



OPERATOR'S MANUAL

SETTING UP INSTRUCTIONS
PARTS LIST

INTERNATIONAL[®]
DANCO

Snow Thrower

Model BB-36

for

INTERNATIONAL[®]
CUB[®] CADET

Tractor

INTERNATIONAL HARVESTER COMPANY

180 North Michigan Ave.

Chicago 1, Illinois, U.S.A.

TO THE OWNER

We are glad to welcome you as an owner of a product of International Harvester Company. You have a fine product, designed and built to give you many years of efficient operation. The way you operate and the care you give this product will have much to do with its successful performance.

To help you operate your equipment with utmost efficiency we have provided this operator's manual. It has been carefully prepared to give you the benefit of many years of experience gained in field testing and normal usage of this and similar products.

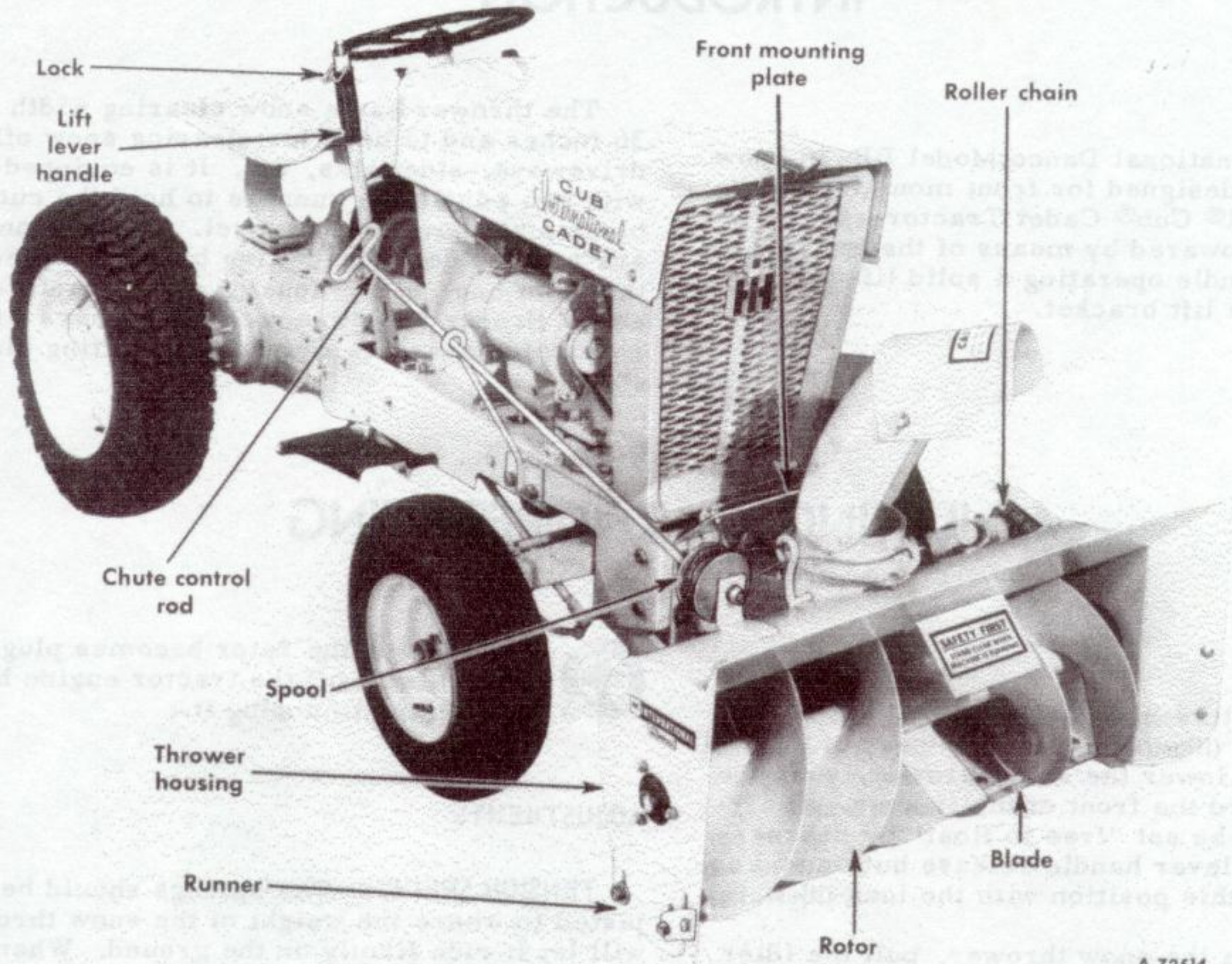
We urge you to study this manual so you will understand your new equipment thoroughly before operating it. We also urge you to take care of your manual so you will have it available for reference when you need it.

If your manual is lost or destroyed, a new copy may be ordered from the International Harvester dealer at a nominal price. Your International Harvester dealer will also be glad to answer any questions you may have on the operation or care of this product.

It is the policy of International Harvester Company to improve its products whenever it is possible and practical to do so. We reserve the right to make changes or add improvements at any time without incurring any obligation to make such changes on products sold previously.

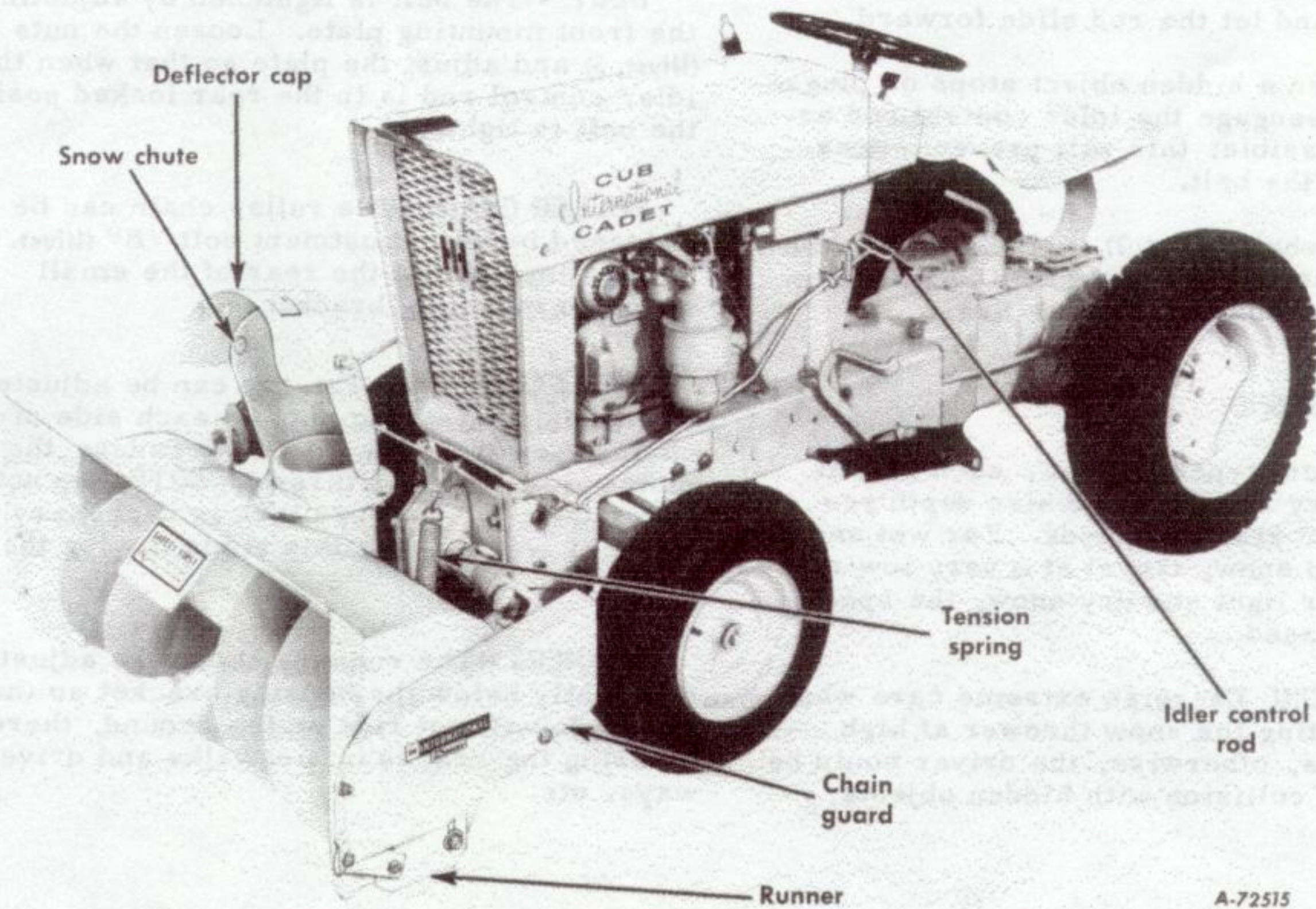
All illustrations and descriptive matter in this publication apply to International Harvester products sold under the International, McCormick, or McCormick-International trade name.

As a member of the National Safety Council, we are privileged to use the Green Cross for Safety to designate not only our interest in Safety, but to point out more clearly the safety precautions in this manual.



A-72514

Illust. 1



A-72515

Illust. 2

INTRODUCTION

The International Danco Model BB-36 Snow Thrower is designed for front mounting on the International® Cub® Cadet Tractor. It is raised and lowered by means of the tractor lift lever handle operating a solid lift rod connected to the lift bracket.

The thrower has a snow clearing width of 36 inches and is used for clearing snow off of driveways, sidewalks, etc. It is equipped with two adjustable runners to hold the cutting blade just above ground level. These runners are reversible. The cutting blade is bolted to the front edge of the housing and is replaceable. Proper adjustment of the runners will eliminate excessive wear on the cutting blade.

ADJUSTING AND OPERATING

OPERATING

To raise the snow thrower, pull the lift lever handle (Illustr. 1) toward the rear of the tractor. To lower the snow thrower, push the handle toward the front of the tractor. The thrower can be set "free to float" by depressing the lift lever handle release button and securing it in this position with the lock (Illustr. 1).

To engage the snow thrower, pull the idler control rod (Illustr. 2) so that the spacer on the rod locks in the lower portion of the keyhole in the mounting bracket. To disengage the thrower, release the idler control rod from the key slot and let the rod slide forward.

NOTE: When a hidden object stops or plugs the rotor, disengage the idler control rod as quickly as possible; this will prevent excessive wear on the belt.

The snow chute (Illustr. 2) can be rotated 180 degrees by turning the chute control arm clockwise or counterclockwise.

SNOW CONDITIONS

The different types of snow, such as wet and heavy, dry and light and also depth require different tractor speeds. For wet and heavy or deep snow, travel at a very low rate of speed. For light and dry snow, the speed may be increased.



CAUTION! Exercise extreme care when operating the snow thrower at high speeds, otherwise, the driver could be unseated in a collision with hidden objects.



CAUTION! If the rotor becomes plugged, always shut off the tractor engine before attempting to unplug it.

ADJUSTMENTS

TENSION SPRINGS - The springs should be adjusted to where the weight of the snow thrower will let it ride firmly on the ground. When an adjustment is made, be sure to secure the jam nuts.

BELT - The belt is tightened by adjusting the front mounting plate. Loosen the nuts "A" (Illustr. 5) and adjust the plate so that when the idler control rod is in the rear locked position, the belt is tight.

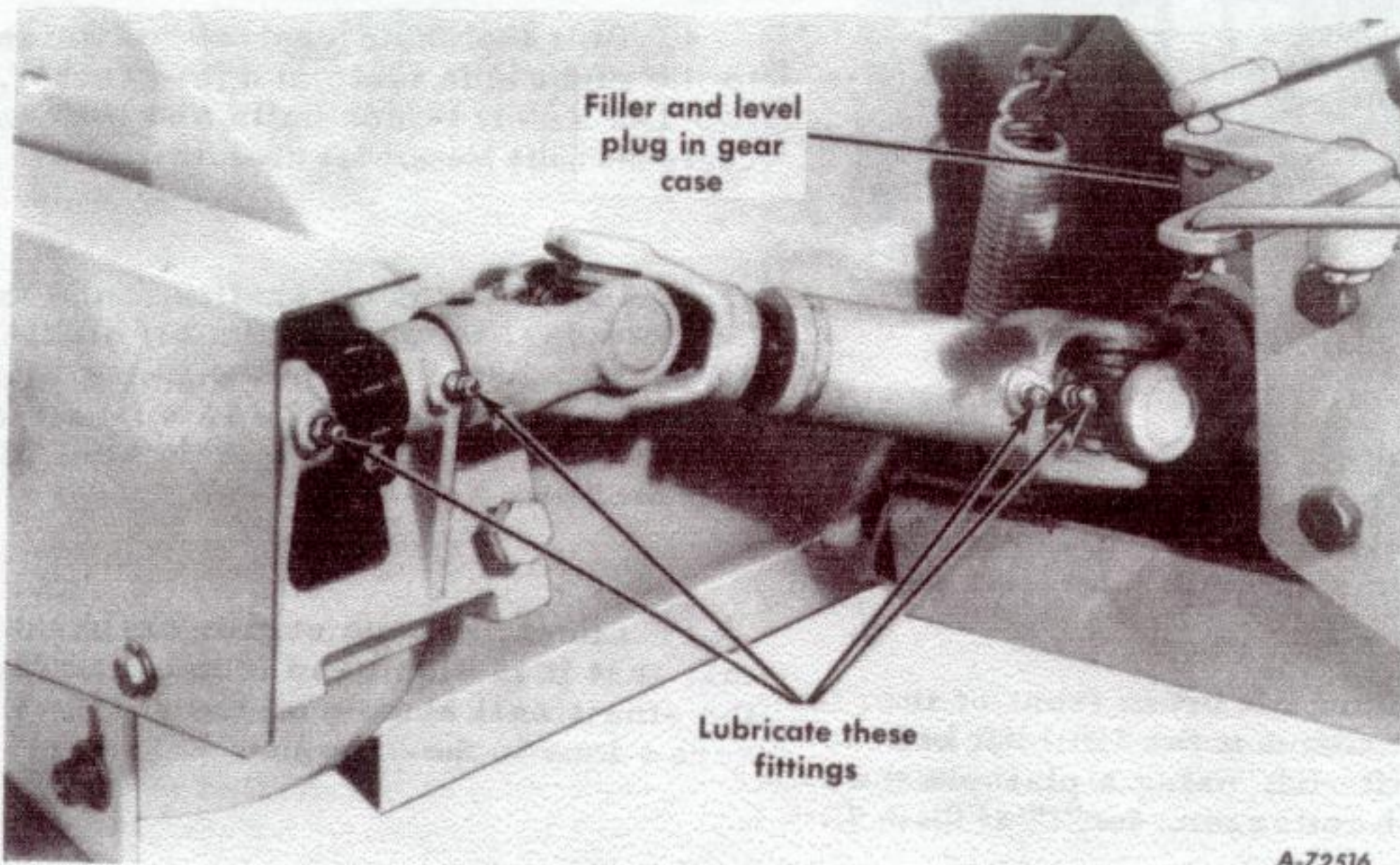
ROLLER CHAIN - The roller chain can be tightened by the adjustment bolt "B" (Illustr. 9) and the lock nut on the rear of the small sprocket mounting bracket.

DEFLECTOR CAP - The cap can be adjusted by loosening the wing nuts on each side of the chute. Lowering the cap will reduce the distance the snow is thrown. **NOTE:** Do not lower the cap any more than is necessary in heavy wet snow as this tends to clog the chute.

RUNNERS - The runners should be adjusted to slightly below the housing bracket so that the blade will not ride on the ground, thereby clearing the cracks in sidewalks and driveways, etc.

ADJUSTING AND OPERATING

LUBRICATION



Illust. 3

Fill the right-angle gear box with SAE-140 transmission oil to the level plug. Check the oil level occasionally to see that the gear case is filled up to the level plug. Also see Illust. 6.

Lubricate the universal drive assembly each time the snow thrower is used. Use a pressure lubricating gun.

Lubricate the transfer shaft through the two lubrication fittings in the rear of the small sprocket mounting bracket each time the snow thrower is used. Use a pressure lubricating gun.

The rotor shaft bearings and the idler bearing are sealed; they do not require lubrication.

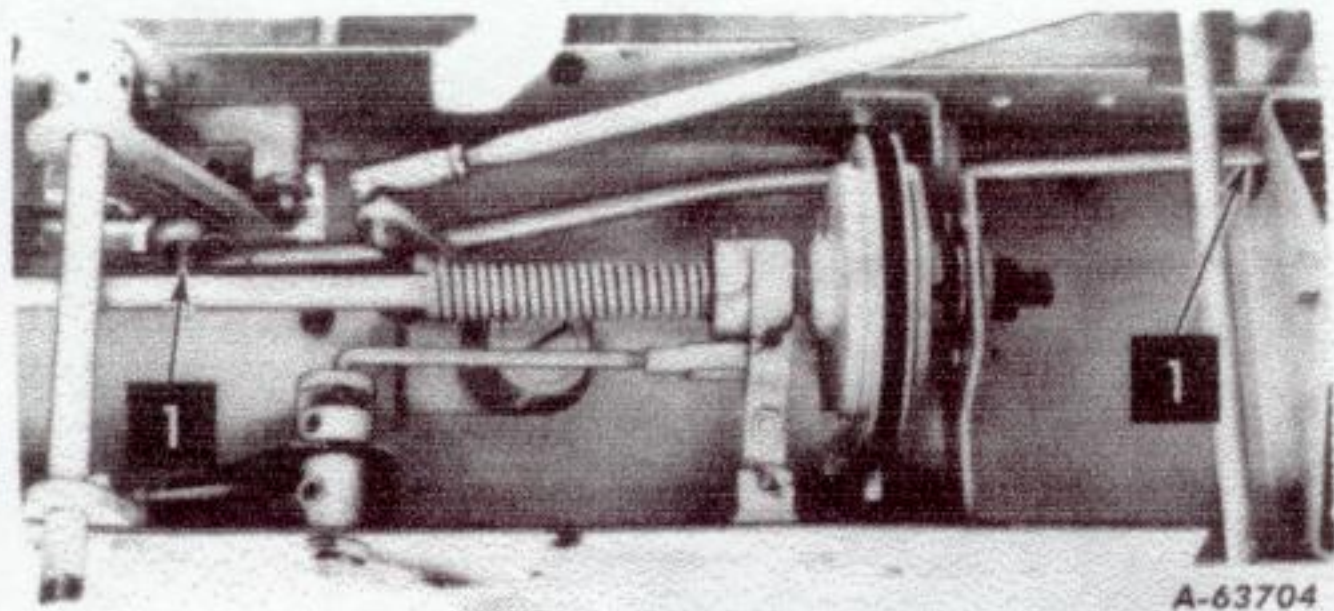
SETTING UP

Arrange the parts so that they will be convenient for setting up the snow thrower.

Bolts must be used in the holes in which they are found, or in the parts to which they

are attached, unless otherwise shown.

Wherever the terms "left" and "right" are used, it should be understood to mean from a position behind and facing the machine.

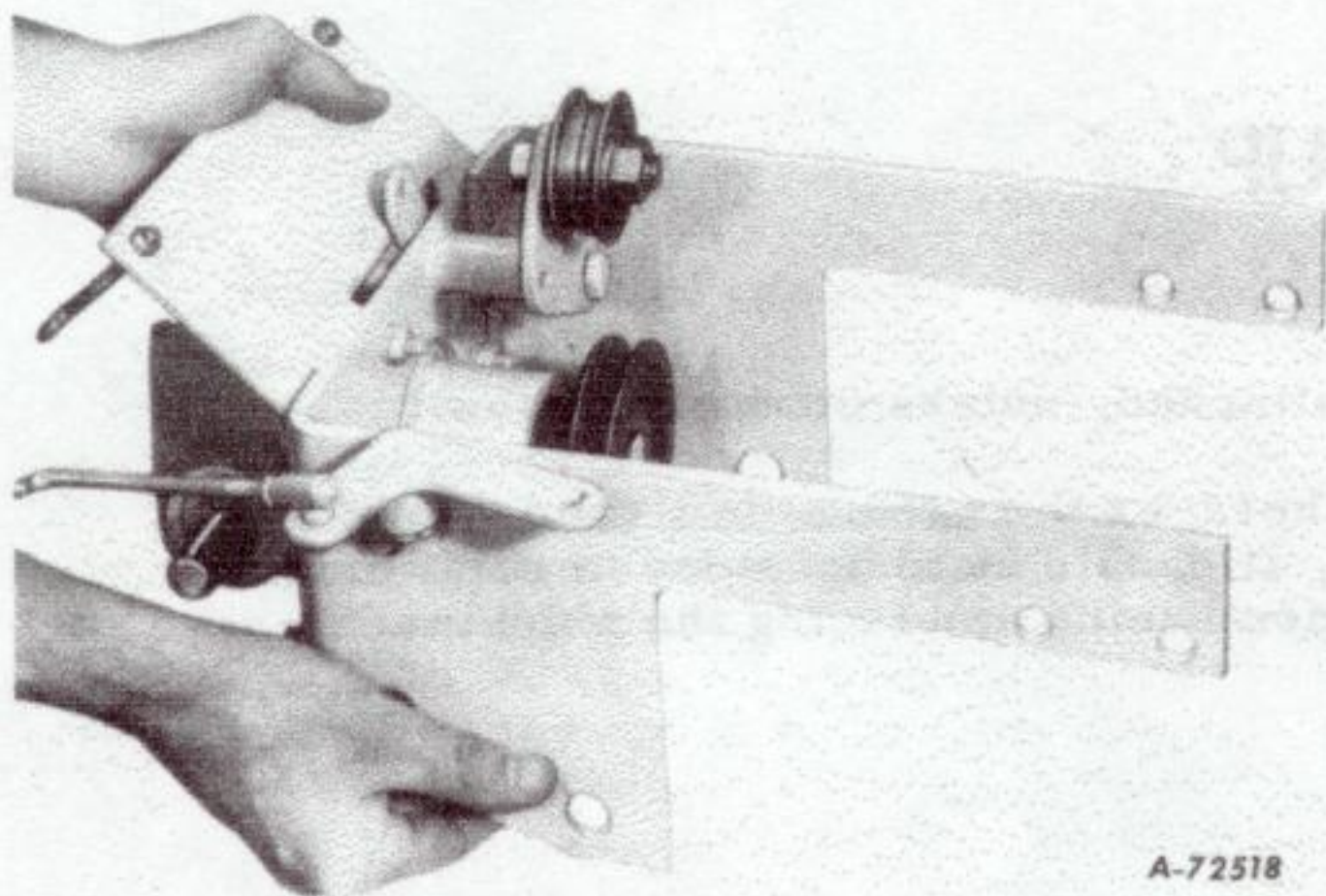


Illust. 4

1. Insert the lift rod through the hole in the front of the tractor main frame and connect it to the tractor lift lever, using a plain washer and quick-attachable cotter pin. See Illust. 4.

2. Position the lift bracket in front of the tractor. See Illust. 6. Connect the lift bracket pivot strap to the lift rod, using a plain washer and a 1/8 x 3/4-inch cotter pin. See "C" in Illust. 9.

3. Position the "Front Mounting Assembly" (Illust. 5) side plates over the tractor front axle. See Illusts. 7 and 8. Slide the assembly back, keeping the front bracket of the mounting assembly in the lowest possible position to obtain clearance between the idler "D" (Illust. 6) and the bottom of the tractor grille housing and main frame. After the idler has cleared the grille housing and the main frame, pivot it upward through the rectangular opening in the frame. Bolt the assembly loosely to the tractor, using 1/2 x 1-1/4-inch bolts and lock washers only



Illust. 5
Front Mounting Assembly.

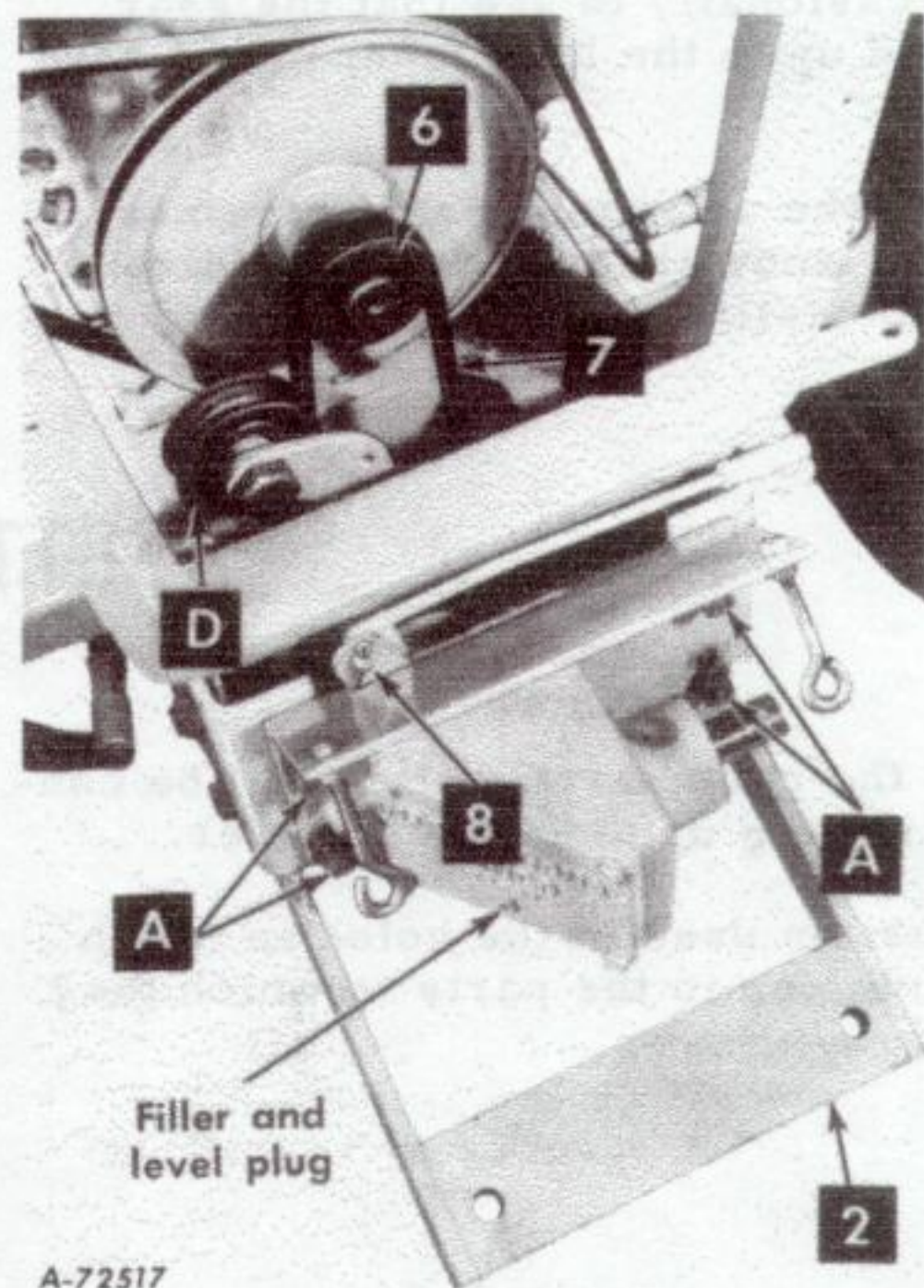
in the holes in the side plates indicated in Illusts. 7 and 8. Leave the bolts loose.

4. Bolt the chute control rod guide loosely to the right side plate and the tractor, using two 1/2 x 1-1/4-inch bolts and lock washers. Leave the bolts loose. See Illust. 8.

5. Insert the pivot shaft through the lift bracket; then raise the bracket and insert the pivot shaft in the holes in the side plates. Secure, using two 3/16 x 1-1/4-inch cotter pins. Tighten all bolts left loose in Refs. "3" and "4". See Illusts. 7 and 8.

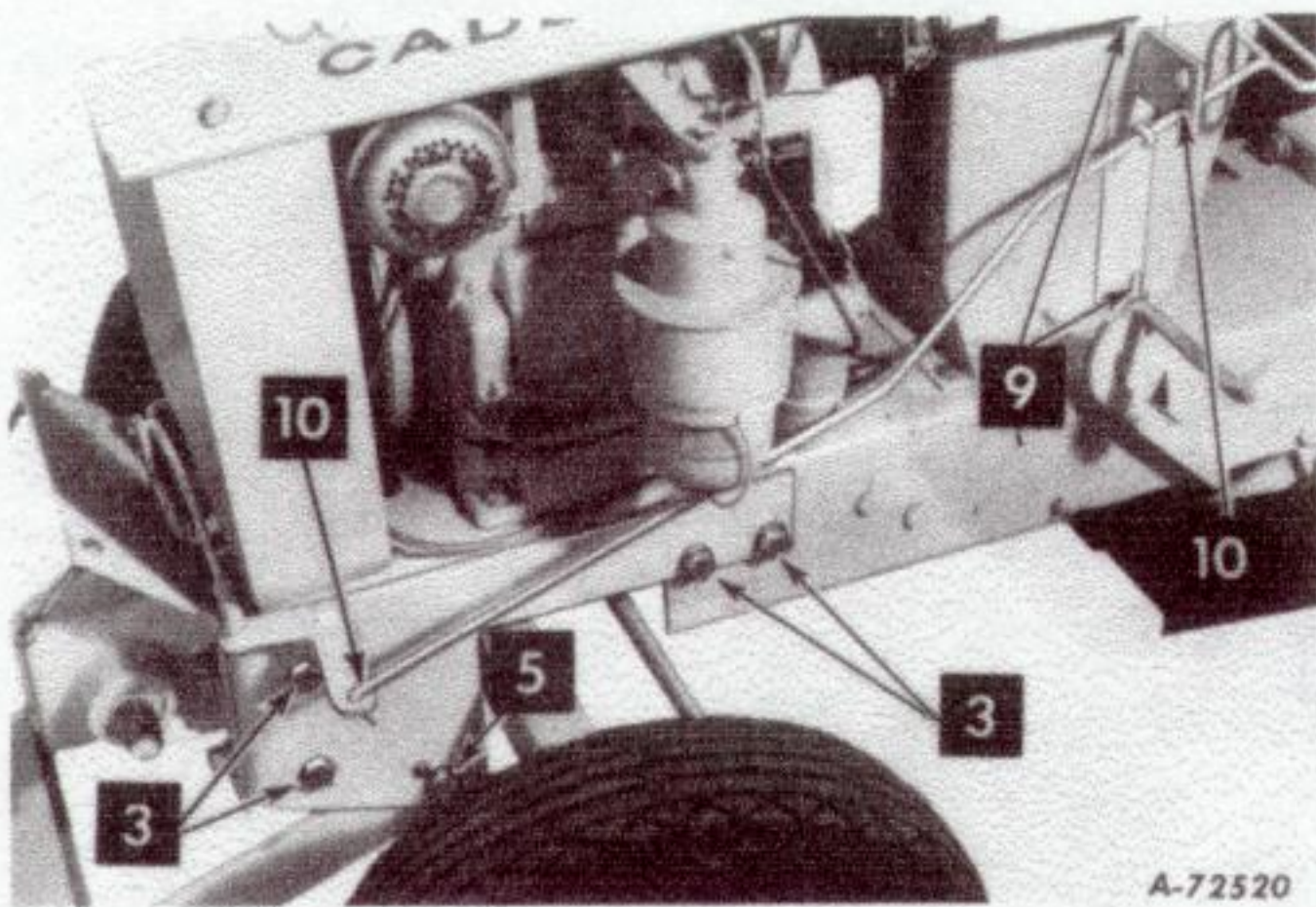
6. Check the engine crankshaft to be sure that it is clean and free of burrs. Then place the small sheave on the shaft. Leave the set screw loose. See Illust. 6.

NOTE: It may be necessary to drive the sheave onto the shaft. If so, either remove the tractor grille screen or insert a small punch through the screen and tap the sheave onto the shaft.



Illust. 6

SETTING UP



Illust. 7

7. Install the drive belt on the two sheaves, with the idler running on the back side of the belt. See Illust. 6. Then align the sheaves and secure them by tightening the set screws.

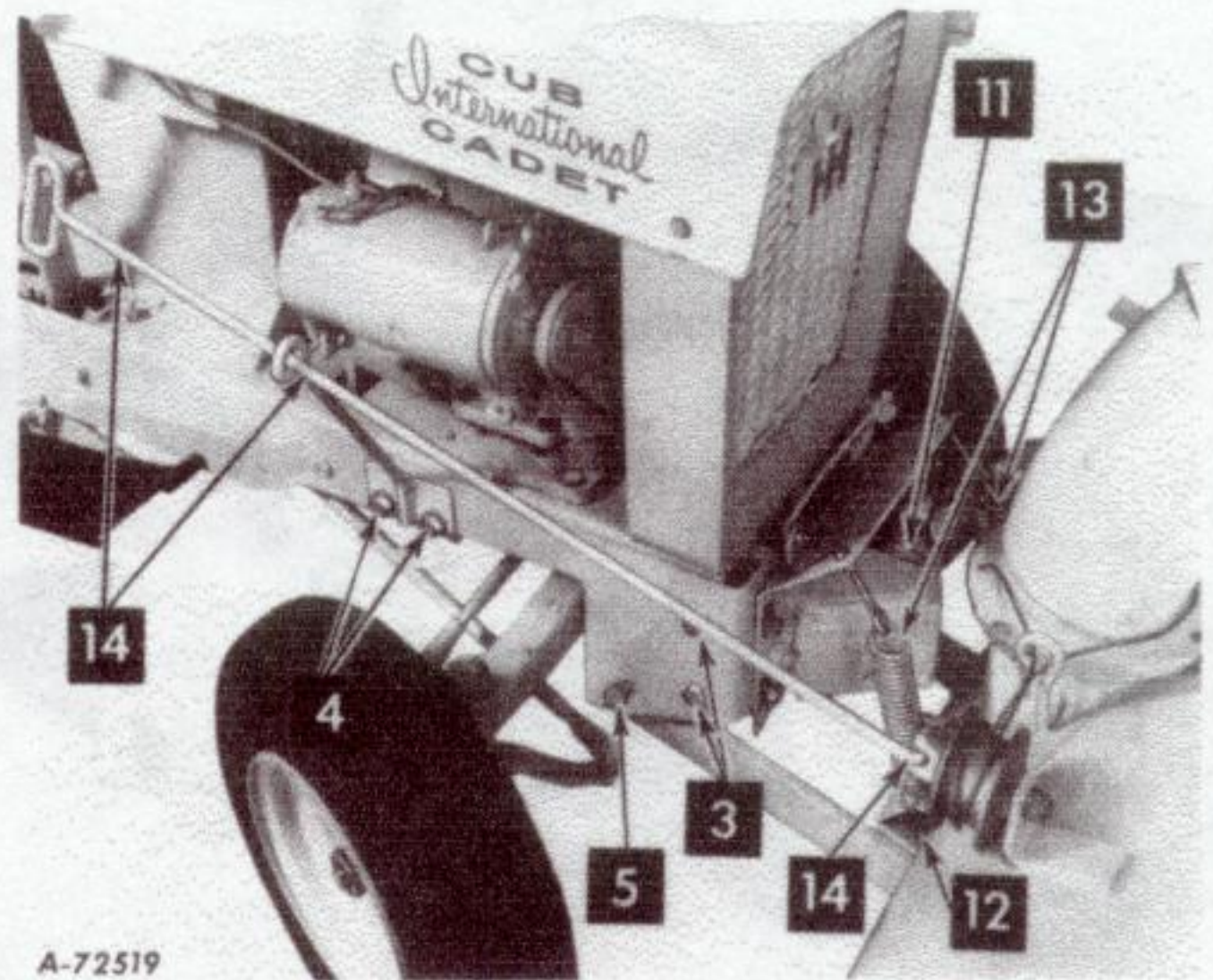
NOTE: The belt should run in the center of the idler.

8. Connect the end of the link rod to the idler pivot arm. Secure, using a $1/8 \times 3/4$ -inch cotter pin. See Illust. 6.

9. Bolt the idler control rod bracket to the left side of the tractor, using a $1/4 \times 3/4$ -inch bolt through the tractor throttle cable slot and to the bottom bolt in the tractor pedestal assembly. See Illust. 7.

10. Insert the idler control rod through the key slot in the control bracket and secure it to the long arm of the bellcrank, using a plain washer and a $1/8 \times 3/4$ -inch cotter pin. See Illust. 7.

11. Position the thrower housing assembly in front of the tractor. Slide the universal yoke over the output shaft of the gear case and secure, using a $3/16$ -inch key and set screw.



Illust. 8

Then insert a $5/32 \times 1-1/4$ -inch cotter pin into the hole at the end of the output shaft and spread the pin. See Illust. 8.

12. Slide the housing into the lift bracket and secure, using two $1/2 \times 3$ -inch hex-head bolts, lock washers, and nuts. See Illust. 8.

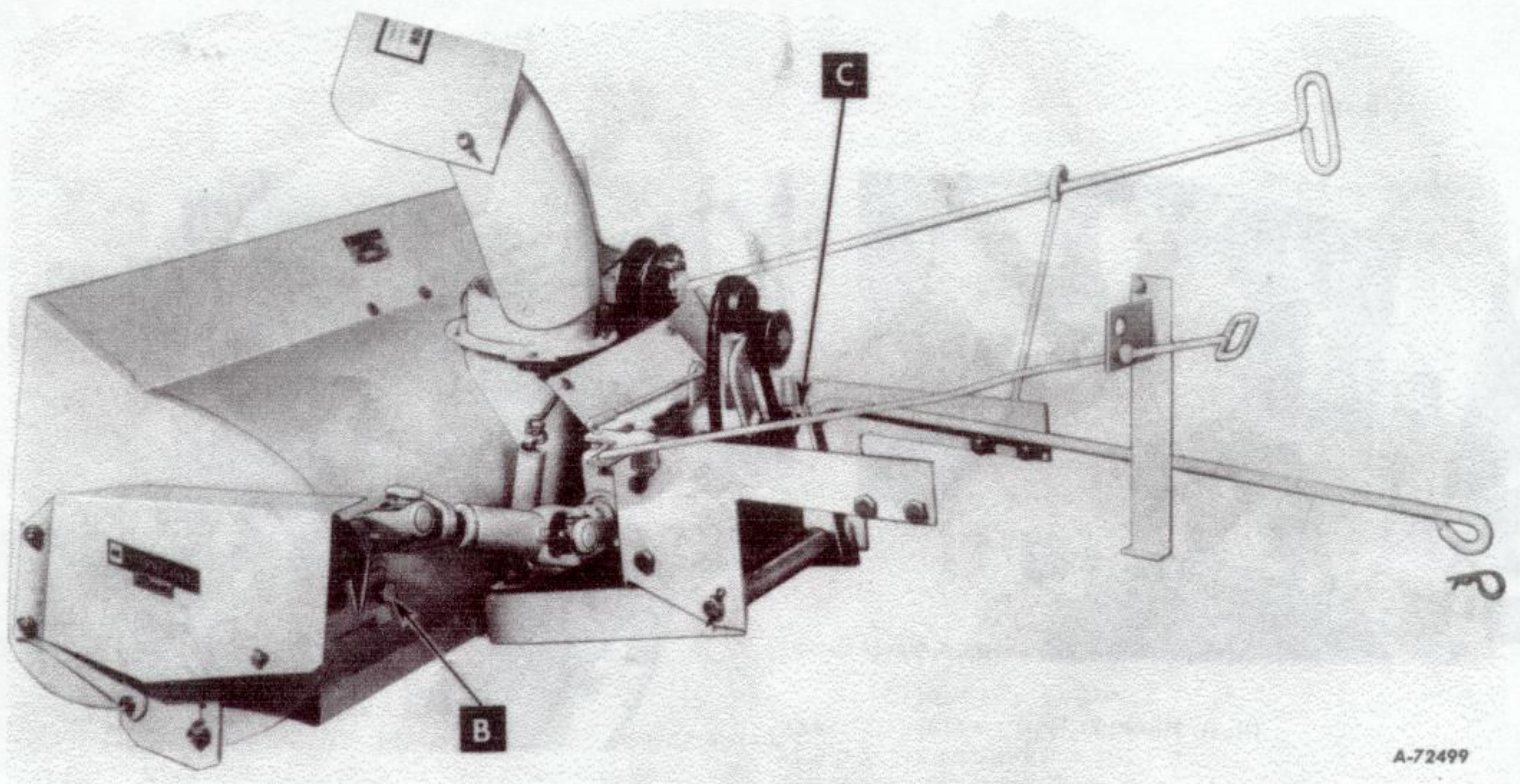
13. Connect the tension springs to each side of the thrower housing mounting bracket. Lift the front of the housing and hook the springs to the eyebolts extending from the front mounting bracket. See Illust. 8.

14. Insert the chute control rod arm through the rod guide and secure it to the spool cross, using a plain washer and $1/8 \times 3/4$ -inch cotter pin. See Illust. 8.

NOTE: Replace the tractor grille if it had been removed previously.

After the snow thrower has been mounted on the tractor, refer to "Adjustments" in the Adjusting and Operating instructions.

DETACHING



A-72499

Illust. 9

Put blocks under the snow thrower housing to remove the tension on the springs.

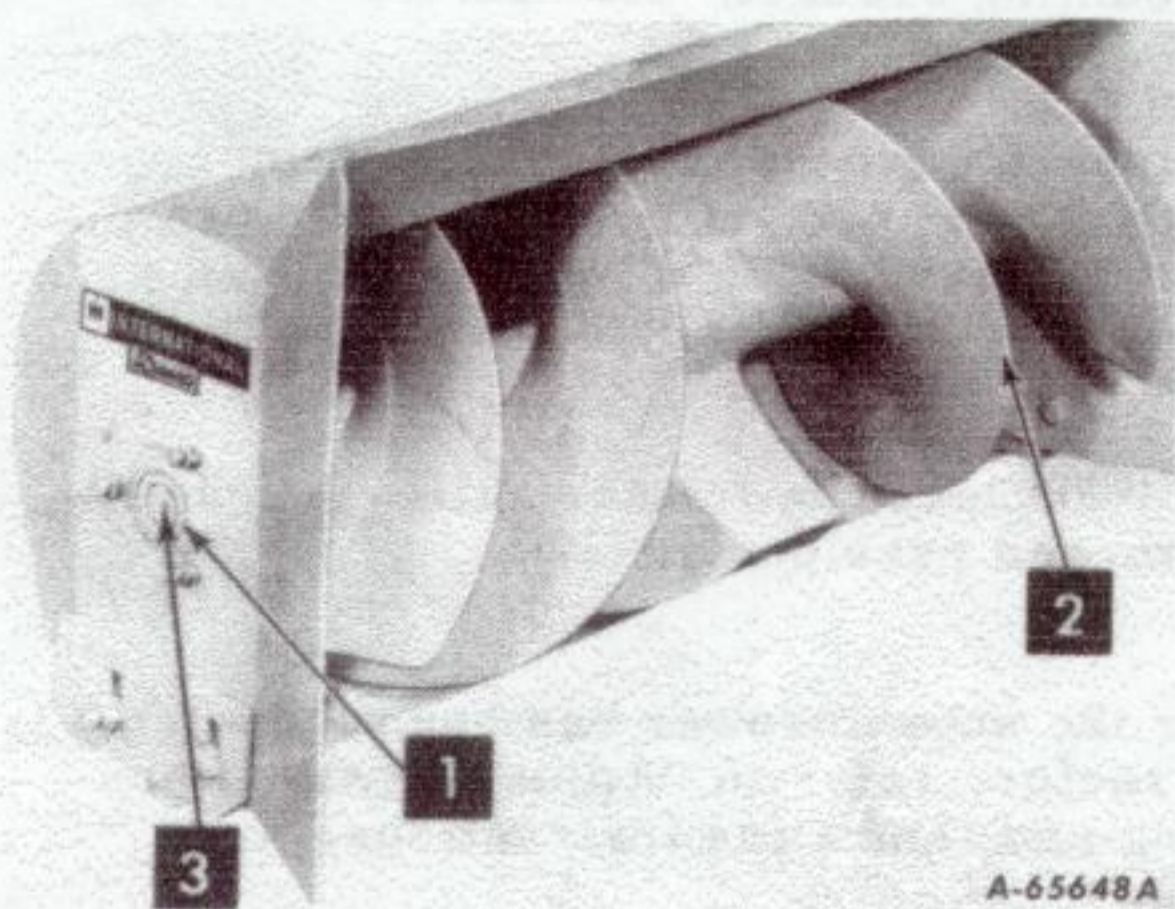
Remove the cotter pins at both ends of the lift rod and remove the rod from the underside of the tractor.

Remove the front mounting plate assembly, the drive belt, the pivot shaft, and the side plates.

Remove the cotter pin from the idler control rod.

PARTS LIST

ROTOR

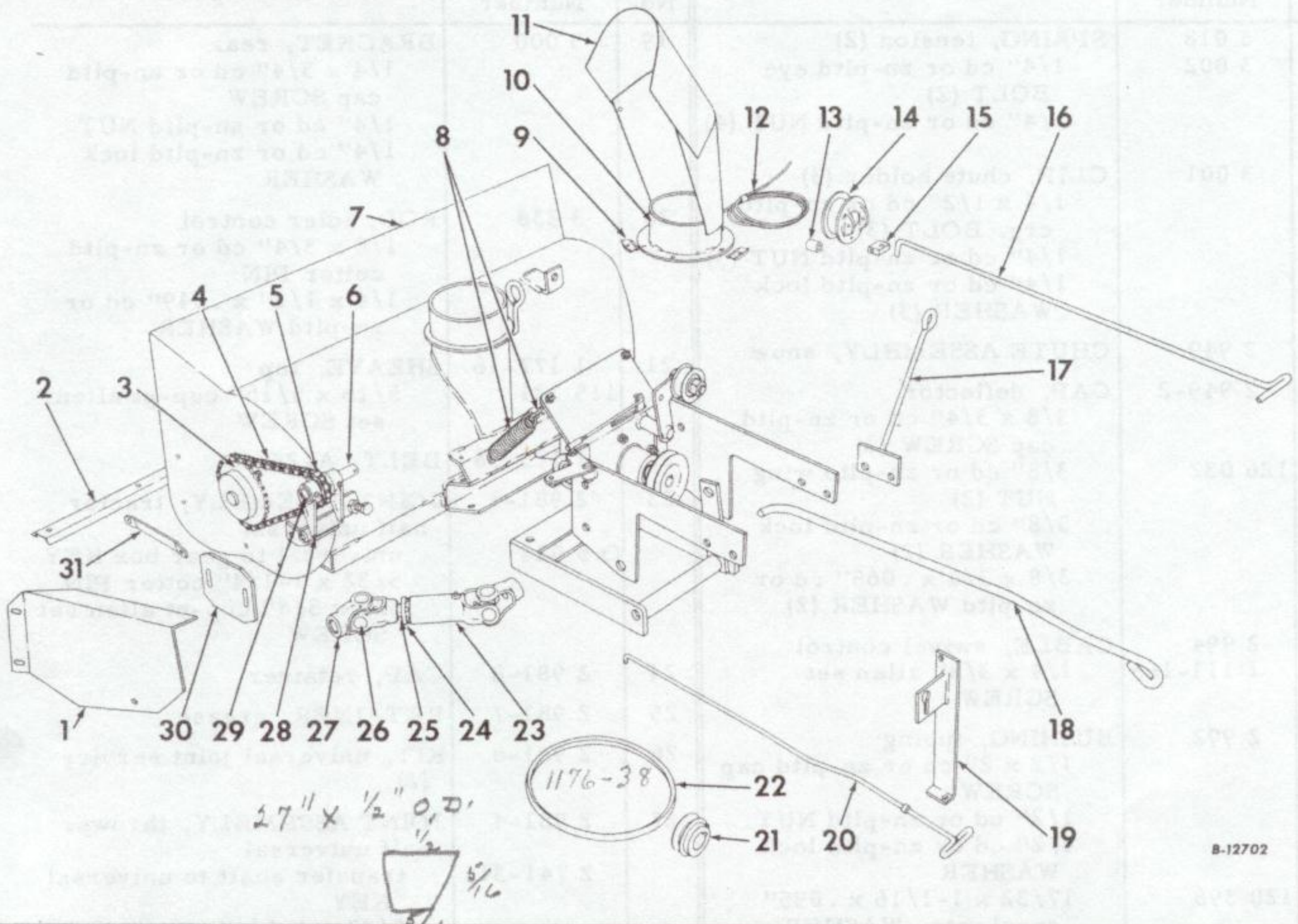


A-65648A

Ref. No.	Part Number	Description
1	1 181-10	BEARING, flange w/set SCREWS (2) 5/16 x 3/4" cd or zn-pltd crg BOLT (3) 5/16 x 1/2" cd or zn-pltd crg BOLT (3) 5/16" cd or zn-pltd NUT (6) 5/16" cd or zn-pltd lock WASHER (3)
2	3 095	ROTOR ASSEMBLY
3	3 096	SHAFT, tail (right side) 5/16 x 3" cd or zn-pltd cap SCREW 5/16" cd or zn-pltd lock NUT
	3 097	SHAFT, drive (left side) 5/16 x 3" cd or zn-pltd cap SCREW 5/16" cd or zn-pltd lock NUT

PARTS LIST

SNOW THROWER HOUSING AND DRIVE



8-12702

Ref. No.	Part Number	Description	Ref. No.	Part Number	Description
1	3 237	GUARD, chain 5/16 x 1/2" cd or zn-pltd crg BOLT 5/16 x 3/4" cd or zn-pltd cap SCREW (2) 5/16" cd or zn-pltd NUT (3) 5/16" lock WASHER (3) 5/16 x 3/4" x .065" ga cd or zn-pltd WASHER (3)	4	1 126-31	CHAIN, roller
2	2 989	BLADE 5/16 x 1/2" cd or zn-pltd crg BOLT (5) 5/16" cd or zn-pltd NUT (5) 5/16 x 1/2" cd or zn-pltd lock WASHER (5)	5	2 984 1 111-23	SPROCKET, 12 tooth 1/2 x 2" cd or zn-pltd special hex-hd BOLT 1/2" cd or zn-pltd NUT 3/16 x 1-1/4" spirol PIN
3	3 086 617 941 R1	SPROCKET, 24 tooth 5/16 x 2" cd or zn-pltd spirol PIN	591 184 R1		
			6	2 972	SHAFT, transfer
			7	2 948	HOUSING, thrower 1/2 x 3" cd or zn-pltd mach BOLT (2) 1/2" cd or zn-pltd NUT (2) 1/2" cd or zn-pltd lock WASHER (2)

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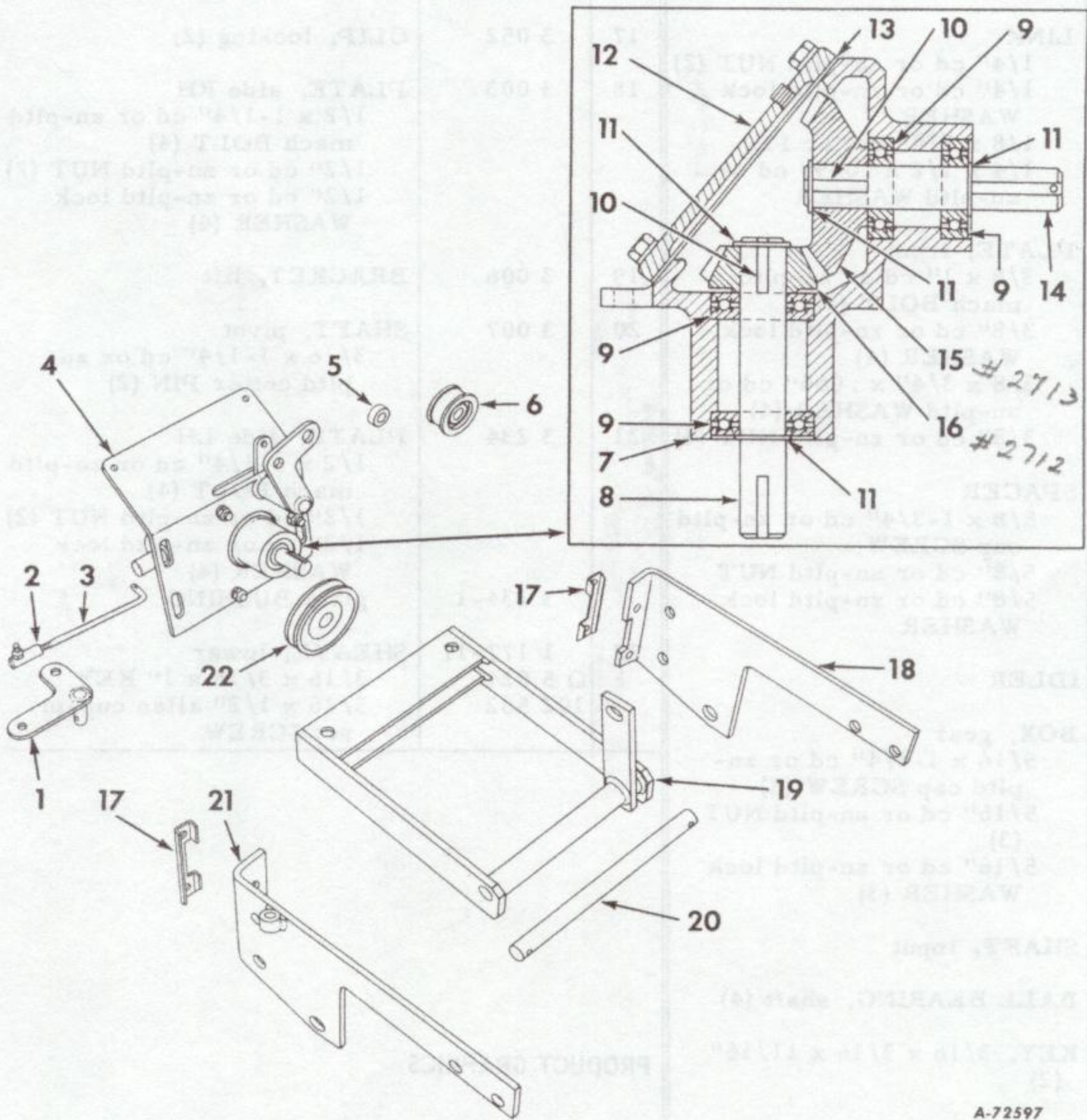
PARTS LIST

SNOW THROWER HOUSING AND DRIVE - Continued

Ref. No.	Part Number	Description	Ref. No.	Part Number	Description
8	3 018 3 002	SPRING, tension (2) 1/4" cd or zn-pltd eye BOLT (2) 1/4" cd or zn-pltd NUT (4)	19	3 000	BRACKET, rear 1/4 x 3/4" cd or zn-pltd cap SCREW 1/4" cd or zn-pltd NUT 1/4" cd or zn-pltd lock WASHER
9	3 001	CLIP, chute holder (3) 1/4 x 1/2" cd or zn-pltd crg. BOLT (3) 1/4" cd or zn-pltd NUT (3) 1/4" cd or zn-pltd lock WASHER (3)	20	3 238	ROD, idler control 1/8 x 3/4" cd or zn-pltd cotter PIN 1/4 x 1/2" x .049" cd or zn-pltd WASHER
10	2 949	CHUTE ASSEMBLY, snow	21	1 177-16	SHEAVE, top
11	2 949-2	CAP, deflector 3/8 x 3/4" cd or zn-pltd cap SCREW (2)	115 321	5/16 x 5/16" cup-pt allen set SCREW	
	126 032	3/8" cd or zn-pltd wing NUT (2) 3/8" cd or zn-pltd lock WASHER (2) 3/8 x 3/4 x .065" cd or zn-pltd WASHER (2)	22	1 176-38	BELT, A-25
			23	2 981-1	JOINT ASSEMBLY, tractor half universal universal to gear box KEY 5/32 x 1-1/4" cotter PIN 3/8 x 3/8" cup-pt allen set SCREW
			Q 5 024		
12	2 994 1 111-165	CABLE, swivel control 1/4 x 3/8" allen set SCREW	24	2 981-8	CAP, retainer
13	2 992	BUSHING, tubing 1/2 x 2" cd or zn-pltd cap SCREW 1/2" cd or zn-pltd NUT 1/2" cd or zn-pltd lock WASHER	25	2 981-7	RETAINER, grease
	120 396	17/32 x 1-1/16 x .095" spool mtg. WASHER	26	2 981-6	KIT, universal joint service (2)
14	2 990	SPOOL, swivel	27	2 981-4	JOINT ASSEMBLY, thrower half universal transfer shaft to universal KEY 5/32 x 1-1/4" cotter PIN 3/8 x 3/8" cup-pt allen set SCREW
15	2 991 U 5 353	CROSS 5/16 x 2-3/16" clevis PIN 1/8 x 3/4" cotter PIN 5/16 x 3/4" x 16 ga cd or zn-pltd WASHER	28	2 970 110 146 R91	BRACKET, sprocket mounting 1/4-28NF straight drive lubrication FITTING (2) 1/8 x 3/4" cotter PIN (2) mounting PIN
16	2 993	ARM, control chute 1/8 x 3/4" cotter PIN 3/8 x 3/4" x 16 ga cd or zn-pltd WASHER	29	359 955 R91	BEARING, needle (2)
17	2 999	BRACKET, support chute control arm 1/2 x 1-1/4" cd or zn-pltd mach BOLT (2) 1/2" cd or zn-pltd lock WASHER (2)	30	2 988	RUNNER (2) 3/8 x 1" cd-pltd crg BOLT (4) 3/8" cd or zn-pltd NUT (4) 3/8" cd or zn-pltd lock WASHER (4) 3/8" cd or zn-pltd flat WASHER (2)
18	3 008 2 124-2	ROD, lift 1/8 x 3/4" cd or zn-pltd cotter PIN hair PIN 1/2 x 1-1/8" x .083" cd or zn-pltd WASHER (2)	31	3 013 3 247 3 248	PLATE, deflector 5/16 x 1/2" cd or zn-pltd cap SCREW (2) 5/16" cd or zn-pltd NUT (2) 5/16" cd or zn-pltd lock WASHER (2) STRAP, support (right side) STRAP, support (left side)

PARTS LIST

BELLCRANK, GEAR BOX, AND IDLER



A-72597

Continued on next page.

PARTS LIST

BELLCRANK, GEAR BOX, AND IDLER - Continued

Ref. No.	Part Number	Description	Ref. No.	Part Number	Description
1	3 235	BELLCRANK 1/8 x 3/4" cd or zn-pltd cotter PIN	14	2 953	SHAFT, output
2	3 016	JOINT, 1/4" ball	15	2 713	GEAR, bevel
3	3 239	LINK 1/4" cd or zn-pltd NUT (2) 1/4" cd or zn-pltd lock WASHER 1/8 x 3/4" cotter PIN 1/4 x 1/2 x .049" cd or zn-pltd WASHER	16	2 712	PINION, bevel gear
4	3 236	PLATE, front 3/8 x 1" cd or zn-pltd mach BOLT (4) 3/8" cd or zn-pltd lock WASHER (4) 3/8 x 3/4" x .065" cd or zn-pltd WASHER (4) 3/8" cd or zn-pltd NUT (4)	17	3 052	CLIP, locking (2)
5	3 180	SPACER 5/8 x 1-3/4" cd or zn-pltd cap SCREW 5/8" cd or zn-pltd NUT 5/8" cd or zn-pltd lock WASHER	18	3 003	PLATE, side RH 1/2 x 1-1/4" cd or zn-pltd mach BOLT (4) 1/2" cd or zn-pltd NUT (2) 1/2" cd or zn-pltd lock WASHER (4)
6	2 426-5	IDLER	19	3 006	BRACKET, lift
7	2 952	BOX, gear 5/16 x 1-1/4" cd or zn- pltd cap SCREW (3) 5/16" cd or zn-pltd NUT (3) 5/16" cd or zn-pltd lock WASHER (3)	20	3 007	SHAFT, pivot 3/16 x 1-1/4" cd or zn- pltd cotter PIN (2)
8	2 971	SHAFT, input	21	3 234	PLATE, side LH 1/2 x 1-1/4" cd or zn-pltd mach BOLT (4) 1/2" cd or zn-pltd NUT (2) 1/2" cd or zn-pltd lock WASHER (4) pivot BUSHING
9	2 140-13	BALL BEARING, shaft (4)	22	1 177-17	SHEAVE, lower
10	2 741-311	KEY, 3/16 x 3/16 x 11/16" (2)	Q 5 024	102 582	3/16 x 3/16 x 1" KEY 5/16 x 1/2" allen cup-pt set SCREW
11	269 181 R1	RING, retaining (4)	PRODUCT GRAPHICS		
12	3 009 444 687	COVER, gear box 1/8NPT PLUG 1/4 x 3/4" cd or zn-pltd cap SCREW (4) 1/4" cd or zn-pltd lock WASHER (4)	Part Number		Description
13	2 720	GASKET, gear box cover	3 280		Product Graphics Pkg. Consists of the following Decalcomanias:
			3 282-1		SAFETY FIRST
			3 282-2		CAUTION
			3 282-3		INTERNATIONAL DANCO

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