



1 GENERAL

1.1 Read this manual carefully and understand how to operate and maintain the equipment before attempting to use it. The 48" Snowdozer has been designed and built to the traditionally high standards for which Gravelly is famous. With proper operation and maintenance the dozer will perform for many uses to come. Knowing how to use The Gravelly Tractor and Snowdozer is the largest part of getting the job done.

1.2 The 48" Snowdozer is a front mount unit powered by forward motion of The Gravelly Tractor. The blade is pushed directly from the rear axle by means of an under carriage push frame arrangement; the blade is also raised and lowered by this frame. Protection of the blade, push frame and tractor (from damage due to striking a fixed, unyielding object) is accomplished by spring loading the blade. From the operator's position, the dozer is raised, lowered, angled right, left or set straight forward. After initial installation no tools are required to disconnect or reconnect the Snowdozer to The Gravelly.

1.3 This manual includes parts list, set up, safety, operator and maintenance instructions. All references to right, left, front, rear are made from the operator's position on the seat of The Gravelly. Item numbers used herein are in reference to fig 1, Illustrated Parts List. Contact The Gravelly Dealer for further information.

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

1.5 SPECIFICATIONS

General purpose

snow removal, grading, landscaping, general dozing

Maintenance intervals

8 use hours or after each use

Lubrication

light oil on all pivot points

Recommended tractors

All Riding Gravellys (except 408)

Required accessories

400 Series: 15876E1 Rear Axle Support

800 Series: 19768E1 Axle Latches

Note: Axle Latches standard on 816

Recommended accessories (standard use)

wheel weights (both front and rear)

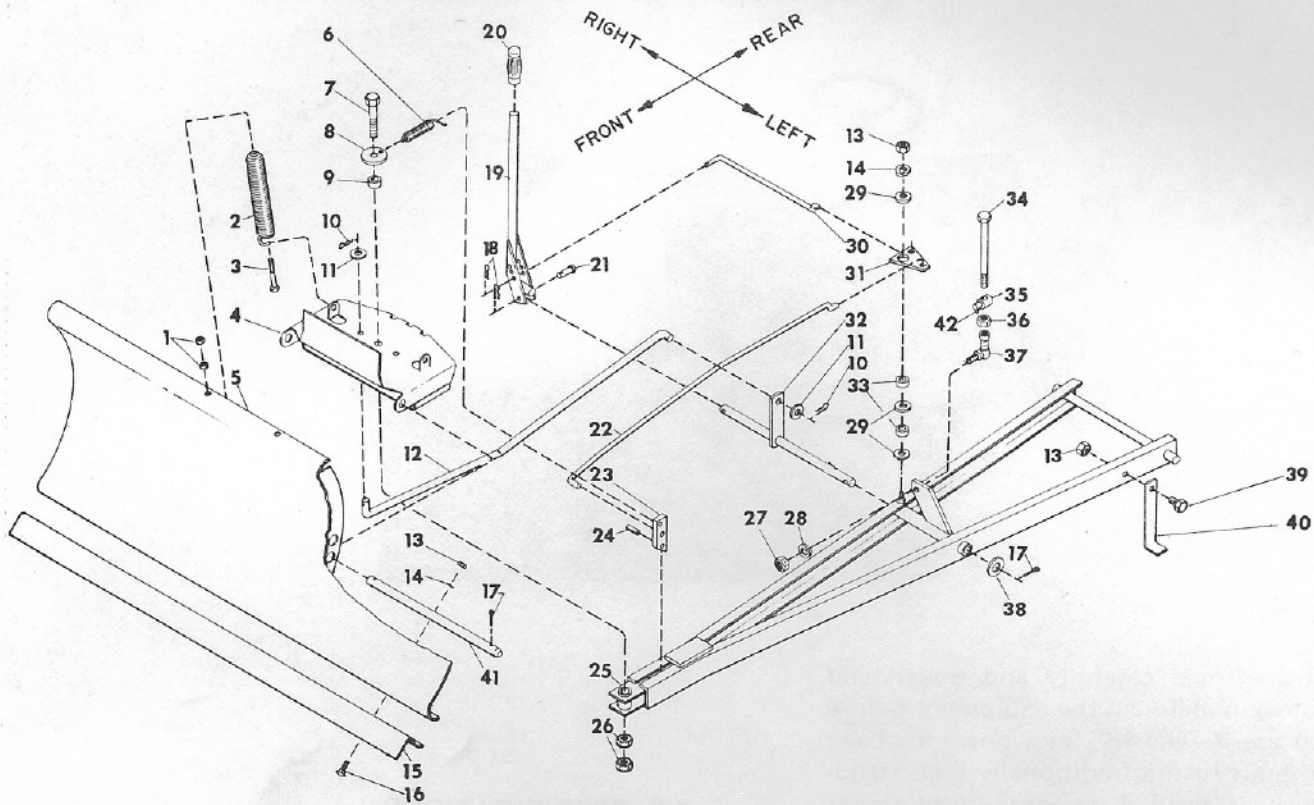
tire chains

Special use accessories (precarious operating conditions: slope applications, very deep snow, ice, loose soil, etc.)

All standard use accessories plus

Weight Racks (mounted both front and rear, with weights)

Wheel Brakes



ITEM NO.	PART NO.	DESCRIPTION
1	124829	Nut, Jam 3/8-16 Hex
2	11865P1	Spring, Trip
3	18505P1	Bolt, Special 3/8-16 x 4-1/2
4	18501P1	Plate, Pivot Assembly
5	18499P1	Blade Assembly 48"
6	11851P1	Spring, Blade Angling
7	271781	Bolt, Hex 3/4-10 x 4-1/2
8	11850P1	Spring, Anchor Washer
9	18506P1	Spacer
10	14412P1	Pin, Hair Cotter
11	131016	Washer, Flat
12	11864P1	Rod, Angling Control
13	456004	Nut, Lock 3/8-16
14	120382	Washer, Lock 3/8 Spring
15	18500P1	Plate, Wear
16	120915	Bolt, 3/8-16 x 1 Rd Hd Sq Nk
17	137218	Pin, Cotter 5/32 x 1-1/4
18	11860P1	Pin, Hair Cotter
19	18503P1	Handle Assembly
20	11861P1	Grip, Handle
21	18507P1	Pin, Drilled
22	14420P1	Rod, Latch Control (Long)
23	14422P1	Bar, Pivot Lock
24	9412281	Pin, Spring 1/4 x 1
25	14417P1	Frame, Push Assembly
26	426897	Nut, Jam 3/4-10 Hex
27	190171	Nut, Lock 1/2-20 Washer Insert Hex
28	120384	Washer, Lock 1/2 Spring
29	120394	Washer, Flat 13/32 x 13/16 x .065
30	18504P1	Latch, Control (Short)
31	14421P1	Bell Crank
32	18502P1	Shaft, Pivot Assembly
33	18508P1	Spacer
34	193496	Bolt, Hex 1/2-20 x 7
35	11317A1	Pivot, Mower Lift Assembly
36	124934	Nut, Jam 1/2-20 Hex
37	11315P1	Joint, Ball Assembly Quick Disconnect
38	131017	Washer, Flat 13/16 x 1-15/32 x .134
39	180122	Bolt, Hex 3/8-16 x 1
40	11868P1	Stand, Kick
41	11846P1	Blade, Pivot
42	142485	Pin, Groove 1/8 x 5/8 Type A
NS	19365P1	Decal, Gravely
NS	14424P1	Nut, 5/16 Push

fig 1 ILLUSTRATED PARTS LIST

2 ASSEMBLY

2.1 Refer to figs 1 through 5 for nomenclature used in this manual.

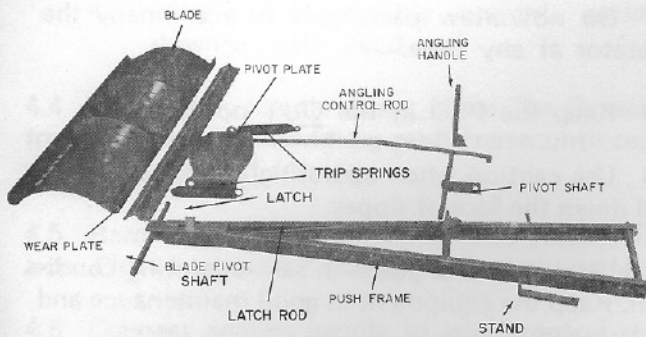


fig 2

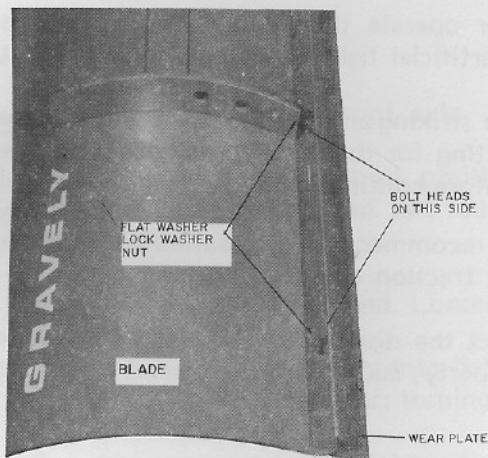


fig 3

2.2 Lay blade down as in figs 2 and 3. Fasten wear plate to blade with carriage bolts, flat washers, lock washers and nuts. Put bolts through wear plate then blade; flat washer, lock washers and nuts go over slots in blade as in figs 1 and 3.

2.3 Position pivot plate at bottom holes of blade. Slide blade pivot shaft through blade holes and pivot plate holes. Secure each end of shaft with cotter pins, fig 4.

2.4 Drop two 4 1/2" bolts, Item 3 (threaded end first) into trip springs from hook end so threaded end of bolt comes out small opening end of spring.

2.5 Hook springs to tabs of pivot plate. Put bolts through holes in top of blade. Run one jam nut on each bolt all the way; secure by tightening second nuts against first nuts, fig 4.

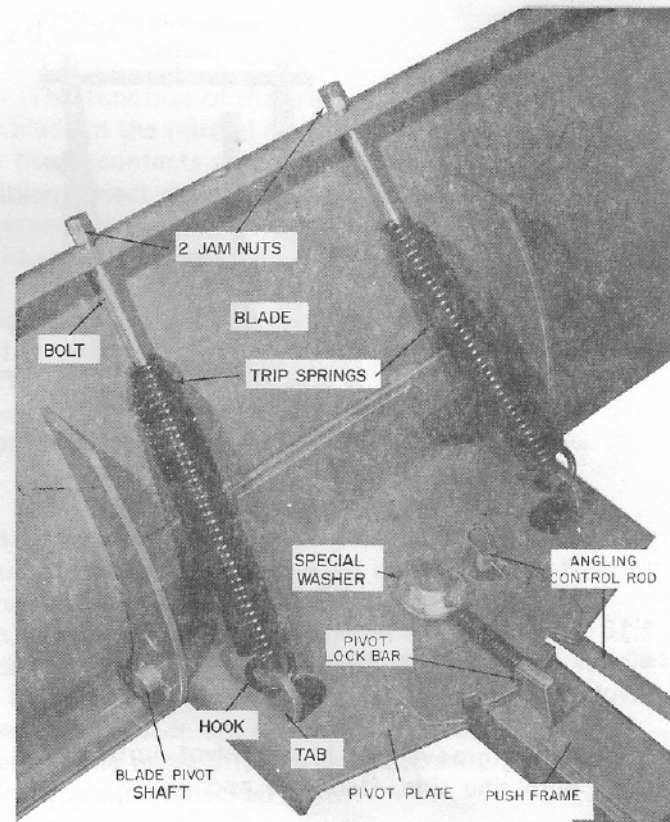


fig 4

2.6 Slide push frame into pivot plate. Align pivot of push frame with center hole of pivot plate.

2.7 Place special washer and then spacer on bolt, Items 7, 8 and 9. Insert bolt down through pivot plate and push frame, fig 4. Secure with two jam nuts. Do not over tighten; pivot plate must turn free on push frame pivot.

2.8 Connect spring from pivot lock bar to special washer, Items 6 and 8 and fig 4.

2.9 Put end of angling control rod up through pivot plate and secure with flat washer and hairpin cotter, fig 4; bend of rod must be down.

2.10 Move to center of push frame. Slide pivot shaft (end with small hole) through crossmember of push frame, Item 23 and figs 2 and 5. Secure with flat washer and cotter pin, Items 17 and 38.

2.11 Connect angling control rod to pivot shaft with flat washer and hairpin cotter, Items 10, 11 and 12 and figs 2 and 5.

2.12 Connect angling handle to pivot shaft using bottom center hole as in fig 5, with pin and hairpin cotter, Items 18 and 21. Put grip on handle. Note: Latch control rod, fig 5, is connected to handle after mounting on The Gravelly.

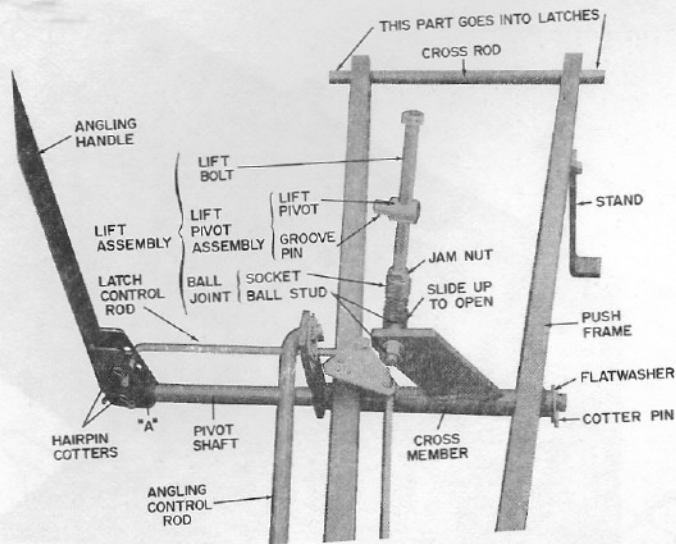


fig 5

2.13 Bolt stand to push frame, Items 13, 39 and 40, as in fig 5. Do not over tighten; stand must pivot on bolt.

2.14 Drive groove pin in lift pivot until pin is flush with one side, Items 35 and 42.

2.15 Place lift pivot on 7" bolt so that protruding groove pin points away from bolt head, fig 5. Run jam nut on bolt. Screw bolt into ball joint about half way. Tighten jam nut against ball joint.

2.16 Fasten ball stud to push frame crossmember as in fig 5; ball to rear of mounting plate.

2.17 Lightly oil all pivot points to aid operation.

3 SAFETY PRECAUTIONS

3.1 Read The Gravelly Owners Manual. Be familiar with all controls and follow the safety precautions outlined in the manual. Know how to STOP the equipment quickly in an emergency. Before using the Snowdozer practice maneuvering and emergency stopping to become familiar with the handling and operation of the unit.

3.2 Do not wear loose fitting clothing or accessories that might get caught in moving parts or on the controls. Keep hands, feet, hair, clothing, etc., away from moving parts.

3.3 Keep bystanders and pets removed from the work area, and a safe distance away.

3.4 Do not allow children to operate the equipment, nor allow adults to operate it without their having knowledge of safe operating practices.

3.5 Operate the dozer from the proper operator's position on the seat of The Gravelly.

3.6 Watch for solid, unyielding obstructions that will not be moved by the blade; also, be alert for holes and other hidden hazards.

3.7 Do not allow passengers to accompany the operator at any time.

3.8 Keep the PTO in the OUT position.

3.9 Use caution when operating on slopes; go up and down the face of slopes.

3.10 Maintain the dozer in safe operating condition. Keep the equipment in good maintenance and all fasteners secure.

3.11 Always lower the blade when leaving the equipment to prevent accidental dropping of the blade.

3.12 Never operate the equipment in darkness. Use good artificial light when operating at night.

3.13 After striking an object, STOP the engine before inspecting for damage. Any damage must be repaired before continuing use.

3.14 Use recommended accessories as suggested to increase traction and steering control.

3.15 Direct the discharge so as not to endanger life or property; such as people, pets, structures, cars, etc.

3.16 Be especially careful when reversing direction and be sure the way is clear before backing up so as not to endanger property and/or cause personal injury.

3.17 Operate the equipment at a slow enough ground speed so as not to have an accident due to going to fast and losing control.

4 MOUNTING

4.1 Fasten axle accessory to The Gravelly. Open latches.

4.2 Disconnect lift assembly socket from ball stud. Slide metal sheating (around ball and socket) compressing springs; pull socket from ball stud.

4.3 Connect lift assembly to lift weldment of The Gravely.

1. Lower equipment lift of The Gravely.
2. Turn lift assembly upside down; socket up - bolt head down.
3. Insert lift pivot in first tear-drop hole next to shaft of lift weldment.
4. Rotate lift assembly upright; socket down - bolt head up.

4.4 Lay angling handle down. Move The Gravely forward over and straddling push frame until rear axle is over end of frame.

4.5 Raise frame. Put cross rod into latches of axle. Close latches and secure with hairpin cotters.

4.6 Connect angling handle to latch control rod using middle hole in handle and hairpin cotter as in fig 5.

4.7 Connect lift assembly socket to ball stud.

5 ADJUSTMENTS

Clearance - push frame to front axle

5.1 When fully raised (transport position) push frame should come up to, but not touch, front axle. Procedure:

1. Lower dozer to ground. Loosen jam nut on lift assembly.
2. Screw lift bolt deeper into ball joint to bring frame up higher; turning bolt out of joint lowers frame.
3. Raise dozer to transport position to test.
4. Continue adjustment if necessary then tighten jam nut against joint.

Blade Below Grade

5.2 If set up as in sections 2 and 4, there is enough free travel in the lift assembly between the lift pivot and the bolt head to allow the blade to go below grade (ground level) when the equipment lift is fully lowered.

Angling Handle

5.3 By selecting various hole combinations for the pivot shaft and latch control rod, the handle can be positioned to suit the operator. Example: using hole "A", fig 5, will bring the handle closer to the operator. The handle must always be clear of the foot rest of The Gravely.

Trip Springs

5.4 The function of the trip springs is to maintain the blade in the normal dozing position except when the blade contacts and tries to move a fixed, unyielding object such as expansion strips or uneven pavement, ice chunks frozen to pavement, buried rocks, roots, stumps, etc. At that time the blade will tip forward on its pivot shaft, stretching the springs, and ride up and over the obstruction. Once past the obstruction the springs return the blade to the normal dozing position.

Wear Plate

5.5 The wear plate can be adjusted so as the leading edge is slightly above grade when the dozer is fully lowered. When adjusted in this manner the dozer will move along on the curved trailing portion, acting as a skid. The adjustment is made by loosening the hardware fastening the wear plate to the blade and moving the wear plate forward. The holes in the blade are slotted for this adjustment, where as the holes in the wear plate are square to accept the square necked bolts.

6 OPERATION

6.1 The Snowdozer "rolls" the snow away rather than just pushing it aside. When moving snow, angle the blade to discharge (feed off) the rolling snow to one side so it won't pile up in front of the blade. As the blade moves along snow moves up the face and rolls forward until it is fed off to the side.

6.2 The blade can be pushed along as fast as safety, power and surface (traction) conditions will permit. Do not go so fast that sudden jolts, snow or surface irregularities may cause loss of control. Some trials may be necessary to find an optimum ground speed for efficiency and safety of operation.

6.3 When dozing snow from a gravel drive, keep the blade above the gravel by means of the equipment lift of The Gravely; see OWNERS MANUAL. Hydraulic lift Models: use "HOLD" position. Manual lift Models: use position lock or lift range control.

6.4 On paved surfaces with many irregularities, adjust the wear plate to keep the leading edge above the pavement: see 5.8 for adjustment. When adjusted in this manner, the blade will not "trip" over low obstacles such as uneven expansion strips or broken, uneven pavement.

6.5 To change the angles of the blade raise the blade to the transport position and push out on the handle to unlatch, then (while holding out) push handle forward to angle left, center it for straight ahead or back to angle right. Release handle to lock in position.

6.6 The same principles of operation that are used for snow removal apply when spreading dirt, gravel, sand, back-filling, etc.

6.7 Use the accessories listed on the cover page to increase control and safety of operation by improving traction and steering control.

7 MAINTENANCE

After each use or every 8 hours of use

7.1 Lubricate the ball joint and all linkage and pivot points with light oil.

7.2 Check for wear or damage. Replace worn-out parts as necessary.

7.3 Check all fasteners for tightness. Keep the equipment in safe operation condition.

8 REMOVAL AND STORAGE

8.1 STOP engine, set parking brake, and lower snowdozer.

8.2 Disconnect angling handle from latch control rod. Disconnect lift assembly socket from ball stud. Open axle latches.

8.3 Back The Gravelly from over push frame.

8.4 Close and secure axle latches with hairpin cotters; axle accessory need not be removed from The Gravelly.

8.5 Remove lift assembly from lift weldment and reconnect to push frame for storage; reverse procedure of 4.3. Reconnect angling handle to latch control rod.

8.6 Inspect frame and blade for wear or damage. Replace any worn-out parts such as the wear plate.

8.7 Clean and dry Snowdozer. Paint, grease or oil exposed metal surfaces that might rust. Oil all pivot points.

8.8 Snowdozer can be tipped forward on the face of the blade to store.

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.

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.



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