



**Snow Caster**

**K-80, K-84**

**Operator's Manual 9-50861**

**JI Case**  
A Tenneco Company





**This Safety Alert Symbol Indicates Important Safety Messages In This Manual. When You See This Symbol Carefully Read The Message That Follows and Be Alert To The Possibility Of Personal Injury Or Death**

**IF THIS MACHINE IS USED BY AN EMPLOYEE OR IS LOANED OR RENTED, MAKE ABSOLUTELY CERTAIN THAT THE OPERATOR(S), PRIOR TO OPERATING:**

- 1. IS INSTRUCTED IN SAFE AND PROPER USE.**
- 2. REVIEWS AND UNDERSTANDS THE MANUAL(S) PERTAINING TO THE MACHINE.**

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**WARNING**

**BEFORE STARTING ENGINE**

**STUDY OPERATOR'S MANUAL SAFETY MESSAGES  
READ ALL SAFETY SIGNS ON MACHINE  
CLEAR THE AREA OF OTHER PERSONS**

**LEARN & PRACTICE SAFE USE OF  
CONTROLS BEFORE OPERATING**

**IT IS YOUR RESPONSIBILITY TO UNDERSTAND AND FOLLOW MANUFACTURER'S INSTRUCTIONS ON MACHINE OPERATION, SERVICE, AND TO OBSERVE PERTINENT LAWS AND REGULATIONS. OPERATOR AND SERVICE MANUALS MAY BE OBTAINED FROM YOUR EQUIPMENT DEALER.**

## SAFETY RULES

**IMPORTANT:** The safety messages contained in this manual are to be used together with the Safety Messages appearing in the tractor operator's manual. Be sure to review both carefully before operating the tractor snow caster combination.



**CAUTION:** Regard your snow caster as a piece of power equipment and be sure this is understood by all who operate it.



**CAUTION:** Keep the area of operation clear of all persons particularly small children.



**CAUTION:** Never allow children or young teenagers to operate the tractor and snow caster.



**CAUTION:** Stop engine and disengage attachment drive clutch when tractor is unattended.



**CAUTION:** Be sure you know how to stop the tractor and auger at a moment's notice.



**CAUTION:** Give complete and undivided attention to the job at hand.



**CAUTION:** Check the tractor and caster to make certain both are in good operating condition.



**CAUTION:** Disengage attachment drive clutch when someone approaches.



**CAUTION:** Fill gas tank out of doors and avoid spilling gasoline. Do not fill tank with gasoline while smoking or while engine is running.



**CAUTION:** Extreme caution should be exercised under slippery conditions. Reduce forward speed. Install tire chains and wheel weights to traction wheels for added safety.



**WARNING:** Contact by any part of the body with the rotating snow caster auger can result in serious injury.

Extra care should be used around exposed areas such as the auger and discharge chute.

- ALWAYS:**
1. Disengage the attachment drive clutch,
  2. shut off tractor engine,
  3. set parking brake, and
  4. wait for all motion to stop.

**BEFORE** approaching or allowing anyone else to approach the front of the tractor to:

1. clear the auger or discharge chute,
2. change position of chute deflector,
3. service or adjust snow caster or tractor, or
4. for any other reason



**CAUTION:** Never direct snow discharge at people or buildings.



**CAUTION:** Disengage attachment drive clutch when transporting.



**CAUTION:** Disengage the attachment drive clutch when starting engine and when transporting the snow caster. Before the first snow-fall, the area in which snow removal is to take place should be cleared of all stones, sticks, etc., which might be picked up by the snow caster. **OBSTACLES SUCH AS DRIVEWAY MARKERS, WATER OR GAS SHUT OFFS, ETC. SHOULD BE MARKED SO THEIR LOCATIONS UNDER THE SNOW ARE VERY OBVIOUS.**



**CAUTION:** Do not allow anyone other than the operator to ride on the tractor to be towed behind.

**IMPORTANT:** Always install new decals whenever the old decals are destroyed, lost, painted over or illegible. When individual parts are replaced that have decals attached, be sure to install a new decal with the new part.

## INTRODUCTION

The Model K80, 38" Snow Caster is designed for use on Case Model 210, 220 and 222 Compact Tractors above serial number 9646800. The Model K84, 48" Snow Caster is furnished complete to mount on all Model 222, 224, 444 and 446 Compact Tractors above serial number 9646800.

This manual covers recommended operating procedures, safety suggestions, maintenance information, adjustments and installation instructions. Read this manual carefully

before operating your snow caster. Your J I Case Compact Tractor Dealer is well qualified to answer any further questions you might have concerning your snow caster. Also, if the need should arise, his Service Department with factory trained technicians, genuine Case replacement parts and the required facilities is in a position to provide repairs in the shortest time possible.

The definitions "Right, Left, Front and Rear" as used throughout this manual relate to the tractor and snow caster when the operator is seated facing forward in the normal operating position on the tractor.

## OPERATING CONTROLS

The principle components and controls of the tractor and snow caster are identified in Figure 1 with the same description used throughout the manual. Refer to the tractor Operator's Manual for identification of all tractor controls.

The chute crank, attachment drive clutch and lift lever controls are all conveniently located near the operator's position on the tractor. The auger is placed in motion by engaging the tractor attachment drive clutch. The chute crank adjusts the direction of snow discharge and the deflector angle controls the distance the snow is blown.

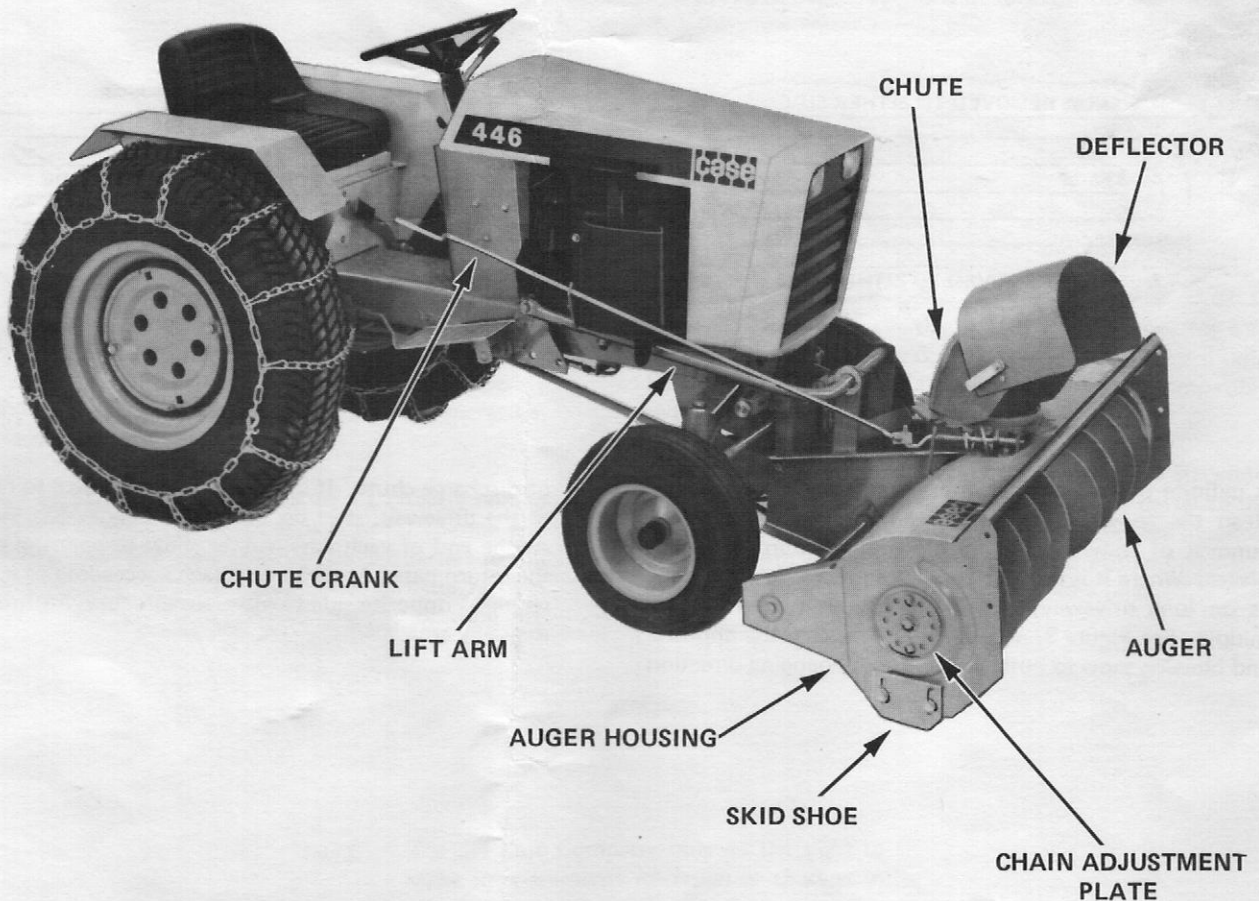


FIGURE 1

Model 446 Tractor with K-84 Snow Caster, D-10 Wheel Weights, and E-16 Tire Chains

## TIRE CHAINS AND WHEEL WEIGHTS

The use of tire chains and wheel weights, or rear weight box is recommended for snow removal operation. The extra traction resulting gives the tractor operator maneuverability in handling heavy snow removal jobs. These accessories are sold by your dealer and are not included with the snow caster.

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## OPERATING TIPS

1. Whenever possible, discharge snow downwind.
2. Do not attempt to remove ice or hard packed frozen snow.
3. Always overlap each pass slightly to assure complete snow removal.
4. Use extreme care when freeing a frozen or stuck auger or chute. Always turn off the tractor first.
5. If tractor is equipped with Hydraulic Lift, operate with lift lever in the "float" (full forward) position. Never apply down pressure to the snow caster. With the hydraulic lift lever in the "float" position, the skid shoes will remain on the surface even though operating on uneven terrain.

## METHODS OF SNOW REMOVAL

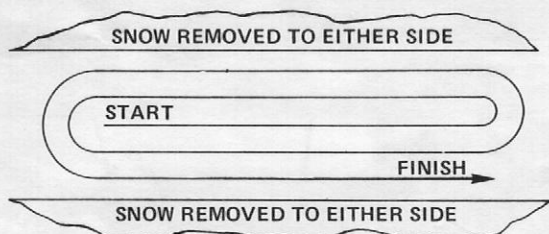


FIGURE 3

A definite pattern of operation is required to thoroughly clean the snow area. This pattern will avoid a second removal of snow and avoid blowing snow in unwanted places. Where it is possible to blow snow to right and left, as on long driveway, it is advantageous to start in the middle. See Figure 3. Work from one end to the opposite end blowing snow to both sides without changing direction

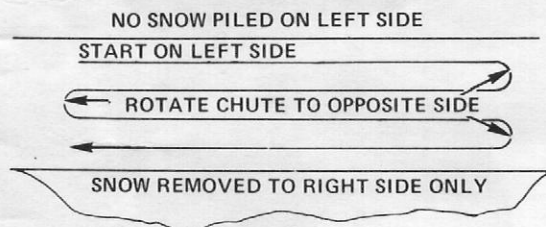


FIGURE 4

of discharge chute. If snow can only be blown to one side of the driveway, start on the opposite side. See Figure 4. At the end of each pass, rotate chute to opposite side for the return pass. At the end of each succeeding pass, rotate chute to opposite side to maintain direction of throw into the same area.

## PREPARING FOR SNOW REMOVAL



**CAUTION:** Disengage the attachment drive clutch when starting engine and when transporting the snow caster. Before the first snowfall, the area in which snow removal is to take place should be cleared of all stones, sticks, etc., which might be picked up by the snow caster. **OBSTACLES SUCH AS DRIVEWAY MARKERS, WATER OR GAS SHUT OFFS, ETC. SHOULD BE MARKED SO THEIR LOCATIONS UNDER THE SNOW ARE VERY OBVIOUS.**

To become familiar with the controls, operate the tractor and snow caster in a clear area before removing snow. The more familiar you become with the snow caster the better results you will have in its use.

A light coat of wax applied to the inside surfaces of the discharge chute and deflector will help to prevent snow and slush from sticking. The inside of chute and deflector should be waxed several times during the snow removal season. Use any good commercial grade of paste wax or spray silicone which is available from your dealer or from your local hardware store.

Allow ample engine warm up time before starting snow removal.

Best results are obtained when snow is removed as soon as possible after it falls.

Check each item covered in the "ADJUSTMENTS" and "MAINTENANCE" sections of this manual before operating the snow caster.

## SNOW CONDITIONS

Snow removal conditions vary so greatly from the first light fluffy snowfall to wet or heavy snow that operating instructions must be flexible. The operator must operate according to depth of snow, wind direction, temperature, and surface conditions.

The auger speed and blowing distance are directly related to the engine speed. For maximum removal volume and distance, maintain high engine RPM (three-quarters to full governed throttle). Operating at lower throttle settings will increase fuel economy but reduce the blowing dis-

tance. Always operate the tractor in low range for safe and efficient snow removal. The speed control lever should be operated to provide a ground speed most compatible with the snow removal conditions.

In extremely deep snow, raise snow caster into transport and remove top layer first. Lower the snow caster to the ground and repeat process to remove the balance of snow. Working with repeated passes into and out of drifts will eventually move even the deepest of snow piles.

**NOTE** The J I Case Company reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

## INSTALLATION – MODELS K-80 AND K-84

- A. Locate the tractor on a smooth and level surface. Check tires for equal and recommended pressures. The front tires should be inflated to 20 psi when the snow caster is installed.
- B. Before attaching the snow caster, lay out the individual parts as illustrated in Figure 5.
- C. The following installation sequence is the same whether the tractor is equipped with hydraulic or mechanical lift.
  1. Position the Mounting Bracket between the Auger Adapter Plates as shown in Figure 6. Insert a spacer in each of the Adapter Plates. Bolt the Mounting Bracket to the Adapter Plates with the plain washers to the outside and lock nuts at the inside.
  2. See Figure 7. Position the auger assembly so the tractor can be lined up with the mounting brackets.
  3. Roll the tractor up to the auger assembly and align the anchor pins and snap pin receptacles with the mounting brackets. Engage and lock the brake to hold the tractor while attaching the snow caster.
  4. Slide the auger to engage the mounting bracket notches with the anchor pins on the tractor.
  5. Lock the tractor snap pins in the "open" position. Pivot the mounting bracket upward and into the tractor snap pin receptacles. Release the snap pins to lock the mounting bracket in position.
  6. Remove the safety pins from the lift arm. With the plain washer located next to the cotter pin as shown in Figure 6, place the lift arm through the auger lift brackets.
  7. Lower the lift lever to align the lift arm. Connect the lift arm to the lift lever pin with the plain washer and safety pin. Install the other safety pin through the lift arm and at the inside of the right lift bracket.
  8. Apply a coat of grease around the outside of the discharge spout as shown in Figure 5.
  9. Apply a coat of grease to both sides of the notched chute base ring. Place the chute over discharge spout and engage the base ring notches with the crank spiral.

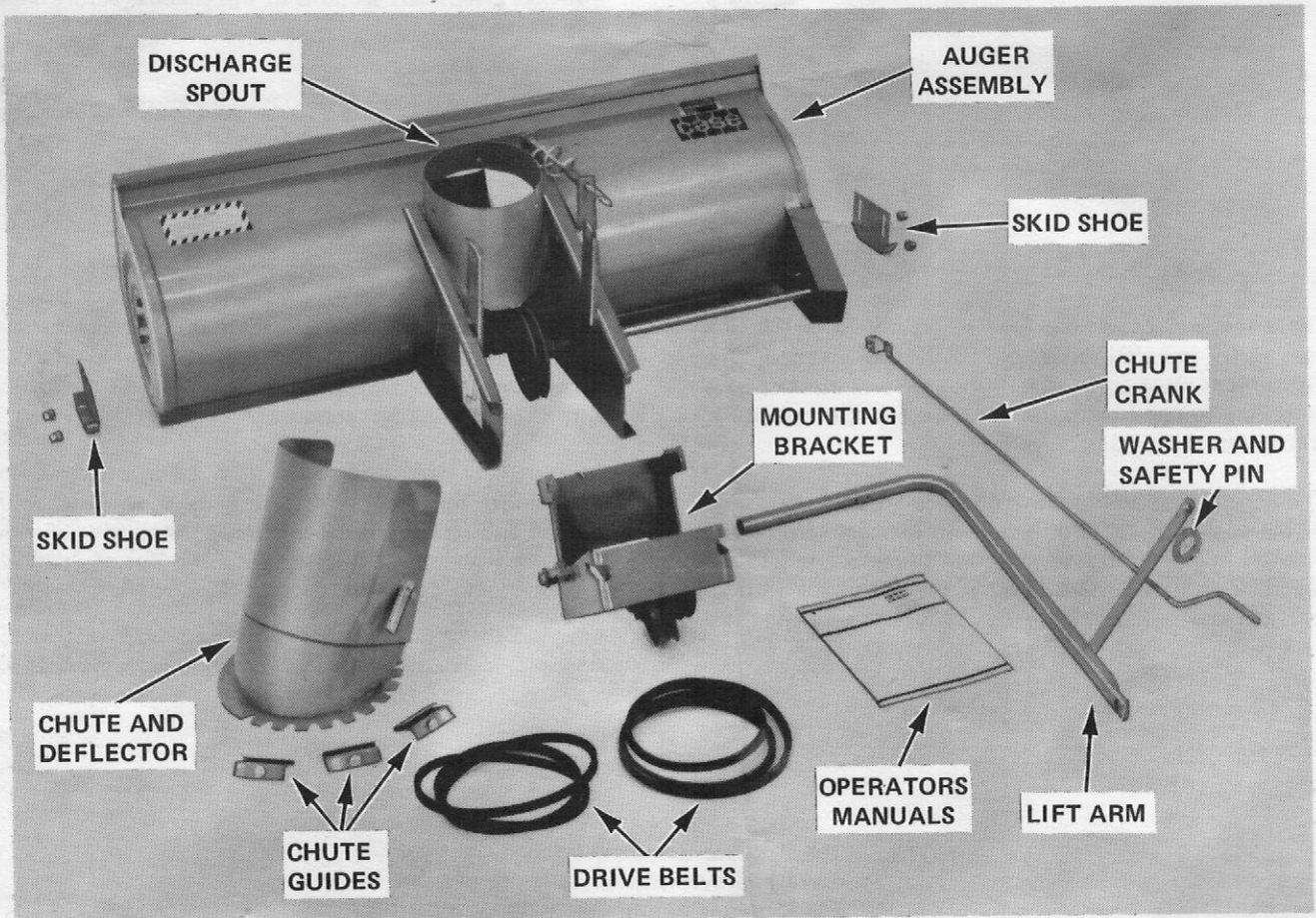


FIGURE 5  
Model K-84 Snow Caster – Disassembled



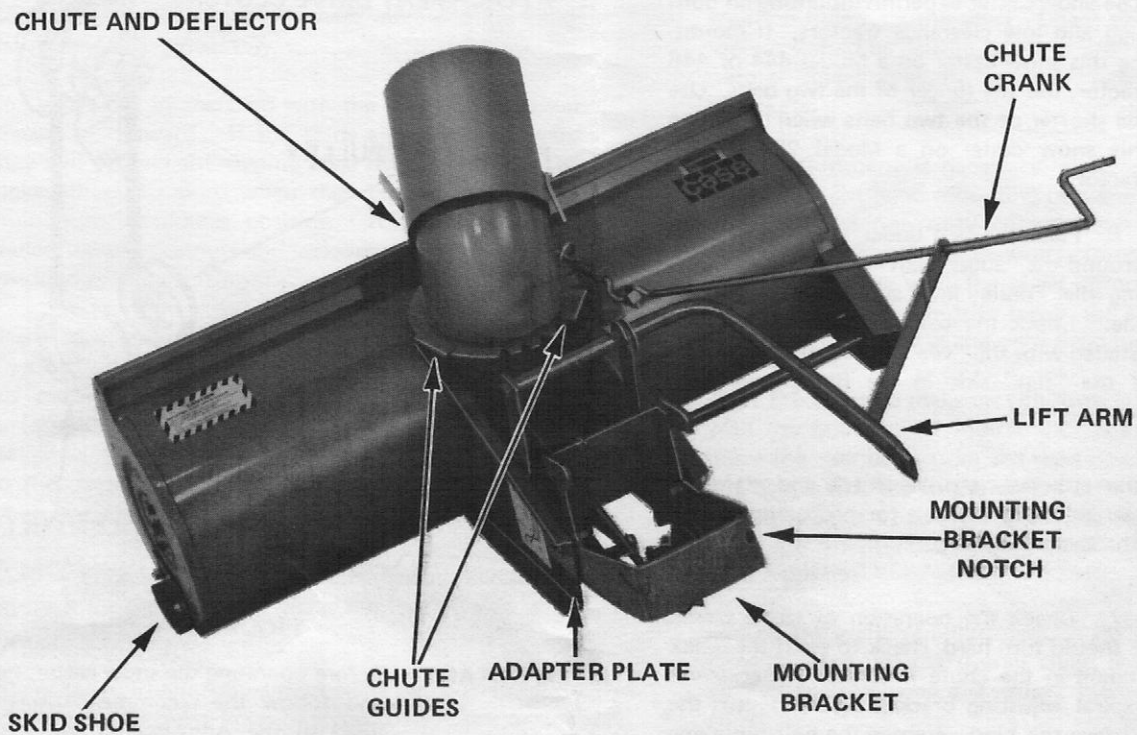


FIGURE 6

Model K-84 Snow Caster — Assembled

10. Three round head bolts are furnished to attach the chute guides to the discharge spout. Install the bolts at the two side guides with the round heads to the inside. For ease of assembly, install the front guide bolt with the nut and lockwasher to the inside.

**NOTE** Check to make certain the three guides are square with the chute base ring to prevent the chute from binding when turning the crank.

11. Thread the handle end of the crank through the crank support and connect the block joint to the crank spiral using the plain washer and cotter pin provided. (See Figure 6.)

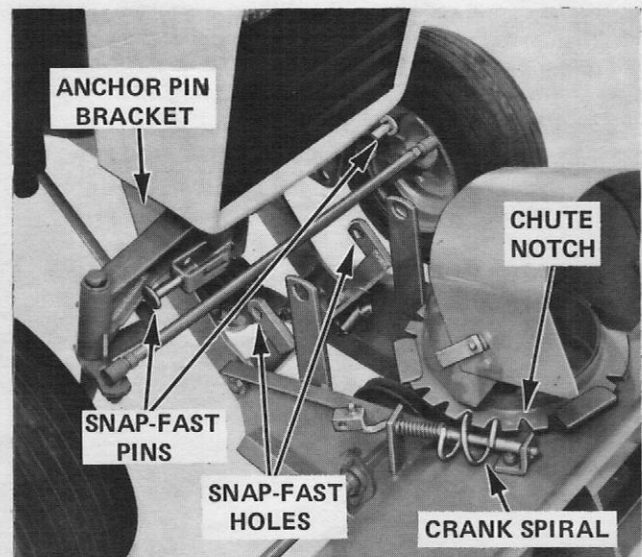


FIGURE 7

Model K-84 Snow Caster

12. Engage the attachment drive clutch. Raise the hood and remove the spark plug wire as a safety precaution. Insert the drive belt between the fan and heat exchanger and onto the attachment drive clutch pulley.

**NOTE** Two belts are included with the 48" Model K84 Snow Caster to permit mounting on both high and low clearance tractors. If mounting this snow caster on a Model 444 or 446 tractor, use the longer of the two belts. Use the shorter of the two belts when mounting this snow caster on a Model 222 or 224 tractor.

13. See Figure 8. Place the belt under the "fixed" idler pulley and around the "auger shaft" pulley. Push down on the "spring idler" pulley lever and locate the belt on the underside. Check the belt to make certain it is correctly installed with the "vee" side in the vee groove pulleys and the "flat" side in the flat groove idler pulley.
14. Disengage the attachment drive clutch and manually turn the auger to check the belt for proper operation. Reconnect the spark plug wire.
15. See Figure 7. Check the operation of chute crank. If the chute should turn hard, check to see if the crank spiral is binding in the chute notches. If necessary, loosen the spiral adjusting bracket bolt and shift the bracket to relieve the bind. Tighten the bolt following adjustment.

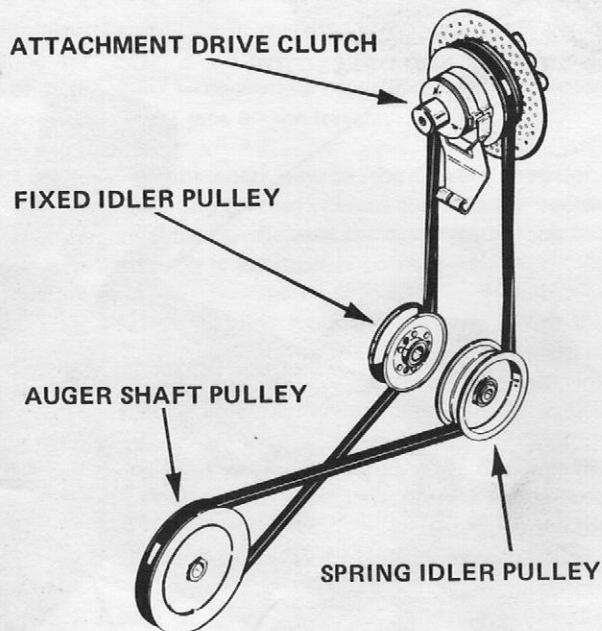


FIGURE 8

**IMPORTANT** Before operating the snow caster, review and follow the recommendations outlined in the Adjustments and Maintenance sections of this manual.

## ADJUSTMENTS

1. Deflector - See Figure 13. The deflector has a slotted hole on each side for adjustment. To change the angle of the deflector, loosen the two locking levers. By angling the deflector upward, the snow will be cast higher and further from the tractor. When angled downward, the deflector will direct the snow closer to the ground and it will be cast a shorter distance. Tighten the locking levers when the deflector is adjusted to the desired angle.
2. Skid Shoes - See Figure 13. Slotted mounting holes are provided to obtain the desired clearance between the base of the auger housing and the surface of the area to be cleared. When operating on a smooth surface such as cement or asphalt, the skid shoes can be set at the lower end of the slots. If operating on a rough surface such as gravel or earth, the skid shoes should be set at the upper end of the slots to prevent foreign material from entering and possibly damaging the snow caster.

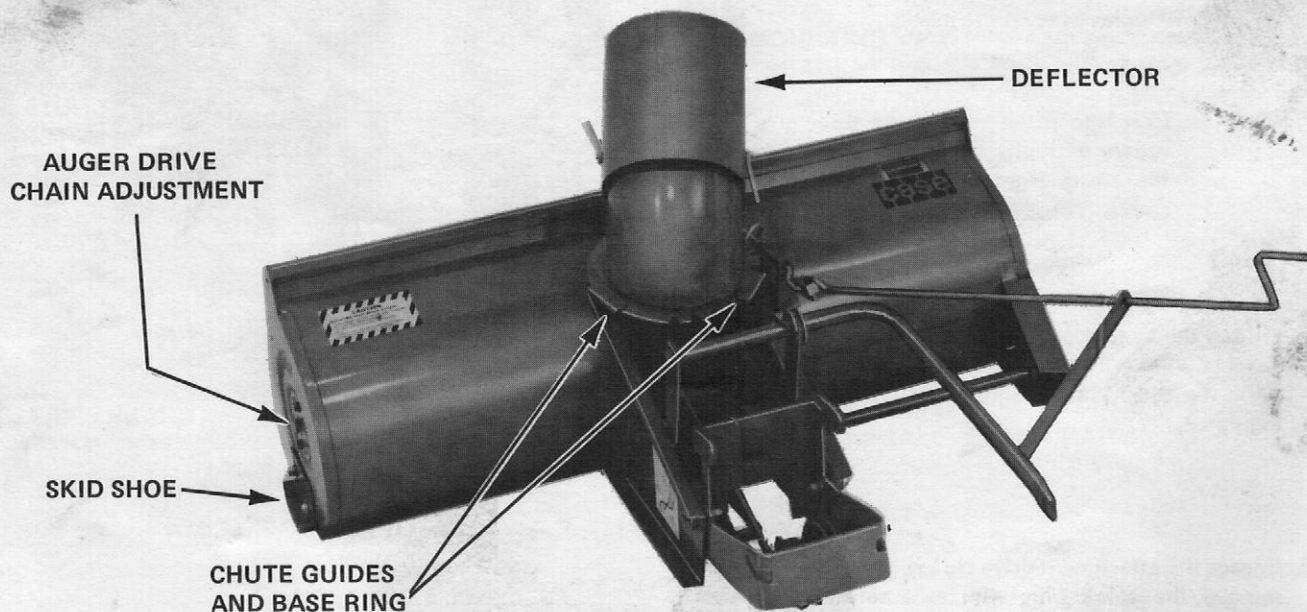


FIGURE 13  
Model K-84 Snow Caster

The heavy duty skid shoes can be rotated from one side of the caster to the other for increased life when the leading edges wear down.

The shoes can be installed with the skids facing either inward or outward. If the skids are installed inward they will protect the cutting edge by keeping it 3/16" higher than the skids when they are adjusted to the "minimum" clearance position. If the skids are installed inward the nuts and lockwashers must be to the inside to provide a "smooth" outside surface.

If the shoes are installed with the skids to the outside they can be adjusted further upward if desired to place the cutting edge in direct contact with a hard level surface such as a concrete or asphalt driveway. If installed in this manner the nuts and lockwashers can be to the outside. This installation is not recommended when operating on dirt, gravel or uneven surfaces.

3. Cutting Edge - The replaceable cutting edge can also be reversed for increased life when the leading side wears down.
4. Auger Drive Chain Adjustment - The two auger mounting hubs have twelve holes in an eccentric circle around

the auger mounting shaft. The hubs also have an orientation hole near the shaft. Chain slack at the lower section should be held to between 3/8" and 1/2" under normal finger pressure midway between the drive sprockets.

When adjustment is necessary, remove the two bolts from the right hand mounting hub and rotate the hub in either direction until correct chain tension is obtained and reinstall the two bolts. Important - To keep the chain in line with the auger sprocket, rotate the left hand mounting hub to locate the orientation hole in the same position as the right hand hub.

Turn the auger to make certain there is no interference with the housing. If interference is encountered, remove the two bolts from the right hand mounting hub and rotate the hub in the opposite direction until correct tension is obtained. Reset the left hand hub to place the orientation hole in the same location as the right hand hub.

Should the available adjustment on the auger mounting hubs be used up, the overall chain length can be decreased by removing the offset (half) link from the chain.

## MAINTENANCE



**CAUTION:** Never attempt to service or make adjustments while the snow caster or tractor is running.

Grease the discharge chute control crank, chute guides and the chute base ring. Figure 13, daily to keep the crank turning freely.

Once a month during season or every 25 operating hours, lubricate the auger drive chain with Case Heavy Duty Chain and Cable Lubricant available through your Case Compact Tractor Dealer.

At the end of the snow season, the following steps are recommended:

1. Remove the snow caster from tractor following the procedure outlined at the end of this manual.
2. Wash off any salt deposit which may have dried on the auger and chute. Paint or cover exposed metal with a light coat of oil. Case Touch-up Enamel is available through your Case Compact Tractor Dealer.
3. Service the snow caster following lubrication instructions above. Oil the auger drive chain thoroughly using Case Chain and Cable Lubricant to prevent rust from forming.
4. Store snow caster in a dry place.

## REMOVING THE SNOW CASTER

1. Disconnect spark plug wire as a safety precaution, engage the attachment drive clutch.
2. Push the "spring idler" pulley to loosen and remove the belt. Disengage the clutch and reconnect the spark plug wire.
3. Disconnect the lift arm from the tractor lift lever. (Re-

move the safety pin from the front of the lift arm. Slide the lift arm part way out of the auger lift brackets to clear the tractor for K-80 and K-84.) Swing the lift arm with crank attached over the auger assembly.

4. Pull the snap pins out to release the mounting bracket and back the tractor away.

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