 279 | Screw #10-32 x 5/16" |
| 4 | Oil Drain Extension | 119 | * Cylinder Head Gasket | 280 | Heat Shield |
| 5 | Extension Cap | 120 | Cylinder Head (Includes Key Numbers 151A and 270A) | 285 | Starter Cup |
| 14 | Washer | 125 | Exhaust Valve (Standard) | 287 | Nut & Lock Washer 1/4-28 |
| 14A | Washer | | Exhaust Valve (1/32" Oversize) | 290 | Fuel Line |
| 15 | Governor Rod Assembly (Includes Key Nos 15A & 15B) | 126 | Intake Valve (Standard) | 291 | Fuel Line |
| 15A | Governor Yoke | 127 | Washer | 292 | Fuel Line Clamp |
| 15B | Screw #6-40 x 5/16" | 128 | Belleville Washer | 295 | Fuel Shut-Off Valve (Includes Key Number 292) |
| 16 | Governor Lever (Includes Key Number 212A) | 130 | Screw 5/16-18 x 2-1/2" | 298 | Screw 1/4-15 x 3/4" |
| 17 | Governor Lever Clamp | 135 | Spark Plug (RN4C) | 300 | Fuel Tank (Includes Key Numbers 292 and 301) |
| 18 | Screw, T-15 #8-32 x 7/16" | 139 | Governor Gear Bracket | 301 | Fuel Cap |
| 19 | Extension Spring | 140 | Screw #10-24 x 1/2" | 302 | Fuel Tank Extension |
| 20 | Oil Seal | 150 | Valve Spring | 302A | Screw #10-32 x 1/2" |
| 25 | Blower Housing Baffle | 151 | Valve Spring Keeper | 305 | Oil Fill Tube |
| 26 | Screw 1/4-20 x 19/32" | 151A | Intake Valve Seal | 307 | "O" Ring |
| 28 | Lock Nut #10-32 | 153 | Push Rod Guide | 308 | Fill Tube Clip |
| 30 | Crankshaft | 154 | Rocker Arm Stud | 310 | Dipstick |
| 35 | Screw #10-32 x 3/4" | 155 | Rocker Arm | 314 | Screw 1/4-20 x 3/4" |
| 36 | Lock Washer | 157 | Jam Nut | 315 | Alternator Coil, 18 Watt (Includes Key #322 and 323) |
| 37 | Lock Nut #10-32 | 158 | Push Rod | 322 | Connector Body |
| 38 | Retaining Ring | 159 | * Rocker Arm Cover Gasket | 323 | Terminal |
| 40 | Piston, Pin & Ring Set (Std) | 160 | Rocker Arm Cover | 328 | Ignition Keys |
| | Piston, Pin & Ring Set (.010" Oversize) | 161 | Screw, T-30 1/4-20 x 1/2" | 329 | Terminal |
| 41 | Piston & Pin Assembly (Std) (Includes Key Number 43) | 163 | Lock Washer | 335 | Carburetor Cover, Front |
| | Piston & Pin Assembly (.010" Oversize) (Includes Key Numbers 43) | 169 | * Valve Cover Gasket | 335A | Carburetor Cover |
| 42 | Ring Set (Standard) | 170 | Breather Body | 336 | Screw, T-30 1/4-20 x 1/2" |
| | Ring Set (.010" Oversize) | 171 | Breather Element | 338 | Screw #10-32 x 1/2" |
| 43 | Piston Pin Retaining Ring | 172 | Valve Cover | 341 | Fuel Tank Bracket |
| 45 | Connecting Rod Assembly (Includes Key Nos 47 & 49) | 173 | Breather Tube | 342 | Screw 5/16-18 x 7/8" |
| 47 | Connecting Rod Bolt | 174 | Screw #10-24 x 1/2" | 343 | Key Switch Bracket (Includes Key Number 343A) |
| 48 | Valve Lifter | 174A | Screw #10-24 x 29/32" | 345 | Heat Baffle |
| 49 | Oil Dipper | 180 | Blower Housing Extension | 345A | Screw #10-32 x 1/2" |
| 50 | Camshaft (MCR) | 181 | Screw #10-24 x 9/16" | 350 | Primer Assembly |
| 60 | Blower Housing Extension | 182 | Screw, T-30 1/4-20 x 27/32" | 351 | Primer Line |
| 65 | Screw #10-24 x 3/16" | 183 | Choke Bracket | 355 | Starter Handle |
| 66 | Screw, Torx T-30 1/4-20 x 1/2" | 184 | * Carb. To Intake Pipe Gasket | 361 | Screw, T-30 1/4-20 x 15/32" |
| 69 | Cylinder Cover Gasket | 185 | Intake Pipe | 369 | Screw #12-16 x 5/8" |
| 70 | Cylinder Cover (Includes Key Numbers 71, 75 and 80-84) | 186 | Governor Link | 370C | Primer Decal |
| 71 | Crankshaft Bushing | 186B | Choke Spring | 370I | Warning Decal |
| 72 | Oil Drain Plug | 200 | Control Bracket (Includes Key Numbers 203 and 204) | 370J | Throttle Decal |
| 75 | Oil Seal | 203 | Compression Spring | 370K | Starter Decal |
| 80 | Governor Shaft | 204 | Screw, T-10 #5-40 x 7/16" | 380 | Carburetor (Includes Key #184) |
| 81 | Washer | 206 | Terminal | 390 | Rewind Starter |
| 82 | Governor Gear Assembly (Includes Key Number 81) | 207 | Throttle Link | 395 | Electric Starter Motor (120 Volt) |
| 83 | Governor Spool | 209 | Screw #10-32 x 1/2" | 400 | Gasket Set (Includes All Items Marked *) |
| 84 | Retaining Ring | 212 | Bushing | 420 | SAE 5W30 4-Cycle Engine Oil (1 Quart Bottle) |
| 86 | Screw 1/4-20 x 1-3/16" | 212A | Bushing | 900 | Replacement Engine - NONE Rep. S/B (order from 71-999) |
| 87 | Screw 1/4-20 x 1-11/16" | 215 | Speed Control Knob | | |
| 89 | Flywheel Key | 217 | Bellcrank Lever | | |
| 90 | Flywheel (with Ring Gear) | 219 | Choke Rod | | |
| 92 | Lock Washer | 220 | Choke Control Knob | | |
| 93 | Flywheel Nut | 222 | Screw #10-32 x 1/2" | | |
| 100 | Solid State Ignition (Includes Key Number 101) | 223 | Screw, T-30 5/16-18 x 7/8" | | |
| 101 | Spark Plug Cover | 224 | * Intake Pipe Gasket | | |
| 102 | Solid State Mounting Stud | 260 | Blower Housing | | |
| | | 261 | Screw 1/4-20 x 5/8" | | |
| | | 262 | Screw #5/16-18 x 9/16" | | |
| | | 265 | Cylinder Head Cover | | |
| | | 266 | Screw 5/16-18 x 1-9/32" | | |
| | | 269 | * Exhaust Gasket | | |
| | | 270 | Exhaust Manifold | | |
| | | 270A | Exhaust Port Liner | | |
| | | 271 | Locking Plate | | |
| | | 275 | Muffler | | |
| | | | | RPMs: Low: 1850 to 2150 High: 3350 to 3650 | |
| | | | | NOTE: This engine could have been built with Starter #590733. | |
| | | | | NOTE: All component dimensions given in U.S. inches. 1 inch = 25.4 mm | |

TECUMSEH 4-CYCLE O.H.V. ENGINE (TYPICAL)

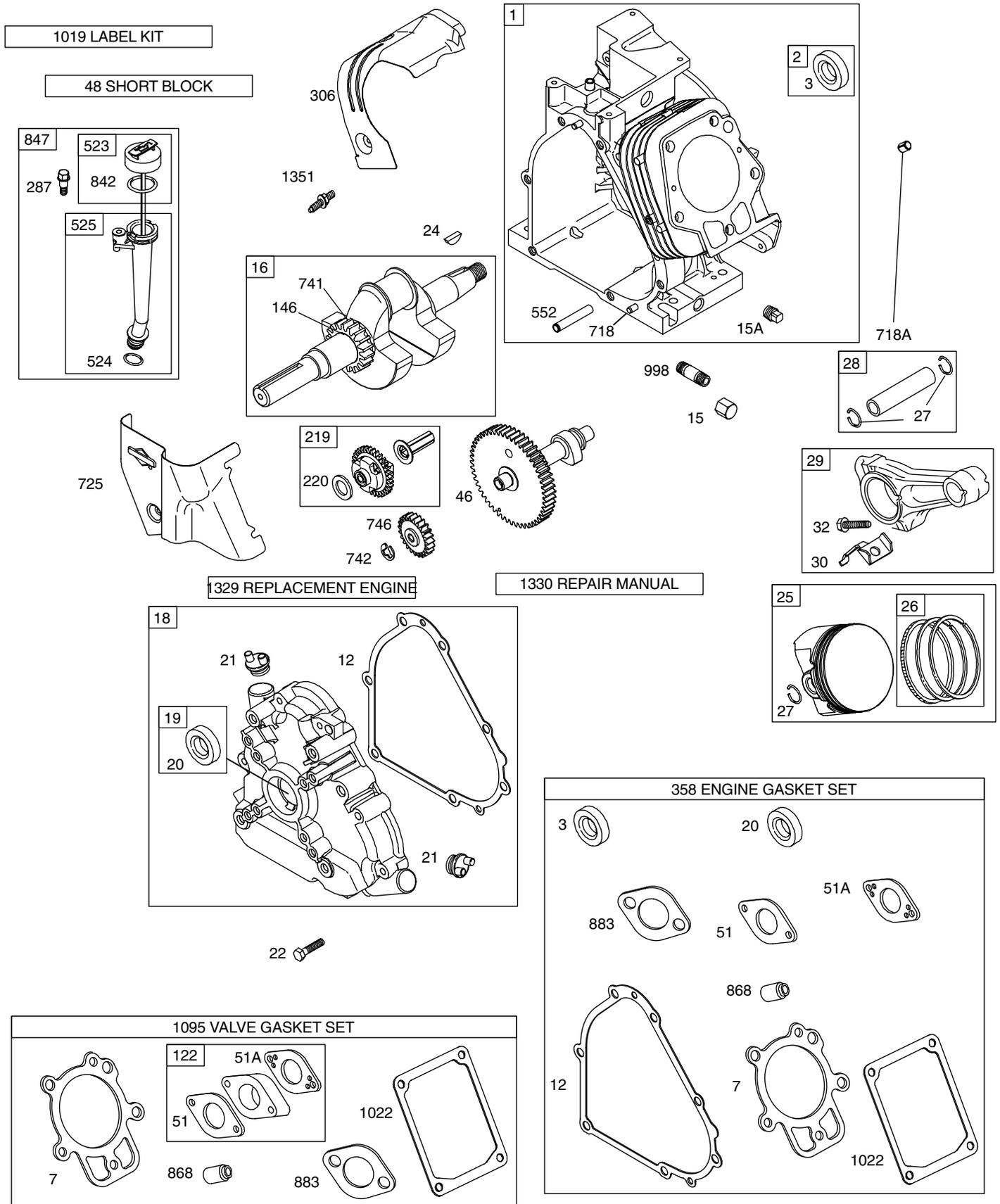


| KEY NO. | DESCRIPTION |
|---------|---------------------------------------|
| -- | Carburetor (Incl. 184 of Engine List) |
| 1 | Throttle Shaft & Lever Assembly |
| 1A | Throttle Link Bushing |
| 2 | Throttle Return Spring |
| 6 | Throttle Shutter |
| 7 | *Shutter Screw |
| 10 | Choke Shaft & Lever Assembly |
| 14 | Choke Shutter |
| 15 | Choke Positioning Spring |
| 16 | Fuel Fitting |
| 17 | Throttle Crack/Idle Speed Screw |
| 18 | Tension Spring |
| 20 | Idle Restrictor Screw |
| 20A | Idle Restrictor Screw Cap |
| 25 | Float Bowl Assembly (Incl. 32 & 33) |
| 27 | *Float Shaft |
| 28 | Float (Plastic) |
| 29 | *Float Bowl "O" Ring |
| 30 | *Inlet Needle, Seat & Clip (Incl. 31) |
| 31 | Spring Clip |
| 32 | Bowl Drain Assembly |
| 33 | Drain Plunger Gasket |
| 36 | Main Nozzle Tube |
| 37 | **"O" Ring, Main Nozzle Tube |
| 40 | High Speed Bowl Nut |
| 44 | Bowl Nut Washer |
| 47 | *Welch Plug, Idle Mixture Well |
| 48 | *Welch Plug, Atmospheric Vent |
| 60 | Repair Kit (Incl. Items Marked *) |

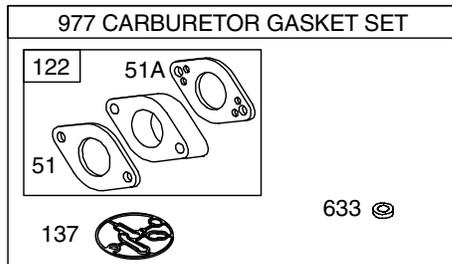
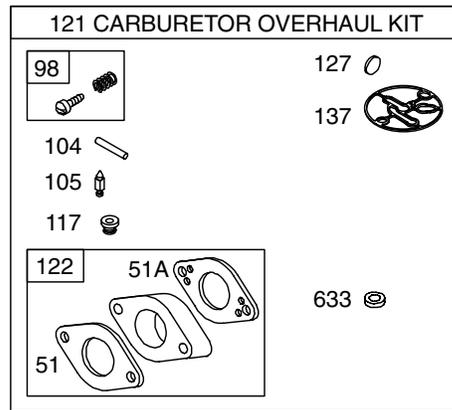
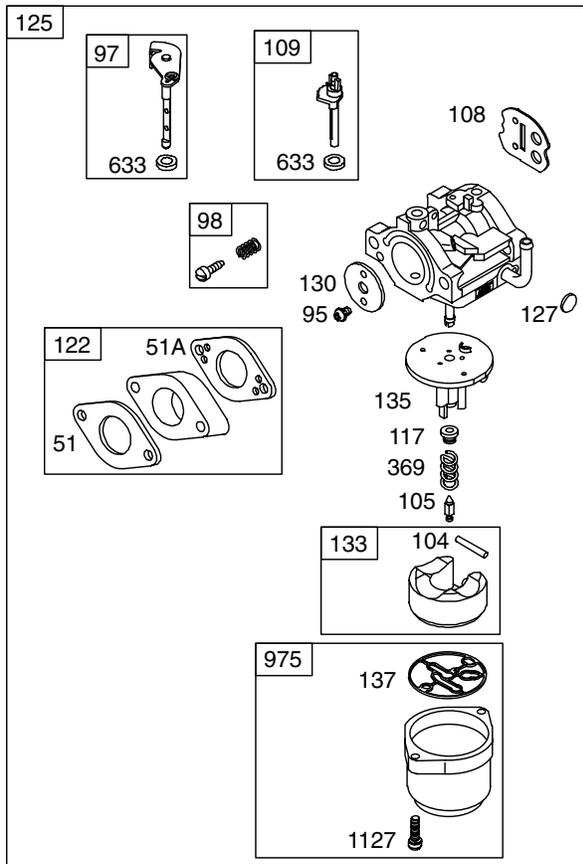
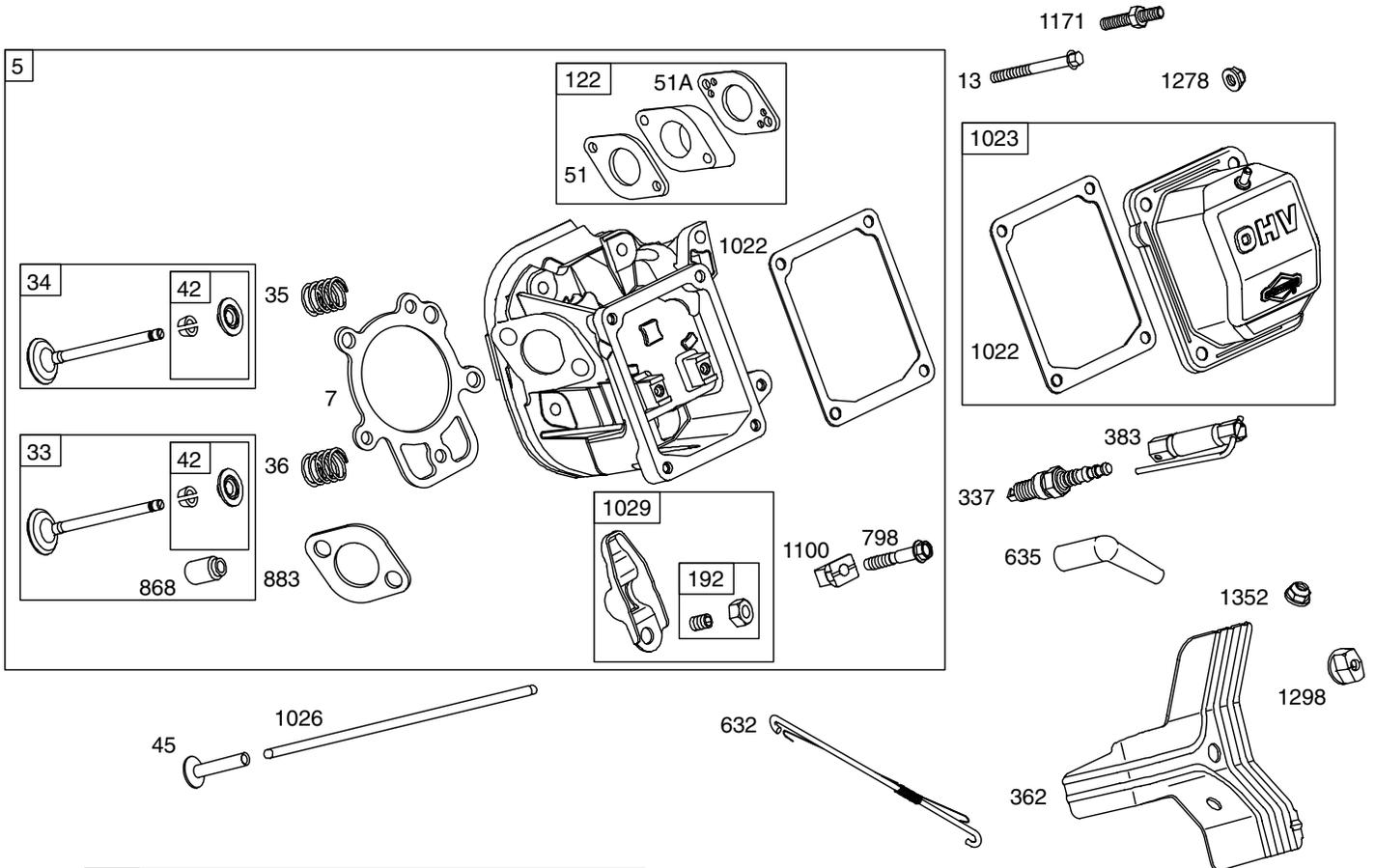


| KEY NO. | DESCRIPTION |
|---------|------------------------------------|
| -- | Electric Starter (110 Volt) |
| 1 | Dust Cover |
| 2 | Retainer Ring |
| 3 | Spring Retainer |
| 4 | Anti-drift Spring |
| 5A | Gear & Nut (Incl. 2) |
| 6 | Drive End Cap Assembly (Incl. 7) |
| 7 | "O" Ring |
| 8 | Armature |
| 9 | Housing Assembly |
| 10 | Brush Card Assembly |
| 11 | Thrust Washer |
| 13 | Thrust Washer |
| 14 | Ground Screw |
| 15 | Commutator End Cap Assy. (Incl. 7) |
| 16 | Switch Box Assembly |
| 22 | Case Bolt |
| 23 | Ground Screw |
| 26 | Screw #6-32 x 2-1/2" |
| | Screw #12-16 x 5/8" |
| 29 | Extension Cord (10' 6") |
| 30 | Screw, Torx T-30 1/4-20 x 1/2" |
| 31 | Screw 1/4-20 x 1/2" |

BRIGGS & STRATTON 4-CYCLE O.H.V. ENGINE (TYPICAL)



BRIGGS & STRATTON 4-CYCLE O.H.V. ENGINE (TYPICAL)



BRIGGS & STRATTON 4-CYCLE O.H.V. ENGINE (TYPICAL)

| KEY NO. | DESCRIPTION | KEY NO. | DESCRIPTION | KEY NO. | DESCRIPTION |
|---------|---------------------------------|---------|-------------------------------------|---------|---|
| 1 | Cylinder Assembly | 209 | Spring-Governor | 742 | Retainer-E Ring |
| 2 | Kit-Bushing/Seal (Magneto Side) | 219 | Gear-Governor | 746 | Gear-Idler |
| 3 | •Seal-Oil (Magneto Side) | 220 | Washer (Governor Gear) | 773 | Retainer |
| 5 | Head-Cylinder | 222 | Bracket-Control | 798 | Screw (Rocker Cover) |
| 7 | •+Gasket-Cylinder Head | 227 | Lever-Governor Control | 832 | Guard-Muffler |
| 11 | Tube-Breather | 271 | Lever-Control | 836 | Screw (Muffler Guard) |
| 12 | •Gasket-Crankcase | 281 | Panel-Control | 842 | Seal-O Ring (Dipstick) |
| 13 | Screw (Cylinder Head) | 287 | Screw (Dipstick Tube) | 847 | Dipstick/Tube Assembly |
| 15 | Plug-Oil Drain | 300 | Muffler | 868 | •+Seal-Valve |
| 15A | Plug-Oil Drain | 304 | Housing-Blower | 883 | •+Gasket-Exhaust |
| 16 | Crankshaft | 305 | Screw (Blower Housing) | 892 | Switch-Key |
| 18 | Cover-Crankcase | 306 | Shield-Cylinder | 930 | Guard-Rewind |
| 19 | Kit-Bushing/Seal (PTO Side) | 309 | Motor-Starter | 957 | Cap-Fuel, with Gauge |
| 20 | •Seal-Oil (PTO Side) | 332 | Nut (Flywheel) | 958 | Valve-Fuel Shut Off |
| 21 | Cap-Oil Fill | 333 | Armature-Magneto | 972 | Tank-Fuel |
| 22 | Screw (Crankcase Cover/Sump) | 334 | Screw (Magneto Armature) | 975 | Bowl-Float |
| 23 | Flywheel | 337 | Plug-Spark | 976 | Primer-Carburetor |
| 24 | Key-Flywheel | 356 | Wire-Stop | 977 | Gasket Set-Carburetor |
| 25 | Piston Assembly (Standard) | 356A | Wire-Stop | 990 | Key Set |
| | Piston Assembly (.020" OS) | 358 | Gasket Set-Engine | 998 | Pipe-Oil |
| 26 | Ring Set (Standard) | 362 | Shield-Spark Plug | 1005 | Fan-Flywheel |
| | Ring Set (.020" Oversize) | 369 | Spring-Float Bowl | 1019 | Kit-Label |
| 27 | Lock-Piston Pin | 383 | Wrench-Spark Plug | 1022 | •+Gasket-Rocker Cover |
| 28 | Pin-Piston | 410 | Link-Control | 1023 | Cover-Rocker |
| 29 | Rod-Connecting | 455 | Cup-Flywheel | 1026 | Rod-Push |
| 30 | Dipper-Connecting Rod | 456 | Plate-Pawl Friction | 1029 | Arm-Rocker |
| 32 | Screw (Connecting Rod) | 459 | Pawl-Ratchet | 1036 | Label-Emissions |
| 33 | Valve-Exhaust | 472 | Knob-Choke Shaft | 1070 | Screw (Flywheel Fan) |
| 34 | Valve-Intake | 474 | Alternator | 1095 | Gasket Set-Valve |
| 35 | Spring-Valve (Intake) | 485 | Knob-Control | 1100 | Pivot-Rocker Arm |
| 36 | Spring-Valve (Exhaust) | 504 | Washer Set-Friction | 1119 | Screw (Alternator) |
| 42 | Keeper-Valve | 505 | Nut (Governor Control Lever) | 1127 | Screw (Float Bowl) |
| 45 | Tappet-Valve | 523 | Dipstick | 1138 | Nut (Control Bracket) |
| 46 | Camshaft | 524 | Seal-O Ring (Dipstick Tube) | 1171 | Stud (Rocker Arm Cover) |
| 48 | Short Block | 525 | Tube-Dipstick | 1196 | Screw (Snow Hood) |
| 51 | •+Ø‡Gasket-Intake | 528 | Hose-Primer | 1210 | Pulley / Spring (Pulley) |
| 51A | •+Ø‡Gasket-Intake | 552 | Bushing-Governor Crank | 1211 | Pulley / Spring (Spring) |
| 53 | Stud (Carburetor) | 562 | Bolt (Governor Control Lever) | 1224 | Nut (Carburetor Primer) |
| 55 | Housing-Rewind Starter | 592 | Nut (Rewind Starter) | 1230 | Stud (Control Bracket) |
| 58 | Rope-Starter (Cut to Length) | 597 | Screw (Pawl Friction Plate) | 1251 | Shield-Snow |
| 60 | Grip-Starter Rope | 601 | Clamp-Hose | 1252 | Screw (Snow Shield) |
| 65 | Screw (Rewind Starter) | 604 | Cover-Control | 1278 | Nut (Rocker Cover) |
| 95 | Screw (Throttle Valve) | 608 | Starter-Rewind | 1288 | Nut (Snow Hood) |
| 97 | Shaft-Throttle | 613 | Screw (Muffler) | 1288A | Nut (Snow Hood) |
| 98 | Ø Kit-Idle Speed | 613A | Screw (Muffler) | 1298 | Knob-Snow Hood |
| 104 | Ø Pin-Float Hinge | 615 | Retainer-Governor Shaft | 1329 | 20B414-0017 Replacement Engine |
| 105 | Ø Valve-Float Needle | 616 | Crank-Governor | 1330 | Repair Manual |
| 108 | Valve-Choke | 621 | Switch-Stop | 1351 | Stud (Cylinder Shield) |
| 109 | Shaft-Choke | 629 | Spring-Throttle Return | 1352 | Nut (Spark Plug Shield) |
| 117 | Ø Jet-Main (Standard) | 632 | Spring/Link, Mechanical Governor | | |
| 118 | Ø Jet-Main (High Altitude) | 633 | Ø‡Seal-Choke/Throttle Shaft | | • Included in Engine Gasket Set, Key No. 358 |
| 121 | Kit-Carburetor Overhaul | 635 | Boot-Spark Plug | | |
| 122 | +Ø‡Spacer-Carburetor | 663 | Screw (Control Panel) | | |
| 125 | Carburetor | 663A | Screw (Control Panel) | | Ø Included in Carburetor Overhaul Kit, Key No. 121 |
| 127 | Ø Plug-Welch | 668 | Spacer(Control Bracket) | | |
| 130 | Valve-Throttle | 689 | Spring-Friction | | |
| 133 | Float-Carburetor | 697 | Screw (Starter Motor) | | ‡ Included in Carburetor Gasket Set, Key No. 977 |
| 135 | Tube-Fuel Transfer | 718 | Pin-Locating | | |
| 137 | Ø‡Gasket-Float Bowl | 718A | Pin-Locating | | |
| 146 | Key-Timing | 725 | Shield-Heat | | + Included in Valve Gasket Set, Key No. 1095 |
| 187 | Line-Fuel (Cut to Length) | 727 | Cover-Starter Drive | | |
| 187A | Line-Fuel | 731 | Hood-Snow | | |
| 188 | Screw (Control Bracket) | 732 | Screw (Starter Drive Cover) | | |
| 190 | Screw (Fuel Tank) | 741 | Gear-Timing | | |
| 192 | Adjuster-Rocker Arm | | | | |

NOTE: All component dimensions given in U.S. inches. 1 inch = 25.4 mm

SERVICE NOTES

SERVICE NOTES



Electrolux

H O M E P R O D U C T S