PARMA COMPANY

UNDERCUTTER

PARTS CATALOG

Manual Number 080596-UC

PO BOX 190 * 101 MAIN STREET

PARMA, IDAHO 83660

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

INTRODUCTION

This catalog has been prepared to provide you with the repair parts breakdown information of your **PARMA UNDERCUTTER.** 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 undercutter.

When it comes to parts and service, keep in mind that your dealer knows your machine 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 undercutter's best performance.

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

SECTION I

SAFETY

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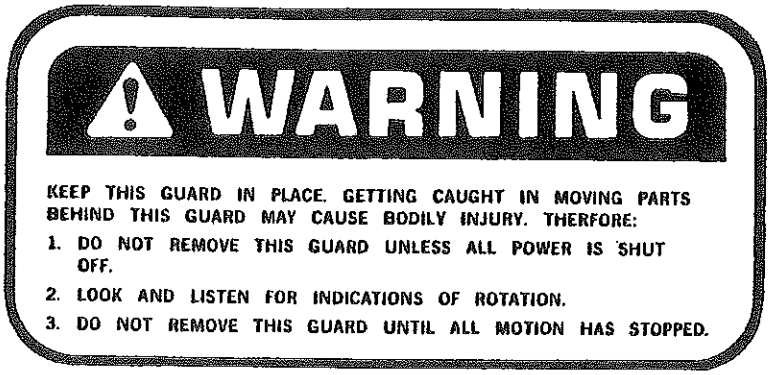

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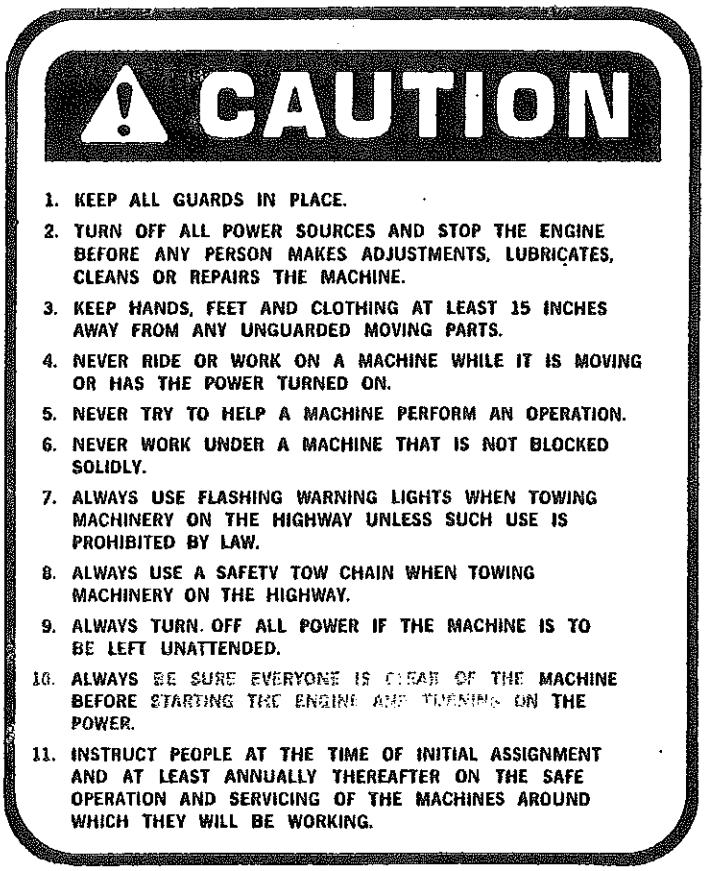


SAFETY PRECAUTIONS

LOOK FOR THIS SYMBOL TO POINT OUT IMPORTANT SAFETY PRECAUTIONS. IT MEANS – ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED.

ALWAYS DISENGAGE PTO AND SHUT OFF ENGINE BEFORE:

1. LEAVING TRACTOR SEAT
2. LUBRICATING
3. CLEANING THE MACHINE
4. ADJUSTING THE MACHINE

ALWAYS BLOCK WHEELS BEFORE WORKING ON OR UNDER THE MACHINE.

ALWAYS DISENGAGE PTO WHEN TURNING AT THE END OF FIELD.

ALWAYS REMAIN SEATED WHILE OPERATING THE MACHINE.

ALWAYS KEEP SAFETY SHIELDS IN PLACE.

ALWAYS USE ADEQUATE LIGHTS OR SAFETY WARNINGS WHEN TRANSPORTING MACHINE ON PUBLIC ROADS AND AFTER DARK. CHECK WITH YOUR LOCAL LAW ENFORCEMENT AGENCIES FOR SPECIFIC REQUIREMENTS.

NEVER CARRY RIDERS.

NEVER CHECK CHAINS WHILE MACHINE IS RUNNING.

NEVER STAND BEHIND OR TO THE RIGHT SIDE OF THE MACHINE WHILE IT IS RUNNING.

ALWAYS ENGAGE PTO CLUTCH SLOWLY.

BEFORE ROADING OR TRANSPORTING THE MACHINE, MAKE CERTAIN THE SMV EMBLEM IS VISIBLE AND NOT COVERED

I M P O R T A N T !

FOR YOUR SAFETY, PARMA EQUIPMENT IS EQUIPPED WITH VARIOUS SAFETY DECALS. IF ANY OF THESE SHOULD BECOME LOST OR WORN, THEY SHOULD BE REPLACED. YOU CAN FIND THE DECAL AND THEIR RESPECTIVE PART NUMBERS FOR ORDERING ON THE FOLLOWING PAGE.

CHECKLIST

PRE-DELIVERY

After the equipment has been completely assembled and lubricated, inspect it thoroughly to be certain it is operating properly before delivering it to 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 completely assembled according to assembly instructions.

_____ Check all bolts, nuts and bearing lock collars to be sure they are tight.

_____ Inspect and if necessary, lubricate all lubrication points; make sure all fittings are taking grease.

_____ Check all moving parts for smooth operation.

_____ Check to see that roller chain is properly tensioned, and that sprockets are in alignment.

MAKE SURE ALL SAFETY SHIELDS ARE IN PLACE.

DELIVERY

_____ Complete Delivery and Warranty Registration forms, listing serial number of machine.

_____ Have dealer and customer sign form. Explain Warranty on back of Title page.

_____ Show the customer how to operate the machine.

_____ Explain adjustments.

_____ Explain the importance of proper lubrication.

_____ 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 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. Check local governmental regulations.

EMPHASIZE AND EXPLAIN THE IMPORTANCE OF SAFETY PRECAUTIONS.

BEFORE EACH SEASON

_____ Check tension of chain.

_____ Check all adjustable components for correct setting.

_____ Perform complete lubrication of machine.

_____ With equipment operating in a stationary position, observe operation of moving parts. Watch for any signs of faulty operation, overheated bearings, and listen for unusual sounds.

_____ Perform Daily Checklist.

ALWAYS KEEP HANDS, FEET AND CLOTHING AWAY FROM MOVING PARTS.

DAILY CHECKLIST

_____ Remove all debris or wire from shafts and other parts of the machine.

_____ Lubricate all lubrication points.

_____ Check tension and alignment of drive chain.

_____ Look for loose or missing bolts or parts.

_____ Check for any undue or excessive wear of parts.

_____ Read safety precautions.

_____ Read operating instructions.

_____ Run machine while looking it over; check for interference or improper adjustment.

NEVER ADJUST OR REPAIR MACHINE WITH TRACTOR ENGINE RUNNING.

SECTION II

SETUP AND
POP RELEASE FIELD INSTRUCTIONS FROM SKF

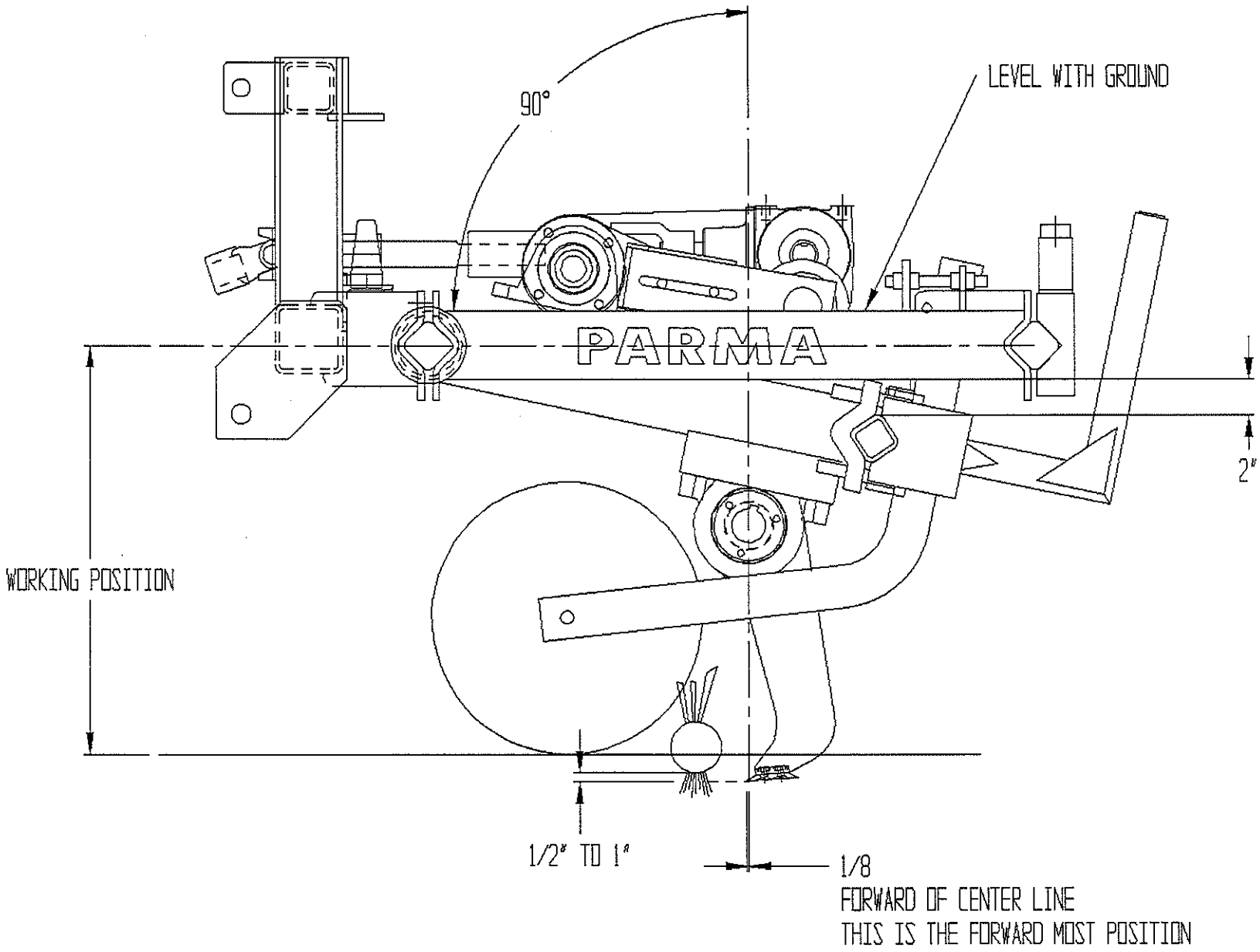
UNDERCUTTER FIELD SETUP

The attached sketch shows the field set up information for undercutters.

1. **SUGGESTED BLADE SETTINGS.** Attach the undercutter to the tractor and set the hitch height so that the frame is level with the ground and the blade is in the cutting position, as shown. Use a square or plumb line to determine the point straight down from the center of the pivot shaft on which the blade arms mount. Set the stroke on the blade so that the forward most position is even with the plumb line or center line. This can be done by loosening the bolts through the slot on the cam arm, setting the blade position, and re-torquing the bolts to 70 ft lbs. This is necessary to avoid having the blade either back too far, which causes it to drag, or having it too far forward which causes it to float and put undo pressure on the machine.

2. **FRAME FLOATING ADJUSTMENT.** In different conditions the floating action of the frame may or may not be beneficial. If you do not need this floating feature, simply tighten the lock-nuts on the slotted bars between the float and main frame so that the frame cannot float up and down. If the floating action feature is preferred, leave these nuts loose enough so that the frame can move easily.

3. **GAUGE WHEEL SETTING.** The gauge wheels should be raised or lowered to achieve the desired cutting depth. Tractor weight may be added to the floating frame if more down pressure is needed.


90°
LEVEL WITH GROUND
PARMA
2"
WORKING POSITION
1/2" TO 1"
1/8
FORWARD OF CENTER LINE
THIS IS THE FORWARD MOST POSITION

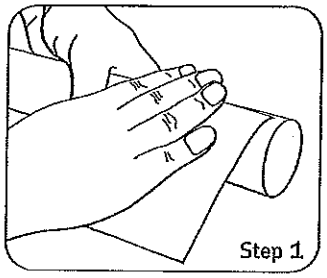
SKF

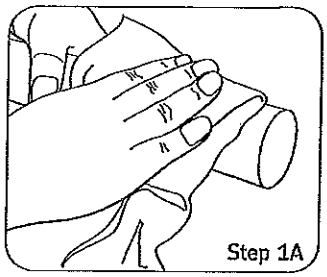
610-802 May 2008

Mounting Instructions for ConCentra Roller Bearing Unit

Read all instructions carefully before mounting or dismounting. In the following instructions, provision has been made to achieve a tight interference fit on the shaft using commercial grade shafting.

Note: This is a unit assembly. Do not attempt to remove the bearing from the assembly prior to installation. One side of the bearing has a collar marked "MOUNTING" and one side marked "DISMOUNTING". Do not tighten any mounting screws. Do not remove the plastic protection plugs from the dismounting collar.


Step 1


Step 1A

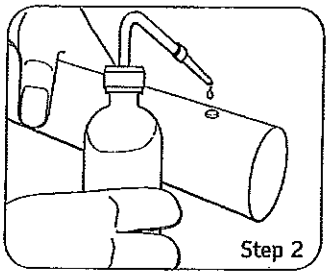
Mounting Instructions

Steps 1 & 1A) Remove any burrs on the shaft with emery cloth or a fine file, wipe clean with a cloth and check shaft diameter. See chart for recommended tolerances.

Recommended Shaft Tolerances

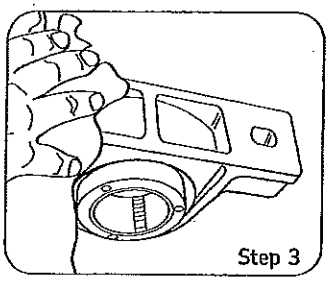
Shaft Diameter	Tolerance
Up to 1½"	+0.000 to -0.003"
1 11/16" to 2½"	+0.000 to -0.004"
2 11/16" to 4"	+0.000 to -0.005"
Up to 35 mm	+0 to -76 µm
40 mm to 65 mm	+0 to -101 µm
70 mm to 100 mm	+0 to -125 µm

Note: tolerances shown are typically found on cold finished carbon steel bar, cold drawn or turned and polished shafts per ASTM A29 specification.


Step 2

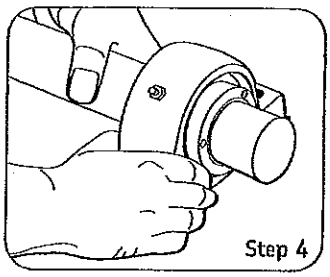
Step 2) Lubricate the shaft with light oil.

Step 3) Clean the base of the assembly and support surface on which it rests. Be sure the supporting surface is flat. If the unit elevation must be adjusted by shims, the shims MUST extend the full length and width of the support surface.


Step 3

Step 4) Slide the bearing assembly, with the "MOUNTING" side facing outward, on the shaft where the pillow block is to be secured. Leave 1½" minimum axial spacing to allow for insertion of an allen wrench in the dismounting side set screws. Bolt the assembly securely to the support.

Note: The mounting side of the bearing is the side which does not have the plastic protection plugs inserted in the set screw holes and is marked "MOUNTING".


Step 4

Step 5) The "free" bearing must be centered in the housing to allow for axial shaft expansion. Move the bearing axially in the housing in both directions as far as it will go and determine the centered position. It will be necessary to relieve the bearing load while moving the assembly.

Note: The free bearing has no exposed snap ring and has no "H" in the designation suffix.

Step 6) Count the number of set screws on the "MOUNTING" side collar and see diagram 6 for the proper tightening pattern.

Caution: Tighten screws in the appropriate number pattern shown to prevent cocking of the inner ring and sleeve, which can result in the bearing eventually working its way loose of the shaft.

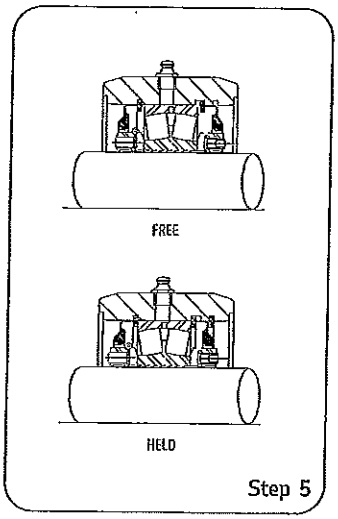
Step 7) Tighten the mounting screws located in the "MOUNTING" side collar a total of ½ turn by alternately tightening in two increments (¼ turn and ¼ turn).

Step 8) Lastly tighten each set screw, starting with the screw opposite the split in the sleeve, until the long end of the supplied allen wrench comes in contact with supplied torque indicator or to the recommended torque value shown in the table below (which represents approximately ¾" deflection of the allen wrench under finger pressure).

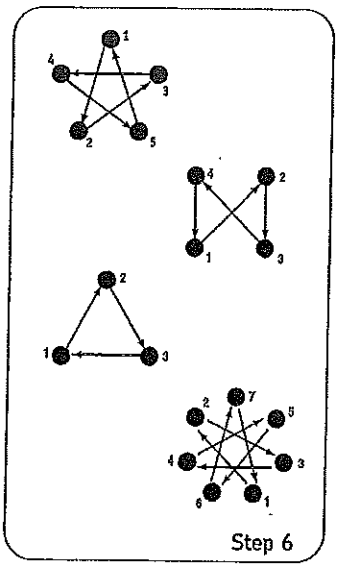
Do not use auxiliary equipment such as a hammer or pipe in tightening the screws.

Recommended Torque Values

Shaft size	Screw size	Recommended torque
40 mm to 75 mm	M6	7.4 Nm
1 7/16" to 4"	M6	(66 in-lbs)



Step 5



Step 6

Dismounting Instructions

For assemblies with access to "DISMOUNTING" collar

Step 1) It may be necessary to clean the shaft extension with emery cloth to remove rust or repair surface damage.

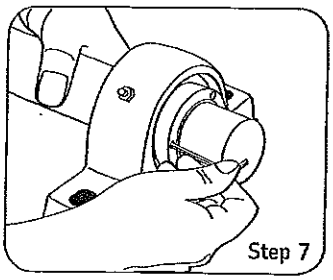
Step 2) Re-tighten the "MOUNTING" side set screws per step 6, 7, 8 above.

Step 3) Loosen the "MOUNTING" side set screws 1 to 2 full turns.

Step 4) Using a screw driver or other suitable tool, remove and discard the 2 plastic protection plugs from "DISMOUNTING" collar.

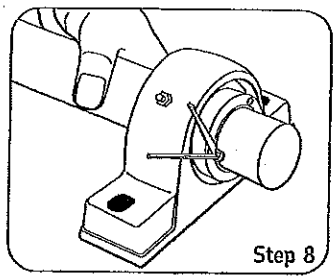
Step 5) Alternately tighten the "DISMOUNTING" screws in ¼ turn increments until the bearing is released from shaft. Often, a distinctive "pop" is heard or felt, indicating release. If shaft is damaged or fretting corrosion has occurred it will not "pop".

Step 6) Loosen the "DISMOUNTING" set screws, unbolt the unit from the support structure and remove the complete assembly from the shaft.
Caution: If the bearing unit will not slip off the shaft during removal, do not continue to further tighten the "DISMOUNTing" set screws. This may tend to reverse tighten the bearing to the shaft. In the unlikely event that reverse tightening occurs, loosen the "dismounting" screws and retighten the screws on the "mounting" collar side following instructions. Repeat the dismounting procedure Steps 3 through 6 or see dismounting instructions "For assemblies with no access to 'DISMOUNTING' collar instructions" below.


Step 7

For assemblies with no access to "dismounting" collar.

Follow **steps 1, 2 and 3** above and lightly impact the "MOUNTING" collar side of the shaft until the bearing releases from shaft. Remove assembly from the shaft.

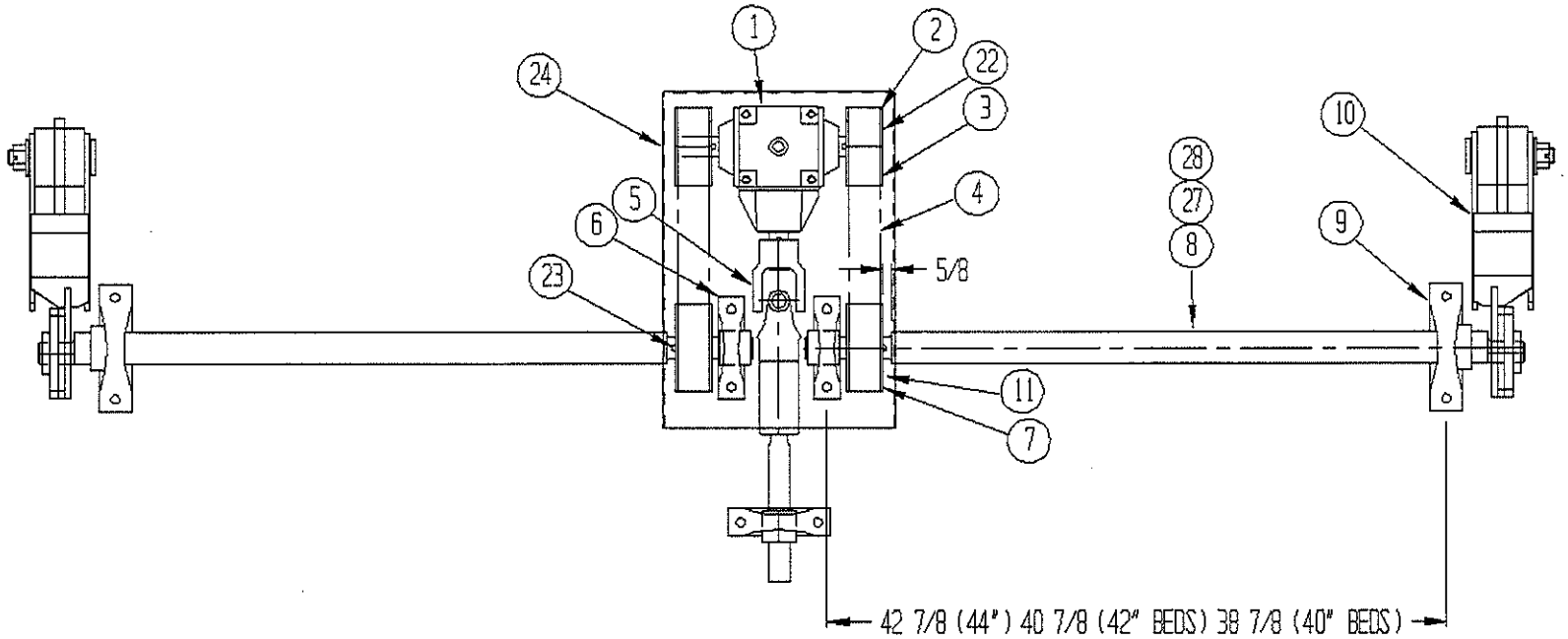

Step 8

SECTION III

PARTS

DRIVE, ARM, & BLADE ASSEMBLY 4 BED

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	314176	GEARBX, SUPERIOR 500, STY.C 1:1 RATIO
2	2	893054	SHEAVES 3B5.4
3	2	980427	BUSHING SD 1 3/8
4	2	------	POWER BAND 3B44
5	1	314155	U-JOINT ASSEMBLY
6	3	980026	PILLOW BLOCK BEARING 1 1/2
7	2	893060	SHEAVE 3B6.0SD
8	2	314078	DRIVE SHAFT, 44
9	2	980030	PILLOW BLOCK BEARING, 2 3/16
10	2	314079	CAM ARM ASSEMBLY
11	2	980429	BUSHING SD 1 1/2
13	8	------	KEY 1/2 SQ. X 2 1/2
14	6	314217	BEARING, 1 15/16", SKF SYR 1-15/16N-118
15	2	314066	BLADE ARM, RH
16	4	314089	BLADE (44" BEDS)
17	2	314072	PIVOT SHAFT
18	2	314070	BLADE ARM, CENTER
19	2	314065	BLADE ARM, LH (SEE 314066)
20	1	314218	PTO DRIVE LINE, (320002 W/ 1000 YOKE)
21	1	314142	PTO SHAFT
22	3	------	KEY 5/16 X 2
23	2	------	KEY 3/8 X 2 1/2
24	1	314221	GEARBOX COVER, WELD
25	OPT	314230	BLADE (42" BEDS)
26	OPT	314225	BLADE (40" BEDS)
27	OPT	314229	DRIVE SHAFT (42" BEDS)
28	OPT	314226	DRIVE SHAFT (40" BEDS)
29	OPT	999253	GEARBOX (OPTIONAL HUB CITY 88)
30	6	314231	BEARING SHIM


1
2
22
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5/8
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27
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10
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11
7
42 7/8 (44") 40 7/8 (42" BEDS) 38 7/8 (40" BEDS)

FRONT VIEW
43 (44") 41 (42") 39 (40")
43 (44") 41 (42") 39 (40")
41 3/8 (44") 39 3/8 (42") 37 3/8 (40")
37 (44") 35 (42") 33 (40")
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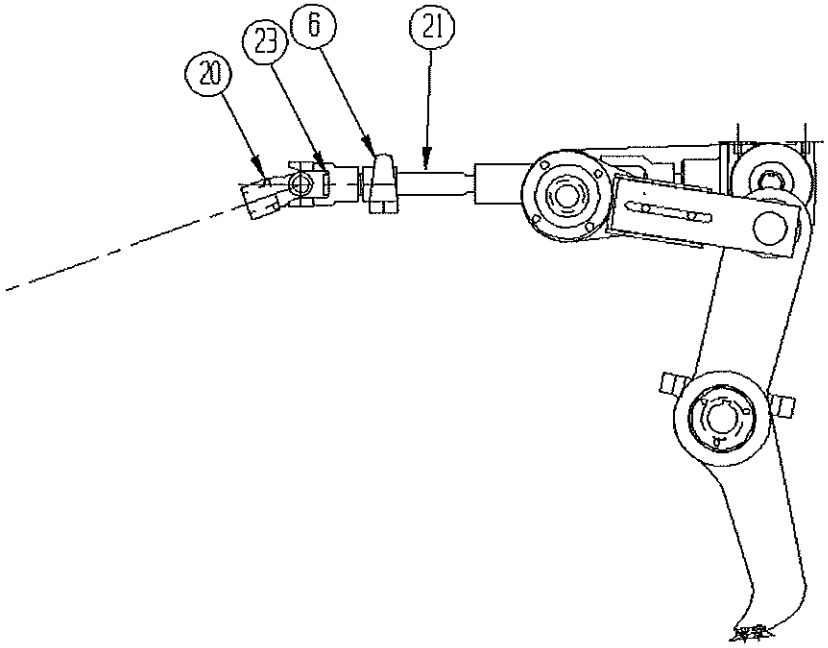
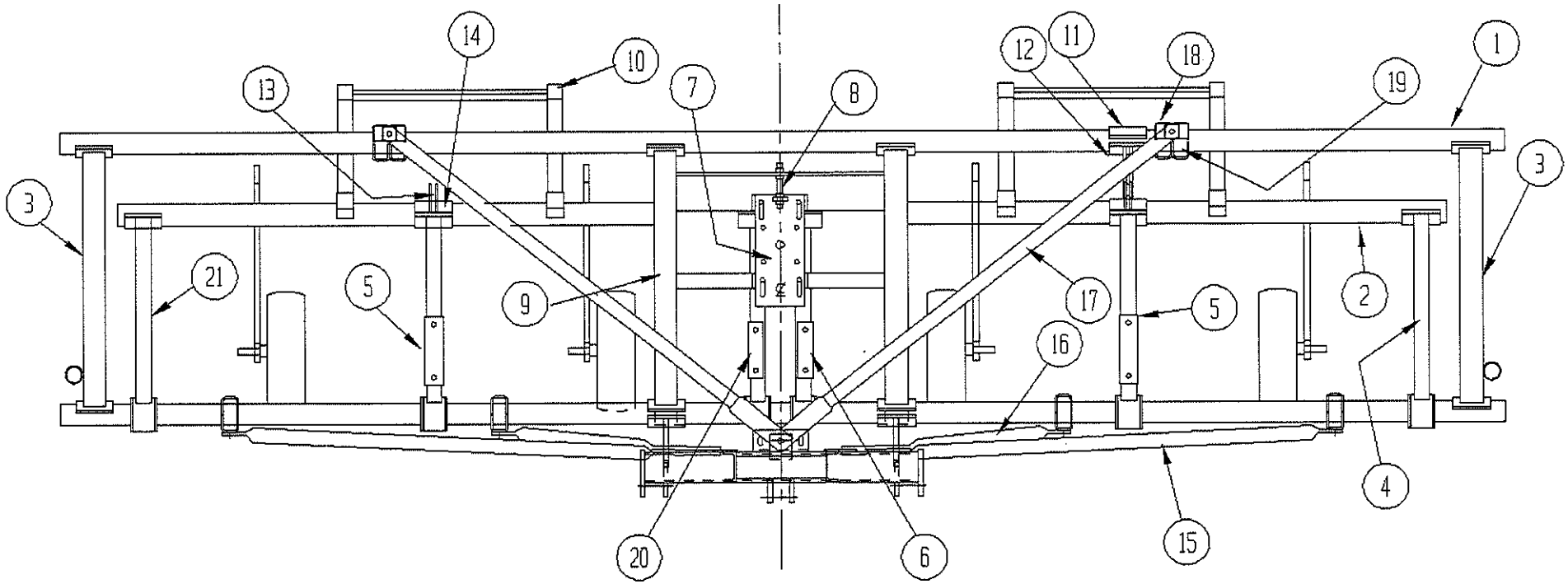


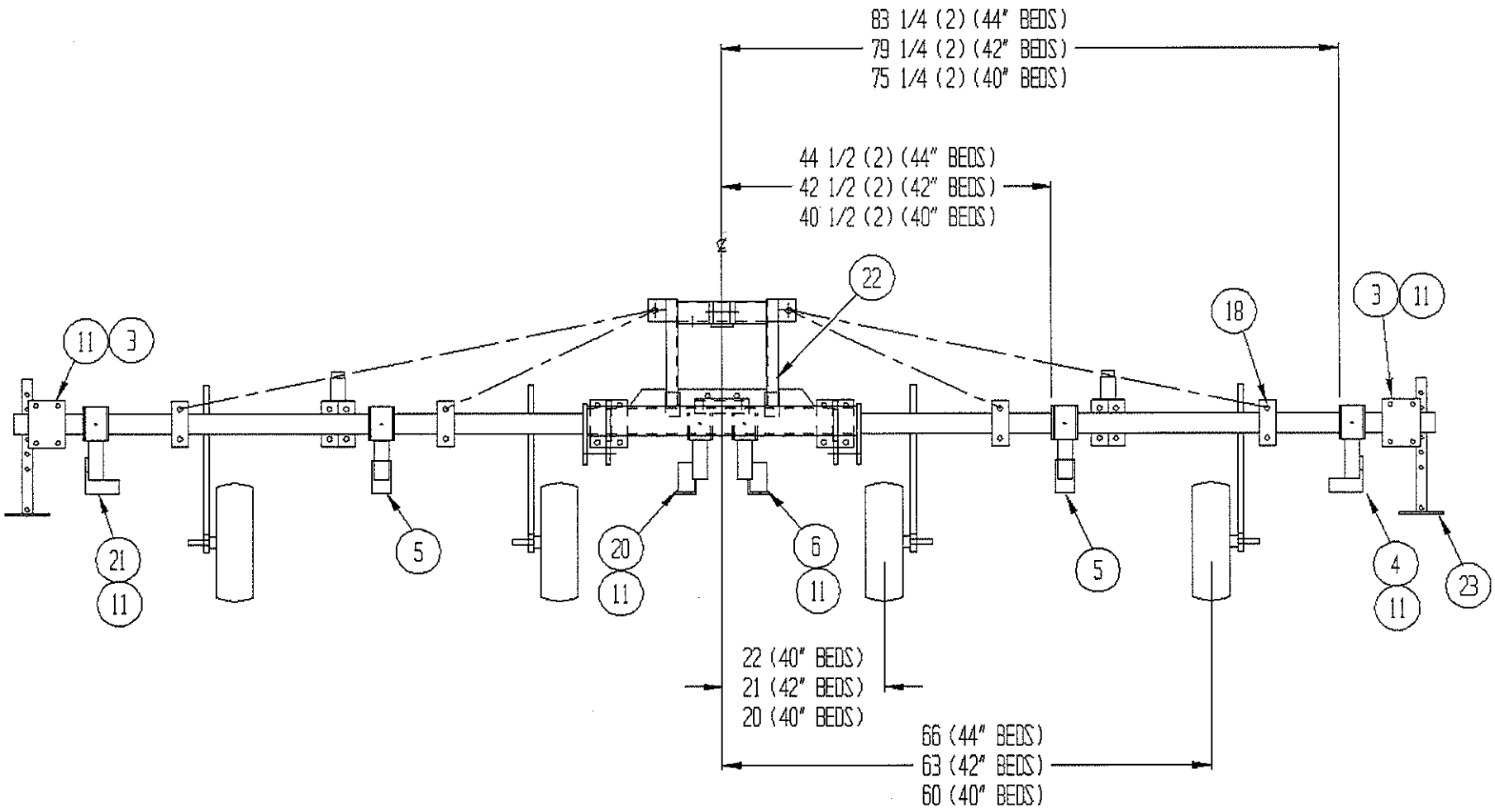
SIDE VIEW

TOOL BAR, HITCH, STANCHION ASSEMBLY

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	2	314088	TOOL BAR, MAIN
2	2	314087	TOOL BAR, KNIFE ARM
3	2	314181	OUTSIDE SPREADER TUBE, WELD
4	1	314175	OUTER STANCHION, LH (SEE 314174)
5	2	314171	MIDDLE STANCHION
6	1	314166	INNER STANCHION, LH
7	1	314137	GEARBOX PLATE, WELD
8	1	314141	ADJUSTING ROD
9	1	314133	CENTER SPREADER, WELD
10	2	314193	WEIGHT BAR
11	10	340006	HALF CLAMP
12	2	314193	WEIGHT BAR
13	2	314179	TRAVEL STOP
14	2	314177	STOP BRACKET, FRONT
15	2	314093	PIPE BRACE, FRONT LONG
16	2	314092	PIPE BRACE, FRONT SHORT
17	2	314091	PIPE BRACE, REAR
18	2	314165	BRACE SUPPORT
19	12	330164	TOOL BAR CLAMP
20	1	314167	INNER STANCHION, RH (SEE 314166)
21	1	314174	OUTER STANCHION, RH
22	1	314090	HITCH, WELD
23	2	314210	STAND
24	OPT	314138	GEARBOX PLATE WELD (OPTIONAL H.C. 88)
25	OPT	314253	GUAGE WHEEL ASSEMBLY (4 RECOMMENDED)
26	18	------	LOCKNUT, NYLON INSERT: 1/2-13 UNC
27	48	------	LOCKNUT, NYLON INSERT: 5/8-11 UNC
28	40	------	LOCKNUT, NYLON INSERT: 3/4-10 UNC
29	---	------	------



TOP VIEW


83 1/4 (2) (44" BEDS)
79 1/4 (2) (42" BEDS)
75 1/4 (2) (40" BEDS)
44 1/2 (2) (44" BEDS)
42 1/2 (2) (42" BEDS)
40 1/2 (2) (40" BEDS)
22 (40" BEDS)
21 (42" BEDS)
20 (40" BEDS)
66 (44" BEDS)
63 (42" BEDS)
60 (40" BEDS)
22
18
3
11
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5
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6
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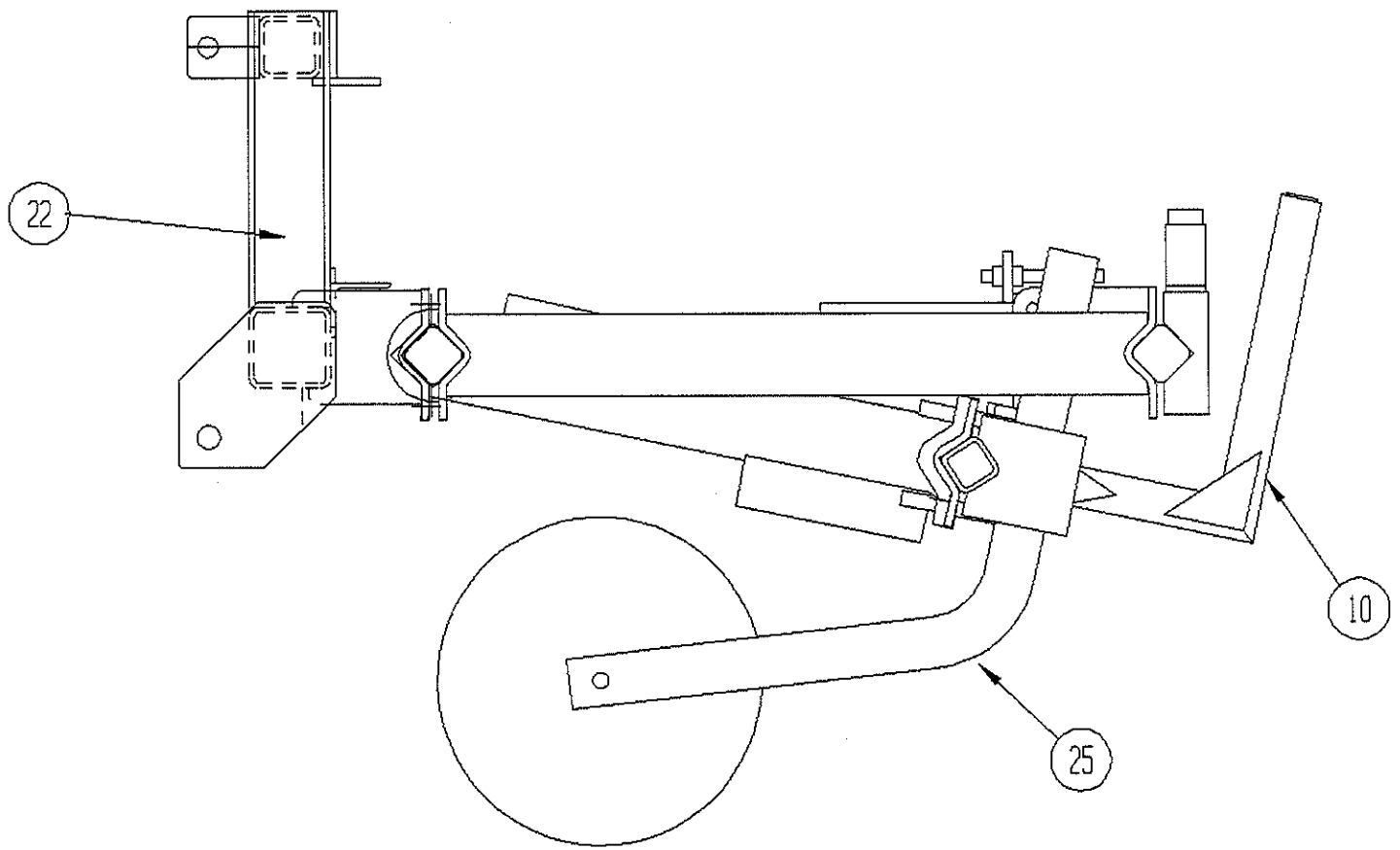
23

FRONT VIEW



RIGHT VIEW