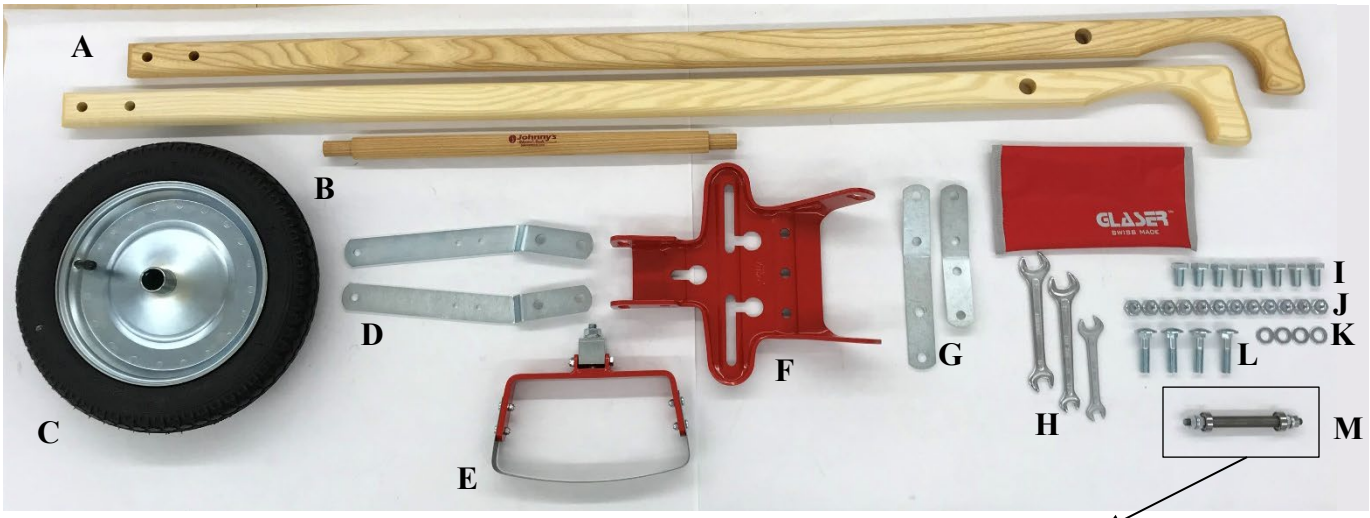
Glaser Wheel Hoe
Instruction Manual

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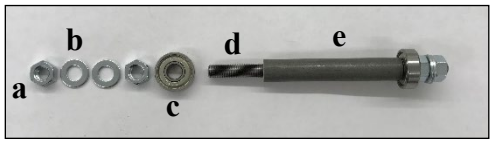


The wheel hoe is a lightweight, versatile, and maneuverable push-tool. Its ergonomic design gives the user more leverage than a traditional hand hoe and it enables you to cover ground more quickly for increased efficiency. The wheel hoe uses no fossil-fuels, produces no fumes, and provides shallow cultivation, which results in fewer weed seeds being brought to the surface. It also allows you to cultivate very close to the plants while remaining upright, resulting in less bending and stretching. Multiple attachments, which increase the versatility of the tool, are available and summarized at the end of this document.



Parts Included:

A. (2) Wooden handles
B. Wooden dowel
C. Wheel with standard U.S. inflation stem tire
D. (2) Wheel supports
E. 8” or 12” Oscillating hoe (depending on the model)
F. Chassis
G. (2) Off-set handle extension brackets
H. Three-piece wrench set
I. (8) 10M- 1.50 x 20mm hex bolts
J. (12) 10M- 1.50 x 17mm hex nuts
K. (4) 10M- 20mm flat washers
L. (4) 10M- 1.50 x 45mm Carriage bolts
M. Wheel Axle Assembly



<u>Wheel Axle Assembly</u>
a. (4) 8M- 1.00 x 13mm hex nuts
b. (4) 8M- 16mm flat washers
c. (2) Radial ball bearings
d. (1) Wheel axle
e. (1) Bushing

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ASSEMBLY

WHEEL AND CHASSIS

1. Remove two nuts (a), two washers (b), and a ball bearing (c) from one end of the wheel axle (M). Insert the axle into the wheel. See figure 1.
2. Replace the ball bearing, one washer, and one nut. Tighten with the wrench set provided.
   ***Note**: The ball bearing will be set down inside the wheels once tightened.*
3. Attach the wheel support (D) to the wheel using the remaining hex nut and washer. See figure 2.
   ***Note**: The wheel support should angle inward towards the wheel.*
4. Repeat step 3 on the other side of the wheel using the remaining wheel support.
5. Attach the wheel assembly to the chassis (F) with the 10M hex bolts (I), hex nuts (J), and two of the washers (K) provided. The washers should be placed before securing the nuts for the elongated holes only. See figure 3. The wheel supports should be angled slightly upward towards the wheel hoe frame. See red arrows below



Figure 1.



Figure 2.

TIRES

The tire should always be inflated to **30 psi for optimum performance.*

Replacement tires and tubes are available on our website.

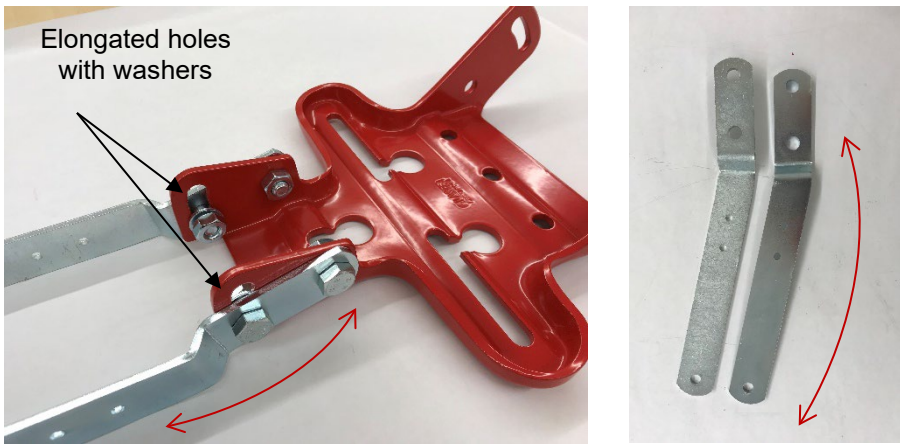
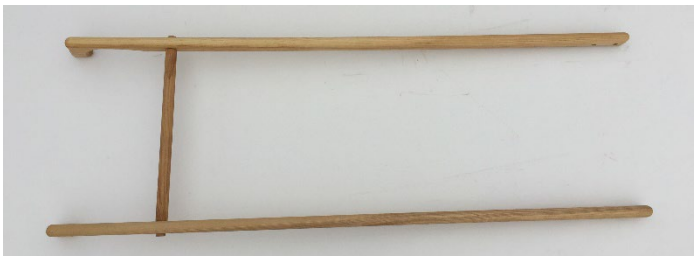


Figure 3. Attaching the wheel assembly and chassis.

HANDLES

Insert the dowel into each handle making sure the grips are both oriented in the same direction. If the fit is tight, work the dowel and handles together by spinning them back and forth while applying some force. A light sanding may also be needed.



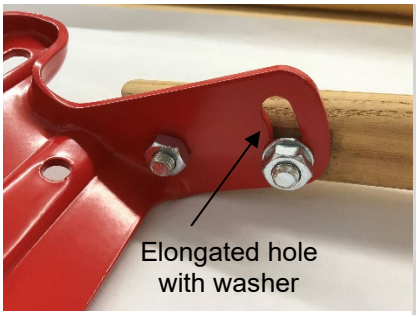
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HANDLE ARRANGEMENT OPTIONS

Once your wooden handles are assembled, you can choose to attach the handles to your wheel hoe in a traditional orientation or, so they are off-set. See below for more information on the benefits of each type of installation.

Option One: Traditional Handles

- Attach handles directly to the wheel hoe chassis using the carriage bolts (L), hex nuts (J), and two washers (K) provided.
- If needed, lightly tap the heads of the carriage bolts into the wood to properly seat the bolts into the handles.





***Note**: You will end up with four unused hex bolts and hex nuts if you choose this option.*

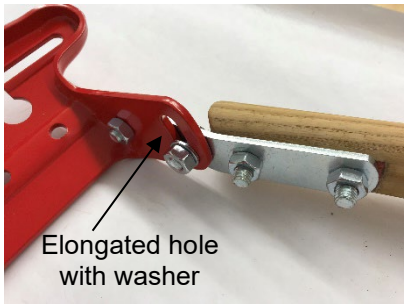
About Traditional Handles
Traditional handles enable the user to walk directly behind the wheel hoe, using a straight forward-and-back pushing motion. This allows for greater precision and the greatest amount of force to be applied. This arrangement may be desirable for working in soils that are heavy, rocky, or compacted and is suitable for extended use in most situations. The downside associated with the traditional handle position is that it's necessary to walk in your bed, thus compacting the soil.

Option Two: Off-Set Handles

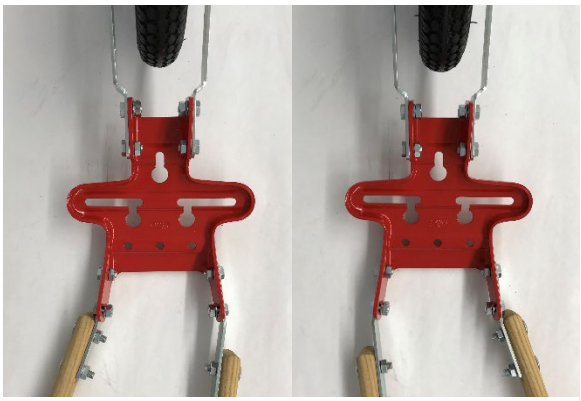
- Attach handles to the off-set brackets (G) using the carriage bolts (L) and hex nuts (J) provided. As with the traditional handle option, you may need to lightly tap the heads of the carriage bolts into the wood.

  ***Note**: See photos below for attaching the off-set brackets at the correct angle preferred by most right-handed and left-handed users.*

- Use the remaining 10M hex bolts (I), hex nuts (J), and washers (K) provided to secure the off-set brackets to the chassis. See right.



About Off-Set Handles
Off-set handles allow the user to cultivate row crops from the footpath, minimizing soil compaction in your beds. This arrangement is most effective on finely prepared beds that are not compacted because the amount of force the user can apply is reduced.



Right-Handed Left-Handed

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OSCILATING HOE



Attach the oscillating hoe (E) to the underside of the chassis using the hex nut(s) and washer(s) provided. Model features an 8” wide center-mounted hoe (shown to the left), while the 12” wide hoe included for This tool model will have two attachment points on either side of the chassis.

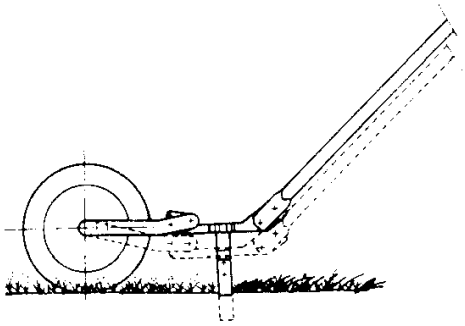
The hoe should be mounted so that there is little movement when pushed in a forward motion; only when drawn backward does the hoe move toward the wheel. This allows debris to fall away and orients the blade correctly for cultivating on the draw stroke.

ADJUSTMENTS

HEIGHT OF THE CHASSIS/DEPTH OF THE CUT

The angle of the wheel brackets can be adjusted to alter the depth of the cutting blades. With most cultivating attachments, the wheel brackets should be adjusted so that the blade is only penetrating ¾–1½ inches (2–4cm) into the soil.

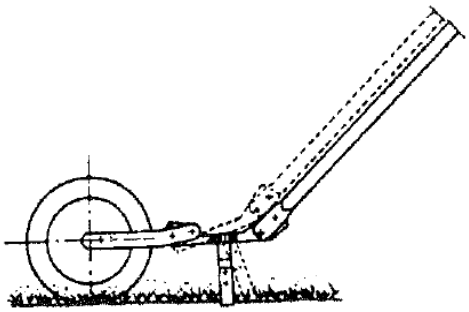
Note: *The chassis stays relatively parallel to the ground despite adjusting the height.*



Depth Adjustment

ANGLE OF THE CUT

The chassis should be almost parallel with the ground for most cultivation. However, harder compacted soils may require a more aggressive cutting angle of up to 10 degrees for greater effectiveness.

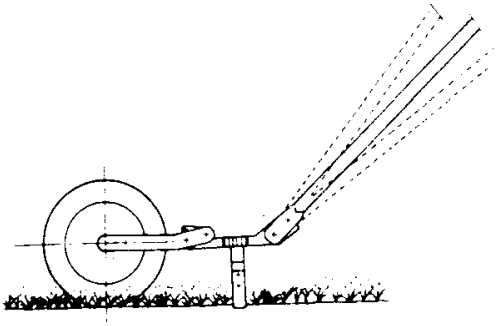


Angle Adjustment

HANDLE HEIGHT

The handle height can be adjusted by loosening the bolts and pivoting them at their connections to the chassis. The ideal handle height for operation should be slightly above the user’s hips. Once the desired height is set, tighten the bolts on the chassis to secure the handles in place.

Note: *Experiment with the handle height until you find a comfortable working position for your body.*



Handle Adjustment

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OPERATION AND USE

The **oscillating hoe** attachment, also known as a “stirrup” hoe, works by cutting weed roots just below the soil surface, allowing them to desiccate in the sun and die. This method of shallow cultivation allows buried weed seeds to remain undisturbed instead of bringing them up to the topsoil where they will germinate. See figure 4.

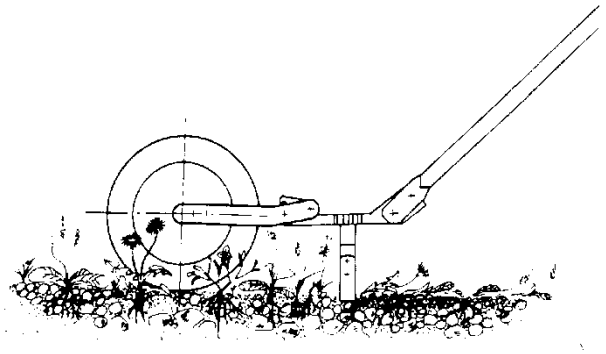


Figure 4. Cutting weeds at soil surface.

The oscillating hoe attachment is most effective when moving the Glaser Wheel Hoe back and forth as you walk forward to efficiently cultivate small weeds and break up soil crusting. The user walks forward at a steady pace while pushing the wheel hoe forward a short distance, pulling it back briefly, then continuing in this manner throughout the row or footpath you are cultivating. This takes practice to find the pace and position where you feel most comfortable. See figure 5.

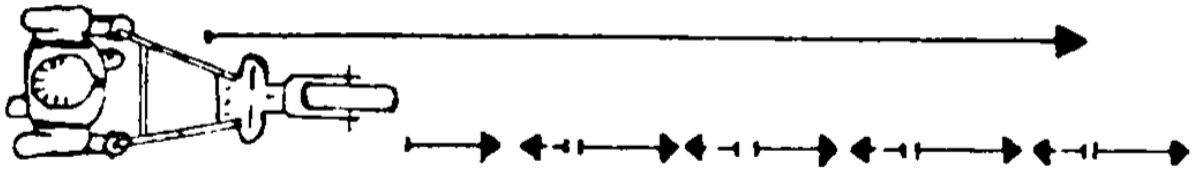


Figure 5. Proper operation with the oscillating hoe attachment.

The Glaser Wheel Hoe also allows the user to combine or “stack” attachments for more effective weed management. For example, a Three-Tine Cultivator behind an Oscillating Hoe allows the user to cut larger weeds at the soil level, bring thread-stage weeds to the surface, and loosen the soil simultaneously. See figure 6.

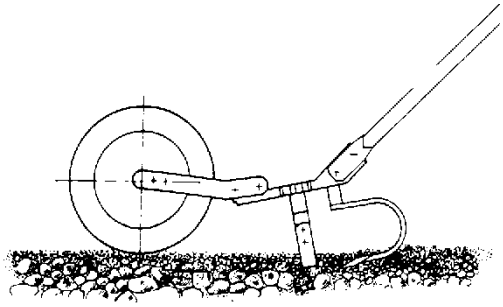


Figure 6. Wheel hoe with

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ADDITIONAL GLASER WHEEL HOE ATTACHMENTS (Sold Separately)

Three-Tine Cultivator
This Eliot Coleman design features curved tines with flattened tips to effectively cultivate topsoil to maintain soil moisture and to break up crusted and compacted soils quickly. It is very helpful for weed management and for incorporating soil amendments like compost and fertilizer. It can be mounted behind the oscillating hoe to loosen soils and cut weeds simultaneously.



Hiller Ridger
Also known as a “ridger” or a “furrower.” This V-shaped plow is used to create deep furrows for planting or ridges for hilling potatoes, leeks, onions, beans, and peas. It can also be helpful for unearthing root crops for harvest and covering the edges of plastic mulch. ***Note:*** *The Hiller is designed to be used in well-prepared soils.*



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