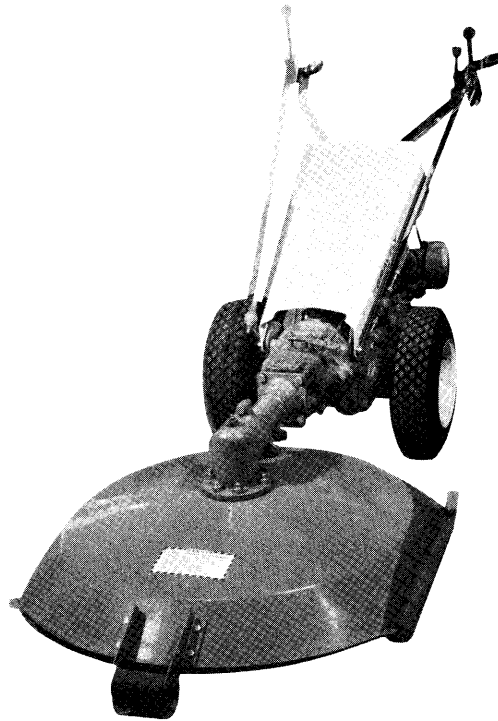




CLARKE-GRAVELY CORPORATION  
A Studebaker-Worthington Company

30" ROTARY MOWER  
DRIVE - Model No. 22531  
DECK, SINGLE BLADE - Model No. 23075  
DECK, TWIN BLADE - Model No. 23076

FORM NO. 23077  
PRINTED IN USA



### GENERAL

The 30" Rotary Mower is designed and built to give many years of excellent service. The mower is recommended for rough mowing as well as lawn mowing; has all gear drive, heavy steel deck, rugged skids and single or twin blades. The mower attaches to all Gravely Two-Wheel Tractors.

To attach the 30" Rotary Mower to a Gravely Tractor manufactured before serial number 290130 an Attachment Adapter Kit is required. See your Gravely Dealer for further information.

The Owner's Manual includes the parts list, set-up, safety operation, and maintenance instructions. Use the parts list for reference to individual part numbers.

### SPECIFICATIONS

**CUTTING WIDTH:** 30" (.762 M)

**LENGTH:** 36½" (.927 M)

**HEIGHT:** 14½" (.368 M)

**WIDTH:** 32" (.813 M)

**WEIGHT:** 120 lbs. (54 Kg)

**DRIVE:** Right angle bevel gear in cast iron housing, tapered roller bearings.

**DECK:** Heavy duty stamped steel deck.

**BLADE:** (Single): Steel, 30" (.762 M)

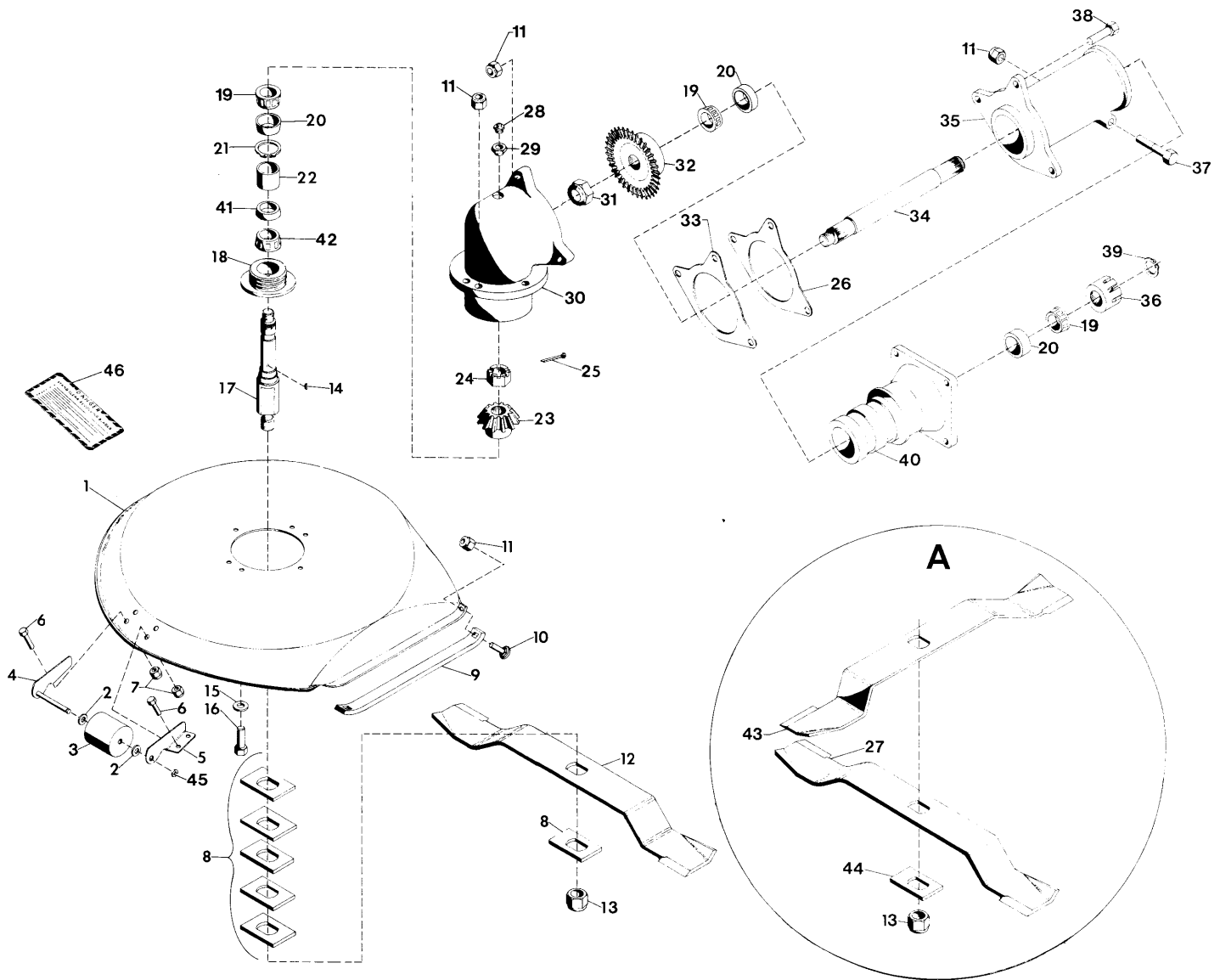
length, 3/8" (9.53 mm) thick, hi-strength, hi-lift.

**FEATURES:** All gear drive, adjustable swivel action

**USAGE:** Heavy mowing as well as lawn mowing

**APPLICATION:** All Gravely Two-Wheel Tractors

TO CONTINUE ITS PROGRAM OF QUALITY AND DESIGN IMPROVEMENTS, THE MANUFACTURER RESERVES THE RIGHT TO CHANGE SPECIFICATIONS, DESIGNS AND PRICES WITHOUT NOTICE AND WITHOUT INCURRING OBLIGATION



ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
1	23074	Deck, 30 In. Mower	27	22529	Blade, 30" Mower Thin
2	421879	Washer, Flat; 21/32 x 1-1/4 x .100	28	271434	Fitting, Lube; 1/8 Pipe
3	15351	Roller, Gage	29	144044	Bushing, 1/2 Reducing Pipe
4	21400	Weldment, Bracket	30	22513	Housing, Gear
5	21399	Bracket, Wheel (L.H.)	31	13412	Nut, Lock; 5/8-18 L.T.
6	180077	Bolt, Hex; 5/16-18 x 3/4	32	22518	Gear, Bevel
7	419455	Nut, Lock; 5/16-18 Washer Insert	33	23082	Shim, .005
8	22526	Spacer, Cutting Height	34	22517	Shaft, Drive
9	23073	Skid, Rotary Mower	35	22514	Casting, Swivel
10	120917	Bolt; 1/2-13 x 1-1/2 RD HD SQ NK	36	22516	Dog, Attachment
11	435507	Nut, Lock; 1/2-13 Washer Insert	37	180191	Bolt, Hex; 1/2-13 x 3-1/4
12	22528	Blade, 3/8 Rotary Mower	38	180179	Bolt, Hex; 1/2-13 x 1-3/4
13	17313	Nut, Lock; 7/8-9 Heavy Thin	39	17980	Ring, Retaining; 1.000 Shaft
14	271089	Key, Woodruff; 1/8 x 3/8 Hard	40	22515	Housing, Shaft
15	120390	Washer, Flat; 9/16 x 1-3/8 x .109	41	22524	Cup, Bearing
16	180177	Bolt, Hex; 1/2-13 x 1-1/2	42	22523	Cone, Bearing
17	22520	Shaft, Rotor	43	22530	Blade, 30" Mower Thin (Cross Slot)
18	22522	Seal	44	22527	Spacer, Cutting Height Thin
19	9246	Cone, Roller Bearing	45	21396	E-Ring; .625 Shaft
20	9245	Cup, Roller Bearing	46	18549	Decal, Danger
21	22525	Ring, Retaining; 2.000 Bore			
22	22521	Spacer; 1.75 x 1.936 x 1.967			
23	22519	Pinion, Bevel			
24	125267	Nut, Slotted; 5/8-18			
25	119120	Pin, Cotter; 3/32 x 1-1/4			
26	23082	Shim, .020			

NOTE:

CIRCLE "A" PERTAINS TO TWIN BLADE MOWER, 23076, ONLY

## ASSEMBLY

1. Assemble the deck gauge roller. Install a flat washer (item 2), gauge roller (item 3), flat washer (item 2) and roller bracket (item 5) on the roller bracket weldment (item 4) and secure with "E" ring. See Fig. 2

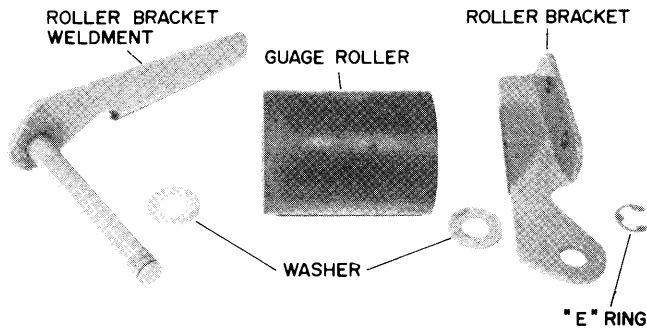


Fig. 2

2. Bolt the gauge roller assembly to mower deck with four bolts (item 6) and locknuts (item 7). See Fig. 3

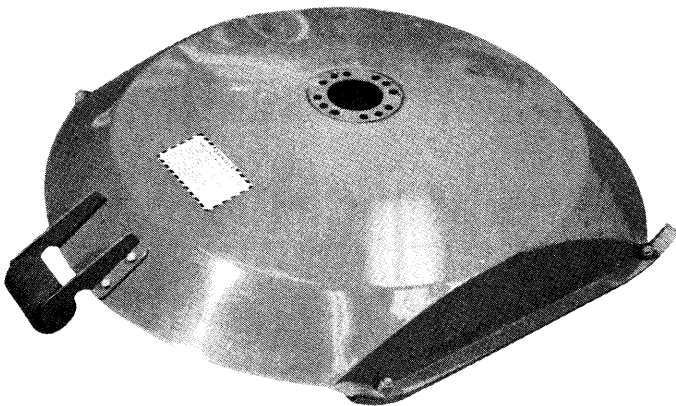


Fig. 3

3. Set the drive on the deck. Bolt the drive in place using the 6 bolts (item 16), flat washers (item 15), and nuts (item 11). The bolts must be inserted from under the deck. See Fig. 4
4. Turn the mower deck over for blade installation, and adjustment.

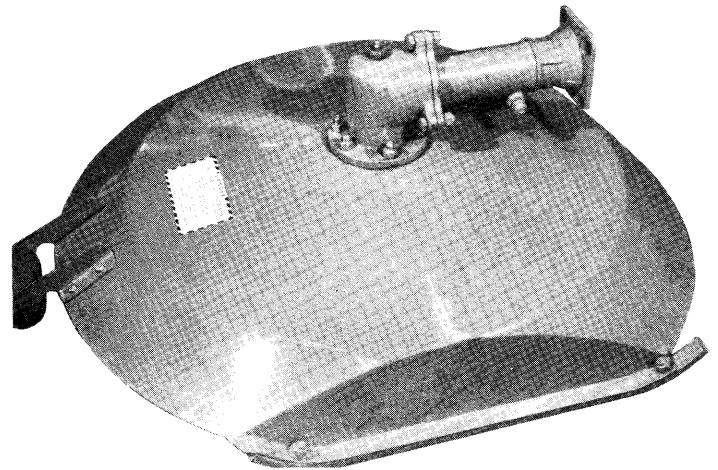


Fig. 4

5. The cutting height is determined by the placement of the cutting height spacers above or below the blade. Each cutting height spacer changes the cutting height by  $\frac{1}{4}$ " (6.35 mm). One cutting height spacer must ALWAYS be installed below the blade(s). The twin blade assembly has a  $\frac{1}{8}$ " spacer and should be installed above the blade(s).
6. If the blade(s) is raised, the cutting height spacers removed from above must be replaced below the blade(s). Unless the desired cutting height is known, it is recommended that three cutting height spacers be used below the blade(s). This gives an average cutting height. Always re-install all the cutting height spacers either above or below the blade(s).

## SINGLE BLADE INSTALLATION

Install three cutting height spacers (item 8), blade (item 12), the remaining spacers and nut (item 13). Torque nut to 100 ft. lbs. (135.6 Nm).

See Fig. 5

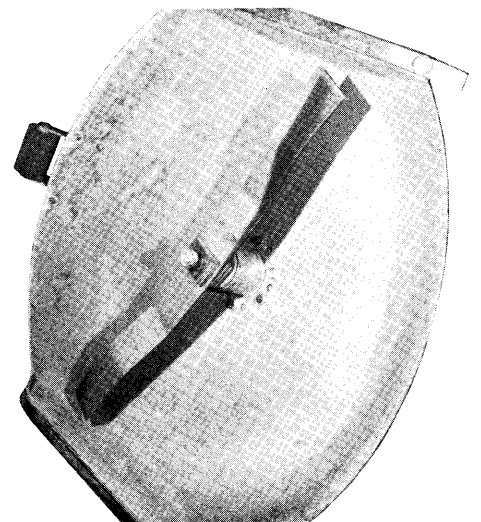


Fig. 5

## TWIN BLADE INSTALLATION

Install three cutting height spacers (item 8 & 44), blades (item 43 & 27), the remaining spacers and nut (item 13). Torque nut to 100 ft. lbs. (135.6 Nm). See Fig. 6

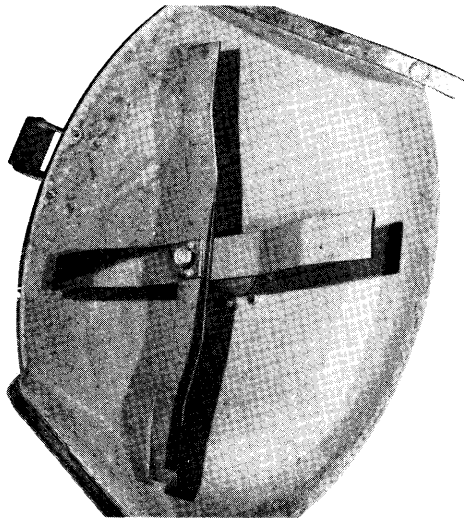


Fig. 6

2. The cutting height of the mower is adjusted by the cutting height spacers. See paragraph 5&6 of ASSEMBLY.
3. See tractor Owner's Manual for tractor overload clutch adjustment.

## LUBRICATION

The mower gearbox is pre-lubricated at the factory. Lubricate the gearbox through the grease fitting on top with general purpose grease every 40 operating hours. Add grease until it comes out around the rotor shaft under the mower deck.

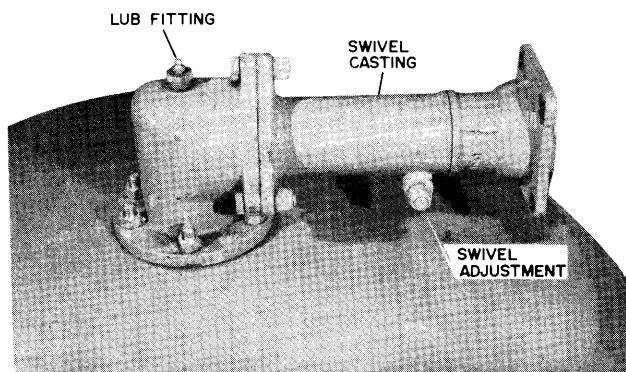


Fig. 7

## ADJUSTMENTS

1. Swivel action of the mower is regulated by the nut and bolt on the swivel casting. See fig. 7. Loosening allows more swivel action, tightening reduces the action. The swivel action should be only loose enough to allow the mower to follow ground contour.

## SAFETY OPERATING PRACTICES

Improper use of the tractor and mower may result in damage to the machinery and/or injury to the operator. Practice these safety precautions and pay attention to the job being done. "SAFETY" is only a word until it is put into practice.

### TRAINING

1. Read the tractor Owner's Manual carefully. Be thoroughly familiar with the controls and proper use of the equipment. Know how to stop the unit and disengage the controls quickly.
2. Never allow children to operate the equipment. Never allow adults to operate the equipment without proper instructions.
3. Keep area of operation clear of all persons, especially small children and pets. Never direct the discharge towards bystanders or allow anyone in front of the unit.
4. Stop engine and disengage the PTO before leaving the tractor.

### PREPARATION

1. Thoroughly inspect the work area where the equipment is to be used and remove all stones, glass, metal, bones, sticks, wires, and any other foreign objects. Stay alert for holes and other hidden hazards.
2. Disengage all clutches and shift into neutral before starting engine.
3. Do not put hands or feet near or under rotating parts.
4. Do not wear loose fitting clothes or accessories that might get caught in moving parts or on the controls. Keep hands, feet, hair, clothing, etc., away from moving parts.
5. Never operate the equipment in wet grass. Always be sure of your footing; keep a firm hold on the handles and walk, never run.
6. Do not operate the equipment when barefoot or wearing open sandals. Always wear substantial footwear and eye protection.
7. Never attempt to make any adjustments while the engine is running.
8. Never operate the mower without good visibility and light.

9. Handle fuel with care, it is highly flammable.
  - (A) Use approved fuel container.
  - (B) Never add fuel to a running engine or hot engine.
  - (C) Do not smoke while handling fuel.
  - (D) Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.
  - (E) Replace gasoline cap securely and wipe up spilled fuel.
  - (F) Always fill electric start tractors with tractor hood in the closed position.

### OPERATION

1. Exercise caution, especially when operating in reverse.
2. Do not operate equipment except from proper operator's position.
3. Keep safety devices and shields in place at all times.
4. Do not allow passengers to accompany the operator at any time.
5. Disengage PTO before crossing a gravel drive, walks, or roads. Stay alert for hidden hazards or traffic.
6. Use extreme caution when operating on slopes. Reduce speed on all slopes and sharp turns. Mow across the face of slopes. DO NOT mow excessively steep slopes.
7. After striking a foreign object, stop the engine and put the PTO in the OUT position before inspecting for damage. Any damage must be repaired before restarting the equipment.
8. Before cleaning, repairing, or inspecting, make certain the blade and all moving parts have stopped. Remove the key and disconnect the spark plug wire to prevent accidental starting.
9. If the unit should start to vibrate abnormally, stop the engine, disengage the PTO, and check for the cause. Abnormal vibration is generally a warning of trouble. If unable to locate cause, call your service dealer.

10. Take all possible precautions when leaving the equipment unattended. Stop the engine, disengage the PTO, and remove the key.
11. Do not run engine indoors, except when starting engine and for transporting equipment in or out of building. Open outside doors as exhaust fumes are dangerous.

12. Never operate machine at high transport speeds on slippery surfaces.
13. Disengage the tractor PTO when transporting or not in use.

## INSTALLATION

1. Slide the attachment dog (item 47) onto the splined PTO shaft of tractor. See Fig. 8

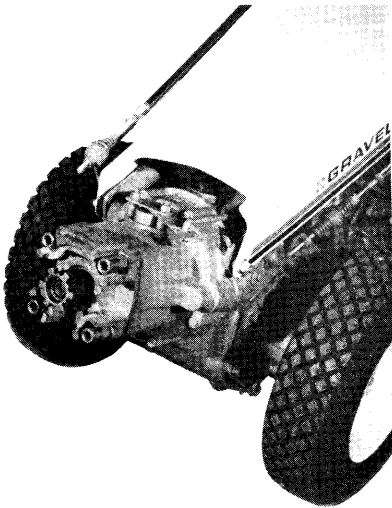


Fig. 8

2. The mower attaches to the tractor with 4 bolts as shown in fig. 9.

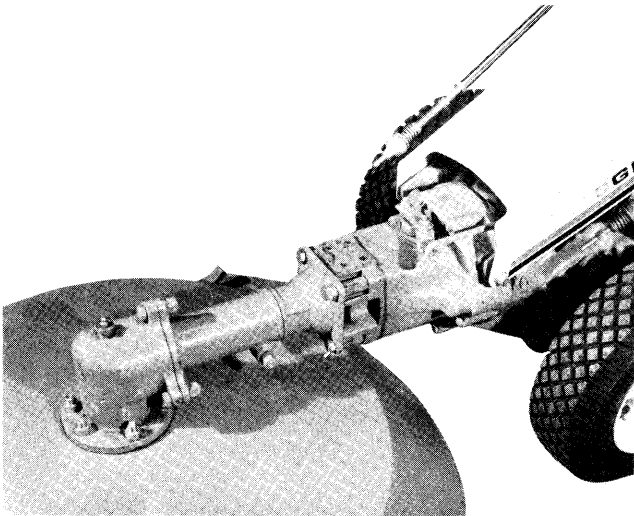


Fig. 9

## REMOVAL FROM TRACTOR

1. Reverse procedure as described in INSTALLATION.

## OPERATION

1. Refer to the tractor Owner's Manual for safety and operating instructions to engage and disengage PTO (Power-Take-Off).
2. After the PTO is engaged, run the engine at full throttle. In thick, lush growth, reduce ground speed (not engine speed) by use of the High/Low Gear Control, or the Swiftamatic, if equipped, to allow the mower enough time to cut and discharge.

## ROUTINE MAINTENANCE

1. Check the blade nut (item 13) to insure tightness.
2. Check PTO attaching bolts and nuts to insure tightness.
3. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
4. Perform the lubrication as described in LUBRICATION.
5. Keep mower blade(s) sharp and balanced. Replace blade(s) if cracked or damaged. Replace blade when width, at cutting edge, is less than 2" (5.08 cm). When replacing twin blades refer to the Illustrated Parts List. Each blade has a different part number due to the slotted holes being at right angle to each other.

6. Clear the mower of cuttings and debris.

### STORAGE

1. Clean mower of all cuttings and dirt.
2. Perform all lubrication.
3. Apply a light coat of oil to preserve the finish and appearance.

## LIMITED WARRANTY

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

1. Only the original purchaser of new Gravely equipment is covered by this Warranty.
2. This Warranty covers repair or replacement of parts manufactured by Gravely which are defective in material or workmanship. Gravely will pay for parts and labor only.
3. The Warranty starts the date of purchase and lasts for NINETY (90) DAYS for products used in commercial applications, and TWELVE (12) MONTHS for products used by the owner to maintain his personal residence. Commercial means any use other than to maintain the grounds around the personal residence of the owner of the product.
4. Some components of Gravely equipment are not covered by the Gravely Warranty. These components are covered by the original manufacturer's warranty, they are:
  - (a) Engines - Onan and Briggs & Stratton
  - (b) Tires - Goodyear, Goodrich & Carlisle
  - (c) 34" Mower Gear Box - Peerless
5. To obtain warranty service on Gravely equipment including components 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 Warranty, they should be referred to:

Gravely Division  
Clarke-Gravely Corporation  
One Gravely Lane  
Clemmons, North Carolina 27012  
Attn: Manager of Customer Services
  - (e) Warranty service on Gravely equipment must be performed by an authorized Gravely dealer or Gravely 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 equipment, he will charge the owner his usual rate for such service.
  - (b) Normal maintenance services and normal replacement of items such as spark plugs, belts, oil, oil filters, air filters, and mower blades.
7. GRAVELY 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. GRAVELY 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 Gravely equipment registration card is supplied with each Gravely tractor or major attachment. 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 registration card is not required in order to take advantage of this Warranty.
- II. 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, N. C. 27012