

ELSTON

Gopher
Getters



Owner's Manual for GA-800

Please Contact Us for Parts and Service:

Another Quality Product of:



ELSTON MANUFACTURING INC.

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Sioux Falls, SD 57103
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1 Safety Information

⚠ WARNING The baits used in this machine are highly toxic and can cause serious injury or death if used improperly. Always follow all precautions on the label for the bait you use. Store bait as recommended between applications. Do not store bait in the bait box.

⚠ WARNING Improper operation of a tractor with an implement can cause serious injury or death. If you are the least bit unsure of your ability to safely operate a tractor with an implement, find someone you respect with experience to show you how to operate a tractor safely.

⚠ Please read this manual and all safety stickers on the gopher getter before operating it.

Before continuing, there are several safety ideas that are always worth repeating.

Working for years without an accident is not the same as working safely. - It is possible to do something unsafe for years and not be hurt. This does not mean it is alright to continue this unsafe behavior; it just means you have been lucky. For example, a farmer who never had a serious accident wasn't wearing his safety belt. He rolled his tractor while moving round bales out of a ditch and he ended up underneath the tractor. Thankfully, in this case, he was only hurt, not killed, thanks to the good hearing of a neighbor who heard his calls for help. We can agree that is not operating safely. There are numerous stories of farm injuries with a similar theme. Please take the time to consider all those little things you do before your luck runs out.

Don't take short cuts with safety when you are in a hurry. - It is tempting to think that just because it will not take long nothing will go wrong. You might get lucky but then again you might end up as a sad story in the newspaper. DO NOT take shortcuts.

BE SAFE!

2 General Information

Thank you for purchasing a Gopher Getter from Elston Manufacturing. We are confident this product will provide you with years of service.

This gopher getter works by creating an artificial tunnel. The poison is dropped into the tunnel where the gophers find it and die underground out of reach of other animals. The depth of the tunnel is adjustable to better match the depth that the gophers are digging in your area.

The gopher getter will apply approximately two pounds per acre of Elston gopher getter bait when the burrows are spaced 20 feet apart. When used with rolled oats and the seeder slide with the larger 7/8" opening, the **application rate will also be slightly less than 2 pounds per acre**. These application rates are an average for the whole field and will be higher for severe infestations.

We always welcome feedback on our products. If you have comments, suggestions, or problems with the unit please contact us at 1-800-845-1385 or email at sales@elstonmfg.com.



3 Assembly Instructions

Before beginning assembly, please verify that all parts were shipped with the Gopher Getter. The Gopher Getter is shipped from the factory pre-assembled using the 5 pieces shown in Figure 1.



Label	Description
1	GA-800 Base Assembly
2	Plastic Bait Box
3	Coulter Shank
4	Coulter Blade
5	Coulter Arm

Figure 1: Disassembled Parts of GA-800

Inside the bait box you will find a parts kit that includes the parts shown in Figure 2.

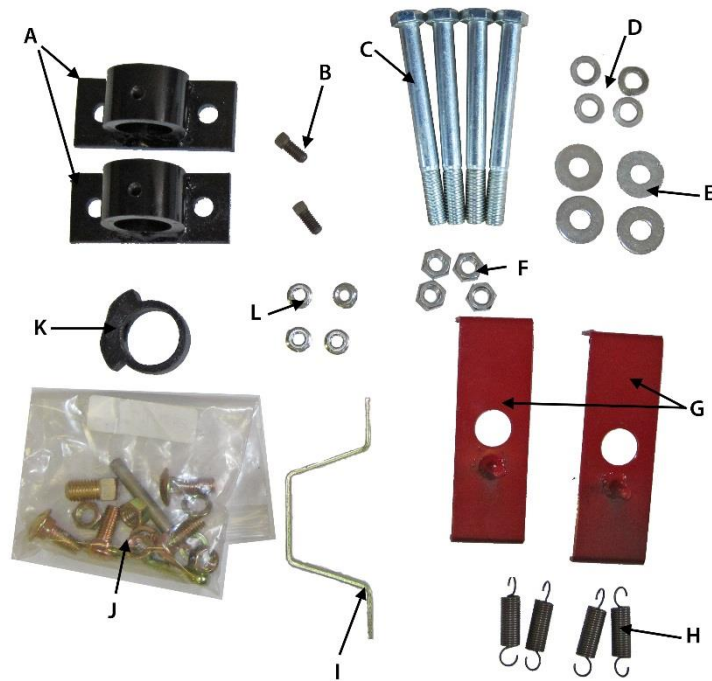


Figure 2: Parts Kit

Label	Qty	Description
A	2	Coulter Shank Clamps (G9-302)
B	2	3/8" UNF Bolts for G9-302
C	4	6" 1/2"-13 Hex Head Bolts (Grade 8)
D	4	1/2" Split Ring Lock Washers
E	4	1/2" Flat Washers
F	4	1/2"-13 Hex Nuts
G	2	Seeder Slides w/ Pin (G7-413)
H	4	Seeder Slide Springs (G7-429)
I	1	Retaining Strap for Coulter Bearing Cap
J	1	Parts Bag for Coulter Assembly (4 carriage bolts, 4 lock washers, 4 nuts, 1 square head bolt, 1 roll pin, and 1 cotter pin)
K	1	Coulter Shank Casting
L	4	3/8" Serrated Flanged Hex Nuts

Table 1: Contents of Parts Kit if GA-800 is not pre-assembled

Assembly of the GA-800 is straightforward and all of the parts attach to the base assembly, part #1 shown in Figure 1. If after reading the assembly steps below, please refer to the parts list in the back of this manual if you have any questions about assembly. The parts list presents part information, described in the sections below, in a visual manner such that you can understand the assemblies better.

1. Install the legs to the base assembly if not already installed.

If they are already installed slide and lock them into position to hold the gopher getter upright. When the legs are in position, the GA-800 will look as pictured in Figure 3.



Figure 3: GA-800 Base Assembly with Legs

2. Attach the seeder slides and bait box to the base assembly.

From the parts package, you will need the 2 seeder slides (labeled L in Figure 2), 4 springs (labeled K), and 4 serrated, flanged hex nuts (labeled J). You will also need the bait box.

- a)** Install the four springs to the attachment points on the seeder assembly. These attachment points are found just behind the clear hoses that deliver the bait to the seeder tube.

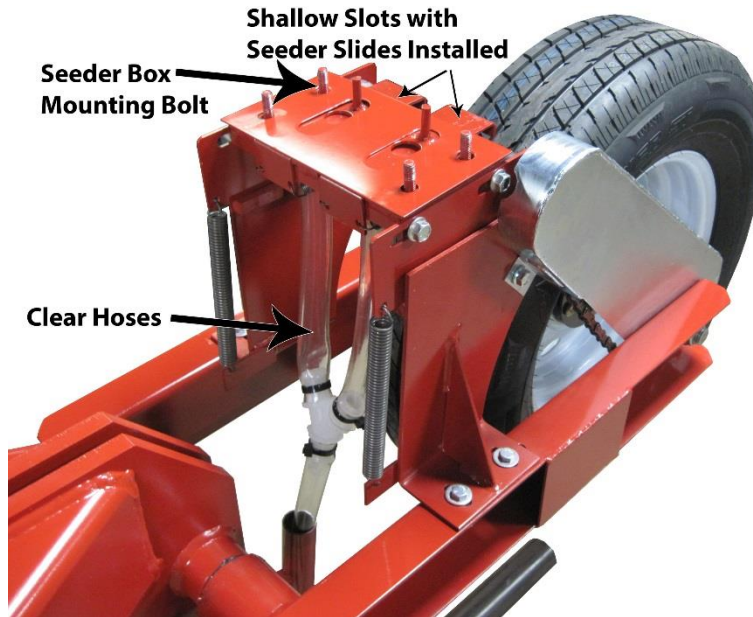


Figure 4: Seeder Assembly Area on GA-800

- b) Next place the seeder slides in the shallow slots they run in on the seeder assembly (see Figure 4). The side of the seeder slide with the larger flange and the two holes should be closer to the front of the machine.
- c) After that, place the bait box on top of seeder slides. The bait box should face with the clear viewing windows facing toward the front of the machine as shown in Figure 5 and be secured with the four hex nuts.

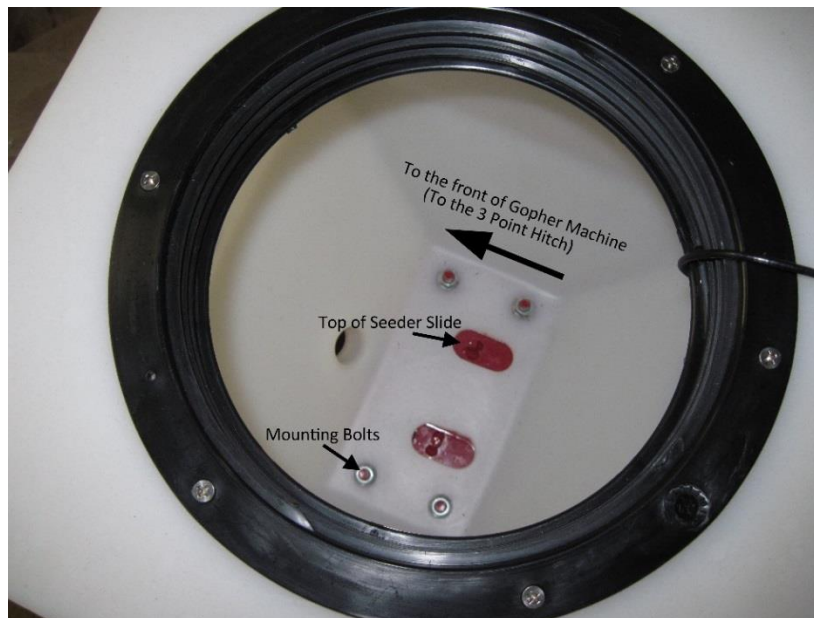


Figure 5: Inside of Plastic Bait Box

- d) Attach the other side of the springs installed in step 2a to the holes on the seeder slides. Once the step is done, the unit should look like it does in Figure 6.



Figure 6: Finished Seeder Assembly

3. Attach the coulter assembly to the frame

For this step you will need the coulter shank, the coulter blade, the coulter arm, the coulter assembly parts bag, and all the remaining parts in the parts bag.

- a) Install the roll pin in the coulter assembly parts bag into the hole on one end of the coulter shank.
- b) Mount the parts that clamp the coulter shank to the frame. You will need the 2 coulter shank clamps, the 2 square head bolts, and the 4 bolts, washers, lock washers, and nuts. These parts should be assembled as shown in Figure 7.

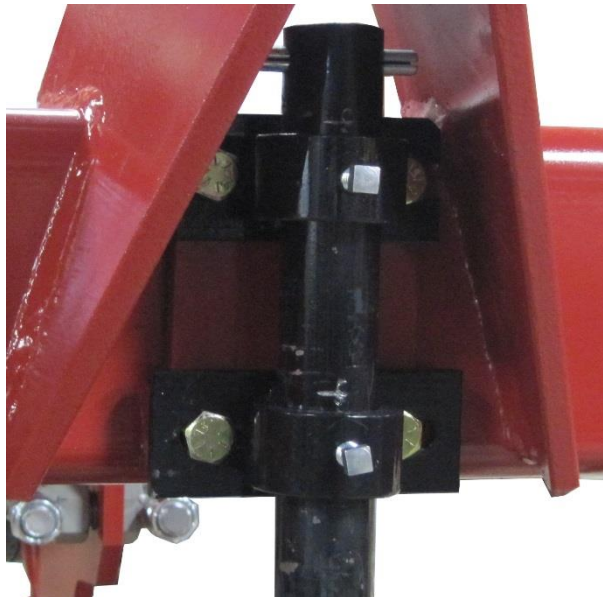


Figure 7: Assembled Coulter Shank

- c) Slide the coulter shank into position as shown in Figure 8. Clamp the coulter shank in place by tightening each bolts a little at a time until the coulter shank is secured in place.

- d) Attach the coulter arm to the coulter shank using the coulter clamp to hold it in place. Add the cotter pin to the hole in the bottom of the coulter shank. This pin will retain the coulter arm if the bolt on the coulter clamp casting becomes loose.

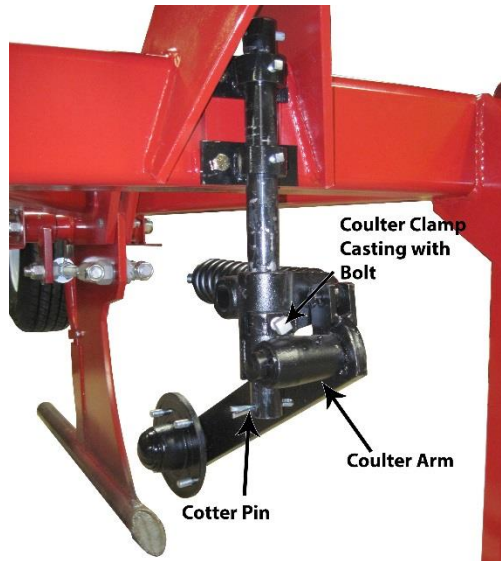


Figure 8: Coulter Arm Mounted on Coulter Shank

- e) Bolt the coulter blade to the coulter arm. Adjust the height of the coulter blade so the bottom of the blade is aligned with the top of the torpedo tube. If the center line of the coulter blade is not aligned with the center of the knife, loosen the coulter shank clamps and reposition them to move them into alignment. Position the coulter clamp so the coulter is free to swing around an arc centered on the knife and torpedo tube. Assembly of the coulter assembly is now complete and should appear similar to that shown in Figure 9.

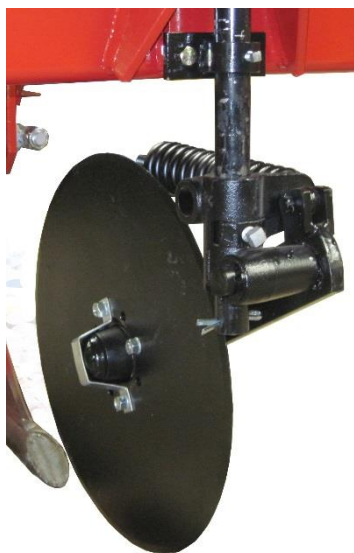


Figure 9: Completed Coulter Assembly

Your GA-800 Gopher Getter is now assembled. Refer to the next chapter for additional tips and instructions for adjusting the machine before its first use.

4 Using Your Gopher Getter

Attaching Gopher Getter to Tractor

This machine was designed to attach to a Category 2 three point hitch, Category 3 three point hitch, Category 3N three point hitch, as well as Category 2, 3, and 3N quick hitches. The Category 2 lower hitch pins are located inside of the 3-point framework and two Cat 2 - Cat 3 bushings should be installed as sleeves around the two Category 2 lower hitch pins. Two properly sized upper link pins are installed on the machine as well. The top link on the 3-point will need to be connected and adjusted so the torpedo tube operates at a slight slope when being pulled through the ground at depth with the front point being slightly lower than the back of the tube. An example of attaching to a Category 2 tractor is shown in Figure 10.



Figure 10: GA-800 Attachment to a Category 2 Three Point Hitch

Setting Up Seeder Assembly

This machine was originally designed to allow two different baits to be deposited at the same time with a dual bait seeder mechanism. The original, steel bait box had a steel divider plate in the center of the box to allow for two different baits. The new, hardened plastic bait box cannot deposit two different baits unless modifications are made to the plastic bait box to create a divider plate similar to the one installed in the original steel bait box. To deposit two different baits, simply fill one half of the bait box with one bait and the other half with the other choice of bait. The seeder mechanism automatically alternates from side to side to prevent the two baits from being dropped on top of each other. If you'd like to only use one type of bait simply fill both sides of the bait box or just remove the divider plate.

If applying Elston supplied Gopher Bait, which typically is a strychnine based bait on milo sorghum grain, no spacer plate should be used. If other types of bait are used, first check that the bait fits in the slot for the seeder slide (between the seeder base and the seeder box). If it does not, add one or two spacer plates until the gap is large enough to fit most pieces of the bait. If this is not done, the bait will be significantly ground up and some parts in the seeder assembly wear much quicker than normal.

Adjusting Deposition Rate of Bait

The bait application rate of the GA-800 is adjusted by moving the bait box and seeder slide base backwards and forwards. One of the trippers located on the seeder drive axle may also be removed to allow even less bait to be dropped. The seeder base, as shown in Figure 11, is attached to its mounting bracket with 4 bolts and sliding it backwards (toward the packer wheel) will increase the bait application rate. When applying Elston gopher bait, it should be adjusted so that the maximum opening of the hole in the seeder slide is 1/2" (approximately 3/4 of the way toward the back) for an application rate of approximately 2 pounds per acre with 20 feet between passes. For other types of bait, consult with the bait dealer for recommended setup. If they do not have any recommendations, start with a maximum opening in the seeder slide of approximately 1/2" and the number of spacer plates recommended in the section above and measure the actual application rate. Adjust the application rate by shifting the seeder base backward and forwards and potentially increase it by adding spacer plates (up to a total of 3). If you are still unable to achieve the application rate you need, please contact us at Elston Manufacturing at 1-800-845-1385.

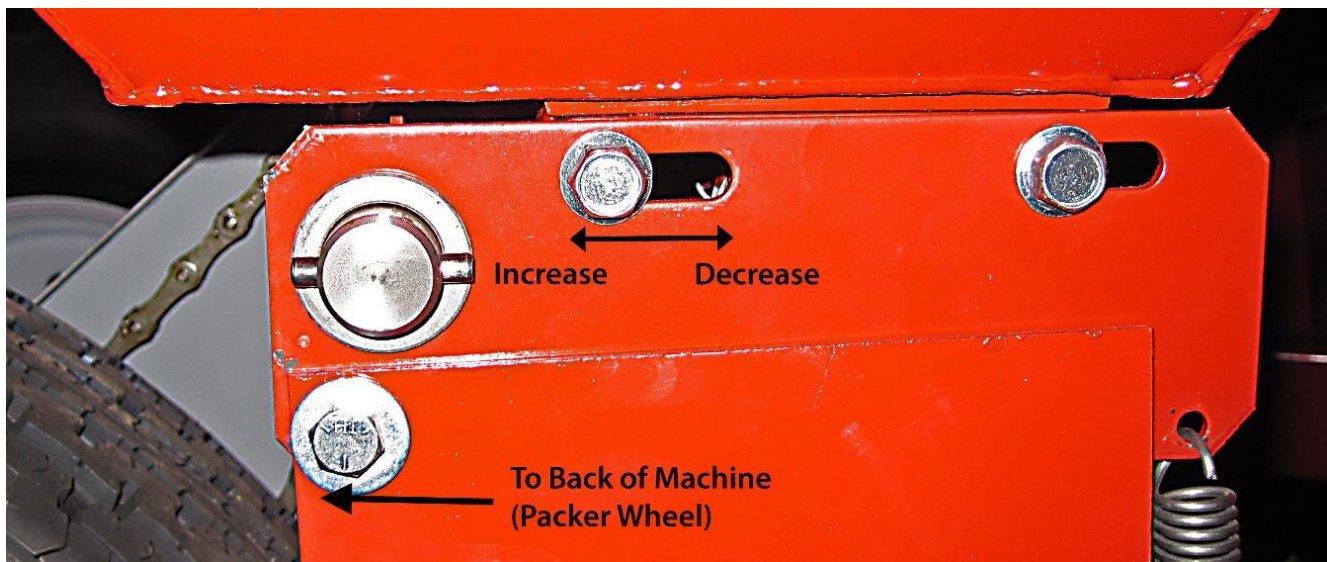


Figure 11: Adjusting Rate of Bait Application

Adjusting Depth Bait

The packer wheel determines how deep the torpedo tube or burrow builder travels through the ground. The depth of the torpedo tube should match the depth of the gopher's natural burrows in your area. This can be determined by locating and digging up one of their main runways to see how deep they are actively working and adjusting the packer wheel accordingly. It is not necessary that the depth of the torpedo tube be exact; only that it is close enough to intercept the gopher's main runways. The depth adjustments are made with the two threaded rods located on either side of the knife assembly. When standing behind the machine and facing the machine, the rod on the right side locks the wheel in place once the decided position is set and the rod on the left side adjusts the packer wheel. To adjust the wheel, loosen the two nuts on both rods that lock the adjustments in place. When the wheel is set in place, spin the two nuts back in position and tighten to lock the wheel in place. Figure 12 shows a depiction of this adjustment.

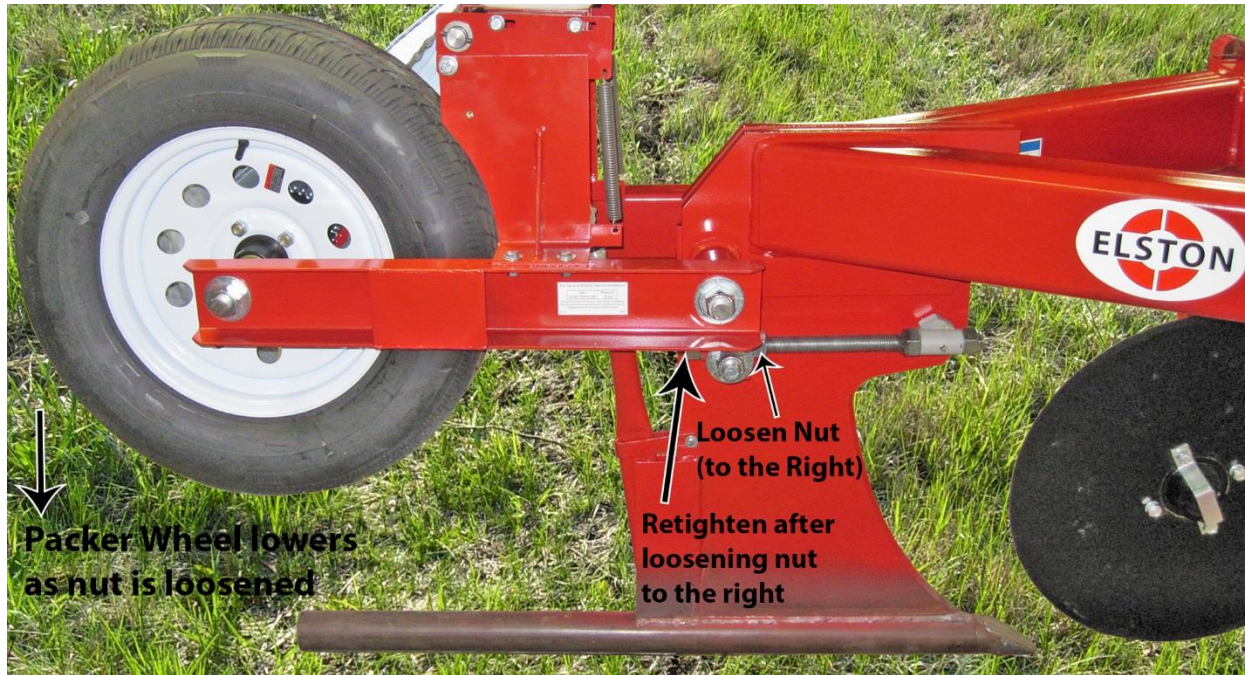


Figure 12: Packer Wheel Adjustment

Adjusting Depth of Coulters

This machine is provided with a spring-loaded coulters assembly mounted on a straight shaft to allow for a wide range of adjustments in depth. Generally, the coulters should be set just deep enough so that the blade cuts through the debris on the surface and the major roots below the surface so that the knife passes cleanly through the soil. If not, the knife will catch on the uncut roots and rip the vegetation out of the ground, typically resulting in blockage similar to that shown in Figure 13.



Figure 13: Roots catching on knife due to coulters blade set too shallow

In areas such as pasture:

- Tunnel depth of approximately 4 to 5 inches is recommended

In alfalfa fields:

- Adjust the coultter as deep as possible while keeping the bottom of the coultter blade at minimum ¼” or so below the bottom edge of the torpedo tube as shown in Figure 14.

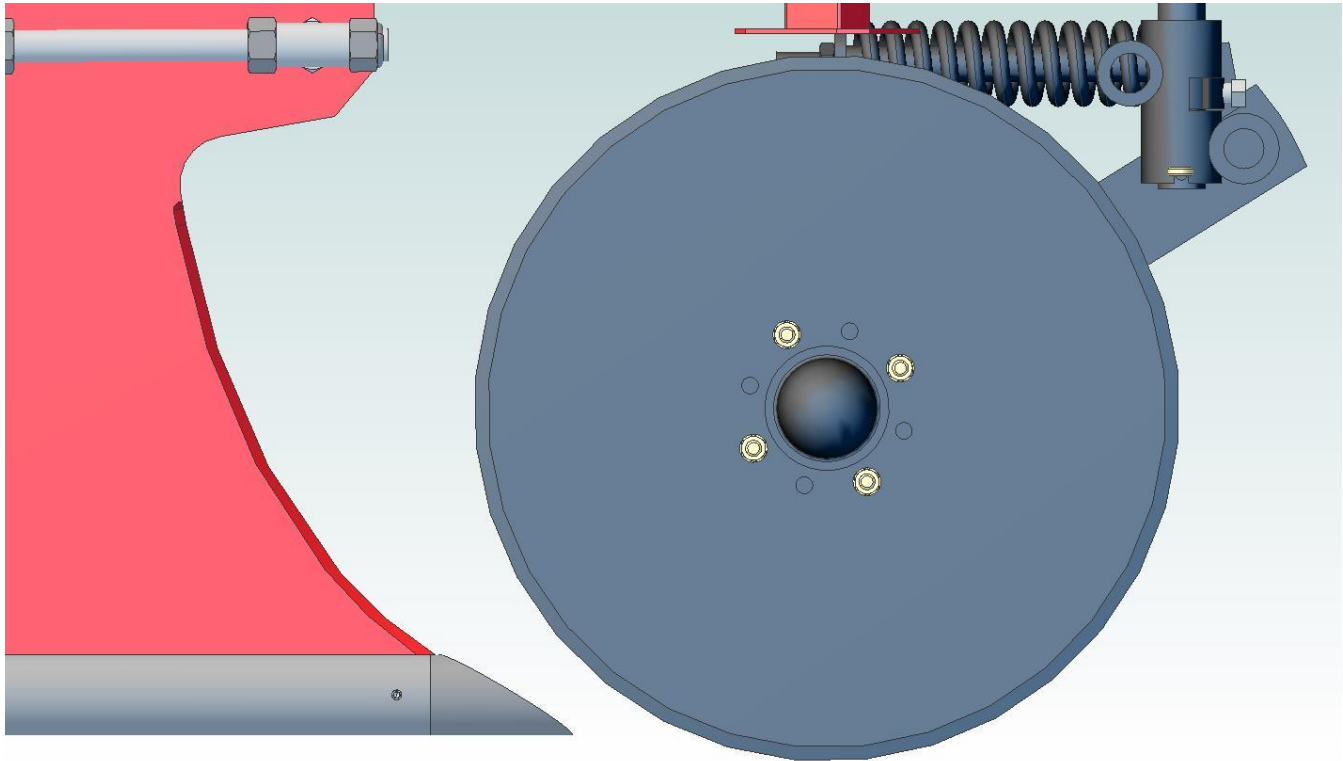


Figure 14: Coultter blade depth for treatments in alfalfa

Depending on your exact conditions, the depth may need to be varied somewhat from these recommendations.

To adjust the depth of the coultter blade, loosen the bolt on the coultter clamp and slide the coultter up or down on the coultter shank. Lock the coultter clamp when the desired position is found. For larger adjustments, the bolts that hold the coultter shank to the front of the machine may also be loosened and the shank slid up or down for further adjustments. Tighten the square headed bolts just tight enough to hold the shank in normal operation (no more than 40 ft-lbf). Over-tightening these bolts will likely cause one of them to fail when the coultter springs back after an impact with a rock or other obstruction.

Operating Instructions

WARNING

The bait used in this machine is highly toxic and can cause serious injury or death if used improperly. Always follow all precautions on the label for the bait you use. Store bait as recommended between applications. Do not store bait in the bait box.

⚠ WARNING To prevent accidents involving injury or death, do not allow anyone near the tractor or Gopher Getter while the tractor is in motion. Always follow all safety instructions provided with the tractor.

⚠ CAUTION Risk of expensive damage and possible injury. Always check for and avoid underground pipe or other lines in the area you will be working.

NOTICE To avoid extensive damage to your machine,

- Never backup or turn while the machine is in the ground
- Always replace the shear bolt with an identical grade 5 bolt.
- Never over tighten the one inch bolt attaching the knife to the frame or the shear bolt. They should loosely clamp the knife and allow it to pivot when the shear bolt fails.
- Always limit your speed to 5 mph or less.
- Avoid large rocks, tree roots, concrete, and culverts whenever possible. Limit your speed further in areas with these hazards.
- Stop quickly when the shear bolt fails.
- Never add more than 500 lbs. combined of weight and down pressure to the machine.

The advice and tips below are generalized ones for gopher getter users throughout the country. For information specific to your area, please speak with the dealer that you purchased the unit from, your local extension agent, or area farmers that use gopher getters.

Space your treatments 20 to 30 feet apart in straight, parallel lines in areas active with gophers or bordering areas with high population of gophers that are not treatable (like a neighbors CRP). The gopher getter will apply approximately two pounds per acre of Elston gopher getter bait when the burrows are spaced 20 to 25 feet apart, as shown in Figure 15. These application rates are the average over a whole field and assume an average infestation that requires approximately one third of the field to be treated. If the infestation is more severe, the application can be as high as 6 lbs/acre with the factory setup. The bait will be most effective if applied when gophers are active but high quality food is scarce. Spring and fall are the most effective times - especially spring. When you use any type of gopher bait during the summer, expect reduced control results.

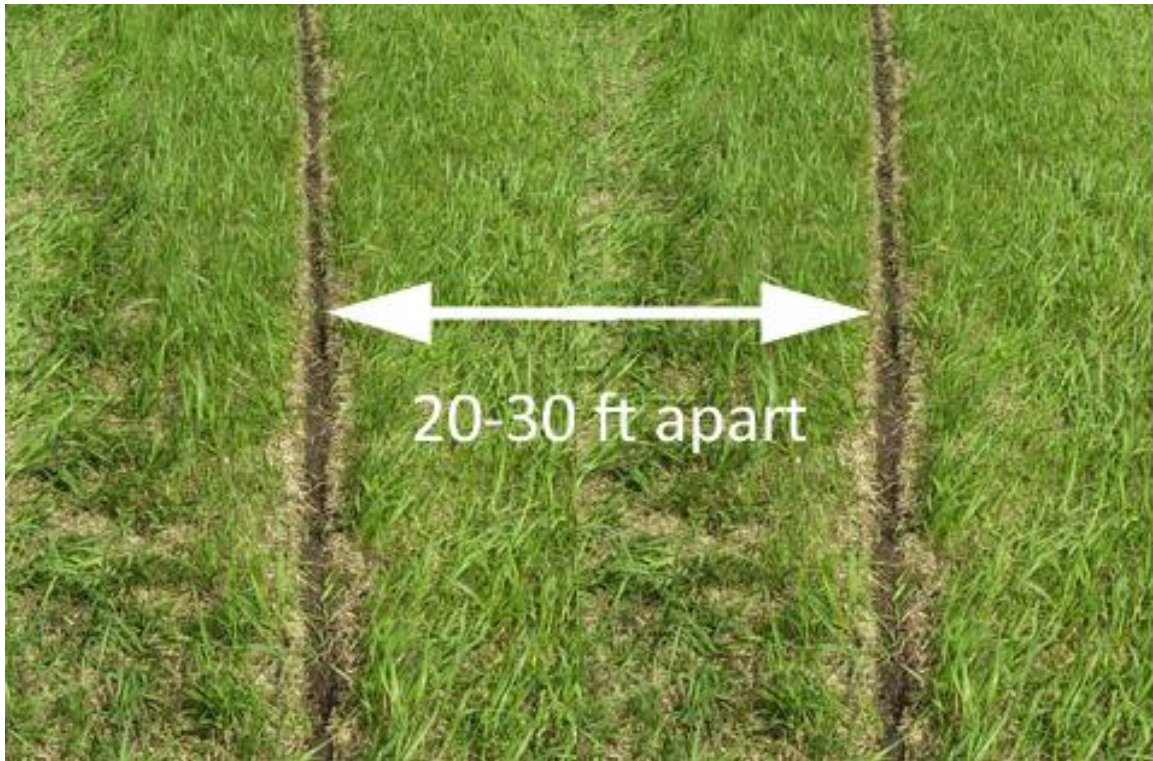


Figure 15: Application distance between application passes

As you start and end a pass, smoothly raise and lower the machine with the hydraulic cylinder to minimize damage to the surface of the soil. In an emergency, the gopher getter can be quickly raised but may disturb a significant amount of soil. To limit damage from erosion, avoid making burrows straight down the slope of the hill.

This machine works best in moist soil. It is rarely a problem, but if the soil is too wet, it will stick to the knife and the packer wheels and interfere with the depth setting of the gopher getter. A more common problem is soil that is too dry. When it is, the machine will be very hard to get into the ground and it will refill the tunnel (reducing the effectiveness of the bait). Depending on your soil type, you may find the gopher getter works in a huge range of soil moisture conditions or that it works well in a fairly narrow range of conditions.

If you have certain types of soil or low soil moisture, the gopher getter may have trouble getting to full depth (where the packer wheel will turn consistently). Typically, it works best when the torpedo tube is sloping slightly downward into the soil (a few degrees). Try adjusting the angle of the frame by changing the length of the lower arms on the three point. Next, reduce the depth of the coulter to reduce the force required to get the machine into the ground. If this doesn't fix the problem, you may add weight from 300 to 500 pounds, maximum.

The advice and tips above and below are generalized ones for gopher getter users throughout the country. For information specific to your area, please speak with the dealer that you purchased the unit from, your local extension agent, or area farmers that use gopher getters.

Operating Tips

- Never turn or back up with the machine in the ground. This will damage the unit.
- Never over tighten the one inch bolt attaching the knife to the frame. The large bolt must be loose enough to allow the knife and the parts attached to it to pivot when the shear bolt fails.
- Never over grease the seeder slide. Too much grease will cause bait to build up on the interior surfaces of the unit when it contacts the bait traveling through the opening in the seeder slide and cause it to plug.
- Always replace the shear bolt with an identical grade 5 bolt. Using a higher grade bolt, such a grade 8, will greatly increase the risk of expensive damage to the frame when you hit a large obstruction.
- Always check that there are no underground pipes or other lines in the area you will be working. There is nothing worse to hit with your gopher getter. (Yes, it's happened.)
- Always start slow especially if you're new to the gopher getter or operating in an unfamiliar field. At no point should you go faster than 5 mph. In some conditions, especially hard or rocky ground, it will be necessary to limit your speed further.
- Always stop quickly when the shear bolt fails. If you are moving quickly and/or the obstruction that you hit is especially tenacious like a tree root or an oddly shaped rock, the tip can catch long enough for the bait box to pivot around and damage itself on the frame.

Additional Information

If you are having trouble setting up or operating your Gopher Getter, please contact the dealer where you purchased your GA-800. If you are unable to contact them or they were unable to answer your questions, please contact Elston Manufacturing at 1-800-845-1385 or refer to our website at www.elstonmfg.com .

5 Maintenance

Every use

Inspect torpedo tube/point for excessive wear or damage

Inspect shear bolt for damage, replace if necessary

Every season or 200 lbs. of bait

Check if the unit needs to be greased. If so, lightly grease the unit at the grease points on the packer wheel hub, as shown in Figure 16, and the packer wheel adjustment rod, as shown in Figure 17.

Check that the tire pressure is 20 psi.

Replace any safety decals that are no longer readable.

GA-800 Grease Points

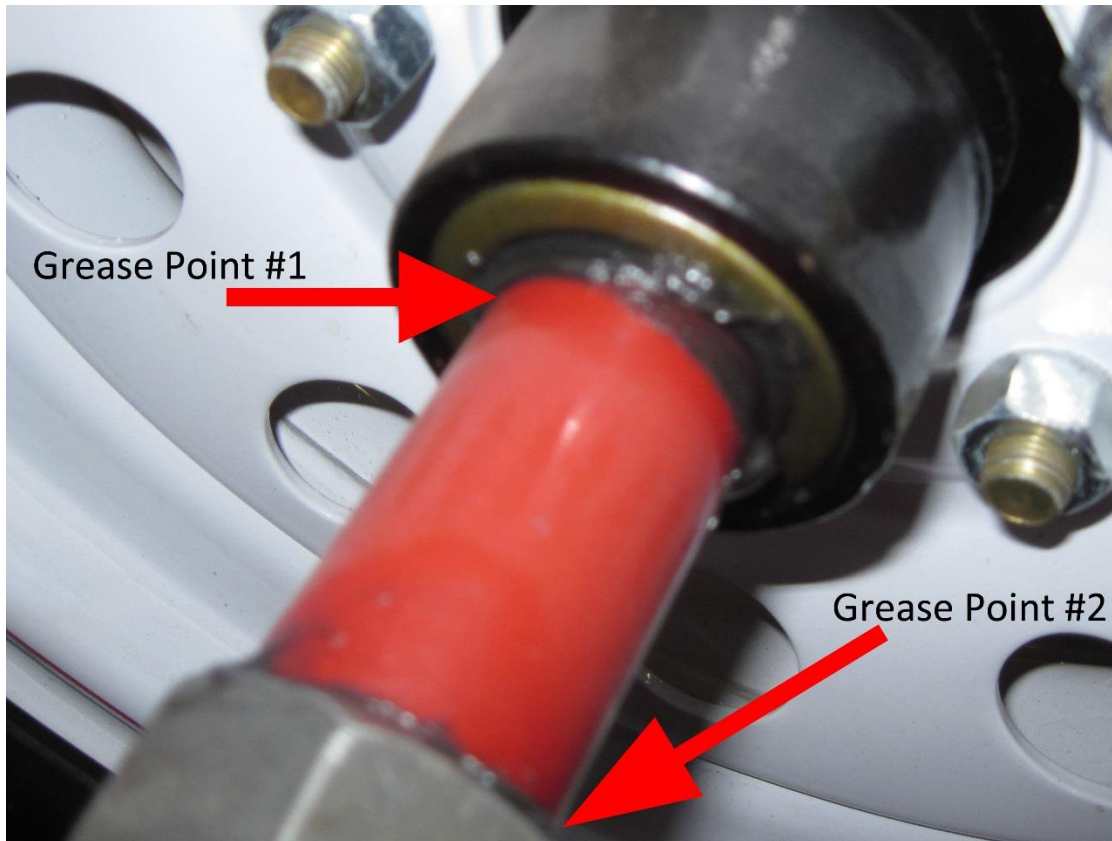


Figure 16: Grease Points on Packer Wheel Hub

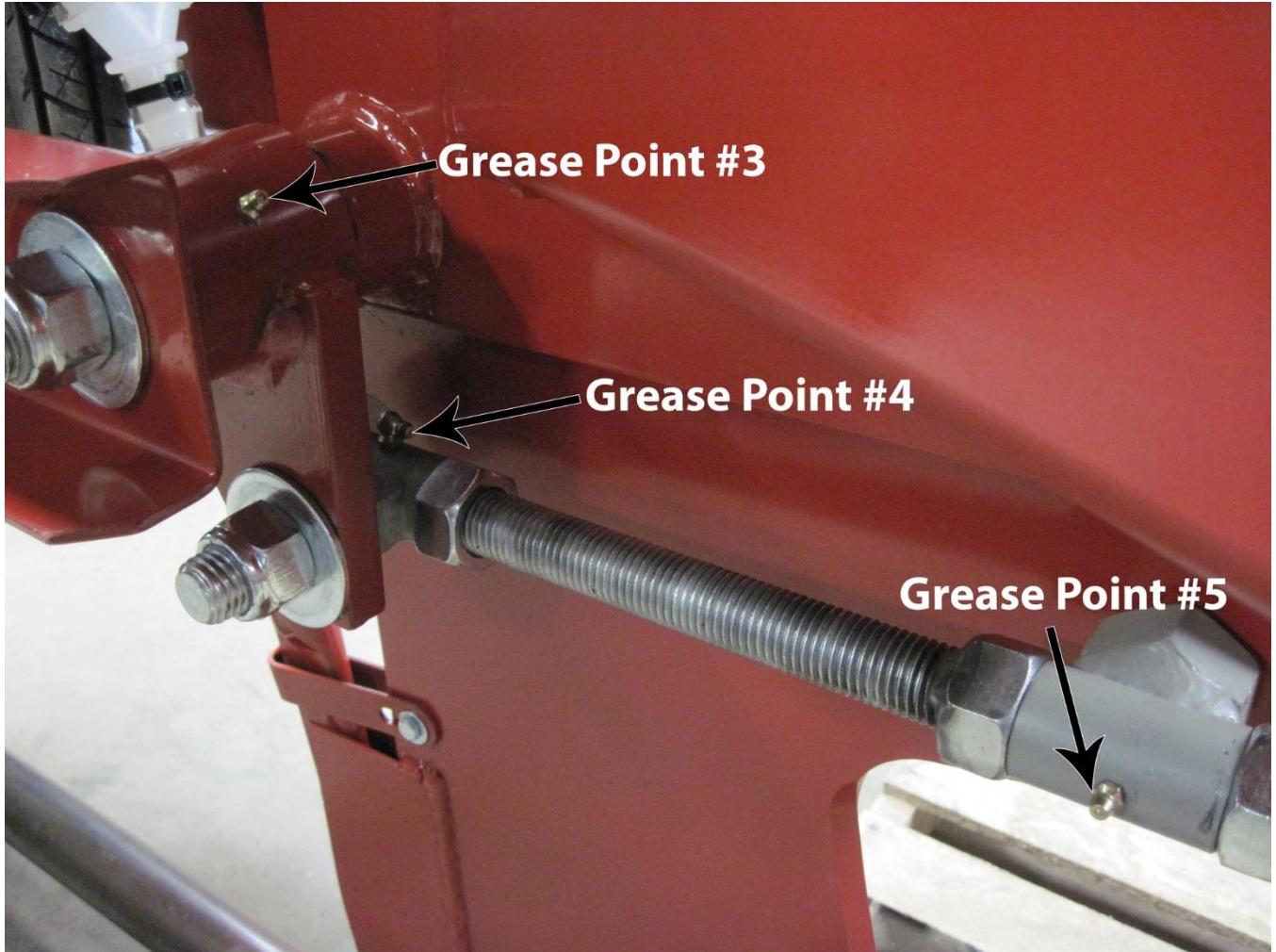
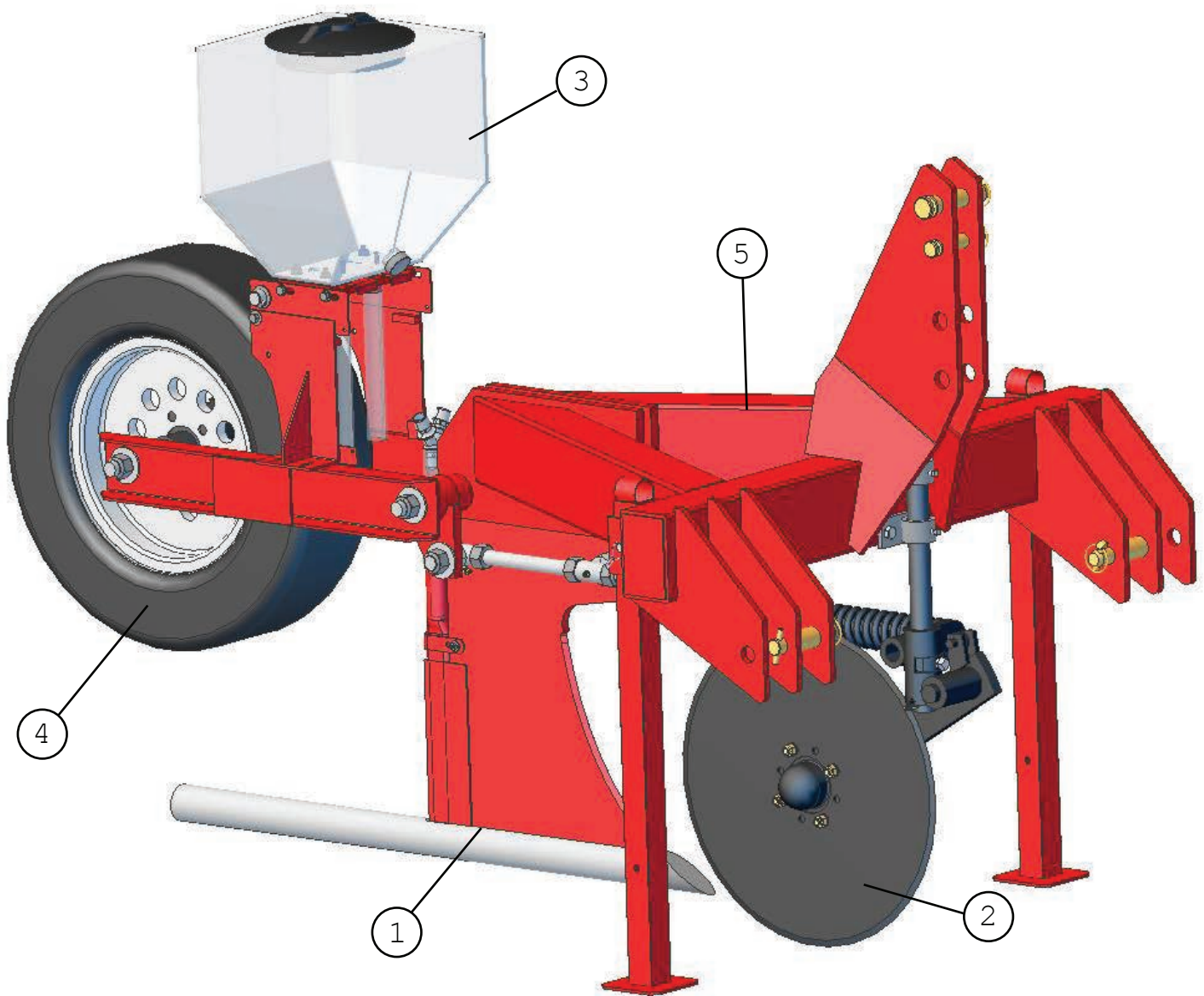


Figure 17: Grease Points on Packer Wheel Adjustment Rod

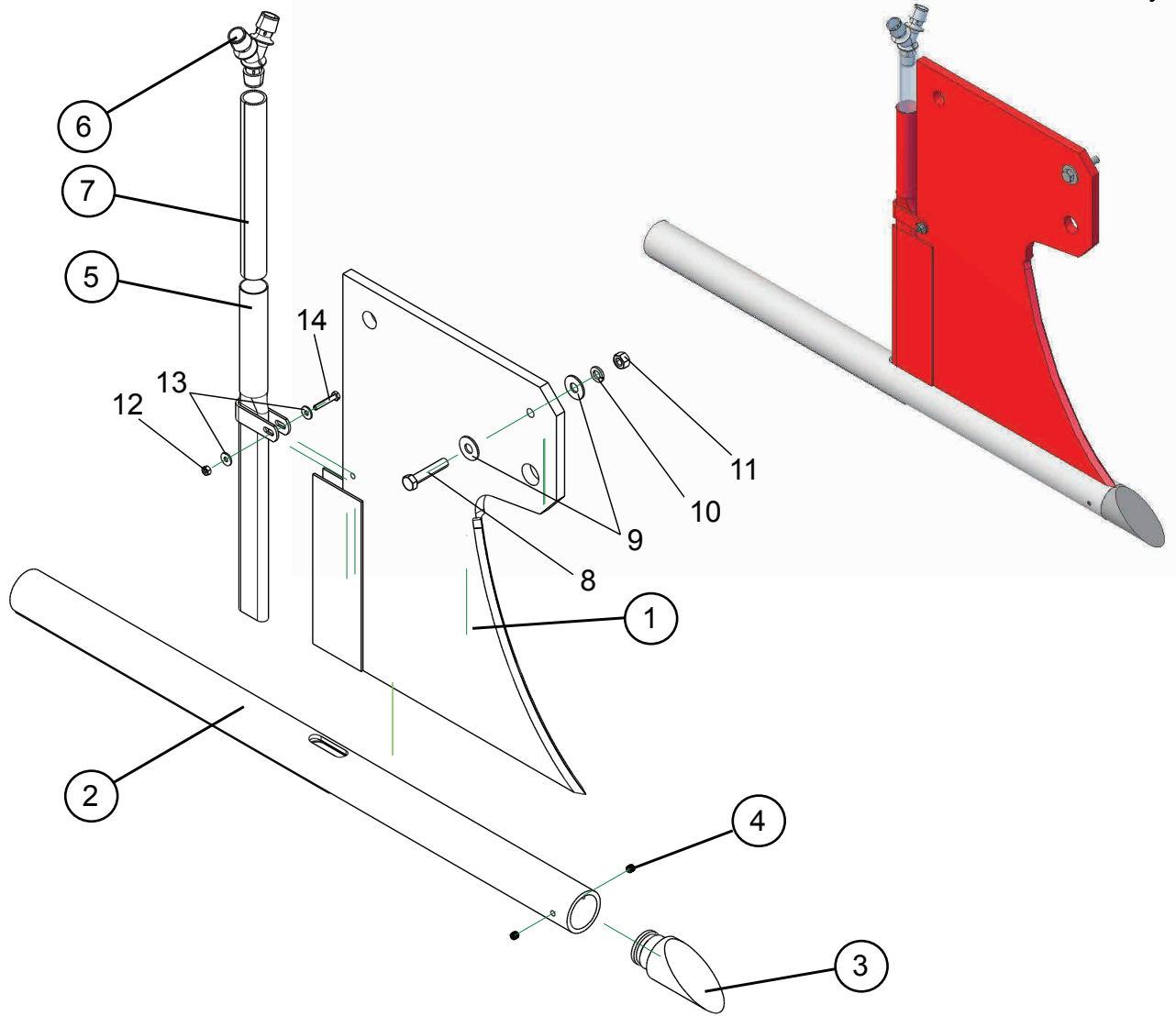


Assemblies

Ref #	Name	Page #
1	Knife Assembly	G2
2	Coulter Assembly	G3
3	Seeder Assembly	G4
4	Packer Wheel Assembly	G5
5	Frame Assembly	G6

Please Call Elston Manufacturing for information on purchasing gopher bait (poison).

Parts List for GA-800

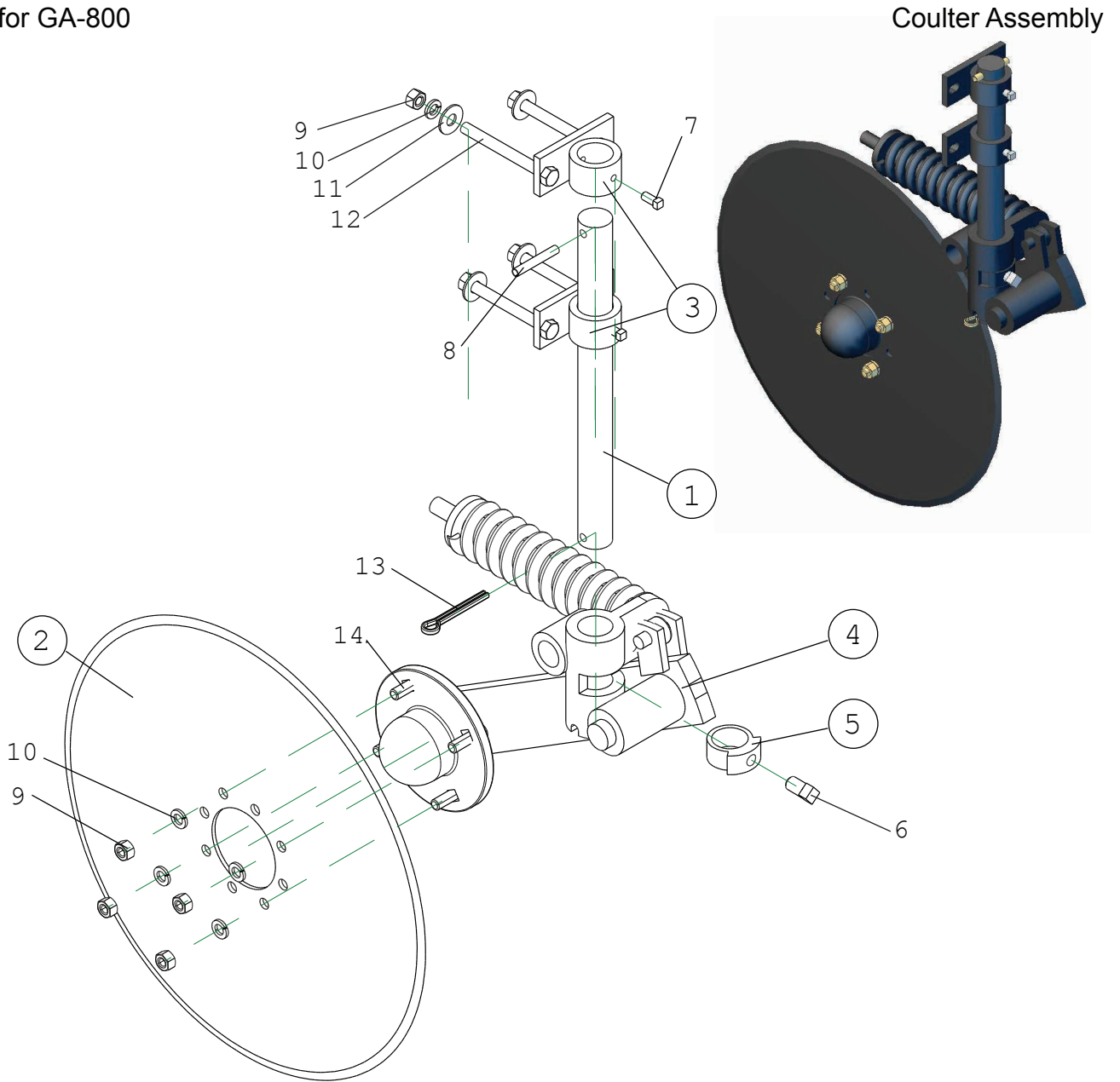


Ref #	Name	Part #	Ref #	Description
1	Knife - Elliptical Arc	G7-103	8	1/2"-13 x 3" Hex Head Bolt (Grade 5)*
2	Torpedo Tube	G7-102	9	1/2" Washer
3	Torpedo Point	G1-105	10	1/2" Lock Washer
4	3/8"-16 x 3/8" Set Screw	G1-143	11	1/2" Hex Nut
5	Seeder Tube	G9-201	12	1/4"-20 Prevailing Torque Lock Nut
6	Barbed Wye Connector	G7-423A	13	1/4" Washer
7	Plastic Hose	G4-122	14	1/4"-20 x 1 1/2" Hex Head Bolt
1-5, 12-14	Knife Assembly (complete)	G9-200		

* This bolt must be grade 5 (or softer). It is designed as a shear bolt to prevent damage when hitting underground obstructions. Using a harder bolt could result in expensive repairs.

All hardware listed is coarse thread (UNC) and Grade 5 or better unless otherwise noted.

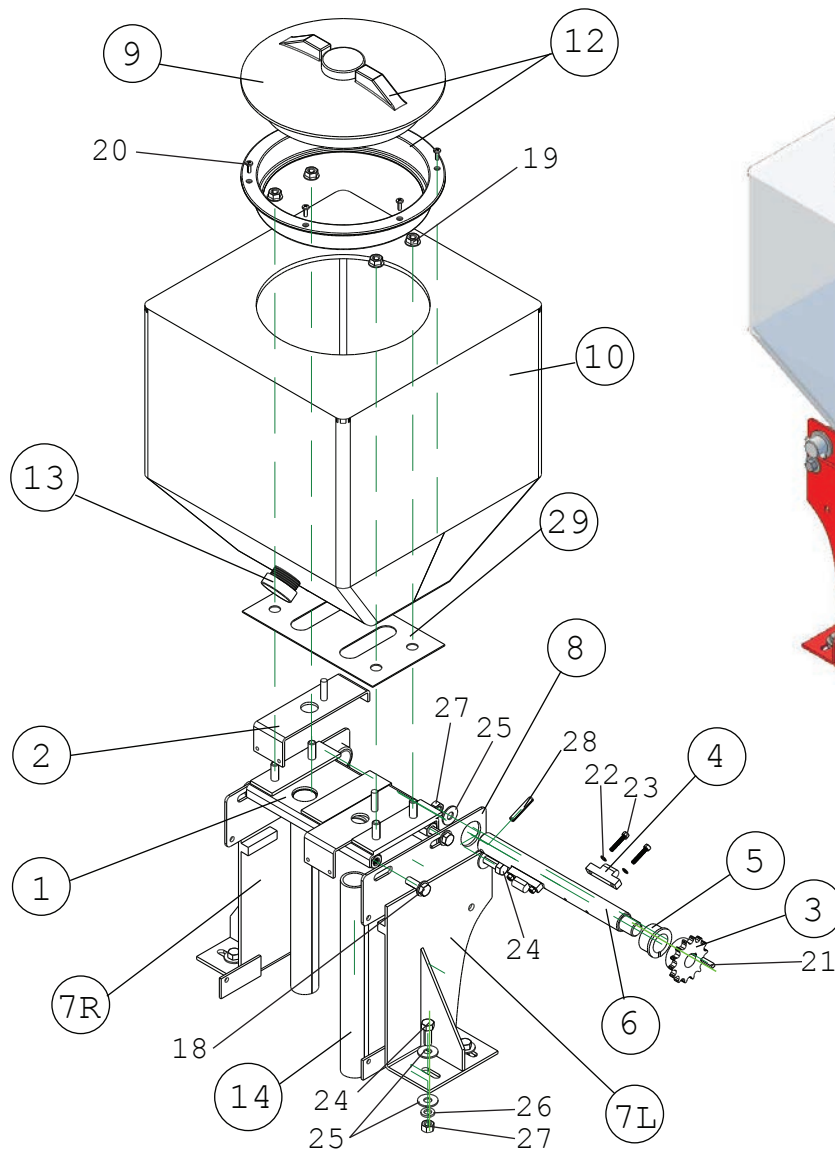
Parts List for GA-800



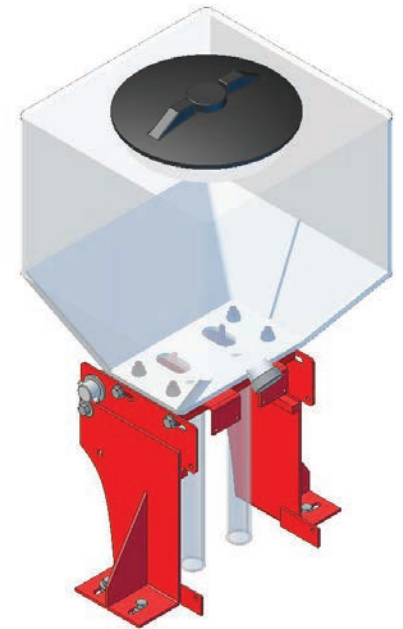
Ref #	Name	Part #	Ref #	Description
1	Coulter Shank	G9-301	6	5/8"-11 x 1" Square Hd Set Screw
2	Coulter Blade - 22"	G7-203	7	3/8"-16 x 3/4" Sq Hd Set Screw
3	Coulter Shank Clamp	G9-302	8	3/8" x 2 1/2" Roll Pin
4	Single Arm Coulter	G7-201	9	1/2"-13 Hex Nut
5	2975 Locking Collar	G7-201-19	10	1/2" Lock Washer
1-5, 6-14	Coulter Assembly	G9-300	11	1/2" Washer
			12	1/2"-13 x 6" Hex Head Bolt (Grade 8)
			13	5/16" x 2 1/2" Cotter Pin
			14	1/2"-13 x 1 1/4" Cage Bolt

All hardware listed is coarse thread (UNC) and Grade 5 or better unless otherwise noted.

Parts List for GA-800



Seeder Assembly



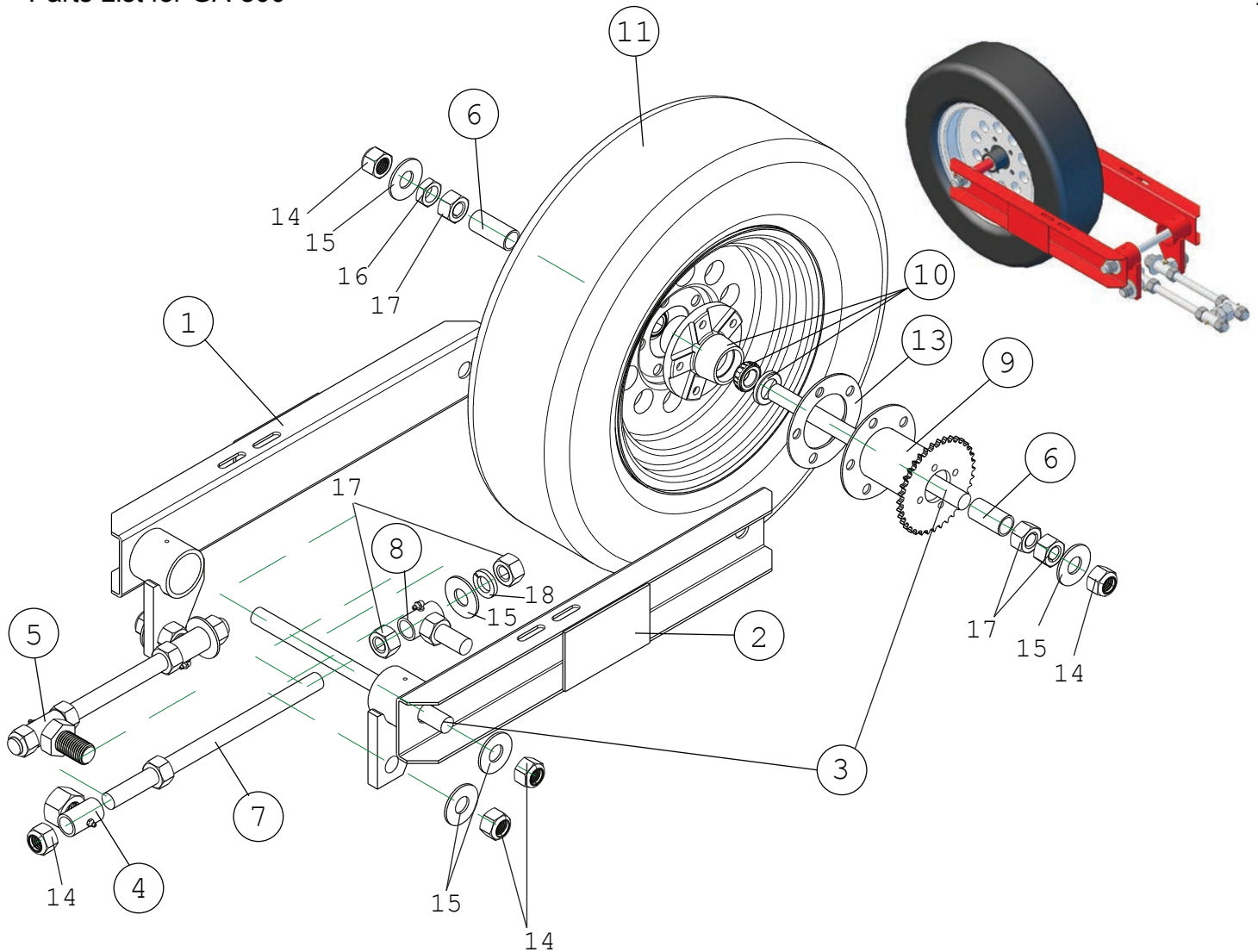
Ref #	Name	Part #
1	Seeder Base Assembly	G7-414A
2	Seeder Slide & Pin	G7-413
3	Drive Gear	G4-203
4	Tripper	G7-418
5	Axle Bushing	G3-324
6	Seeder Drive Axle	G7-419
7L	Seeder Mntg Bracket - Left	G7-417
7R	Seeder Mntg Bracket - Right	G7-417
8	Side Adjustment Plate	G7-416
9	Plastic Bait Box Lid	G4-234P
10,13	Plastic Bait Box	G7-434P
11	Lid Retaining Strap (Not Shown)	G4-233P
12	Plastic Bait Box Lid Assy	G4-231P
13	Drain Cap	G4-221P
14	Plastic Hose	G4-122
10-13,19,20	Plastic Bait Box Assembly	G7-435P
29	GA-700 Bait Spacer Plate	G7-408B

Ref #	Name	Part #
15	Seeder Box Spring (Not Shown)	G7-433
16	Seeder Slide Spring (Not Shown)	G7-429
17	Chain Guard (Not Shown)	G7-411
1-29	Seeder Assembly	G7-400

Ref #	Description
18	3/8"-16 x 1" Wislock Hex Bolt
19	3/8"-16 Wislock Hex Nut
20	#8 1/2" Sheet Metal Screw
21	9/16" of 3/16" Square Key Stock
22	#10 Internal Locking Washer
23	#10-24 1" Soc Hd Cap Screw (Use LocTite)
24	3/8"-16 x 1" Hex Head Bolt
25	3/8" Washer
26	3/8" Lock Washer
27	3/8"-16 Hex Nut
28	1/4" x 1 1/2" Slotted Spring Pin

Parts List for GA-800

Packer Wheel Assembly



Ref #	Name	Part #
1	Packer Wheel Swing Arm-Right	G9-401R
2	Packer Wheel Swing Arm-Left	G9-401L
3	Swing Arm & Packer Wheel Axle	G7-304
4	Lift Arm Connecting Nut Assy	G7-308
5	Lift Arm Connecting Bolt Assy	G7-309
6	Packer Wheel Hub Spacer	G7-310
7	Packer Wheel Adjustment Rod	G7-311
8	Lift Arm Link	G7-312
9	36 Tooth Sprocket Assembly	G7-314
10	Bearing & Hub Assembly	G7-317
11	Tire & Wheel Assembly	G7-318
12	Chain (Not Shown)	G7-321
13	Hub Spacer Flange	G7-438

Ref #	Description
14	1"-8 Nylock Hex Head Nut
15	1" Fender Washer
16	1"-8 Hex Jam Nut
17	1"-8 Hex Nut
18	1" Lock Washer

Ref #	Name	Part #
1-18	Packer Wheel Assembly	G9-400

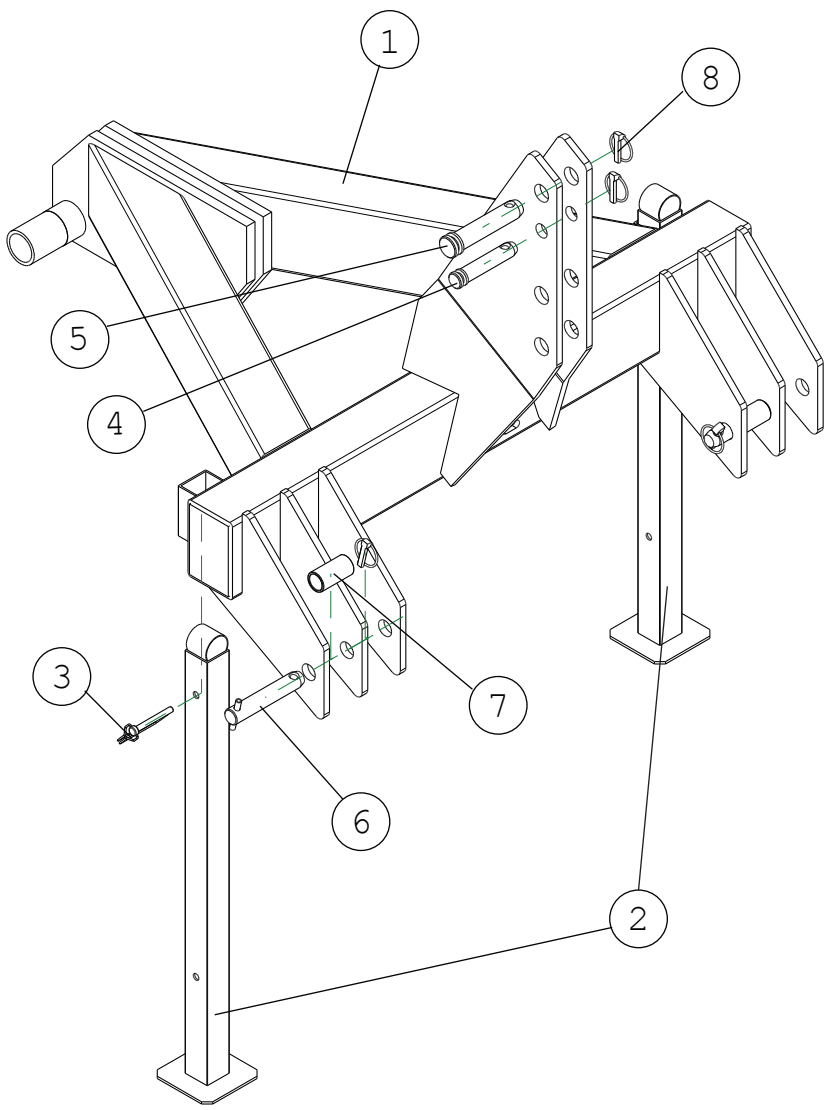
All hardware listed is coarse thread (UNC) and Grade 5 or better unless otherwise noted.

G5

*Not Available Separately

Parts List for GA-800

Frame Assembly - G9-100



Ref #	Name	Part #	Qty
1	Frame	G9-101	x1
2	Leg Stand	G9-102	x2
3	Snap In Pin for Legs	G7-526	x2
4	CAT 2 Top Link	G8-505	x1
5	CAT 3 Top Link	G8-506	x1
6	CAT 2 Lift Pin	G8-507	x2
7	CAT 2 to CAT 3 Lift Pin Adaptor	G8-508	x2
8	Lynch Pins	G8-509	x4

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Elston Manufacturing, Inc. offers a one (1) year, non-transferable, Limited Warranty against specified defects as set forth below for Elston Manufacturing, Inc. product lines from the date of purchase through proof of purchase by providing original receipt.

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