

# Till-Ease

## FIELD CULTIVATOR / CHISEL PLOW



# OWNER'S MANUAL

With Assembly Instructions

For Model: 543T & 760T

KUNZ ENGINEERING, INC. / MENDOTA, IL 61342 / PH (815) 539-6954

2/25



### ⚠ WARNING

Read & understand operators manual before using this machine.  
Failure to follow operating instructions could result in death or serious injury.



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# **SAFETY INTRODUCTION**

## **READ AND UNDERSTAND OWNER'S MANUAL BEFORE USING THIS MACHINE.**

All operators of this equipment must read and completely understand all safety information, operating instructions and maintenance. Failure to properly operate and maintain this implement could result in serious injury or death to the operator or bystanders.

Your safety, and the safety of others, is very important. To help you make informed decisions about safety, we have provided operating procedures and other information in this manual. This information alerts you to potential hazards that could hurt you or others.



**This safety alert symbol is used to indicate safety instructions. Follow these instructions to avoid personal injury and/or property damage. Read and follow all instructions in this manual and any other supplemental materials that may have been included.**

You will find important safety information in the following form:

**Safety Messages** – preceded by a safety alert symbol  and one of three signal words: **DANGER**, **WARNING**, or **CAUTION**.

These signal words mean:



Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.



Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.



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 entire manual is filled with important safety information. Please read it carefully.**

**If you have any questions or concerns regarding the information in this owner's manual please contact Kunz Engineering at 815-539-6954.**

## **IMPORTANT SAFETY INFORMATION**

### **⚠️ WARNING**

Do not allow anyone to operate this equipment who has not fully read and comprehended the safety manual and who has not been properly trained in the safe operation of the equipment.

### **⚠️ WARNING**

Operator should be familiar with all functions of the unit.

### **⚠️ WARNING**

Keep bystander clear while operating equipment.

### **⚠️ CAUTION**

Only operate the tillage tool while seated on tractor/tow vehicle.

### **⚠️ WARNING**

Do not store extra coulters or sweeps in an upside down position in the shank receivers.

### **⚠️ WARNING**

Never carry children or passengers.

### **⚠️ CAUTION**

Lower implement, stop engine, set brake and remove key before servicing, adjusting, repairing or unplugging.

### **⚠️ CAUTION**

Safely support and secure implement before making repairs.

### **⚠️ CAUTION**

Do not stand or climb on equipment.

### **⚠️ WARNING**

Follow all safety precautions outlined by the manufacturer of the tractor/tow vehicle being used to pull this product.

**This entire manual is filled with important safety information. Please read it carefully.**

**FOR QUESTIONS, COMMENTS OR  
TROUBLESHOOTING  
PLEASE CONTACT  
KUNZ ENGINEERING INC. AT  
(815) 539-6954**

# ASSEMBLY INSTRUCTIONS

Read the complete assembly instructions before starting the assembly.

**You should have:**

- one tillage tool assembly
- five (Model 543T) or seven (Model 760T) 9" cultivator sweeps with bevel washer spacers

The models 543T and 760T are fully assembled and ready to use on a standard Category 1 3-point system after uncrating. Please see Section B for additional information when using a quick hitch 3-point system.

## A. UNPACKING THE CRATE

**CAUTION** Step 1 should be performed with caution. Care should be taken to prevent back injuries or other lifting related injuries.

1. The crated tillage tool should have arrived in a vertical position. Lay the crate down with the coulters and chisel points towards the ground. (**See Figure 1.**) Remove the crate.

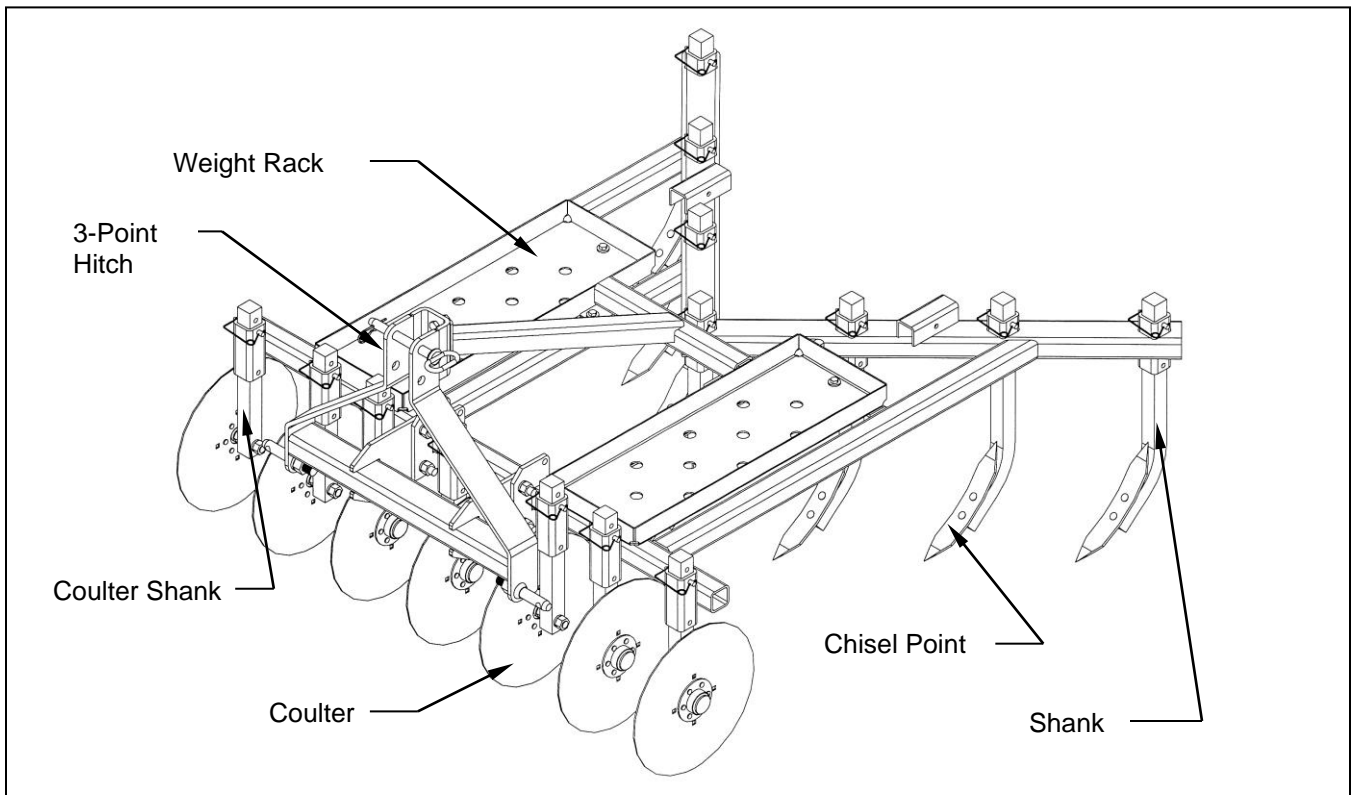


Figure 1. – Tillage Tool Parts

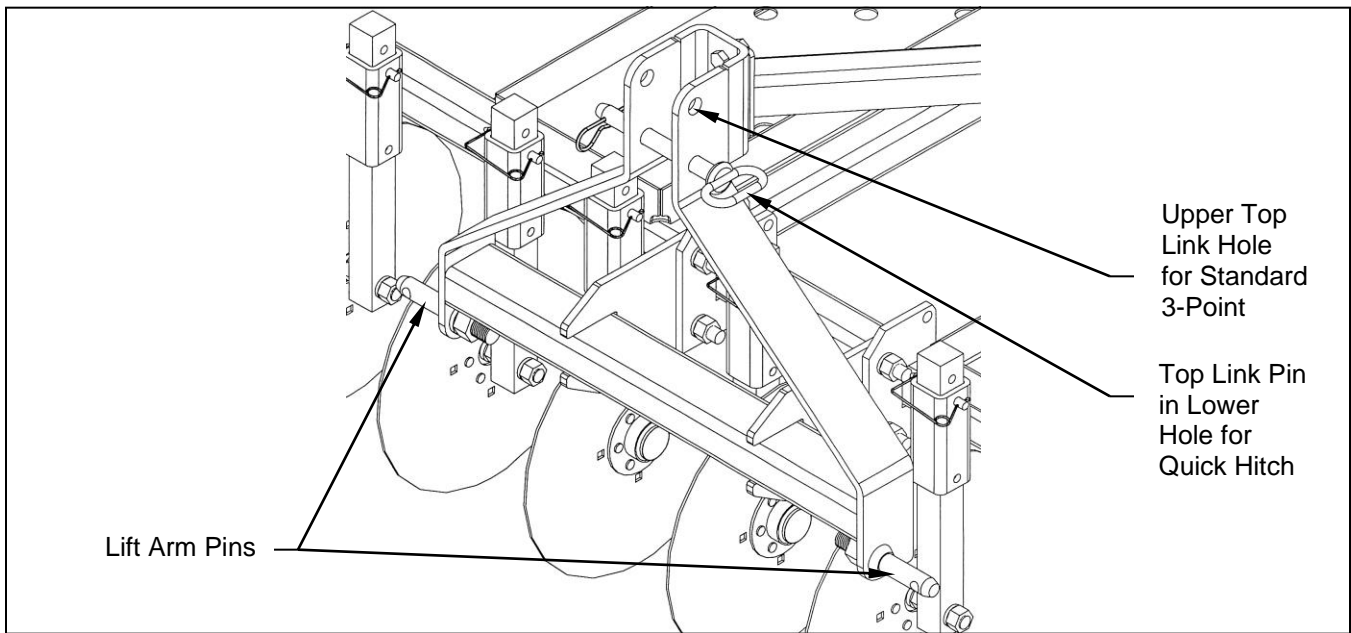


Figure 2. – Configuring for Quick Hitch

## B. CONFIGURING FOR QUICK HITCH 3-POINT SYSTEMS

1. There is an upper and lower top link hole on the 3-point system. **(See Figure 2.)** The top link pin will be positioned in the top hole from the factory. If a quick hitch system is being used, the top link pin will need to be moved to the lower top link hole.
2. It may be necessary to use spacer bushings on the lower 3-point lift arm pins to appropriately size the lift arm pin diameter for a quick hitch system. Spacer bushings are not supplied with the tillage tool.

## OPERATIONS AND ADJUSTMENTS



This safety alert symbol is used to indicate safety instructions. Follow these instructions to avoid personal injury and/or property damage. Read and follow all instructions in this manual.



### **WARNING**

Do not allow anyone to operate this equipment who has not fully read and comprehended the safety manual and who has not been properly trained in the safe operation of the equipment.

### **WARNING**

Operator should be familiar with all functions of the unit.

### **WARNING**

Keep bystander clear while operating equipment.


### **CAUTION**

Only operate the tillage tool while seated on tractor/tow vehicle.

### **WARNING**


Do not store extra coulters or sweeps in an upside down position in the shank receivers.


 **WARNING** Never carry children or passengers.

 **CAUTION** Lower implement, stop engine, set brake and remove key before servicing, adjusting, repairing or unplugging.

 **CAUTION** Safely support and secure implement before making repairs.

 **CAUTION** Do not stand or climb on equipment.

 **WARNING** Follow all safety precautions outlined by the manufacturer of the tractor/tow vehicle being used to pull this product.

 **CAUTION** Do not operate the equipment without all of the lynch pins and safety clips installed and securely fastened on the 3-point hitch system.

#### A. **INTENDED USE**

This tillage tool is intended for use behind a sub-compact or compact tractor with 40HP or less and a standard Category 1 or comparable quick hitch 3-point system. The intended use is to till various types of ground and prepare a seedbed.

#### B. **LEVELING THE TOOL**

This tool operates best in a level position. Adjust the 3-point tractor top link in the appropriate direction to level the tool.

**Note:** When leveled, the tool will operate more efficiently in the ground. An unlevelled tool can result in improper coulters or sweep function. Depending on ground conditions, slight adjustments may need to be made after the tool is placed in the ground at the desired depth.

#### C. **COULTER FUNCTION**

These models are equipped with five (Model 543T) or seven (Model 760T) separate coulters. The coulters serve as cutting blades and are meant for light debris cutting, ground scoring for better ground shatter and aiding in reducing clod size. If the debris is not cut the shanks tend to collect debris and act as a rake. This in turn will prevent normal operation. In many cases 150-300lbs of added weight is very effective in helping the coulters to penetrate. If the coulters do not penetrate, then the coulters will not function as effectively. It may take slight leveling adjustments with the 3-point tractor top link to provide good coulters penetration as well as sweep depth.

#### D. **SELECTING THE PROPER SWEEP – Refer to Figure 3.**

This tool is equipped with two types of sweeps, reversible chisel point sweeps and 9" field cultivator sweeps. Selecting the proper sweep is critical in helping the tool to perform correctly.



The reversible chisel point sweeps are a good choice in hard ground conditions. These sweeps have the ability to easily penetrate and shatter hard ground conditions.

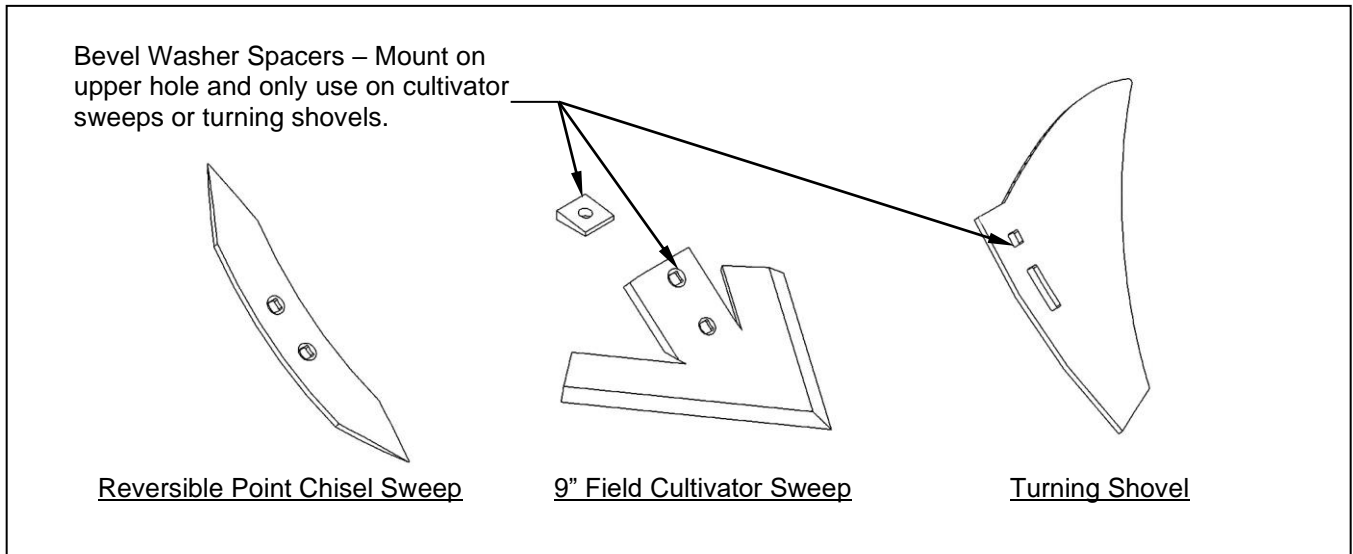


Figure 3. – Sweep Selection

The 9" field cultivator sweeps are typically used for secondary tillage and are a good selection to use after initially breaking hard ground with the chisel point sweeps. The field cultivator sweeps also work well in shearing off weeds. In softer ground conditions, these sweeps can be used for primary tillage. A bevel washer spacer is also provided with these sweeps. This spacer will tip the sweep and provide a steeper more aggressive angle of attack. These washers should only be mounted on the top holes of the sweeps and placed between the shank and the sweep.

**Note:** An optional turning shovel kit can be purchased (**Part # 003801 (Model 543T) or Part # 003805 (Model 760T)**). These sweeps are a good choice when working in sod conditions. In hard ground conditions it may be necessary to install the provided bevel washer spacers. These spacers will place the shovels at a steeper more aggressive angle of attack. These washers should only be mounted on the top holes of the shovels and placed between the shank and the shovel.

**E. ADJUSTING THE SHANKS AND COULTER SHANKS – Refer to Figure 4.**

The shanks and coulters shanks have been designed for quick adjustments. Both removal or maximum depth adjust changes can be made very quickly. The shanks can be set at a low, mid and high range. The coulters shanks can also be set at a low, mid and high range. In many cases the tool will function better if the sweeps are set several inches deeper than the coulters.

**Note:** It is important to re-install the coulters shanks on the proper side of the shank receiver. The coulters should line up with the rear shanks.

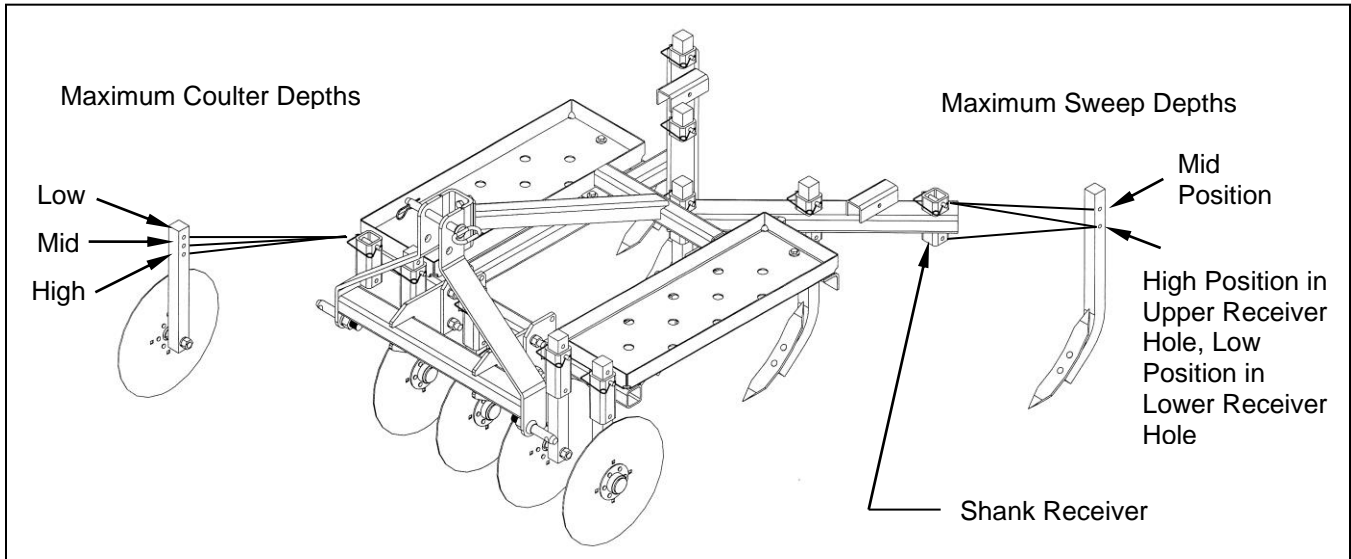


Figure 4. – Shank Adjustment

## F. SUGGESTIONS FOR PROPER OPERATION

Proper tool adjustment can increase functionality and efficiency.

### **Hard Ground**

In hard ground conditions, the reversible point chisel sweeps should be installed. The reversible point chisel sweeps have the ability to penetrate hard ground fairly effortlessly without added weight. Additional weight is recommended to help the coulters penetrate. This tillage tool has been equipped with weight racks. These weight racks will easily allow for several hundred pounds to be added to the tool. Depending on what depth the coulters are set at, it is very important to achieve coulters penetration. If the coulters do not penetrate this will limit the sweep depth. In these cases, it is recommended to raise the coulters to the high setting or remove them. Removing the coulters or limiting the coulters depth may create a problem in heavy debris conditions. In these conditions it may work best to remove the middle shanks to allow for debris clearing.

### **Heavy Debris Covered Ground**

It is recommended that these conditions be mowed first if possible to help chop up the debris. In heavy debris covered conditions, additional weight is recommended to help the coulters penetrate and cut debris. This tillage tool has been equipped with weight racks. These weight racks will easily allow for several hundred pounds to be added to the tool. In certain cases if the debris is too heavy, the coulters may not work even with added weight. In these cases it may be necessary to remove every other shank from the rear of the tool. When properly configured there will be three equally spaced rear shanks remaining on the Model 543T and four equally spaced rear shanks remaining on the 760T. This will allow the debris to clear the tool with limited collection. Removal or fully raising every other coulters will also be necessary to help place more weight on the remaining coulters. **(See Figure 5.)**

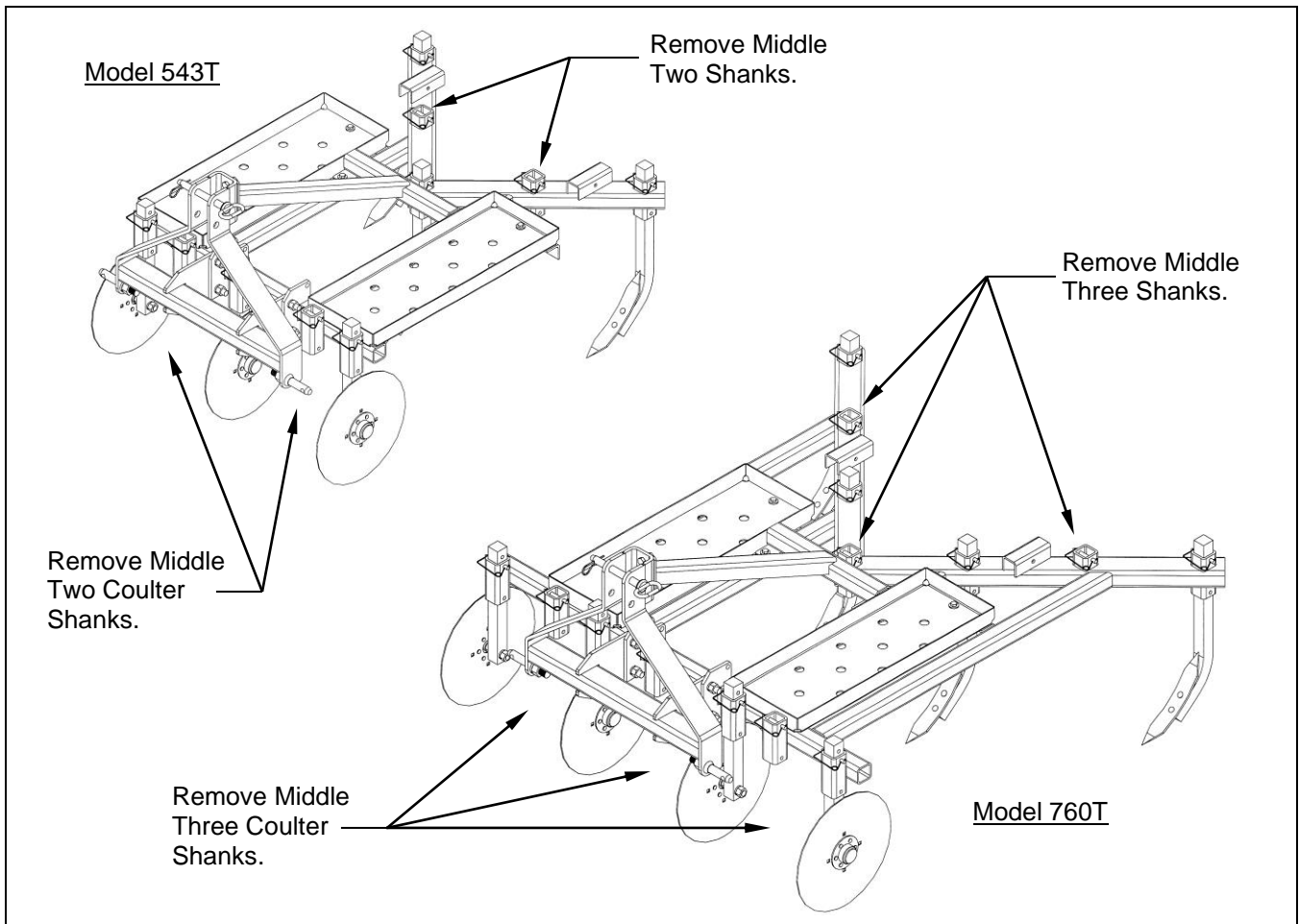


Figure 5. – Suggested Heavy Debris Configuration

### **Sod Covered Ground**

It is recommended that these conditions be mowed and sprayed with a grass killer. A grass killer will not only kill the green growth but will help to break up the root structure as well. Sod is also easier to work with in the spring or shortly after a rain. In some soft ground or limited sod conditions, it may be possible to use the 9" field cultivator sweeps or reversible point chisel sweeps. In most cases the optional turning shovel kit will work best (**Part # 003801 (Model 543T) or Part # 003805 (Model 760T)**). The turning shovels have the ability to strip the sod off and roll it to the side to prevent collecting on the shanks. In hard ground conditions it may be necessary to install the provided bevel washer spacers shown in Figure 3. These spacers will place the shovels at a steeper more aggressive angle of attack. In all cases additional weight is very helpful to maintain coulters penetration. The coulters will cut the sod which helps prevent collection on the shanks and reduces the pulling load requirements. In heavy sod conditions it may work best to only use two (Model 543T) or three (Model 760T) turning shovels. If a reduced number of turning shovels are used, place the shovels on the shanks closest to the center of the tool. (**See Figure 6.**)

### **Rock Covered Ground**

In most cases reversible point chisel sweeps will have the best chance of working in heavily rock covered ground on the initial pass. These sweeps will provide the least resistance. It may be necessary to raise or remove the coulters. If the coulters are being forced out of the ground due to rocks, it may be difficult to get adequate sweep penetration. Raising or removing the coulters can also help prevent damage to the coultor blades when striking large rocks.

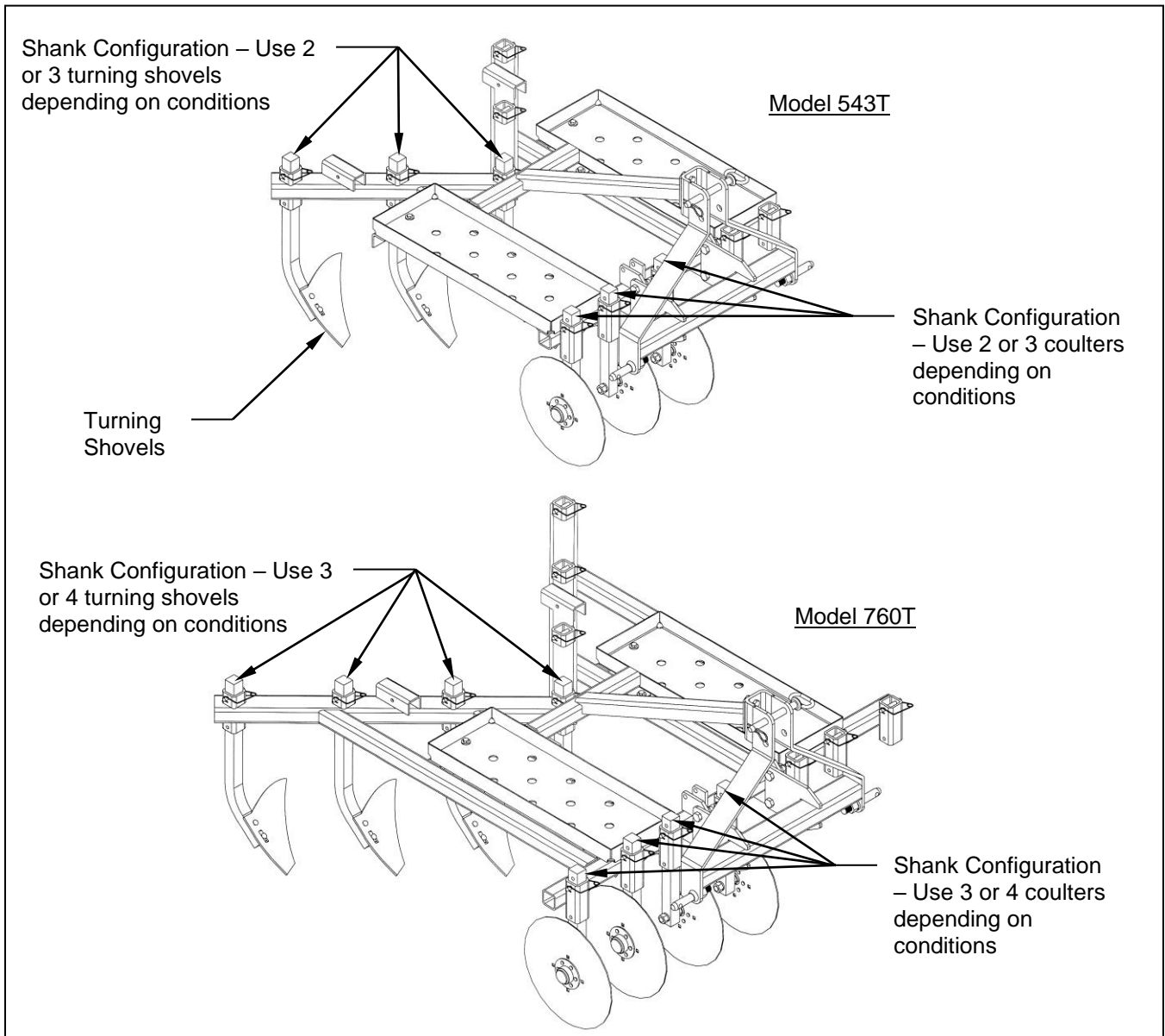
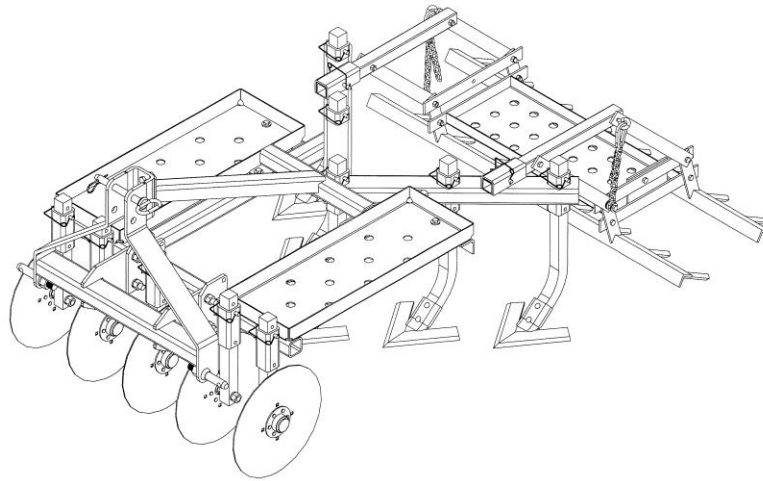


Figure 6. – Turning Shovel Configuration

**Soft Ground Conditions or Previously Tilled Ground**

Soft ground conditions can be performed with any of the sweeps. The 9" field cultivator sweeps tend to work the best in these cases. These sweeps will help to fully shear the ground off and create a true seedbed. The optional drag harrow kit (**Part # 003800 (Model 543T) or Part # 003804 (Model 760T)**) can be added as well for these conditions. The drag harrow will help to level the ground and reduce clod size. (**See Figure 7.**)



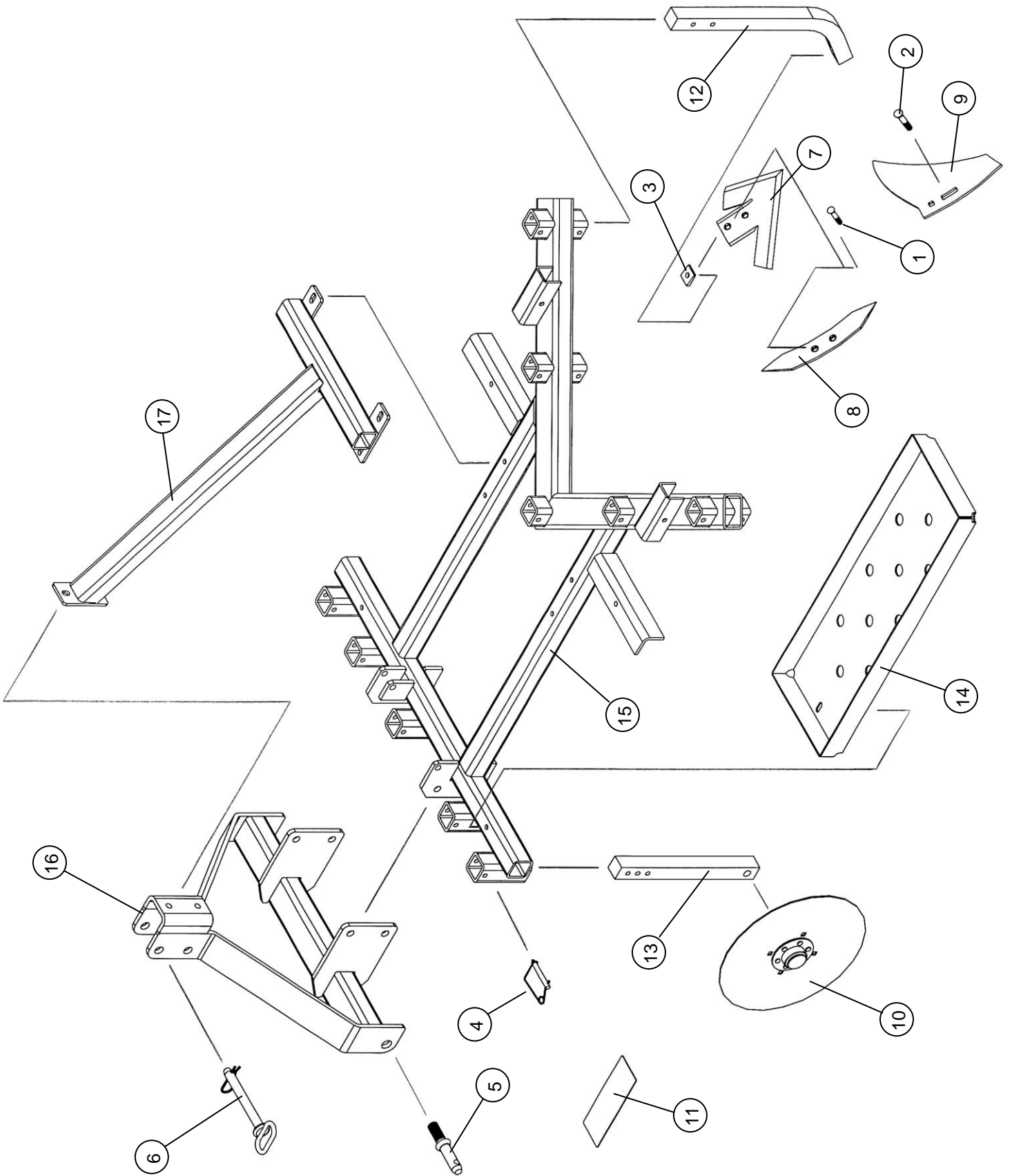
Field Cultivator Set-Up with Optional Drag Harrow

Figure 7. – Field Cultivator Configuration

# PARTS LIST

| <u>Item</u> | <u>Part #</u> | <u>Description</u>                      | <u>543 Qty.</u> | <u>760 Qty.</u> |
|-------------|---------------|---|-----------------|-----------------|
| 1           | 204012        | Plow Bolt (3/8"-16 x 2-1/4", 3/8 Sq.)   | 10              | 14              |
| 2           | 204013        | Plow Bolt (7/16"-14 x 2-1/2", 7/16 Sq.) | Optional        | Optional        |
| 3           | 214025        | Bevel Washer Spacer                     | 5               | 7               |
| 4           | 216013        | Wire Lock Pin (3/8" Dia. x 2-1/4" Long) | 10              | 14              |
| 5           | 216015        | Lift Arm Pin                            | 2               | 2               |
| 6           | 216016        | Fixed Handle Hitch Pin                  | 1               | 1               |
| 7           | 259003        | 9" Field Cultivator Sweep               | 5               | 7               |
| 8           | 259004        | Reversible Chisel Point Sweep           | 5               | 7               |
| 9           | 259005        | Turning Shovel                          | Optional        | Optional        |
| 10          | 259006        | Coulter Blade, 13.5"                    | 5               | 7               |
| 11          | 275018        | Till-Ease Name Decal                    | 2               | 2               |
| 11          | 275019        | Kunz Decal                              | 2               | 2               |
| 12          | 500007        | Shank                                   | 5               | 7               |
| 13          | 500008        | Coulter Shank                           | 5               | 7               |
| 14          | 800008        | Weight Rack                             | 2               | 2               |
| 15          | 800010        | Tool Frame (Model 543T)                 | 1               | 0               |
| 15          | 800024        | Tool Frame (Model 760T)                 | 0               | 1               |
| 16          | 800029        | Mast Assembly                           | 1               | 1               |
| 17          | 800030        | Brace Assembly                          | 1               | 1               |

# MODEL 543T & 760T PARTS



## **Till-Ease Tillage Equipment Warranty Policy**

- 1. Kunz Engineering, Inc., warrants to the owner that each new product is free of defects in workmanship and material for the length of 12 months from the date of purchase. Kunz Engineering, Inc., agrees to provide replacement parts for any defective parts at no charge to the owner. The customer is responsible for transportation of the equipment to and from the dealer.**
- 2. All warranty parts must be replaced with original factory parts.**
- 3. Parts will be shipped by regular ground delivery. If next day or second day service is required, the customer will be responsible for additional shipping costs.**
- 4. This warranty will not cover parts damaged for the following reasons:**
  - a. Failure to follow proper set-up procedures outlined in the Owner's Manual**
  - b. Operator misuse or neglect**
  - c. Accidents**
  - d. Design alterations**
  - e. Repairs not done according to manufacturer's instructions**
  - f. Commercial, rental, or municipality use of a homeowner model**
- 5. Normal wear items such as sweeps/shovels, coulters, tires, packer wheels and bearings will not be covered under this warranty unless the original part is shown to be defective.**