IMPORTANT
THE OPERATOR IS RESPONSIBLE
FOR ADJUSTING THE MACHINE SINCE
MACHINE DOES NOT COME “FIELD
READY” FROM FACTORY.

CAUTION
READ & UNDERSTAND OPERATOR’S
MANUAL BEFORE USING MACHINE.

See www.summersmfg.com for the latest version of all Summers Operator’s Manuals.

SUMMERS MANUFACTURING CO., INC.
WEB SITE: www.summersmfg.com

DEVILS LAKE, NORTH DAKOTA 58301.................................(701) 662-5391

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Printed in USA
Warranty

Summers warrants only products of its manufacture against operational failure caused by defective materials or workmanship which occur during normal use within 36 months from the date of purchase by the end user from Summers’ dealer.

Summers’ obligation is to replace free of charge any part of any product that Summers inspection shows to be defective excluding transportation charges to Devils Lake, ND and return and also excluding all transportation costs from Summers’ dealer to the dealer’s customer and all other costs such as removal and installation expense.

Summers shall not be liable for loss of time, manufacturing costs, labor, material, loss of profits, consequential damages, direct or indirect, because of defective products whether due to rights arising under the contract of sale or independently thereof, and whether or not such claim is based on contract, tort or warranty.

Written permission for any warranty claim return must be first obtained from authorized Summers’ personnel. All returns must be accompanied with a complete written explanation of claimed defects and the circumstances of operational failure.

Written warranty for all component parts used in the manufacture of Summers products is available upon request. Warranty of such component parts will be determined by said component manufacturer upon their inspection of the claimed defective part.

This express warranty is the sole warranty of Summers. There are no warranties, which extend beyond the warranty herein expressly set forth. The sales for products of Summers under any other warranty or guarantee express or implied is not authorized. This warranty voids all previous issues.

SUMMERS MANUFACTURING CO. INC.
DEVILS LAKE, NORTH DAKOTA 58301

01/16
INTRODUCTION

This manual provides the following information about your Summers Coulter-Chisel and Disk-Chisel.

SECTION CONTENTS

Section 1 – SAFETY explains important safety precautions and familiarizes the Operator with the decals and their locations.

Section 2 – ASSEMBLY includes step by step assembly instructions.

Section 3 – COULTER-CHISEL & DISK-CHISEL OPERATION provides necessary information for the operation and adjustment of the machine.

Section 4 – MAINTENANCE covers recommended mechanical maintenance.

Section 5 – TROUBLESHOOTING provides a quick reference to solving problems. SPECIFICATIONS lists important dimensions, capacities and other technical information.

Section 6 – PARTS

OTHER ITEMS OF IMPORTANCE

A. Summers Mfg. Co., Inc. strongly recommends that each Coulter-Chisel Operator READ and UNDERSTAND the Operator's Manual before using the machine. In addition, this Operator's Manual should be REVIEWED at least ANNUALLY thereafter.

B. It is the policy of this company in improve its products whenever possible and practical to do so. We reserve the right to make changes or improvements in the design or construction of parts at any time without incurring obligations to install such changes on products previously delivered.

C. Reference to “right” and “left” in this manual is determined when machine is viewed from the rear.

D. Parts are referenced in each drawing with the Summers Manufacturing Part Number. Use this Part Number when ordering replacement parts from your Summers dealer. See back section of manual for description of each Part Number.

OWNER REGISTER

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<tr>
<th>Name</th>
<th>Size</th>
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<tbody>
<tr>
<td>Address</td>
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<td>Date Purchased</td>
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<td>Dealer</td>
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</tbody>
</table>
# TABLE OF CONTENTS

## SECTION 1 – SAFETY
- Safety-Alert Symbol ........................................................................................................................................ 1-1
- General Safety Practices ...................................................................................................................................... 1-1
- Safety During Transport ....................................................................................................................................... 1-2
- Safety Decals ..................................................................................................................................................... 1-2
- Decals and Their Locations .................................................................................................................................. 1-2 – 1-6

## SECTION 2 – ASSEMBLY
- General Assembly Instructions ............................................................................................................................. 2-1
- Safety Alert Symbol ............................................................................................................................................. 2-1
- General Safety Practices ....................................................................................................................................... 2-2
- Set-Up of 16’ & 20’ .............................................................................................................................................. 2-3 – 2-7
- Set-Up of 24’ thru 28’ ......................................................................................................................................... 2-8 – 2-18
- Set-Up of 32’ and 40’ ......................................................................................................................................... 2-19 – 2-32
- Hydraulic Set-Up .............................................................................................................................................. 2-33 – 2-51
- Installation of Shanks and Coulter Gangs ........................................................................................................ 2-52 – 2-72
- Gang Assembly .................................................................................................................................................. 2-53
- Blade Assembly .................................................................................................................................................. 2-71
- Decals/Options .................................................................................................................................................. 2-72

## SECTION 3 – OPERATION
- Operation Safety .................................................................................................................................................. 3-1
- Steps Prior to Operation ..................................................................................................................................... 3-1
- Initial Hookup .................................................................................................................................................... 3-2 – 3-5
- Field Operation .................................................................................................................................................. 3-6 – 3-11
- Transporting ..................................................................................................................................................... 3-11 – 3-12
- Unhooking From Tractor .................................................................................................................................. 3-12

## SECTION 4 – MAINTENANCE
- Maintenance Safety ............................................................................................................................................. 4-1
- Maintenance for after the First Day and Week of Operation ............................................................................. 4-1
- Daily Maintenance .............................................................................................................................................. 4-2
- Periodic Maintenance ......................................................................................................................................... 4-2
- Storage .............................................................................................................................................................. 4-2

## SECTION 5 – TROUBLESHOOTING AND SPECIFICATIONS
- Troubleshooting & Specifications .................................................................................................................... 5-1
- Width, Height, Weight ........................................................................................................................................ 5-2
- Tire Specifications ................................................................................................................................................ 5-2

## SECTION 6 – PARTS
- 16’ & 20’ Center .............................................................................................................................................. 6-2
- 16’ & 20’ Hitch & Lift ....................................................................................................................................... 6-3
16' & 20' Gang Depth Control Hydraulics ................................................................. 6-4
16' & 20' Depth Control Hydraulics ........................................................................ 6-5
16'-28' Hydraulic Hitch ........................................................................................ 6-6
24'-28' Centers ....................................................................................................... 6-7
24'-28' Cylinder Lifts .............................................................................................. 6-8
24'-28' Transport Assembly ................................................................................... 6-9
24'-28' Hitch and Cylinder Locks ........................................................................... 6-10
24'-28' Wing ........................................................................................................... 6-11
24'-28' Wing Transport Assembly ......................................................................... 6-12
24'-28' Gang Tube Mounting .................................................................................. 6-13
28' Wing Extension ................................................................................................. 6-14
24'-28' Depth Control Hydraulics ........................................................................... 6-15
24'-28' Wing Lift Hydraulics .................................................................................. 6-16
32'-40' Center Section ............................................................................................ 6-17
32'-40' Center w/ Lift ............................................................................................. 6-18
32--40' Caster Wheel Assembly ........................................................................... 6-19
32'-40' Center w/ Hitch and Locks ........................................................................ 6-20
32'-40' Wing Assembly .......................................................................................... 6-21
Gauge Wheel Assembly .......................................................................................... 6-22
32'-40' Transport ................................................................................................... 6-23 & 6-24
32'-40' Wing Lift Hydraulics .................................................................................. 6-25
Safety Light Kit ........................................................................................................ 6-26
Trip Assembly ........................................................................................................ 6-27
Coulter Gang Components ...................................................................................... 6-28
Coulter Gang Mount Components ......................................................................... 6-29
Disk Blade Assembly .............................................................................................. 6-30
Rear Hitch ................................................................................................................ 6-31
Hub and Axle Components ..................................................................................... 6-32
614 Hub and GBGI Seal .......................................................................................... 6-33
Mounted Harrow Mounting Arm Assembly .......................................................... 6-34
Mounted Harrow Assembly .................................................................................... 6-35
16' Mounted Harrow Layout .................................................................................. 6-36
20' Mounted Harrow Layout .................................................................................. 6-37
24' Mounted Harrow Layout .................................................................................. 6-38
26' Mounted Harrow Layout .................................................................................. 6-39
28' Mounted Harrow Layout .................................................................................. 6-40
32' Mounted Harrow Layout .................................................................................. 6-41
36' Mounted Harrow Layout .................................................................................. 6-42
40' Mounted Harrow Layout .................................................................................. 6-43
Parts List .................................................................................................................. 7-1 – 7-8
SECTION 1 - SAFETY

SAFETY-ALERT SYMBOL

This symbol is used to denote possible danger and care should be taken to prevent bodily injury. This symbol means:

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Definition of each Signal Word used in conjunction with the Safety-Alert symbol.

- DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations.

- WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

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

GENERAL SAFETY PRACTICES


2. VERIFY all safety devices and shields are in place before using machine.

3. KEEP hands, feet, hair and clothing away from moving parts.

4. STOP engine, place all controls in neutral, set parking brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, maintaining or unplugging.

5. BE CAREFUL when working around high pressure hydraulic system.

6. ALWAYS make sure that pressure is relieved from hydraulic circuits before servicing or disconnecting from tractor.

7. DO NOT ALLOW RIDERS.

8. USE EXTREME CARE when making adjustments.

9. KEEP CHILDREN AWAY from machinery at all times.

10. NEVER ALLOW anyone to walk or work under a raised piece of equipment without installing cylinder and transport locks.
SECTION 1 - SAFETY

SAFETY DURING TRANSPORT

1. **ONLY TOW** at a safe speed. Use caution when making corners or meeting traffic.
2. **USE** a safety chain between tractor drawbar and implement hitch when transporting on public roads.
3. **ALWAYS** use hydraulic cylinder transport locks when transporting on public roads.
4. **FOLLOW ALL** local laws governing transporting of farm machinery.
5. **Frequently check** for traffic from rear, especially during turns.

SAFETY DECALS

1. **KEEP SAFETY DECALS CLEAN.**
2. **REPLACE** missing or unreadable decals. New decals are available from your Summers dealer by ordering correct part number (PN) located on the decal.

DECALS AND THEIR LOCATIONS

1. **PN 8Z0075 – DECAL FOR REMOVING TRANSPORT LOCKS**

   ![WARNING](image)

   **WARNING**

   **REMOVE TRANSPORT LOCK(S) BEFORE LOWERING MACHINE. IF LOCK(S) DO NOT REMOVE FREELY, INSURE THAT CYLINDERS ARE COMPLETELY FILLED WITH HYDRAULIC FLUID AND ARE SUPPORTING THE LOAD TO BE LOWERED.**

   8Z0075

2. **PN 8Z0087 – DECAL FOR PINCH POINT HAZARD**

   ![DANGER](image)

   **DANGER**

   **FRAME PINCH POINT HAZARD**

   **KEEP AWAY**

   To prevent serious injury or death from crushing:
   - Stay away from frame hinge area when folding wings.
   - Keep others away.
   - Do not fold wings when bystanders are present.

   8Z0087
3. **PN 8Z0202 – DECAL FOR COMPANY IDENTIFICATION**

4. **PN 8Z0276 – DECAL FOR GENERAL CAUTION**

   ![CAUTION](image)

   2. For Sprayers:
      a. Read and follow chemical manufacturers' WARNINGS, Instructions and procedures before using.
      b. Use recommended personal protective equipment to reduce or eliminate chemical contact.
      c. Never run pump dry.
   3. Verify all safety devices and shields are in place before using machine.
   4. Keep hands, feet, hair and clothing away from moving parts.
   5. Stop engine, place all controls in neutral, set parking brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, maintaining or unplugging.
   6. Be careful when working around high pressure hydraulic system.
   7. Do not allow riders.
   8. Check all wheel bolts DAILY for tightness.
   10. For Towed Implements; DO NOT EXCEED 20 MPH.

5. **PN 8Z0340 – DECAL FOR REPHASING CYLINDERS**

   ![IMPORTANT](image)

   TO REPHASE CYLINDERS, RAISE MACHINE AND HOLD TRACTOR HYD. LEVER A FEW SECONDS AFTER CYLINDERS ARE FULLY EXTENDED. REPHASING SHOULD BE DONE EVERY HOUR OF OPERATION TO MAINTAIN UNIFORM TILLAGE DEPTH.

8Z0340
SECTION 1 - SAFETY

6. PN 8Z0342 – DECAL FOR INSTALLING CYLINDER LOCKS

![Warning Decal]

7. PN 8Z0344 – DECAL FOR STAYING CLEAR OF WINGS

![Danger Decal]

8. PN 8Z0346 – DECAL FOR ELECTROCUTION DANGER

![Danger Decal]

9. PN 8Z0348 – DECAL FOR GAUGE WHEEL DEPTH

![Gauge Wheel Decal]

10. PN 8Z0800 – AMBER REFLECTOR

11. PN 8Z0805 – RED-ORANGE REFLECTOR

12. PN 8Z0810 – RED REFLECTOR
SAFETY LIGHT OPERATION

The Summers Safety Light Kit is equipped with a 7 pin connector which meets SAE J560 specification. To protect 7 pin connector, store in dust cap (8K8067) when not attached to towing vehicle.

On most towing vehicles WITHOUT brake lights:
Amber lights will turn on with flashers or turn signals.
Red lights will turn on with parking, road or field lights.

On most towing vehicles WITH brake lights:
Amber lights will turn on with flashers, turn signals OR when brake is applied.
Red lights will turn on with parking or road lights.

The Summers Safety Light Kit is equipped with a 7 pin connector which meets SAE J560 specification. To protect 7 pin connector, store in dust cap (8K8067) when not attached to towing vehicle.
GENERAL ASSEMBLY SAFETY PRACTICES


2. Machine should be assembled in a horizontal (field) position only.

3. If machine is to be assembled INDOORS, check that exit door is a **MINIMUM OF 22’ WIDE**. Height requirement varies up to 16’3”. Shanks may be left off to reduce height and width requirement.

4. Reference to “RIGHT” and “LEFT” is determined when machine **IS VIEWED FROM THE REAR**.

5. Reference to “FORWARD” means **TOWARDS THE TRACTOR**.

6. Reference to “REAR” means **AWAY FROM THE TRACTOR**.

SAFETY-ALERT SYMBOL

This symbol is an alert to the potential for personal injury. This symbol means **ATTENTION! BECOME ALERT! YOUR PERSONAL SAFETY IS INVOLVED!**
GENERAL SAFETY PRACTICES

YOU ARE RESPONSIBLE for the safe assembly of the machine.

DO NOT ALLOW CHILDREN or other unauthorized persons within the assembly area.

WEAR PERSONAL PROTECTIVE EQUIPMENT which includes a hard hat, eye protection, work gloves and steel toed boots with slip resistant soles.

DO NOT MODIFY the equipment or substitute parts in any way. Unauthorized modification may impair the function and/or safety of the machine.

USE SUITABLE LIFTING DEVICE for components which could cause personal injury.

BLOCK UP ANY RAISED PART of the machine. Be sure machine is stable after blocking.

ALWAYS INSPECT LIFTING CHAINS AND SLINGS for damage or wear.

BE SURE LIFTING DEVICE IS RATED TO HANDLE THE WEIGHT.

STOP ENGINE, place all controls in neutral, set parking brakes, remove ignition key and wait for all moving parts to stop before servicing or adjusting.

BE SURE PRESSURE IS RELIEVED from hydraulic circuits before servicing or disconnecting from tractor.

USE EXTREME CARE when assembling, servicing and adjusting.
1. Place front, center and rear sections on floor with bolt plates facing each other.
2. ATTACH sections with 48 – 3/4x2-1/4” bolts, lock washers and nuts as shown.
3. Block center frames off the floor.
4. Install cylinder attach brackets with 3/4” u-bolts.
   
   NOTE:  – Locate Rear Cylinder Attach Brackets (8T4224) 62” from frame center.

5. Insert eyebolts (8K1683) into each cylinder attach bracket.
   – Tighten 1-1/2” nuts so the same amount of threads are above top nut on all eyebolts. Insure that cylinder attach holes are aligned when eyebolts are tightened.

6. Liftarms will be centered beneath cylinder attach brackets.
   – Use 3/4” u-bolts for 4x4 to attach liftarm pivots (8T4100) to frame.
   – Slide pivot pin (8T3640) through liftarm and liftarm pivots.
   – Insert 7/16 x 3-1/2” bolt in retaining bolt hole. Secure with lock nut.

7. Install walking tandem assemblies to bottom of liftarms.
   – The left hand side of center frame uses a left hand assembly (8T4166) and the right hand side uses a right hand assembly (8T4168).
   – Slide pivot pin (8T3620) through walking tandem assembly and lift arm.
   – Insert 7/16 x 3-1/2” bolt in retaining bolt hole. Secure with lock nut.
   – Install 8T4190 (left) and 8T4192 (right) mud guards as shown. Secure with 3/8” u-bolts and flange nuts.

8. Hang cylinders in correct locations.
   – Use 6” x 10” (8T1060) on left hand side, 5.5 x 10” (8T1055) on right hand side.

9. Install 8K1100 axle and hub assembly into each walking tandem. Apply good quality anti-seize to axles before installation. Retain axle into receiver tube with 1/2 x 3-3/4” bolt and locknut.

10. Attach wheels onto hubs with 9/16” wheel bolts (torque required: 170 ft-lbs).

11. Attach hitch to center with 1-1/2” x 10-5/8” pins(8K1640). Install in bottom hole.
   
   NOTE: Center with 1-1/2” ID 10 GA flat washers.

12. Install 7/16x3-1/2” retaining bolts through hitch pivot pins. Secure with lock nuts.

13. Install (8T2040) Cylinder and secure with pins as shown.

14. Attach hydraulic hose holder and tip holder with 3/4 x 1-1/4” bolt and flat washer.

15. Attach hitch jack to jack spool.

16. Remove blocks from under center frame and allow wheel assemblies to support machine. Block tires to prevent movement.

17. Add depth control cylinder locks and storage bases.

18. Install SMV sign mounting bracket and sign at center of rear rank.

19. Install Disk Mounting Tube as shown on page 2-7.
SECTION 2 – SET-UP OF 16’ & 20’ DISK-CHISEL & COULTER-CHISEL MAIN FRAME
SECTION 2 – SET-UP OF 16’ & 20’ DISK-CHISEL & COULTER-CHISEL MAIN FRAME

8X0368 1-1/2” FW (AS REQUIRED)
8X0234 7/16” LNUT
8K1660 7/16” X 3-1/2”
8X0044 3/4 X 4 X 6”
8K5515 3/4 X 4 X 6”
8X0260 3/4” N
8X0306 3/4” LW
8D9108 1/4 X 2” RP
8K9102 1/4 X 2” RP
8K8435

8CC1300-16
8CC1310-20’ (SHOWN)
SECTION 2 – SET-UP OF 24’-28’ DISK-CHISEL & COULTER-CHISEL MAIN FRAME

1. Place front, center and rear sections on floor with bolt plates facing each other.

2. ATTACH sections with 48 – 3/4x2-1/4" bolts, lock washers and nuts as shown.

3. Block center frames off the floor.
4. Install cylinder attach brackets with 3/4” u-bolts.
   
   NOTE: – Locate Rear Cylinder Attach Brackets (8T4224) 66” from frame center.

5. Insert eyebolts (8K1683) into each cylinder attach bracket.
   – Tighten 1-1/2” nuts so the same amount of threads are above top nut on all eyebolts. Insure that cylinder attach holes are aligned when eyebolts are tightened.

6. Liftarms will be centered beneath cylinder attach brackets.
   – Use 3/4” u-bolts for 4x4 to attach liftarm pivots (8T4100) to frame.
   – Slide pivot pin (8T3640) through liftarm and liftarm pivots.
   – Insert 7/16 x 3-1/2” bolt in retaining bolt hole. Secure with lock nut.

7. Install walking tandem assemblies to bottom of liftarms.
   – The left hand side of center frame uses a left hand assembly (8T4166) and the right hand side uses a right hand assembly (8T4168).
   – Slide pivot pin (8T3620) through walking tandem assembly and lift arm.
   – Insert 7/16 x 3-1/2” bolt in retaining bolt hole. Secure with lock nut.
   – Install 8T4190 (left) and 8T4192 (right) mud guards as shown. Secure with 3/8” u-bolts and flange nuts.

8. Hang cylinders in correct locations.
   – Use 5.5” x 10” (8T1055) on left hand side, 5.0 x 10” (8T1050) on right hand side.

9. Install 8K1100 axle and hub assembly into each walking tandem. Apply good quality anti-seize to axles before installation. Retain axle into receiver tube with 1/2 x 3-3/4” bolt and locknut.

10. Attach wheels onto hubs with 9/16” wheel bolts (torque required: 170 ft-lbs).

11. Attach wing transport locks to center frame with 3/4” u-bolts.
   – Located outside edge of bolt plate 49” away from frame center.
   – Install 1/2 x 6” pins in inside storage holes of transport lock.

12. Insert 1-1/2 x 10-3/8” eyebolts into wing lift cylinder attach base.
   – Leave 1-1/2” nuts loose, they will need to be adjusted after wing is installed.

13. Attach wing lift cylinders to frame with pins and roll pins.
   – 24’ & 28’ machine uses 5” x 24” cylinders (8D9524) and hardware shown.

14. Attach hitch to center with 1-1/2” x 10-5/8” pins (8K1640). Install in bottom hole.
   
   NOTE: Center with 1-1/2” ID 10 GA flat washers.

15. Install 7/16x3-1/2” retaining bolts through hitch pivot pins. Secure with lock nuts.
SECTION 2 – SET-UP OF 24’-28’ DISK-CHISEL & COULTER-CHISEL MAIN FRAME
SECTION 2 – SET-UP OF 24’-28’ DISK-CHISEL & COULTER-CHISEL MAIN FRAME
16. Install (8T2040) Cylinder and secure with pins as shown.

17. Attach hydraulic hose holder and tip holder with 3/4 x 1-1/4” bolt and flat washer.

18. Attach hitch jack to jack spool.

19. Remove blocks from under center frame and allow wheel assemblies to support machine. Block tires to prevent movement.

20. Add depth control cylinder locks and storage bases.

21. Install SMV sign mounting bracket and sign at center of rear rank.

22. Install Disk Mounting Tube as shown on page 2-18.
SECTION 2 – SET-UP OF 24’-28’ DISK-CHISEL & COULTER-CHISEL WINGS

NOTE: It is recommended to set up both sides of machine at the same time. The left hand side is shown.

1. Attach wing to center section with pins, washers, bolts and locknuts.
   – Washers are used to center wing in hinges and prevent shift.

2. Fasten cylinder attach brackets with 3/4” u-bolts, located 126-1/2” from machine center.

3. Insert eyebolts (8K1683) into cylinder attach bracket.
   – Tighten 1-1/2” nuts so the same amount of threads are above top nut on all eyebolts. Insure that cylinder attach holes are aligned when eyebolts are tightened.

4. Center liftarm under cylinder attach brackets.
   – Use 3/4” u-bolts for 4x4 to attach liftarm pivots (8T4100) to frame.
   – The inside pivot will be attached with 3/4 x 6” bolts and a trip assembly.
   – Slide pivot pin (8T3640) through liftarm and liftarm pivots.
SECTION 2 – SET-UP OF 24’-28’ DISK-CHISEL & COULTER-CHISEL WINGS

5. Install walking tandem assembly to bottom of liftarm.
   – The left hand wing uses a right hand assembly – 8T4168.
   – The right hand wing uses a left hand assembly – 8T4166.
   – Slide pivot pin (8T3620) through walking tandem assembly and liftarm.
   – Insert 7/16 x 3-1/2” bolt in retaining bolt hole. Secure with lock nut.

6. Hang cylinders in appropriate location. Use pins and roll pins.
   – Rod end of cylinder must point towards ground.
   – Use 6 x 10” (8T1060) on left hand wing.
   – Use 4-1/2 x 10” (8T1045) on right hand wing.

7. Install 8K1100 axle and hub assembly into each walking tandem. Apply good quality anti-seize to axles before installation. Retain axle into receiver tube with 1/2 x 3-3/4” bolt and locknut.

8. Attach wheels onto hubs with 9/16” wheel bolts (torque required: 170 ft-lbs).

9. 26’ & 28’ Only – Install wing extensions.
   – One-shank extension must be placed on rear rank.
   – Two-shank extension must be placed on front two ranks.
   – Mounting bolts must point toward outside of machine. (Trip assembly interference will occur if this is not followed.)

10. Hang trip assemblies according to layout provided.
    – Use 3/4” u-bolts for 4 x 4 tube with 3/4” lock washers and 3/4” nuts.
    – Tighten u-bolts an equal amount on top and bottom. The same amount of threads should appear on top and bottom of u-bolt.

11. Install Disk Mounting Tubes as shown on page 2-18.
SECTION 2 – SET-UP OF DISK-CHISEL & COULTER-CHISEL CENTER SECTION (32’-40’)

1. Place front, center and rear sections on floor with bolt plates facing each other.

2. ATTACH sections with 48 – 3/4x2-1/4” bolts, lock washers and nuts as shown.

3. Block center frames off the floor.
SECTION 2 – SET-UP OF DISK-CHISEL & COULTER-CHISEL CENTER SECTION (32’-40’)

4. Install cylinder attach brackets with 3/4” u-bolts.

   NOTE: – Locate Rear Cylinder Attach Brackets (8T4224) 62” from frame center.

5. Insert eyebolts (8K1683) into each cylinder attach bracket.

   – Tighten 1-1/2” nuts so the same amount of threads are above top nut on all eyebolts.
   Insure that cylinder attach holes are aligned when eyebolts are tightened.

6. All liftarms will be centered beneath cylinder attach brackets.

   – Use 3/4” u-bolts for 4x4 to attach liftarm pivots (8T4100) to frame.
   – Slide pivot pin (8T3640) through liftarm and liftarm pivots.
   – Insert 7/16 x 3-1/2” bolt in retaining bolt hole. Secure with lock nut.

7. Install walking tandem assemblies to bottom of rear liftarms.

   – The left hand side of center frame uses a left hand assembly (8T4166) and the right hand
     side uses a right hand assembly (8T4168).
   – Slide pivot pin (8T3620) through walking tandem assembly and lift arm.
   – Insert 7/16 x 3-1/2” bolt in retaining bolt hole. Secure with lock nut.
   – Install 8T4190 (left) and 8T4192 (right) mud guards as shown. Secure with 3/8” u-bolts and
     flange nuts.

7a. Install front caster attach assemblies.

   – Install 8CC6010 hitch towers onto frame with 1-1/2” bolts (4) with lockwashers and nuts. Do
     not tighten nuts until after caster beam (8CC6000B) is installed.
   – Attach top of 8CC6015 braces to hitch towers with 7/8” x 2” bolts and lockwashers (nuts are
     attached inside hitch tower). Use 7/8” x 2-1/2” bolts with lockwashers and nuts to attach
     lower end of braces to bolt plates on frame.
   – Insert 8CC6028 cylinder attaches into the collar at top of hitch towers. Tighten 1-1/2” nuts
     so that the same amount of threads are above top nut on both cylinder attaches. Secure
     with 3/4” x 2-1/2” holddown bolts as shown (nuts are attached inside hitch tower on top bolt
     holes).

8. Install 8K1100 axle and hub assembly into each rear walking tandem (8K1105S optional). Apply
   good quality anti-seize to axles before installation. Retain axle into receiver tube with 1/2
   x 3-3/4” bolt and locknut.

9. Attach wheels onto hubs with 9/16” wheel bolts (torque required: 170 ft-lbs) or 5/8” wheel nuts
   (240 ft-lbs.).

10. Attach wing transport locks to center frame with 3/4” u-bolts.

    – Located outside edge of bolt plate 78-3/8” away from frame center.
    – Install 1/2 x 6” pins in inside storage holes of transport lock.
SECTION 2 – SET-UP OF DISK-CHISEL & COULTER-CHISEL CENTER SECTION (32'-40')
SECTION 2 – SET-UP OF DISK-CHISEL & COULTER-CHISEL CENTER SECTION (32’-40’)

11. Insert 1-1/2 x 10-3/8” eyebolts into wing lift cylinder attach base.
   – Leave 1-1/2” nuts loose, they will need to be adjusted after wing is installed.

12. Attach wing lift cylinders to frame with pins and roll pins.
   – 32’ machine uses 4 x 36” cylinders (8K9640).
   – 36’ & 40’ machines use 5 x 36” cylinders (8K9650).
**SECTION 2 – SET-UP OF DISK-CHISEL & COULTER-CHISEL WINGS (32'-40')**

NOTE: It is recommended to set up both sides of machine at the same time. The left hand side is shown.

1. Attach wing to center section with pins, washers, bolts and locknuts.
   – Washers are used to center wing in hinges and prevent shift.

2. Fasten cylinder attach brackets with 3/4" u-bolts, located 169" from machine center.

3. Insert eyebolts (8K1755) into cylinder attach bracket.
   – Tighten 1-1/2" nuts so the same amount of threads are above top nut on all eyebolts. Insure that cylinder attach holes are aligned when eyebolts are tightened.

4. Center liftarm under cylinder attach brackets.
   – Use 3/4" u-bolts for 4x4 to attach liftarm pivots (8T4100) to frame.
   – The inside pivot will be attached with 3/4 x 6" bolts and a trip assembly.
   – Slide pivot pin (8T3640) through liftarm and liftarm pivots.
   – Insert 7/16 x 3-1/2" bolt in retaining bolt hole. Secure with lock nut.
SECTION 2 – SET-UP OF DISK-CHISEL & COULTER-CHISEL WINGS (32’-40’)

5. Install walking tandem assembly to bottom of liftarm.
   – The left hand wing uses a right hand assembly – 8T4168.
   – The right hand wing uses a left hand assembly – 8T4166.
   – Slide pivot pin (8T3620) through walking tandem assembly and liftarm.
   – Insert 7/16 x 3-1/2” bolt in retaining bolt hole. Secure with lock nut.

6. Hang cylinders in appropriate location. Use pins and roll pins.
   – Rod end of cylinder must point towards ground.
   – Use 6 x 10” (8T1060) on left hand wing.
   – Use 4-1/2 x 10” (8T1045) on right hand wing.

7. Install 8K1100 axle and hub assembly into each walking tandem. Apply good quality anti-seize to axles before installation. Retain axle into receiver tube with 1/2 x 3-3/4” bolt and locknut.

8. Attach wheels onto hubs with 9/16” wheel bolts (torque required: 170 ft-lbs).

9. 36’ & 40’ – Install wing extensions.
   – One-shank extension must be placed on rear rank.
   – Two-shank extension must be placed on front two ranks.
   – Mounting bolts must point toward outside of machine. (Trip assembly interference will occur if this is not followed.)

10. Install gauge wheel support (8T4090) onto wing with 7/8 x 2-1/2” bolts.
    NOTE: Steps 10 through 15 may have been pre-assembled at factory.

11. Apply anti-seize to jack bolt (8T6000) threads. Screw jack bolt into axle holder (8T4094) far enough to see hole on bottom of bolt through hole in axle holder.
    – Insert 3/16 x 2” roll pin. Insert pin far enough so it will clear tube when rotated.

12. Place gauge wheel depth decal on axle holder.
    – Locate decal 1” from bottom of 4 x 4 tube.
    – Make sure that decal faces the front of the machine.
    – Decal should be placed off to one side of axle holder to avoid seam on support tube.

13. Slide axle holder and jack bolt into gauge wheel support. Slide 1-1/4” flat washer onto bolt and turn 1-1/4” slotted nut on.
    – Do not tighten slotted nut.

14. Add gauge wheel screw top onto jack bolt.
    – Insert 1/2 x 2-1/4” bolt into screw top and bolt, secure with locknut.
SECTION 2 – SET-UP OF DISK-CHISEL & COULTER-CHISEL CENTER SECTION (32'-40')

DETAIL A

DETAIL B

DETAIL C

8T4190 LEFT
8T4192 RIGHT
8X0203 3/8" FN
8X0242 NY-LOCK 1/2" N
8X0072 1/2" X 3-3/4"
8K1100

C

8K7033

8K1100

8X0261 3/4" LN
8X0224 7/16" LNUT
8D0304 3/4" X 4 X 3-1/2"
8X0067 1/2-13NCX2-1/4"
8X0307 7/8" LW
8X0242 NY-LOCK 1/2" N
8X0072 1/2" X 3-3/4"
8X0044 7/16" X 3-1/2"
8T3120
8T4140
8T4166 LEFT
8T4168 RIGHT
8K1100
8D3031
8X0242 1/2" LW
8X3059 2.067" CAP PLUG
8X0044 7/16" X 3-1/2"
8X0072 1/2" X 3-3/4"
8K1100
8R6914
8T4096
8X0268 7/8" N
8X0242 NY-LOCK 1/2" N
8R6914

SECTION 2 – SET-UP OF DISK-CHISEL & COULTER-CHISEL CENTER SECTION (32'-40')
15. Attach gauge wheel jack handle to screw top.
   - Install 3/8 x 2” bolt in handle and screw top. Secure with lock nut.
   - Do not over tighten. Handle must pivot freely.

16. Check free operation of gauge wheel assembly.
   - Loosen or tighten slotted nut for optimum performance of gauge wheel.
   - Install 3/16” x 2” roll pin after slotted nut is adjusted properly.

16a. Adjust clearance between 8T4090 and 8T4094 with 3/4” set bolts and jam nuts.

17. Install 8K1100 axle and hub assembly into each receiver tube. Apply good quality anti-seize to axles before installation. Retain axle into receiver tube with 1/2 x 3-3/4” bolt and locknut.

18. Attach tire/wheel to hub with 9/16” wheel bolts (torque required: 170 ft-lbs).

19. Hang trip assemblies according to layout provided.

   NOTE: Steps 19-21 can be done after cylinders are filled with oil and machine is raised.
   - Use 3/4” u-bolts for 4 x 4 tube with 3/4” lock washers and 3/4” nuts.
   - Tighten u-bolts an equal amount on top and bottom. The same amount of threads should appear on top and bottom of u-bolt.

20. Trip assemblies located at 162” will be attached with 3/4 x 6” bolts. These bolts will also hold the liftarm pivot bracket at that location.

21. Install Disk Mounting Tubes as shown below.

22. Attach lower link arms (8CC6026) to hitch towers with 8T3620 pins and retain with 7/16 x 3-1/2” bolts and nylock nuts. Bolt the two rockshaft halves together with 7/8 x 3” bolts, lockwashers, and nuts.
   - Attach upper link arms (8CC6022) to hitch towers with 8T3620 pins and retain with 7/16 x 3-1/2” bolts and nylock nuts.

23. IMPORTANT: Insert 8L0246 plastic bushings (4) into pivot collars at both ends of 8CC6000B caster beam.
   - Attach caster beam (8CC6000B) to upper and lower link arms with 8T3620 pins as shown. Retain pins with 7/16 x 3-1/2” bolts and nylock nuts.

24. Install front lift cylinders as shown: 8T1037 on left, 8T1040B on right.

25. Place wear plate (8L0320), spacer disc (7L2150) and washer (8K5200) on top of pivot collar.
   - Thread 8X0292 slotted nut onto pivot pin (7P8530) until nut is flush with top of pivot pin. Drive pin into pivot collar until lower cross hole is approximately 5-5/8” below bottom of pivot collar.

26. Place wear plate (8L0320) on top of caster arm (8CC6030B) and slide into pivot pin (7P8530) from bottom, install 3/4 x 5” cross bolt with nylock nut.
SECTION 2 – SET-UP OF DISK-CHISEL & COULTER-CHISEL CENTER SECTION (32’-40’)

- Install rectangular washer (8CC6035) with 1-1/4” lockwasher and nut onto bottom of caster arm.
- Install hubs (8K1105S) as shown and retain with 1/2 x 3-3/4” bolt and nylock nut.
- Attach wheel and tire assemblies. Tighten lug nuts to 240 ft-lbs.

28. Tighten slotted nut (8X0292) so that caster wheel assembly cannot be moved by human force.
    - Retain slotted nut with 3/8” hardware as shown.

29. Attach hitch to center with 1-1/2” x 10-5/8” pins.
    
    NOTE: Center with 1-1/2” ID 10 GA flat washers.

30. Install 7/16x3-1/2” retaining bolts through hitch pivot pins. Secure with lock nuts.

31. Attach hydraulic hose holder and tip holder with 3/4 x 1-1/4” bolt and flat washer.

32. Attach hitch jack to jack spool.
SECTION 2 – SET-UP OF 32'-40' CASTER WHEELS & HITCH
33. Remove blocks from under center frame and allow wheel assemblies to support machine. Block tires to prevent movement.

34. Add depth control cylinder locks and storage bases.
   – Attach locks for rear cylinders by liftarm pivots located closest to center of machine.
   – Locate lock for front center cylinder on front 4 x 4 tube.

35. Install SMV sign mounting bracket and sign at center of rear rank.
SECTION 2 – HYDRAULIC SET-UP (24’ - 28’)

1. Hydraulic hoses and fittings for depth control cylinders can be found on following drawing.

- Rephasing cylinders require that oil from the rod end of first cylinder goes to base end of second cylinder and so forth. Cylinders will not operate properly unless they are connected correctly.

2. Special attention should be paid to routing of hydraulic hoses. Diagram below shows layout of hoses for depth control cylinders.

A. It is best to start by routing the hose for the 6 x 10” cylinder. Make sure there is 60” of hose ahead of hose holder. This is usually enough hose for safe and easy hook-up to tractor.

B. Route hose along hitch frame. Use plastic clamps provided. Do not tighten until routing is complete.

- Clamps are made to have the round surface point towards the surface that you are mounting to. DO NOT OVER TIGHTEN.

C. Leave slack by hitch pivot.
3. Charge depth control cylinder system.
   – Connect depth control cylinder hoses to tractor. Insure that tips and couplers are CLEAN.
   – Raise Coulter-Chisel. One cylinder will extend at a time. Do not allow anyone to stand near Coulter-Chisel when it is raised or lowered.
   – When all cylinders are fully extended, fully cycle the circuit four times to make sure all air has been removed from system.
   – Lower Coulter-Chisel plow before next step.

4. Hydraulic hoses and fittings for wing lift cylinders are shown in the following drawing.
   – The wing lift hydraulic circuit is equipped with a one-way restrictor to prevent free fall of the wings when being lowered. Be sure that the restrictor is installed so the arrow points toward the cylinder. This will restrict oil flowing out of the cylinder but not flowing in.

5. Route hoses along frame and hitch the same way depth control cylinder hoses are routed.
   – Stack hoses on top of depth control hoses by using two hose clamps at each bolt.
   – Leave enough slack by hitch pivot to allow full range of travel of the hitch without damage to hoses.
SECTION 2 – HYDRAULIC SET-UP (24' - 28')

24' - 28' MACHINES

2-37
6. Charge Wing Lift Cylinders.
   - Block rod end of cylinders so cylinders can extend without hitting anything.
   - Fully cycle the cylinders several times to make sure that all air has been removed from system.
   - Leave cylinders in fully extended position.

7. Connect rod end of cylinders to wing. Follow these steps and see drawing below.
   - Use pivot bolt, washers with collars, 1-1/4” washers, 1” washer and 1” lock nut provided.
   - 1-1/4” washers must slide freely inside wing flamecuts.
   - Do not over tighten lock nut. **Pivot bolt must rotate freely.**
8. With cylinder attach eyebolts loose, raise coulter-chisel wings to transport position.
   – Fully retract cylinders and let wings rest against transport locks.
   – Tighten each eyebolt so pivot bolt and rollers are centered in the wing lift slot.
NOTE: REPHASE CYLINDERS BY FULLY EXTENDING WITH BLADES CONTACTING GROUND
Hydraulic Hitch Hydraulic Setup - 16'-28'

1. Install Hydraulic hitch hose as shown in the diagram.
2. Hydraulic Hitch cylinder should be plumbed in parallel.
3. Route hose along hitch frame.
4. Use provided clamps and plastic ties to secure hoses.
SECTION 2 – HYDRAULIC SET-UP (32’-40’)

1. Hydraulic hoses and fittings for depth control cylinders can be found on following drawing.
   – Rephasing cylinders require that oil from the rod end of first cylinder goes to base end of second cylinder and so forth. Cylinders will not operate properly unless they are connected correctly.

2. Special attention should be paid to routing of hydraulic hoses. Diagram below shows layout of hoses for depth control cylinders.
   A. It is best to start by routing the hose for the 6 x 10" cylinder. Make sure there is 60" of hose ahead of hose holder. This is usually enough hose for safe and easy hook-up to tractor.
   B. Route hose along hitch frame. Use plastic clamps provided. Do not tighten until routing is complete.
      – Clamps are made to have the round surface point towards the surface that you are mounting to. DO NOT OVER TIGHTEN.
   C. Leave slack by hitch pivot.
3. Charge depth control cylinder system.
   – Connect depth control cylinder hoses to tractor. Insure that tips and couplers are CLEAN.
   – Raise Coulter-Chisel. One cylinder will extend at a time. Do not allow anyone to stand near Coulter-Chisel when it is raised or lowered.
   – When all cylinders are fully extended, fully cycle the circuit four times to make sure all air has been removed from system.
   – Lower Coulter-Chisel plow before next step.

4. Hydraulic hoses and fittings for wing lift cylinders are shown in the following drawing.
   – The wing lift hydraulic circuit is equipped with a one-way restrictor to prevent free fall of the wings when being lowered. Be sure that the restrictor is installed so the arrow points toward the cylinder. This will restrict oil flowing out of the cylinder but not flowing in.
   – For 36' & 40' machines, 5 x 36” cylinders are used.

5. Route hoses along frame and hitch the same way depth control cylinder hoses are routed.
   – Stack hoses on top of depth control hoses by using two hose clamps at each bolt.
   – Leave enough slack by hitch pivot to allow full range of travel of the hitch without damage to hoses.
32'-40' MACHINE

WING LIFT HYDRAULICS

8J5690
3/4-16 X 3/4-16 ORB M-SW 90° UNION

8J5510
3/4 ORB X #6 JIC(M)

8J5700
#6 JIC(F-SW) X #6 JIC(M) 90° ADP

8J7040
THERMAL RELIEF

8A1954
1/4" OD TUBE - 18"

8J6010
3/4-16 ORB X #6 JIC(M) 90° ADP

8K9640
4.0" X 36"
(32"

8K9650
5.0" X 36"
(36" & 40"

8K8650 - SEAL KIT 4.0" X 36" (32"

8K8660 - SEAL KIT 5.0" X 36" (36" & 40"

8D3212
3/4 ORB TIP ISO

8J5510
3/4 ORB X #6 JIC(M)

8J6010
3/4-16 Orb X #6 JIC(M) 90° ADP

8N3360
3/8" X 360"

8N3060
3/8" X 60"

8N3035
3/8" X 35"
6. Charge Wing Lift Cylinders.
   - Block rod end of cylinders so cylinders can extend without hitting anything.
   - Fully cycle the cylinders several times to make sure that all air has been removed from system.
   - Leave cylinders in fully extended position.

7. Connect rod end of cylinders to wing. Follow these steps and see drawing below.
   - Use pivot bolt, washers with collars, 1-1/4” washers, 1” washer and 1” lock nut provided.
   - 1-1/4” washers must slide freely inside wing flamecuts.
   - Do not over tighten lock nut. **Pivot bolt must rotate freely.**
8. With cylinder attach eyebolts loose, raise coulter-chisel wings to transport position.
   – Fully retract cylinders and let wings rest against transport locks.
   – Tighten each eyebolt so pivot bolt and rollers are centered in the wing lift slot.
GANG DEPTH CONTROL HYDRAULICS

32' MACHINE

8N3312 (2X) 3/8" X 312"
8N3180 (2X) 3/8" X 180"
8N3136 (2X) 3/8" X 136"
8N3096 (2X) 3/8" X 96"
8J5700 #6 JIC(F-SW) X #6 JIC(M) 90° ADP
8J5300 #6 JIC(M) TEE
8J5510 3/4" ORB X #6 JIC(M)
8D3212 3/4" ORB TIP ISO
3.5 X 8"
3 X 8"
8K8435 3.5 X 8" MASTER
8K8435 3.5 X 8" MASTER
8J6010 3/4-16ORB X #6JIC(M) 90° ADP
8K8430 3 X 8" SLAVE

NOTE: REPhASE CYLINDERS BY FULLY EXTENDING WITH BLADES CONTACTING GROUND
NOTE: REPHASE CYLINDERS BY FULLY EXTENDING WITH BLADES CONTACTING GROUND
SECTION 2 – HYDRAULIC SET-UP (ALL WIDTHS)
1. Install shanks into trip assemblies.


   - Shanks will fit snugly into shank holder. If tapping bottom of shank does not work, it may be necessary to remove burr and/or paint from shank or shank holder.
SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS
SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

1. Gang Mounting – Start from the center and work towards the outside when hanging the gangs. Bearing location is important, use correct gang assembly for each location. Carefully lift gang to frame close to correct location. Attach C-shanks to frame using (2) 3/4” U-bolts, mounting plate with peg, flat mounting plate, lockwashers and nuts. After both C-shanks on each gang are mounted, slide the gang to its proper location and tighten hardware.

2. Scraper Mounting – Attach scraper mounting tubes to scraper support brackets (8J0200) using 3/4” U-bolts (8K5505), spacer flat (8K4420), lockwashers and nuts. Attach scraper flats (8J0190) to the mounting tubes using 3/4” U-bolts (8K5505), flatwashers (lower hole only), lockwashers and nuts. Center between coulter blades.

Locations are shown in the following pages.
WHEN LOCATING BLADE, USE CENTER HOLE ON REAR OF BRACKET, AS SHOWN. DIMENSION SHOWN IS FROM CENTERLINE OF MACHINE TO THIS HOLE.
When locating blade, use center hole on rear of bracket, as shown. Dimension shown is from centerline of machine to this hole.
SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

24' SHANK LAYOUT

SUGGESTED TWISTED SPIKE LAYOUT

SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

2-59
24' DISK-CHISEL

WHEN LOCATING BLADE, USE CENTER HOLE ON REAR OF BRACKET, AS SHOWN. DIMENSION SHOWN IS FROM CENTERLINE OF MACHINE TO THIS HOLE.

24' COULTER-CHISEL

SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS
26' DISK-CHISEL

When locating blade, use center hole on rear of bracket, as shown. Dimension shown is from centerline of machine to this hole.

26' COULTER-CHISEL

SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

8/30/2012 9DC2612H.i.am/26' GANG LAYOUT
SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS
28' DISK-CHISEL

WHEN LOCATING BLADE, USE CENTER HOLE ON REAR OF BRACKET, AS SHOWN. DIMENSION SHOWN IS FROM CENTERLINE OF MACHINE TO THIS HOLE.

28' COULTER-CHISEL

SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

8/30/2012  9DC2812H.iam/28' GANG LAYOUT
32' SHANK LAYOUT

- SUGGESTED TWISTED SPIKE LAYOUT

8T3100 LOCATIONS MARKED WITH *

SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS
SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

32' DISK-CHISEL

32' COULTER-CHISEL

WHEN LOCATING BLADE, USE CENTER HOLE ON REAR OF BRACKET, AS SHOWN. DIMENSION SHOWN IS FROM CENTERLINE OF MACHINE TO THIS HOLE.
SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

36’ SHANK LAYOUT

SUGGESTED TWISTED SPIKE LAYOUT

LOCATIONS MARKED WITH * (TOP & BOTTOM)
**36' DISK-CHISEL**

- When locating blade, use center hole on rear of bracket, as shown. Dimension shown is from centerline of machine to this hole.

**36' COULTER-CHISEL**

- Dimensions and markings for installation of shanks and coulter gangs.
WHEN LOCATING BLADE, USE CENTER HOLE ON REAR OF BRACKET, AS SHOWN. DIMENSION SHOWN IS FROM CENTERLINE OF MACHINE TO THIS HOLE.
NOTE: ASSEMBLY ABOVE IS FOR LEFT SIDE OF DISK-CHISEL. FOR RIGHT SIDE ASSEMBLY: ROTATE HUB ASSEMBLY 180 DEGREES AND SUBSTITUTE 8CC1507 FOR 8CC1505, AS NOTED.
SECTION 2 – WARNING DECALS (ALL SIZES)

1. Install danger, warning, and caution decals.
   – Part numbers can be found on lower right hand corner of each decal. Match this number with number on decal location drawing on Page 1-6.
   – The drawing gives approximate locations of decals. Decals must be clearly visible.
   – Order replacement decals if any are damaged.

2. Install reflectors.
   – Amber reflectors are part # 8Z0800, these should be placed on front corners and sides of machine in transport position.
   – Red-orange reflectors are part # 8Z0805, these should be placed on outside back of machine in transport position.
   – Red reflectors are part # 8Z0810, these should be placed on outside back of machine in transport position.

3. Install Safety Light Kit, see Page 6-26 for mounting layout.
SECTION 3 – OPERATION

OPERATION SAFETY


2. **VERIFY** that all safety devices and shields are in place before using machine.

3. **KEEP** hands, feet, hair and clothing away from moving parts.

4. **STOP** engine, place all controls in neutral, set parking brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, maintaining or unplugging.

5. **BE CAREFUL** when working around high pressure hydraulic system.

6. **ALWAYS** make sure that pressure is relieved from hydraulic circuits before servicing or disconnecting from tractor.

7. **DO NOT ALLOW RIDERS.**

8. **USE EXTREME CARE** when making adjustments.

9. **KEEP CHILDREN AWAY** from machinery at all times.

10. **NEVER ALLOW** anyone to walk or work under a raised piece of equipment without installing cylinder and transport locks.

**STEPS PRIOR TO OPERATION**

1. **COMPLETE WARRANTY REGISTRATION CARD**
   
   A. Complete and return WARRANTY REGISTRATION CARD located at the beginning of this manual. **RETURNING CARD ENTITLES YOU TO A FREE GIFT.**
   
   B. Complete the OWNER REGISTER also located at the beginning of this manual (Serial Number is located at the front of the hitch). **OWNER REGISTER INFORMATION MAY BE NEEDED WHEN ORDERING PARTS.**

2. **VERIFY TRACTOR REQUIREMENTS**

   A. Recommended engine horsepower is 10-14 per foot.

   **NOTE:** It may be necessary to reduce tillage depth, change tillage tools or perform multiple passes if below this horsepower range.

3. **FINAL CHECK**

   A. After receiving or assembling your machine, it is a good practice to double check the entire machine so all fasteners are securely tightened.

   B. Make sure all grease fittings are in place and greased properly.

   C. Inflate tires to recommended inflation pressure (see page 5-2) and check that wheel bolts are tight.
SECTION 3 – OPERATION

INITIAL HOOKUP

1. Make tractor to hitch connection with locking draw pin and safety chain.
2. Retract jack and rotate into storage position. Connect Safety Light Kit to 7 pin receptacle.
3. Plug wing lift hoses into desired tractor outlet. Insure that tips and couplers are CLEAN.
4. Plug depth control hoses into desired tractor outlet.
5. Park tractor and coulter-chisel on a level surface.
6. Remove transport lock pins on wings.

**IMPORTANT**

When the wings are setting against the transport locks and wing lift cylinders are fully retracted, rollers and winglift pin on the rod end of the cylinder must be centered in the slot on the wing. The 7” washers should be resting on the stand on top of the machine frame. If this is not the case, the eye bolt holding the base end of the cylinder must be readjusted accordingly. See drawing on page 3-3.
SECTION 3 – OPERATION

6. (Continued) WING LIFT CYLINDERS AT REST IN TRANSPORT POSITION.

7. **Lower wings with caution.** Do not raise or lower the wings when moving. Operate tractor hydraulics from operator station only. Do not allow any one near Coulter-Chisel when wings are raised or lowered.

**IMPORTANT**

A one-way restrictor is installed in wing lowering hydraulic circuit. This has been done to reduce chance of wing free fall. Do not remove this restrictor.
8. Fully extend depth control cylinders and maintain hydraulic pressure for 60 seconds to insure that all air has been purged from the system.

NOTE: This machine has rephasing style depth control cylinders. When cylinders are fully extended, oil will bypass through a rephasing slot on each cylinder in order to equalize the system.

9. Remove depth control cylinder transport locks.

WARNING
REMOVE TRANSPORT LOCK(S) BEFORE LOWERING MACHINE. IF LOCK(S) DO NOT REMOVE FREELY, INSURE THAT CYLINDERS ARE COMPLETELY FILLED WITH HYDRAULIC FLUID AND ARE SUPPORTING THE LOAD TO BE LOWERED.
9. (Continued) – Store transport locks on holders.

10. Become familiar with single point depth control. Control can be found on 6 x 10 cylinder located on lefthand wing. A hairpin clip is used to hold plunger in desired location.
FIELD OPERATION

1. Rephase cylinders before starting field operation.

**IMPORTANT**

TO REPHASE CYLINDERS, RAISE MACHINE AND HOLD TRACTOR HYD. LEVER A FEW SECONDS AFTER CYLINDERS ARE FULLY EXTENDED. REPHASING SHOULD BE DONE EVERY HOUR OF OPERATION TO MAINTAIN UNIFORM TILLAGE DEPTH.

2. Choose a flat spot in a field to set tillage depth and level machine.

**IMPORTANT!**

The operator is responsible for adjusting machine since machine does not come “Field Ready” from factory.

3. Determine desired tillage depth by working test strips within the field.

**NOTE:** Optimum performance of machine is achieved by tilling at a depth and moving at a speed that does not go beyond limit of trip assemblies. This limit is exceeded if connecting bolt (shown in the following drawing) continually rides above trip assembly cap.
3. (Continued) – Trip Assembly Limit

**NOTE:** Increased draft will occur if connecting bolt continually rides above trip assembly cap. This will consume horsepower as well as reduce life of trip assembly components.

4. After determining desired tillage depth, set depth control plunger accordingly. Standard plunger hole spacing gives 5/16” cylinder stroke adjustment. By rotating plunger 90 degrees, a half step adjustment is achieved.
5. **Leveling coulter-chisel from side to side.** Stop tractor with machine in the ground. Check depth of tillage on the left wing, center, and right wing. If leveling is necessary, use wrenches provided to adjust eyebolts on cylinder attachments located at rear of machine.

*NOTE:* Insure that cylinder attach holes are aligned when eyebolts are tightened.

**IMPORTANT!**

Pressure must be removed from cylinders before adjusting eyebolts. Rest machine on top of the ground, shut tractor off and relieve pressure.

One turn of 1-1/2" NC Cylinder Attach Eyebolt Nut changes tillage depth 3/8". One inch of cylinder stroke moves depth over 2 inches. Therefore, it may only be necessary to move eyebolts a small amount to attain correct adjustment of each section.
6. Leveling machine from front to back. 16’ through 28’: Adjust hitch height to level machine at working depth. 32’-40’: With machine still in the ground, check depth of tillage in the front and the back. If leveling is necessary, use wrenches provided to adjust eyebolts on front wheel assemblies up or down.

If Coulter gangs are supporting front weight of implement, adjusting the front wheels will not level the machine. In this case, adjust depth of coulter gangs to level machine.

**NOTE:** It is best to check levelness after each adjustment by working test strips within the field.

**IMPORTANT!**
Pressure must be removed from cylinders before adjusting eyebolts. Rest machine on top of the ground. Shut tractor off and relieve pressure.
7. **Setting gauge wheels.** After depth has been established and coulter-chisel has been leveled, operator must set gauge wheels. Stop tractor with coulter-chisel in the ground. Adjust crank assembly until wheel rests on top of the ground. Set bolts are installed on each gauge wheel assembly. Adjust set bolts so gauge wheel depth can still be changed but rotation of assembly is limited. If running at a consistent depth, set bolts can be securely tightened to lock gauge wheels.

**IMPORTANT!**

Gauge wheels are only intended to stabilize the wings. They should not be used to support entire weight of wings. Tough soil conditions may create “suction” on the front. As long as the machine is not operated beyond trip assembly limit (see page 3-7), gauge wheels are being used properly. Failure to follow these guidelines may result in machine damage.

A depth decal is attached to the axle holder to help operator in setting gauge wheels.
8. Operation “Tips”

– Floating hitch machines are designed to follow ground contours. This machine has a short wheel base in field position that allows it to smoothly follow through ditches and gullies. This machine will also follow deep furrows in the field. The operator may want to till through deep furrows at an angle to maintain a more uniform tillage depth.

– Remember to rephase cylinders every hour. If the machine is raised and lowered only a small amount during operation, cylinders will not remain in phase. Since each section is supported by individual cylinders, it is important to keep these cylinders in phase in order to maintain uniform tillage depth (See Page 3-6).

**NOTE:** Sweeps that are 14” and less can be used without trimming. Wider sweeps may need to be trimmed by tires and/or walking tandems.

**TRANSPORTING**

1. Park on level surface with depth control cylinders fully raised.

2. Raise wings with caution. Operate tractor hydraulics from operator station only.

3. Install transport lock pins on wings and cylinder locks on depth control cylinders.
4. Use a safety chain between tractor drawbar and coulter-chisel hitch when transporting.

5. Only tow at a safe speed – 20 MPH MAXIMUM. Use caution when making corners or meeting traffic.

6. Follow all local laws governing transporting of farm machinery.

7. Be aware of and comply with all height and width transport requirements. (See specifications page 5-2).

8. Stay clear of overhead lines.

9. Frequently check for traffic from rear, especially during turns.

UNHOOKING FROM TRACTOR

1. Lower machine and relieve hydraulic pressure from cylinders before disconnecting from tractor.

2. Disconnect hydraulics and Safety Light Kit wiring harness.

3. Rotate jack into standing position and extend jack.

4. Block tires to prevent movement of machine after unhooking.

5. Remove draw pin and safety chain.
MAINTENANCE SAFETY

1. STOP engine, place all controls in neutral, set parking brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting or maintaining.

2. BE CAREFUL when working around high pressure hydraulic system.

3. ALWAYS make sure that pressure is relieved from hydraulic circuits before servicing or disconnecting from tractor.

4. USE EXTREME CARE when making adjustments.

5. KEEP CHILDREN AWAY from machinery at all times.

6. NEVER ALLOW anyone to walk or work under a raised piece of equipment without installing cylinder and transport locks.

MAINTENANCE FOR AFTER THE FIRST DAY AND WEEK OF OPERATION

1. Grease lift arms, walking tandem assemblies, casters and hitch pivot.

2. Check all hydraulic components for leaks daily.

3. Check tightness of all wheel bolts daily.

4. Check tightness of wheel bearings (See Page 6-32).

5. Check tightness of the following bolts on the trip assemblies.

6. Check tightness of all hardware. Pay special attention to the hitch bolts and all pivot retaining bolts.
SECTION 4 – MAINTENANCE

DAILY MAINTENANCE

1. Grease lift arms, walking tandem assemblies, casters and hitch pivot.
2. Check all hydraulic components for leaks.
3. Check tightness of all wheel bolts.

PERIODIC MAINTENANCE

1. Tillage Hub Bearings: Every 50 hours add four strokes of grease to hub bearing. USE ONLY NLGI #2 grease.
2. Repack wheel bearings and check tightness (See Page 6-32).
3. Check tire air pressure (See specification page 5-2).
4. Check tightness of trip assembly hardware as explained under “Maintenance for after the first day and week of operation” (Page 4-1).
5. Check tightness of all hardware. Pay special attention to the hitch bolts and all pivot retaining bolts.
6. Check machine for damaged or worn parts. Replace as needed.

STORAGE

1. Clean and remove all excessive dirt and grease from coulter-chisel.
2. Grease all zerks.
3. To prevent rusting, repaint any areas that have been worn, chipped or scratched.
4. Retract cylinders when possible. Apply grease* to any exposed part of cylinder shafts.

*NOTE: Before returning machine into service, all grease must be removed from cylinder shafts to prevent damage to seals.
## SECTION 5 – TROUBLESHOOTING

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>CAUSE</th>
<th>CORRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B. Eyebolts not adjusted properly.</td>
<td>Adjust with wrenches provided. See Pages 3-8 and 3-9.</td>
</tr>
<tr>
<td></td>
<td>C. Gauge wheels not adjusted properly. (32’-40’)</td>
<td>Adjust gauge wheels so they ride freely on top of the ground.</td>
</tr>
<tr>
<td></td>
<td>D. Hard Soils conditions.</td>
<td>Use different tillage tool or perform multiple passes, starting at less depth.</td>
</tr>
<tr>
<td>2. Not pulling straight.</td>
<td>A. Not tilling level.</td>
<td>See “Not tilling level” above.</td>
</tr>
<tr>
<td></td>
<td>B. Hard soil conditions.</td>
<td>Use different tillage tool or perform multiple passes, starting at less depth.</td>
</tr>
<tr>
<td></td>
<td>C. Deep furrows.</td>
<td>Travel across field furrows at an angle.</td>
</tr>
<tr>
<td>4. Plugging.</td>
<td>A. Working in extremely heavy trash.</td>
<td>If equipped with mounted harrows, reduce aggressiveness of harrows or lock harrows in the up position.</td>
</tr>
<tr>
<td></td>
<td>B. Tillage tool (spike, sweep, etc.) causing plugging.</td>
<td>Change type of tool. Make sure twisted spikes are not throwing soil towards wheels.</td>
</tr>
<tr>
<td>5. Poor penetration.</td>
<td>A. Machine not running level front to back.</td>
<td>Adjust eyebolts on front center wheel assembly.</td>
</tr>
<tr>
<td></td>
<td>B. Gauge wheels adjusted improperly.</td>
<td>Adjust gauge wheels so they ride freely on top of the ground.</td>
</tr>
<tr>
<td></td>
<td>C. Hard soil conditions.</td>
<td>Use different tillage tool.</td>
</tr>
<tr>
<td>6. Depth control cylinders not working properly.</td>
<td>A. Depth control cylinders out of phase.</td>
<td>Rephase cylinders by fully extending and holding tractor remote lever for 30 seconds.</td>
</tr>
<tr>
<td></td>
<td>B. Hydraulic hoses not connected properly or faulty hyd. coupler.</td>
<td>Reconnect hydraulic hoses or replace hydraulic coupler.</td>
</tr>
<tr>
<td></td>
<td>C. Tractor hydraulics not set properly.</td>
<td>Adjust tractor hydraulic flow rate to maximum on Depth Control Circuit.</td>
</tr>
<tr>
<td>7. Wing lift cylinders move too fast. (24’-40’’)</td>
<td>A. One way restrictor(s) not installed properly.</td>
<td>Check restrictor(s) (PN 8J7116). Arrow must point towards cylinder.</td>
</tr>
<tr>
<td></td>
<td>B. Tractor hydraulics not set properly.</td>
<td>Reduce flow rate to Wing Lift Cylinder Circuit.</td>
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SECTION 5 – TROUBLESHOOTING

WIDTH, HEIGHT, WEIGHT, LENGTH

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<tr>
<th>SIZE</th>
<th>APPROX. TRANSPORT WIDTH</th>
<th>APPROX TRANSPORT HEIGHT</th>
<th>STANDARD WEIGHT</th>
<th>LENGTH W/4 BAR 106</th>
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<tr>
<td>16’</td>
<td>18'9”</td>
<td>8'6”</td>
<td>12,200</td>
<td>39’</td>
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<tr>
<td>20’</td>
<td>20'6”</td>
<td>8'6”</td>
<td>13,840</td>
<td>39’</td>
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<td>24’</td>
<td>17'6”</td>
<td>11'6”</td>
<td>20,070</td>
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<td>26’</td>
<td>17'6”</td>
<td>12’</td>
<td>20,660</td>
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<td>28’</td>
<td>17'6”</td>
<td>13’3”</td>
<td>21,380</td>
<td>39’</td>
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<td>32’</td>
<td>19'6”</td>
<td>12’8”</td>
<td>20,520</td>
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<td>36’</td>
<td>19'6”</td>
<td>14’6”</td>
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<td>40’</td>
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<tr>
<td>40’</td>
<td>19'6”</td>
<td>16’3”</td>
<td>26,100</td>
<td>40’</td>
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TIRE SPECIFICATIONS

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<tr>
<th>LOCATION</th>
<th>TIRE SIZE</th>
<th>PLY RATING</th>
<th>INFLATION PRESSURE (PSI)</th>
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<tr>
<td>CENTER/WINGS</td>
<td>11L x 15</td>
<td>LRF</td>
<td>85*</td>
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<tr>
<td>CENTER/WINGS</td>
<td>12.5L x 15</td>
<td>LRF</td>
<td>90*</td>
</tr>
</tbody>
</table>

* To increase penetration depth, inflation pressure can be reduced by up to 33% on rear tires and 25% on front center tires.
BRING YOUR OWNER REGISTER INFORMATION LOCATED AT THE BEGINNING OF THIS MANUAL WHEN ORDERING PARTS (SERIAL NUMBER IS LOCATED BY THE HITCH PIECE).
SECTION 6 – PARTS (16’ & 20’)

16’ & 20’ CENTER

8T4030 - 16' REAR
8CC4028 - 20' REAR (SHOWN)

8X0112
3/4" X 2" X 1/4" N

8X0260
3/4" N

8X0306
3/4" LW

8K515
3/4" X 4" X 6"

8CC5016

8CC5018

6-2
SECTION 6 – PARTS (16’ & 20’)

[Diagram of parts list with corresponding numbers and measurements]
16' & 20' MACHINES

- 8T1060
- 8T1055
- 3/4" ORB X #10 STR
- 8J5520
- 3/4" ORB X #10 STR
- 8N6570
- 3/4" X 570"
- 8N4546
- 1/2" X 546"
- 8J5520
- 3/4" ORB X #10 STR
- 8D3212
- 3/4" ORB TIP ISO
- 8N4228
- 1/2" X 228"
- 8T1060 TOP VIEW
- TO 8T1055
- TO TRACTOR
- 8T1010
- POPPET
- 8T1008
- PLASTIC PLUNGER REPAIR KIT
- 8J5520
- 3/4" ORB X #10 STR
- 8D3212
- 3/4" ORB TIP ISO

SECTION 6 – PARTS (16' & 20')
SECTION 6 – PARTS (24’-28’)

[Diagram of a structure showing parts and dimensions, with callouts for parts like 8X0112, 3/4"X2-1/4", 8X0260, 3/4" N, 8X0306, 3/4" LW, 8CC5070, 8CC5062, 8K5515, 3/4 X 4 X 6", 8CC5230, 8X0306, 3/4" LW, 8X0260, 3/4" N, 8CC5060].
SECTION 6 – PARTS (24’-28’)
SECTION 6 – PARTS (24’-28’)

6-11
SECTION 6 – PARTS (24'-28')
24' - 28' MACHINES

8J6020
3/4"-16ORB X 10 JIC(M) 90° ADP

8J6010
3/4-16ORB X #6 JIC(M) 90° ADP

8J5510
3/4" ORB X #6 JIC(M)

8J5520
3/4" ORB X #10 STR

8J5520
3/4" ORB X #10 STR

8D3212
3/4" ORB TIP ISO

8N6570
3/4" X 570"

8N3534
3/8" X 534"

8N4228
1/2" X 228"

8N4198
1/2" X 198"

8T1045

8T1050

8T1055

8T1060

8T1060

8T1010

POPPET

8T1008

PLASTIC PLUNGER REPAIR KIT

8T1010

PLASTIC PLUNGER REPAIR KIT

TO TRACTOR

TO 8T1055

8T1008

8N4198

1/2" X 198"

8T1060

SECTION 6 – PARTS (24'-28')

9/12/2012

CC-DC DEPTH CNTRL HYD
SECTION 6 – PARTS (32’-40’)

6-19
Apply anti-seize on jack bolt (8T6000) threads. Screw jack bolt into axle holder (8T4094) far enough to see hole on the bottom of the bolt through the hole in the axle holder.

Insert 3/16” x 2” roll pin. Make sure pin is pushed far enough in so that it will clear tube when rotated.
TRIP ASSEMBLY

AVAILABLE ATTACHMENTS:
8K6938 - SWEEP 14" 50° 1/2"BLT 2.25C-C
8K6940 - SWEEP 16" 50° 1/2"BLT 2.25C-C
8K6942 - SPIKE REVERSIBLE 4.5" WD THX1/4"
8K6947L - SPIKE TWISTED 3" LEFT
8K6947R - SPIKE TWISTED 3" RIGHT

ATTACHMENT HARDWARE:
8X0037A - PLOWBOLT 1/2 X 2.25" (2 PER)
8X0240 - NUT 1/2" (2 PER)
8X0330 - WASHER 17/32"ID (1 PER - BOTTOM ONLY)
NOTE: ASSEMBLY ABOVE IS FOR LEFT SIDE OF DISK-CHISEL. FOR RIGHT SIDE ASSEMBLY:
ROTATE HUB ASSEMBLY 180 DEGREES AND SUBSTITUTE 8CC1507 FOR 8CC1505, AS NOTED.
1. Attach hitch frame to rear of coulter-chisel.
   - Use 3/4 x 2” bolts.
2. Slide rear hitch slide into place.
3. Insert spring load pin.
   - Spring and washer will be held in place by hitch channel and 3/16” cotter pin.
4. Install rear hitch swivel.
   - Use pin and cotter keys provided.
Assembly Notes:

A. Before towing machine, pack wheel bearings and fill 1/2 of hub cavity with high quality bearing grease.

B. Tighten axle nut to 45 ft.-lbs., loosen nut until first slot is aligned with hole in axle, install cotter pin and bend to retain.
INSTALLATION INSTRUCTIONS FOR 8R6922 SEAL ASSEMBLY (3 PIECE-GBGI) FOR H614 HUB:

SEAL SUPPORT (2 - 8R6927)
Press seal support (2) onto spindle 5/8" (+1/32", -0") past inner bearing retaining shoulder.
A. If seal support is not pressed on spindle far enough the seal support will rub on hub.
B. If seal support is pressed too far onto spindle it will cause improper contact between rubber seal (3) and inner seal support (1) resulting in bearing contamination and failure.

NOTE: Apply thin layer of grease to counterface (1) surface at time of seal installation.

SEAL COUNTERFACE (1 - 8R6924)
Press seal counterface into hub until shoulder contacts hub.

V-SEAL (3 - 8R6923 (A-994))
Stretch v-seal over seal support until its back is seated against the back shoulder of seal support and lies smooth all around.
1. 52" mounting arms (PN 8H2314) should be used when attaching Summers mounted harrows.

2. Mounting arm location can be found on the following layout drawings.

   - In certain locations, the mounting arm will be installed directly behind a liftarm pivot. A spacer block has been welded to the chisel plow frame so there is no interference between u-bolts and mounting head.

NOTE: Make sure that if one mounting arm rests against a spacer block, the other mounting arm, on that section, also rests against a spacer block.

3. Adjust harrows according to performance desired.
SECTION 6 – PARTS
### SECTION 7 – PARTS

<table>
<thead>
<tr>
<th>Stock Code</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>8A1155</td>
<td>U-BOLT 3/8 X 6-1/16 X 5” SQ</td>
<td>8CC4028</td>
</tr>
<tr>
<td>8A1156</td>
<td>U-BOLT 3/8 X 4-1/16 X 5” SQ</td>
<td>8CC4070</td>
</tr>
<tr>
<td>8A1157</td>
<td>U-BOLT 3/8 X 4-1/16 X 7” SQ</td>
<td>8CC4071</td>
</tr>
<tr>
<td>8A4044</td>
<td>CABLE CLAMP BLACK NYLON 7/8”</td>
<td>8CC4075</td>
</tr>
<tr>
<td>8A4048</td>
<td>NYLON TIE 1.18 X 11”</td>
<td>8CC4080</td>
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<tr>
<td>8A4050</td>
<td>NYLON TIE .30 X 8-7/8”</td>
<td>8CC4082</td>
</tr>
<tr>
<td>8A4052</td>
<td>NYLON TIE .30 X 15.25”</td>
<td>8CC5016</td>
</tr>
<tr>
<td>8A4054</td>
<td>NYLON TIE .30 X 24” BLK</td>
<td>8CC5018</td>
</tr>
<tr>
<td>8C0270</td>
<td>SPLITSTEELBUSH 1.375X 1”ID- 1”</td>
<td>8CC5049</td>
</tr>
<tr>
<td>8C1720</td>
<td>U-BOLT 1/2 X 2-5/8 X 3-3/4” SQ</td>
<td>8CC5050</td>
</tr>
<tr>
<td>8C1736</td>
<td>U-BOLT 1/2 X 4-1/4 X 5-1/4”RND</td>
<td>8CC5051</td>
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<tr>
<td>8C1751</td>
<td>U-BOLT 3/4 X 3 X 6” SQ</td>
<td>8CC5052</td>
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<tr>
<td>8C1755</td>
<td>U-BOLT 3/4 X 6 X 6” SQ</td>
<td>8CC5060</td>
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<tr>
<td>8C1760</td>
<td>U-BOLT 3/4 X 8 X 6” SQ</td>
<td>8CC5062</td>
</tr>
<tr>
<td>8C1780</td>
<td>U-BOLT 7/8 X 8 X 10” SQ</td>
<td>8CC5070</td>
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<tr>
<td>8C1900</td>
<td>CLAMP 1/2” WIRE ROPE</td>
<td>8CC5200</td>
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<td>8C6010</td>
<td>WASHER 1.03”ID X 3-1/16”ODX1/4</td>
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<td>8C6015</td>
<td>WASHER 1.53”ID X 3-1/16”ODX1/4</td>
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<td>BRACE MNTNG ARM RLNGATCH 09-</td>
<td>8CC6015</td>
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<td>BLADE 3/8X3- 16-3/8” PNTD 06-</td>
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<td>FRAME 3”SQ 4” ROLNCGCHR 06-</td>
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<td>8C9035</td>
<td>FRAME 3”SQ 5” 3” ROLNCGCHR 06-</td>
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<td>FRAME 3”SQ 7” ROLNCGCHPR 07-</td>
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SECTION 7 – PARTS

8K7127 SEAL TRPL LIP EXTRNL HD812 06- 8K8646 SEAL KIT 6 X 8”CTD 2.38” ROD
8K7128 SEAL SLEEVE FOR 3X LIP 812 06- 8K8650 SEAL KIT4X36”CTD(8K9640CYL)90-
8K7130 RACE INNER HD812 LM3720 8K8660 SEAL KIT 5 X 32 & 36” CTD 89-
8K7132 RACE OUTER HD812 LM2720 8K8661 SEAL KIT 5 X 32”W/2.5 SHIFT12-
8K7150 AXLE HD812 X 11.5 (2.5 DIA.) 8K9102 PIN 1 X 4”CYL-FOR1/4”ROLL PIN
8K7150S AXLE HD812X 11.5 (2 DIA.RCVR) 8K9106 PIN 1-1/4 X 4-3/8” HRDND 1/4HL
8K7340 HUB HD817 W/CUPS&ZRK 8BLT3LIP 8K9108 PIN 1-1/4 X 5-1/8” HRDND 3/8HL
8K7341 HUB CAP HD817 DC26 8K9174 STROKE CNTRL 1/2” 2” ROD 96-
8K7342 BEARING INNER HD817 LM387AS 8K9176 STROKE CNTRL 3/4” 2” ROD 96-
8K7343 BEARING OUTER HD817 LM501349 8K9178 STROKE CNTRL 1” 2” ROD 96-
8K7344 SEAL 3” ID HD817 SE42 8K9180 STROKE CNTRL 1-1/4” 2” ROD 96-
8K7346 RACE INNER HD817 382A 8K9200 TRNS LCK FRMD 7.5”(2-3/8RD)10-
8K7347 RACE OUTER HD817 LM501310 8K9220 ANGLE 6X6X1/2- 6.25”WGHTPKG99-
8K7349 AXLE HD817X15.25 (2.5DIA.RCVR) 8K9230 SUITCASE WGHT PNTD 1.25”- 67#
8K7405 WHEEL 19.5X8.25”8BOLT -1”OFFST 8K9375 HYD CYL 3.75 X 8” 1.37” ROD RAM
8K8000 STL 7K2045 3/8X3.5 PNTDLGHT09- 8K9400 HYD CYL 4 X 8” 1.37” ROD RAM
8K8005 TUBE LGHT BRKT SHRRT 1.5SQ PNTD 8K9425 HYD CYL 4.25 X 8” 1.37” ROD RAM
8K8010 TUBE LGHT BRCKT 1.5SQ PNTD 00- 8K9450 HYD CYL 4.5 X 8” 1.5” ROD RAM
8K8015 TUBE LGHTBRKT 1.5SQ STR PTD11- 8K9475 HYD CYL 4.75 X 8” 1.5” ROD RAM
8K8020 STL 12GA MNTNG BRCKT LIGHT 00- 8K9500 HYD CYL 5 X 8” 1.5” ROD RAM
8K8030 MODULG AEHNCDS LGHT4PIN07-09 8K9640 HYD CYL 4 X 36”W/3” STOP TUBE
8K8030A MODULG AEHNCDSW/BRAKE6PIN08- 8K9650 HYD CYL 5 X 36”W/3” STOP TUBE
8K8060B EXT HRNSS 12”6PIN DEUTSCH09- 8L0251 WASHER 3/4”ID X 3-1/16”ODX 1/4
8K8067 DUST CAP FOR 7PIN CONNECT00- 8L0252 WASHER 1.28”IDX4.5ODX 1/4” YZ
8K8070B MAIN HRNSS 7PNLNG W/BRAKE 09- 8L0258 U-BOLT 5/16 X 1-1/2 X 2-1/2”SQ
8K8074 2ND IMP JUMP HARNESS 09- 8L0260 U-BOLT 3/8 X 1-3/4 X 3” SQ
8K8075A EXT HRNSS NONDRAWBR DTSCH 07- 8L0262 U-BOLT 5/16 X 1 X 2” SQ
8K8080A EXT HRNSS DRAWBRD DTSCH 07- 8L0266 U-BOLT 1/2 X 3-1/2 X 5” SQ
8K8088 LENS ONLY AMBER GROTE LGHT 00- 8L0268 U-BOLT 5/16 X 1 X 4” SQ
8K8090 LIGHT AMBER 2WIRETHRPCK 00- 8L0722 U-BOLT 5/16 X 3 X 7” SQ
8K8090A LIGHT AMBER 2WIRE DEUTSCH 07- 8N3018 3/8X 18”HYD HOSE #6FX3000PSI
8K8090B LIGHT LED AMBER 2W DTSCH 12- 8N3028 3/8X 28”HYD HOSE #6FX3000PSI
8K8092 LENS ONLY RED GROTE LGHT 00- 8N3035 3/8X 35”HYD HOSE #6FX3000PSI
8K8095 LIGHT RED 3 WIRE WEATHRPCK 05- 8N3048 3/8X 48”HYD HOSE #6FX3000PSI
8K8095A LIGHT RED 3WIRE DEUTSCH 07- 8N3060 3/8X 60”HYD HOSE #6FX3000PSI
8K8095B LIGHT LED RED 3WR DTSCH 12- 8N3070 3/8X 70”HYD HOSE #6FX3000PSI
8K8105A EXT HRNSS T 26”2WIRE DTSCH 07- 8N3084 3/8X 84”HYD HOSE #6FX3000PSI
8K8200 BRCKT SMV ATTCH 4-8”FRAME98- 8N3096 3/8X 96”HYD HOSE #6FX3000PSI
8K8210 BRCKT W/SCKT SMV ATKCH4-8”98- 8N3108 3/8X 108”HYD HOSE #6FX3000PSI
8K8220 BRCKT LGHT.25X1.75-18.4” 04- 8N3124 3/8X 124”HYD HOSE #6FX3000PSI
8K8430 HYD CYL 3 X 8” RPHS 1.5 ROD 8N3136 3/8X 136”HYD HOSE #6FX3000PSI
8K8435 HYD CYL 3.5 X 8” RPHS 1.75” ROD 8N3150 3/8X 150”HYD HOSE #6FX3000PSI
8K8440C HYD CYL 4 X 8” RPHS 2” ROD 8N3156 3/8X 156”HYD HOSE #6FX3000PSI
8K8445C HYD CYL 4.5 X 8” RPHS 2” ROD 8N3160 3/8X 160”HYD HOSE #6FX3000PSI
8K8452C HYD CYL 5 X 8” RPHS 2.12” RD 8N3180 3/8X 180”HYD HOSE #6FX3000PSI
8K8455 HYD CYL 5.5 X 8” RPHS 2.25”RD 8N3204 3/8X 204”HYD HOSE #6FX3000PSI
8K8460 HYD CYL 6 X 8” RPHS 2.38”RD 8N3216 3/8X 216”HYD HOSE #6FX3000PSI
8K8520 SEAL KIT 4 X8”&10”PRINCE 93-04 8N3228 3/8X 228”HYD HOSE #6FX3000PSI
8K8530 SEAL KIT4.5X8”&10”PRINCE 93-04 8N3252 3/8X 252”HYD HOSE #6FX3000PSI
8K8540 SEAL KIT 5 X8”&10”PRINCE 93-03 8N3276 3/8X 276”HYD HOSE #6FX3000PSI
8K8600 SEAL KIT 3 X 8” CTD 89- 8N3288 3/8X 288”HYD HOSE #6FX3000PSI
8K8610 SEAL KIT3.5X8”CTD1.75”R0D 90- 8N3312 3/8X 312”HYD HOSE #6FX3000PSI
8K8620 SEAL KIT 4 X 4 & 8” CTD 89- 8N3330 3/8X 330”HYD HOSE #6FX3000PSI
8K8630 SEAL KIT 4.5 X 8” CTD 89- 8N3348 3/8X 348”HYD HOSE #6FX3000PSI
8K8642 SEAL KIT 5 X 8” CTD 2&12.5” ROD 8N3360 3/8X 360”HYD HOSE #6FX3000PSI
8K8644 SEAL KIT 5.5 X 8” CTD 2.25” ROD 8N3390 3/8X 390”HYD HOSE #6FX3000PSI
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SECTION 7 - PARTS

8T4010 CNTR FRNT SPLIT24'-28'CHSL 10- 8T7500 TRIP ASSY-LESS SHANK 700# 96-
8T4060 WING EXT 1 SHNK CHSL 96- 8T7500H TRIP ASSY-LESS SHNK 1050# 03-
8T4070 WING EXT 2 SHNK CHSL 96- 8T8100 VALVE SEQUENCE WING FOLD 99-
8T4072 WING EXT 2SHNK FOR GWHL 99- 8W1200 U-BOLT 1/2 X 2 X 3-1/4" SQ
8T4074 WING EXT 3SHNK LEFT CH 99- 8W1204 U-BOLT 1/2 X 3 X 3" SQ
8T4076 WING EXT 3SHNK RGHT CH 99- 8W1357 HEX HEAD PLUG 9/16"-18 ORB
8T4080 WING EXT 4SHNK LEFT CH 96- 8W1360 MANIFOLD BLOCK ALUMINUM 10PORT
8T4082 WING EXT 4SHNK RGHT CH 96- 8W1380 HOLDDOWN HOSE 4"&6" WDH 81-
8T4090 SUPPORT GAUGE WHEEL(5"SQ) 97- 8W1390 HOLDDOWN HOSE 2" WDH 91-
8T4094 HOLDER GAUGE WHL AXL(4"SQ) 97- 8W1398 HOLDDOWN HOSE 8" WDH 91-
8T4096 GAUGE WHEEL ASSY W/O HUB 04- 8W1588 3/4"-16ORB PORT RESTRICTOR.032"
8T4100 CAST PIVOT W/BLTPLATE PTD 96- 8W1589 3/4"-16ORB PORT 1WAYRESTRI1/16"
8T4130 LIFTARM FRONT CNTR CHSL 98- 8W1895 NYLATRON 1"ODX .76"ID- 1-1/2"
8T4132 WLKNG TNDM 7.5"C-C 2" ID 98- 8W1897 NYLATRON 1"ODX .76"ID- 1-3/4"
8T4140 LIFTARM REAR WLKNG TNDM CH 96- 8X0000 BOLT 1/4-20X3/4" FLTHD GR5 YZ
8T4166 WALKING TNDM LHCTR/RHWING 99- 8X0000B BOLT 1/4-20NC X 1" GR5 YZ
8T4168 WALKING TNDM RHCTR/LHWING 99- 8X0001 BOLT 3/8-16NC X 3/4" GR5 YZ
8T4174 FLAT 3/8 X 1-1/2- 6-7/8" 99- 8X0002 BOLT 3/8-16NC X 1" GR5 YZ
8T4175 REAR SPRNG BRCKT 24-30'&50-60' 8X0003 BOLT 1/4-20NCX4.5" GR5 YZ96-08
8T4176 SUPPORT-WHL SPRG LARM LEFT99- 8X0004 BOLT 3/8-16NC X 1-1/4" GR5 YZ
8T4177 SUPPORT-WHL SPRG LARM RGHT99- 8X0005 BOLT 1/4-20NC X 3-3/4" GR5 YZ
8T4178 FRONT-SPRG 1-BLT ATTCH LEFT99- 8X0006 BOLT 3/8-16NC X 2-1/2" GR5 YZ
8T4179 FRONT-SPRG 1-BLT ATTCH RGHT99- 8X0007 BOLT 3/8-16NC X 1-1/2" GR5 YZ
8T4190 MUD DFLLCTR W/ 7T0125 BNT LEFT 8X0008 BOLT 3/8-16NC X 2" GR5 YZ
8T4192 MUD DFLLCTR W/ 7T0125 BNT RGHT 8X0009 BOLT 1/4-20NC X 2" GR5 YZ
8T4198 BRACE FRNCTCNTR CYL ATTCH 02-10 8X0010 BOLT 1/4-20NC X 1-1/4" GR5 YZ
8T4205 CYL ATTCH FRNT CNTR CHSL 10- 8X0011 SCREW RDHD SLOT1/4-20X1.5" YZ
8T4224 CYL ATTCH "A" REAR CHSL 99- 8X0013 BOLT 1/4-20NC X 2-1/2" GR5 YZ
8T4226 CYL ATTCH OFFST REAR 5PLX 99- 8X0014 BOLT 1/4-20NC X 3" GR5 YZ
8T4260 REST PART 2 WING 5-PLX 99- 8X0015 BOLT 3/8-16NC X 3-3/4" GR5 YZ
8T4300 LOCK TRNSPRT 32-44" WING 97- 8X0016 BOLT 3/8-16NC X 3" GR5 YZ
8T4315 REST TRNSPRT 32-44" WING 08- 8X0017 BOLT 3/8-16NC X 5" GR5 YZ
8T4325 LOCK TRNSPRT50-60'CP&SCLTR 99- 8X0019 BOLT 3/8-16NC X 4-1/2" GR5 YZ
8T4350 TRNS LCK W/UHMW10.5"(2.4RD)96- 8X0020 BOLT 3/8-16X3.5"FULLTHDGR5 YZ
8T4380 HOLDER CYL LOCK 4"&6" MNT 96- 8X0021 BOLT 5/16-18NC X 3/4" GR5 YZ
8T4385 HOLDER MANUAL-PAK 3/4/6MNT09- 8X0021A BOLT 5/16-18NC X 1" GR5 YZ
8T4390 HOLDER STROKE CNTRL 4"&6"MNT08- 8X0021B BOLT 5/16-18NC X 1-1/4"GR5 YZ
8T4400 SUPPORT CABLE LIMIT/HITCH 99- 8X0022 SCKT CAP 5/16-18 X 1" GR5 YZ
8T4410 SUPPORT CABLE LIMIT/FRM 99- 8X0023 BOLT 5/16-18NC X 2" GR5 YZ
8T4510 FRAME REAR HITCH 98- 8X0030 BOLT 5/16-18NC X 5" GR5 YZ
8T4520 PIN 1 X 9-11/16"REAR HITCH 98- 8X0031 BOLT 7/16-14NC X 1" GR5 YZ
8T4530 PIN 1 X 8-1/2"RRHTCHSPRNG98- 8X0032 BOLT 7/16X1.25 5/8"THD GR5 YZ
8T4540 SWIVEL REAR HITCH 98- 8X0034 BOLT 7/16-14NC X 1.75" GR5 YZ
8T4550 SLIDE REAR HITCH 98- 8X0036 BOLT 7/16-14NC X 2" GR5 YZ
8T4570 EXTENSION CHSL REAR HITCH 06- 8X0037 BOLT 7/16-14NC X 2" GR5 YZ
8T5000 HOLDER SPRNG-TRIP ASSY CAST96- 8X0037A PLOWBOLT 1/2-13NCX2.25" GR5 YZ
8T5020 PIPE 1X5-9/16" SPRG STP CP 96- 8X0038 BOLT 7/16-14NC X 2-1/2"GR5 YZ
8T5050 HOLDER SHANK TRIP W/BSHNGS 96- 8X0041 BOLT 7/16-14NC X 3" GR5 YZ
8T5150 BRCKT CHSL TRIP ASSY MNTNG 96- 8X0044 BOLT 7/16-14NC X 3-1/2"GR5 YZ
8T5200 CAP SWIVEL CAST HRDND CHSL96- 8X0045 BOLT 7/16-14NC X 4-1/2"GR5 YZ
8T5345 SPLITSTEELBUSH 2 X1.5"ID- 1.5" 8X0046 BOLT 7/16-14NC X 7-1/4" GR5 YZ
8T6000 GAUGE WHEEL JACKBLT PLTD 96- 8X0047 BOLT 7/16-14NC X 6" GR5 YZ
8T6010 GAUGE WHEEL SCREW TOP 96- 8X0048 CRG 7/16-14NC X 3-1/2" GR5 YZ
8T6020 GAUGE WHEEL JACK HANDL 96- 8X0061 BOLT 1/2-13NC X 1-1/4" GR5 YZ
8T6810 PLST BUSH 1-5/8X1.25ID-1" 96- 8X0062 BOLT 1/2-13NC X 2" GR5 YZ
### SECTION 7 - PARTS

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### Additional Parts

- LOCKWASHER 1/4” EXT TOOTH SS
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History of Summers Manufacturing Co., Inc.

1965 – Summers Manufacturing is founded by Harley Summers, who purchases patent rights for Goebel truck and pickup hoists from the Goebel Brothers of Lehr, ND. These hoists, produced in Harley Summers’ blacksmith shop the first year, were distributed nationwide by a Cincinnati, Ohio, dealer. With increasing sales, the company soon outgrows the small shop. Summers wins the Herman harrow contract, beginning the company’s Herman culti-harrow line. Summers builds a 7,200 square-foot factory in Maddock to meet the demand for truck and pickup hoists, as well as Herman harrows.

1969 – Firm incorporates and becomes officially known as Summers Manufacturing Company, Inc.

1970 – Summers purchases rights to manufacture/market the Herman Harrow.

1973 – Company builds new 20,000 square-foot plant and offices in Maddock, adding a 20,000 square-foot assembly plant in the fall of 1975 (completed in January 1976), bringing total square footage of Maddock factories to 47,000.

1977 – Summers introduces the Agri-sprayer, used in conjunction with the Herman culti-harrow to incorporate herbicides and liquid fertilizer.

1980 – Company purchases manufacturing and distributing rights to Crown rockpickers from Crown Manufacturers of Regina, Saskatchewan. This forces another expansion project – a 26,000 square foot factory on a 24 acre site in Devils Lake, ND Industrial Park.

1981 – Company establishes a branch facility in Regina, Saskatchewan.

1982 – Devils Lake plant begins operations in January, manufacturing supersprayers and rockpickers. The Maddock factory begins producing the Superweeder, a combination cultivator and harrow.

1983 – Summers buys manufacturing and distributing rights to the Fargo Field Sprayer line from Mid America Steel (formerly Fargo Foundry), Fargo. This field sprayer line is manufactured at the Devils Lake plant. Harley Summers is selected North Dakota’s small-businessman of the year by the Small Business Administration.

1984 – Herman Diamond Disk, a disk harrow made in a diamond shape to reduce blade breakage from rocks, comes off the assembly line.

1985 – Summers signs a contract with Melroe Company of Bismarck to obtain exclusive manufacturing rights to the Melroe harrow line.

1989 – Summers purchases TorMaster Company of Hordean, Manitoba, giving the company a line of rolling packer equipment, comprised of harrow packers and hydraulic fold coil packers.

1990 – Summers purchases TorMaster Company of Hordean, Manitoba, giving the company a line of rolling packer equipment, comprised of harrow packers and hydraulic fold coil packers.

1992 – A new engineering office/parts department is added to the Devils Lake factory.

1993 – Company adds two new products: a pickup-mounted sprayer with booms of 80 and 90 feet, and the Summers Superharrow, an extra-heavy-duty residue-management tool designed for the minimum and no-till farmer.

1994 – a 50 by 125 foot addition to the Maddock factory is completed. Construction begins on a 24,576 square-foot addition to the Devils Lake factory, which enables the company to increase production of truck-mounted and pull-type supersprayers and rockpickers.

1995 – 1500 square foot office area added to the Maddock plant. Company introduces Chisel Plow with floating hitch and 700# trip assembly.

1997 – 16,800 square foot warehouse in Maddock purchased from local business.

1999 - Company introduces the Ultimate suspended boom trailer sprayer with hydraulic folding booms. Additional sizes added to the Chisel Plow line, now ranging from 28’ to 54’.

2000 - Company introduces the Supercoulter, the innovative solution for excessive field residue management on no-till, minimum-till, and conventional-till farming operations.

2001 - Cold storage building completed at Devils Lake. Company extends boom lengths up to 110 feet on the Ultimate Supersprayer.

2002 - Company adds a warehouse and service man in Aberdeen, SD.

2003 - Company introduces the Ultimate NT Supersprayer featuring a bolt on axle for easier adjustment, and a new family of tanks that feature a drainable sump and a common width dimension.

2004 - A 124 ft. x 310 ft. addition is added onto the current Devils Lake plant.

2005 - The Summers Superroller is added to the “Field Tested Tough” product line. Additional sizes of 56’, 58’ and 60’ are added to the Superchisel line. Ultimate-Ultra NT Supersprayer introduced featuring 120’ & 133’ booms.

2006 - The Summers Coulter-Chisel, Rolling Choppers and 30’ Superroller were included in product line.

2007 - 62’ & 84’ 5 Section Landrollers and a 20’ Coulter-Chisel were introduced.

2008 - Disk-Chisels, ranging from 16’ to 40’ widths, are added to product line.


2010 – Rolling Basket and 47’ Diamond Disk added to product line. A 124 ft. x 310 ft. addition to Devils Lake factory built for a state of the art paint system.

2011 – Additional Supercoulter sizes were added along with larger tires for tillage implements. Ultimate and Ultra Supersprayers received an additional tank size of 1650 gallons. Front Caster Wheel option was made available for chisel implements.

2012 – 41’, 46’ & 53’ Trail Type Landroller added to product line. Additional Superchisel sizes of 16’ & 20’ were added.


2014 – Introduced the VRT2530 (Variable Rate Tillage).

2015 – Introduced the VT Flex Applicator and Spray Fill Xpress.

Summers distributes on a wholesale level to dealers and distributors throughout markets in North Dakota, South Dakota, Minnesota, Montana, Iowa, Washington, Idaho, Oregon, Utah, Colorado, Kansas, Nebraska, Oklahoma, Texas, Manitoba, Saskatchewan, Alberta, British Columbia, Kazakhstan, Russia and Australia, making it an international company.