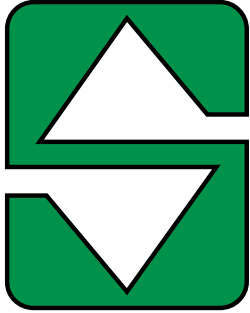


COULTER-CHISEL  
DISK-CHISEL



# SUMMERS®

## Operator's Manual

**CC2815, CC2835, CC2830**  
**DC2815, DC2835, DC2830**  
**(CoulterChisel & DiskChisel)**

**2009 and newer**

COULTER-CHISEL  
DISK-CHISEL

### **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](http://www.summersmfg.com) for the latest version of all Summers Operator's Manuals.*

**SUMMERS MANUFACTURING CO., INC.**  
**WEB SITE: [www.summersmfg.com](http://www.summersmfg.com)**

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

# 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

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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.**

*Scan code below for the latest version of all Summers Operator's Manuals.*

**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

Name _____	Size _____
Address _____	Serial Number _____ <small>(located by the hitch piece)</small>
City _____	
State/Prov. _____	Date Purchased _____
Mail Code _____	Dealer _____

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# TRANSPORT SAFETY

1. Road speed should not exceed 20 mph (32 km/hr).



2. Do not tow if the implement's towing vehicle ratio is greater than 1.5:1. See Specifications Section for implement weights.
3. If more than one implement is to be pulled by a towing vehicle, it is recommended that each implement is to be a maximum of 50% of the weight of the preceding implement. If it is not possible to reach this weight limit, transport the implements separately.
4. When approaching rough roads/ground (such as entering a road), slow down to a safe driving speed.
5. Check all lights and reflectors to ensure ALL regulations are met. Make sure the SMV emblem is attached to the implement and is clearly visible from the rear.



SMV emblems are only attached to vehicles traveling slower than 25 mph (40 km/hr). The most hazardous conditions to drive in are a daybreak and dusk. The use of a pilot car is recommended.

6. Always install ALL safety locks before transporting an implement.
7. Always park implements on a firm, level surface.

## **NOTES**

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## SECTION 1 - SAFETY

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### 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.



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.



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



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**

1. READ AND UNDERSTAND Operator's Manual before using machine. Review at least annually thereafter.
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

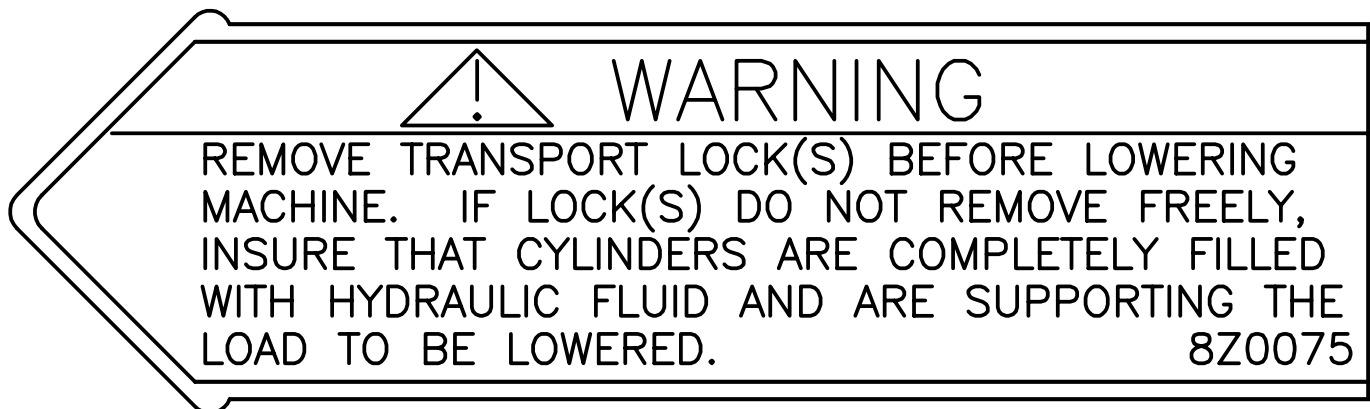
1. ONLY TOW at a safe speed. Use caution when making corners or meeting traffic.
2. USE a safety chain between tractor drawbar and implement hitch when transporting on public roads.
3. ALWAYS use hydraulic cylinder transport locks when transporting on public roads.
4. FOLLOW ALL local laws governing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

### SAFETY DECALS

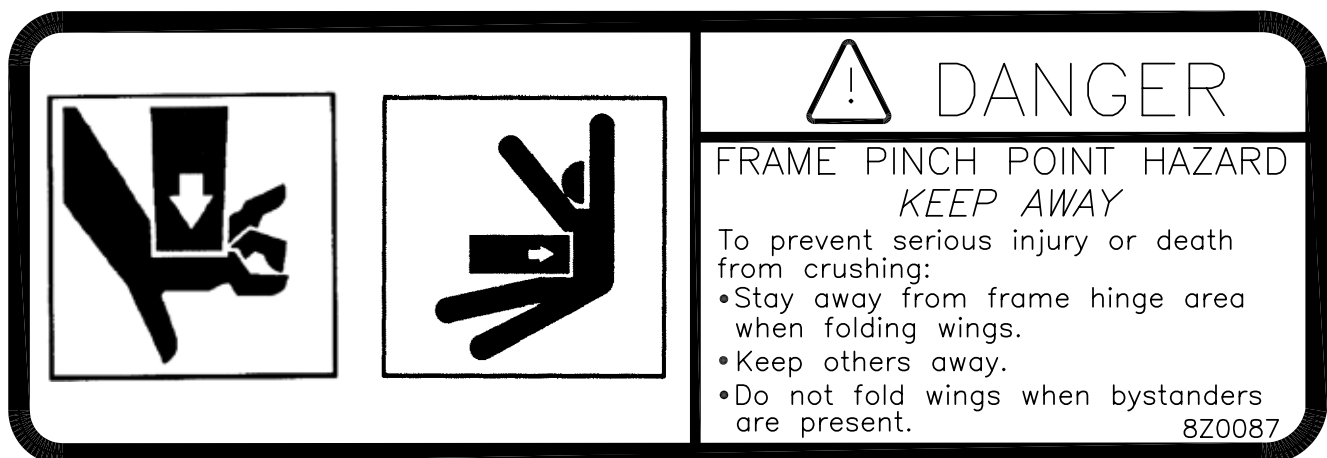
1. KEEP SAFETY DECALS CLEAN.
2. REPLACE missing or unreadable decals. New decals are available from your Summers dealer by ordering correct part number (PN) located on the decal.

### DECALS AND THEIR LOCATIONS

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



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

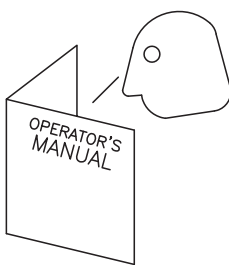



SECTION 1 - SAFETY

3. PN 8Z0202 – DECAL FOR COMPANY IDENTIFICATION



4. PN 8Z0276 – DECAL FOR GENERAL CAUTION

	<p style="text-align: center;"> <b>CAUTION</b></p> <ol style="list-style-type: none"><li>1. Read and understand Operator's Manual before using machine.</li><li>2. For Sprayers:<ol style="list-style-type: none"><li>a. Read and follow chemical manufacturers' WARNINGS, instructions and procedures before using.</li><li>b. Use recommended personal protective equipment to reduce or eliminate chemical contact.</li><li>c. Never run pump dry.</li></ol></li><li>3. Verify all safety devices and shields are in place before using machine.</li><li>4. Keep hands, feet, hair and clothing away from moving parts.</li><li>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.</li><li>6. Be careful when working around high pressure hydraulic system.</li><li>7. Do not allow riders.</li><li>8. Check all wheel bolts DAILY for tightness.</li><li>9. Refer to Operator's Manual for periodic and annual maintenance.</li><li>10. For Towed Implements; DO NOT EXCEED 20 MPH.</li></ol> <p style="text-align: right;">8Z0276</p>
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5. PN 8Z0340 – DECAL FOR REPHASING CYLINDERS

<p style="text-align: center;">IMPORTANT</p> <p>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 .</p> <p style="text-align: right;">8Z0340</p>
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**SECTION 1 - SAFETY**

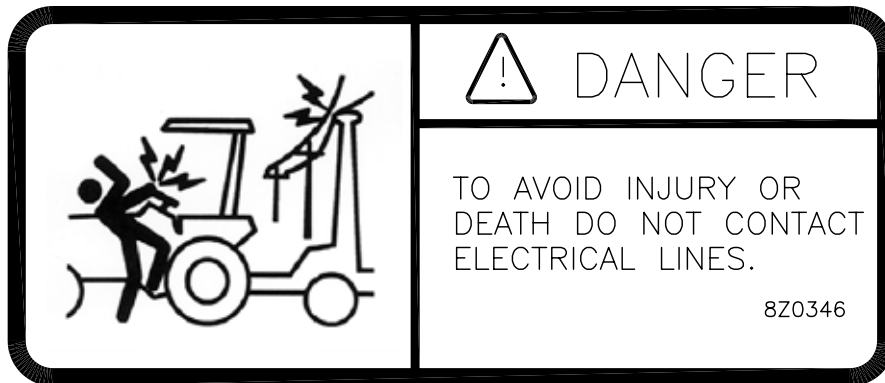
**6. PN 8Z0342 – DECAL FOR INSTALLING CYLINDER LOCKS**



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



**8. PN 8Z0346 – DECAL FOR ELECTROCUTION DANGER**



**9. PN 8Z0348 – DECAL FOR GAUGE WHEEL DEPTH**



**10. PN 8Z0800 – AMBER REFLECTOR**

**11. PN 8Z0805 – RED-ORANGE REFLECTOR**

**12. PN 8Z0810 – RED REFLECTOR**

## SECTION 1 - SAFETY

### 13. PRODUCT ID DECALS

8Z2370 - 16'-20' COULTERCHISEL  
8Z2375 - 24'-28' COULTERCHISEL  
8Z2380 - 32'-40' COULTERCHISEL  
8Z2350 - 16'-20' DISKCHISEL  
8Z2355 - 24'-28' DISKCHISEL  
8Z2360 - 32'-40' DISKCHISEL

# DC2815

### 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:*

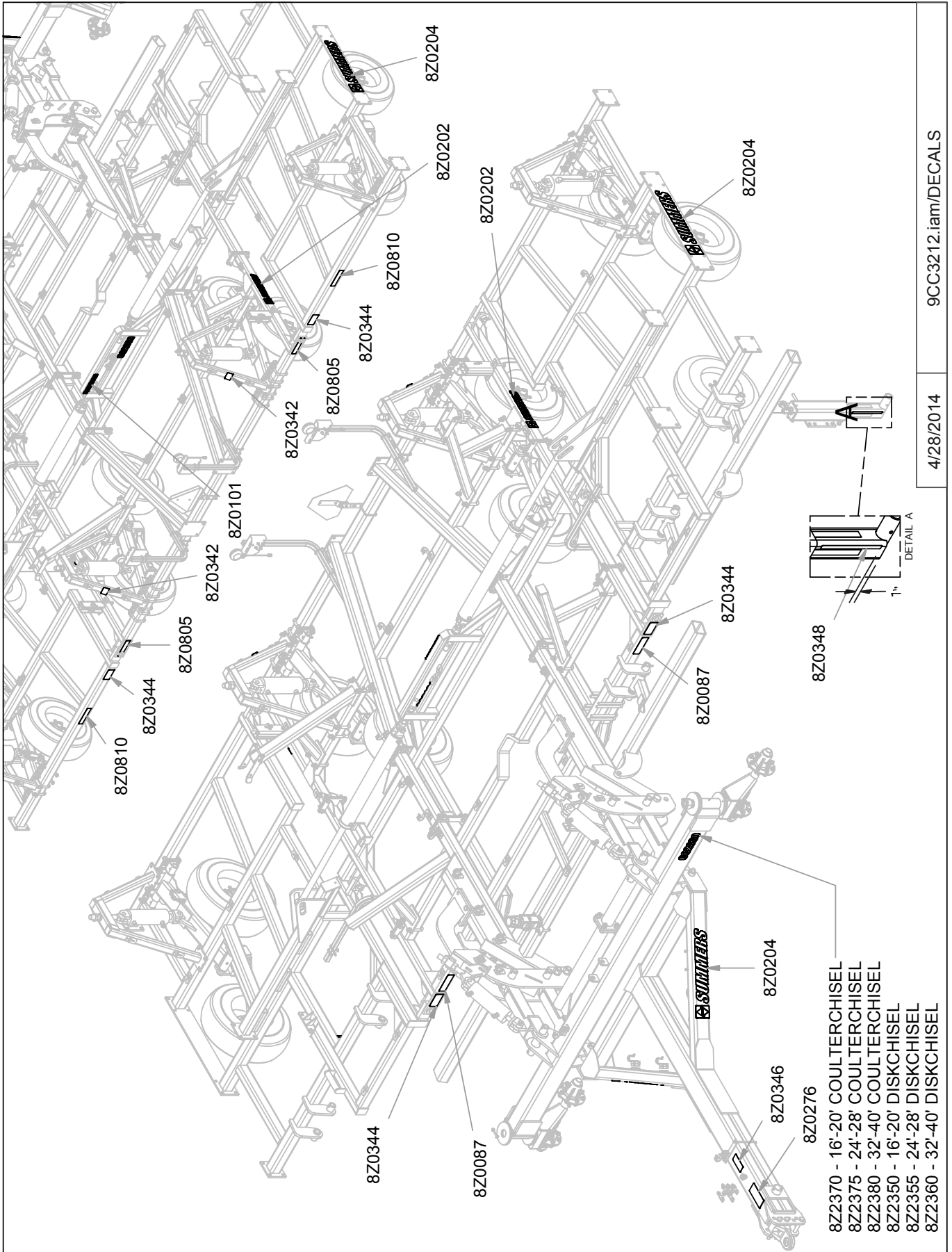
Amber lights will turn on with flashers, turn signals OR when brake is applied.

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.



# SECTION 1 - SAFETY



9CC3212.iam/DECALS

4/28/2014

## SECTION 2 – ASSEMBLY INTRODUCTION

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### **GENERAL ASSEMBLY SAFETY PRACTICES**

1. READ AND UNDERSTAND Operator's Manual before assembly of machine.
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!**

## SECTION 2 – ASSEMBLY INTRODUCTION

---

### GENERAL SAFETY PRACTICES



YOU ARE RESPONSIBLE for the safe assembly of the machine.



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



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



ALWAYS INSPECT LIFTING CHAINS AND SLINGS for damage or wear.



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



BE SURE LIFTING DEVICE IS RATED TO HANDLE THE WEIGHT.



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



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.



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



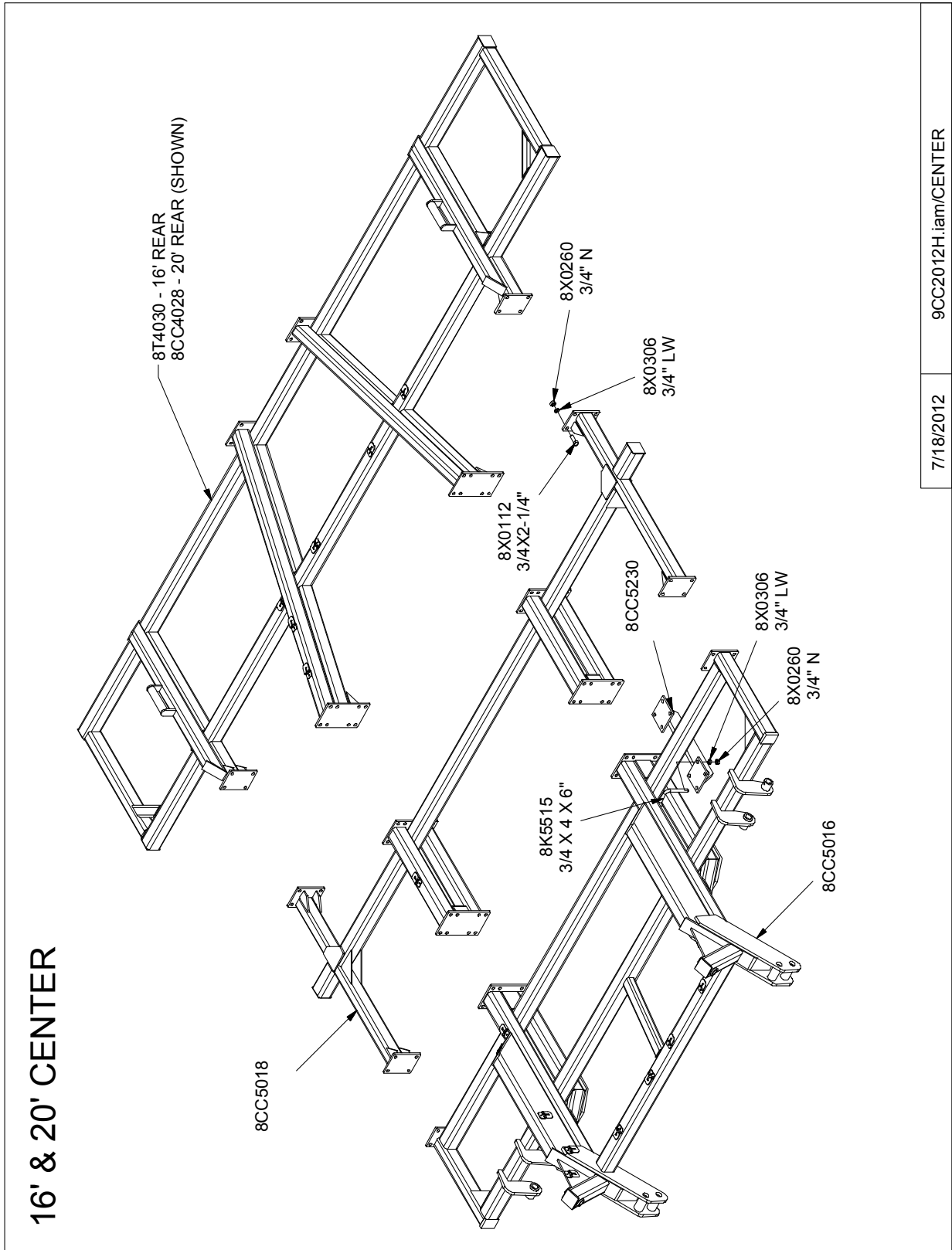
BE SURE PRESSURE IS RELIEVED from hydraulic circuits before servicing or disconnecting from tractor.



USE EXTREME CARE when assembling, servicing and adjusting.

## SECTION 2 – SET-UP OF 16' & 20' 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.





## **SECTION 2 – SET-UP OF 16' & 20' DISK-CHISEL & COULTER-CHISEL MAIN FRAME**

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.

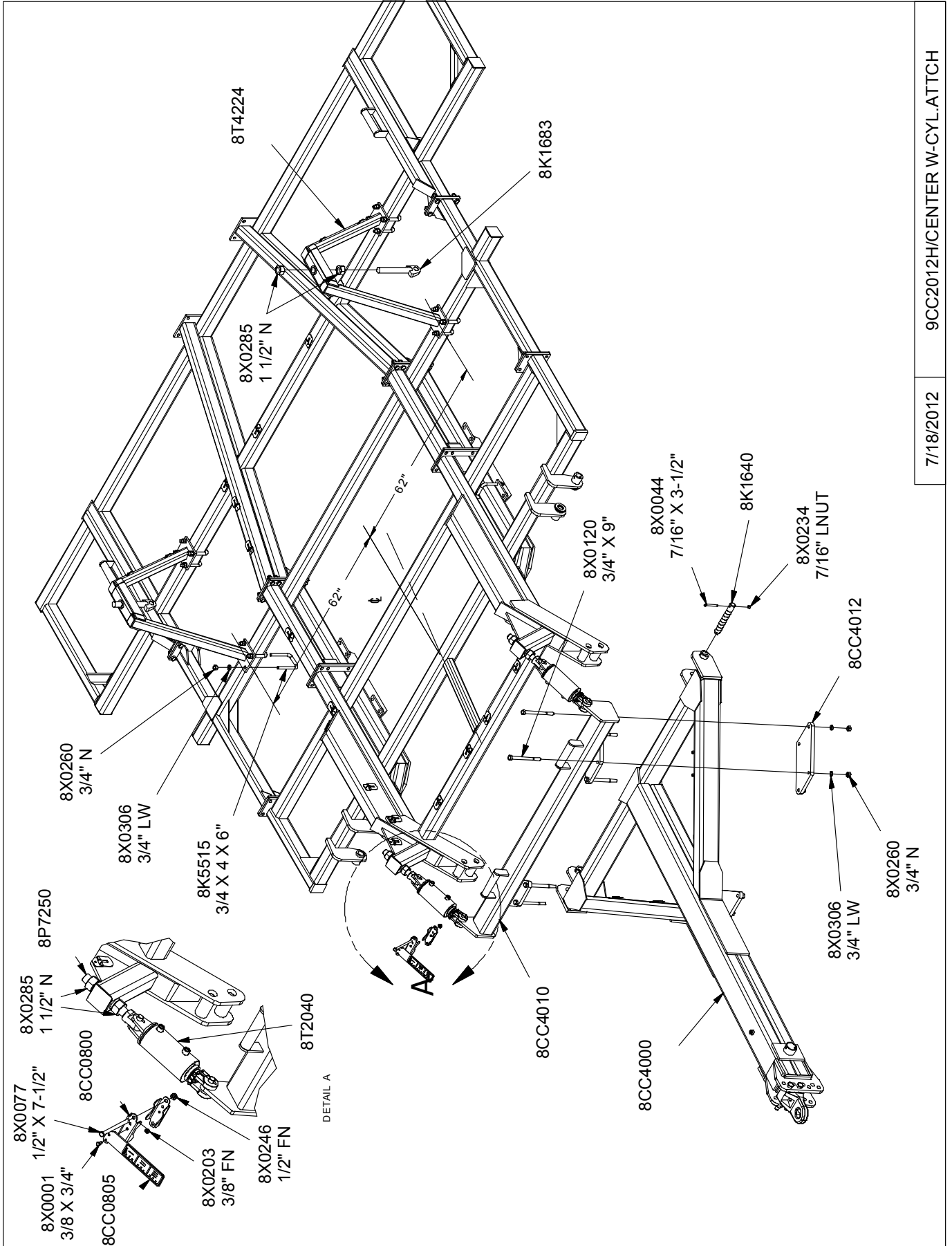
16. Remove blocks from under center frame and allow wheel assemblies to support machine. Block tires to prevent movement.

17. Add depth control cylinder locks and storage bases.

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

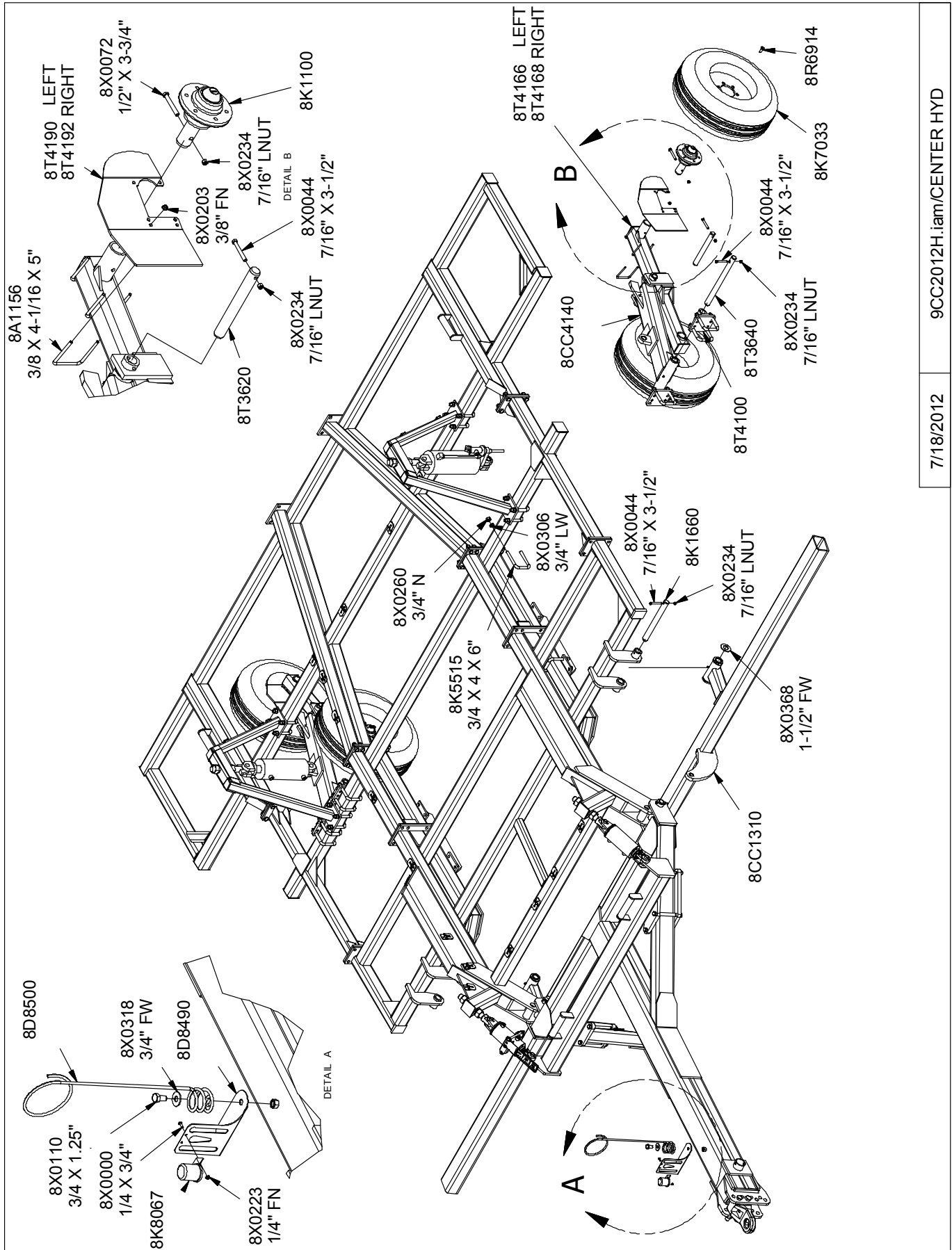
19. Install Disk Mounting Tube as shown on page 2-7.

**SECTION 2 – SET-UP OF 16' & 20' DISK-CHISEL & COULTER-CHISEL MAIN FRAME**



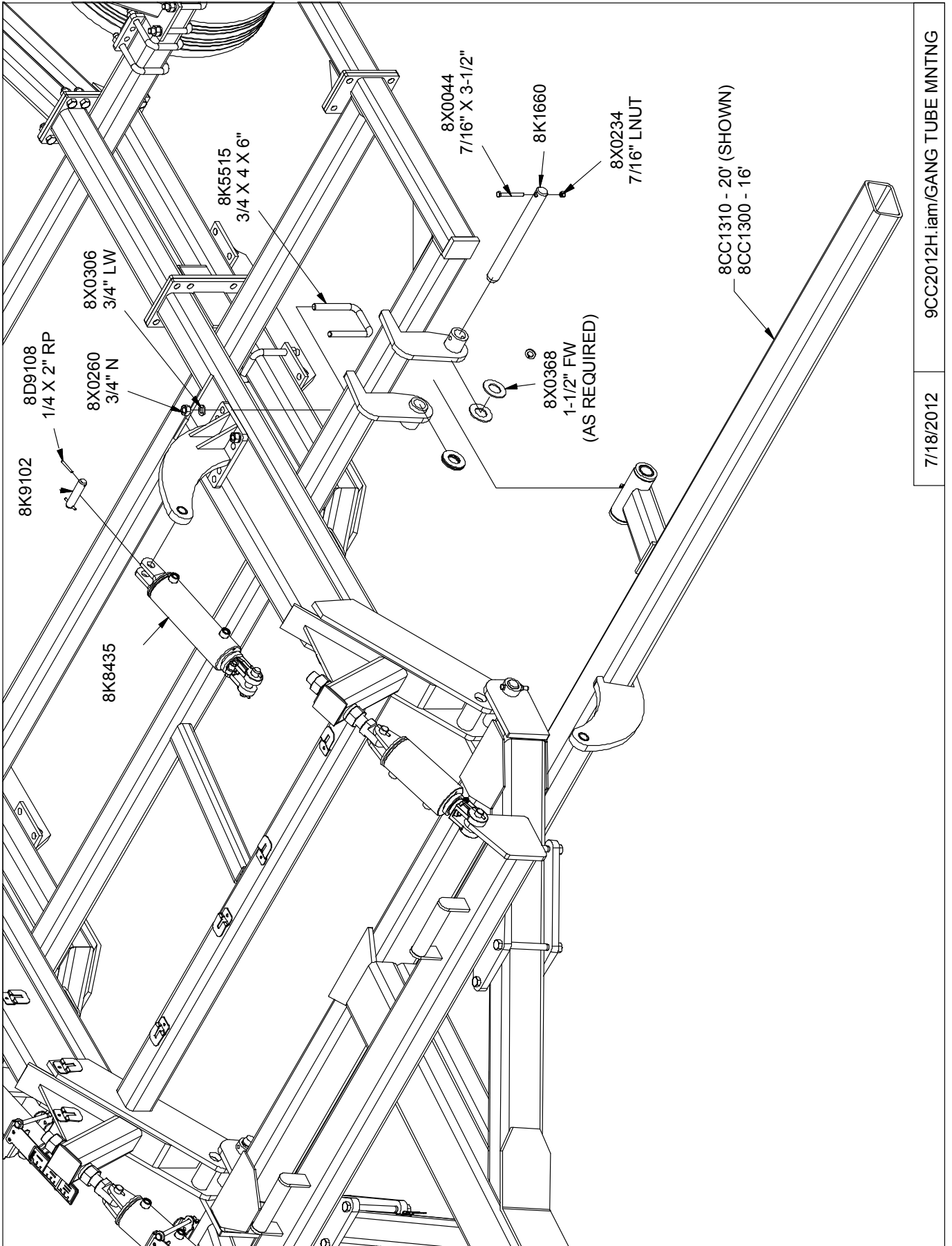
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**SECTION 2 – SET-UP OF 16' & 20' DISK-CHISEL & COULTER-CHISEL MAIN FRAME**



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**SECTION 2 – SET-UP OF 16' & 20' DISK-CHISEL & COULTER-CHISEL MAIN FRAME**

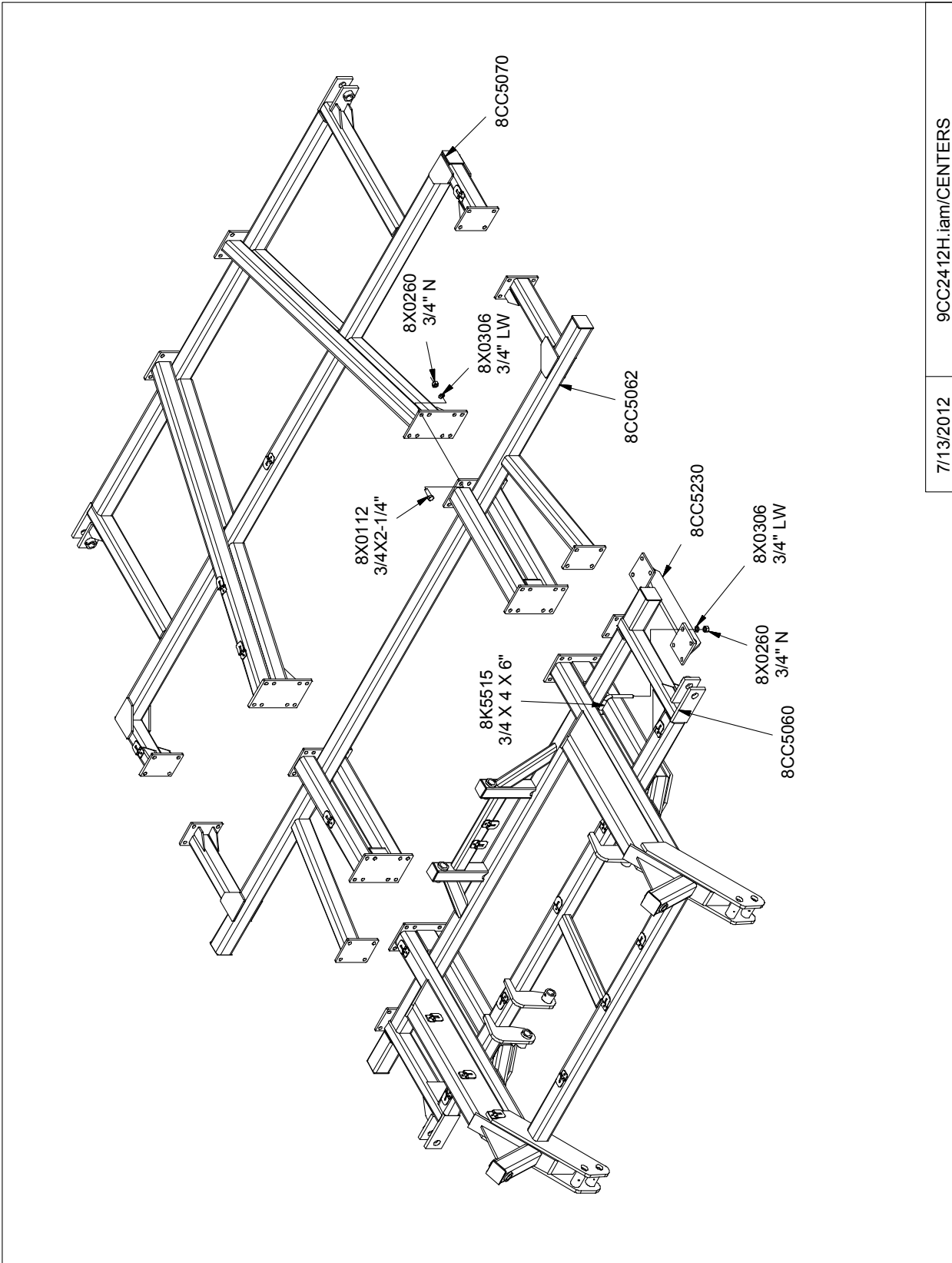


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## SECTION 2 – SET-UP OF 24'-28' DISK-CHISEL & COULTER-CHISEL MAIN FRAME

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.



## **SECTION 2 – SET-UP OF 24’-28’ DISK-CHISEL & COULTER-CHISEL MAIN FRAME**

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.

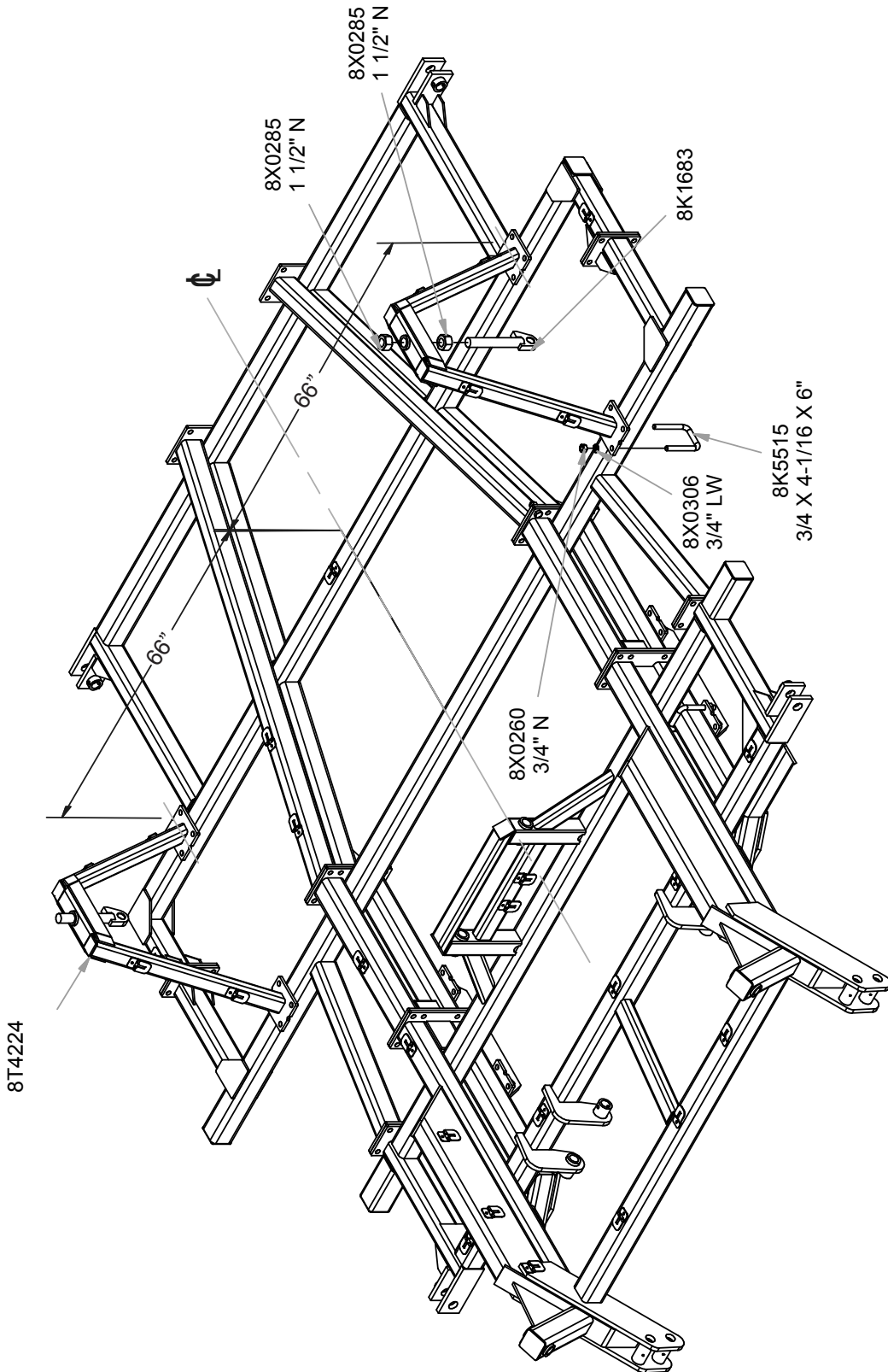
– 24’ & 28’ machine uses 5” x 24” cylinders (8D9524) and hardware shown.

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.

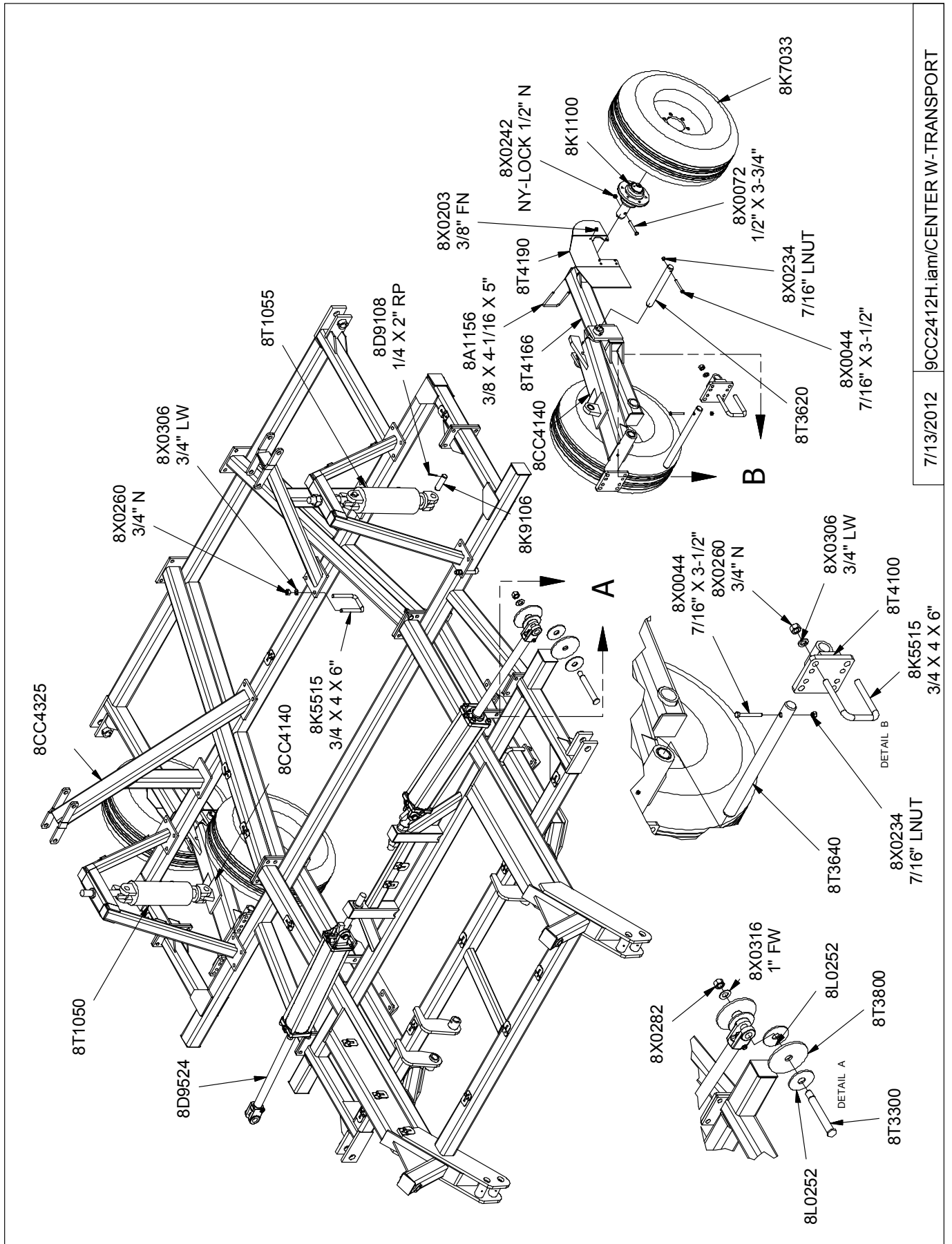
15. Install 7/16x3-1/2” retaining bolts through hitch pivot pins. Secure with lock nuts.

SECTION 2 – SET-UP OF 24'-28' DISK-CHISEL & COULTER-CHISEL MAIN FRAME



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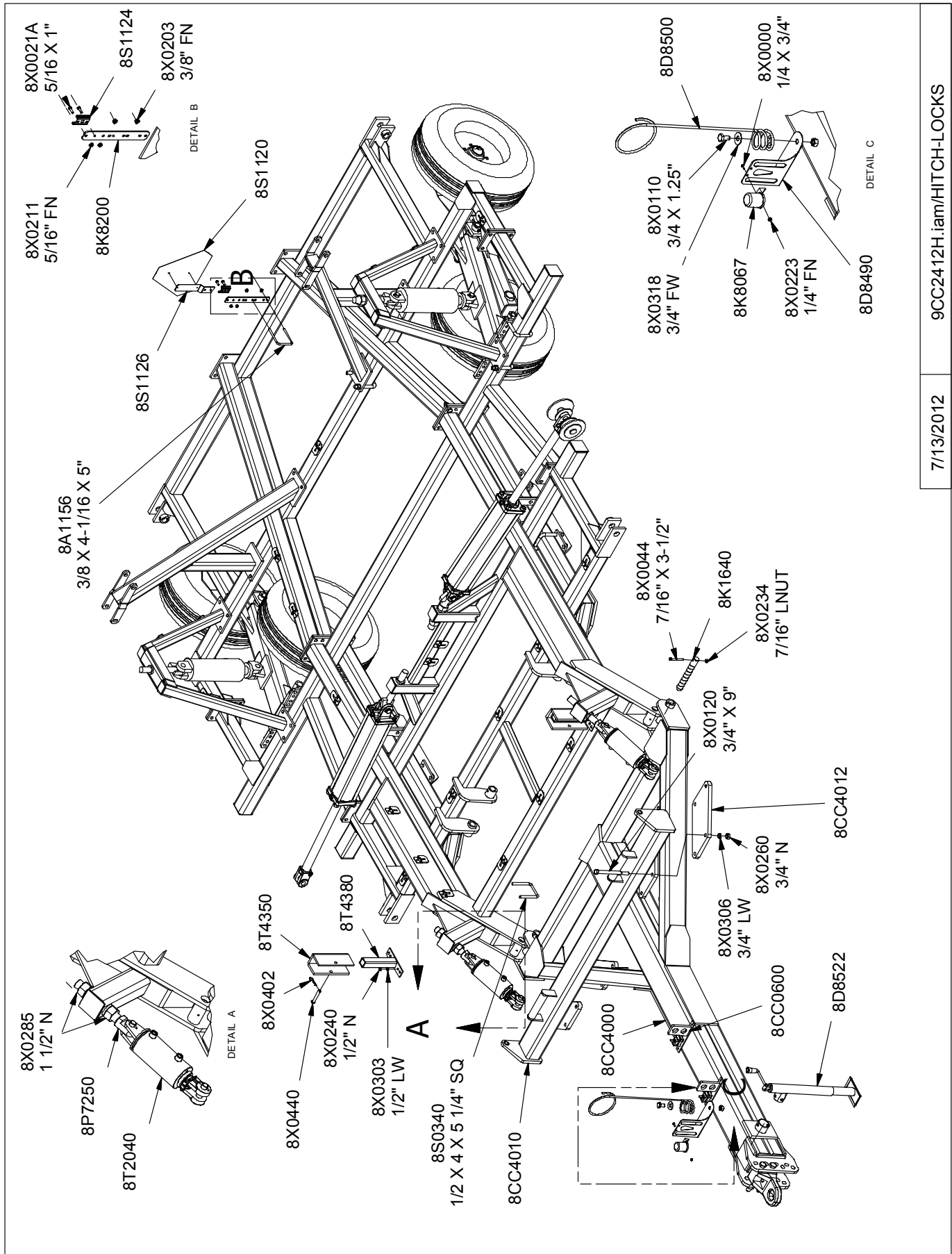
# SECTION 2 – SET-UP OF 24’-28’ DISK-CHISEL & COULTER-CHISEL MAIN FRAME



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# SECTION 2 – SET-UP OF 24'-28' DISK-CHISEL & COULTER-CHISEL MAIN FRAME



7/13/2012 9CC2412H.iam/HITCH-LOCKS

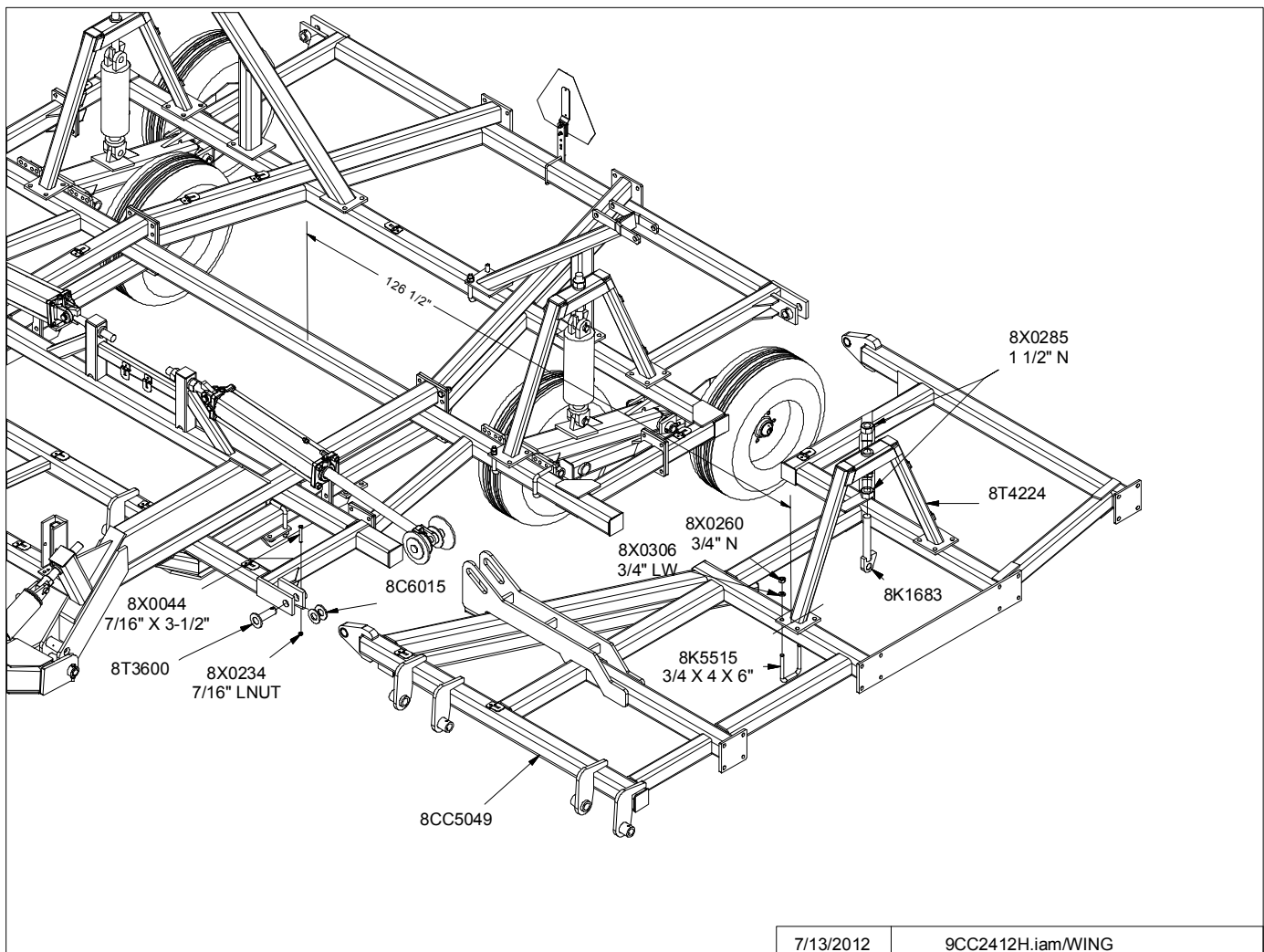
## **SECTION 2 – SET-UP OF 24’-28’ DISK-CHISEL & COULTER-CHISEL MAIN FRAME**

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.

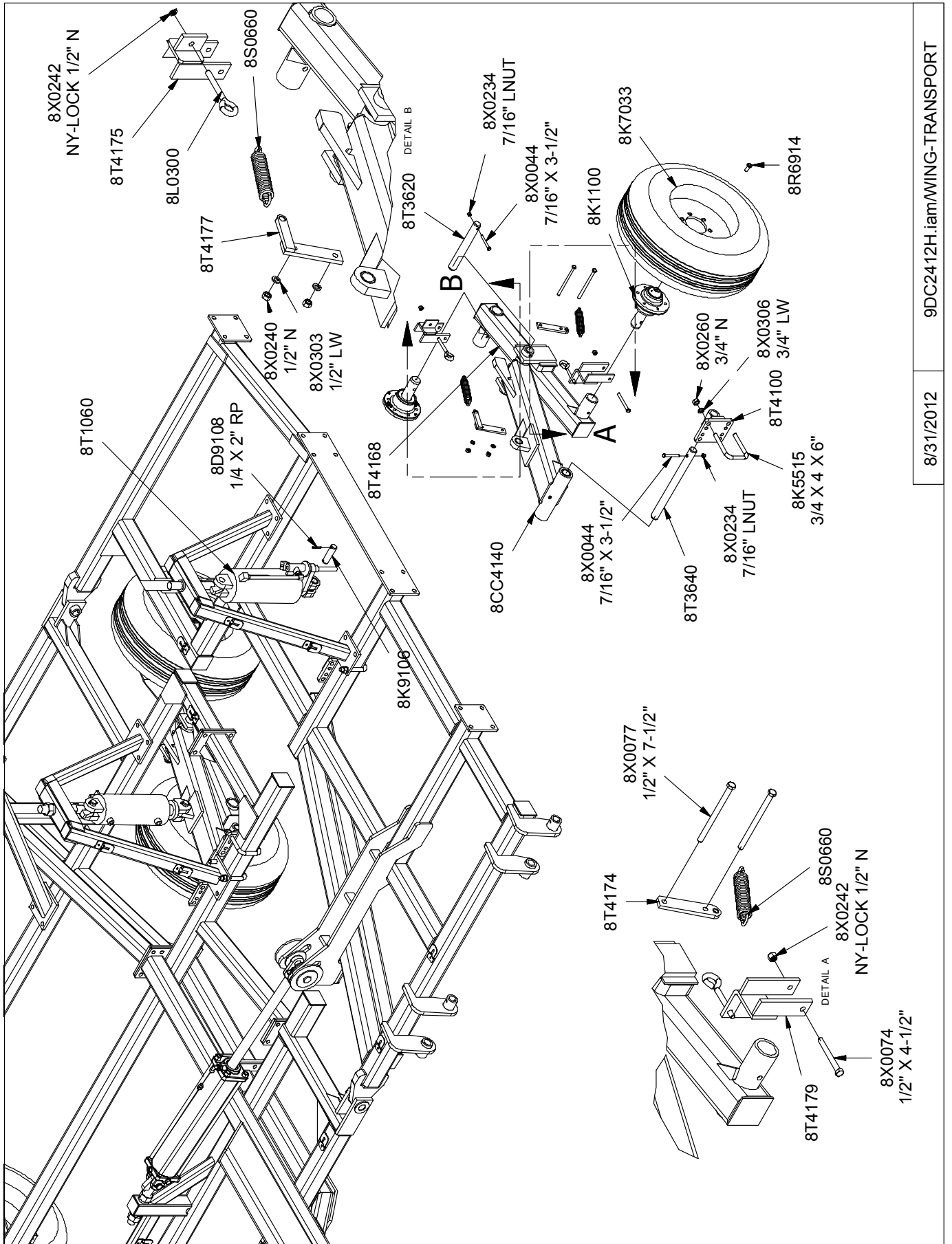
## SECTION 2 – SET-UP OF 24’-28’ DISK-CHISEL & COULTER-CHISEL WINGS

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**



9DC2412H.iam/WING-TRANSPORT

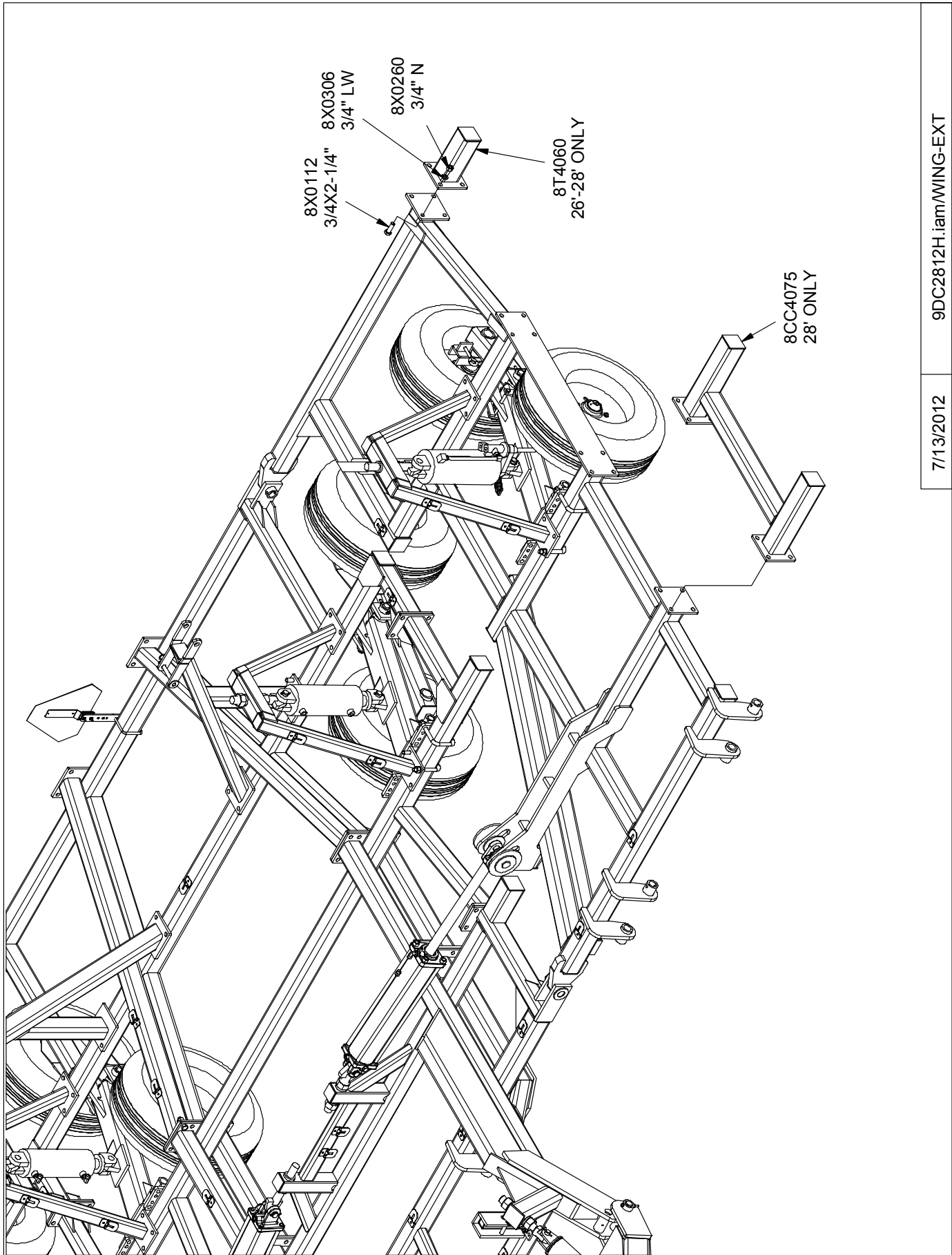
8/31/2012

## **SECTION 2 – SET-UP OF 24’-28’ DISK-CHISEL & COULTER-CHISEL WINGS**

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- Insert 7/16 x 3-1/2” bolt in retaining bolt hole. Secure with lock nut.
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.

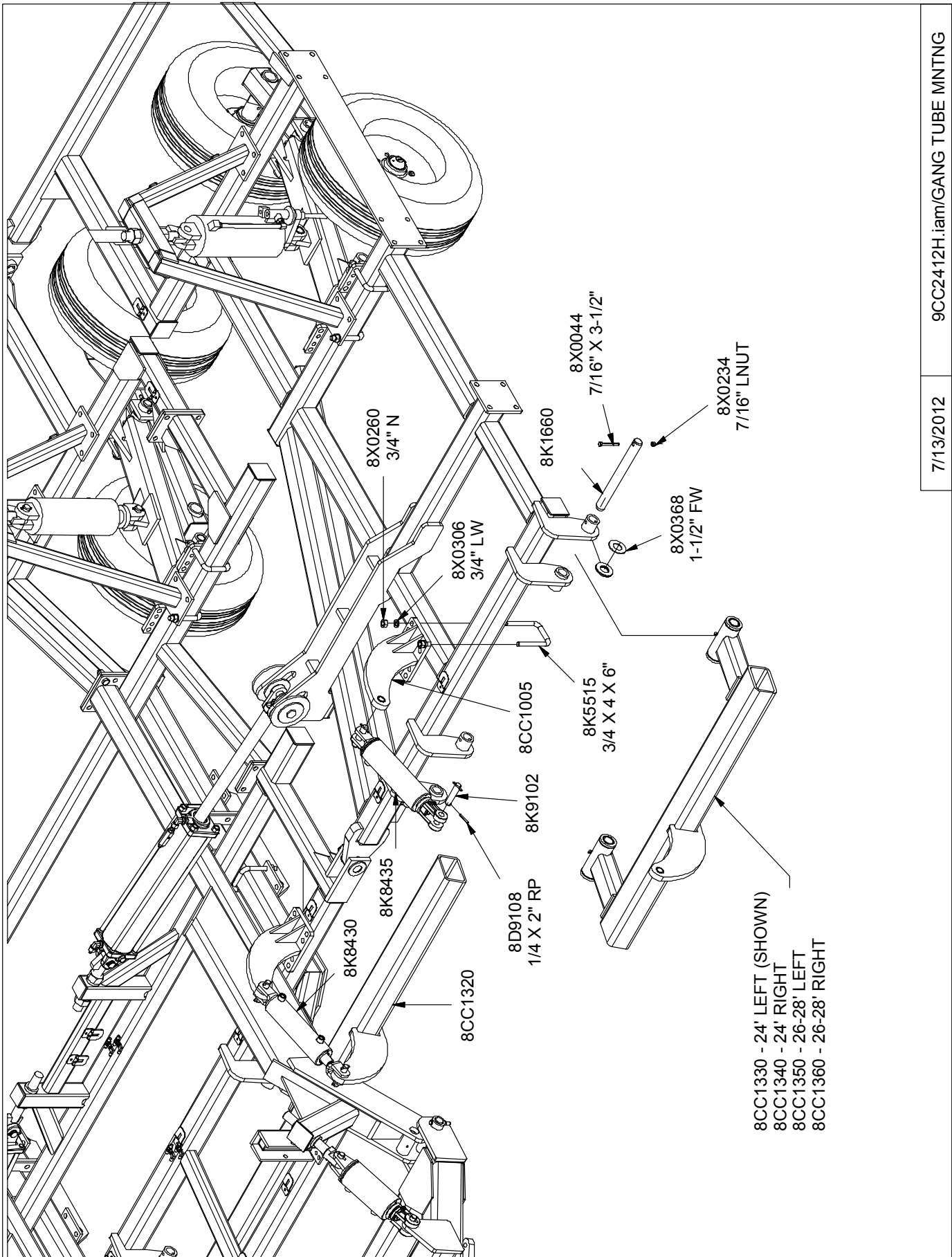
# SECTION 2 – SET-UP OF 24'-28' DISK-CHISEL & COULTER-CHISEL WINGS



9DC2812H.iam/WING-EXT

7/13/2012

**SECTION 2 – SET-UP OF 24’-28’ DISK-CHISEL & COULTER-CHISEL GANG TUBE**

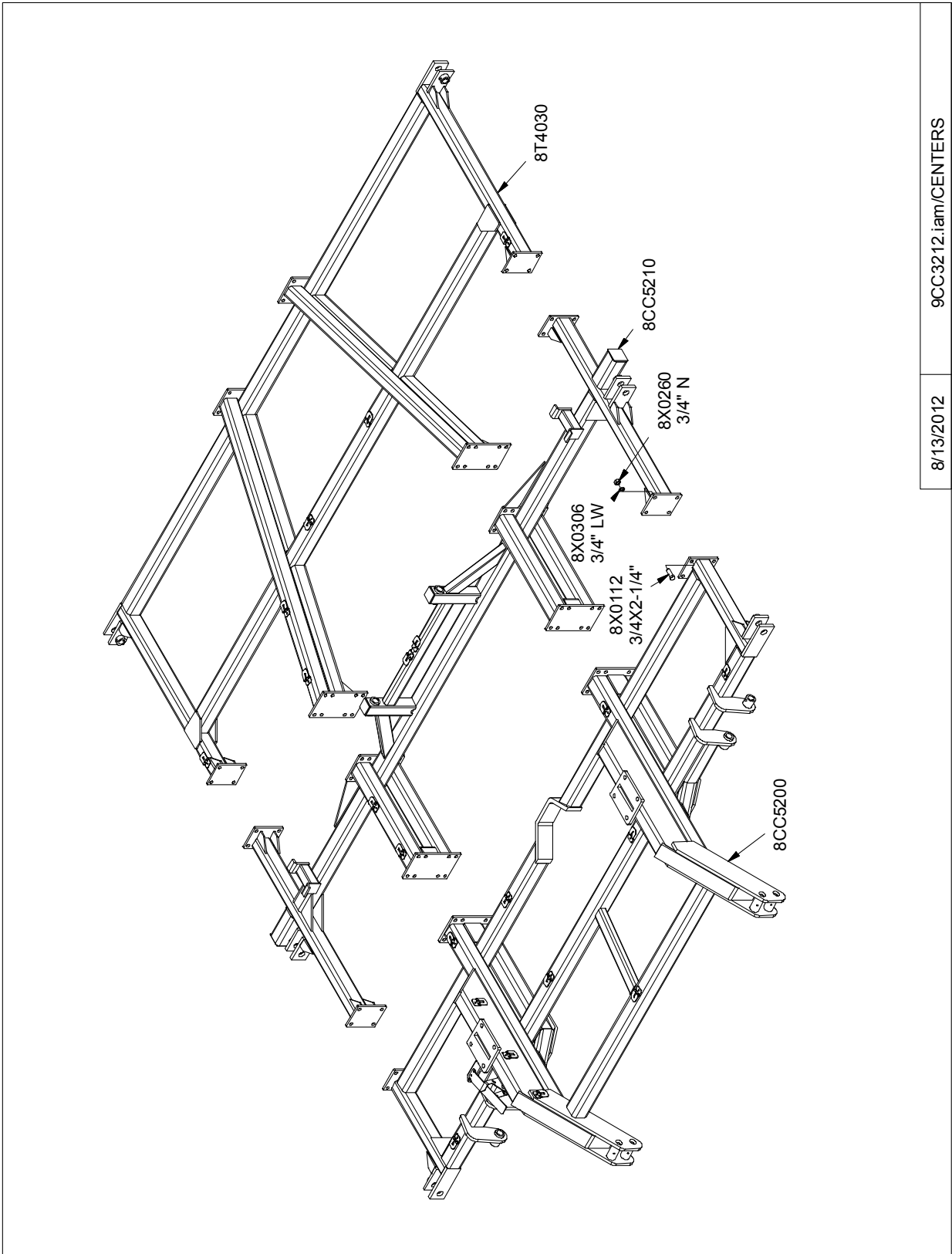


9CC2412H.iam/GANG TUBE MNTNG

7/13/2012

## **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).

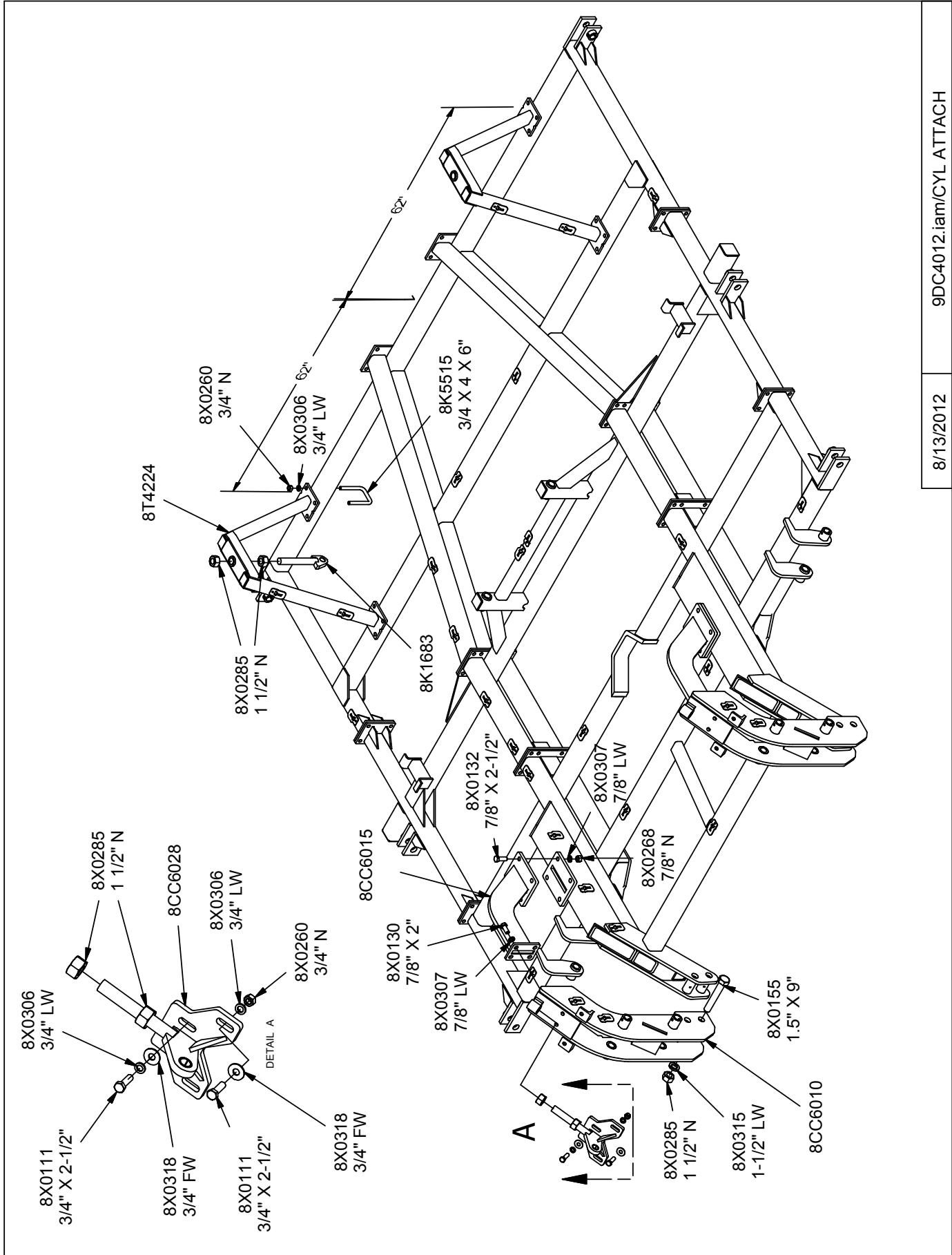
8. Install 8K1100 axle and hub assembly into each rear walking tandem (8K1105S optional). Apply good quality anti-seize to axles before installation. Retain axle into receiver tube with 1/2 x 3-3/4" bolt and locknut.

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')**



9DC4012.iam/CYL ATTACH

8/13/2012

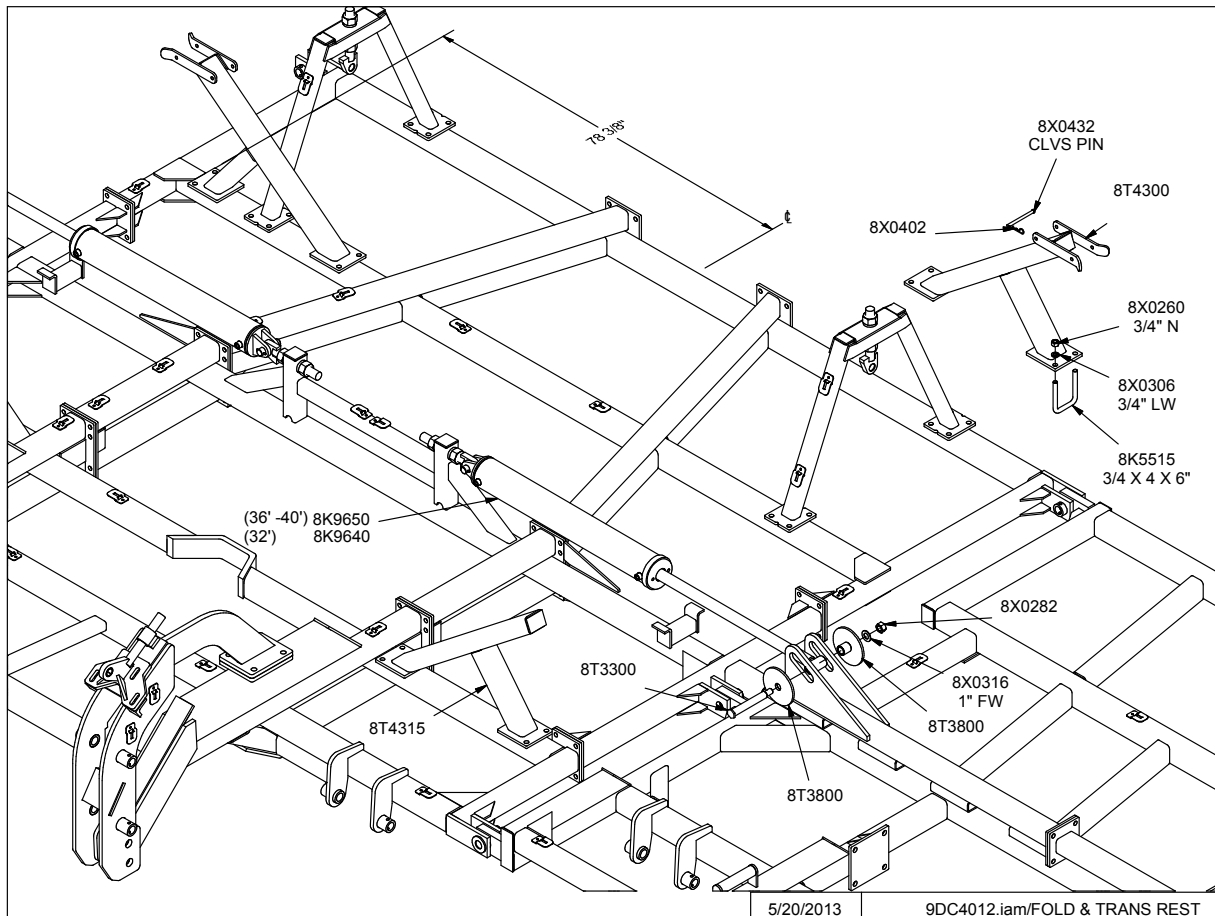
## **SECTION 2 – SET-UP OF DISK-CHISEL & COULTER-CHISEL CENTER SECTION (32'-40')**

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.

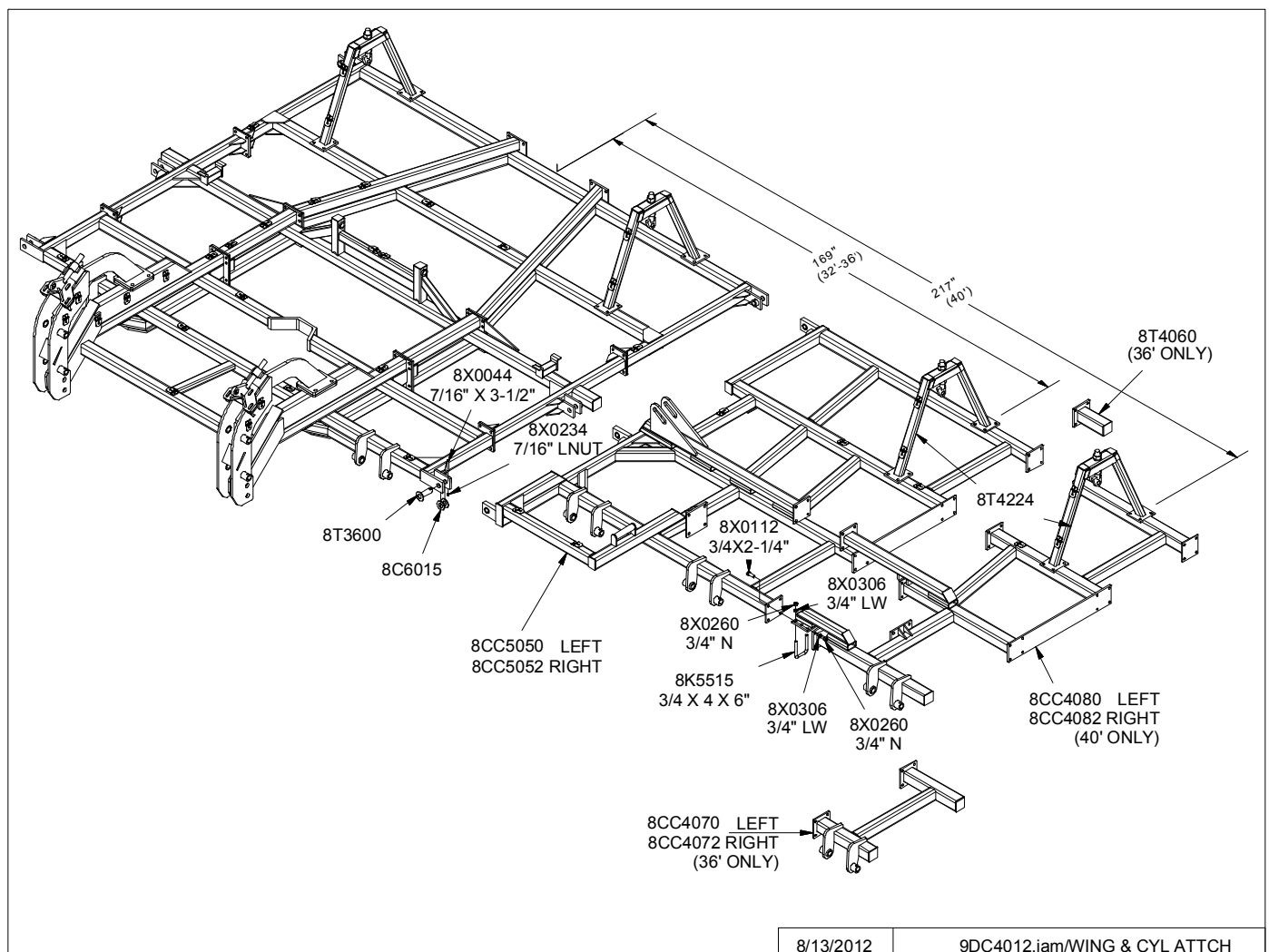
- 32' machine uses 4 x 36" cylinders (8K9640).
- 36' & 40' machines use 5 x 36" cylinders (8K9650).



## 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')**

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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')**

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.

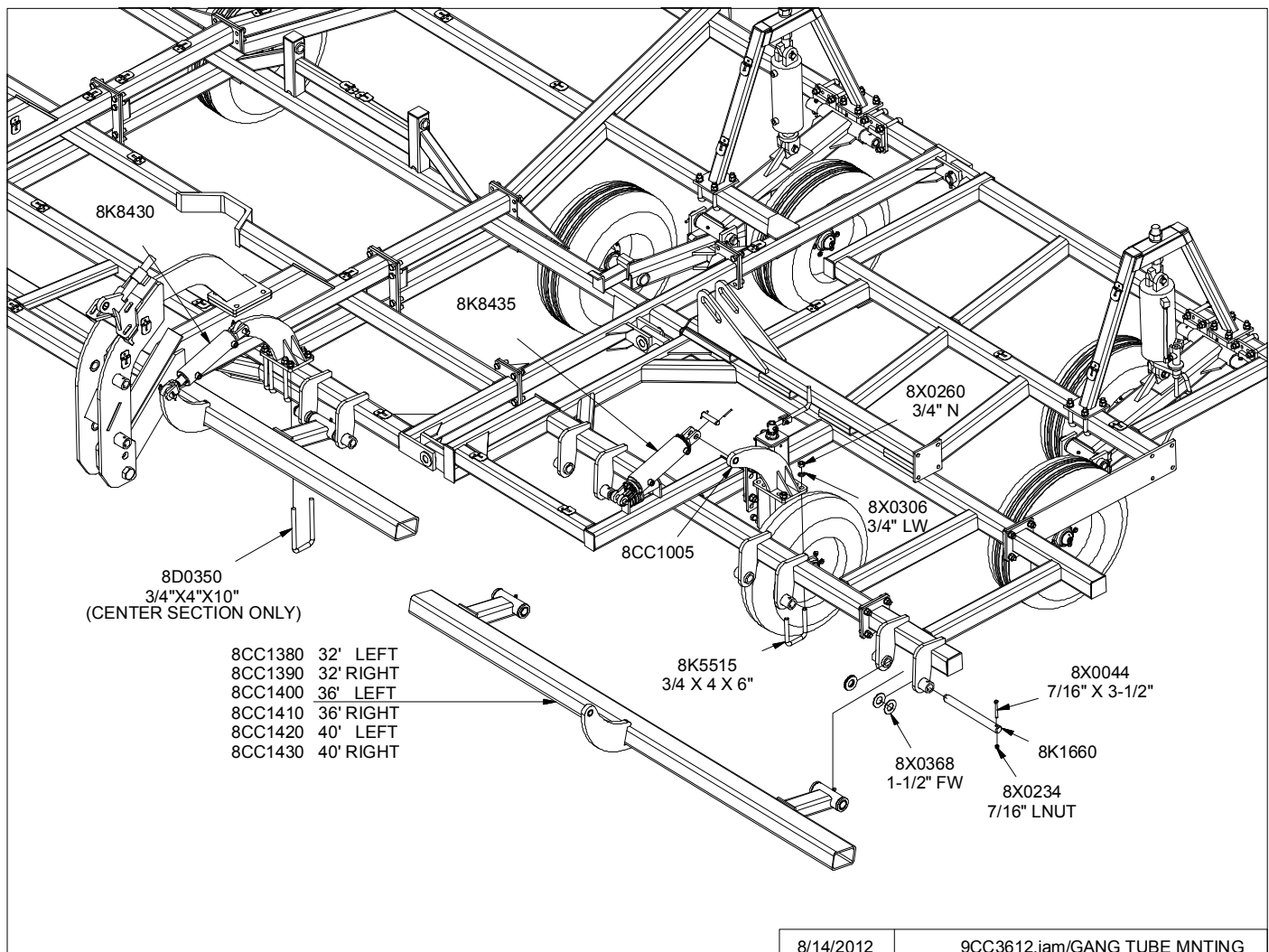
NOTE: Steps 19-21 can be done after cylinders are filled with oil and machine is raised.

  - 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.

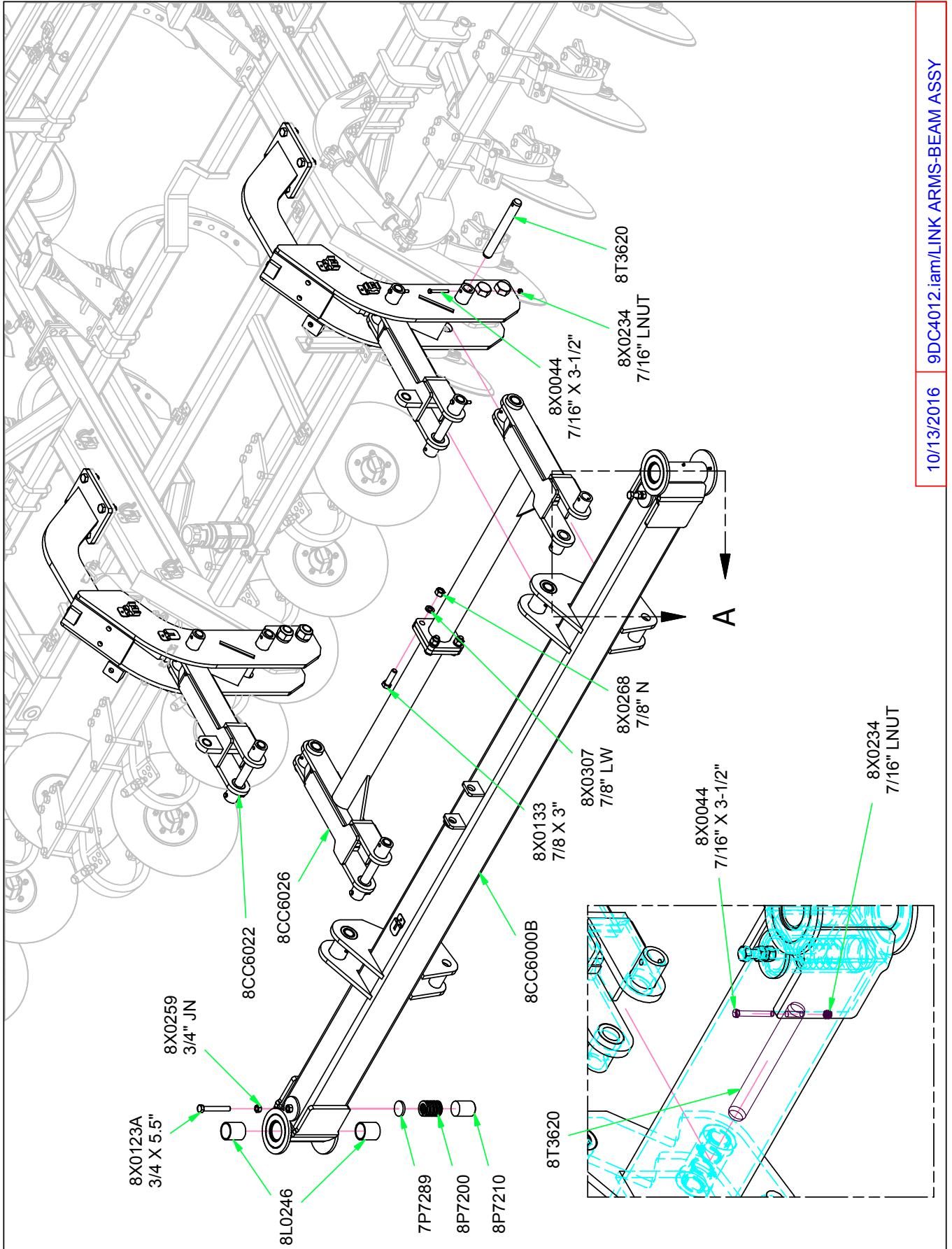


## SECTION 2 – SET-UP OF DISK-CHISEL & COULTER-CHISEL CENTER SECTION (32'-40')

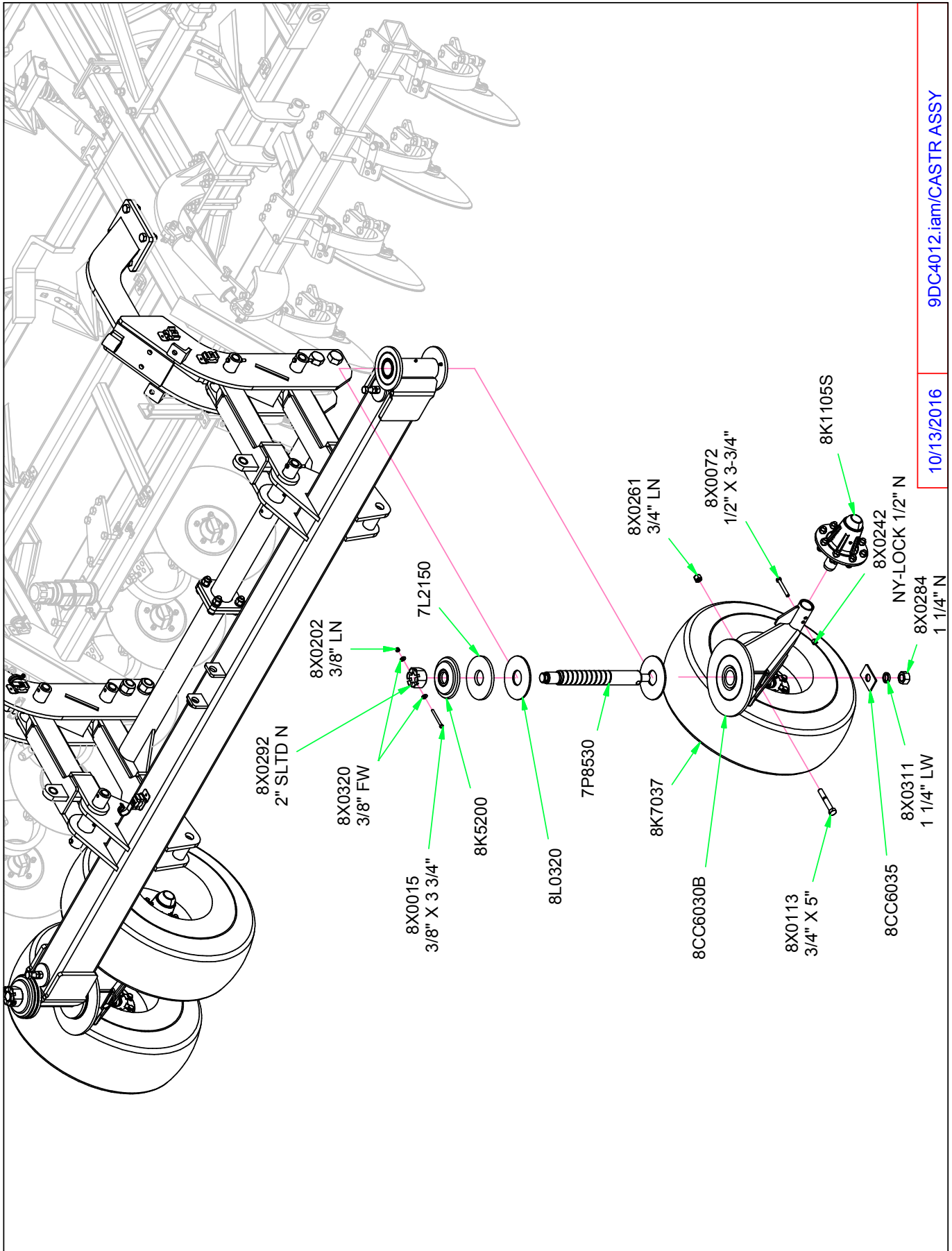
- Install rectangular washer (8CC6035) with 1-1/4" lockwasher and nut onto bottom of caster arm.
  - Install hubs (8K1105S) as shown and retain with 1/2 x 3-3/4" bolt and nylock nut.
  - Attach wheel and tire assemblies. Tighten lug nuts to 240 ft-lbs.
28. Tighten slotted nut (8X0292) so that caster 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



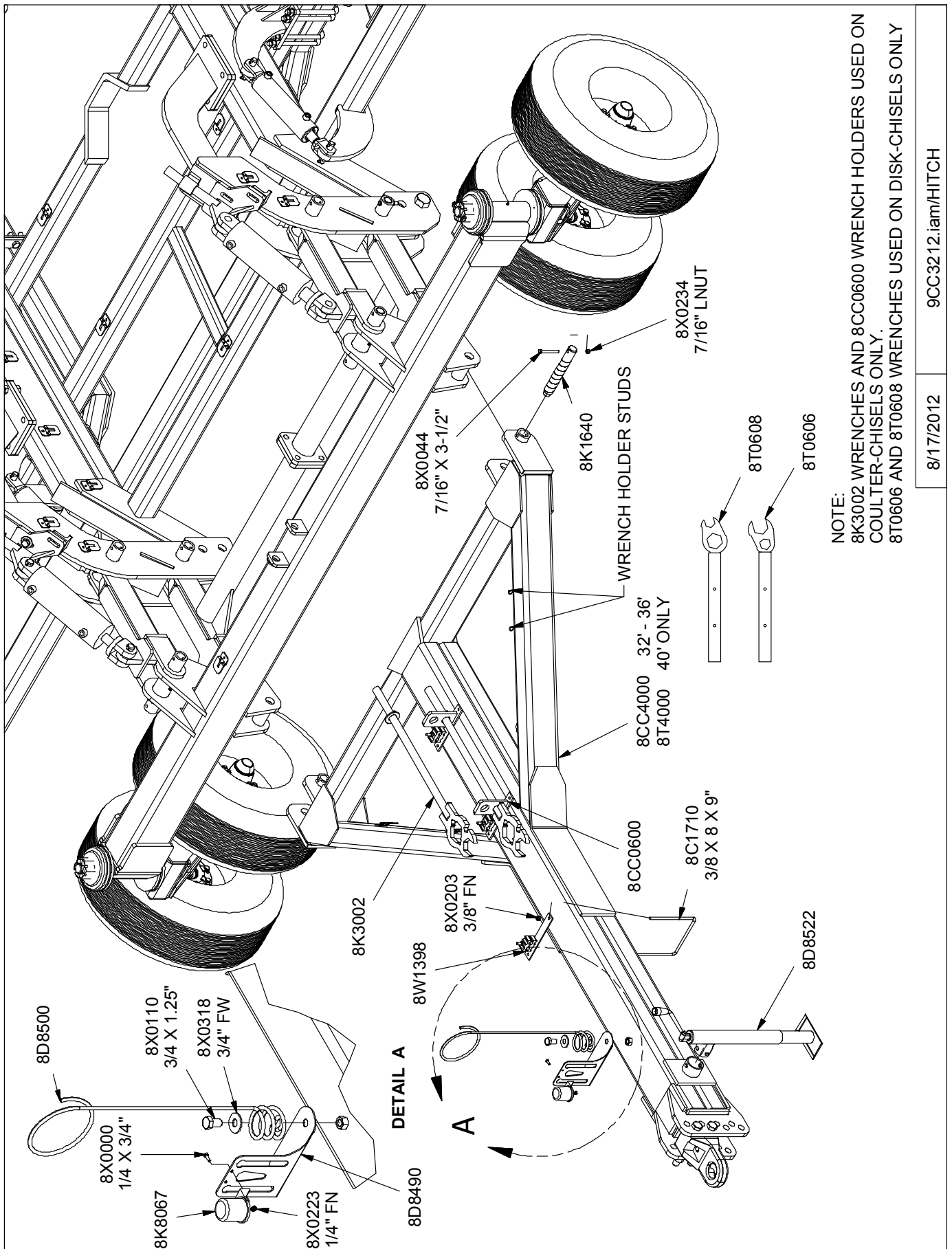
## SECTION 2 – SET-UP OF 32’-40’ CASTER WHEELS & HITCH



9DC4012.iam/CASTR ASSY

10/13/2016

## SECTION 2 – SET-UP OF 32’-40’ CASTER WHEELS & HITCH



8/17/2012

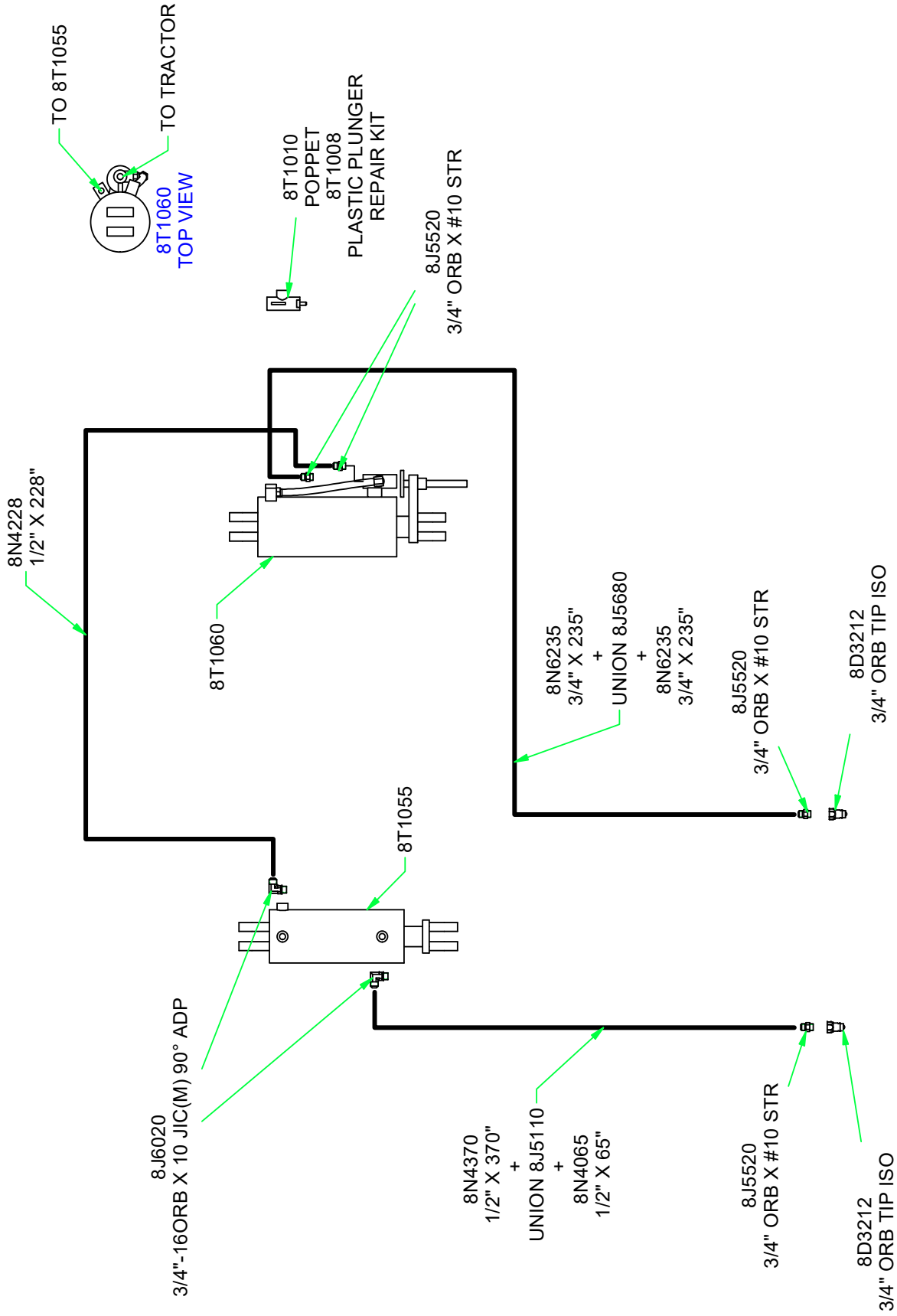
9CC3212.iam/HITCH

## **SECTION 2 – SET-UP OF 32’-40’ CASTER WHEELS & HITCH**

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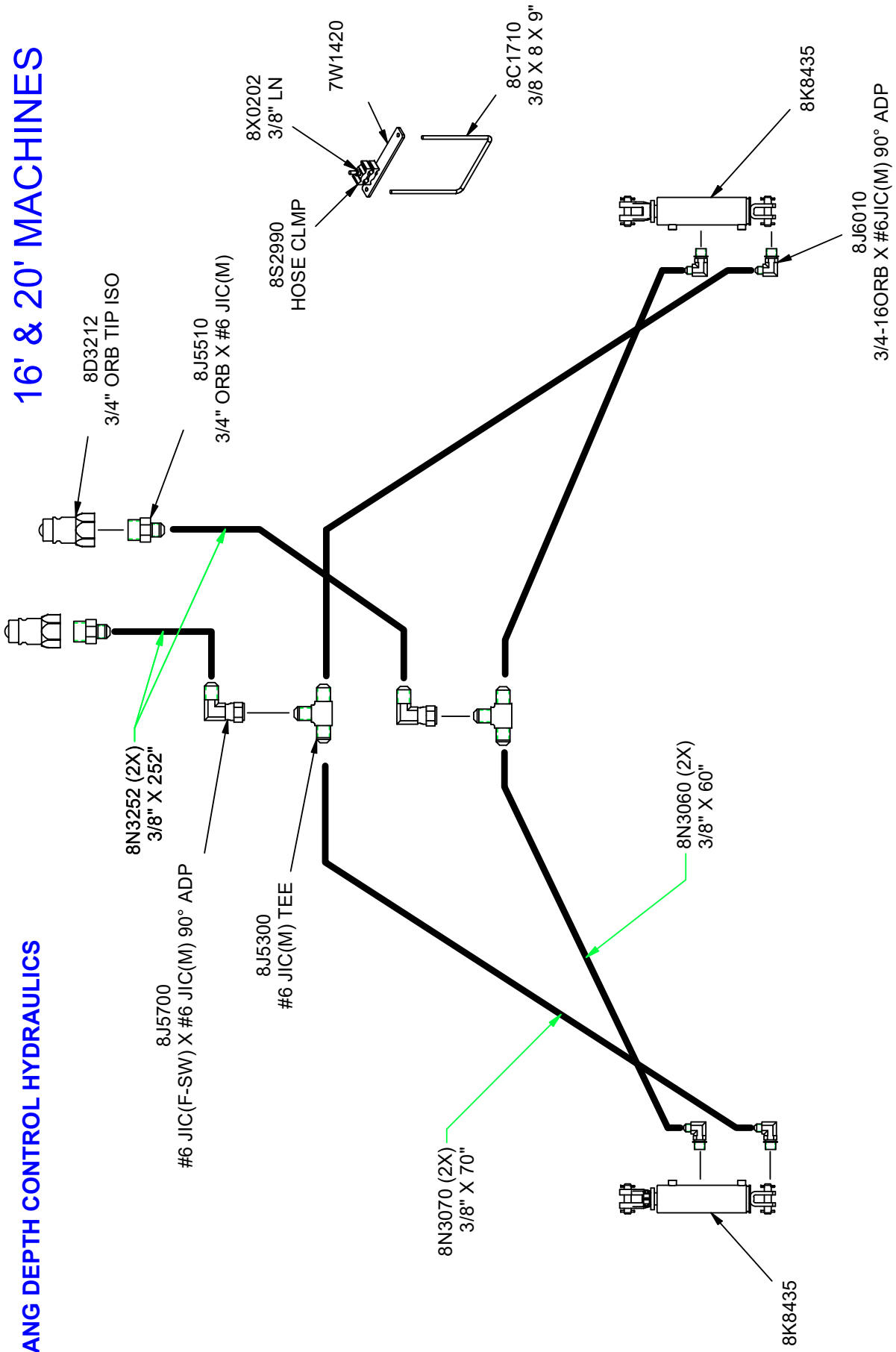
33. Remove blocks from under center frame and allow wheel assemblies to support machine. Block tires to prevent movement.
34. Add depth control cylinder locks and storage bases.
  - Attach locks for rear cylinders by liftarm pivots located closest to center of machine.
  - Locate lock for front center cylinder on front 4 x 4 tube.
35. Install SMV sign mounting bracket and sign at center of rear rank.

# 16' & 20' MACHINES



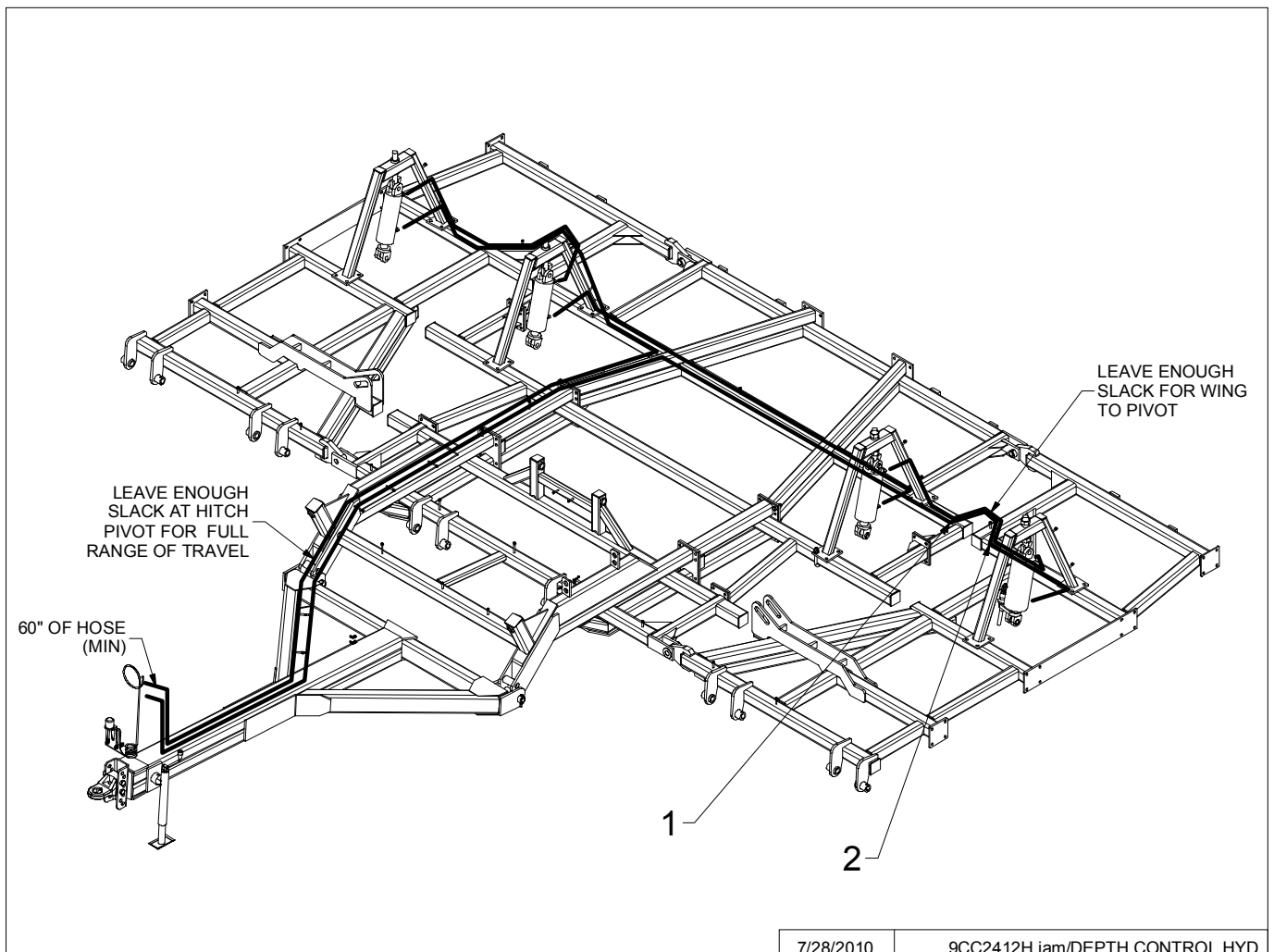
# GANG DEPTH CONTROL HYDRAULICS

# 16' & 20' MACHINES



## 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.





## SECTION 2 – HYDRAULIC SET-UP (24' - 28')

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### 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.

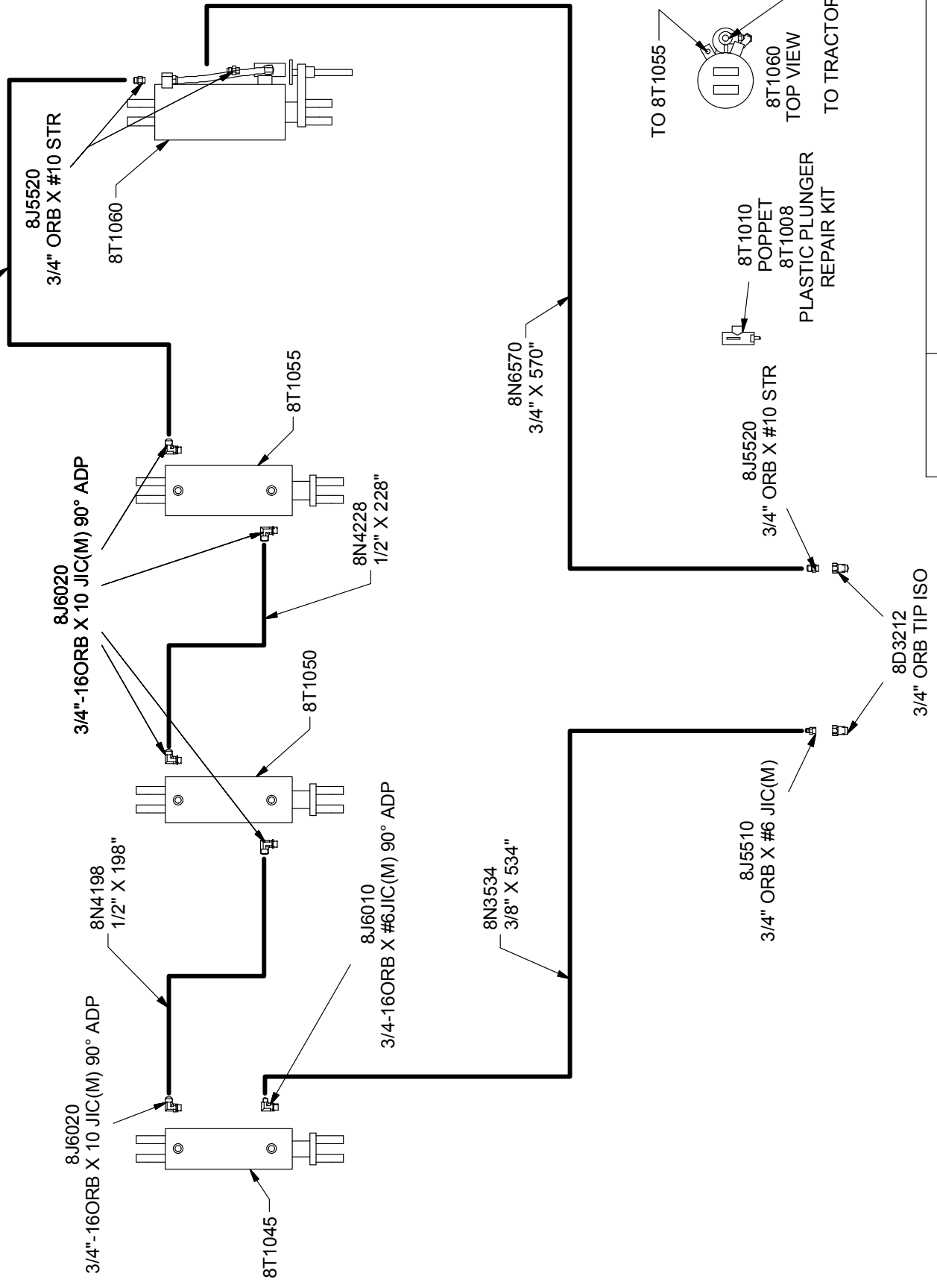
- The wing lift hydraulic circuit is equipped with a one-way restrictor to prevent free fall of the wings when being lowered. Be sure that the restrictor is installed so the arrow points toward the cylinder. This will restrict oil flowing out of the cylinder but not flowing in.

### 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

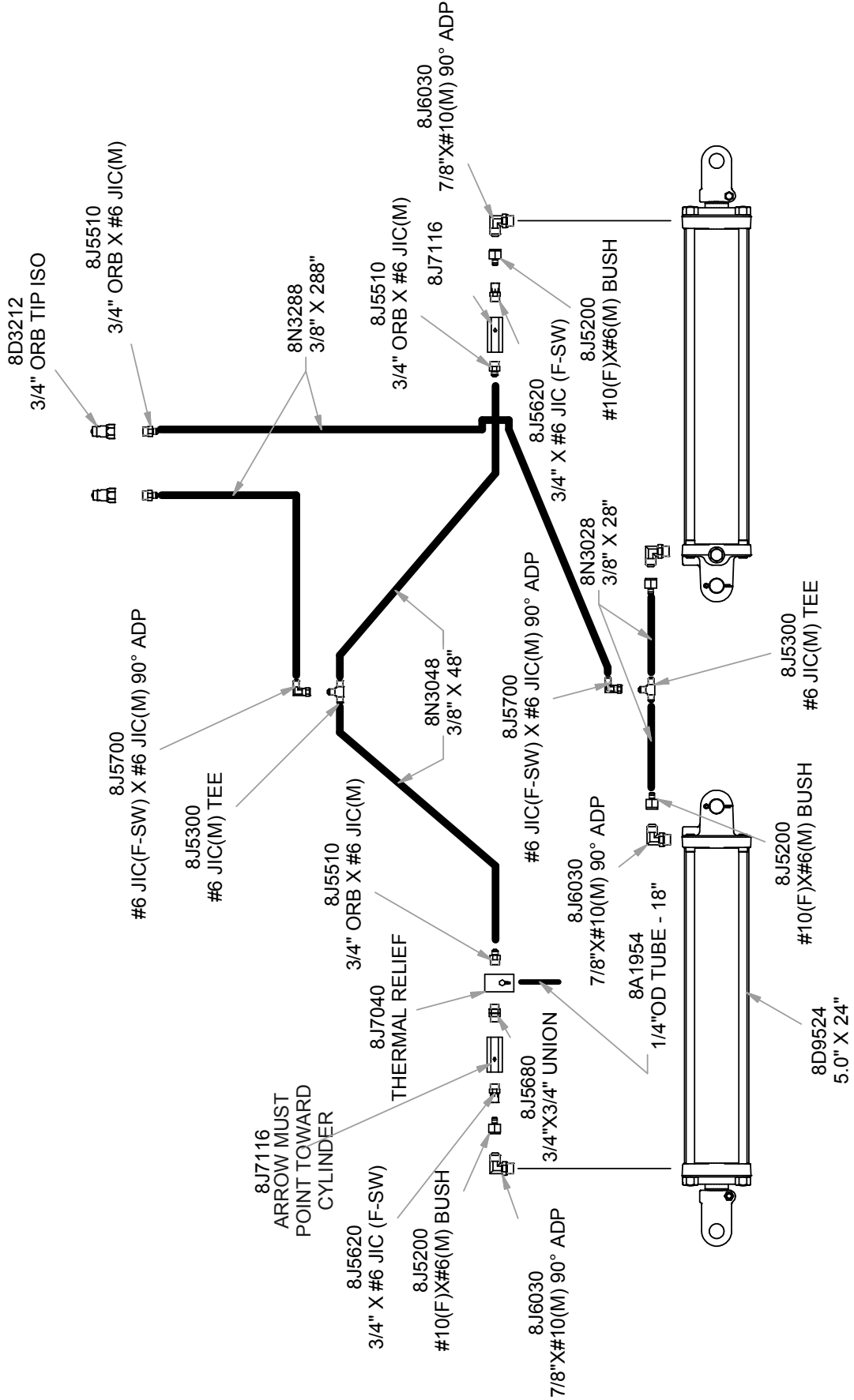


9/12/2012 CC-DC DEPTH CNTRL HYD

SECTION 2 - HYDRAULIC SET-UP (24' - 28')

24'-28' MACHINE

WING LIFT HYDRAULICS



8D9525  
SEAL KIT 5X24"

1/30/2014

9CC2412H.iam/WING LFT HYD

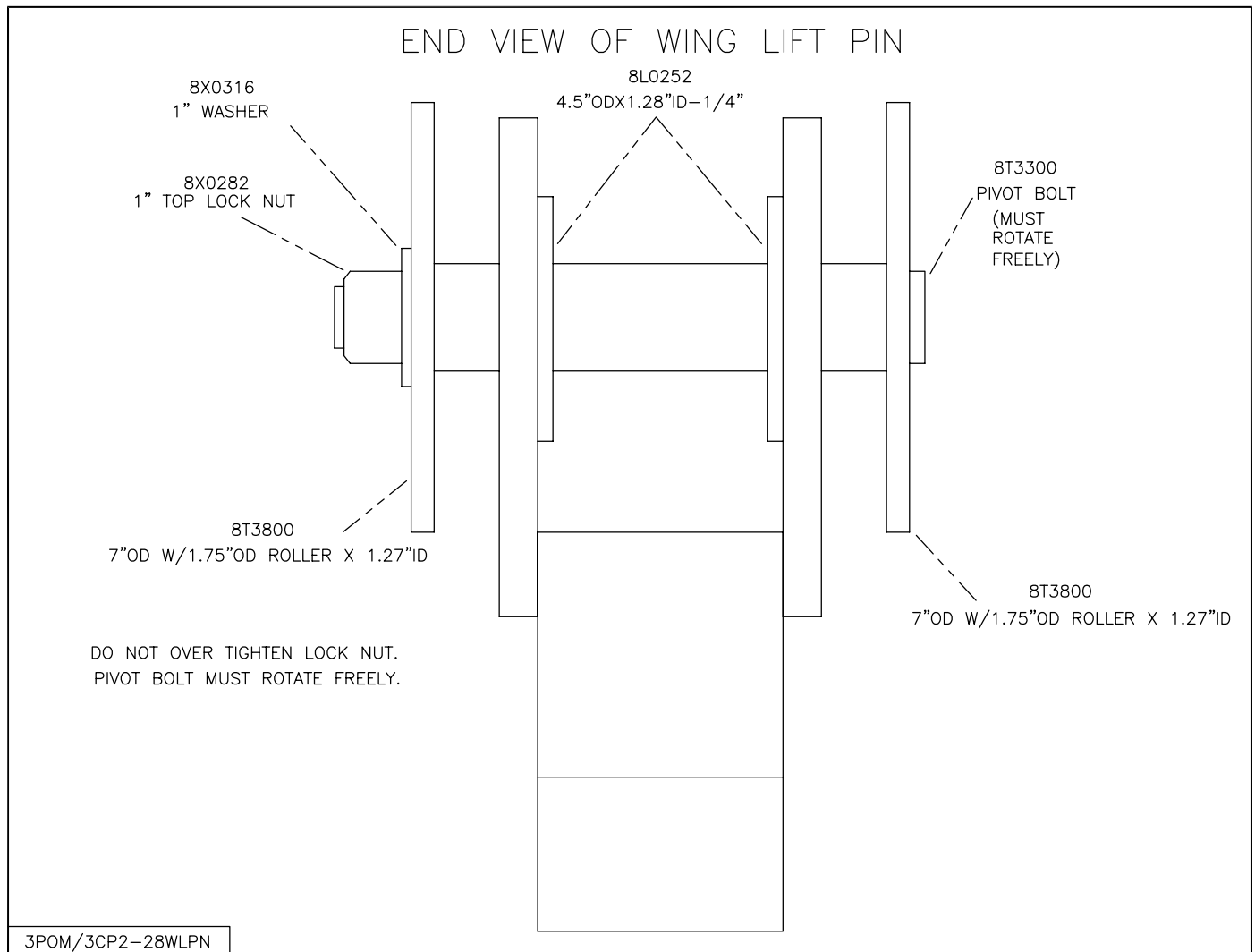
## SECTION 2 – HYDRAULIC SET-UP (24' - 28')

### 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.

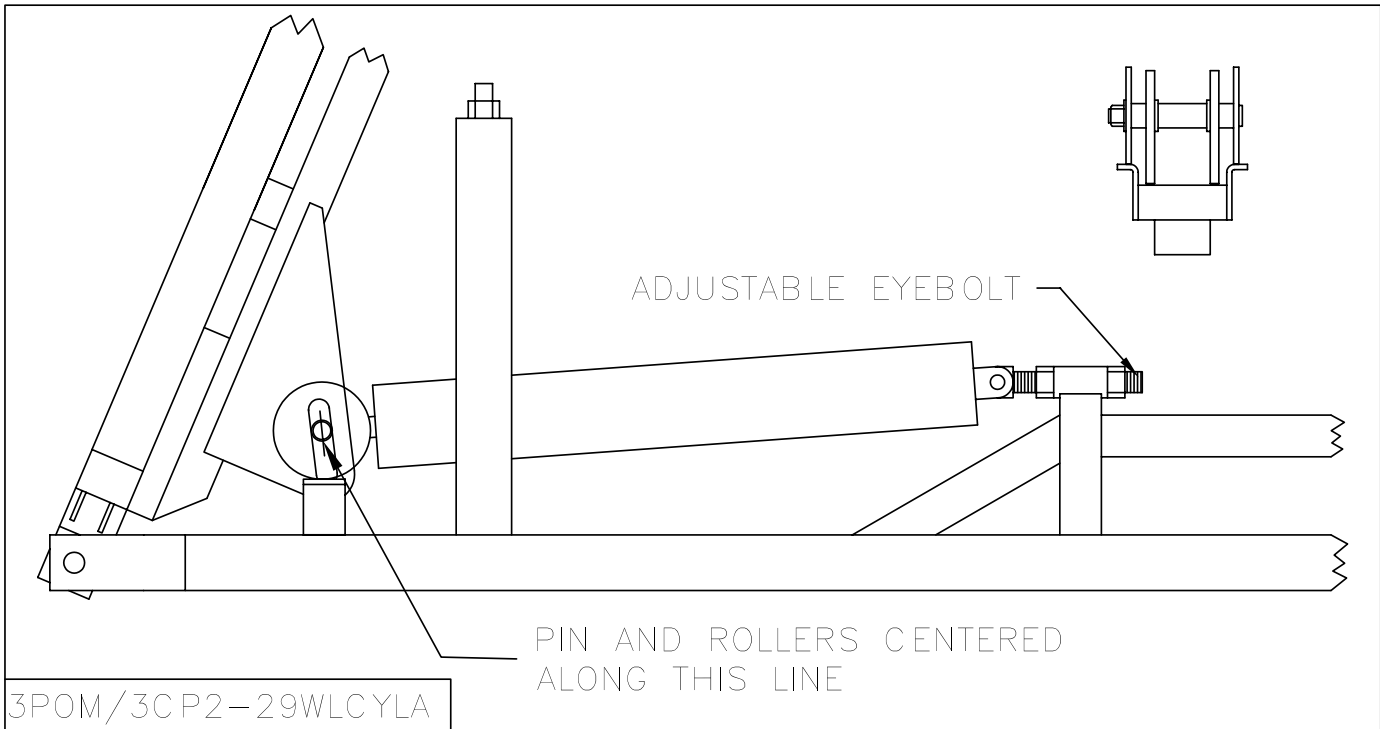
### 7. Connect rod end of cylinders to wing. Follow these steps and see drawing below.

- 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.**

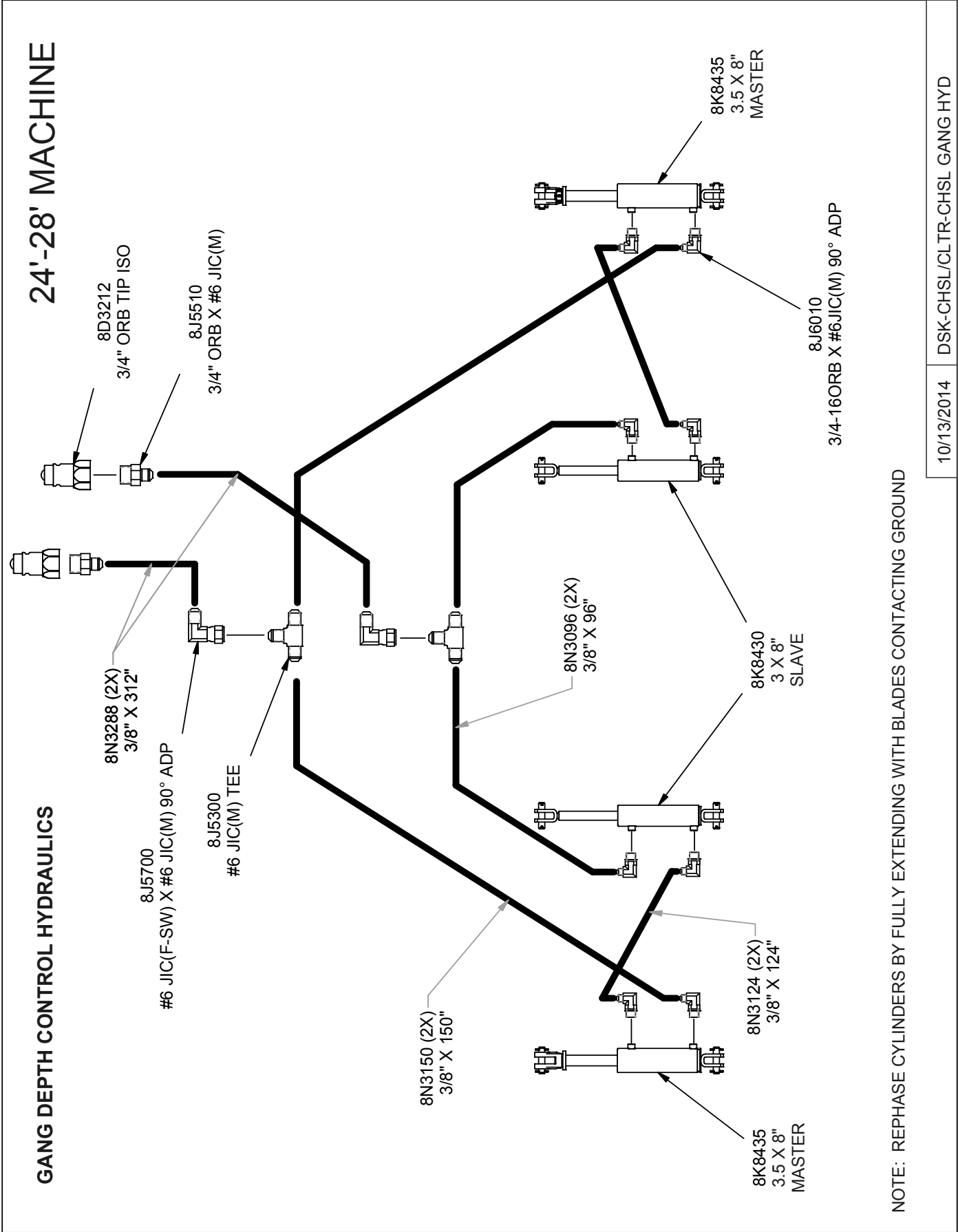


## SECTION 2 – HYDRAULIC SET-UP (24' - 28')

8. With cylinder attach eyebolts loose, raise coultter-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.



SECTION 2 – HYDRAULIC SET-UP (24' - 28')

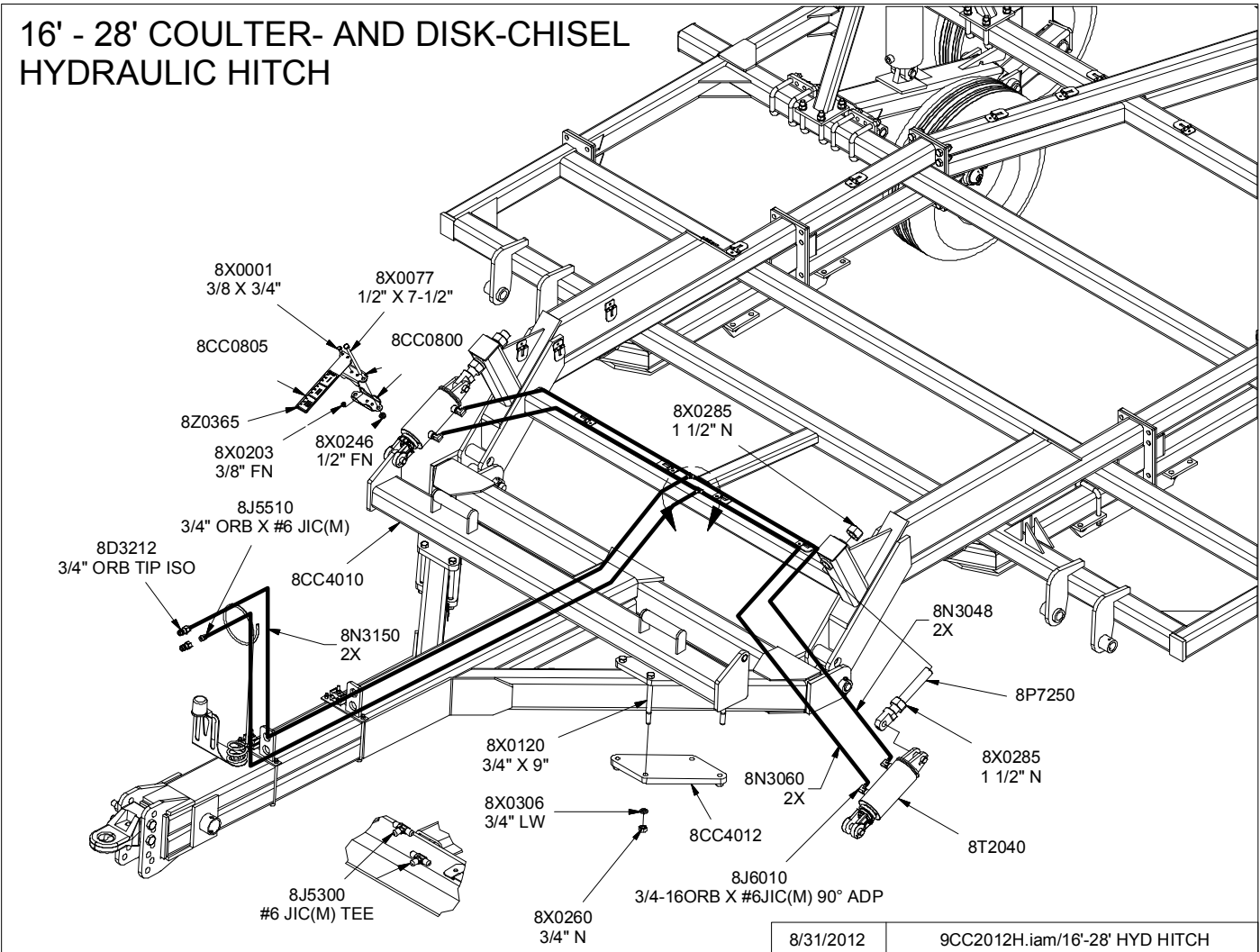


NOTE: REPHASE CYLINDERS BY FULLY EXTENDING WITH BLADES CONTACTING GROUND

## SECTION 2 – HYDRAULIC SET-UP (16' - 28')

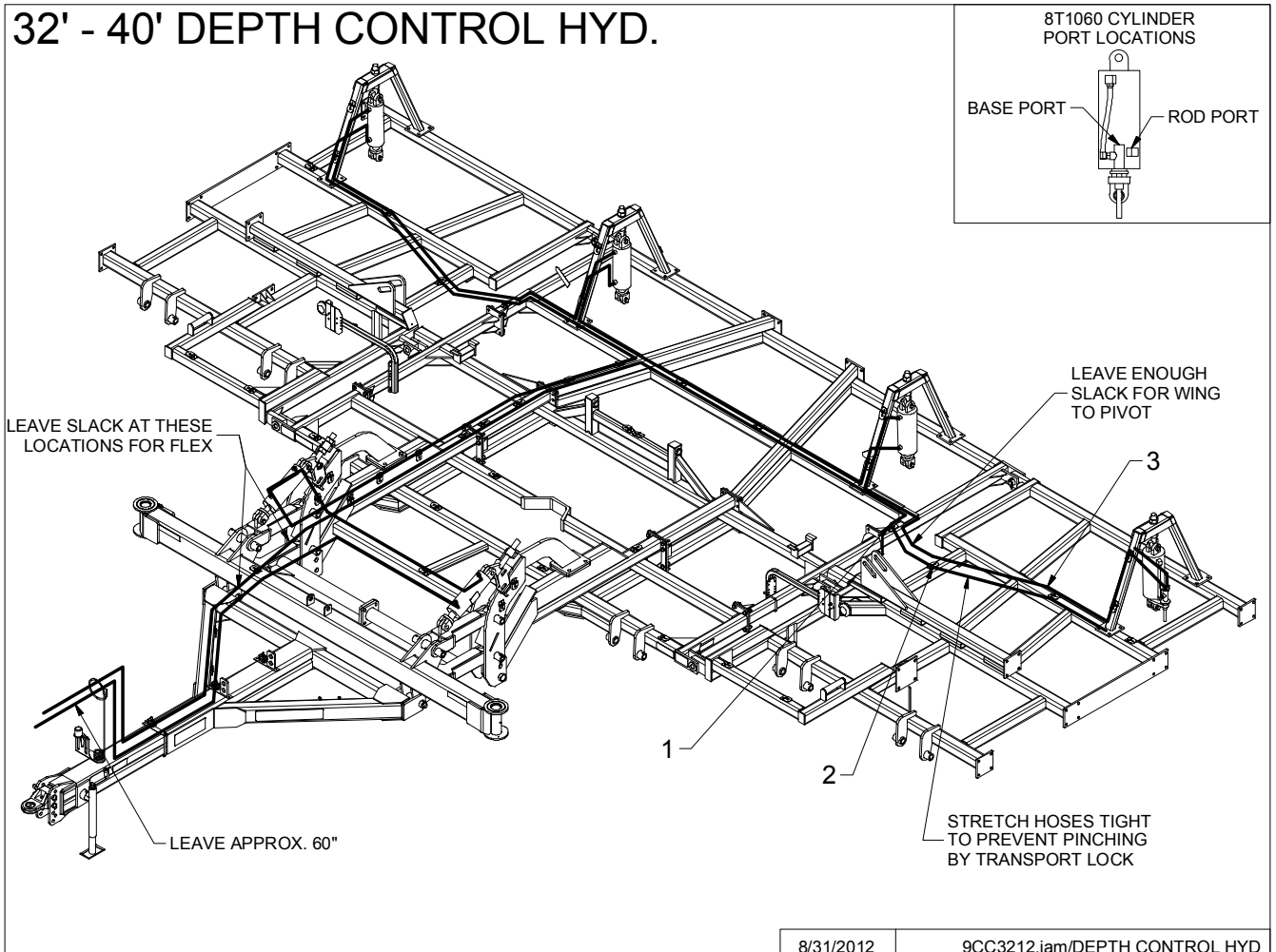
### Hydraulic Hitch Hydraulic Setup - 16'-28'

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')

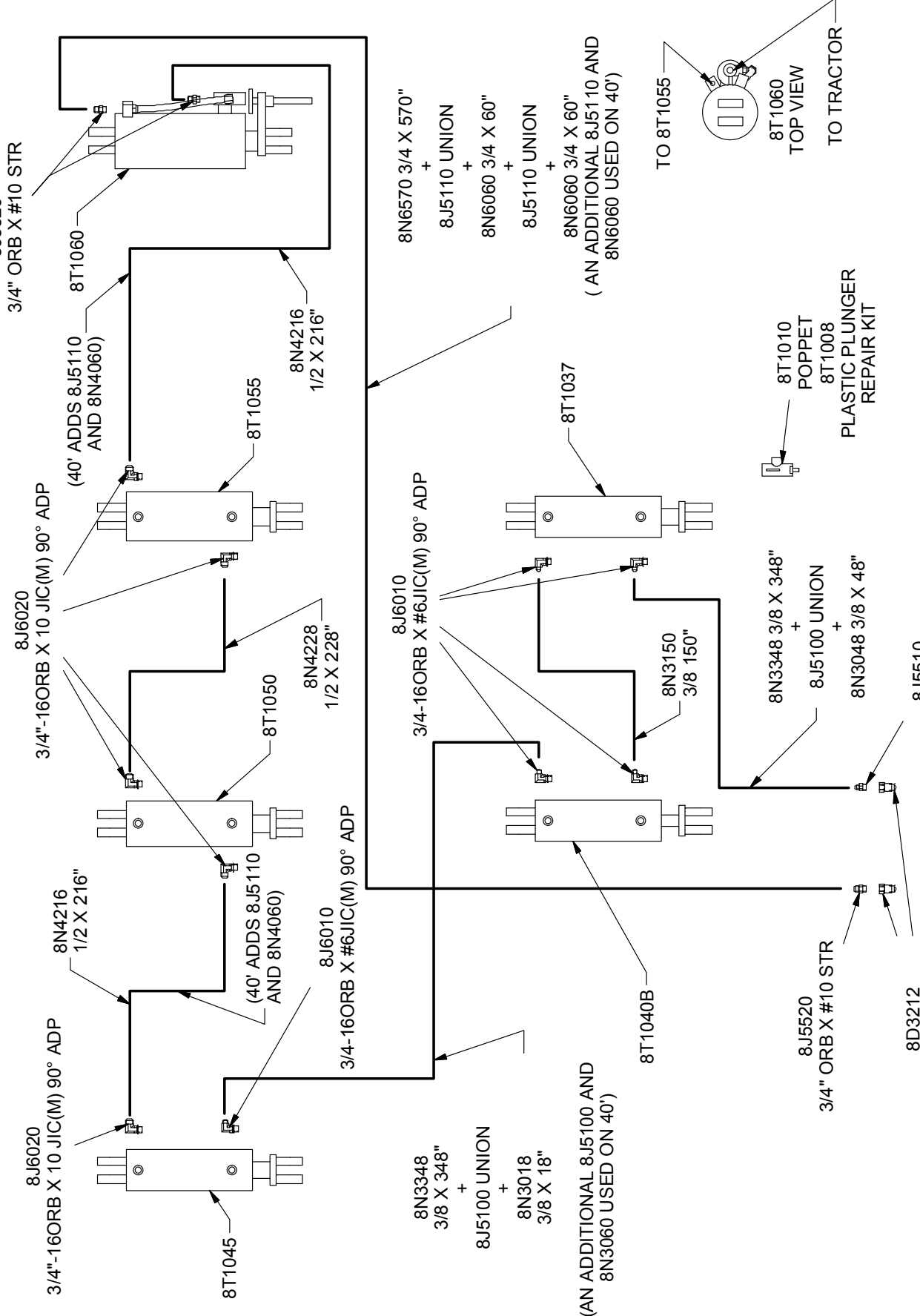
- Hydraulic hoses and fittings for depth control cylinders can be found on following drawing.
  - Rephasing cylinders require that oil from the rod end of first cylinder goes to base end of second cylinder and so forth. Cylinders will not operate properly unless they are connected correctly.
- Special attention should be paid to routing of hydraulic hoses. Diagram below shows layout of hoses for depth control cylinders.
  - 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.
  - 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.**
  - Leave slack by hitch pivot.





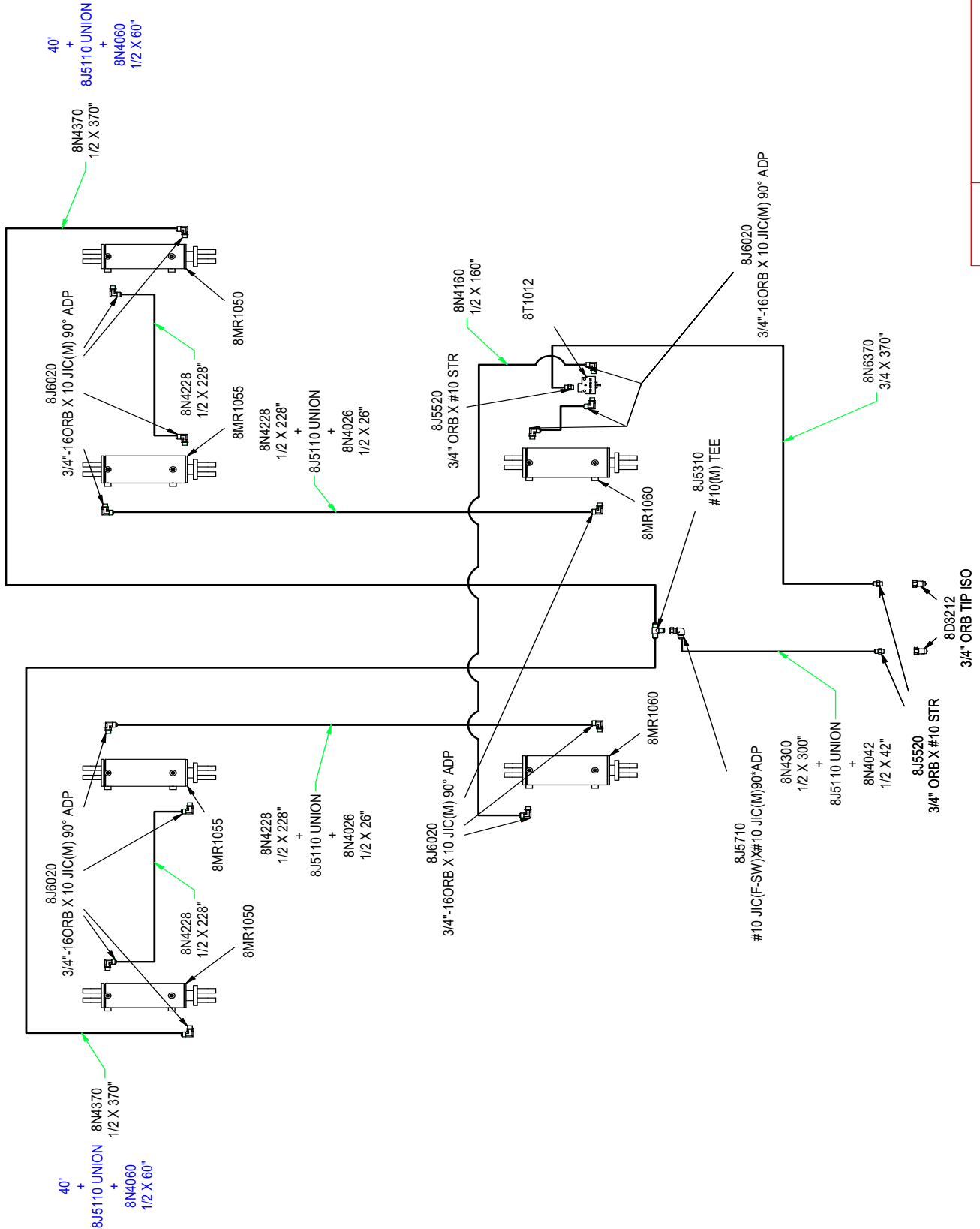
SECTION 2 – HYDRAULIC SET-UP (32'-40')

32'-40' DISK- / COULTER- CHISEL CASTER HYD.



9/12/2012 CC-DC DEPTH CNTRL HYD

# 32'-40' MAIN LIFT W/ 8T1012 POPPET



## **SECTION 2 – HYDRAULIC SET-UP (32'-40')**

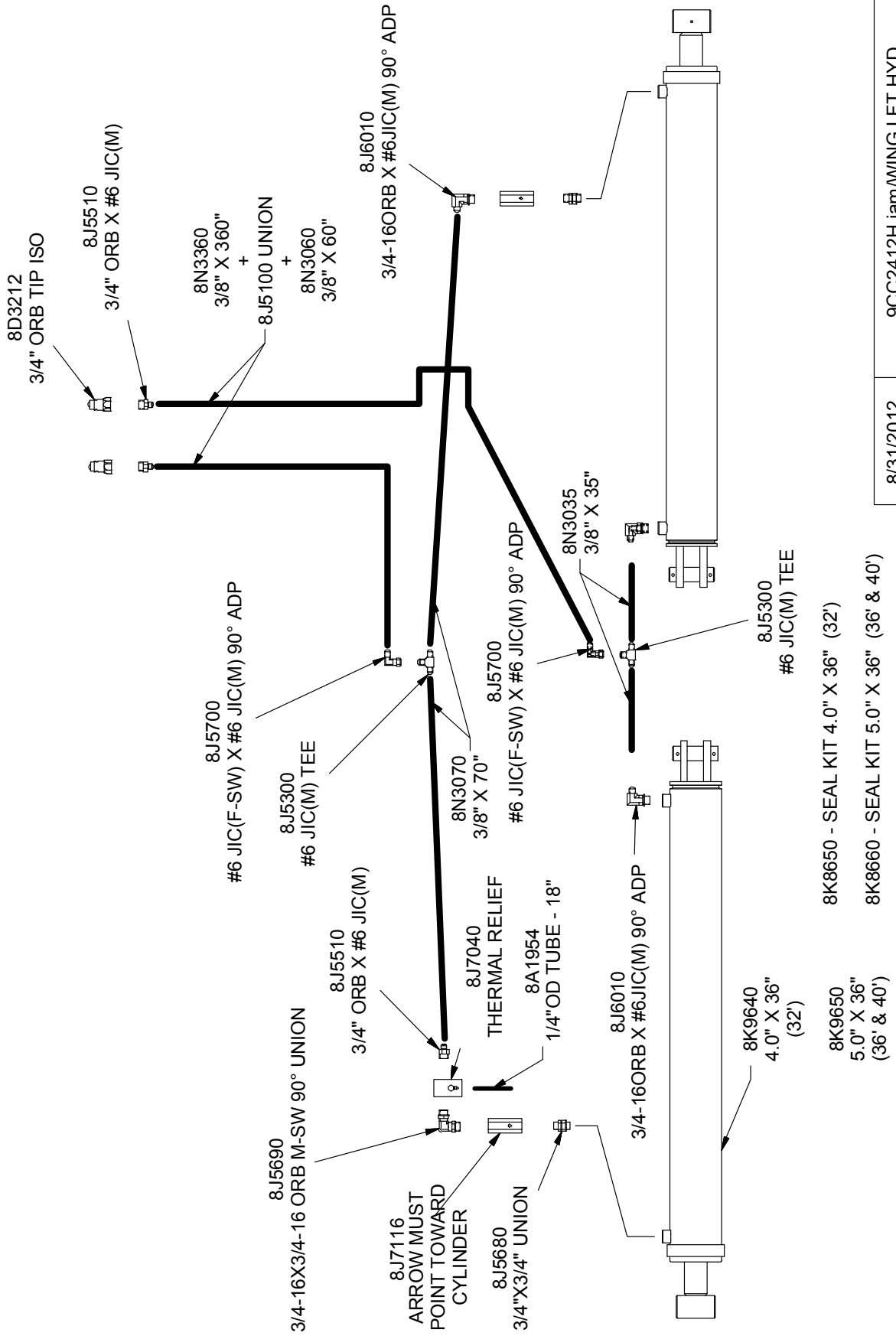
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3. Charge depth control cylinder system.
  - Connect depth control cylinder hoses to tractor. Insure that tips and couplers are CLEAN.
  - Raise Coulter-Chisel. One cylinder will extend at a time. Do not allow anyone to stand near Coulter-Chisel when 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.

SECTION 2 - HYDRAULIC SET-UP (32'-40')

32'-40' MACHINE

WING LIFT HYDRAULICS



8/31/2012

9CC2412H.iam/WING LFT HYD

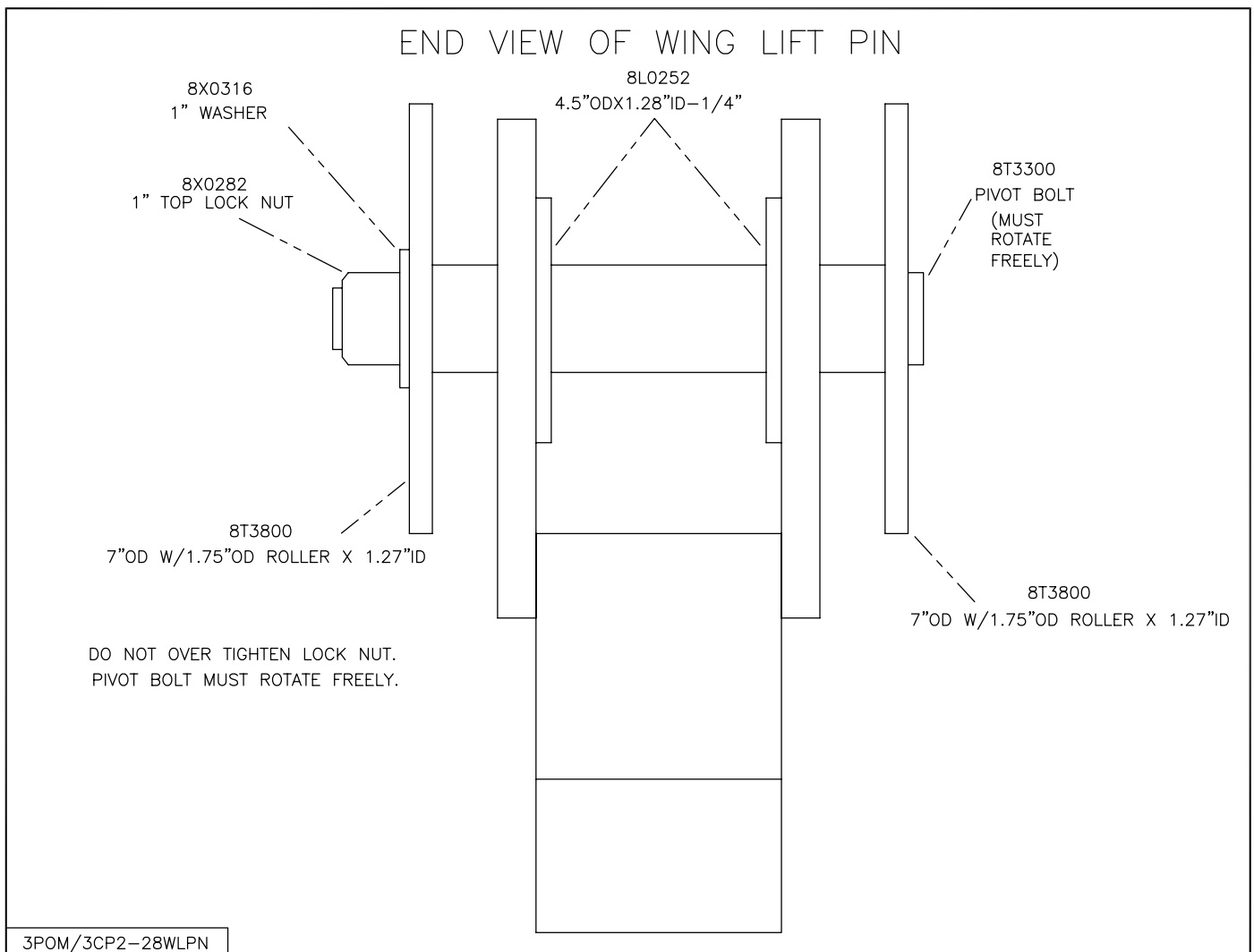
## SECTION 2 – HYDRAULIC SET-UP (32'-40')

### 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.

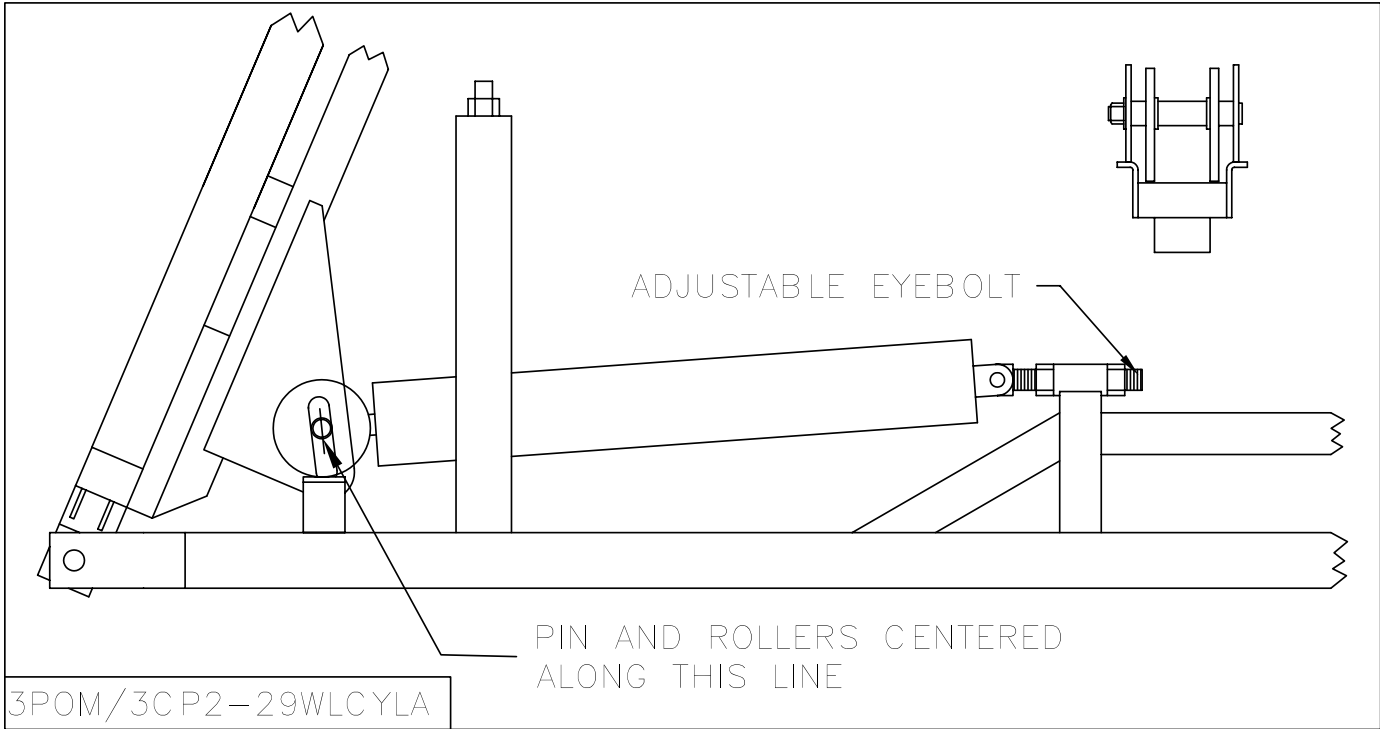
### 7. Connect rod end of cylinders to wing. Follow these steps and see drawing below.

- 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.**

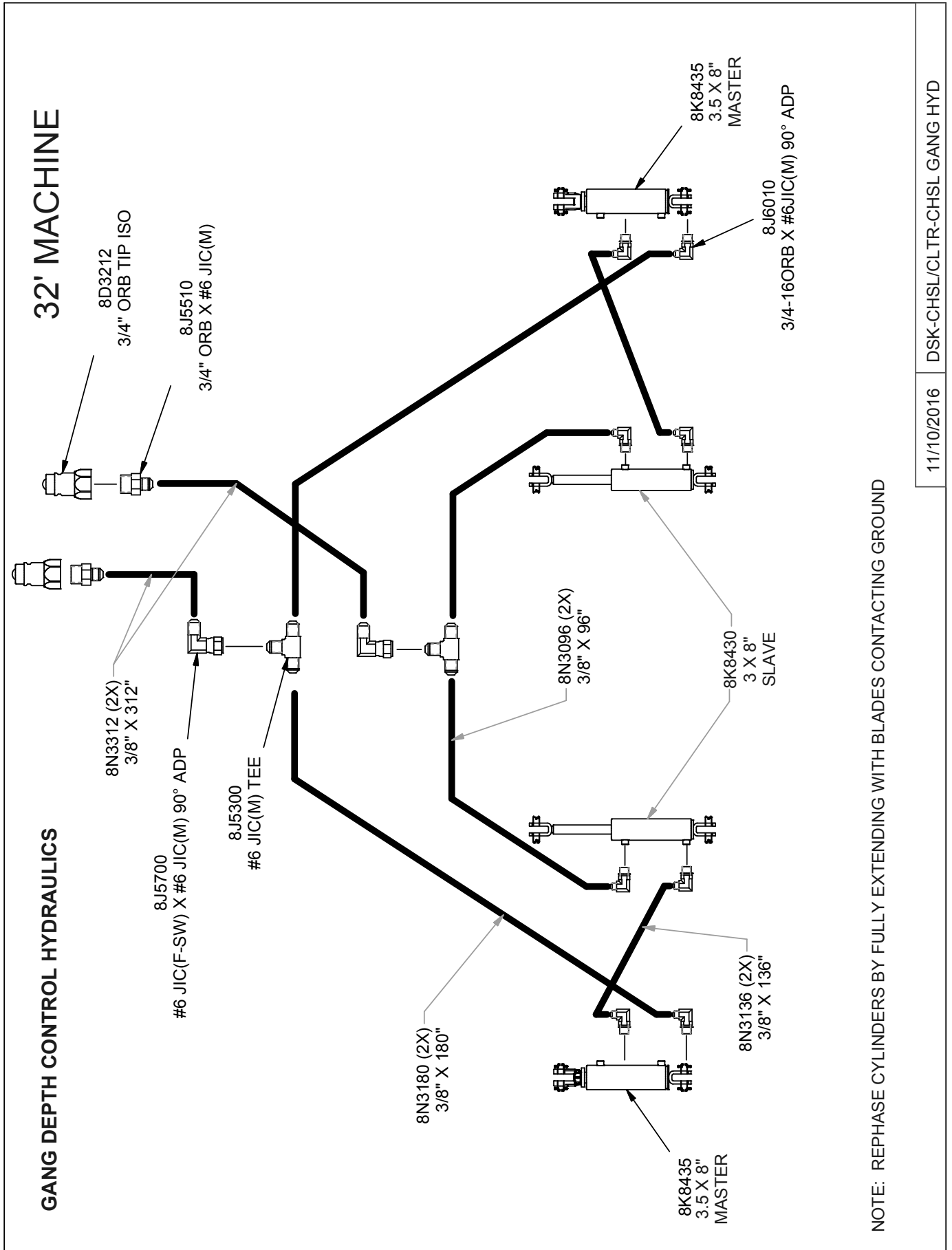


## SECTION 2 – HYDRAULIC SET-UP (32'-40')

8. With cylinder attach eyebolts loose, raise coultter-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.



SECTION 2 – HYDRAULIC SET-UP (32' & 36')

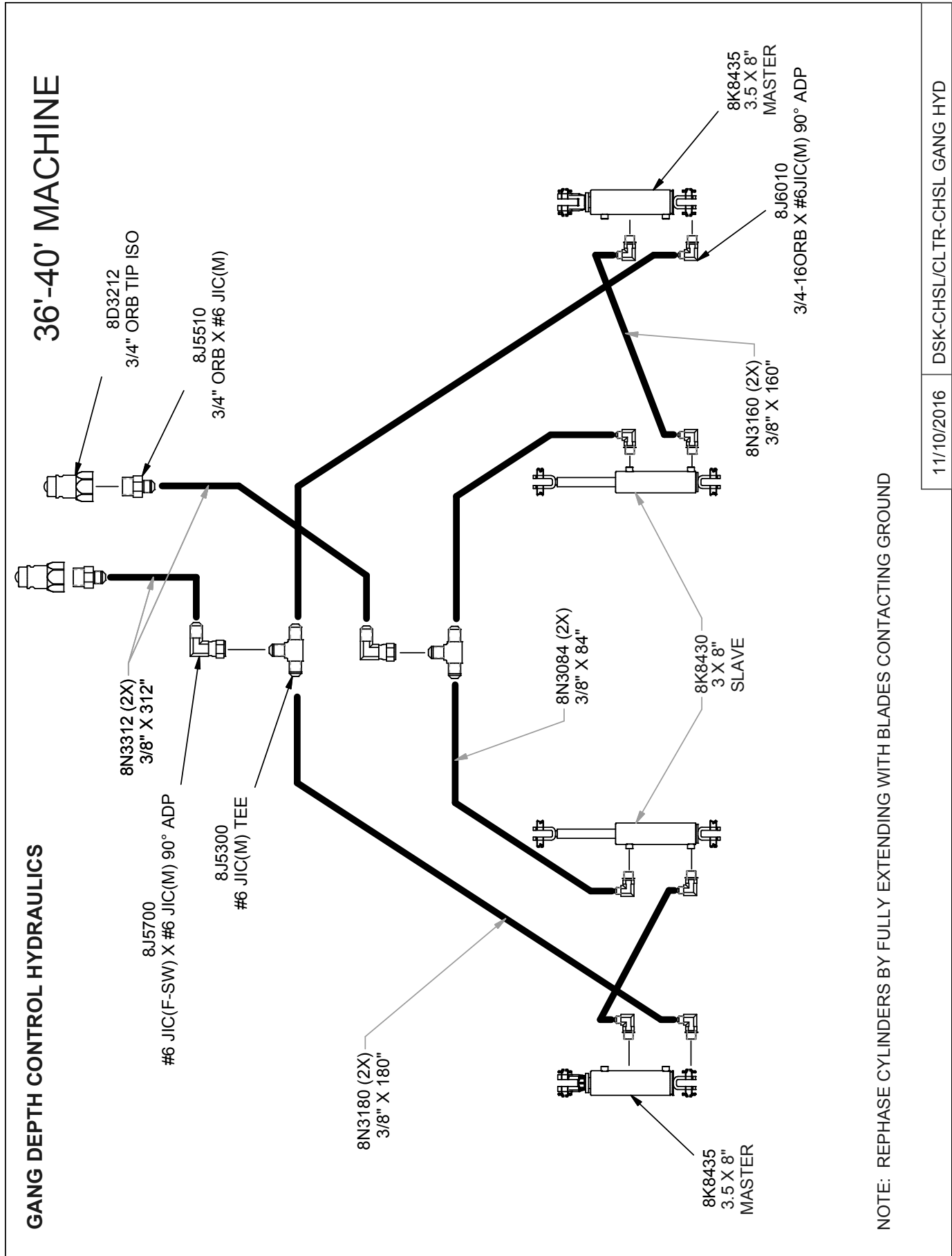


NOTE: REPHASE CYLINDERS BY FULLY EXTENDING WITH BLADES CONTACTING GROUND

11/10/2016

DSK-CHSL/CLTR-CHSL GANG HYD

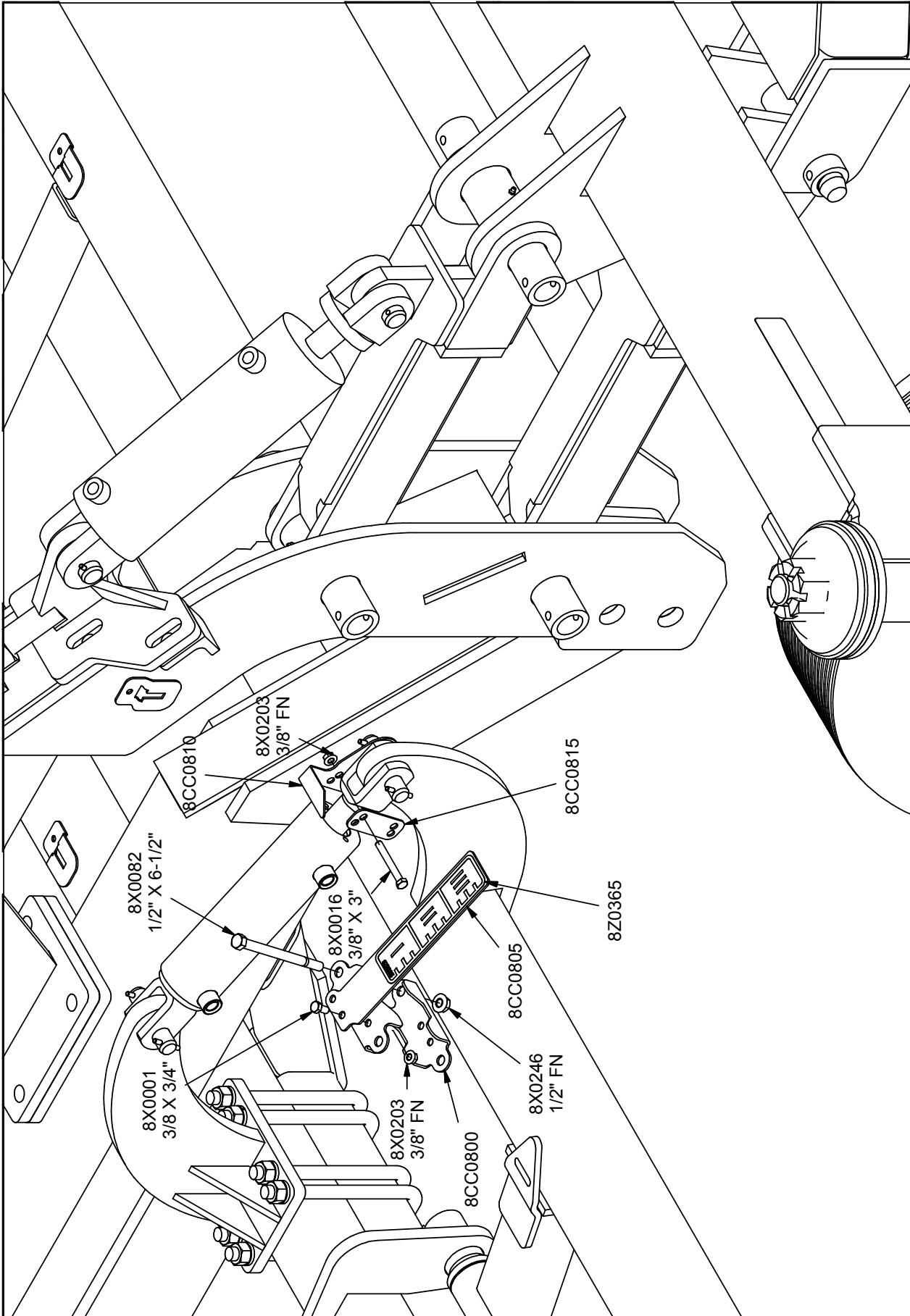
SECTION 2 – HYDRAULIC SET-UP (40')



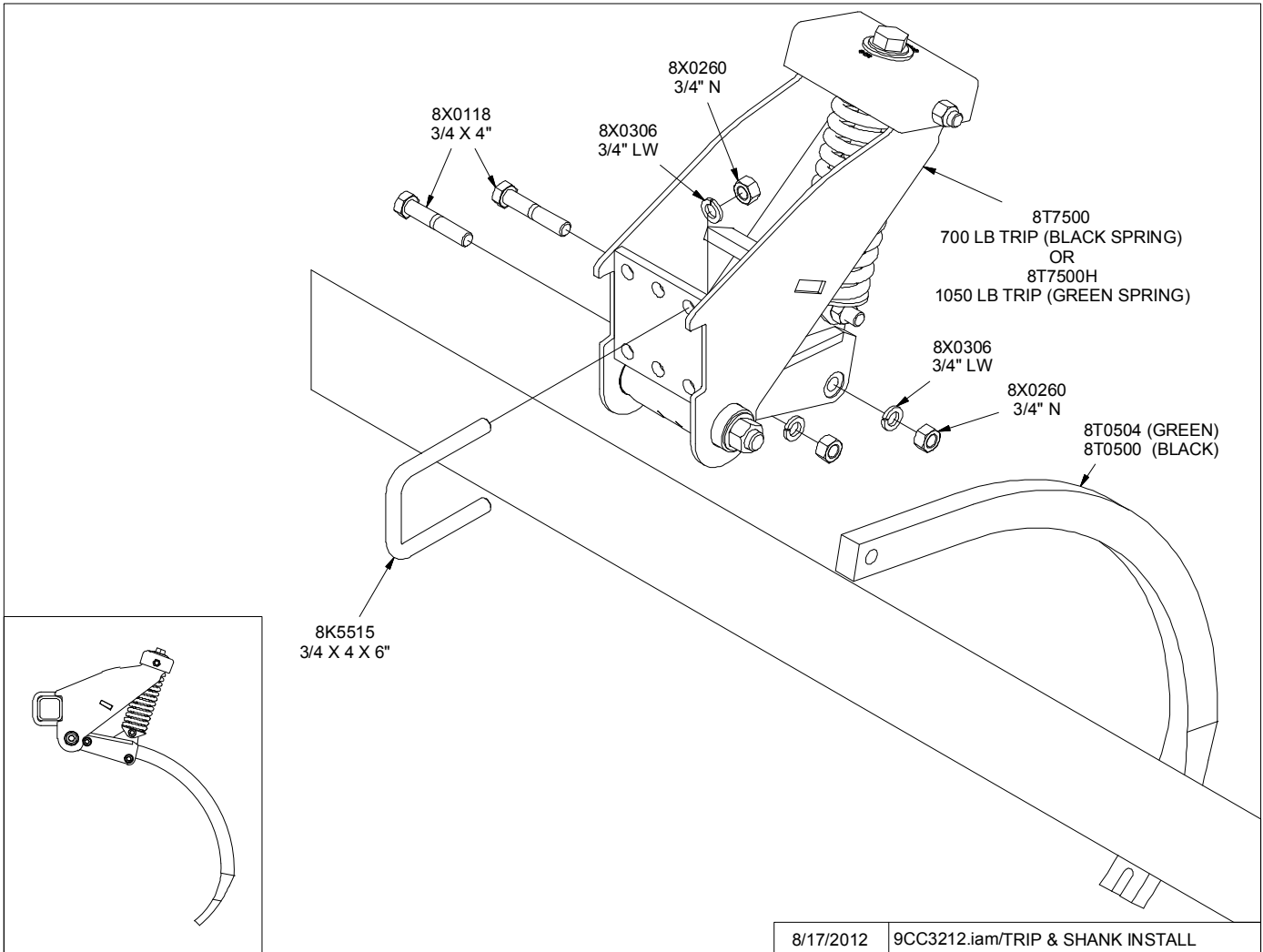
NOTE: REPHASE CYLINDERS BY FULLY EXTENDING WITH BLADES CONTACTING GROUND



SECTION 2 – HYDRAULIC SET-UP (ALL WIDTHS)

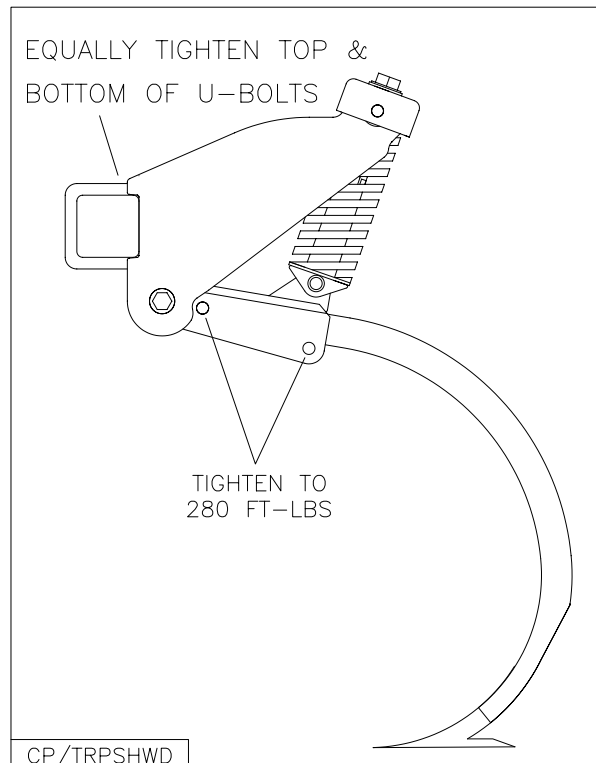


## SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS



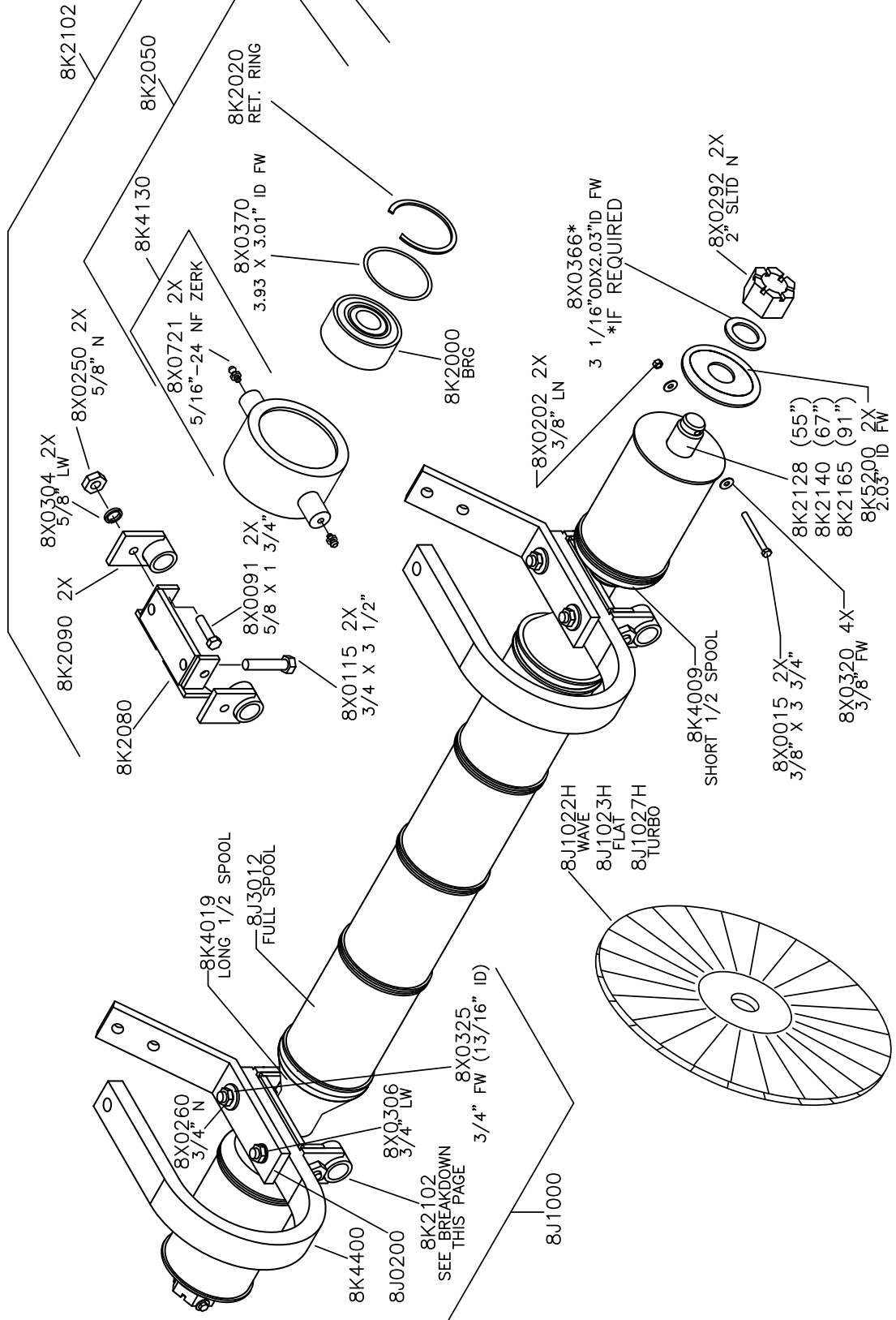
### 1. Install shanks into trip assemblies.

- Install rear 3/4 x 4" bolt. Slide shank into shank holder. Install front bolt. Securely tighten.
- 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

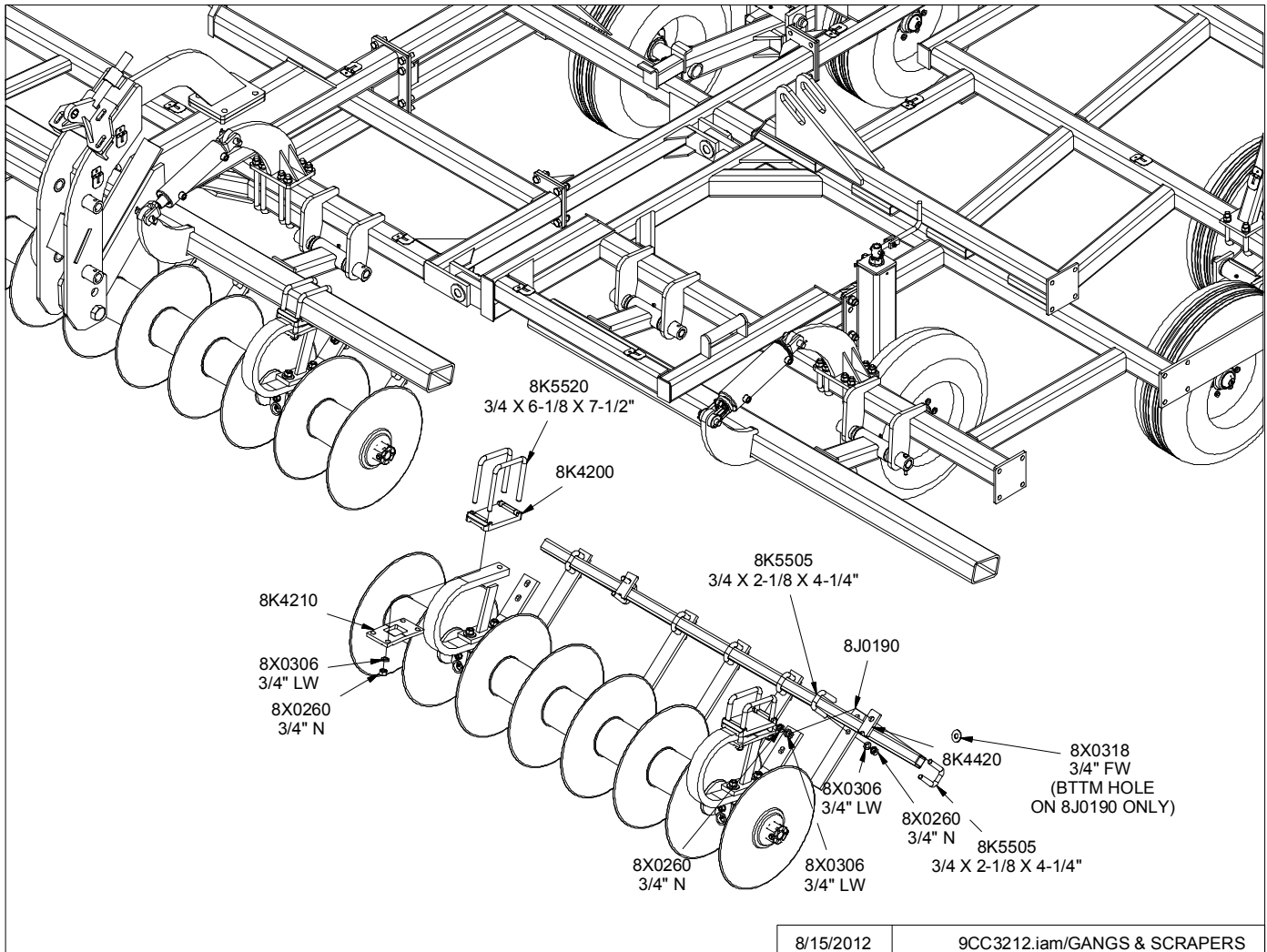
COULTER-CHISEL GANG ASSEMBLIES



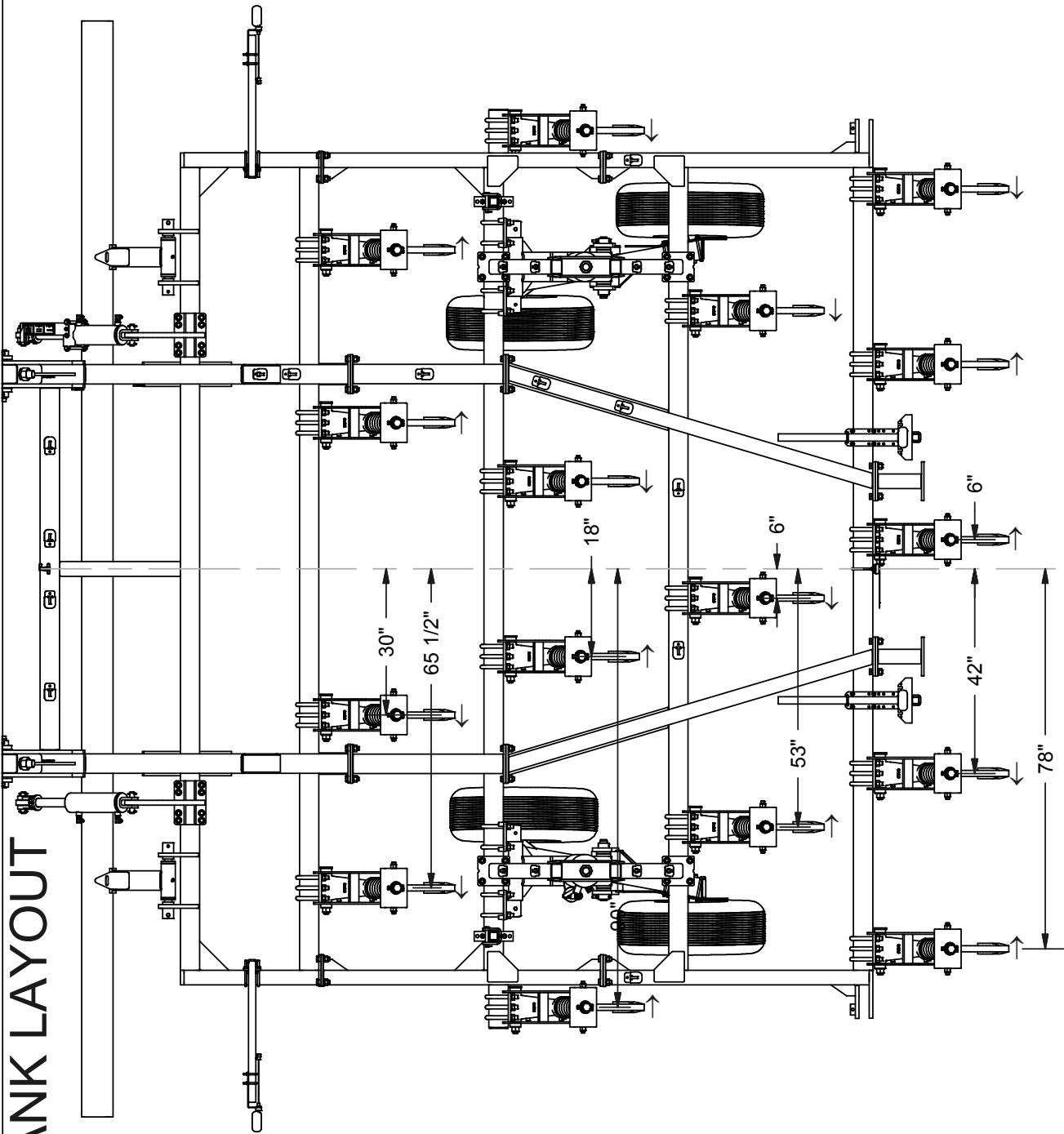
## SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

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 coultter blades.

*Locations are shown in the following pages*



SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

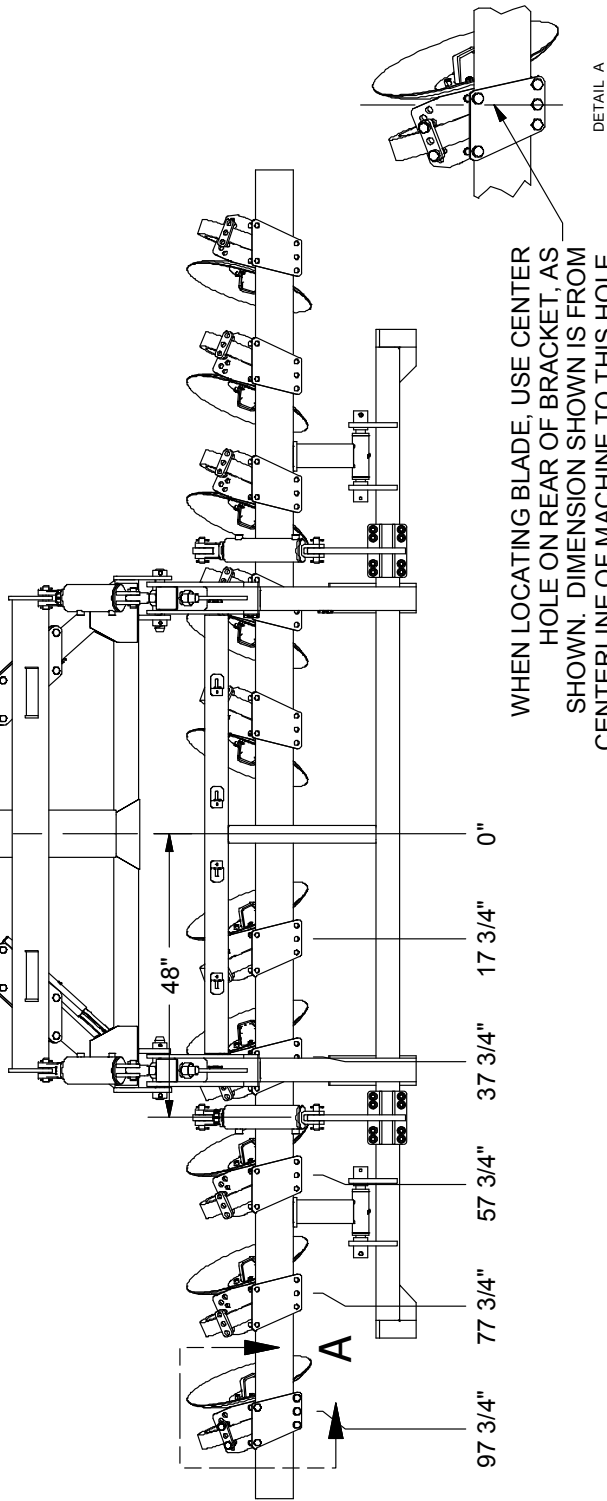


16' SHANK LAYOUT

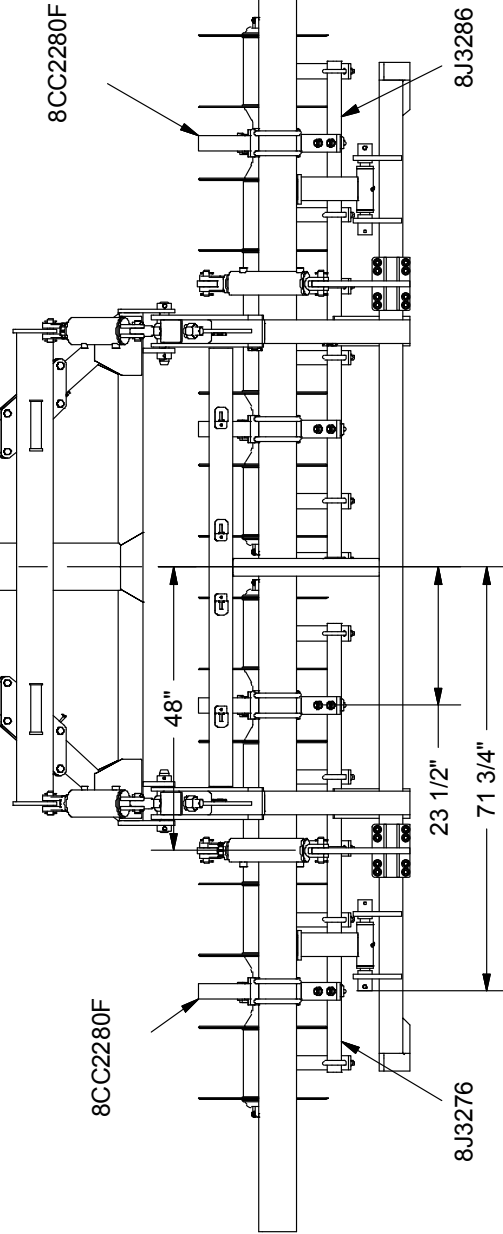
10/17/2014 9CC1612H.iam/16' SHANK LAYOUT

## SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

### 16' DISK-CHISEL



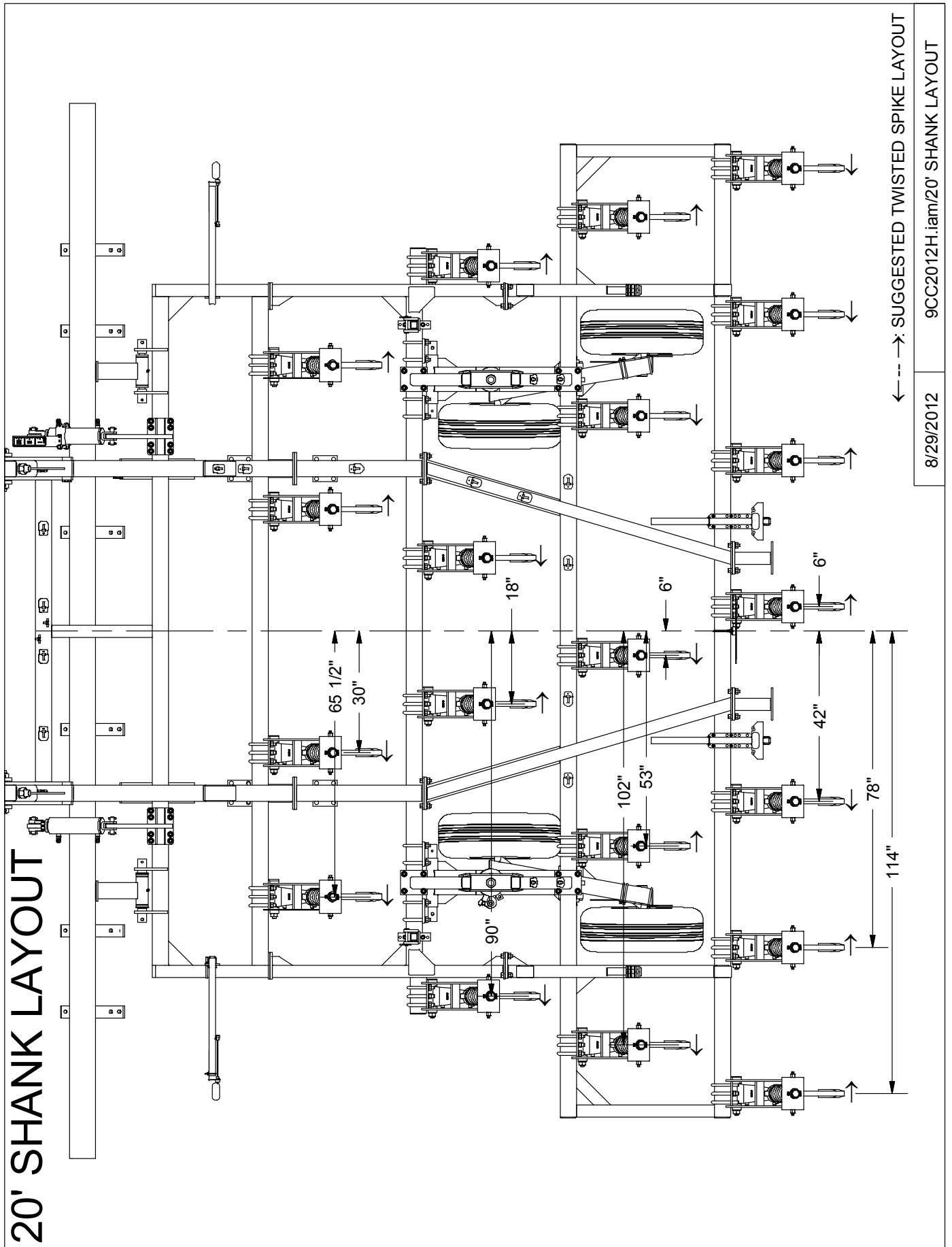
### 16' COULTER-CHISEL



8/29/2012

9DC1612H.iam/16' GANG LAYOUT

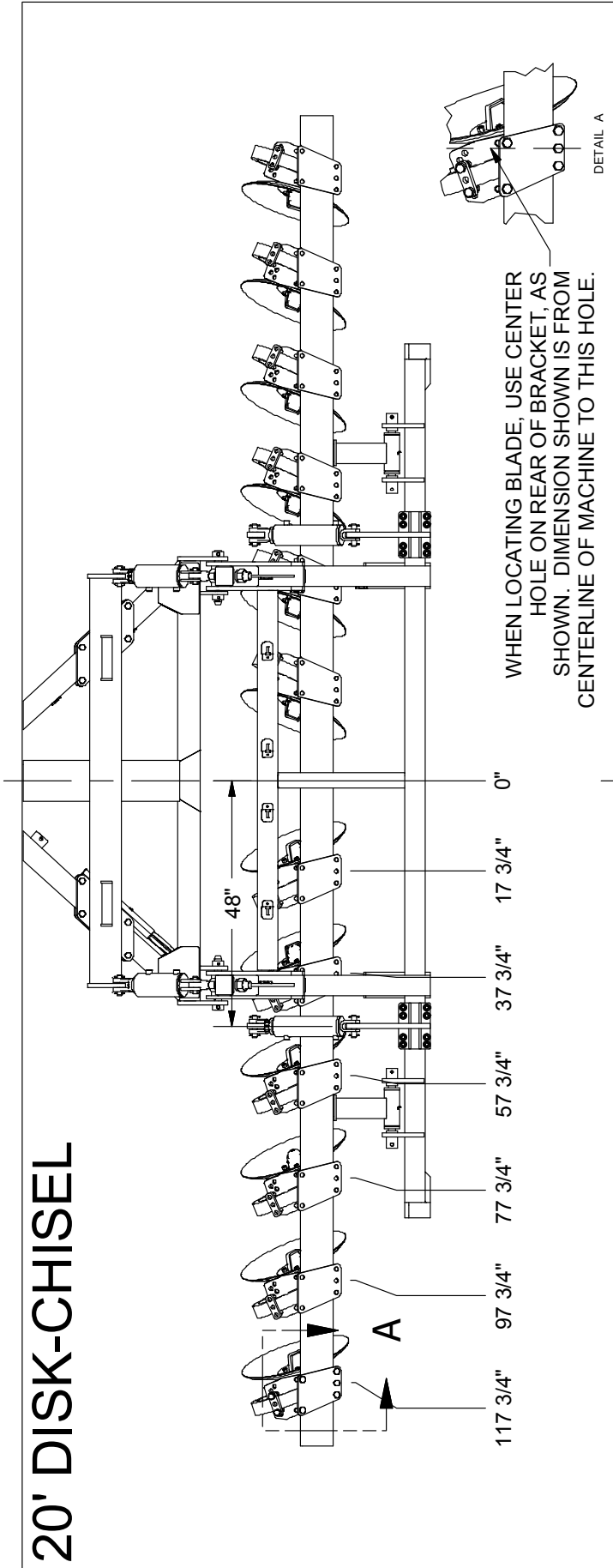
SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS



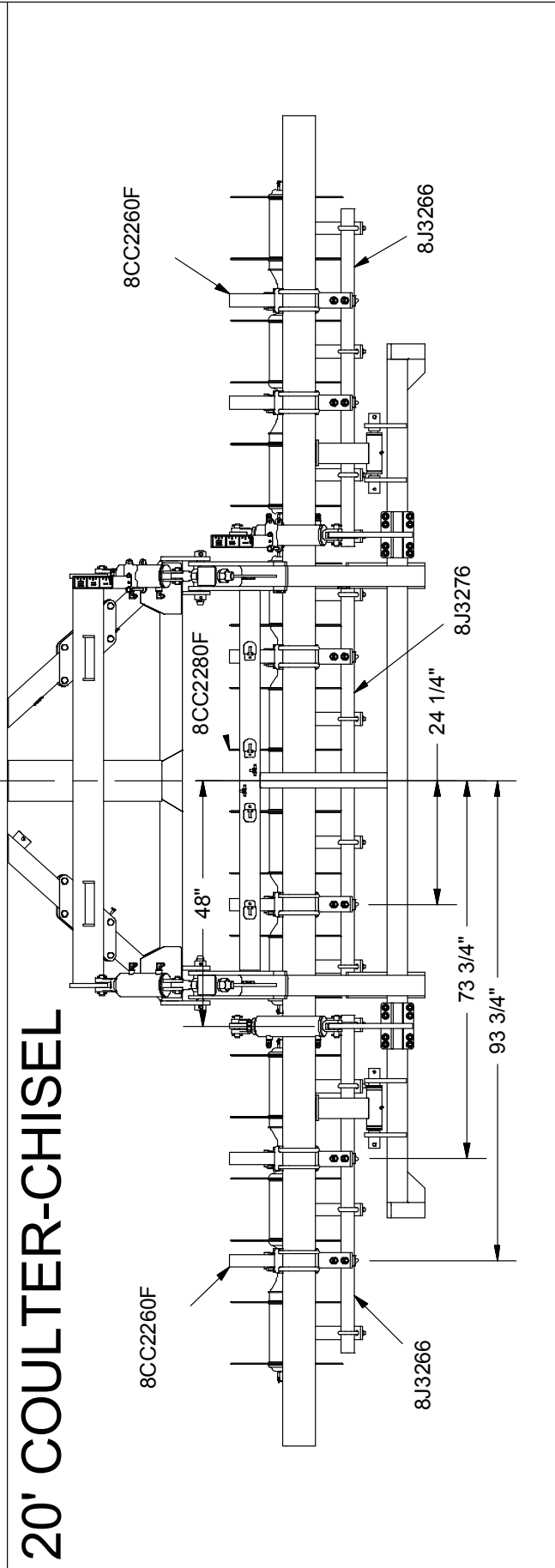
8/29/2012 9CC2012H:iam/20' SHANK LAYOUT

SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

20' DISK-CHISEL



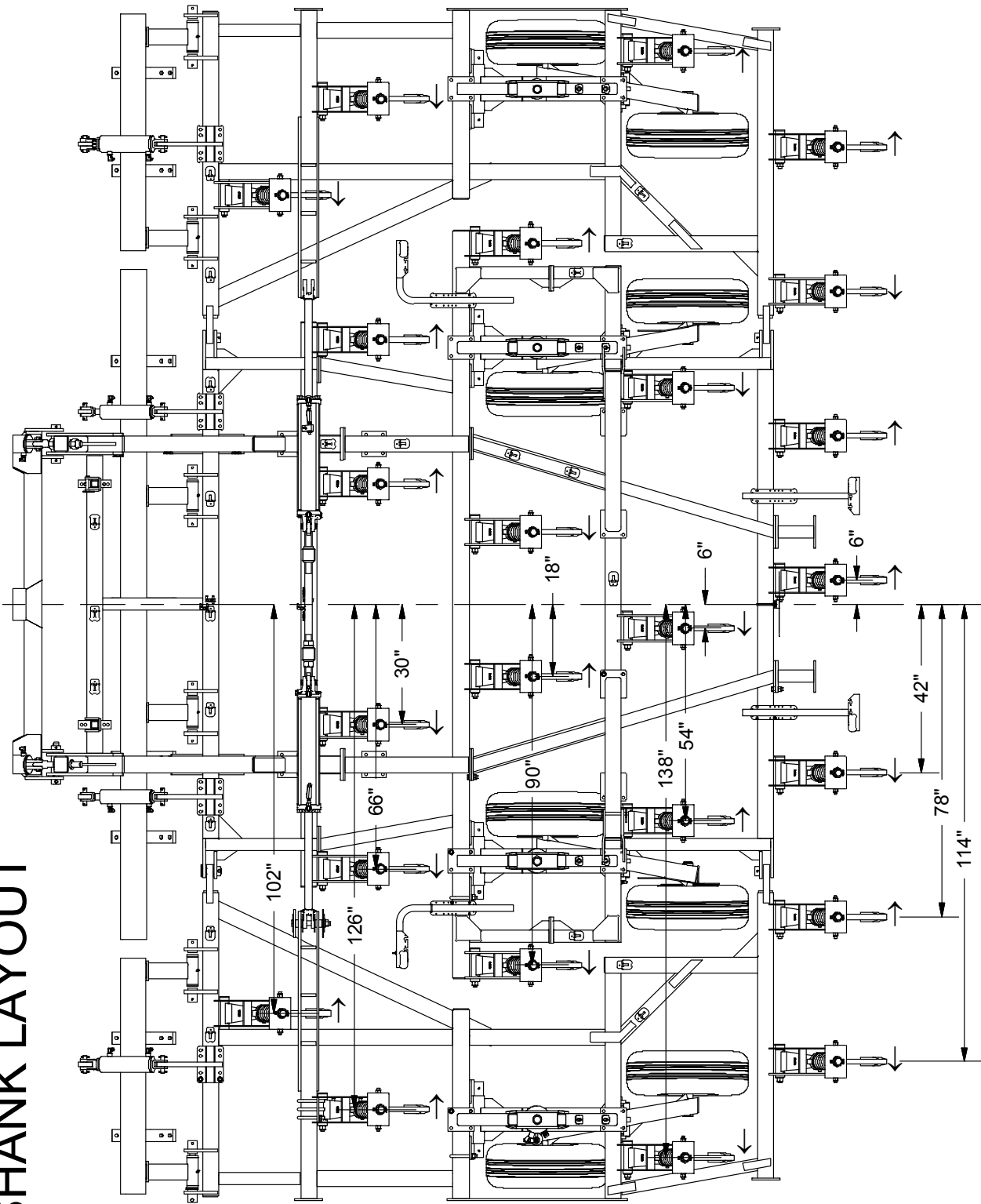
20' COULTER-CHISEL





SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

24' SHANK LAYOUT

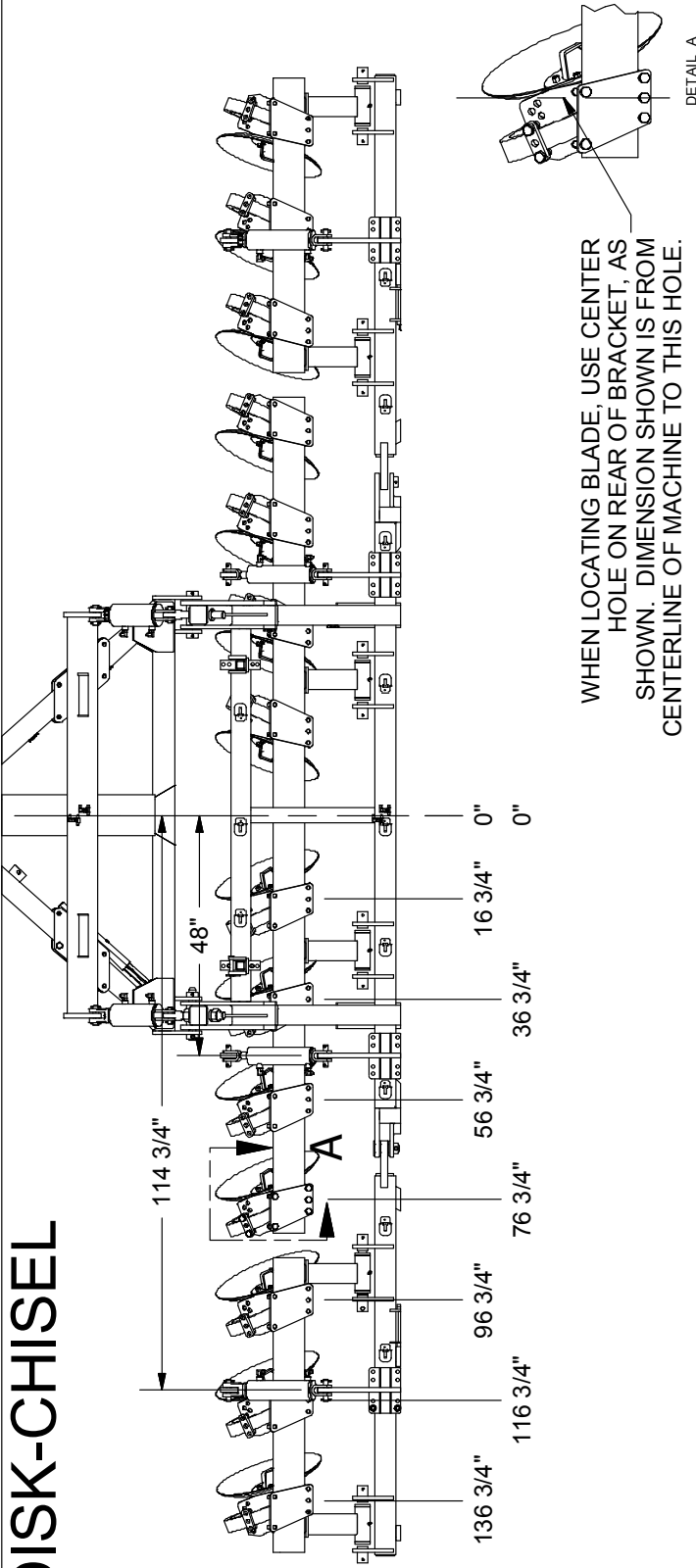


8/30/2012

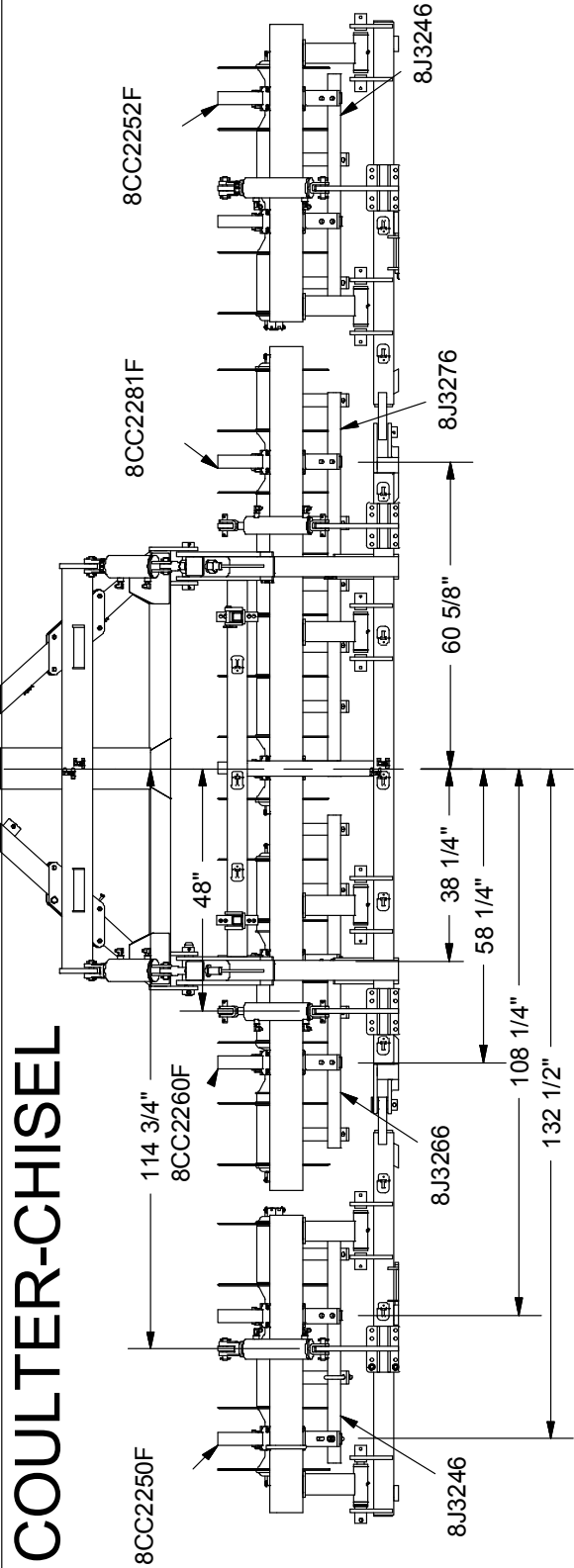
9CC2412H.iam/24' SHANK LAYOUT

SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

24' DISK-CHISEL



24' COULTER-CHISEL

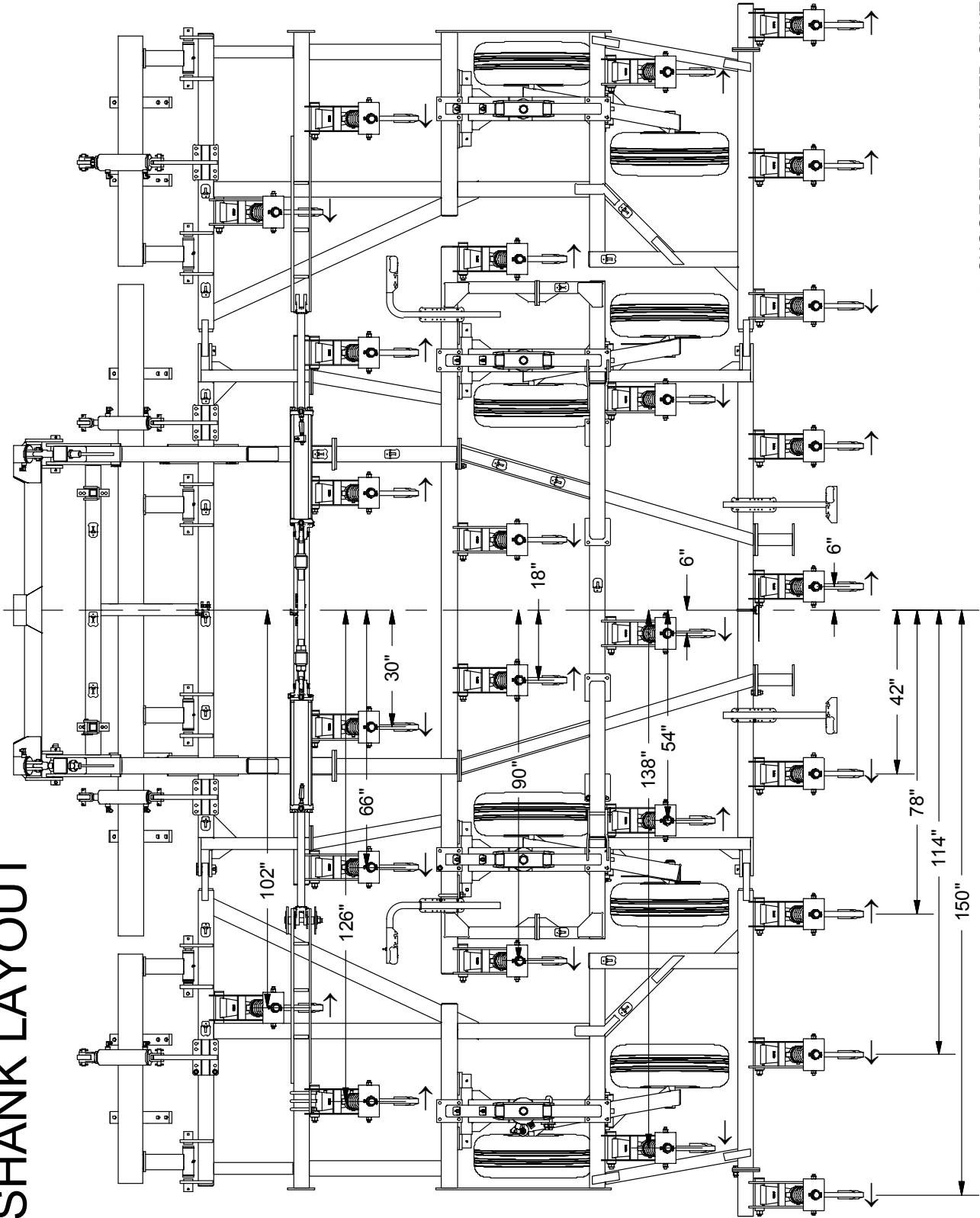


8/30/2012

9DC2412H.iam/24' GANG LAYOUT

SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

26' SHANK LAYOUT



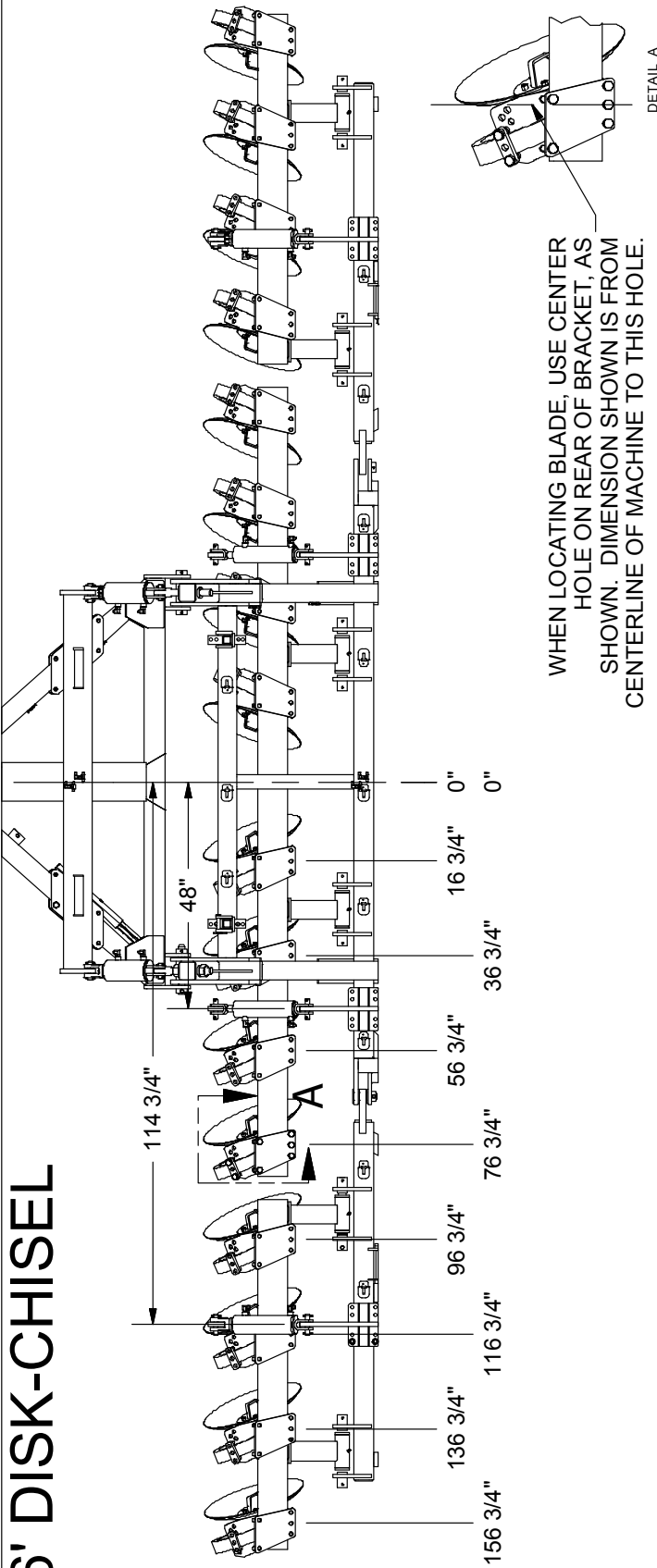
← - - - →: SUGGESTED TWISTED SPIKE LAYOUT

8/30/2012

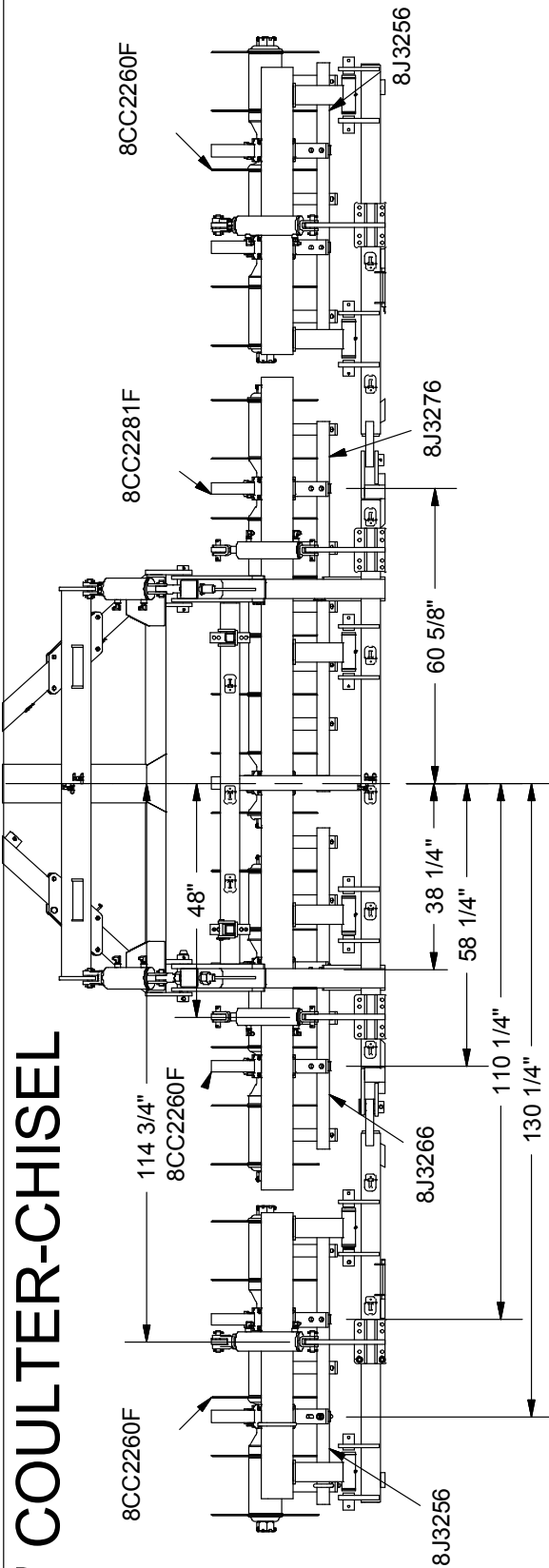
9CC2612H:iam/26' SHANK LAYOUT

# SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

## 26' DISK-CHISEL

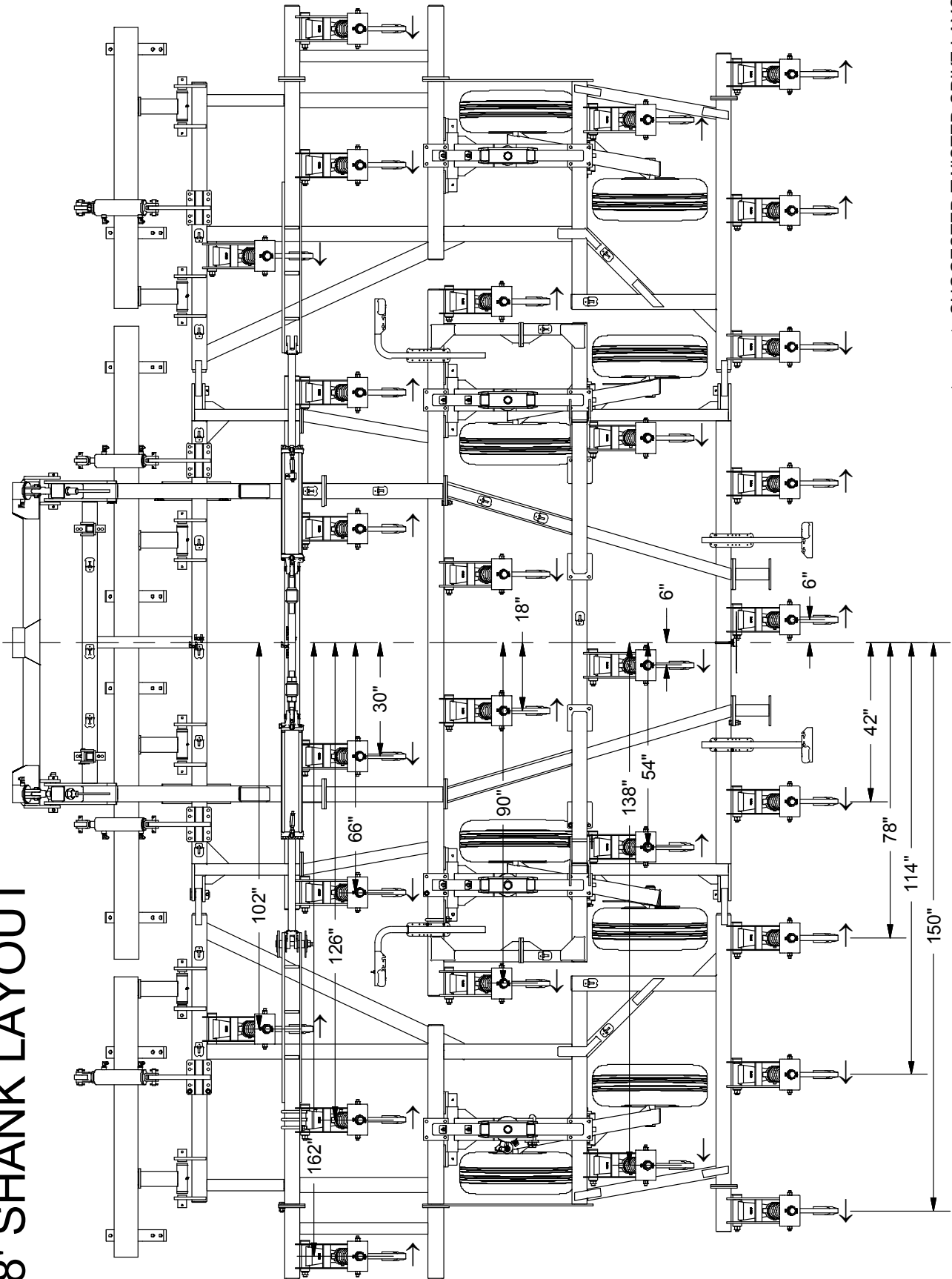


## 26' COULTER-CHISEL



SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

28' SHANK LAYOUT



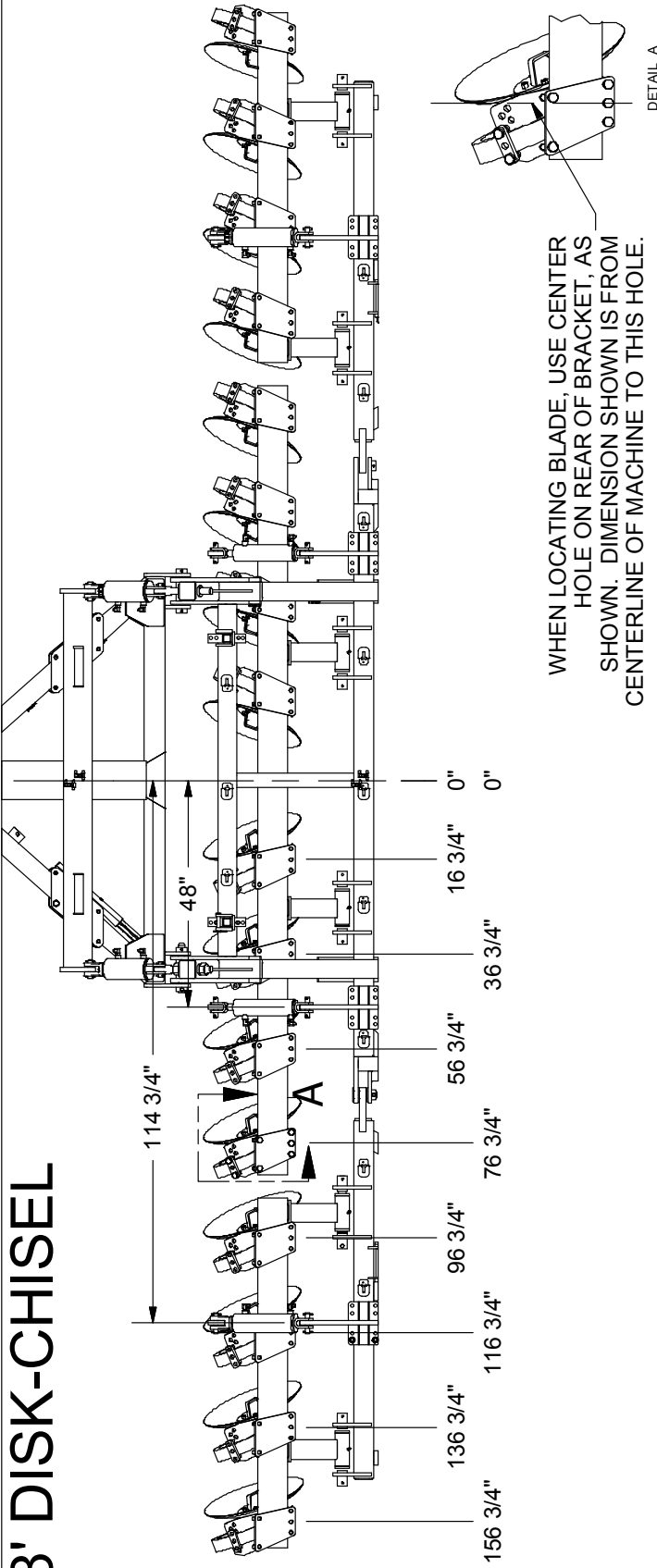
← - - - →: SUGGESTED TWISTED SPIKE LAYOUT

8/30/2012

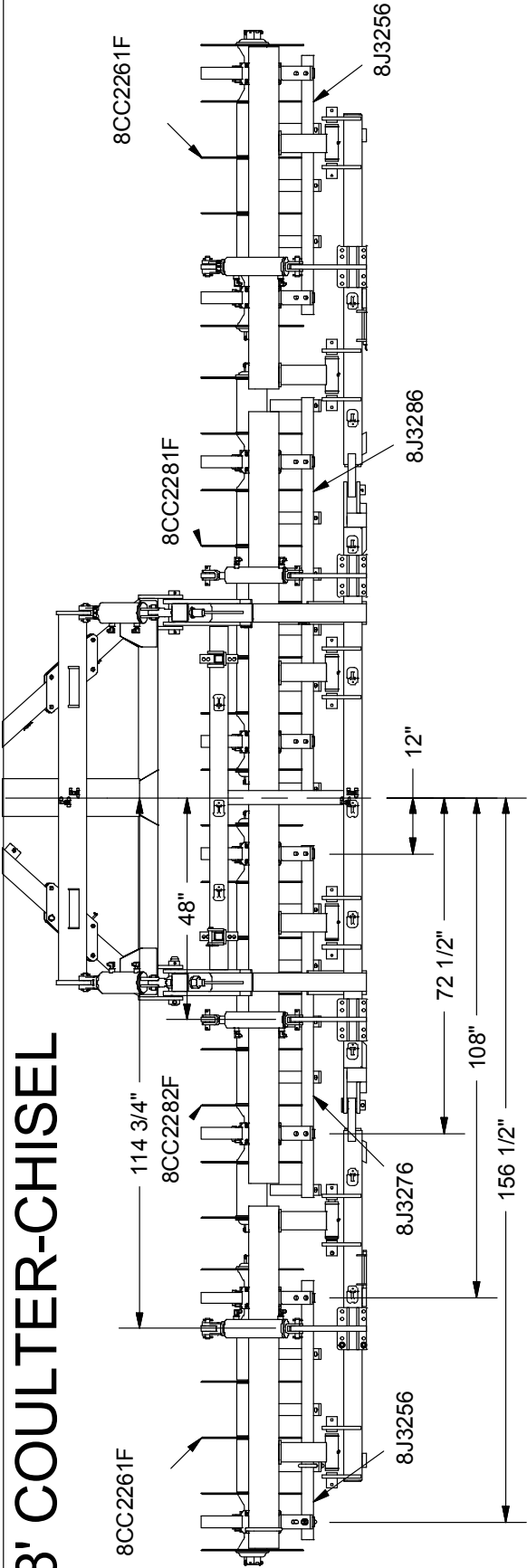
9CC2812H.iam/28' SHANK LAYOUT

SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

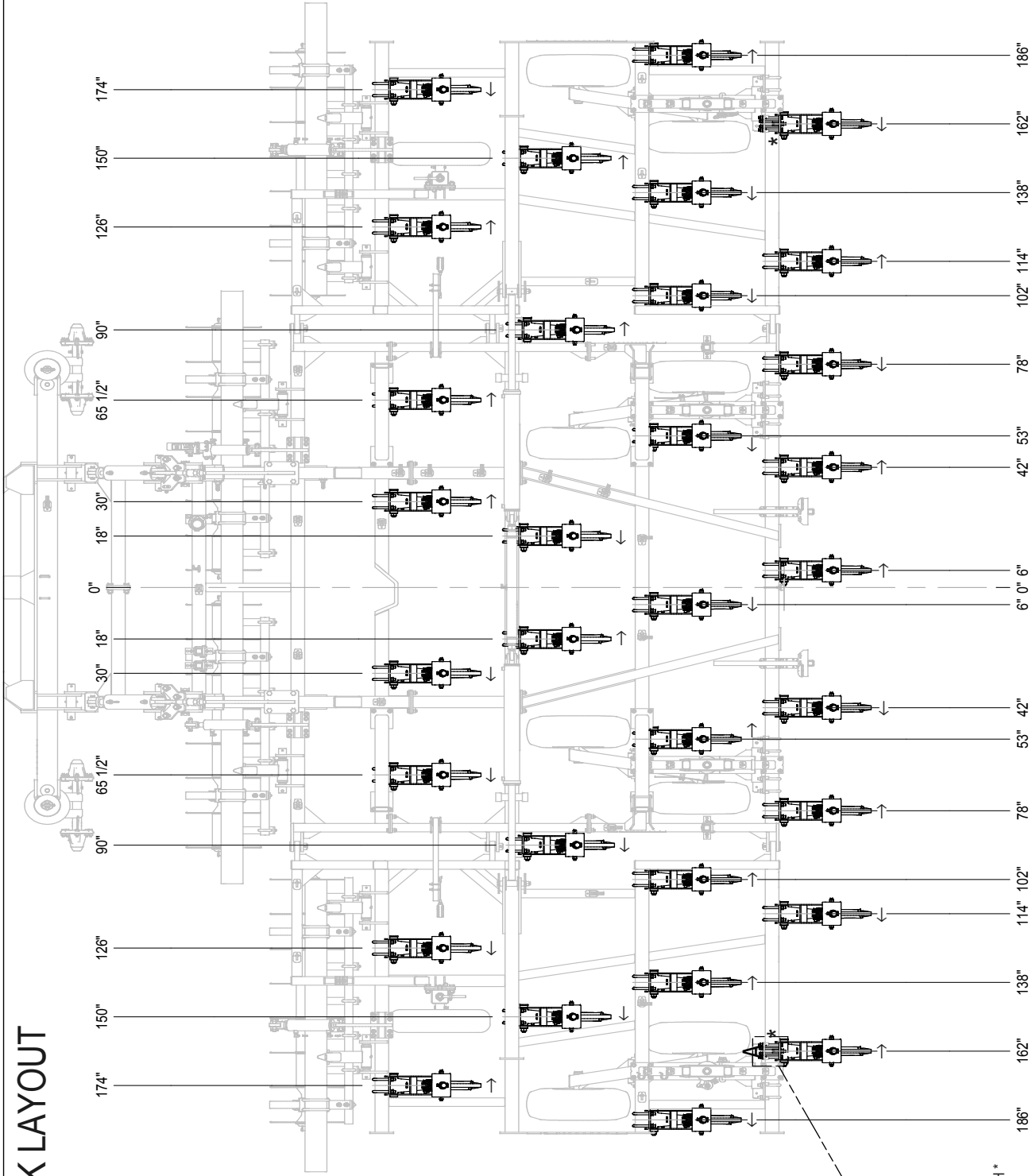
28' DISK-CHISEL



28' COULTER-CHISEL



# 32' SHANK LAYOUT



8T3100  
LOCATIONS  
MARKED WITH \*

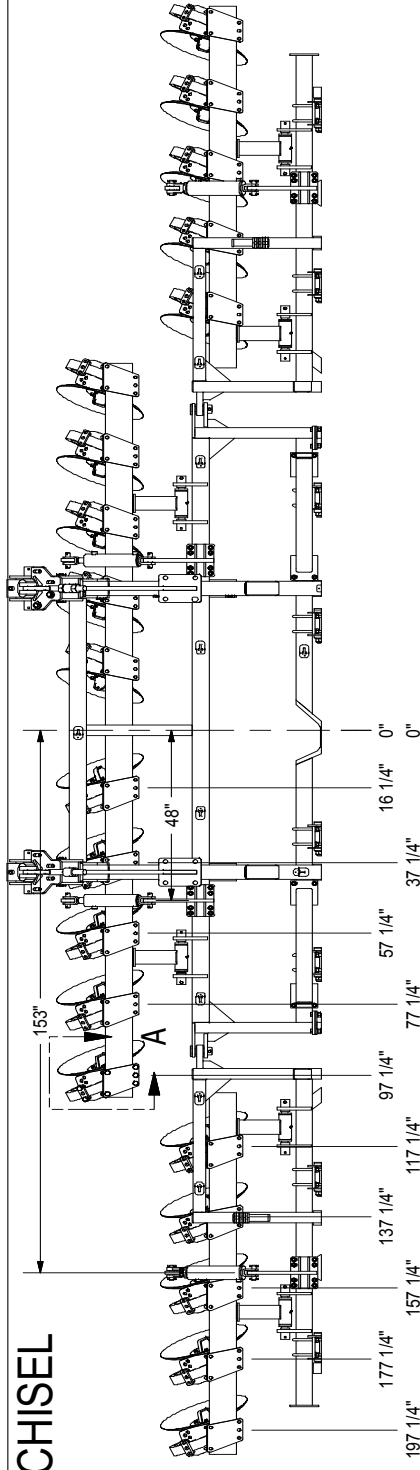
← -- →: SUGGESTED TWISTED SPIKE LAYOUT

8/30/2012

9CC3212.iem/32' SHANK LAYOUT

SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

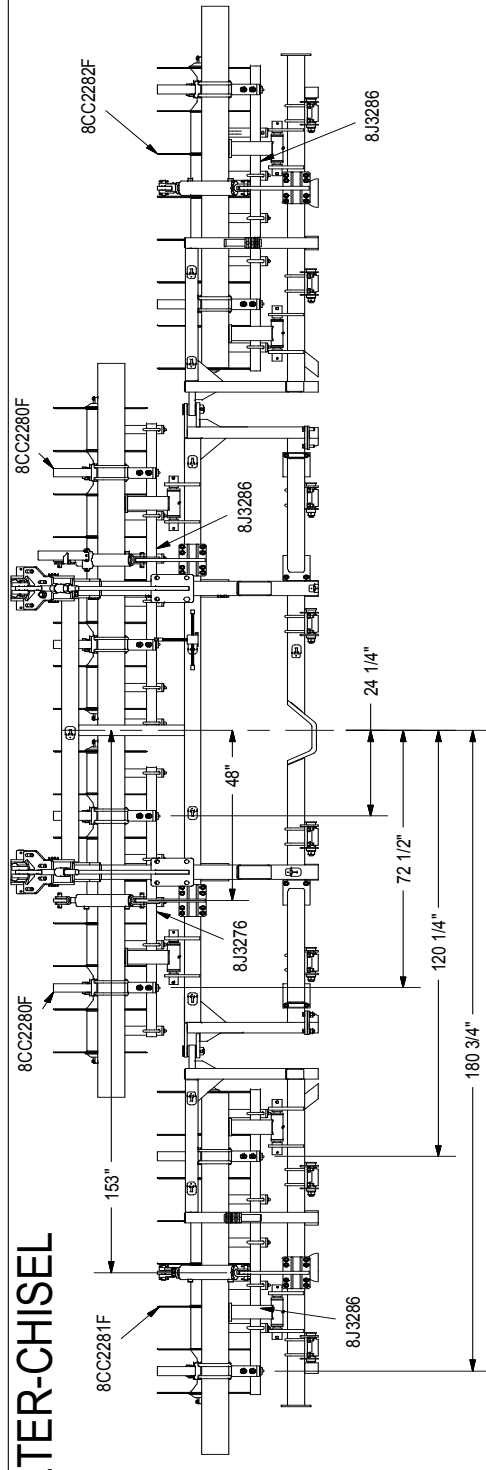
32' DISK-CHISEL



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

DETAIL A

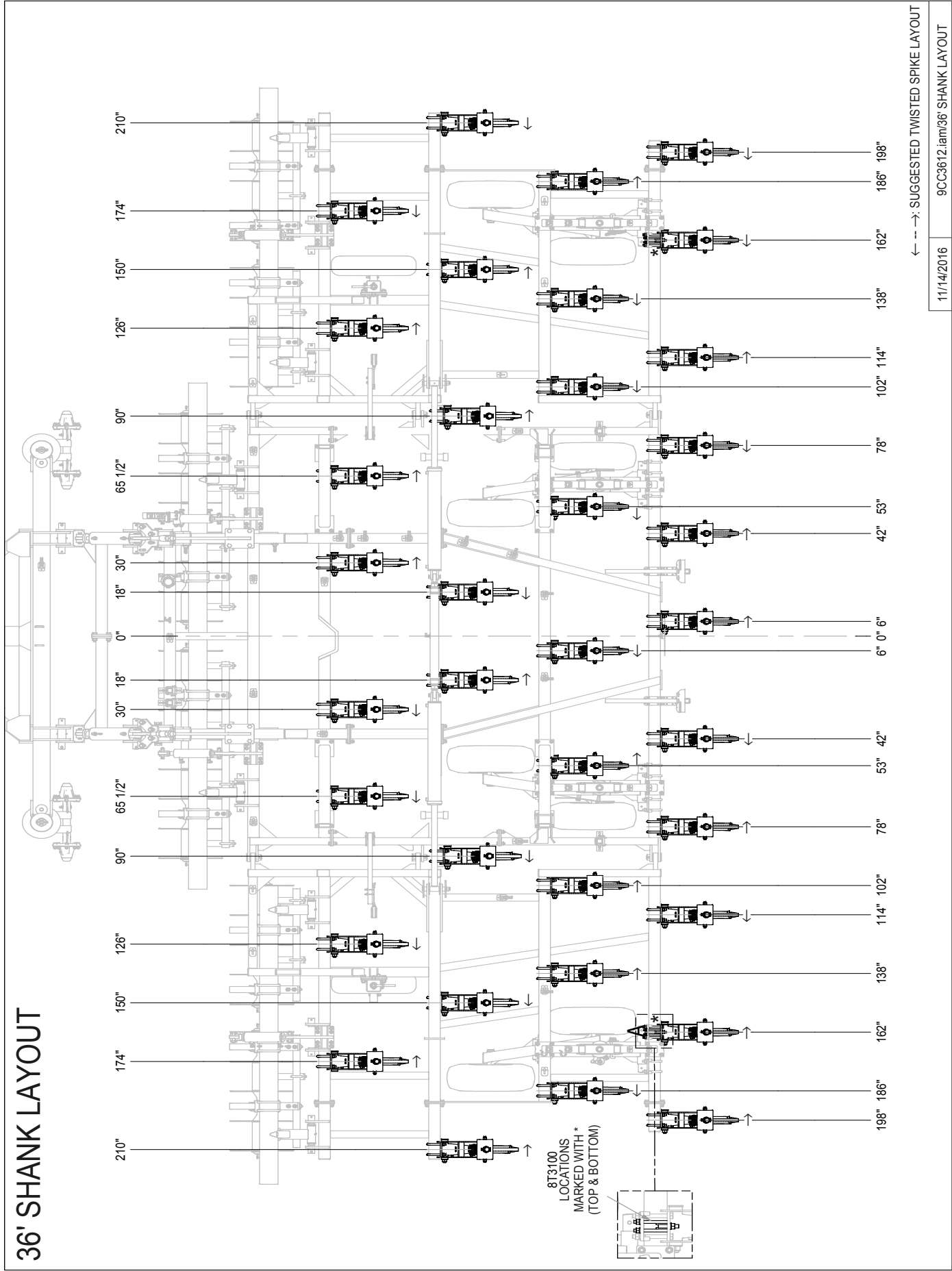
32' COULTER-CHISEL





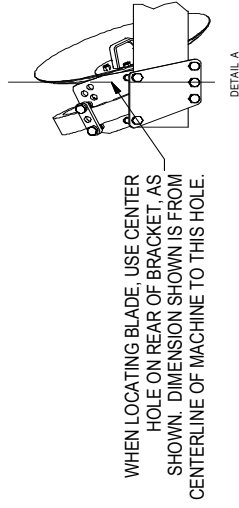
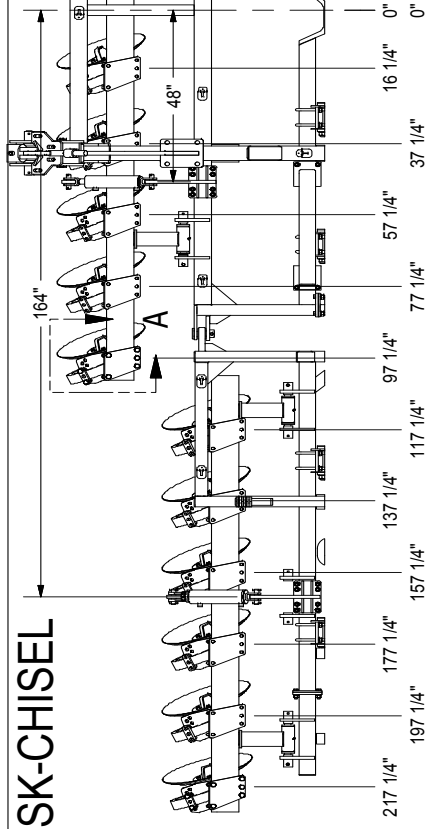
SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

36' SHANK LAYOUT

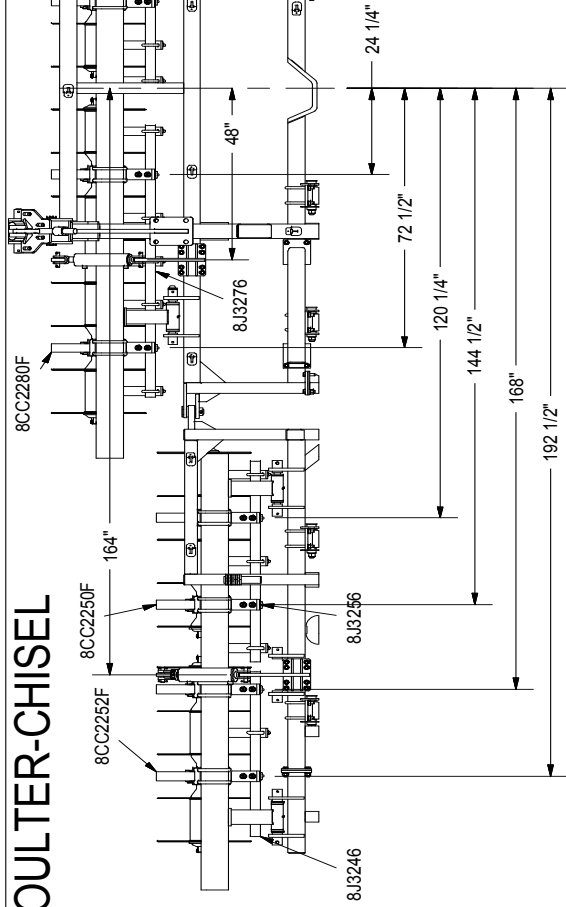


SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

36' DISK-CHISEL

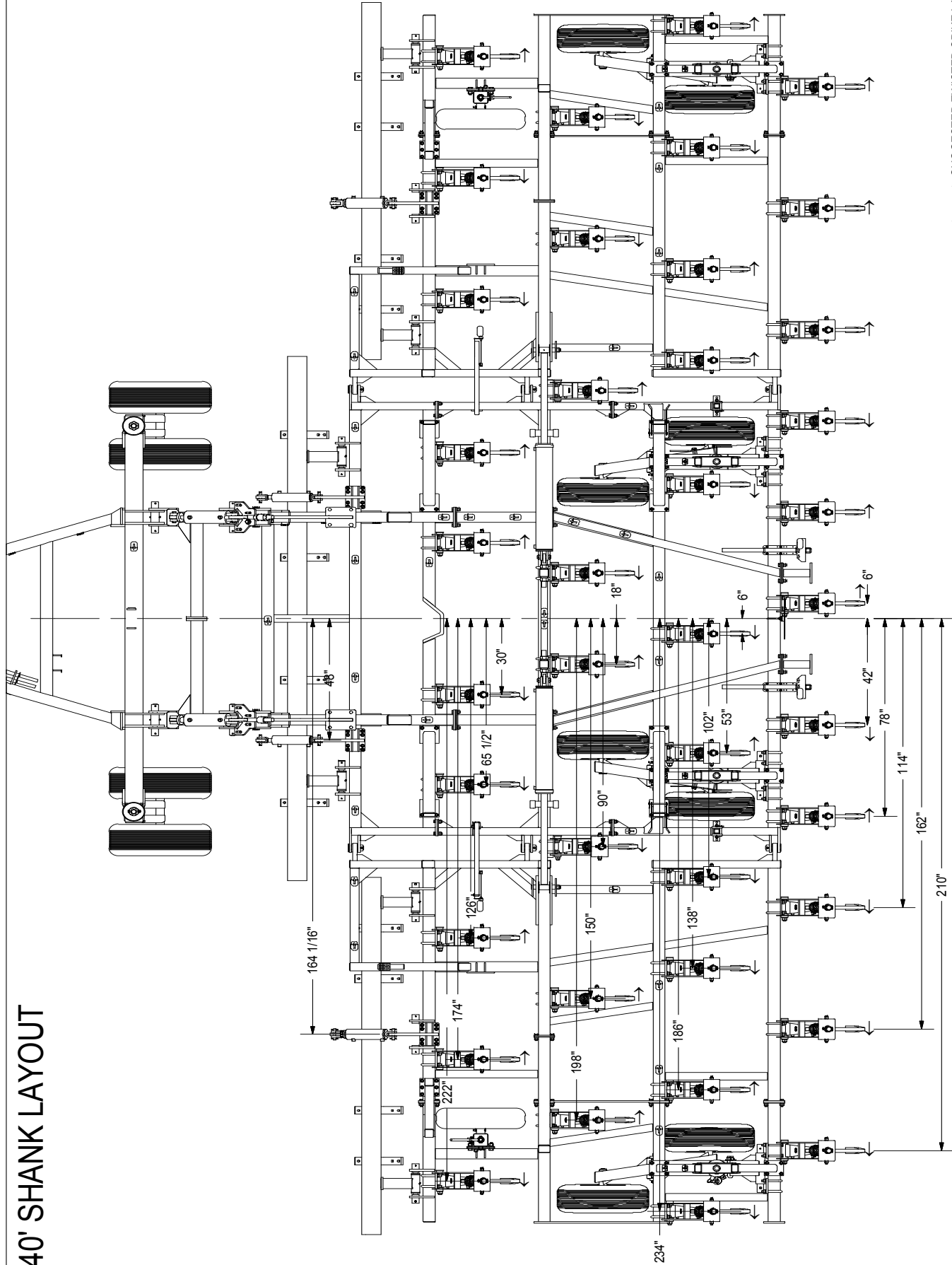


36' COULTER-CHISEL



SECTION 2 - INSTALLATION OF SHANKS AND COULTER GANGS

40' SHANK LAYOUT



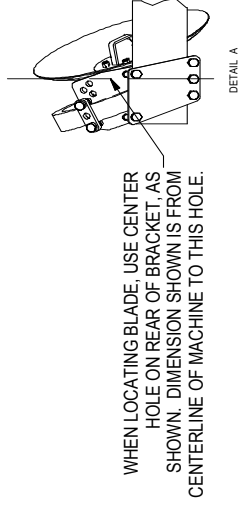
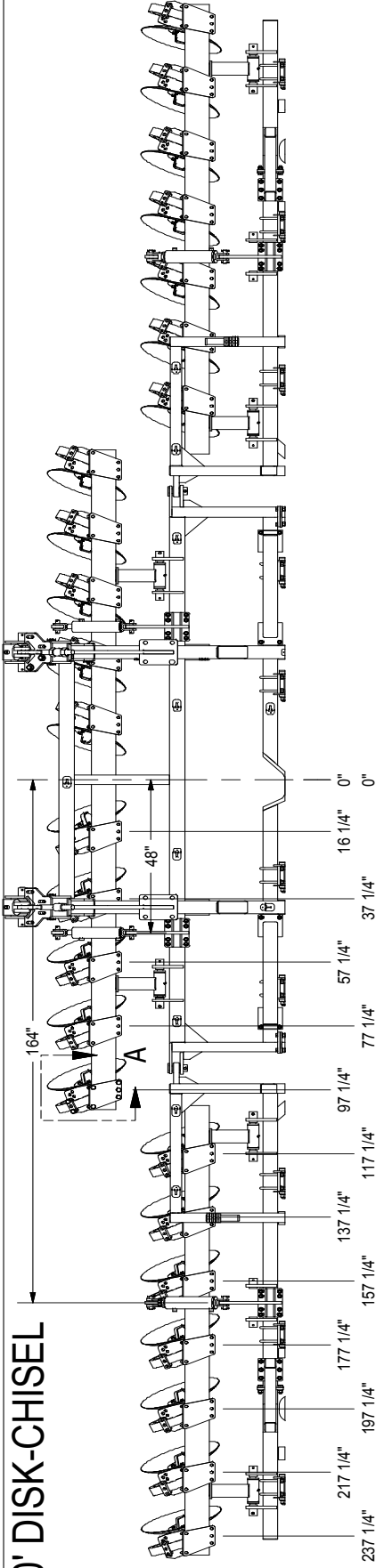
← --- → SUGGESTED TWISTED SPIKE LAYOUT

8/30/2012

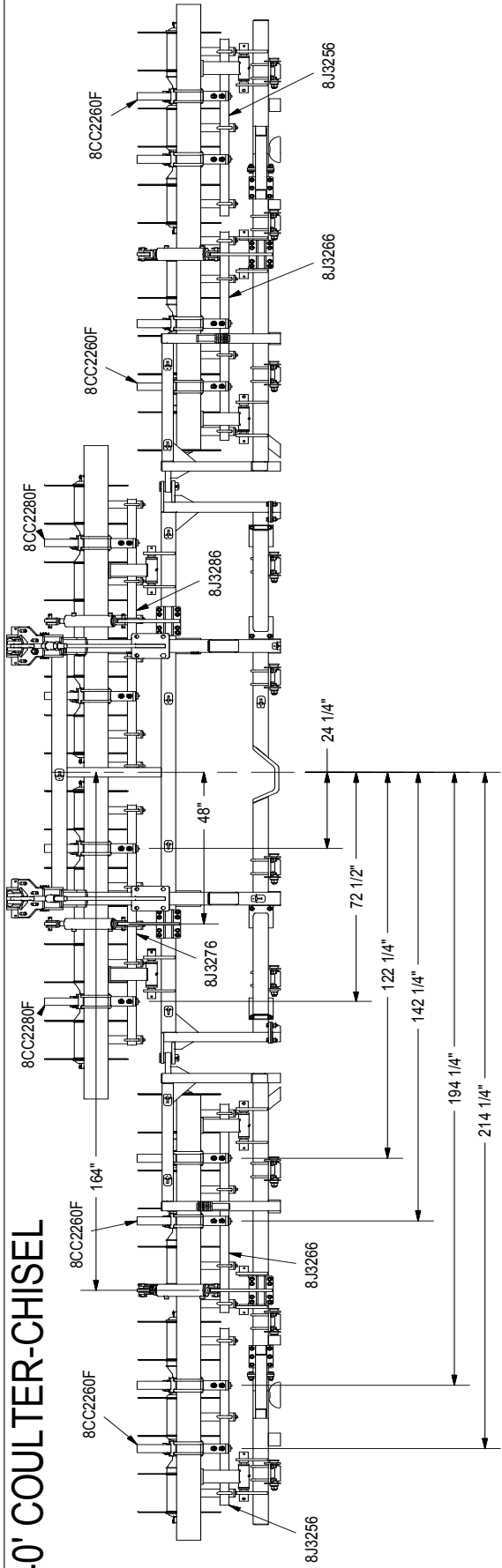
9CC4012.lam/40' SHANK LAYOUT

SECTION 2 - INSTALLATION OF SHANKS AND COULTER GANGS

40' DISK-CHISEL

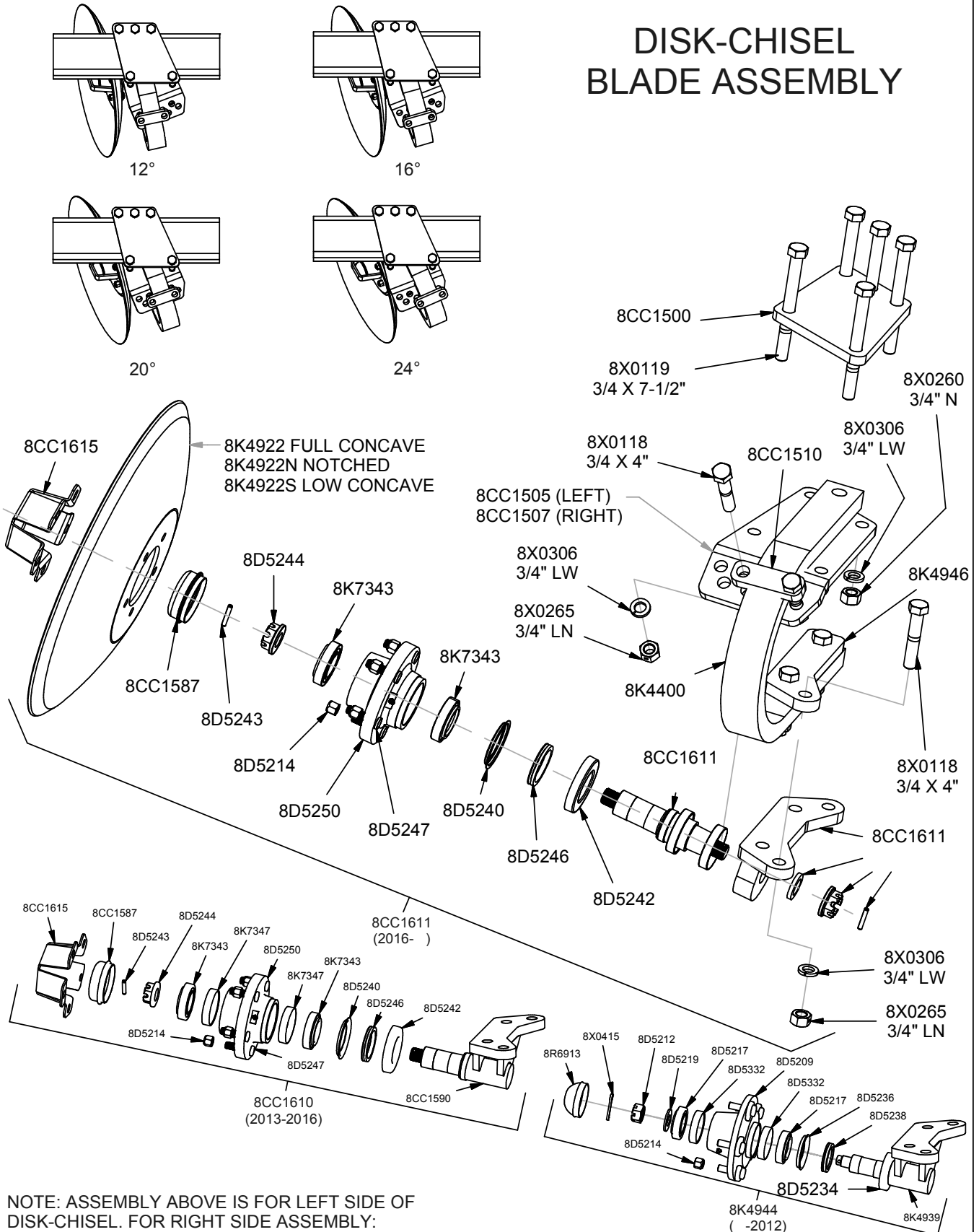


40' COULTER-CHISEL



## SECTION 2 – INSTALLATION OF SHANKS AND COULTER GANGS

### DISK-CHISEL BLADE ASSEMBLY



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.

8/11/2016

9DC1612H.iam/BLADE ASSEMBLY

## SECTION 2 – WARNING DECALS (ALL SIZES)

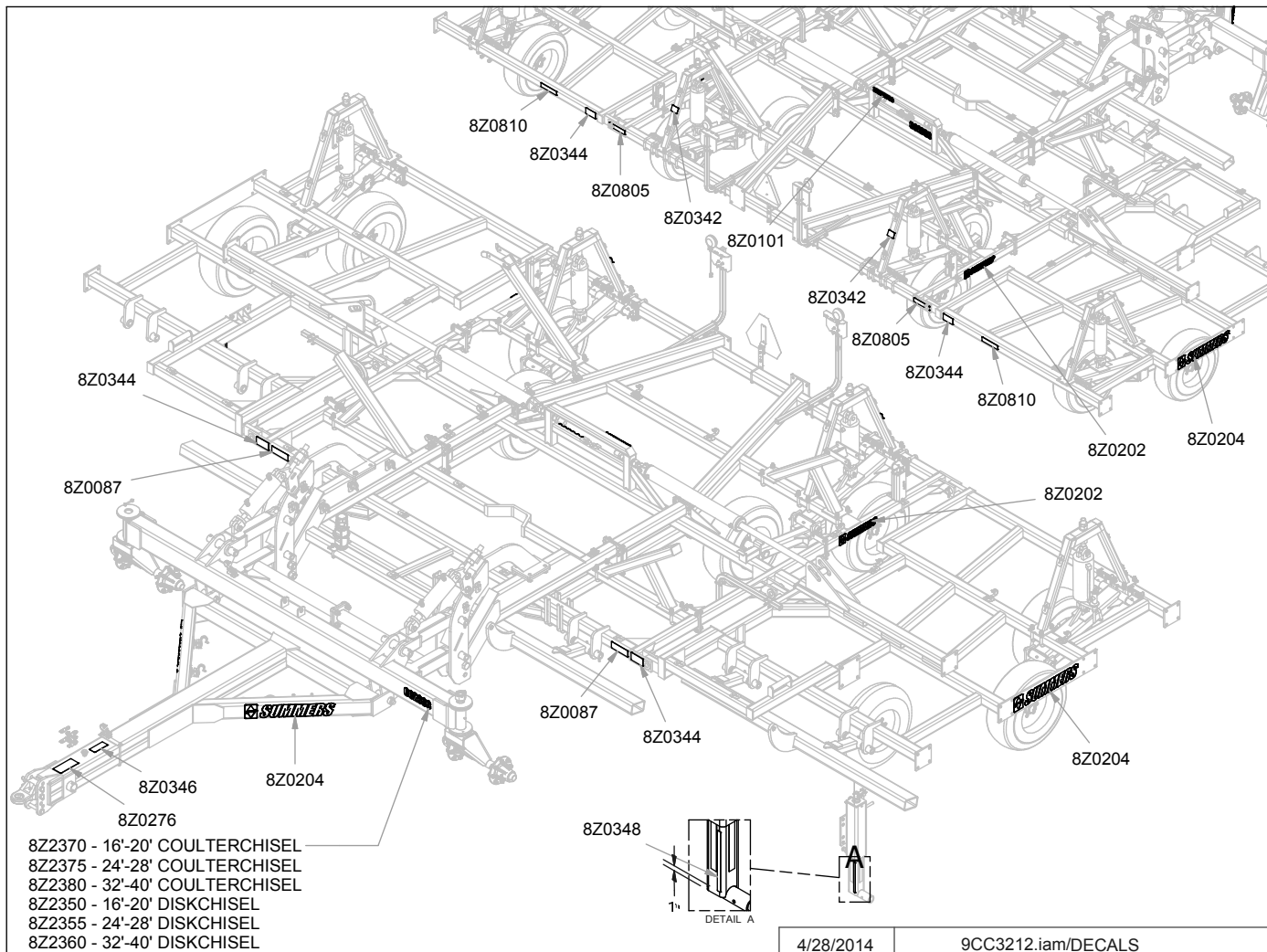
### 1. Install danger, warning, and caution decals.

- 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

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### OPERATION SAFETY

1. READ AND UNDERSTAND Operator's Manual before using machine. Review at least annually thereafter.
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.
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#### 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.


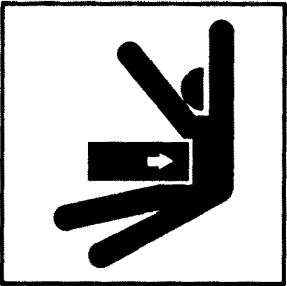

B. Make sure all grease fittings are in place and greased properly.


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.

		<p> <b>DANGER</b></p> <p><b>FRAME PINCH POINT HAZARD</b> <i>KEEP AWAY</i></p> <p>To prevent serious injury or death from crushing:</p> <ul style="list-style-type: none"><li>• Stay away from frame hinge area when folding wings.</li><li>• Keep others away.</li><li>• Do not fold wings when bystanders are present.</li></ul> <p>8Z0087</p>
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 <b>WARNING</b>
<p><b>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.</b></p> <p>8Z0075</p>

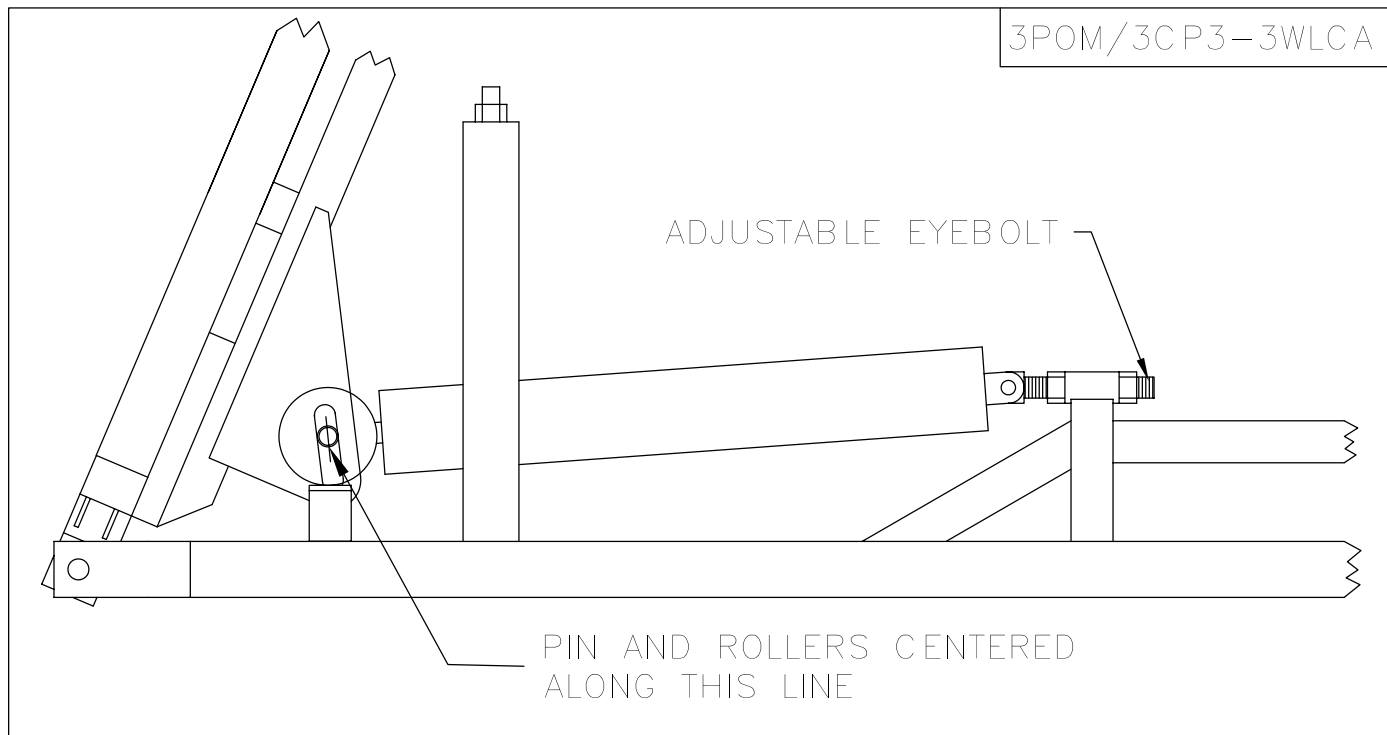
### IMPORTANT

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.

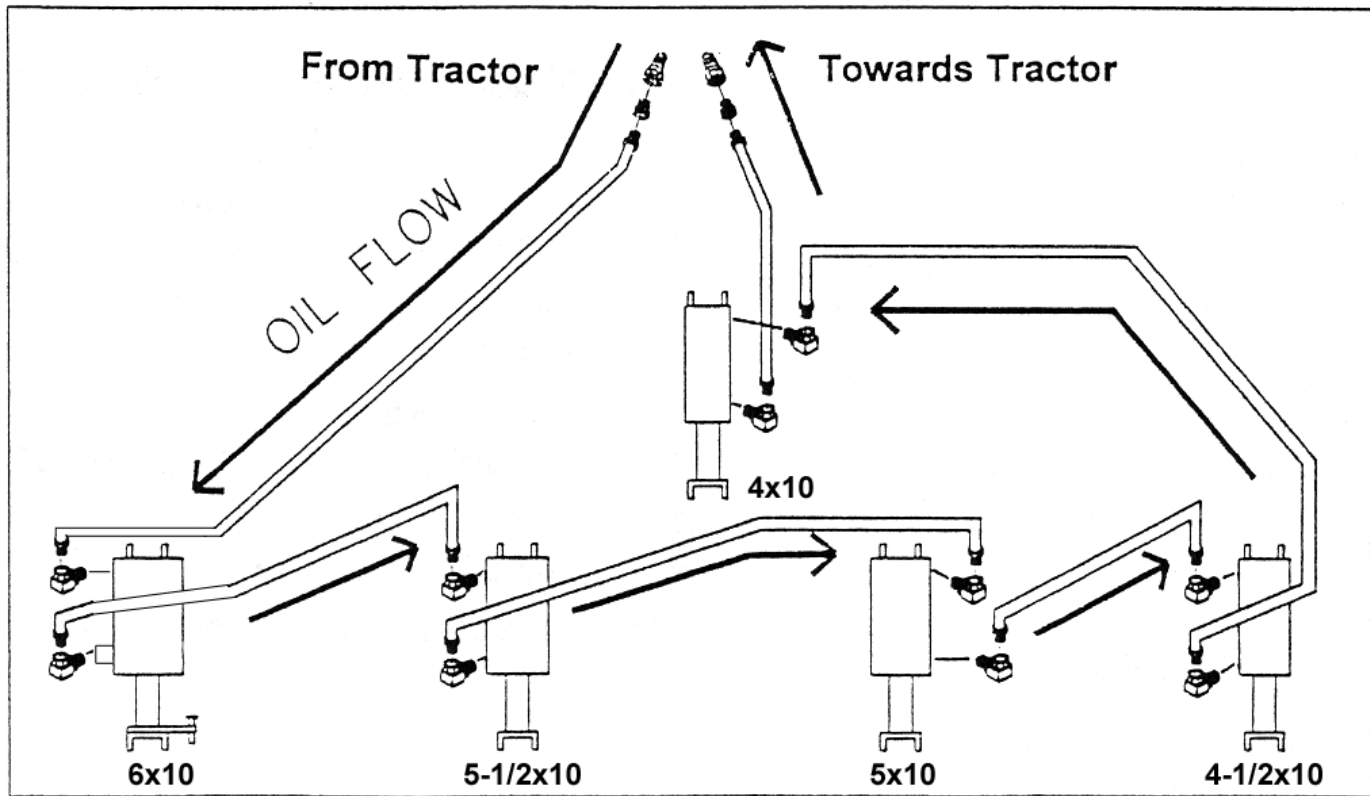


### IMPORTANT

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.


## SECTION 3 – OPERATION

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.



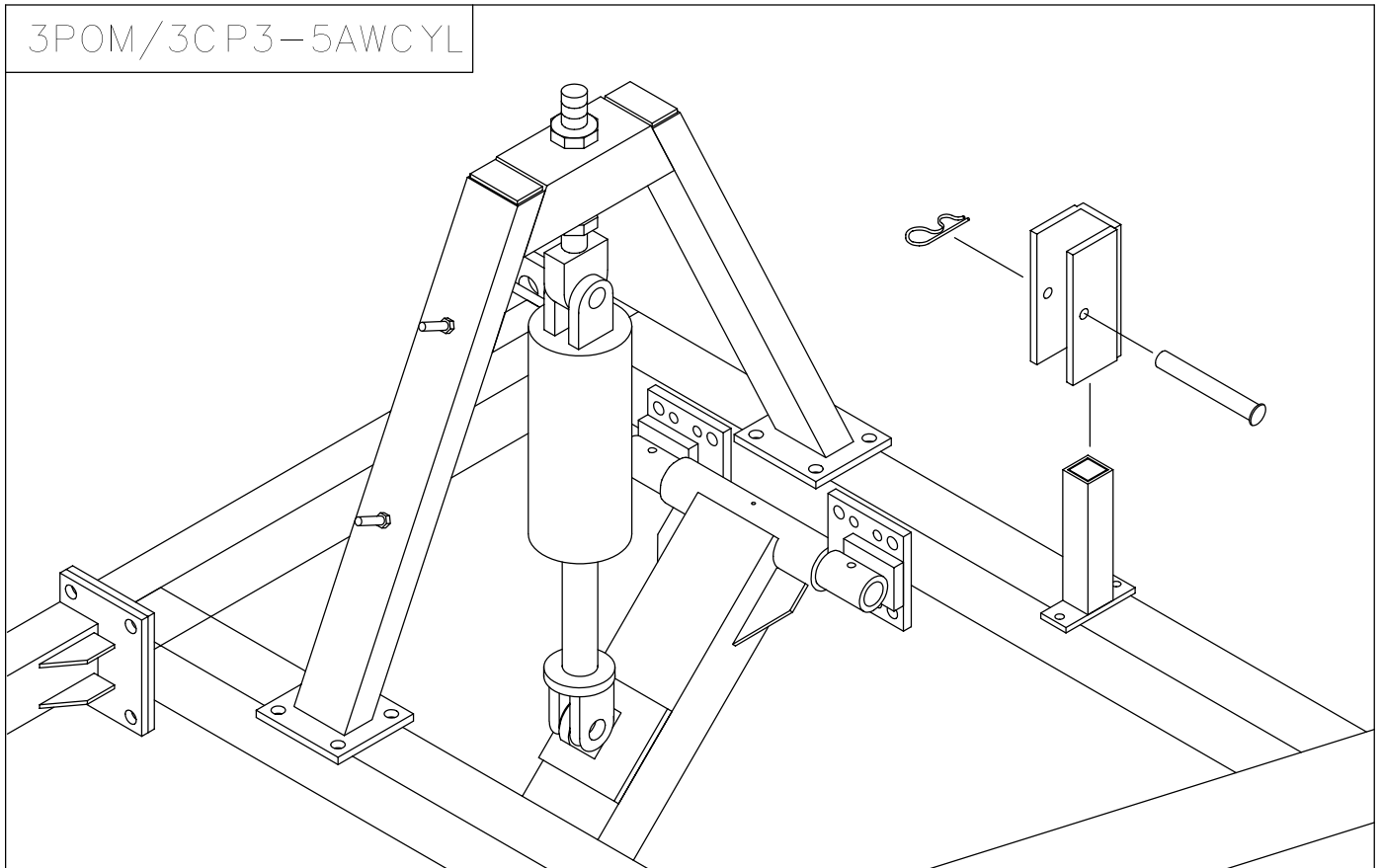
# WARNING

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.

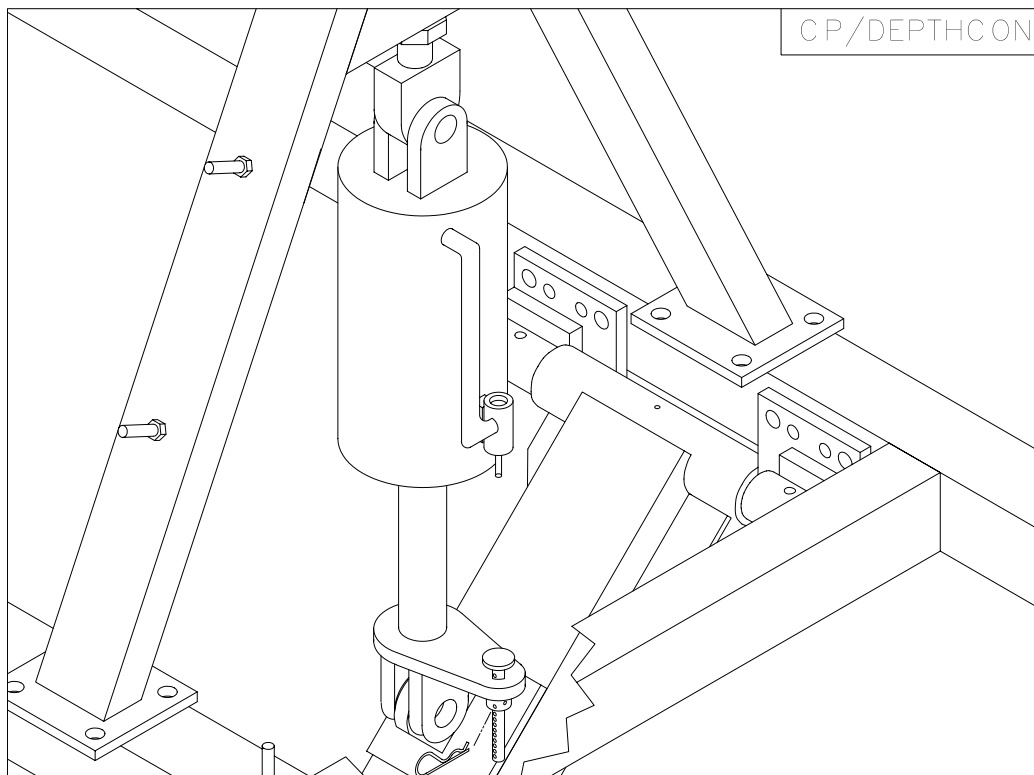
8Z0075

## SECTION 3 – OPERATION

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.

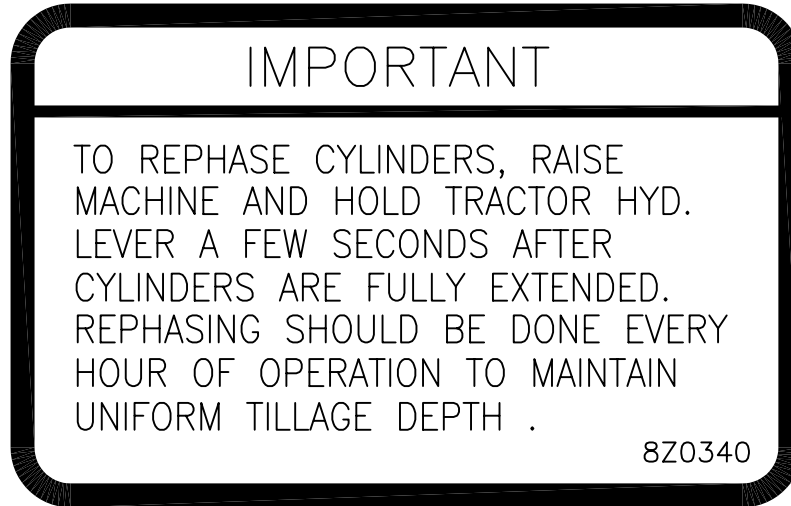


## SECTION 3 – OPERATION

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### FIELD OPERATION

1. Rephase cylinders before starting field operation.



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

### **IMPORTANT!**

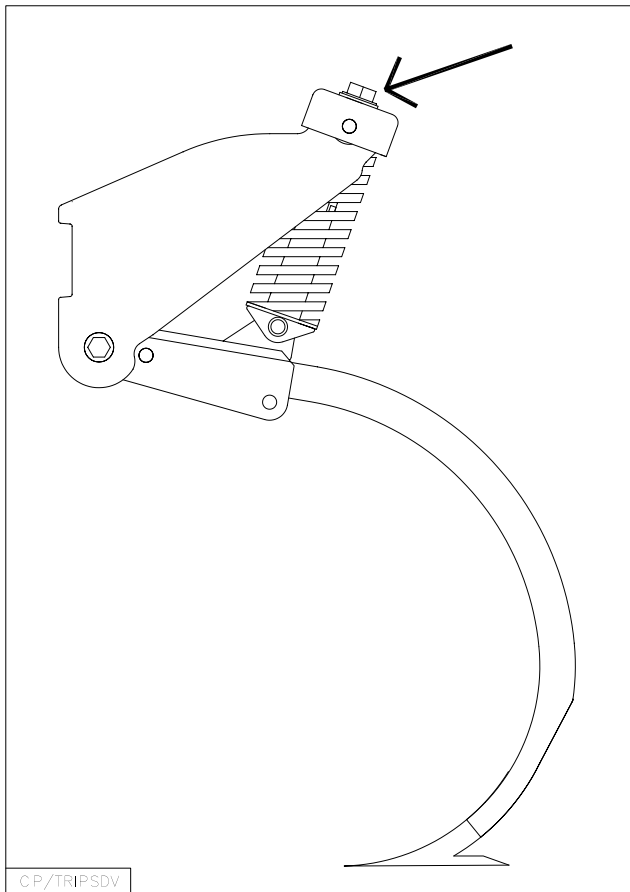
The operator is responsible for adjusting machine since machine does not come “Field Ready” from factory.

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.

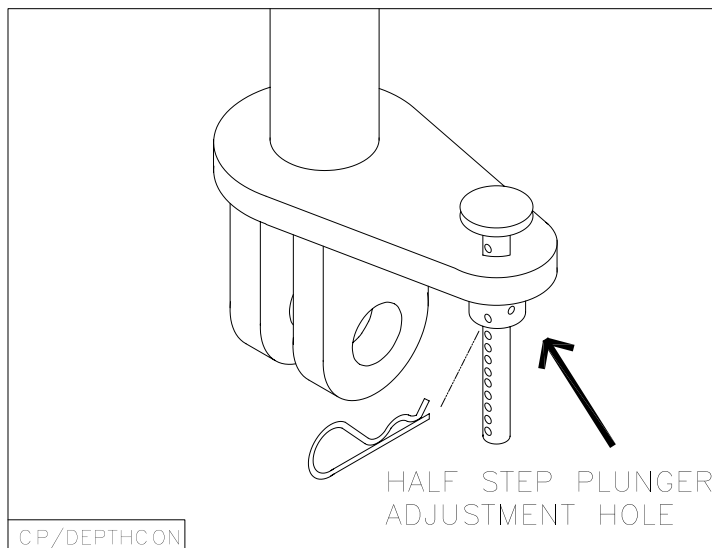
## SECTION 3 – OPERATION

### 3. (Continued) – Trip Assembly Limit



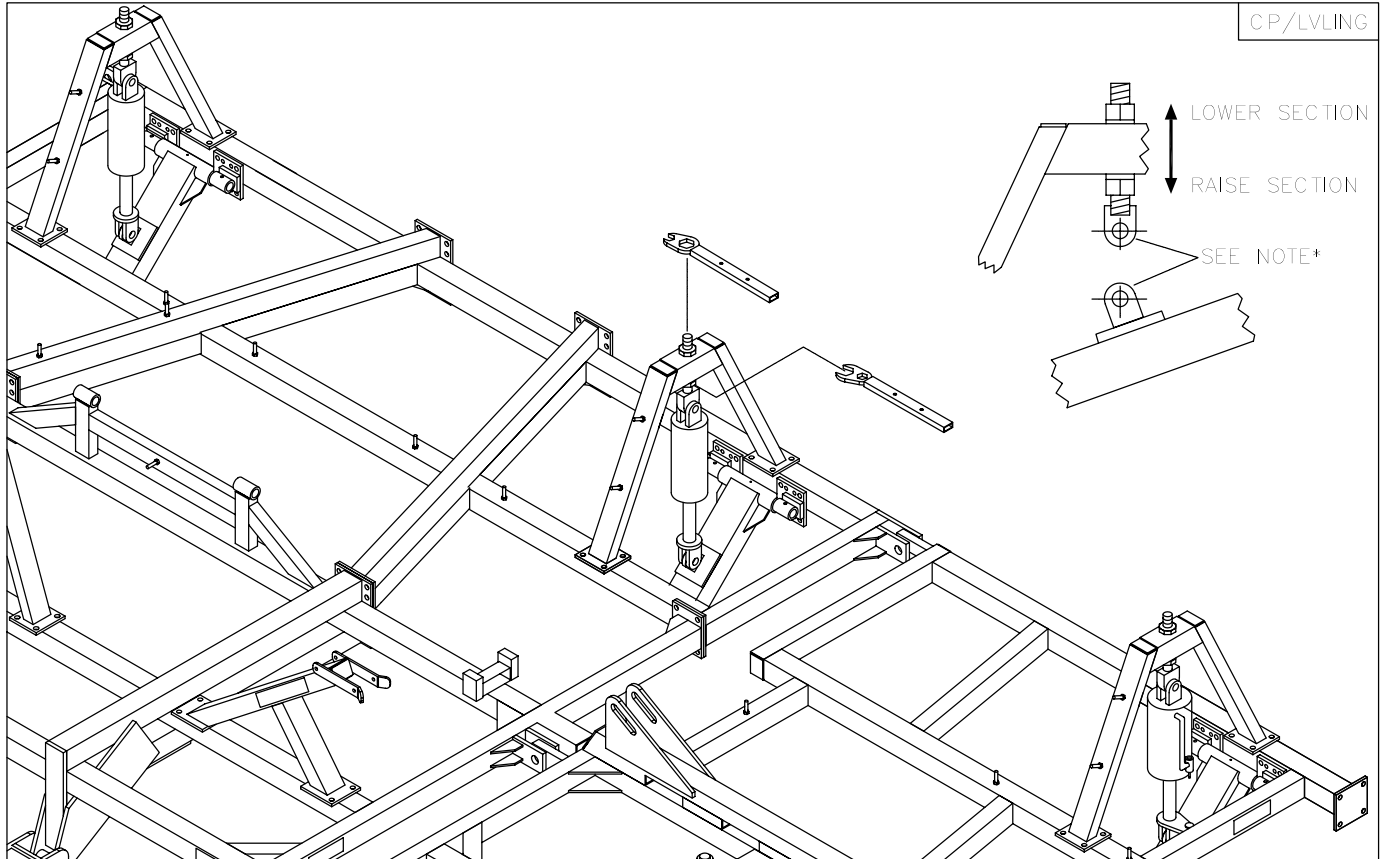
**NOTE:** Increased draft will occur if connecting bolt continually rides above trip assembly cap. This will consume horsepower as well as reduce life of trip assembly components.

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.



## SECTION 3 – OPERATION

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.

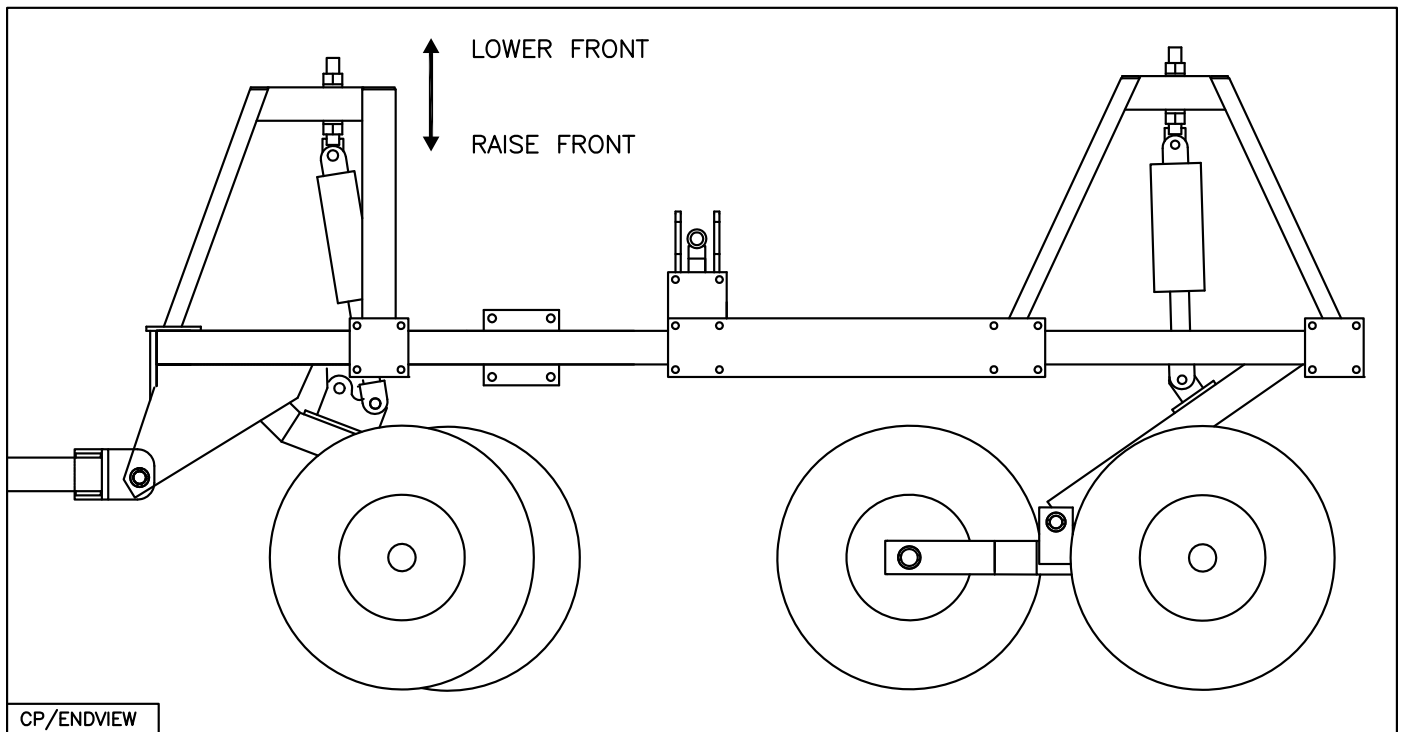
One turn of 1-1/2" NC Cylinder Attach Eyebolt Nut changes tillage depth 3/8". One inch of cylinder stroke moves depth over 2 inches. Therefore, it may only be necessary to move eyebolts a small amount to attain correct adjustment of each section.

## SECTION 3 – OPERATION

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

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.

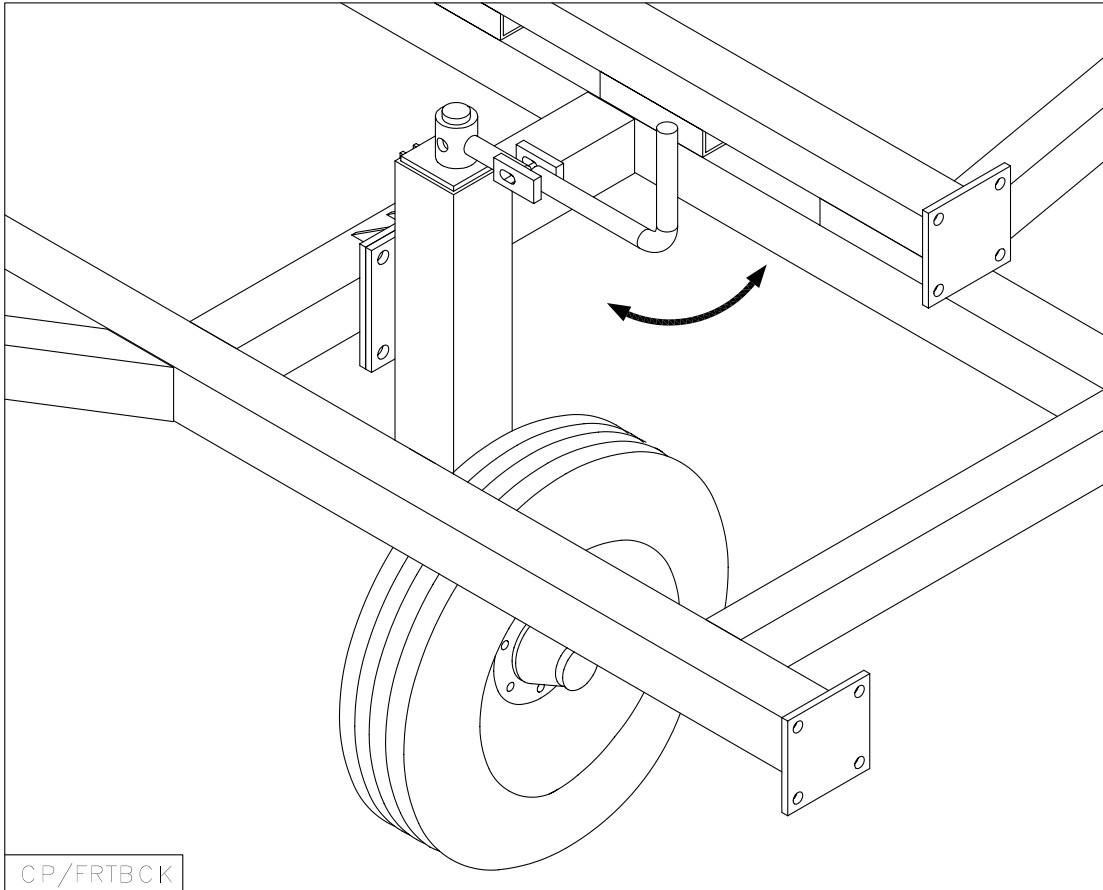


### **IMPORTANT!**

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

## SECTION 3 – OPERATION

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.





## SECTION 3 – OPERATION

### 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.

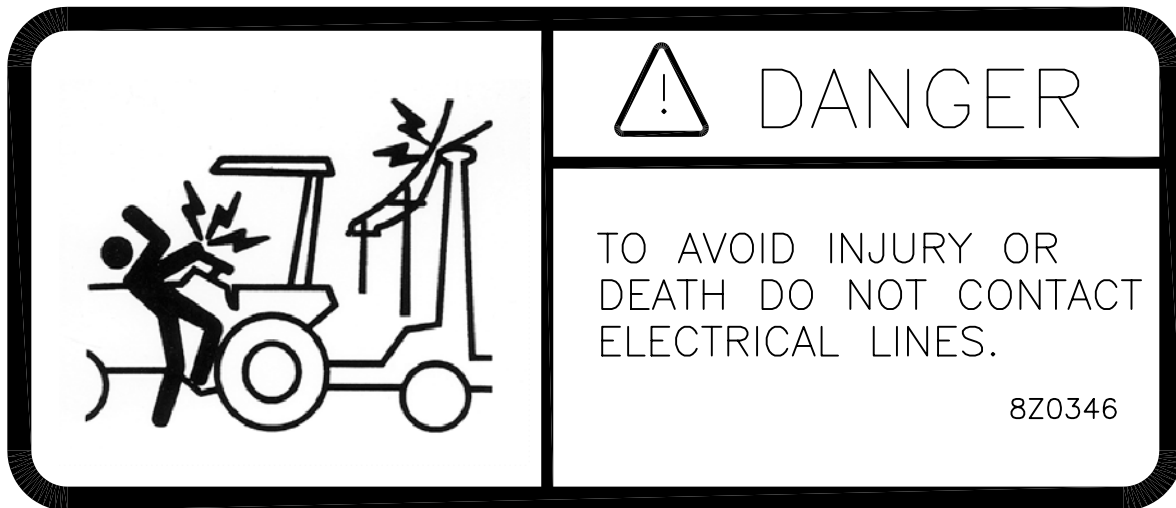


3. Install transport lock pins on wings and cylinder locks on depth control cylinders.



## SECTION 3 – OPERATION

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.

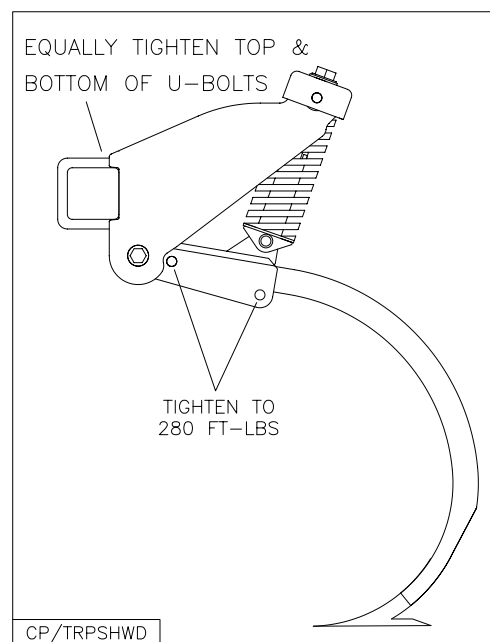
## SECTION 4 – MAINTENANCE

### 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

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

## SECTION 5 – TROUBLESHOOTING

### WIDTH, HEIGHT, WEIGHT, LENGTH

SIZE	APPROX. TRANSPORT WIDTH	APPROX TRANSPORT HEIGHT	STANDARD WEIGHT	LENGTH W/4 BAR 106
16'	18'9"	8'6"	12,200	39'
20'	20'6"	8'6"	13,840	39'
24'	17'6"	11'6"	20,070	39'
26'	17'6"	12'	20,660	39'
28'	17'6"	13'3"	21,380	39'
32'	19'6"	12'8"	20,520	40'
36'	19'6"	14'6"	22,200	40'
40'	19'6"	16'3"	26,100	40'

### TIRE SPECIFICATIONS

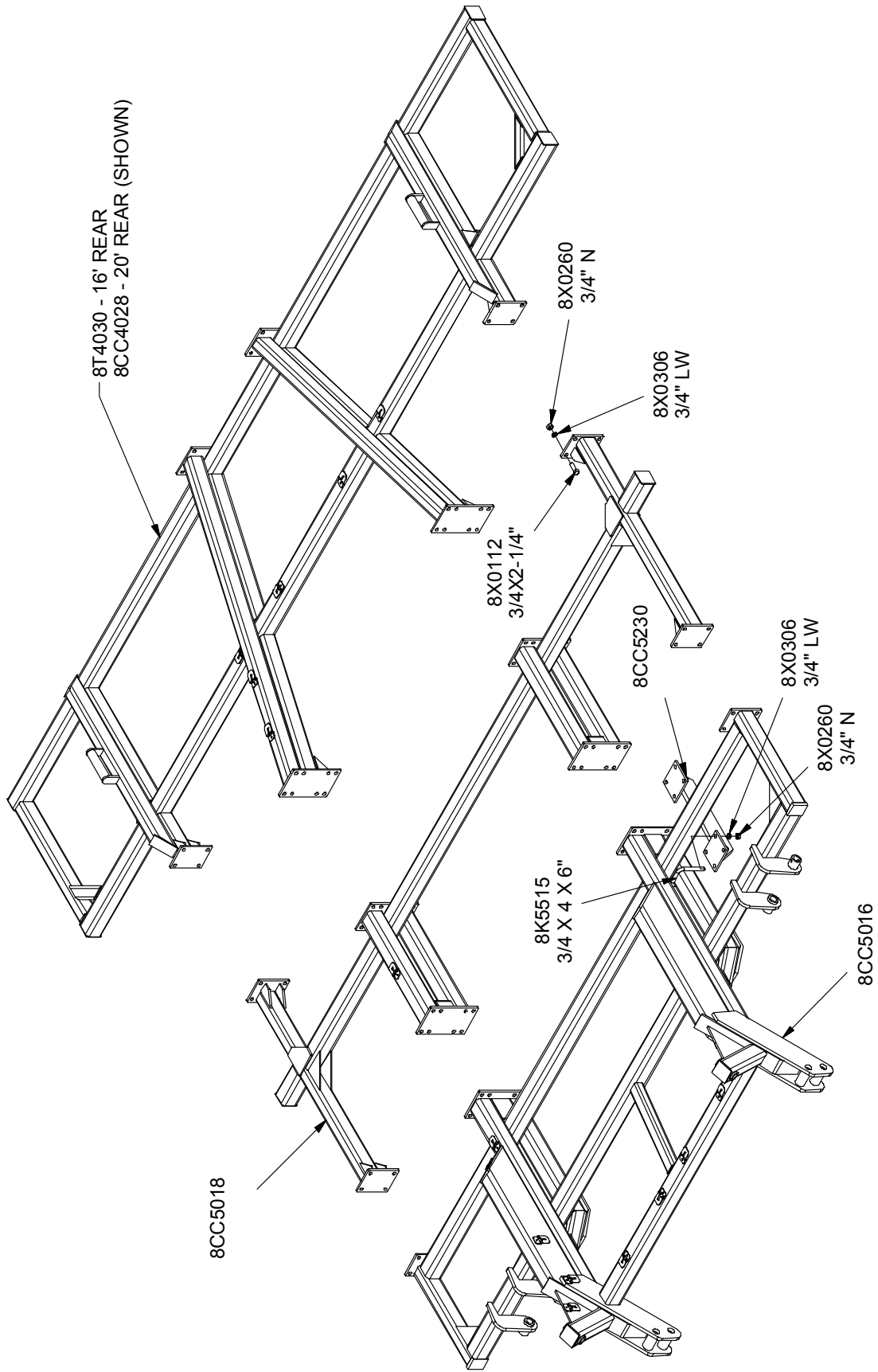
LOCATION	TIRE SIZE	PLY RATING	INFLATION PRESSURE (PSI)
CENTER/WINGS	11L x 15	LRF	85*
CENTER/WINGS	12.5L x 15	LRF	90*

\* 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')

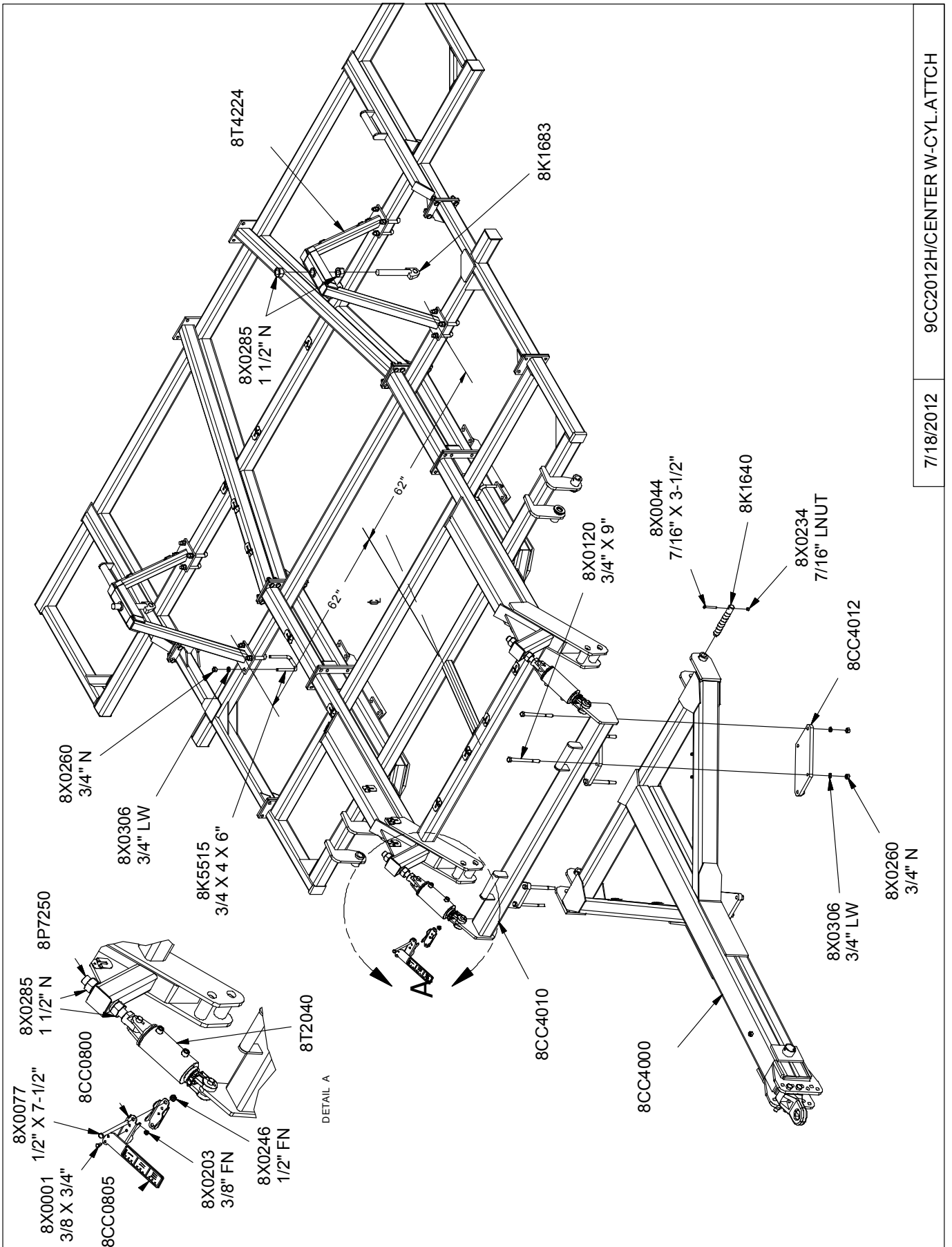
16' & 20' CENTER



7/18/2012 9CC2012H.iam/CENTER

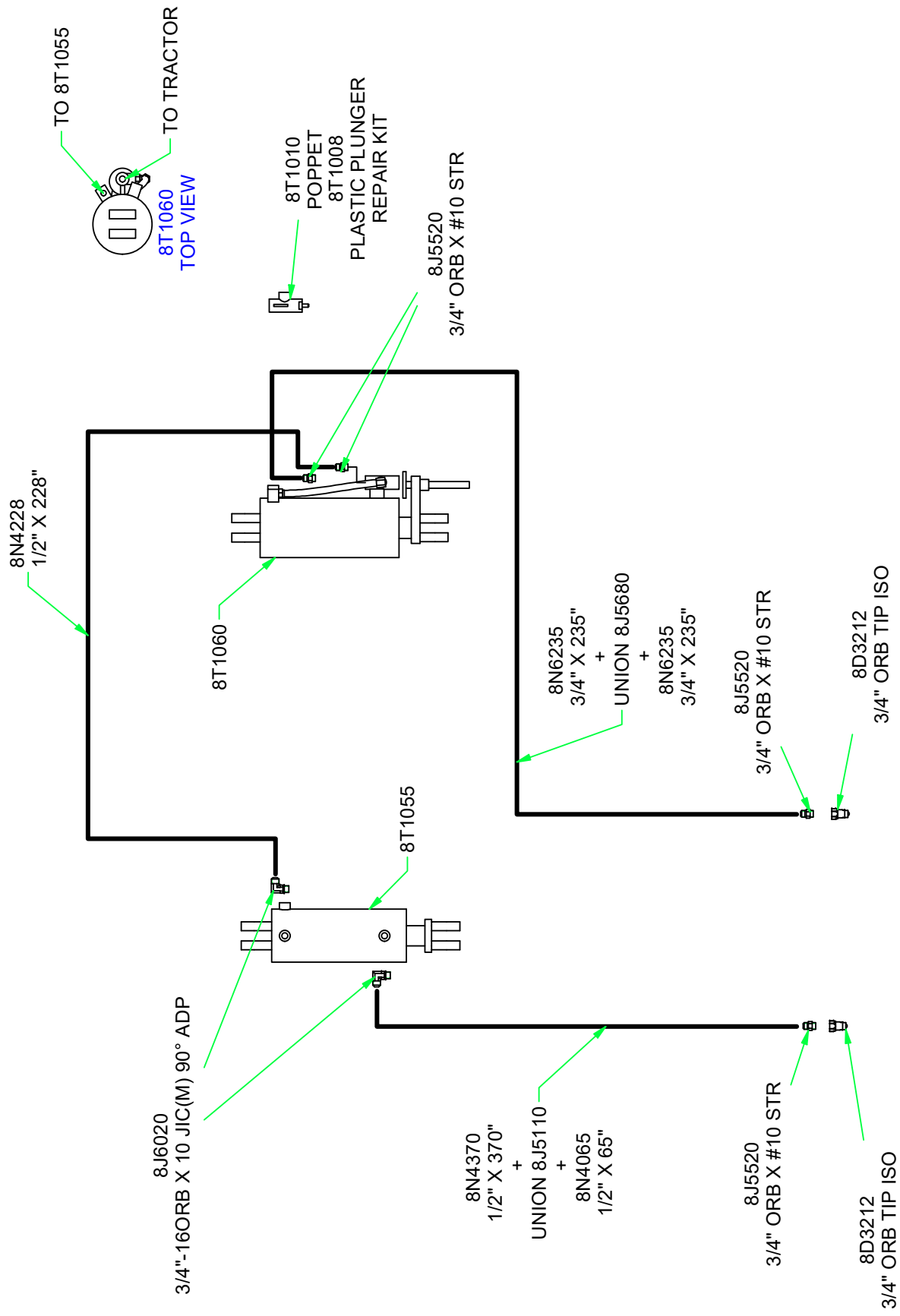


SECTION 6 – PARTS (16' & 20')



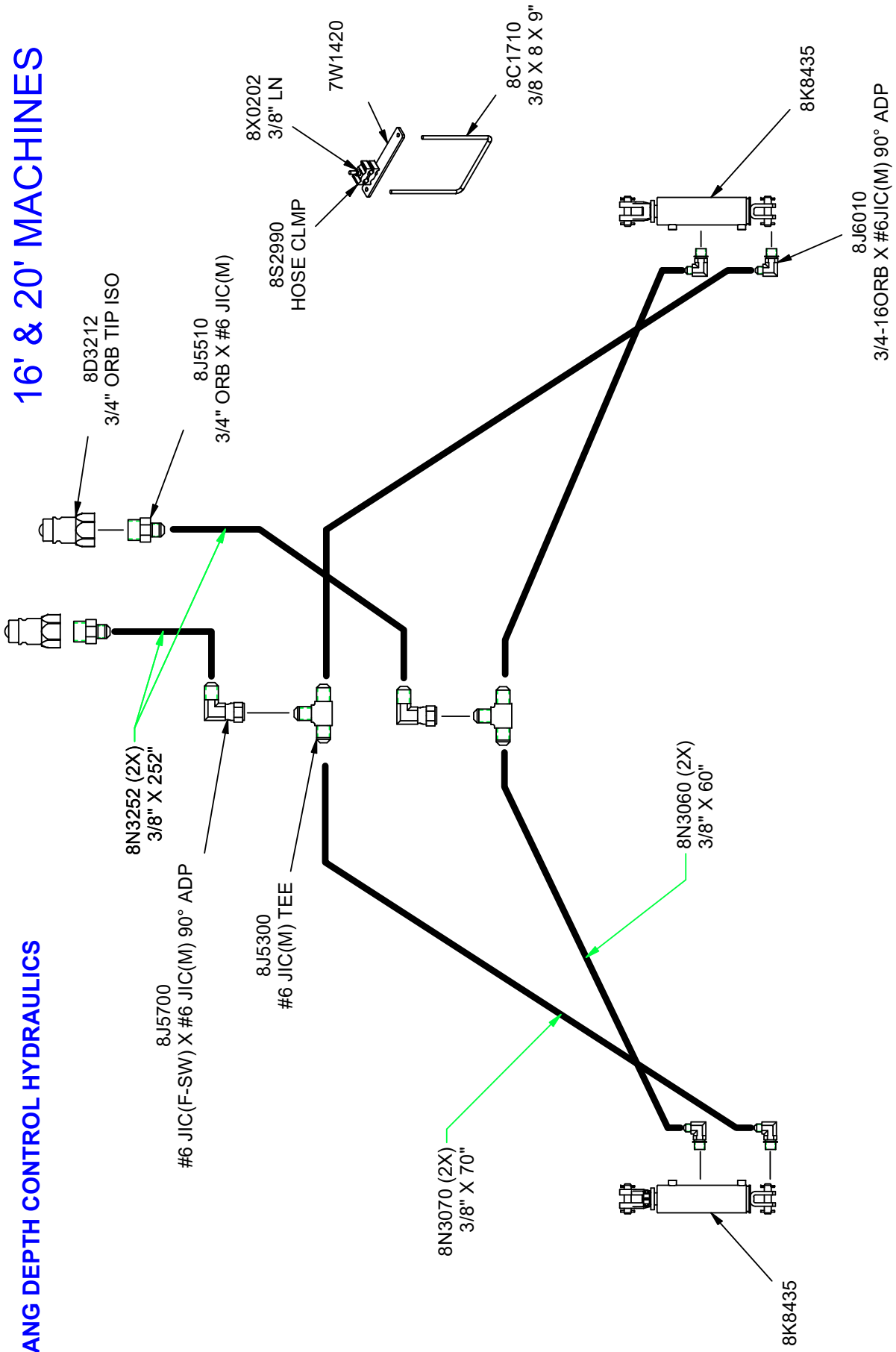
7/18/2012 9CC2012H/CENTER W-CYL.ATTCH

# 16' & 20' MACHINES



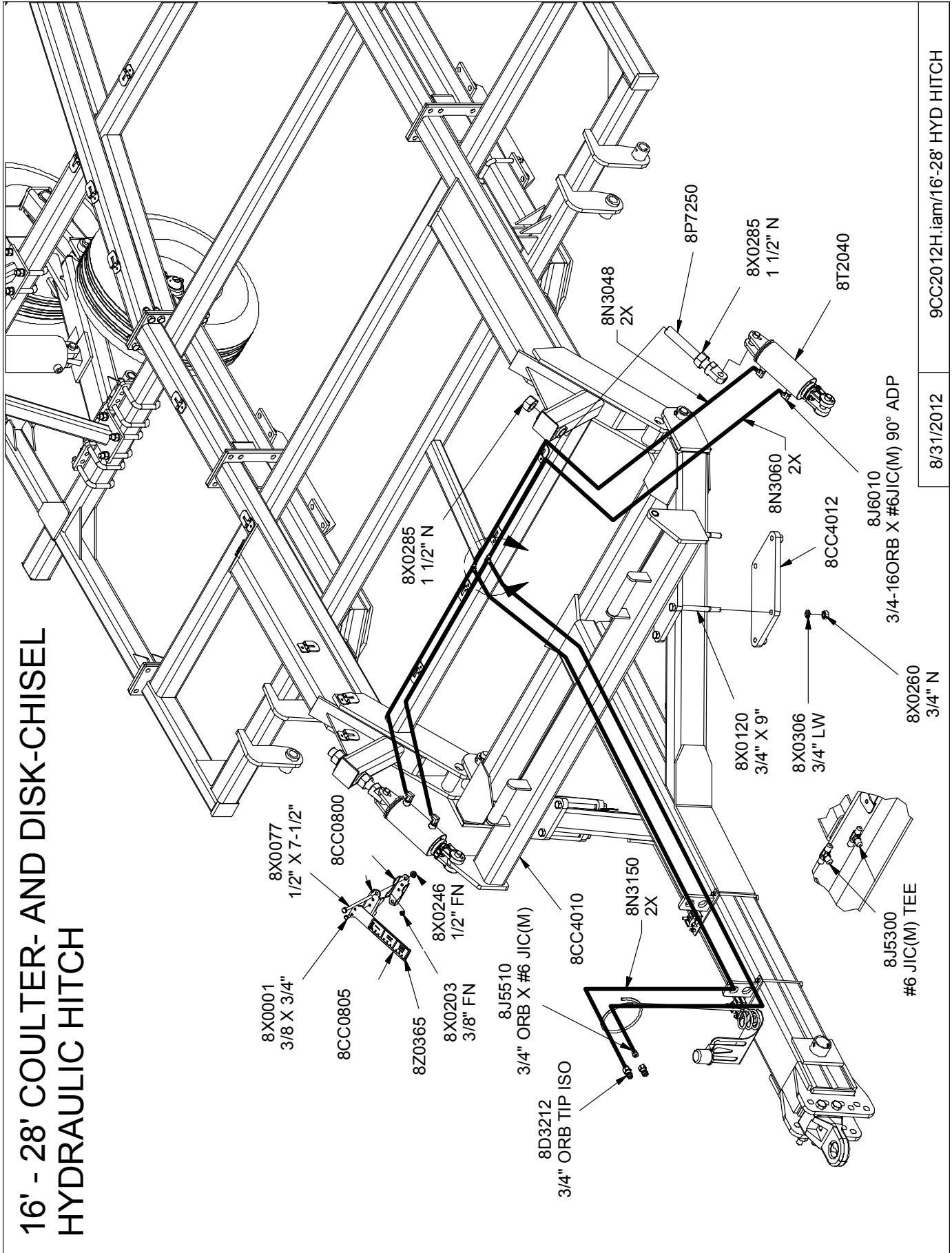
# GANG DEPTH CONTROL HYDRAULICS

# 16' & 20' MACHINES



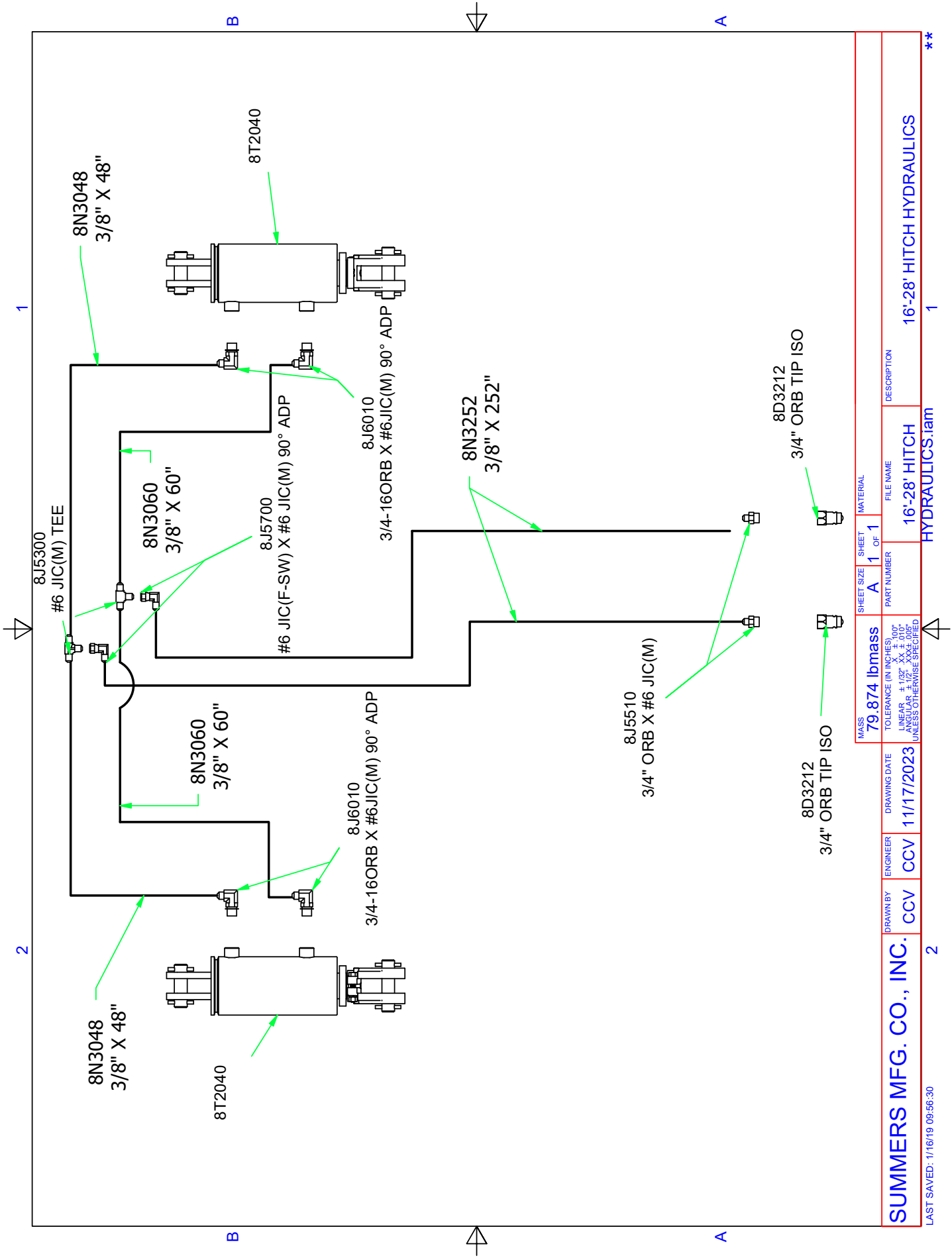
SECTION 6 – PARTS (16'-28')

16' - 28' COULTER- AND DISK-CHISEL  
HYDRAULIC HITCH



9CC2012H.iam/16'-28' HYD HITCH

8/31/2012

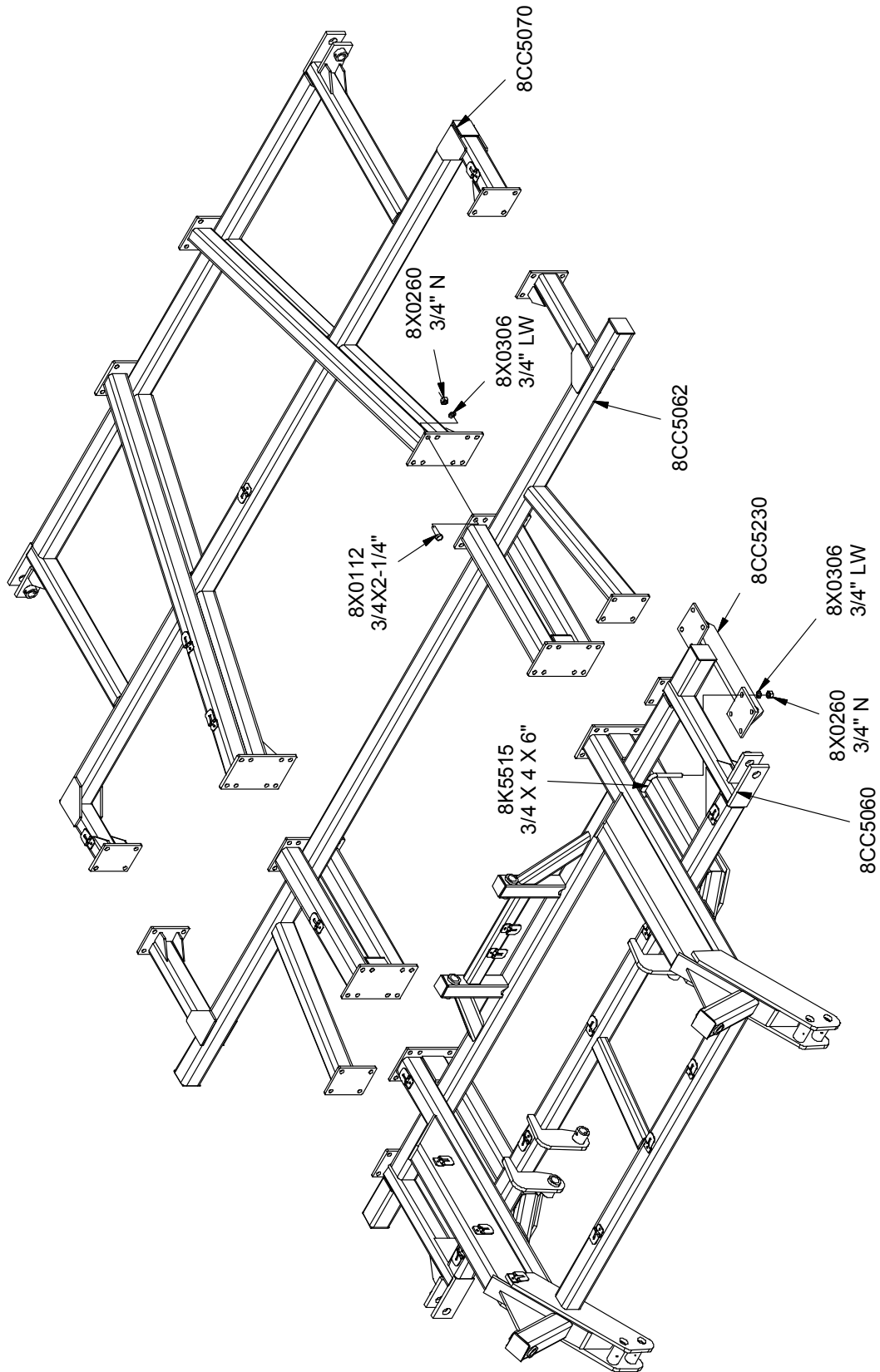


MASS	79.874 lbmass	TOLERANCE (IN INCHES)	
		LINEAR	±.002" X ±.004" X ±.004"
		ANGULAR	±.05° X ±.05° X ±.05°
		UNLESS OTHERWISE SPECIFIED	
SHEET SIZE	A	SHEET	1
		OF	1
DRAWN BY	CCV	ENGINEER	CCV
DRAWING DATE	11/17/2023		
SUMMERS MFG. CO., INC.		FILE NAME	16'-28' HITCH
		DESCRIPTION	16'-28' HITCH HYDRAULICS
			1

LAST SAVED: 1/16/19 09:56:30

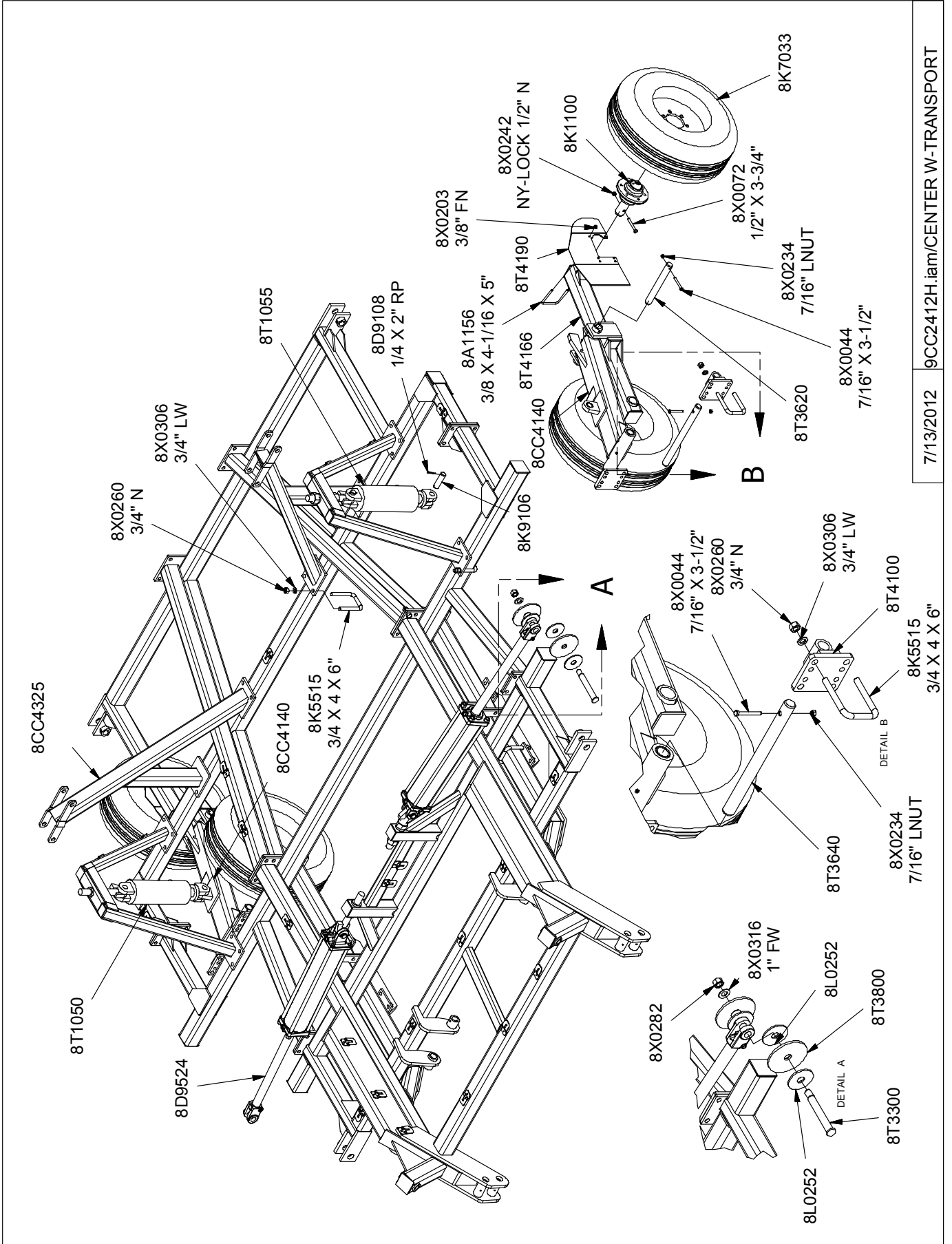
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# SECTION 6 - PARTS (24'-28')





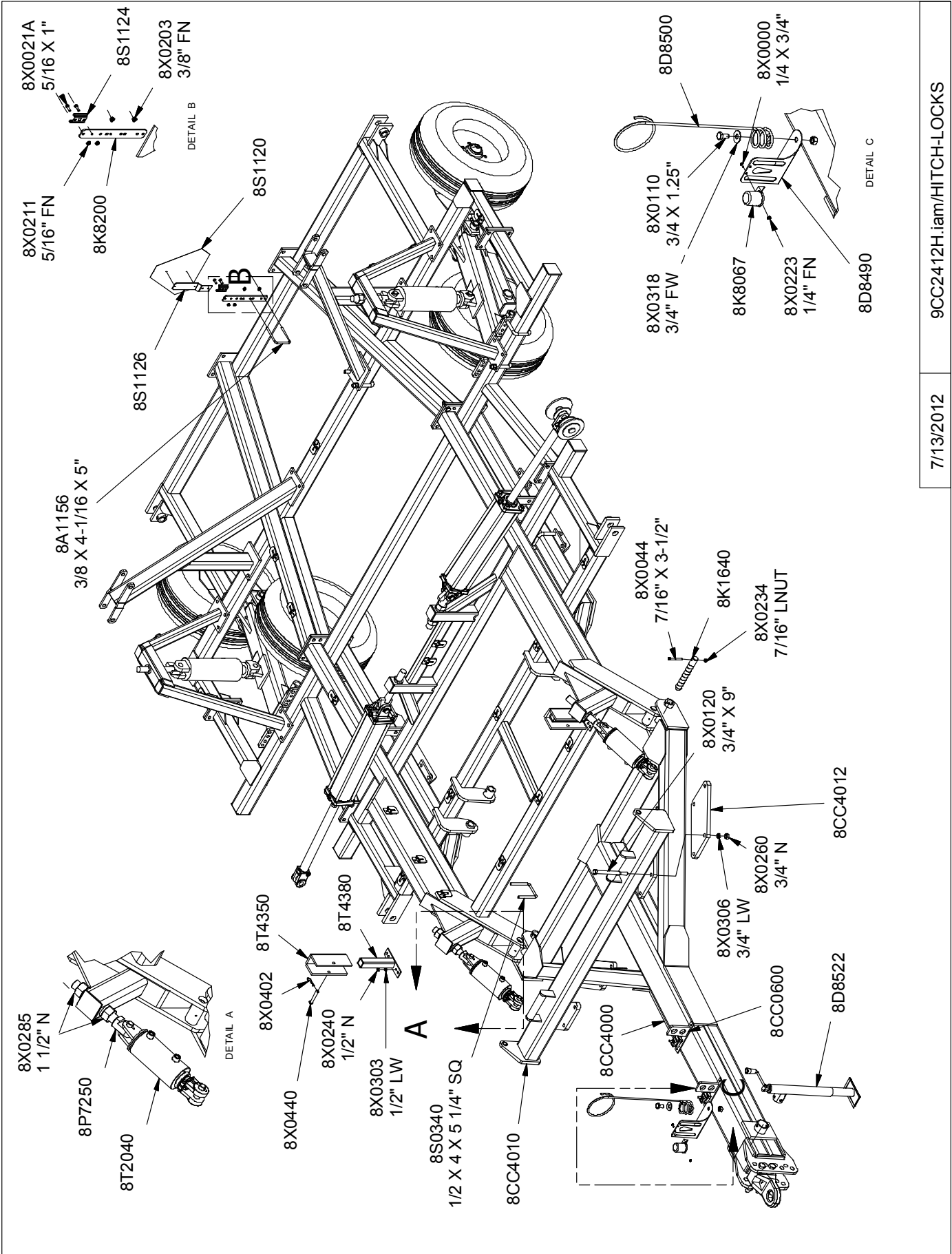
# SECTION 6 – PARTS (24'-28')



7/13/2012 9CC2412H.iam/CENTER W-TRANSPORT



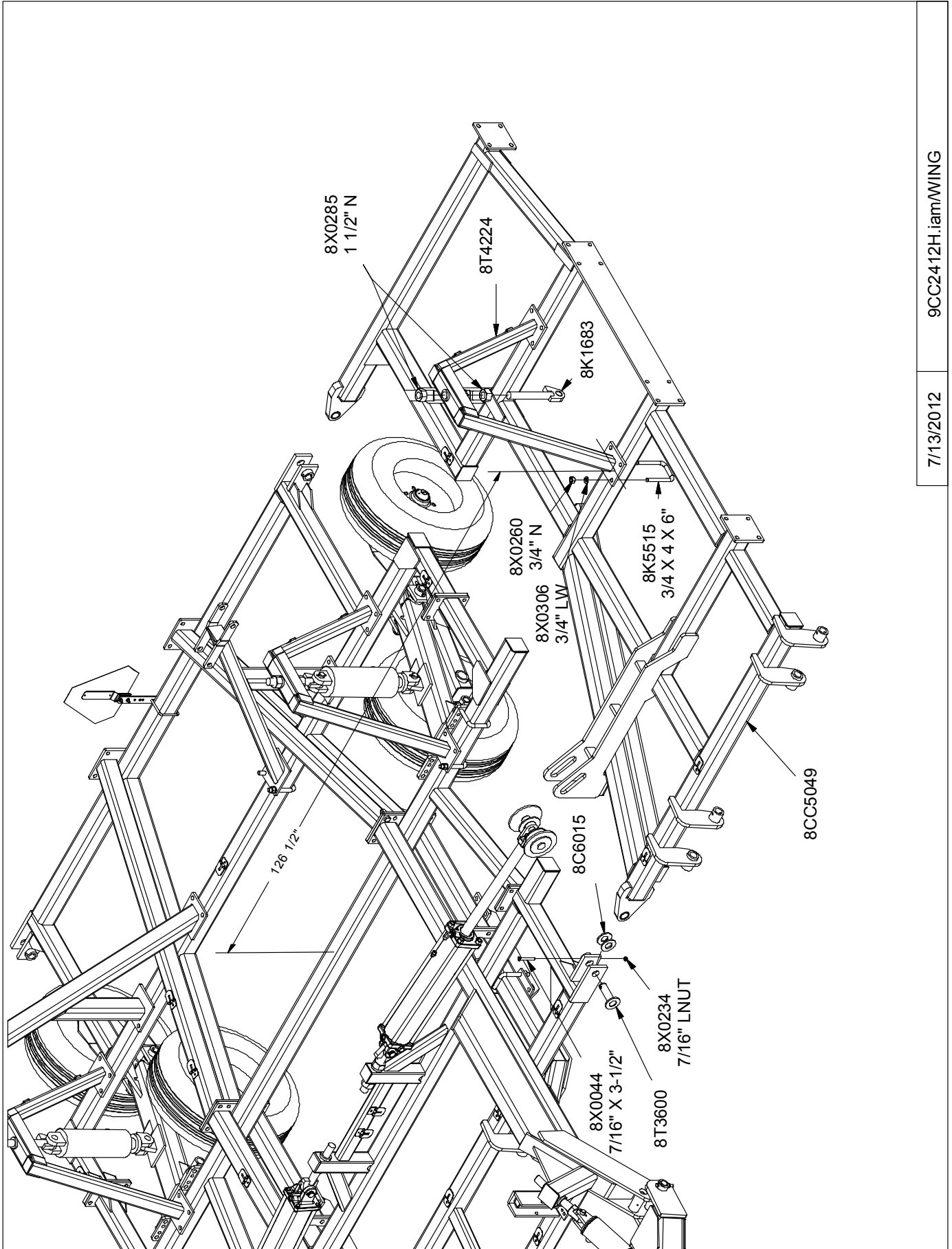
# SECTION 6 - PARTS (24'-28')



9CC2412H.iam/HITCH-LOCKS

7/13/2012

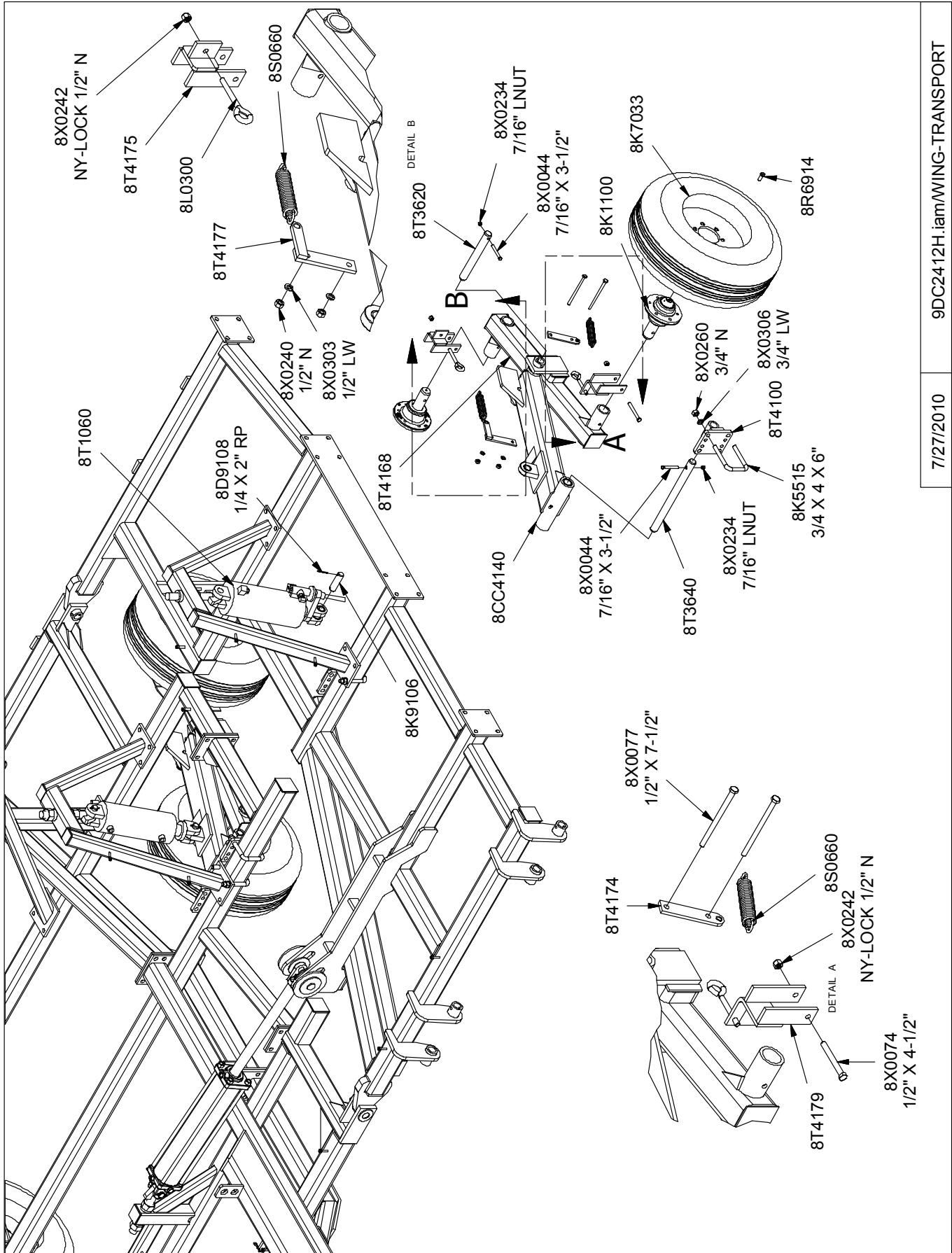
SECTION 6 – PARTS (24'-28')



9CC2412H.iam/WING

7/13/2012

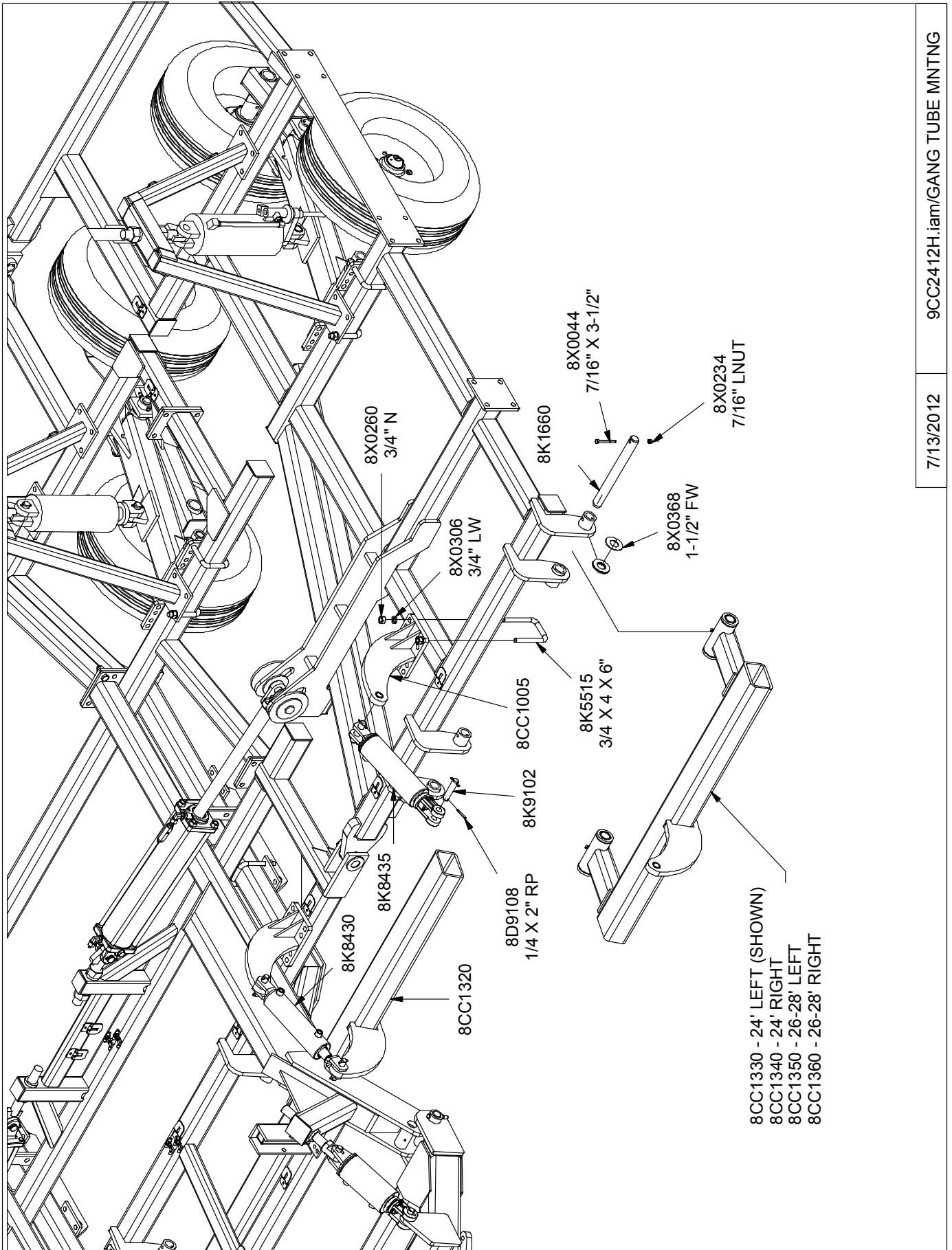
SECTION 6 - PARTS (24'-28')



9DC2412H.iam/WING-TRANSPORT

7/27/2010

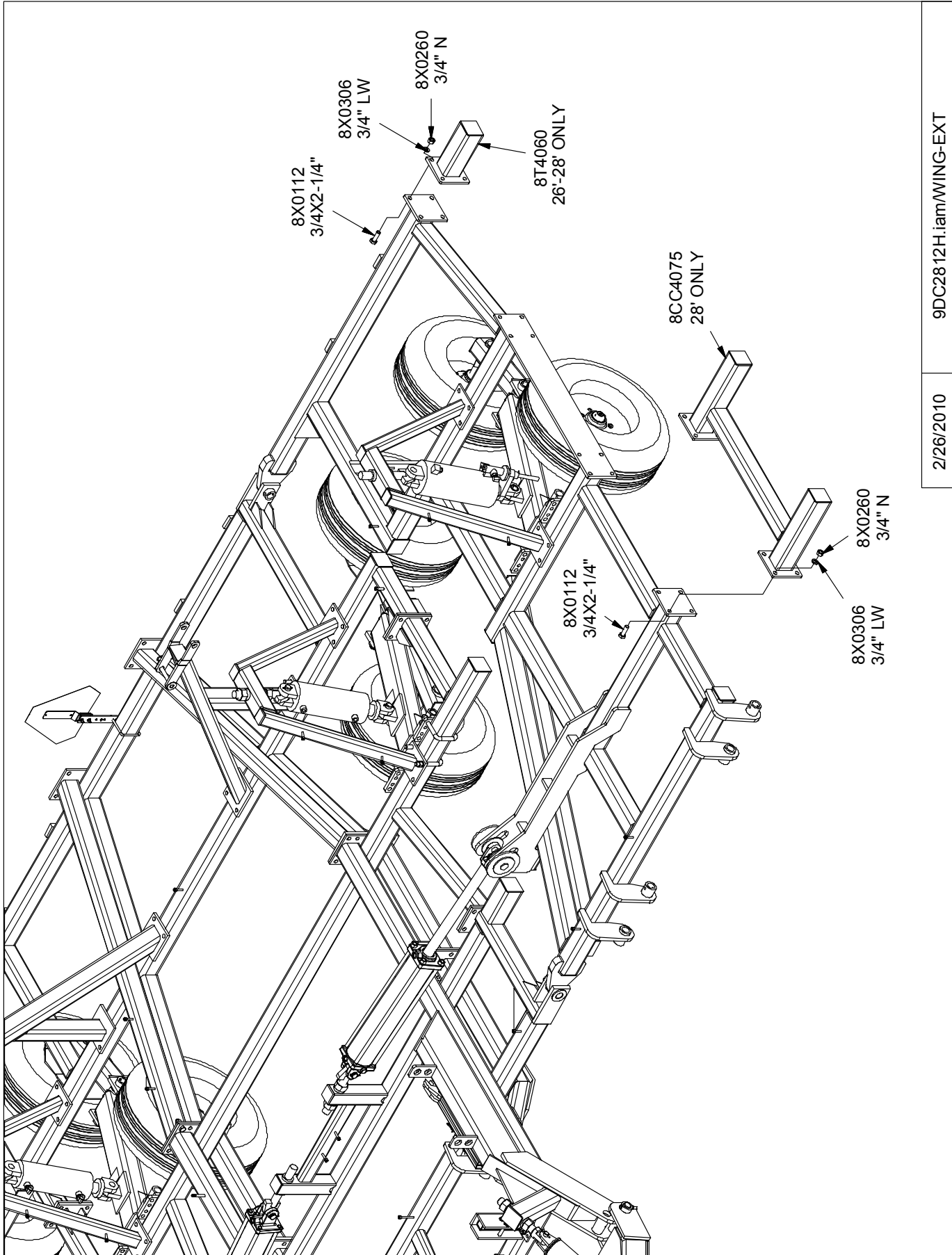
SECTION 6 – PARTS (24'-28')



9CC2412H.iam/GANG TUBE MNTNG

7/13/2012

SECTION 6 - PARTS (24'-28')

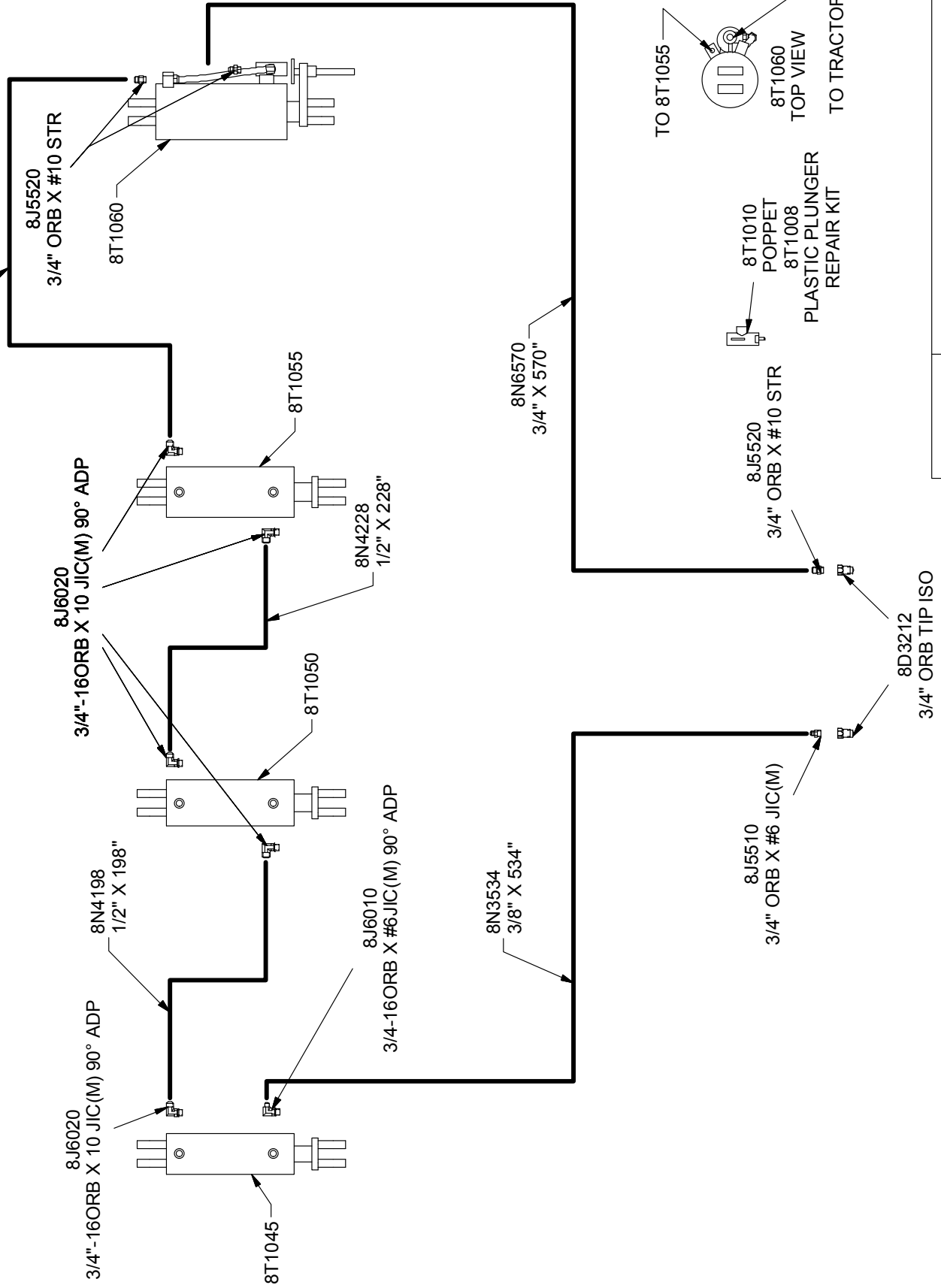


9DC2812H.iam/WING-EXT

2/26/2010

SECTION 6 – PARTS (24'-28')

24' - 28' MACHINES

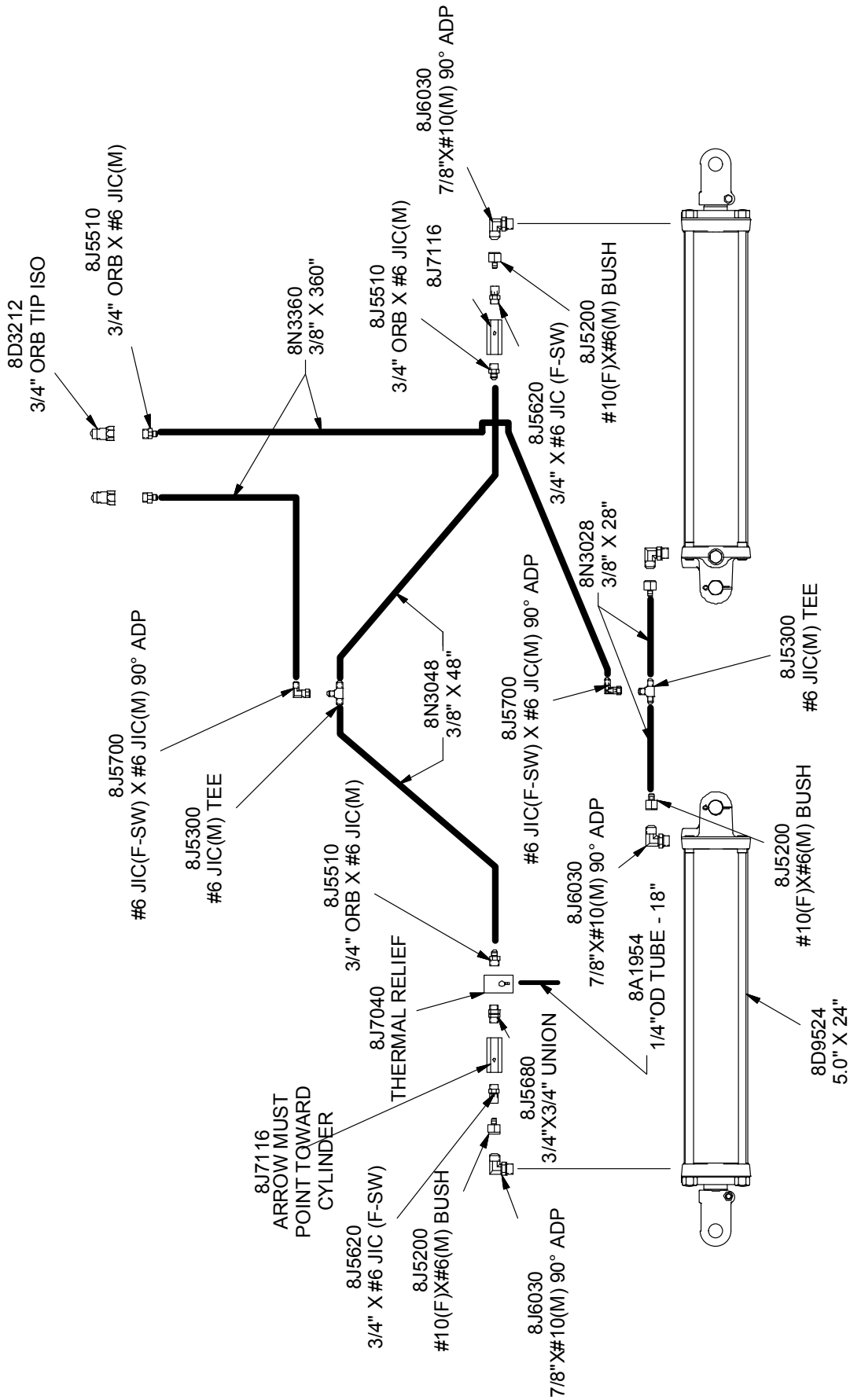


9/12/2012 CC-DC DEPTH CNTRL HYD

SECTION 6 - PARTS (24'-28')

24'-28' MACHINE

WING LIFT HYDRAULICS



8D9525  
SEAL KIT 5X24"

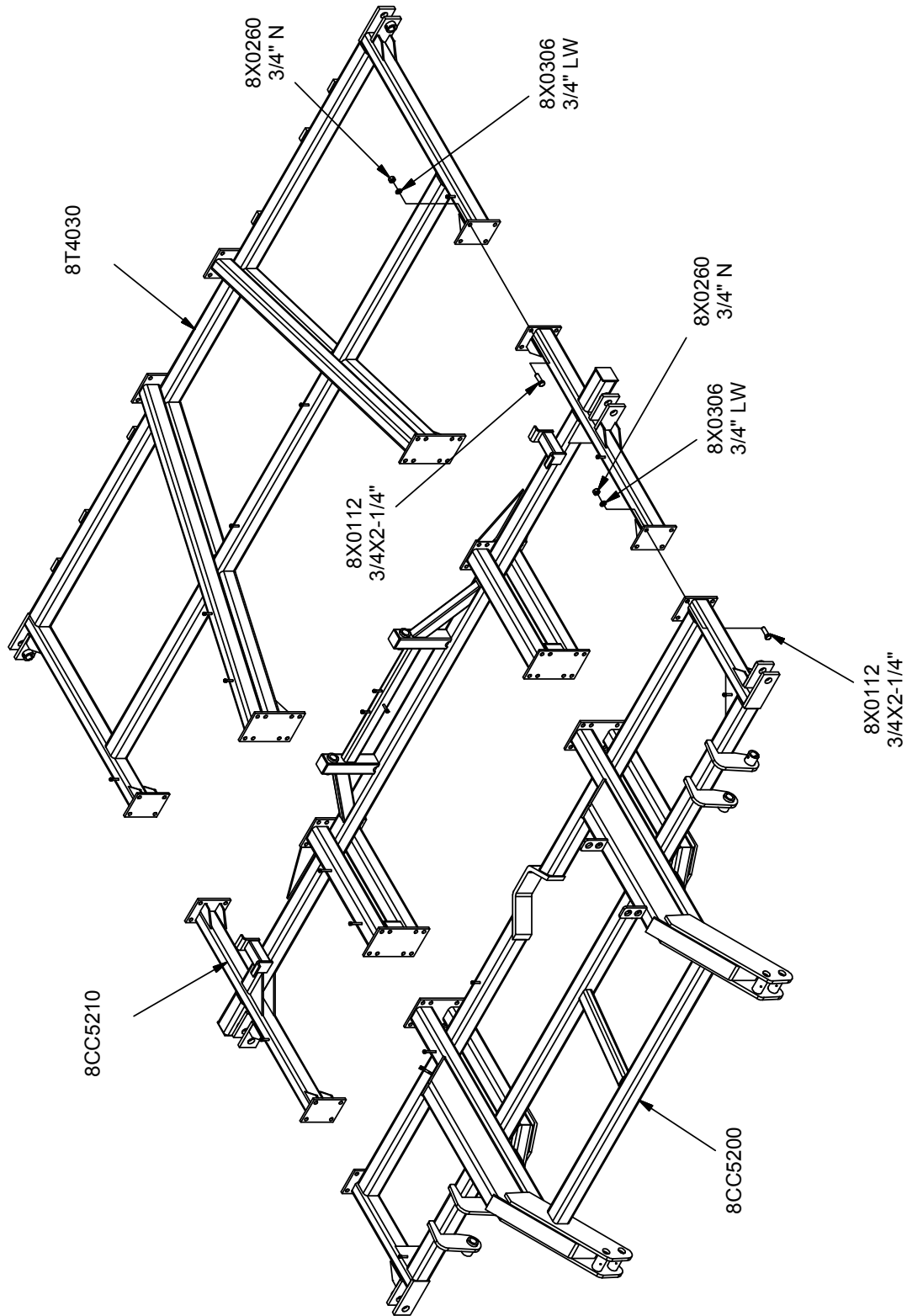
8/31/2012

9CC2412H.iam/WING LFT HYD

SECTION 6 - PARTS (32'-40')

9CC3612.iam/CENTERS

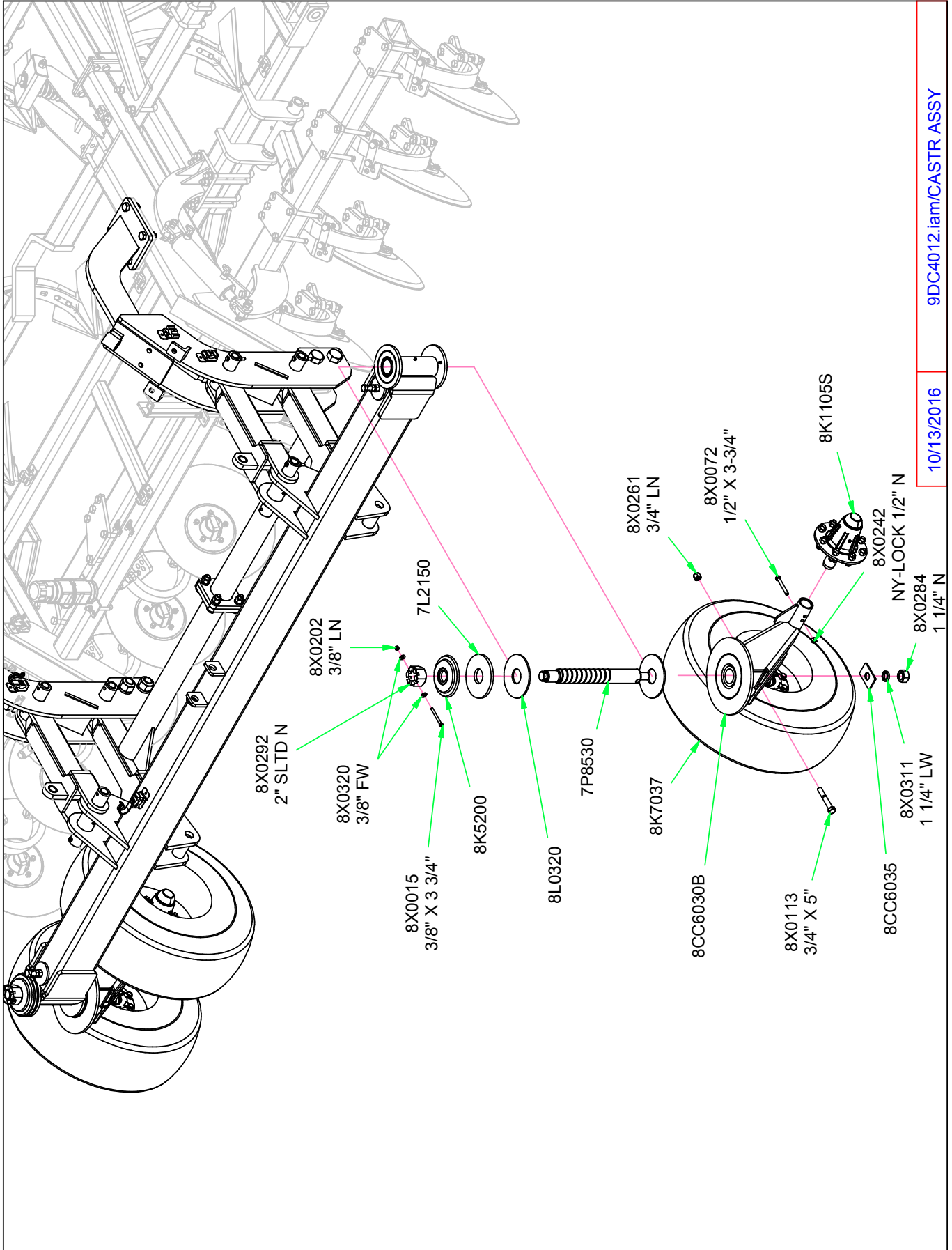
8/6/2009







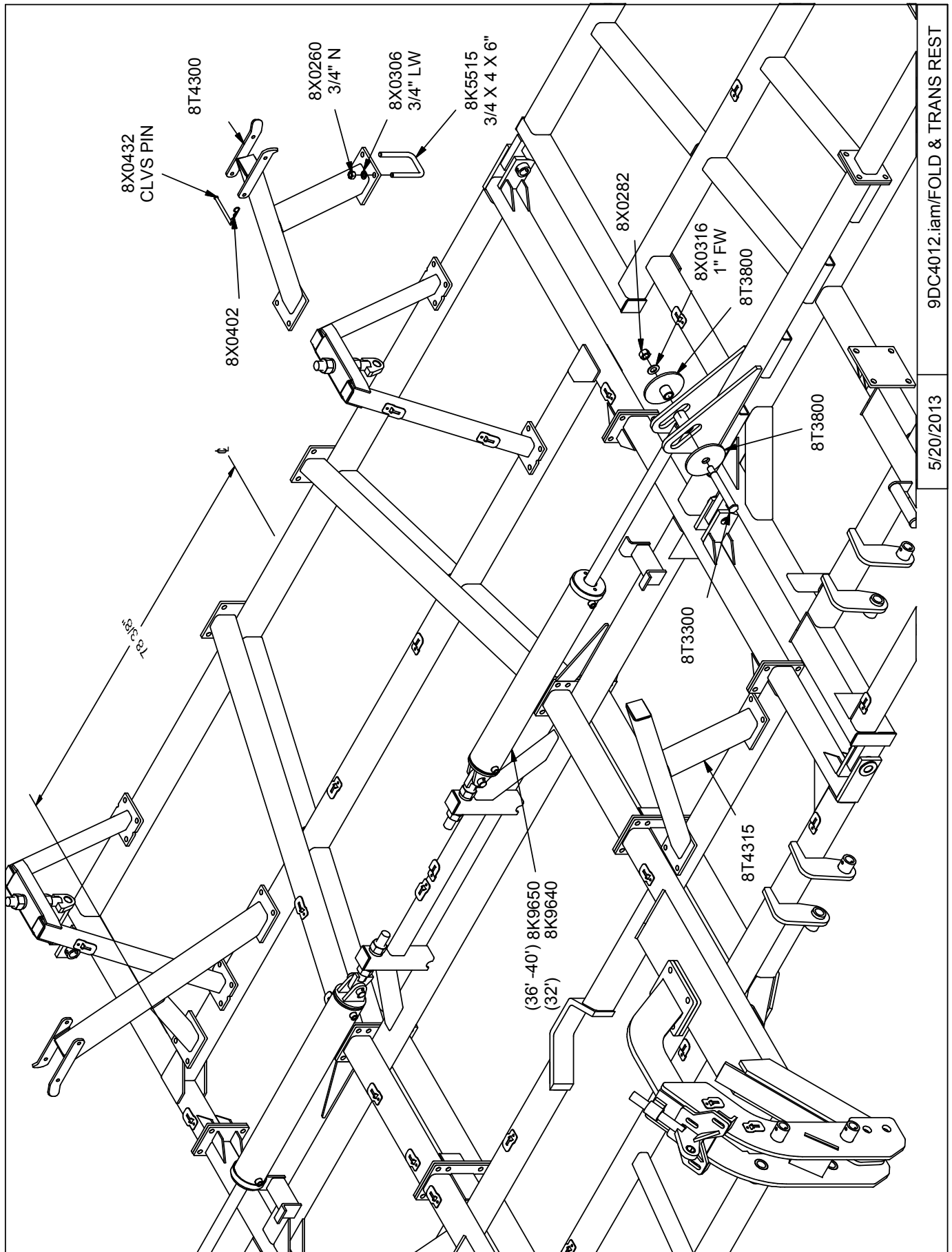
SECTION 6 – PARTS (32'-40')



9DC4012.iam/CASTR ASSY

10/13/2016

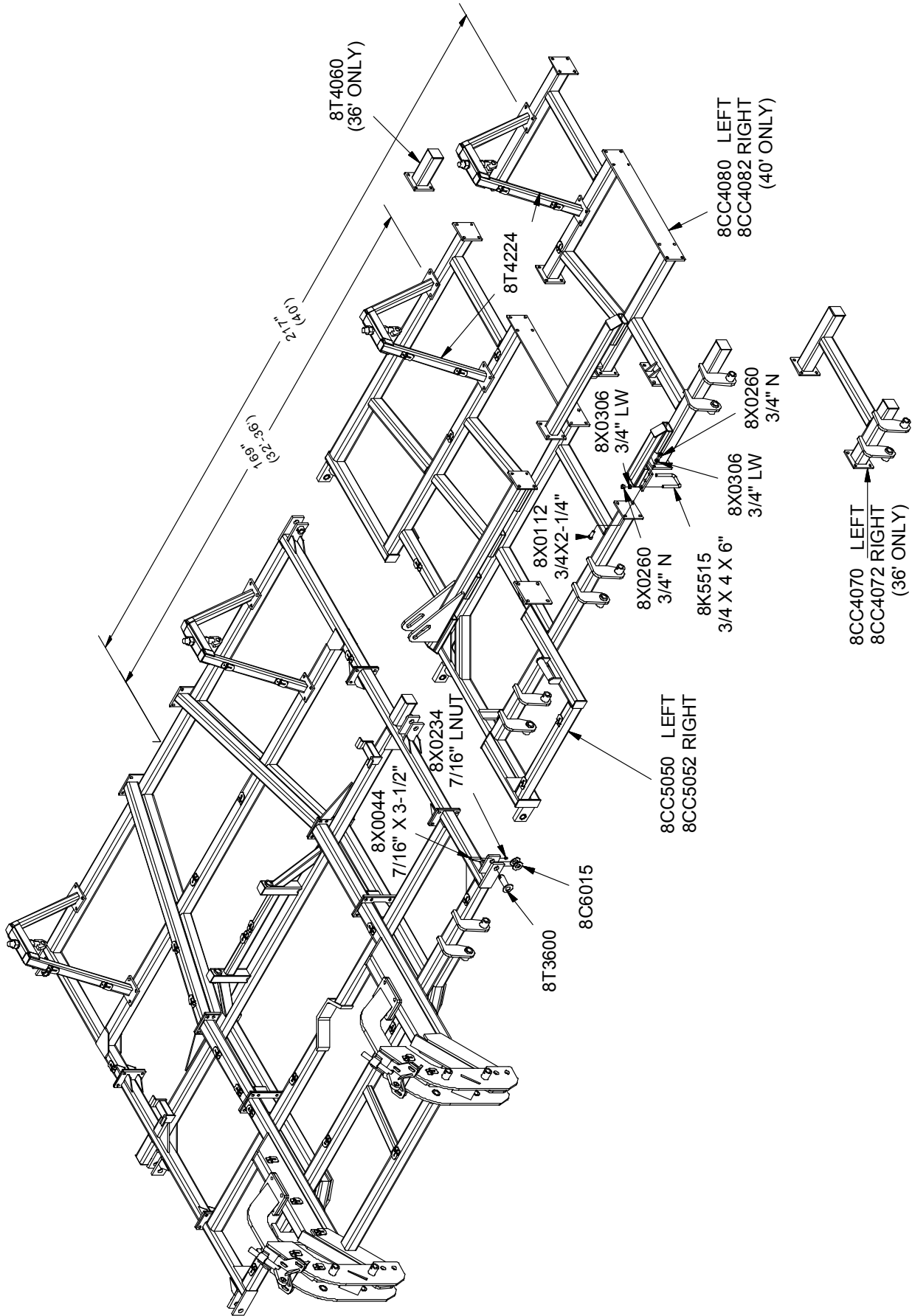
SECTION 6 - PARTS (32'-40')



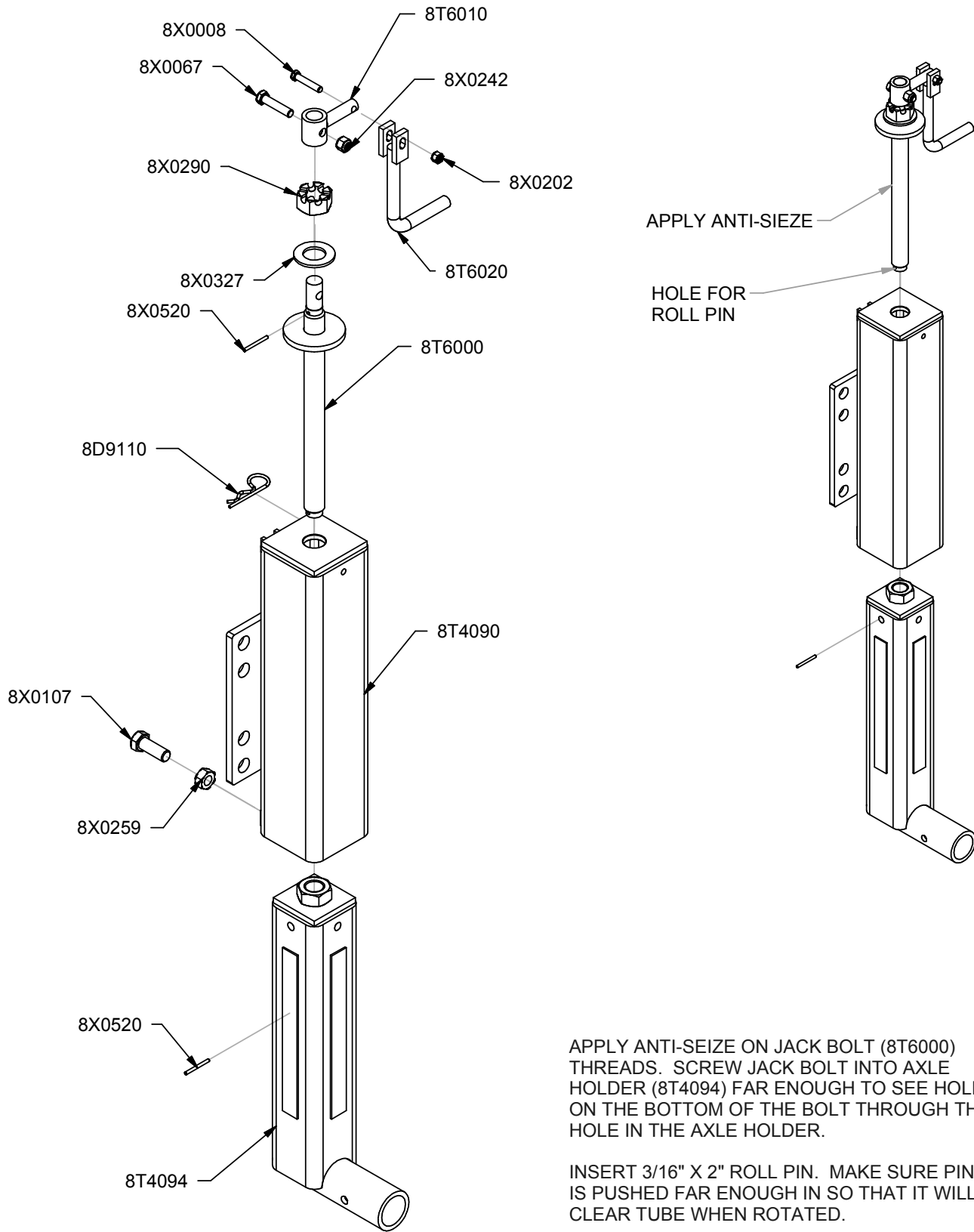
9DC4012.iam/FOLD & TRANS REST

5/20/2013

SECTION 6 - PARTS (32'-40')



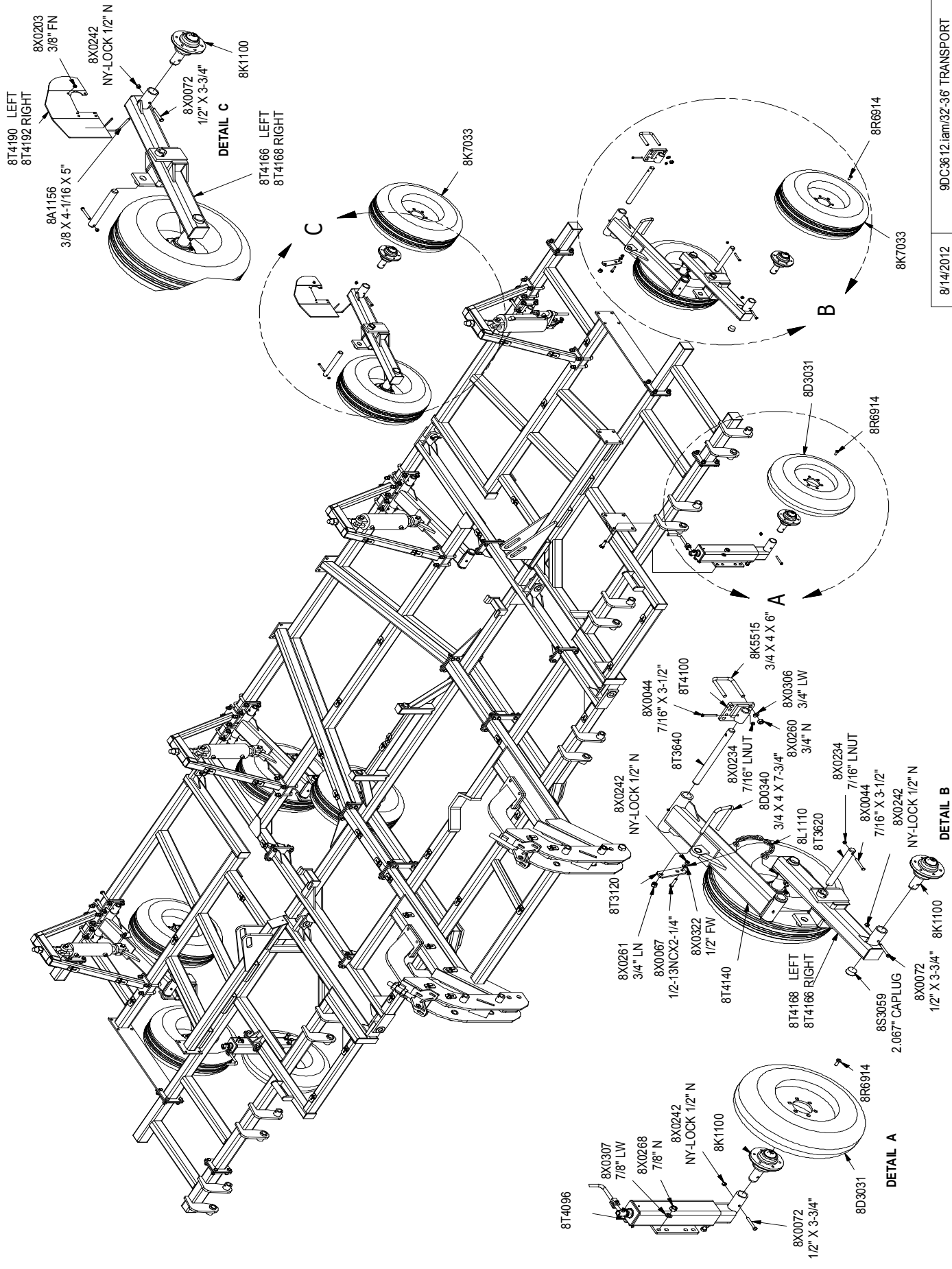
## SECTION 6 – PARTS (32’-40’)



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.

SECTION 6 - PARTS (32'-40')

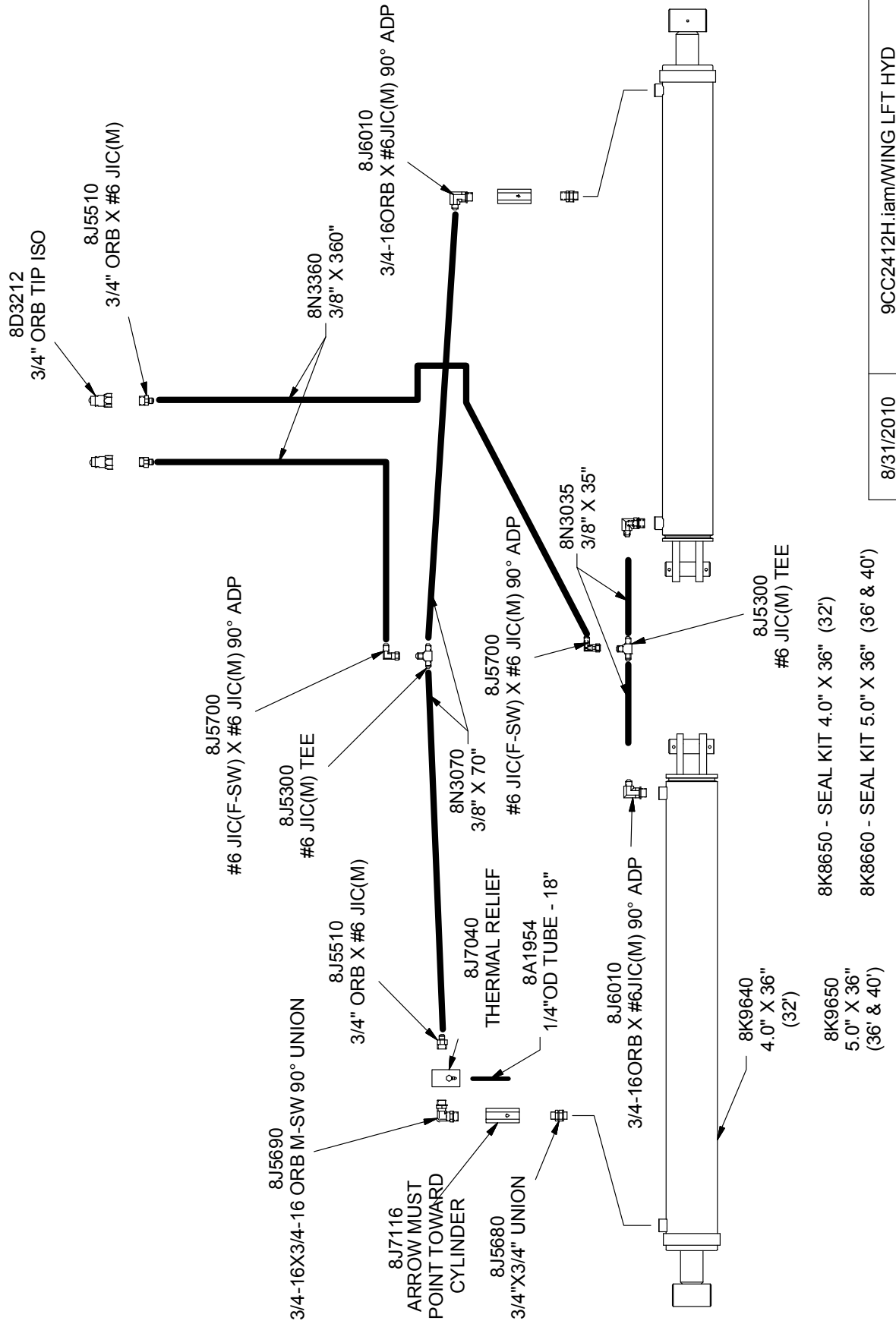




SECTION 6 - PARTS (32'-40')

32'-40' MACHINE

WING LIFT HYDRAULICS

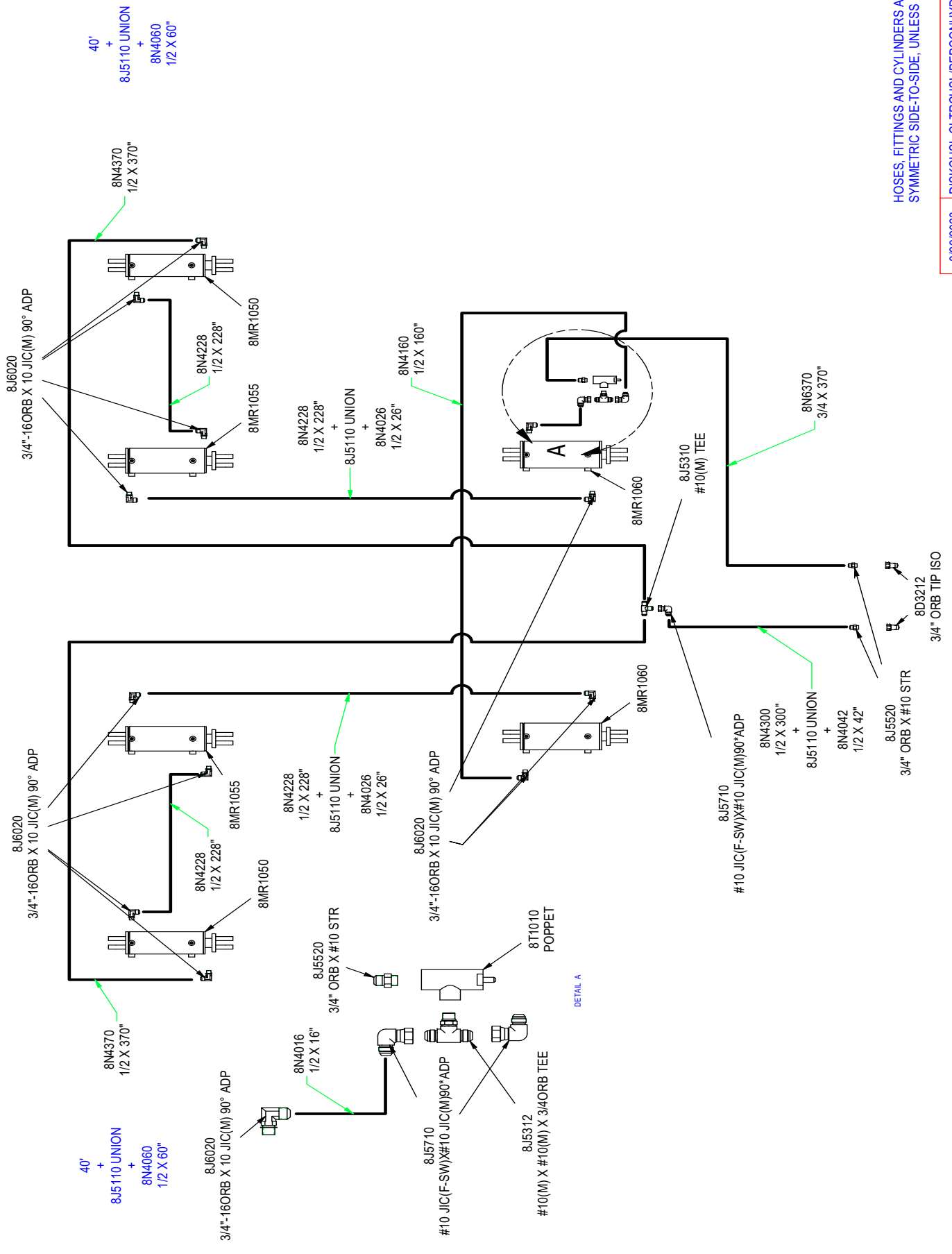


9CC2412H.iam/WING LFT HYD

8/31/2010



# 32'-40' DISK- AND COULTER-CHISEL CASTER HYD.

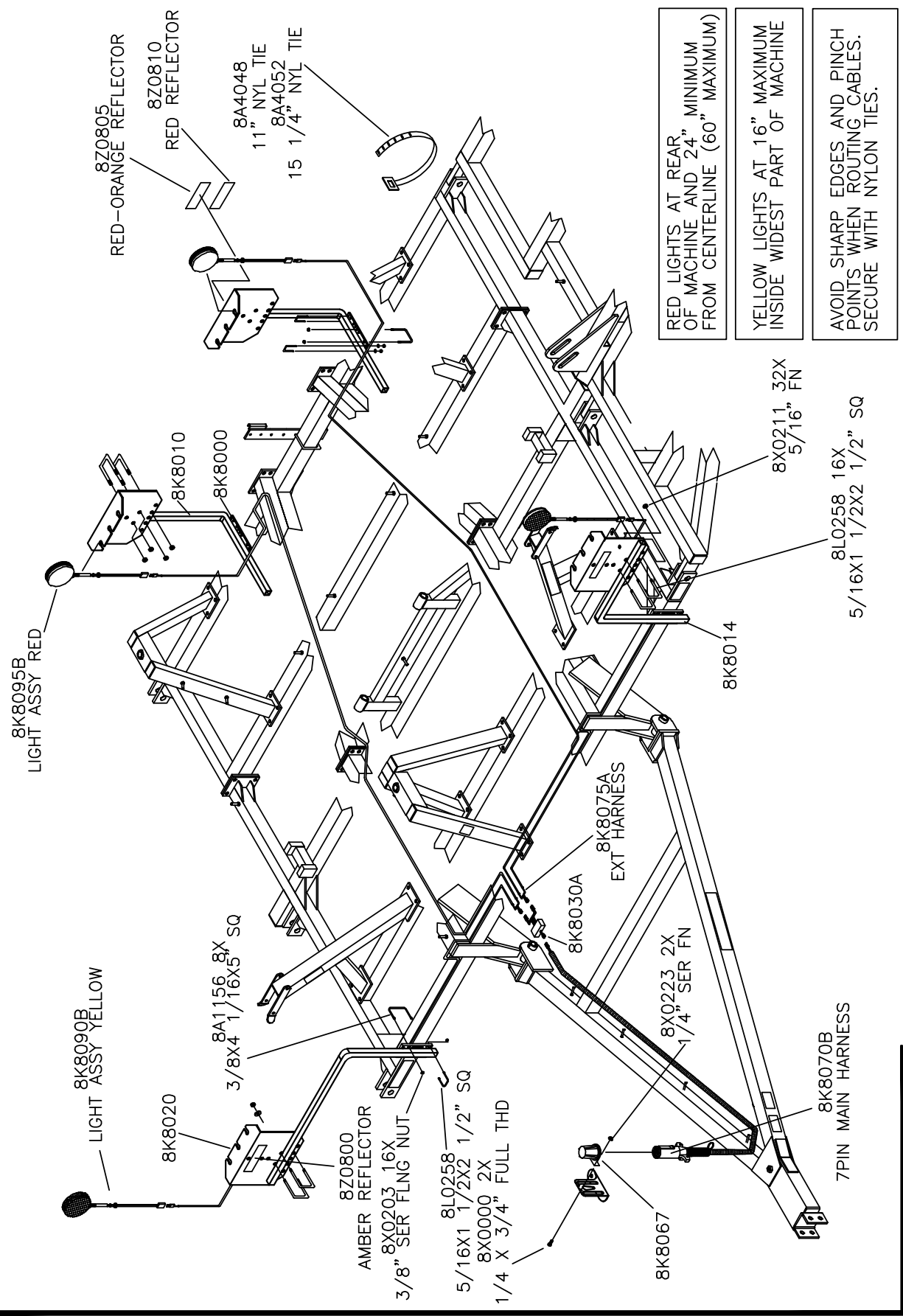


DETAIL A

HOSES, FITTINGS AND CYLINDERS ARE SYMMETRIC SIDE-TO-SIDE, UNLESS NOTED

SECTION 6 - PARTS

SAFETY LIGHT KIT



RED LIGHTS AT REAR OF MACHINE AND 24" MINIMUM FROM CENTERLINE (60" MAXIMUM)

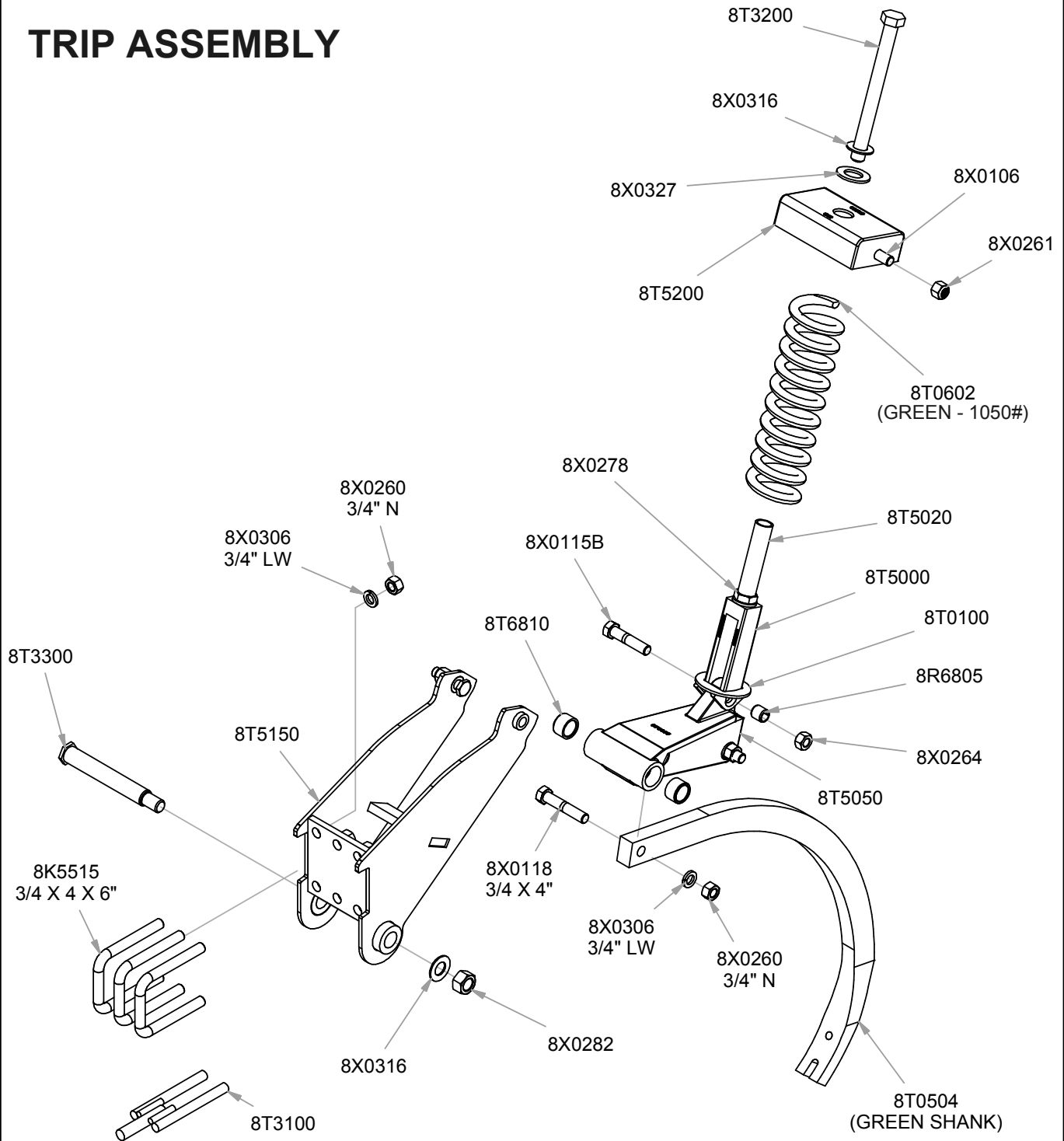
YELLOW LIGHTS AT 16" MAXIMUM INSIDE WIDEST PART OF MACHINE

AVOID SHARP EDGES AND PINCH POINTS WHEN ROUTING CABLES. SECURE WITH NYLON TIES.

CP/SAFELITEKIT 9/22/14

## SECTION 6 – PARTS

# 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:**

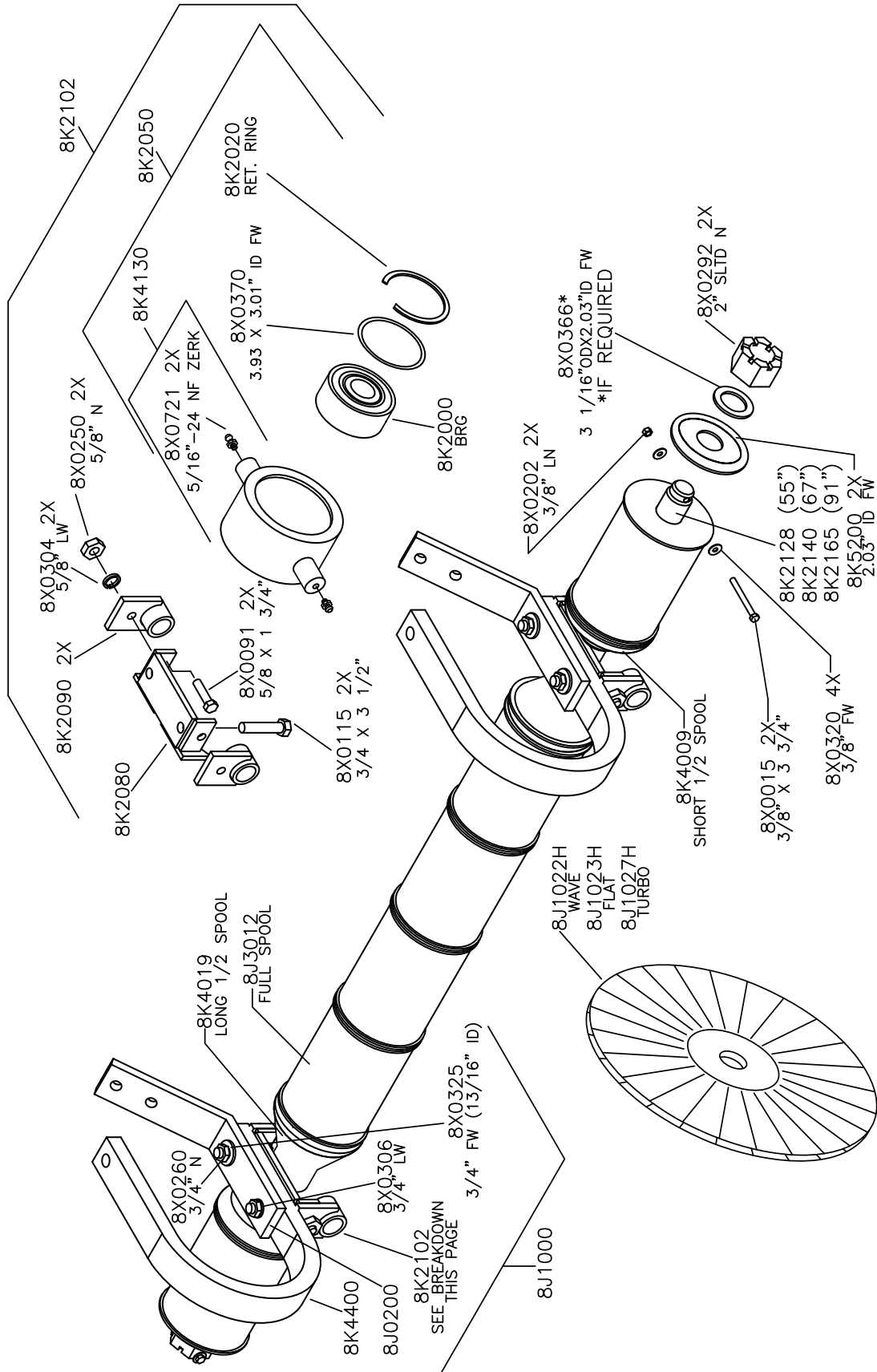
- 8X0037A - PLOWBOLT 1/2 X 2.25" (2 PER)
- 8X0240 - NUT 1/2" (2 PER)
- 8X0330 - WASHER 17/32"ID (1 PER - BOTTOM ONLY)

8/13/2014

Trip Assembly.iam/

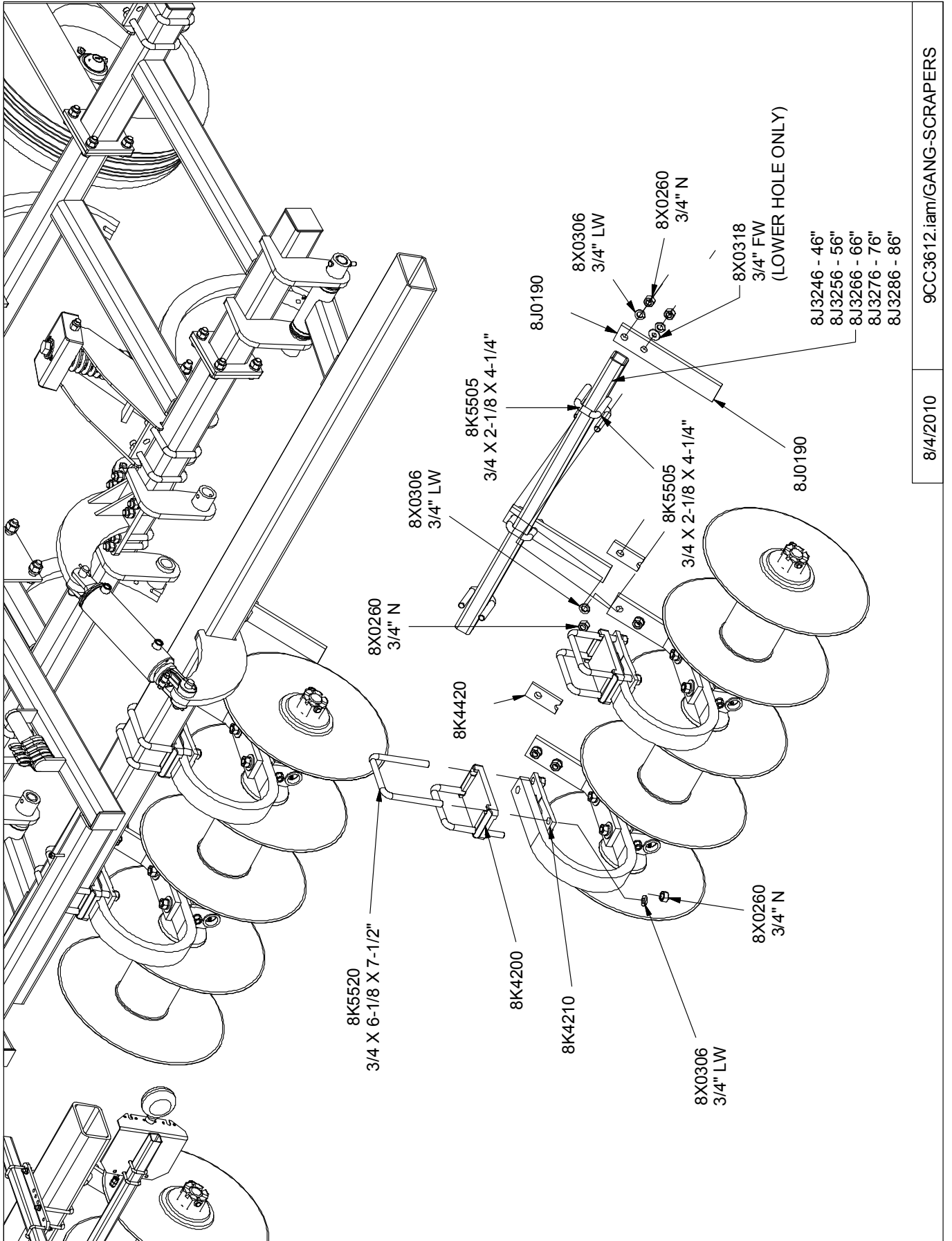
SECTION 6 - PARTS

COULTER-CHISEL GANG ASSEMBLIES



MANUALS/COULTER-CHISEL/CCGANGS 9/10/07

# SECTION 6 - PARTS

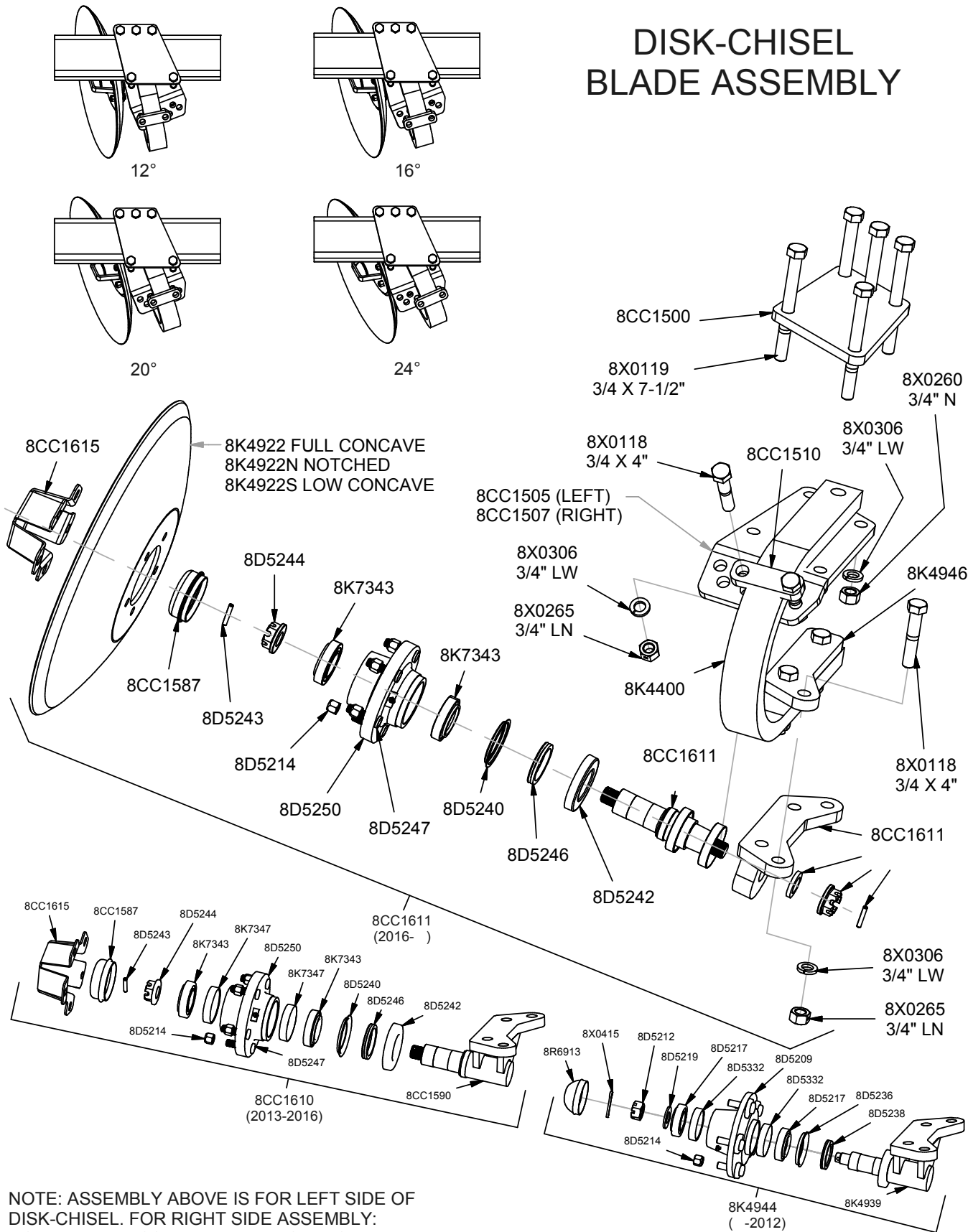


9CC3612.iam/GANG-SCRAPERS

8/4/2010

# SECTION 6 – PARTS

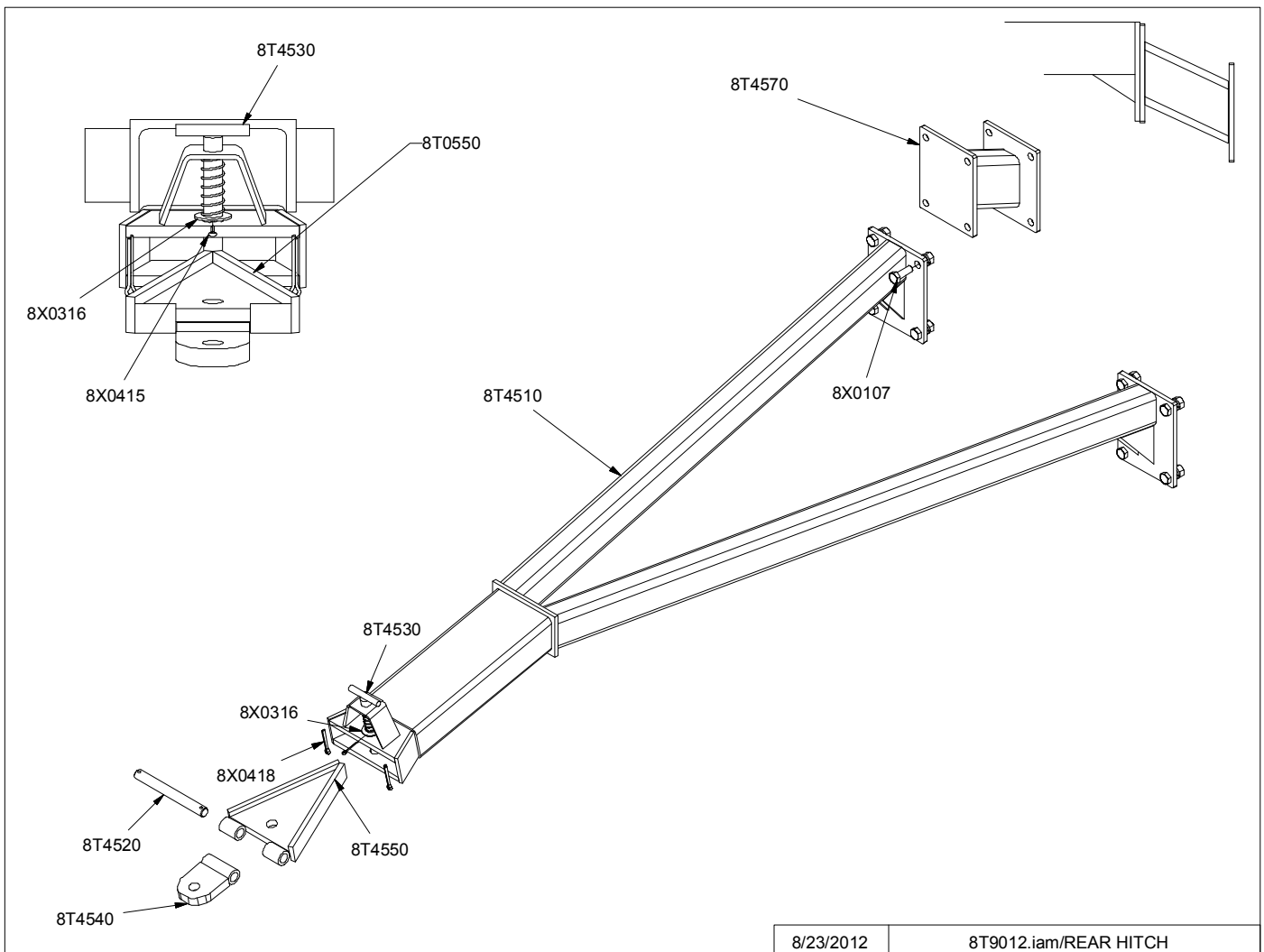
## DISK-CHISEL BLADE ASSEMBLY



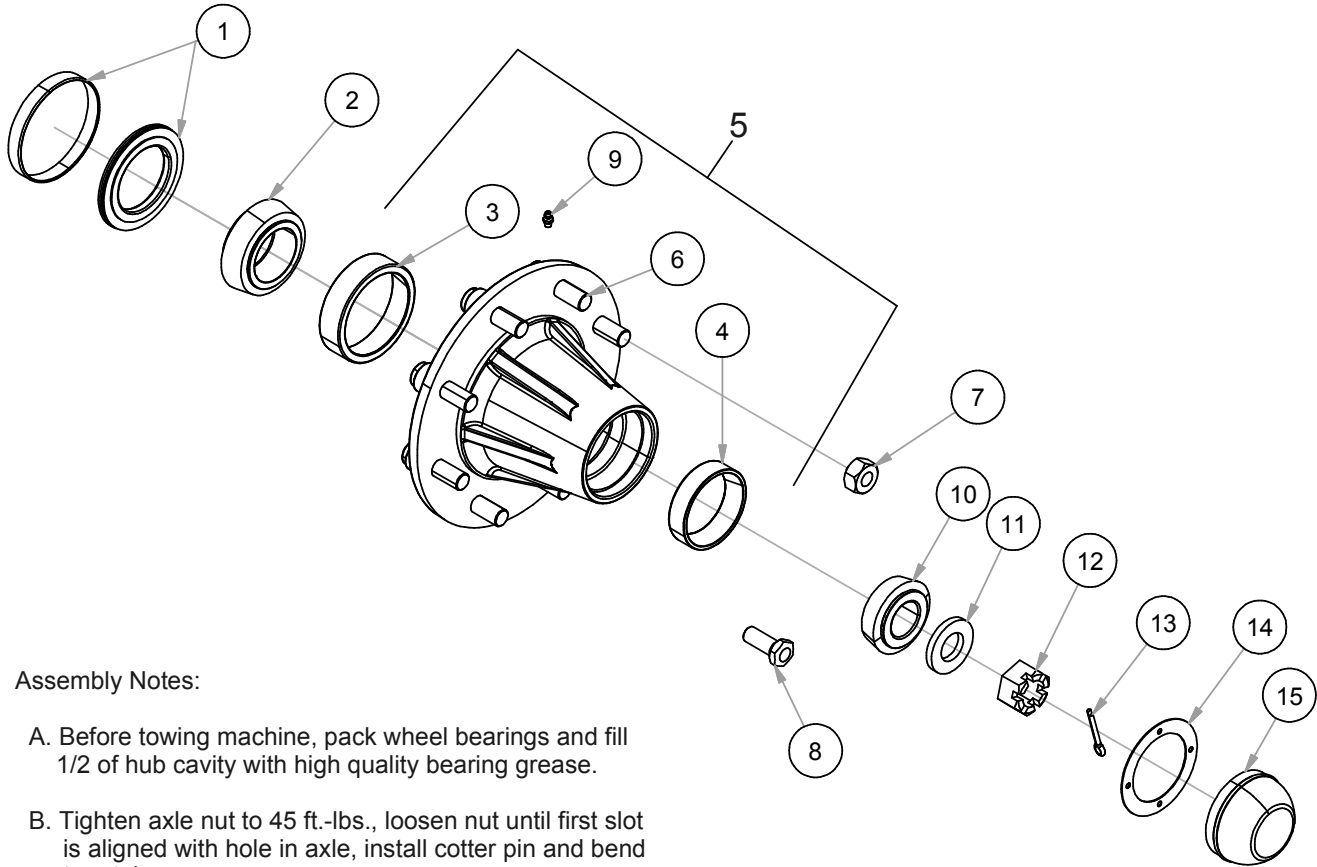
NOTE: ASSEMBLY ABOVE IS FOR LEFT SIDE OF DISK-CHISEL. FOR RIGHT SIDE ASSEMBLY: ROTATE HUB ASSEMBLY 180 DEGREES AND SUBSTITUTE 8CC1507 FOR 8CC1505, AS NOTED.

## SECTION 6 – PARTS

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.



## SECTION 6 – PARTS



**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.

HUB	1. SEAL	2. INNER BEARING	3. INNER RACE	4. OUTER RACE	5. HUB ASSY	6. WHEEL STUD	7. WHEEL NUT	8. WHEEL BOLT	9. HUB ZERK	10. OUTER BEARING	11. AXLE WASHER	12. AXLE NUT	13. COTTER PIN	14. HUB CAP GASKET	15. HUB CAP	16. HUB CAP BOLT
H211	8G8220	8G8217	8G8230	8G8230	8G8211	N/A	N/A	8D514	8X0708	8G8217	8D519	8D512	8X0410	N/A	8G82B	N/A
	SE10	L44643	8L44610	L44610	HDA211			WB10	1/4-28NF	L44643	3/4" ID.	3/4"-16	3/16X1"		DC11	
H517	8D5234 8D5236 8D5238	8D5217	8D5332	8D5336	8D5210	8D5215	8D5214	N/A	8X0708	8D5117	8D5219	8D5212	8X0415	N/A	8D52B	N/A
	LM48548	LM48510	LM67010	H517	WB16	1/2-20UNF	1/4-28NF		LM67048	7/8" ID.	7/8"-14	3/16X1-1/2"	DC1B			
H611	8D5221	8D5317	8D5334	8D5336	8D5311-09 8D5316 10-	N/A	N/A	8D514	8X0708	8D5117	8D5319	8D5312	8X0415	N/A	8D52B	N/A
	SE1B	LM29749	LM29710	LM67010				H611							WB12 10-	1/4-28NF
H614	8R6922** SEGBG1 INSTRUCTIONS	8R6917	8R6925	8D5332	8R6911	N/A	N/A	8R6914	8X0708	8D5217	8D5319	8D5312	8X0415	N/A	8R69B	N/A
	LM603049	LM603011	LM48510	H614	WB12			1/4-28NF							LM48548	1" ID.
HD812	8K7127*** SEAL SE77	8K7117	8K7130	8K7132	8K7111	8K7115-9/16**	8K7116-9/16**	N/A	8X0708	8K7118	8D5319	8D5312	8X0415	N/A	8K71B	N/A
	8K7128*** SLEEVE SE77-1	LM3780	LM3720	LM2720	HD812	WB41	WB40								1/4-28NF	LM2790
HD817	8K7344	8K7342	8K7346	8K7347	8K7340	8K7122-5/8"	8K7123-5/8"	N/A	8X0708	8K7343	8X0328	8D5314	8X0414	N/A	8K7341	N/A
	SE42	LM387AS	382A	LM501310	HD817	WB46	WB18		1/4-28NF	LM501349	1.312 ID.	1-1/4"-12	1/4X2"		DC26	
H1010 LT	8K7220	8K7217	8K7230	8K7232	8K7211	8K7215	8K7216	N/A	8X0708	8K7218	8X0328	8D5314	8X0414	8K7212	8K72B	8K7214
	SE48	39585	39520	453A	H1010-9	WB51	WB52		1/4-28NF	460	1.312 ID.	1-1/4"-12	1/4X2"	SE49	DC27	WB53
H1010 HVY	8K7221	8K7219	8K7231	8K7232	8K7210	8K7215	8K7216	N/A	8X0708	8K7218	8X0328	8D5314	8X0414	8K7212	8K72B	8K7214
	SE67	33275	33462	453A	H1010-11	WB51	WB52		1/4-28NF	460	1.312 ID.	1-1/4"-12	1/4X2"	SE49	DC27	WB53
H1020	8K7320	8K7317	8K7330	8K7332	8K7209	8K7215	8K7216	N/A	8X0708	8K7318	8X0366	8D5318	8X0418	8K7312	8K73B	8K7214
	SE55	HM218248	HM218210	HM212010	HDA1020	WB51	WB52		1/4-28NF	HM212049	2.03" ID	2" - 12WB65	5/16 X2-1/2"	SE59	DC28	WB53

\*Pre 2000

\*\*GBG1 (Not Shown), 8R6921 Triple Lip (Shown)

\*\*\*Pre 2006 8K7120 (SE17)

CD2\MANUALS\10-2-26 HUB-AXLE COMPONENTS

LAST REVISION: 1/17/2011

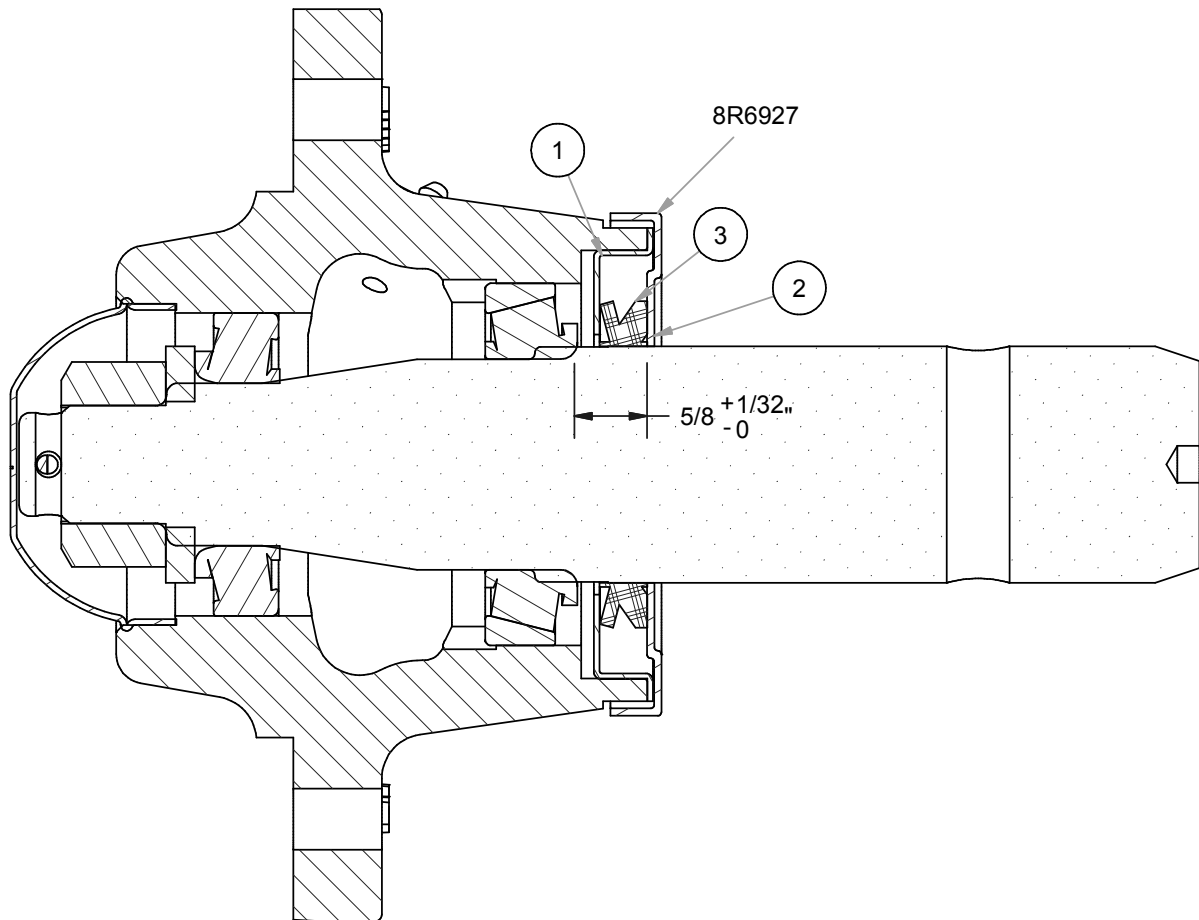
8/13/2014

8K1105S.iam/HUB&AXLE ASSY



## SECTION 6 – PARTS

### 614 HUB W/GBGI SEAL



#### 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.

## SECTION 6 – PARTS

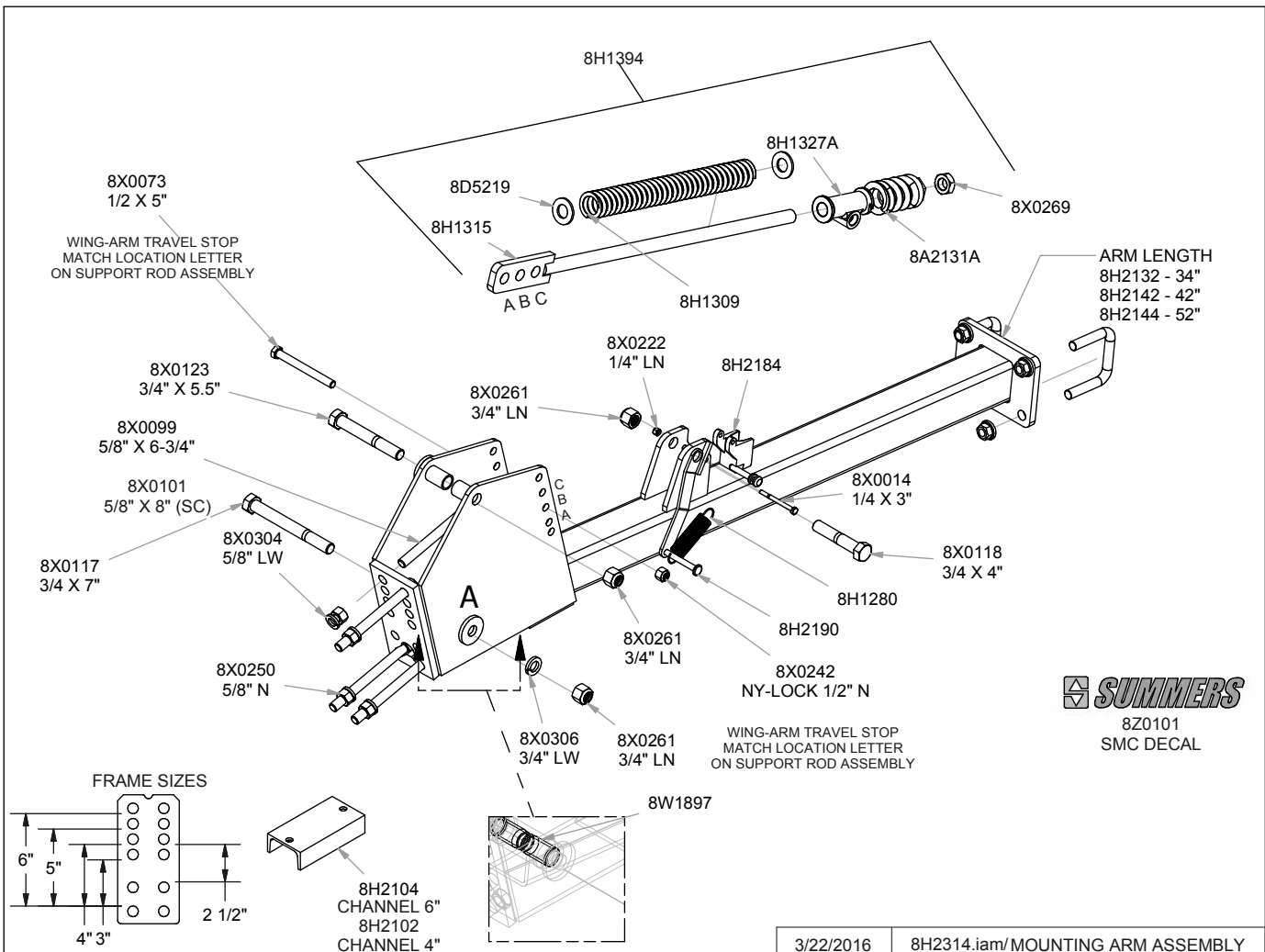
1. 52" mounting arms (PN 8H2314) should be used when attaching Summers mounted harrows.

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.

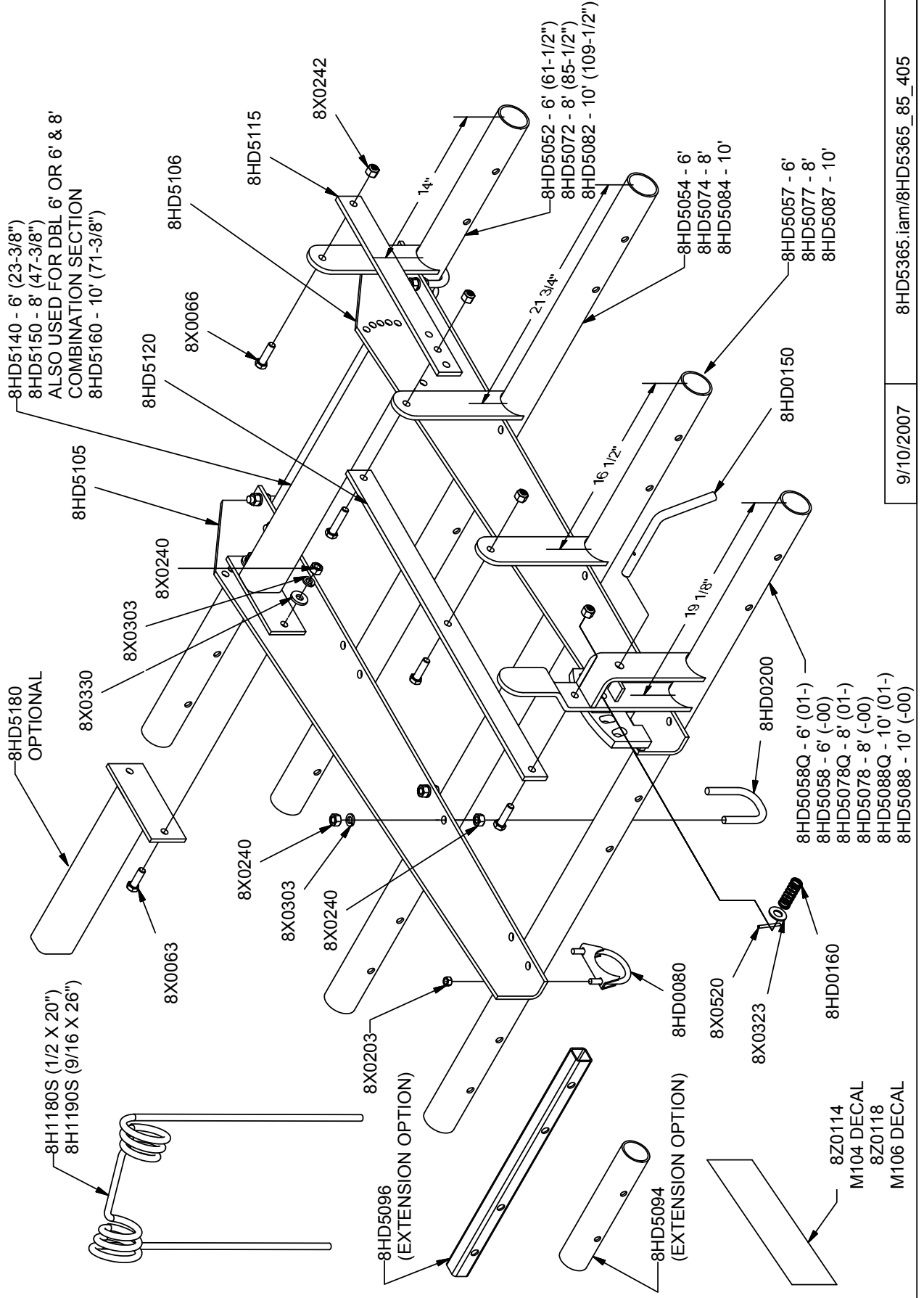


3/22/2016

8H2314.iam/MOUNTING ARM ASSEMBLY

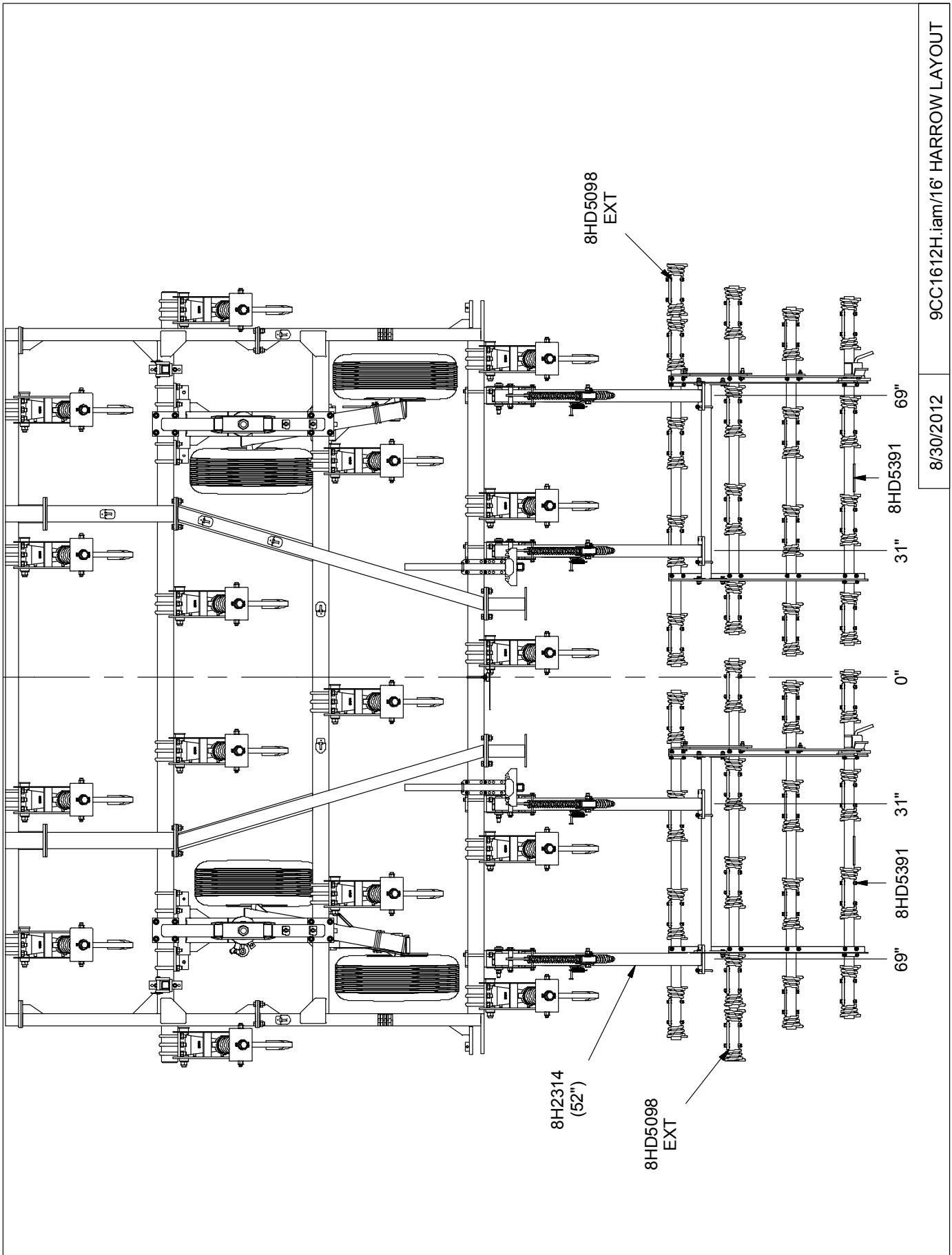
SECTION 6 - PARTS

6' , 8' & 10' 4 BAR SECTION ASSEMBLY MODEL 104/106

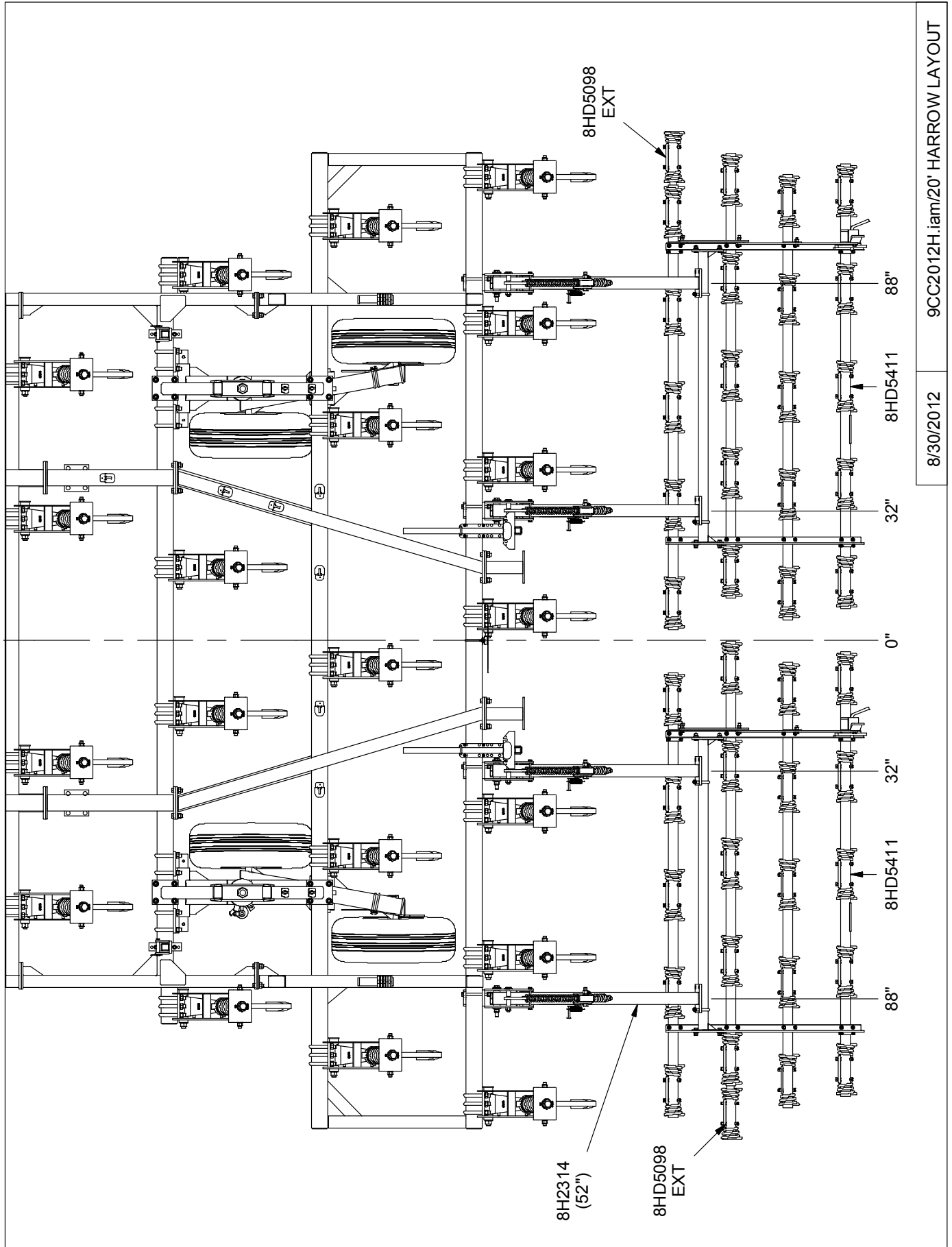


9/10/2007 8HD5365.iam/8HD5365\_85\_405

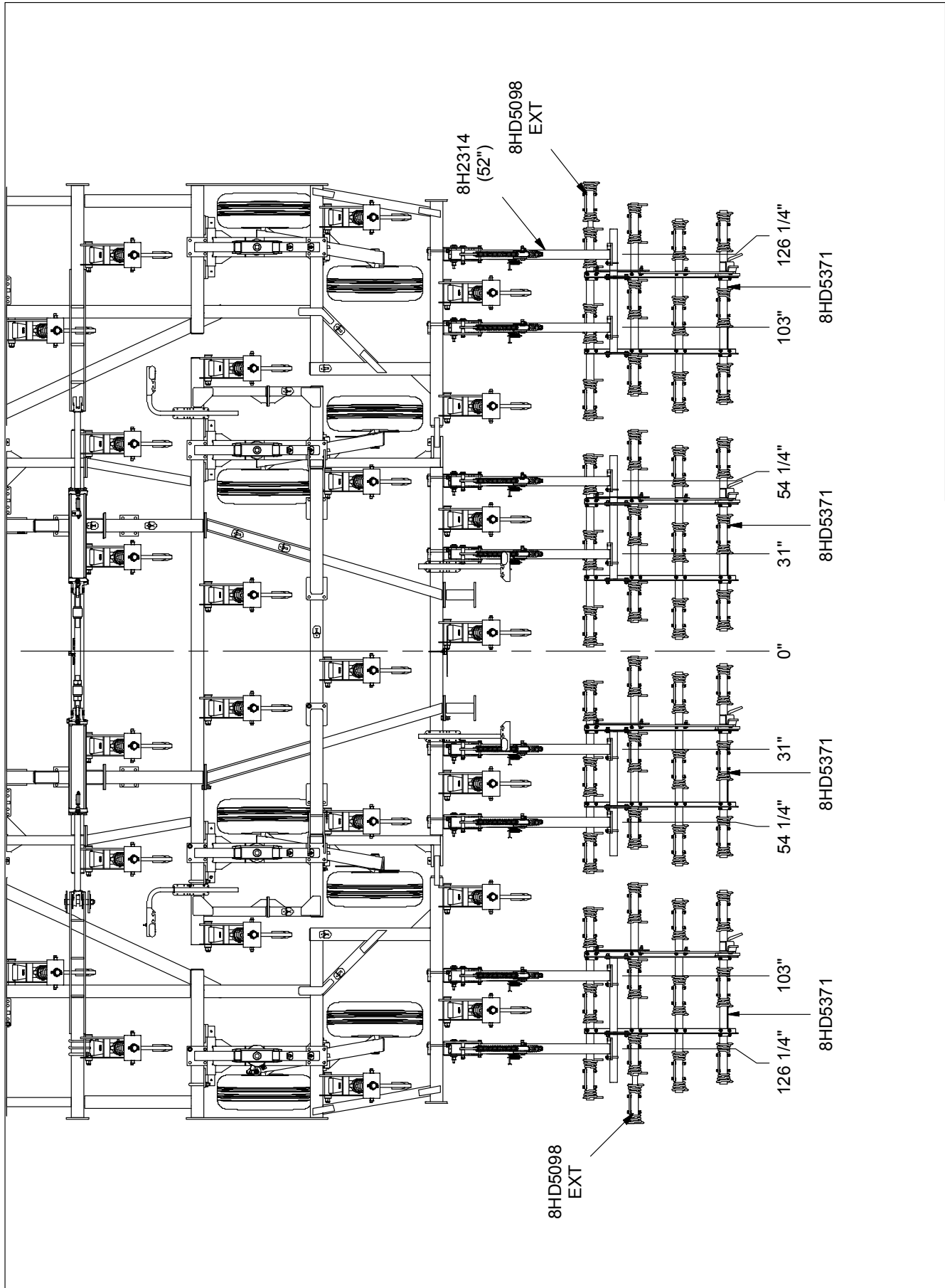
# SECTION 6 - PARTS



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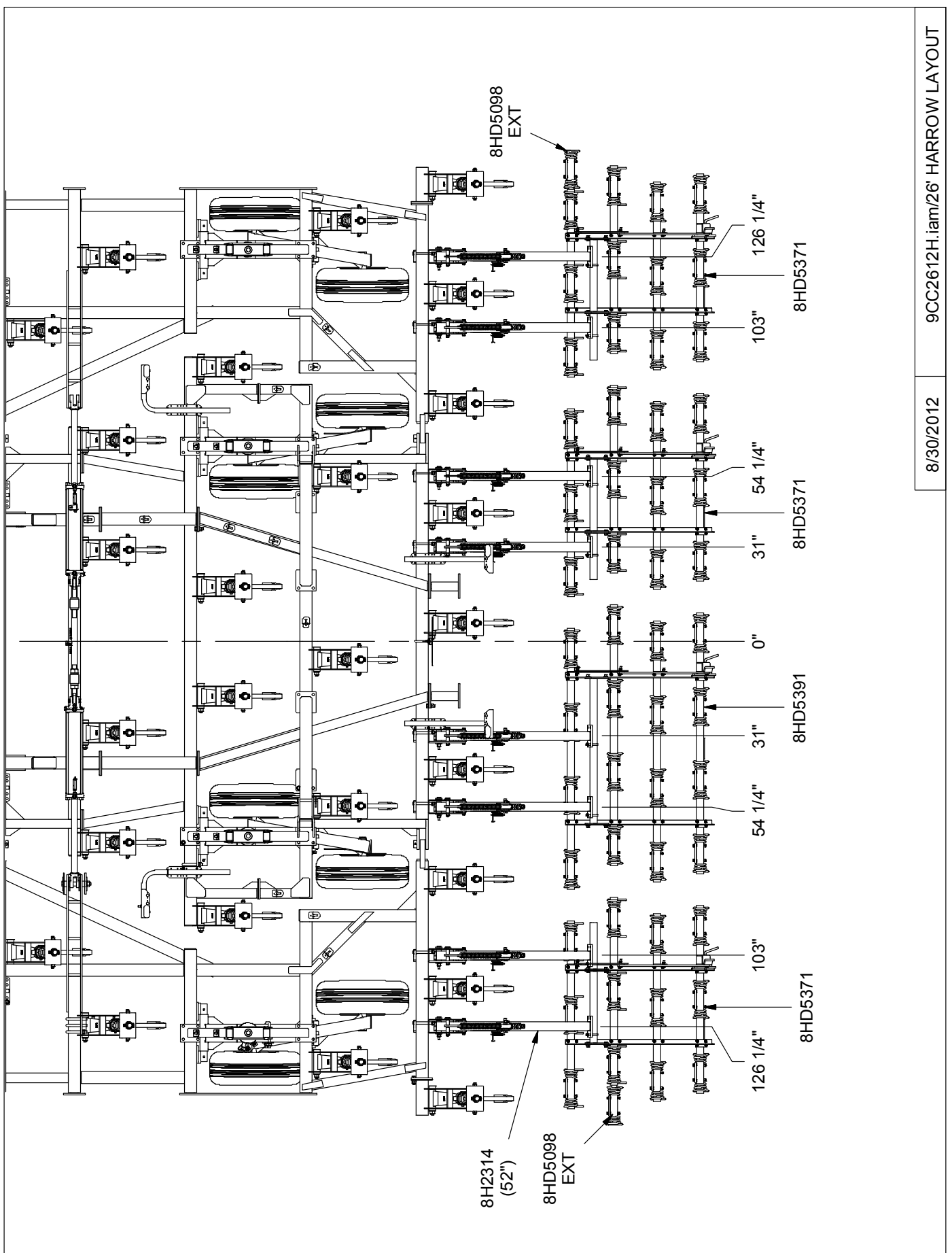
# SECTION 6 - PARTS



8/30/2012

9CC2412H.iam/24' HARROW LAYOUT

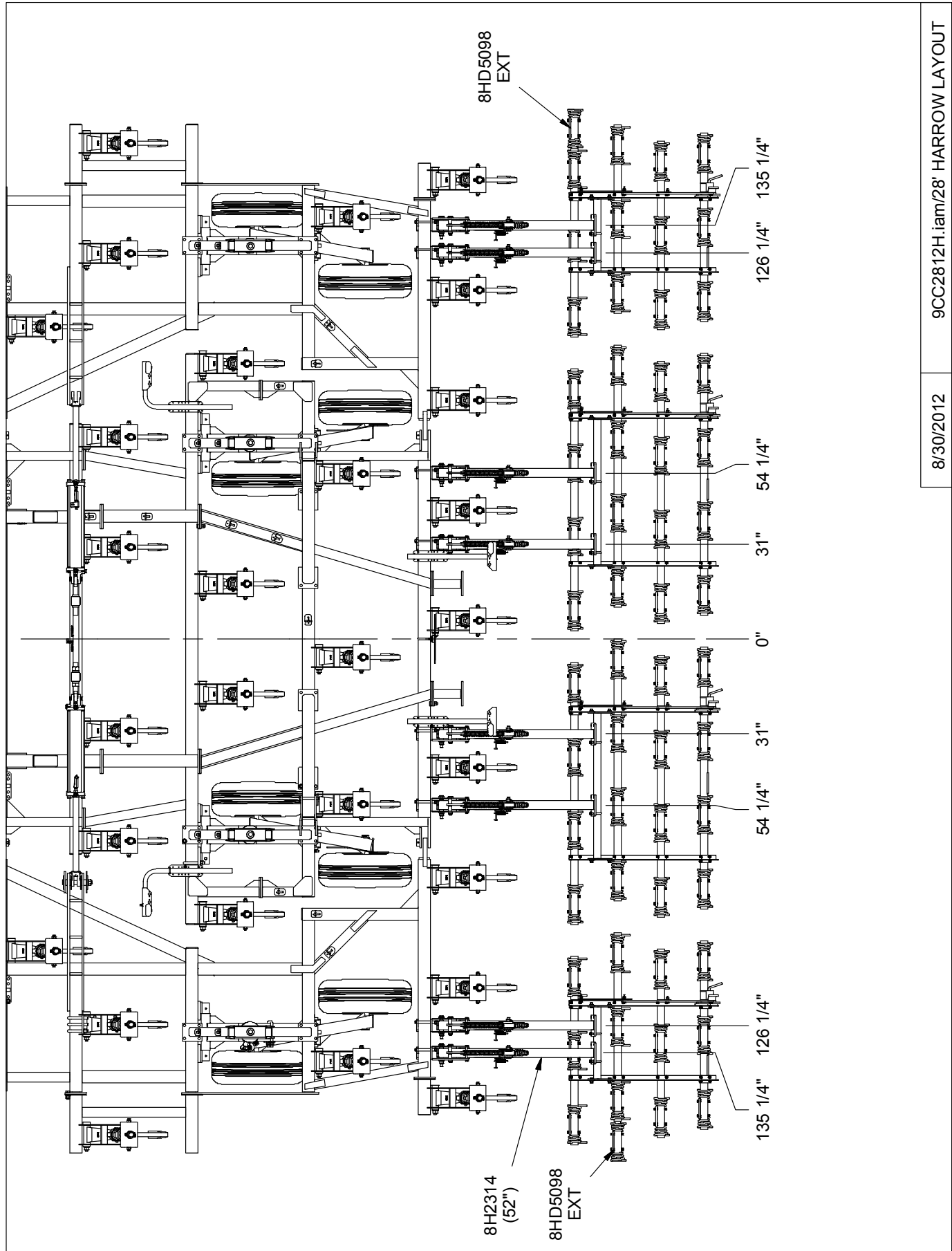
# SECTION 6 - PARTS



8/30/2012

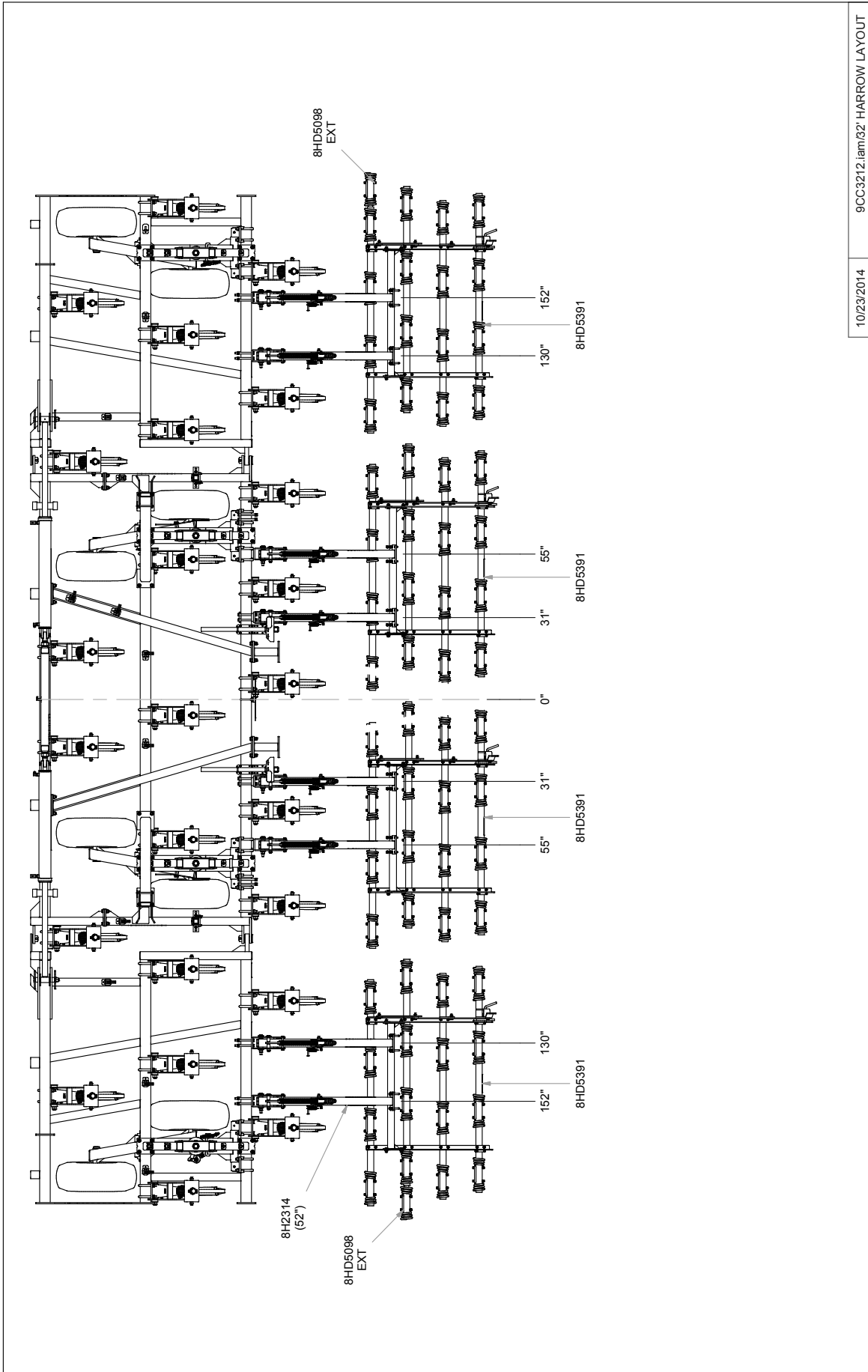
9CC2612H.iam/26' HARROW LAYOUT

# SECTION 6 - PARTS

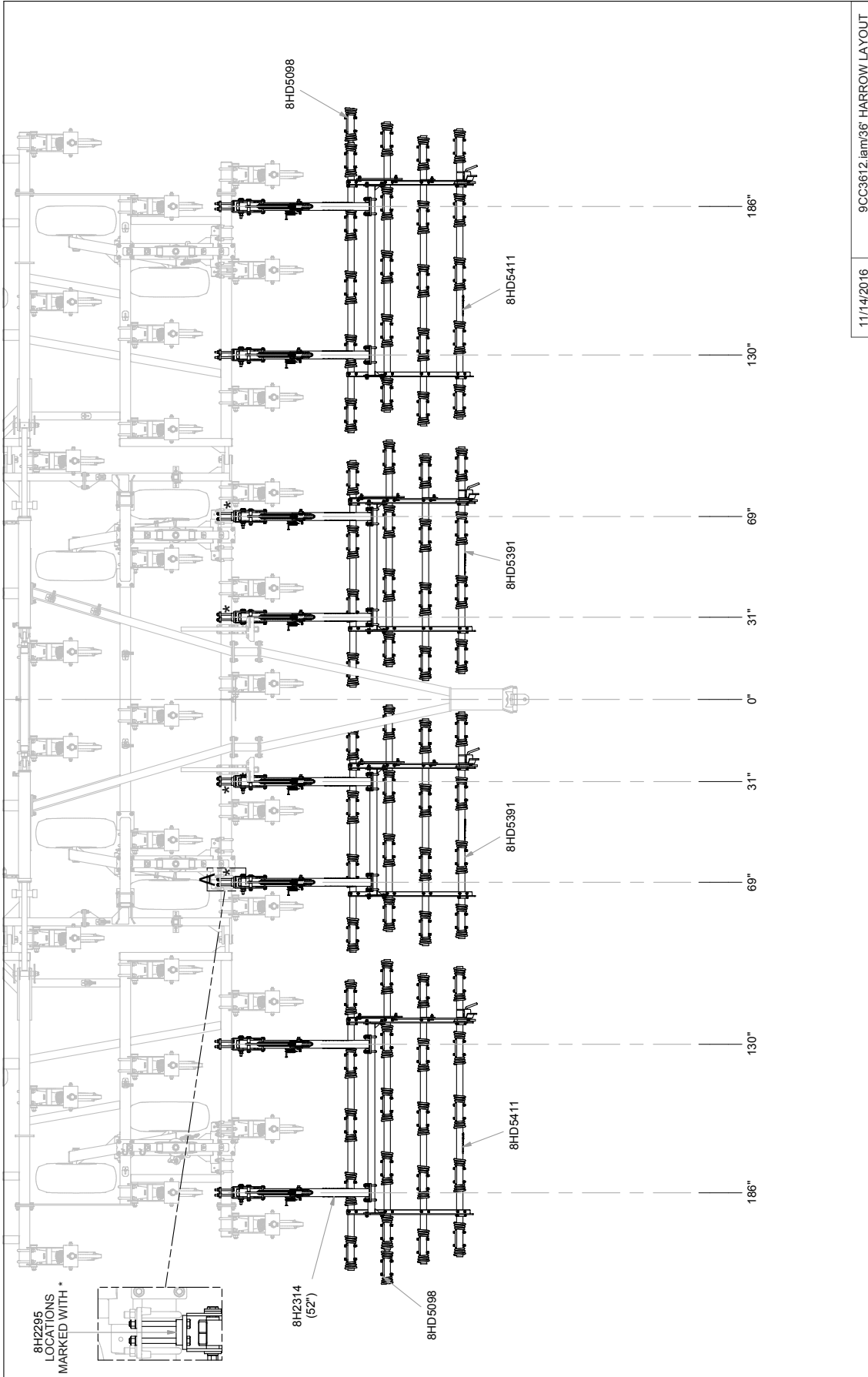




# SECTION 6 - PARTS



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## SECTION 6 – PARTS

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### NOTES

## SECTION 7 – PARTS

Stock Code	Description		
8A1155	U-BOLT 3/8 X 6-1/16 X 5" SQ	8CC4028	CENTER REAR 20' CHSL 07-
8A1156	U-BOLT 3/8 X 4-1/16 X 5" SQ	8CC4070	WING EXT 2 SHNK D/C CHSL L 09-
8A1157	U-BOLT 3/8 X 4-1/16 X 7" SQ	8CC4071	WING EXT 2 SHNK D/C CHSL R 09-
8A4044	CABLE CLAMP BLACK NYLON 7/8"	8CC4075	WING EXT 2 SHNK 28' D/C CHL09-
8A4048	NYLON TIE .18 X 11"	8CC4080	WING EXT 4SHNK L D/C CHSL 09-
8A4050	NYLON TIE .30 X 8-7/8"	8CC4082	WING EXT 4SHNK R D/C CHSL 09-
8A4052	NYLON TIE .30 X 15.25"	8CC4140	LIFTARM 16&20' C/DSK CHSL 07-
8A4054	NYLON TIE .30 X 24" BLK	8CC4325	WING LOCK 24-28' D/C CHSL 09-
8C0270	SPLITSTEELBUSH 1.375X 1"ID- 1"	8CC5016	CNTR FRNT SPLT16'&20'D/C CH09-
8C1720	U-BOLT 1/2 X 2-5/8 X 3-3/4" SQ	8CC5018	CNTR MID SPLT 16'&20'D/C CH09-
8C1736	U-BOLT 1/2 X 4-1/4 X 5-1/4"RND	8CC5049	WING LEFT 24-28' D/C CHSL 09-
8C1740	U-BOLT 1/2 X 4-1/4 X 7-1/4"RND	8CC5050	WING LEFT32-40'C/DSK CHSL 09-
8C1751	U-BOLT 3/4 X 3 X 6" SQ	8CC5051	WING RGHT 24-28' D/C CHSL 09-
8C1755	U-BOLT 3/4 X 6 X 6" SQ	8CC5052	WING RGHT32-40'C/DSK CHSL 09-
8C1760	U-BOLT 3/4 X 8 X 6" SQ	8CC5060	CNTR FRNT SPLT 24-28'D/C CH09-
8C1780	U-BOLT 7/8 X 8 X 10" SQ	8CC5062	CNTR MID SPLT 24'-28'D/C CH09-
8C1900	CLAMP 1/2" WIRE ROPE	8CC5070	FRAME CNTR RR 24-28'D/C CH 09-
8C6010	WASHER 1.03"ID X 3-1/16"ODX1/4	8CC5200	CNTR FRONT SPLT D/C CHISL 09-
8C6015	WASHER 1.53"ID X 3-1/16"ODX1/4	8CC5210	CENTER MID SPLT D/C CHISL 09-
8C9010	BRACE MNTNG ARM RLNGATCH 09-	8CC6000B	D/C CHSL&STD DSK CSTR MNT 16-
8C9017	BLADE 3/8X3- 16-3/8" PNTD 06-	8CC6015	D/C CHSL HTCH TOWER BRACE 10-
8C9030	FRAME 3"SQ 4' 2" ROLNGCHPR 06-	8CC6022	D/C CHSL LINK W/CYLATTCH 11-
8C9035	FRAME 3"SQ 5' 3" ROLNGCHPR 06-	8CC6026	PARALLEL LINK W/RCKSHFT 12-
8C9040	FRAME 3"SQ 7' ROLLNGCHPPR 07-	8CC6028	PARALLEL LNK ADJCYLATCH R2 11-
8C9050	REEL ONLY 4' 2" ROLNG CHPR 06-	8CC6035	WASHER 2.5X4X 1.281"ID 11-
8C9055	REEL ONLY 5' 3" ROLNG CHPR 06-	8D0330	U-BOLT 5/8 X 6-1/16 X 5-5/8"SQ
8C9060	REEL ONLY 7' ROLLING CHPPR 07-	8D0340	U-BOLT 3/4 X 4 X 7-3/4" SQ
8CC0600	HOLDDWN HOSE 8" W/WRNCH HL 11-	8D0350	U-BOLT 3/4 X 4 X 10" SQ
8CC0740	SPIRALRING .068X1.625 INTR 11-	8D0720	HITCH PIECE CAST CAT.3CTD PNTD
8CC0755	LINK ROD SNGL PT DPTH ADJ 11-	8D0722	PERFECT HTCH BACKSTOP W/HDWE
8CC0810	DEPTH INDICATOR POINTER 12-	8D0724	CLEVIS OPT.HITCH CAT.3CTD99-
8CC0815	DEPTH INDICATOR POINTRCLAMP	8D0730	URETHANE CUSHION PERFCTHTCH
8CC1000	CYL ATTCH GANG C/D CHSL 06-08	8D0745	HITCH PIECE WELDED CAT.5 10-
8CC1005	CYL ATTCH GANG D/C CHSL 09-	8D1168	AXLE H517 2"HR X 7-3/4" 06-
8CC1300	GANG MNT TUBE 16' D/C CHSL 09-	8D1169	AXLE H517HD 2"HR X 7-3/4"12-
8CC1310	GANG MNT TUBE 20' D/C CHSL 09-	8D2460	SAFETY CHAIN 20200# 3/8" X 4'
8CC1320	GNG MNTTUBE24-28D/C CH CNTR09-	8D2470	SAFETY CHAIN 30400# 7/16" X 5'
8CC1330	GNG MNT TUBE 24'D/C CHSL L 09-	8D3150	U-BOLT 1/2 X 3 X 7-1/4" SQ
8CC1340	GNG MNT TUBE 24'D/C CHSL R 09-	8D3152	U-BOLT 1/2 X 3-3/8 X 7-1/4" SQ
8CC1350	GNG MNT TUBE 26-28D/C CH L 09-	8D3212	MALE TIP 3/4"-16 ORB ISO
8CC1360	GNG MNT TUBE 26-28D/C CH R 09-	8D5114	BOLT WHEEL 1/2-20 UNF
8CC1370	GNG MNTTUBE32-40D/C CH CNTR09-	8D5117	BEARING413 511 517&611 LM67048
8CC1380	GNG MNT TUBE 32'D/C CHSL L 09-	8D5119	WASHER 3/4" AXLE PLAIN
8CC1390	GNG MNT TUBE 32'D/C CHSL R 09-	8D5209	HUB H517 W/STUDS(2.75"DC)GBGI
8CC1400	GNG MNT TUBE 36'D/C CHSL L 09-	8D5210	HUB H517 W/STUDS(2.44"DC) GBGI
8CC1410	GNG MNT TUBE 36'D/C CHSL R 09-	8D5212	NUT 7/8"-14NF HEX SLOT GR2 PLN
8CC1420	GNG MNT TUBE 40'D/C CHSL L 09-	8D5213	HUB CAP H517 & H611
8CC1430	GNG MNT TUBE 40'D/C CHSL R 09-	8D5214	NUT 1/2"-20UNF WHEEL
8CC1500	DC ADJ PLATE TOP 09-	8D5215	STUD WHEEL 1/2-20 UNF X 1-7/8
8CC1505	DC ADJ PLATE BTM LFT 09-	8D5217	BEARING IN517 OUT517HD 614&618
8CC1507	DC ADJ PLATE BTM RGHT 09-	8D5219	WASHER 7/8" AXLE
8CC1510	DC BLADE ANGLE LOCK 10-	8D5234	SEAL RETAINER GBGI HA517-7
8CC4000	HITCH NARROW CHSL C/D/CHSL07-	8D5236	SEAL COUNTERFACE GBGI HA517-7
8CC4010	D/C CH HYD HTCH CYL ATTCH 09-	8D5238	SEAL GBGI FOR CTD HA517-7 HUB
8CC4012	D/C CHSL HYD HTCH CLAMP 09-	8D5312	NUT 1"-14TPI HEX SLOT GR2 PLN
		8D5314	NUT 1-1/4"-12 HEX SLOT GR2 PLN

## SECTION 7 – PARTS

8D5319	WASHER 1" AXLE X .2" THICKNESS	8H2315	EXTENSION MNT ARM 6" M94-M108
8D5320	WASHER 2" AXLE X .25" THICKNES	8H2702	BEARING 1-1/4" SQ FLNG4BLT
8D5332	RACE H517 & H614 LM48510	8HD0080	PIPE CLAMP 2-1/2" ID PLATED YZ
8D5336	RACE H511 H517 & H611 LM67010	8HD0150	PIN ADJSTMNT 5/8X9.75" YZ 95-
8D8490	PIONEER/ISO TIP HLDR BNT 97-	8HD0160	SPRING TINE ADJ.COMP.ZINC95-
8D8500	HYD HOSE HOLDER PNTD BLK 91-	8HD0200	U-BOLT 1/2 X 2-3/8X 3-9/16"RND
8D8521	JACK SPOOL 3 X 2.56- 1-29/32"	8HD5052	1ST PIPE W/LVR 6'104/6 3OR4BR
8D8522	JACK 5000# TOP CRANK 15"LIFT	8HD5054	2ND PIPE W/LVR 6'104/6 3OR4BR
8D8523	JACK 8000# DROPLEG 5/8X4.25PIN	8HD5056	3RD PIPEW/LVR 6'104/6 3BR93-00
8D9108	ROLL PIN 1/4 X 2" ZINC	8HD5056Q	3RD PIPE/LVR6' 3BR104/6QADJ00-
8D9110	HAIRPIN CLIP LARGE (1"CYL PIN)	8HD5057	3RD PIPEW/LVR 6' 104/6 4BR 98-
8D9524	HYD CYL 5 X 24" 3000PSI 09-	8HD5058	4TH PIPEW/LVR 6'104/6 4BR98-00
8D9525	SEAL KIT5X24"PRINCE3000PSI 10-	8HD5058Q	4TH PIP/LVR6' 4BR104/6 QADJ02-
8G2281	NYLON TIE .187 X 7-1/2" BROWN	8HD5072	1ST PIPE W/LVR 8' 104/6 3OR4BR
8G2282	NYLON TIE .187 X 7-1/2" RED	8HD5074	2ND PIPE W/LVR 8' 104/6 3OR4BR
8G2283	NYLON TIE .187 X 7-1/2" ORANGE	8HD5076	3RD PIPEW/LVR 8'104/6 3BR93-00
8G2284	NYLON TIE .187 X 7-1/2" YELLOW	8HD5076Q	3RD PIP/LVR8' 3BR104/6 QADJ00-
8G2285	NYLON TIE .187 X 7-1/2" GREEN	8HD5077	3RD PIPEW/LVR 8' 104/6 4BR 98-
8G2286	NYLON TIE .187 X 7-1/2" BLUE	8HD5078	4TH PIPEW/LVR 8'104/6 4BR98-00
8H1180S	HARROW TOOTH 1/2 X 20" M104/SH	8HD5078Q	4TH PIP/LVR8' 4BR104/6 QADJ02-
8H1184S	HARROW TOOTH 1/2X 26" M105/SH26	8HD5082	1ST PIPE W/LVR10' 104/6 3OR4BR
8H1190S	HARROW TOOTH 9/16X 26" M106/SH+	8HD5084	2ND PIPE W/LVR10' 104/6 3OR4BR
8H1195S	HARROW TOOTH 5/8 X 28" M108	8HD5086	3RD PIPEW/LVR10'104/6 3BR93-00
8H1280	SPRING EXTENSION 1"OD X 4" YZ	8HD5086Q	3RDPIP/LVR10' 3BR104/6 QADJ00-
8H1304	SPRING HVY 1.19"ID- 2.88" PNTD	8HD5087	3RD PIPEW/LVR10' 104/6 4BR 98-
8H1307	SPRING PRESS 1.63OD- 15" 91#/"	8HD5088	4TH PIPEW/LVR10'104/6 4BR98-00
8H1309	SPRING COMP 15.5"X1.65"OD PNTD	8HD5088Q	4THPIP/LVR10' 4BR104/6 QADJ02-
8H1315	SUPPORT ROD WLDD ASSY 7/8 09-	8HD5094	EXT PIPE2.375"ODX.148- 12" 01-
8H1320	COLLAR ADJSTMNT DOWN PRES 79-	8HD5096	EXT TUBE1.5SQ11GA-23.75" 01-
8H1327	CAST SWIVEL 3/4X7/8 MNTD ATTCH	8HD5101	SIDE PLT 1/4"3BR 104/6 LEFT00-
8H1328	CAST SWVL 8H1327 PNTD 10-	8HD5102	SIDE PLT 1/4"3BR 104/6 RGHT00-
8H1394	SUPPORT ROD ASSY 7/8" MNTD 09-	8HD5105	SIDE PLT5/16"4BR 104/6 LEFT00-
8H1396	ROD ASSY 7/8" DBL SWVL 10-	8HD5106	SIDE PLT5/16"4BR 104/6 RGHT00-
8H1498	SPACER TUBE 4X3X5T- 5" SQ 96-	8HD5115	CONNCTNG BAR (3/8X2-17.5) 00-
8H1499	SPACER TUBE 4X2X4T- 5" SQ 94-	8HD5120	CONNCTNG BAR (3/8X2X30.5) 93-
8H1504	SPACER TUBE 4X4X4T- 5" SQ 92-	8HD5140	CROSS TUBE W/FLATS 6" M104/106
8H1506	SPACER TUBE 6X4X4T- 5" SQ 10-	8HD5150	CROSS TUBE W/FLATS 8" M104/106
8H1510	MNT PLATE(FLAT5/8X5-10")6"MAX	8HD5160	CROSS TUBE W/FLATS 10" M104/06
8H1512	MNT PLATE(FLAT5/8X5-16")11"MAX	8HD5180	EXT BRCKT M94-108 2ND ARM 15"
8H1520	MNT BRACKET SHORT (13") UNIV	8J0190	SCRAPER FLAT SUPRCOULTR 00-
8H1522	MNT BRACKET SHORT (20") HI-CLR	8J0200	MNT FLAT SCRAPER SPRCLTR 00-
8H1530	MNT BRACKET LONG (25") UNIV	8J1020	CLTR BLADE 8X1.75WAVE .256X20"
8H1532	MNT BRACKET LONG (29") HI-CLR	8J1020N	CLTR BLADE 8X1.75W NOTCH.26X20
8H2015	PIPE SPACER 1/2 X 3-7/8" 10-	8J1021N	CLTR BLADE 8X1.75W NOTCH.26X22
8H2100	STL 5/8 X 4- 8-3/8" PNTD 88-	8J1021ND	CLTR BLADE 8W NTCH DURA.26X22"
8H2120	MOUNTING BRCKT M94-M108 85-	8J1022H	CLTR BLADE 13WAVE .256X22" 04-
8H2131A	SPRING W/7/8-9NC NUT 12-	8J1023H	CLTR BLADE FLAT .256X22" 04-
8H2132	CARRIER ARM 34" M94-M108	8J1027H	CLTR BLADE5/8"TURBO.256X22"05-
8H2142	CARRIER ARM 42" M94-M108	8J3002	SPOOL 2" SPACR WELDED CLTR 06-
8H2144	CARRIER ARM 52" M94-M108	8J3005	SPACER 2.02IDX2.63OD-2.63" 13-
8H2150	CROSS TUBE W/FLAT 4.5' M94	8J3010	CAST SPOOL 10" FULL CLTR 00-
8H2160	CROSS TUBE W/FLAT 6' M94	8J3012	SPOOL12"FULLWLDD CLTRCHSL06-
8H2170	CROSS TUBE W/FLAT 7.5' M94	8J3246	SCRAPER MNT TUBE-46"SCLTR03-
8H2184	AUTOLCKUP 7/8" DRLD&PNTD 09-	8J3256	SCRAPER MNT TUBE-56"SCLTR00-
8H2190	HANDLE W/PIN AUTOLCKUP 94-108	8J3266	SCRAPER MNT TUBE-66"SCLTR00-
8H2295	MNTNG HEAD SPACER BLOCK 12-	8J3276	SCRAPER MNT TUBE-76"SCLTR00-

## SECTION 7 – PARTS

8J3286	SCRAPER MNT TUBE-86"SCLTR04-	8K2020	RETAINING RING GANG BRNG 84-
8J5100	#6 JIC(M) X #6 JIC(M) UNION	8K2050	GANG BRNG W/HOUSNG 211 X 2"+ID
8J5102	#6 ORB TO 3/8"FPT ADAPTR SWVL	8K2080	CAST BEARNG MNT BASE DRILLD
8J5104	#4 ORB(M) X #6 JIC(M) ELBOW	8K2090	CAST BEARNG PIVOT TUBE DRILLD
8J5106	#6 JIC TUBE PLUG	8K2120	GANG ROD 2" DIA X 47"
8J5110	#10 JIC(M) X #10 JIC(M) UNION	8K2128	GANG ROD 2" DIA X 55" CLTR 07-
8J5150	3/8" MPT X #6JIC(M)STR ADPTR	8K2130	GANG ROD 2" DIA X 57"
8J5152	#8 JIC(F) X #6 JIC(M) RDCR	8K2140	GANG ROD 2" DIA X 67"
8J5170	1/2" MPT X #10 JIC(M)STR ADPTR	8K2150	GANG ROD 2" DIA X 77"
8J5200	#10 JIC(F) X #6 JIC(M)HEX BUSH	8K2152	GANG ROD 2" DIA X 79" CLTR 09-
8J5298	TEE #6 SWIVELNUTRUN(M+M+F-SW)	8K2160	GANG ROD 2" DIA X 87"
8J5300	TEE #6 JIC (MALE) 3X	8K2165	GANG ROD 2" DIA X 91" CLTR 06-
8J5312	TEE #10JIC(M2X)X3/4-16ORBBRNCH	8K2170	GANG ROD 2" DIA X 97"
8J5500	9/16"-18 ORB X #6 JIC(M) STR	8K2190	GANG ROD 2" DIA X 117"
8J5510	3/4"-16 ORB X #6 JIC(M) STR	8K3002	WRENCH GANG 3-1/8" HEX BLCK00-
8J5520	3/4"-16 ORB X #10 JIC(M) STR	8K4009	SPOOL HALF 2.63" FLAT CLTR 00-
8J5540	7/8"-14 ORB X #10 JIC(M) STR	8K4019	SPOOL HALF 4.8" FLAT CLTR 00-
8J5550	1-1/16" - 12ORB#10JIC(M)STR	8K4130	HOUSING BRG TOGGLE MNT CAST
8J5600	9/16"-18 ORB X #6 JIC(F-SW)STR	8K4200	CLAMP GNGMNT W/PEG CAST PNTD
8J5620	3/4"-16 ORB X #6 JIC(F-SW)STR	8K4210	CLAMP GANG MNT CAST PNTD
8J5680	3/4"-16 ORB X 3/4"-16ORB UNION	8K4300	CLAMP SCRAPER MNT CAST PNTD
8J5682	3/4"-16ORB(2X)ADJUSTABLE UNION	8K4400	SPRING SHANK GNG MNT 2.5"X1.25
8J5690	3/4-16X3/4-16 ORB M-SW90*UNION	8K4420	CLAMP FLAT 1/2 X 2- 4-1/4" 84-
8J5700	#6 JIC(F-SW) X #6 JIC(M)90*ADP	8K4922	BLADE DISK 1/4X22"5BLT4"ID PLN
8J5710	#10 JIC(F-SW)X#10 JIC(M)90*ADP	8K4922N	BLADE DISK 1/4X22" 5BLT NOTCH
8J5800	3/8"FPT X #6 JIC (F-SW) STR	8K4922S	BLADE DISK 1/4X22"5BLT4"ID LC
8J5810	1/2"FPT X #10 JIC(F-SW) STR	8K4925	GUARD HUB CAP 517 06-
8J6000	9/16"-18 ORB X #6 JIC(M)90*ADP	8K4930	SPACER 5/8" (7K2065)PNTD 06-
8J6002	9/16"-18ORB X #6 JIC(M)BRNCH T	8K4935	PLATE SNGLDSK(7K2075)PNTD 06-
8J6004	9/16"-18ORB X #6 JIC(M)RUN TEE	8K4939	BRCKT W/517HD AXL RVR SBL 12-
8J6010	3/4"-16 ORB X #6 JIC(M)90*ADP	8K4940	BRCKT W/517AXL SNGLDSK RGHT06-
8J6020	3/4"-16 ORB X #10 JIC(M)90*ADP	8K4944	BRCKT W/517HD HUB RVR SBL 12-
8J6030	7/8"-14 ORB X #10 JIC(M)90*ADP	8K4945	BRCKT W/517HUB SNGLDSK RGHT06-
8J6060	3/4"-16ORB X #6JIC(F-SW)90*ADP	8K4946	CLAMP 3 HL DSKCHSL HD HUB 12-
8J7000	BALL VALVE HYD 9/16"-18ORB(2X)	8K5200	WASHER GANG BOLT 2.03" ID
8J7040	THERMAL RELIEF MANIFLD 4000PSI	8K5210	WASHER GANG W/ 3/4" NC WELDNUT
8J7110	CHECKVLV TNK 7/8-14ORB ML/FML	8K5214	ROUND 3/4-10NCX 6" STLKFNGR84-
8J7116	3/4"-16 ORB(2X)1WAY 1/16"RESTR	8K5350	SPLITSTEELBUSH 2" X 1.5"ID- 2"
8J7216	#6JIC(M)X6JIC(F)1/16"RSTR BLKZ	8K5400	SPLITSTEELBUSH 4 X 3.5ID- 1.5"
8J7232	#6JIC(M)X6JIC(F)1/32"RSTR Z-08	8K5505	U-BOLT 3/4 X 2-1/8 X 4-1/4" SQ
8J7250	RELIEF VLV 2250PSI 9/16"-18ORB	8K5515	U-BOLT 3/4 X 4 X 6" SQ
8J7260	DUAL OUTLET FEMALE HYD COUPLER	8K5520	U-BOLT 3/4 X 6-1/8 X 7-1/2" SQ
8K0050	MNT BRKT ADJ DPRSS MANFLD 12-	8K7016	WHEEL 15 X 8" 8 BOLT-VLV GRD
8K1100	HUB&AXLE ASSY 614(GBGI-2"RCVR)	8K7020	WHEEL 15 X 10" 8 BOLT-VLV GRD
8K1105	HUB&AXLE ASSY HD812(2.5"RCVR)	8K7026	TIRE 11L X 15" LRF TBLS HWYSRV
8K1105S	HUB&AXLE ASSY HD812 (2"RCVR)	8K7028	TIRE 12.5L X 15" LRF TL HWYSRV
8K1610	PIN 3/4 X 6.25" TRNSPRTLCK 84-	8K7033	11L X 15 LRF ON 15X8X6 WHEEL
8K1620	PIN 1-1/4 X 6-1/8" 84-	8K7037	11L X 15 LRF ON 15X8X8 WHEEL
8K1640	PIN 1-1/2 X 10-5/8" HITCH 84-	8K7042	12.5L X 15 LRF ON 15X10X8 WHL
8K1660	PIN 1-1/2 X 15-1/2" HARDEND84-	8K7111	HUB HD812 W/CUPS&ZRK 8BLT3LIP
8K1720	EYEBOLT 1.25DIAX1"EYE YZ 12-	8K7113	HUB CAP HD812 DC17
8K1750	EYEBOLT 1.5"DIAX1"EYE YZ 12-	8K7117	BEARING INNER HD812 LM3780
8K1755	EYEBOLT 1.5"DIAX1.26EYE YZ 12-	8K7118	BEARING OUTER HD812 LM2790
8K1900	SEAL GBGI V WALKNG TANDM 01-	8K7120	SEAL 2-1/2"ID HD812 SE17 -06
8K1920	RETAINING RING 2-7/8" INV 00-	8K7122	STUD WHEEL 5/8-18UNFX2.5"97-
8K2000	BEARING 211 X 2.02" ID 01-	8K7123	NUT 5/8"-18UNF WHEEL BOLT 97-

## 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 SHFT12-
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"RD 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 SHRT 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	MODULE AG ENHNCD LGHT4PIN07-09	8K9640	HYD CYL 4 X 36" W/3" STOP TUBE
8K8030A	MODULE AG ENHNCDW/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 DRAWBAR DEUTSCH 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 3 X 4" SQ
8K8090	LIGHT AMBER 2WIREWTHRCK 00-	8L0272	U-BOLT 5/16 X 3 X 7" SQ
8K8090A	LIGHT AMBER 2WIRE DEUTSCH 07-	8N3018	3/8X 18"HYD HOSE #6FJX3000PSI
8K8090B	LIGHT LED AMBER 2WR DTSCH 12-	8N3028	3/8X 28"HYD HOSE #6FJX3000PSI
8K8092	LENS ONLY RED GROTE LIGHT 00-	8N3035	3/8X 35"HYD HOSE #6FJX3000PSI
8K8095	LIGHT RED 3 WIRE WEATHRPCK 05-	8N3048	3/8X 48"HYD HOSE #6FJX3000PSI
8K8095A	LIGHT RED 3WIRE DEUTSCH 07-	8N3060	3/8X 60"HYD HOSE #6FJX3000PSI
8K8095B	LIGHT LED RED 3WR DTSCH 12-	8N3070	3/8X 70"HYD HOSE #6FJX3000PSI
8K8105A	EXT HRNSS T 26'2WIRE DTSCH 07-	8N3084	3/8X 84"HYD HOSE #6FJX3000PSI
8K8200	BRCKT SMV ATTCH 4-8"FRAME98-	8N3096	3/8X 96"HYD HOSE #6FJX3000PSI
8K8210	BRCKT W/SCKT SMV ATCH4-8"98-	8N3108	3/8X 108"HYD HOSE #6FJX3000PSI
8K8220	BRCKT LGHT.25X1.75-18.4" 04-	8N3124	3/8X 124"HYD HOSE #6FJX3000PSI
8K8430	HYD CYL 3 X 8" RPHS 1.5 ROD	8N3136	3/8X 136"HYD HOSE #6FJX3000PSI
8K8435	HYD CYL 3.5 X 8" RPHS 1.75"ROD	8N3150	3/8X 150"HYD HOSE #6FJX3000PSI
8K8440C	HYD CYL 4 X 8" RPHS 2"ROD	8N3156	3/8X 156"HYD HOSE #6FJX3000PSI
8K8445C	HYD CYL 4.5 X 8" RPHS 2"ROD	8N3160	3/8X 160"HYD HOSE #6FJX3000PSI
8K8452C	HYD CYL 5 X 8" RPHS 2.12"RD	8N3180	3/8X 180"HYD HOSE #6FJX3000PSI
8K8455	HYD CYL 5.5 X 8" RPHS 2.25RD	8N3204	3/8X 204"HYD HOSE #6FJX3000PSI
8K8460	HYD CYL 6 X 8" RPHS 2.38RD	8N3216	3/8X 216"HYD HOSE #6FJX3000PSI
8K8520	SEAL KIT 4 X8"&10"PRINCE 93-04	8N3228	3/8X 228"HYD HOSE #6FJX3000PSI
8K8530	SEAL KIT4.5X8"&10"PRINCE 93-04	8N3252	3/8X 252"HYD HOSE #6FJX3000PSI
8K8540	SEAL KIT 5 X8"&10"PRINCE 93-03	8N3276	3/8X 276"HYD HOSE #6FJX3000PSI
8K8600	SEAL KIT 3 X 8" CTD 89-	8N3288	3/8X 288"HYD HOSE #6FJX3000PSI
8K8610	SEAL KIT3.5X8"CTD1.75"ROD 90-	8N3312	3/8X 312"HYD HOSE #6FJX3000PSI
8K8620	SEAL KIT 4 X 4 & 8" CTD 89-	8N3330	3/8X 330"HYD HOSE #6FJX3000PSI
8K8630	SEAL KIT 4.5 X 8" CTD 89-	8N3348	3/8X 348"HYD HOSE #6FJX3000PSI
8K8642	SEAL KIT 5 X 8"CTD 2&2.125"ROD	8N3360	3/8X 360"HYD HOSE #6FJX3000PSI
8K8644	SEAL KIT 5.5 X 8"CTD 2.25" ROD	8N3390	3/8X 390"HYD HOSE #6FJX3000PSI



## SECTION 7 – PARTS

8N3408	3/8X 408"HYD HOSE #6FJX3000PSI	8T0322	SHANK LOWER TWO PC. DISK 09-
8N3432	3/8X 432"HYD HOSE #6FJX3000PSI	8T0400	STL 1-1/8 X 9.5C-C LNK GRN 99-
8N3462	3/8X 462"HYD HOSE #6FJX3000PSI	8T0500	SHANK CHSL STNDRD BLACK 96-
8N3534	3/8X 534"HYD HOSE #6FJX3000PSI	8T0504	SHANK CHSL STNDRD+3" GREEN 09-
8N3570	3/8X 570"HYD HOSE #6FJX3000PSI	8T0550	SPRING 4" REAR HTCH PIN 97-
8N3606	3/8X 606"HYD HOSE #6FJX3000PSI	8T0600	SPRING CHSL TRIP 700# BLACK96-
8N4016	1/2X 16"HYD HOSE#10FJX3000PSI	8T0602	SPRING CHSL TRIP 1050#GREEN03-
8N4060	1/2X 60"HYD HOSE#10FJX3000PSI	8T0606	WRENCH 2.25" OPEN 1.5" BOX 98-
8N4114	1/2X 114"HYD HOSE#10FJX3000PSI	8T0608	WRENCH 1.5" OPEN 2.25" BOX 98-
8N4120	1/2X 120"HYD HOSE#10FJX3000PSI	8T0990	HYD PLNGR UPDATEKIT1/4TO3/8"RD
8N4138	1/2X 138"HYD HOSE#10FJX3000PSI	8T1004	HYD PLNGR REPAIRKIT1/4RDRAM-02
8N4160	1/2X 160"HYD HOSE#10FJX3000PSI	8T1006	PLUNGER PIN W/HLS RAM 98-
8N4198	1/2X 198"HYD HOSE#10FJX3000PSI	8T1008	HYDPLNGR REPAIR KIT3/8RDRAM02-
8N4216	1/2X 216"HYD HOSE#10FJX3000PSI	8T1010	POPPET ASSY HD BLT-ON RAM02-
8N4228	1/2X 228"HYD HOSE#10FJX3000PSI	8T1015	HAIRPIN CLIP FOR PLUNGR PIN
8N4546	1/2X 546"HYD HOSE#10FJX3000PSI	8T1035	HYD CYL 3.5 X 10" R35SM-10BP
8N4624	1/2X 624"HYD HOSE#10FJX3000PSI	8T1037	HYD CYL 3.75 X 10"R3755M-10BP
8N5114	5/8X 114"HYD HOSE#10FJX3000PSI	8T1040	HYD CYL 4.0 X 10" REPHASE 96-
8N5120	5/8X 120"HYD HOSE#10FJX3000PSI	8T1040B	HYD CYL 4.0 X 10" FOR 5PLX 99-
8N5138	5/8X 138"HYD HOSE#10FJX3000PSI	8T1045	HYD CYL 4.5 X 10" REPHASE 96-
8N6060	3/4X 60"HYD HOSE#10FJX3000PSI	8T1050	HYD CYL 5 X 10" REPHASE 96-
8N6354	3/4X 354"HYD HOSE#10FJX3000PSI	8T1055	HYD CYL 5.5 X 10" REPHASE 96-
8N6570	3/4X 570"HYD HOSE#10FJX3000PSI	8T1060	HYD CYL 6 X10 W/STRK CNTRL 96-
8N6588	3/4X 588"HYD HOSE#10FJX3000PSI	8T1135	SEAL KIT 3.5 X 10"RAM 2" ROD
8N7000	ADJ DOWN PRESSURE MANIFLD 12-	8T1137	SEAL KIT 3.75X 10"RAM1-3/8"ROD
8R6805	SPLITSTEELBUSH 1" X .75"ID- 1"	8T1140	SEAL KIT 4.0 X 10"RAM 2" ROD
8R6808	SPLITSTEELBUSH 1.25X 1"ID-.75"	8T1140B	SEAL KIT 4.0 X 10"RAM1-3/8"ROD
8R6810	SPLITSTEELBUSH 1.62X1.25"ID-1"	8T1145	SEAL KIT 4.5 X 10" RAM 98-
8R6815	SPLITSTEELBUSH 1.50X1.25"ID-1"	8T1150	SEAL KIT 5.0 X 10" RAM 98-
8R6820	SPLITSTEELBUSH 2.5X2.00"ID-2"	8T1155	SEAL KIT 5.5 X 10" RAM 98-
8R6901	AXLE H614 STR 2"CR X 10"	8T1160	SEAL KIT 6.0 X 10" RAM 98-
8R6911	HUB H614 W/CUPS&ZRK 6 BLT GBGI	8T2040	HYD CYL 4 X 4" 3500PSI 09-
8R6913	HUB CAP 517HD H614 & H618	8T2510	ROLLER#1WNLFT2.25ODX1" 99-
8R6914	BOLT WHEEL 9/16"-18 UNF- 1.25"	8T2514	SPACER WNLFT2.25ODX9/16" 99-
8R6915	BOLT WHEEL 9/16"-18 UNF- 1.75"	8T2520	ROLLR WNLFT2.25ODX2-3/16" 99-
8R6917	BEARING INNER 614	8T2530	ROLLR#2WNLFT4.5ODX1.52"ID 00-
8R6921	SEAL HD 2" ID (TRPL LIP) H614	8T2986	CLAMP 1/2"(-8)WRNG RUBBERBACK
8R6922	SEAL ASSY GBGI H614 HUB 00-	8T2988	CLAMP 3/8"(-6)WRNG RUBBERBACK
8R6923	SEAL ONLY GBGI H614 HUB 00-	8T2990	HYD HOSE CLAMP MTL/RUB BACK
8R6924	COUNTRFACE GBGI H614 HUB 00-	8T3100	Y-BOLT(3/4-10)&(5/8-11)-7-3/4"
8R6925	RACE INNER H614 LM603011	8T3120	STL3/8X2-7.75"WTCCHAINATCH 07-
8R6927	SEAL SUPPORT GBGI H614 AXLE	8T3200	BOLT 1-8NCX11"W/6.5"THD GR5 YZ
8S0319	U-BOLT 3/8 X 3 X 4-1/8" SQ	8T3300	BOLT PIVOT CHSLTRP&WNLFT YZ
8S0330	U-BOLT 1/2 X 3 X 4-1/4" SQ	8T3400	PIN 1-1/4 X 6-11/16"5-PLEX 99-
8S0340	U-BOLT 1/2 X 4 X 5-1/4" SQ	8T3590	LINK PT 1 TO 2 (2 STFNR) 99-
8S0345	U-BOLT 1/2 X 5 X 6-1/4" SQ	8T3600	PIN 1-1/2 X 4-7/8" WNG PIVT98-
8S0358	U-BOLT 5/8 X 3 X 4-1/2" SQ	8T3606	PIN 1-1/2 X 5-3/8"PRT2HNG 99-
8S0360	U-BOLT 5/8 X 6 X 4-1/2" SQ	8T3608	PIN 1-1/2 X 7-1/16"HRDND&CHROM
8S1120	SIGN SLOW MOVING VEHICLE(SMV)	8T3620	PIN 1-1/2 X 12-1/2" HRDND&ZINC
8S1124	MOUNTING SOCKET SMV SIGN	8T3625	PIN 1-1/2 X 12" W/WLD WSHR 00-
8S1126	MNT SPADE W/HRDWR SMV SIGN	8T3640	PIN 1-1/2 X 19" HARDEND 98-
8S2980	HYD HOSE CLAMP-SMALL-NYLON	8T3800	WASHR7OD W/1.75OD BUSHX1.27"ID
8S2990	HYD HOSE CLAMP-LARGE-NYLON	8T3810	7T4286 HEX WASHER PNTD 99-
8S3059	CAPLUG FITS 2.067"ID TUBE96-	8T3820	WASHR7OD W/2.25OD BUSHX1.27"ID
8T0100	WASHER SPRG BASE SQHL TRIP 97-	8T4000	HITCH CHISEL PLOW 96-
8T0320	SHANK UPPER TWO PC. DISK 09-		

## SECTION 7 - PARTS

8T4010	CNTR FRNT SPLT24'-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" WDTN 81-
8T4090	SUPPORT GAUGE WHEEL(5"SQ) 97-	8W1390	HOLDDOWN HOSE 2" WDTN 91-
8T4094	HOLDER GAUGE WHL AXL(4"SQ) 97-	8W1398	HOLDDOWN HOSE 8" WDTN 91-
8T4096	GAUGE WHEEL ASSY W/O HUB 04-	8W1588	3/4"-16ORB PORT RESTRICTR.032"
8T4100	CAST PIVOT W/BLTPLATE PTD 96-	8W1589	3/4"-16ORB PORT 1WAYRESTR1/16"
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" FLLTHD GR5 YZ
8T4166	WALKING TNDM LHCNTR/RHWING 99-	8X0000B	BOLT 1/4-20NC X 1" GR5 YZ
8T4168	WALKING TNDM RHCNTR/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 I-BLT ATTCH LEFT99-	8X0006	BOLT 3/8-16NC X 2-1/2" GR5 YZ
8T4179	FRONT-SPRG I-BLT ATTCH RGHT99-	8X0007	BOLT 3/8-16NC X 1-1/2" GR5 YZ
8T4190	MUD DFLCTR W/T 7T0125 BNT LEFT	8X0008	BOLT 3/8-16NC X 2" GR5 YZ
8T4192	MUD DFLCTR W/T 7T0125 BNT RGHT	8X0009	BOLT 1/4-20NC X 2" GR5 YZ
8T4198	BRACE FRNTCNTR 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/HTCH 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 HTCH 98-	8X0031	BOLT 7/16-14NC X 1" GR5 YZ
8T4530	PIN 1 X 8-1/2"RRHTCHSPRNG98-	8X0033	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 CHISL REAR HTCH 06-	8X0037	PLOWBOLT 1/2-13NC 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

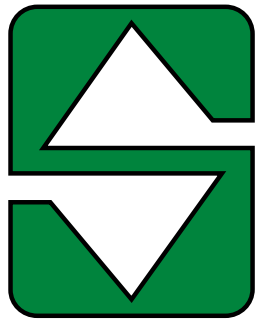
8X0063	BOLT 1/2-13NC X 1-1/2" GR5 YZ	8X0133	BOLT 7/8-9NC X 3" GR5 YZ
8X0064	CRG 1/2-13NC X 1-1/2" GR5 YZ	8X0138	BOLT 1-8NC X 5-1/2" GR5 YZ
8X0065	CRG 1/2-13NC X 2" GR5 YZ	8X0139	BOLT 1-8NC X 3" GR5 YZ
8X0065L	CRG 1/2-13NC X 3" GR5 ZINC	8X0140	BOLT 1-8NCX7" W/1.5"THDGR5 YZ
8X0065S	SCKT CAP 1/2-13 X 1.62"GR8 PLN	8X0141	BOLT 1-8NC X 7.5" GR5 YZ
8X0066	BOLT 1/2-13NC X 1-3/4" GR5 YZ	8X0142	BOLT 1-8NC X 3.5" GR5 YZ
8X0067	BOLT 1/2-13NC X 2-1/4" GR5 YZ	8X0143	BOLT 1-8NC X 5" GR5 YZ
8X0068	BOLT 1/2-13NC X 2-1/2" GR5 YZ	8X0145	BOLT 1-8NC X 10-1/2" GR5 YZ
8X0069	BOLT 1/2-13NC X 3" GR5 YZ	8X0146	BOLT 1-8NC X 8-1/2" GR5 YZ
8X0070	BOLT 1/2-13NC X 3-1/4" GR5 YZ	8X0149	BOLT 1-8NC X 18" GR5 YZ
8X0071	BOLT 1/2-13X 3"SHOULDR GR2 YZ	8X0150	BOLT 1-8NC X 20" GR5 YZ
8X0072	BOLT 1/2-13NC X 3-3/4" GR5 YZ	8X0201	NUT 3/8"-16NC HEX GR2 YZ
8X0073	BOLT 1/2-13NC X 5" GR5 YZ	8X0202	NUT 3/8"-16NC NY-LOCK GR2 YZ
8X0074	BOLT 1/2-13NC X 4-1/2" GR5 YZ	8X0203	NUT 3/8"-16NC SERFLANG GR2 YZ
8X0075	BOLT 1/2-13NC X 6" GR5 YZ	8X0204	NUT 3/8"-16NC HEX GR2 GALV
8X0077	BOLT 1/2-13NC X 7-1/2" GR5 YZ	8X0205	NUT 10-24 HEX YZ
8X0078	BOLT 1/2-13X3.62" SHLDR GR2 YZ	8X0210	NUT 5/16"-18NC HEX GR2 YZ
8X0080	BOLT 1/2-13NC X 11" GR5 YZ	8X0211	NUT 5/16"-18NC SERFLANG GR2 YZ
8X0082	BOLT 1/2-13NC X 6-1/2" GR5 YZ	8X0212	NUT 5/16"-18NC NY-LOCK GR2 YZ
8X0083	BOLT 1/2-13NC X 8" GR5 YZ	8X0218	NUT 1/4"-20NC SQ GR2 SS
8X0084	BOLT 1/2-13NC X 9" GR5 YZ	8X0220	NUT 1/4"-20NC HEX GR2 YZ
8X0087	BOLT 5/8-11NC X 1-1/2" GR5 YZ	8X0222	NUT 1/4"-20NC NY-LOCK GR2 YZ
8X0090	BOLT 5/8-11NC X 2-1/4" GR5 YZ	8X0223	NUT 1/4"-20NC SERFLANG GR2 YZ
8X0091	BOLT 5/8-11NC X 1-3/4" GR5 YZ	8X0232	NUT 7/16"-14NC HEX GR2 YZ
8X0092	BOLT 5/8-11NC X 2-3/4" GR5 YZ	8X0234	NUT 7/16"-14NC NY-LOCK GR2 YZ
8X0093	BOLT 5/8-11NC X 2" GR5 YZ	8X0240	NUT 1/2"-13NC HEX GR2 YZ
8X0095	BOLT 5/8-11NC X 5" GR5 YZ	8X0242	NUT 1/2"-13NC NY-LOCK GR2 YZ
8X0096	BOLT 5/8-11NC X 4" GR5 YZ	8X0244	NUT 1/2"-13NC FLANG TOP LOCK Z
8X0098	BOLT 5/8-11X 3.5"FULLTHDGR5 YZ	8X0246	NUT 1/2"-13NC SERFLANG GR2 YZ
8X0099	BOLT 5/8-11X6.75"W/3.5THDGR5YZ	8X0250	NUT 5/8"-11NC HEX GR2 YZ
8X0100	BOLT 5/8-11NC X 8" GR8 YZ	8X0251	NUT 5/8"-11NC JAM GR2 YZ
8X0101	BOLT 5/8-11NC X 8" GR5 YZ	8X0253	NUT 5/8"-11NC NY-LOCK GR2 YZ
8X0102	BOLT 5/8-11NC X 9" GR5 YZ	8X0256	NUT 5/8"-11NC SERFLANG GR2 YZ
8X0106	BOLT 3/4X2.75"W/1.38THD GR8 YZ	8X0259	NUT 3/4"-10NC JAM GR2 YZ
8X0107	BOLT 3/4-10NC X 2" GR5 YZ	8X0260	NUT 3/4"-10NC HEX GR2 YZ
8X0110	BOLT 3/4-10NC X 1-1/4" GR5 YZ	8X0261	NUT 3/4"-10NC NY-LOCK GR2 YZ
8X0111	BOLT 3/4-10NC X 2-1/2" GR5 YZ	8X0264	NUT 3/4"-10NC BEVL CNTRLCK YZ
8X0112	BOLT 3/4-10NC X 2-1/4" GR5 YZ	8X0265	NUT 3/4"-10NC CNTRLOCK GR2 YZ
8X0113	BOLT 3/4-10NC X 5" GR5 YZ	8X0266	NUT 3/4"-10NC SERFLANG GR2 YZ
8X0114	BOLT 3/4-10NC X 3" GR5 YZ	8X0268	NUT 7/8"-9NC HEX GR2 YZ
8X0115	BOLT 3/4-10NC X 3-1/2" GR5 YZ	8X0269	NUT 7/8"-9NC JAM GR2 YZ
8X0115A	BOLT 3/4NCX 3.5"FULLTHD GR5 YZ	8X0270	NUT 7/8"-9NC CNTRLOCK GR2 YZ
8X0115B	BOLT 3/4-10NC X 3-1/2" GR8 YZ	8X0274	NUT 7/8"-9NC FLNG GRF YZ
8X0116	BOLT 3/4-10NC X 6" GR5 YZ	8X0277	NUT 1"-8NC JAM GR2 YZ
8X0117	BOLT 3/4-10NC X 7" GR5 YZ	8X0278	NUT 1"-8NC JAM TOPLOCK GR2 YZ
8X0118	BOLT 3/4-10NC X 4" GR5 YZ	8X0280	NUT 1"-8NC HEX GR2 YZ
8X0118A	BOLT 3/4-10NC X 4-1/4" GR5 YZ	8X0281	NUT 1"-8NC NY-LOCK GR2 YZ
8X0119	BOLT 3/4-10NC X 7-1/2" GR5 YZ	8X0282	NUT 1"-14TPI TOPLOCK GR B Z
8X0120	BOLT 3/4-10NC X 9" GR5 YZ	8X0283	NUT 1-1/4"-7NC JAM GR2 YZ
8X0121	BOLT 3/4-10NC X 6-1/2" GR5 YZ	8X0284	NUT 1-1/4"-7NC HEX GR2 YZ
8X0122	BOLT 3/4-10NC X 4-1/2" GR5 YZ	8X0285	NUT 1-1/2"-6NC HEX GR2 YZ
8X0123	BOLT 3/4-10NC X 5-1/2" GR5 YZ	8X0286	NUT 1-1/2"-6NC JAM GR2 YZ
8X0125	BOLT 3/4-10NC X 10" GR5 YZ	8X0290	NUT 1-1/4"-7NC HEXSLOT GR2 YZ
8X0128	BOLT 3/4-10NC X 8-1/2" GR8 YZ	8X0292	NUT 2"-4.5 HVY HEXSLOT GR2 PLN
8X0130	BOLT 7/8-9NC X 2" GR5 YZ	8X0292S	NUT 2"NC HEXSLOT MACHIND 1.75"
8X0132	BOLT 7/8-9NC X 2-1/2" GR5 YZ	8X0299	LOCKWASHER 1/4" EXT TOOTH SS

## SECTION 7 - PARTS

8X0300	LOCKWASHER 5/16" YLW ZNC	8X0440	CLEVIS PIN 5/8 X 3-7/8" YZ
8X0301	LOCKWASHER 3/8" YLW ZNC	8X0462	CLEVIS PIN 3/8 X 3" W/HL YZ
8X0302	LOCKWASHER 7/16" YLW ZNC	8X0480	HITCH PIN W/LYNCH 5/8X4" YZ
8X0303	LOCKWASHER 1/2" YLW ZNC	8X0492	LYNCH PIN 3/16 X 1-1/4" YZ
8X0304	LOCKWASHER 5/8" YLW ZNC	8X0520	ROLL PIN 3/16 X 2" ZINC CLEAR
8X0306	LOCKWASHER 3/4" YLW ZNC	8X0523	ROLL PIN 5/16 X 2-1/2" PLN
8X0307	LOCKWASHER 7/8" YLW ZNC	8X0528	ROLL PIN 3/8 X 2-1/2" ZINC
8X0308	LOCKWASHER 1/4" YLW ZNC	8X0605	SET SCRW SQ HD 7/16-14X 1" YZ
8X0309	LOCKWASHER 1" YLW ZNC	8X0632	SET SCRW SCKT 7/16-14X 1.5" PLN
8X0311	LOCKWASHER 1-1/4" YLW ZNC	8X0665	SET SCRW SQ HD 3/4-10X4.5" YZ
8X0312	WASHER 1/4" X 1-1/4" FENDER SS	8X0708	ZERK 1/4"-28 NF STR YZ
8X0315	LOCKWASHER 1-1/2" YLW ZNC	8X0710	ZERK 1/4"-28 NF 90 DEG YZ
8X0316	WASHER 1" SAE FLAT YZ	8X0721	ZERK 5/16"-24 NF STR YZ
8X0317	WASHER 3/4" SAE FLAT YZ	8X0725	ZERK 1/8" MPT STR YZ
8X0318	WASHER 3/4"(13/16" ID) FLAT YZ	8X0727	ZERK 1/8" MPT 90 DEG YZ
8X0319	WASHER 17/32" ID X 7/8 ODX 16GA YZ	8X1120	CRG 3/8-16NC X 2" GR2 ZN
8X0320	WASHER 3/8"(7/16" ID) FLAT YZ	8Z0070	DECAL "SUMMERS" 1.25 X 6"
8X0323	WASHER 5/8" SAE FLAT YZ	8Z0075	DECAL TRNSPRT LCK WARNING TILL
8X0325	WASHER 3/4"(13/16" ID) FLAT PLN	8Z0079	DECAL "SUMMERS" 5 X 20"
8X0326	WASHER 1.257" ID X 2.75" OD PLN	8Z0087	DECAL "WARNING" PINCH POINT 03-
8X0327	WASHER 1-1/4" SAE FLAT YZ	8Z0101	DECAL "SUMMERS" M94/04/06 2.25X9
8X0328	WASHER 1.312" ID X 2.5 OD-1/4" BL	8Z0114	DECAL ID M104 01-
8X0329	WASHER 5/16"(3/8" ID) FLAT YZ	8Z0115	DECAL ID M105 09-
8X0330	WASHER 17/32" ID X 1.25" OD YZ	8Z0118	DECAL ID M106 01-
8X0331	WASHER 15/32" ID X 1.25" OD YZ	8Z0119	DECAL ID M108 09-
8X0332	WASHER 1/4"(5/16" ID) FLAT YZ	8Z0136	DECAL ID COULTER-CHISEL 07-
8X0333	WASHER HARROW TOOTH YZ	8Z0137	DECAL ID DISK-CHISEL 08-
8X0354	WASHER 1-1/2" ID X 2.25" X 14GA YZ	8Z0276	DECAL GENERAL CAUTION 91-
8X0355	WASHER 1-1/2" ID X 2.25" X 10GA PLN	8Z0278	DECAL WHEEL TIGHTENING 96-
8X0362	WASHER 2.03 ID X 2-7/8 ODX 9GA PLN	8Z0340	DECAL REPHASING CYLINDERS
8X0364	WASHER 2.5 ID X 3.5 ODX 14GA YZ	8Z0342	DECAL INSTALL CYLINDER LOCKS
8X0366	WASHER 2.03 ID X 2-7/8 ODX 1/4" PLN	8Z0344	DECAL WING DANGER
8X0367	WASHER 1-3/4" ID X 3.25" X 14GA PLN	8Z0346	DECAL ELECTROCUTION-TILLAGE
8X0368	WASHER 1-1/2" SAE FLAT PLN	8Z0348	DECAL GAUGE WHEEL DEPTH
8X0370	WASHER 3.016" ID X 3.93" ODX 14GA	8Z0350	DECAL GREASE GANG BEARNG 04-
8X0380	WASHER 3.06" ID X 4.25" X 3/16"	8Z0800	REFLECTOR AMBER ADHSVBCK98-
8X0400	HAIRPIN CLIP 1/8 X 1-15/16"	8Z0805	REFLCTR REDORANGE ADHSVBK99-
8X0402	HAIRPIN CLIP 1/8 X 2-9/16"	8Z0810	REFLECTOR RED ADHSV-BACK 98-
8X0410	COTTER PIN 3/16 X 1" YZ	8Z1000	MANUAL-PAK 3DIA X 11.75" 09-
8X0414	COTTER PIN 1/4 X 2" YZ	8Z1095	OPER MAN COULTER/DISK CHSL 09
8X0415	COTTER PIN 3/16 X 1-1/2"	8Z2370	16'-20' COULTERCHISEL ID DECAL
8X0418	COTTER PIN 5/16 X 2-1/2" YZ	8Z2375	24'-28' COULTERCHISEL ID DECAL
8X0420	CLEVIS PIN 7/16 X 1-3/4" YZ	8Z2380	32'-40' COULTERCHISEL ID DECAL
8X0422	CLEVIS PIN 1/2 X 2-1/4" YZ	8Z2350	16'-20' DISKCHISEL ID DECAL
8X0425	CLEVIS PIN 1/2 X 3" YZ	8Z2355	24'-28' DISKCHISEL ID DECAL
8X0428	CLEVIS PIN 1/2 X 5-1/4" YZ	8Z2360	32'-40' DISKCHISEL ID DECAL
8X0432	CLEVIS PIN 1/2 X 6" YZ		

# 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.
- 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.
- 1996 – 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.
- 2009 – M105 and M108 Mounted Harrows added to selection of Mounted Attachments. SuperHarrow 2650, 50' SuperCoulter, Hydraulic Fold Rolling Chopper and 36" diameter Landrollers introduced.
- 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.
- 2013 – DT9530 added to product line. Internal Scraper in Rolling Baskets introduced. Finishing Coulter Gang becomes standard on the Diamond Disk and 2510 DT. Corporate offices opened at Devils Lake plant. New building and location for the Aberdeen warehouse.
- 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.



# **SUMMERS<sup>®</sup>**

*... Field Tested TOUGH!*



## **Tillage**



## **Rock Picker**



## **Land Rollers/Packers**



## **Cultivators/Harrows**



## **Mounted Attachments**



## **Sprayers**





