

PARMA COMPANY

PARMA ROLLA-HARROW PARTS CATALOG

Manual Number 052197-R.H.

PO BOX 190 * 101 MAIN STREET

PARMA, IDAHO 83660

(208) 722-5116 * FAX (208) 722-6012

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INTRODUCTION

This catalog has been prepared to provide you with the repair parts breakdown information of your **PARMA ROLLA-HARROW**. We urge you to study this manual carefully in order that you become acquainted with those repair parts needed to assure correct operation of your PARMA Rolla-Harrow.

When it comes to parts and service, keep in mind that your dealer knows your implement well and is interested in your complete satisfaction. Your dealer invites you to call him for your parts and service needs both during and after the warranty period. We encourage you to use genuine PARMA parts that are engineered and designed for your Rolla-Harrow's best performance.

We thank you for choosing a PARMA product and want to assure you of our continuing interest in your satisfaction.

WARRANTY POLICY

PARMA COMPANY warrants to each purchaser from an authorized dealer of new equipment manufactured by PARMA COMPANY, that such equipment is, at the time of delivery to such purchaser, free from defects in material and workmanship under normal use, if serviced in accordance with the recommendations of the Operator's Manual. All PARMA COMPANY'S farm equipment products are warranted for 120 days from the first day of use or 800 acres, whichever occurs first. All PARMA COMPANY'S water and waste pump products are warranted for one year from the date of purchase. Warranty on defective parts purchased by PARMA COMPANY or produced by other manufacturers for PARMA COMPANY may be allowed only after the approval of the vendor or manufacturer.

PARMA COMPANY'S obligation under this warranty is limited to repairing, or at it's option, replacing any part, that in PARMA COMPANY'S judgement, proved defective. Under the terms of the warranty, PARMA COMPANY assumes no responsibility for labor or travel costs involved in removal of defective parts, of installation of new parts, or of any shop supplies or service charges.

All warranty claims are to be initiated through the authorized PARMA COMPANY dealer and must be submitted within 30 days of the date of failure. PARMA COMPANY may ask for defective parts to be returned to the factory; therefore, hold all warranty claim parts until advised if the parts are needed by your dealer.

To make the warranty effective, the owner's **Warranty Registration Form** must be on file at PARMA COMPANY, Parma, Idaho at the time of receipt of the warranty claim.

DISCLAIMER OF ALL OTHER WARRANTIES AND CONSEQUENTIAL DAMAGES

THE FOREGOING IS IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THE PRODUCTS. THE LIABILITY OF PARMA COMPANY IS EXPRESSLY LIMITED TO REPAIRING, OR AT ITS OPTION, REPLACING ANY PART THAT IS RETURNED, TRANSPORTATION PREPAID, TO PARMA COMPANY, PARMA, IDAHO, THAT IN PARMA'S JUDGEMENT PROVED DEFECTIVE DURING THE WARRANTY PERIOD. NO REPRESENTATIVE OF PARMA COMPANY, NO DEALER OR DEALER'S REPRESENTATIVE OR ANY OTHER PERSON HAS AUTHORITY TO WAIVE, ALTER, VARY OR ADD TO THE TERMS HEREOF WITHOUT PRIOR APPROVAL IN WRITING SIGNED BY AN OFFICER OF PARMA COMPANY. PARMA COMPANY WILL NOT BE LIABLE FOR ANY OTHER EXPENSE, INJURY, LOSS OR DAMAGE WHETHER DIRECT OR CONSEQUENTIAL, ARISING IN CONNECTION WITH THE SALE OR USE OF OR INABILITY TO USE, ANY PRODUCT OF THE COMPANY FOR ANY PURPOSE.

CHECKLIST

PRE-DELIVERY

After the machine has been completely assembled and lubricated, inspect it thoroughly to be certain it is operating properly before delivering it to a customer. The following checklist is a reminder of points to inspect. Check off each item as it is found satisfactory or after proper adjustment is made.

- ___ Check that machine is assembled according to assembly instructions.
- ___ Check all bolts and nuts to be sure they are tight.
- ___ Make sure all bearing lock collars are set correctly and tightened. (see pg.1-4)
- ___ Inspect and, if necessary, grease at all lubrication points; making sure all bearings are taking grease. (see pg.1-0)
- ___ Check all moving parts for smooth operation.
- ___ Check to see that 4-bolt flange bearings are positioned with the grease zerks up. (see pg.2-2)
- ___ Check to see that all hydraulic fittings and cylinders are tight and free of leaks. (see pg. 1-0)

DELIVERY

- ___ Complete Delivery and Warranty Registration Forms, listing serial numbers of machine.
- ___ Have dealer and customer sign form. Explain warranty policy on Warranty Registration Form.
- ___ Show the customer how to operate the Rolla Harrow.
- ___ Explain adjustments. (see pg.1-6)
- ___ Explain the importance of proper lubrication. (see pgs.1-0,1-5)
- ___ Give the operator's manual to the customer and ask him to familiarize himself with all sections of it.
- ___ Explain to the customer that when the equipment is transported

CHECKLIST cont.

on a road or highway at night or during the day, accessory lights and devices should be used for adequate warning to operators of other vehicles per local regulations.

BEFORE EACH SEASON

- ___ Check all cast rings for breakage.
- ___ Check s-tine chisel points for normal wear.
- ___ Check all adjustable components for correct setting.
- ___ Perform complete lubrication of machine. (see pg.1-5)
- ___ With equipment operating, observe operation of moving parts. Watch for faulty operation, overheated bearings, and unusual sounds.
- ___ Perform daily checklist.

DAILY CHECKLIST

- ___ Remove all debris from s-tines, smoothing bar and rollers.
- ___ Lubricate at all lubrication points. (see pg.1-5)
- ___ Check for loose or missing bolts or parts.
- ___ Check for undue or excessive wear of parts.
- ___ Read safety precautions.
- ___ Read operating instructions.

MAINTENANCE AND FIELD ADJUSTMENTS

READ ALL OF THE INFORMATION CONTAINED IN THIS GUIDE PRIOR TO USING YOUR ROLLA-HARROW, ALSO OBSERVE AND ADHERE TO ALL WARNING AND OPERATING PLACARDS THAT ARE PLACED ON THE MACHINE ITSELF, AS THESE CONTAIN VALUABLE INFORMATION AS TO THE SAFE AND RELIABLE OPERATION OF YOUR ROLLA-HARROW.

1. BEARINGS

When greasing the sealed Rolla-Harrow bearings, be careful to watch the bearing seals. 1/2 pump of grease from a grease gun should be adequate. Follow all lubrication instructions (see pg.1-5) as this will enhance the performance and extend the life of your Rolla-Harrow. Remember, over greasing is the main cause of bearing failure.

2. HYDRAULIC COMPONENTS

Before operating your PARMA Rolla-Harrow, check all hydraulic components and connections to make sure they are secure and fitting properly. If for any reason you need to replace a hydraulic cylinder or line, before reinstalling the component, make sure the hoses/cylinders are free from any foreign materials. If foreign material is in the line, rinse thoroughly and blow it out to remove it.

If, after reinstalling the components, they do not work, recheck to make sure everything is connected properly. If, after checking, the hydraulic components still do not work you may have air in the hydraulic lines. To release the air, loosen one of the main tractor lines slightly, and then re-tighten. You may have to repeat this process several times. If the problem persists, check or replace the Quick Couplers.

If, after taking delivery of your new machine, one of the hydraulic components is defective, immediately contact your PARMA dealership to make arrangements for a replacement.

3. S-TINE TEETH

The S-TINES for your Rolla-Harrow are manufactured using a high grade of steel. After forming and cooling, a shot peened method is used to stress relieve them.

(cont.)

Under normal usage, the S-Tine teeth may last for several years. However the reversible point will usually wear out quicker.

For S-Tine spacing on 4-bar Rolla-Harrows see pg.1-7.

For directions on S-Tine depth adjustment see pg.1-6.

4. ROLLER RINGS (HOE-N-PACK RINGS)

For information about Ring Roller direction set-up see pgs.1-3 and 1-4.

After some usage of your machine, the roller rings will wear, creating a gap on the roller tube. When this occurs, simply add enough new rings to fill this gap. If you do not add more rings to fill in the gap, your existing rings will wear out at an accelerated rate and breakage will be more frequent.

5. TONGUE ADJUSTMENT

When connecting your Rolla-Harrow to the tractor, make sure the tongue can move freely up and down with the tongue cylinder fully retracted.

After connecting the machine to the tractor, the hydraulic cylinder anchor on the tongue should be level with the tongue itself. If the tongue cylinder anchor leans toward the machine, then you must adjust the tractor end of the tongue pin.

In some conditions, soil will build up under this hydraulic cylinder anchor on the tongue. When this occurs, remove the buildup.

6. OPERATING INSTRUCTIONS

Under normal conditions (after plowing or discing) you can pull your PARMA Rolla-Harrow through the field at speeds up to 6mph.

It is also recommended that you remove the safety snap pin (see pg.1-6 for instructions) while in the field.

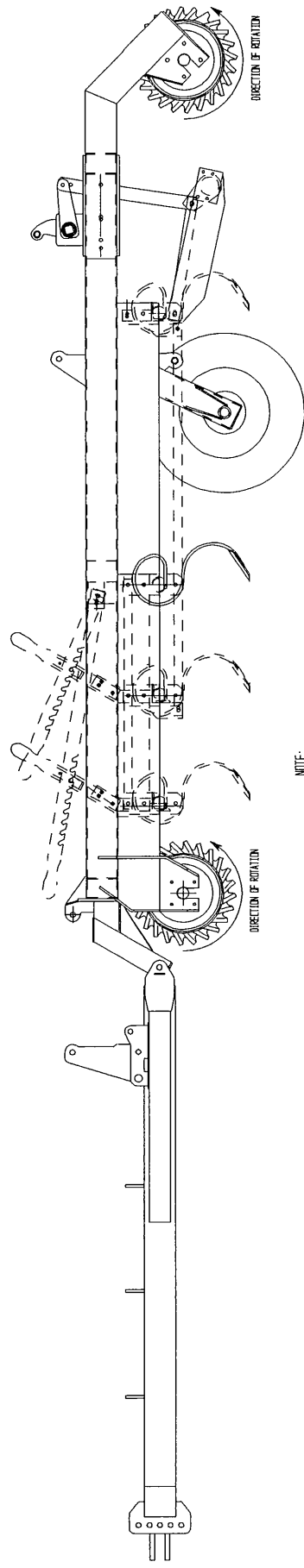
1-1
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7. ROLLA-HARROW DON'TS

Do not use the tires and wheels on your Rolla-Harrow as guage wheels while operating the machine in the field. They are designed for transporting the machine only.

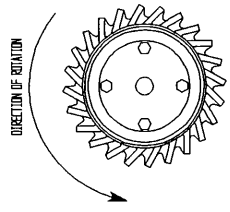
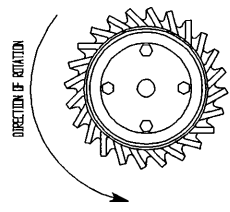
Do not turn your Rolla-Harrow without lifting it first. Failure to lift the machine while turning causes excessive side thrust on rollers and bearings, resulting in the breakage of parts.



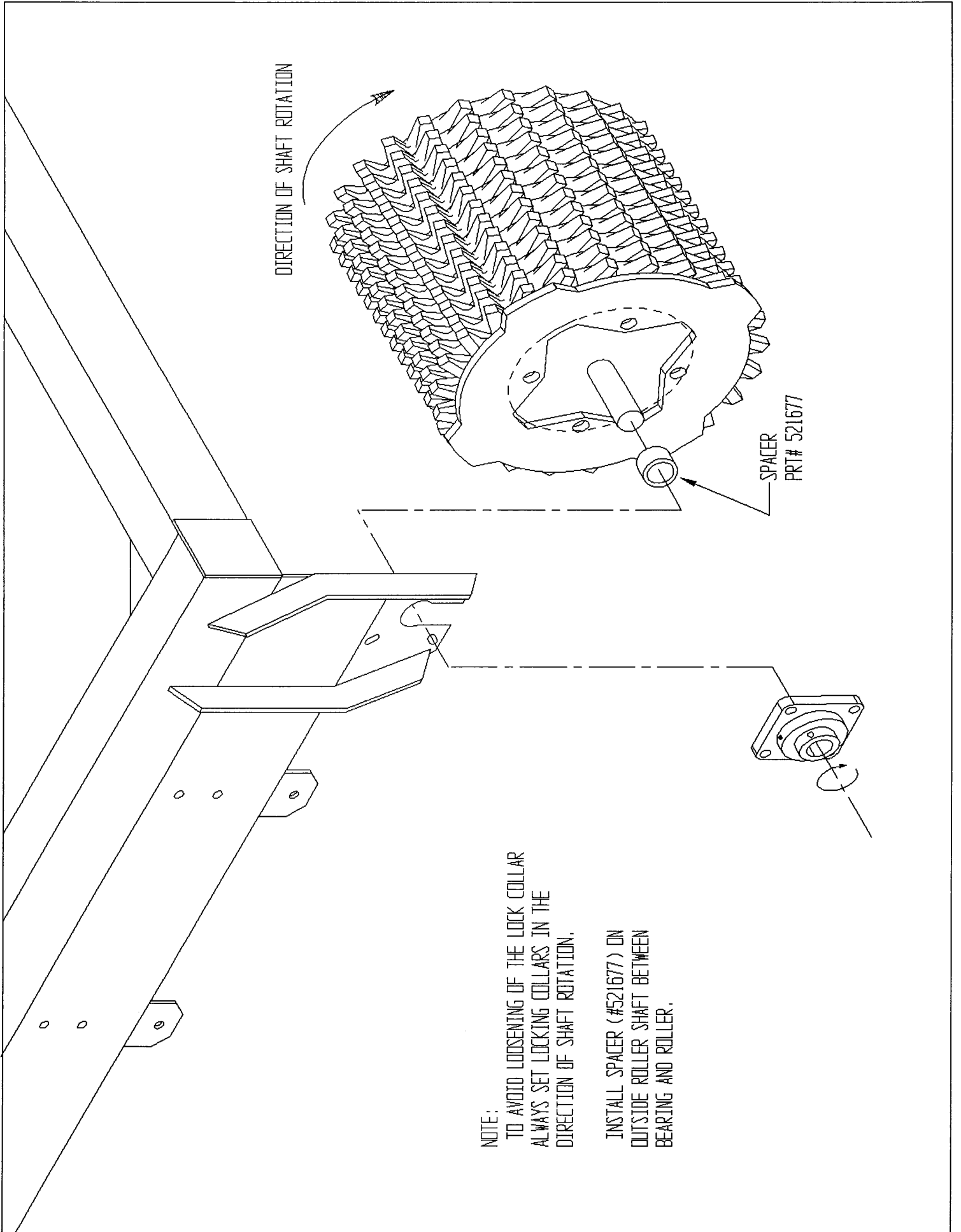
NOTE:
UNLESS OTHERWISE SPECIFIED, ALL RING ROLLERS THAT ARE SET UP AT THE FACTORY ARE SET UP TO HOE IN FRONT ROLLER AND PACK ON THE REAR ROLLER. (AS SHOWN)

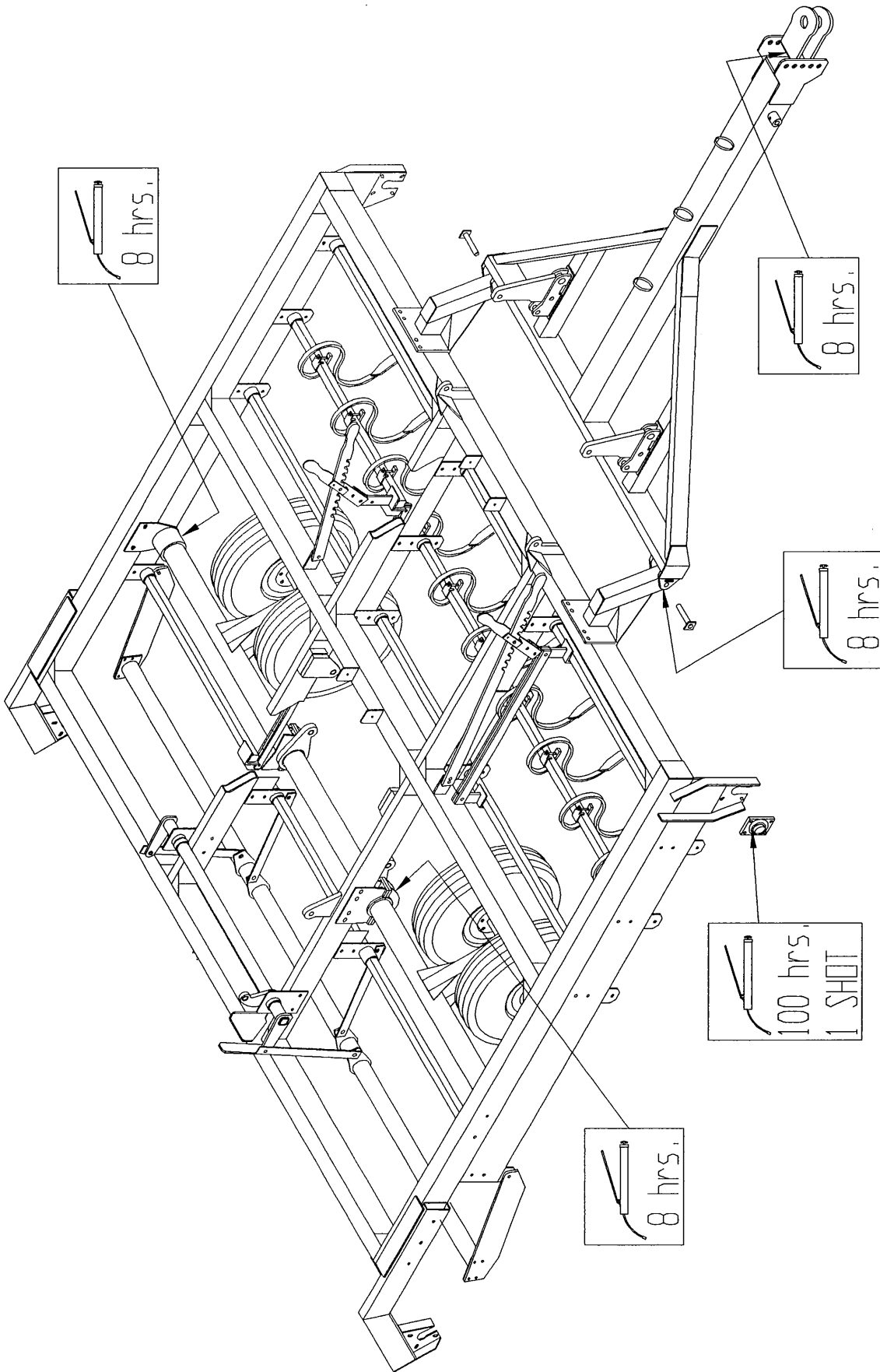
THESE DRAWINGS DEPICT THE RING ROLLERS ON A PARMA ROLLA HARROW.
THE DRAWING OF THE FRONT ROLLER SHOWS THE RINGS IN THE HOE POSITION. NOTICE HOW THE TEETH ARE GOING WITH THE DIRECTION OF ROTATION. THE DRAWING OF THE REAR ROLLER SHOWS THE RINGS IN THE PACK POSITION. NOTICE HOW THE TEETH ARE OPPOSITE THE DIRECTION OF ROTATION.

ROLLERS MAY BE SET EITHER DIRECTION, FRONT OR REAR, ACCORDING TO AN INDIVIDUALS NEEDS.

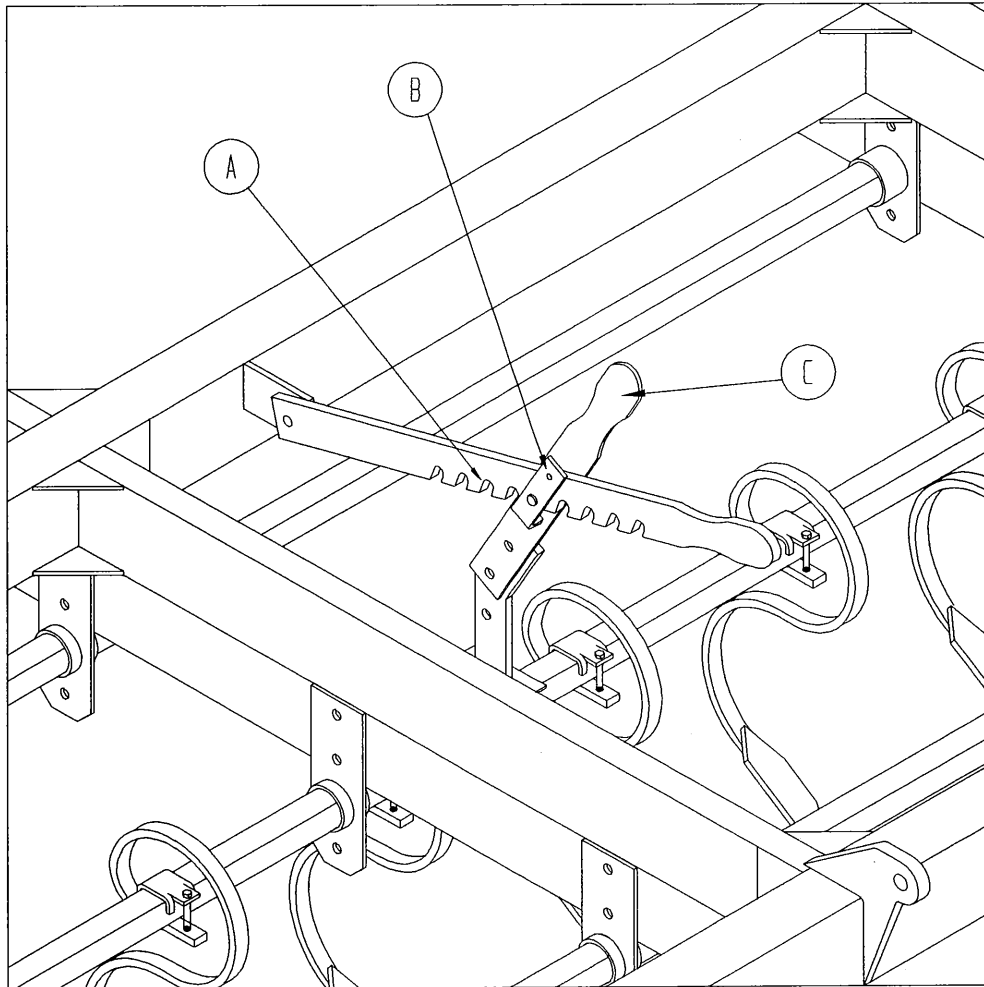


**ROLLA-HARROW RING ROLLER
DIRECTION SET-UP**



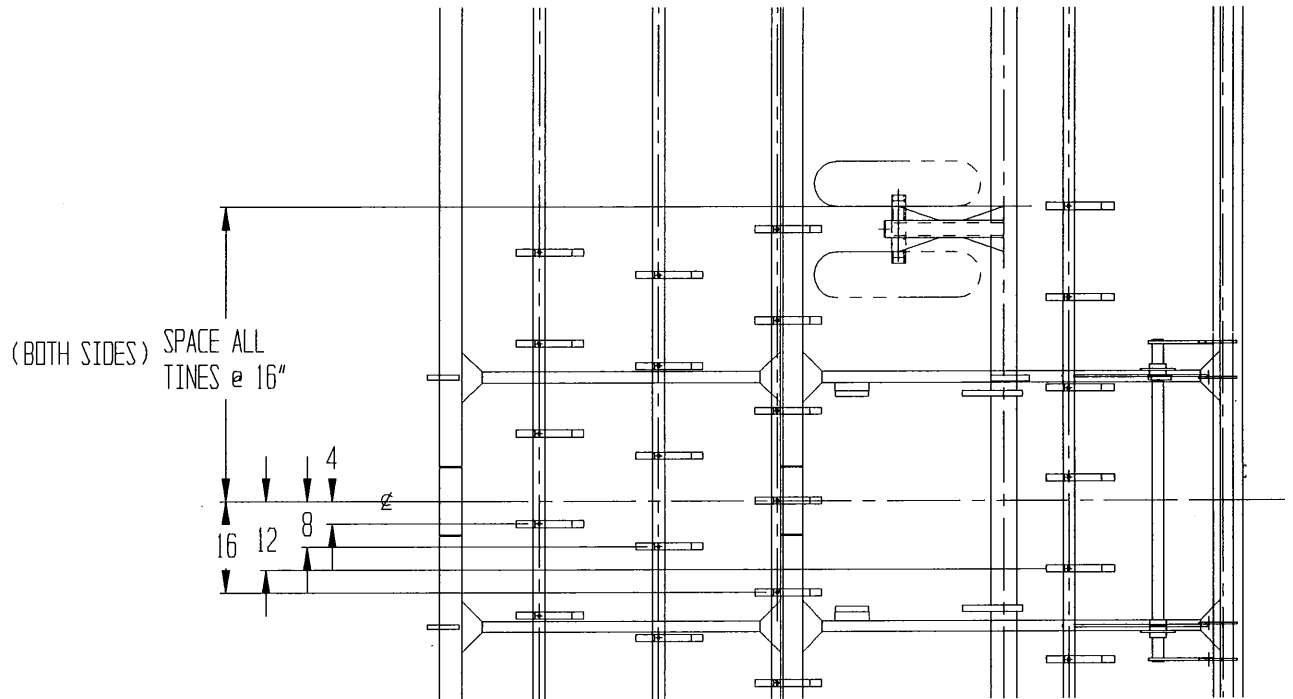


LUBRICATION



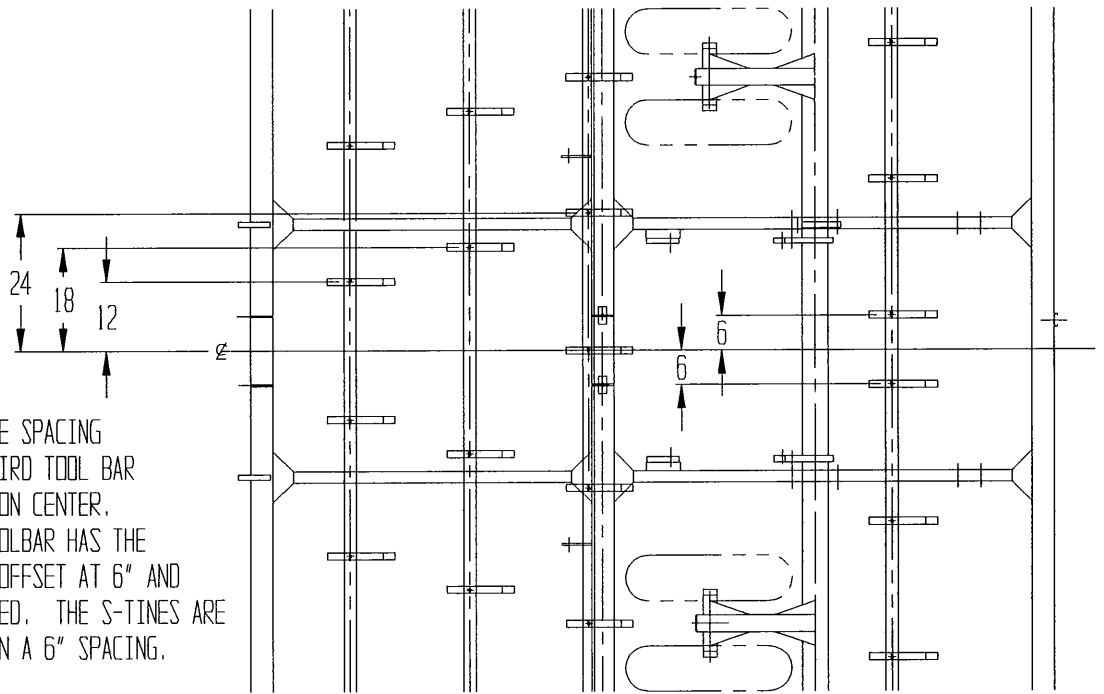
DESIRED TINE DEPTH IS ACQUIRED BY MOVING THE TOOLBAR CONTROL HANDLE (ITEM C) TO THE DESIRED NOTCH IN THE TOOLBAR CONTROL RATCHET (ITEM A).

WHEN OPERATING YOUR ROLLA-HARROW IN THE FIELD, THE SAFETY SNAP PIN (ITEM B) SHOULD BE REMOVED TO PREVENT DAMAGE TO THE TINE BARS AND LINKAGES IN THE EVENT OF THE ROLLA-HARROW BEING BACKED UP WITH THE TINES DOWN.



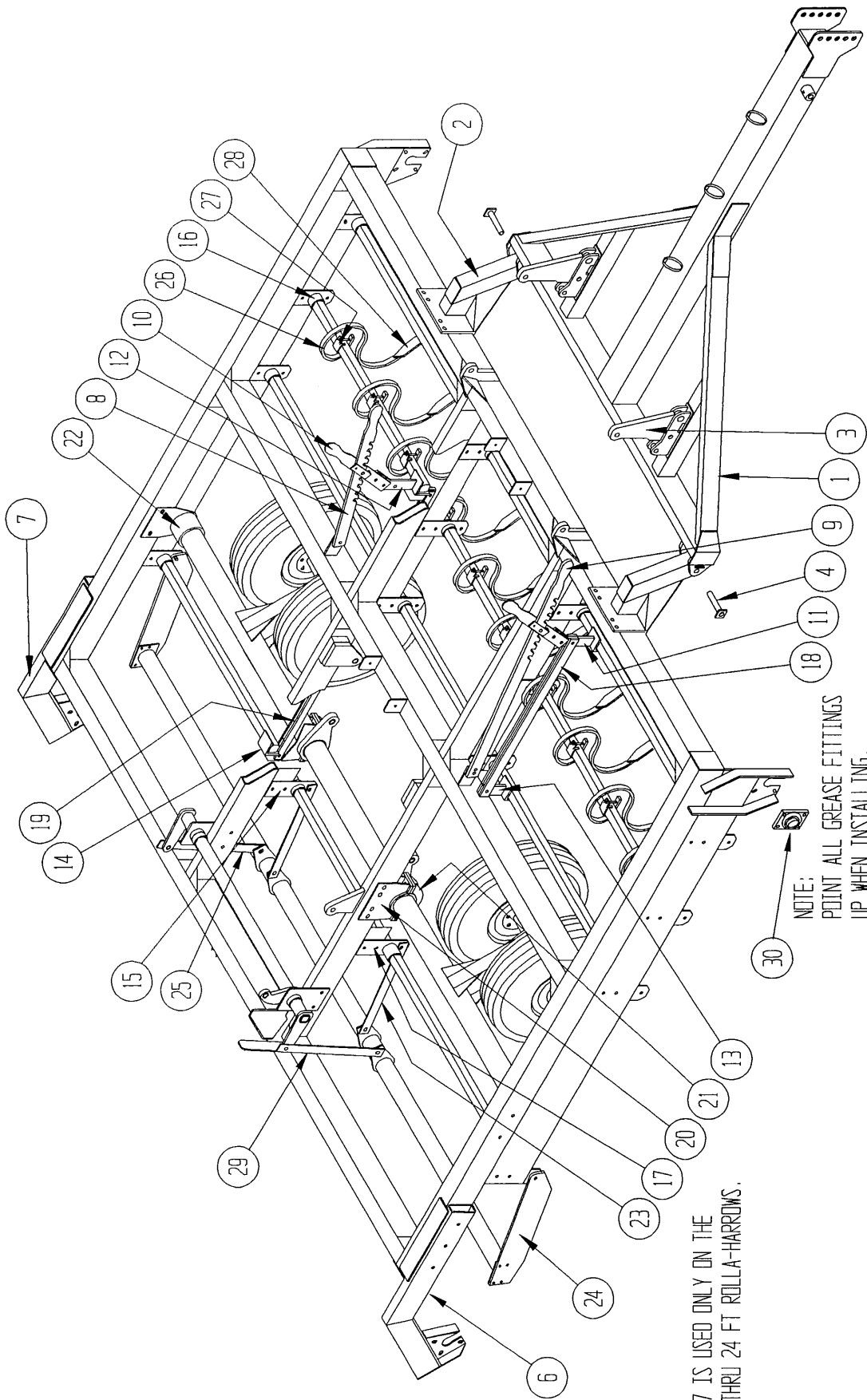
4-BAR TINE SPACING 4"

NOTE:
 ON A 6" S-TINE SPACING
 SETUP, THE THIRD TOOL BAR
 HAS A S-TINE ON CENTER.
 THE FOURTH TOOLBAR HAS THE
 FIRST S-TINE OFFSET AT 6" AND
 DIM AS FOLLOWED. THE S-TINES ARE
 SYMMETRICAL ON A 6" SPACING.



4-BAR TINE SPACING 6"

PARTS

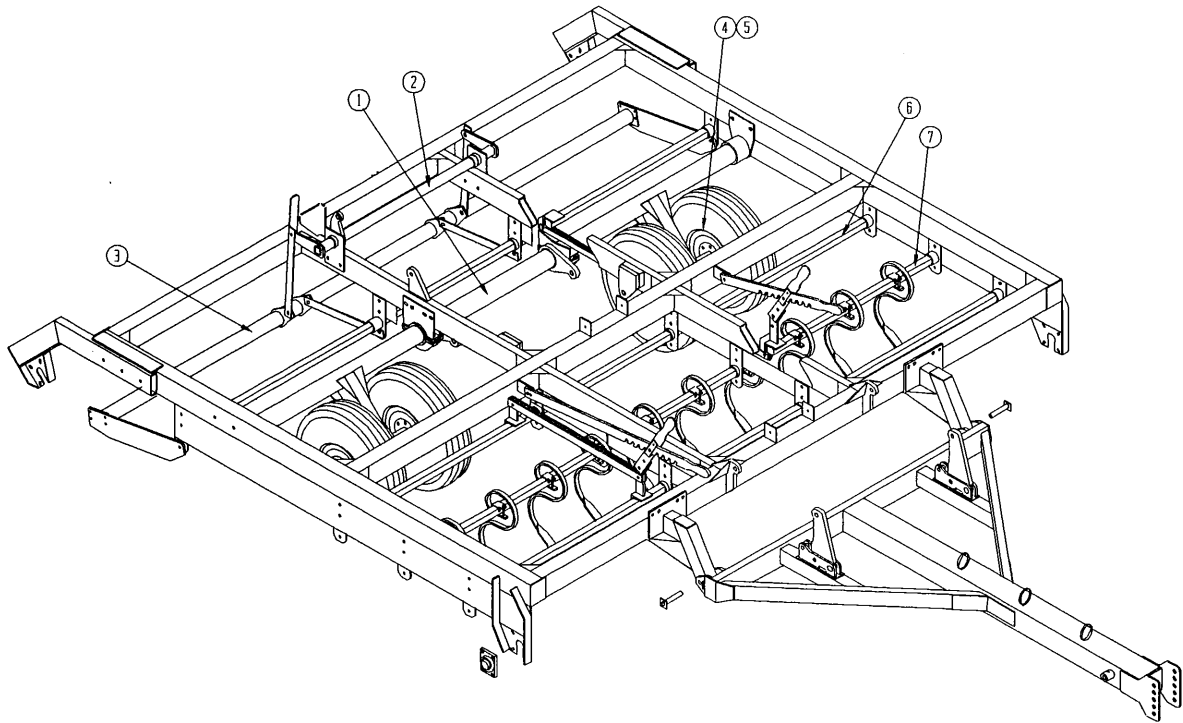


NOTE:
 ITEM 17 IS USED ONLY ON THE
 16 FT THRU 24 FT ROLLA-HARROWS.

NOTE:
 POINT ALL GREASE FITTINGS
 UP WHEN INSTALLING.

PARMA COMPANY ROLLA-HARROW

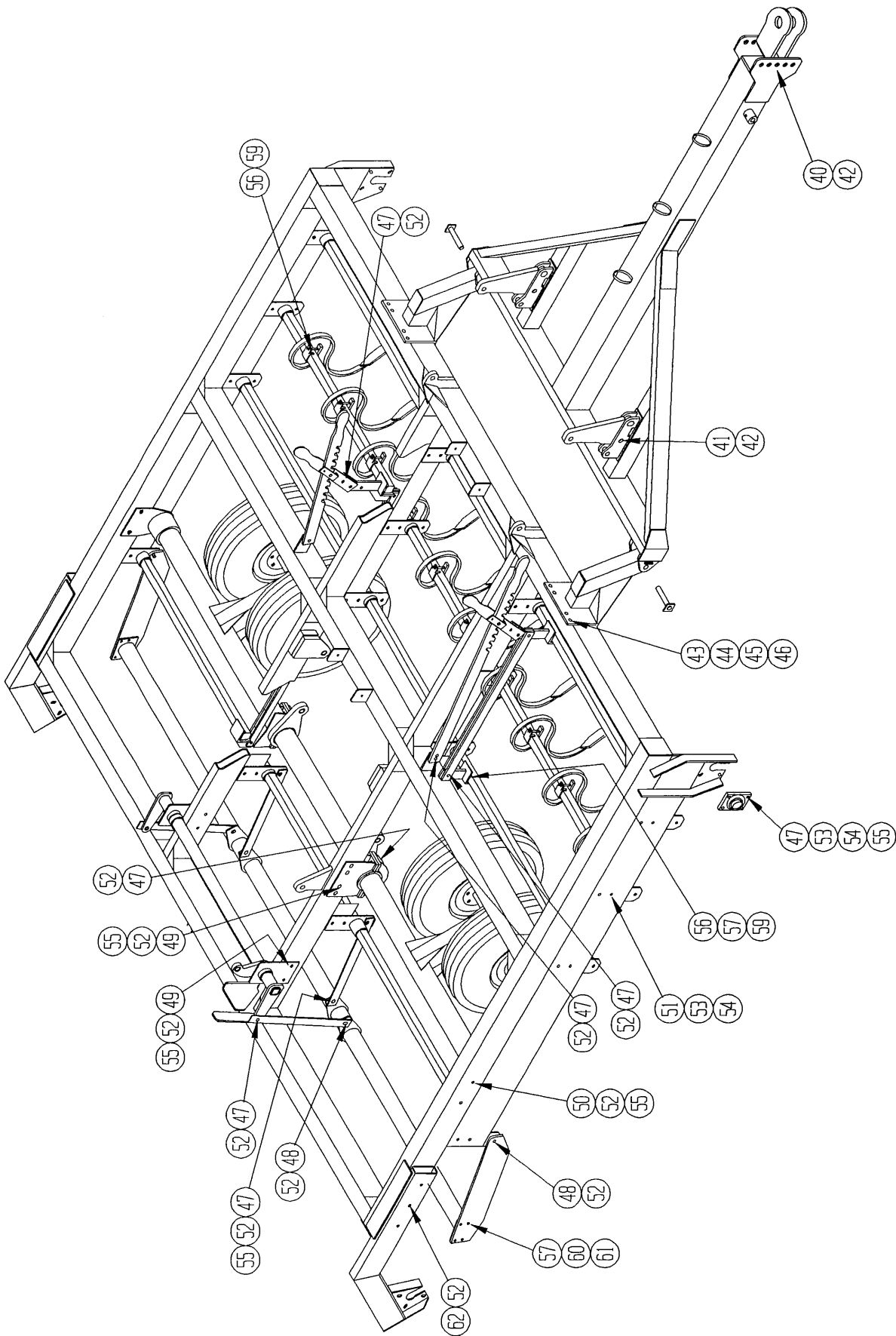
MAIN FRAME ASSEMBLY



<u>ITEM</u>	<u>DESCRIPTION</u>	<u>12 FT.</u>	<u>14 FT.</u>	<u>16 FT.</u>	<u>18 FT.</u>	<u>20 FT.</u>	<u>22 FT.</u>	<u>24 FT.</u>
1	AXLE WELD	521199	521389	521601	521802	522002	522202	522402
2	LIFTING BAR WELD	521383	521383	521383	521804	522003	521003	522003
3	SMOOTHING BAR WELD	521197	521378	521604	521803	522004	522204	522404
4	HUB & WHEEL ASSEMBLY (4-BAR)	521565	521565	521315	521315	521313	521313	521313
5	HUB & WHEEL ASSEMBLY (2-BAR)	-----	-----	521565	-----	521315	-----	-----
6	S-TINE TOOLBAR, SHORT	521587	521571	521573	521575	521577	521879	521581
7	S-TINE TOOLBAR, LONG	--N/A--	--N/A--	521572	521574	521576	521578	521580

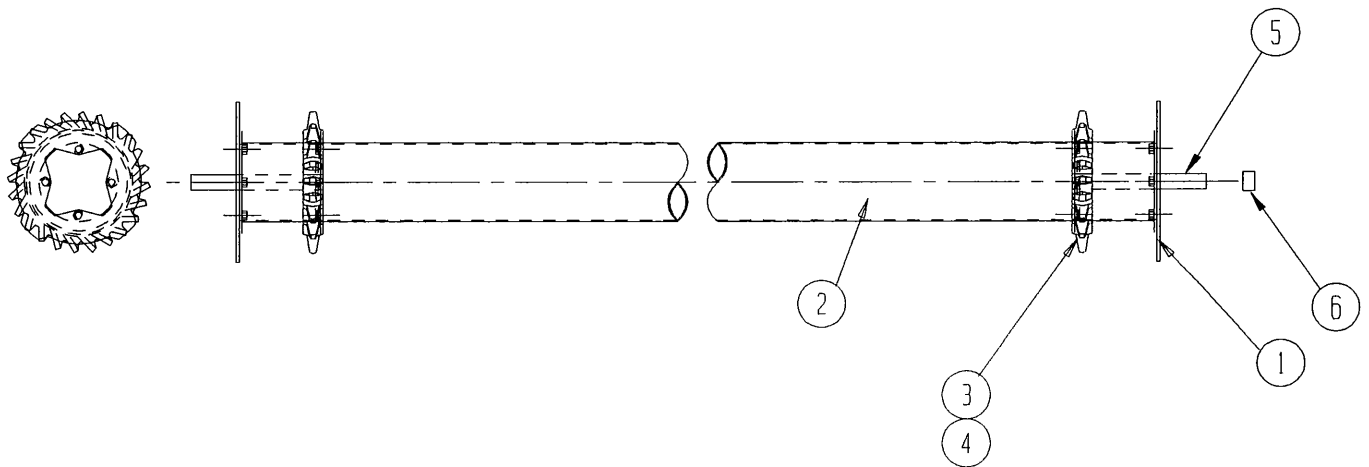
PARMA ROLLA HARROW HARDWARE LIST

<u>ITEM NO.</u>	<u>DESCRIPTION</u>
40	HEX BOLT:1"-8 UNC X 7 1/2
41	HEX BOLT:1"-8 UNC X 4
42	LOCK NUT:1"-8 UNC
43	HEX BOLT:3/4-10 UNC X 8 1/2
44	ROD END:3/4-10 UNC X 6
45	HEX NUT:3/4-10 UNC
46	LOCK WASHER:3/4
47	HEX BOLT:5/8-11 UNC X 2
48	HEX BOLT:5/8-11 UNC X 1 3/4
49	HEX BOLT:5/8-11 UNC X 3 1/2
50	HEX BOLT:5/8-11 UNC X 5 1/2
51	HEX BOLT:5/8-11 UNC X 1 1/4
52	LOCK NUT:5/8-11 UNC
53	HEX NUT:5/8-11 UNC
54	LOCK WASHER:5/8
55	FLAT WASHER:5/8
56	HEX BOLT:1/2-13 UNC X 3 1/2
57	HEX BOLT:1/2-13 UNC X 1 1/4
58	ROD END:1/2-13 UNC X 3 1/2
59	LOCK NUT:1/2-13 UNC
60	HEX NUT:1/2-13 UNC
61	LOCK WASHER:1/2
62	HEX BOLT: 5/8-11 UNC X 8



HARDWARE

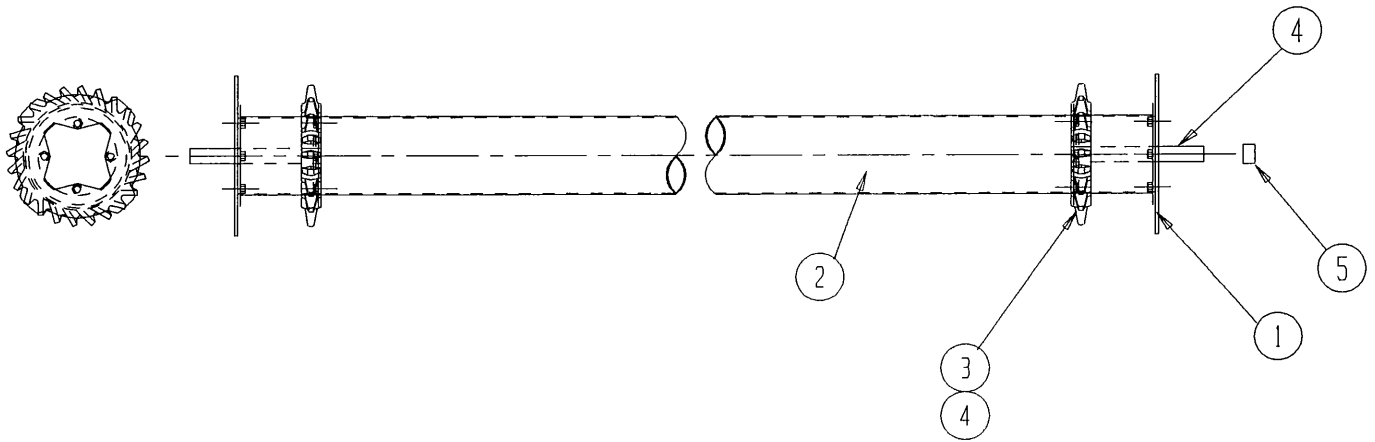
10" RING ROLLER ASSY **



ITEM	DESCRIPTION	12 FT	13 FT	14 FT	15 FT	16 FT	17 FT	18 FT	19 FT	20 FT	21 FT
1	ROLLER END PLATE	521496	521496	521496	521496	521496	521496	521496	521496	521496	521496
2	10" ROLLER WELD	521863	521864	521865	521866	521867	521868	521869	521870	521871	521872
3	CAST RING (10-12-16)	521566	521566	521566	521566	521566	521566	521566	521566	521566	521566
4	CAST RING (10-12-17)	521590	521590	521590	521590	521590	521590	521590	521590	521590	521590
5	STUB SHAFT	521494	521494	521494	521494	521494	521494	521494	521494	521494	521494
6	SPACER	521677	521677	521677	521677	521677	521677	521677	521677	521677	521677

**THE PART SHOWN IS USED AS A
 FRONT ROLLER ON THE 12FT, 14FT, 16FT,
 AND 18FT ROLLA-HARROWS. IT IS ALSO USED AS A
 REAR ROLLER FOR 12FT THROUGH 21 FT.

12" RING ROLLER ASSY **

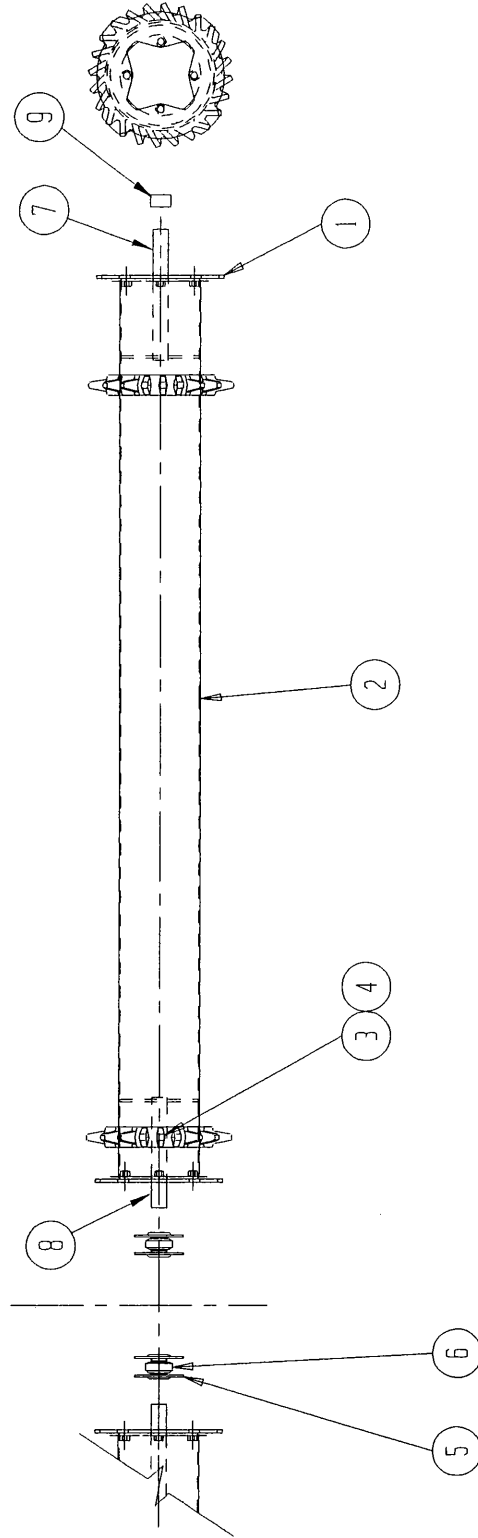


ITEM	DESCRIPTION	12 FT	13 FT	14 FT	15 FT	16 FT	17 FT	18 FT	19 FT	20 FT	21 FT
1	ROLLER END PLATE	521447	521447	521447	521447	521447	521447	521447	521447	521447	521447
2	12" ROLLER WELD	521930	521931	521932	521933	521934	521935	521936	521937	521938	521939
3	CAST RING (10-12-16)	521592	521592	521592	521592	521592	521592	521592	521592	521592	521592
4	STUB SHAFT WELD	521456	521456	521456	521456	521456	521456	521456	521456	521456	521456
5	SPACER	521677	521677	521677	521677	521677	521677	521677	521677	521677	521677

**THE PART SHOWN IS USED AS A
FRONT ROLLER ON THE 12FT, 14FT, 16FT,
AND 18FT ROLLA-HARROWS. IT IS ALSO USED AS A
REAR ROLLER FOR 12FT THROUGH 21 FT.

10" FRONT SPLIT-RING ROLLER ASSY**

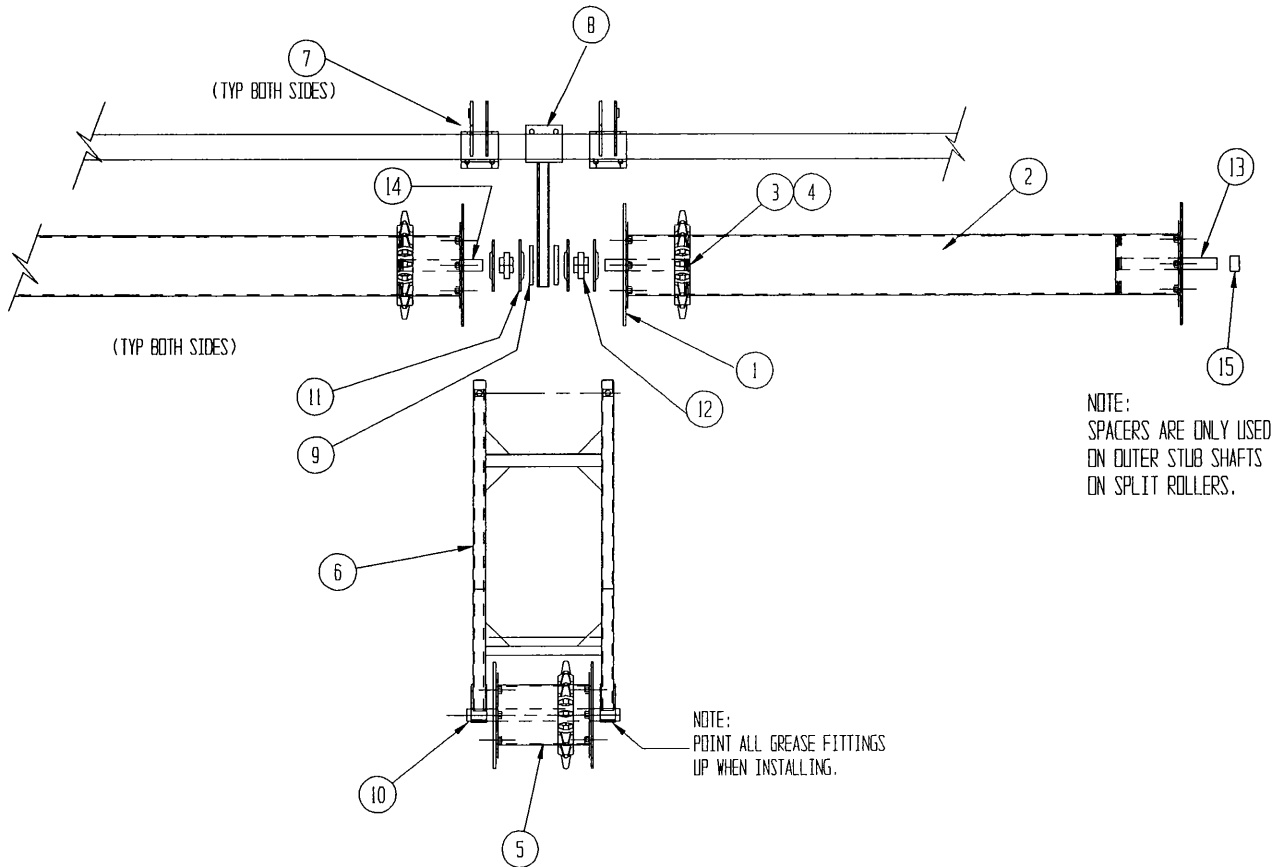
NOTE:
 SPACERS ARE ONLY USED
 ON OUTER STUB SHAFTS
 ON SPLIT ROLLERS.



**THE PART SHOWN IS FOR THE FRONT ROLLERS
 ON THE 18 FT THROUGH 24 FT. ROLLA-HARROWS

ITEM	DESCRIPTION	18 FT	19 FT	20 FT	21 FT	22 FT	23 FT	24 FT
1	ROLLER END PLATE	521496	-----	521496	-----	521496	-----	521496
2	10" ROLLER WELD	521510	-----	521876	-----	521878	-----	521880
3	CAST RING (10-12-16)	521566	-----	521566	-----	521566	-----	521566
4	CAST RING (10-12-17)	521590	-----	521590	-----	521590	-----	521590
5	FLANGETTE PAIRS 90 MS	521486	-----	521486	-----	521486	-----	521486
6	1 15/16" BEARING, 6115KPPB3	521481	-----	521481	-----	521481	-----	521481
7	OUTER STUB SHAFT	521494	-----	521494	-----	521494	-----	521494
8	INNER STUB SHAFT	521511	-----	521511	-----	521511	-----	521511
9	SPACER	521677	-----	521677	-----	521677	-----	521677

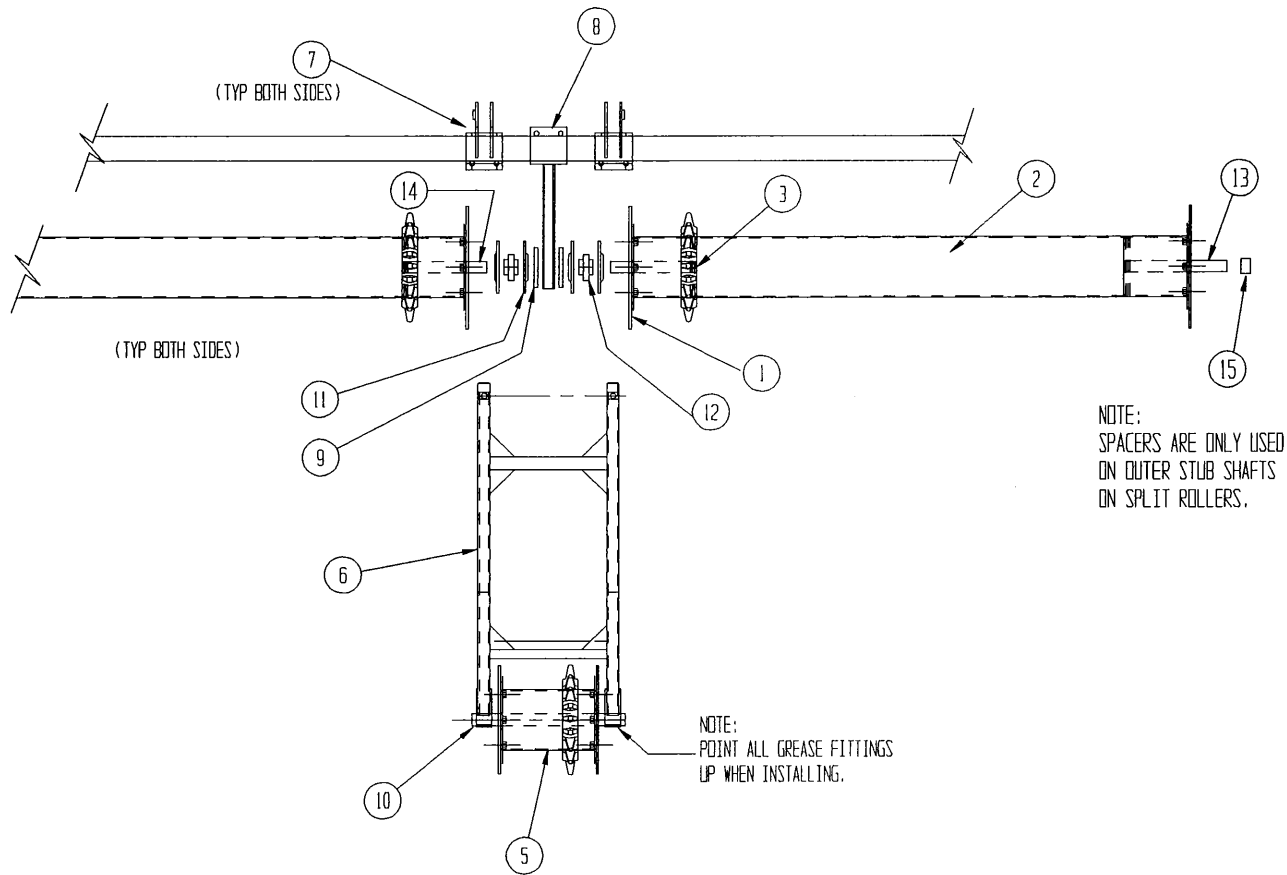
10" REAR ROLLER ASSEMBLY**



ITEM	DESCRIPTION	22 FT	23 FT	24 FT	25 FT
1	ROLLER END PLATE	521496	521496	521496	521496
2	10" SPLIT ROLLER	521878	521879	521880	521881
3	CAST RING (10-12-16)	521566	521566	521566	521566
4	CAST RING (10-12-17)	521590	521590	521590	521590
5	TAG ALONG ROLLER	522397	522397	522397	522397
6	TAG ALONG FRAME	522410	522410	522410	522410
7	HINGE BRACKET	522407	522407	522407	522407
8	ROLLER MOUNT, REAR	521364	521364	521364	521364
9	BEARING SPACER PLATE	521361	521361	521361	521361
10	PILLOW BLOCK BEARING: 1 15/16" TAK	980020	980020	980020	980020
11	FLANGETTE PAIRS 90 MS	521486	521486	521486	521486
12	1 15/16" BEARING, G11SKPPB3	521481	521481	521481	521481
13	OUTER STUB SHAFT	521494	521494	521494	521494
14	INNER STUB SHAFT	521511	521511	521511	521511
15	SPACER	521677	521677	521677	521677

**THE PART SHOWN IS FOR THE REAR ROLLERS
ON THE 22 FT THROUGH 25 FT. ROLLA-HARROWS.

12" REAR ROLLER ASSEMBLY**

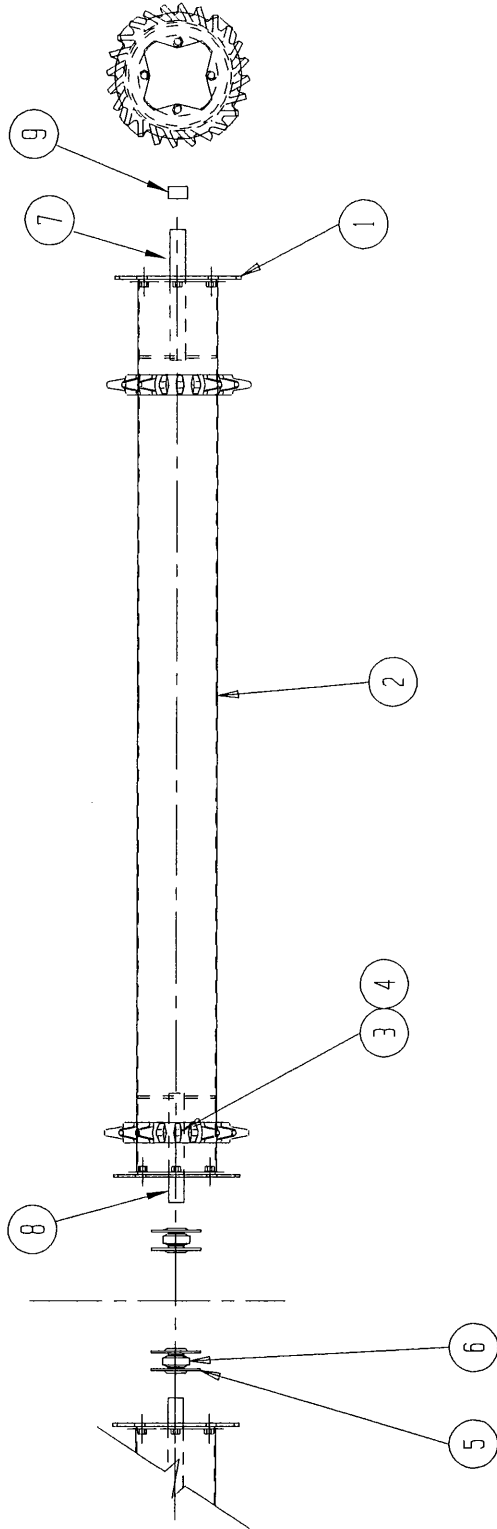


ITEM	DESCRIPTION	22 FT	23 FT	24 FT	25 FT
1	ROLLER END PLATE	521447	521447	521447	521447
2	12" SPLIT ROLLER	521884	521885	521886	521887
3	CAST RING (12-14-20)	521592	521592	521592	521592
4	-----	-----	-----	-----	-----
5	TAG ALONG ROLLER	522397	522397	522397	522397
6	TAG ALONG FRAME	522410	522410	522410	522410
7	HINGE BRACKET	522407	522407	522407	522407
8	ROLLER MOUNT, REAR	521364	521364	521364	521364
9	BEARING SPACER PLATE	521361	521361	521361	521361
10	PILLOW BLOCK BEARING: 1 15/16" TAK	980020	980020	980020	980020
11	FLANGETTE PAIRS 90 MS	521486	521486	521486	521486
12	1 15/16" BEARING, G11SKPPB3	521481	521481	521481	521481
13	OUTER STUB SHAFT WELD	521456	521456	521456	521456
14	INNER STUB SHAFT WELD	521463	521463	521463	521463
15	SPACER	521677	521677	521677	521677

**THE PART SHOWN IS FOR THE REAR ROLLERS
ON THE 22 FT THROUGH 25 FT. ROLLA-HARROWS.

12" FRONT SPLIT-RING ROLLER ASSY**

NOTE:
SPACERS ARE ONLY USED
ON OUTER STUB SHAFTS
ON SPLIT ROLLERS.



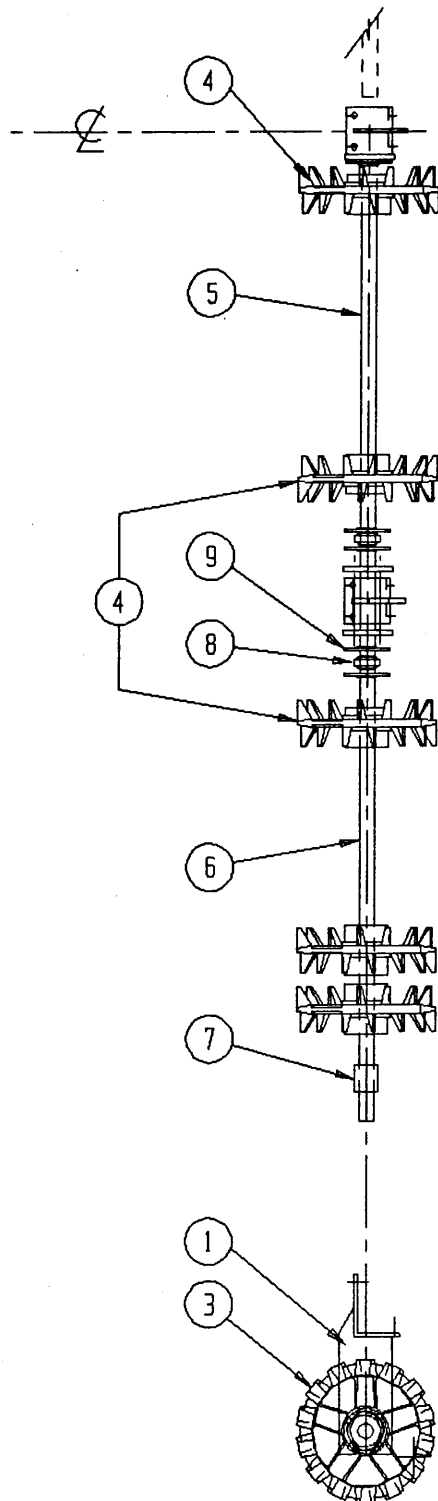
**THE PART SHOWN IS FOR THE FRONT ROLLERS
ON THE 18 FT THROUGH 24 FT. ROLLA-HARROWS

ITEM	DESCRIPTION	18 FT	19 FT	20 FT	21 FT	22 FT	23 FT	24 FT
1	ROLLER END PLATE	521447	-----	521447	-----	521447	-----	521447
2	12" ROLLER WELD	521464	-----	521882	-----	521884	-----	521886
3	CAST RING (12-14-20)	521592	-----	521592	-----	521592	-----	521592
4	-----	-----	-----	-----	-----	-----	-----	-----
5	FLANGETTE PAIRS 90 MS	521486	-----	521486	-----	521486	-----	521486
6	1 15/16" BEARING, 6115KPPB	521481	-----	521481	-----	521481	-----	521481
7	OUTER STUB SHAFT	521456	-----	521456	-----	521456	-----	521456
8	INNER STUB SHAFT	521463	-----	521463	-----	521463	-----	521463
9	SPACER	521677	-----	521677	-----	521677	-----	521677

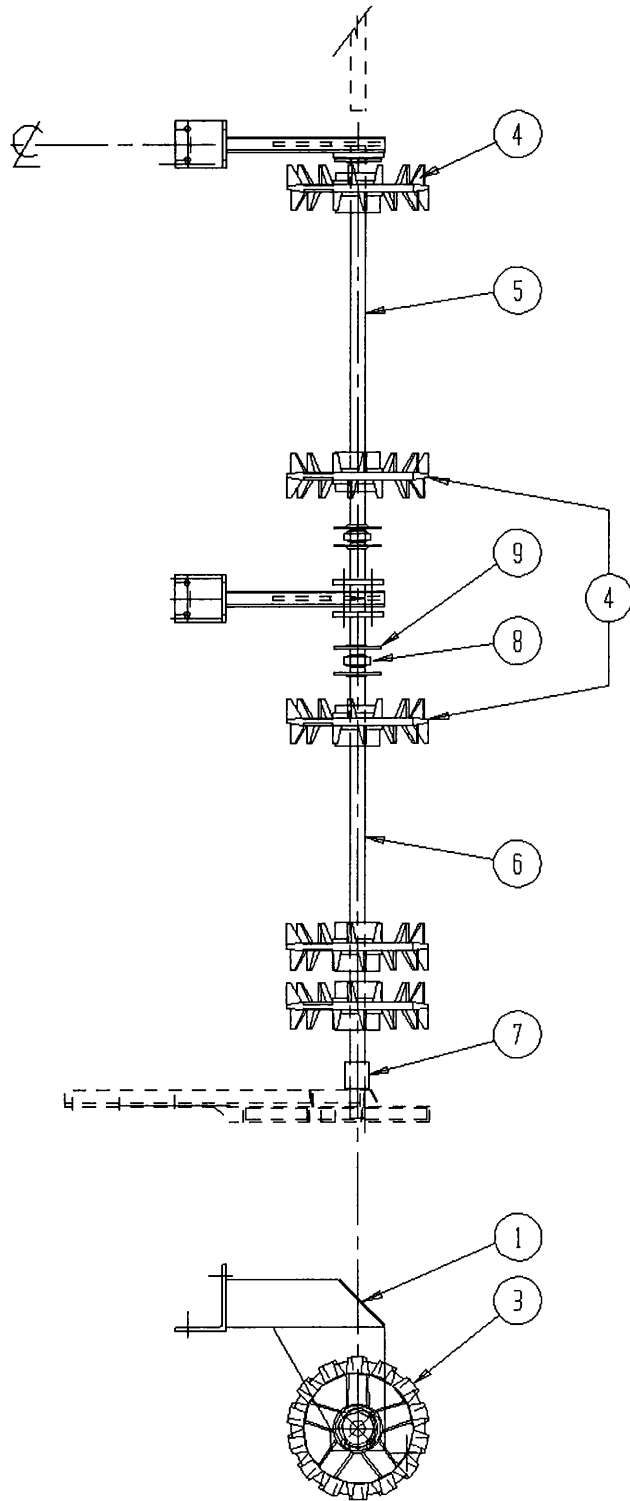
QUANTITY OF CAST RINGS
PER ROLLA-HARROW ROLLER ASSEMBLY'S

SIZE	FRONT QTY.	REAR QTY.	FRONT SPLIT QTY.	REAR SPLIT W/ TAG ALONG QTY.
12 FT	60	60	-----	-----
**13 FT EXT	60	65	-----	-----
14 FT	70	70	-----	-----
**15 FT EXT	70	75	-----	-----
16 FT	80	80	-----	-----
**17 FT EXT	80	85	-----	-----
18 FT	-----	90	85	-----
**19 FT EXT	-----	95	85	-----
20 FT	-----	100	95	-----
**21 FT EXT	-----	105	95	-----
22 FT	-----	-----	105	115
**23 FT EXT	-----	-----	105	120
24 FT	-----	-----	115	125
**25 FT EXT	-----	-----	115	130

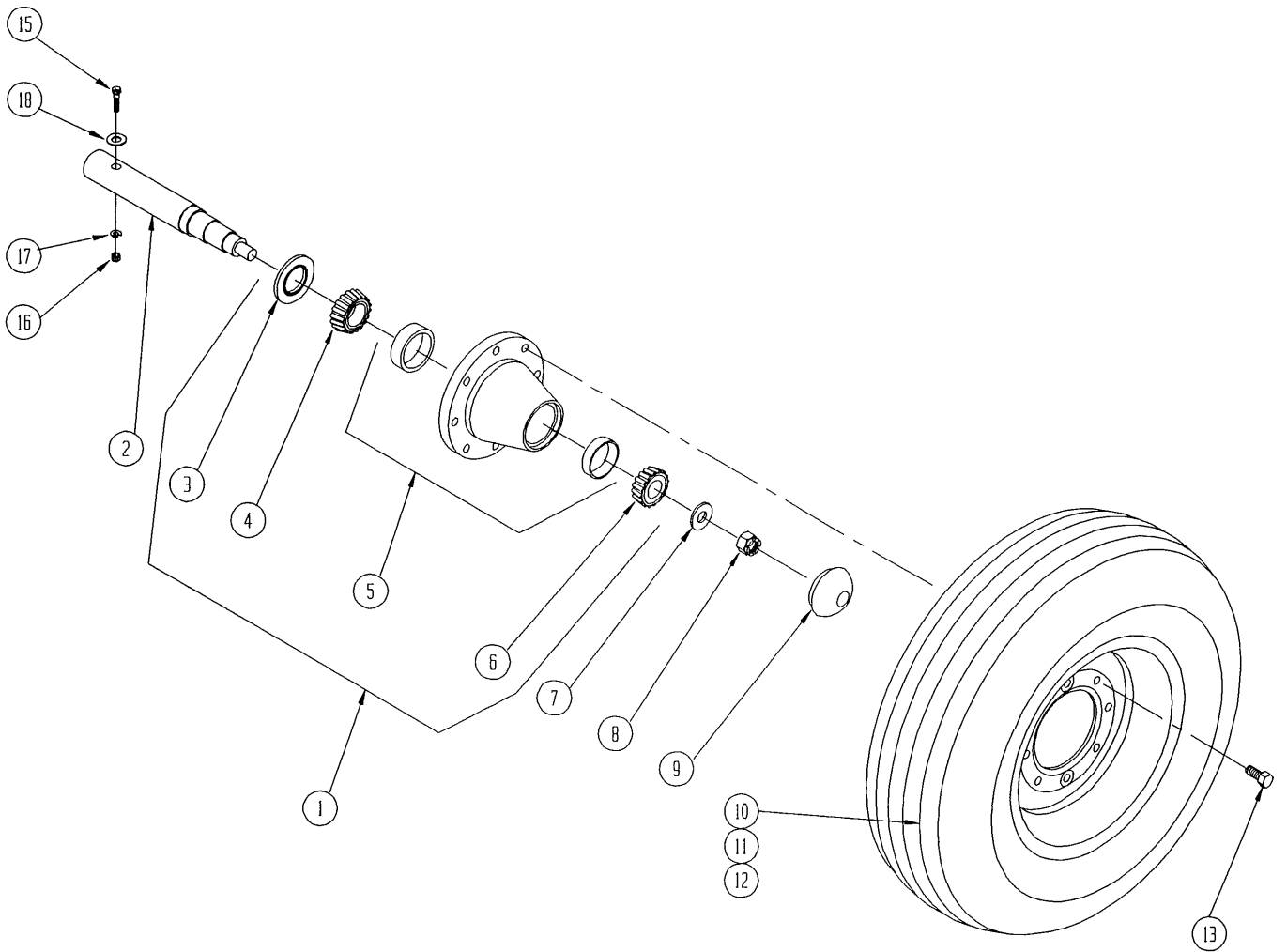
FRONT CROWFOOT ASSEMBLY



REAR CROWFOOT ASSEMBLY



HUB AND WHEEL ASSEMBLY



12 FT & 14 FT 7.60-15"
STANDARD HUB AND WHEEL ASSEMBLY
521565

<u>ITEM</u>		<u>PART</u>	
<u>NO.</u>	<u>QTY</u>	<u>NO.</u>	<u>DESCRIPTION</u>
1	---	999982	6 HOLE HUB ASSEMBLY (ALSO INCLUDES ITEM 9 & 13)
2	1	521440	SPINDLE
3	1	990099	SEAL
4	1	990004	TAPERED ROLLER BEARING CONE
5	1	999995	WHEEL HUB WITH CUPS
6	1	990006	TAPERED ROLLER BEARING CONE
7	1	999965	FLATWASHER - 7/8
8	1	999960	CASTELLATED NUT - 7/8
9	1	999951	HUB CAP
10	1	999953	WHEEL 15"
11	1	999978	TIRE: 7.60 X 15", 8 PLY
12	1	999978-3	TUBE 15"
13	6	999955	LUG BOLT
14	---	-----	-----
15	1	-----	HEXBOLT: 3/8-16 UNC X 3 1/2
16	1	-----	HEXNUT: 3/8-16 UNC
17	1	-----	LOCKWASHER: 3/8
18	1	-----	FLATWASHER: 3/8

12 FT & 14 FT 9.50L-15"
OPTION WHEEL AND HUB ASSEMBLY
521304

<u>ITEM</u>		<u>PART</u>	
<u>NO.</u>	<u>QTY</u>	<u>NO.</u>	<u>DESCRIPTION</u>
1	---	999982	6 HOLE HUB ASSEMBLY (ALSO INCLUDES ITEM 9 & 13)
2	1	521440	SPINDLE
3	1	990099	SEAL
4	1	990004	TAPERED ROLLER BEARING CONE
5	1	999995	WHEEL HUB WITH CUPS
6	1	990006	TAPERED ROLLER BEARING CONE
7	1	999965	FLATWASHER - 7/8
8	1	999960	CASTELLATED NUT - 7/8
9	1	999951	HUB CAP
10	1	999953	WHEEL 15" X 6 6-HOLE
11	1	999977	TIRE: 9.5L X 15", 8 PLY
12	1	999977-99	TUBE 15"
13	6	999955	LUG BOLT
14	---	-----	-----
15	1	-----	HEXBOLT: 3/8-16 UNC X 3 1/2
16	1	-----	HEXNUT: 3/8-16 UNC
17	1	-----	LOCKWASHER: 3/8
18	1	-----	FLATWASHER: 3/8
19	---	-----	-----
20	---	-----	-----

16 FT & 18 FT 9.5L-15"
STANDARD HUB AND WHEEL ASSEMBLY
521315

ITEM		PART	
NO.	QTY	NO.	DESCRIPTION
1	---	999981	8 HOLE, HUB ASSY. (ALSO INCLUDES ITEMS 9 & 13)
2	1	521328	HEAVY DUTY SPINDLE
3	1	990094	SEAL
4	1	990000	TAPERED ROLLER BEARING CONE
5	1	999964	WHEEL HUB WITH CUPS
6	1	990002	TAPERED ROLLER BEARING CONE
7	1	999965	FLATWASHER - 7/8
8	1	999960	CASTELLATED NUT - 7/8
9	1	999952	HUB CAP
10	1	999986	WHEEL: 8 HOLE x 15
11	1	999977	TIRE: 9.50L-15, 8 PLY
12	1	999977-99	TUBE 15"
13	8	997905	LUG BOLT
14	---	-----	-----
15	---	-----	-----
16	1	-----	HEXBOLT: 3/8-16 UNC X 3 1/2
17	1	-----	HEXNUT: 3/8-16 UNC
18	1	-----	LOCKWASHER: 3/8
19	1	-----	FLATWASHER: 3/8
20	---	-----	-----

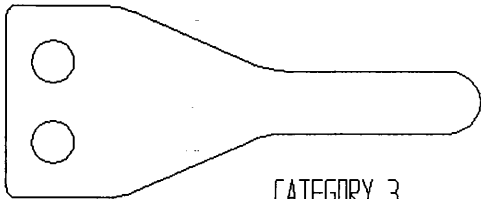
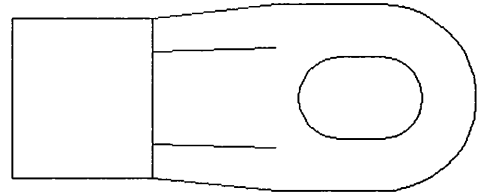
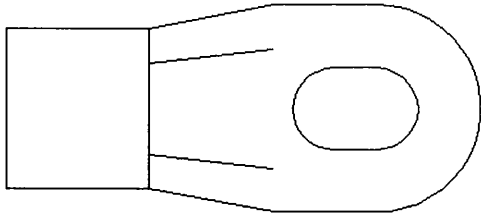
16 FT & 18 FT 11L-15"
OPTION HUB AND WHEEL ASSEMBLY
521314

<u>ITEM</u> <u>NO.</u>	<u>QTY</u>	<u>PART</u> <u>NO.</u>	<u>DESCRIPTION</u>
1	---	999981	8-HOLE, HUB ASSY (ALSO INCLUDES ITEMS 9 & 13)
2	1	521328	HEAVY DUTY SPINDLE
3	1	990094	SEAL
4	1	990000	TAPERED ROLLER BEARING CONE
5	1	999964	WHEEL HUB WITH CUPS
6	1	990002	TAPERED ROLLER BEARING CONE
7	1	999965	FLATWASHER - 7/8
8	1	999960	CASTELLATED NUT - 7/8
9	1	999952	HUB CAP
10	1	999986	WHEEL: 8 HOLE X 15"
11	1	999940	TIRE: 11L-15, 12 PLY
12	1	999974-99	TUBE 15"
13	8	997905	LUG BOLT
14	---	-----	-----
15	---	-----	-----
16	1	-----	HEXBOLT: 3/8-16 UNC X 3 1/2
17	1	-----	HEXNUT: 3/8-16 UNC
18	1	-----	LOCKWASHER: 3/8
19	1	-----	FLATWASHER: 3/8
20	---	-----	-----

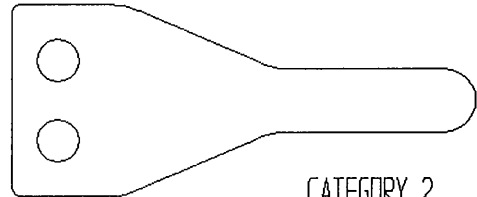
**20 FT, 22 FT, AND 24 FT 11L-15"
STANDARD HUB AND WHEEL ASSEMBLY
521313**

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	---	999981	8-HOLE, HUB ASSY (ALSO INCLUDES ITEMS 9 & 13)
2	1	521328	HEAVY DUTY SPINDLE
3	1	990094	SEAL
4	1	990000	TAPERED ROLLER BEARING CONE
5	1	999964	WHEEL HUB WITH CUPS
6	1	990002	TAPERED ROLLER BEARING CONE
7	1	999965	FLATWASHER - 7/8
8	1	999960	CASTELLATED NUT - 7/8
9	1	999952	HUB CAP
10	1	999986	WHEEL: 8 HOLE X 15"
11	1	999940	TIRE: 11L-15, 12 PLY
12	1	999974-99	TUBE 15"
13	8	997905	LUG BOLT
14	---	-----	-----
15	---	-----	-----
16	1	-----	HEXBOLT: 3/8-16 UNC X 3 1/2
17	1	-----	HEXNUT: 3/8-16 UNC
18	1	-----	LOCKWASHER: 3/8
19	1	-----	FLATWASHER: 3/8
20	---	-----	-----

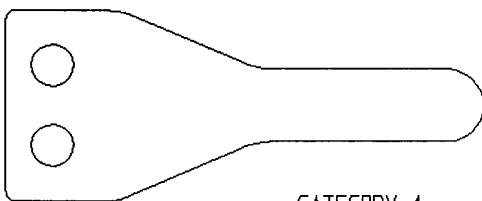
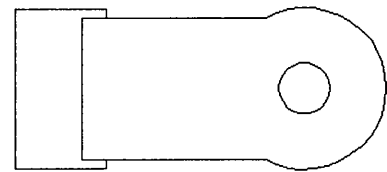
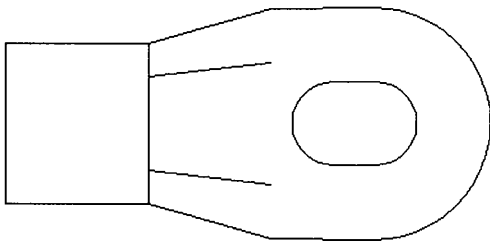
HITCH OPTIONS



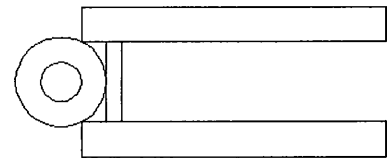
CATEGORY 3
521104



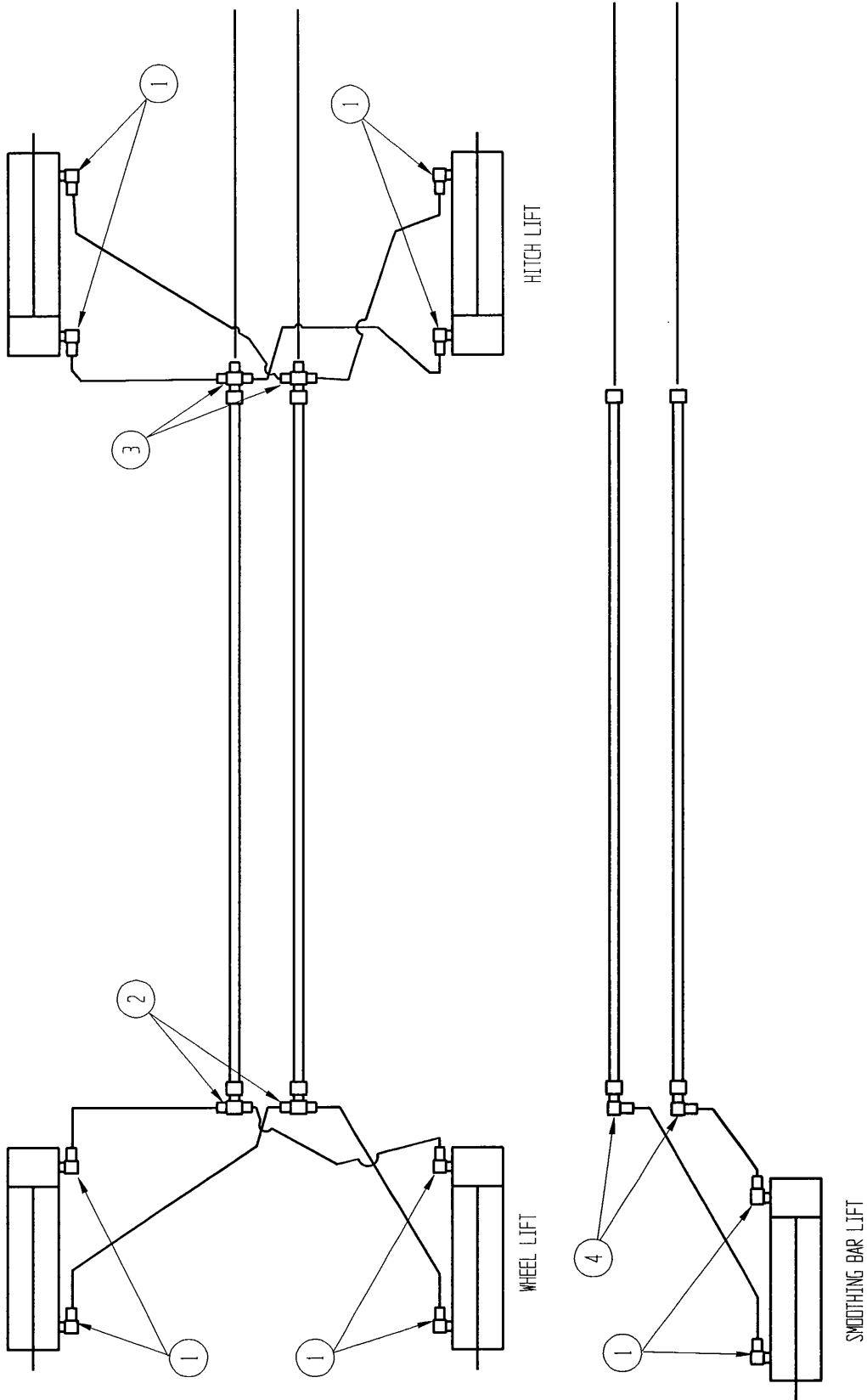
CATEGORY 2
521103



CATEGORY 4
521102



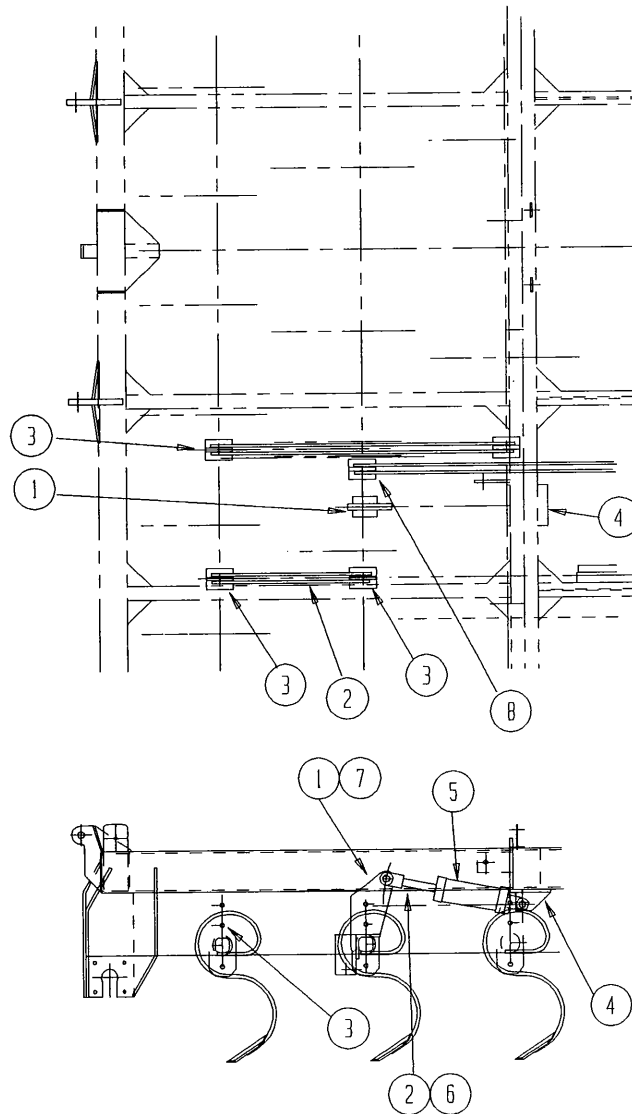
TONGUE CLEVIS
521448



ROLLA HARROW
HYDRAULICS

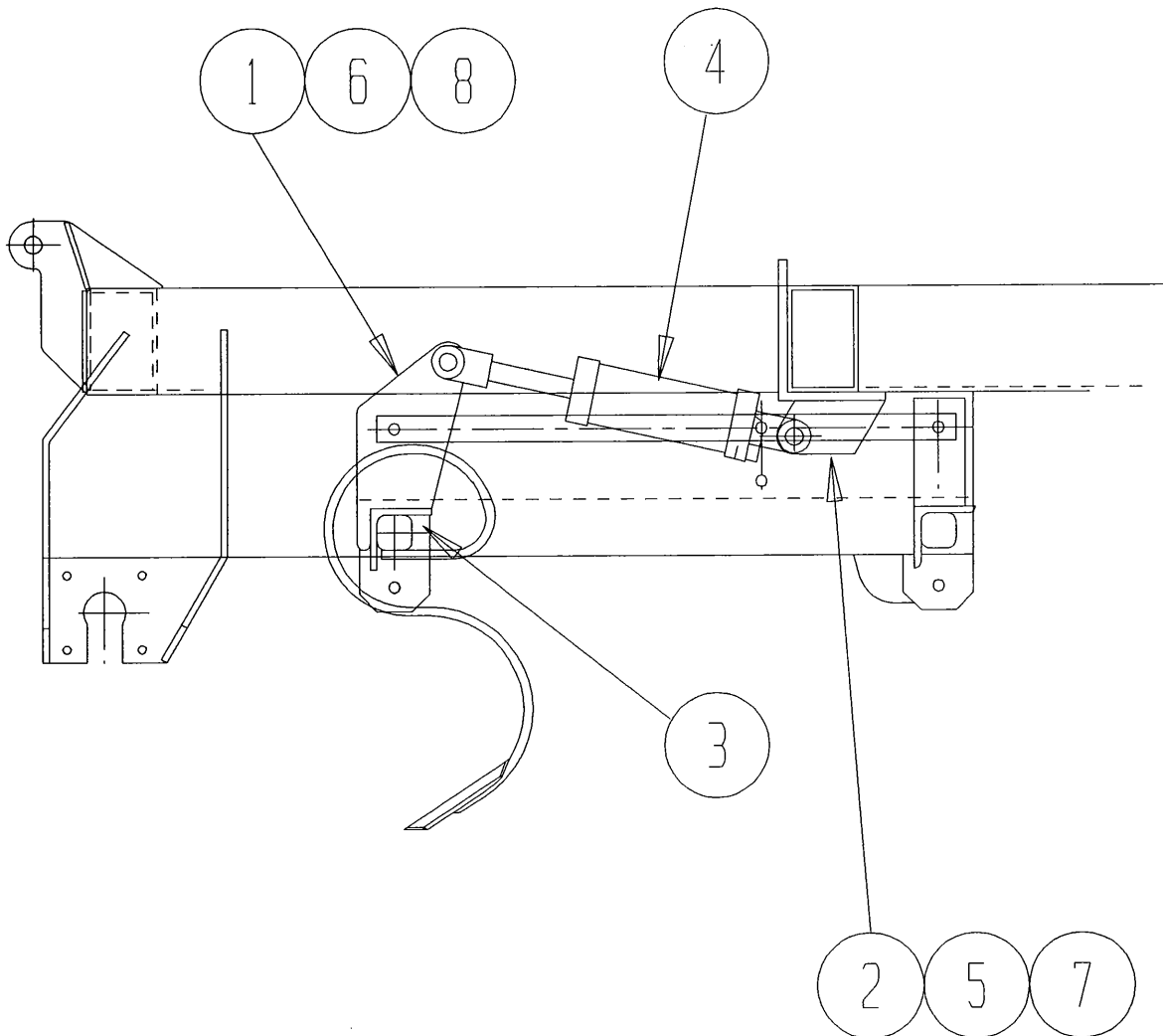
4-BAR HYDRAULIC TINE BAR CONTROL

ITEM NO.	PART NO.	DESCRIPTION
1	521240	TOOLBAR CONTROL CLAMP, HYDR.
2	521260	TOOLBAR CONTROL LINKAGE
3	521495	TOOLBAR CONTROL CLAMP
4	521258	CYLINDER MOUNT CLAMP
5	998903	HYDR. CYLINDER: 3 X 8, O-RING PORTS
6	-----	ROD END: 3/4-10 UNC X 6
7	-----	ROD END: 1/2-13 UNC X 3 1/2
8	521513	TOOLBAR CONTROL CLAMP



2-BAR HYDRAULIC TINE BAR CONTROL

ITEM NO.	PART NO.	DESCRIPTION
1	521240	TOOLBAR CONTROL CLAMP, HYDR.
2	521237	CYLINDER MOUNT CLAMP
3	521495	TOOLBAR CONTROL CLAMP
4	998903	HYDR. CYLINDER: 3 X 8, O-RING PORTS
5	-----	ROD END: 3/4-10 UNC X 6
6	-----	ROD END: 1/2-13 UNC X 3 1/2
7	-----	HEXBOLT: 3/4-10 UNC X 9
8	-----	HEXBOLT: 1/2-13 UNC X 4 1/4



OTHER ROLLA-HARROW OPTIONS

<u>4-BAR</u> <u>PRT.#</u>	<u>2-BAR</u> <u>PRT.#</u>	<u>DESCRIPTION</u>
521502	521502	FRAME EXTENDER
521135	521135	LEVELING BAR EXTENSION
521614	521140	GRAIN DRILL HITCH
521170	521170	HARROW HITCH
521270	521270	WARNING LIGHT KIT
521564	521564	H.D. LONG S-TINE