



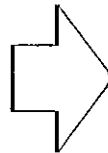
Owner's Manual

- SET-UP
- OPERATION
- MAINTENANCE

IMPORTANT
Read Safety Rules and
Instructions Carefully

IMPORTANT !

Record the Model No. and Mfg. Code which appear on your unit in the space provided. You must have these numbers, along with the date of purchase, in order to receive warranty or service.



MEETS ANSI B71.3-1995 SAFETY STANDARD	
Model Number	Serial Number
XXXXXXXXXX	XXXXXXXXXX
COLUMBIA MTD PRODUCTS LIMITED KITCHENER, ON N2G 4J1	


COPY DIRECTLY FROM THE UNIT.

DATE PURCHASED: -
PRINTED IN CANADA

OGST-2100

**SMALL FRAME TWO STAGE
SNOWTHROWER**

This unit has been inspected against the manufacturers quality check list. In case of a discrepancy, please call us. We will make every effort to ship the part(s) by courier within one working day of your call.

 **WARNING:** To reduce the potential for any injury, comply with the following safety instructions. Failure to comply with the instructions may result in personal injury.

SAFETY RULES FOR SNOWTHROWERS

Training

1. Read the Owner's manual carefully. Be thoroughly familiar with the controls and proper use of the equipment. Know how to stop the unit and disengage the controls quickly.
2. Never allow children to operate equipment. Never allow adults to operate equipment without proper instructions.
3. No one should operate this unit while intoxicated or while taking medication that impairs the senses or reactions.
4. Keep area of operation clear of all persons, especially small children and pets.
5. Exercise caution to avoid slipping or falling, especially when operating in reverse.

Preparation

1. Thoroughly inspect the area where the equipment is to be used and remove all door mats, sleds, boards, wires and other foreign objects.
2. Disengage all clutches and shift into neutral before starting engine.
3. Do not operate equipment without wearing adequate winter outer garments. Wear footwear which will improve footing on slippery surfaces.
4. Check the fuel before starting the engine. Gasoline is an extremely flammable fuel. Do not fill the gasoline tank indoors, while the engine is running, or while the engine is still hot. Replace gasoline cap securely and wipe off any spilled gasoline before starting the engine as it may cause a fire or explosion.
5. Use a grounded three wire plug-in for all units with electric drive motors or electric starting motors. If using an extension cord, use 16 gauge, maximum 100 ft. (30m.).
6. Adjust auger housing height to clear gravel or crushed rock surface.
7. Never attempt to make any adjustments while engine is running (except where specifically recommended by manufacturer).
8. Let engine and machine adjust to outdoor temperature before starting to clear snow.
9. Always wear safety glasses or eye shields during operation or while performing an adjustment or repair, to protect eyes from foreign objects that may be thrown from the machine in any direction.

Operation

1. Do not put hands or feet near rotating parts. Keep clear of discharge chute opening while impeller is rotating.
2. Exercise extreme caution when operating on or crossing gravel drives, walks, or roads. Stay alert for hidden hazards or traffic. Do not carry passengers.
3. After striking a foreign object, stop the engine, remove wire from spark plug, and thoroughly inspect the snowthrower for any damage. Repair the damage before restarting and operating the snowthrower.

4. If the snowthrower should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
5. Stop engine when you leave the operating position, before unclogging the auger/impeller housing or discharge guide, and making any repairs, adjustments, or inspections.
6. Take all possible precautions when leaving the unit unattended. Disengage the auger/impeller, shift into neutral, stop the engine and remove the key.
7. When cleaning, repairing, or inspecting, make certain collector/impeller and all moving parts have stopped. Disconnect spark plug wire and keep away from plug to prevent accidental starting.
8. Do not run engine indoors, except when starting engine and transporting snowthrower in or out of building. Open doors. Exhaust fumes are dangerous.
9. Do not clear snow across the face of slopes, but in an up and down pattern. Exercise extreme caution when changing direction on slopes. Do not attempt to clear steep slopes.
10. Never operate snowthrower without guards, plates, or other safety protection devices in place.
11. Make proper adjustments to the discharge chute to avoid hitting glass enclosure, automobiles, window wells, drop offs, etc. Keep children and pets away while operating.
12. Do not overload machine capacity by attempting to clear snow at too fast a rate.
13. Never operate the machine at high transport speeds on slippery surfaces. Look behind and use care when backing up.
14. Never direct discharge at bystanders or allow anyone in front of unit.
15. Disengage power to auger/impeller when transporting or not in use.
16. Use only attachments and accessories approved by the manufacturer of snowthrower (such as wheel weights, counter weights, cabs etc.)
17. Never operate the snowthrower without good visibility or light. Always be sure of your footing and keep a firm hold on the handles. Walk, don't run.

Maintenance and Storage

1. Check shear bolts, engine mounting bolts, etc., at frequent intervals for proper tightness to be sure equipment is in safe working conditions.
2. Never store the machine with fuel in the fuel tank inside a building where ignition sources are present, such as hot water and space heaters, clothes dryers, and the like. Allow engine to cool before storing in any enclosure.
3. Always refer to owner's guide instructions for important details if snowthrower is to be stored for an extended period.
4. Run engine a few minutes after throwing snow to prevent freeze up of auger/impeller.

CONTENTS OF THE HARDWARE PACK

Lay out the hardware according to the illustration for identification purposes. Part numbers are shown in parentheses.

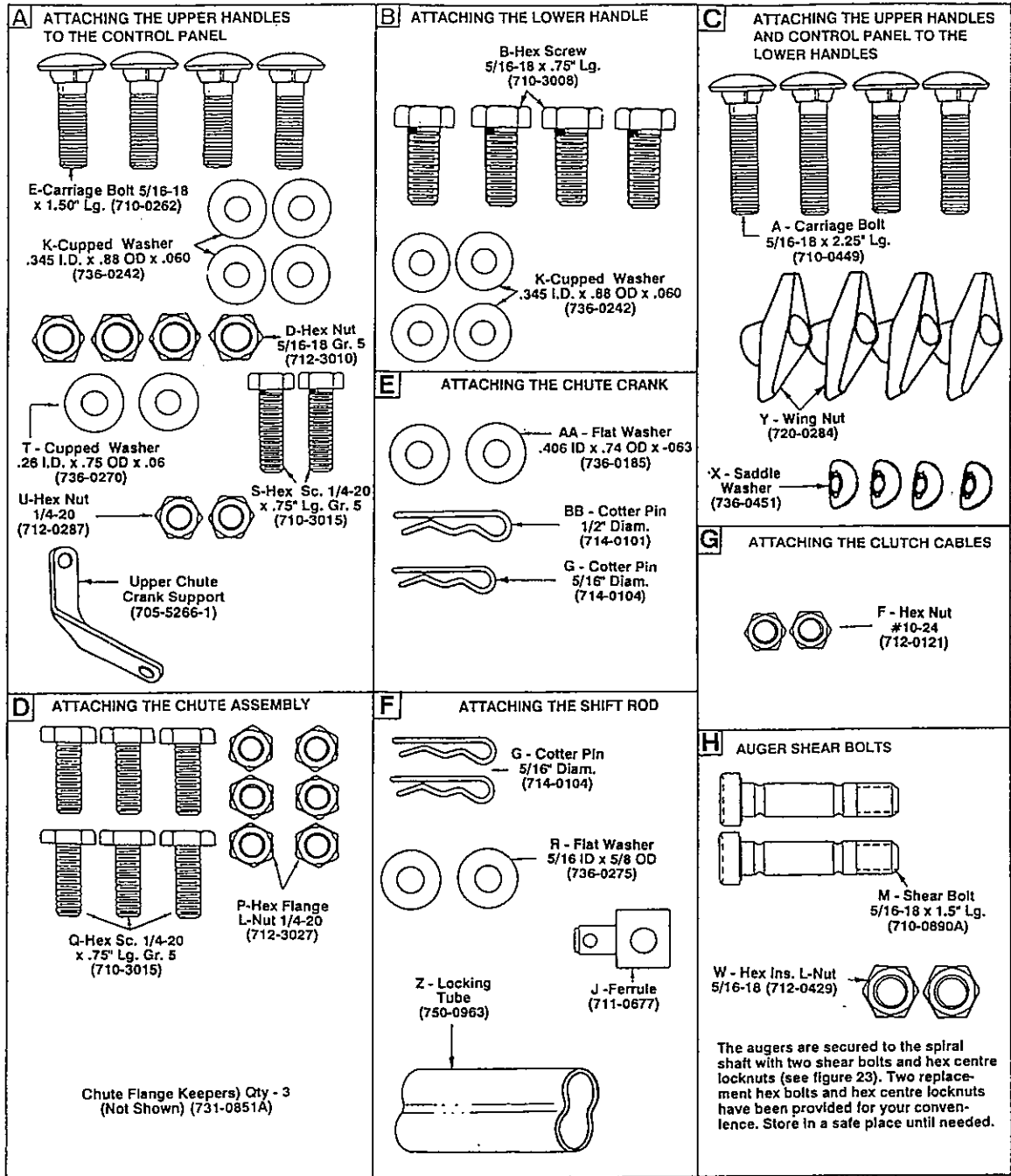


FIGURE 1 - CONTENTS OF THE HARDWARE PACK

ASSEMBLY INSTRUCTIONS

Reference to right hand or left hand side of machine are observed from the operating position.

Tools Required for Assembly:

1/2" Wrench or adjustable

Two 7/16" Wrenches or adjustables

3/8" Wrench or adjustable

Pliers

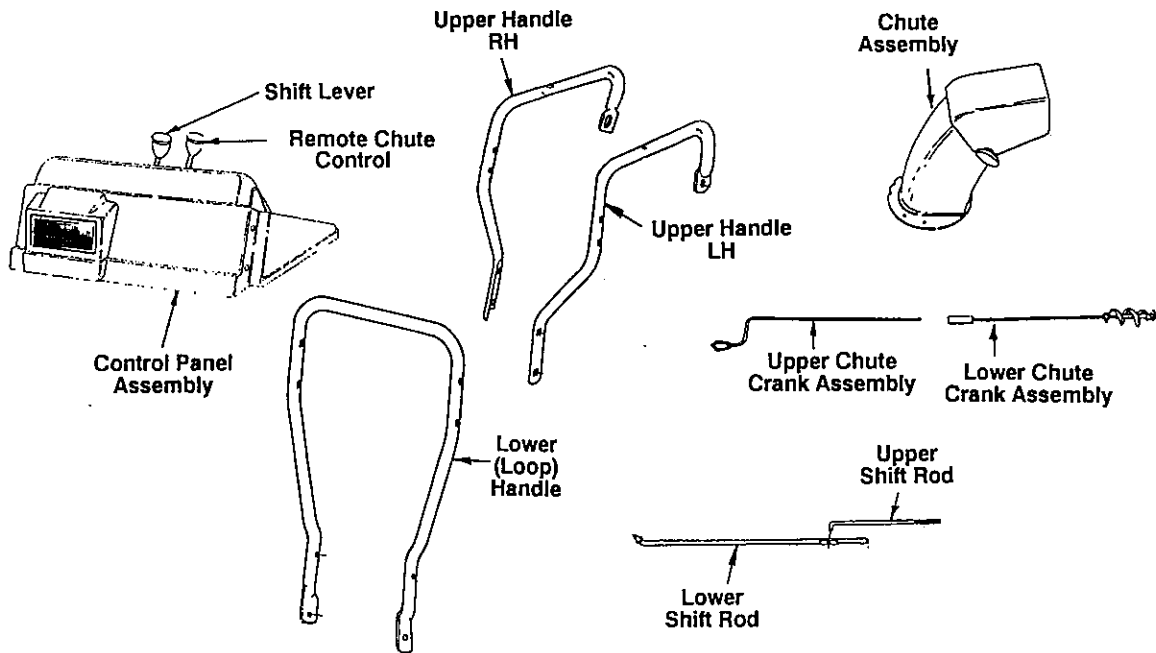


FIGURE 2 - LOOSE PARTS IN CARTON

ATTACHING THE HANDLES AND UPPER CHUTE CONTROL BRACKET TO THE CONTROL PANEL ASSEMBLY (Hardware A)

- Lift the chute and control panel assemblies out and set right side up. Caution: Be careful not to bend or kink (optional) cables. Cut the rear section of the carton away.
- Place the upper handles in position on the control panel so the ends of the handle go through the slots in the control panel assembly. See figure 3. **Note:** The lower ends of the upper handles should be positioned to cup the lower handle.
- Attach the front of the control panel assembly loosely using carriage bolt (E), cupped washer (K) and hex nuts (D). See figure 3.
- On the **left side** (shown in figure 3) position the upper chute bracket to the inside of the handle panel support. Insert hex bolt (S) through the upper chute crank bracket, handle panel support and handle, attach using cupped washer (T)

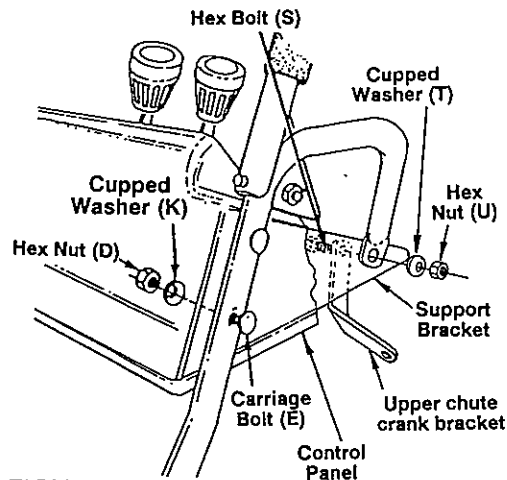


FIGURE 3

(cupped side against the handle) and hex nuts (U). See figure 3. **Do not tighten at this time.**

- On the **right side only** (not shown in figure 3) attach handle to the rear of the handle panel support using hex bolts (S), cupped washers (T) (cupped side against the handle) and hex nuts (U). See figure 3.

ATTACHING THE LOWER (LOOP) HANDLE TO THE SNOWTHROWER (Hardware B)

- Resting the lower handle on the floor behind the machine, line up the lower holes in the handle with the lower holes in the frame sides and secure with cupped washers (K) and hex bolts (B). See figure 4.
- Raise the lower handle up aligning upper holes in the handle with remaining hole in the frame. Secure to the frame with cupped washers (K) and hex bolts (B). See figure 4.

Caution: Be careful not to pinch cables between the frame and handle.

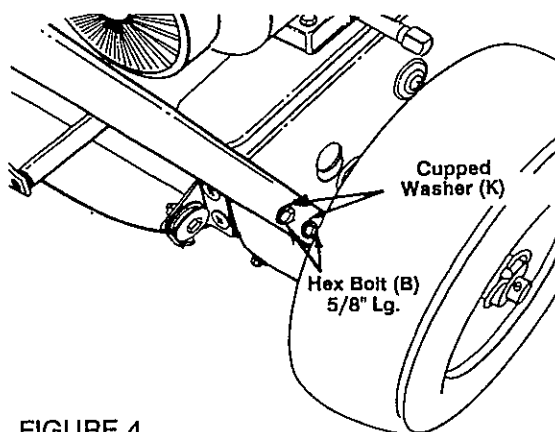


FIGURE 4

ATTACHING THE UPPER HANDLES AND CONTROL ASSEMBLY TO THE LOWER HANDLE (Hardware C)

- Resting the upper handle control panel assembly on the floor, line up the lower holes in both the upper and lower handle and secure with curved carriage bolts (A), saddle washers (X) and wing nuts (Y). See figure 5.

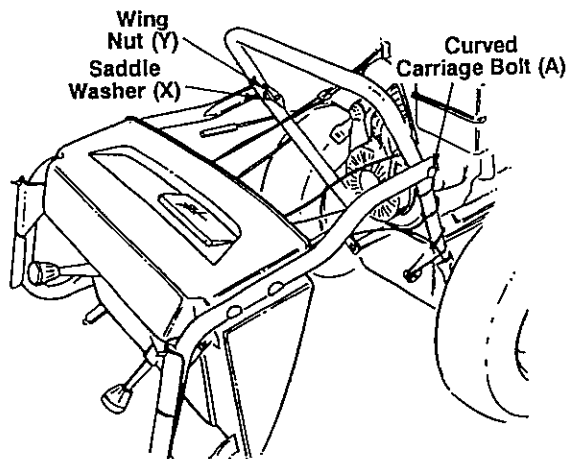


FIGURE 5

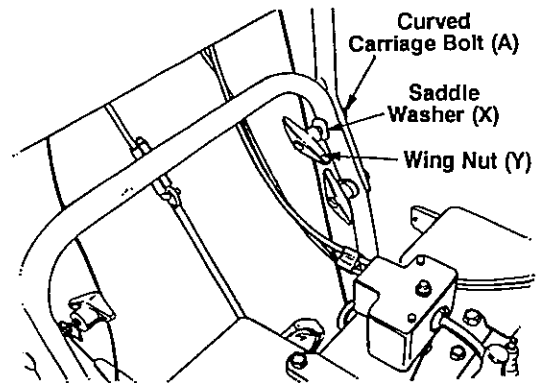


FIGURE 6

- Raise the upper handle assembly until it locks over the lower handle. Secure the upper holes in the handles with the remaining carriage bolts, saddle washers and wing nuts. See figure 6.
- Tighten all hardware assembled to this point.
- Pull the snowthrower out of carton. Check all carton inserts to be certain that all loose parts and literature have been removed before the carton is discarded.

ATTACHING THE CHUTE ASSEMBLY (Hardware D)

- Place chute assembly over chute opening, with the opening in the chute assembly facing the front of the unit. Place chute flange keepers beneath lip of chute assembly, with the flat side of chute flange keeper facing downward.
- Insert hex cap screws (Q) up through chute flange keeper and chute assembly as shown in figure 7. Secure with hex locknuts (P). Tighten with 7/16" wrenches. **Do not over tighten.**

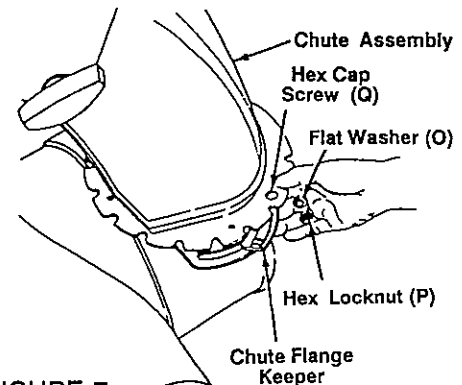


FIGURE 7

ATTACHING THE CHUTE CRANK (Hardware E)

- Loosen hex nuts on the lower chute crank bracket. See figure 8.

- Place one flat washer (AA) on the end of the lower chute crank then, insert the end of the crank into the hole in the plastic bushing in the chute bracket. See figure 6. Secure with remaining flat washer (AA) and cotter pin (G) (5/16" diameter).
- Insert upper chute crank through hole in upper chute crank bracket then into spacer. Secure with cotter pin (BB) (1/2" diameter) as shown in figure 9.
- With the hex nuts loosened on the chute crank support bracket adjust the chute bracket (see figure 6) so that the spiral on the chute crank fully engages the teeth

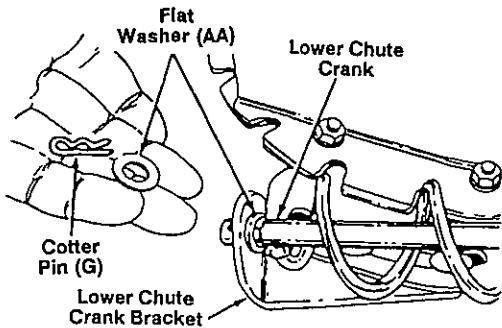


FIGURE 8

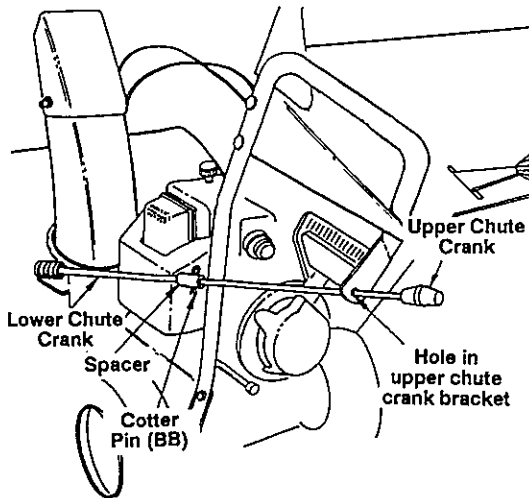


FIGURE 9

on the chute assembly. Tighten the nuts on the lower chute crank bracket securely.

- Check to make sure all nuts and bolts on the control panel and all four bolts which secure the handles to the frame are tight.

ATTACHING THE SHIFT ROD (Hardware F)

- Insert the end of the lower shift rod with the small hole into the shift arm assembly, located outside the snowthrower frame. Secure with flat washer (R) and cotter pin (G) (washer and cotter pin should be on

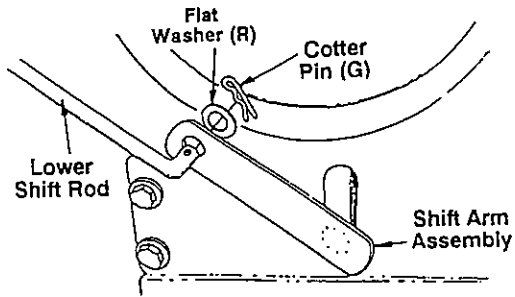


FIGURE 10

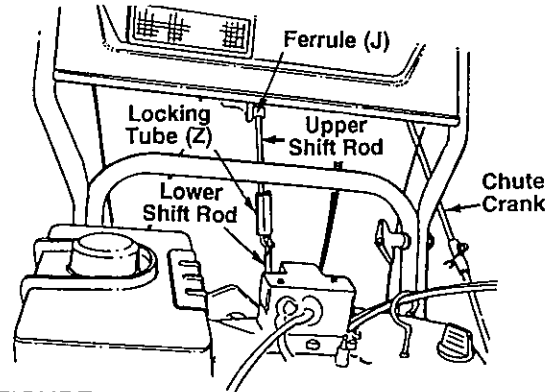


FIGURE 11

the engine side of the bracket). See figure 10.

- Slide the locking tube (Z) over the threaded end of the upper shift rod.
- Thread the ferrule (J) on the threaded end of the upper shift rod.
- Secure the upper and lower shift rods with cotter pin (G) and slide the locking tube down as shown in figure 11.
- Place the shift lever in the fastest forward position. Push the shift rod down sharply, as far as it will go, to put the drive into the fastest forward position. Thread the ferrule in or out on the shift rod as necessary until the ferrule lines up with the upper hole in the shift lever. Insert ferrule from the left side of the snowthrower into upper hole in shift lever and secure with flat washer (R) and internal cotter pin (G). See figure 12.

ATTACHING THE CLUTCH CABLES (Hardware G)

- The clutch control cables are attached to the snowthrower. Your cables may be attached to the top of the engine with cable ties, cut the ties.
- Ensure there is a hex jam nut threaded all the way up the threaded portion of the "Z" fitting, extras are supplied in the screw pack.
- Swing the left auger cable up making sure the cable is routed correctly in the

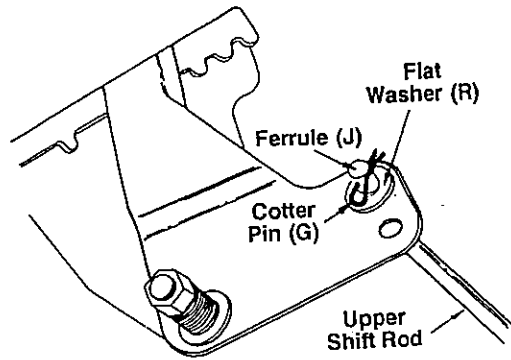


FIGURE 12

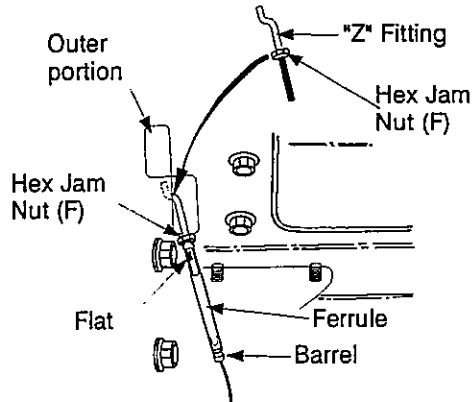


FIGURE 13 - Viewed from the underside of the control panel.

cable roller guides located at the lower rear of the unit.

- Hold the end of the cable at the barrel so the ferrule turns freely without twisting the cable. Thread the ferrule onto the "Z" fitting, you may have to pull on the cable slightly to relieve tension, keep the ferrule turning without twisting the cable.
- Correct adjustment on cable is minimal slack but not tight.
- Hold the flats on the ferrule with pliers and tighten the jam nut (F) against the ferrule.

CAUTION: Cables will loosen if not tight.

- The right drive cable should be assembled in the same manner.

NOTE: If the right hand lockout cable is not adjusted correctly, the wheels will tend to turn. If the left hand lockout cable is not adjusted correctly, the augers will not stop rotating.

! WARNING: There must not be any tension on either clutch cable with the drive or auger clutch grip in the disengaged (up) position. These clutches are a safety feature, and their function can be overridden if

there is tension on either cable with the clutches disengaged.

LAMP WIRING CONNECTION:

- Wrap the wire from the lamp down the right handle until the wire can be plugged into the alternator lead wire under the fuel tank. See figure 14.

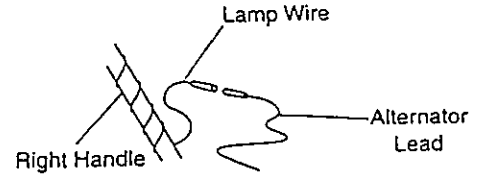


FIGURE 14

FINAL ASSEMBLY AND ADJUSTMENTS

- Insert the remote chute cables into the cable control wire, located on top of the engine. See figure 15.
- The space between the shave plate and the ground can be adjusted. For close snow removal, place slide shoes in the low position. Use middle or high position when area to be cleared is uneven. See figure 16.

Adjust slide shoes by loosening the four hex nuts and carriage bolts and moving slide shoes to desired position. Make certain the entire bottom surface of slide shoe is against the ground to avoid uneven wear on the slide shoes. Tighten bolts securely.

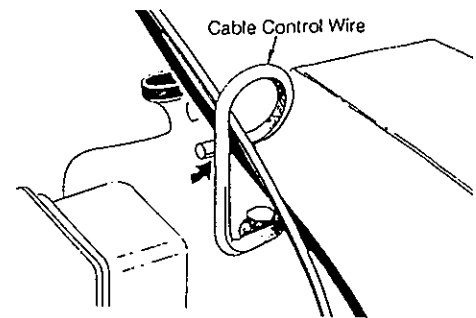


FIGURE 15

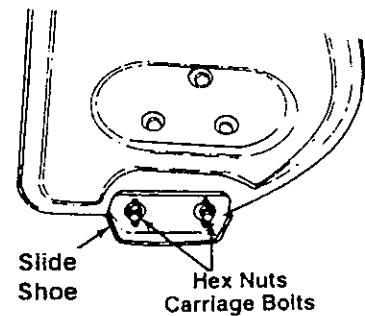


FIGURE 16

CONTROLS

Control positions and information markings, on your machine are in international symbols, as explained.



Calls your attention to instructions concerning personal safety.



Informs you adjacent area may exceed 65°C (150°F).



Choke OFF.



Choke ON.



Ignition ON.



Ignition OFF.



AUGER CLUTCH GRIP
Located on left hand handle. Squeeze to engage. Release to stop.



DRIVE CLUTCH GRIP
Located on right hand handle. Squeeze to engage. Release to stop.



Shut off engine before unlogging discharge chute.



Avoid injury from rotating auger — keep hands, feet and clothing away.

BEFORE STARTING

NOTE: The crankcase has been filled with oil and factory tested. Paint on the muffler may have burnt due to testing.

Failure to follow this procedure may result in serious engine damage which will not be covered by warranty.

NOTE: The spark plug wire was removed for safety.

ATTENTION: YOU MUST CHECK OIL LEVEL BEFORE OPERATION. LEVEL MUST BE AT FULL MARK ON DIPSTICK BEFORE ENGINE IS STARTED.

GAS AND OIL FILL-UP

Service the engine with gasoline and oil as instructed in the separate engine manual packed with your snowthrower. Read instructions carefully.



WARNING: Never fill fuel tank indoors. Never fill fuel tank with engine running or while engine is hot. Do not smoke when filling fuel tank.

OPERATION

TO START ENGINE

Electric Starter (Optional)

WARNING: The optional electric starter is equipped with a three-wire power cord and plug, and is designed to operate on 120 volt AC Household current. It must be properly grounded at all times to avoid the possibility of electric shock which may be injurious to the operator. Follow all instructions carefully. Determine that your house wiring is a three wire grounded system. Ask a licensed electrician if you are not certain. If your house wiring system is not a three-wire grounded system, do not use this electric starter under any conditions. If your system is grounded and a three hole receptacle is not available at the point your starter will normally be used, one should be installed by a licensed electrician.

When connecting the power cord, always connect cord to starter on engine first, then plug the other end into a three-hole grounded receptacle.

When disconnecting the power cord, always unplug the end from the three-hole grounded receptacle first.

- Attach spark plug wire to spark plug. Make certain the metal loop on the end of the spark plug wire (inside the boot) is fastened securely over the metal tip on the spark plug. See figure 17.

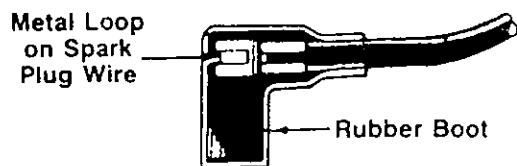
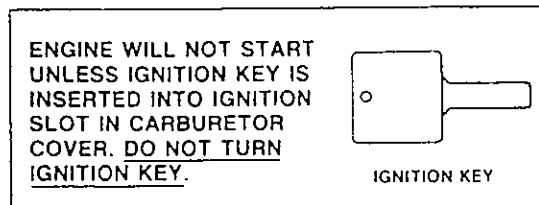




FIGURE 17



- Make certain the auger and drive clutch levers are in the disengaged (released) position.
- Move throttle control up to FAST  position. Insert ignition key into slot. See figure 18. Be certain it snaps into place. Do not turn key.
- Rotate choke knob to OFF position.
- Connect power cord to switch box on engine. Plug the other end of power cord into a three-hole, grounded 120 volt AC receptacle.
- Push starter button to crank engine. See figure 18. As you crank the engine, move choke knob to FULL choke position.
- When engine starts, release starter button, and move choke gradually to OFF. If engine falters, move choke immediately to FULL and then gradually to OFF.

Recoil Starter:

- Attach spark plug wire to spark plug. Make certain the metal loop on the end of the spark plug wire (inside the boot) is fastened securely over the metal tip on the spark plug. See figure 17.
- Make certain the auger and drive clutch levers are in the disengaged (released) position.
- Move throttle control up to FAST  position. Insert ignition key into slot. See figure 18. Be certain it snaps into place. Do not turn key.
- Rotate choke knob to FULL choke position (cold engine start).
If engine is warm, place choke in OFF position instead of FULL.
- Push primer button two or three times. See figure 18.
If engine is warm, push primer button once only.

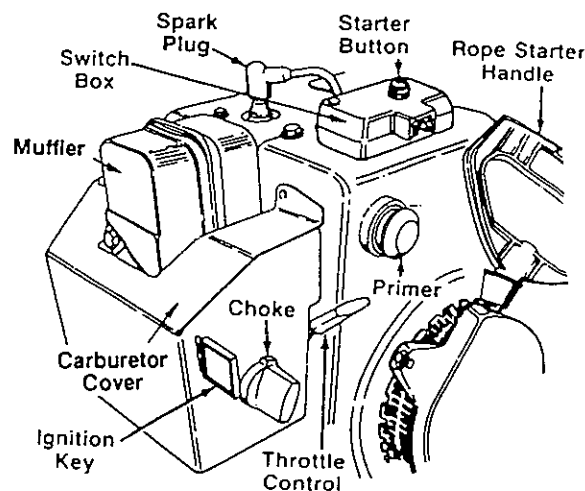


FIGURE 18

NOTE: Always cover vent hole in primer button when pushing. Additional priming may be necessary for first start if temperature is below 15°F.

- Grasp starter handle (see figure 18) and pull rope out slowly, until it pulls slightly harder. Let rope rewind slowly.
- Pull starter handle rapidly. Do not allow handle to snap back. Allow it to rewind slowly while keeping a firm hold on the starter handle.
- Repeat the last two steps until engine starts.
- As engine warms up and begins to operate evenly, rotate choke knob slowly to OFF position. If engine falters, return to FULL choke, then slowly move to OFF position.

TO STOP ENGINE

- Run engine for a few minutes before stopping to help dry off any moisture on the engine.
- To help prevent possible freeze-up of starter, proceed as follows.

Optional Electric Starter: Connect power cord to switch box on engine, then to 120 volt AC receptacle. With the engine running, push starter button and spin the starter for several seconds. The unusual sound made by spinning the starter will not harm engine or starter. Disconnect the power cord from receptacle first, and then from switch box.

Recoil Starter: With engine running, pull starter rope with a rapid, continuous full arm stroke three or four times. Pulling the starter rope will produce a loud clattering sound, which is not harmful to the engine or starter.

- To stop engine, remove the ignition key. Do not turn key. Disconnect the spark plug wire from the spark plug to prevent accidental starting while equipment is unattended.

NOTE: Do not lose ignition key. Keep it in a safe place. Engine will not start without the ignition key.

- Wipe all snow and moisture from the carburetor cover in the area of the control levers. Also, move control levers back and forth several times.

TO ENGAGE DRIVE

- With the engine running near top speed, move shift lever into one of the possible FORWARD or REVERSE positions. Select a speed appropriate for the snow conditions that exist. Use the slower speeds until you are familiar with the operation of the snowthrower.
- Squeeze the left hand auger clutch grip and engage it.
- While the left hand auger clutch grip is engaged, engage the right hand drive clutch grip.
- Release the left hand auger clutch grip only. The interlock mechanism should keep the left hand clutch engaged until the right hand clutch is released.

NOTE: Never never move shift lever without first releasing the drive clutch.

DRIVE WHEELS

Your snowthrower can be operated with both wheels driving for maximum traction in heavy snow or with one wheel driving for easier turning in tight areas.

For both wheels driving (straight axle), place the klick pin in the hole in the hub of the right hand rim. (See figure 19B).

For one wheel driving, place the klick pin on the right hand axle in the outside axle hole. (See figure 19A).

TIRE PRESSURE

Pneumatic tires only. Tires are over-inflated for shipping purposes. Correct tire pressure is 10-15 psi.

OPERATING TIPS

NOTE: Allow the engine to warm up for a few minutes as the engine will not develop full power until it reaches operating temperature.

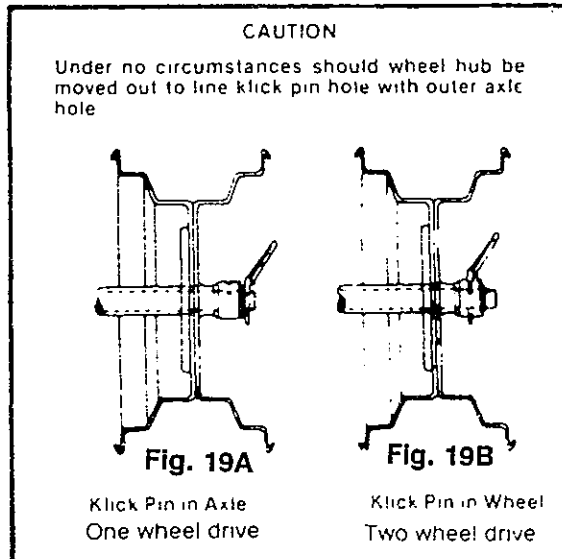


FIGURE 19



WARNING: Temperature of muffler and surrounding areas may exceed 150°F. Avoid these areas.

- For most efficient snow removal, remove snow immediately after it falls.
- Discharge snow downwind whenever possible. The distance snow is thrown can be adjusted by adjusting the angle of the chute assembly. The sharper the angle, the shorter the distance snow is thrown. Slightly overlap each previous swath.
- Set the slide shoes 1/4" below the shave plate for normal usage. The slide shoes may be adjusted upward for hard-packed snow. Adjust downward when using on gravel or crushed rock.
- Be certain to follow the precautions listed under previous section, "To Stop Engine" to prevent possible freeze up.
- Clean the snowthrower thoroughly after each use.

ADJUSTMENTS



WARNING: NEVER attempt to clean chute or make any adjustments while engine is running.

CHUTE ASSEMBLY ADJUSTMENT MODELS WITHOUT REMOTE CHUTE CONTROL

Adjust chute assembly by loosening the hand knob. Pivot the top of the chute assembly to position desired. Tighten the hand knob. See figure 20.

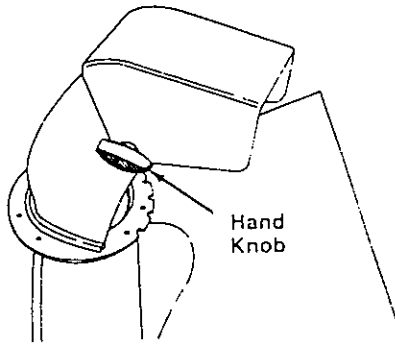


FIGURE 20

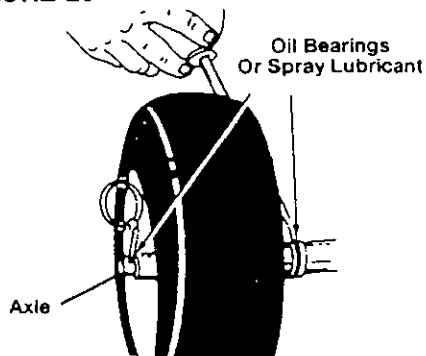


FIGURE 21

MODELS WITH REMOTE CHUTE CONTROL

The remote chute control cables have been pre-adjusted at the factory. Move the remote chute lever on the control panel back and forward to adjust angle of the chute assembly.

CHECK ADJUSTMENT OF CLUTCH CONTROL CABLES

Refer to "ATTACHING THE CLUTCH CONTROL CABLES", in the Assembly Instructions.

SHIFT ROD ADJUSTMENT

To adjust the shift rod, remove the cotter pin which secures the ferrule to the shift lever. Adjust as specified in "ATTACHING THE SHIFT ROD", in the Assembly Instructions.

SLIDE SHOE ADJUSTMENT

The space between the shave plate and the ground can be adjusted. Refer to "FINAL ASSEMBLY AND ADJUSTMENTS" in the Assembly Instructions.

CARBURETOR ADJUSTMENT

! WARNING: If any adjustments are made to the engine while the engine is running (e.g. carburetor), keep clear of all moving parts. Be careful of heated surfaces and mufflers.

Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitude and load.

Refer to the separate engine manual packed with your unit for carburetor adjustment information.

NOTE: Failure to comply with suggested maintenance and lubrication specification on pages 10 and 11 will void warranty.

LUBRICATION

NOTE: REFER TO EXPLODED VIEW OF PARTS, FOUND IN THE CENTRE OF THIS BOOK, FOR CORRECT LOCATION OF LUBRICANTS.

WHEELS

Oil or spray lubricant into bearings at wheels at least once a season. Remove wheels, clean and coat axles with a multi-purpose automotive grease. See figure 21.

DRIVE AND SHIFTING MECHANISM

Remove rear cover. Oil any chains, sprockets, gears, bearings, shafts, and shifting mechanism at least once a season. Use engine oil or a spray lubricant. **Avoid getting oil on rubber friction wheel and aluminum drive plate.**

GEAR BOX

The worm gear box has been filled with grease at the factory. If disassembled for any reason, lubricate with 1.5 ounces of Shell Alvania grease EPR00, part number 737-0168. Before reassembling remove old sealant and apply "Loctite 5699" or equivalent.

CAUTION: Do not overfill the gear box, damage to the seals could result. Be sure the vent plug is free of grease in order to relieve pressure.

WORM GEAR

The worm gear on the chute direction crank should be greased with multi-purpose automotive grease.

AUGER SHAFT

Remove auger bolts on auger shaft. Oil or spray lubricant inside shaft. See figure 23.

ENGINE

Refer to engine manual for engine lubrication instructions.

! WARNING: When following instructions in separate engine manual for draining oil, be sure to protect frame to avoid oil dripping onto transmission parts.

GEAR SHAFT

Lubricate the gear (hex) shaft with a light weight cold weather lubricant at least once a season or after every 25 hours of operation.

IMPORTANT: Keep all grease and oil off of the rubber friction wheel and aluminum drive plate.

If for any reason your transmission was disassembled and the drive cable disconnected, make sure when reassembling to pass the cable between the drive shaft and the gear shaft before reconnecting to support bracket. See figure 22.

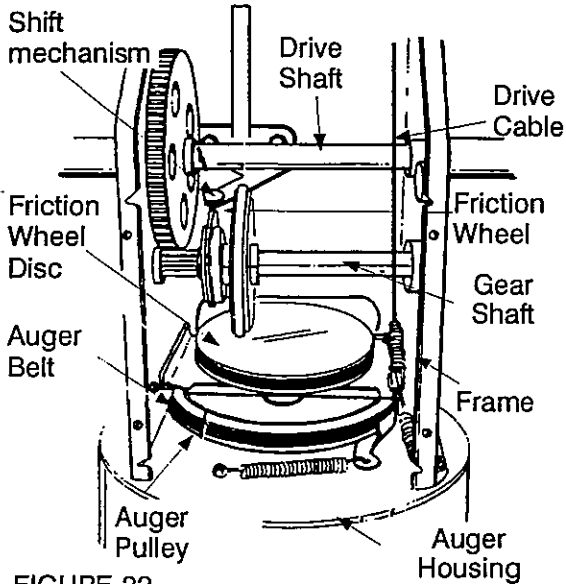


FIGURE 22

MAINTENANCE



WARNING: Disconnect the spark plug wire and ground against the engine before performing any repairs or maintenance.

AUGERS

The augers are secured to the spiral shaft with two shear bolts and hex locknuts. See figure 23. A direct impact of an object will usually cause the shear bolts to shear however, if you ingest an object between the augers/impellers and housing you may cause damage without shearing bolts. Keep clear of foreign objects.

NOTE: Locknuts cannot be threaded onto a bolt by hand. This type of nut is used where vibration occurs.

If the augers will not turn, check to see if the hex bolts have sheared. Two replacement hex bolts (M) and hex lock nuts (W) have been provided with the snowthrower. When replac-

MAINTENANCE and LUBRICATION CHECKLIST

	After First 2 Hours	After 5 Hours	Frequently	Beginning Each Season	Before Storage
Check Engine Oil Level		•		•	
Change Engine Oil	•			•	
Tighten All Screws and Nuts			•		
Check Spark Plug				•	
Lubricate Chute Opening				•	
Lubricate Wheel Axle				•	
Lubricate Wheel Bearings				•	
Lubricate chains, bearings, shafts and shifting mechanism				•	•
Check wear on friction wheel rubber				•	

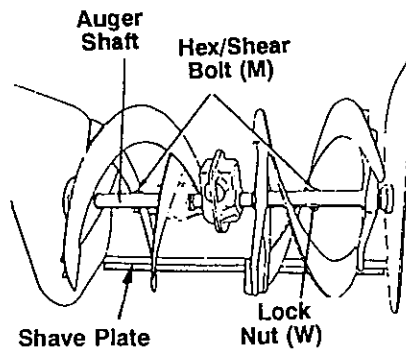


FIGURE 23

ing bolts, spray an oil lubricant into shaft before inserting new bolts.

SHAVE PLATE AND SLIDE SHOES

The shave plate and slide shoes on the bottom of the snowthrower are subject to wear. They should be checked periodically and replaced when necessary.

To remove slide shoes, remove the four carriage bolts, Belleville washers and hex nuts which attach them to the snowthrower. Reassemble new slide shoes with the four carriage bolts, Belleville washers (cupped side goes against slide shoes) and hex nuts.

To remove shave plate, remove the carriage bolts, Belleville washers and hex nuts which attach it and the slide shoes to the snowthrower housing. Reassemble new shave plate, making sure heads of the carriage bolts are to the inside of the housing. Tighten securely.

FRICITION WHEEL

Check wear on friction wheel at least once a season. Replace rubber ring (friction wheel) before clamping plates damage aluminum drive plate. See figure 30.

BELT REMOVAL AND REPLACEMENT

WARNING: Remove the spark plug wire from the spark plug and ground. Drain gasoline from the fuel tank, or place a piece of plastic film underneath the gas cap to prevent gasoline from leaking.

- Disconnect chute crank assembly at the discharge chute by removing the cotter pin and flat washers.
- Remove the plastic belt cover on the front of the engine by removing two self-tapping screws. See figure 24.

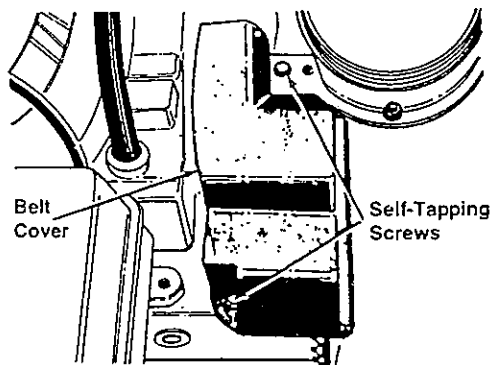


FIGURE 24-Chute removed for clarity.

AUGER DRIVE BELT:

- Unthread the bottom of the auger cable from the "Z" fitting, leaving the hex nut in place. See figure 10.
- Remove the six hex nuts, lockwashers and hex nuts which attach the auger housing assembly to the frame. See figure 25.

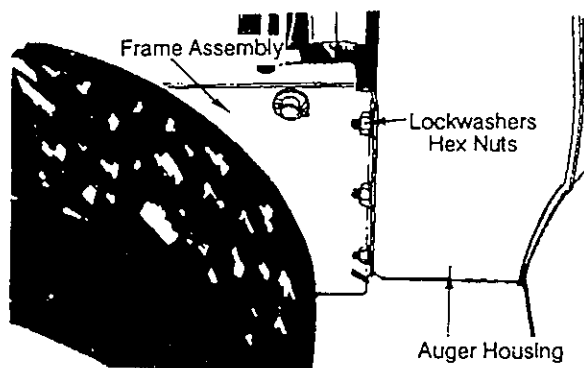


FIGURE 25

- Separate the housing from the frame assembly by standing in the operating position and lifting up on the handles. The frame and housing will separate, and the rear auger drive belt will come off the pulleys. See figure 26.

NOTE: Your unit may be equipped with one or two auger belts.

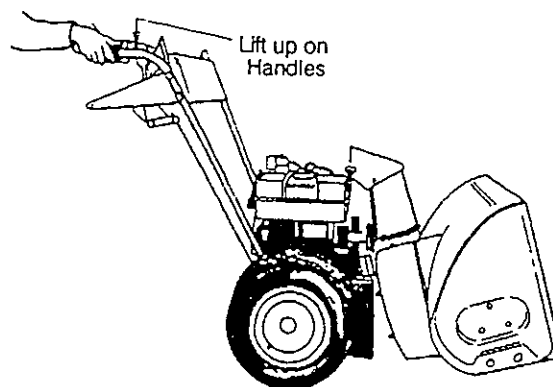


FIGURE 26

- To remove the front auger drive belt, push the idler pulley to the left, and lift front auger drive belt from the front auger pulley. See figure 27. Replace both auger drive belts by following instructions in reverse order.

NOTE: When reassembling the two halves of the unit, the auger drive cable must be routed through the cable roller guides as shown in figure 28.

DRIVE BELT:

NOTE: Separating the housing from the frame is not required when removing and replacing the drive belt.

- Tip the snowthrower up and forward, so that it rests on the housing.
- Remove six self-tapping screws from the frame cover underneath the snowthrower.
- Pull the idler pulley towards you and remove the drive belt from the pulley. You will find the idler pulley in front of the engine and under the belt cover that you removed earlier. See figure 28.
- Slip belt between friction wheel and friction wheel disc. See figure 22. You may have to twist the belt flat in order to slide it through the clearance between the friction wheel and the friction wheel disc. Remove the belt completely.
- Replace new belt. Reassemble in reverse order

NOTE: When reassembling the two halves of the unit, the auger drive cable must be routed through the cable roller guides as shown in figure 27.

CHANGING THE FRICTION WHEEL RUBBER

The rubber on the friction wheel is subject to wear and should be checked after 25 hours of

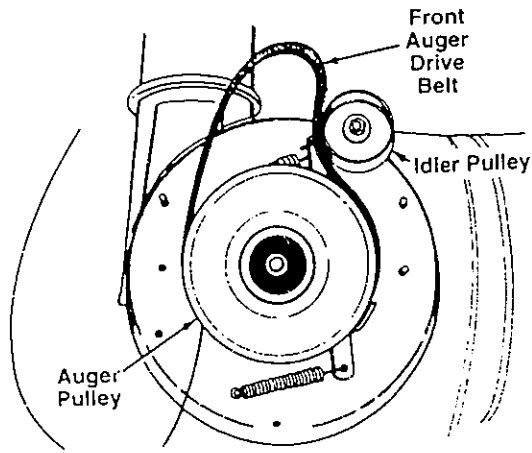


FIGURE 27

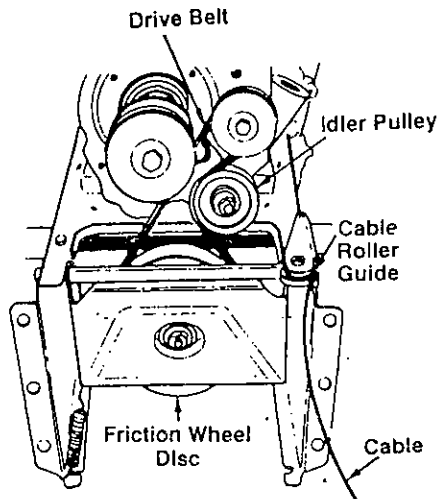


FIGURE 28

operation, and periodically thereafter. Replace the friction wheel rubber if any signs of wear or cracking are found.

- Drain the gasoline from the snowthrower, or place a piece of plastic under the gas cap.
- Tip the snowthrower up and forward, so that it rests on the housing.
- Remove six self-tapping screws from the frame cover underneath the snowthrower.
- Remove the klick pins which secure the wheels, and remove the wheels from the axle.
- Remove the gear shaft from the unit by removing the hex nut and cupped washer from left side of the frame. See figure 29. Hold the friction wheel assembly, and slide the gear shaft out of the unit toward the right hand side. Refer to figure 22.
- Remove the six screws from the friction wheel assembly (three from each side). Remove the friction wheel rubber from between the friction wheel plate.

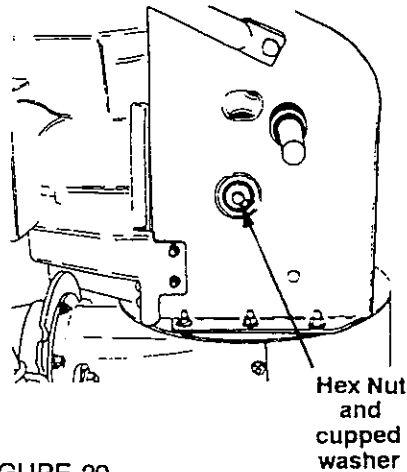


FIGURE 29

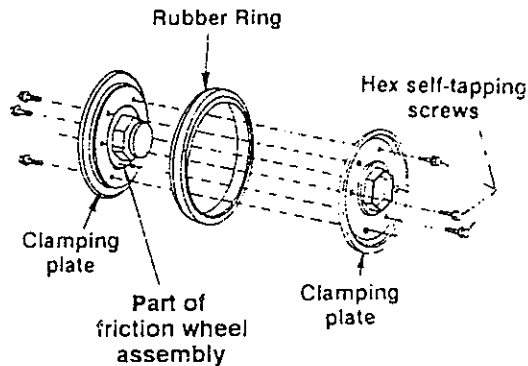


FIGURE 30

- Reassemble new friction wheel rubber to the friction wheel assembly, tighten approximately 2 turns on each screw until tight.. It is important for the rubber to be assembled symmetrically. See figure 29.
- Slide the friction wheel assembly up onto the shift mechanism as shown in figure 21 and slide the gear shaft back into the unit. Reassemble in reverse order.

STORAGE INSTRUCTIONS

NEVER STORE ENGINE WITH FUEL IN TANK INDOORS OR IN ENCLOSED, POORLY VENTILATED ENCLOSURES, WHERE FUEL FUMES MAY REACH AN OPEN FLAME OR SPARK.

If unit is to be stored over 30 days, prepare for storage as instructed in the separate engine manual packed with your unit.

NOTE: Failure to comply with suggested maintenance and lubrication specification on pages 11 and 12 will void warranty.