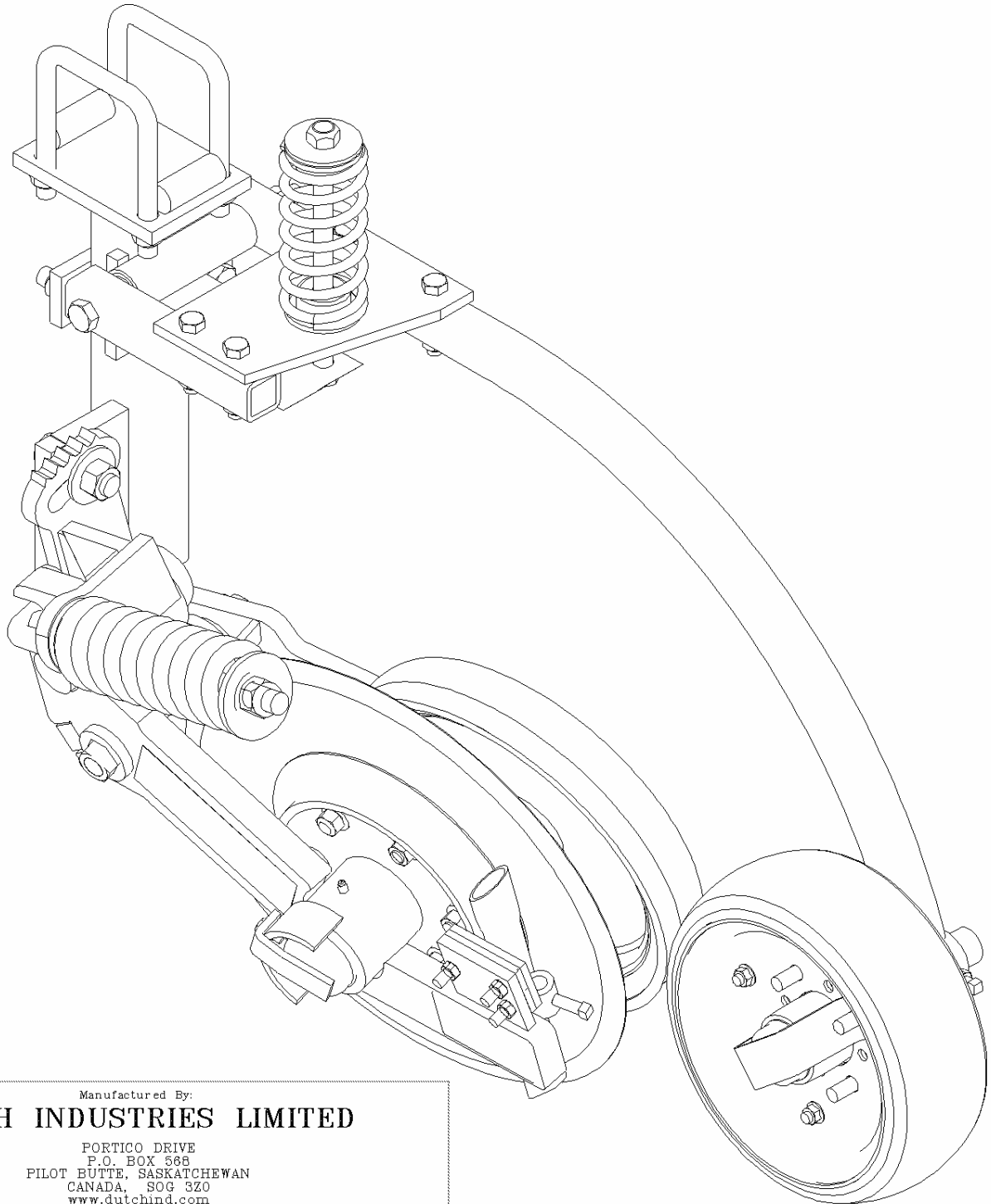


OWNER'S MANUAL FOR DUTCH ANGLED COULTER SERIES



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DATE: FEB 05, 2002

Part # 6570

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INTRODUCTION

This manual is intended to assist you in the assembly, operation and maintenance of the Dutch Angled Coulter Assembly. Read and follow all instructions and safety precautions carefully.

There are two different models of this product. They are identified as Right, and Left. These different models can be used in conjunction with the Dutch Angled Coulter HD Packer Wheel, and several different mounting systems to attach the unit to most types of toolbars. The Right Packer Wheel Assembly corresponds with the Right Dutch Angled Coulter. Similarly the Left Packer Wheel Assembly corresponds with the Left Dutch Angled Coulter.

If any further information or assistance is required, contact your local Dutch Products Dealer.

GENERAL SAFETY

Occupational safety is of prime concern to Dutch Industries Ltd. This manual was written with the safety of the operator and others who come into contact with the equipment as our prime concern. This manual entails the safety, assembly, operation and maintenance encountered by the operator and other personnel. We wrote this manual to help you understand safe operating procedures. We want you as a partner in the safe operation of our products.

It is your responsibility as an owner or operator or supervisor, to know what specific requirements, precautions and work hazards exist and to make these known to all other personnel working with the equipment or in the area, so that they may take any necessary safety precautions that may be required.

Failure to read this manual and its safety instructions is a misuse of the product.

SAFETY INSTRUCTIONS

1. Do not operate this unit unless you have read the operators manual.
2. Never allow this product to be operated by anyone who is unfamiliar to the operations of this unit.
3. Never permit anyone near unit when in operation.
4. Use caution when working with heavy or sharp objects.
5. Ensure that proper clothing, tools and equipment are used when handling this unit.
6. Ensure that all hardware is fastened properly.
7. After installation, ensure that all tools and parts are removed before operation of this unit.
8. Failure to follow safety rules may result in injury or death.
9. Ensure that you stay clear of pinch points and block up any equipment that could possibly fall
10. Exercise caution when removing springs.

GETTING STARTED

The Tools and Material required are as follows:

1/2" Socket Set / 1/2" Impact Socket Set
15/16", 1 1/16", Open Ended Wrenches
1/2" Impact Wrench (Optional)
Hammer

Suggested Torque for sizes of bolts and nuts are as follows:

5/8" U-Bolts 150 – 180 ft. lb.
3/4" Bolts 270 – 320 ft. lb.

INITIAL SET UP

When you receive your quality Dutch Product, the customer should unpack all components to ensure that all parts have been shipped. Refer to respective drawing for listing. Once the quantities are confirmed, proceed to your site. Be sure to bring the tools listed above.

ASSEMBLY AND MOUNTING INSTRUCTIONS

All Dutch Angled Coulters come pre-assembled from the factory. There is a detailed assembly drawing of all the parts included on pages 6 and 7. Please refer to these drawings for replacement parts.

Mounting the Dutch Angled Coulters to a toolbar

1. Measure where each coulters will be placed on the toolbar. If there is a conflict, and the coulters will not mount where your mark is, there are offset mounts available.
2. Bolt each Coulters Mount to the toolbar frame. There are several options for mounting systems, as some manufacturers use different size tubing. Bolt the Bracket on using the two 5/8" U-Bolts and 5/8" Cleave Nuts that are provided. Tighten the U-Bolts to the recommended torque value of 150 – 180 ft lbs. Hardware is supplied with Mounting Kit.
3. Bolt Coulters onto the Coulters Mount using the top slotted hole and the top hole in the mount. Use a 3/4" x 2 1/2" Hex Bolt, 3/4" Flat Washer, and 3/4" Hex Nut. Hardware is supplied with Mounting Kit. Do Not Tighten yet.
4. Screw the bottom bolt into the Coulters mount and the Coulters. Use a 3/4" x 1" Hex Bolt, and a 3/4" Lock Washer. Do Not tighten yet.
5. Set the angle of the coulters. Refer to Page 8. It is recommended to set the Coulters to 15deg. In softer soil the angle can be reduced to 10deg, and also in more compact soil the Coulters angle may be increased to 20deg.
6. Tighten both of the 3/4" x 2 1/2", and the 3/4" x 1" Hex Bolts to the recommended torque value of 270 – 320 ft lbs.

Note: If you have also purchased the Dutch HD Packer Wheel, refer to the Dutch Packer Wheel Manual for installation instructions.

LUBRICATION

1. Appropriate lubrication is every 20 hours of operation. Apply until grease comes out of the relief hole in the Bearing Cup.
2. Use a heavy duty multipurpose grease.
3. Wipe grease zerks before and after greasing. This will avoid any dirt or debris getting mixed in with the grease.
4. There are two grease points. One is on top pivot, and the other is on the blade pivot point. See Page 6 and 7 and look for Item #26.

MAINTENANCE

1. Check all fasteners one hour after Coulters are tested in the field.
2. Inspect all Coulter assemblies periodically and maintain as required.
3. Clean all parts of the Coulters after use to avoid binding or undue wear of rubber components.
4. Keep Coulters under a shelter or tarp when not in use to prolong bearing life.
5. Inspect the cleaning wheel periodically. Proper spacing may be critical in certain field conditions. Refer to Adjustments and Operation section for cleaning wheel adjustment.
6. Inspect Coulter blade periodically. Ensure that the blade turns while in working field conditions. If the Coulter blade stops, you will push straw or plug the machine.
7. Inspect Coulter blade bearing periodically. Lift the Coulter assembly out of the ground. Twist the blade to ensure that there is no play in the bearing. Tighten the bearing if any looseness is present.
8. Inspect Bearings every 100 Hours of operation.
9. Park Toolbar with wings down to avoid collecting water in wheel rims.

ADJUSTMENT AND OPERATION

Refer to Page 8 for Illustrations unless otherwise noted

Coulter Angle

The Dutch Coulter angle is fully adjustable. It can be operated from 0deg to 20deg, depending on soil conditions. Each notch on the Coulter represents 5deg of angle. For initial setup it is recommended to set the Coulter to 15deg of angle. In dry and heavily compacted conditions the angle can be increased for more penetrating power. For moist and loosely compacted conditions, the angle can be decreased to reduce plowing and over penetration. The greater the angle of the Coulter, the better the penetration will be. See assembly and mounting instructions section for instructions on how to adjust angle. Caution, decreasing angle reduces seed/product tube clearances from soilwall, and may cause premature wear on the seed/product tube.

Product / Seed Boot Adjustment

The product / seed boot is preassembled on the Dutch Coulter, from the factory. However, there may need to be adjustments made after the Coulter is in service for a period of time. The product / seed boot should be approximately 1/8" away from the blade. This can be achieved by tightening and loosening the three bolts (Item 28) that attach the product / seed boot to the Coulter arm. Make sure that the product / seed boot is always slightly compressing the rubber pad.

ADJUSTMENT AND OPERATION CONTINUED...
Refer to Page 8 for Illustrations unless otherwise noted

Compression Spring Adjustment

The Coulter compression spring is set at 9" from the factory. This setting optimises the Coulter's performance in most soil conditions, however adjustment can be made for softer or harder soil conditions. To increase the spring tension, tighten the $\frac{3}{4}$ " Lock Nut (Item 38) at the end of the spring. To decrease the spring tension, loosen the $\frac{3}{4}$ " Lock Nut (Item 38).

Note: Do Not add spacers or tamper with the spring trip mechanism or spring rod in any way that will allow the compression spring to be compressed more than provided for by the design of the Dutch Coulter. Any misuse, tampering or alteration may cause failure and will void warranty.

Cleaning Wheel Adjustment

The following instructions will explain how the cleaning wheel should be properly adjusted.

1. First lift the cleaning arm (Item 3) off of its stop and pull it away from the disc. This will eliminate any play in the bushing.
2. Adjust the angle of the cleaning wheel (Item 16). This can be achieved by loosening or tightening the three $\frac{3}{8}$ " x 2" Carriage bolts (Item 29) in the center of the cleaning wheel (Item 16). The correct angle of the cleaning wheel will result in the top of the cleaning wheel approximately $\frac{1}{4}$ " away from the disc, and the bottom of the cleaning wheel just contacting the disc. Make sure that the wheel adjustment rubber (Item 10) is slightly compressed, but not overly tight, or loose.
3. Adjust the $\frac{3}{4}$ " x 7 $\frac{1}{2}$ " Bolt (Item 34), so that the bottom of the cleaning wheel just makes contact with the disc throughout the travel of the cleaning wheel. See page 8 for cleaning wheel contact area illustration.

DUTCH ANGLED COULTER OPTIONS

Dutch Angled Coulters

Dutch Angled Coulters – No Packer – Right	6646
Dutch Angled Coulters – No Packer – Left.....	6647

Dutch Heavy Duty Packer Wheels

Dutch Heavy Duty Packer Wheel – Right.....	6735
Dutch Heavy Duty Packer Wheel – Left	6700
Dutch Heavy Duty Packer Wheel – Offset Right	6733
Dutch Heavy Duty Packer Wheel – Offset Left.....	6734

Dutch Mounting Systems

Solid Mount

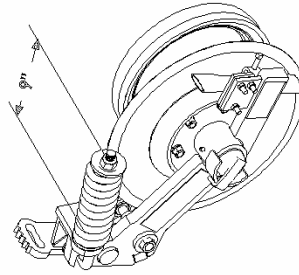
Dutch Mount Kit – 4x4 HSS Flat- Right	6675
Dutch Mount Kit – 4x4 HSS Flat - Left.....	6676
Dutch Mount Kit – 4x4 HSS Flat - Offset Right.....	6750
Dutch Mount Kit – 4x4 HSS Flat- Offset Left	6740
Dutch Mount Kit – 4x6 HSS Flat - Right	6688
Dutch Mount Kit – 4x6 HSS Flat - Left.....	6689
Dutch Mount Kit – 4x6 HSS Flat - Offset Right.....	6751
Dutch Mount Kit – 4x6 HSS Flat - Offset Left	6741
Dutch Mount Kit – 4x4 HSS Flat–Mid Row Banding (Shank Machine).....	6709
Dutch Mount Kit – 4x4 HSS Flat–Mid Row Banding (Coulter Machine)	6710
Dutch Mount Kit – Optional Packer Mount - Mid Row Banding	6719

Spring Shank Mount

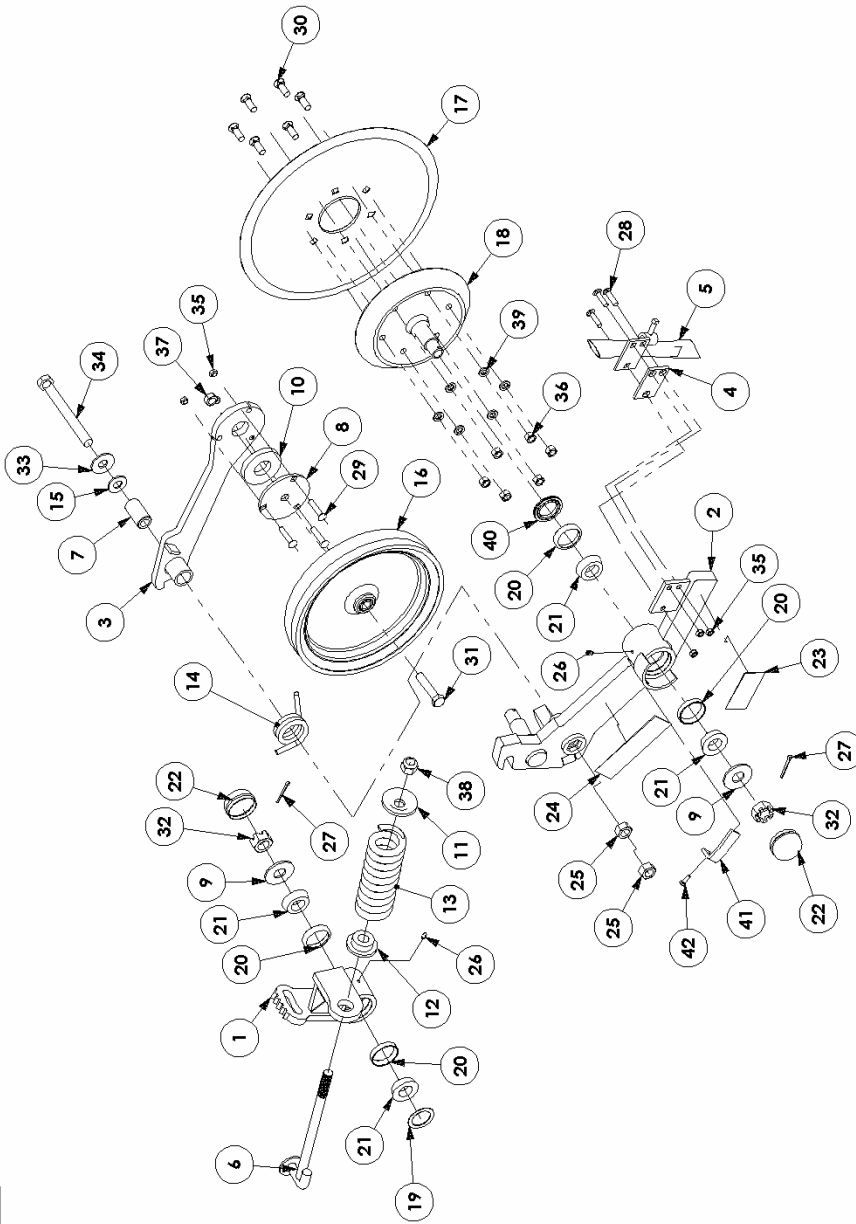
Dutch Mount Kit – 3x3 HSS Diamond	6720
Dutch Mount Kit – 4x4 HSS Flat.....	6572
Dutch Mount Kit – 4x6 HSS Flat.....	6579
Dutch Mount Kit – 5x5 HSS Flat.....	6567
Dutch Mount Kit – 6x6 HSS Flat.....	6574

RIGHT

Spring Trip is set at 9"
For 350lbs Trip Pressure



Assembled Isometric View
Scale 1:14



PARTS LIST

THIS DRAWING IS THE PROPERTY OF:

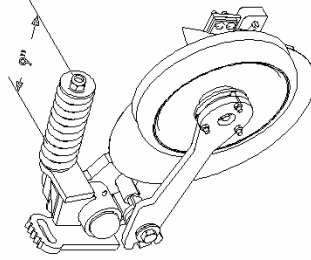
DUTCH INDUSTRIES LIMITED
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DRAWN BY: BC DESCRIPTION: NO TILL COULTER, RIGHT
DATE CREATED: JAN 31/02 MATERIAL: As Per BOM
TOLERANCES: ±1/16" PROCESS: Assembly
SCALE: 1:14 **PART #: 6646**

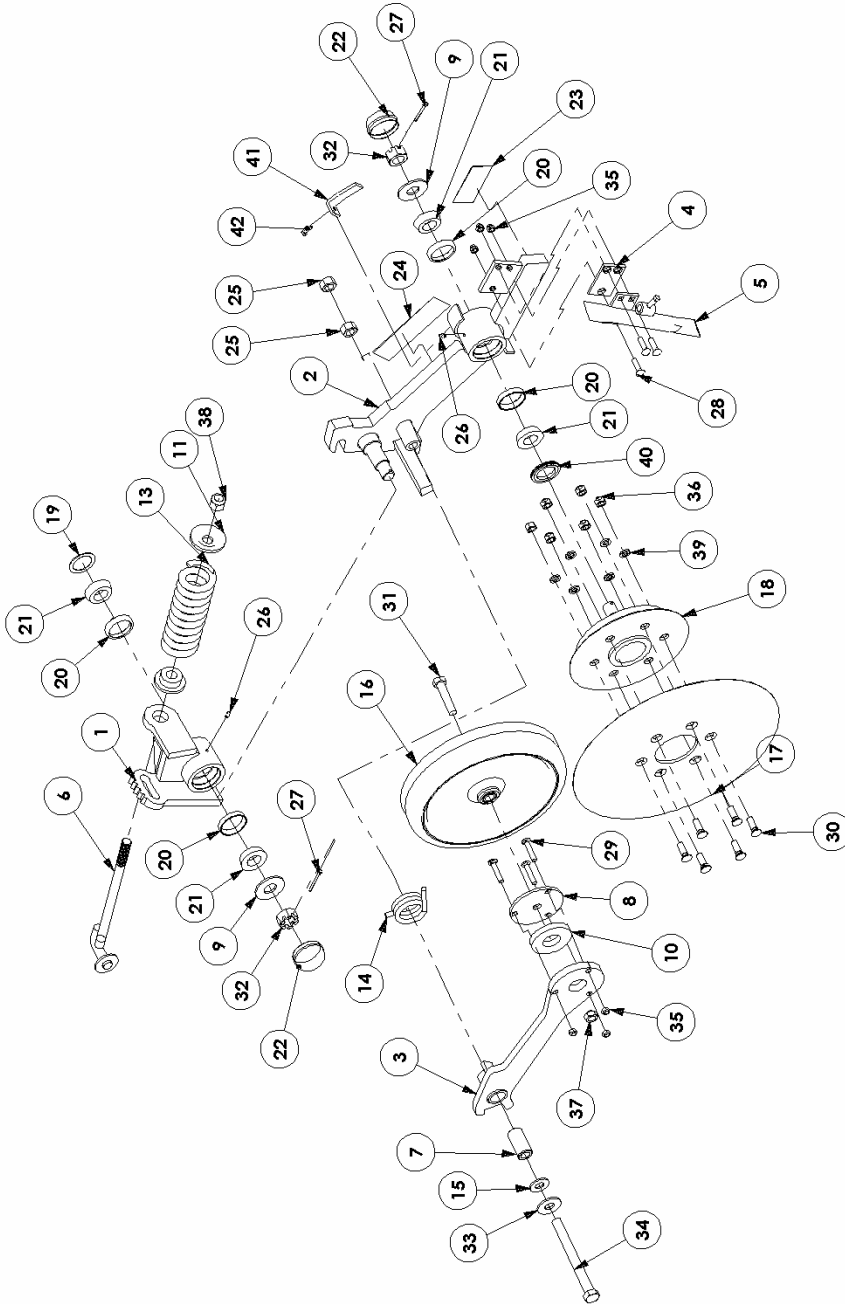
ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION
21	4	110502	BEARING CONE	42	1	HH1434PLC5	HEX BOLT, 1/4 x 3/4
20	4	110503	BEARING CUP	41	1	6812	COULTER CAP RETAINER
19	1	110504	GREASE SEAL	40	1	110707	SEAL, 1 5/8" ID, 2 3/16" OD TRIPLE
18	1	110496	COULTER HUB	39	6	LW12PL	LOCK WASHER, 1/2, PLATED
17	1	110495	1/4" x 17 3/4" Diam. Coultter Blade	38	1	LN34C	LOCK NUT, 3/4
16	1	110497	CLEANING WHEEL ASSEMBLY	37	1	CN58PL	CLEAVE NUT, 5/8
15	1	110533	PLASTIC WASHER	36	6	HN12PLC5	HEX NUT, 1/2
14	1	110501	Torsion Spring - Right, Coultter	35	6	CN38PL	CLEAVE NUT, 3/8
13	1	110499	Compression Spring, Coultter	34	1	HH34712PLC5	HEX BOLT, 3/4 x 7 1/2
12	1	6554	Bushing - Coultter Spring	33	1	FW34PL	FLAT WASHER, 3/4
11	1	6553	Washer - Coultter Spring	32	2	CA1	CASTELLATED NUT, 1 - 14UNF
10	1	6596	WHEEL ADJUSTMENT RUBBER	31	1	HH583PLC5	HEX BOLT, 5/8 x 3
9	2	FW1PL	FLAT WASHER, 1	30	6	P812112PL	PLOW BOLT, 1/2 x 1 1/2
8	1	6595	INSIDE PLATE	29	3	CB382PL	CARRIAGE BOLT, 3/8 x 2
7	1	6509	PLASTIC BUSHING	28	3	CB38112PL	CARRIAGE BOLT, 3/8 x 1 1/2
6	1	6555	SPRING ROD	27	2	CP316134	COTTER PIN, 3/16 x 1 3/4
5	1	6809	R.H. COULTER SEED TUBE STRAIGHT	26	2	GN14NF	GREASE NIPPLE, 1/4", 28 STRAIGHT
4	1	6549	RUBBER PAD	25	2	HN34PLC5	HEX NUT, 3/4
3	1	6592	CLEANING ARM - RIGHT	24	1	110528	DUTCH COULTER DECAL
2	1	6645	COULTER NO PACK ARM, RIGHT	23	1	110527	Warning Decal 4 1/8" x 2"
1	1	6507	COULTER PIVOT - RIGHT	22	2	110505	DUST CAP
ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION

LEFT

Spring Trip is set at 9"
for 350lbs Trip Pressure



Assembled Isometric View
Scale 1:14



NOTES:

PARTS LIST

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DESCRIPTION: NO TILL COULTER, LEFT

MATERIAL: As Per BOM

PROCESS: Assembly

PART #: 6647

DRAWN BY: BC

DATE CREATED: FEB 01/02

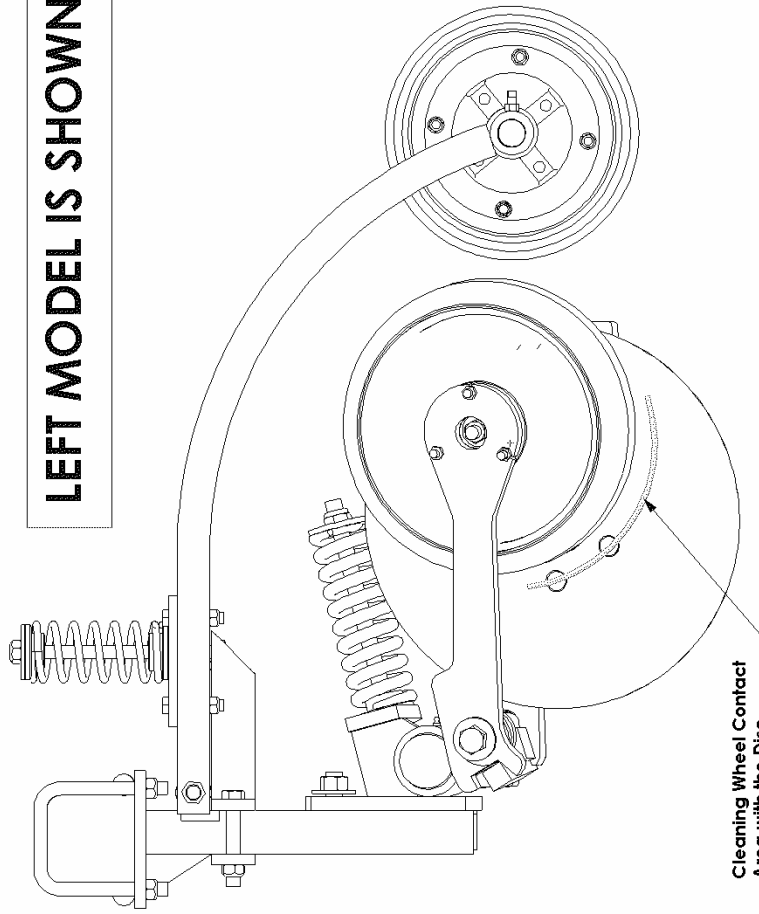
TOLERANCES: ±1/16"

SCALE: 1:14

ITEM	QTY.	PART NO.	DESCRIPTION
21	4	110502	BEARING CONE
20	4	110503	BEARING CUP
19	1	110504	GREASE SEAL
18	1	110496	COULTER HUB
17	1	110495	1/4" x 17 3/4" Diam. Coultter Blade
16	1	110497	CLEANING WHEEL ASSEMBLY
15	1	110533	PLASTIC WASHER
14	1	110500	Torsion Spring - Left, Coultter
13	1	110499	Compression Spring, Coultter
12	1	6554	Bushing - Coultter Spring
11	1	6553	Washer - Coultter Spring
10	1	6596	WHEEL ADJUSTMENT RUBBER
9	2	FW1PL	FLAT WASHER, 1
8	1	6595	INSIDE PLATE
7	1	6509	PLASTIC BUSHING
6	1	6555	SPRING ROD
5	1	6810	L.H. COULTER SEED TUBE STRAIGHT
4	1	6549	RUBBER PAD
3	1	6593	CLEANING ARM - LEFT
2	1	6644	COULTER NO PACK ARM, LEFT
1	1	6506	COULTER PIVOT - LEFT
ITEM	QTY.	PART NO.	DESCRIPTION
42	1	HH1434PLC5	HEX BOLT, 1/4 x 3/4
41	1	6812	COULTER CAP RETAINER
40	1	110707	SEAL, 1 5/8" ID, 2 3/16" OD, TRIPLE
39	6	LW12PL	LOCK WASHER, 1/2, PLATED
38	1	LN34C	LOCK NUT, 3/4
37	1	CN59PL	CLEAVE NUT, 5/8
36	6	HN12PLC5	HEX NUT, 1/2
35	6	CN38PL	CLEAVE NUT, 3/8
34	1	HH34712PLC5	HEX BOLT, 3/4 x 7 1/2
33	1	FW34PL	FLAT WASHER, 3/4
32	2	CA1	CASTELLATED NUT, 1 - 14UNF
31	1	HH583PLC5	HEX BOLT, 5/8 x 3
30	6	PB12112PL	PLOW BOLT, 1/2 x 1 1/2
29	3	C832PL	CARRIAGE BOLT, 3/8 x 2
28	3	C838112PL	CARRIAGE BOLT, 3/8 x 1 1/2
27	2	CP316134	COTTER PIN, 3/16 x 1 3/4
26	2	GNI4NF	GREASE NIPPLE, 1/4", 28 STRAIGHT
25	2	HN34PLC5	HEX NUT, 3/4
24	1	110528	DUTCH COULTER DECAL
23	1	110527	Warning Decal 4 1/8" x 2"
22	2	110505	DUST CAP

REFER TO PAGES 7 & 8 FOR PARTS LIST

LEFT MODEL IS SHOWN



Cleaning Wheel Contact Area with the Disc.

Dutch Coupler Side View, Shown with HD Packer Wheel Option

PARTS LIST

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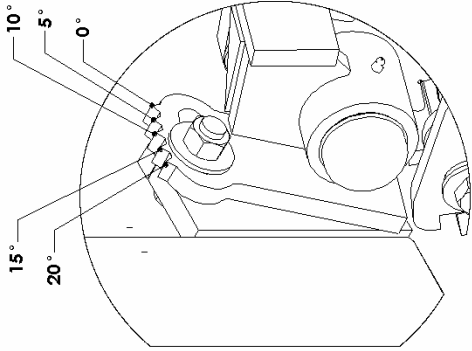
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DRAWN BY: BC DESCRIPTION: Assembly with Coupler

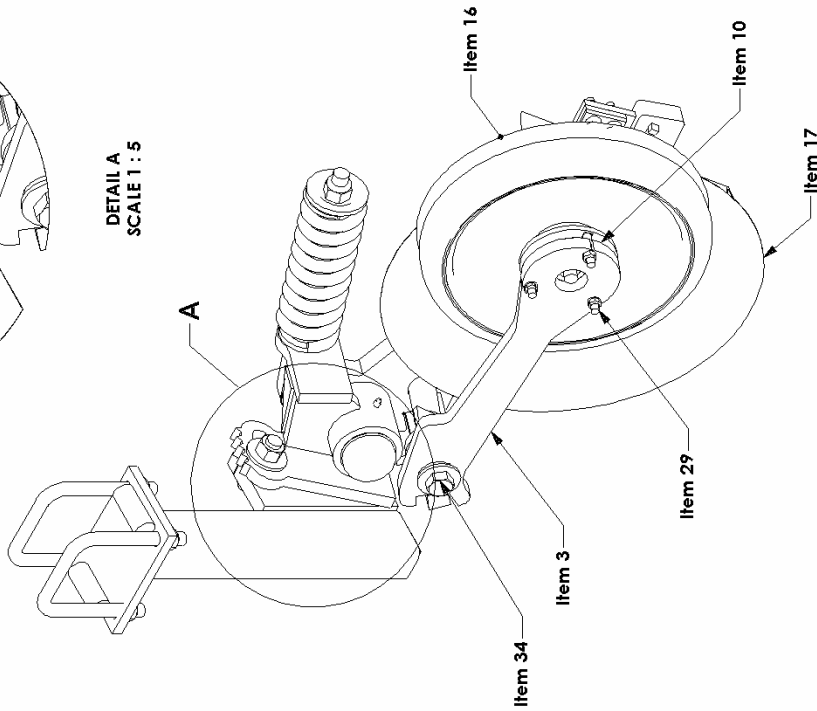
DATE CREATED: JAN 31/02 MATERIAL: N/A

TOLERANCES: ±1/16" PROCESS: N/A

SCALE: 1:8 **PART #: Packer Wheel Assy Left**



DETAIL A
SCALE 1 : 5



NOTES:

Note:
The Coupler in this drawing is set in the 15° position. This is the recommended position to set your Couplers at.

WARRANTY

DUTCH INDUSTRIES LIMITED WILL WARRANT EACH NEW DUTCH ANGLED COULTER TO BE FREE FROM FACTORY DEFECTS IN MATERIAL AND WORKMANSHIP FOR ONE YEAR FROM THE DELIVERY DATE BY THE DEALER TO THE ORIGINAL PURCHASER.

THIS WARRANTY PREVAILS ONLY IF THE UNIT IS SET UP AND OPERATED IN ACCORDANCE WITH FACTORY INSTRUCTIONS AND NORMAL USE AND SERVICE.

DUTCH INDUSTRIES LTD.'S OBLIGATION UNDER THIS WARRANTY IS LIMITED TO SUPPLYING REPLACEMENT PARTS IN EXCHANGE FOR ANY PARTS WHICH ARE DEFECTIVE DUE TO FACTORY WORKMANSHIP OR MATERIAL. ALL DEFECTIVE PARTS MUST BE SENT TO DUTCH INDUSTRIES LTD. FOR WARRANTY EXAMINATION.

THE WARRANTY REGARDING PARTS PURCHASED BY DUTCH INDUSTRIES LTD, FOR USE ON DUTCH IND. PRODUCTS, IS DEPENDANT ON THE VENDORS WARRANTY.

THIS WARRANTY IS VOID ON ANY UNIT WHICH HAS BEEN TAMPERED WITH OR WHICH HAS BEEN SUBJECT TO MISUSE, NEGLIGENCE, OR ACCIDENT, OR WHICH HAS HAD THE SERIAL NUMBER TAMPERED WITH OR REMOVED.

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