

THE DRIVEWAY GROOMER

OWNER'S/OPERATOR'S MANUAL

U.S. Pat # 7,096,971

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For Safe Operation Read All Instructions Carefully

CAUTION

THE FOLLOWING SAFETY PRECAUTIONS SHOULD BE THOROUGHLY UNDERSTOOD BEFORE ATTEMPTING TO BEGIN ASSEMBLING THIS PRODUCT.

1. Select an area for assembly that is clean and free of any debris which might cause persons working on the assembly to trip.
2. Do not lift heavy unit unless you are physically capable of **SAFELY** lifting at least **80 pounds**. Get help if needed. Never lift unit when weighted.
3. Preview the entire manual before proceeding further.
4. Never put hands, or any part of body, under the unit without proper support. Wear leather gloves when handling the unit or its parts.
5. After completing assembly, thoroughly inspect it to assure nuts and bolts have been thoroughly tightened.
6. Before operating your vehicle with the unit attached thoroughly read the operation section of your operator's manual.
7. Before , during or after operating - If you have any questions regarding the proper assembly or operation, contact us at WWW.DRIVEWAYGROOMER.COM or your place of purchase.

STATEMENT OF POLICY

It is the policy of the manufacturer of the DRIVEWAY GROOMER to improve its products for the benefit of it's customers. We constantly strive to improve our products. We reserve the right to make changes or improvements in design and construction at any time, without incurring the obligation to make these changes on previously manufactured units.


Important Safety Information to the Owner/Operator/Dealer

- All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices.
- This product is designed to be a safe product for use provided the operator follows the instructions provided in this manual.
- **The user/purchaser assumes all risk to persons and property. BBG Innovations LLC or DrivewayGroomer.com its officers or assigns shall not be liable for any damages to persons or property arising directly or indirectly from its use. If there is any doubt about your ability to safely use the product, contact the company to arrange return before using.**

• BEFORE YOU START!!

Read the safety messages on the implement and shown in your manual.

Observe the rules of safety and common sense!

	<p>THIS SAFETY ALERT SYMBOL IDENTIFIES IMPORTANT SAFETY WARNING MESSAGES. CAREFULLY READ EACH WARNING MESSAGE THAT FOLLOWS. FAILURE TO UNDERSTAND AND OBEY A SAFETY WARNING, OR RECOGNIZE A SAFETY HAZARD, COULD RESULT IN AN INJURY OR DEATH TO YOU OR OTHERS AROUND YOU. THE OPERATOR IS ULTIMATELY RESPONSIBLE FOR THE SAFETY OF HIMSELF, AS WELL AS OTHERS, IN THE OPERATING AREA OF THE VEHICLE AND EQUIPMENT.</p>
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UNDERSTAND SIGNAL WORDS

Note the use of the signal words **WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each has been selected using the following guidelines:

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. It may also be used to alert against unsafe practices.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



THIS SYMBOL MEANS

- ATTENTION!
- BECOME ALERT!
- YOUR SAFETY IS INVOLVED!

IMPORTANT SAFETY INFORMATION!



Working with unfamiliar equipment can lead to careless injuries. Read this manual, and the manual for your vehicle. Be sure your receiver hitch has a tongue weight rating of at least 150 pounds and your vehicle tow rating is at least 2000 pounds.



Before assembly or operating, acquaint yourself with the equipment. It is the equipment owner's responsibility, if this equipment is used by any person other than you, is loaned or rented, to make certain that the operator, prior to operating:

1. Reads and understands the operator's manuals.
2. Is instructed in safe and proper use.



The use of this equipment is subject to certain hazards which cannot be protected against by mechanical means or product design. All operators of this equipment must read and understand this entire manual, paying particular attention to safety and operating instructions, prior to using. If there is something in this manual you do not understand, ask your supervisor, or your dealer, to explain it to you. Most accidents occur because of neglect or carelessness. Keep all helpers and bystanders twenty-five feet (25') from operating equipment. Only properly instructed people should operate the vehicle and attached implement.



Never leave equipment unattended with the vehicle running.



All equipment is potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and follows reasonable safety practices.



When the use of hand tools is required to perform any part of assembly, installation, adjustment, maintaining, repairing, removal, or moving the implement, be sure the tools used are designed and recommended by the tool manufacturer for that specific task.



Personal protection equipment including safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving of the implement.



Be sure you are fit enough to move the unit. You must be capable of **SAFELY** lifting **80 Pounds**. Always use two people if there is any doubt.



Never place any part of your body where it would be in danger if movement should occur during assembly, installation, operation, maintaining, repairing, removal, or moving the implement.



Never place yourself between the vehicle and implement while implement is in motion.



Never exceed 10 miles per hour with the Groomer. It is less effective at speeds above 5 MPH anyway. While this may not cause personal injury, it could cause damage to your vehicle. Watch out for bumps, they may be submerged obstructions.



Before you operate any implement, check over all pins, bolts and connections to be sure all are securely in place. Replace any damaged or worn parts immediately.



Do not allow anyone who is not familiar with the safety rules and operation instructions to use his equipment.



Never allow children to operate or be around equipment.



Do not exceed capacity of the trailer hitch or vehicle. Do not use on any vehicle with less than **8 inches of clearance** between the **bottom** of the receiver hitch and the ground.



Keep alert and watch the implement at all times. Adjust mirrors down to be able to see implement in **both** rear view mirrors. Dual rear wheel trucks should have extension mirrors. Never operate in reverse unless the edge of the implement is visible in both rear view mirrors.



When maneuvering close to buildings or passing through narrow areas, be sure to allow sufficient clearance for the implement and vehicle.



Do not operate close to ditches or creeks. Slow down when operating over rough ground.



Reduce speed on slopes and sharp turns to avoid loss of control. Be careful when changing directions on slopes. Do not start or stop suddenly on slopes. Avoid operation on steep slopes. Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question **-DON'T TRY IT.**



Avoid excessive speed during operation. **10 miles per hour maximum. The slower you go the faster you will be done.**



Be sure the load is the right amount required for the job. Excess weighting can cause excess digging, underweight excess blade wear.



Watch for and avoid hidden obstructions, i.e., buried pipes, rocks, concrete piers, uneven concrete slabs, stumps, etc., when operating.



Never operate vehicle and implement under trees with low hanging limbs. May cause vehicle damage.



Stay alert for holes, rocks and roots in the terrain and other hidden hazards. Keep away from drop-offs.



Use extreme care and maintain minimum speed when working on hillside, over rough ground and when operating close to ditches..



Be careful when turning sharp corners, the implement is 6 feet past the rear of the vehicle.



Pass diagonally through sharp dips whenever possible and avoid sharp drops to prevent "hanging up" the implement. If the implement is stuck, it could exert a force exceeding 1 ton which could damage the vehicle.



Always angle down slopes; never across the face. Avoid operation on steep slopes. Always shut off vehicle when leaving.



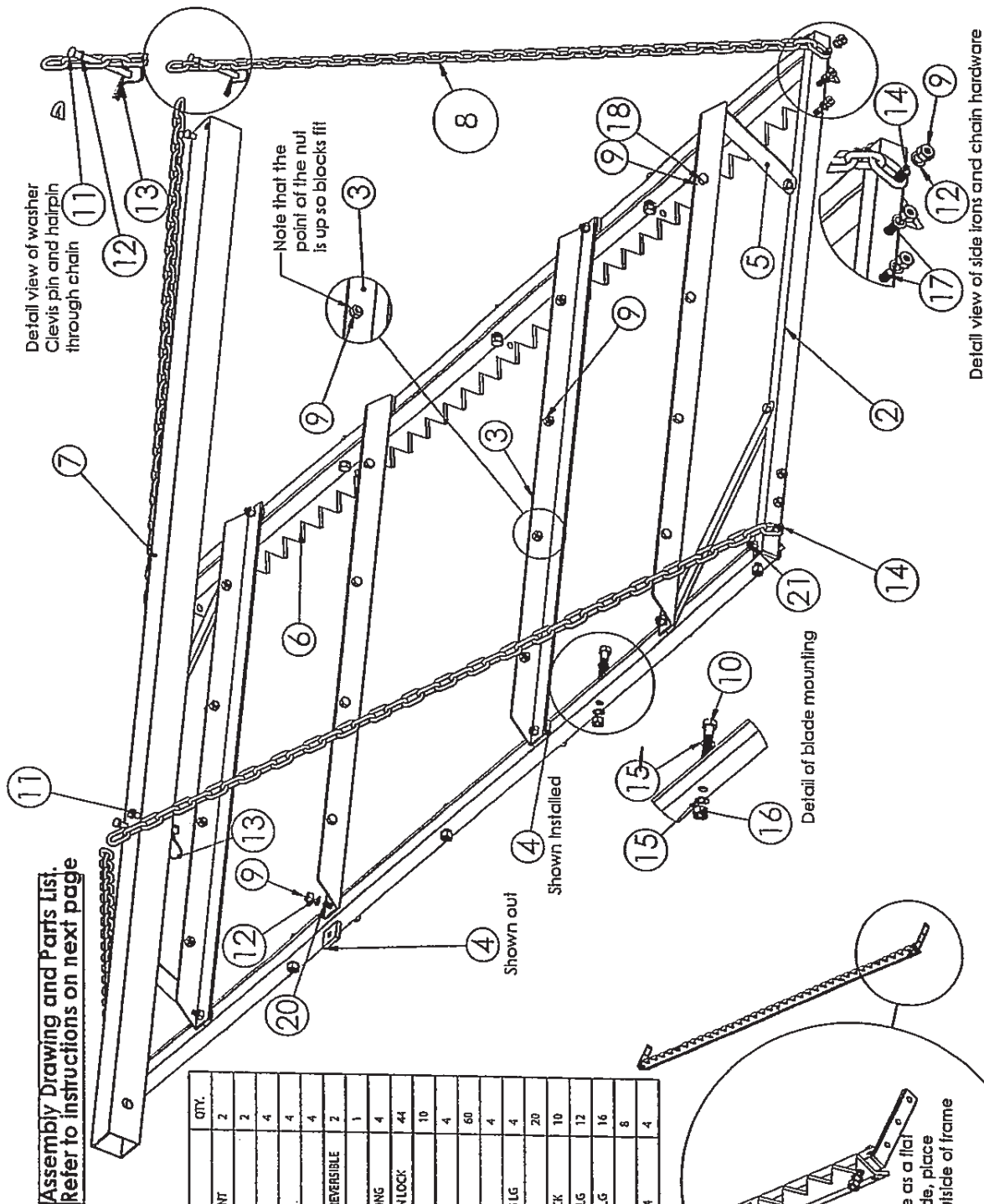
Warning! If storing on a wall, be sure the unit is secured at the top so it cannot fall over.

VEHICLE AND HITCH REQUIREMENTS:



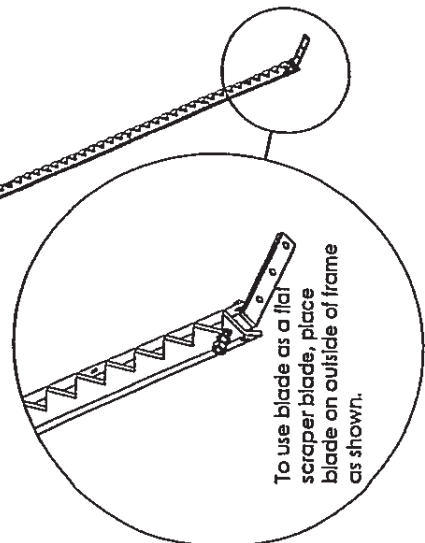
CAUTION!

Be sure the vehicle is in good condition. Read all the safety precautions and make sure all operators are familiar with the safety rules of operation. The vehicle receiver hitch must be 2", have a **tongue weight rating of at least 150 pounds**, and your vehicle **tow rating must be at least 1000 pounds**. Do not attempt to use an adapter on smaller hitches. Do not use on any vehicle with less than **8 inches of clearance** between the **bottom** of the receiver hitch and the ground or the bar may collide with the ground in operation.



Assembly Drawing and Parts List.
Refer to instructions on next page

#	PART NUMBER	DESCRIPTION	QTY.
1	DGV872	END BAR WELDMENT	2
2	DGV836	SIDE ANGLE IRONS	2
3	DGV836	BLOCK SUPPORTS	4
4	DGV831	Spacer	4
5	DGV814	CORNER BRACE	4
6	DGV871	TOOTHED BLADE REVERSIBLE	2
7	DGV872	RECEIVER BAR	1
8	CNS	CHAIN, 3/16 54" LONG	4
9	NN5	NUT 5/16-18 NYLON LOCK	44
10	BT616	BOLT 3/8-16 X 2	10
11	CP503	CLEVIS PIN 5/16 X 3	4
12	WR5	WASHER 5/16	60
13	HP063	HAIRPIN .093 DIA	4
14	BT510	BOLT 5/16-18 X 1.25 LG	4
15	WR6	WASHER 3/8	20
16	NN6	NUT 3/8 NYLON LOCK	10
17	BT507	BOLT 5/16-18 X 7/8 LG	12
18	BT505	BOLT 5/16-18 X 5/8 LG	16
20	BT516	BOLT 5/16-18 X 2	8
21	BT514	BOLT 5/16-18 X 1-3/4	4



ASSEMBLY INSTRUCTIONS . **IMPORTANT:** Leave all hardware loose until you are ready to install the blades unless instructed. For your convenience, hardware is broken down into separate bags by steps except for 5/16 washers and nuts. **NOTE:** The number in **parenthesis** corresponds to the number in the **circles on the drawing**.

STEP 1

Layout End Bar Weldments (#1) with the end brackets facing each other on a flat surface approximately 3 feet apart. Place Side angle irons (#2) with the 3 holes on each side aligned with the End bar weldment holes. Open hardware bag 1 and bag of nuts and washers. Install 8- 5/16 X 7/8 long bolts (# 17) with 2 washers each (#12) and Nuts (#9) in 8 places on all four corners. Save the extra 4 bolts for step 2.

STEP 2

Open hardware bag 2. Install 4- 5/16 X 1-3/4 long bolts (#21) through the bottom with washers and nuts in all 4 corners so nuts are on top. Put 4 corner braces (#5) in position on top of side angle irons using 4- 5/16 X 7/8 (#17) long bolts washers and nuts. Leave all bolts loose until the entire assembly is complete.

Step 3

Open Hardware bag 3. Install and securely tighten 16- 5/16 X 5/8 bolts (#18) to the 4-Block Supports (#3). Do **Not use washers** or the blocks may not fit. While tightening, hold the nuts so that that 2 of the nut flats are close to perpendicular to the floor. Again, this is so the blocks will fit. See detail on drawing

STEP 4

Open hardware bag 4. Place the 8 5/16 X 2 bolts (#20) with washer, up through the bottom of End Bar Weldments (#1) through Corner Braces (#5) and 8-Spacers, 2each (#14) .Place 4 Block Supports (#3) as shown over bolts and loosely install nuts and washers.

STEP 5

Open hardware bag 5. See detail on drawing. Place 4-5/16 X 1-1/2 bolts (#4) in all 4 corners with washers and nut and tighten securely. Add a washer, chain link, washer, then another nut. This keeps it spaced from the frame in operation. Angle the link forward in all 4 corners as shown in the detail drawing and tighten securely. **DO NOT over tighten**. Now tighten all the hardware in the frame.

STEP 6

Caution: Wear gloves when Handling Blade. It is laser cut and may have sharp edges. Flipping the frame over makes it easiest to install the blades. See manual “how to use section” to determine the best blade mounting scheme for your conditions before moving on. Blades can be installed as a flat blade or toothed and in either direction as shown in the detail drawing.

Open hardware bag 6 . Install the Blades (#6) with 10- 3/8 X 2 bolts (#10) with washers and nuts. Start with the second hole as shown in the detail so that it will help remove the slight bow in the blades. Place all in before tightening fully.

Congratulations! You are finished assembly. Now it is ready to use.

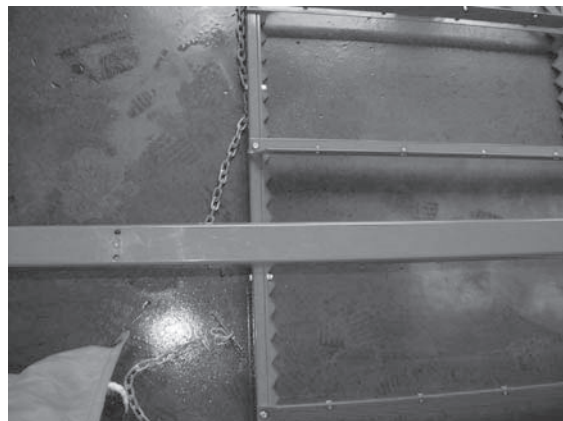
Set up on Vehicle



Pinch and cut hazards exist, use of gloves is recommended. Risk of back injury, only perform Set up on vehicle if you are fit enough to do so and can SAFELY lift 80 pounds!



The easiest and safest way to carry the Driveway Groomer is to take up the extra slack on the chains with the clevis pin, washer and hairpin and hold in the center as shown. This will keep the chains out of the way while you walk it to your start point. **WHERE ARE THE GLOVES!!**



Place the unit about 18" from the receiver hitch and remove the clevis pins from the chains. Insert the receiver bar in the receiver. Insert receiver pin (not supplied) just as you would your tow hitch ball.



Simply take up enough links each side of the chains so it has some slack and insert washers and clevis pins in the holes. **Note:** Orient the links as shown so that the loops are on the same side of the link you use



Insert Hairpins in the clevis pins. Altering chain length will be discussed in the use and operation section.



Failure to put washer between Clevis pin and Chain links could cause the chain to spread and pop loose. Failure to put hairpin in could cause clevis pin to fall out. This could cause damage to the vehicle. Check chain for signs of wear, replace if necessary.



Pinch hazard, use of gloves is recommended. Risk of back injury, only perform this if you are fit enough to do so. You should feel comfortable handling 50 pounds to do this.
SHE SHOULD BE WEARING LEATHER GLOVES!!!

Place the blocks in the spaces. Blocks are standard 8 by 16". If they do not fit, go back to the assembly print detail of the spacer nuts and be sure you have them installed in the correct orientation. Sometimes blocks have protruding edges that get in the way. It's fine to step on them to get them to sit in the pocket as long as you followed step 3 correctly. In some cases, you may need to loosen the nuts holding the block supports, put the blocks in, and then retighten. Most blocks are accurate enough to fit just fine. More about loading the unit for maximum effectiveness in the operating section.

Now you are ready to groom!!

Let's learn to use it effectively in the next section. Operation and Proper Use: EVALUATING CONDITIONS

Evaluate the condition of your driveway before you begin. This is probably the most important aspect of getting good results. The weight distribution, angle of the blade, vehicle start direction, use of toothed or flat blade, and use in a bi-directional or single direction mode should be determined before you start to get the best results on the first use. If you have small aggregate, using one side with teeth and the other flat may be best. It is typically best to use the toothed mode on both sides for aggregate $\frac{3}{4}$ " and over. Usually, the first use of the Driveway Groomer is the most difficult and time consuming. Once you get the driveway to the shape and cut you want, future maintenance will be straightforward and easier. The following instructions are only guidelines. You will have to make subtle adjustments for your specific conditions. With practice, the job will be easier each time and the results will constantly improve.

Consider the following questions:

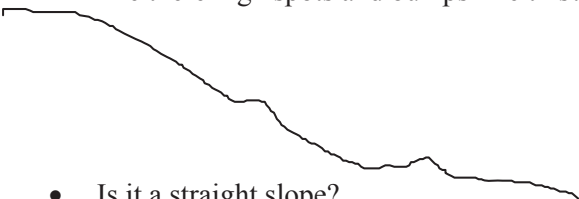
Shape in cross section:

- 1) Is the entire driveway crowned like this?
- 2) Do ruts wash out after a heavy rain like this?
- 3) Does it have a hump in the middle like this?



Grade:

- Does it have a flat at the top and/or bottom like below?
- Are there high spots and bumps like this?



- Is it a straight slope?
- Is it relatively flat?

Surface

- Is there a lot of loose aggregate on top?
- Is the aggregate small, large or mixed?
- Is the surface hard such that a rake will not dig into it?
- If sloped, is there a lot of loose material at the bottom?
- Is it sandy?
- Is the aggregate (rocks) primarily sunk in the surface?
- Are there areas where it is hard and areas that are soft?
- Are there large areas of weeds?

**READ THE
FOLLOWING
BEFORE
USE!!!**



- **Be sure no children or pets are in the area when using the DRIVEWAY GROOMER.**
- **Always watch the unit when operating in reverse. Any obstruction that it hangs up may snap the chain and cause damage to the vehicle.**
- **Look for obstructions, submerged large rocks before use. Remove obstructions before use.**
- **Be sure your mirrors are properly adjusted down so you can view the edge of the unit. DO NOT OPERATE IN REVERSE IF YOU CAN'T SEE THE EDGE OF IT IN BOTH YOUR MIRRORS!!**
- **Be constantly aware of the sound the unit is making. The free hanging design of the unit makes it unlikely that it will hang up on anything but it can occur. If it hangs up, the pin or chain could snap. To protect your vehicle, the chain is designed to break if you exceed a 3000 pound load. Stop immediately if you see or hear anything out of the ordinary. Turn the vehicle off, set the parking break and check the unit. IF IN DOUBT, STOP.**
- **Use 2 people to move it if you are not fit enough to lift and carry 70 pounds.**
- **WEAR GLOVES WHEN HANDLING!!!!**
- **If you are grading an area that goes quickly from flat to a slope. Have someone watch to be sure the bar clears the ground.**
- **In most cases, the blocks will stay in the pockets. If you are using it in extremely rough conditions, they may pop out. Normally, going slower will solve the problem.**
- **If not, use rope or bungy chord to secure them.**
- **GO SLOW! Never over 10MPH! The unit digs better at slower speeds anyway.**
- **Accelerate slowly. Take up the chain slack before accelerating. Avoid jerking.**

PROPERLY USING THE DRIVEWAY GROOMER FOR BEST RESULTS.

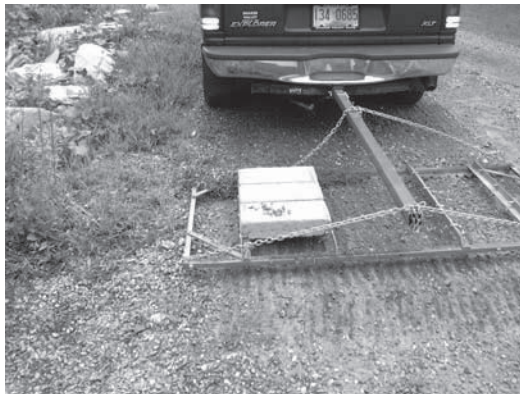
If you have a driveway in the “A” shape crown of # 1 above and just have ruts from washout like # 2 and maybe bumps and weeds, you have the easiest job of all the situations described. The only caution is to not make the possibility of washout worse. What you want to do is be sure to do each side separately. *NEVER* drive down the middle fully weighted or you will ruin your crown and cause possible washout.

HELPFUL HINTS: Before we move on. Grading surfaces, especially hard pack, is most easily done after a rain and it makes a lot less dust!!

4” blocks are better to use as they are less likely to break.



This is OK for really packed surfaces but notice that the center is cutting more than the edge.



Shown from opposite side, this is a better way to go. The edge is being cut the most and moving the material toward the middle. Note that the cutting stops just past center. Adjust weighting and angle for the conditions is the rule. This is also best for weed removal. With a little practice, you will get better results.

3 situation in cross section is probably the most common situation. What we want to do is get as much material from the edge to fill the rut as possible and try to reestablish a crown.



If you end up after a few passes looking like this, you are doing it right. Notice that the edge material is filling the rut and the higher center is just barely scraped. With practice, you will find the best combination of weighting, speed and angle to do the best job.



This is what you **don't** want to do. More material is being removed from the center to fill the rut than the edge. If you weight to one side, or partially to one side and angle slightly like above you will use mostly edge material to fill the rut. If you have a very flat driveway, this is not so important. But if you have a sloped one, you will create a washout next rain if you make the middle lower than the edges!!

Lets move onto Grade:



If you have some big bumps or want to move material in one direction, there are 2 ways to do it. If you need to push material into a spot over an obstacle like the garage shown, **BEFORE** it is weighted, take up enough slack in the chain to completely lift the one end off the ground a few inches. This is best done by putting a block under it and aligning the blade directly below the pin holes. When you pull forward, you will be on the flat of the blade and it will not cut. This would apply in situations 1 and 2 under grade. The second way, and most common, is to put both blades facing in the same direction. Normally, you want to start using it this way near the bottom of a hill to bring the material back up that washed down if it is a long section. In the top picture, a bump was just removed. In the bottom picture, there was a large rut in front of the garage. Look in your mirror and position the digging blade just over the center of the bump and drive a few feet and repeat until the bump is gone. You should start at the furthest bump and work you way backward, leaving the piles of loose material in the low spots to be smoothed out later. The higher you lift one end, the higher the piles will be. In the top view it is shown fully loaded but in most cases it is most effective with 4- 4" blocks in the pockets closest to the cutting blade as shown in the lower picture. This is also a great way to bring a gravel driveway to the same level as an asphalt road. Just watch in your mirror and pull the pile right to the edge of the asphalt. Since one side is lifted, it will not hit the road.



Watch for traffic when pulling out into a road!

Make sure there is enough clearance for the extension bar when going from a flat to hill so it doesn't drive into the ground!!

If you have a straight slope or flat, is all we have to do is get the right weight and speed together to smooth it out.

Lets move on material conditions:

- If you have a lot of loose material on top, very little weighting will be required. Holes and ruts should be filled with the larger aggregate if possible. When it rains, smaller material will fill the voids between the aggregate and prevent future washouts.
- Extremely hard packed surfaces will require full weighting to cut or full weighting on one side as shown above. If your driveway is in bad shape, it will be a lot easier to cut right after a rain.
- If you have muddy sections, try to get the largest aggregate to fill them. Just putting more dirt back in may look great but it will just end up deeper mud when it rains.
- If you want to remove weeds, fully weight one side as shown above and angle it. Some weeds are too deep rooted to come out of a driveway. If you use a weed killer on them and routinely use the groomer, you will keep them in check.
- After using the Groomer, it is best to drive over it in a different position so that it gets packed evenly. Especially over the soft sections. **THIS IS VERY IMPORTANT!!** A lot of people drive over the same exact spot all the time and wonder why they get ruts! If you get washout regularly, be sure to check the weather and don't do your driveway just before heavy rains are expected because you won't have a chance to drive it back to a packed state.
- To help rebuild the crown, lift the front blade and "parallel park", along the edge going in reverse down the driveway. Each time you pull out, a pile will be left. Continue to pull out and leave piles toward the middle. Then angle the blade, weight to the outside edge, and smooth them out toward the middle.

This product has been successfully used by many people to maintain their driveways. While it is designed specifically for driveways, some people have used it to prepare seedbeds for lawns. We wish we could, but, it is impossible to describe every possible situation of how to use it. Common sense and some observation and practice will be the best way to get good results and use the product safely. Refer to our website WWW.DRIVEWAYGROOMER.COM for the latest information on use and optional accessories.