



NOTE

Read this manual carefully and learn to operate and service your snowdozer before using it.

To keep the warranty, the snowdozer must be maintained and operated as directed in this manual.

SYMBOLS

All references to "left-side," "right-side," "front," and "back" are given from the operator's position.

OPERATIONAL INSTRUCTIONS

Use the serial number to ensure proper and correct service when ordering parts, requesting service, or making inquiries.

48" SNOWDOZER OPERATORS MANUAL

SNOWDOZER SERIAL NUMBER

WARRANTY

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



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SECTION 1

Instructions for Safe Operation

Improper use of this snowdozer can injure people and damage the equipment. People using or servicing this snowdozer must read and follow the instructions in this manual.

It is important to understand that this manual and any other Gravely instruction manuals do not cover every possible danger. It is impossible for Gravely to know of all possible dangers in operating and servicing the tractor and attachments.

The purchaser must give these instructions to the people operating and maintaining this snowdozer. These people must use eye and foot protection.

1.1 Protection

1. Read the tractor and attachment operator's manuals carefully.
2. Learn the location and function of all tractor and attachment controls.
3. Learn how to use the controls to stop the tractor and attachment.
4. Use caution with gasoline. Gasoline is very flammable. Keep it in a clean and tight container away from flames or hot items. Never put gasoline in the fuel tank while the engine is running or hot. Clean up spilled gasoline before starting engine.
5. Be certain that all shields, guards, and interlock switches are in the correct positions.
6. When hauling the tractor, connect the chassis and rear hitch to the transporting vehicle. Never connect from control levers, rods, or like items that could be damaged.

1.2 Operation

1. Wear foot and eye protection. Do not wear loose clothing.
2. Do not use the equipment in the dark without adequate lighting.
3. Keep the tractor and snowdozer in good condition. Maintain it as directed in this manual.

4. Replace all parts that become damaged or lost.
5. USE ONLY GRAVELY ACCESSORIES AND ATTACHMENTS OR ATTACHMENTS GRAVELY HAS APPROVED FOR USE WITH THIS TRACTOR.
6. Do not overspeed the engine. Do not override the governor.
7. Keep away from moving parts.
8. Keep people and animals away from the operating area.
9. Do not let people other than the operator ride on the tractor.
10. Use a slow speed when operating on slopes.
11. Look for and keep away from solid unyielding obstructions and other hazards.
12. Keep the PTO control in the "OFF" position.
13. Look behind when operating in reverse.
14. After hitting an object with the tractor or snowdozer, stop the engine and check for damage. Repair any damage before continuing operation.
15. Operate the tractor only from the seat.
16. Travel up and down, not across slopes.
17. Never permit children to operate the tractor.
18. Before leaving the tractor, lower the blade, lock the brake, and remove the ignition key.
19. If there is a sudden change in the sound or vibration of the tractor or attachments, stop the engine and check for damage. Repair any damage or failure before continuing operation.
20. Never run the engine indoors except to move it outside. Exhaust fumes are dangerous.
21. Go slowly on slick surfaces.
22. Follow traffic laws when operating on or near a road.
23. Before making adjustments or servicing, move the PTO to "OFF", turn the ignition switch to "OFF", and wait until all moving parts completely stop.

SECTION 2

Operating Instructions

- 2.1 Read the tractor operator's manual and learn the location and operation of the controls.
- 2.2 Install wheel weights and tire chains for maximum traction needed for heavy snow dozing.
- 2.3 A light coat of wax applied to the working surface of the blade aids in preventing ice and snow build-up on the blade.
- 2.4 Mark any hidden obstructions such as driveway markers, water or gas shutoffs, spouting, stumps, etc. prior to operating the snowdozer.
- 2.5 Position the blade perpendicular to the tractor frame when transporting to provide maximum ground clearance.
- 2.6 To doze snow:
 1. Adjust the blade angle, wear plate and lift height as described in Section 3.
 2. Lower the blade.
 3. Select a low gear.
 4. Move the throttle to the fast position.
 5. Engage the forward clutch slowly.
 6. Adjust the tractor speed by selecting a faster or slower gear to match the operating conditions.

SECTION 3

Service Instructions

3.1 Blade Angle Adjustment:

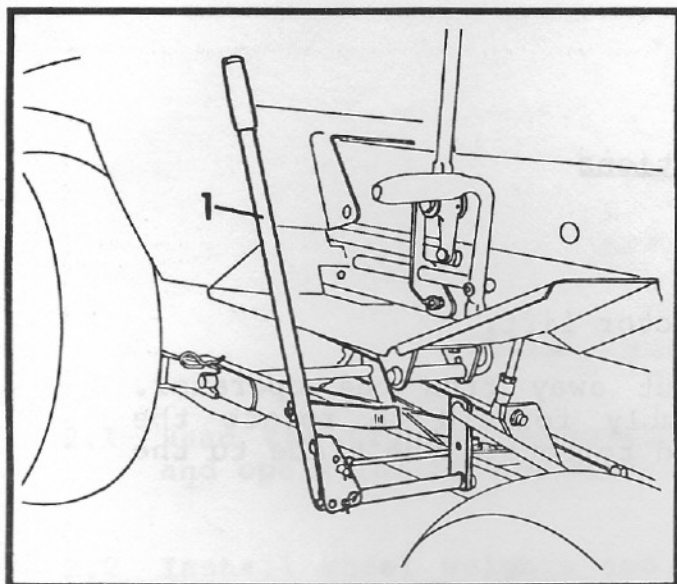
1. Raise the blade with the tractor lift.
2. Push the handle assembly out away from the operator. Then push the handle assembly forward to rotate the blade to the left or rearward to rotate the blade to the right. See Figure 1.

3.2 Wear Plate Adjustment:

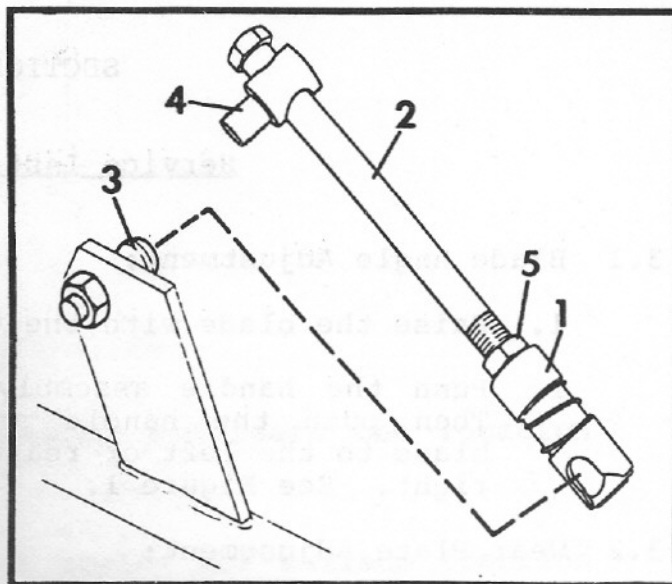
1. Block the blade in the "UP" position.
2. Loosen the 3/8-16 nuts which fasten the wear plate to the blade.
3. Move (rotate) the wear plate to the rear (counterclockwise) to increase the bite of the wear plate.
4. Move (rotate) the wear plate to the front (clockwise) to decrease the bite of the wear plate.
5. Tighten the 3/8-16 nuts.

3.3 Lift Height Adjustment:

1. Loosen the jam nut on the quick disconnect assembly. See Figure 2. Disconnect the quick disconnect assembly from the ball.
2. Block the blade in the "UP" position so that the push frame assembly just clears the bottom of the front axle of the tractor.
3. Put the attachment lift in the full "UP" position.
4. Adjust the bolt in the ball joint assembly until it will connect to the ball on the push frame assembly.
5. Connect the quick disconnect joint to the ball and lock the bolt in place with the jam nut.
6. Remove the block and lower the blade.
7. Move the attachment lift to the full "UP" position and check for clearance between the push frame assembly and the bottom of the tractor front axle. Readjust if necessary.



1 - Control Handle
FIGURE 1



1 - Ball Joint Assembly
2 - Bolt
3 - Ball
4 - Lift Pivot
5 - Jam Nut
FIGURE 2

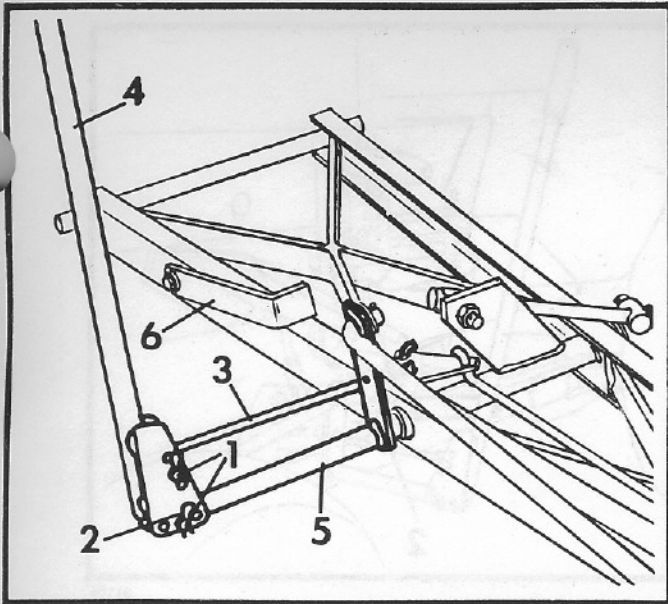
3.4 Adjustment of the Trip Springs:

1. Lower the blade.
2. Loosen the jam nut on each trip spring.
3. Adjust the first nut by hand until the spring is not loose.
4. Tighten the first nut three turns and lock in place with the jam nut.
5. The springs may be tightened more than three turns of the nut if unwanted tripping is a problem.

⚠ CAUTION: Do not adjust the trip springs too tight. To prevent damage and/or loss of control, the springs must be adjusted to allow the blade to trip when a fixed object is struck.

3.5 Installation:

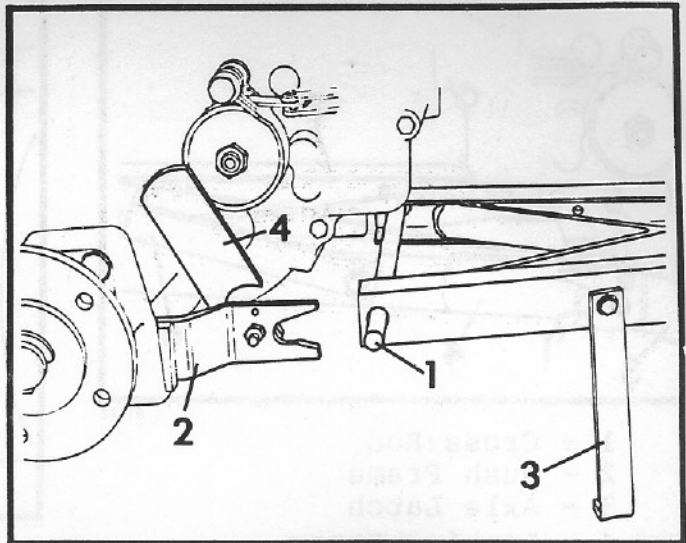
1. Remove the hair pin cotters, clevis pin and latch control rod from the handle assembly. See Figure 3.
2. Position the rear of the push frame assembly in front of the tractor with the kick stand in the "UP" position.
3. Roll the tractor over the push frame assembly until the cross rod is near the axle latches.



81155

- 1 - Hair Pin Cotter
- 2 - Clevis Pin
- 3 - Latch Control Rod
- 4 - Control Handle
- 5 - Pivot Shaft
- 6 - Kick Stand (Up)

FIGURE 3



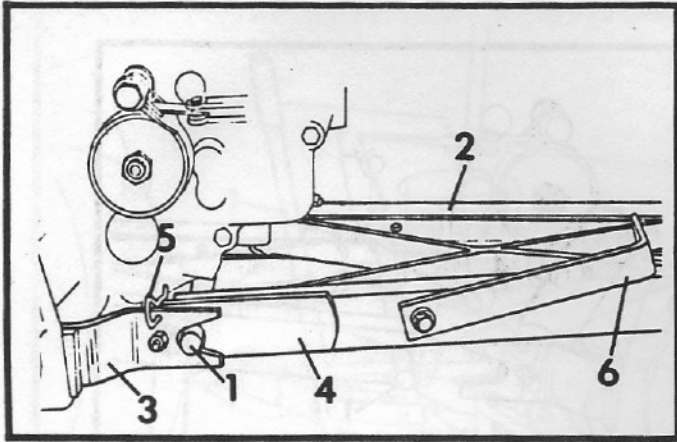
81164

- 1 - Cross Rod
- 2 - Axle Latch
- 3 - Kick Stand (Down)
- 4 - Locking Strap

FIGURE 4

4. Raise the push frame with the kick stand. Raise the locking straps on the axle latches. See Figure 4.
5. Roll the tractor forward so that the cross rod of the push frame assembly engages the axle latches.
6. Close the locking straps and retain with a hair pin cotter. See Figure 5.
7. Raise and lock the kick stand.
8. Connect the handle assembly and latch control rod as shown in Figure 6.
9. Lower the attachment lift. Put the mower lift pivot in the hole closest to the shaft on the attachment lift arm. Retain with a hair pin cotter. See Figure 7.
10. Pull the locking collar up and connect the quick disconnect to the ball.
11. Raise the blade to the "UP" position with the attachment lift when the tractor is to be moved. Keep the blade down when the tractor is parked.

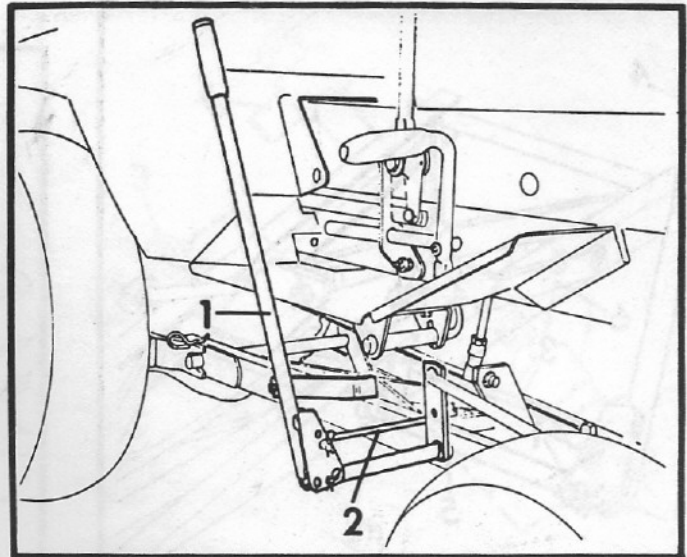
3.6 To remove, reverse the installation procedure except leave the kick stand in the "UP" position.



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- 1 - Cross Rod
- 2 - Push Frame
- 3 - Axle Latch
- 4 - Locking Strap
- 5 - Hair Pin Cotter
- 6 - Kick Stand (Up)

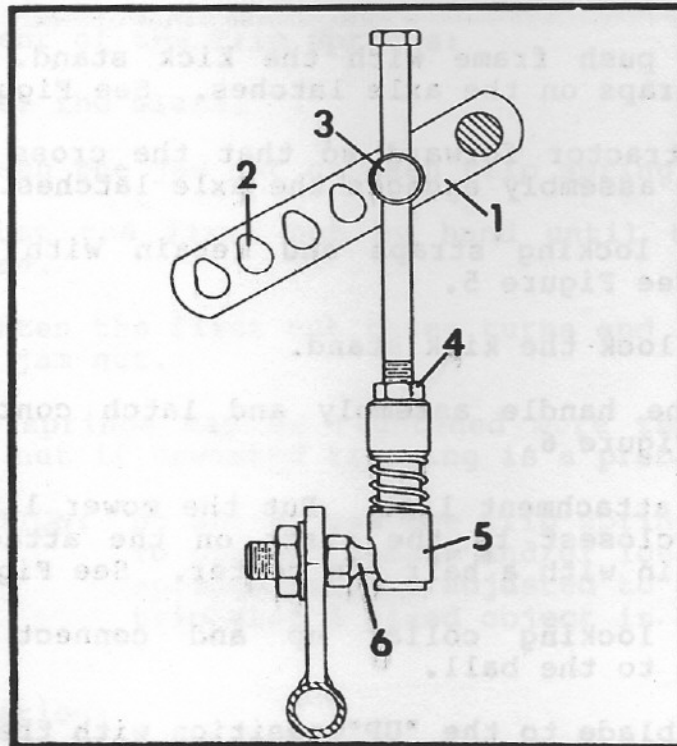
FIGURE 5



81166

- 1 - Control Handle
- 2 - Latch Control Rod

FIGURE 6



81168

- 1 - Attachment Lift
- 2 - Teardrop Holes
- 3 - Lift Pivot
- 4 - Quick Disconnect Assembly
- 5 - Locking Collar
- 6 - Ball

FIGURE 7

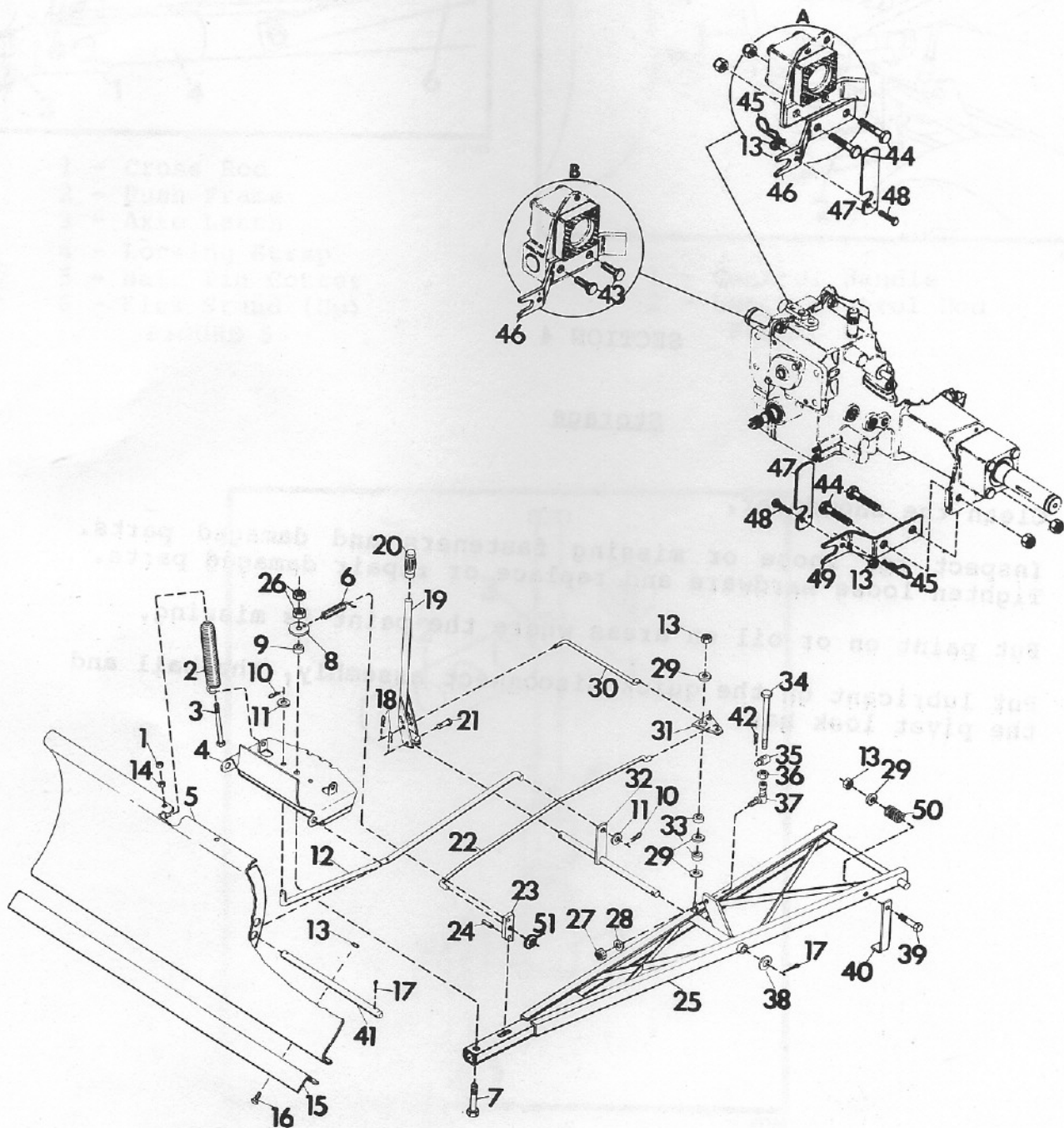
SECTION 4

Storage

- 4.1 Clean the snowdozer.
- 4.2 Inspect for loose or missing fasteners and damaged parts. Tighten loose hardware and replace or repair damaged parts.
- 4.3 Put paint on or oil on areas where the paint is missing.
- 4.4 Put lubricant on the quick disconnect assembly, the ball and the pivot lock bar.

SECTION 5

Illustrated Parts and Parts List



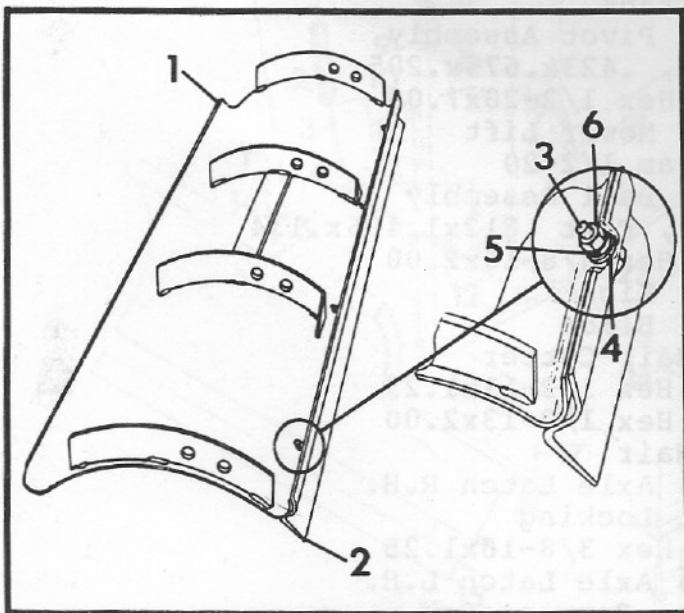
ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	124829	2	Nut, Jam 3/8-16 Hex
2	11865	2	Spring, Trip
3	18505	2	Bolt, Hex 3/8-16x4.5 Gr 2
4	18501	1	Plate, Pivot Assembly
5	18499	1	Assembly, Blade 48"
6	11851	1	Spring, Blade Angling
7	271781	1	Bolt, Hex 3/4-10x4.50
8	11850	1	Washer, Spring Anchor
9	18506	1	Spacer, .824x1.050x.500
10	14412	2	Pin, Hair Cotter
11	131016	2	Washer, Flat .656x1.312x.095
12	11864	1	Rod, Angling Control
13	456004	8	Nut, Lock 3/8-16
14	120377	2	Nut, Hex 3/8-16
15	18500	1	Plate, Wear
16	120915	4	Bolt, 3/8-16x1.00 Rd Hd Sq Nk
17	137218	3	Pin, Cotter .156x1.250
18	11860	2	Pin, Cotter Hair
19	18503	1	Handle, Assembly
20	11861	1	Grip, Handle
21	18507	1	Pin, Clevis
22	34096	1	Rod, Latch Control (Long)
23	34098	1	Bar, Pivot Lock
24	412281	1	Pin, Spring 1/4x1
25	34101	1	Assembly, Push Frame
26	426897	2	Nut, Jam 3/4-10 Hex
27	190171	1	Nut, Lock 1/2-20
28	417098	1	Washer, Flat .531x1.000x.063
29	120394	4	Washer, Flat .406x.812x.065
30	18504	1	Rod, Latch Control (Short)
31	14421	1	Bell Crank
32	18502	1	Shaft, Pivot Assembly
33	18508	2	Spacer, .423x.675x.205
34	193496	1	Bolt, Hex 1/2-20x7.00
35	11262	1	Pivot, Mower Lift
36	124934	1	Nut, Jam 1/2-20
37	11315	1	Joint, Ball Assembly
38	131017	1	Washer, Flat .812x1.496x.134
39	180130	1	Bolt, Hex 3/8-16x2.00
40	34097	1	Stand, Kick
41	11846	1	Pivot, Blade
42	15691	1	Pin, Hair Cotter
43	180175	2	Bolt, Hex 1/2-13x1.25
44	180181	4	Bolt, Hex 1/2-13x2.00
45	10405	2	Pin, Hair
46	19766	1	Plate, Axle Latch R.H.
47	19172	2	Strap, Locking
48	180124	2	Bolt, Hex 3/8-16x1.25
49	19767	1	Plate, Axle Latch L.H.
50	34099	1	Spring, Compression
51	14424	1	Nut, 5/16 Push
NS	19365	1	Decal, Gravely

NOTE: Item 44 (Part No. 180181) in circle "A" to be used on tractor with standard axle bearing retainer.
Item 43 (Part No. 180175) in circle "B" to be used on tractor with axle bearing retainer for rear PTO.

SECTION 6

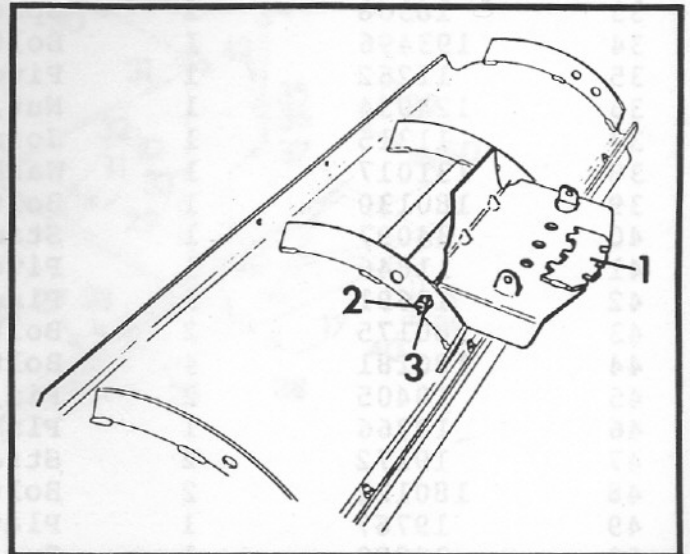
Set-Up Instructions

- 6.1 Remove the snowdozer from the shipping container.
- 6.2 Fasten the wear plate to the blade with four 3/8-16x1 round head square neck bolts, flat washers, lock washers and 3/8-16 nuts. See Figure 8. For adjustment see Section 3.2.
- 6.3 Connect the pivot plate to the blade with the blade pivot and fasten with a cotter pin in each end of the blade pivot as shown in Figure 9.
- 6.4 Put the threaded end of a 3/8x4-1/2 bolt into and through each trip spring, and put the hooks of the trip springs into the holes in the tabs on the pivot plate. Then put the bolts through the holes in the top of the blade and fasten them with a 3/8 hex nut on each bolt as shown in Figure 10. Tighten the nuts against the blade with your fingers, and then use a wrench to tighten the nuts three complete turns. Place a jam nut on each bolt; holding the hex nuts with a wrench, tighten the jam nut against the hex nut.
- 6.5 Put the end of the push frame in the pivot plate. Align the hole in the push frame with the center hole in the pivot plate and put a 3/4x4-1/2 bolt through the hole from the bottom as shown in Figure 11.



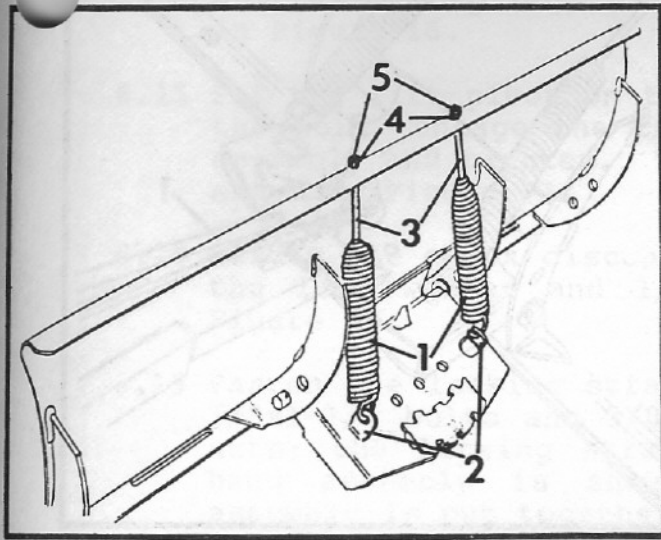
- | | |
|----------------|-----------------|
| 1 - Blade | 4 - Flat Washer |
| 2 - Wear Plate | 5 - Lock Washer |
| 3 - Bolt | 6 - Hex Nut |

FIGURE 8



- | |
|-----------------|
| 1 - Pivot Plate |
| 2 - Blade Pivot |
| 3 - Cotter Pin |

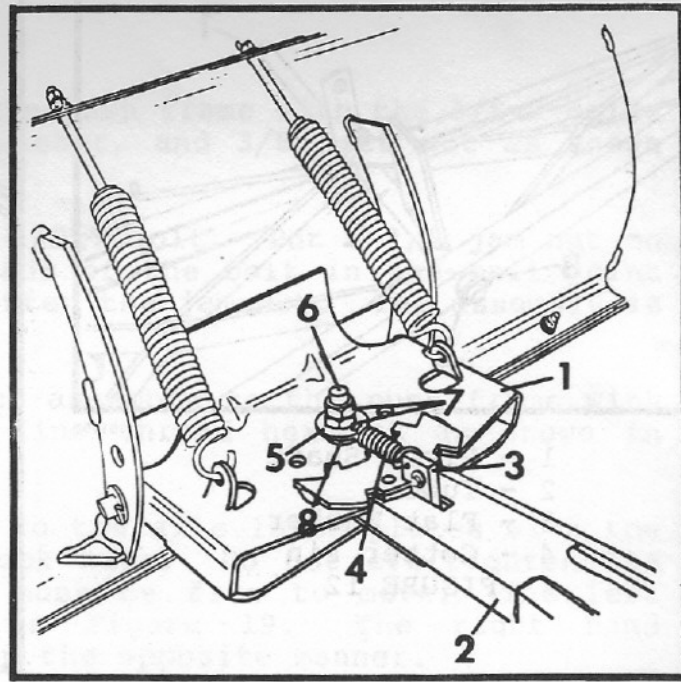
FIGURE 9



81150

- | | |
|------------------|--------------|
| 1 - Trip Springs | 4 - Hex Nuts |
| 2 - Tabs | 5 - Jam Nuts |
| 3 - Bolts | |

FIGURE 10

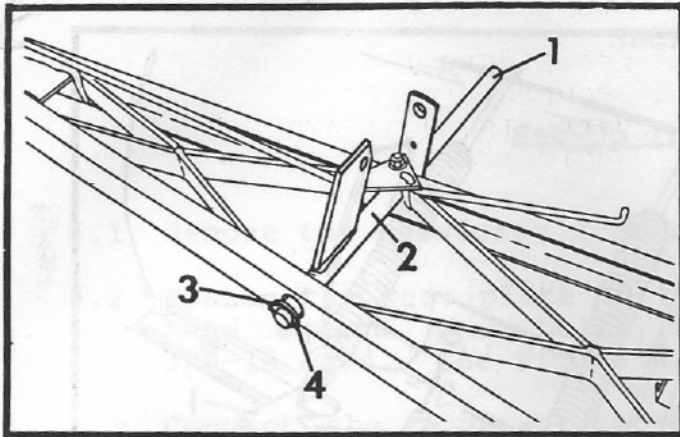


81151

- | |
|--------------------------|
| 1 - Pivot Plate |
| 2 - Push Frame |
| 3 - Pivot Lock Bar |
| 4 - Blade Angling Spring |
| 5 - Spring Anchor Washer |
| 6 - Bolt |
| 7 - Jam Nuts |
| 8 - Spacer |

FIGURE 11

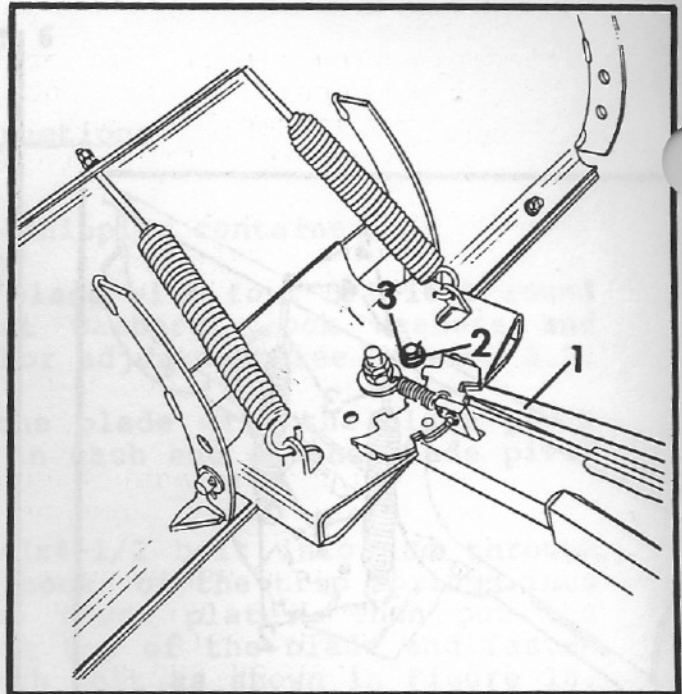
- 6.6 Put the hook of the blade angling spring in the small hole in the spring anchor washer and the other end of the spring in the pivot lock bar.
- 6.7 Put the spacer on the bolt and then slide the spring anchor washer onto the bolt. Fasten the bolt with a 3/4 jam nut. Tighten the nut until the push frame is barely free to pivot. Lock the nut with a second jam nut. See Figure 11.
- 6.8 Put the pivot shaft through the tube on the push frame and fasten with a flat washer and cotter pin as shown in Figure 12.
- 6.9 Fasten the angling control rod to the pivot plate with a flat washer and hair pin cotter as shown in Figure 13.
- 6.10 Fasten the other end of the angling control rod to the plate on the pivot shaft with a flat washer and cotter pin as shown in Figure 14.
- 6.11 Slide the handle grip onto the handle assembly and fasten the handle assembly to the pivot shaft with a clevis pin and hair pin cotter. Fasten the latch control rod to the handle assembly with a hair pin cotter. See Figure 15.



81152

- 1 - Pivot Shaft
- 2 - Tube
- 3 - Flat Washer
- 4 - Cotter Pin

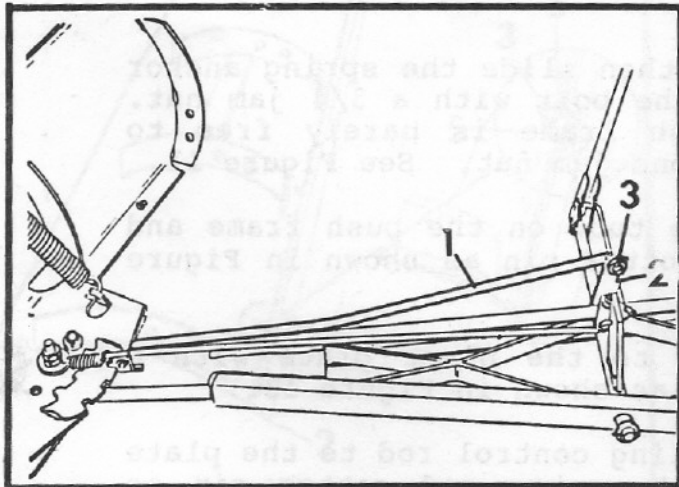
FIGURE 12



81153

- 1 - Angling Control Rod
- 2 - Flat Washer
- 3 - Cotter Pin

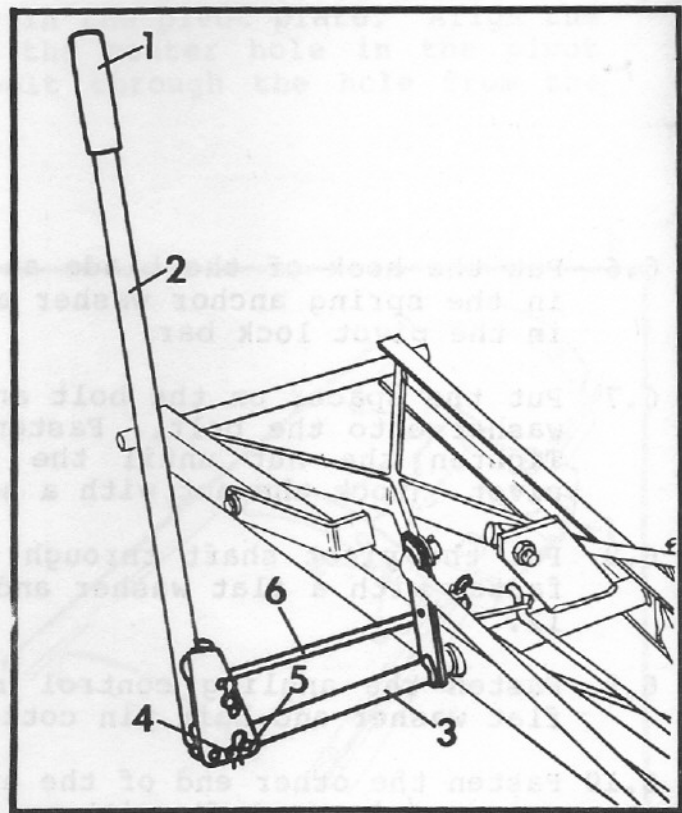
FIGURE 13



81154

- 1 - Angling Control Rod
- 2 - Cotter Pin
- 3 - Flat Washer

FIGURE 14

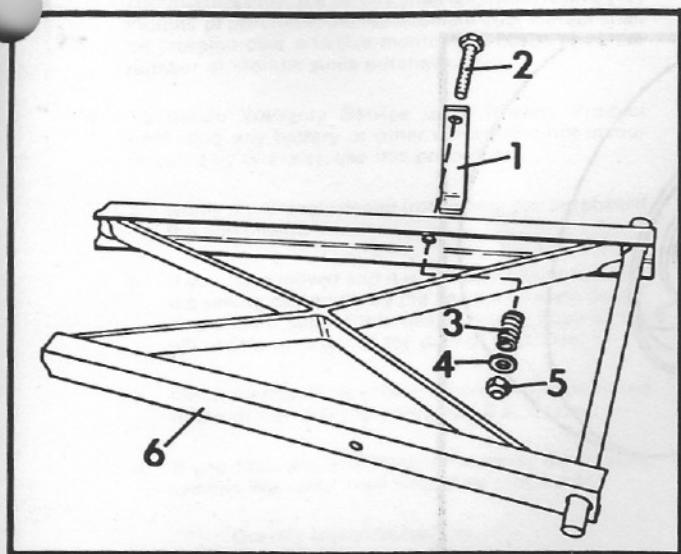


81155

- 1 - Handle Grip
- 2 - Control Handle
- 3 - Pivot Shaft
- 4 - Clevis Pin
- 5 - Hair Pin Cotter
- 6 - Latch Control Rod

FIGURE 15

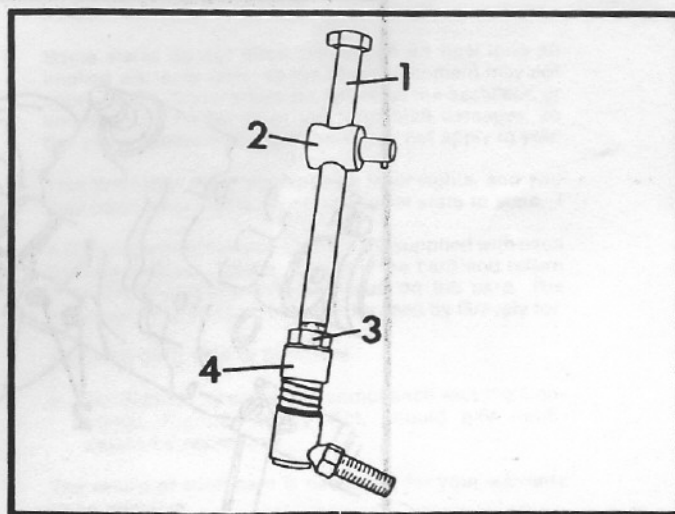
- 6.12 Fasten the kick stand to the push frame with the 3/8x2 bolt, compression spring, flat washer, and 3/8 lock nut as shown in Figure 16.
- 6.13 Put the lift pivot on the 1/2x7 bolt. Put a 1/2 jam nut on the bolt, engage the threads of the bolt in the ball joint assembly and tighten. Tighten the jam nut. The assembly is shown in Figure 17.
- 6.14 Fasten the quick disconnect assembly to the push frame with the lock washer and 1/2 fine thread hex nut as shown in Figure 18.
- 6.15 Fasten the locking straps to the axle latch plates with the 3/8x1-1/4 bolts and 3/8 lock nuts. Do not overtighten the nuts; the locking straps must be free to move. The left hand assembly is shown in Figure 19. The right hand assembly is put together in the opposite manner.
- 6.16 Remove the bolts that fasten the rear hitch to the tractor. Fasten the axle latch assembly and the rear hitch to the tractor with the 1/2x2 bolts and 1/2 nuts as shown in Figure 20. NOTE: Tractors with rear PTO require 1/2x1.25 bolts to fasten axle latch assemblies and rear hitch to the tractor.



81156

- 1 - Kick Stand
- 2 - Bolt
- 3 - Compression Spring
- 4 - Flat Washer
- 5 - Lock Nut
- 6 - Push Frame

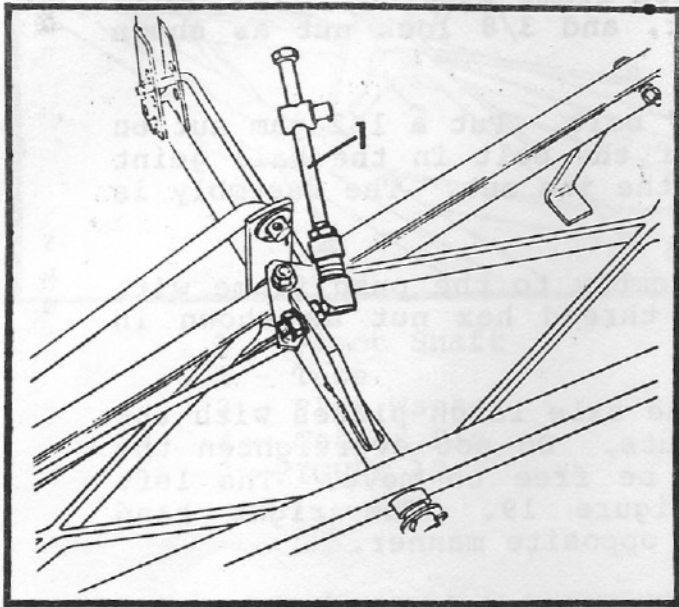
FIGURE 16



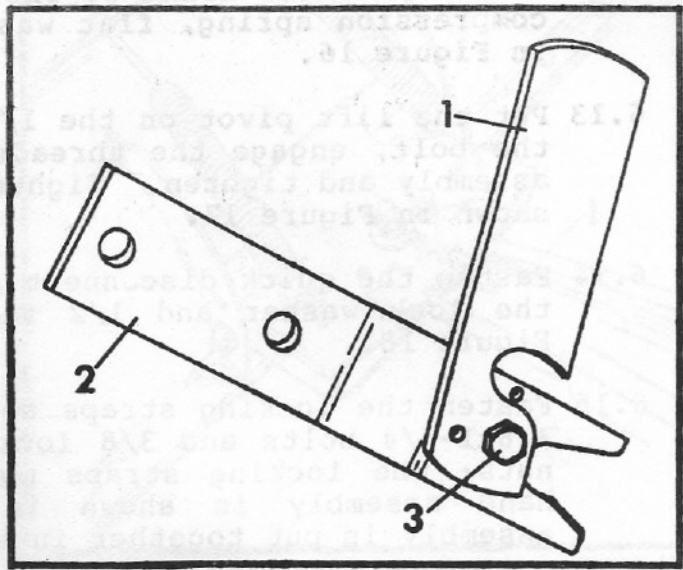
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- 1 - Bolt
- 2 - Lift Pivot
- 3 - Jam Nut
- 4 - Quick Disconnect

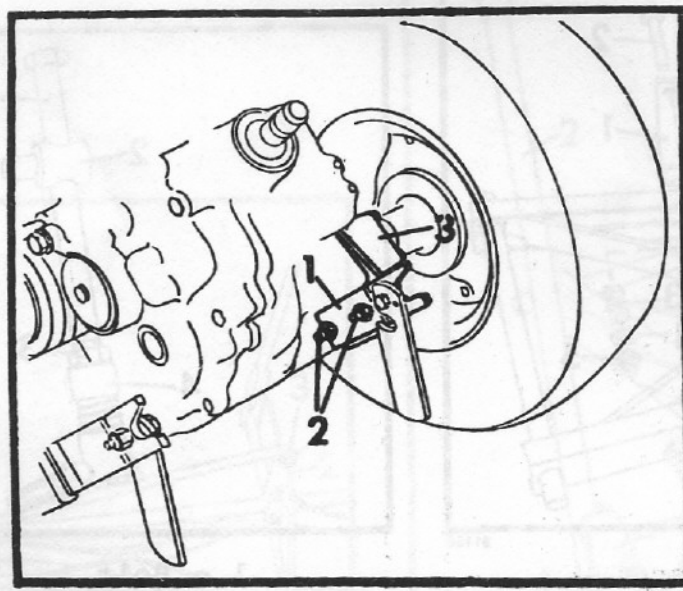
FIGURE 17



1 - Quick Disconnect Assembly
 FIGURE 18



1 - Locking Strap
 2 - Axle Latch Plate
 3 - Bolt
 FIGURE 19



1 - Axle Latch Assembly
 2 - Bolts
 3 - Tractor Axle
 FIGURE 20

LIMITED FIVE-YEAR WARRANTY

1. This Limited Five-Year Warranty is issued by Gravelly International, Inc. only to the original purchaser. If Gravelly equipment is leased by Gravelly, this Warranty shall extend also to the original lessee as if such lessee were the original purchaser.
2. Gravelly warrants that all new equipment manufactured by Gravelly ("Gravelly Products") shall be free of defects in material and workmanship for the term described in paragraph 4, below. Except as hereinafter provided, this Warranty does not cover any engine, tires or battery forming a part of the Gravelly Product. Engine and tires are covered by and subject to separate warranties of the manufacturers thereof.
3. In the event that any Gravelly Product warranted hereunder shall be defective or fail to conform with this Warranty, Gravelly shall, subject to the provisions hereof, pay for, or provide labor and materials for, the repair or replacement of such defective Gravelly Product.
4. This Warranty is for five years (60 months) from purchase date for Gravelly Products used exclusively for personal, family or household purposes, and two years (24 months) for products used for other purposes (commercial use). Repair of Gravelly Products after the second year (24 months from date of purchase) shall be subject to a \$50.00 deductible for each repair. (After two years, Gravelly agrees to repair or replace defective Gravelly Products used exclusively for personal, family or household purposes only to the extent that the cost of such repair or replacement exceeds \$50.00.)

Batteries are warranted by Gravelly for a period of twelve (12) months only. If a battery shall fail within twelve (12) months of purchase, the replacement cost thereof shall be prorated over a twelve-month term based upon the number of months since purchase.
5. To obtain Warranty Service on a Gravelly Product (including any battery or other component not manufactured by Gravelly), use this procedure:
 - a. Notify the Gravelly dealer from whom you purchased the equipment.
 - b. If you have moved and it is not convenient to notify the selling dealer, notify the nearest Gravelly dealer. You should supply this dealer with a copy of the bill of sale as proof of the date of purchase.
 - c. Make arrangements to have the equipment delivered to the dealer (refer to paragraph 6 a., below).
 - d. If you have any questions concerning the Gravelly Limited Warranty, they should be referred to:

Gravelly International, Inc.
One Gravelly Lane
Clemmons, NC 27012
Attn: Customer Service Department
 - e. Warranty service on Gravelly Products must be performed by an authorized Gravelly dealer.
6. This Warranty does not cover the following:
 - a. Transportation to the Gravelly dealership. (If the Gravelly dealer provides transportation, he will charge for such service.)
 - b. Normal maintenance services and normal replacement of items such as spark plugs, belts, oil, oil filters, air filters, and mower, plow or cultivator blades, gauge wheels, skids and other wear items.
 - c. Any Gravelly Product which has been altered or modified in any way.
 - d. Any repair or replacement occasioned by customer neglect or lack of proper maintenance. (The purchaser is responsible for making sure that Gravelly Products are operated and serviced as directed in the applicable manual or service instruction. Incorrect use or maintenance will void this Warranty.)
 - e. Any repair occasioned by the use of any attachment not approved by Gravelly. (The use of any such unapproved attachment will void this Warranty.)
7. GRAVELLY MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES, OR WARRANTIES AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALL WARRANTIES ARE LIMITED IN DURATION TO THE TERMS SET OUT IN PARAGRAPH 4, ABOVE. GRAVELLY SHALL HAVE NO LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE BREACH OF ANY WARRANTY, INCLUDING, BUT NOT LIMITED TO, LIABILITY FOR INCONVENIENCE, RENTAL OR PURCHASE OF REPLACEMENT EQUIPMENT, OR FOR LOSS OF PROFITS OR OTHER COMMERCIAL LOSS.
8. Some states do not allow limitations on how long an implied warranty lasts, so the above statement may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.
9. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.
10. A Gravelly product registration card is supplied with each Gravelly Product. Please complete the card and return it to Gravelly at the address listed on the card. The equipment registration card will be used by Gravelly for:
 - a. Recording date of purchase.
 - b. Notification of owners in compliance with the Consumer Product Safety Act, should any notification be necessary.The return of such card is necessary for your warranty to be effective.
11. This Warranty is not subject to change or modification by anyone, including Gravelly dealers and no Gravelly dealer is authorized to make any representations or promises on Gravelly's behalf.



One Gravelly Lane, Clemmons, NC 27012