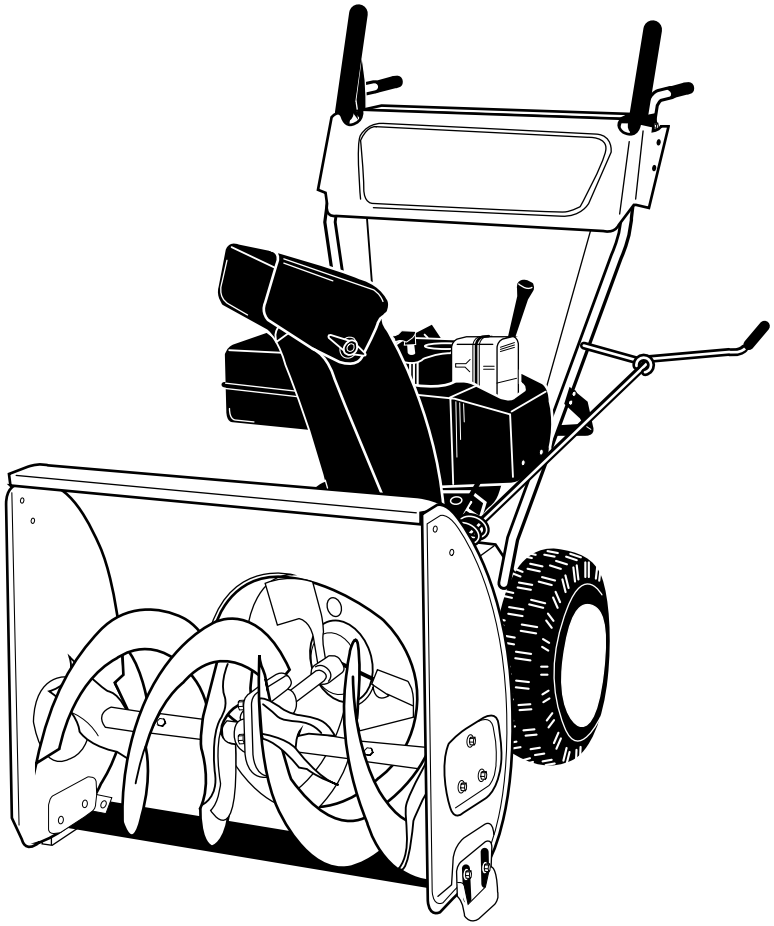
YARD MACHINES by MTD®

OPERATOR'S MANUAL



MODELS
615
E645E
E665E

MTD For A Growing World.™®

IMPORTANT: READ SAFETY RULES AND INSTRUCTIONS CAREFULLY

Warning: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest engine authorized service dealer or contact the service department, P.O. Box 368022 Cleveland, Ohio 44136-9722.

MTD PRODUCTS INC. P.O. BOX 368022 CLEVELAND, OHIO 44136-9722

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SECTION 1: IMPORTANT SAFE OPERATION PRACTICES

WARNING: THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE YOUR SNOW THROWER. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY. WHEN YOU SEE THIS SYMBOL-HEED ITS WARNING.

WARNING: The Engine Exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

DANGER: Your snow thrower was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. If you violate any of these rules, you may cause serious injury to yourself or others.

1. TRAINING

- Read this operator's manual carefully in its entirety before attempting to assemble or operate this machine. Be completely familiar with the controls and the proper use of this machine before operating it. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
- Never allow children under 14 years old to operate a snow thrower. Children 14 years old and over should only operate snow thrower under close parental supervision. Only persons well acquainted with these rules of safe operation should be allowed to use your snow thrower.
- No one should operate this unit while intoxicated or while taking medication that impairs the senses or reactions.
- Keep the area of operation clear of all persons, especially small children and pets.
- Exercise caution to avoid slipping or falling, especially when operating in reverse.

2. PREPARATION

- Thoroughly inspect the area where the equipment is to be used and remove all door mats, sleds, boards, wires and other foreign objects.
- Disengage all clutches and shift into neutral before starting engine.
- Do not operate equipment without wearing adequate winter outer garments. Do not wear jewelry, long scarfs or other loose clothing which could become entangled in moving parts. Wear footwear which will improve footing on slippery surfaces.
- Before working with gasoline, extinguish all cigarettes and other sources of ignition. 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 until engine has been allowed to cool at least two minutes. Replace gasoline cap securely and wipe off any spilled gasoline before starting the engine as it may cause a fire or explosion.
- Use a grounded three wire plug-in for all units with electric drive motors or electric starting motors.
- Adjust collector housing height to clear gravel or crushed rock surface.
- Never attempt to make any adjustments while engine is running (except where specifically recommended by manufacturer).
- Let engine and machine adjust to outdoor temperature 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 machine in any direction.

3. OPERATION

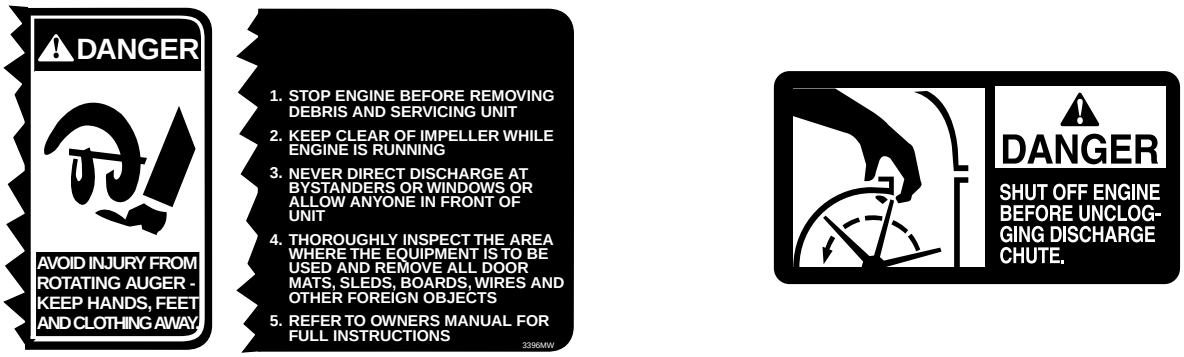
- Do not put hands or feet near or under rotating parts. Keep clear of discharge opening and auger at all times.
- Exercise extreme caution when operating on or crossing gravel drives, walks, or roads. Stay alert for hidden hazards or traffic. Do not carry passengers.
- After striking a foreign object, stop the engine, remove wire from spark plug, and thoroughly inspect the snow thrower for any damage. Repair the damage before restarting and operating the snow thrower.

- If the snow thrower should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
- Stop engine whenever you leave the operating position, before unclogging the collector/impeller housing or discharge guide, and making any repairs, adjustments, or inspections. Never place your hand in the discharge or collector openings. Use a stick or wooden broom handle to unclog the discharge opening.
- Take all possible precautions when leaving the unit unattended. Disengage the collector/impeller, shift into neutral, stop the engine, and remove the key.
- 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.
- Do not run engine indoors, except when starting engine and transporting snow thrower in or out of building. Open doors. Exhaust fumes are dangerous.
- 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 snow thrower without guards, plates, or other safety protection devices in place.
- Never operate snow thrower near glass enclosure, automobiles, window wells, drop off, etc., without proper adjustments of snow thrower discharge angle. Keep children and pets away.
- Do not overload 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.
- Never direct discharge at bystanders or allow anyone in front of unit.
- Disengage power to collector/impeller when transporting or not in use.
- Use only attachments and accessories approved by the manufacturer of snow thrower (such as wheel weights, counter weights, cabs, 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.
- Muffler and engine become hot and can cause a burn. Do not touch.

4. MAINTENANCE AND STORAGE

- Check shear bolts, engine mounting bolts, etc., at frequent intervals for proper tightness to be sure equipment is in safe working condition.
- 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.
- Always refer to operator's manual instructions for important details if snow thrower is to be stored for an extended period.
- Run machine a few minutes after throwing snow to prevent freeze up of collector/impeller.
- Check clutch controls periodically to verify they engage and disengage properly and readjust if necessary. Refer to operator's manual for adjustment instructions.

WARNING - YOUR RESPONSIBILITY: Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.



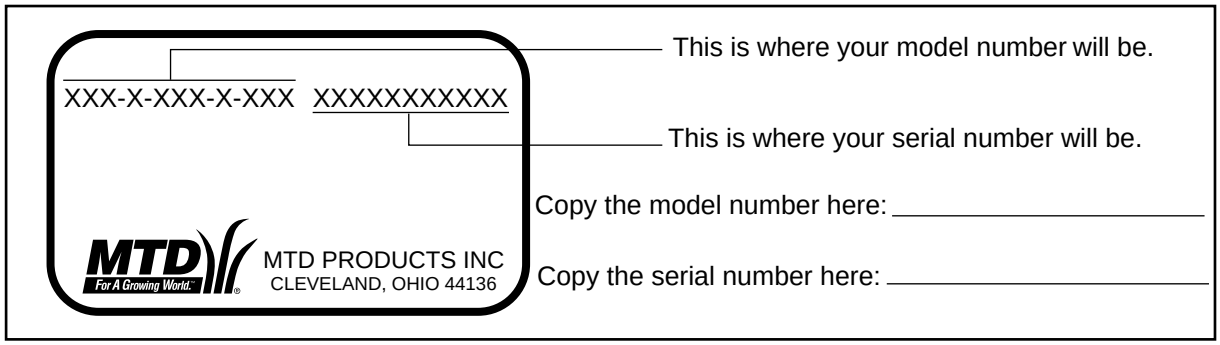
Safety Labels Found on Snow Thrower

SECTION 2: FINDING YOUR MODEL NUMBER

This Operators Manual is an important part of your new snow thrower. It will help you assemble, prepare and maintain your snow thrower. Please read and understand what it says.

Before you start to prepare your snow thrower for its first use, please locate the model plate and copy the information from it in this Operators Manual. The information on the model plate is very important if you need help from your dealer or the MTD customer support department.

- Every snow thrower has a model plate. You can locate it by standing behind the unit in the operating position and looking down at the dash panel.
- The model plate will look like this.



SECTION 3: CALLING CUSTOMER SUPPORT

If you are having difficulty assembling this product or if you have any question regarding the controls, operation or maintenance of this snow thrower, please call the Customer Support Department. You can reach them by calling:

1-800-800-7310

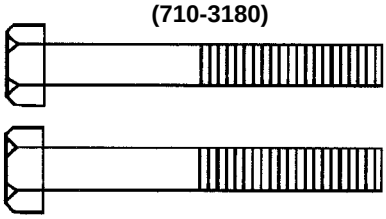
Before you call, make sure that you have both your model and serial number ready. By having the model and serial number ready, you help the Customer Support Representative give you faster service. To find your units model and serial number, see SECTION 2: FINDING YOUR MODEL NUMBER.

SECTION 4: CONTENTS OF HARDWARE PACK

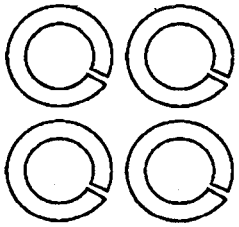
Lay out the hardware according to the illustration for identification purposes. Part numbers are shown in parentheses. (Hardware pack may contain extra items which are not used on your unit.)

A ATTACHING THE HANDLES

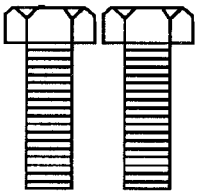
(2)Hex Bolts (A)
(710-3180)



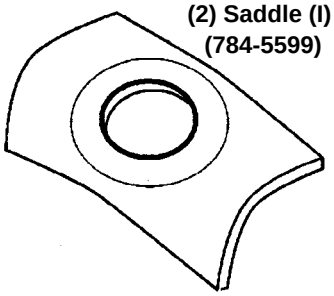
(4)Lock Washers (C)
(736-0119)



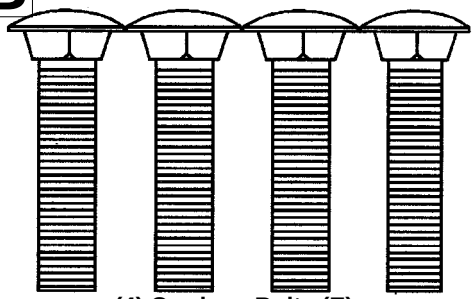
(2) Hex Bolts (B)
710-3008



(2) Saddle (I)
(784-5599)

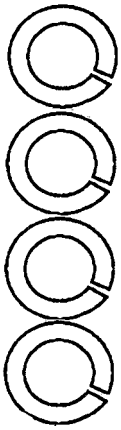


B ATTACHING THE HANDLE PANEL



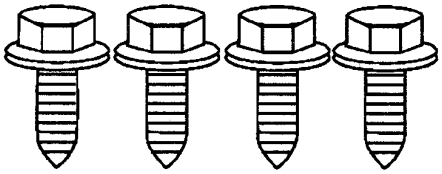
(4) Carriage Bolts (E)
(710-0262)

(4) Hex Nuts (D)
(712-3010)



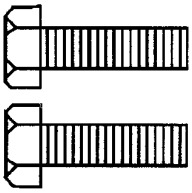
(4) Lock Washers (C)
(736-0119)

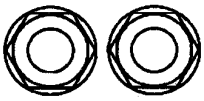
C ATTACHING THE SPEED SELECTOR PLATE AND SHIFT LEVER



(4) Self-Tapping Screws (F)
(710-0599)

(2) Hex Bolts (G)
(712-3015)

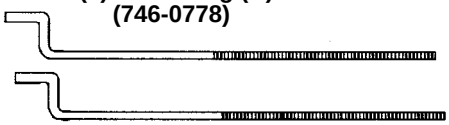




(2) Hex Lock Nuts (H)
(712-3027)

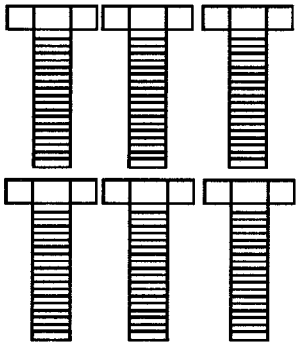
D ATTACHING THE CLUTCH CABLES

(2) "Z" Fitting (R)
(746-0778)

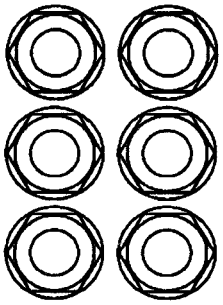


(2) Hex Nuts (J)
(712-0121)

E ATTACHING THE CHUTE ASSEMBLY



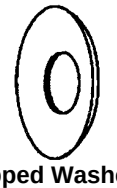
(6) Hex Bolts (K)
(710-3015)



(6) Hex Lock Nuts (M)
(712-3027)

(3) Chute Flange Keepers
(Not Shown) (731-0851)

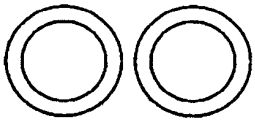
F ATTACHING THE CHUTE CRANK ASSEMBLY



Cupped Washer (N)
(736-0242)

(2) Hex Nuts (D)
(712-3010)

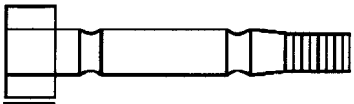
Hair Pin Clip
(714-0104)



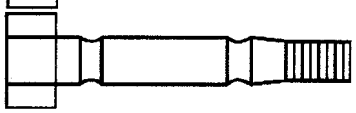
(2) Flat Washers
(736-0185)

G AUGER SHEAR BOLTS (SPARES)

(2) Shear Bolts
(710-0890A)



(2) Hex Lock Nuts
(712-0429)



Hex lock nuts cannot be threaded onto a bolt by hand. A wrench is required for assembly. This type of nut is used where vibration occurs.

SECTION 5: ASSEMBLY INSTRUCTIONS

IMPORTANT: After assembly, service engine with gasoline, and check oil level as instructed in the separate engine manual packed with your unit.

NOTE: References to right or left side of the snow thrower are determined from behind the unit in the operating position.

UNPACKING

- Remove staples or break glue on the top flaps of the carton. Remove any loose parts included with unit (i.e., operator's manual, etc.).
- Cut along dotted lines and lay end of carton down flat. Remove packing material.
- Roll unit out of carton. Check carton thoroughly for loose parts before discarding.

TOOLS REQUIRED FOR ASSEMBLY

- (1) 3/8" or adjustable wrench
- (2) 7/16" or adjustable wrench
- (2) 1/2" or adjustable wrench

LOOSE PARTS IN CARTON (See Figure 1)

A	(2)	Handles (Right and Left)
B	(1)	Handle Panel Assembly
C	(1)	Speed Selector Plate
D	(1)	Shift Lever
E	(1)	Chute Crank Assembly
F	(1)	Chute Assembly
	(1)	Hardware Pack

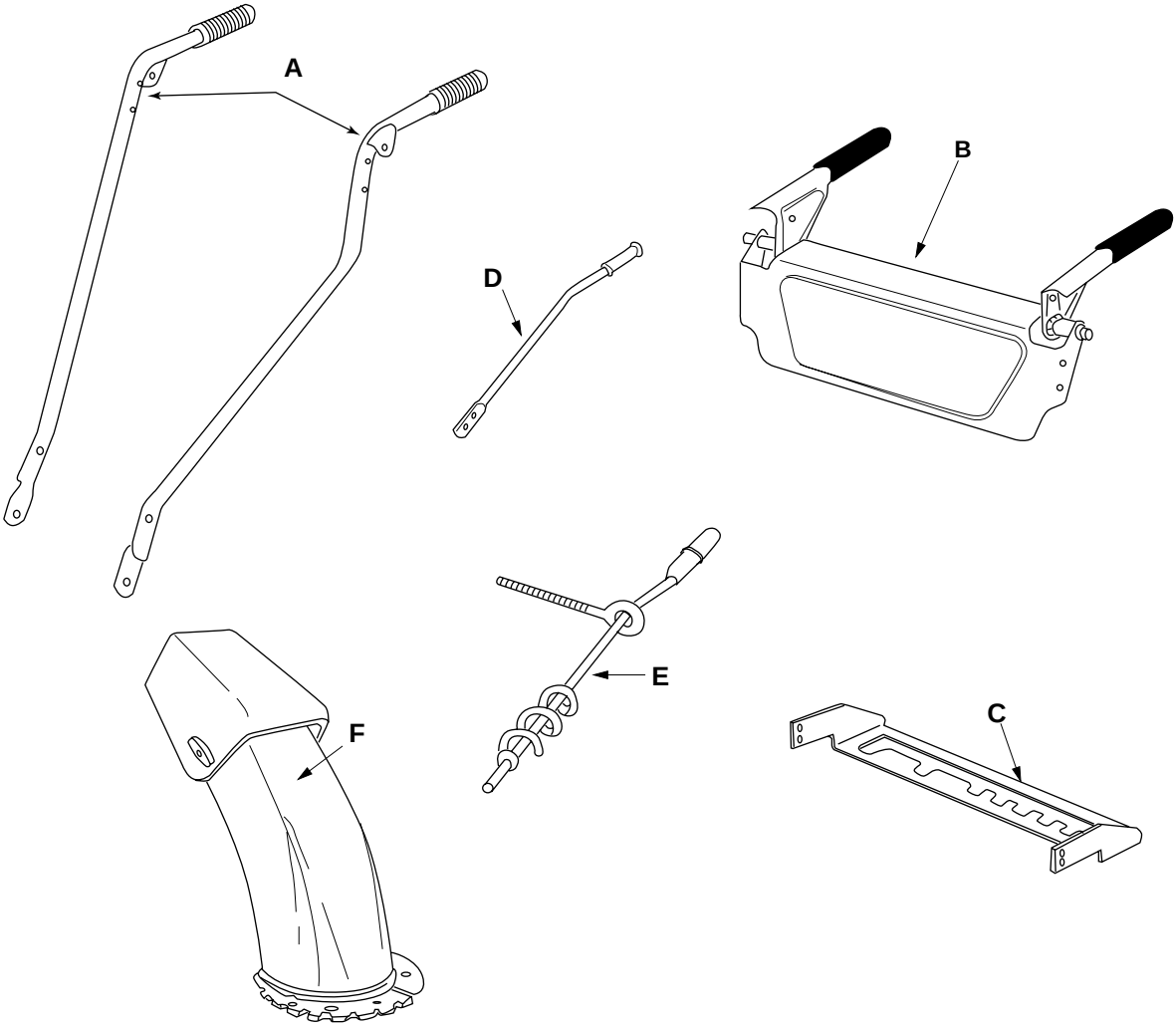


Figure 1

ASSEMBLING THE HANDLES AND HANDLE PANEL (Hardware B)

1. Raise both clutch grips.
2. Lower left and right handles down through handle panel between the pivot rod and the clutch grips and attach using hardware B. See Figure 2.

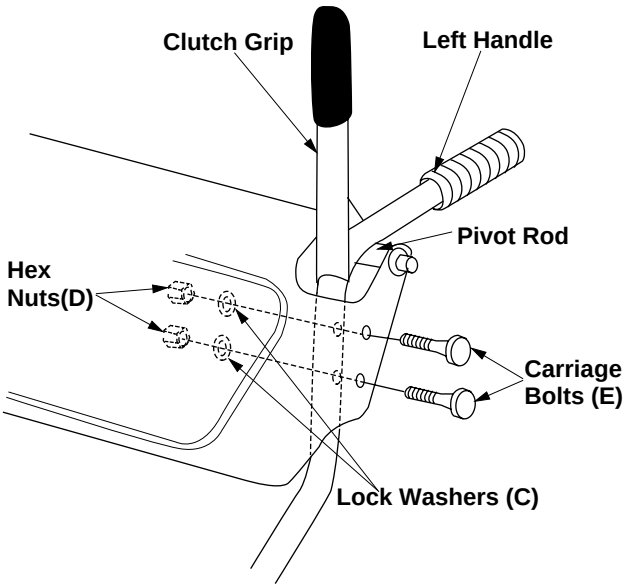


Figure 2

3. Do not tighten at this time.
4. Lay handle panel assembly behind snow thrower. See Figure 3.

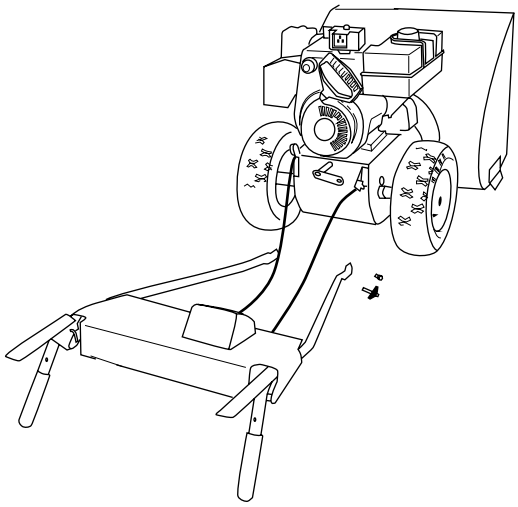


Figure 3

5. Insert hex bolts and lock washers through bottom holes in handles and bottom holes in snow thrower. Do not tighten.
6. Raise handles up until upper holes in handles and upper holes in snow thrower frame line up.
7. Attach with hex bolts lock washers and saddles. See Figure 4.

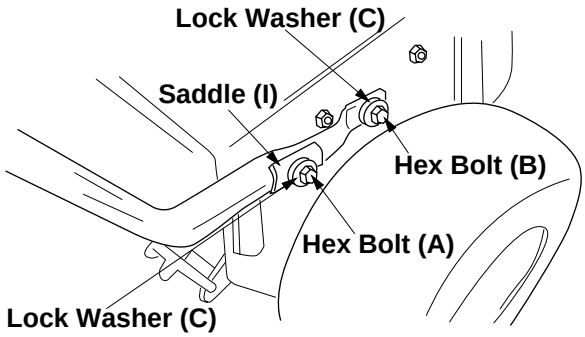


Figure 4

ATTACHING SPEED SELECTOR PLATE AND SHIFT LEVER (Hardware C)

1. Assemble the speed selector plate to the outside of the handles as shown in Figure 5. The speed selector plate should not be assembled between the handles and the engine. Secure using four self-tapping screws (F).
2. Insert the shift lever through slot in the speed selector plate.

NOTE: The bend in the lever should be towards the operator. Secure shift lever to the shift lever spring using two hex bolts (G) and hex lock nuts (H). Tighten both bolts finger tight. At this point the shift lever and shift lever spring are not against each other. As you tighten the bolts and nuts with two 7/16" wrenches they will pull together. See Figure 5.

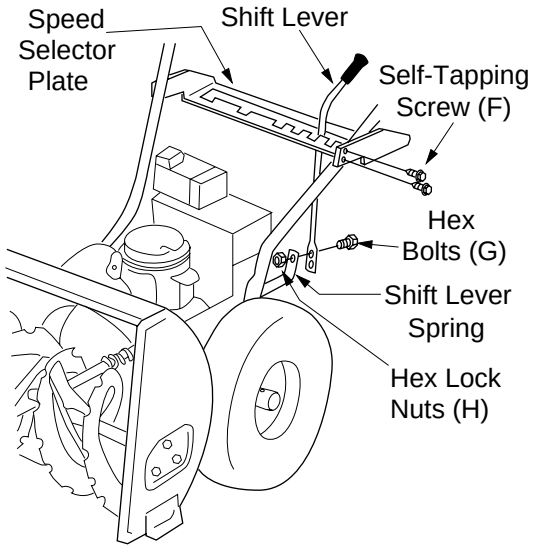


Figure 5

3. Tighten all hardware assembled to this point. CLUTCH GRIPS MUST MOVE FREELY.

ATTACHING THE CLUTCH CABLES (Hardware D)

1. Thread hex nuts (J) onto the “Z” fittings (R) (see inset,). Insert “Z” fitting into hole in clutch grips. See Figure 6.

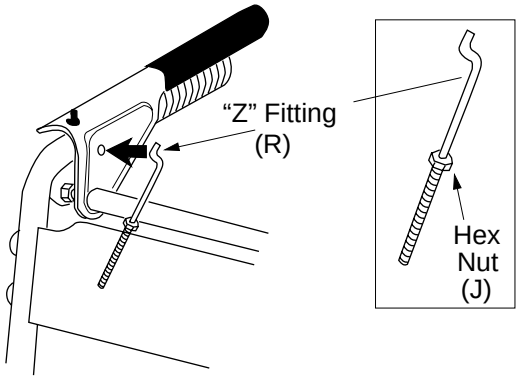


Figure 6

2. Route the left cable between engine and speed selector plate and then between handle panel and clutch lever pivot rod before threading onto the left “Z” fitting. Assemble the right cable using the same route.
3. Correct adjustment on cables is minimal slack but not tight. Tighten hex nuts when adjustment is correct.

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.

ATTACHING THE CHUTE ASSEMBLY (Hardware E)

1. 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.
2. Insert hex bolt (K) up through chute flange keeper and chute assembly as shown in Figure 7. Secure with hex lock nut (M). After assembling all three chute flange keepers, tighten all nuts and bolts securely. Do not overtighten.

Note: Lock nuts cannot be threaded onto a bolt by hand. Tighten with 2 7/16” wrenches. This type of nut is used where vibration occurs.

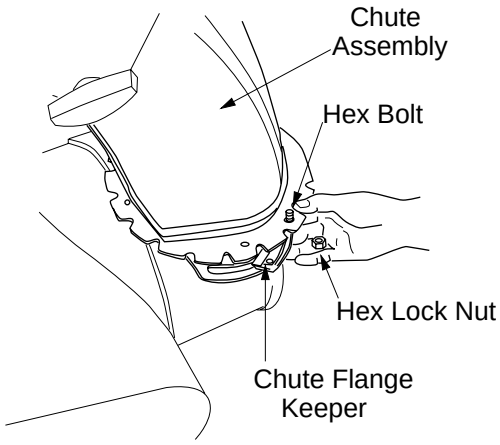


Figure 7

ATTACHING THE CHUTE CRANK (Hardware F)

1. Loosen the two hex nuts which secure the chute crank support bracket (see Figure 8) to the snow thrower housing.

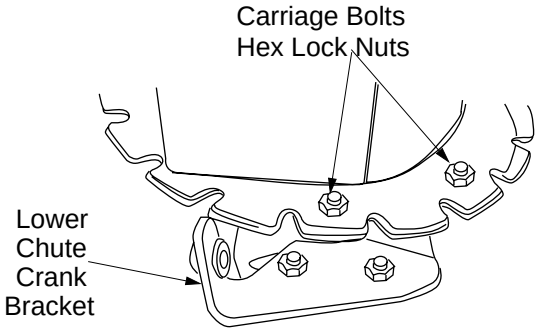


Figure 8

2. Place one flat washer over the end of the chute crank, then insert the end of the crank into the hole in the plastic bushing in the chute bracket. See Figure 9. Place second flat washer on chute crank, and secure with hairpin clip.

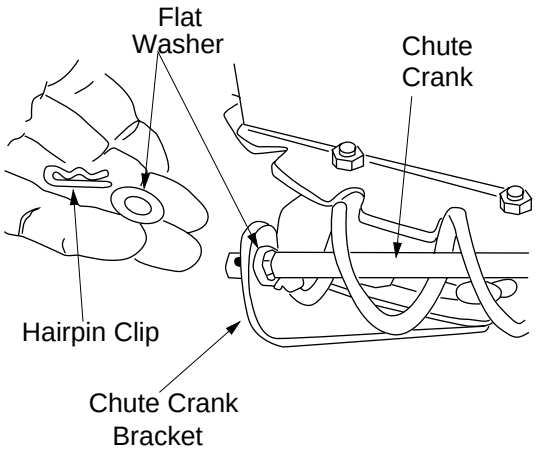


Figure 9

3. Thread one hex nut (D) onto the eyebolt on the chute crank assembly until there is at least two inches of threads showing between the nut and the head of the eyebolt. See Figure 10.

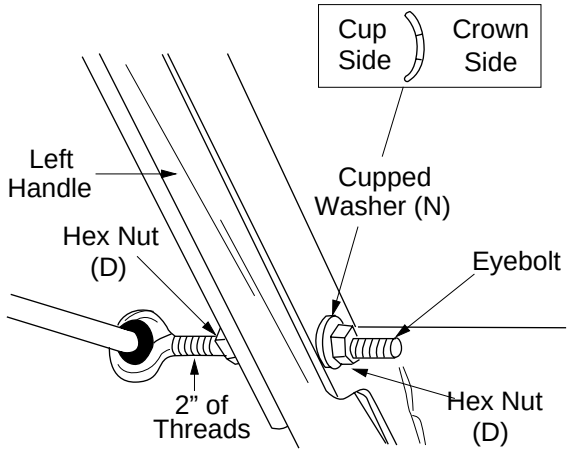


Figure 10

4. Place the eyebolt into the hole located half way up the left handle. Secure with cupped washer (N) (cupped side against the handle, see inset, Figure 10) and hex nut (D).
5. Adjust the chute crank support bracket (see Figure 9) so that the spiral on the chute crank fully engages the teeth on the chute assembly. Tighten the nuts on the chute crank bracket securely. Tighten the hex nuts on the eyebolt.
6. 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.

LAMP WIRING (Models E645 and E665 only)

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. Be sure the lamp wire does not interfere with the movement of any controls or cables.

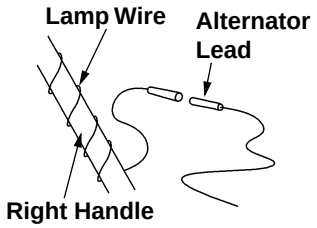


Figure 11

FINAL ASSEMBLY AND ADJUSTMENTS

Auger Drive Clutch

To check the adjustment of the auger drive clutch, push forward on the left hand clutch grip (depress the rubber bumper). There should be slack in the cable. Release the clutch grip. The cable should be straight. Make certain you can depress the auger drive clutch grip against the left handle completely.

If necessary, loosen the hex lock nut and thread the cable in (for less slack) or out (for more slack) as necessary. Refer to Figure 12. Recheck the adjustment.

Tighten the lock nut against the cable when correct adjustment is reached.

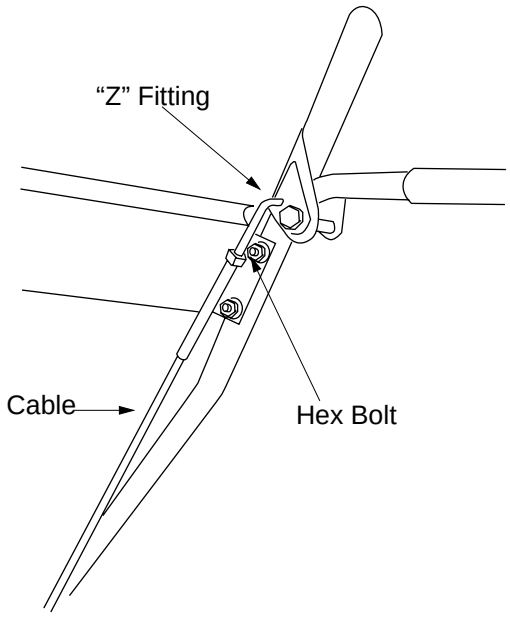


Figure 12

Traction Drive Clutch and Shift Lever Adjustment

To check the adjustment of the traction drive clutch and shift lever, move the shift lever all the way over to fifth (5) position. With the traction drive lever released, push the snow thrower forward. The unit should move forward freely. Then engage the traction drive clutch grip. The wheels should stop turning.

Now release the traction drive clutch grip, and push the unit again. Move the shift lever back to the fast reverse position, then all the way over again. There should be no resistance in the shift lever, and the and the wheels should keep turning

If you have resistance when moving the shift lever or the wheels stop when they should not, loosen the jam nut on the traction drive cable and unthread the cable one turn. If the wheels do not stop when you engage the traction drive clutch grip, loosen the jam nut on the traction drive cable and thread the cable in one turn. Recheck the adjustment and repeat as necessary. Tighten the jam nut to secure the cable when correct adjustment is reached.

NOTE: If you are uncertain that you have reached the correct adjustment, refer to the Adjustment section.

ADJUSTING THE SKID SHOES

The space between the shave plate and the ground can be adjusted.

For close snow removal on a smooth surface, raise the skid shoes into a high position on the auger housing.

Use a middle or lower position when the area to be cleared is uneven. See Figure 13.

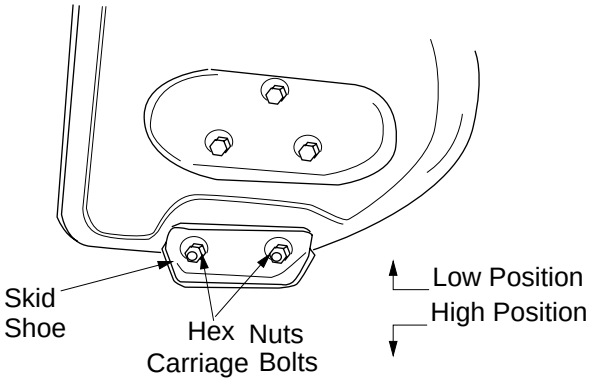


Figure 13

Adjust skid shoes by loosening the four hex nuts and carriage bolts and moving skid shoes to desired position.

Make certain the entire bottom surface of skid shoe is against the ground to avoid uneven wear on the skid shoes. Retighten nuts and bolts securely.

TIRE PRESSURE

The tires are over inflated for shipping purposes. Check tire pressure and reduce to 15 to 20 psi. Refer to tire sidewalls for recommended tire pressure.

NOTE: If the tire pressure is not equal in both tires, the unit may pull to one side or the other.

SECTION 6: CONTROLS

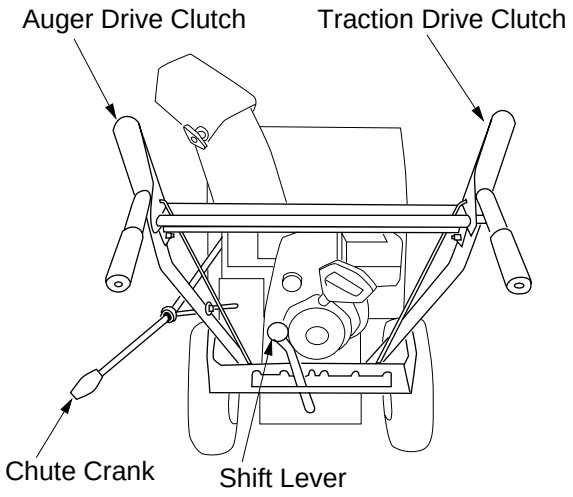


Figure 14

SHIFT LEVER

(See Figure 14)

The shift lever is located below the handle panel. The shift lever may be moved into one of seven positions. Run engine with throttle in the fast position. Use the shift lever to determine ground speed.

Forward—one of five speeds. Position number one (1) is the slowest. Position number five (5) is the fastest.

Reverse—two reverse speeds; R1 and R2. R2 is the faster reverse speed.

AUGER DRIVE CLUTCH

(See Figure 14)

The auger drive clutch is located on the left handle. Squeeze the clutch grip to engage the augers. Release to stop the snow throwing action.

TRACTION DRIVE CLUTCH

(See Figure 14)

The traction drive clutch is located on the right handle. Squeeze the traction drive clutch to engage the wheel drive. Release to stop.

CHUTE CRANK

(See Figure 14)

The chute crank is located on left hand side of the snow thrower.

To change the direction in which snow is thrown, turn chute crank as follows:

- Crank clockwise to discharge to the left.
- Crank counterclockwise to discharge to the right.

THROTTLE CONTROL

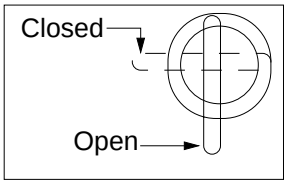
(See Figure 15)
The throttle control is located on the engine. It regulates the speed of the engine.

SAFETY IGNITION KEY

(See Figure 15)
The ignition key must be inserted in the switch before the unit will start. Remove the ignition key when snow thrower is not in use.

FUEL CUTOFF VALVE

The fuel cutoff valve, located under the fuel tank, controls fuel flow from tank.



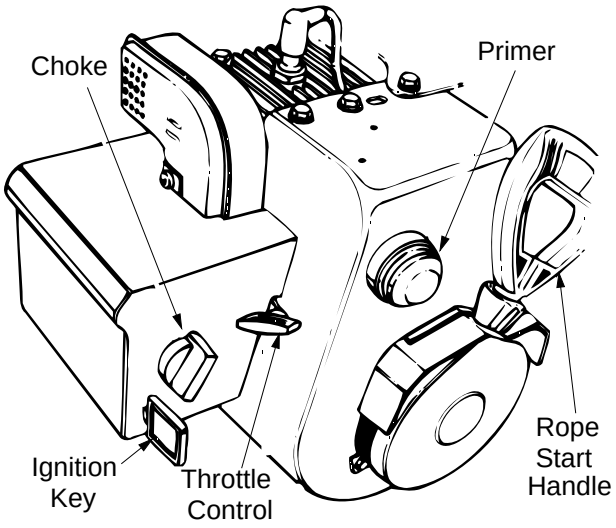


Figure 15

SECTION 7: OPERATION

BEFORE STARTING

WARNING: Observe all Warning Labels on the snow thrower prior to use.

Your snow thrower is shipped with oil; however, you must check the oil level before operating. Be careful not to overfill.
The spark plug wire was disconnected for safety. Attach spark plug wire to spark plug before starting.

GAS AND OIL FILL-UP

Check oil level and add oil if necessary. Service the engine with gasoline as instructed in the separate engine manual packed with your snow thrower. 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.

TO START ENGINE

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 16.

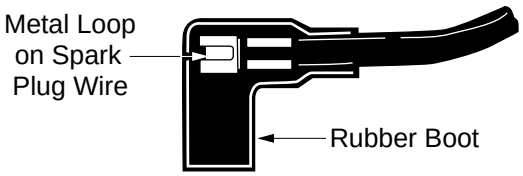
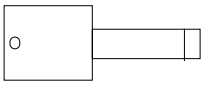


Figure 16

7. Make certain the fuel cutoff valve is in the OPEN (vertical) position.
8. Make certain the auger and drive clutch levers are in the disengaged (released) position.
9. Move throttle control up to FAST position. Insert ignition key into slot. See Figure 17. Be certain it snaps into place. Do not turn key.

ENGINE WILL NOT START UNLESS IGNITION KEY IS INSERTED INTO IGNITION SLOT IN CARBURETOR COVER. DO NOT TURN IGNITION KEY.



Electric Starter

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.

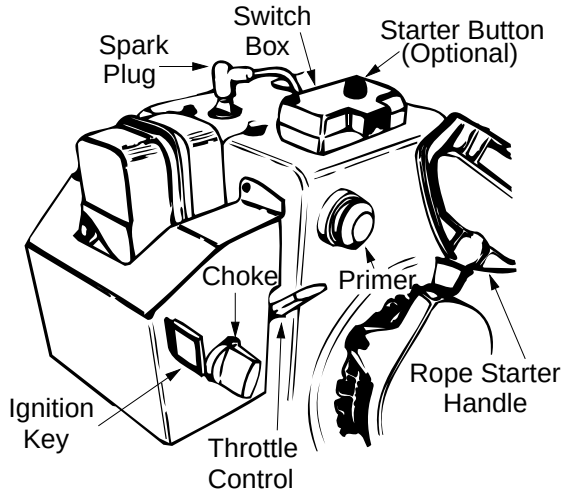


Figure 17

1. Rotate choke knob to OFF position.
2. Connect power cord to switch box on engine. Plug the other end of power cord into a three-hole, grounded 12-volt AC receptacle.
3. Push starter button to crank engine. See Figure 17. As you crank the engine, move choke knob to FULL choke position.
4. 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:

1. Rotate choke knob to FULL choke position (cold engine start).
2. If engine is warm, place choke in OFF position instead of FULL.
3. Push primer button two or three times for cold engine start. See Figure 17.
4. If engine is warm, push primer button once only.

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

5. Grasp starter handle (see Figure 17) and pull rope out slowly, until it pulls slightly harder. Let rope rewind slowly.
6. 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.
7. Repeat step 6 until engine starts.
8. 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

1. Run engine for a few minutes before stopping to help dry off any moisture on the engine.
2. 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.
3. To stop engine, move throttle control to “stop” or “off” position.
4. 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.

5. 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

1. With the engine running near top speed, move shift lever into one of the five FORWARD positions or two 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 snow thrower.
2. Squeeze the auger clutch grip and the augers will turn. Release it and the augers will stop.
3. Squeeze the drive clutch grip and the snow thrower will move. Release it and drive motion will stop.
4. NEVER move shift lever without releasing drive clutch.

TO ENGAGE AUGERS

To engage the augers and start the snow throwing action, squeeze the auger clutch grip against the left handle. Release to stop the augers.

TIRE CHAINS (Optional Equipment)

Tire chains should be used whenever extra traction is needed.

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.

WARNING: Temperature of muffler and surrounding areas may exceed 150 degrees Fahrenheit. Avoid these areas.

1. For most efficient snow removal, remove snow immediately after it falls.
2. Discharge snow downwind whenever possible. Slightly overlap each previous swath.
3. Set the skid shoes 1/4" below the scraper bar for normal usage. The skid shoes may be adjusted upward for hard-packed snow. Adjust downward when using on gravel or crushed rock.
4. Be certain to follow the precautions listed under ‘‘To Stop Engine’’ to prevent possible freeze-up.
5. Clean the snow thrower thoroughly after each use.

SECTION 8: ADJUSTMENTS

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

CHUTE ASSEMBLY ADJUSTMENT

The distance snow is thrown can be controlled by adjusting the angle of the top section of the chute assembly.

SKID SHOE ADJUSTMENT

The space between the shave plate and the ground can be adjusted. Refer to the Final Assembly and Adjustments section.

TRACTION DRIVE CLUTCH ADJUSTMENT

Refer to the Final Assembly and Adjustments section to adjust the traction drive clutch. If you are uncertain that you have reached the correct adjustment, the adjustment can be physically checked as follows.

1. With the snow thrower tipped forward (be certain to drain the oil and gasoline or drain the oil and place plastic film under the gas cap if the snow thrower has already been operated), remove the frame cover underneath the snow thrower by removing six self-tapping screws.
2. With the traction drive clutch released, there must be clearance between the friction wheel and the drive plate in all positions of the shift lever. With the traction drive clutched engaged, the friction wheel must contact the drive plate. See Figure 18.

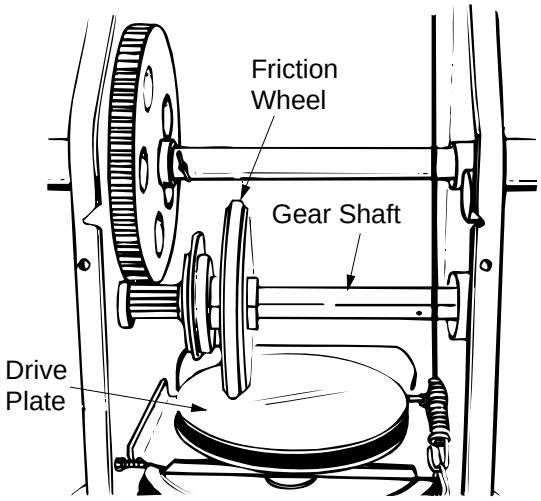


Figure 18

3. If adjustment is necessary, loosen the lock nut on the traction drive cable and thread the cable in or out as necessary. Tighten the lock nut to secure the cable when correct adjustment is reached. Reassemble the frame cover.

NOTE: If you placed plastic under the gas cap, be certain to remove it.

AUGER CLUTCH ADJUSTMENT

To adjust the auger clutch, refer to Final Assembly and Adjustments section on page 9.

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 muffler.

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.

DRIVE WHEELS

The wheels may be adjusted for two different methods of operation. The adjustment is made by placing the klick pins in one of two different holes on the right side of the unit. See Figure 19.

1. One Wheel Driving—On the right side of the unit, place klick pin in the outside axle hole only. Do not place pin through wheel hub. This position gives power drive to the left wheel only, making the unit easier to maneuver.
2. Both Wheels Driving—Rotate wheel assembly to align hole in hub with inner hole on axle shaft. Insert klick pin in hole. Outer axle shaft hole should be visible. See Figure 19.

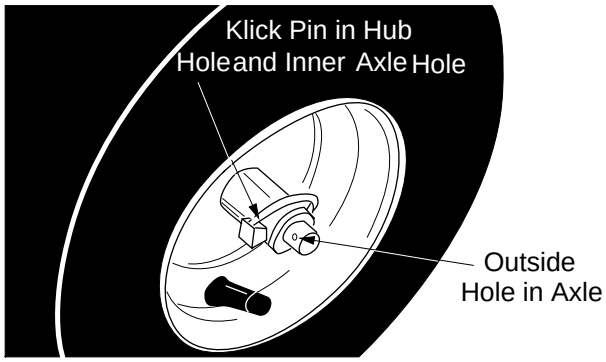


Figure 19

SECTION 9: LUBRICATION

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

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.

WHEELS

Oil or spray lubricant into bearings at wheels at least once a season. Pull klick pin, remove wheels, clean and coat axles with a multipurpose automotive grease. See Figure 20.

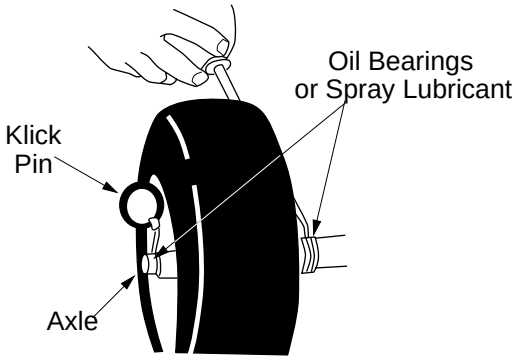


Figure 20

CHUTE CRANK

The worm gear on the chute direction crank should be greased with multipurpose automotive grease.

AUGER SHAFT

Remove shear bolts on auger shaft. Oil or spray lubricant inside shaft. See Figure 21.

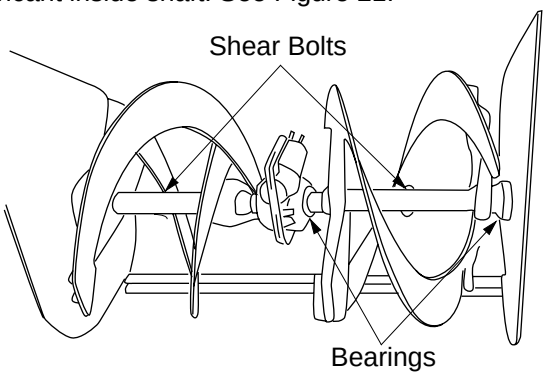


Figure 21

GEAR SHAFT

Lubricate the gear shaft with a good all-weather multi-purpose light grease at least once a season or after every 25 hours of operation.
IMPORTANT: Keep all grease and oil off of the friction wheel and drive plate.

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 CASE

The worm gear case has been filled with grease at the factory. If disassembled for any reason, lubricate with 2 ounces of Shell Alvania grease EPR00, part number 737-0168. Before reassembling, remove old sealant and apply “Loctite 5699” or equivalent.

IMPORTANT: Do not overfill the gear case. Damage to the seals could result. Be sure the vent plug is free of grease in order to relieve pressure.

SECTION 10: MAINTENANCE

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

ENGINE

Refer to separate engine manual for all engine maintenance procedures.

AUGERS

The augers are secured to the spiral shaft with two shear bolts and hex lock nuts. See Figure 21. If you hit a foreign object or ice jam, the snow thrower is designed so that the bolts will shear.

If the augers will not turn, check to see if the bolts have sheared. A replacement shear bolt (P) and hex lock nut (Q) have been provided with the snow thrower. When replacing bolts, spray an oil lubricant into shaft before inserting new bolts.

SHAVE PLATE AND SKID SHOES

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

- To remove skid shoes, remove the four carriage bolts, cupped washers and hex nuts which attach them to the snow thrower. Reassemble new skid shoes with the four carriage bolts, cupped washers (cupped side goes against skid shoes) and hex nuts.
- To remove shave plate, remove the carriage bolts, cupped washers and hex nuts which attach it to the snow thrower housing. Reassemble new shave plate, making sure heads of the carriage bolts are to the inside of the housing. Tighten securely.

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.

AUGER BELTS

1. Remove the plastic belt cover on the front of the engine by removing the two self-tapping screws. See Figure 22.

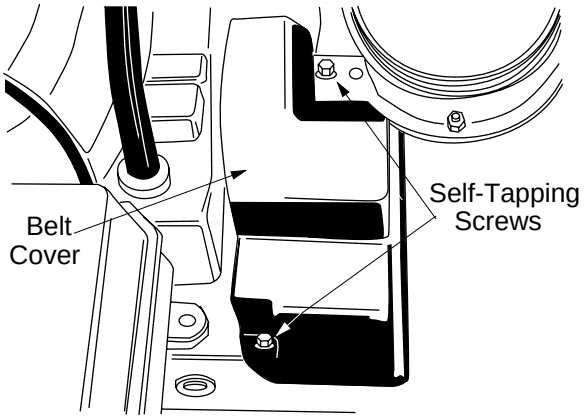


Figure 22

2. Drain the gasoline from the snow thrower, or place a piece of plastic under the gas cap.
3. Tip the snow thrower up and forward so that it rests on the housing.
4. Remove six self-tapping screws from the frame cover underneath the snow thrower.
5. Roll the front and rear auger belts off the engine pulley. See Figure 23.

NOTE: 5.0 HP model has only one auger belt.

6. Unhook the idler spring from the hex bolt on the auger housing. See Figure 24.

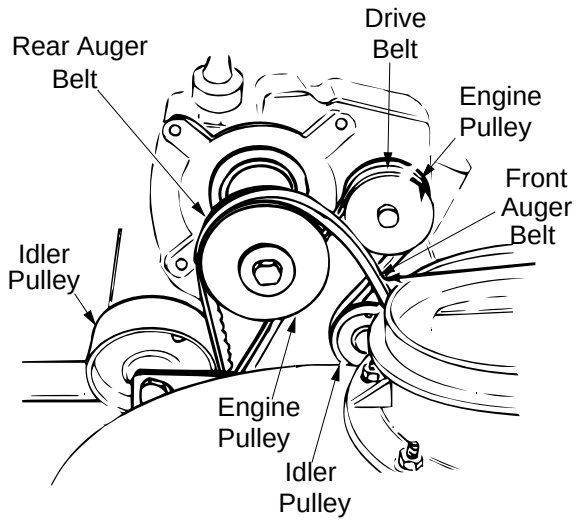


Figure 23

7. Unhook the support bracket spring from the frame.

NOTE: It may be necessary to loosen the six nuts that connect the frame to the auger housing to aid in belt removal.

8. Lift the rear auger belt from the auger pulley, and slip belt between the support bracket and the auger pulley. See Figure 23. Repeat this step for the front auger belt.
9. Replace both auger drive belts by following instructions in reverse order.

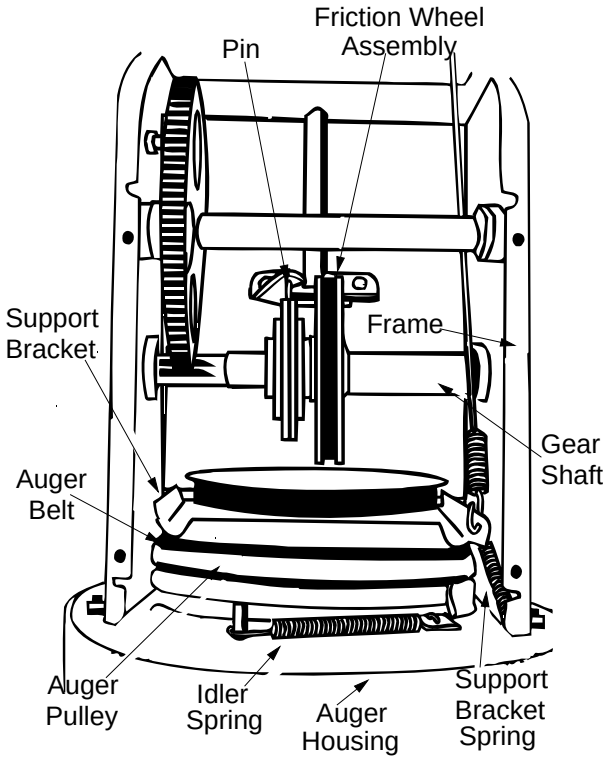


Figure 24

DRIVE BELT

1. Follow steps 1 through 4 of previous instructions.
2. Pull idler pulley up, and lift belt off engine pulley and friction wheel disc. See Figure 23.
3. Using a 7/16" wrench, loosen the nut on the stop bolt until the support bracket rests on the auger pulley. See Figure 25.
4. Slip belt between friction wheel and friction wheel disc. See Figure 25. Remove and replace belt. Reassemble following the instructions in reverse order.

NOTE: The support bracket must rest on the stop bolt after the new belt has been assembled. See Figure 25.

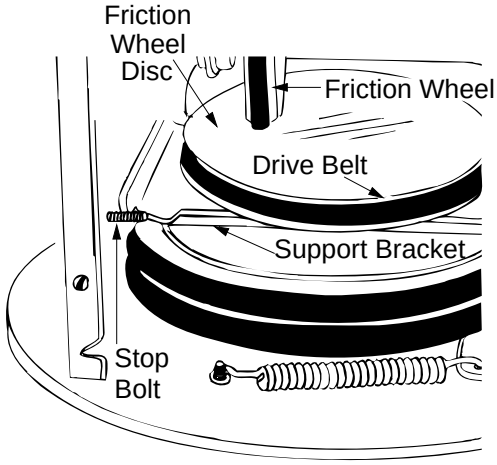


Figure 25

CHANGING THE FRICTION WHEEL RUBBER

The rubber on the friction wheel is subject to wear and should be checked after 25 hours of operation, and periodically thereafter. Replace the friction wheel rubber if any signs of wear or cracking are found.

1. Drain the gasoline from the snow thrower, or place a piece of plastic under the gas cap.
2. Tip the snow thrower up and forward, so that it rests on the housing.
3. Remove six self-tapping screws from the frame cover underneath the snow thrower.
4. Remove the klick pins which secure the wheels, and remove the wheels from the axle.
5. Using a 7/8'' wrench to hold the shaft, loosen, but do not completely remove, the hex nut and bell washer on the left end of gear shaft. See Figure 26.
6. Lightly tap the hex nut to dislodge the ball bearing from the right side of the frame. Remove the hex nut and bell washer from the left end of shaft.

7. Slide the gear shaft to the right, then slide the friction wheel assembly from the shaft.
8. Remove the six screws from the friction wheel assembly (three from each side). Remove the friction wheel rubber from between the friction wheel plate.
9. Reassemble new friction wheel rubber to the friction wheel assembly, tightening the six screws in rotation and with equal force.
10. Slide friction wheel assembly back onto the gear shaft. Be sure to align the pin on the shift rod with the hole in the friction wheel assembly. See Figure 24. Reassemble in reverse order.

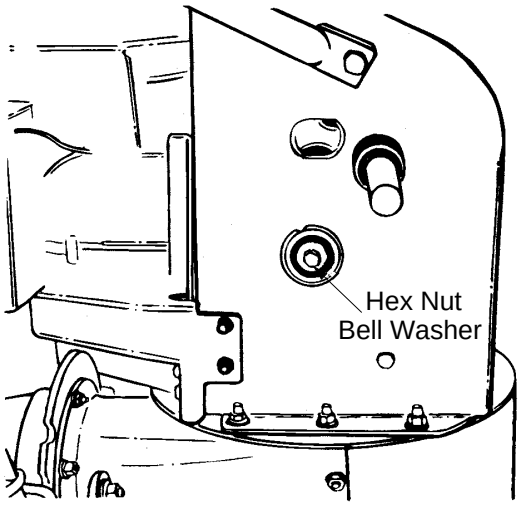


Figure 26

SECTION 11: OFF-SEASON STORAGE

WARNING: Never store engine with fuel in tank indoors or in poorly ventilated areas, where fuel fumes may reach an open flame, spark or pilot light as on a furnace, water heater, clothes dryer or other gas appliance.

1. If unit is to be stored over 30 days, prepare engine for storage as instructed in the separate engine manual included with your unit.
2. Remove all dirt from exterior of engine and equipment.
3. Follow lubrication recommendations on pages 14 and 15.
4. Store in a clean, dry area.

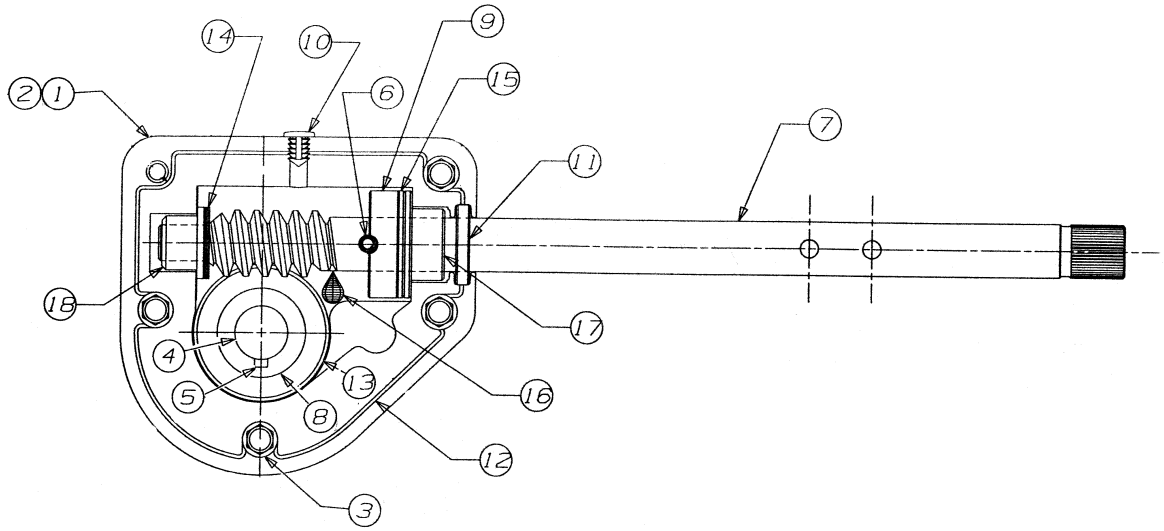
NOTE: When storing any type of power equipment in an unventilated or metal storage shed, care should be taken to rust proof the equipment. Using a light oil or silicone, coat the equipment, especially any chains, springs, bearings and cables.

SECTION 12: TROUBLE SHOOTING GUIDE

Trouble	Possible Cause(s)	Corrective Action
Engine fails to start	Fuel tank empty, or stale fuel.	Fill tank with clean, fresh gasoline. Fuel will not last over thirty days unless a fuel stabilizer is used.
	Blocked fuel line.	Clean fuel line.
	Choke not in ON position	Move switch to ON position
	Faulty spark plug.	Clean, adjust gap or replace.
	Key not in switch on engine.	Insert key.
	Spark plug wire disconnected.	Connect spark plug wire.
	Primer button not depressed.	Refer to the engine manual packed with your unit.
	Fuel shut-off valve closed (if so equipped).	Open fuel shut-off valve.
	Improper gasoline and oil mixture.	Refer to the engine manual packed with your unit.
Engine runs erratic**	Unit running on CHOKE.	Move choke lever to OFF position.
	Blocked fuel line or stale fuel.	Clean fuel line; fill tank with clean fresh gasoline. Fuel will not last over thirty days unless a fuel stabilizer is used.
	Water or dirt in fuel system.	Drain fuel tank. Refill with fresh fuel.
	Carburetor out of adjustment.	Refer to the engine manual packed with your unit or have carburetor adjusted by an authorized service dealer.
Loss of power	Spark plug wire loose.	Connect and tighten spark plug wire.
	Gas cap vent hole plugged.	Remove ice and snow from cap. Be certain vent hole is clear.
	Exhaust port plugged.	Clean-see Maintenance section of engine manual.
Engine overheats	Carburetor not adjusted properly.	Refer to the engine manual packed with your unit or have carburetor adjusted by an authorized service dealer.
Excessive vibration	Loose parts or damaged auger.	Stop engine immediately and disconnect spark plug wire. Tighten all bolts and nuts. Make all necessary repairs. If vibration continues, have unit serviced by an authorized service dealer.
Unit fails to propel itself	Incorrect adjustment of drive cable.	Adjust drive cable. Refer to Adjustment section of this manual.
	Drive belt loose or damaged.	Replace drive belt. Refer to Belt Replacement in Maintenance section of this manual.
Unit fails to discharge snow	Discharge chute clogged.	Stop engine immediately and disconnect spark plug wire. Clean discharge chute and inside of auger housing.
	Foreign object lodged in auger.	Stop engine immediately and disconnect spark plug wire. Remove object from auger.
	Incorrect adjustment of drive cable.	Adjust drive cable. Refer to Adjustment section of this manual.
	Drive belt loose or damaged.	Replace drive belt. Refer to Belt Replacement in Maintenance section of this manual.

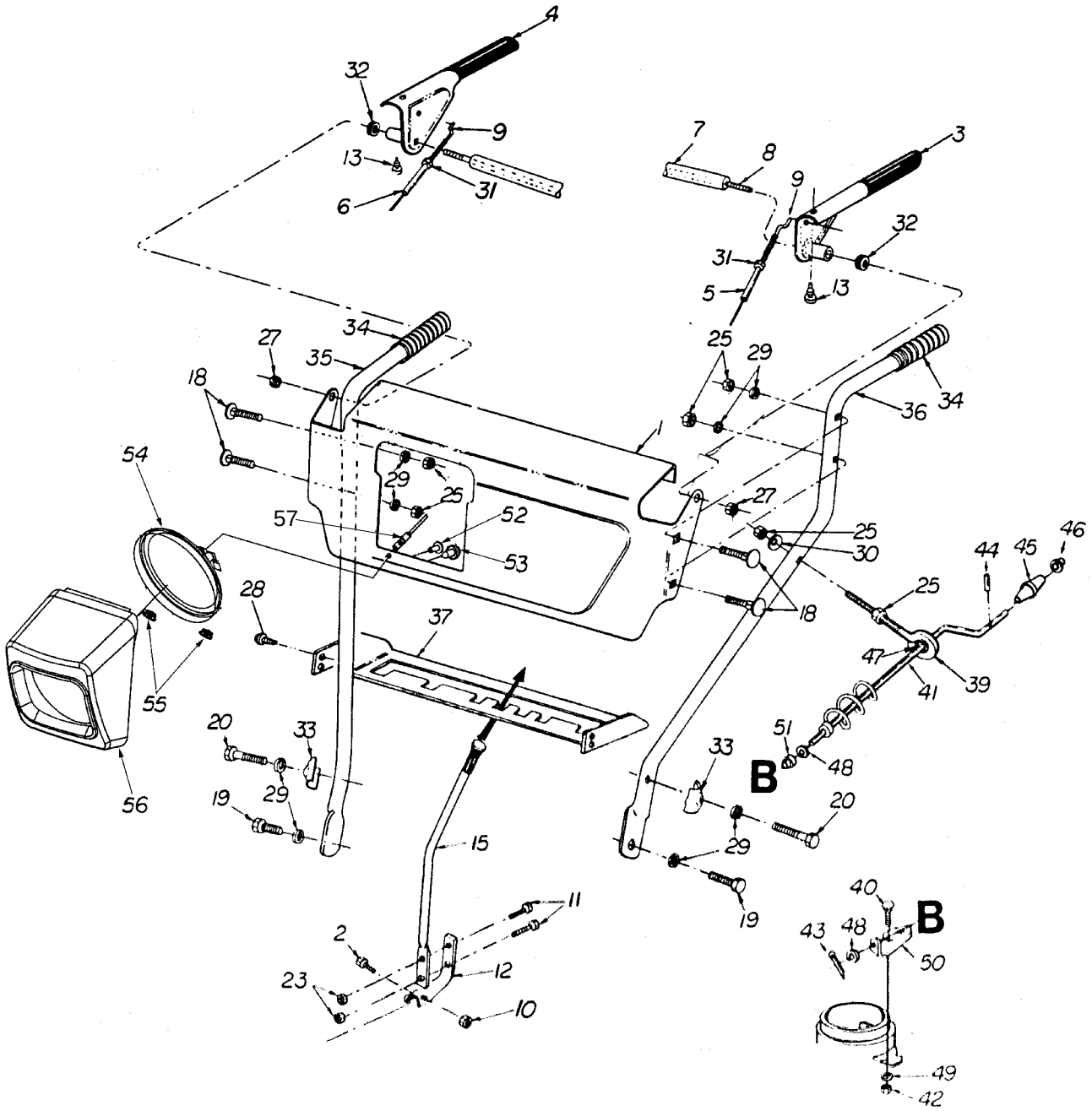
Note: For repairs beyond the minor adjustments above, contact your local authorized service dealer.

SECTION 13: ILLUSTRATED PARTS
GEAR ASSEMBLY



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	618-0123	Housing—L.H.	11	721-0327	Seal-Oil
2	618-0124	Housing—R.H.	12	721-0328	Locktite 5699
3	710-0642	Screw	13	736-0351	Washer-Flat
4	711-1020	Spiral Axle 22"	14	736-0369	Washer-Flat
	711-0908	Spiral Axle 24"	15	736-0445	Washer-Flat
5	714-0161	Key	16	737-0168	Grease
6	715-0143	Pin-Spiral	17	741-0376	Bearing-Flange
7	717-0526	Shaft-Worm	18	748-0108	Bearing-Flange
8	717-0528	Gear-Worm		618-0152	Ass'y. Complete 22"
9	718-0186	Collar-Thrust		618-0120	Ass'y. Complete 24"
10	721-0325	Plug			

HANDLE ASSEMBLY

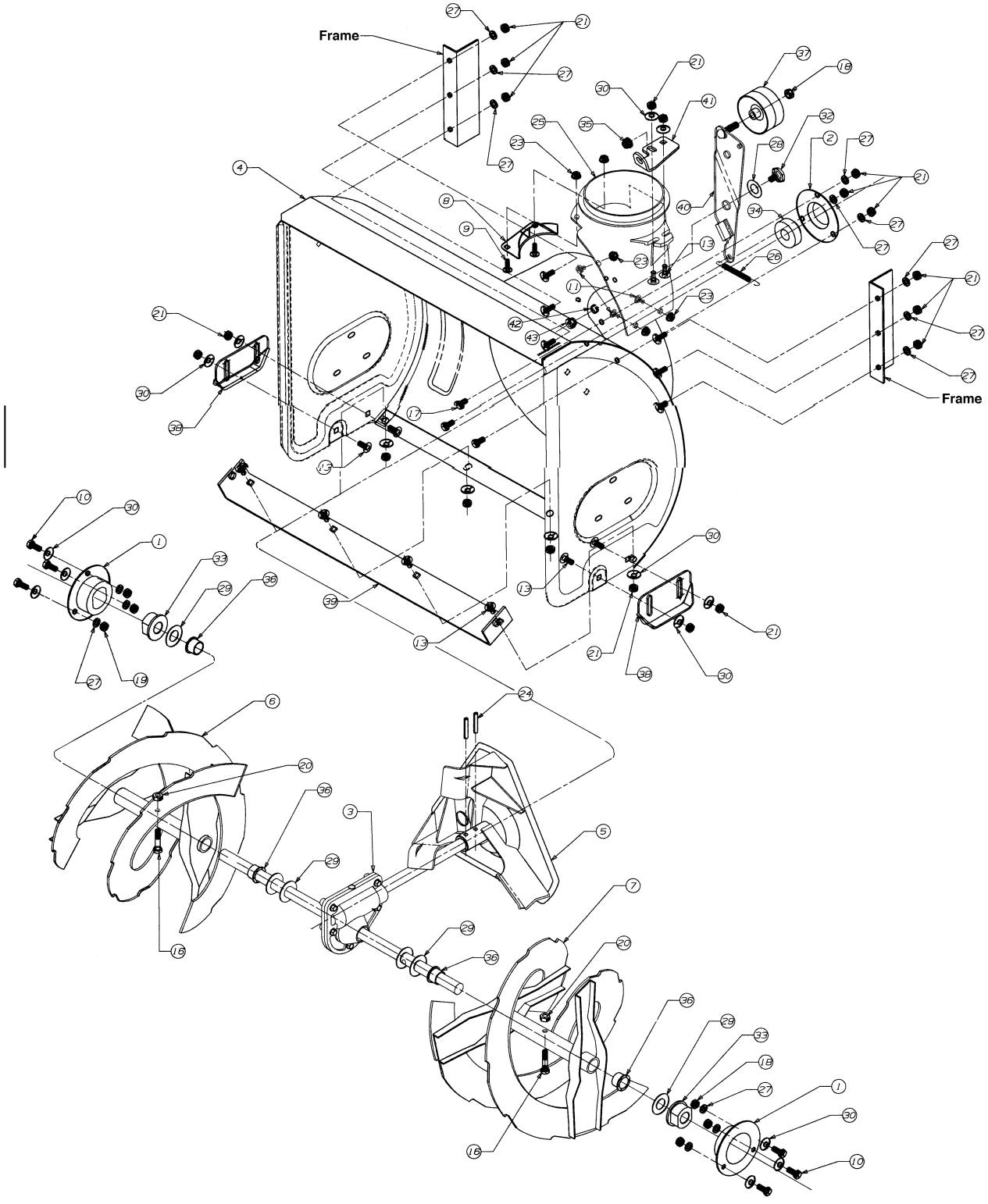


HANDLE ASSEMBLY

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	784-5717	Control Panel Ass'y (615)	33	784-5599	Handle Tab
	784-5718	Control Panel Ass'y (E645, E665)	34	720-0274	Grip
2	710-0788	Hex Bolt 1/4-20 x 1.00	35	749-0910A	Handle RH Black
3	705-5233	Clutch Lever LH	36	749-0911A	Handle LH Black
4	705-5234	Clutch Lever RH	37	705-5265	Speed Selector Plate (1 Rev)
5	746-0897	Auger Clutch Cable		705-5231	Speed Selector Plate (2 Rev)
6	746-0898	Drive Clutch Cable	39	747-0697	Eyebolt Chute Crank
7	731-1500	Pivot Rod Cover Tube	40	710-0451	Carriage Bolt 5/16-18 x .75
8	747-0984	Clutch Lever Pivot Rod	41	705-5204A	Chute Crank Ass'y
9	746-0778	"Z" Fitting	42	712-0158	Hex Center L-Nut 5/16-18
10	712-0287	Hex Nut 1/4-20	43	714-0104	Int. Cotter Pin 5/16 Dia.
11	710-0851	Hex Scr. 1/4-20 x .75	44	715-0138	Roll Pin .125 Dia. x .62
12	732-0733	Shift Lever Spring	45	720-0201A	Knob-Chute Crank
13	735-0199A	Rubber Bumper	46	726-0102	Cap Speed Nut 3/8
15	847-0904	Shift Handle (w/grip)	47	735-0234	Grommet
18	710-0262	Carriage Bolt 5/16-18 x 1.50	48	736-0140	Flat Washer .385 ID x .62 OD
19	710-3008	Hex Bolt 5/16-18 x .75	49	736-0159	Flat Washer .344 ID x .875 OD
20	710-3180	Hex Bolt 5/16-18 x 1.75	50	784-5647	Chute Crank Bracket
23	712-0324	Hex Ins. L-Nut 1/4-20	51	741-0475	Plastic Bushing .380 ID
25	712-0267	Hex Cent. L-Nut 5/16-18	52	710-0779A	Truss Machine Tapp Scr. †
27	712-0429	Hex Ins. L-Nut 5/16-18	53	710-0896	Scr:AB:1/4-14:.625: Hxindwsh †
28	710-0599	Hex Wash Hd B-Tapp Scr. 1/4-20 x .50	54	725-1300	Headlight 18 Watts †
29	736-0199	L-Wash 5/16 ID	55	712-0415	Hex Nut .250 †
30	736-0242	Bell. Washer .345 ID x .88 OD x .06	56	731-1317	Headlight Bezel #8 †
31	712-0121	Hex Nut 10-24	57	629-0058	Harness (Round Light) †
32	750-1032	Spacer			

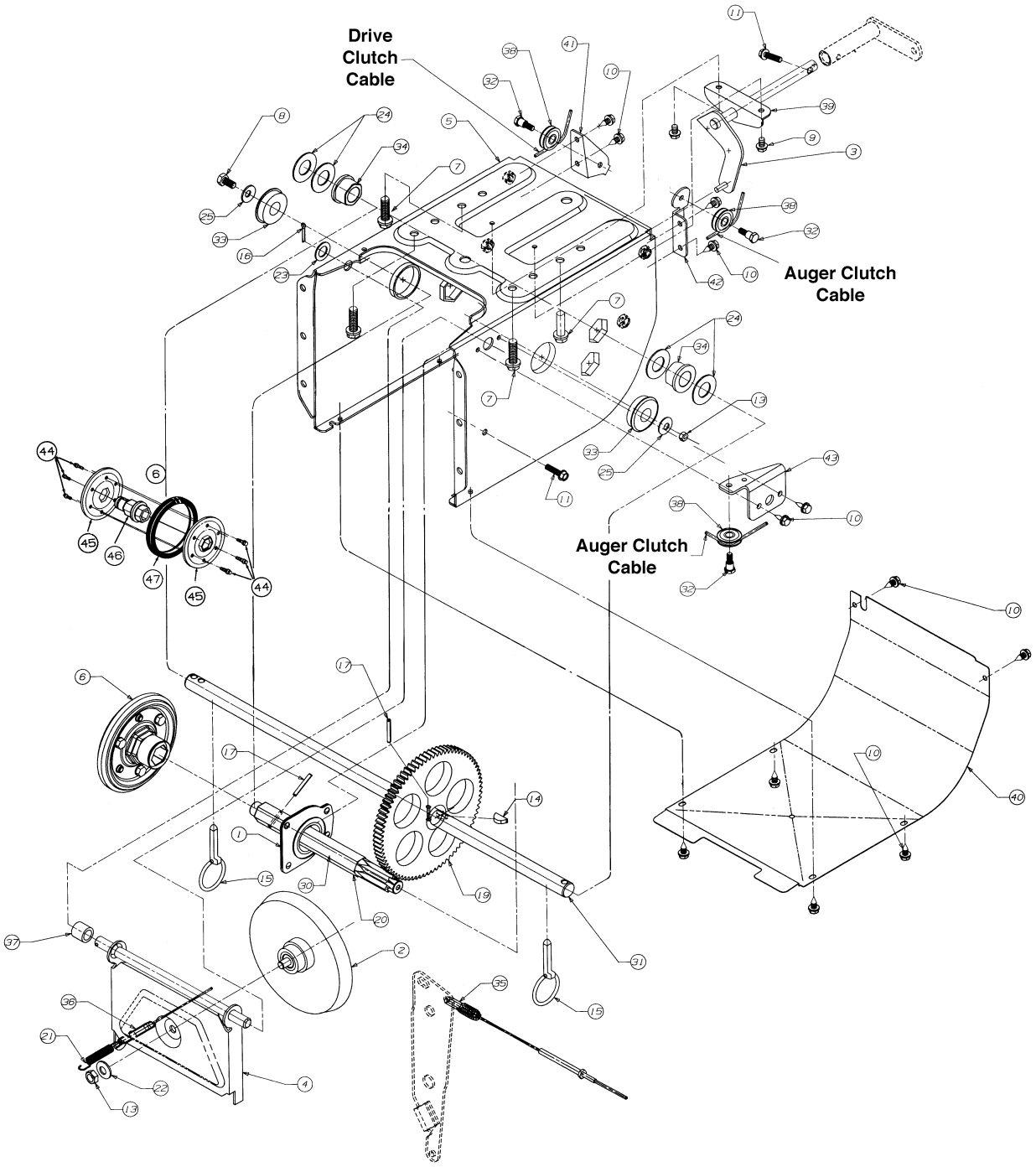
† Models E645 and E665 Only

BLOWER HOUSING



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	784-5618	Housing, Bearing	24	715-0114	Spring Pin
2	05931	Housing, Bearing	25	731-1379	Adapter, Chute
3	618-0152	Gear Assembly (22")	26	732-0611	Spring
	618-0120	Gear Assembly (24")	27	736-0119	Lock Washer
4	684-0052	22" Housing Assembly	28	736-0167	Washer, Flat
	684-0039A	24" Housing Assembly	29	736-0188	Washer, Flat, .76 I.D. x 1.49 O.D. x .06
5	684-0065	Impeller Assembly	30	736-0242	Washer, Bell
6	605-5252	Spiral, 22" R.H.	32	738-0281	Screw, Shoulder
	605-5188	Spiral, 24" R.H.	33	741-0245	Bearing, Flange
7	605-5253	Spiral, 22" L.H.	34	741-0309	Bearing, Ball
	605-5189	Spiral, 24" L.H.	35	741-0475	Bushing, Plastic
8	705-5226	Reinforcement, Chute	36	741-0493A	Bushing, Flange
9	710-0167	Bolt, Carriage	37	756-0178	Idler, Flat
10	710-0604	Screw, Hex	38	784-5580	Shoe, Slide
11	710-0167	Screw, Carriage	39	784-5576	22" Shave Plate
13	710-0451	Screw, Carriage		784-5581A	24" Shave Plate
16	710-0890A	Bolt, Shear	40	684-0064	Arm, Auger Idler
18	712-0116	Hex Lock Nut	41	784-5647	Bracket, Chute Crank
20	712-0429	Nut, Hex Lock	42	736-0169	Lock Washer
21	712-0267	Nut, Hex	43	712-0798	Hex Nut
23	712-3027	Nut, Lock, Hex, Flanged			

FRAME ASSEMBLY

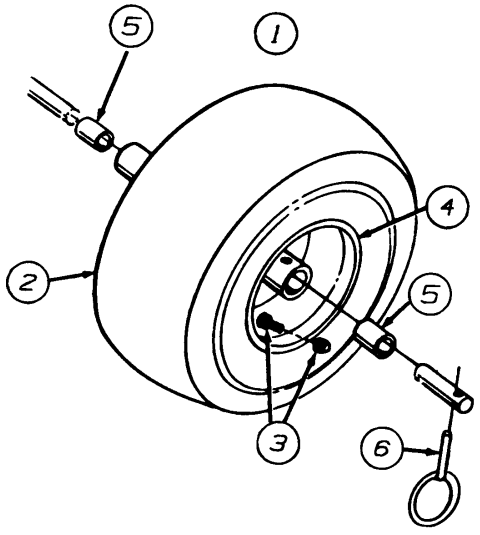


FRAME ASSEMBLY

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	618-0063	Bearing Ass'y.	25	736-0242	Washer, Bell
2	656-0012A	Ass'y., Friction Wheel Disc	30		Lubricant
3	684-0013	Rod Shift, Wheel Drive	31	738-0869	Axle†
4	684-0021	Brkt. Ass'y. Friction Wheel	31	738-0830	Axle††
5	684-0030	Frame Ass'y., 600 S/T	32	738-0924	Screw, Shoulder
6	684-0042A	Wheel Friction	33	741-0563	Bearing, Ball
7	710-0654A	Hex Self-Tap Screw	34	741-0598	Flange Bearing
9	710-0599	Scr., Hex Wash. Hd., TT1/4-20 x .5"	35	746-0897	Cable, Auger
10	710-0896	Hex Self-Tap Scr.	36	746-0898	Cable, Clutch
11	710-0788	Screw, Hex	37	748-0190	Spacer
13	712-0711	Nut, Hex	38	756-0625	Roller, Cable
14	714-0126	Key	39	784-5590	Frame, Shift Bracket
15	714-0143	Pin, Klick	40	784-5638	Cover, Frame
16	714-0474	Pin, Cotter	41	784-5688	Bracket, Drive Cable Roller
17	715-0249	Pin, Roll	42	784-5687	Brkt., Auger Clutch Cable Guide
19	717-1445	Gear	43	784-5689	Brkt., Front Support Guide
20	717-1444	Shaft, Hex	44	710-0599	Hex Wash Hd. TT-Tap Scr.1/4-20 x .5" Lg.
21	732-0264	Extension Spring	45	784-5617	Friction Plate
22	736-0105	Washer, Bell	46	718-0301A	Friction Wheel Hub
23	736-0160	Flat Washer	47	735-0243	Friction Wheel Rubber
24	736-0188	Washer, Flat			

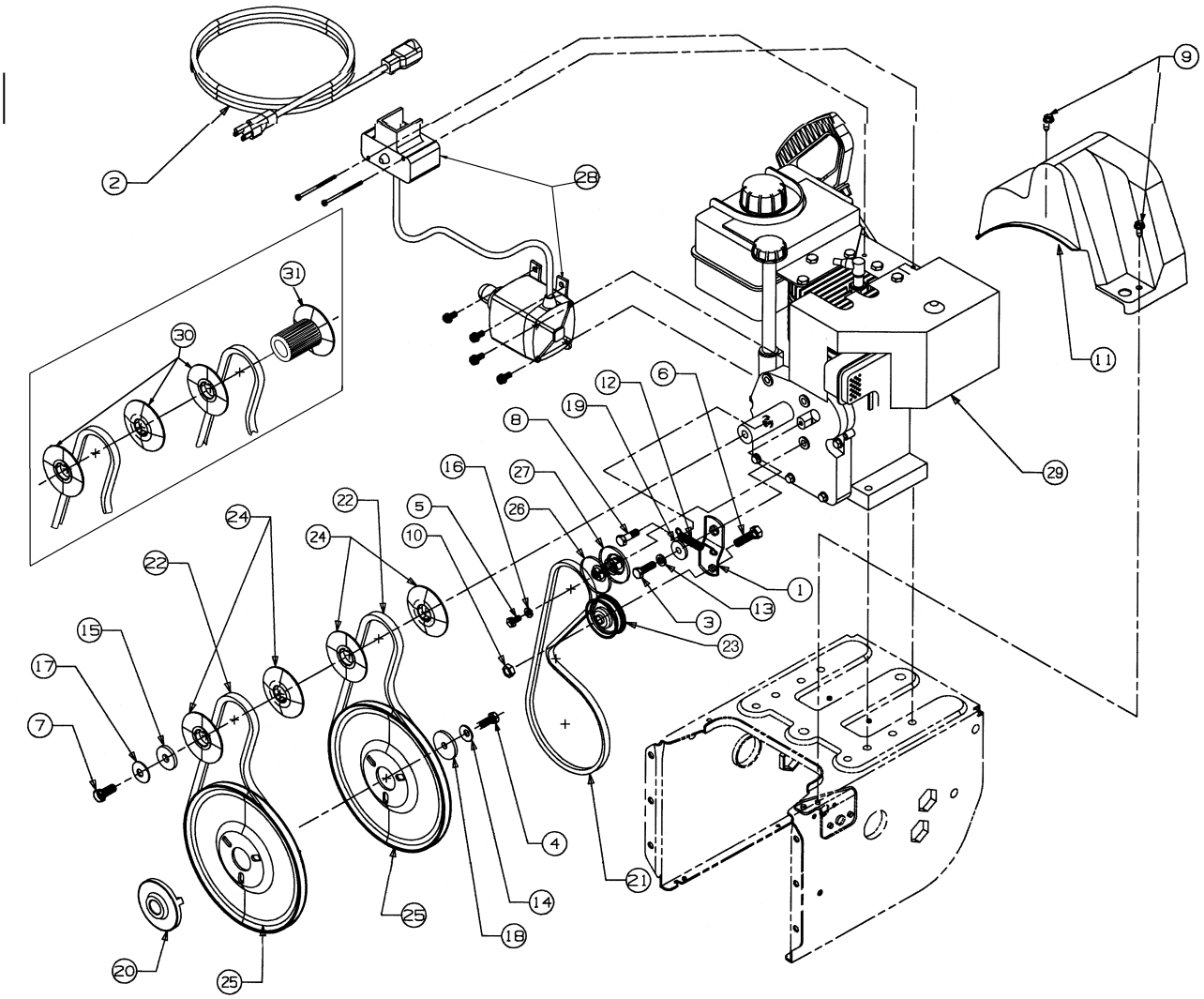
†Used with 13" Wheels
††Used with 16" Wheels

WHEEL ASSEMBLIES



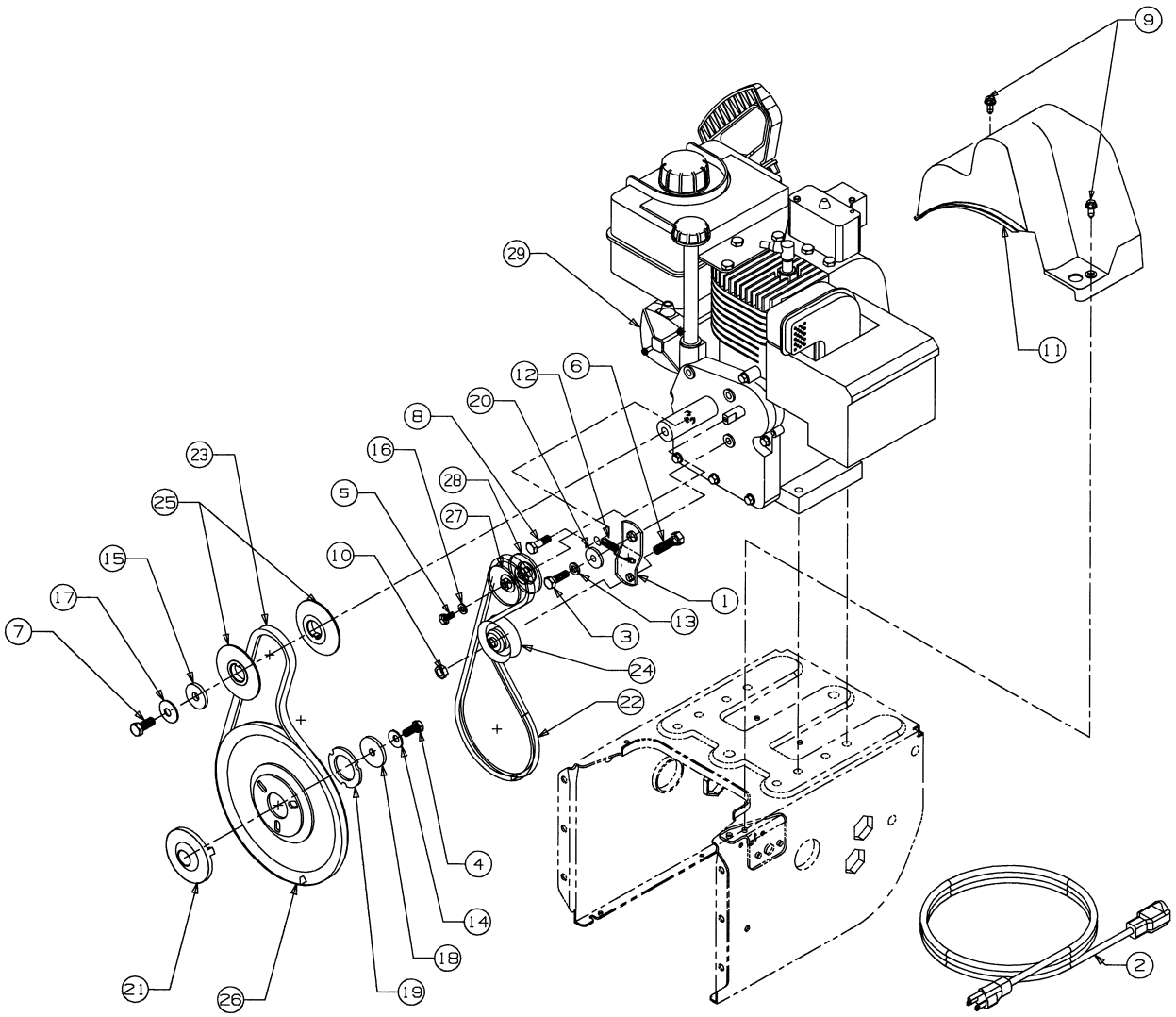
MODEL NO.	SIZE	#1 WHEEL ASS'Y.	#2 TIRE ONLY	#3 AIR VALVE	#4 RIM ONLY	#5 SLEEVE BEARINGS	#6 KLICK PIN
615	13 X 4	634-0114	734-1732	734-0255	734-1713	741-0401	714-0143
E645	13 X 5	734-1714	734-1527	734-0255	734-1713	741-0401	714-0143
E665	16 X 6.5	734-1712	734-1525	734-0255	734-1711	741-0401	714-0143

ENGINE AND “V” BELTS



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	05896A	Bracket	17	736-0331	Washer—Bell
2	629-0071	Cord, Extension	18	736-0505	Washer—Flat
3	710-0117	Screw	19	748-0234	Shoulder Spacer
4	710-0157	Screw	20	748-0360	Pulley, Adapter
5	710-0230	Screw	21	754-0346	V-Belt
6	710-0342	Screw	22	754-0430	V-Belt Matched
7	710-0696	Screw	23	756-0313	Idler, Flat
8	710-0888	Screw	24	756-0569	Pulley, Half
9	710-0896	Screw	25	756-0967	Pulley—Auger
10	712-0181	Nut, Hex	26	756-0986	Pulley Half
11	731-1324	Belt Cover	27	756-0987	Pulley Half
12	732-0710	Spring	28	390-985	Starter (645,665)
13	736-0119	Washer—Flat		390-987	Starter
14	736-0242	Washer—Bell	29	—	Engine
15	736-0247	Washer—Flat	30	756-0620	Pulley, Half (645,665)
16	736-0329	Washer—Lock	31	756-0621	Pulley, Half (645,665)

ENGINE AND “V” BELTS



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	05896A	Bracket-Idler	16	736-0329	Washer-Lock
2	629-0071	Cord-Extension 110V†	17	736-0331	Washer-Lock
3	710-0117	Screw-Hex	18	736-0505	Washer-Flat
4	710-0157	Screw-Hex	19	736-0507	Washer
5	710-0230	Screw-Hex	20	748-0234	Spacer
6	710-0342	Screw-Hex	21	748-0360	Adapter-Pulley
7	710-0696	Screw-Hex	22	754-0343	V-Belt
8	710-0888	Screw-Hex	23	754-0430	V-Belt
9	710-0896	Screw-Hex	24	756-0313	Idler-Flat
10	712-0181	Nut-Hex	25	756-0569	Pulley-Half
11	731-1324	Cover-Belt	26	756-0967	Pulley
12	732-0339	Spring	27	756-0984	Pulley-Half
13	736-0119	Washer-Lock	28	756-0985	Pulley-Half
14	736-0242	Washer-Bell	29	390-986	Electric Start Kit†
15	736-0247	Washer-Flat			

† Models 645 and 665 only

MANUFACTURER'S LIMITED WARRANTY FOR:

YARD MACHINES by MTD®

For TWO YEARS from the date of retail purchase within the United States of America, its possessions and territories, MTD PRODUCTS INC will, at its option, repair or replace, for the original purchaser, free of charge, any part or parts found to be defective in material or workmanship. This warranty covers units which have been operated and maintained in accordance with the operating instructions furnished with the unit, and which have not been subject to misuse, abuse, commercial use, neglect, accident, improper maintenance or alteration.

Normal wear parts or components thereof are subject to separate terms as noted below in the "No Fault Ninety Day Consumer Warranty" clause.

All normal wear part failures will be covered on this product for a period of 90 days regardless of cause. After 90 days, but within the two year period, normal wear parts failures will be covered ONLY IF caused by defects in material or workmanship of OTHER component parts. Normal wear parts are defined as batteries*, belts, blades, blade adapters, grass bags, rider deck wheels, seats, snow thrower skid shoes, shave plates and tires.

How to obtain service: Warranty service is available, with proof of purchase, through your local authorized service dealer. To locate the dealer in your area, please check the yellow pages or contact the Customer Service Department of MTD PRODUCTS INC, P. O. Box 368022, Cleveland, Ohio 44136-9722. Phone 1 (800) 800-7310. The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by the Customer Service Department of MTD PRODUCTS INC.

Transportation charges: Transportation charges for the movement of any power equipment unit or attachment are the responsibility of the purchaser.

Units exported out of the United States: MTD PRODUCTS INC does not extend any warranty for products sold or exported outside of the United States of America, its possessions and territories, except those sold through MTD PRODUCTS INC's authorized channels of export distribution.

Other Warranties:

1. The engine or component parts thereof carry separate warranties from their manufacturers. Please refer to the applicable manufacturer's warranty on these items.
2. *Batteries are covered by a 90-day replacement warranty.
3. Log splitter pumps, valves and cylinders or component parts thereof are covered by a one year warranty.
4. All other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular purpose, are hereby expressly disclaimed in their entirety.
5. The provisions as set forth in this warranty provide the sole and exclusive remedy of MTD PRODUCTS INC's obligations arising from the sales of its products. MTD PRODUCTS INC will not be liable for incidental or consequential loss or damage.

How state law relates to this warranty: This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Certain disclaimers are not allowed in some states and therefore they may not apply to you under all circumstances.

NOTE: This warranty does not cover routine maintenance items such as lubricants, filters, blade sharpening and tune-ups, or adjustments such as brake adjustments, clutch adjustments or deck adjustments. Nor does this warranty cover normal deterioration of the exterior finish due to use or exposure.