



# **AC-1410A**

# **AC-1420A**

## **Owner/ Operator Manual**

## **&**

## **Parts Reference Guide**

**Do not operate or work on this spreader without first reading and understanding this manual.**

**Keep this manual with the spreader at all times.**

9/2018

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# **CAUTION**

**Keep all guards in place.**

**Before serving, disengage PTO and wait for all moving parts to stop.**

**Do not use spinners disc for step.**

**Keep all loose clothing away from shafts and spinners.**

**Keep hands and feet away from conveyor when in operation.**

## **PREFACE**

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This Owner/ Operator Manual & Parts Reference Guide is to assist in the correct operation and maintenance of this spreader by providing information for installation, operation, service and maintenance. Please read this manual thoroughly before proceeding to use the equipment.

The economic life of any piece of equipment is directly related to the care and maintenance it receives. Use this manual as a reference in seeing that this unit receives proper care and is correctly operated.

The use of genuine Warren parts is recommended for best equipment service as well as insuring that our warranty policy is not voided.

If additional information is required or should you desire to have a qualified service facility work on this spreader, contact your Warren Distributor.

## **ORDERING REPAIR PARTS**

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Contact the authorized dealer who services your area. If unknown contact Warren, Inc.

In ordering parts, be sure to have spreader model and serial number. Also have description and part number of parts required. Be able to specify the method of shipping if parts are not to be picked up such as UPS, Truck Line, Air Freight, or Parcel Post. If parts are ordered by phone, be sure to confirm in writing to insure an understanding of what you need.

Inspect parts shipments immediately and notify delivering carrier as well as dealer damage or shortage. If carrier loses or damages parts you should file a claim with them – not the dealer. The dealer responsibility for shipment ceases when goods are turned over to the carrier.

When possible, it is good to anticipate parts requirements by having a good preventive maintenance program having some parts on hand to take of minor requirements could be a great convenience and could save valuable time.

**Warren, Inc reserves the right to make changes in our equipment at any time without any obligation whatsoever to change units already in the field.**



# WARRANTY

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## Spreaders

**WARRANTY. WARREN, INC.**, (hereinafter called Warren) warrants each new spreader and item of hydraulic equipment manufactured by it to be free from defects in material and workmanship under normal use and service with loads not exceeding the vehicle manufacturer's rated capacity for a period of 12 months after delivery to the original purchaser direct or by and authorized distributor.

**Exclusions from Warranty:** This Warranty shall not apply to:

- (1) components manufactured by persons other than Warren (such as hydraulics pumps, motors, valve, bearings, etc.) beyond warranty, if any, which may be made by such manufacturer,
- (2) any unit which shall have been subject to misuse, negligence, alteration or accident or which shall have been repaired by anyone other than Warren or its authorized service distributor in any way so as in the judgment of Warren to affect adversely its performance or reliability, or
- (3) normal maintenance services.

**Purchaser's Exclusive Remedies.** Warren's sole obligation under this warranty will be to repair or replace. At its option, any warranted unit or part as described above which shall be returned to Warren's factory or authorized service distributor and which examination shall disclose to Warren's satisfaction to have been defective. Freight or other transportation costs to and from the factory or authorized service distributor must be paid by the purchaser. Warren will not assume any charges for repairs made by anyone other than Warren or its authorized service distributor.

**Exclusion of other Warranties.** No other warranty is made by Warren and in particular Warren makes NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. Warren neither assumes nor authorizes any person to assume for it any liability other than described herein.

**Limitations of Actions.** Without extending the period of warranty stated above, any action for breach of warranty must be commenced within one year of the breached claimed or forever barred.

**Limitations of Damages.** The purchaser's remedy stated above shall be exclusive for any claims against Warren whether based on contract, negligence, tort, or any other theory. In no event shall Warren be liable for any consequential damages which may result from any defect or failure of a unit or part.

**Warren, Inc.**

**707 North Fir Ave., P.O. Box 1719, Collins MS 39428**

**Phone: (601) 765-4554 Fax: (601) 765-4554**

## **GENERAL DESCRIPTION**

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The Warren Model AC-1410A/ 1420A is a small hopper type spreader design for mounting on light duty trucks. It will spread abrasives and/or chemicals for ice and dust control. Driver controls spreader operation from the cab. All electrically welded ASTM A570 A-45 Hi-Tensile 12 ga steel hopper has integral sides and sills with sides extended full length of spreader. Top edge of sides and ends are inverted "J" formed for hopper rigidity yet for easy maintenance. Sides are set at 45° to provide easy material flow and bottom panel is reinforced. Cross sills are  $\frac{3}{8}$ " x  $1\frac{1}{2}$ " flat and sides are fully supported with a center of gravity lift point. 4 tie down mounting assemblies are provided. Lever operated hinged feed gate control. Standard paint is Omaha Orange.

Overall width 14"—conveying width 10" with a 6" x 10" maximum feed gate opening. All steel heat treated pintle type conveyor chain with  $\frac{3}{8}$ " x  $\frac{3}{4}$ " cross bars on 5" centers. Flame cut steel drive and idler sprockets integrally mounted to cold roll shafting. Screw type idler adjustment with self-aligning bearings for proper conveyor belt tension. 20:1 reduction conveyor gearbox flange mounted to body sill with  $1\frac{1}{4}$ " dia. drive shaft. A 4:1 reduction roller chain drive from engine to gearbox provides an overall reduction of 80:1. A single 14" dia. spinner with 3 integral formed fins and hub. Fully enclosed 12 ga steel chute assembly with internal baffle for material flow control to spinner. 4 rod adjustable exterior baffles on all sides of spinner. Spinner driven by roller chain drive from conveyor gearbox input shaft. Spinner shaft horizontally adjustable and mounted in 2 sealed pillow block type ball bearings.

Auxiliary engine drive - air cooled vertical crankshaft, IC. 12 1/2 hp @ 3600 RPM engine -1 cyl., 4 cycles with electric/starter/alternator, governor, oil foam air cleaner, electric clutch, battery mount inside engine hood (less battery). Cab controls with ignition switch and electric throttle control. All control wires have breakaway connector and screw connector for throttle cable. Hinged engine hood integral with body side sheet.

### **OPTIONAL ATTACHMENTS**

Hopper Screens, Inverted "V" Shield, Side Extensions, Hydraulic Drive, Warning Light, Stainless Steel Type 304, Spinner Extensions.

**Table 1: Dimensions and Capacities**

**AC-1410A SPECIFICATIONS:**

<b>Hopper Length</b>	<b>Spreader Width</b>	<b>Spreader Height</b>	<b>Spreader O.A. Length</b>	<b>Capacity Struck Cu. Yds.</b>	<b>Capacity Rounded Cu. Yds.</b>	<b>Shipping Weight</b>
8'	50"	32 ½"	9'-6"	1.8	2.1	865

## **INSTALLATION**

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### **SELECTION OF TRUCK**

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The truck selected must have an adequate Gross Vehicle Weight Rating (GVWR) to handle the weight of the spreader and payload. This information can be obtained from the truck dealer or manufacturer. The spreader length should be as close as possible to the truck body. Model AC-1410A spreaders are designed with the conveyor 6" longer than the hopper to permit locating the spreader farther forward in the truck body to provide better weight distribution.

### **DUMP BODY TIE DOWN**

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Four sets of body tie downs are provided in mounting kit. When truck is driven after spreader is loaded, tie downs should be checked and retightened if needed. The condition and proper adjustment of these tie downs is critical to the safe operation of this equipment.

### **INSTALLATION OF DISTRIBUTOR SPINNER ASSEMBLY**

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Position spinner assembly in such a way that tee bolts can be installed tighten bolts until other bolt holes line up, then install other bolts in rear of assembly. Tighten all bolts so that assembly becomes rigid with spreader. Install spinner drive chain making sure sprockets are aligned by using a Straight edge. Tighten chain by moving spinner shaft sideways to the right by sliding bearings in slotted mounting holes. **DO NOT** start spreader without Chain guard installed.

### **INSTALLATION OF CONTROLS**

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Find place in truck cab *where* control panel can be mounted without Interfering with truck operation but close enough to driver so that he *can operate* spreader while driving truck. Find path that electrical and throttle cables can follow from control panel to spreader. Both cables have quick disconnect coupling. Female portion of *electric* cable is designed so that it may be mount to the truck cab.

### **STARTING AUXILIARY ENGINE**

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**CAUTION: READ THIS FIRST.** Refer to engine manufacturer's instructions. Normally engine has been filled with oil but check to be sure it is to correct level. Be sure spreader clutch switch

is off. Battery required is a minimum Group No. U1-42 and should measure approximately 7 3/4" x 5 1/4" x 7.

## **SAFETY**

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Before starting spreader - read the following safety procedures and observe them at all times when spreader is in operation. By following these rules and applying common sense, injury to the operator and or damage to the spreader can possibly be avoided.

1. Read and know operation and safety suggestions in this manual.
2. Before starting engine and or spreader be sure all people are *dear* of machine.
3. Be sure all parts of spreader removed for adjustment or cleaning are replaced and properly affixed.
4. *Secure* all parts and mounting hardware so that they won't come loose.
5. Remove any cleaning materials and tools used in cleaning spreader.
6. See that all safety guards are in place.
7. Make sure there is no loose clothing or unrestrained hair close to machine when in operation.
8. Do not have tools or cleaning rags hanging out of pockets near spreader when it is running.

## **SPREADER OPERATION**

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### **INITIAL START-UP**

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1. Inspect complete spreader to be sure all bolts are properly tightened pins be right position, set screws are tight conveyor chain is evenly adjusted, primary lid spinner roller chain drives are aligned and correctly tensioned, and body tie downs are secure.
2. Remove any loose material in hopper or distributor spinner assembly.
3. See that gear box has adequate lubricant arid that all bearings are properly lubricated.
4. Open feed gate slightly and put external baffles in full down position. Start engine and let it warm up (be sure spreader is disengaged). when engine is warm at idle speed engage spreader operation by moving clutch switch to on-let spreader run at engine idle for several minutes then gradually increase to full engine speed letting it run there for several minutes. While unit is running observe mechanical drives and spinner and conveyor operation to be sure everything is functioning correctly.

## SETTING UP TO SPREAD

After truck is loaded with material (make sure material & spreader weight don't exceed truck rating) and you are traveling to where you are to start spreading reduce speed to a minimum when road surface is rough for this can cause excessive packing of material on conveyor- particularly at railroad crossings. When you arrive at your "starting point" you will need to determine just how wide you want to spread in each direction from truck. With external baffles fully raised engage spreader operation and increase engine speed to desired position Adjust internal chute baffles to control spread direction and then adjust external baffles in conjunction with engine speed to obtain desired width of spread. Too much force of material against external baffles can cause premature wear.

Now you are ready to start spreading keep a look out in your rear-view mirrors to be sure you are getting the desired pattern. Also, be sure that the external baffles are doing their job of keeping material from striking pedestrians, parked cars and traffic.

### LUBRICATION CHART

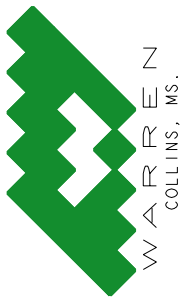
Description	Service Location	No. of Points	Method of Lubrication	Daily	Weekly	Monthly	Semi Annual
<b>Gear Boxes</b> Conveyor	Plug side of case	1	Lube Oil				X
<b>Universal Joints</b> PTO Drive Line to Hyd. Pump	Beneath Truck	3	Grease Gun		X		
<b>Bearings</b> Conveyor Drive	Both side of conveyor drive shaft at rear	2	Grease Gun		X		
Conveyor Idler	Both side of conveyor idler shaft at front	2	Grease Gun		X		
<b>Chain</b> Conveyor	Chain 2 strand	2	Spray Oil	X			
<b>Feed Gate Jack</b> Tube	Rear of tube	1	Grease Gun			X	
Gears	Top of Jack	1	Hand Grease				X
<b>Spinner</b>	Bearing on drive shaft	1	Grease Gun		X		

#### Lubrication Recommended:

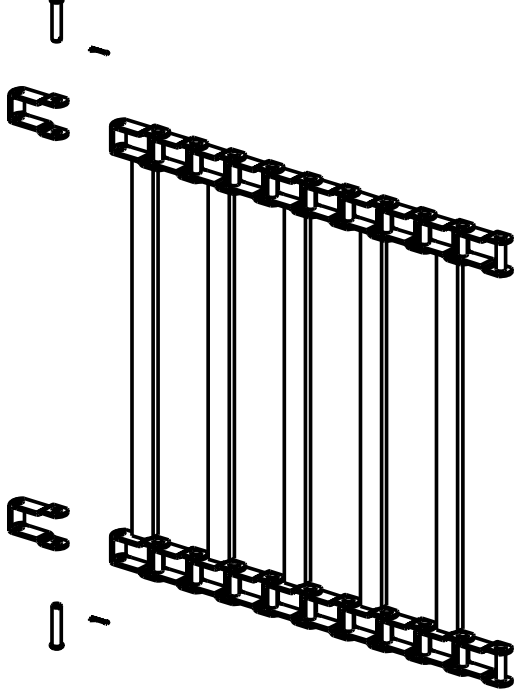
- Gearbox - SAE 90 EP Gear Lube non-corrosive MIL - L2105B Multi-Purpose
- Grease Gun - Ball and Roller Bearings Lithium Base Grease - conforming to NLG1 number 2 consistency - Waterproof
- Spray Oil - for chain - make up of 75% #1 or #2 diesel fuel, 25% SAE 10W-40
- Oil – SAE 10W non-detergent motor oil or equal hydraulic oil (for AC-1420A)

## **PARTS LIST AND ILLUSTRATIONS**

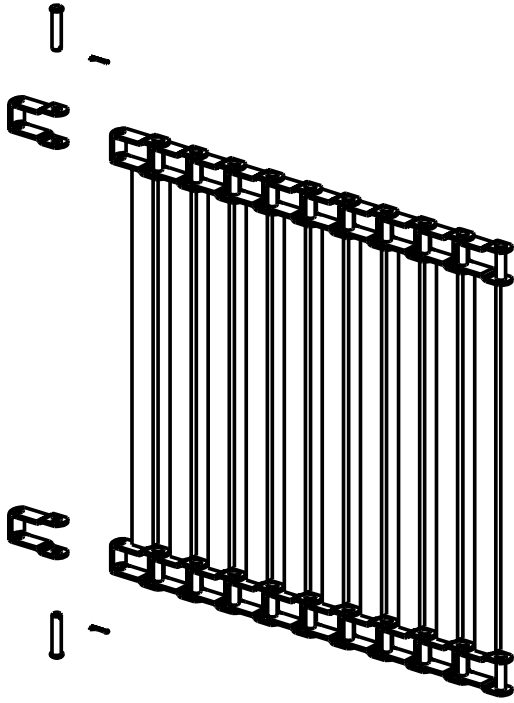
Chain Assembly.....	10-29
Feed Gate & Spreader Assembly.....	30-34
Hydraulic Assembly.....	35-41



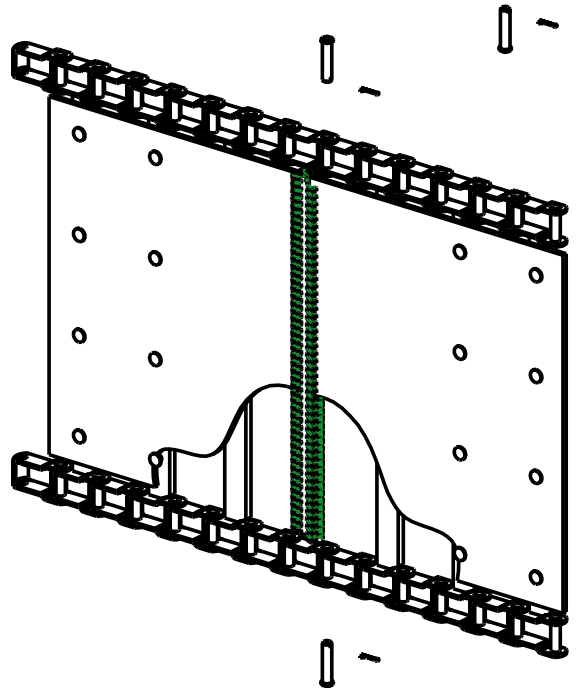
#2 PINTLE - BAR EVERY OTHER LINK



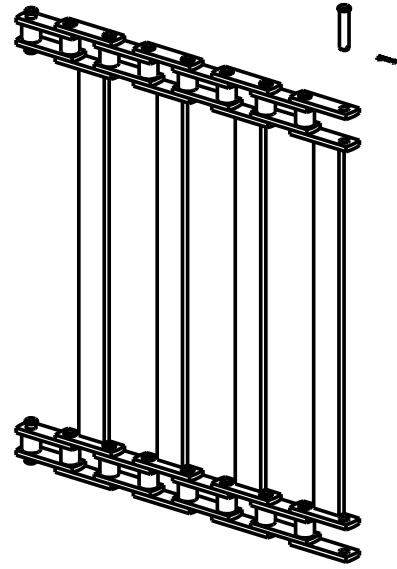
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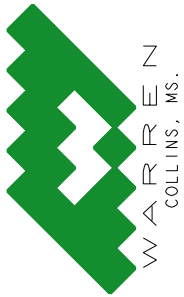


#4 BELT OVER - BAR EVERY LINK

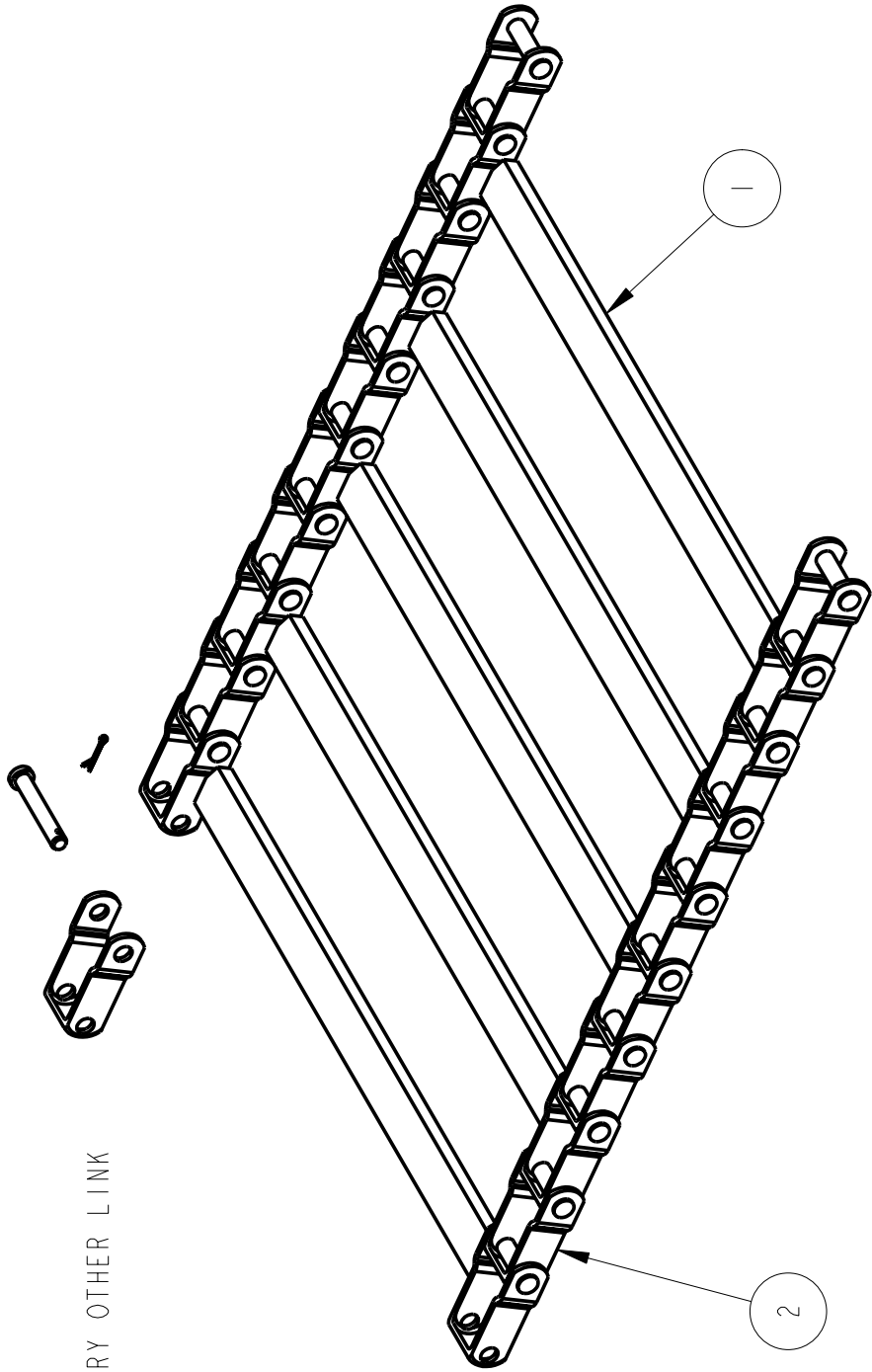


#2 ROLLER - BAR EVERY OTHER LINK

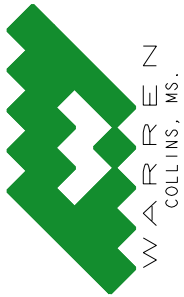




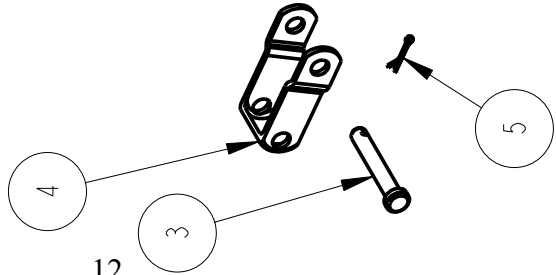
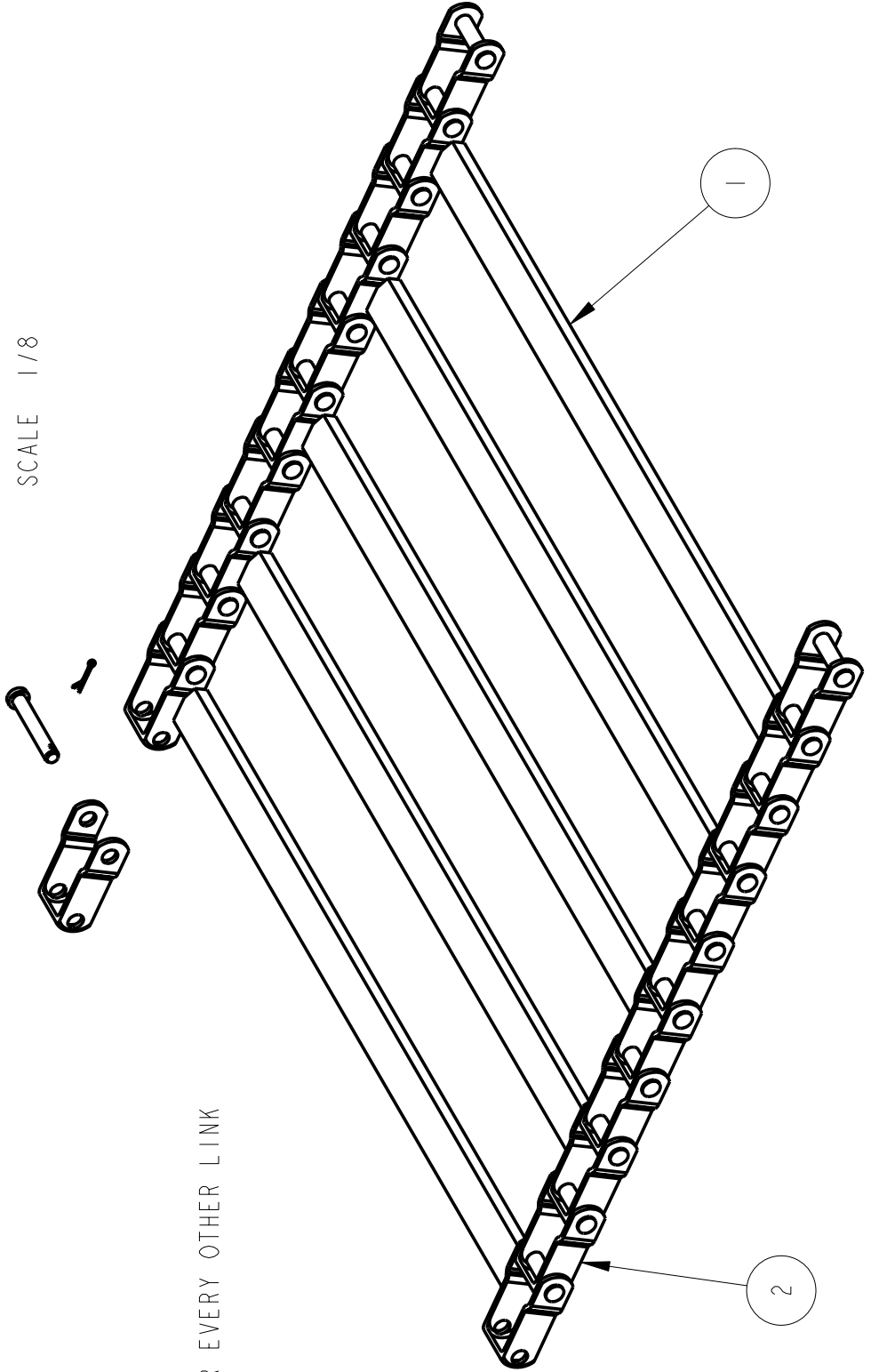
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	5	200070-20	300-30170	CROSS BAR - PINTLE CHAIN - 24 IN	2.537
2	20	FM-00479	700-30031	CHAIN - PINTLE - 667X	0.310
3	2	FM-00497	800-30045	PIN - PINTLE CHAIN	0.091
4	2	FM-00498	700-30032	CHAIN LINK - 667X CHAIN	0.229
5	2	FM-00499	TBD	COTTER PIN	0.001

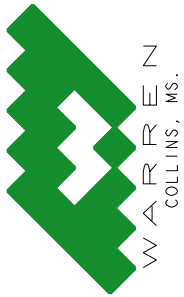






ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	5	200070-21	TBD	CROSS BAR - PINTLE CHAIN - 30 IN	2.511
2	20	FM-00479	700-30031	CHAIN - PINTLE - 667X	0.310
3	2	FM-00497	800-30045	PIN - PINTLE CHAIN	0.091
4	2	FM-00498	700-30032	CHAIN LINK - 667X CHAIN	0.229
5	2	FM-00499	TBD	COTTER PIN	0.001

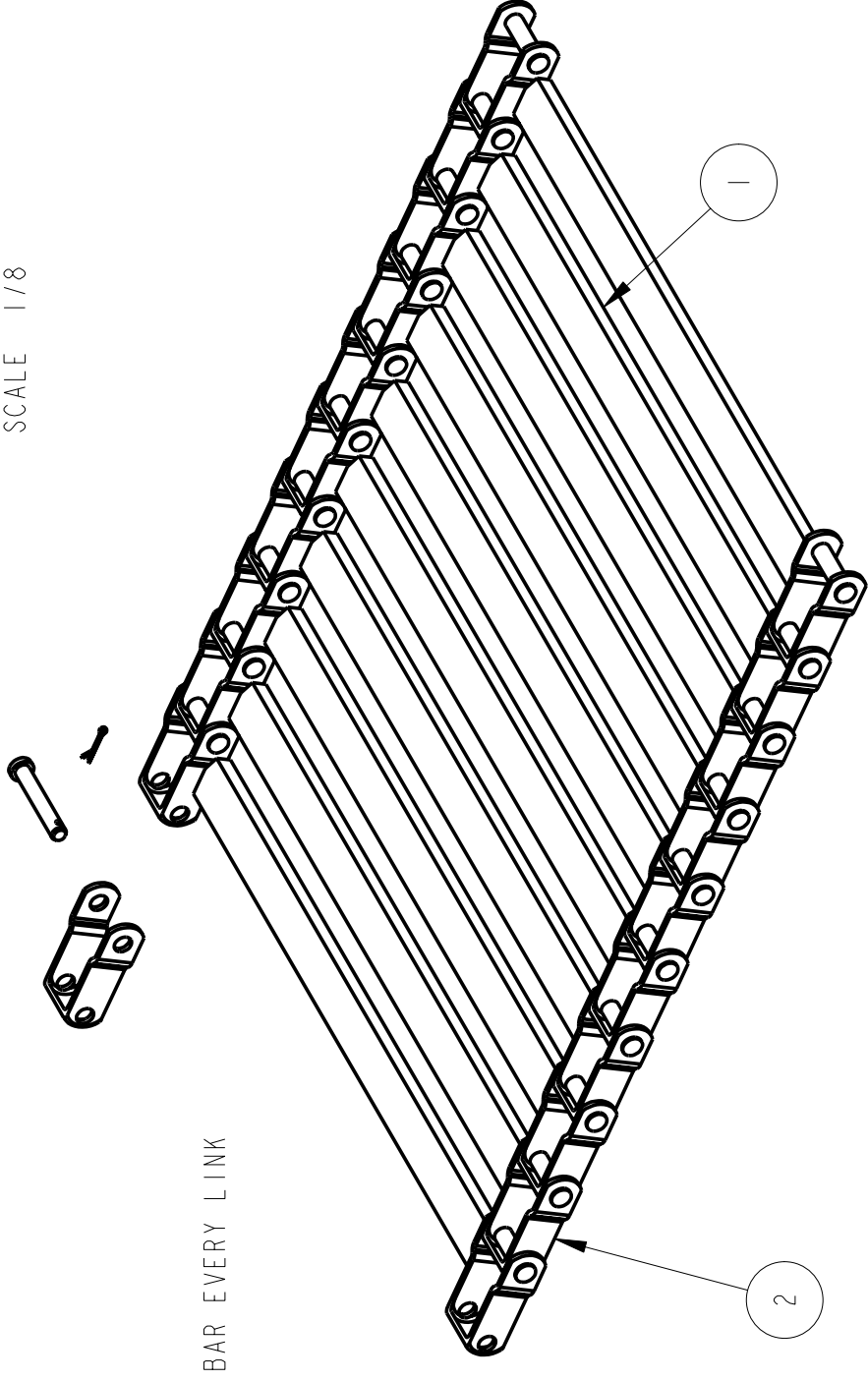


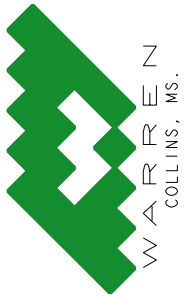


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4	2	FM-00498	700-30032	CHAIN LINK - 667X CHAIN	0.229
5	2	FM-00499	TBD	COTTER PIN	0.001

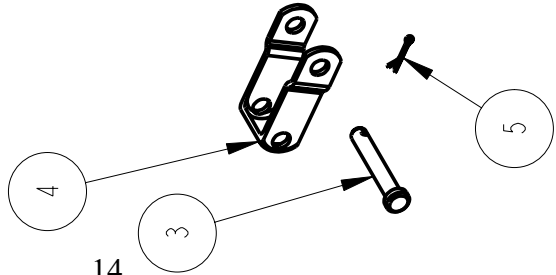
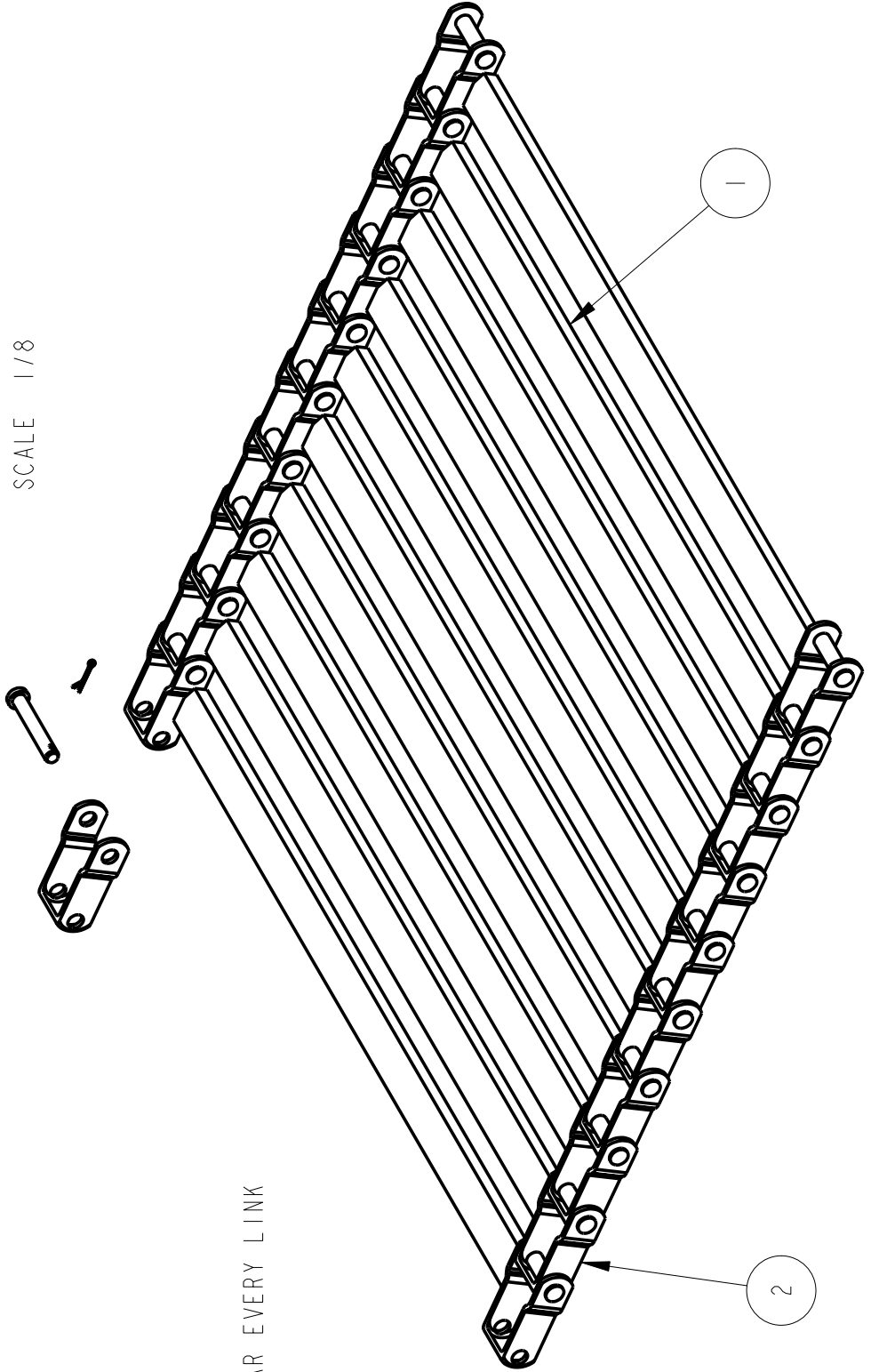
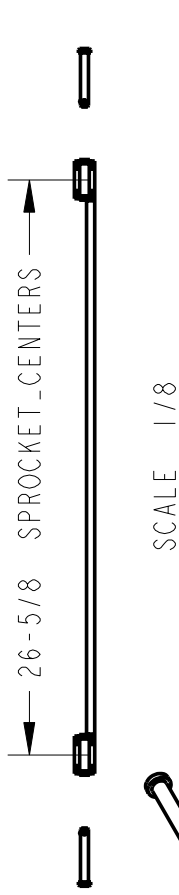


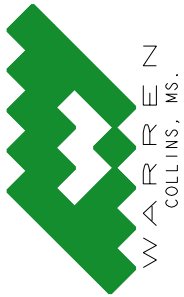
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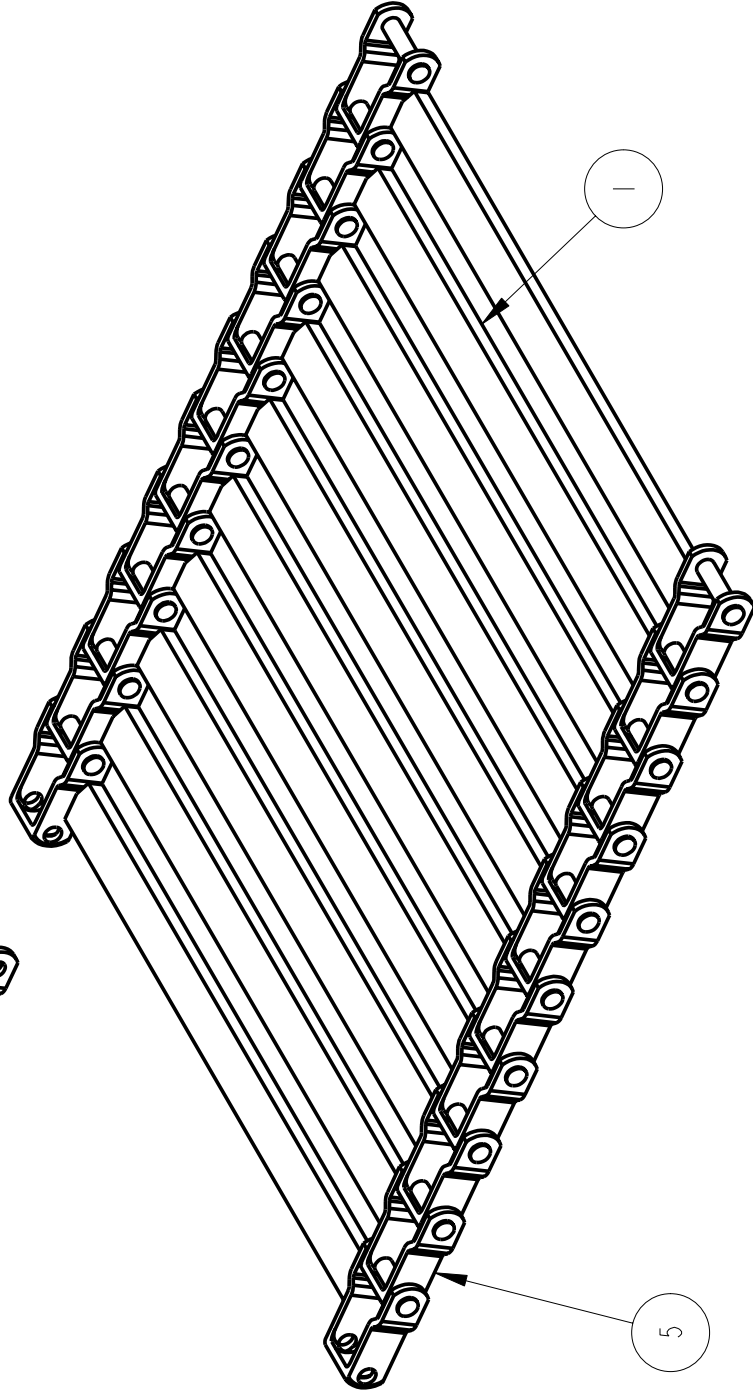
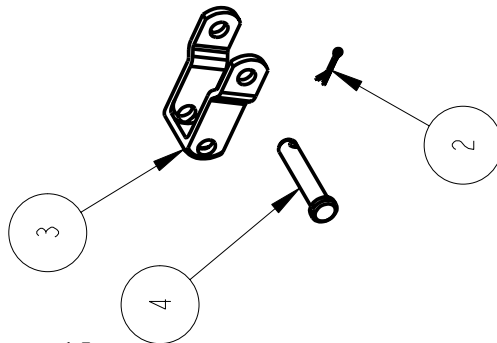
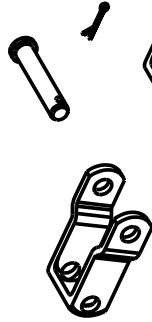


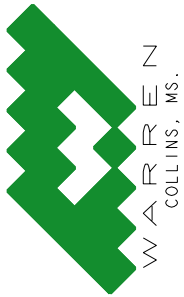


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1	10	200070-20	300-30170	CROSS BAR - PINTLE CHAIN - 24 IN	2.537
2	2	COTTER_PIN-XH	NA	COTTER PIN FOR XH CHAIN	0.001
3	2	FM-00653	700-30072	CHAIN LINK - 667XH CHAIN	0.326
4	2	FM-00654	800-30045	PIN - PINTLE CHAIN - 667XH	0.113
5	20	FM-00930	700-30100	CHAIN - PINTLE - 667XH	0.418



BAR EVERY LINK

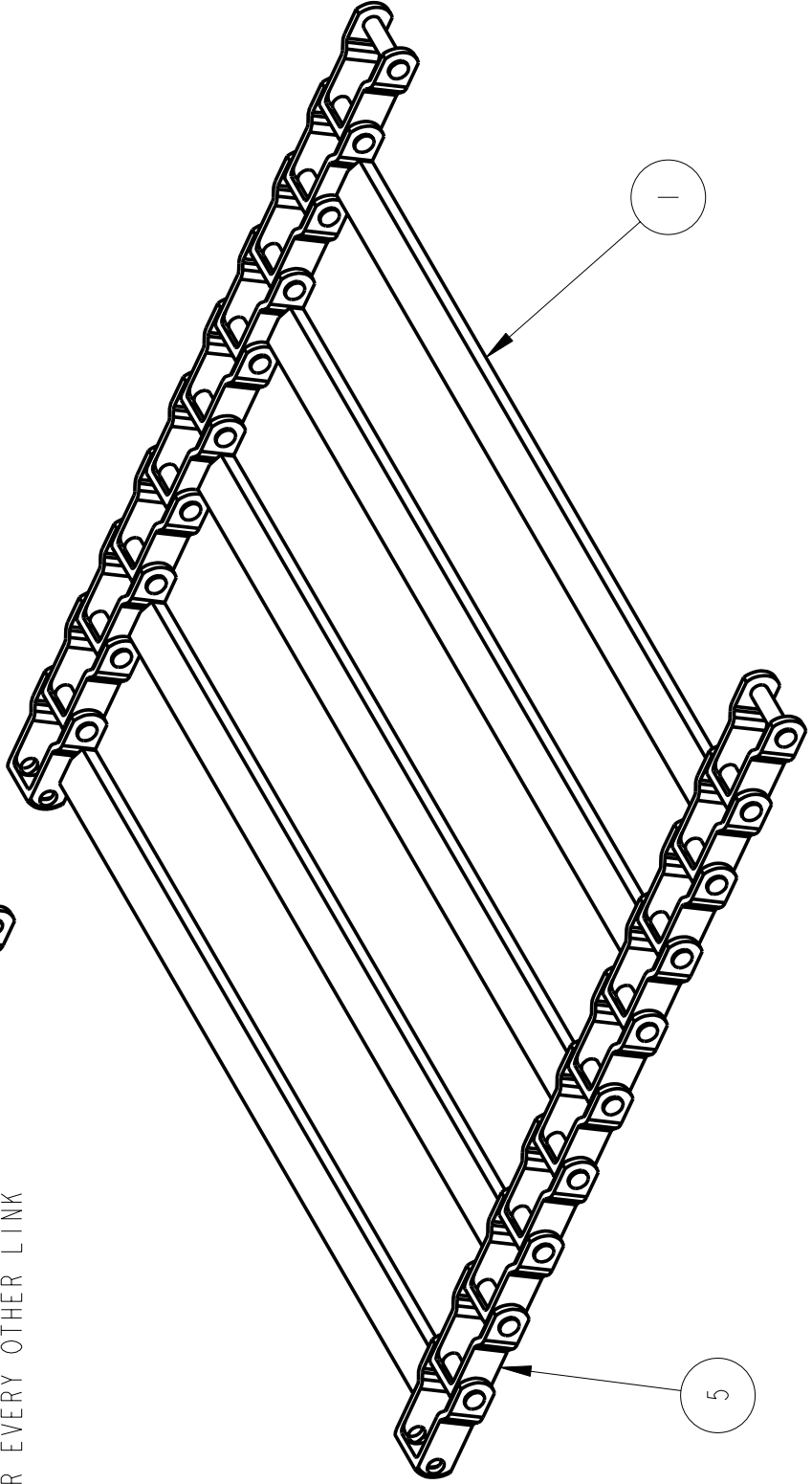
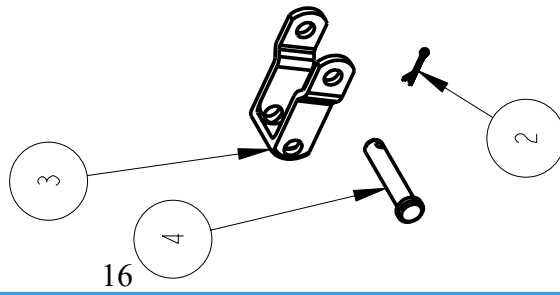


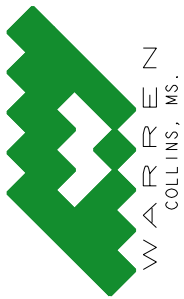


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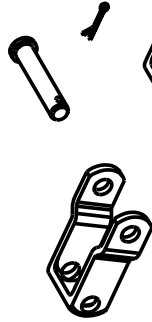


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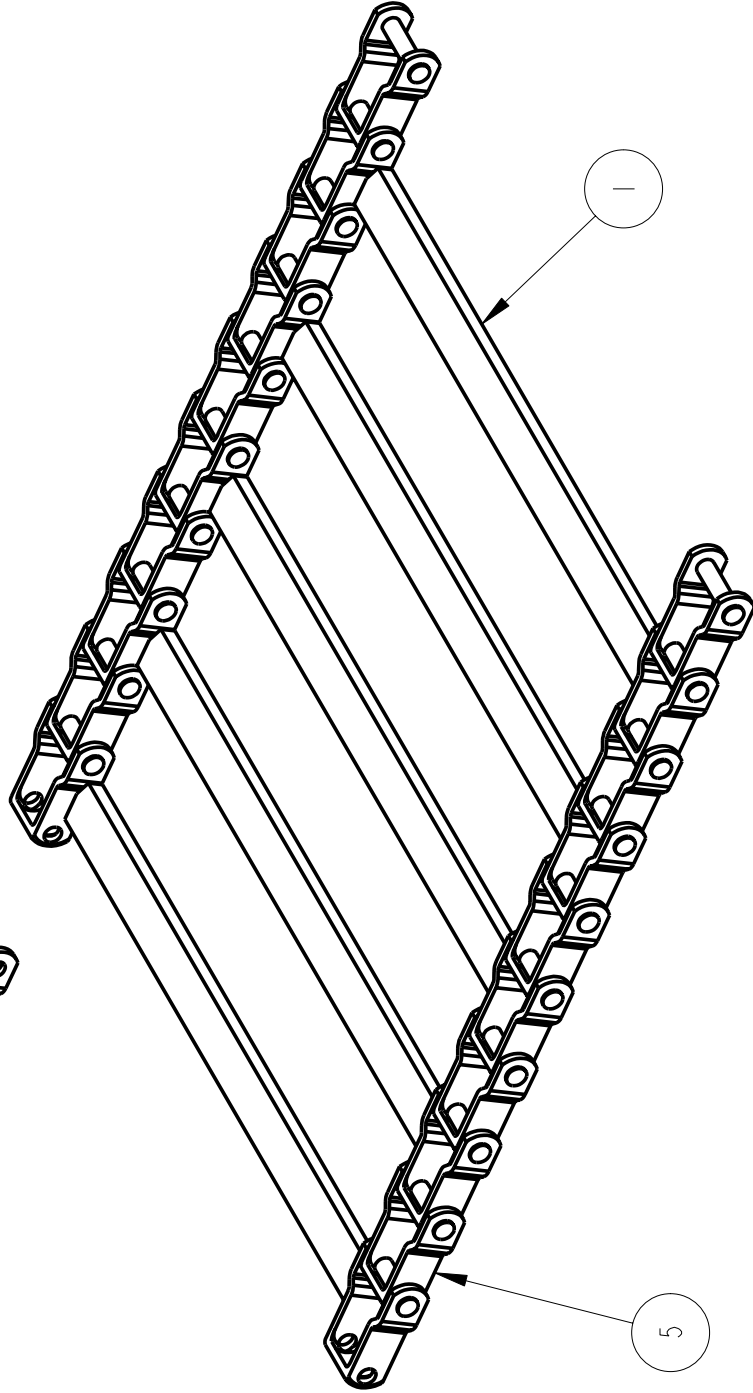
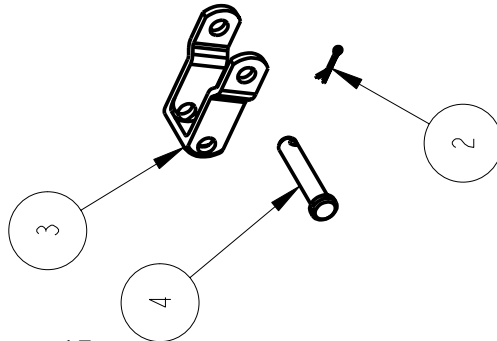


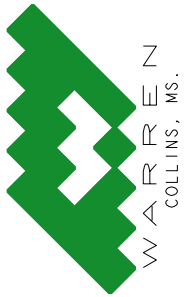


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4	2	FM-00654	800-30045	PIN - PINTLE CHAIN - 667XH	0.000
5	20	FM-00930	700-30100	CHAIN - PINTLE - 667XH	0.418



BAR EVERY OTHER LINK

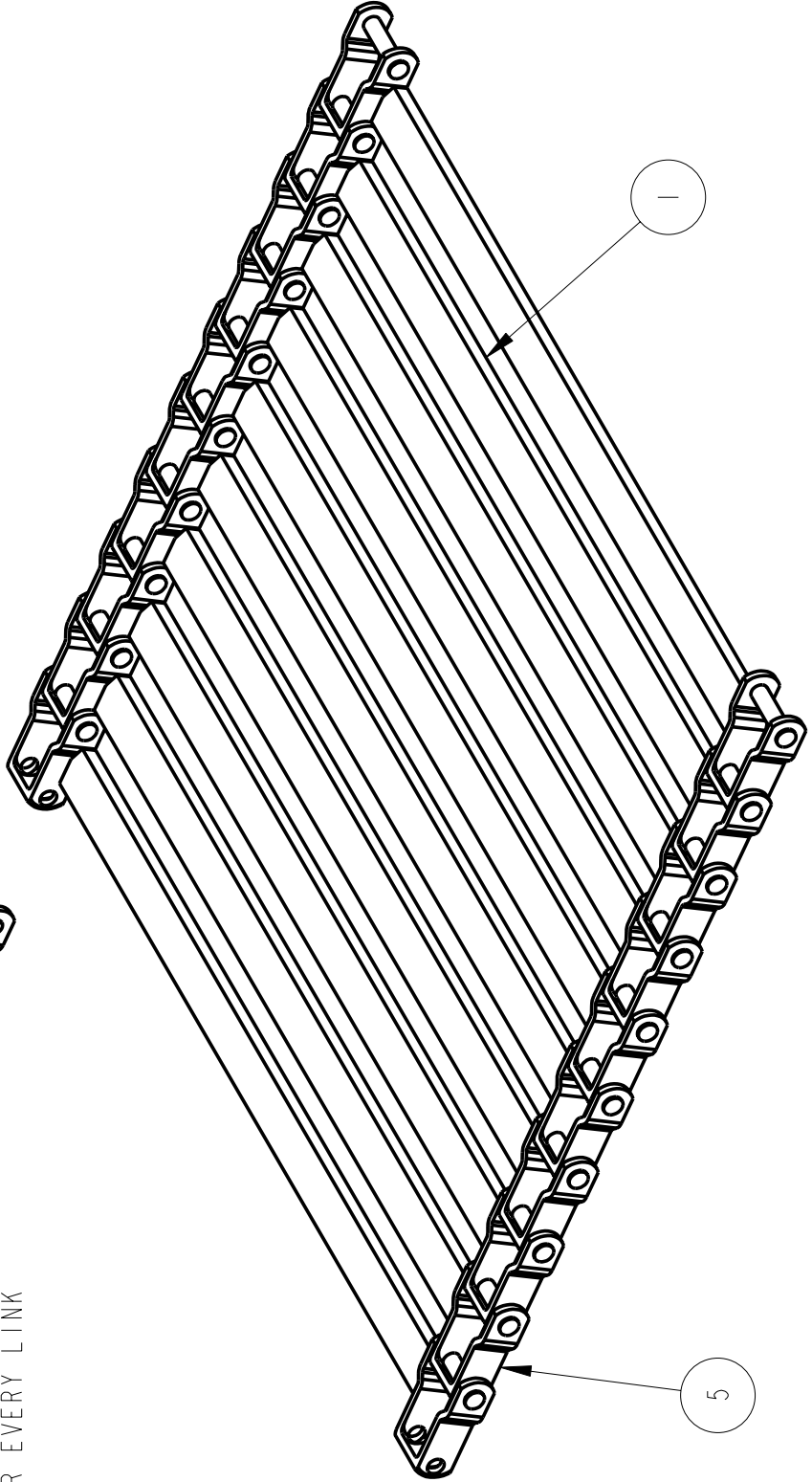
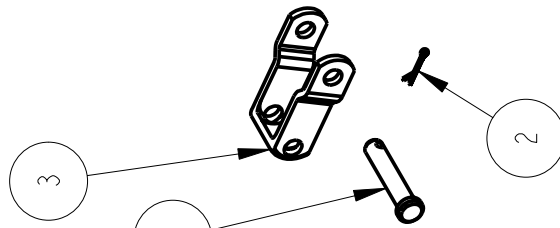


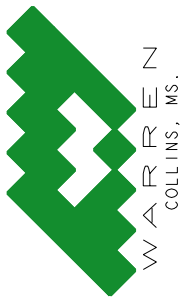


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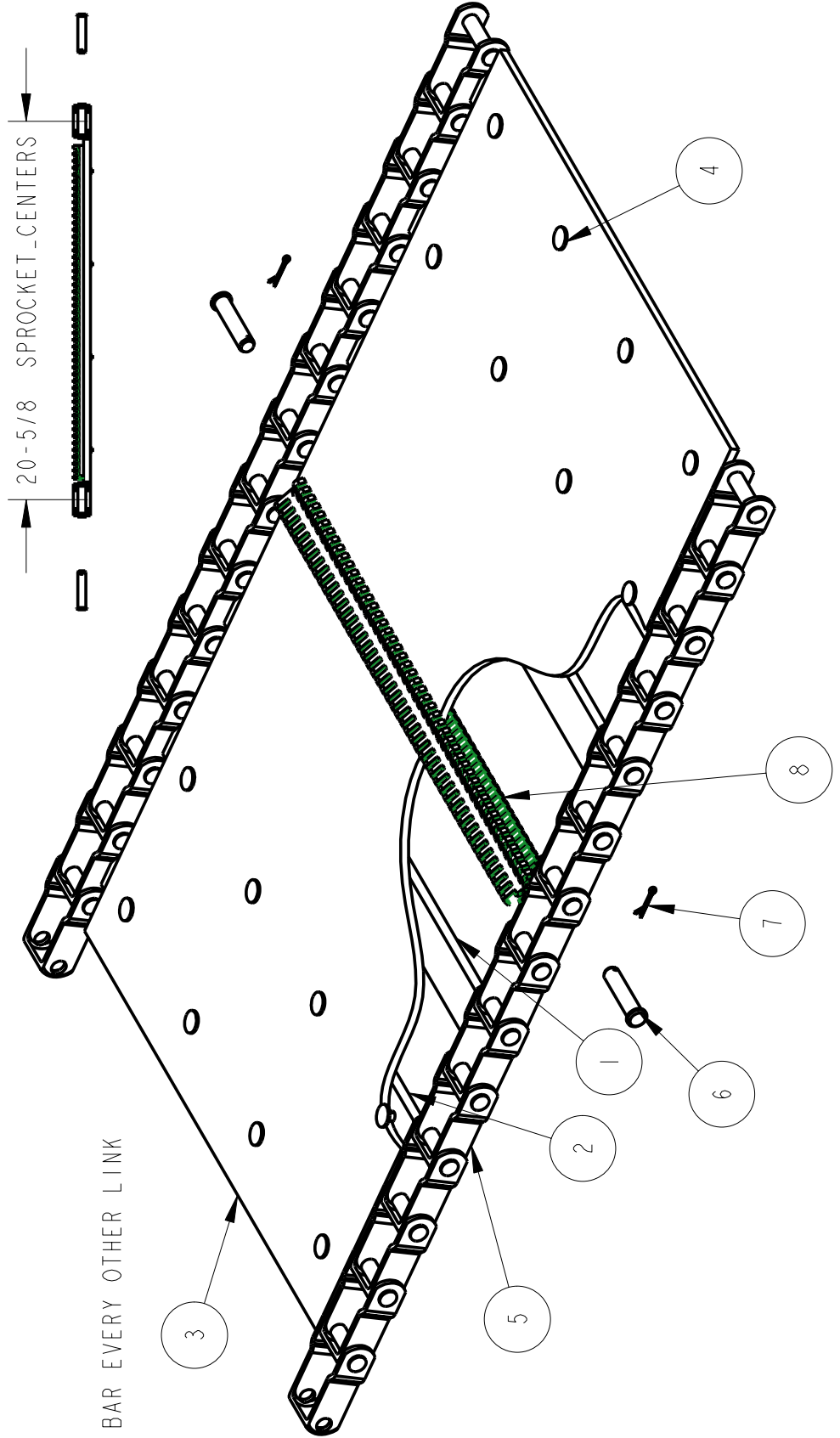


BAR EVERY LINK





ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	2	200070-20	300-30170	CROSS BAR - PINTLE CHAIN - 24 IN	2.537
2	4	200070-22	TBD	CROSS BAR - PINTLE CHAIN - 24 IN	2.511
3	2	FB-00122	TBD	CONVEYOR BELT - 18 IN.	2.507
4	16	FB-00172	800-30007	BELT RIVET	0.047
5	28	FM-00479	700-30031	CHAIN - PINTLE - 667X	0.310
6	2	FM-00497	800-30045	PIN - PINTLE CHAIN - 667X	0.092
7	2	FM-00499	TBD	COTTER PIN	0.001
8	1	FM-00933	700-30101	LACING KIT - 18" WIDE BELT	0.000

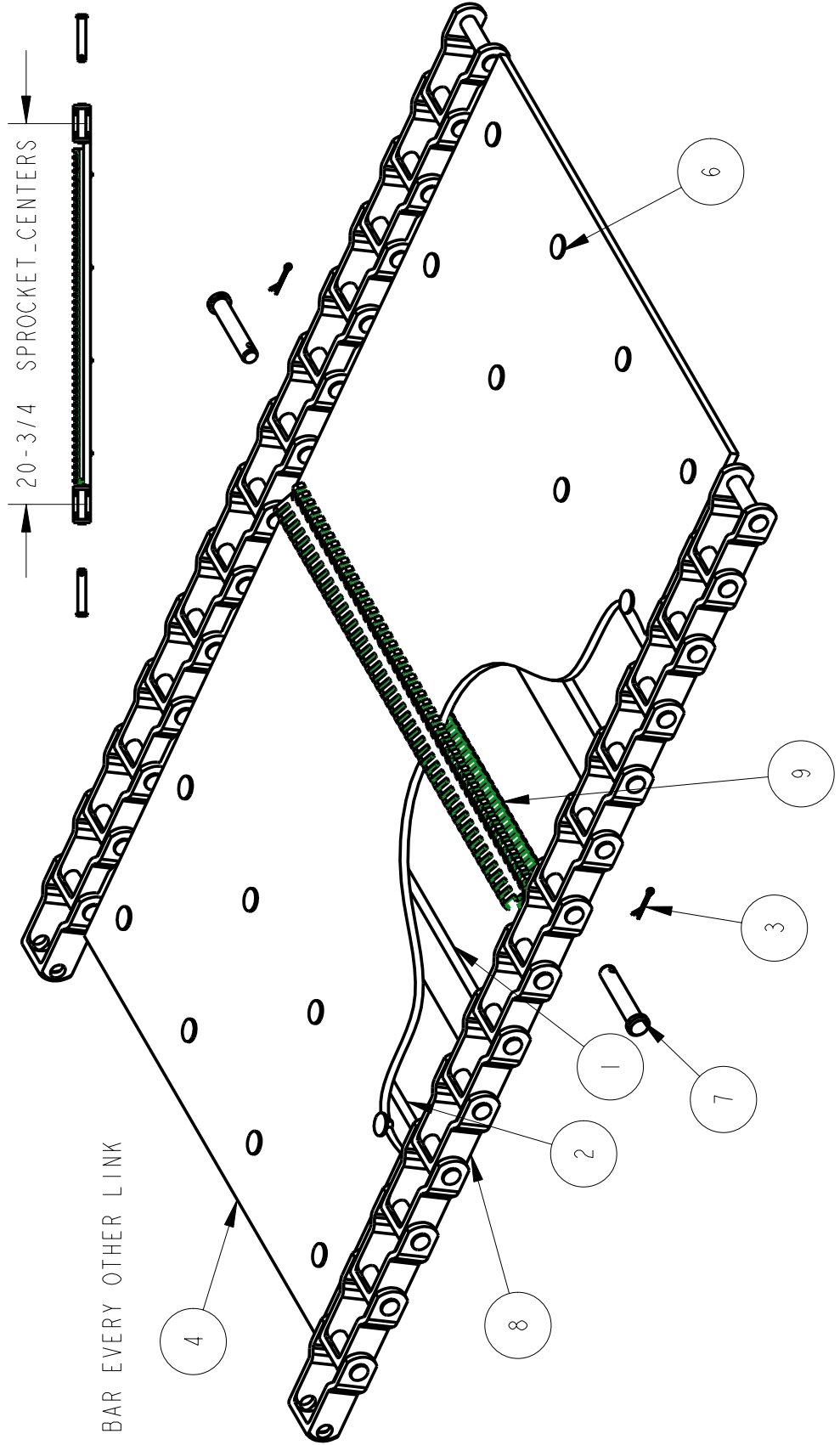






WARREN  
COLLINS, MS.

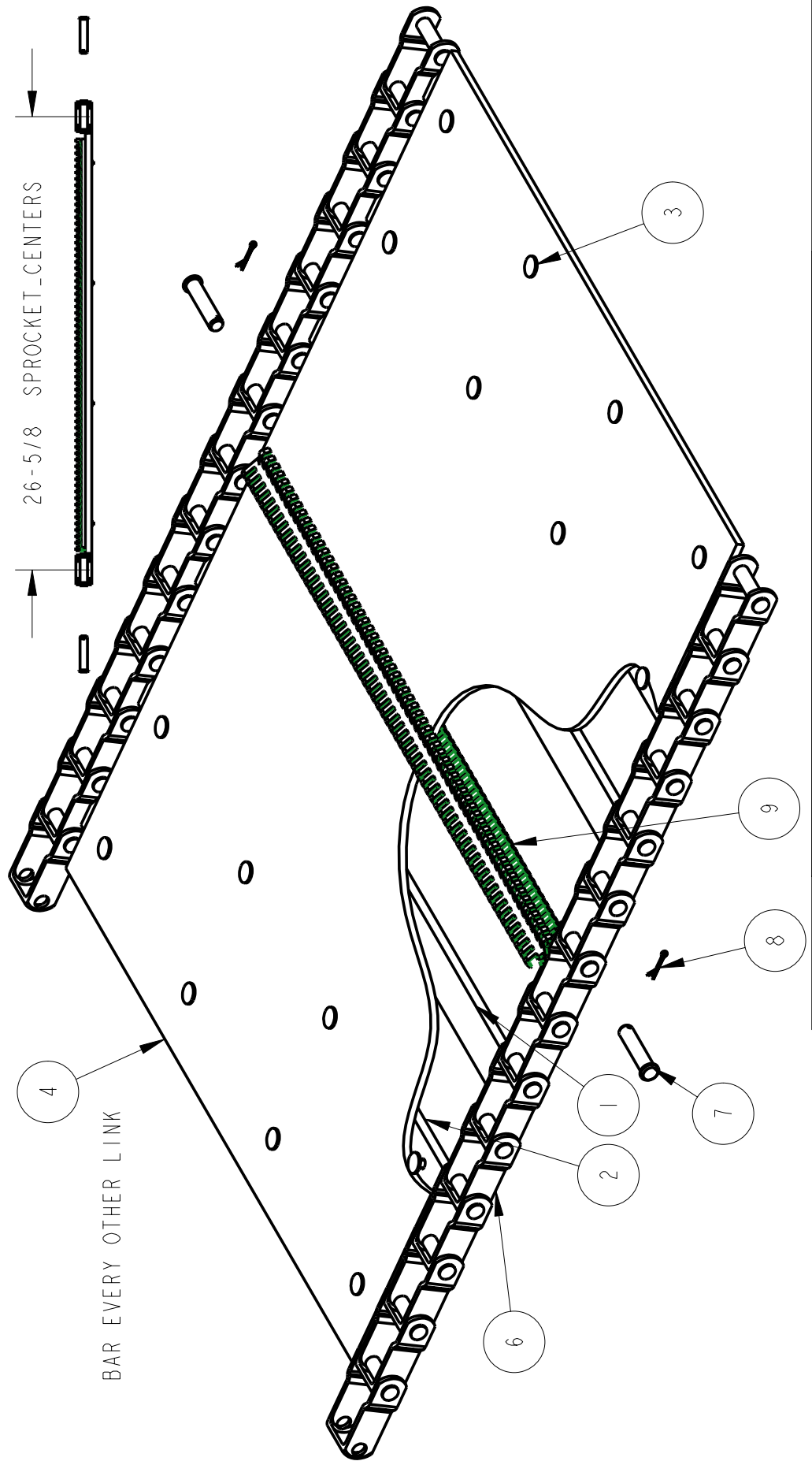
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	2	200070-20	300-30170	CROSS BAR - PINTLE CHAIN - 24 IN	2.537
2	4	200070-22	TBD	CROSS BAR - PINTLE CHAIN - 24 IN	2.511
3	2	COTTER_PIN-XH	NA	COTTER PIN FOR XH CHAIN	0.001
4	1	FB-00122	700-30006	CONVEYOR BELT - 18 IN.	2.503
5	1	FB-00122	700-30006	CONVEYOR BELT - 18 IN.	2.503
6	16	FB-00172	800-30007	BELT RIVET	0.047
7	2	FM-00654	800-30045	PIN - PINTLE CHAIN - 667XH	0.000
8	28	FM-00930	700-30100	CHAIN - PINTLE - 667XH	0.310
9	1	FM-00933	700-30101	LACING KIT - 18" WIDE BELT	0.000

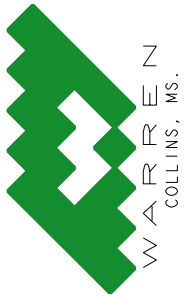




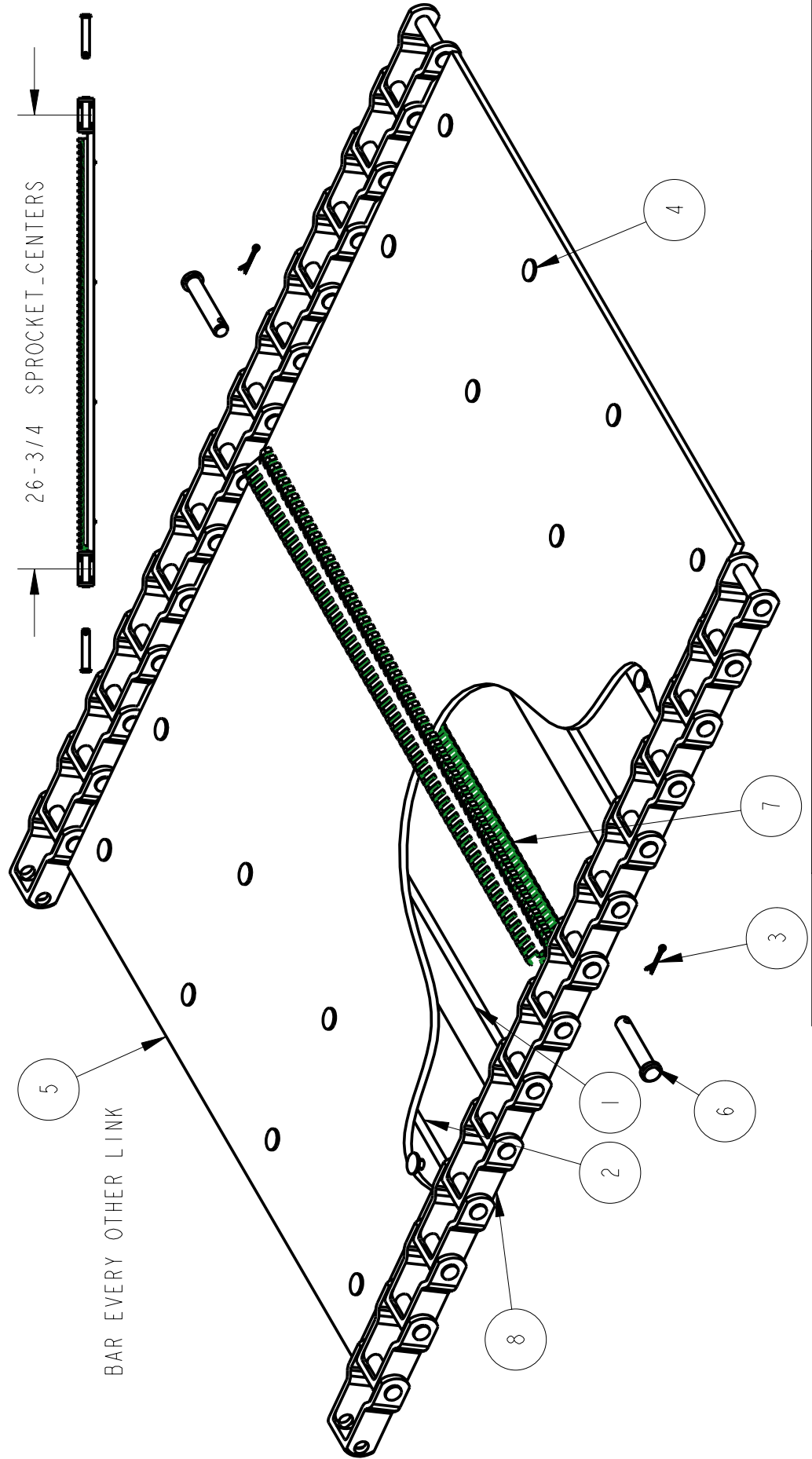
WARREN  
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	2	200070-21	TBD	CROSS BAR - PINTLE CHAIN - 30 IN	3.335
2	4	200070-23	TBD	CROSS BAR - PINTLE CHAIN - 30 IN	3.308
3	16	FB-00172	800-30007	BELT RIVET	0.047
4	1	FB-00215	700-30008	CONVEYOR BELT - 24 IN.	3.302
5	1	FB-00215	700-30008	CONVEYOR BELT - 24 IN.	3.302
6	28	FM-00479	700-30031	CHAIN - PINTLE - 667X	0.310
7	2	FM-00497	800-30045	PIN - PINTLE CHAIN - 667X	0.092
8	2	FM-00499	TBD	COTTER PIN	0.001
9	1	FM-00929	700-30099	LACING KIT - 19" -24" WIDE BELT	0.000





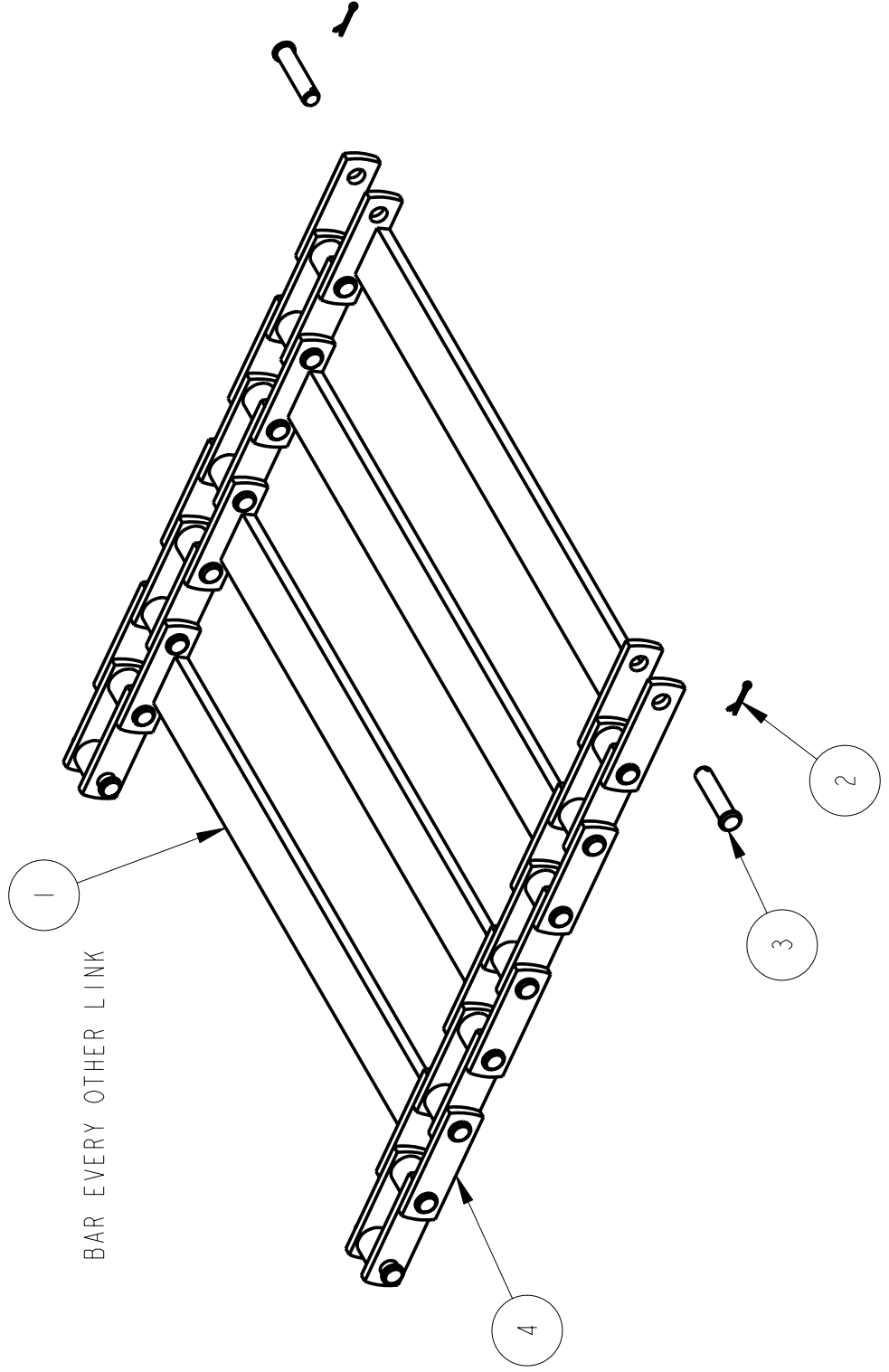
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	2	200070-21	TBD	CROSS BAR - PINTLE CHAIN - 30 IN	3.335
2	4	200070-23	TBD	CROSS BAR - PINTLE CHAIN - 30 IN	3.308
3	2	COTTER_PIN-XH	NA	COTTER PIN FOR XH CHAIN	0.001
4	16	FB-00172	800-30007	BELT RIVET	0.047
5	2	FB-00215	700-30008	CONVEYOR BELT - 24 IN.	3.306
6	2	FM-00654	800-30045	PIN - PINTLE CHAIN - 667XH	0.000
7	1	FM-00929	700-30099	LACING KIT - 19" -24" WIDE BELT	0.000
8	28	FM-00930	700-30100	CHAIN - PINTLE - 667XH	0.310



BAR EVERY OTHER LINK



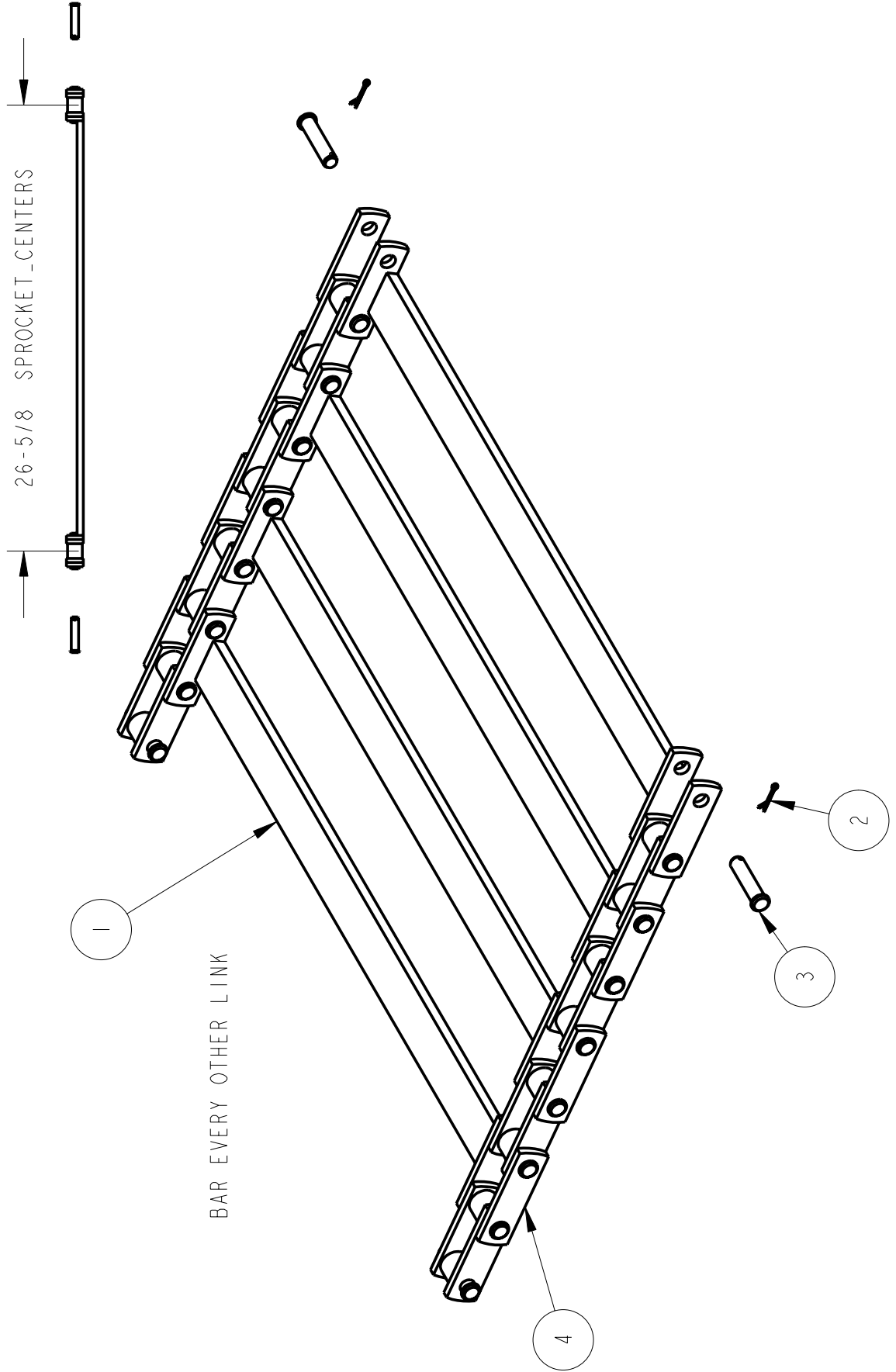
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	4	200040-01	TBD	CROSS BAR - ROLLER CHAIN - 24 IN	2.991
2	2	COTTER_PIN-ROLLER	NA	COTTER PIN FOR ROLLER CHAIN	0.001
3	2	FM-00306	800-30045	PIN - ROLLER CHAIN	0.092
4	8	FM-00326	TBD	ROLLER CHAIN	3.963



BAR EVERY OTHER LINK



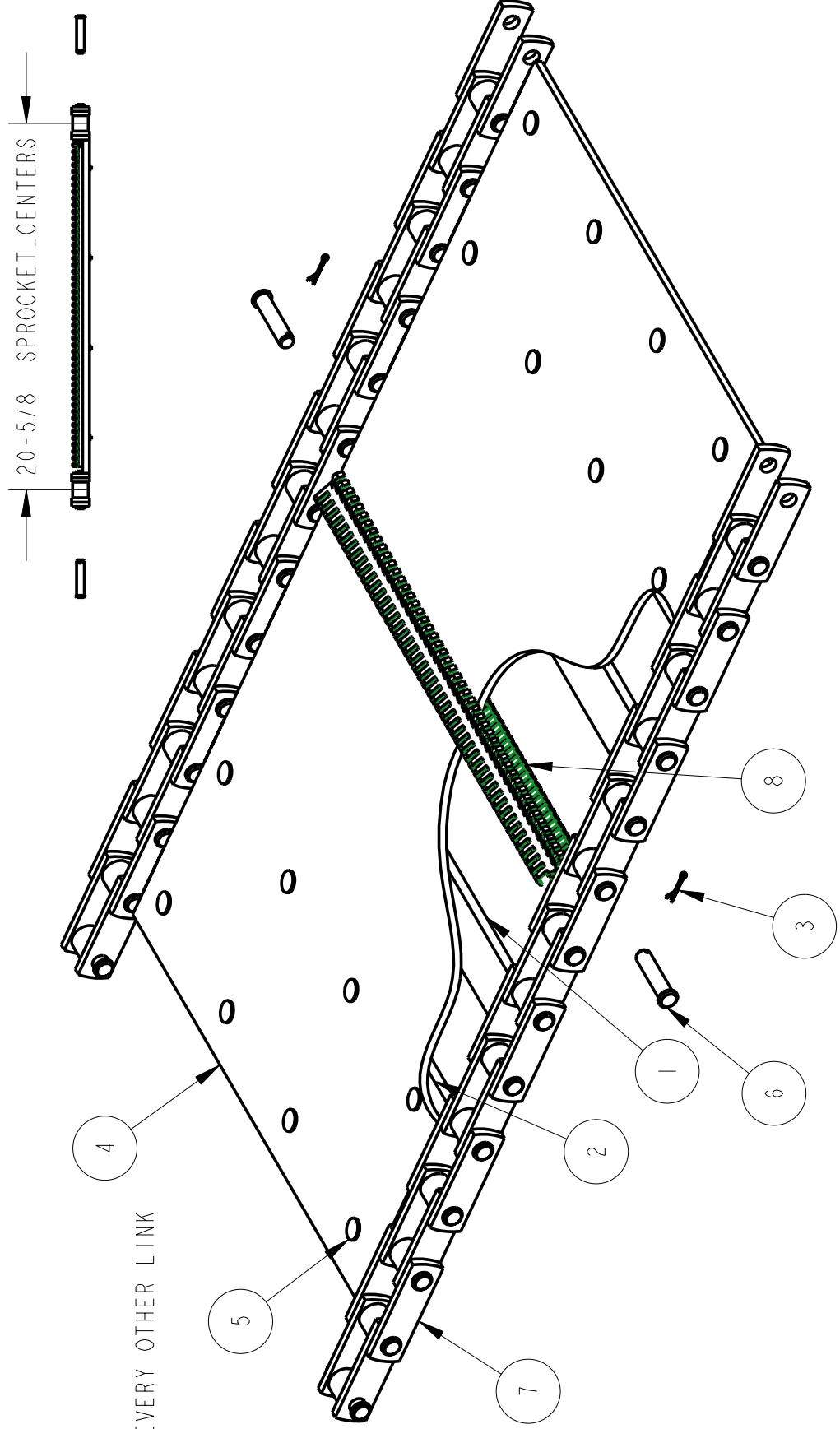
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	4	200040-02	TBD	CROSS BAR - ROLLER CHAIN - 24 IN	3.948
2	2	COTTER_PIN-ROLLER	NA	COTTER PIN FOR ROLLER CHAIN	0.001
3	2	FM-00306	800-30045	PIN - ROLLER CHAIN	0.092
4	8	FM-00326	TBD	ROLLER CHAIN	3.963

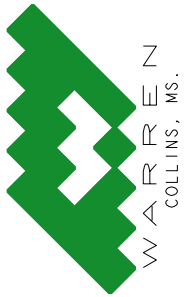




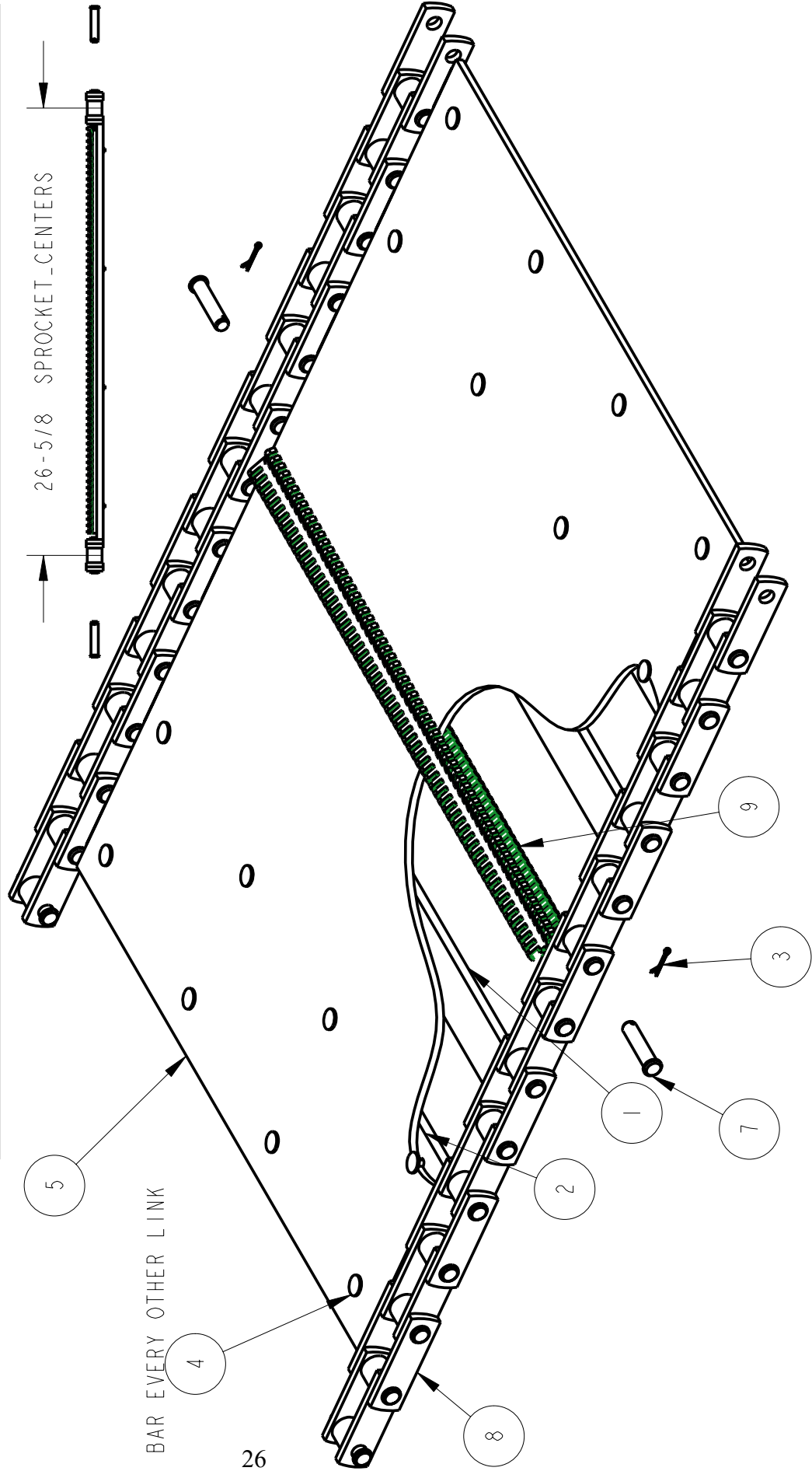
WARREN  
COLLINS, MS.

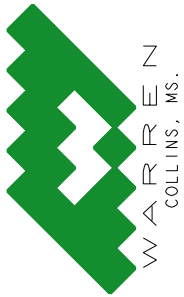
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	2	200040-01	TBD	CROSS BAR - ROLLER CHAIN - 24 IN	2.991
2	4	200040-04	TBD	CROSS BAR - ROLLER CHAIN - 30 IN	2.964
3	2	COTTER_PIN-ROLLER	NA	COTTER PIN FOR ROLLER CHAIN	0.001
4	2	FB-00122	700-30006	CONVEYOR BELT - 18 IN.	2.505
5	16	FB-00172	800-30007	BELT RIVET	0.047
6	2	FM-00306	800-30045	PIN - ROLLER CHAIN	0.092
7	14	FM-00326	700-30106	ROLLER CHAIN	3.963
8	1	FM-00933	700-30101	LACING KIT - 18" WIDE BELT	0.000



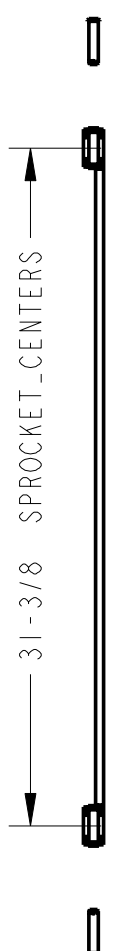


ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	2	200040-02	TBD	CROSS BAR - ROLLER CHAIN - 24 IN	3.948
2	4	200040-05	TBD	CROSS BAR - ROLLER CHAIN - 30 IN	3.921
3	2	COTTER_PIN-ROLLER	NA	COTTER PIN FOR ROLLER CHAIN	0.001
4	16	FB-00172	800-30007	BELT RIVET	0.047
5	1	FB-00215	700-30008	CONVEYOR BELT - 24 IN.	3.302
6	1	FB-00215	700-30008	CONVEYOR BELT - 24 IN.	3.302
7	2	FM-00306	800-30045	PIN - ROLLER CHAIN	0.092
8	14	FM-00326	700-30106	ROLLER CHAIN	3.963
9	1	FM-00929	700-30099	LACING KIT - 19" -24" WIDE BELT	0.000

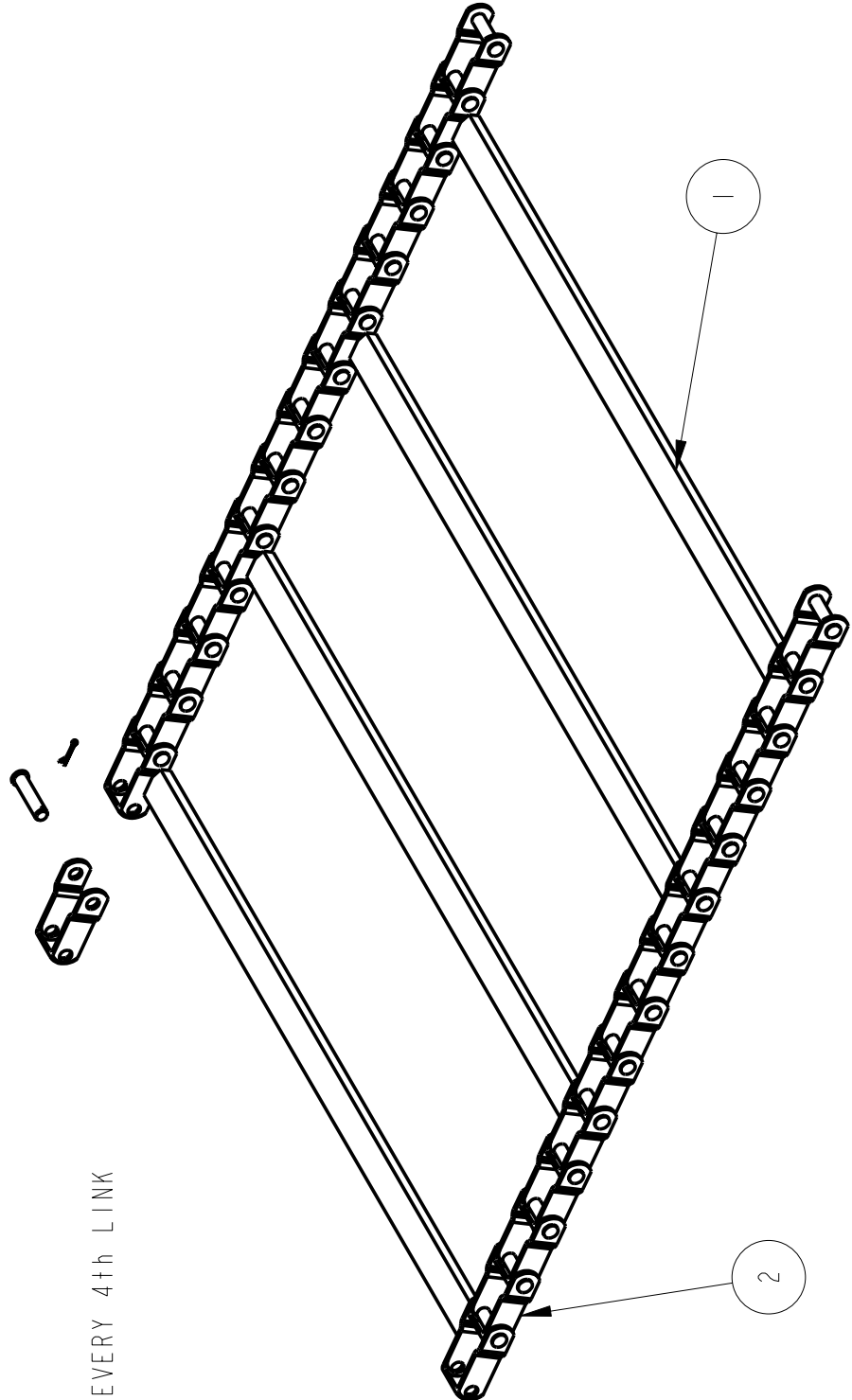




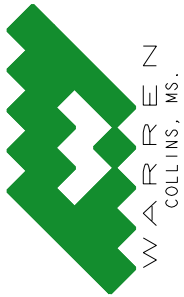
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	4	200040-18	TBD	CROSS BAR - PINTLE CHAIN - 30 IN	3.967
2	28	FM-00479	700-30031	CHAIN - PINTLE - 667X	0.310
3	2	FM-00497	800-30045	PIN - PINTLE CHAIN - 667X	0.092
4	2	FM-00498	700-30032	CHAIN LINK - 667X CHAIN	0.229
5	2	FM-00499	TBD	COTTER PIN	0.001



BAR EVERY 4th LINK



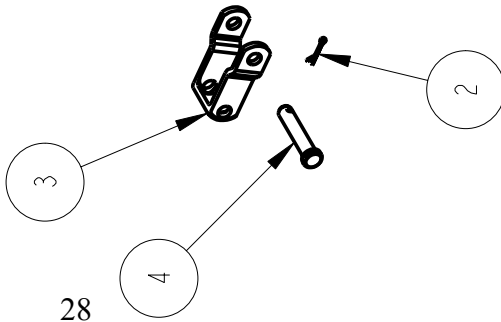
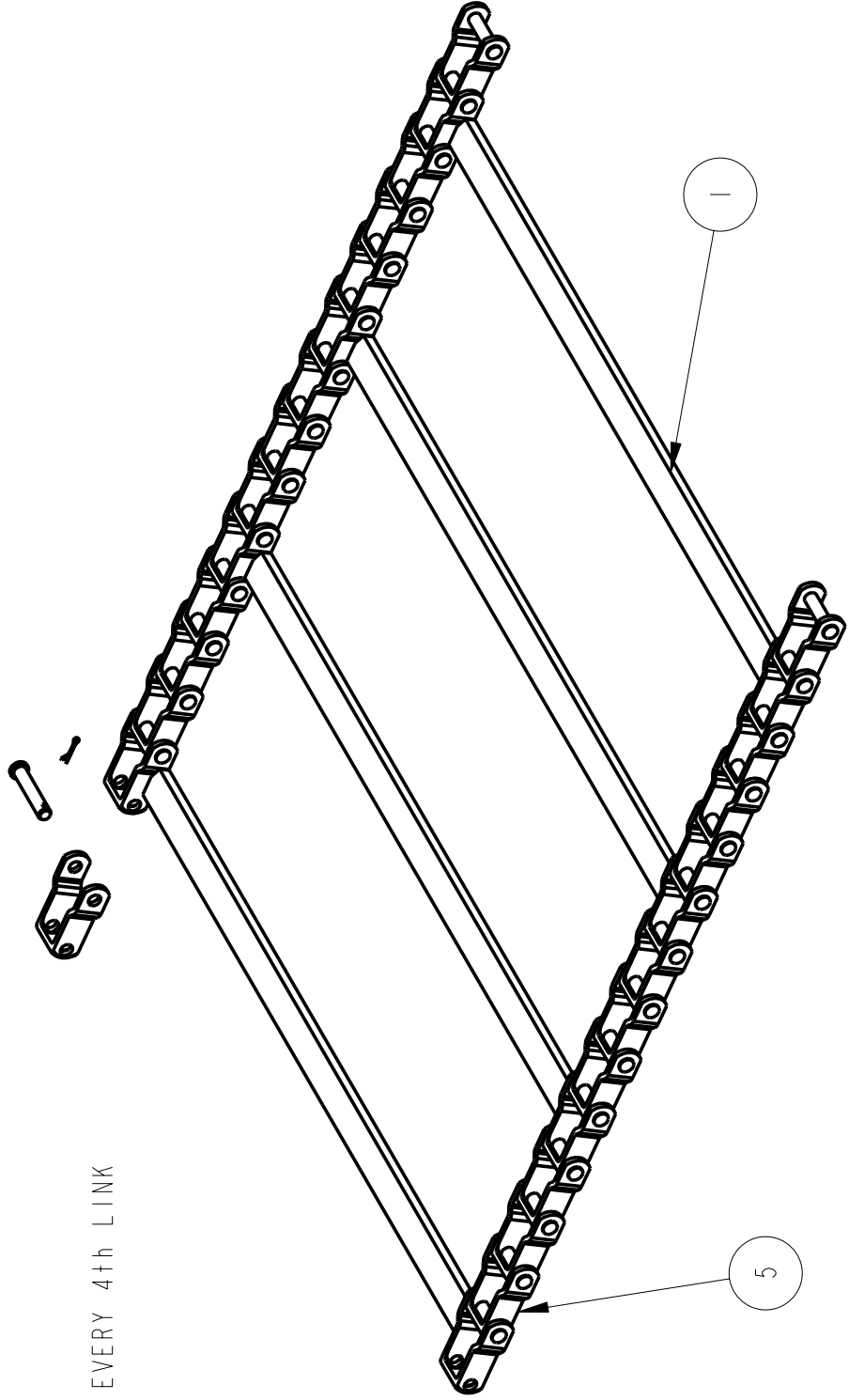




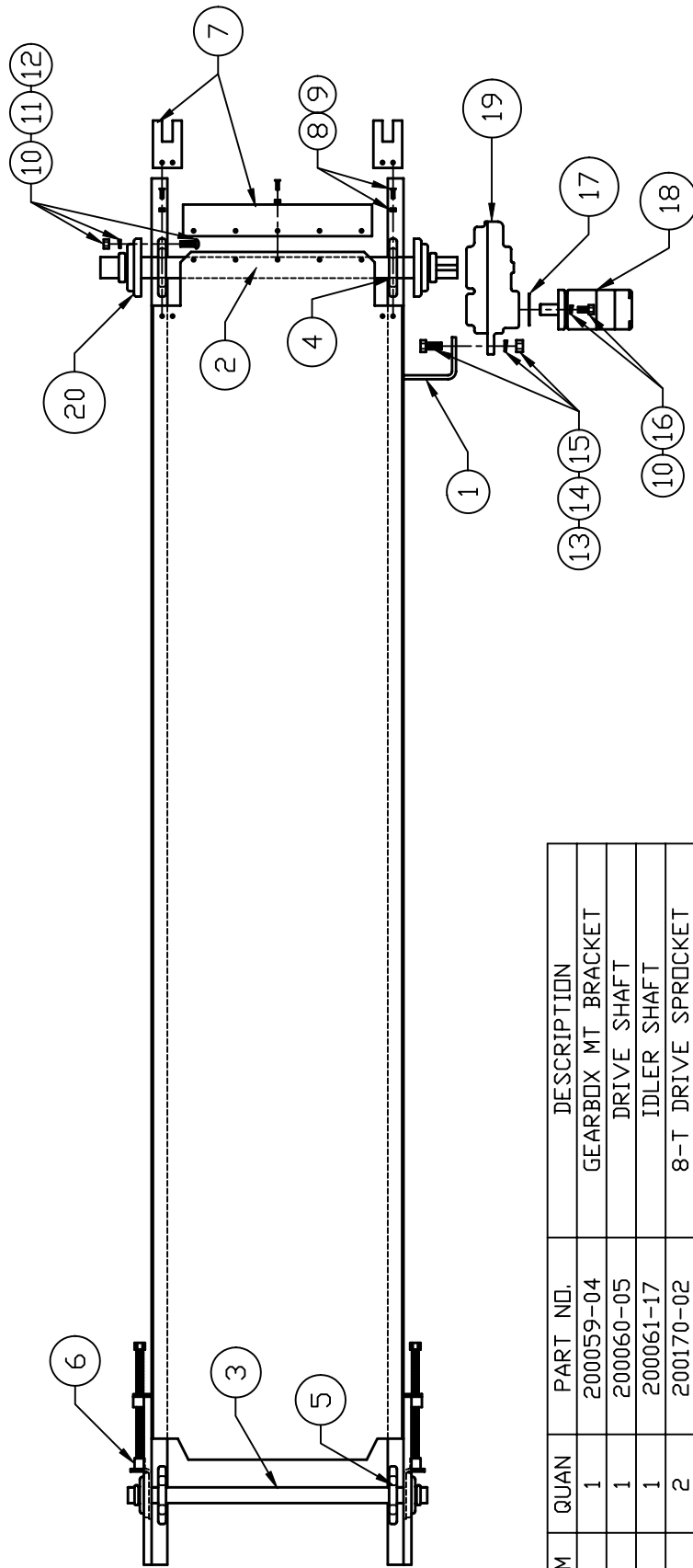
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	4	200040-18	TBD	CROSS BAR - PINTLE CHAIN - 30 IN	3.967
2	2	COTTER_PIN-XH	NA	COTTER PIN FOR XH CHAIN	0.001
3	2	FM-00653	700-30072	CHAIN LINK - 667XH CHAIN	0.326
4	2	FM-00654	800-30045	PIN - PINTLE CHAIN - 667XH	0.113
5	28	FM-00930	700-30100	CHAIN - PINTLE - 667XH	0.418



BAR EVERY 4th LINK




28



NOTE: TOP VIEW OF CONVEYOR w/out CHAIN ASS'Y.

SCALE	1=12	REC'D.	
DRAWN	GF	DATE	9-10-96
CHECKED		DATE	
FOR	"AC" & "E/AC"		
NUMBER	220213-00		



**WARREN**  
COLLINS, INC.

NAME: CONVEYOR DRIVE ASS'Y

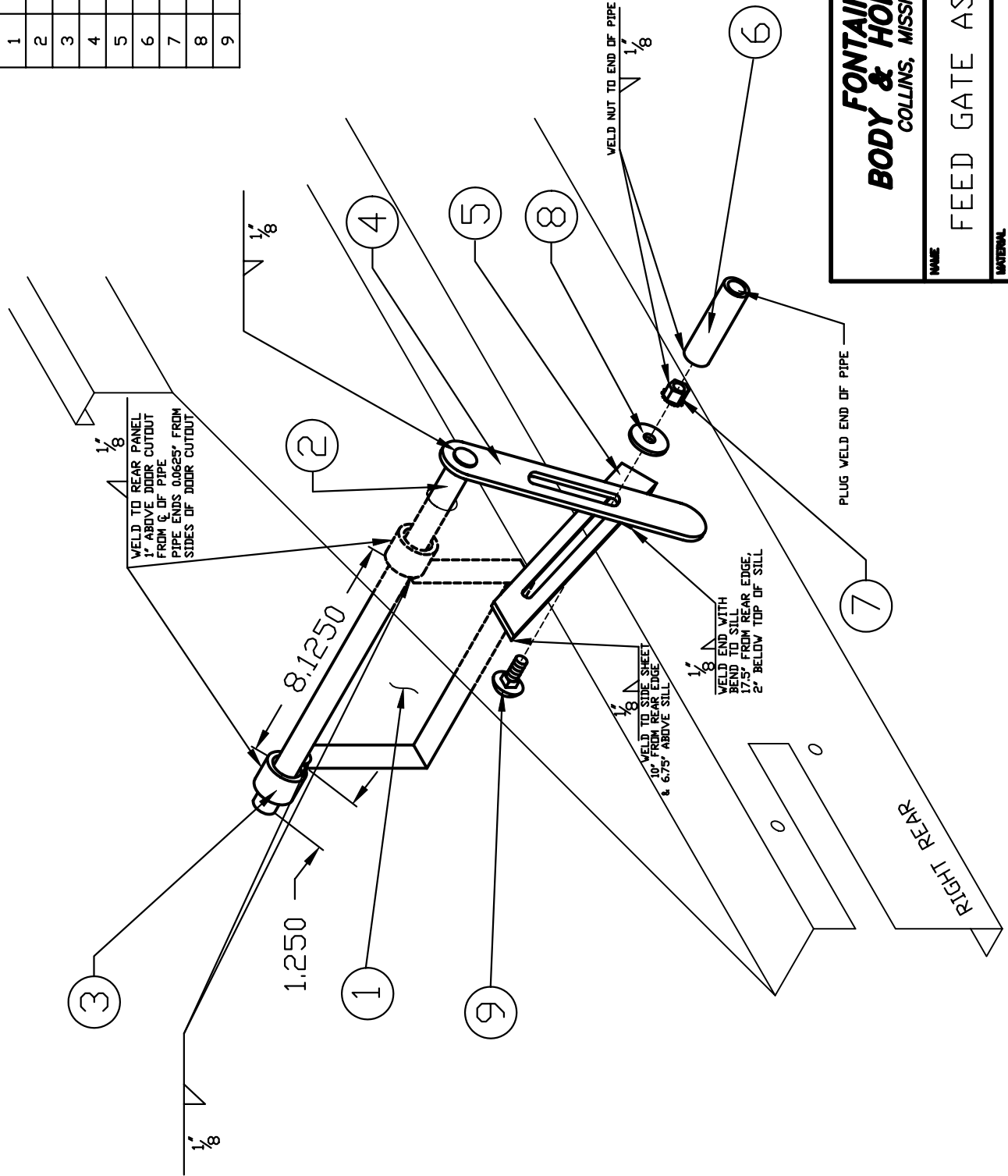
MATERIAL:

UNLESS OTHERWISE SPECIFIED, ALL WELDS TO BE CONTINUOUS. SIZE OF WELD TO BE AT LEAST THE THICKNESS OF THE THINNER OF THE ADJACENT METALS.

TOLERANCE-UNLESS OTHERWISE SPECIFIED,  
DECIMAL ±  
FRACTIONAL ±  
ANGULAR ±

ITEM	QUAN	PART NO.	DESCRIPTION
1	1	200059-04	GEARBOX MT BRACKET
2	1	200060-05	DRIVE SHAFT
3	1	200061-17	IDLER SHAFT
4	2	200170-02	8-T DRIVE SPROCKET
5	2	200170-03	8-T IDLER SPROCKET
6	2	220007-45	IDLER ADJUSTMENT ASS'Y
7	2.250'	FB-00021	SPROCKET WIPER BELT
8	9	FF-00031	1/4" NC KEP NUT
9	9	FF-00042	1/4" NC x 3/4" FLAT HD SCREW
10	10	FF-00073	1/2" LOCK WASHER
11	8	FF-00084	1/2" NC x 1 3/4" CARR. BOLT
12	8	FF-00086	1/2" NC HEX NUT
13	1	FF-00096	5/8" NC HEX NUT
14	1	FF-00098	5/8" LOCK WASHER
15	1	FF-00106	5/8" NC x 2" HEX HD BOLT
16	2	FF-00154	1/2" NC x 1 1/4" HEX HD BOLT
17	1	FHM-00056	O-RING SEAL
18	1	FHM-00113	HYDRAULIC MOTOR
19	1	FM-00513	6:1 GEARBOX
20	2	FM-00556	2" 4-BOLT FLANGE BEARING

ITEM	QUAN	PART NO.	DESCRIPTION
1	1	200288-01	FEED GATE
2	1	200290-05	FEED GATE HINGE ROD
3	2	200290-06	FEED GATE HINGE
4	1	200290-03	FEED GATE HANDLE
5	1	200290-04	PIVOT BAR
6	1	200292-02	LOCK PIPE
7	1	FF-00023	3/8" NC KEP NUT
8	1	FF-00015	3/8" FLAT WASHER
9	1	FF-00024	3/8" X 1" NC CARR BOLT



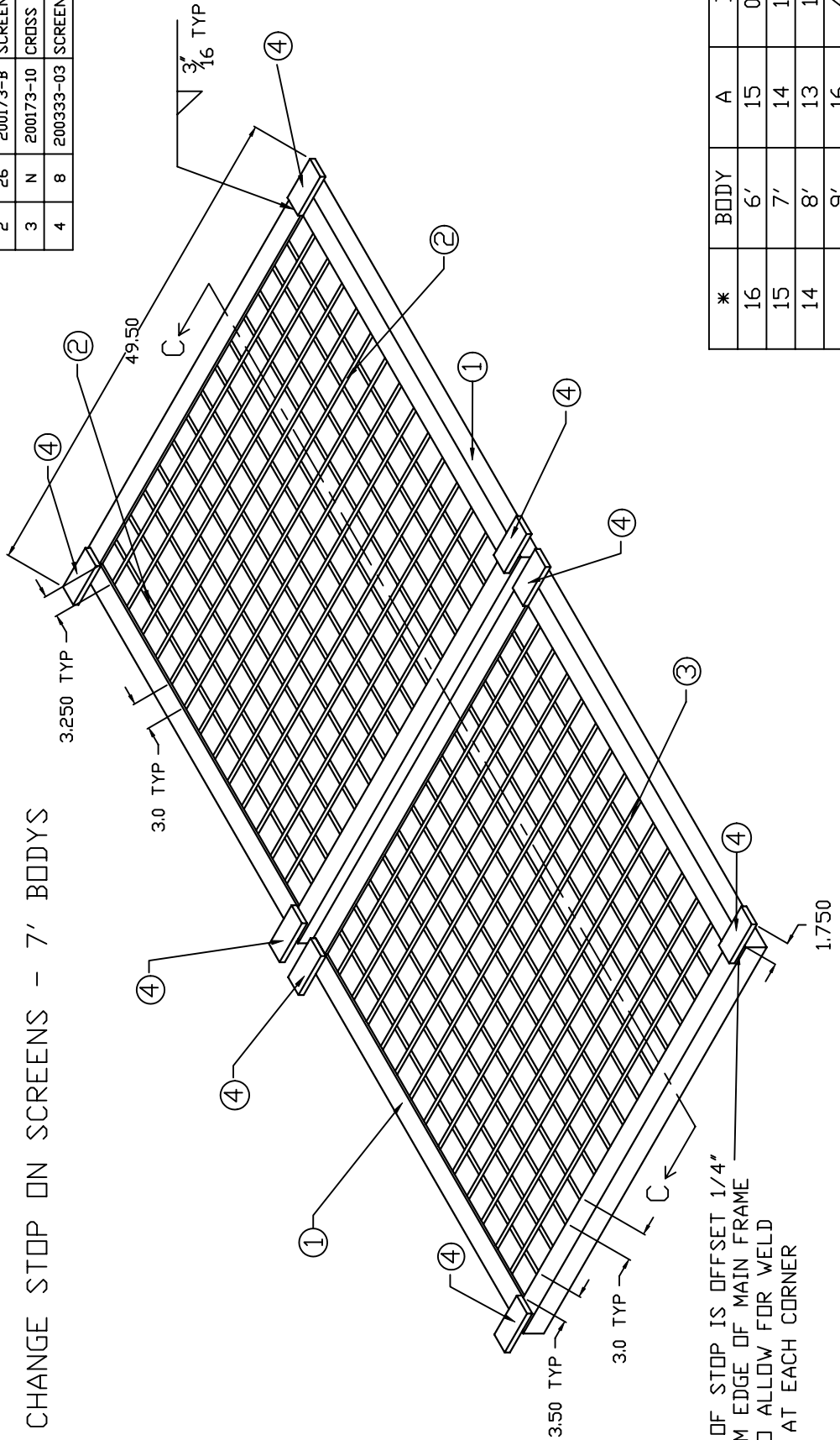
**FONTAINE  
BODY & HOIST CO.**  
COLLINS, MISSISSIPPI

NAME: FEED GATE ASSEMBLY  
FOR: AC-1410  
NUMBER: 220219-02

SCALE	REV'D.
1=4	
DRAWN	DATE
GF	5-1-91
CHECKED	DATE
FOR	NUMBER
AC-1410	220219-02

NOTE: 3/16" WELD SCREEN RODS AT ALL CONTACT POINTS

NOTE: CHANGE STOP ON SCREENS - 7' BODYS



* BODY	A	B	N
16	15	09	18
15	14	15	22
14	13	10	26
	16	41	30

**FONTAINE  
BODY & HOIST CO.**  
COLLINS, MISSISSIPPI

SCALE 1-12  
REQ'D.

DRAWN GF  
DATE 7-30-93

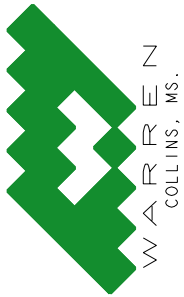
CHECKED  
DATE

FOR 50" WIDE PICK-UP SPRDR  
NUMBER 220134-\*

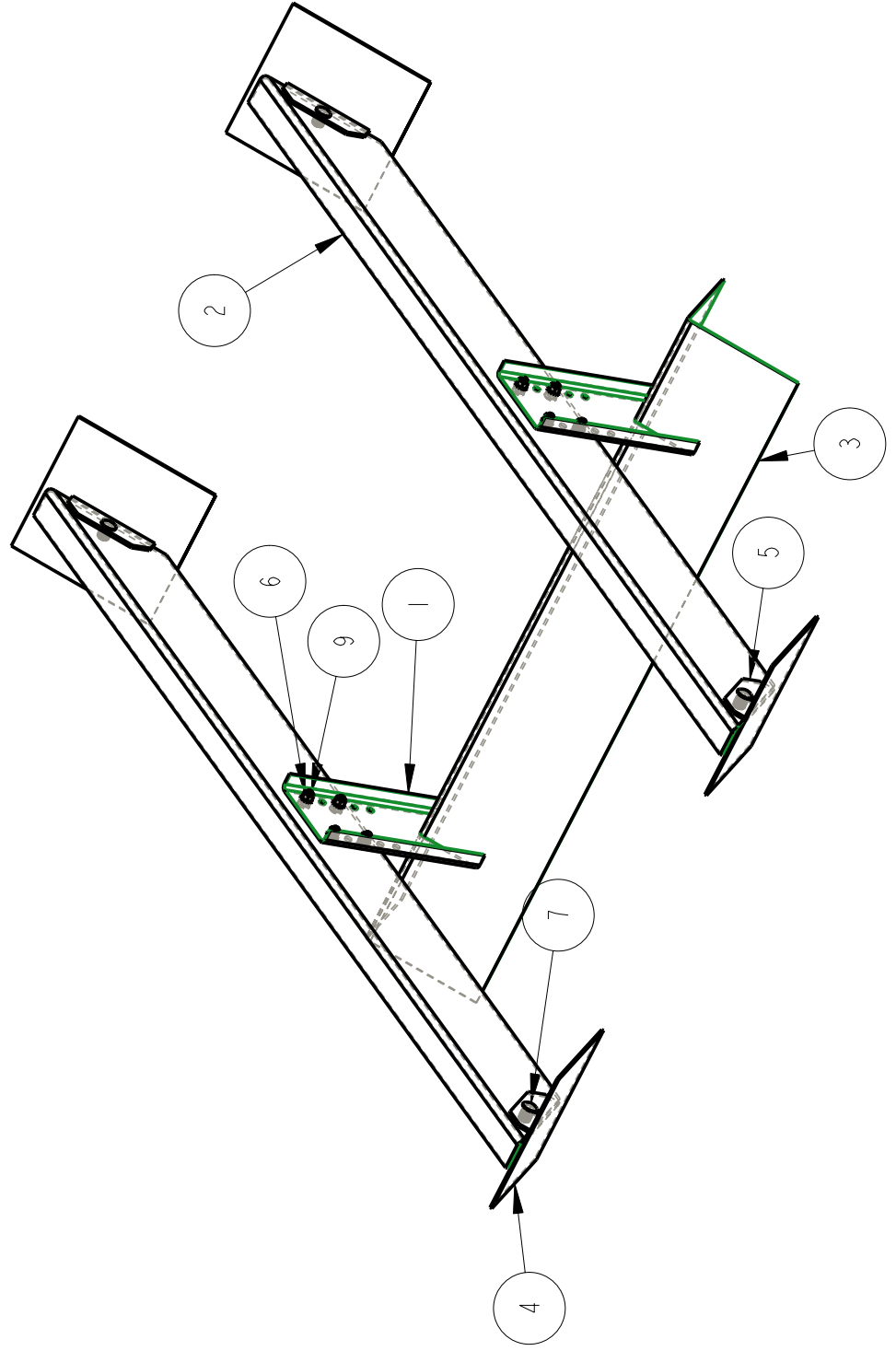
NAME HEAVY-DUTY SCREEN ASM  
MATERIAL

SECTION C-C  
(8' ASM SHOWN)

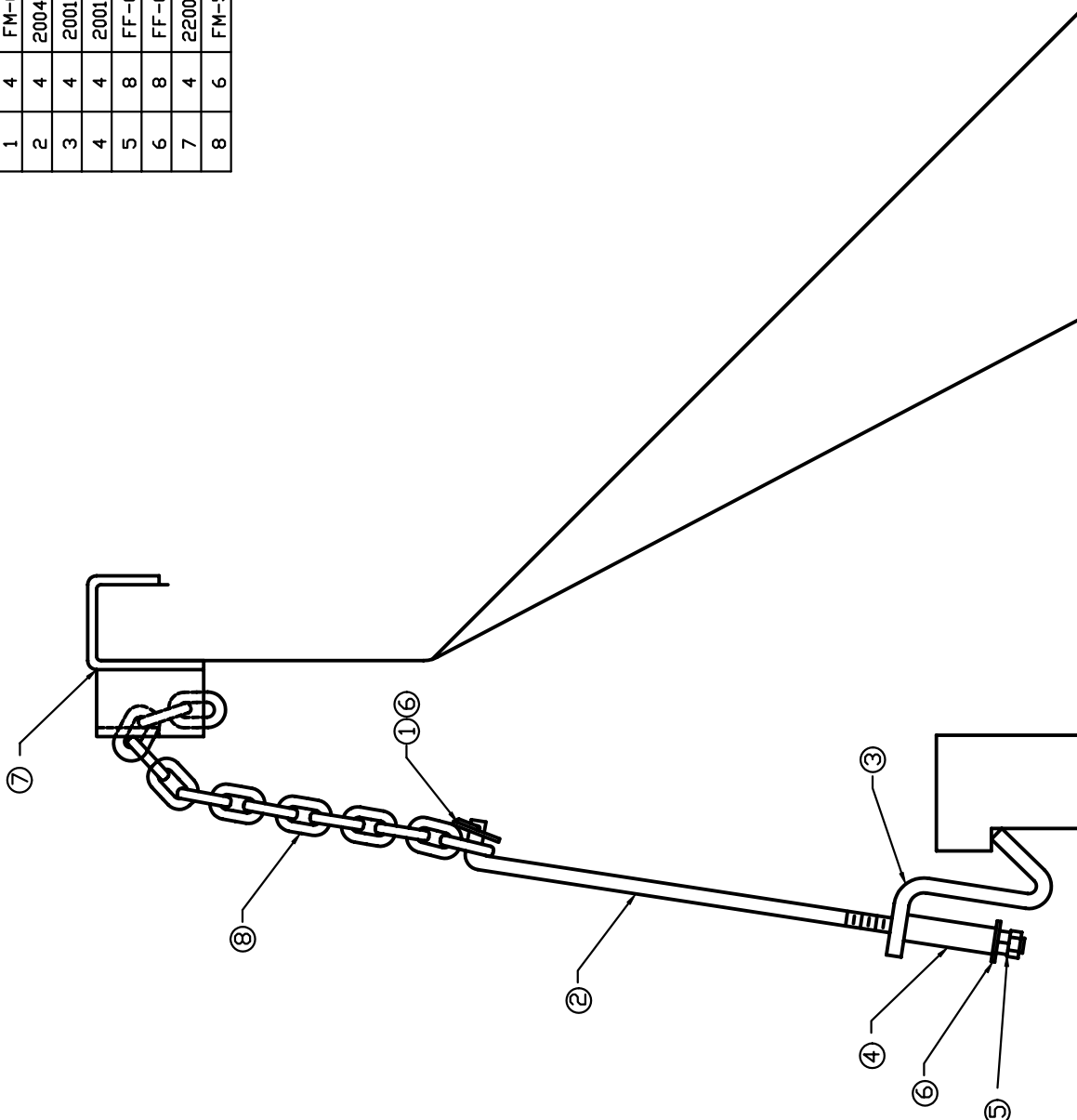
REVISED 10/11/93 GF ADDED CHART FOR ALL BODY LENGTHS.  
 REVISED 10/4/93 GF ITEM #2 WAS PART NO. 200330-08  
 REVISED 8/16/93 GF CHG'D ALL RODS TO SAME LENGTH.



ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	2	200106-06	300-30172	INVERTED "V" HANGER BRACKET	3.260
2	2	200107-01	300-30173	CROSS BRACE "V" HANGER	27.475
3	1	200108-06	300-30586	INVERTED " V " SHEET - 8 & 9 FT	29.292
4	4	200109-01	300-30175	END PLATE FOR CROSS BRACE	3.814
5	4	200109-02	300-30176	BRACKET - END PLATE MOUNTING	0.559
6	8	FF-00023	900-80113	3/8-16 NUT-KEP ZN	0.000
7	4	FF-00083	900-80029	BOLT-CARRIAGE-1/2-13 x 1 - ZN	0.217
8	4	FF-00087	900-80025	1/2-13 NYLON INSERT LOCKNUT ZN	0.037
9	8	FF-00222	900-80118	BOLT-CARRIAGE-3/8-16 x 1 - ZN	0.217



ITEM	QUAN	PART NO.	DESCRIPTION
1	4	FM-00518	HITCH PIN
2	4	200440-03	HOLD-DOWN ROD
3	4	200148-01	LOWER BRACKET
4	4	200147-01	SPACER PIPE
5	8	FF-00086	1/2" N.C. NUT
6	8	FF-00089	1/2" FLAT WASHER
7	4	220073-01	UPPER BRACKET ASSEMBLY
8	6	FM-50004	5/16" CHAIN (4 PCS @ 1' 6" EA)



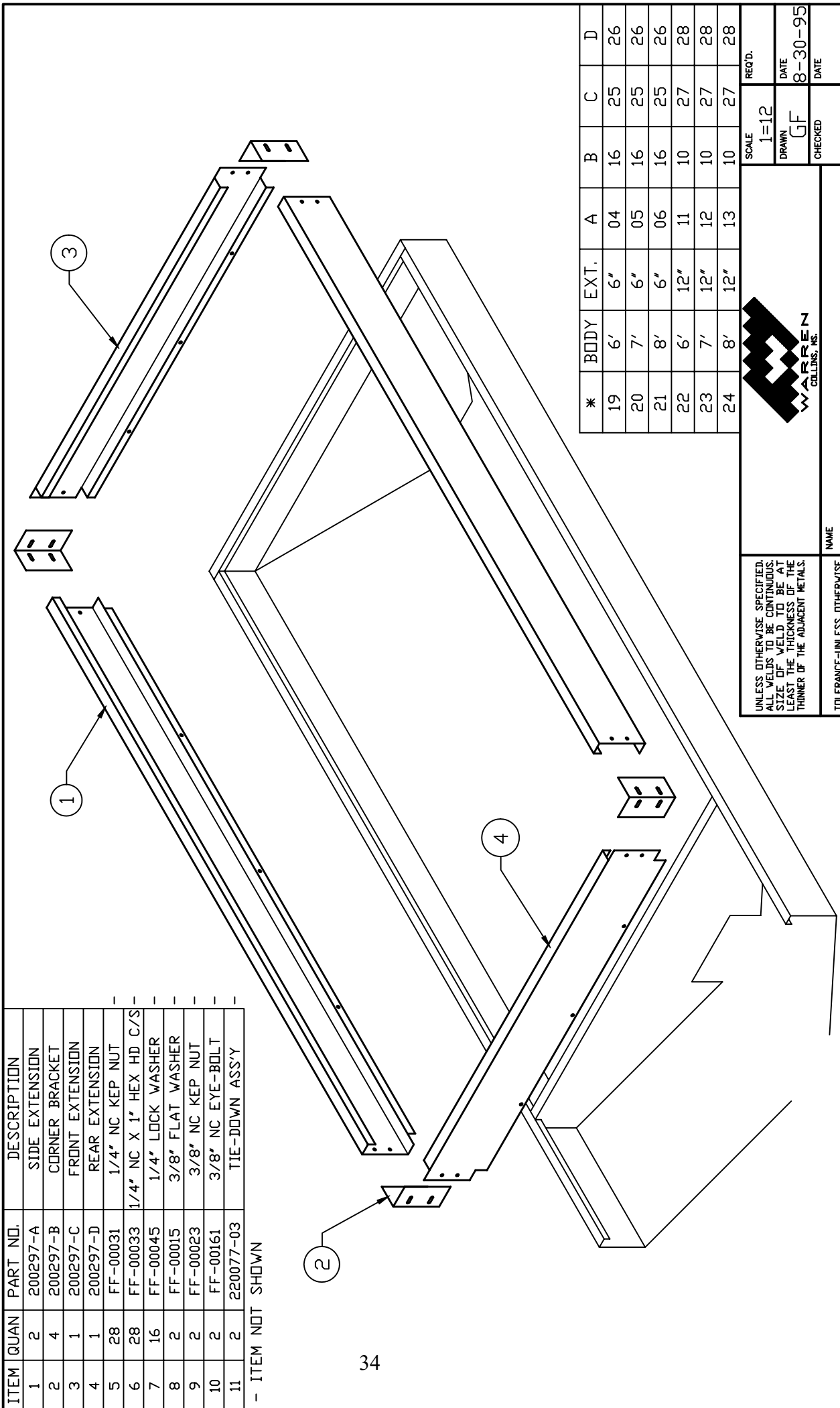
E.C.D. #927 2/22/91 GF REDRAWN V/CHG'S

OP. #	OPERATION	MACH #	QTY.	CLK #	DATE	W/O#

<b>FONTAINE BODY &amp; HOIST CO.</b> COLLINS, MISSISSIPPI		SCALE 1=4	REQ'D.
NAME DUMP BODY MNTNG KIT		DRAWN GF	DATE 2-18-91
MATERIAL		CHECKED	DATE
FOR AC-2420A			
NUMBER 220077-01			

ITEM	QUAN	PART NO.	DESCRIPTION
1	2	200297-A	SIDE EXTENSION
2	4	200297-B	CORNER BRACKET
3	1	200297-C	FRONT EXTENSION
4	1	200297-D	REAR EXTENSION
5	28	FF-00031	1/4" NC KEP NUT
6	28	FF-00033	1/4" NC X 1" HEX HD C/S
7	16	FF-00045	1/4" LOCK WASHER
8	2	FF-00015	3/8" FLAT WASHER
9	2	FF-00023	3/8" NC KEP NUT
10	2	FF-00161	3/8" NC EYE-BOLT
11	2	220077-03	TIE-DOWN ASS'Y

- ITEM NOT SHOWN



* BODY	EXT.	A	B	C	D
19	6'	04	16	25	26
20	7'	05	16	25	26
21	8'	06	16	25	26
22	6'	11	10	27	28
23	7'	12	10	27	28
24	8'	12	10	27	28

UNLESS OTHERWISE SPECIFIED, ALL WELDS TO BE CONTINUOUS. SIZE OF WELD TO BE AT LEAST THE THICKNESS OF THE THINNER OF THE ADJACENT METALS.

TOLERANCE-UNLESS OTHERWISE SPECIFIED,  
 DECIMAL ±  
 FRACTIONAL ±  
 ANGULAR ±

SCALE 1=12

REC'D.

DATE 8-30-95

DRAWN GF

CHECKED

DATE

WARREN COLLINS, INC.

NAME BOLT-ON HOPPER EXTENSIONS


FOR PICK-UP SPRDRS

NUMBER 220076-\*

MATERIAL

NOTE: (2) TIE-DOWN ASS'Y ARE INCLUDED FOR SECURING BODY.

ITEM #	QTY.	PART #	DESCRIPTION
1	1	FHP-50050	PUMP-BRIGGS ENGINE
1-A	1	FHP-50050	PUMP-WISCONSIN
2	1	FHV-00269	VALVE-DUAL CONTROL W/BUILT IN DUMP
3	1	FHM-00174	MOTOR-CONVEYOR
4	1	FHM-00114	MOTOR-SPINNER
5	1	220021-04	HYDRAULIC RESERVOIR
6	1	FHF-00250	FILTER ASSEMBLY
7	1	FHV-00129	GATE VALVE
8	2	FHF-00200	NIPPLE-KING 1.25"
9	1	FHF-00223	NIPPLE-CLOSE 1.25"
10	1	FHF-00003	ELBOW-STREET 90 1.25"
11	1	FHF-00229	ELBOW-REDUCING 90 1.25" X 1"
12	2	FHF-00228	HOSE CLAMP 1.25"
13	1	FHF-00102	ADAPTER-STRAIGHT .75" O.R.M. X 1" NPTM
14	1	FHF-00021	BUSHING 1.25" NPTM X .75" NPT FM
15	3	FHF-00020	ELBOW 90 STREET .75"
16	1	FHF-00016	NIPPLE-CLOSE .75"
17	1	FHF-00019	TEE_B.P. .75"
18	4	FHF-00236	NIPPLE-KING .75"
19	6	FHF-00227	HOSE CLAMP .75"
20	2	FHF-00261	NIPPLE-KING .5"
21	2	FHF-00252	ADAPTER-STRAIGHT .75" NPTM X .75" JICM
22	1	FHF-00265	TEE_B.P. .75" X .75" X .5"
23	1	FHF-00262	ELBOW 90 STREET .5"
24	1	FHF-00259	ADAPTER .75" NPTM X .5" NPTM
25	1	FHF-00259	ADAPTOR .75" JICM X .5" NPTM
26	1	FHF-00176	ADAPTER-STRAIGHT SWIVEL .5" NPTM X .5" NPTFM SW
27	1	FHH-00121	HOSE - 1" 100R2 X 28' - 1" NPTM X 1" NPTM
28	4'	FHH-00098	HOSE-LOW PRESSURE .75"
29	5'	FHH-00117	HOSE-LOW PRESSURE .5"
30	1	FHH-00067	HOSE-ASSY 3/4" X 26' 3/4" JICFM SW BOTH ENDS
31	1	FHH-00061	HOSE-ASSY 3/4" X 35' 3/4" JICFM SW BOTH ENDS
32	1	FHH-00156	HOSE-ASSY 1/2" X 60' 1/2" NPTM SW BOTH ENDS
33	1	FHF-00209	ELBOW 90 .75" O.R.M. X .75" JICM
34	4'	FHH-00098	HOSE-LOW PRESSURE .75"
35	1	FHV-00277	CHECK VALVE- DUAL CONTROL W/BUILT IN DUMP
36	1	FHF-50037	.5" NPT NIPPLE X CLOSE
37	1	FHF-00303	ADAPTER - 3/4" NPTM X 3/4"
38	1	FHP-00286	VALVE - CHECK 3/4" NPTF
39	1	FHP-50021	ADAPTOR SWIVEL - 1" NPT



WARRREN  
COLLINS, INC.

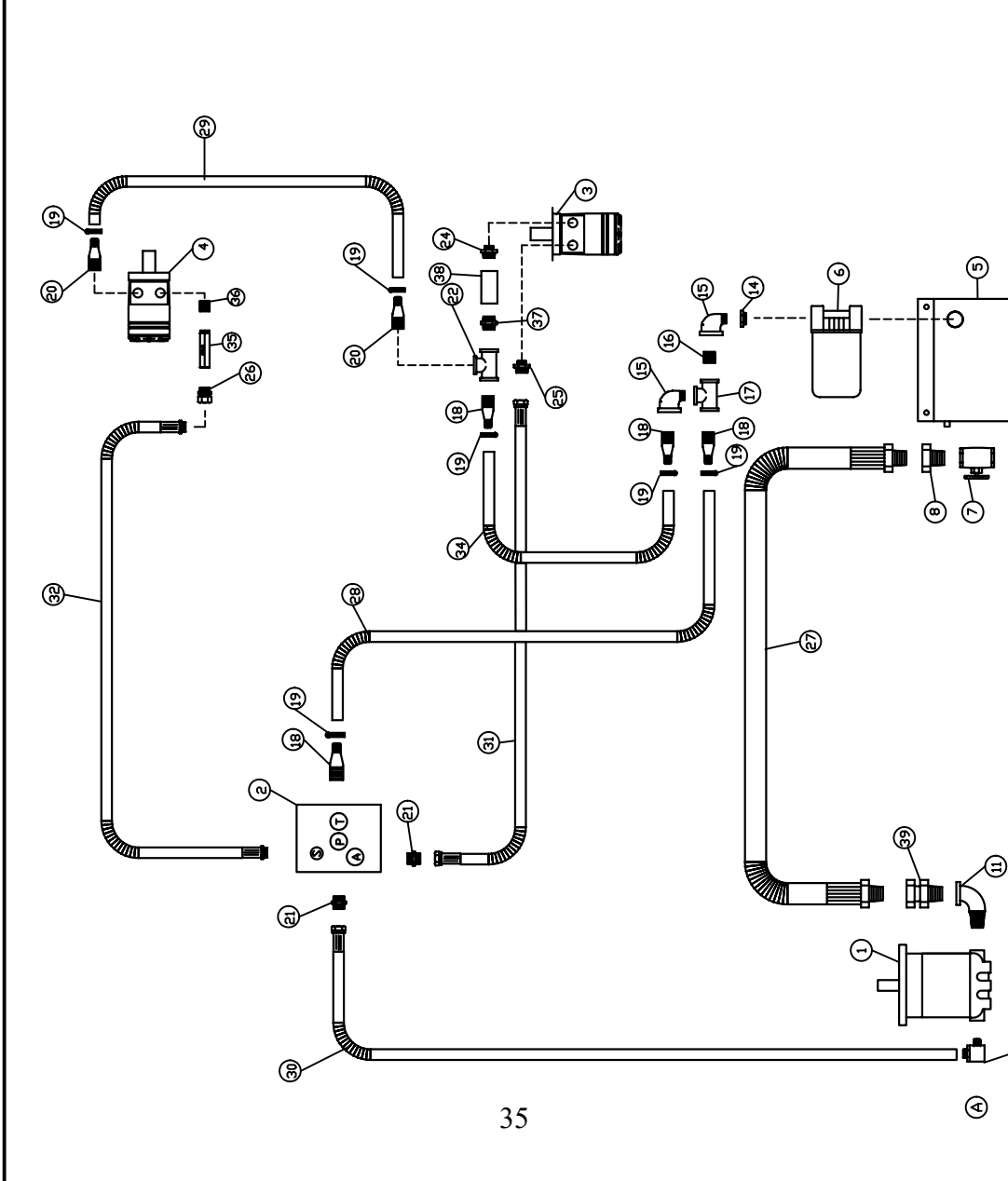
NAME: HYDRAULIC SCHEMATIC  
AUX. ENG. DRIVE HYD. PUMP

SCALE: 1=12  
REQ'D. DATE: 12-10-90

DRAWN: NH  
CHECKED: DATE: 12-10-90

FOR: NUMBER: 220210-02/04

MATERIAL:

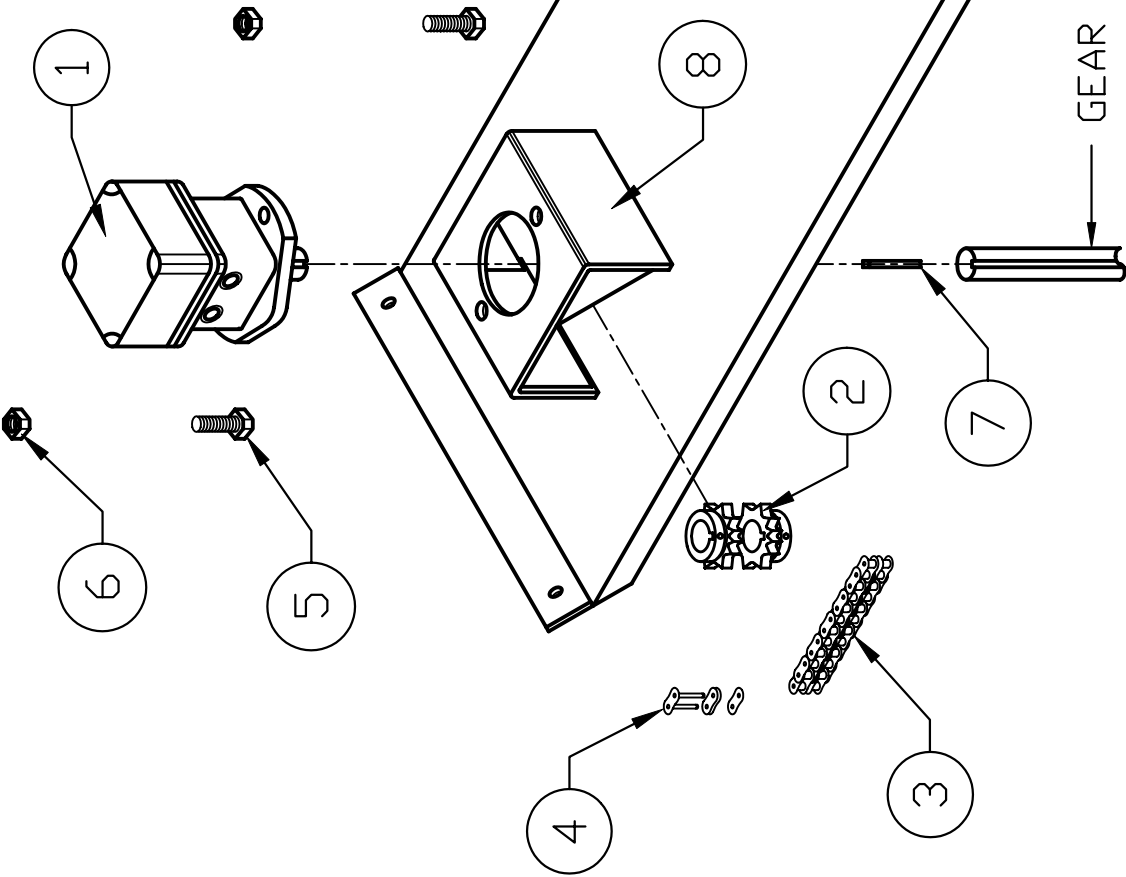


REVISED 4-10-98 PK (C1) UPDATED DRAWING TO SHOW CORRECT FITTINGS  
 B 1-22-91 ECO# 90IREV. JDL ADDED CHECK VALVE -ITEM # 35  
 A 12/10/90 ECO # 901-NH-ELIMINATED SEPERATE DUMP VALVE/ CHG'D FHV-00169



ITEM	QUAN	PART NO.	DESCRIPTION
1	1	FHM-00114	HYDRAULIC MOTOR
2	2	FM-00607	SPROCKET, 12-TOOTH
3	0.5'	FM-00699	DOUBLE CHAIN
4	1	FM-00787	MASTER LINK
5	2	FF-00091	BOLT, 1/2" NC X 1 1/2" HEX HD
6	2	FF-00087	NUT, 1/2" NC LOCK
7	1	200086-02	KEY, 1/4" X 2"
8	1	220297-07	HYD. MOTOR MT BASE


REVISED 2/16/96 GF ADDED FLEXIBLE COUPLING.



UNLESS OTHERWISE SPECIFIED, ALL WELDS TO BE CONTINUOUS, SIZE OF WELD TO BE AT LEAST THE THICKNESS OF THE THINNER OF THE ADJACENT METALS.

TOLERANCE-UNLESS OTHERWISE SPECIFIED.  
 DECIMAL ± FRACTIONAL ± ANGULAR ±

OP. #	OPERATION	MACH #	QTY.	CLK #	DATE	W/O#



**WARREN COLLINS, MS.**

NAME: HYDRAULIC DRIVE ASS'Y

REQ'D. SCALE: 1=8

DRAWN: GF DATE: 2-16-96

CHECKED: DATE:

FOR: AC-1420A

NUMBER: 220221-03

MATERIAL

DEST.

QTY.

DATE

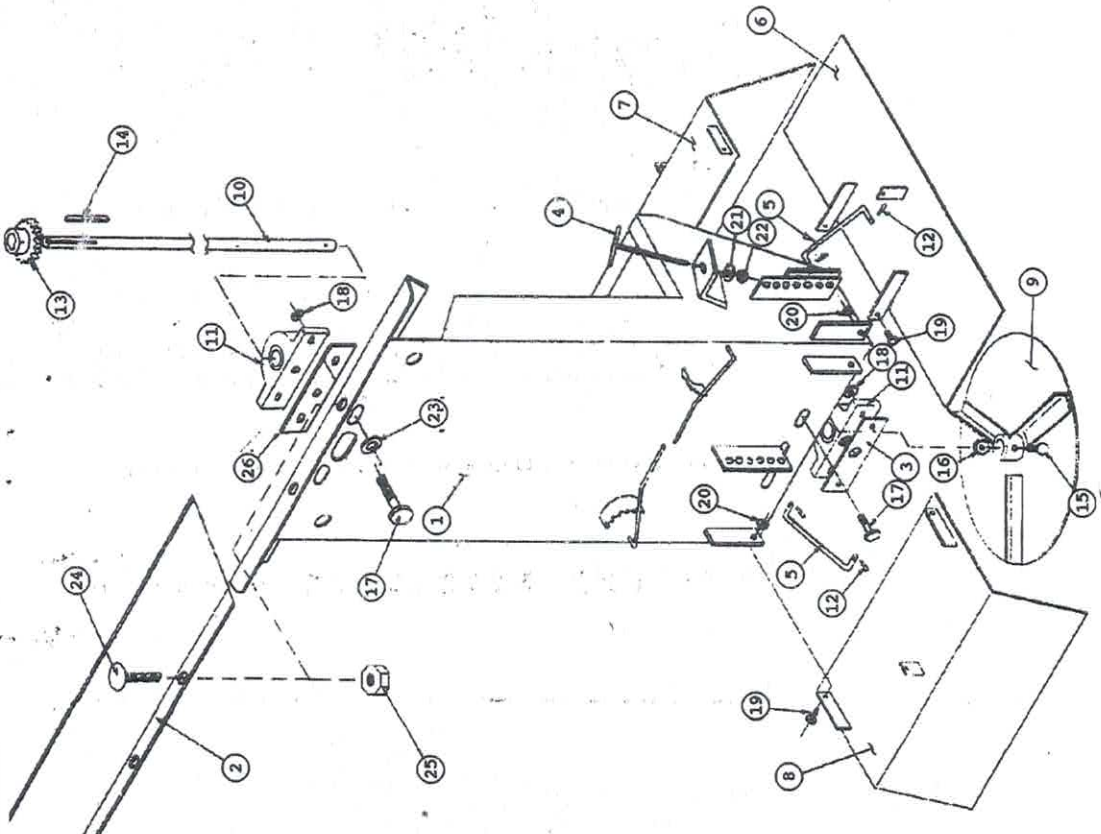
# WARREN

DISTRIBUTOR SPINNER ASSEMBLY, #220141-04 STD., #220141-05 EXT.

ITEM NO.	QTY.	REQD	PART NUMBER	DESCRIPTION
1	1		220139-07	STD. SPINNER HOPPER WELD.
	1		220139-08	12" EXTENDED SPINNER HOPPER WELD.
2	1		200304-02	TOP SPROCKET GUARD
3	1		200277-05	STD. LOWER SPACER BLOCK
	2		200277-05	EXT. LOWER SPACER BLOCK
4	2		220281-01	T-BOLT
5	4		200264-01	BAFFLE RODS
6	2		220147-01	SIDE BAFFLE ASSY
7	1		220147-02	FRONT BAFFLE ASSY
8	1		220147-03	REAR BAFFLE ASSY
9	1		220123-05	DISK ASSY
10	1		200286-01	SPINNER SHAFT
11	B		200767-02	BEARING W/REAR FITTING
12	8		FM-00574	#11 HITCH PIN
13	1		FM-00609	#40 18-TOOTH SPROCKET
14	1		200086-01	KEY - 1/4 X 1/4 X 1"
15	1		FF-155	5/16 NC X 2 1/4 HEX HD C/S
16	1		FF-065	5/16 NC LOCK NUT
17	C		FF-025	3/8 NC X 2 HEX HD C/S
18	C		FF-023	3/8 NC KEP NUT
19	8		FF-033	1/4 NC X 1 HEX HD C/S
20	8		FF-052	1/4 NC LOCK NUT
21	2		FF-068	5/16 FLATWASHER
22	2		FF-063	5/16 NC HEX NUT
23	C		FF-015	3/8 FLATWASHER
24	2		FF-046	1/4 NC X 3/4 CARR. BOLT
25	2		FF-031	1/4 NC KEP NUT
26	1		200277-08	TOP SPACER BLOCK

B= 2 FOR STD. SPINNER  
3 FOR 12" EXTENDED SPINNER

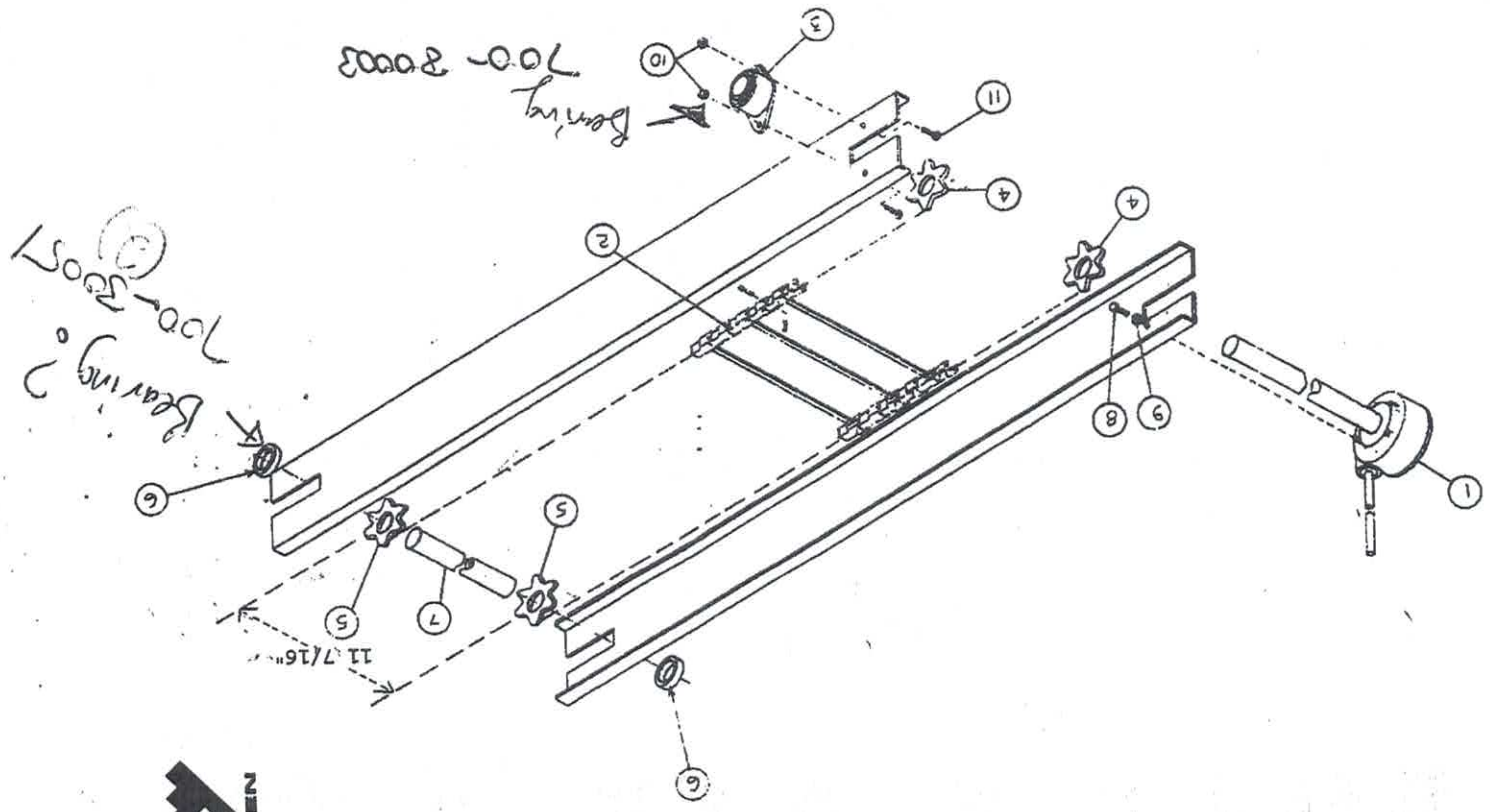
C= 4 FOR STD. SPINNER  
6 FOR 12" EXTENDED SPINNER



CONVEYOR DRIVE AND CHAIN ASSEMBLY

ITEM NO.	QTY. REQ'D	PART NUMBER	DESCRIPTION
1	1	FM-00601	GEAR BOX, CONVEYOR
2	1	220044-30	CONVEYOR CHAIN ASSY. 6'
3	1	220044-31	CONVEYOR CHAIN ASSY. 7'
4	1	220044-32	CONVEYOR CHAIN ASSY. 8'
5	2	FM-00618	BEARING, FLANGE 2B 1-1/4
6	2	200280-04	SPROCKETS, DRIVE 6T 1-1/4
7	2	200280-02	SPROCKETS, IDLER 6T 1
8	1	FF-00114	SET COLLAR, 1"
9	1	200285-01	SHAFT, IDLER
10	4	FF-00026	BOLT, HEX HD 3/8 X 3/4
11	4	FF-00028	WASHER, LOCK 3/8
12	2	FF-00023	NUT, LOCK 3/8
13	2	FM-00614	BOLT, HEX HD 3/8 X 1-1/2
14	2	FM-00615	PIN, CHAIN CONNECTING
15	2	FM-00616	PIN, COTTER 1/16 X 3/4
	A/R	FM-00616	LINK, CHAIN
	A/R	220142-02	CROSS BAR, ASSY CHAIN LINK

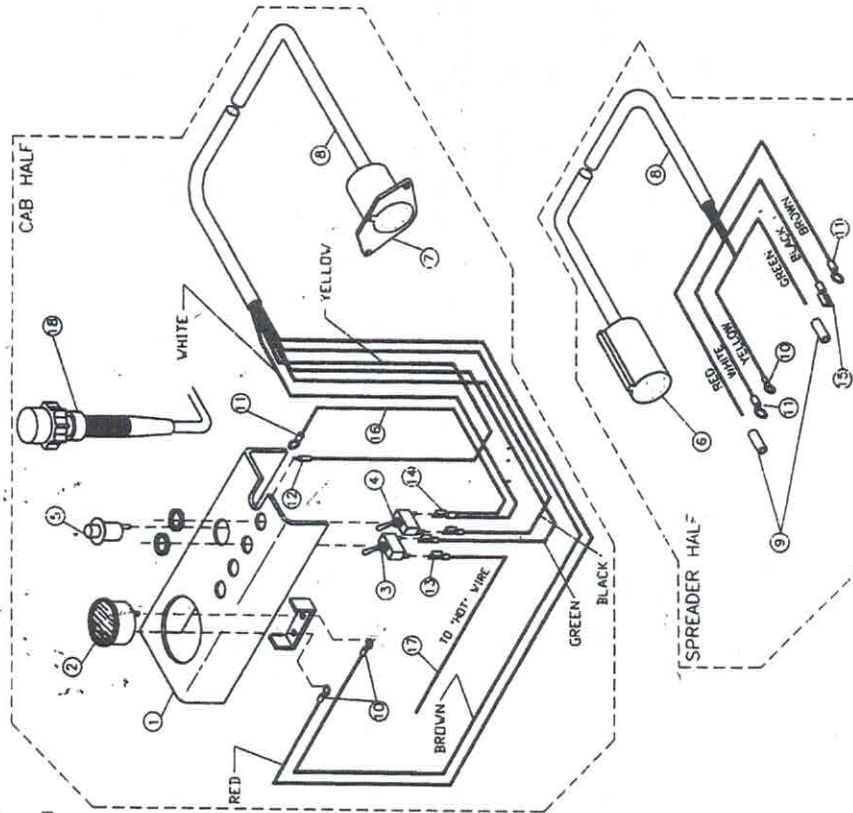
A/R—AS REQUIRED



ELECTRIC CONTROL PANEL FOR BRIGGS & STRATTON

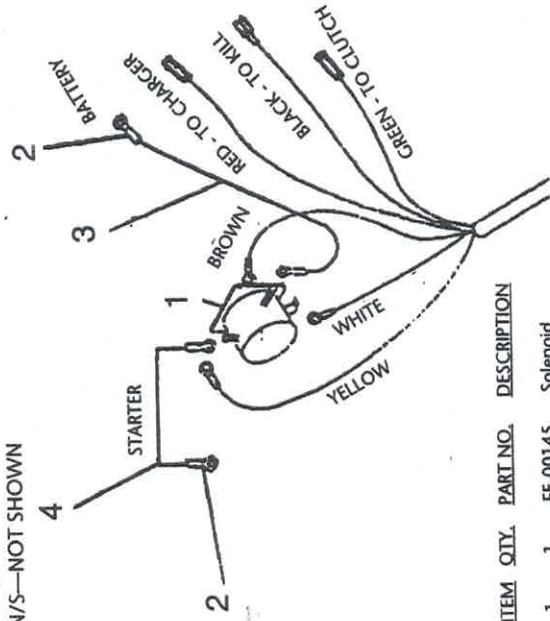
ITEM NO.	QTY. REQ'D	PART NUMBER	DESCRIPTION
1	1	A200284-06	CONTROL PANEL
2	1	FE-00146	AMMETER
3	1	FE-00147	TOGGLE SWITCH - CLUTCH
4	1	FE-00147	TOGGLE SWITCH - ENGINE KILL
5	1	FE-00148	BUTTON - PUSH (START)
6	1	FE-00149A	CONNECTOR (MALE)
7	1	FE-00149B	CONNECTOR (FEMALE)
8	30'	FE-00150	CABLE - 6 WAY (10' CAB HALF/ 20' SPREADER HALF)
9	2	FE-00142	CONNECTOR - BUTT
10	3	FE-00154	TERMINAL - WIRE RING (SMALL)
11	3	FE-00178	TERMINAL - WIRE RING (LARGE)
12	1	FE-00184	CONNECTOR - BULLET TYPE
13	3	FE-00186	TERMINAL, 1/4" PUSH-ON
14	1	FE-00201	TERMINAL, 2-WIRE PUSH-ON
15	1	FE-00202	TERMINAL, 3/16" PUSH-ON
16	1'	FE-50049	WIRE, 14 GA. WHITE
17	2'	FE-50050	WIRE, 14 GA. RED
18	1	FM-00936	CONTROL, MANUAL THROTTLE - 30 FT.
19	1	FB-00261	DECAL, AC-1410A CONTROLS

N/S—NOT SHOWN



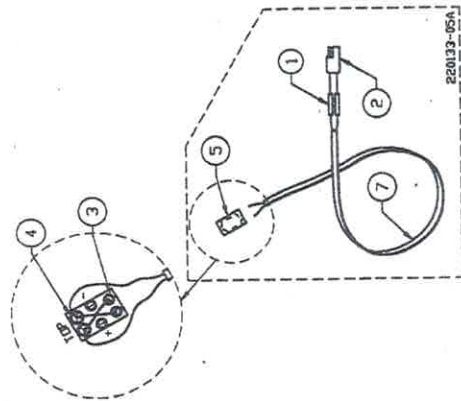
WIRING DIRECTIONS

COLOR	CONNECTION
RED	ALTERNATOR
WHITE	GROUND
YELLOW	STARTER POST ON SOLENOID
GREEN	CLUTCH
BLACK	KILL ON ENGINE
BROWN	BATTERY POST ON SOLENOID



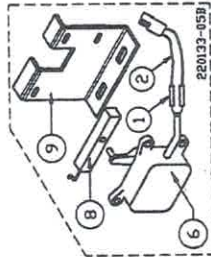
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	FE-00145	Solenoid
2	4	FE-50010	Battery terminal
3	1'	FE-00152	Black cable
4	2'	FE-00151	Red cable





ELECTRIC THROTTLE ASSY

ITEM NO.	QTY. REQ'D	PART NUMBER	DESCRIPTION
1	4	FE-00142	CONNECTOR, BUTT
2	1	FE-00171	CONNECTOR, POLARIZED
3	4	FE-00186	TERMINAL, PUSH-ON (14-16)
4	2	FE-00201	TERMINAL, PUSH-ON (10-12)
5	1	FE-00208A	SWITCH, THROTTLE CONTROL
6	1	FE-00208B	ACTUATOR, THROTTLE CONTROL
7	30'	FE-00209	CABLE, 2-WIRE W/JACKET
8	1	AZ00336-03	LINKAGE W/WIRE
9	1	AZ00452-03	BRACKET, CONTROL MT
N/S	2	FF-00248	BOLT, 1/4" NC X 1 1/2" CARR.
N/S	2	FF-00031	NUT, 1/4" NC KEP
N/S	3	FF-00256	SCREW, #8 X 3/4" RD HD SLOT
N/S	3	FF-00252	WASHER, LOCK
N/S	3	FF-00257	NUT, #8-32 HEX



ENGINE & DRIVE

ITEM NO.	QTY. REQ'D	PART NUMBER	DESCRIPTION
1	1	FM-00606-1C	ENGINE, 8.5 H.P. 1/C
2	1	FM-00603	AIR COOLED STR/ALT
3	1	FM-00608	CLUTCH, ELECTRIC
4	1	FM-00607	SPROCKET, PLATE 700-30050
5	1	FM-00650	#40 48T 3 BOLT
6	A/R	FM-00605	BEARING, 1" BORE #40 12T 3005.
7	1	FHF-00020	CHAIN, ROLLER RC 700-3005.
8	1-N/S	FHF-50076	40 APPROX 74"
9	3	FF-00067	ELBOW, STREET 3/4"
10	3	FF-00058	ELBOW, STREET 3/8"
11	2	FF-00016	BOLT, HEX 5/16 X 3/4
12	1	FF-00023	WASHER, LOCK 5/16"
13	4	FF-00163	BOLT, HEX 3/8 X 1-1/4
14	4	FF-00065	NUT, KEP 3/8"
15	1	FM-00609	BOLT, HEX 5/16" X 2"
16	2-N/S	FM-00652	NUT, KEP 5/16"
			SPROCKET, 3/4 B #40
			LINK-MASTER #40 700-30053
			for Roller Chain #35

A/R—AS REQUIRED  
N/S—NOT SHOWN