

GRAVELY

CLARKE-GRAVELY CORPORATION
A Studebaker-Worthington Company

OPERATOR'S MANUAL

NAME: 30 INCH ROTARY MOWER

PART NUMBER(S):

Drive - 22531

Deck (single blade) - 23075

Deck (twin blade) - 23076



The 30 Inch Rotary Mower is for use with the Gravelly 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.

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1.0 WARNINGS FOR SAFE OPERATION

This section gives Warnings for Safe Operation of the 30 Inch Rotary 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 Gravely instruction book do not list every possible danger. It is not possible for Gravely 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 thrown 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 the tractor is inside a building.
8. Remove any gasoline that falls on the tractor before starting the engine.

1.3 PROCEDURE FOR OPERATION

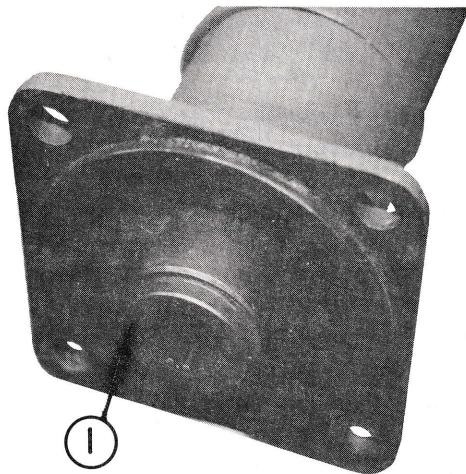
1. Keep away from moving parts.
2. Do not let persons ride on the tractor or mower.
3. After hitting an item, stop the tractor and engine and check for damage. If there is damage, make repairs before restarting.

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 unless you can check the area visually.
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 PROCEDURE FOR CONNECTING THE 30 INCH ROTARY MOWER TO THE TRACTOR

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

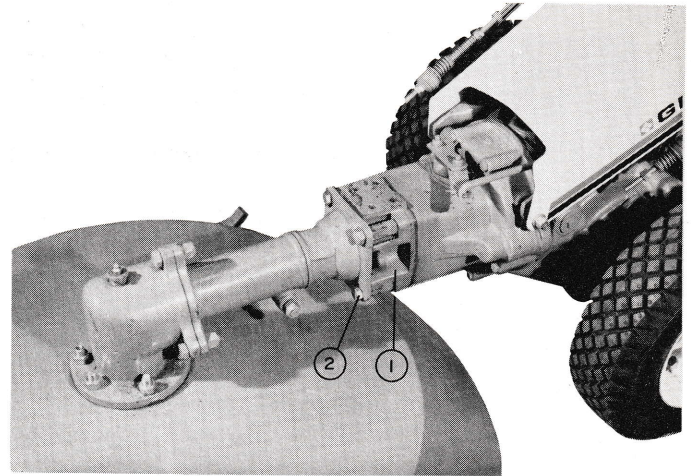
1. Engage the Attachment Dog to the mowers as shown in figure 2.0-1.



1 - Attachment Dog

Figure 2.0-1

2. Fasten the mower to the Attachment Adapter with the Attachment Bolts as shown in figure 2.0-2.



1 - Attachment Adapter
2 - Attachment Bolts

Figure 2.0-2

3.0 PROCEDURE FOR REMOVING THE MOWER FROM THE TRACTOR

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

1. Remove the Attachment Bolts that fasten the mower to the Attachment Adapter and remove the mower. See figure 2.0-2.
2. Remove the Attachment Dog from the Splined PTO Shaft. See figure 2.0-1. Keep the Attachment Dog with the mower.

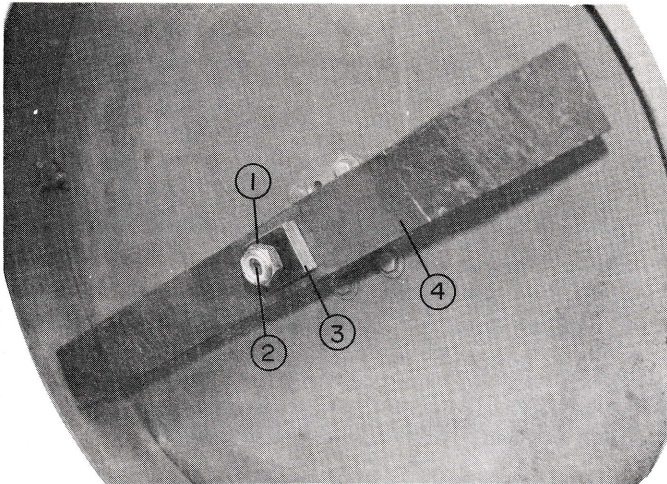
4.0 PROCEDURE FOR ADJUSTING THE MOWING HEIGHT

This section gives the procedure for adjusting the mowing height. Moving a 1/4" Spacer will raise or lower the mowing height of the blade(s) 1/4" (6.4 mm).

WARNING: One 1/4" Spacer must always be between the Nut and the Blade(s).

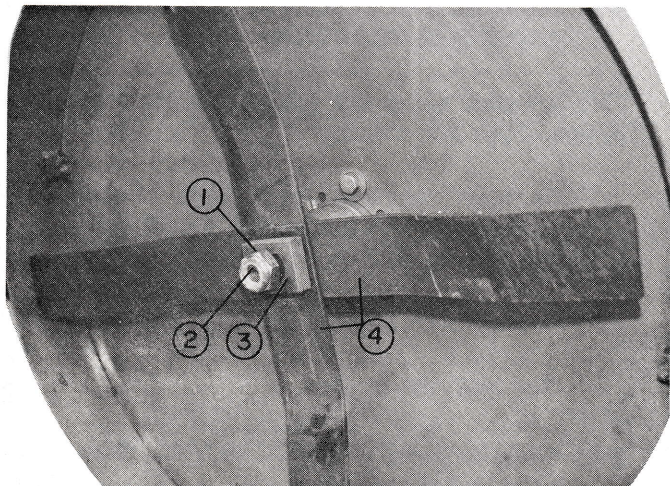
All the Spacers used to install the Blade(s) must always be either below or above the Blade(s). There are six 1/4" Spacers for the Single Blade installation and five 1/4" and one 1/8" Spacers for the Twin Blade installation.

1. Turn the Mower Deck over and turn the Nut counterclockwise to remove it from the Mower Shaft. See figures 4.0-1 and 4.0-2.



- 1 - Nut
- 2 - Mower Shaft
- 3 - Spacers
- 4 - Blade

Figure 4.0-1



- 1 - Nut
- 2 - Mower Shaft
- 3 - Spacers
- 4 - Blades

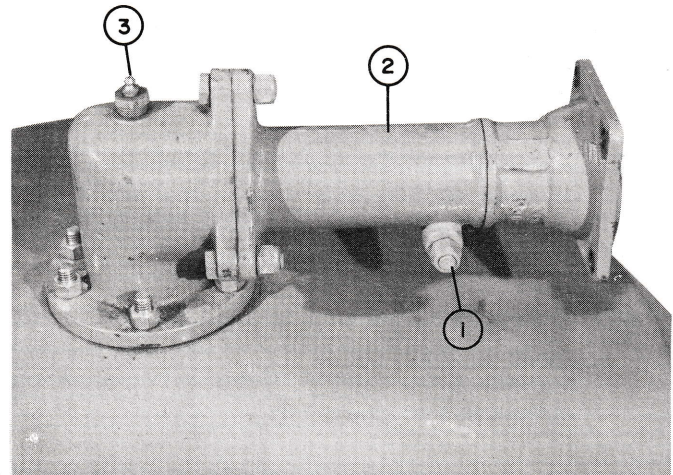
Figure 4.0-2

2. To lower the mowing height, put the needed amount of 1/4" Spacers above the Blade(s).
3. To raise the mowing height, put the needed amount of 1/4" Spacers below the Blade(s).
4. Put the Nut on the Mower Shaft and tighten to a torque of 100 ft. lbs. (135 N.m).

5.0 PROCEDURE FOR ADJUSTING THE MOWER DECK TO FOLLOW THE GROUND

This section gives the procedure for adjusting the Mower Deck to follow the ground.

The Swivel Adjustment is correct when the mower will not turn on the swivel when raised by pushing down on the tractor handlebars but will follow the ground when mowing. Turn the nut on the Swivel Adjustment clockwise to tighten and counterclockwise to loosen the Swivel. See figure 5.0-1.



- 1 - Swivel Adjustment
- 2 - Swivel Casting
- 3 - Grease Fitting

Figure 5.0-1

6.0 PROCEDURE FOR OPERATING THE MOWER

This section shows the procedure for operating the mower. Read this Operator's Manual and the tractor Operator's Manual before operating.

CAUTION: Use a slow tractor speed until you know how to operate the mower.

1. Start the tractor engine. Wait until the engine is running smoothly before operating.
2. Put the RANGE selector in the "LOW" position.
3. Engage the PTO.
4. Move the throttle lever to the "FAST" position.
5. Put the GEAR selector in the "LOW" position.
6. Put the Direction Control Lever in the forward position and mow a distance of ten feet (3 m). Stop the tractor, put the PTO in the "OFF" position and turn the ignition switch to the "OFF" position.

7. Check to see if the mower is cutting the grass to the needed height. If the height needs adjusting, follow the procedure in section 4.0. If the mower does not follow the ground see section 5.0.
8. After you know how to operate the mower, select a speed that is best for your mowing conditions.

7.0 PROCEDURE FOR DOING MAINTENANCE

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

1. Inspect all nuts, bolts and other fasteners to make sure they are tight and replace any that are missing.
2. Inspect the Blade(s) and replace if there is damage.
3. Remove the spark plug wire from the engine spark plug and turn the mower deck on its side and check to see that the Blade(s) are sharp. If the Blade(s) are not sharp, remove the Blade(s) and

grind the edges that have the bevel until they are sharp. Grind each edge the same amount. Make sure the blade(s) have balance before reinstalling.

4. Every 40 hours of operation, clean the grease fitting shown in figure 5.0-1 and add multi-purpose grease until it shows at the Mower Shaft under the Mower Deck.

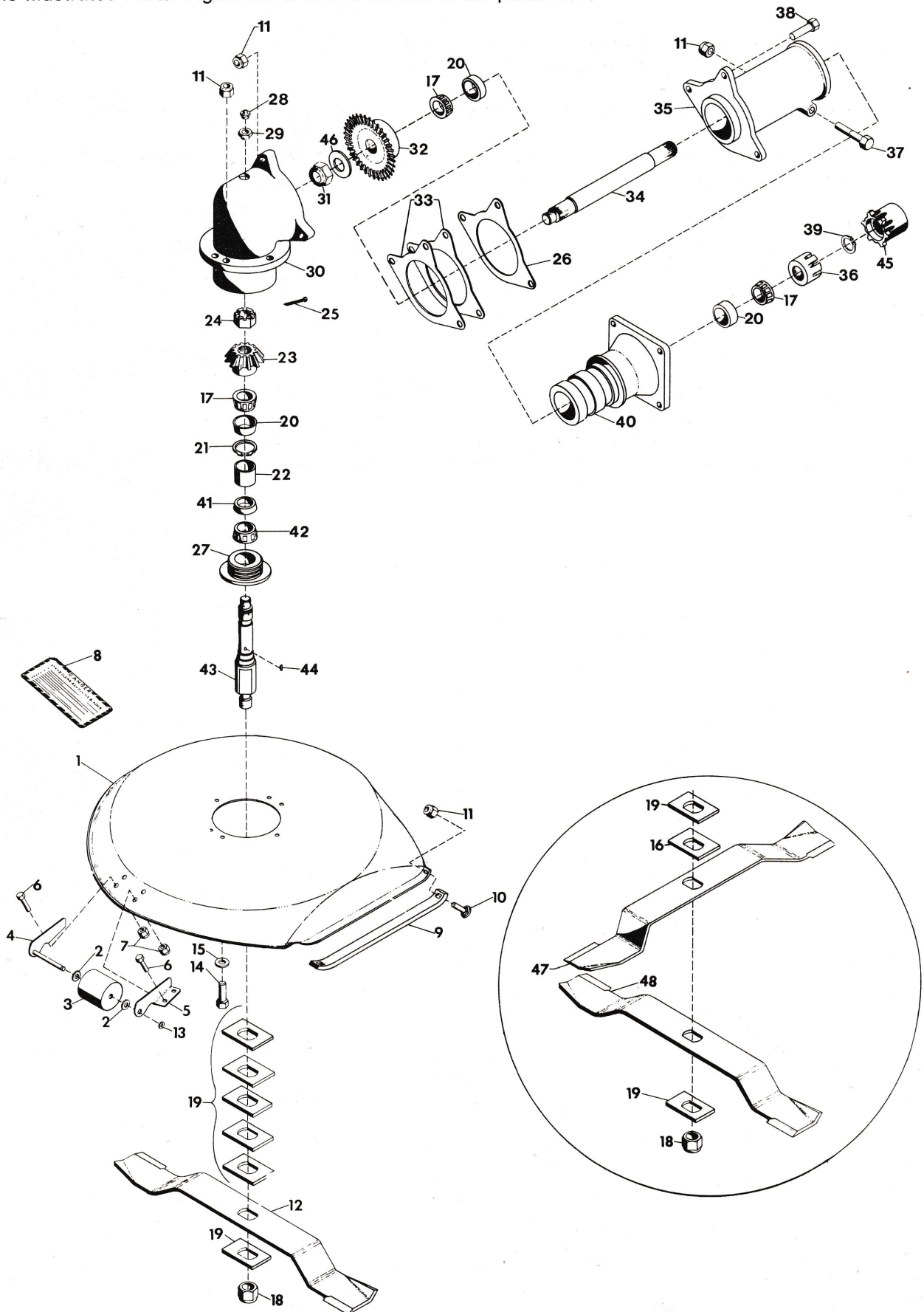
8.0 PROCEDURE FOR PUTTING THE MOWER IN STORAGE

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.

1. Clean all the grass and dirt from the mower.
2. To prevent rust, put paint or multi-purpose grease on any area where the paint has been removed.
3. Do the maintenance shown in section 8.0.

9.0 30 INCH ROTARY MOWER ILLUSTRATED PARTS AND PARTS LIST.

This section shows the 30 Inch Rotary Mower Illustrated Parts and a list of the parts. Figure 9.0-1 shows the Illustrated Parts. Figure 9.0-2 shows the list of the parts.



30 IN ROTARY MOWER DECK 3/8 IN BLADE
30" ROTARY MOWER DRIVE

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
1	23074	1	Deck, 30 In. Rotary Mower
2	421879	2	Washer, Flat; .656 x 1.250 x .100
3	15351	1	Roller, Gage
4	21400	1	Weldment, Bracket
5	21399	1	Bracket, Wheel L.H.
6	180077	4	Bolt, Hex; 5/16-18 x 3/4
7	419455	4	Nut, Lock; 5/16-18 Washer Insert Hex
8	18549	1	Decal, Danger
9	23073	2	Skid, Rotary Mower
10	120917	4	Bolt, 1/2-13 x 1-1/2 RD HD SQ NK
11	435507	14	Nut, Lock; 1/2-13 Washer Insert
12	22528	1	Blade, Rotary Mower; 3/8
13	21396	1	E-Ring; .625 Shaft
14	180177	6	Bolt, Hex; 1/2-13 x 1-1/2
15	120390	6	Washer, Flat; 9/16 x 1-3/8 x .109
16	22527	1	Spacer, Cutting Height Thin (1/8)
17	9246	3	Cone, Roller Bearing
18	17313	1	Nut, Lock; ESNA 7/8-9 Heavy Thin
19	22526	6	Spacer, Cutting Height (1/4)
20	9245	3	Cup, Roller Bearing
21	22525	1	Ring, Retaining; 2.000 Bore
22	22521	1	Spacer; 1.75 x 1.936 x 1.967
23	22519	1	Pinion, Bevel
24	125267	1	Nut, Slotted; 5/8-18 Hex
25	119120	1	Pin, Cotter; 3/32 x 1-1/4
26	23081	1	Shim, .020
27	22522	1	Seal
28	271434	1	Fitting, Lube; 1/8 Pipe Taper Drive
29	144044	1	Bushing, Reducing; 1/2 Pipe
30	22513	1	Housing, Gear
31	13412	1	Nut, Lock; 5/8-18 L. T.
32	22518	1	Gear, Bevel
33	23082	2	Shim, .005
34	22517	1	Shaft, Drive
35	22514	1	Casting, Swivel
36	22516	1	Dog, Attachment
37	180191	1	Bolt, Hex; 1/2-13 x 3-1/4
38	180179	3	Bolt, Hex; 1/2-13 x 1-3/4
39	22242	1	Ring, Retaining; .937 Shaft
40	22515	1	Housing, Shaft
41	22524	1	Cup, Bearing
42	22523	1	Cone, Bearing
43	22520	1	Shaft, Rotor
44	271089	1	Key, Woodruff; .125 x .375 Hard
45	21343	1	Dog, Attachment
46	131016	1	Washer, Flat; .656 x 1.312 x .095
47	22530	1	Blade, 30" Mower; Thin Cross Slot
48	22529	1	Blade, 30" Mower; Thin





ATTACHMENT LIMITED WARRANTY

This Limited Warranty is issued by Clarke-Gravelly Corporation, Gravelly Division, and consists of the following terms:

1. Only the original purchaser of new Gravelly manufactured attachments is covered by this Warranty.
2. This Warranty covers repair or replacement of parts manufactured by Gravelly which are defective in material or workmanship. Gravelly will pay for parts and labor only.
3. The Warranty starts the date of purchase and lasts for NINETY (90) DAYS for attachments used in Roofer applications, and TWELVE (12) MONTHS for products used in all other applications.
4. Some components of Gravelly attachments are not covered by the Gravelly Warranty. These components are covered by the original manufacturer's warranty. They are:
 - (a) Tires - Goodyear, Goodrich, Armstrong, General and Firestone
5. To obtain warranty service on Gravelly attachments including components not manufactured by Gravelly, use this procedure:
 - (a) Notify the Gravelly dealer from whom you purchased the attachment.
 - (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 attachment delivered to the dealer (refer to paragraph 6(a) below).
 - (d) If you have any questions concerning the Gravelly Warranty, they should be referred to:

Gravelly
Clarke-Gravelly Corporation
A Studebaker-Worthington Company
One Gravelly Lane
Clemmons, N. C. 27012
Attn: Manager of Customer Services

- (e) Warranty service on Gravelly attachments must be performed by an authorized Gravelly dealer or Gravelly factory branch.

6. This Warranty does not cover the following:
 - (a) Transportation between owner's home or place of business and the dealership. If the dealer provides the transportation of the attachment, he will charge the owner his usual rate for such service.
 - (b) Normal maintenance services and normal replacement of items such as belts lubricants, mower, plow or cultivator blades.
7. GRAVELLY MAKES NO OTHER EXPRESS WARRANTIES. ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE PERIOD SET OUT IN PARAGRAPH 3 ABOVE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE STATEMENT MAY NOT APPLY TO YOU.
8. GRAVELLY SHALL HAVE NO RESPONSIBILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE BREACH OF ANY WARRANTY, INCLUDING, BUT NOT LIMITED TO, INCONVENIENCE, RENTAL OR PURCHASE OF REPLACEMENT EQUIPMENT, LOSS OF PROFITS OR COMMERCIAL LOSS. 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 registration card is supplied with each Gravelly attachment. Please complete the card and return it to Gravelly at the address listed on the card. The 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 registration card is not required in order to take advantage of this Warranty.
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.