



# GRAVELY®

CLARKE-GRAVELY CORPORATION  
A Studebaker-Worthington Company

# OPERATOR'S MANUAL

**NAME:** CULTIVATOR TOOLHOLDER

**PART NUMBER(S):** 22411



The Cultivator Toolholder is for use with the Gravely 5000 Series tractors.

To attach the cultivator to a Gravely tractor manufactured before serial number 290130, an attachment adapter kit is needed.

All reference to left side, right side, front and rear are given from the operator's position.

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


**Form No. 31967 (8-79)**

**Printed in U.S.A.**

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## 1.0 WARNINGS - FOR YOUR SAFETY

**NOTE:** This warning symbol  indicates that there is danger to persons or equipment. Read these warnings carefully and follow them.

This section gives warnings for you about operating and doing maintenance on this equipment.

Using this equipment the wrong way can cause injury to persons and damage to the equipment. Persons operating or doing maintenance on this equipment must read this Operator's Manual and follow the instructions.

It is important to understand that this Operator's Manual and other Gravely instruction books do not list every possible danger. It is not possible for Gravely to know and tell of all the dangers in operating and doing maintenance on the equipment.

The purchaser must give these instructions to the person operating and doing maintenance on this equipment. The purchaser must get the operator and person doing maintenance on this equipment to use eye and foot protection.

### 1.1 INSTRUCTIONS BEFORE OPERATION

1. Read the tractor Operator's Manual and this Operator's Manual carefully before operating or doing maintenance.
2. Learn the location and the function of all the tractor and the attachment controls.
3. Know how to use the controls to stop the tractor quickly.
4. Never permit children to operate or ride on the tractor or the attachment.
5. Use caution with gasoline. Gasoline is very flammable. Keep gasoline in a clean and tight container. Keep gasoline away from fire or hot items. Never put gasoline in the fuel tank while the engine is running or hot. Clean any leakage of gasoline from the tractor before starting the engine.
6. loose. Wear eye protection.
7. Before starting the engine, put the direction control lever in the "NEUTRAL" position and the "PTO" control in the "OFF" position.
8. Keep the tractor and the toolholder in good operating condition. Do the maintenance as shown in this Operator's Manual.
9. Do not operate the tractor where the area of operation is too dark for the operator to see.
10. Never operate the tractor when there is damage to any part or when any part is not in the correct position. Replace all parts that are damaged or missing before operating.

### 1.2 PREPARATION FOR OPERATION

1. Check the area of operation and remove all material that will cause damage to the attachment.
2. Make sure all shields and guards are in the correct position before operating.
3. Wear strong shoes. Wear clothing that is not

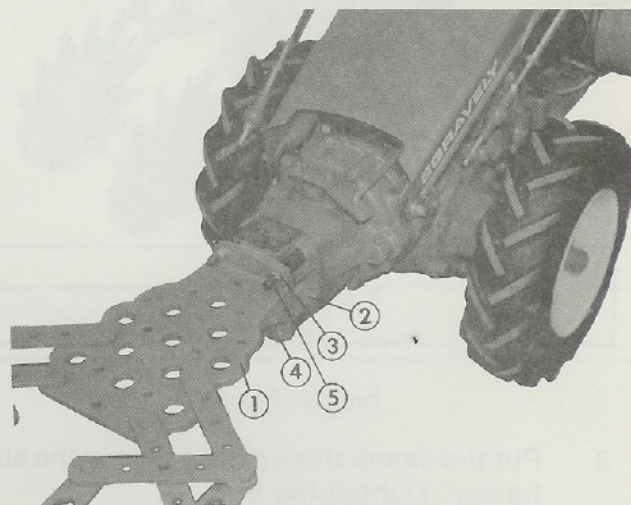
### 1.3 OPERATION

1. Keep away from moving parts.
2. Keep all persons and animals away from the area of operation.
3. Do not let persons ride on the tractor or the attachment.
4. When operating on slopes, use a slow speed and engage the direction control lever slowly.

5. When operating on slopes, go across the slope.
6. Always look for and keep away from holes and other hazards.
7. Use caution when moving backwards. Look for persons and hazards in the way.
8. Keep the PTO control in the "OFF" position.
9. After hitting an item, stop the tractor and the engine. Check for damage. If there is damage, make repairs before restarting.
10. Operate the equipment only when in the operator's position.
11. Before leaving the tractor, turn the key in the ignition switch to the "OFF" position and remove the key from the ignition switch.
12. If there is a sudden change in the sound or vibration of the tractor or the attachment, stop the tractor and check for damage. If there is damage, make repairs before operating.
13. Never start and run the engine inside a building except to move the equipment outside. Exhaust fumes are dangerous.
14. Always follow traffic laws while going on or near a road.
15. Go slow on surfaces where the tractor can slide.
16. Before leaving the operator's position to make adjustments or to do maintenance, turn the key in the ignition switch to the "OFF" position. Wait until the engine and moving parts have stopped.

## 2.0 HOW TO CONNECT THE TOOLHOLDER TO THE TRACTOR

Fasten the toolholder to the attachment adapter with the two nuts and two bolts. See figure 2.0-1. Be careful not to damage the studs.



- |                        |
|------------------------|
| 1 - Toolholder         |
| 2 - Attachment Adapter |
| 3 - Nuts               |
| 4 - Bolts              |
| 5 - Studs              |

Figure 2.0-1

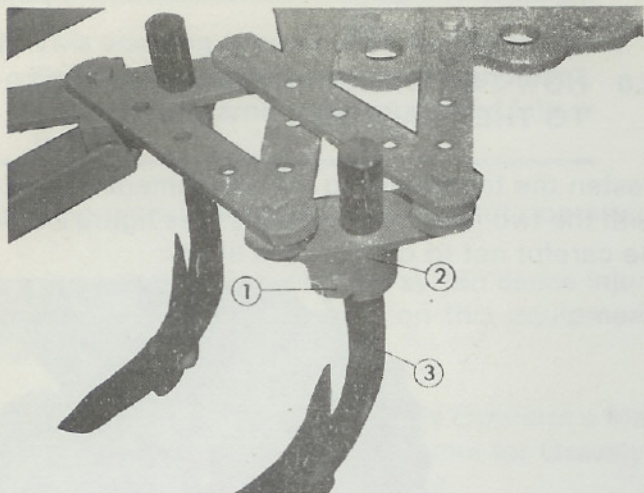
## 3.0 HOW TO DISCONNECT THE TOOLHOLDER FROM THE TRACTOR

Remove the bolts and the nuts that fasten the toolholder to the attachment adapter. See figure 2.0-1.

## 4.0 HOW TO INSTALL THE TOOLS ON THE TOOLHOLDER FRAME

**NOTE:** There are five shank holders on the toolholder frame.

1. Select the tool to be used. Fasten the tool to the shank with the round head bolt and the square nut.
2. Loosen the bolt on the shank holder. See figure 4.0-1.



- 1 - Bolt  
2 - Shank Holder  
3 - Shank

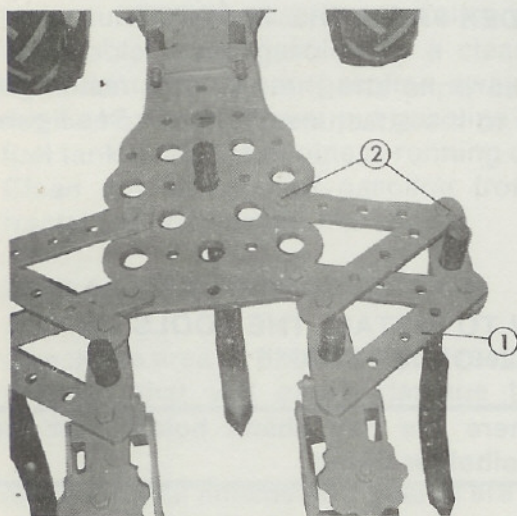
Figure 4.0-1

- Put the shank through the hole in the shank holder. Tighten the bolt.

## 5.0 HOW TO ADJUST THE TOOLHOLDER

### 5.1 HOW TO ADJUST THE WIDTH OF THE TOOLHOLDER

- To adjust the width of the toolholder, loosen all the bolts on the parallel bars. See figure 5.0-1.



- 1 - Parallel Bars  
2 - Bolts

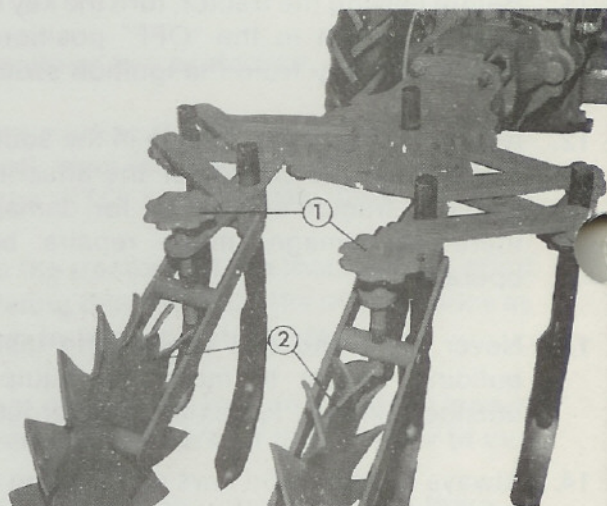
Figure 5.0-1

**WARNING:** Do not put your fingers or hands between the parallel bars when adjusting the width of the toolholder.

- Pull the depth wheel assembly forward to decrease the width of the toolholder. Push the depth wheels backward to increase the width of the toolholder.
- Tighten the bolts on the parallel bars.

### 5.2 HOW TO ADJUST THE DEPTH WHEELS

- To increase the depth the tools will cut, turn the adjusting knob clockwise. See figure 5.C-2.



- 1 - Adjusting Knob  
2 - Depth Wheels

Figure 5.0-2

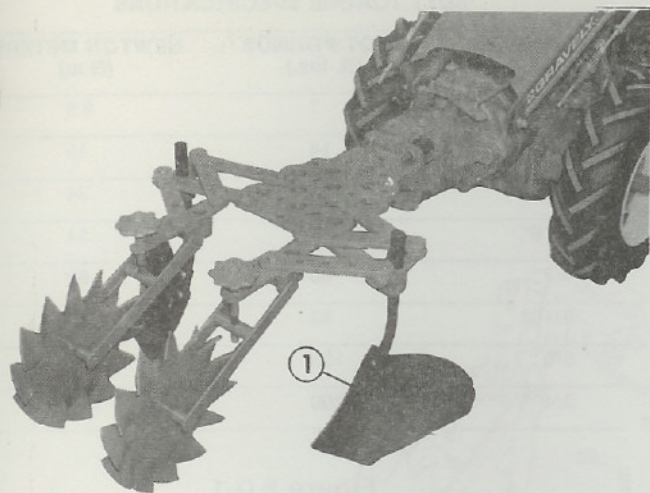
- To decrease the depth the tools will cut, turn the adjusting knob counterclockwise.

**NOTE:** Both depth wheels must be adjusted the same.

## 6.0 HOW TO USE THE TOOLS

### 6.1 The Hiller Tools

The hiller tools are used to cultivate between rows of the plants and discharge the soil toward the plants. See figure 6.0-1.

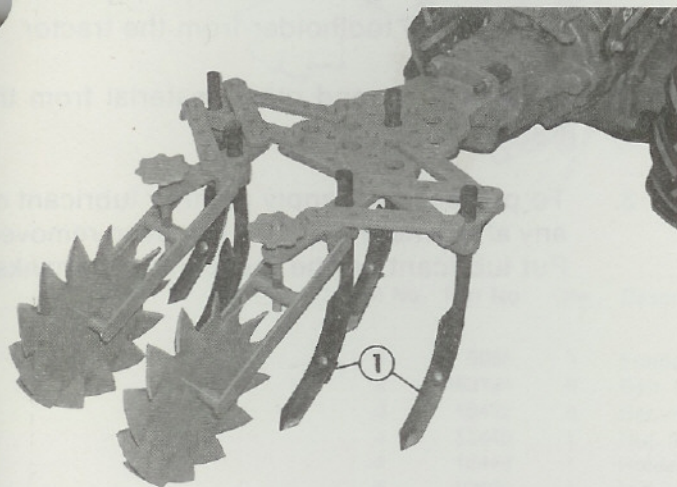


1 - Hiller Tools

Figure 6.0-1

### 6.2 The Steels

The steels are used to loosen the soil between the rows of plants. See figure 6.0-2.

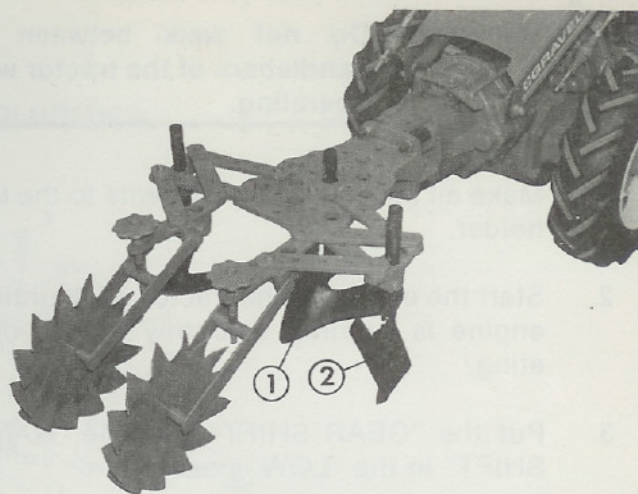


1 - Steel Tools

Figure 6.0-2

### 6.3 The Sweep and Hoe Tools

The sweep and hoe tools are used to remove grass and weeds from between the rows of plants. See figure 6.0-3.

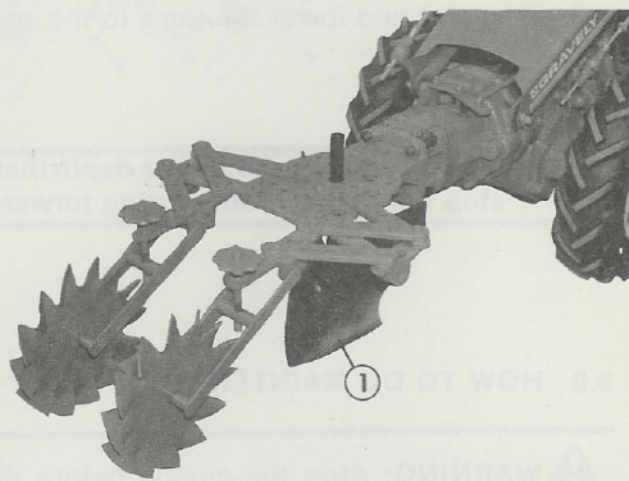


1 - Hoe Tool  
2 - Sweep Tool

Figure 6.0-3

### 6.4 The Furrower Tool

The furrower tool is used to make rows in the soil for plants and seeds. See figure 6.0-4.



1 - Furrower Tool

Figure 6.0-4

## 7.0 HOW TO OPERATE THE CULTIVATOR TOOLHOLDER

Read this Operator's Manual and the Operator's Manual for the tractor before operating.

**WARNING:** Do not walk between the handlebars of the tractor while operating.

1. Make all necessary adjustments to the toolholder.
2. Start the engine of the tractor. Wait until the engine is running smoothly before operating.
3. Put the "GEAR SHIFT" and the "RANGE SHIFT" in the "LOW" position.

**NOTE:** Keep the PTO control in the "OFF" position.

4. Move the throttle lever to the "FAST" position.
5. Put the direction control lever in the forward position. At the end of the row, push down on the handlebars of the tractor to lift the tools from the soil. Move the tractor to the next row and lower the tools to the soil.

**NOTE:** Do not adjust the tools to a depth that will stop the tractor from moving forward.

## 8.0 HOW TO DO MAINTENANCE

**WARNING:** Stop the engine before doing maintenance.

After Each Use:

1. Clean all the dirt and other material from the toolholder.
2. Inspect all nuts, bolts, and other fasteners to make sure they are tight. Replace any fasteners that are missing. Tighten the bolts to the torque shown in figure 8.0-1.

### BOLT TORQUE SPECIFICATIONS

BOLT SIZE	FOOT POUNDS (ft. lbs.)	NEWTON METERS (N.m)
1/4"	7	9.5
5/16"	14	19
3/8"	25	34
7/16"	40	54
1/2"	60	82
9/16"	83	113
5/8	120	163
3/4"	200	271

Figure 8.0-1

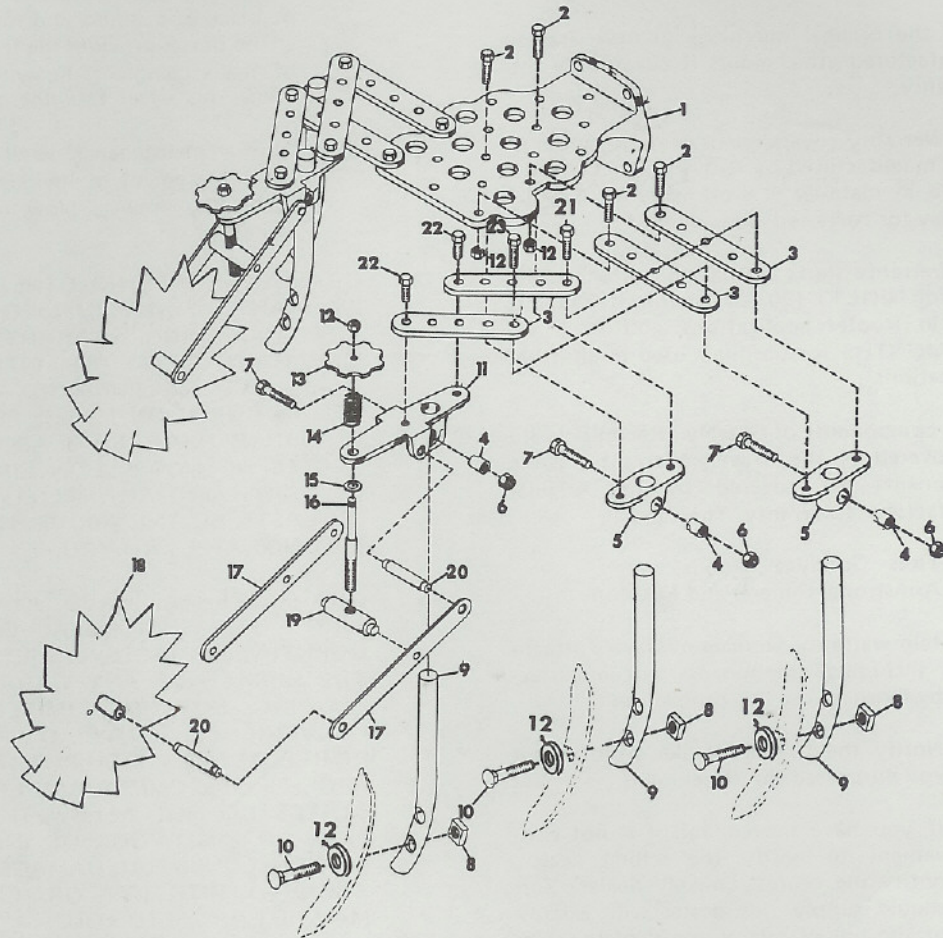
## 9.0 HOW TO PUT THE CULTIVATOR TOOLHOLDER IN STORAGE

If the toolholder will not to be used for three months or more do the following:

1. Remove the toolholder from the tractor.
2. Clean all dirt and other material from the toolholder.
3. To prevent rust, apply paint or lubricant on any area where the paint has been removed. Put lubricant on the tools and the shanks.

# 10.0 ILLUSTRATED PARTS AND PARTS LIST

## CULTIVATOR TOOLHOLDER



Item No.	Part No.	Qty.	Description
1	5055	1	Frame, Frong Toolholder
2	180124	6	Bolt, Hex; 3/8-16 x 1.25
3	13432	8	Bar, Parallel
4	13440	1	Nut, Clamp
5	13443	1	Holder, Shank
6	13627	1	Nut, Lock ESNA 3/8-24 Light Thin
7	415856	1	Screw, Mach; 3/8-24 Hex HD
8	456004	10	Nut, Lock; 3/8-16 Washer Insert
9	13445	5	Shank, Two Hole
10	180128	10	Bolt, Hex; 3/8-16 x 1.75
11	13442	1	Bracket, Follow Wheel
12	120388	10	Washer, Flat; .436 x 1.000 x .083
13	13437	1	Knob, Depth Adjusting
14	13469	1	Spring, Friction
15	120394	18	Washer, Flat .406 x .812 x .065
16	13436	1	Screw, Depth Adjusting
17	13435	1	Link, Depth Wheel
18	10358	1	Wheel, Follow Weldment
19	13438	1	Nut, Depth Adjusting
20	13424	2	Spacer, Link
21	180126	4	Bolt, Hex; 3/8-16 x 1.50
22	180122	4	Bolt, Hex; 3/8-16 x 1.00





## ATTACHMENT 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 manufactured attachments 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 attachments used in Rooper applications, and TWELVE (12) MONTHS for products used in all other applications.
4. Some components of Gravely attachments are not covered by the Gravely Warranty. These components are covered by the original manufacturer's warranty. They are:
  - (a) Tires - Goodyear, Goodrich, Armstrong, General and Firestone
5. To obtain warranty service on Gravely attachments including components not manufactured by Gravely, use this procedure:
  - (a) Notify the Gravely dealer from whom you purchased the attachment.
  - (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 attachment 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  
Clarke-Gravely Corporation  
A Studebaker-Worthington Company  
One Gravely Lane  
Clemmons, N. C. 27012  
Attn: Manager of Customer Services
  - (e) Warranty service on Gravely attachments 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 attachment, he will charge the owner his usual rate for such service.
  - (b) Normal maintenance services and normal replacement of items such as belts lubricants, mower, plow or cultivator 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 registration card is supplied with each Gravely attachment. Please complete the card and return it to Gravely at the address listed on the card. The 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.

