

OPERATOR'S MANUAL
17-7 FORAGE BOX
OPERATOR'S MANUAL
SERVICE PARTS LIST



SERIAL NO: HEAD _____

Purchased From: _____

BED _____

Purchase Date: _____

Catalog No. 5035-B Revised 5-01-87
Printed in USA

DO NOT OPERATE THIS UNIT UNLESS YOU HAVE READ AND FULLY UNDERSTAND
ALL SAFETY AND OPERATING SECTIONS OF THIS MANUAL.

KNIGHT MANUFACTURING CORPORATION
P.O. Box 167 * 1501 W. 7th Ave. * Brodhead, Wi., 53520 *CABLE: KNIGHT
Phone: Main Office (608) 897-2131 * Parts Dept. (608) 897-2125

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SPECIFICATIONS

	17-7	20-7
Overall Width.....	107-3/8"	107-3/8"
Overall Length.....	229"	260"
Overall Height.....	91-1/2" (Floor To Roof)	91-1/2"
Box Width Inside.....	82"	82"
Box Length Inside.....	182"	213"
Height of Steel Sides.....	33"	33"
Box Apron Chain.....	4 - #67 Pintle Chains	
Length of Cross Feed Head Inside.....	85-1/2"	85-1/2"
Width of Cross Feed Head Inside.....	24"	24"
Discharge Length from Box.....	15"	15"
Conveyor Chain.....	2 - #62 Pintle Chains	

OPTIONAL ATTACHMENTS:

Extension Tray * Chamber Gate * Extension Power Chute
 44" Top Racks * Roof
 17-7 ONLY: Hydraulic Power Drive Kit

USING THIS MANUAL

We appreciate your business. You have purchased one of the best built, most reliable FORAGE BOXES available. We at Knight Mfg. Corp. strive to provide you with a rugged, simple to maintain unit.

This manual has been designed to help you become familiar with your unit from the complete assembly to the individual parts breakdown. Before you operate your unit, be sure you understand and follow all the operation, lubrication, and safety instructions on the following pages and throughout this manual. These have been written for your safety and convenience, and to keep your unit running trouble-free for many years.

This Operator's Manual uses a number indentation system to specify the parts of an assembly. Any number indented to the right, indicates that it is a component of the item to the left. Example:

```
xxx-xxx  Assembly A
  xxx-xxx  Sub-Assembly A
    (Component of Assembly A)
      xxx-xxx  Component of
        Sub-Assembly A
        xxx-xxx  Component of
          Sub-Assembly A
          xxx-xxx  Sub-Assembly B
            (Component of Assembly A)
```

Using this system, Both sub-assemblies are included if Assembly A is ordered, and both components are included if Sub-Assembly A is ordered.

Be sure to order by the Knight six-digit part number, and not the figure key reference number.

Determine RH & LH by standing behind your unit facing the way the unit travels.

SERIAL NUMBER decal on the chamber head is located on the front right-hand side panel, in the upper right-hand corner. For the bed, it is on the front RH side of the bed, on the back of the cross bar below the 50:1 gearcase.

This is your number to give service personnel.

If you cannot find the part you need, be as descriptive as possible.

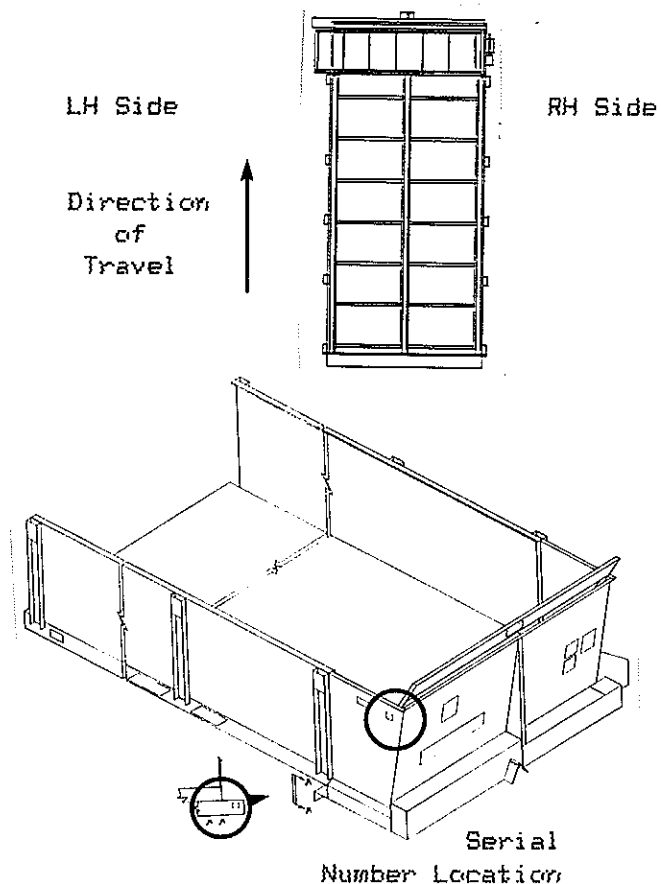
For sprockets, give the bore size, number and size of teeth, size of keyway.

For roller chain, give the size of chain & number of pitches.

For shafting, give the diameter and length, number and size of keyways.

Hardware, unless stated, is not included with parts. If you need any hardware, check the part number, then check the hardware list that is near the end of this manual for the size and length. All hex head bolts up to and including 7/16" diameter are grade 5 unless otherwise specified.

The illustrations used in this manual may not necessarily show the exact shape and relative sizes of parts used on your unit. These drawings are meant to be used only as a guide in identifying a part and locating its relative position.



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SAFETY FIRST



This Safety Alert Symbol is used in this manual whenever personal safety is involved. TAKE TIME TO BE CAREFUL!

Any operator of machinery must constantly remain aware of the possible hazardous areas that exist when a machine is in operation.

Knight Mfg. Corp. attempts to protect the operator by shielding him from otherwise exposed moving parts. However, it may be impossible to shield some working areas of a machine due to the function being performed. Exercise caution and use common sense at all times during the operation of any machine.

Remember: The careful operator is the best operator. Accidents are caused mainly by human error. Take the time to be careful.

Certain precautions must be observed to prevent the possibility of injury or damage. Regardless of your previous experience, please read the information listed below and on the following pages before operating your equipment.

Additional Manuals may be obtained thru your dealer or by writing:

Knight Mfg. Corp.
P.O. Box 167
Brodhead, Wi. 53520.
Order Catalog #5035-B.

Before each use, check the following:

1. Remove any foreign objects in the chamber head or main bed area.
2. Check the condition of running gear as per manufacturers specifications.
3. Be sure the Tractor PTO master shield is on.
4. Be sure the PTO Driveline shields turn & slide freely.
5. Be sure the Beater Gearcase Shield is on. (100997 Pg 13 #23)
6. Be sure the 2-Speed Gearcase Shield is on. (130744 Pg 13 #32)
7. Be sure the RH Front Drive Shield are on. (RH 101560 Pg 15 #64)
8. Be sure the LH Front Drive Shield is on. (LH 100886 Pg 17 #80)
9. Be sure the Rear Apron Shield is on. (132204 Pg 21 #9)
10. Be sure the Beater Mesh Shields are on. (130783 Pg 17 #100)
11. Be sure the Emergency Disengaging Panel moves freely, and the trip chain moves freely. (100887 Pg 15 #56)

SAFETY BEFORE OPERATING

Read this manual to familiarize yourself with the safe operation and service of this unit.

Read all Decals to familiarize yourself with the safe operation of this unit.

Be Sure you understand how the FORAGE BOX operates. Do Not continue unless you are sure. Contact your dealer or Knight Mfg. Corp.

Do Not wear loose or floppy clothing.

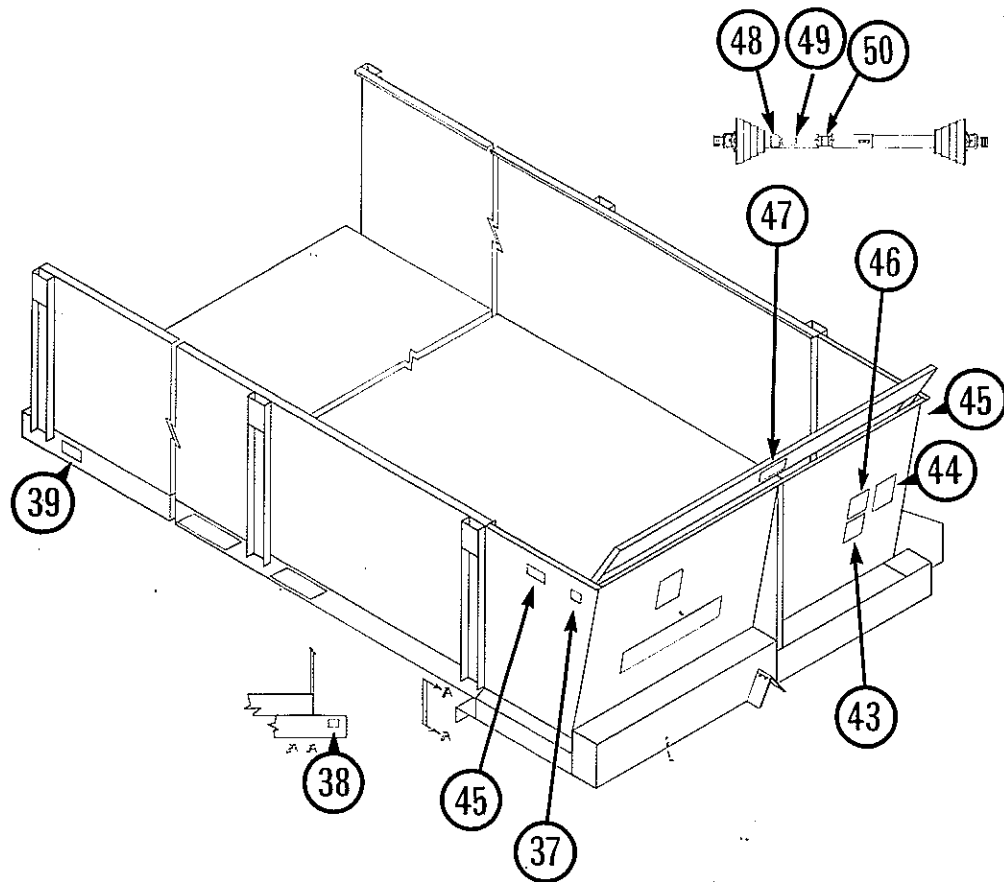
Do Not allow any unqualified persons and any children near this unit.

Be Sure the tractor drawbar is adjusted correctly. See page 9.

Be Sure the tractor you use equipped with 540 RPM. USE ONLY 540 RPM

SAFETY FIRST

DECAL LOCATION ILLUSTRATION



REFER TO PAGE 6 FOR DECAL ILLUSTRATIONS

Ref	Part No.	Description & Location
38	-----	Serial Number Label for Forage Box Bed
39	-----	Serial Number Label for Forage Box Head
43	170-850	Caution: General Operating Rules 1 Req on Front of Head
44	170-935	Caution: Shear Pin Replacement Procedure 1 Req on Front of Head
45	170-849	Warning: Stay Clear . . . 1 Req RH & LH Side of Head
46	170-350	Caution: Unloading Instructions 1 Req on Front of Head
47	170-934	Caution: Emergency Stop . . 1 Req on Disengaging Panel
48	171-550	Danger: Rotating Driveline 1 Req on Impl Driveline
49	171-599	Caution: Do Not Exceed 540 RPM 1 Req on Impl Driveline
50	171-799	Danger: Shield Missing . . . 1 Req on Impl Driveline

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SAFETY FIRST



INFORMATION, WARNING, CAUTION, DANGER DECALS

INFORMATION is used as a reminder of operating procedures. White lettering on a clear background, or black lettering on a white background.

CAUTION is used to direct attention to unsafe practices. Black lettering on a yellow background.

WARNING denotes a specific potential hazard. Black lettering on a yellow background.

DANGER denotes a most serious specific potential hazard. Red lettering on a white background.

IF YOU DO NOT UNDERSTAND THE MEANING OF ANY DECAL, DO NOT OPERATE THIS UNIT. CONTACT YOUR DEALER OR KNIGHT MFG CORP FOR ASSISTANCE!

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CAUTION

1. READ OPERATORS MANUAL CAREFULLY BEFORE OPERATING MACHINE.
2. DISCONNECT POWER BEFORE SERVICING MACHINE.
3. KEEP ALL SHIELDS IN PLACE.
4. KEEP BODY AND CLOTHING AWAY FROM POWER-DRIVEN PARTS.
5. KEEP OFF MACHINE WHILE IT IS OPERATING.
6. KEEP ALL PERSONS WHO ARE NOT TRAINED IN THE OPERATION OF THIS MACHINE AWAY WHILE IT IS OPERATING.
7. WHEN WELDING ON MACHINE OR ANY PART GROUNDED TO THE MACHINE, DISCONNECT SCALE INDICATOR LEADS AND GROUND DIRECTLY TO THE PART BEING WELDED. DO NOT ALLOW WELDING CURRENT TO PASS THROUGH WEIGH BARS, BEARINGS, ROLLER CHAINS, ETC.

170-850

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KNIGHT

MODEL NO. SERIAL NO.

KNIGHT MFG. CORP.
BRODHEAD, WIS. USA

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IMPORTANT
Keep **EMERGENCY TRIP MECHANISM** free and functional.

SHEAR PIN REPLACEMENT INSTRUCTIONS

Emergency Shear Pin

1. Disconnect PTO
2. Remove shield
3. Rotate spline shaft till shear pin holes are aligned
4. Install new shear pin & replace shield

(Cross Conveyor Shear Pin)

1. Disengage beaters, shift apron to neutral
2. Disconnect PTO
3. Remove shield cap
4. Rotate sprocket till shear pin holes are aligned
5. Install new shear pin and replace shield cap

Apron & Beater Shear Pin

1. Disengage beater, shift apron to neutral
2. Disconnect P.T.O.
3. Remove shield
4. Rotate shear plate till shear pin holes are aligned
5. Install new shear pin and replace shield

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APRON TENSION ADJUST.

$\frac{3}{16}$ " GAP BETWEEN COILS (WIDTH OF A DIME)

170-868

WARNING

STAY CLEAR OF POWER DRIVEN PARTS DURING OPERATION

170-849

UNLOADING INSTRUCTIONS:

1. DISENGAGE BEATER CLUTCH
2. PLACE 2-SPEED LEVER IN NEUTRAL
3. ENGAGE PTO
4. WITH CROSS-FEED CLEAR ENGAGE BEATER CLUTCH
5. WITH BEATERS CLEAR PLACE 2-SPEED LEVER IN LOW

170-870

45

EMERGENCY STOP

PUSH BAR OR PULL CHAIN

170-874

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DANGER

ROTATING DRIVELINE
CONTACT CAN CAUSE DEATH
KEEP AWAY!

DO NOT OPERATE WITHOUT —

- ALL DRIVELINE, TRACTOR AND EQUIPMENT SHIELDS IN PLACE
- DRIVELINES SECURELY ATTACHED AT BOTH ENDS
- DRIVELINE SHIELDS THAT TURN FREELY ON DRIVELINE

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DANGER

SHIELD MISSING DO NOT OPERATE

DANGER

SHIELD MISSING DO NOT OPERATE

DANGER

48

50

47

CAUTION

DO NOT EXCEED 540 RPM PTO SPEED

171-899

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SAFETY FIRST



SAFETY WHILE OPERATING

DO NOT service, repair, or clean the FORAGE BOX without first disengaging the tractor PTO, shutting off the engine, and allowing all mechanisms to stop.

Keep all unqualified persons away from the Forage Box at all times.

DO NOT allow persons near, on, or in the forage box when the tractor engine is running.

WEAR A PROTECTIVE HEARING DEVICE if the noise level is uncomfortable.

DO NOT leave the Forage Box unattended while it is operating.

ENGAGE the PTO slowly. Do not brake the PTO when disengaging.

DISENGAGE the PTO immediately upon unloading.

DISENGAGE the PTO before leaving the tractor platform.

SAFETY WHILE TRANSPORTING



DO NOT allow anyone on the FORAGE BOX while it is moving.

BE SURE the hitch pin is secured with a retainer. A safety chain is recommended.

DO NOT operate the FORAGE BOX when making sharp turns or crossing gulleys.

WHEN WORKING ON SLOPES OR INCLINES, travel uphill or downhill. Keep the tractor transmission in gear when going downhill.

DO NOT EXCEED 20 MPH when traveling over smooth areas and reduce speed when traveling over rough terrain, and/or with a loaded box.

AVOID GOING over loose fill, rocks, ditches and holes.

ALWAYS PARK the FORAGE BOX on level ground and block the tires.

WHEN ON THE HIGHWAYS, use a safety chain between the WAGON tongue and tractor. Use flashing warning lights on the tractor, and place an SMV emblem on the rear of the FORAGE BOX. Comply with all local government regulations.

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GENERAL INFORMATION

OPERATION AREAS

Your Knight 17-7 Forage Box has two main bed apron chains that move the contents towards the front. This apron has two speeds, controlled with the bottom lever on the front of the chamber head.

- LOW speed is when the lever is in the up or top position.
NEUTRAL in the center position.
HIGH speed is in the down or bottom position.
[See figure #1]

The three auger beaters are engaged with the UPPER lever, and the beaters are engaged when the lever is in the up or out position. It is important to engage the beaters before the main bed apron when unloading.
[See figure #1]

This Forage Box is also equipped with a safety trip panel and chain. By pushing on the panel, or pulling on the chain, you will immediately stop all mechanisms on the Forage Box EXCEPT the PTO Implement Driveline.
[See figure #2]

Your Knight Forage Box is equipped with four shear pin locations:

1. LH Front Corner Shear Sprocket for the Discharge Apron (3/16" dia).
2. RH Front Corner Shear Sprocket for the Bed Apron Drive. (1/4" dia).
3. Front Counter Spline Shaft for all functions of the forage box. (5/16" dia).
4. RH Side on 50:1 Gearcase for Main Bed Apron. (3/16" dia).

When Transporting or Storing your Forage Box, the PTO Implement Driveline should be placed on the PTO Hanger Chain located on the front RH corner.

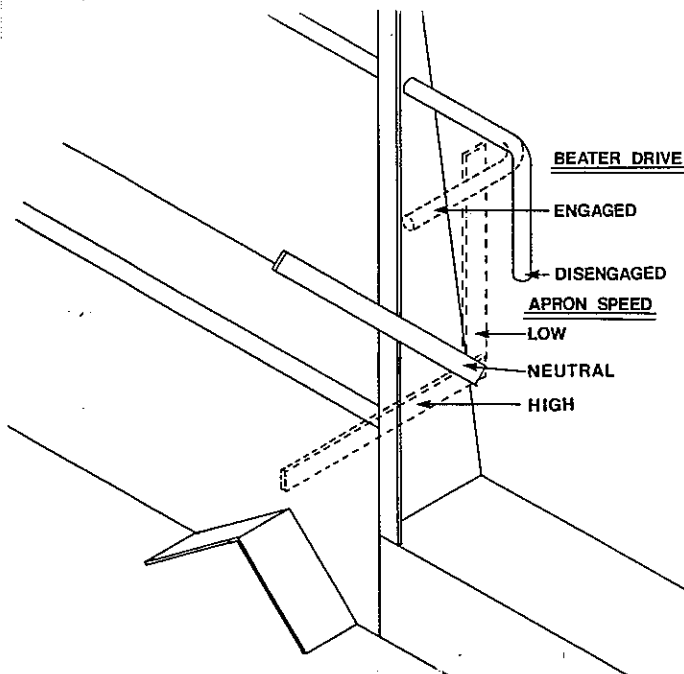


Figure #1

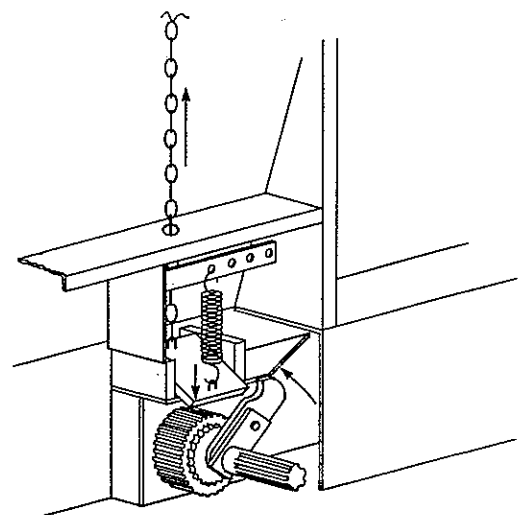


Figure #2

OPERATION

The approximate cubic foot capacity of the Model 17-7 is 796 cu. ft.
The following are approximate weights for materials hauled in your Forage Box:

DO NOT OVERLOAD YOUR WAGON CAPACITY

Fresh Cut Silage.....25 lbs/cu. ft
Stored Silage.....35 lbs/cu. ft
Fresh Cut Haylage....18 lbs/cu. ft
Dry Haylage.....12 lbs/cu. ft
Ground Ear Corn.....45 lbs/cu. ft

Be sure only qualified operators are near this unit.

Follow all safety precautions.



Use common sense.

Check the unit to be sure all shields are in place.

Check the PTO Implement Driveline to be sure the shields turn & slide freely, and be sure the Driveline yoke is locked in place.

Place apron in the neutral (center position).

Place the beaters in neutral (down position).

If a chamber gate is used, remove it.

If a discharge chute is used, lower it.

Attach the PTO Driveline to the tractor.

Engage the tractor PTO.

Engage the beaters (up position).

Wait for the chamber to empty out.

Engage the main box apron in low speed.

When contents are near empty, switch to high speed.

Disengage Beaters.

Disengage Apron.

Stop Tractor Engine.

Remove PTO driveline and place it in the holding chain provided.

Inspect the unit and correct any needed repairs or adjustments.

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MAINTENANCE

LUBRICATION INSTRUCTIONS



BE SURE ALL MECHANISMS HAVE STOPPED BEFORE LUBRICATING
PRACTICE ALL STANDARD SHOP SAFETY PROCEDURES

It is extremely important that the following lubrication guide be followed. For lubricating bearings, use a good quality multi-purpose grease. Pump the grease in slowly until a slight bead forms around the bearing seals. Roller chains should be lubricated with engine oil, or a spray-on chain lubricant. Before operating the Forage Box, the roller chains should be liberally lubricated and then the Forage Box operated under a no-load condition. This break-in period will allow the roller chains to be thoroughly lubricated and thus minimize heat-up during operation.

<u>Areas of Lubrication</u>		<u>Interval</u>	<u>Lubricant</u>
50:1 Gearcase	Keep Filled to Plug Level	Yearly	Multi-
Beater Gearcase	Keep Filled to Plug Level	Yearly	Viscosity
2-Speed Gearcase	Keep Filled to Plug Level	Yearly	Lube (85W140)
Sprockets:			
Main Bed Idler	(4) Rear of Bed	Daily*	Oil
Chamber Bed Idler	(2) Front RH Side	Daily*	Oil
Shear Pin	(2) Front RH & LH Side	Weekly	Grease
Btr Case Clutch	(1) RH Side	Weekly	Grease
Bearings:			
Bed Apron Idler	(3) Rear of Bed	Weekly	Grease
Bed Apron Drive	(3) Front of Bed	Weekly	Grease
Chamber Bed Idler	(2) RH Side of Head	Weekly	Grease
Chamber Bed Drive	(2) LH Side of Head	Weekly	Grease
Front Counter	(1) Front Center	Weekly	Grease
Beater Bearing	(5) RH & LH Side	Weekly	Grease
2-Spd Input Shaft	(1) RH Side	Weekly	Grease
Btr Case Shaft	(1) RH Side	Weekly	Grease
Roller Chains:			
Beater Drive	(2) LH Side	Daily*	Oil
Chamber Drive	(1) RH Front	Daily*	Oil
Apron Drive	(1) LH Front	Daily*	Oil
2-Spd to Btr Case	(1) RH Side	Daily*	Oil
2-Spd to 50:1 Case	(1) RH Side	Daily*	Oil
PTO Driveline		Weekly	Grease
Btr Case Input Shaft	Clutch Area	Weekly	Oil

*If not daily, then before each use.

REPLACE ALL SHIELDS BEFORE OPERATION!

MAINTENANCE

ADJUSTING THE UNIT



ALWAYS STOP SPREADER BEFORE SERVICING, REPAIRING, OR CLEANING.
USE SAFE SHOP PROCEDURES AND EXERCISE CAUTION WHEN WORKING ON THIS
FORAGE BOX.

After a few hours of operation, check all bolts and set screws and retighten if necessary.

Adjust the tractor drawbar so it is 13" - 19" off the ground and 8" - 12" below the PTO shaft. Adjust the drawbar horizontally so that the tractor PTO shaft is 14" - 16" from the center of the hitch pin hole. The drawbar should be centered and locked in place. (Refer to illustration below)

ADJUSTMENT PROCEDURES:

- Main Bed Apron Chains: Maintain the gap between the coils of the tightener spring at 3/64". (Width of a dime)
- Chamber Apron Chains: Keep the bottom of the apron even with the bottom edge of the front & rear side plates of the chamber head.
- Roller Chains: Keep enough tension on the tighteners to keep the chain running smoothly.
- Keep the wood block carriers about 1/8" away from the chain. Their purpose is to keep the chain from slapping up & down.
- Beater Clutch Adjustment: Be sure the clutch fully disengages.
- Check & retighten all set screws in the locking collars after each use.
- Emergency Trip Parts: Be sure the trip chain has freedom of movement.
- Be sure the trip panel moves freely. Readjust the locking nuts on the panel if it is too tight.
- When welding on the unit: Do not allow current to flow thru the ball bearings or roller chains. Ground directly to the item being welded.



REPLACE ALL SHIELDS BEFORE OPERATING!



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TROUBLE SHOOTING GUIDE

<u>Problem</u>	<u>Cause</u>	<u>Solution</u>
Vibration of Driveline	Excessive Angle	Decrease to less than 22-1/2 degree operating angle
	Driveline Operating Beyond the Extended Operating Length	Compress length to 70-1/2" or less
Driveline Rotates But Nothing Operates	Shear Pin on Input Cluster is Sheared	Replace the Shear Pin Be sure the spring is attached to the chain & shear bar
Apron Engaged But No Movement	Shear Pin Sprocket on the RH Side is Sheared	Replace the Shear Pin
	Shear Pin Sprocket on the 50:1 Gearcase is Sheared	Replace the Shear Pin
	Apron Chain is Broke	Check for any foreign objects and remove them
Chamber Apron Engaged & Not Moving	Shear Pin Sprocket on the Left Hand Side is Sheared	Replace the Shear Pin
Beater Engaged But No Movement	Shear Pin On LH Side is Sheared	Replace the Shear Pin
		Check for and remove any foreign objects
		Be sure apron is in low speed
Beater Engaged, Gearcase Drive is Operational, But Beaters Not Turning	Bolt on Beater Coupler is Sheared	Clear out chamber before engaging apron Replace Coupler Bolt
Excessive Noise in Chamber Head	Apron is too loose	Tighten apron

BELT FLAPS * DECALS * PAINT

Belt Flaps

132-205	1	Rear Main Bed Belt; 1/8 x 4 x 81-1/2"	
		Mtg Bolts: 1/4 x 3/4 Bolt, FW & Nut	(10 each)
131-338	2	Front Main Bed Belt; 1/8 x 3 x 39"	
		Mtg Bolts: 1/4 x 3/4 Bolt & Nut	(5 ea belt)
130-763	1	Rear Chamber Belt: 1/8 x 3 x 80-3/4"	
		Mtg Bolts; 1/4 x 3/4 Bolt & Nut	(14 each)
131-778	1	End Chamber Belt: 1/8 x 3-1/2 x 23-3/4"	
		Mtg Bolts: 1/4 x 3/4 Bolt & Nut	(5 each)
131-777	1	Corner Chamber Belt: 1/8 x 3 x 3-1/2"	
		Mtg Bolts: 1/4 x 3/4 Bolt & Nut	(2 each)
132-174	1	Front Shield PTD Belt: 1/4 x 4-1/2 x 6"	
		Mtg Bolts: 1/4 x 3/4 Bolt & Nut	(2 each)

Decals

170-936	1	Set of Decals for 17-7 Chamber Head	
170-154	1	"KNIGHT"	
170-155	1	Knight Head	
170-350	1	Unloading Instructions	
170-935	1	Shear Pin Replacement Instructions	
170-850	1	Caution: General Safety	
170-934	1	Emergency Stop	
170-849	2	Beware of Power Driven Parts	
171-712	1	Oil Chain & Retighten Set Screws	
170-487	1	Set of Decals for 17-7 Bed	
170-868	2	Apron Tension	
170-154	2	"KNIGHT"	
170-352	2	17-7	

Paint

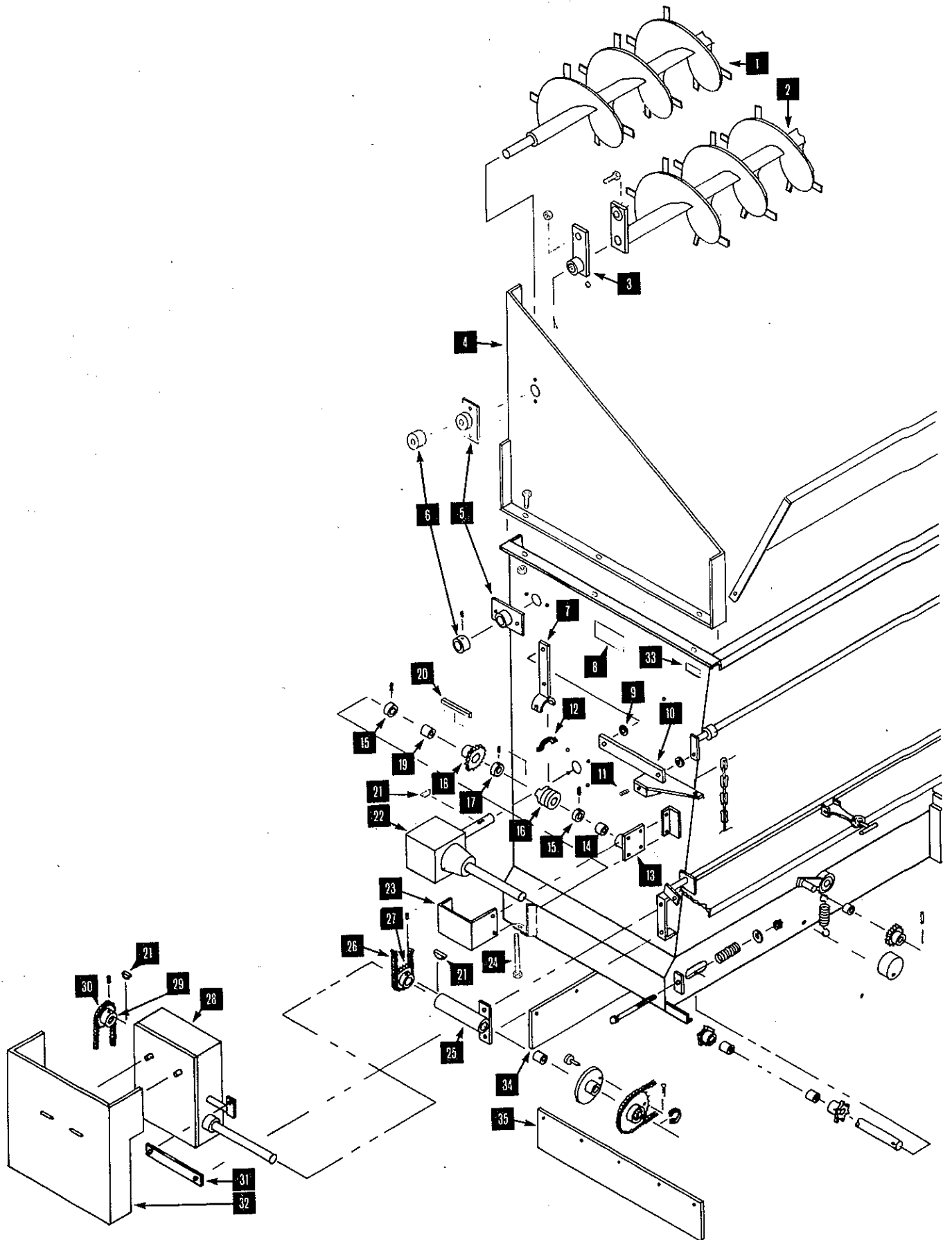
170-812	Yellow Quart Can
170-813	Yellow Gallon Can
170-814	Red Quart Can
170-815	Red Gallon Can

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RH SIDE ILLUSTRATION



CHAMBER HEAD * RH SIDE PARTS

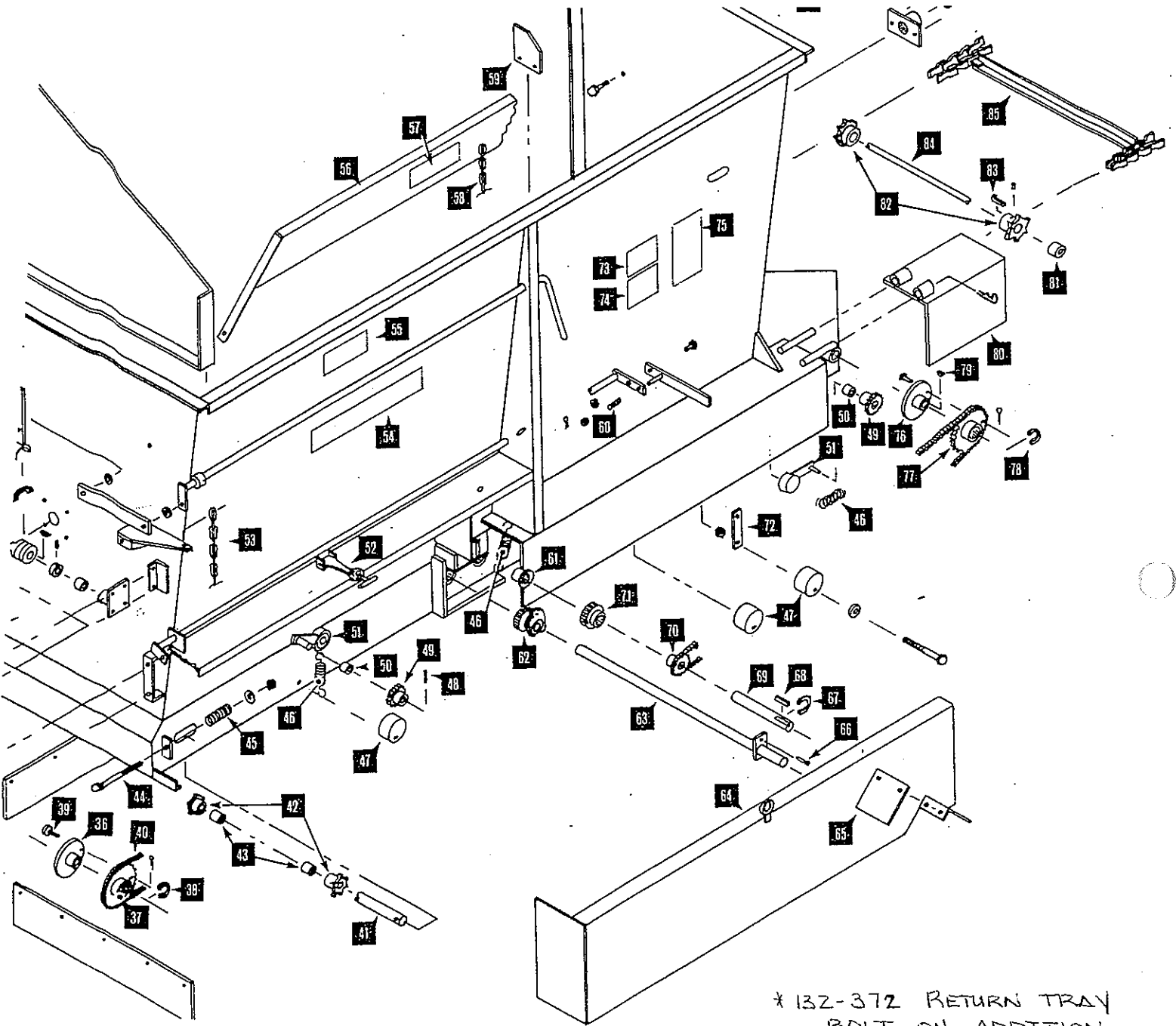
Ref	Part No.	Qty	Description
1	100-893	2	Beater Assy; 2nd & 3rd
2	100-892	1	Beater Assy; 1st
3	100-863	1	Beater Coupler Assy - Includes 3/8" set screws
	170-005	1	Bolt; 3/8 x 1-1/4
	170-047	1	Locknut; 3/8"
4	100-255	1	RH Beater Panel Assy - Mounts with 5/16 x 1 Bolt & Flange Locknut (3 each)
5	100-251	2	Bearing; Beater Assy - Includes 1/4" zerk - Mounts with 5/16 x 3/4 Bolt & Flange LN (2 ea. bearing)
	170-674	1	Bushing; 1-5/8 x 1-3/8 x 1 Bronze
6	130-129	2	Collar;
7	100-245	1	Clutch Handle Assy; Mtg Bolts; 170-257, 170-244, 170-047 (1 each)
8	170-849	1	Decal; Warning: Beware of Power . . .
9	171-393	2	Washer;
10	130-774	1	Bar; Beater Clutch Linkage 1/4 x 1 x 10" Mtg Bolts: 3/8 x 1-1/2 & LN (2 each)
11	170-238	1	Spring; Clutch Handle
12	170-611	1	Yoke; Beater Clutch Control
13	100-877	1	Bearing Assy; Btr Case Input Shaft Includes 170-023 Mtg Bolts; 5/16 x 3/4 bolt, lw, nut (2 each)
14	170-164	1	Bushing; 1-1/4 x 1 x 1-1/4 Bronze
15	130-394	2	Collar
16	170-606	1	Clutch Jaw
17	130-817	1	Collar
18	100-988	1	Sprocket; 50-B-24 Clutch; Includes 170-023 Zerk
19	170-241	1	Bushing; 1-1/4 x 1 x 1-1/8 Bronze
20	170-344	1	Key; 1/4 x 1/4 x 3-3/8
21	170-120	3	Key; Type A Woodruff
22	170-879	1	Beater Gearcase Assembly (Page 22)
23	100-997	1	Shield; Btr Gearcase Mtg. Bolts: 5/16 x 3/4 bolt & flange locknut (2 ea)
24	171-291	1	Torque Bolt; 3/8 x 6-1/2 Also need fw & ln (1 ea)
25	100-876	1	Bearing Assy; 2-speed input shaft - includes 1/4" zerk Mtg Bolts; 3/8 x 1 bolt, lw & n (2 each)
	170-164	1	Bushing; 1-1/4 x 1 x 1-1/4 Bronze
	170-243	1	Bushing; 1-1/4 x 1 x 3/4
26	171-027	1	Roller Chain; 50-1-57 p. Includes 170-088 Conn link and 170-096 offset link
27	130-234	1	Sprocket; 50-B-15 (1" Bore) 1/4" kw & 5/16" ss
28	100-902	1	Gearcase; 2-speed
29	130-785	1	Sprocket; 50-B-12 (1" Bore) 1/4" kw & 5/16" ss
30	170-274	1	Roller Chain; #50-1-49 p. [Includes 170-088 conn link and 170-096 offset link
31	132-379	1	Linkage Bar; 2-speed Mtg Bolts;
32	130-744	1	Shield; 2-Speed Mtg Bolts;
33	<u>SERIAL NUMBER TAG</u>		
34	130-763	1	Chamber Belt; 1/8 x 3 x 80-3/4 Mtg Bolts; 1/4 x 3/4 & Nut (14 each)
35	131-778	1	End Chamber Belt; 1/8 x 3-1/2 x 23-3/4 Mtg Bolts; 1/4 x 3/4 & Nut (5 each)

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KNIGHT MANUFACTURING CORPORATION

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FRONT END ILLUSTRATIONS



* 132-372 RETURN TRAY
BDLT-ON ADDITION

FRONT END PARTS - CHAMBER HEAD

Ref	Part No.	Qty	Description
	171-871	1	Sprocket; 50-30t Shear
36	171-873	1	Hub
37	171-872	1	Sprocket; 50-B-30
38	171-119	1	Snap Ring
39	170-988	1	Shear Pin; 1/4 x 1 also use 3/32 x 3/4 cotter key
40	171-028	1	Roller Chain; #50-1-168 p. Includes 170-088 (#50 connector link)
41	130-703	1	Shaft; Apron Idler 1 x 27"
42	100-706	2	Sprocket; Apron Idler 6-tooth
43	170-164	1	Bushing; 1 x 1-1/4 x 1-1/4 Bronze
44	170-593	2	Bolt; Apron Tightener 3/8 x 5-1/2 Also use 170-138 (7/16 fw) & 170-047 (3/8 locknut) (2 ea)
45	170-238	2	Spring; Apron Tightener
46	170-110	2	Spring
47	170-836	3	Wood Chain Carrier Block; 3" lg Mtg Bolts: 3/8 x 4 bolt, lw, fw & nut (1 ea)
48	170-454	2	Roll Pin; 3/16 x 1-1/2
49	100-708	2	Sprocket; 50-B-13 Idler
50	170-039	1	Bushing; 5/8 x 3/4 x 1
51	100-655	2	Chain Tightener Arm
52	170-950	1	Elastic Retaining Device Mtg Hrdwr: 3/16 x 1 Pin & cotter key
53	170-613	1	PTO Driveline Hanger Chain
54	170-154	2	Decal; "KNIGHT"
55	170-155	2	Decal; Knight Head
56	100-887	1	Emergency Disengaging Panel Mtg Bolts; 3/8 x 7/8 bolt & locknut
57	170-934	1	Decal; Instructions for Disengaging Panel
58	170-946	1	Trip Chain; #2 machine x 75 links (47") Mtg Hrdwr: 1/4 x 3/4 & Nut for panel 170-977 repair link for shear bar
59	131-777	1	Chamber Corner Flap Mtg Hrdwr: 1/4 x 3/4 Bolt & Nut
60	170-345	1	Spring
61	170-237	4	Bushing; 1-3/8 x 1-5/8 x 2-1/4 Flange
62	100-872	1	Driveline Cluster
	170-674	1	Bushing; 1-3/8 x 1-5/8 x 1 Bronze
63	100-873	1	Shaft; Front Spline Assy
64	101-560	1	Front Shield Assy
65	133-379	1	Belt; Mtg Bolts: 1/4 x 3/4, lw & nut (2 ea)
66	170-588	1	Shear Pin; 5/16 x 1 & cotter key 170-177
67	170-051	1	Snap Ring; 1-3/8 external
68	170-012	1	Key; 3/8 x 3/8 x 2 radius end
69	130-659	1	Reversing Shaft; 1-3/8 x 12
70	130-781	1	Sprocket; 50-B-18 (1-3/8" Bore)
71	170-592	1	Spur Gear
	130-129	2	Collar; 1-3/8" with 3/8 x 3/8 set screws
72	132-829	1	Carrier Block Mtg Bar; Mtg Bolts - 5/16 x 1
73	170-850	1	Decal; Caution
74	170-350	1	Decal; Instructions
75	170-935	1	Decal; Shear Pin Replacement

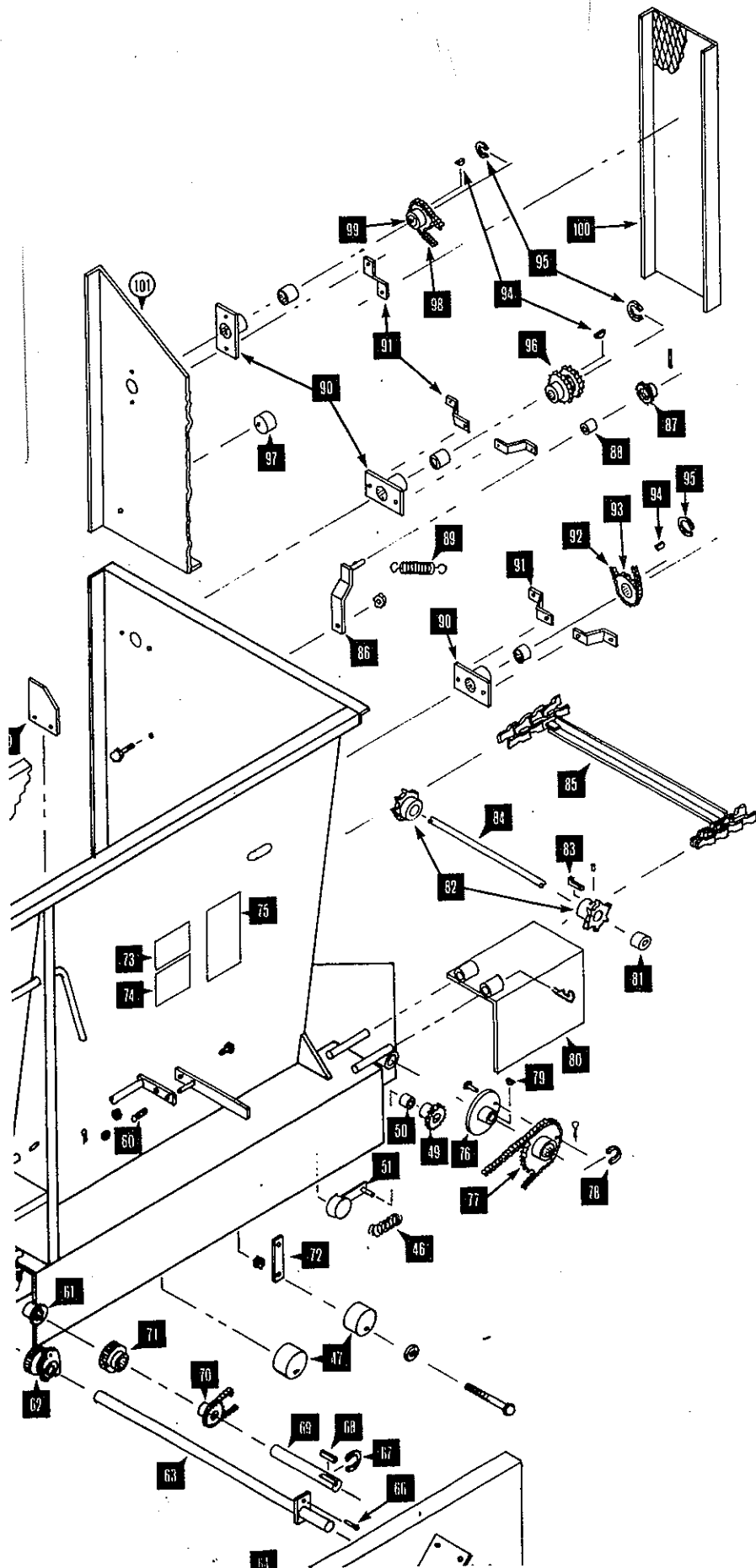
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LH SIDE ILLUSTRATIONS



LH SIDE PARTS - CHAMBER HEAD

Ref	Part No.	Qty	Description
	171-270	1	Sprocket; 50-B-24 Shear
76	171-269	1	Hub
77	171-268	1	Sprocket; 50-24 t.
78	171-119	1	Snap Ring
	170-937	1	Shear Pin;
	170-364	1	Cotter Key
79	170-120	1	Key; Type A Woodruff #807 [1/4 x 7/8] .
80	100-886	1	Shield; LH Drive (secures with 170-949 Hairpin
81	130-813	1	Collar
82	130-226	2	Sprocket; Apron Drive (1" b) 1/4" kw & 5/16 ss
83	170-253	2	Key; 1/4 x 1/4 x 1-1/2" Gib
84	132-151	1	Shaft; Apron Drive 1 x 31-1/2"
	170-024	4	Bushing; 1 x 1-1/4 x 1-1/4
85	100-737	1	Chamber Apron Assy #D662
	100-738		Slat Assy with (1) Attachment Link (170-359) and (2) Plain Links (170-358) per side.
	170-358		D662 Plain Link; Includes 170-360 coupler pin & 170-364 cotter key
	100-630	1	Chain Tightener Assy
86	100-648	1	Chain Tightener Arm
87	100-708	1	Sprocket; 50-B-13 Idler
88	170-039	1	Bushing; 3/4 x 5/8 x 1 Bronze
	170-454	1	Roll Pin; 3/16 x 1-1/2
89	170-110	1	Spring
90	100-251	3	Bearing; Beater Mount (Includes 1/4" zerk) Mtg Bolts; 5/16 x 3/4 & Flange Locknut (2 ea)
	170-674	1	Bushing; 1-5/8 x 1-3/8 x 1 Bronze
91	130-782	5	Shield Mount Bracket; Mts to Btr Bearings #93
92	170-275	1	Roller Chain; #50-1-80 Includes 170-088 conn link
93	130-127	1	Sprocket; 50-B-15 (1-3/8" b.) 3/8 kw & 3/8 ss
94	170-170	3	Key; Type E Woodruff #1210 (3/8 x 1-1/4")
95	170-051	3	Snap Ring; 1-3/8" External
96	130-792	1	Sprocket; 50-18 Transmission (1-3/8" B.) 3/8" kw
97	170-199	1	Wood Block Carrier; Mtg Bolts; 3/8 x 4-1/2 Bolt, lw, fw, nut
98	170-276	1	Roller Chain; #50-1-91 p. Includes 170-088 conn link and 170-096 offset link
99	130-784	1	Sprocket; 50-B-24 (1-3/8" B.) 3/8" kw
100	130-783	2	Shield; Beater Chain Mtg Bolts; 5/16 x 3/4 bolt & flange locknut (2 ea)
101	100-254	1	LH Beater Panel Mtg Bolt; 5/16 x 1 & Flange Locknut (3 ea)
	170-849	1	Decal; Beware of Power Driven Parts
	171-712	1	Decal; Oil Chains & Retighten Set Screws
	100-996	1	Shift Handle Mtg Bolt Assy

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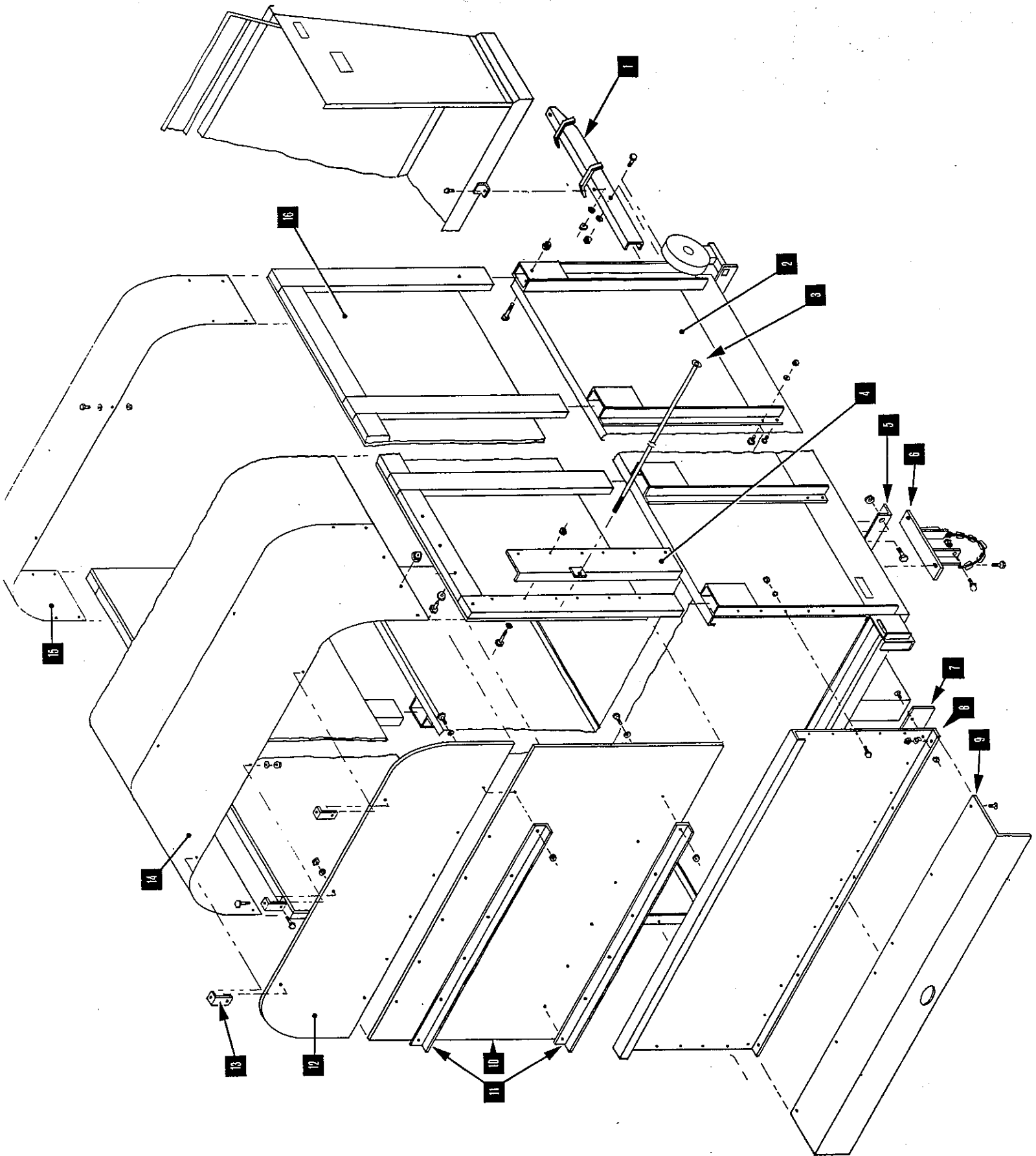
MAIN BED PARTS

Ref	Part No.	Qty	Description
1	130-878	2	Shaft; Idler 1-1/4 x 42"
2	130-484	4	Sprocket; Apron Idler
3	131-321	4	Spacer
4	170-504	4	Bolt; Apron Tightener 1/2 x 8-1/2"
5	170-500	4	Spring; Apron Tightener
6	170-868	2	Decal; Apron Adjustment
7	170-154	2	Decal; "Knight"
8	170-352	2	Decal; "17-7"
9	171-284	1	Gearcase; 50:1 Apron Drive (See page 22)
10			
11	170-120	1	Key; Type A Woodruff #807 (1/4 x 7/8)
12	130-879	1	Shaft; Drive 1-3/8 x 89-3/4"
13	170-012	1	Key; 3/8 x 3/8 x 2" Radius Ends
14	100-714	2	Bearing; RH Apron Drive & Center (includes 1/4" zerkl)
15			
16	170-165	2	Bushing; 1-3/8 x 1-5/8 x 1-1/2 Bronze
17	131-325	2	Flashing; End
18	130-646	4	Sprocket; Apron Drive (1-3/8" Bore) 1/4" kw
	170-151	2	Set Screw
19	131-323	2	Flashing; Drive Shaft
20	170-182	4	Key; 1/4 x 1/4 x 2" Gib
21	132-610	1	Flashing; Center
22	131-338	2	Belt; 1/8 x 3 x 39" Bolts to unit with 1/4 x 1/2 OH Bolt, Nut, FW (5 ea)
23	100-713	1	Bearing; LH Apron Drive (includes 1/4" zerkl)
	170-165	2	Bushing; 1-3/8 x 1-5/8 x 1-1/2 Bronze
	171-803	1	Bushing; 1-3/4 x 1-5/8 x 1 Bronze
24	131-312	2	Bottom Sheet
25	132-203	1	Bottom Sheet - Rear
	101-085	2	Apron Assy; D667H
26	130-888	19	Slat; 32" Lg.
27	171-078	1	Chain Assy; Sold in Pairs
	171-080		Plain Link ___ Includes 171-163 Pin &
	171-081		Attachment Link! cotter keys
28	171-031*	38	Apron Bolt, LW, N (5/16 x 1 High Tensile)
	171-886 171-866	1	Sprocket; 50-24 Shear 1" B.
29	171-864	1	Hub
30	171-865	1	Sprocket; 50-24
31	170-937	1	Shear Pin; 3/16" dia.
32	171-119	1	Snap Ring; Tru-arc #5100-162 or equiv.

*Apron bolt heads are inserted from the bottom & lockwasher & nut are on top.
This prevents the bolts from catching on the floor & chain returns.

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MAIN BED - TOP RACKS & ROOF 44"



TOP RACKS & ROOF 44"

Ref	Part No.	Qty	Description
1	100-252	1	LH Chamber Horn Mount
	100-253	1	RH Chamber Horn Mount
			Bed Mtg Bolts: 170-354, 170-061, 170-062 (2 each)
			Head Mtg Bolts: 170-054, 170-006, 170-007 (4 each)
2*	100-450	1	RH Side Assy
	100-451	1	LH Side Assy
			Mtg Bolt: 170-054, 170-006, 170-007 (12 each)
			Mtg Bolt: 170-347, 170-006, 170-007 (10 each)
3	100-773	1	Tie Rod Assy; 5/8 x 87" & 170-031 (5/8 Locknut)
4	101-678	1	RH Top Rack Corner Angle
	101-679	1	LH Top Rack Corner Angle
			Mtg Bolt:
5	132-288	1	Cross Tie Angle;
			Mtg Bolt: 1/2 x 1-1/2 & LN (2 each)
6	101-085	2	Bolster Mount Assy
			Mtg Bolt: 1/2 x 1-1/2 and locknut (4 each)
7	132-205	1	Belt; 1/8 x 4 x 81-1/2
			Mtg Bolt; 1/4 x 3/4, FW & Nut (10 each)
8	132-140	1	Steel End Panel
			Mtg Bolt; 3/8 x 1, LW & Nut (10 each)
9	132-204	1	Shield; Apron Idler
			Mtg Bolt: 5/16 x 1 OH, LW, Nut (6 each)
10	101-680	1	Top Rack End Panel
11	132-855	2	Angle Stiffener
	133-726	1	End Panel
12	132-854	1	Roof End Panel
			Mtg Bolt: 5/16 x 1-1/2, 3/8 FW, 5/16 FLN (4 each)
13	132-539	3	Roof Clip
			Mtg Bolt: 5/16 x 3/4, FW, FLN (1 each)
			Mtg Bolt; 5/16 x 1-1/4, FW, FLN (1 each)
14	171-295	7	Roof Section; 85 x 23 x 24"
			Mtg Bolt; 5/16 x 3/4, FW, FLN (4 each)
			Mtg Bolt; 5/16 x 3, FW, FLN (10 per unit)
15	171-314	1	Roof Section; 85 x 23 x 12"
			Mtg Bolts same as 171-295
16	101-671	1	LH Top Rack Assy
			Mtg Bolt: 5/16 x 3 & FLN (1 each)
16	101-670	1	RH Top Rack Assy
			Mtg Bolt; 5/16 x 3 & FLN (1 each)

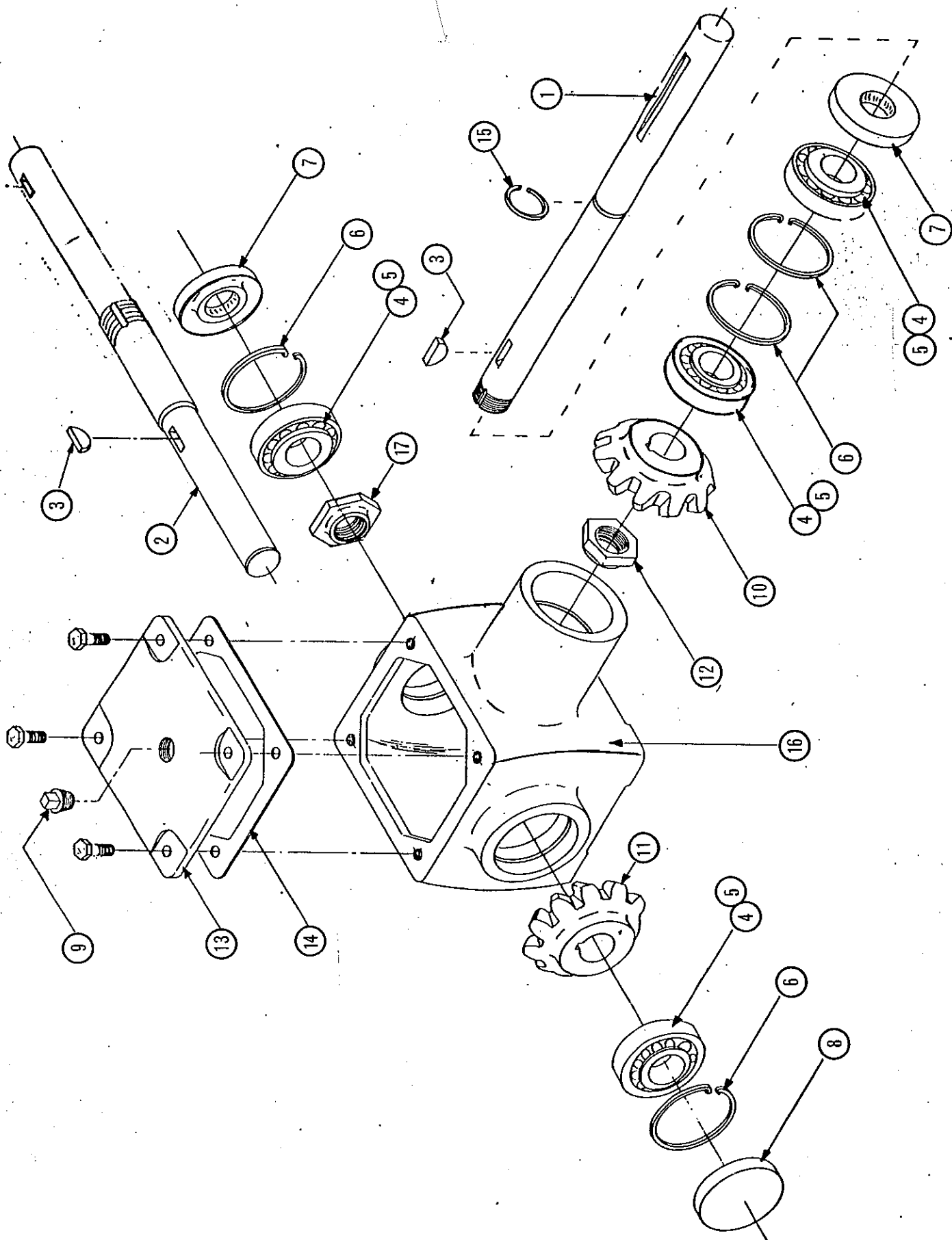
* The top rack stakes and the holes for mounting the replacement sides to the bed may be different.

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BEATER GEARCASE ILLUSTRATIONS



BEATER GEARCASE

<u>Ref.</u>	<u>Part No.</u>	<u>Qty</u>	<u>Description</u>
	170-879	1	Beater Gearcase Assembly Mtg Bolts; 1/2 x 1 & lw
1	130-716	1	Shaft; Input 1 x 14-3/8
2	132-123	1	Shaft; Output 1-1/8 x 10-1/16
3	170-120	2	Key; Type A Woodruff
4	170-534	4	Bearing Cone; 15101
5	170-535	4	Bearing Race; 15245
6	170-536	4	Snap Ring;
	170-537	A/R	Shim
7	170-538	2	Grease Seal
8	170-539	1	Dust Cap
9	170-565	2	Vent Plug;
10	170-597	1	Revel Pinion Gear; 12 t.
11	170-598	1	Revel Gear; 18 t.
12	170-601	1	Stake Nut; 1"
13	170-602	1	Cover; Mtg Bolts - 5/16 x 5/8 (4 ea)
14	170-603	1	Gasket
15	170-605	1	Snap Ring; 1"
16	170-932	1	Housing
17	170-933	1	Stake Nut; 1-1/8"

DISASSEMBLY INSTRUCTIONS:

1. Remove cover bolts from housing & remove the cover.
2. Remove the output shaft seal, snap ring & dust cap.
3. Place a stub shaft between the input shaft gear and the housing, and press the output shaft thru from the dust cap side.
4. Remove the key, race, bearing, and nut from the output shaft.
5. Remove the snap ring, bearing, and race from the housing.
6. Remove the nut from the input shaft.
7. Remove the gear and key from the shaft.
8. Remove the seal and pull the shaft out
9. Remove the snap ring, bearings, and races.
10. Check all parts and replace if worn.

ASSEMBLY INSTRUCTIONS:

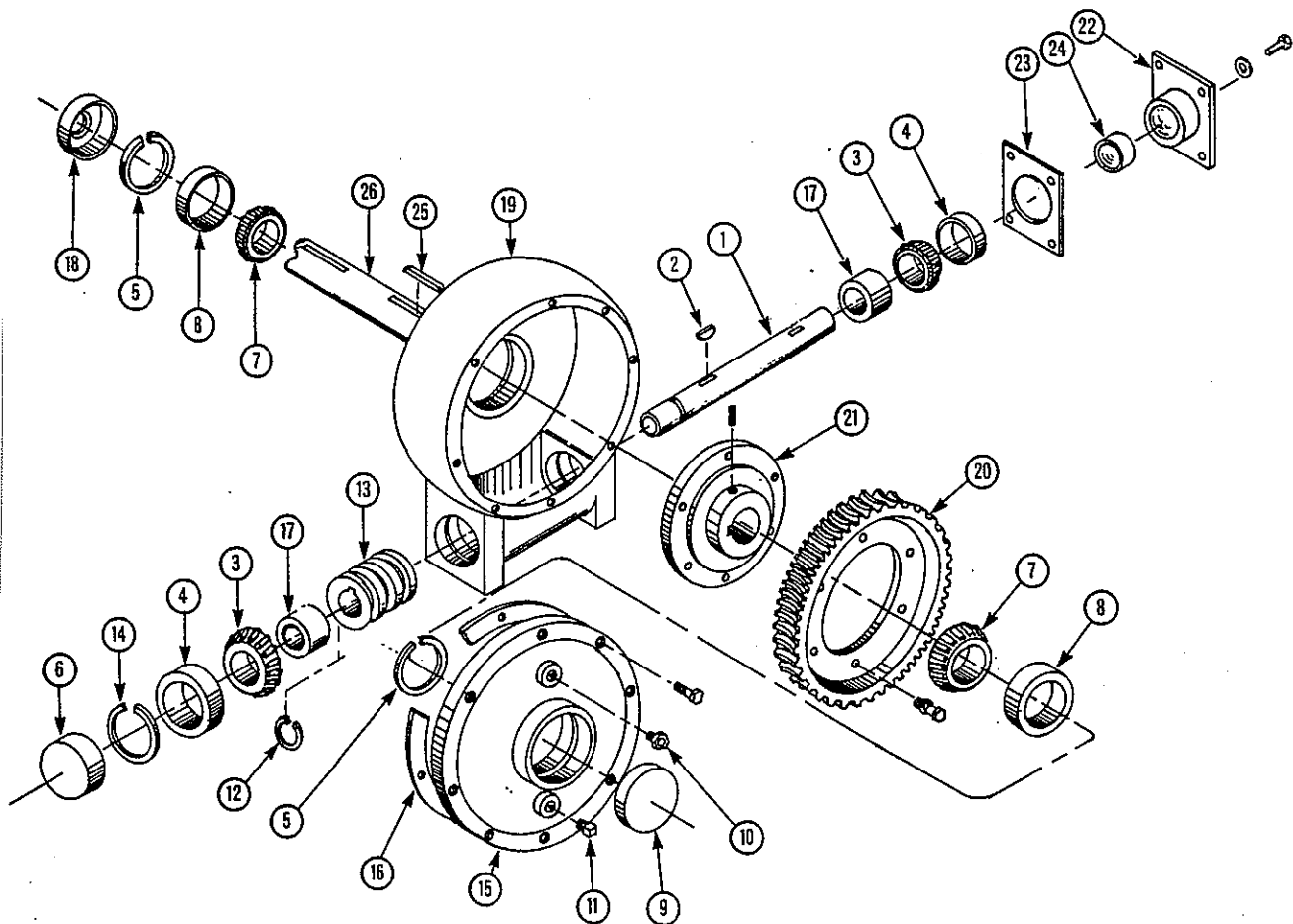
1. Install the snap rings, races and bearings in the housing.
2. Install the 1" snap ring on the input shaft and push thru the bearings.
3. Install the key, gear and nut. Tighten and lock the nut.
4. Install the race, bearing & snap ring from inside the housing.
5. Install the nut on the output shaft (do not tighten), and install bearing.
6. Install the output shaft in the housing, and install key and gear on shaft.
7. Install the race in the housing from the outside end and install snap ring.
8. Adjust the nut for tension and lock the nut.
9. Install the new grease seals, and insert dust cap.
10. Replace the cover gasket, and cover, and fill the case with 85W140 gear lube.

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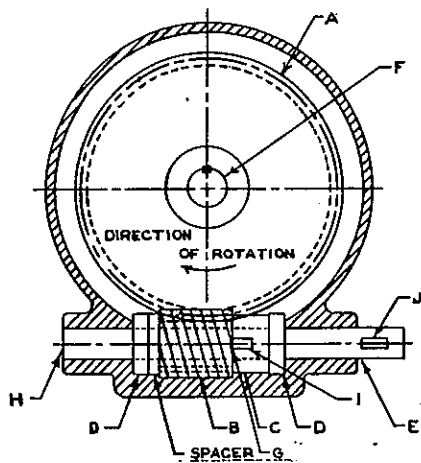
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50:1 GEARCASE ILLUSTRATIONS



Instructions For Disassembling the Knight 50:1 Worm Gear Case



- A Worm Gear
- B Worm
- C Collar
- D Thrust Bearing
- E Input Shaft
- F Output Shaft
- G Notch in End of Worm
- H End of Input Shaft
- I Slot in Collar
- J Key in Input Shaft

1. Remove the cover. It is easiest to work on the case in the position shown.
2. Loosen the set screw in collar C and turn the collar so that slot I is in line with keyway J on the end of the input shaft.
3. Drive the input shaft E from end H until the woodruff key appears in slot I.
4. Remove the key by rolling it out with a punch.
5. Push the shaft out until worm B is free to fall away from worm gear A.
6. Loosen the set screw in worm gear A and remove gear.

50:1 GEARCASE

Ref.	Part No.	Qty	Description
	171-284	1	50:1 RH Gearcase Assembly
			Mtg Bolts; 1/2 x 1 bolt & lw (4 ea)
1	132-828	1	Shaft; Input
2	170-120	1	Key; Type A Woodruff
3	170-534	2	Bearing Cone; 15101 C12
4	170-535	2	Bearing Race; 15245 C13
5	170-536	2	Snap Ring
6	170-539	1	Dust Cap
7	170-545	2	Bearing Cone; 14137A C14
8	170-546	2	Bearing Race; 14276 C17
9	170-550	1	Dust Cap
10	170-565	1	Vent Plug
11	170-579	1	Fill Plug
12	170-605	1	Snap Ring
13	170-630	1	Worm; RH Single Thread
14	170-632	1	Snap Ring
15	170-642	1	Cover; Mtg Bolts - 3/8 x 1 (8 ea)
16	170-643	1	Gasket
17	170-645	2	Spacer
18	170-676	1	Grease Seal
19	171-051	1	Housing
	171-052	1	Worm Gear Assy; RH Bronze 1-3/8"
20	170-628	1	Worm Gear Ring; RH Bronze
21	171-053	1	Hub; 1-3/8" B. [Includes 3/8 ss] Mtg Bolts; 3/8 x 1 & lw (6 ea)
22	171-732	1	End Cap - Mtg Bolts; 3/8 x 1 (4 ea)
23	171-733	1	Gasket
24	171-734	1	Grease Seal
	170-537	A/R	Shim for Input Shaft Area
	170-641	A/R	Shim for Output Shaft Area

The Following Are Not Part of the 50:1 Gearcase Assembly:

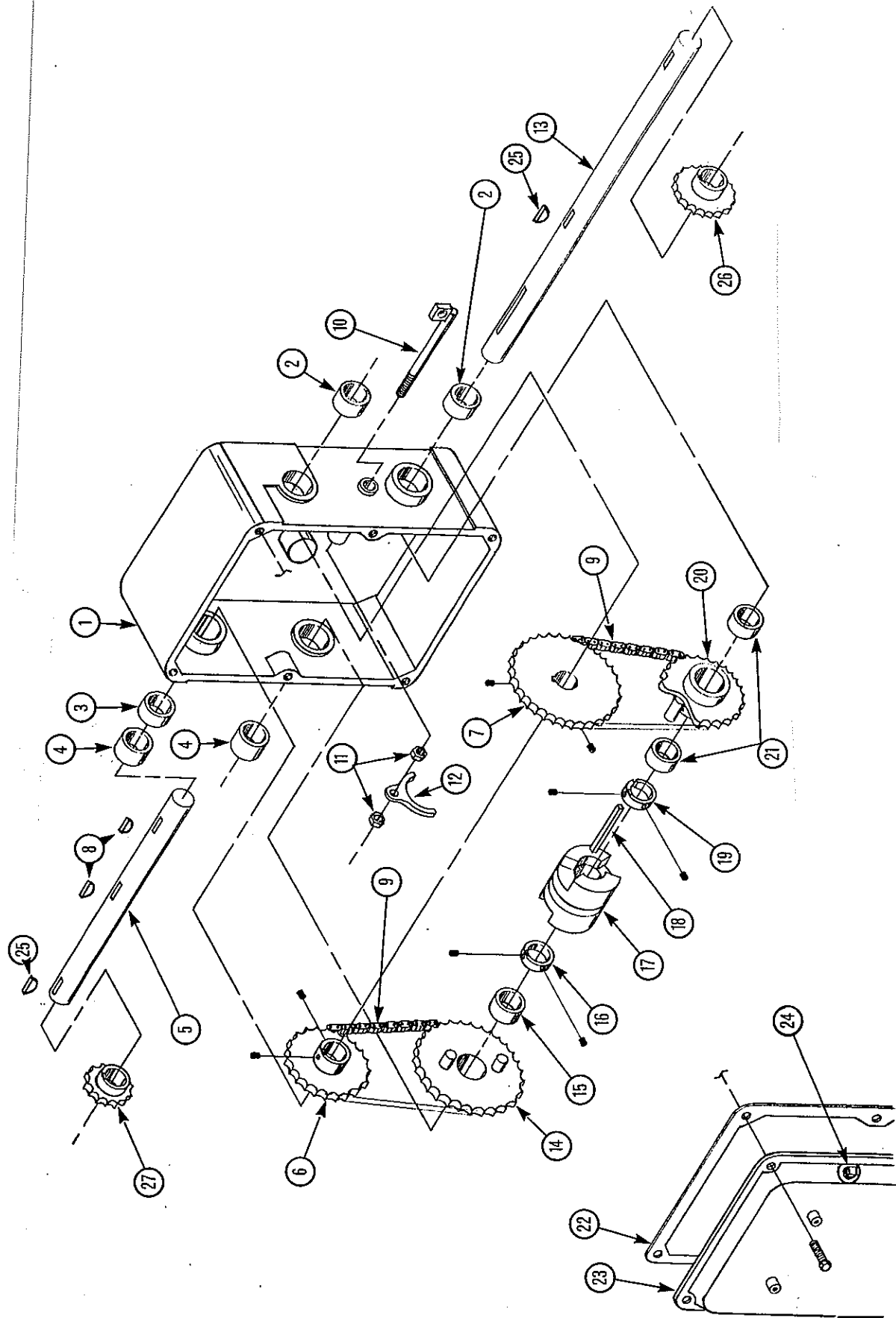
25	170-012	1	Key; 3/8 x 3/8 x 2 Radius Ends
26	130-879	1	Apron Drive Shaft; 1-3/8 x 89-3/4"

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2-SPEED GEARCASE ILLUSTRATION

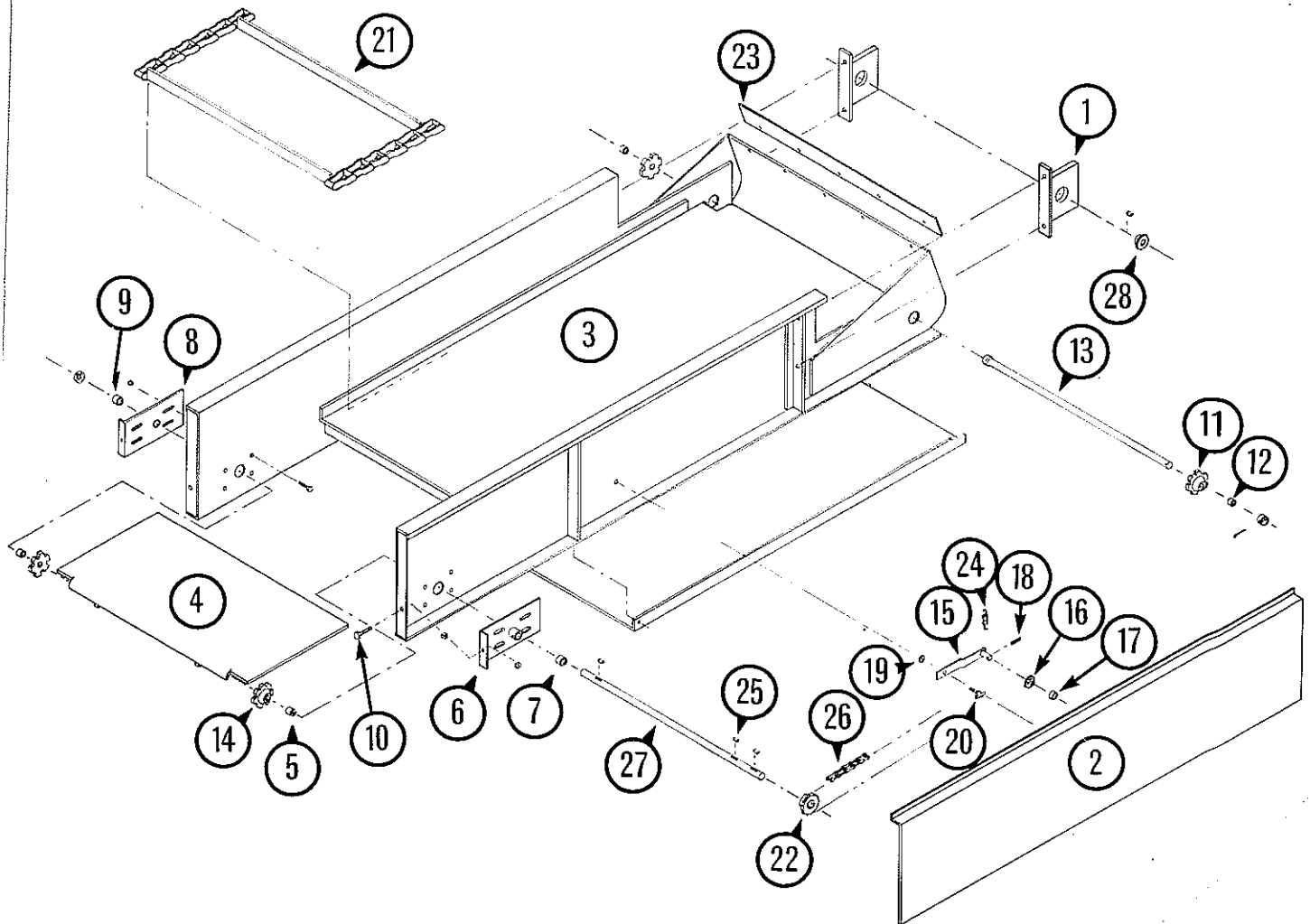


2-SPEED GEARCASE

Ref	Part No.	Qty	Description
	100-902	1	2-Speed Gearcase Assembly; Mounts with 4- 170-265 bolt, & 170-061 lockwasher
	100-495	1	Housing with Bushings
1	170-594	1	Housing
2	170-164	2	Bushing; 1 x 1-1/4 x 1-1/4 Bronze
3	170-024	1	Bushing; 1 x 1-1/4 x 1 Bronze
4	170-055	2	Bushing; 1 x 1-1/4 x 1-1/2 Bronze
5	130-709	1	Shaft; Output 1 x 11-1/4
6	130-234	1	Sprocket; 50-B-15 (1" Bore) 1/4" kw & 170-248 ss
7	130-710	1	Sprocket; 50-B-21 (1" Bore) 1/4" kw & 170-248 ss
8	170-120	2	Key; Type A Woodruff 1/4 x 7/8
9	170-266	2	Chain; #50-1-36 p. Roller
	170-088	1	Connector Link; #50
10	100-900	1	Shift Rod Assy
11	170-036	2	Jam nut; 1/2"
12	130-772	1	Brass Yoke
13	132-180	1	Shaft; Input 1 x 20-1/2"
14	100-264	1	Sprocket; 21 t. Clutch
15	170-241	1	Bushing; 1 x 1-1/4 x 1-1/8 Bronze
16	130-394	1	Collar; 1 x 1-3/4 x 5/8
	170-248	2	Set screw
17	170-595	1	Clutch Jaw
18	171-132	1	Key; 1/4 x 3-3/8"
19	130-769	1	Collar; 1 x 1-3/4 x 5/8 Split
	170-248	1	Set Screw
	170-254	1	Set Screw
20	100-237	1	Sprocket; 15 t. Clutch
21	170-024	1	Bushing; 1 x 1-1/4 x 1
22	170-609	1	Gasket
23	132-820	1	Cover; Mtg Bolts 5/16 x 7/8 (6)
24	170-579	2	Plug; Grease fill & check (3/8 NPT)
25	170-120	2	Key; Type A Woodruff 1/4 x 7/8
26	130-234	1	Sprocket; 50-B-15 (1" Bore) 1/4" kw & ss
27	130-785	1	Sprocket; 50-B-12 (1" Bore) 1/4" kw & ss

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DISCHARGE CHUTE ILLUSTRATION



DISCHARGE CHUTE ATTACHMENT

Ref	Part No	Qty	Description
	003532		Discharge Chute with Winch Assy
	100-992	1	Chute Assembly
			Mtg Bolts; 3/8 x 1, lw & nut (4 ea)
1	100-246	2	Chute Mount Assy; Mounts to inside collars on drive shaft
2	100-290	1	Shield; Mtg Bolts; 1/4 x 3/4, lw & nut (2 ea)
3	100-291	1	Shell Assy
4	100-286	1	Drive Shaft Shield
5	170-024	2	Bushing; 1 x 1-1/4 x 1 Bronze
6	100-287	1	RH Apron Bearing Assy (includes 170-023 zerk)
7	170-024	1	Bushing; 1 x 1-1/4 x 1 Bronze
			Mtg Bolts; 5/16 x 3/4 & fln (4 ea)
8	100-288	1	LH Apron Bearing Assy (includes 170-023 zerk)
9	170-024	1	Bushing; 1 x 1-1/4 x 1 Bronze
			Mtg Bolts; 5/16 x 3/4 & fln (4 ea)
10	170-128	2	Bolt; 3/8 x 2-1/2 Apron Tightener
11	100-706	2	Sprocket; Apron Idler
12	170-164	1	Bushing; 1 x 1-1/4 x 1-1/4
13	101-172	1	Shaft Assy; Apron Idler 1 x 26-1/2"
			Includes collar and cotter key
14	130-226	2	Sprocket; 6-tooth Apron Drive
			Includes 170-248 set screws (2 ea)
	100-631	1	Chain Tightener Assy
15	100-649	1	Tightener Arm Assy
16	100-708	1	Sprocket; 50-B-13 Idler
17	170-039	1	Bushing; 5/8 x 3/4 x 1
18	170-454	1	Roll Pin; 3/16 x 1-1/2
19	170-528	1	Washer
20	100-632	1	Bolt; Chain Tightener Mount
21	101-205	1	Apron Assy
	170-358	A/R	D662 Plain Link with cotter Pin & Key
	101-206	A/R	D662 Slat Assy with cotter Pins & Keys
			Slat Assy includes 2 Plain links on each side of the attachment link.
			Cotter Pin #170-360
			Cotter Key #170-364
	170-359		Attachment Link
22	130-234	1	Sprocket; 50-B-15 1" bore 1/4" kw & 5/16 ss
23	131-778	1	Belt Flap; 1/8 x 3-1/2 x 23-3/4
			Mounts with 5 of 1/4 x 3/4 & Nut
24	170-110	1	Spring
25	170-120	6	Key; Type A 1/4 x 7/8 woodruff
26	170-291	1	Roller Chain; 50-1-143 P. Includes:
			170-088 connector link & 170-096 offset link
27	130-830	1	Shaft; Apron Drive 1 x 29-1/4"
28	130-826	1	Sprocket; 50-B-18 1" bore 1/4" kw & 5/16 ss
	130-828	1	Winch Mount Plate
	170-308	1	Winch Assembly
	170-307	1	Handle Assembly
	170-309	1	Cable; 1/8 x 69"
	171-167	1	Cable Sleeve
	171-169	1	Cable Thimble
	130-827	1	Cable Mount Plate

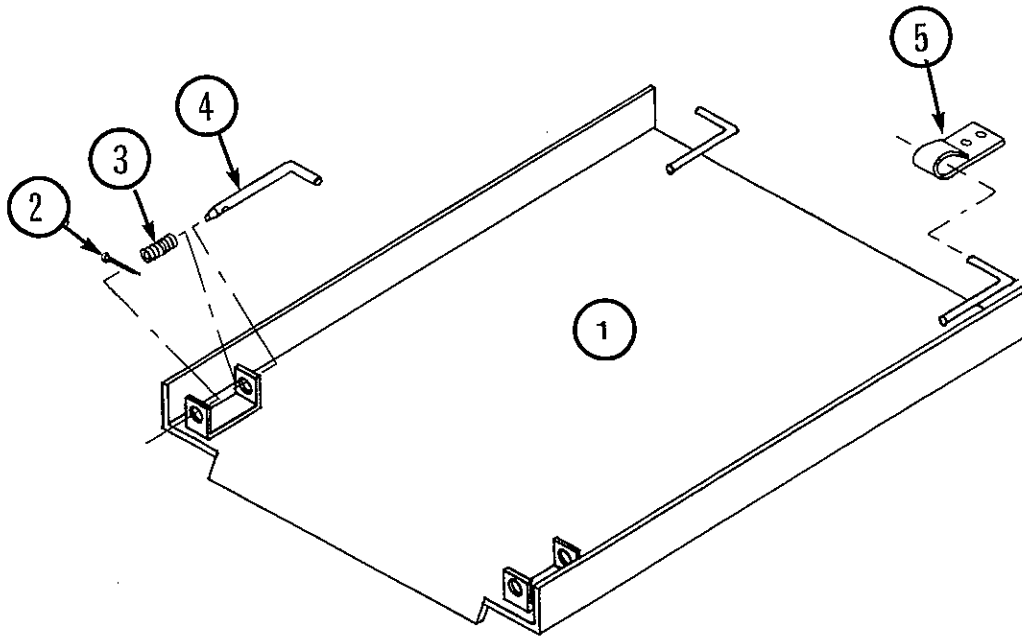
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KNIGHT MANUFACTURING CORPORATION

P.O. Box 167 * 1501 W. 7th Ave. * Brodhead, Wi., 53520 *CABLE: KNIGHT
Phone: Main Office (608) 897-2131 * Parts Dept. (608) 897-2125

CHAMBER GATE ATTACHMENT

Ref	Part No.	Qty	Description
1	100-278	1	Chamber Gate Attachment
	100-279	2	Chamber Gate Latch
2	170-177	1	Cotter Pin: 1/8 x 3/4
3	170-255	1	Spring
4	130-823	1	Hinge Pin
5	130-821	2	Hinge Loop
			Mtg Hrdw: 1/4 x 3/4, LW, Nut (4 ea)



INSTRUCTIONS FOR MOUNTING THE CHAMBER GATE:

NOTE: You will need a 1/4" dia. drill for mounting.

Set the gate in the chamber opening, and let it rest on the floor of the chamber.

Slide the hinge brackets over the hinge pins, and set the latch pins down in the chamber apron chain.

Pull the hinge brackets upward so they are tight against the bottom of the hinge pins.

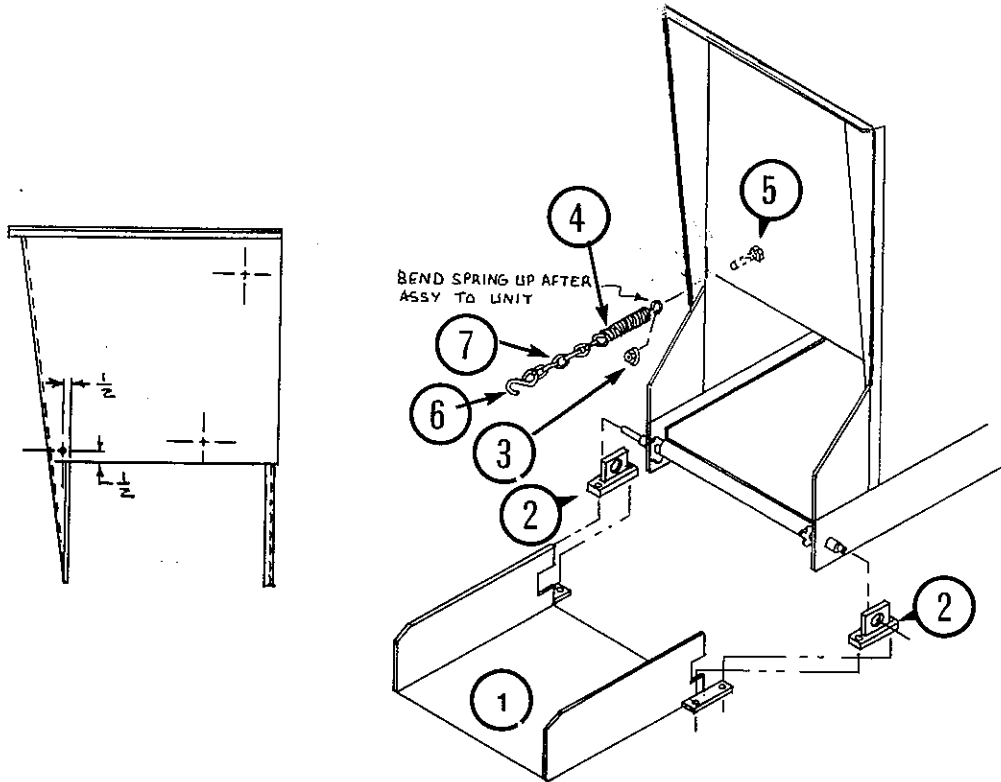
Mark the chamber side, and drill one hole for each hinge mount.

Bolt the hinge brackets to the chamber with 1/4 x 3/4 bolt, lw, and nuts.

Tighten the bolts, and drill the remaining two holes, and complete bolting the hinges to the chamber side.

EXTENSION TRAY ATTACHMENT

Ref	Part No.	Qty	Description
1	100-281	1	Extension Tray
	010-112	1	Bag of Mounting Parts
2	100-246	2	Tray Mount Assy; Mtg Hrdw; 3/8 x 1, LW, Nut (4 ea)
3	170-028	1	Locknut; 5/16 Flange
4	170-110	1	Spring
5	170-262	1	Bolt; 5/16 x 3/4
6	170-947	1	S-Hook
7	170-479	1	Machine Chain; #4 x 9 links



INSTRUCTIONS FOR MOUNTING THE CHAMBER EXTENSION TRAY

NOTE: A 5/16" dia. drill is required for mounting.

Bolt the extension tray to the hinge mounts at the chamber sprock drive shaft with the 3/8 x 1 bolts, lockwashers, and nuts.

Drill the hole as shown in the figure and attach the spring to the head with one 5/16 x 3/4 bolt and flanged locknut. Be sure the nut is to the outside.

Attach the retainer chain to the spring, and attach the S-Hook to the chain, and hook thru the hole in the extension tray.

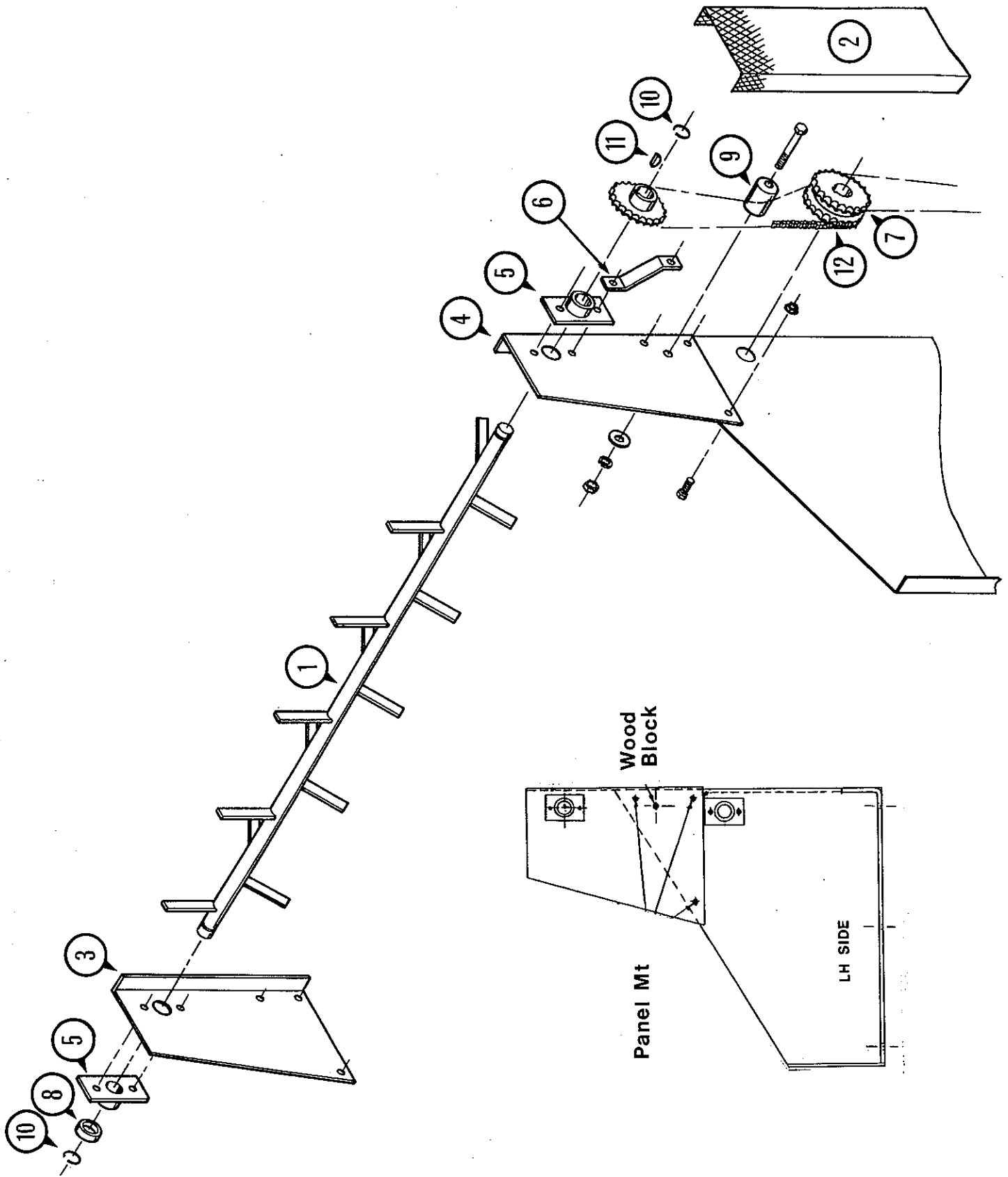
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4TH BEATER ATTACHMENT



4TH BEATER ATTACHMENT

Ref	Part No.	Qty	Description
	003728		4TH BEATER ATTACHMENT
1	100-891	1	Beater Assembly
2	130-783	1	Shield
3	131-782	1	RH Beater Panel
4	131-783	1	LH Beater Panel
	010169	1	Box of Parts - 4th Beater Attachment
5	100-251	2	Bearing Assembly
6	130-782	1	Shield Clip
7	130-792	1	Sprocket; 50-18 Transmission
8	131-781	1	Lock Collar
9	133-724	1	Wood Tightener Block
	170-006	1	Washer; 3/8 Lock (Mts Btr Panels & Shield)
	170-007	1	Nut; 3/8" Hex (Mts Btr Panels & Shield)
	170-028	12	5/16 Flange Locknut (Mts Btr Panels & Shield)
10	170-051	2	Snap Ring; 1-3/8"
	170-096	1	#50 Offset Link (Used for Roller Chain Adjustment)
11	170-170	1	Key; 1-3/8" Type E Woodruff
	170-244	1	Washer; 3/8 Flat (For Wood Block)
	170-262	12	Bolt; 5/16 x 3/4" (Mts Btr Panels & Shield)
	170-292	1	Bolt; 3/8 x 3-1/2" (Wood Block Mtg)
12	171-876	1	Roller Chain; 50-1-75 P.

ASSEMBLY INSTRUCTIONS:

Note: A 13/32 and 5/16 Drill are require for installation.

1. Remove 50-B-24 sprocket and drive chain from 3rd beater assy and reinstall the 50-18 t. transmission sprocket.
2. Remove 4 links from the 92 pitch 3rd beater chain and install an offset link.
3. Attach the 4th Beater panels as shown and drill 3 5/16" dia. holes on each side.
4. Drill 13/32 dia. hole for wood block on LH 3rd Beater Panel using existing hole in 4th Panel as guide.
5. Install Beater in hole, install beater bearings and bolt in place on RH side. Install the shield mount bracket on LH Bearing and bolt Bearing in Place. Be sure all bolt heads are inserted from the inside.
6. Install the collar and snap ring on RH side and install the key, sprocket (hub out), and snap ring on LH side.
7. Install the roller chain, and wood block. Position the wood block so the chain is approx. 1/2" in from being straight.
8. Grease bearings, oil the roller chain, and install the mesh shield.

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PTO IMPLEMENT DRIVELINE - 540

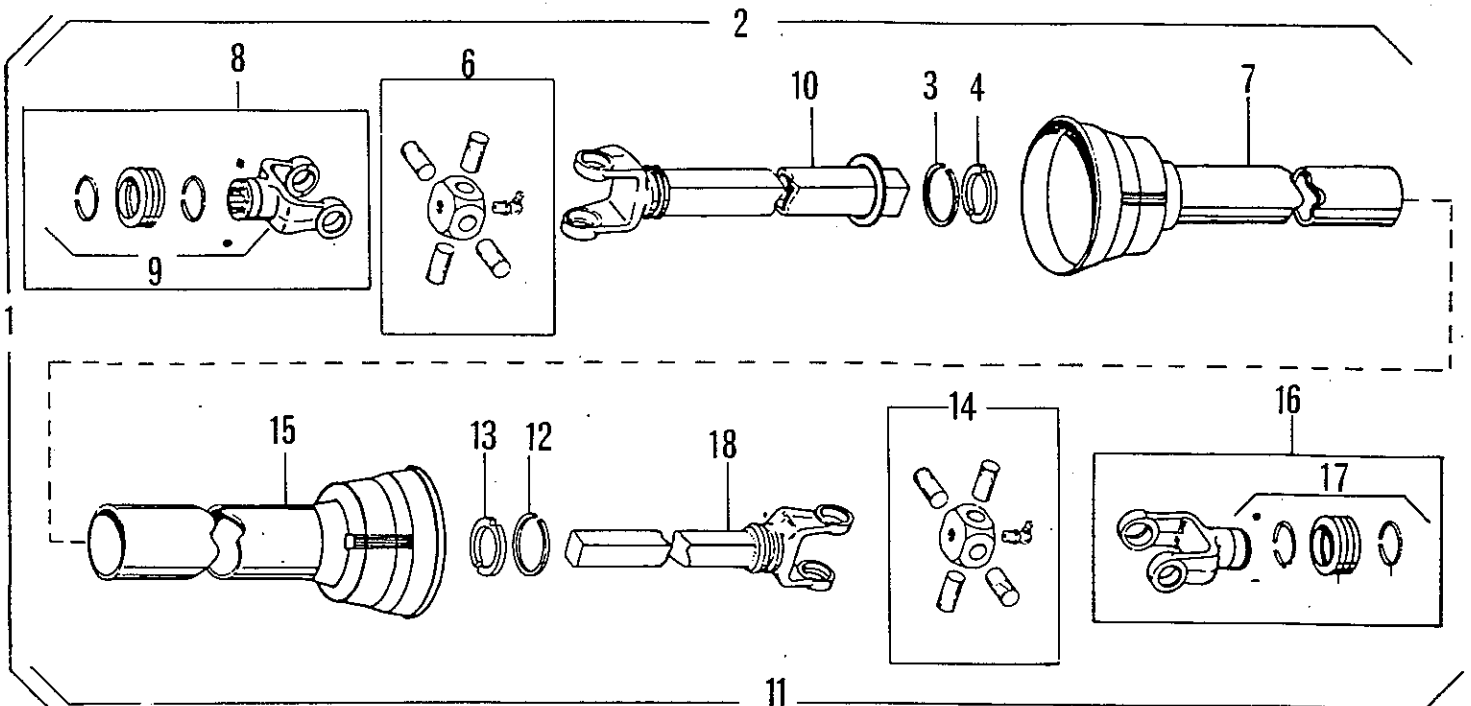
Ref	Part No.	Q	Description
1	171-519	1	#52 PTO - 540 RPM - Plastic Shield
2	171-523	1	Joint & Tube with Shield
3	170-208	1	Bearing Retainer
4	171-527	1	Nylon Bearing
6	170-714	1	Repair Kit
7	171-524	1	Male Shield
8	171-521	1	Lock Yoke Assy
9	171-529	1	Quik-Lok Repair Kit
10	171-526	1	Yoke & Tube Assy
	171-779	1	Danger Decal
11	171-520	1	Joint & Shaft with Shield
12	170-208	1	Bearing Retainer
13	171-527	1	Nylon Bearing
14	170-714	1	Repair Kit
15	171-522	1	Female Shield
	171-550	1	PTO Danger Decal
16	171-521	1	Lock Yoke Assy
17	171-529	1	Quik-Loc Repair Kit
18	170-995	1	Yoke & Shaft Assy

Overall length: 52"

Compressed Operating Length: 44"



Maximum Extended Operating Length: 70-1/2"

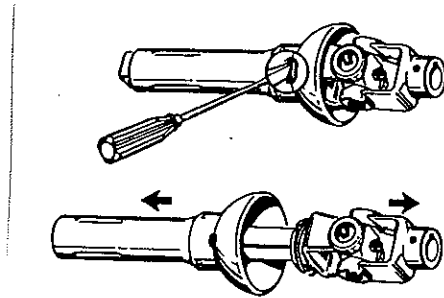


PTO DRIVELINE REPAIR INSTRUCTIONS

INSTRUCTIONS FOR REMOVING SHIELD:

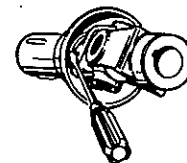
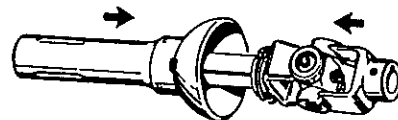
Do Not Pound on the Bell!

1. Insert screw driver in slot in bell and push snap ring downward and forward out of groove toward large opening of bell.
2. Slide shield off of joint.



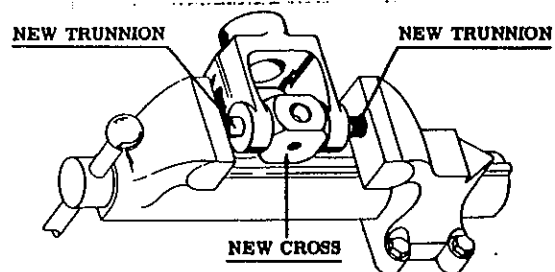
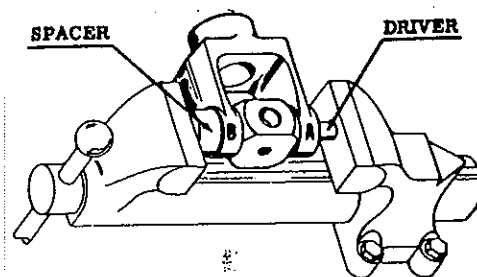
INSTRUCTIONS FOR REASSEMBLY:

1. Slide snap ring over joint hub.
2. Insert nylon bearing in groove of joint hub.
3. Slide joint assembly into shield. With screwdriver, push snap ring into groove.



INSTRUCTIONS FOR "W KIT":

1. As shown in figure, use spacer of 9/16" minimum thickness with a 5/8" dia. hole. Use a 1/2" dia. driver.
2. Remove lubrication fitting.
3. Tighten vise so driver forces trunnion "A" thru cross against "B" trunnion, forcing "B" trunnion into spacer.
4. Remove trunnion "B" and force trunnion "A" into spacer.
5. Repeat for other yoke.
6. Install new cross.
7. Position new trunnions in yoke arms.
8. Press trunnions into yokes in vise.



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HYDRAULIC MOTOR DRIVE ATTACHMENT

General Information:

The flow control valve is used to control the speed of the motor. When the control is set at zero (0), the motor will be off and the oil will bypass the motor thru the valve and back to the return line. As the handle is moved towards ten (10), the speed of the motor will increase.

Before Operation:

To produce sufficient horsepower to unload and average size load, the tractor hydraulic system must be able to produce a minimum of 1500 psi @ 10 gpm.

The pressure and return hoses between the tractor and the hydraulic motor must be not less than 1/2" SAE Hydraulic Hose. The ports on the motor are 1/2" NPT.

Break-in Procedure:

Run the motor with NO LOAD for one hour.

Set-Up and Operation:

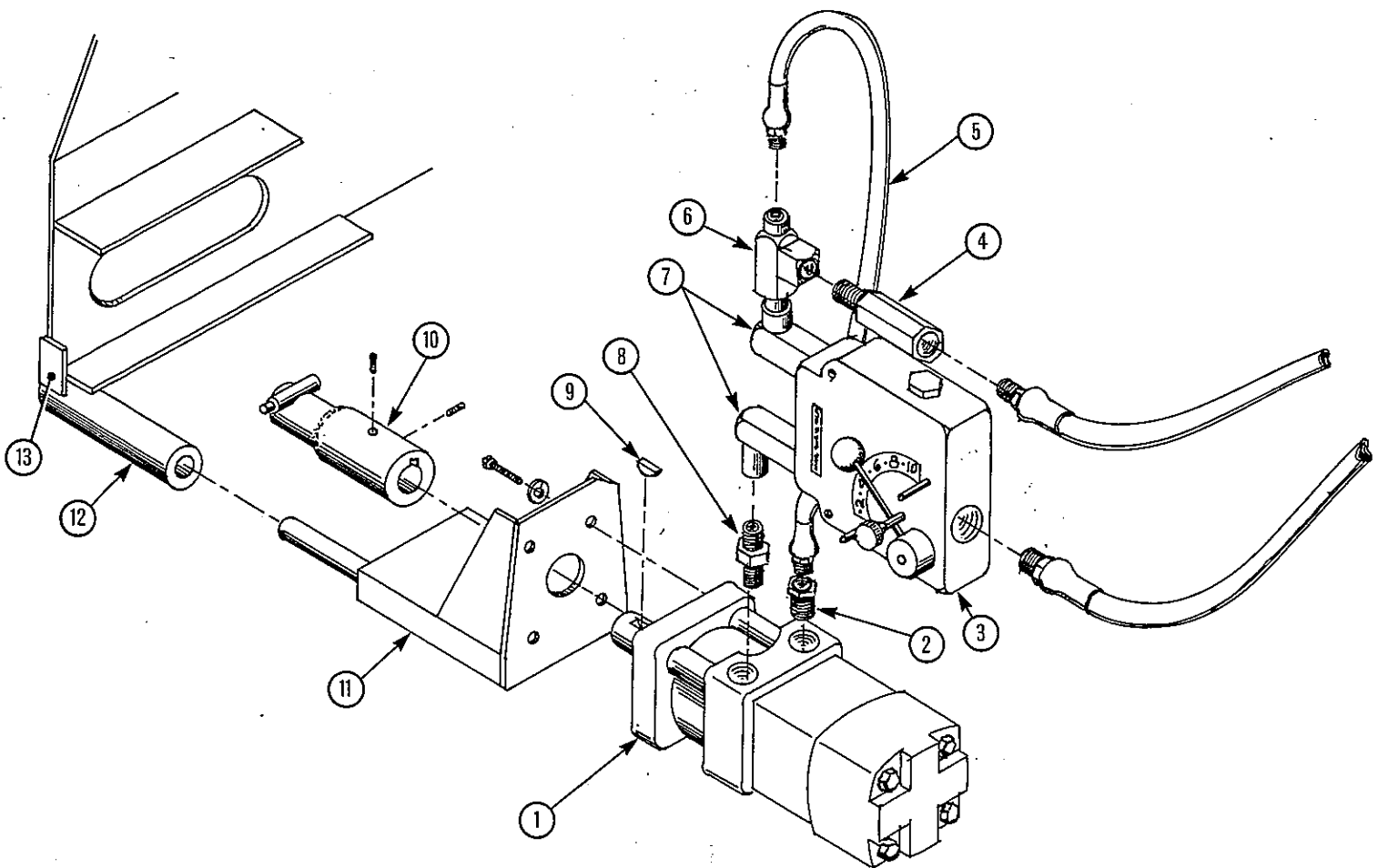
1. IF you need to weld the torque tube & support on the chamber head, refer to page 38 for welding procedures.
2. Slide the spline coupler on the Forage Box PTO Spline Shaft with the torque rod sliding into the tube welded on the head.
3. Connect port "A" to the pressure line of the tractor, and port "B" to the return line.
4. Set the valve to zero (0), and open the hydraulic system on the tractor.
5. Be sure the beater clutch and apron speed are in neutral.
6. Increase the throttle on the tractor to produce at least the minimum requirements stated above.
7. Open the valve on the Forage Box to the desired speed.
8. Continue to operate the Forage Box as indicated in the beginning of the manual.

HYDRAULIC MOTOR DRIVE ATTACHMENT

REF	PART. NO.	QTY	DESCRIPTION
	101-265	1	Hydraulic Motor Assembly
1	170-809	1	Motor; 6 cu. in. Mtg Bolts; 3/8 x 1 Bolt & LW
2	170-513	1	Swivel Adapter
3	170-510	1	Flow Control
4	171-151	1	Check Valve
5	170-514	1	Hose; Hyd 1/2 x 22"
6	170-859	1	Service Tee; 1/2"
7	171-136	2	Swivel; 1/2" x 90
8	170-858	1	Adapter; 1/2" Hex
9	170-861	1	Key
10	171-262	1	Drive Connector Assy
	170-857	2	Set Screw; 3/8 x 1/2
11	100-923	1	Motor Mount
12	132-279	1	Tube; Torque Mount
13	132-280	1	Bar; Tube Brace

Welding Procedure for Items #15 & #16:

1. Solid weld on both sides of mount tube (#15) in position shown below.
2. Solid weld on all sides of support bar (#16)



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All hex head bolts up to and including 7/16" dia. are grade 5 unless otherwise specified. All fasteners are NC thread unless otherwise specified.

Size	Hex Nuts Part No.	Locknuts Part No.	Jam Nuts Part No.	Flat Washers Part No.	Lock Washers Part No.
#10	171-606			171-525	171-605
1/4	170-125	170-069		170-301	170-124
5/16	170-119	170-028		170-127	170-118
3/8	170-007	170-047	170-022	170-244	170-006
7/16	170-062	170-239	170-046	170-138	170-061
1/2	170-004	170-042	170-036	170-040	170-003
5/8	170-011	170-031	170-037	170-066	170-010
3/4	170-017	170-185	170-035	170-015	170-016
7/8				170-131	
1				170-122	171-021

SET SCREWS

ZERKS

COTTER KEYS

Size	Part No.	Size	Part No.	Size	Part No.
1/4 x 1/4	NC 170-247	1/4-28	170-023	1/16 x 1/2	170-992
5/16 x 5/16	NC 170-248	1/4-28-45	170-148	3/32 x 3/4	170-364
5/16 x 1/2	NC 170-254	1/4-28-90	170-049	1/8 x 3/4	170-177
5/16 x 1/4	NF 170-993	1/4 NPT	170-277	1/8 x 1	170-045
5/16 x 5/16	NF 170-825	1/8 NPT	170-865	1/8 x 1-1/4	170-033
5/16 x 5/8	NF 170-456	1/8 NPT-45	170-864	1/8 x 1-1/2	170-382
3/8 x 1/4	NC 170-856	1/8 NPT-65	170-215	5/32 x 1	170-421
3/8 x 3/8	NC 170-151	1/8 NPT-90	170-866	5/32 x 1-1/2	170-236
3/8 x 1/2	NC 170-857			3/16 x 1-1/4	170-991
(nylock)				3/16 x 2	170-115
3/8 x 3/4	NC 170-289			3/16 x 3	170-135
(sq head)				1/4 x 1-1/2	170-521
3/8 x 3/4	NC 170-290			1/4 x 2	170-056
(sq hd drilled)					
3/8 X 1	NC 170-021				
3/8 x 1/2	NF 171-469				
7/16 x 7/16	NC 170-288				
7/16 x 1	NC 170-147				
(sq head)					
1/2 x 5/8	NC 170-249				
1/2 x 1	NC 170-438				
1/2 x 1-1/4	NC 171-085				
(half dog point)					
5/8 x 5/8	NC 170-250				

HARDWARE LISTING - CONTINUED

HEX HEAD		HEX HEAD		TRUSS HEAD	
<u>Bolt Size</u>	<u>Part No.</u>	<u>Bolt Size</u>	<u>Part No.</u>	<u>Bolt Size</u>	<u>Part No.</u>
1/4 x 3/4	170-803	1/2 X 3/4	171-252	#8 x 1-1/2	171-210
1/4 x 7/8	171-094	1/2 X 1	170-149	#10 x 3/4	171-604
1/4 x 1	170-310	1/2 X 1-1/4	170-373	5/16 x 1	170-117
1/4 x 1-1/2	170-068	1/2 X 1-1/2	170-002		
1/4 x 2-3/4	171-203	1/2 X 2	170-050	CARRIAGE BOLTS	
1/4 x 3	171-403	1/2 X 2-1/2	170-319	<u>Bolt Size</u>	<u>Part No.</u>
		1/2 X 3	170-168	1/4 x 1-1/2	170-355
5/16 x 5/8	170-532	1/2 X 4	171-509	1/4 x 2-1/2	171-394
5/16 x 3/4	170-262	1/2 x 4-1/2	171-573	1/4 x 3	170-509
5/16 x 7/8	170-256	1/2 x 5	171-412	5/16 x 1	170-370
5/16 x 1	170-027			5/16 x 2-1/2	171-395
5/16 x 1-1/4	170-188	5/8 x 1	171-087	5/16 x 5-1/2	170-494
5/16 x 1-1/2	170-372	(Grade 5)		3/8 x 3-1/2	171-283
5/16 x 1-3/4	170-263	5/8 x 1-1/4	171-366	3/8 x 4-1/2	170-191
5/16 x 2	170-376	5/8 x 1-3/4	170-030	3/8 x 5	170-495
5/16 x 2-1/2	170-369	(Tap Bolt - Grade 5)		3/8 x 6-1/2	171-174
5/16 x 3	170-295	5/8 x 2	170-009	3/8 x 8	170-297
5/16 x 3-1/4	171-639	(GRADE 5)		1/2 x 6-1/2	171-098
5/16 x 4	170-293	5/8 x 2-1/2	170-129	1/2 x 9	171-255
(Tap Bolt)		(Tap Bolt)			
5/16 x 4-1/2	170-294	5/8 x 3	170-258		
3/8 x 3/4	170-439	5/8 x 3-1/2	170-038		
3/8 x 7/8	170-268	5/8 x 4	170-371		
3/8 x 1	170-054	5/8 x 4-1/2	170-067		
3/8 x 1-1/4	170-005	5/8 x 5	170-065		
3/8 x 1-1/2	170-368	5/8 x 6	170-381		
3/8 x 2	170-245	5/8 x 9-1/2	171-039		
3/8 x 2-1/4	170-320				
3/8 x 2-1/2	170-257	3/4 X 2	170-058		
3/8 x 3	170-380	3/4 X 2-1/4	171-275		
3/8 x 3-1/2	170-292	3/4 X 2-1/2	170-374		
3/8 x 4	170-877	3/4 X 3	170-014		
3/8 x 4-1/2	170-519	3/4 x 3-1/2	170-195		
3/8 x 5	170-493	3/4 x 4	170-419		
3/8 x 5-1/2	170-593	3/4 x 4-1/2	170-846		
3/8 x 6-1/2	171-291	(Grade 5)			
7/16 x 3/4	170-265	3/4 x 6	171-116		
7/16 X 1	170-032	(Grade 5)			
7/16 X 1-1/4	170-354				
7/16 X 1-1/2	170-059				
7/16 X 2	170-356				
7/16 X 2-1/2	170-379				
7/16 X 3	170-270				
7/16 X 5-1/2	170-377				
7/16 X 6	170-378				

Part No	Pg	Part No	Pg	Part No	Pg	Part No	Pg	Part No	Pg
3532.....	31	100-992....	31	130-888....	21	170-120....	31	170-535....	27
3738.....	35	101-085....	21	131-312....	21	170-128....	31	170-536....	25
010-169....	35		23	131-321....	21	170-154....	11		27
100-093....	15	101-172....	31	131-323....	21		17	170-537....	25
100-237....	29	101-205....	31	131-325....	21		21		27
100-245....	15	101-206....	31	131-338....	11	170-155....	11	170-538....	25
100-246....	31	101-265....	39		21		17	170-539....	25
	33	101-564....	23	131-777....	11	170-164....	15		31
100-251....	15	101-670....	23		17		17	170-545....	27
	19	101-671....	23	131-778....	15		29	170-546....	27
100-252....	23	101-678....	23		31		31	170-550....	27
100-253....	23	101-679....	23	132-123....	25	170-165....	21	170-565....	25
100-254....	19	101-680....	23	132-140....	23	170-170....	19		27
100-255....	15	130-127....	19	132-151....	19	170-177....	32	170-579....	27
100-264....	29	130-129....	15	132-174....	11	170-182....	21		29
100-278....	32		17	132-180....	29	170-199....	19	170-588....	17
100-279....	32	130-226....	19	132-203....	21	170-208....	36	170-592....	17
100-281....	33		31	132-204....	23	170-237....	17	170-593....	17
100-286....	31	130-234....	15	132-205....	11	170-238....	15	170-594....	29
100-287....	29		29		23		17	170-595....	29
100-288....	31		31	132-279....	39	170-241....	15	170-597....	25
100-290....	31	130-394....	15	132-280....	39		29	170-598....	25
100-291....	31		29	132-288....	23	170-243....	15	170-601....	25
100-450....	23	130-484....	21	132-379....	15	170-253....	19	170-602....	25
100-451....	23	130-646....	21	132-539....	23		21	170-603....	25
100-495....	29	130-659....	17	132-564....	23	170-254....	29	170-605....	25
100-630....	19	130-703....	17	132-610....	21	170-255....	32		27
100-631....	31	130-709....	29	132-820....	29	170-266....	29	170-606....	15
100-632....	31	130-710....	29	132-828....	27	170-274....	15	170-609....	29
100-648....	19	130-716....	25	132-829....	17	170-275....	19	170-611....	15
100-649....	31	130-744....	15	132-855....	23	170-276....	19	170-613....	17
100-655....	17	130-763....	11	133-379....	17	170-291....	31	170-625....	27
100-709....	17		15	133-726....	23	170-307....	31	170-628....	27
	31	130-769....	29	170-012....	17	170-308....	31	170-630....	27
100-708....	17	130-772....	29		19	170-309....	31	170-632....	27
	19	130-774....	15		21	170-344....	15	170-641....	27
	31	130-781....	17		27	170-345....	17	170-642....	27
100-713....	21		35	170-024....	19	170-350....	11	170-643....	27
100-714....	21	130-782....	19		29		17	170-645....	27
100-737....	19		35		31	170-352....	21	170-674....	15
100-738....	19	130-783....	19	170-039....	17	170-358....	19		17
100-773....	23		35		19		31		19
100-863....	15	130-785....	15		31	170-359....	31		21
100-872....	17		29	170-051....	17	170-364....	19	170-676....	27
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