

# **GRAVELY** OPERATOR'S MANUAL

**NAME: 42 INCH SICKLE MOWER**

**PART NUMBER(S): 10281**



The Sickle Mower is for use with the Gravely two wheel tractors.

All reference to left side, right side, front and rear are given from the operator's position.

**To continue its program of quality and design improvement, the manufacturer reserves the right to change specifications, designs and prices without notice and incurring obligation.**

**Form No. 32193 (11-79)**

**Printed in U.S.A.**

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## 1.0



## WARNINGS - FOR YOUR SAFETY



**NOTE:** This warning symbol:  indicates that there is danger to persons or equipment. Read these warnings carefully and follow them.

This section gives warnings for safe operation of the 42 Inch sickle mower.

Using this equipment the wrong way can cause injury to persons and damage to the equipment. Persons using or doing maintenance on this equipment must read this Operator's Manual and follow the instructions using correct procedure.

It is important to understand that the warnings in this Operator's Manual and any other Gravelly instruction book do not list every possible danger. It is not possible for Gravelly to know and tell the operator or person doing service on the equipment of all the dangers in operating and doing maintenance on the equipment.

The purchaser must give these instructions to the persons operating and doing maintenance on this equipment. The purchaser must get the operator and person doing maintenance on this equipment to use eye and foot protection.

## 1.1 Instructions Before Operation

1. Read the tractor and this Operator's Manual carefully before operating or doing maintenance.
2. Never let children operate the equipment.
3. Let adults operate the equipment only after reading and understanding the instructions in this Operator's Manual.

## 1.2 Preparation For Operation

1. Before operating, inspect the area of operation and remove items that will be hit by the mower.
2. Put the direction control lever in the neutral position and the PTO control in the "OFF" position before starting the engine.
3. Wear clothing that is not loose. Wear foot and eye protection.
4. Use caution when putting gasoline in the fuel tank.
5. Use a clean and tight fuel container.
6. Never put gasoline in the fuel tank while the engine is running.
7. Never put gasoline in the fuel tank while inside a building.
8. Remove any gasoline that falls on the tractor before starting the engine.

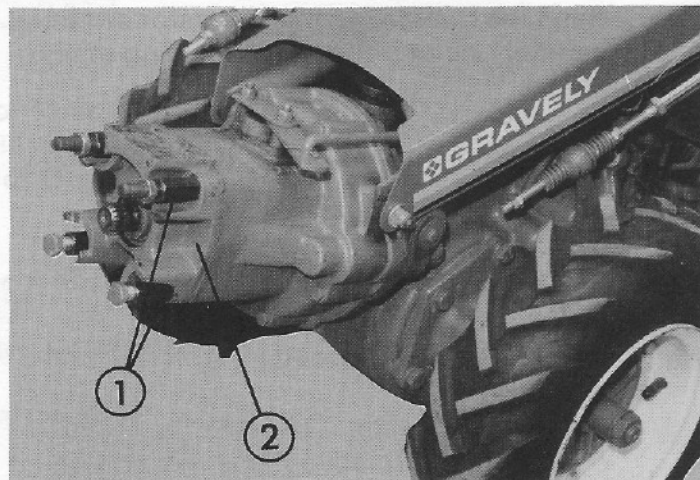
## 1.3 Operation

1. Keep away from moving parts.
2. Do not let persons ride on the tractor.
3. After hitting an item, stop the engine and check for damage. If there is damage, make repairs before operating the mower.
4. Always look for and keep away from holes and hazards.
5. Operate the equipment only from the operator's position.
6. Never start and run the engine inside a building except to move the equipment outside.
7. When operating on a slope, go across the slope, never up and down.
8. Use caution when changing direction on slopes.
9. Do not operate the mower when the area of operation is too dark for the operator to see.
10. Never operate the tractor or mower when there is damage to any part or any part is not in the correct position. Replace all parts when damaged or missing before operating.
11. If there is a sudden change in the sound or vibration of the tractor or mower, stop the tractor and check for damage. If there is damage, make repairs before operating.
12. Before leaving the operating position to make adjustments or to do maintenance, put the PTO control in the "OFF" position, turn the ignition switch to the off position and wait until the engine and moving parts stop.

## 2.0 HOW TO CONNECT THE MOWER TO THE TRACTOR

This section gives the procedure for connecting the mower to the tractor.

1. Lower the tractor stand to the ground and tighten the adjusting handle on the stand.
2. Remove the quick hitch studs by turning the studs counterclockwise and then remove the quick hitch adapter shown in figure 2.0-1.



1 - Quick Hitch Studs  
2 - Quick Hitch Studs

3. The front of the tractor will be as shown in figure 2.0-2 when the quick hitch adapter has been removed.

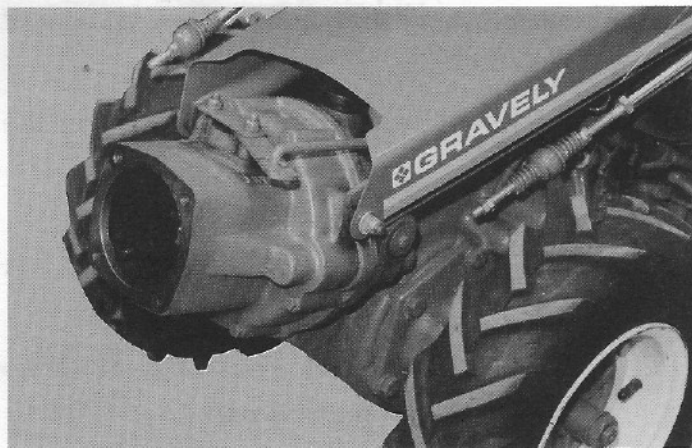
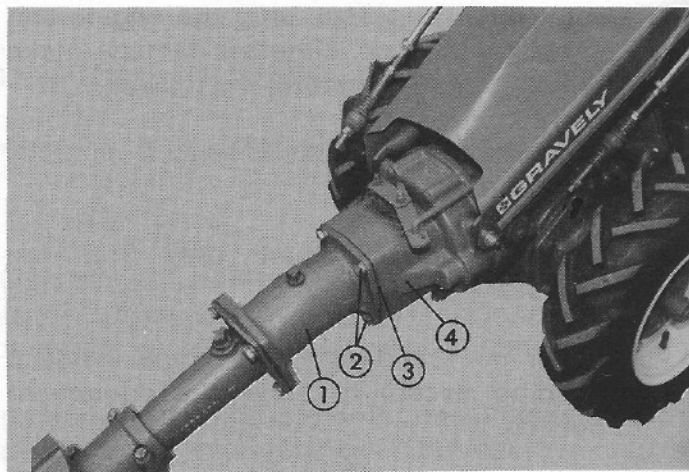


Figure 2.0-2

4. Use the gasket that was between the quick hitch adapter and the advanced casting when installing the sickle mower. If the gasket has damage it must be replaced.
5. Fasten the sickle mower to the tractor with the 1/2" x 1-1/2" bolts as shown in figure 2.0-3. Check the transmission lubricant as shown in the tractor operator's manual and add lubricant if the level is low.



3 - Gasket      1 - Sickle Mower  
4 - Advance Casting      2 - Bolts

Figure 2.0-3

### 3.0 HOW TO DISCONNECT THE MOWER FROM THE TRACTOR

This section gives the procedure for removing the mower from the tractor.

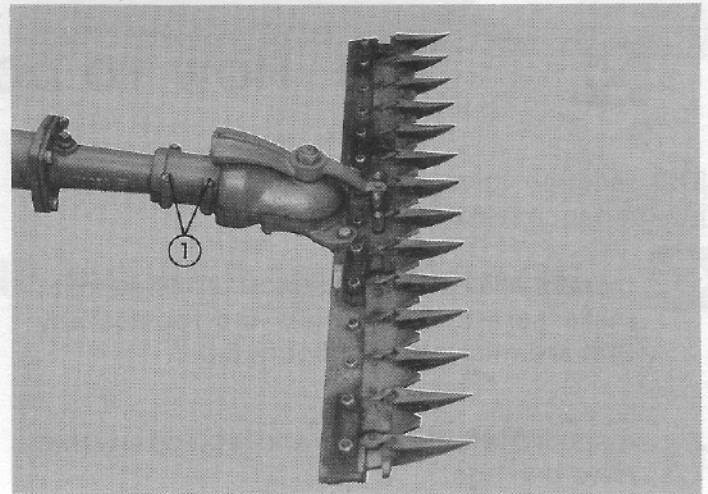
1. Lower the tractor to the ground and tighten the adjusting handle on the stand.
2. Remove the bolts that fasten the mower to the advance casting shown in figure 2.0-3, and remove the mower.
3. Install the quick hitch adapter and gasket. If the gasket has damage it must be replaced. Check the transmission lubricant as shown in the tractor operator's manual and add lubricant if the level is low.

**! WARNING:** Do not operate the tractor without the quick hitch adapter or the mower being installed on the tractor.

### 4.0 HOW TO ADJUST THE MOWER TO FOLLOW THE GROUND

This section gives the procedure for adjusting the mower to follow the ground.

The swivel adjustment is correct when the mower will not rotate on the swivel when raised by pushing down on the tractor handlebars but will follow the ground when mowing. Turn the adjusting bolts, shown in figure 4.0-1, clockwise to tighten the swivel and counterclockwise to loosen the swivel.



1 - Adjusting Bolts

Figure 4.0-1



## 5.0 HOW TO OPERATE THE MOWER



This section gives the procedure for operating the mower. Read this operator's manual and the tractor operator's manual before operating.

1. Start the tractor engine and wait until the engine is running smoothly.
2. Put the "RANGE" selector in the "LOW" position.
3. Engage the PTO.
4. Move the throttle lever to halfway between the "SLOW" and "FAST" positions.

**! WARNING:** Never operate the mower with the throttle in the "FAST" position.

5. Put the "GEAR" selector in the "LOW" position.
6. Put the direction control lever in the forward position to move forward.



## 6.0 HOW TO DO MAINTENANCE



This section gives the procedure for doing maintenance before each use.

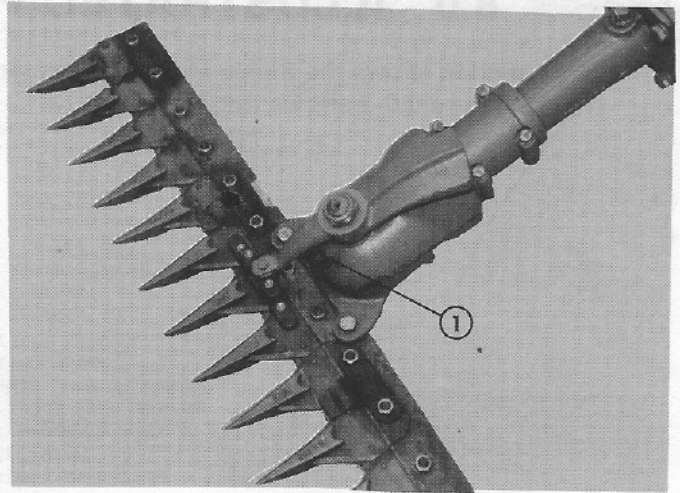
1. Inspect all nuts, bolts and other fasteners to make sure they are tight and replace any that are missing. See figure 6.0-1.
2. Inspect the knife blades and replace any that have damage.
3. Check to see that the knife blades are sharp. If the knife blades are not sharp, remove the knife assembly by removing the bolts that fasten the drive bracket to the knife assembly. The knife assembly can then be removed from either end. Grind the edges that have the bevel until they are sharp.

**BOLT TORQUE SPECIFICATIONS**

BOLT SIZE	FOOT POUNDS (ft. lbs.)	NEWTON METERS (N.m)
1/4"	7	9.5
5/16"	14	19
3/8"	25	34
7/16"	40	54
1/2"	60	82
9/16"	83	113
5/8"	120	163
3/4"	200	271

Figure 6.0-1

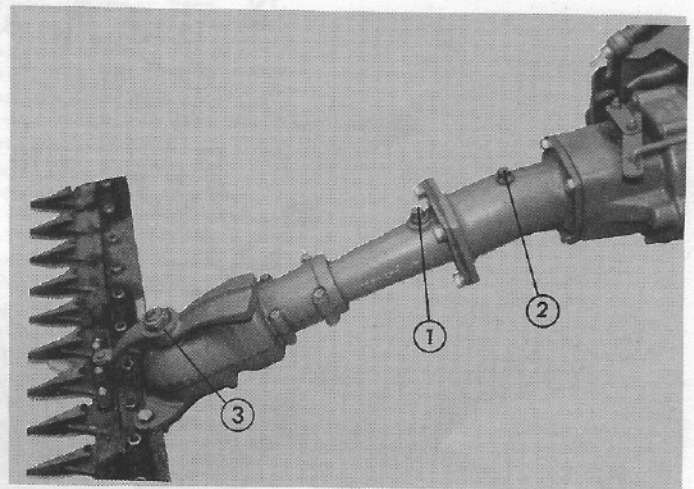
- Every 40 hours of operation, check the drive lubricant level. Remove the pipe plug shown in figure 6.0-2. If the lubricant is correct the lubricant will flow from the hole. Install the pipe plug and tighten.



1 - Pipe Plug

Figure 6.0-2

- If lubricant does not flow from the pipe plug hole, remove the pipe plug shown in figure 6.0-3 and add SAE 80W-90 EP gear lubricant until it flows from the pipe plug hole shown in figure 6.0-2. Install both pipe plugs and tighten.
- Once a year, remove the grease plug shown in figure 6.0-3. If you can see the grease, install the plug and tighten. If you can not see the grease, add 1/2 lb. (.23 kg.) of multi-purpose grease. Install the plug and tighten.
- After every eight hours of operation, tighten the 1" nut on the actuating lever to a torque of 150 ft. lbs. (203 N.m).



1 - Pipe Plug  
2 - Grease Plug  
3 - 1" Bolt

Figure 6.0-3



## 7.0 HOW TO PUT THE MOWER IN STORAGE



This section gives the procedure for putting the mower in storage. When the mower will not be operated for three months or more, follow this procedure.

- Clean all the grass and dirt from the mower.
- To prevent rust, put paint or multi-purpose grease on any area where the paint has been removed. Put engine lubricant on the knife section.
- Do the maintenance shown in section 6.0.



# 8.0 ILLUSTRATED PARTS AND PARTS LIST



This section shows the Sickle Mower Illustrated Parts and Parts List. Figure 8.0-1 shows the Illustrated Parts. Figure 8.0-2 shows the Parts List.

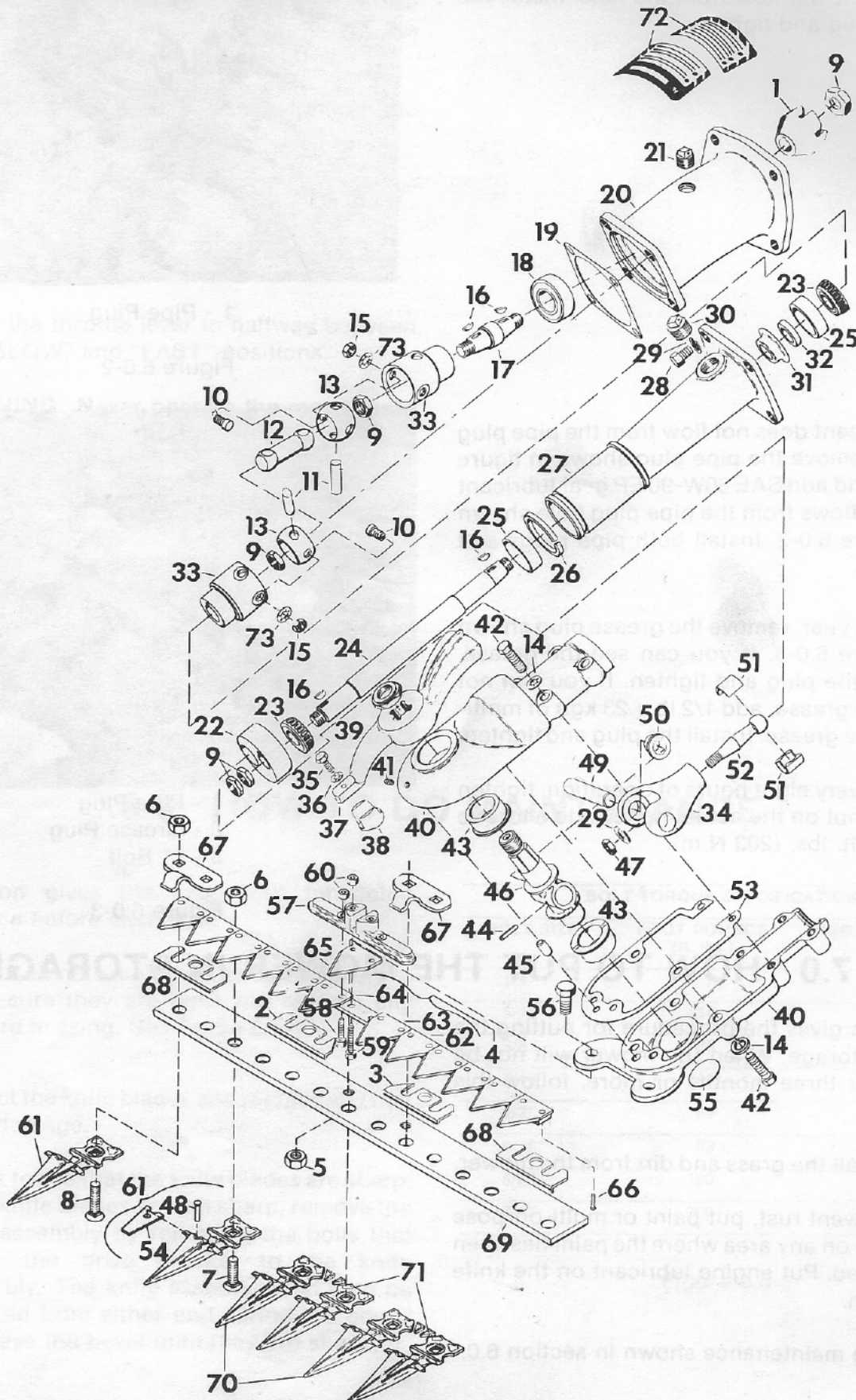


FIG. 8.0-1



ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	19592	1	Clutch, Dog P.T.O.
2	20745	1	Plate, Wear R. H.
3	20746	1	Plate, Wear L. H.
4	10293	1	Knife, Assembly 42-3" Knives
5	120238	2	Nut, Jam 1/2-13
6	217501	14	Nut, Hex 7/16-14
7	23282	8	Bolt, Plow 7/16-14 x 1-3/4
8	3304	6	Bolt, Guard Lg.
9	19918	5	Nut, Lock 5/8-24
10	13599	4	Stud, Pivot
11	13601	2	Pin, Pivot
12	13602	1	Link
13	13600	2	Ring, Center
14	120382	8	Washer, Lock 3/8 Sp.
15	13627	4	Nut, Lock Esna 3/8-24
16	124549	4	Key, Woodruff 3/16 x 3/4 Hard No. 9
17	13596	1	Shaft, Stud
18	13597	1	Bearing, Ball .984 x 2.047 x .590
19	5056	1	Gasket, Attachment
20	3197	1	Housing, Universal
21	13408	1	Plug, 1/2 Sq. Hd.
22	23711	1	Disc, Crank
23	13594	2	Bearing, Roller Cone
24	13603	1	Crankshaft
25	13595	2	Bearing, Roller Race
26	3173	1	Cork Seal
27	13604	1	Column, Drive
28	180173	4	Bolt, Hex 1/2-13 x 1
29	120384	4	Washer, Lock 1/2 Sp.
30	13607	1	Plug, 3/4 N.P.T. Sq. Hd. Pipe Vented
31	3151	1	Retainer, Oil Seal
32	12987	1	Seal, Oil Bearing Cap
33	13598	2	Cup, Universal
34	10442	1	Crank Yoke Assembly
35	3154	1	Bolt, Special 1/4-28 x 1 Gr. 8
36	120423	1	Washer, Lock 1/4 Int. Tooth
37	3117	1	Lever, Knife Actuating
38	3182	1	Tip, Wearing
39	13619	1	Nut, Lock 1-14 Washer Insert
40	10476	1	Crank Housing Assembly
41	103877	1	Plug, Pipe 1/8 In., Sq. Hd. Steel
42	180130	6	Bolt, Hex 3/8-16 x 2.00
43	13550	2	Bushing, Flange Lever Shaft
44	414525	1	Pin, Spring 3/16 x 1-3/8
45	3184	2	Pin, Dowel 3/8 x 3/4
46	13606	1	Shaft, Actuating Lever
47	124934	1	Nut, Jam 1/2-20
48	14119	1	Rivet, Single
49	3176	1	Pin Knuckle
50	3178	2	Bushing, Flange Knuckle Pin
51	3145	1	Bearing, Ball Stud
52	3144	1	Stud, Ball
53	3191	4	Gasket, Housing
54	14118	1	Plate, Single Ledger
55	3198	1	Plug, Expansion
56	180177	2	Bolt, Hex 1/2-13 x 1-1/2
57	3308	1	Bracket, Drive Knife
58	181570	2	Bolt, Hex 1/4-28 x 1-1/8
59	181577	2	Bolt, Hex 1/4-28 x 1-3/4
60	454750	4	Nut, Lock 1/4-28 Washer Insert Hex
61	14902	10	Finger, Shear Assembly
62	3206	1-17	Knife, Section
63	13609	1-1	Knife, Box Left Section
64	13610	1-1	Knife, Box Right Section
65	13608	1-1	Knife, Box Center Section
66	189290	2	Rivet, Knife
67	3309	2	Clip, Knife
68	20504	2	Plate, Wear
69	3301	1	Bar, Guard
70	Remove corner of item 61 as shown for clearance		
71	Remove corner of item 61 as shown for clearance		
72	21369	1	Decal, Sickle Mower Warning
73	138542	4	Washer Lock 3/8 Int tooth
NS	10295	1	Knife Assembly 60" 3" Knives
NS	10298	1	Knife Assembly
NS	14117	1	Bar, Guard

FIG. 8.0-2

## SECTION 9

### LIMITED FIVE-YEAR WARRANTY

1. This Limited Five-Year Warranty is issued by Gravely International, Inc., only to the original purchaser. If Gravely equipment is leased by Gravely, this Warranty shall extend also to the original lessee as if such lessee were the original purchaser.
2. Gravely warrants that all new equipment manufactured by Gravely ("Gravely 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 Gravely Product. Engine and tires are covered by and subject to separate warranties of the manufacturers thereof.
3. In the event that any Gravely Product warranted hereunder shall be defective or fail to conform with this Warranty, Gravely shall, subject to the provisions hereof, pay for, or provide labor and materials for, the repair or replacement of such defective Gravely Product.
4. This Warranty is for five years (60 months) from purchase date for Gravely Products used exclusively for personal, family or household purposes, and two years (24 months) for products used for other purposes (commercial use), excluding rental firms. Gravely products used for rental purposes will be warranted for 90 days. Repair of Gravely 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, Gravely agrees to repair or replace defective Gravely Products used exclusively for personal, family or household purposes only to the extent that the cost of such warranty covered repair or replacement exceeds \$50.00.)

Batteries are warranted by Gravely 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 Gravely Product (including any battery or other component not manufactured by Gravely), use this procedure:
  - a. Notify the Gravely 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 Gravely 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 Gravely Limited Warranty, they should be referred to:

Gravely International, Inc.  
One Gravely Lane  
Clemmons, NC 27012  
Attn: Customer Service Department
  - e. Warranty Service on Gravely Products must be performed by an authorized Gravely dealer.
6. This Warranty does not cover the following:
  - a. Transportation to the Gravely dealership. (If the Gravely 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 Gravely 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 Gravely 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 Gravely. (The use of any such unapproved attachment will void this Warranty.)
7. GRAVELY MAKES NO OTHER EXPRESSED 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. GRAVELY 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 Gravely product registration card is supplied with each Gravely Product. Please complete the card and return it to Gravely at the address listed on the card. The equipment registration card will be used by Gravely 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 Gravely dealers and no Gravely dealer is authorized to make any representations or promises on Gravely's behalf.

 **GRAVELY**

One Gravely Lane, Clemmons, NC 27012