WARREN

AC-2420A

EAC-2420A

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

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

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

Spreaders

WARRANTY. WARREN, INC., (herinafter 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 MERCHANABILITY 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

The Warren Model AC-2420A is a heavy duty hydraulically powered spreader designed to spread abrasives, chemicals, or mixtures of both for ice control, dust control, and abrasives for seal coating. Ideal for the operator looking for a long life economical unit rather than initial cost.

All electrically welded in jigs and fixtures for accurate fit and alignment. ASTM-A1011-A45 high tensile steel sides continuously welded to 3/16" high tensile steel sills which have integrally formed full length conveyor chain shields supports. Sides and 10 ga. Steel end gates have inverted "J" formed top edge for extra strength and stiffness without corrosion pockets. High tensile steel side supports sloped at 45-degree angle tied to each 3/16" x 1-1/2" x 3" tubular cross sills. "Tapered-in" front and rear end gates for better material seal and reduced power requirement. 3/16" steel conveyor bottom panel with rear belt wiper. Four corner brace lifting eyes.

Overall width 24" -- conveying width 18" with a 12" x 18" maximum feed gate opening. All steel heat treated pintle type conveyor chain with 7/16" hardened pins and 2 1/4" pitch. 3/8" x 1-1/4" cross bars are welded to every other link. Eight tooth steel sprockets mounted to 1-1/2" diameter idler shaft and 2" diameter drive shaft. 4" chain idler adjustment with anti-friction bearings. Rear belt type sprocket sealers and "bolt-in" conveyor chain shields. Hand crank type feed gate control.

Heavy duty 6:1 reduction spur gearbox with 2" diameter drive shaft mounted in two four bolt flange type sealed ball bearings. Gearbox housing of aluminum alloy with single "bolt" torque bracket mount or easy cleaning and maintenance. Low speed high torque hydraulic motor is integrally mounted to conveyor gearbox. A single 22" diameter spinner with six formed replaceable fins is mounted to 1-1/4" diameter spinner shaft in exterior mounted sealed ball bearing and driven by overhead mounted high torque low speed hydraulic motor. ASTM-A1011-A45 steel enclosed vertically adjustable hopper assembly with four rod adjustable external baffles and two adjustable internal chute baffles.

OPTIONAL ATTACHMENTS

Screens Over Hopper
Catwalks for Chassis Mount
Inverted "V" Shield Over Conveyor
Ladder
Idler Grease Fittings
Roller Conveyor Chain
Cast Iron Keyed Conveyor Sprockets
Chain Oiler
22" Polyurethane Spinner
Extra Heavy-Duty Body
Spring Loaded Idler Assy
Lights
Stop Tail Turn & Backup Lights
7" Diameter Red Warning Lights

Table 1: Dimensions and Capacities

AC-2420A SPECIFICATIONS:

Spreader Length (feet)	Capacity Struck (cu. yd.)	Capacity Round (cu. yd.)	Weight (lbs.)
8	5.0	6.0	1900
9	5.6	6.6	2040
10	6.2	7.3	2150
11	6.8	8.0	2290
12	7.5	8.7	2535
13	8.1	9.4	2695
14	8.7	10.2	2845
15	9.3	10.8	3095
16	10.0	11.6	3295

INSTALLATION

POWER TAKE OFF SELECTION AND INSTALLATION

(for spreaders equipped with a transmission P.T.O. driven pump)

The P.T.O. should run between 1450 RPM and 1500 RPM when spreader is being operated. Determine truck engines normal maximum operating speed then use the P.T.O. speed selection chart to pick the desired P.T.O. Install the P.T.O. according to manufacturer's recommendations.

BE SURE TO REFILL THE TRANSMISSION WITH THE CORRECT LUBRICANT!

For P.T.O. Speed Selection Table, See page 8.

SELECTION OF TRUCK CAB TO AXLE (C.A.) DIMENSION

Be Sure that the spreader length is compatible with the truck C.A. dimension for chassis mount unit or dump body for dump body mount unit. Refer to *Dimension and Capacities Table on page 6* for suggested C.A. or dump body length for each size spreader. Also consult your truck dealer for their recommendations.

The complete loaded spreading units desired distribution is the main reason the best C.A. dimension or dump body length must be selected. To determine the spreaders unloaded center of gravity for weight distribution calculation add a foot to half of the top spreader length from the front of the spreader.

EXAMPLE: On a 10' spreader the center of gravity of empty spreader is 5' (1/2 the spreader hopper length) plus 1' or 6' from the front of the spreader. The center of gravity for the payload is the center of the hopper length or 5' from the front of a 10'spreader.

Table 2: P.T.O. Speed Selection Table

PTO TORQUE & HORSEPOWER RATINGS

Intermittent service refers to an On-Off operation under load. If maximum HP and/or torque is used for extended periods of time, (5 min. or more every 15 min.) this is considered "Continuous Service" and HP rating of PTO should be reduced by multiplying intermittent value below by .70. Applications with PTO output shaft speeds above 2000 RPM, regardless of duration, are to be considered "Continuous" duty. MAX rated output shaft speed for all Muncie PTOs is 2500 RPM.

Fire Pump applications are calculated within a different category listed on page 3 and are derated by multiplying intermittent value below by .80.

Below is a chart showing the Intermittent and calculated continuous Torque rating of the PTOs included in this catalog. The Application pages may have lower ratings for these PTOs listed. The Application page rating may be adjusted to limit the PTO output to a rating which will not exceed the transmission manufacturers rating. The transmission manufacturer does not differentiate between Intermittent and Continuous; therefore, the Application page rating is never to be exceeded. Refer to this page when there is a question of the rating (Intermittent or Continuous) for the PTO as it is manufactured.

PTO SERIES	SPEED RATIO	INTERMITTENT HP@1000 RPM	INTERMITTENT TORQUE LBS. FT.	CONTINUOUS TORQUE LBS. FT.	INTERMITTENT [KW]@1000 RPM	INTERMITTENT TORQUE [NM]	CONTINUOUS TORQUE [NM]
SG	10	25	130	91	[19]	[176]	[123]
TG	04	54	285	200	[40]	[386]	[270]
	05	51	270	189	[38]	[366]	[256]
	06	47	245	172	[35]	[332]	[232]
	07	44	230	161	[33]	[312]	[218]
	08	44	230	161	[33]	[312]	[218]
	09	39	205	144	[29]	[278]	[195]
	12H	40	180	126	[30]	[244]	[171]
	13H	40	180	126	[30]	[244]	[171]
	15H	37	195	137	[28]	[264]	[185]
	18H	33	175	123	[25]	[237]	[166]
CS6/8	03	57	300	210	[43]	[407]	[285]
	04	57	300	210	[43]	[407]	[285]
	05	57	300	210	[43]	[407]	[285]
	06	57	300	210	[43]	[407]	[285]
	07	57	300	210	[43]	[407]	[285]
	09	52	275	193	[39]	[373]	[261]
	12	52	275	193	[39]	[373]	[261]
	14	52	275	193	[39]	[373]	[261]
SH6/8	05	76	400	280	[57]	[542]	[379]
	07	76	400	280	[57]	[542]	[379]
	09	71	375	263	[53]	[508]	[356]
	12	62	325	228	[46]	[441]	[309]
	13	62	325	228	[46]	[441]	[309]
RG	13	26	140	N/A	[19]	[190]	N/A
RL	03	38	200	N/A	[28]	[271]	N/A
	05	38	200	N/A	[28]	[271]	N/A
82	05	95	500	350	[71]	[678]	[475]
	08	85	450	315	[63]	[610]	[427]
	10	78	410	287	[58]	[556]	[389]
	12	71	375	263	[53]	[508]	[356]
	13	71	375	263	[53]	[508]	[356]
	15	67	350	245	[50]	[475]	[332]
	19	57	300	210	[43]	[407]	[285]

PTO SERIES	SPEED RATIO	INTERMITTENT HP@1000 RPM	INTERMITTENT TORQUE LBS. FT.	CONTINUOUS TORQUE LBS. FT.	INTERMITTENT [KW]@1000 RPM	INTERMITTENT TORQUE [NM]	CONTINUOUS TORQUE [NM]
83	05	95	500	N/A	[71]	[678]	N/A
	06	95	500	N/A	[71]	[678]	N/A
	12	71	375	N/A	[53]	[508]	N/A
FR62	06	29	150	105	[22]	[203]	[142]
FR63	06	36	190	133	[27]	[258]	[181]
FR64	06	36	190	133	[27]	[258]	[181]
GA6B	05	30	158	111	[22]	[214]	[150]
GM6B	05	30	158	111	[22]	[214]	[150]
GB10	06	42	220	154	[31]	[298]	[209]
	07	36	190	133	[27]	[258]	[181]
	09	29	150	105	[22]	[203]	[142]
CD10	05	76	400	280	[57]	[542]	[379]
	06	73	385	270	[54]	[522]	[365]
	07	68	360	252	[51]	[488]	[342]
	08	64	336	235	[48]	[456]	[319]
	10	59	310	217	[44]	[420]	[294]
	12	50	260	182	[37]	[352]	[246]
	15	43	225	158	[32]	[305]	[214]
CD40	07	114	600	420	[85]	[813]	[569]
	12	93	490	343	[70]	[664]	[465]
CS10 /11	05	95	500	350	[71]	[678]	[475]
	06	91	480	336	[68]	[651]	[456]
	07	86	450	315	[64]	[610]	[427]
	08	80	420	294	[60]	[569]	[398]
	10	73	385	270	[54]	[522]	[365]
CS20 /21	06	62	325	228	[46]	[440]	[308]
	07	58	305	214	[43]	[414]	[290]
	08	56	295	207	[42]	[400]	[280]
	10	55	290	203	[41]	[393]	[275]
	12	48	250	175	[36]	[338]	[237]
	15	38	200	140	[28]	[271]	[190]
CS41	07	114	600	420	[85]	[813]	[569]
	10	103	545	382	[76]	[739]	[517]
	12	93	490	343	[70]	[664]	[465]

The HC, PZ, and RS Series PTOs vary in their torque and horsepower ratings and are based on the transmission on which they are mounted. The torque rating of these PTOs are shown on their respective application pages or you may contact Muncie Power Products, Inc. Product Engineering Dept. for this information.

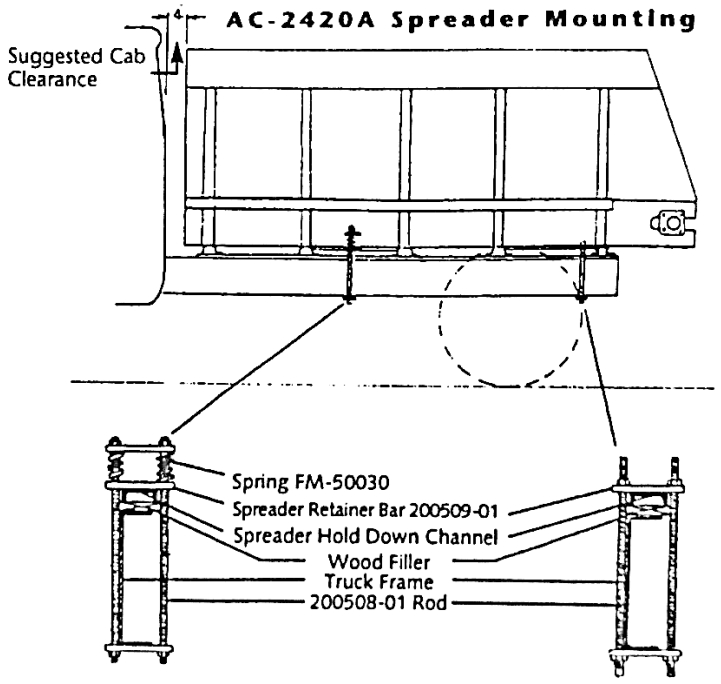
MINIMUM TRUCK FRAME REQUIREMENT

There is a minimum frame length required for the mounting of each size spreader, in order that the unit can be adequately supported at each cross sill refer to *Dimensions and Capacities Table on page 6* in the column headed Frame Required "FR" for each length spreader when mounted 4" behind truck cab."

TRUCK FRAME PREPARATION

If truck frame is not level, which sometimes is the case when frame has been reinforced by fish plating, steel flat bars, the thickness needed to level up frame must be added to the top of the upper frame flange - if rivet heads keep bar from laying flat then holes must be made in bar for clearance. If truck frame is too long to provide correct spreader location (assuming truck has proper C.A. dimensions) then frame rails must be cut off. Be sure to replace any cross members cut off if they are necessary to maintain the frames integrity (consult your truck dealer or manufacturer if there is any question in your mind as to the correct thing to do). When truck frame is leveled and has the correct length, then place the body mount strips (furnished with spreader) on top of the frame.

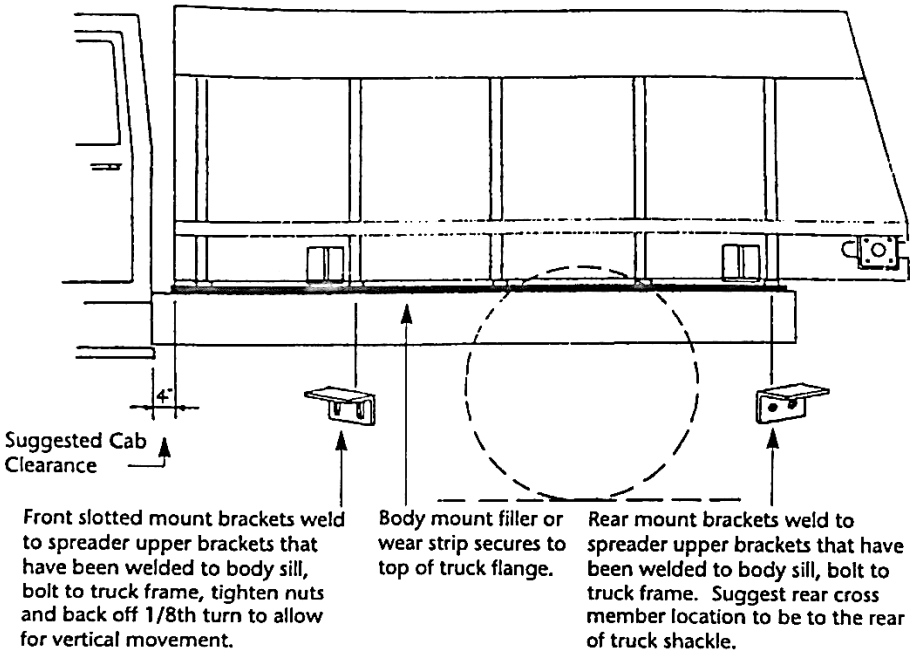
Outer edges should be flush with outside edge of frame. If there are rivet heads on top of frame rails, take a hammer and tap the filler strips lightly at each rivet. This will locate position of rivets so that strips can be drilled enough to provide clearance for each rivet head. When body mount strips lay flat on the frame rails top flanges, then wire or band strips to the frame in order to hold them in position as spreader is mounted.



HOPPER BODY TIE DOWN (CHASSIS MOUNTED)

Set spreader down on top of truck frame positioned 4" behind truck cab and centered on truck frame rails. Measure overhang at first and last cross sill on each side to be sure spreader is square with truck frame. Using U-bolt type tie downs provided with spreader, proceed to tie down spreader to truck frame.

E/AC-2420A SPREADER MOUNTING



DUMP BODY TIE DOWN

Remove tailgate from dump body and store in a place where it will not be dam aged or covered up. Clean all foreign material from dump body floor. Set spreader in dump body making sure that the rear most crossmember rest on dump body floor. Move spreader forward to within 1" of dump body front bulkhead - if unit has telescopic hoist set spreader within 1" of hoist "doghouse". Make sure that rear of spreader sticks far enough out the rear of dump body to permit installation of distributor spinner assembly center spreader in dump body from side to side.

Using dump body mount kit install 2 tie downs on each side of spreader one rear as shown in sketch below have tie downs located so near front and one near the that they pull as straight down as possible. Tighten down tie downs.

NOTE: Tie down should be tightened after unit is in operation for a couple of hours.

DUMP BODY MOUNTING KIT (220077-01) (4-PER KIT)

If unit is equipped with tailgate latching bar (which is recommended) place cross channel latch pins in tail gate latch and center in dump body rear then attach cross channel to spreader longitudinal sills- if latch pins extend past outside edge of dump body, trim flush with edge.

HYDRAULIC PUMP INSTALLATION

A. Direct PTO Mount Hydraulic Pump - Standard

(Bidirectional, SAE 2-bolt flange with 7/8" Involute Spline Shaft)

P.T.O. must be prepared to receive a direct mount hydraulic pump. Install P.T.O. to transmission following P.T.O. manufacturer's instructions. Then bolt the hydraulic pump up to P.T.O. Put grease of a "Never Seize" type compound on shaft so that when it has to be removed it will not have seized up.

B. Remote Mount Hydraulic Pump - Optional

A mounting bracket for the remote hydraulic pump is supplied with spreader Bracket will have to be assembled and may require a certain amount of modification in order to fit properly. Locate bracket in as straight a line as possible with truck P.T.O. shaft. Bracket should be bolted to either a frame rail or a cross member. The hydraulic pump drive shaft furnished with spreader is made up of two Universal Joints and a piece of 1" solid shafting. Solid Shaft portion may have to be cut for correct length - normally it's best to cut off pin hole end be sure when hole is predrilled in shaft that it is 90 degrees with shaft key way so that universal joints can be installed in time as shown in illustration below.

WELDING TO TRUCK FRAME COULD VOID TRUCK MANUFACTURERS WARRANTY

Universal Yokes on a shaft must be in line.

C. V-Belt Driven w/Electric Clutch - Optional

Truck engine crank shaft must be equipped with a two v-belt pulley that can be used to power pump - a location on engine block must be determined where a pump mounting bracket can be installed pump is equipped with a foot type mounting base and pump mounting bracket must be made up to take this base and fit to engine block when pump bracket is installed to engine block and pump is mounted to bracket, V-belt length can be determined.

Make sure bracket is designed to provide V-belt tension adjustment. Sometimes air conditioning compressor mounting brackets designed for truck engine can be easily modified to serve as pump bracket - contact your truck dealer for the availability of these brackets. Pump will be equipped with 2-1/2" A-Section pulleys approximately 7" in diameter. Pulleys on crank shaft should be close to this same diameter. When hooking up hydraulic hose and electrical wiring protect both from hot surfaces and provide adequate length so that hydraulic pump can be adjusted for belt tension.

D. Auxiliary Engine Driven – Optional

Mounted to spreader and hooked up to engine at factory no installation required.

HYDRAULIC RESERVOIR AND FILTER INSTALLATION

The hydraulic reservoir (except for Auxiliary Engine Driven Hydraulic Pumps) for both chassis and dump body mounting is designed for installation to the outside of the truck frame rails on the driver side between back of cab and rear wheel. The further for- ward is generally best to keep reservoir away from rear wheel splatter. Set reservoir up to side of frame to locate holes to be drilled in frame. Make sure that adequate access is permitted to reservoir filler cap and that nothing interferes with drilling holes in frame. Before bolting reservoir to truck frame with hardware provided install filter assembly making sure arrow into filter is pointing toward tank and replaceable element is down.

CAB HYDRAULIC CONTROL VALVE INSTALLATION

Take the valve and find a location in the cab where operator can easily reach it to adjust control knobs and turn it off and on. Be sure seat is in most forward position and that there is no interference with gear shift lever and parking brake operation.

Valve should be bolted directly to cab floor when possible, using a piece of scrap rubber belting as a gasket to seal valve to floor. When best place for valve is determined then check beneath cab floor to determine any interference with transmission. Be careful when cut- ting holes in cab floor to not destroy integrity of the floor. After valve is bolted to floor check to be sure no dust, exhaust fumes, or noise can come up through the area where the valve is mounted.

INSTALLATION OF DISTRIBUTOR SPINNER ASSEMBLY

With hardware provided bolt distributor spinner assembly to spreader body sills.

INSTALLATION OF HYDRAULIC HOSE

Refer to hydraulic schematic parts diagram for installation of hose and fittings.

Hydraulic hoses supplied are:

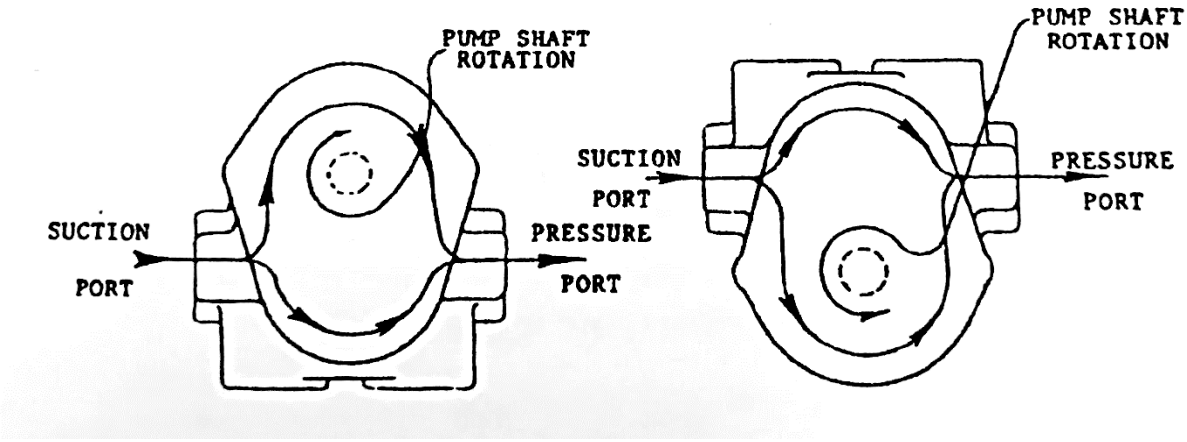
- 3/4" with crimped fitting one end with reusable fitting for -Pump to valve other cut to required length.
- Valve to spinner 1/2" one piece with crimped fitting one end with reusable fitting for other cut to required length to connect to quick disconnect coupler from coupler to spinner hydraulic motor 1/2" hose has fitting crimped each end.
- Valve to Conveyor 3/4" one piece with crimped fitting one end with reusable fitting for the other - cut to required length to connect to quick disconnect coupler - from coupler to conveyor hydraulic motor 3/4" hose has fittings crimped on each end.

Low pressure returns line hose:

- Valve to hyd-reservoir 3/4" cut to required length with hose clamps each end.

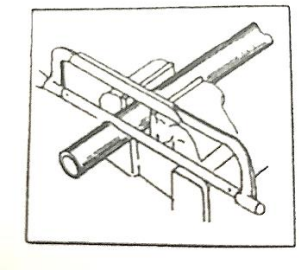
- Spinner Hydraulic Motor to reservoir 1/2" to tee at rear of conveyor hydraulic motor with hose clamps on each end.
- Conveyor Hydraulic Motor to reservoir 3/4" to quick disconnect coupler - hose clamp each end cut to required length. Quick coupler to reservoir 3/4" hose clamp on each end cut to required length.

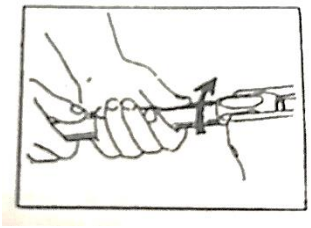
In hooking up hoses to hydraulic pump use sketch below to determine which is the suction and which is the pressure port.



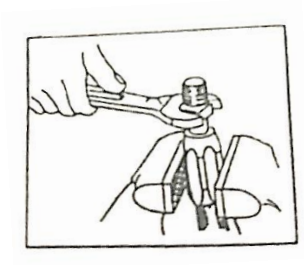
INSTALLATION OF REUSABLE HOSE FITTINGS

Cut hose to length making square cut with fine tooth hacksaw or cut off saw.





Screw hose into coupling body in clockwise rotation until it bottoms out.



Then back out 1/4 turn using a wrench to fit hex on insert, screw insert into coupling body and hose until it bottoms out.

CAUTION: Avoid sharp bends in hydraulic hose that would restrict oil flow Whenever possible, keep hoses from rubbing against metal part of spreader and/or truck frame. When contact cannot be prevented put some type of wear protection on hoses such as old pieces of hose, belting, etc. Don't let hoses hang down in such a way as to catch on something on the ground.

Use thread sealer on all fittings except O Rings but in using it be careful not to sure keeping it out of get it inside of system and don't put it on first three threads to the oil flow.

FILLING HYDRAULIC RESERVOIR

Fill reservoir with approximately 12 gallons of hydraulic oil to start. Use Premium Grade Anti wear hydraulic fluids having the correct viscosity index, high film strength and proper lubrication, high oxidation resistance, good water separating ability, good anti rust property, and good resistance to foaming. See below for temperature and viscosity operating range.

Operating Temp. Range	Viscosity Range at Operating Temp.	Viscosity Grade Industry Ident.
84 F-122 F	200-100 SSU	150 SSU
107 F-140 F	200-100 SSU	225 SSU
116 F-1 50 F	200-100 SSU	300 SSUJ
130 F-165 F	200-100 SSU	450 SSU
145 F-182 F	200-100 SSU	600 SSU

Most all oil companies have Premium Grade Hydraulic Fluids that will meet the above required specifications. Multi-Grade Automotive Engine Oils having SAE service quality level SC can also be used but could also require more frequent filter replacement.
See below for Automotive Engine Oil Temperature and Viscosity operating range.

Operating Temp. Range	Viscosity Range at Operating Temp.	Viscosity Grade SAE
100 F-1 30 F	200-100 SSU	10W-30
140 F-170 F	200-100 SSU	10W-40

SPREADER OPERATION & MAINTENANCE

INITIAL START-UP

1. Check to see that all bolts are properly tightened, pins are in U-Joints, set screws are tight, conveyor chain is evenly adjusted, hose clamps are tight, fittings, and hoses are tight.
2. Remove any loose material in hopper or on distributor spinner assembly.
3. See that gear box has adequate lubricant and that bearings and U-Joints are
4. Be sure hydraulic reservoir has been filled up. Open gate valve under reservoir
5. Set spinner speed control fully left to the zero position. Switch conveyor control to the "off" position.
6. Start truck and let it warm up when engine is warm enough to operate at its lubricated fully turning counter-clockwise minimum idle speed, engage clutch and put Power Take-Off in gear gradually ease out on clutch pedal until pump starts running. Let truck run at high idle for several minutes to circulate oil from reservoir to the hydraulic pump and

back through the hydraulic oil filter to the reservoir. **MAKE SURE NO ONE IS STANDING AT REAR OF SPREADER!!**

7. Move Spinner Valve Control to "four" and turn spreader on running spinner slowly until the spinner is operating smoothly and all air is purged from the hydraulic lines to the spinner.
8. Turn spinner off then put conveyor speed control in "low" and run conveyor for several minutes observing conveyor chain operation to be sure it is running properly. The put speed control in "hi" and run for several more minutes.
9. With conveyor in "hi", turn spinners on and put control lever in "six" Gradually increase engine speed up to field operating speed and run system for several minutes. Shut down system.
10. Make complete inspection of all fittings and hoses for leaks. **DO NOT** check high pressure leaks while system is in operation.
11. Check hydraulic oil level in reservoir and fill

NOTE: RPMs based on gasoline powered chassis. Adjust RPMs as appropriate for diesel equipment.

CONVEYOR CHAIN MAINTENANCE

INITIAL SPREADER START UP AND OPERATION IS CRITICAL TO CHAIN LIFE AND CHAIN LINKS MUST BE KEPT FREE FROM FREEZING UP BY PROPER CLEANING, LUBRICATION AND ADJUSTMENT.

CLEANING: Spreader should be washed regularly to fully remove excess corrosive material-daily if spreading salt, calcium chloride and mixtures-weekly if spreading straight sand. Use ample water to ensure that all chemicals are dissolved and flushed from the spreader. When the inside of the hopper is clean (all material is removed from conveyor floor) stand at rear and spray chain links while chain is running to get corrosive material flushed out if chain.

LUBRICATION: After chain is flushed out with water continue to run chain until excess water is removed then spray links with a mixture of 25% crankcase oil and 75% diesel fuel while chain is still running until mixture thoroughly penetrates conveyor chain links.

ADJUSTMENT:
Initial adjustment of conveyor at factory is tight because of the stretch that occurs in the first few days d operation. However, after initial stretch occur chain should be adjusted so that it contacts lower flange of body sill at 36" to 40" from rear of body sill. Also make sure chain is adjusted equally on each side.

CAUTION: If chain is allowed to become stiff and is not kept properly adjusted the chain is liable to kink up forcing the crossbars up under the chain shields. This can overload conveyor drive as well as cut into crossbars and damage chain shields. Proper conveyor chain maintenance is a worthwhile investment.

LUBRICATION CHART

Description	Service Location	No. of Points	Method of Lubrication	Daily	Weekly	Monthly	Semi Annual
Gear Boxes							
Conveyor	Plug side of case	1	Lube Oil				X
Universal Joints							
PTO Drive Line to Hyd. Pump	Beneath Truck	3	Grease Gun		X		
Bearings							
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		
Chain							
Conveyor	Chain 2 strand	2	Spray Oil	X			
Feed Gate Jack							
Tube	Rear of tube	1	Grease Gun			X	
Gears	Top of Jack	1	Hand Grease				X
Spinner	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

SETTING UP TO SPREAD

After truck is loaded with material to be spread and you are traveling to where you are to start spreading, reduce speed to a minimum when road surface is rough for this causes material to pack down excessively on conveyor-particularly at railroad crossings. When you arrive at your "start point", select your transmission and rear axle gear and *refer* to the Spread Rate Chart (supplied by your dealer) to determine the *feed gate* setting needed for the application rate required. You must know the weight of the material (in pounds per square foot) poor to going to spread.

Test spread a small amount of material and adjust feed gate opening as necessary to achieve desired spread width. When gate setting is established, you may start spreading. Avoid shifting transmission or rear axle as it will change your application rate. After spreading approximately ½ of the field, check amount of material in the hopper to verify application rate and adjust feed gate opening accordingly.

NEVER LET ANYONE STAND ON CATWALK (FENDER) WHEN UNIT IS IN MOTION

NEVER STAND AT REAR OF UNIT WHEN SPREADER IS IN OPERATION

SPREAD RATE CHARTS

Charts will be supplied by your dealer. The following information is required by the dealer to prepare your chart:

- Truck make and model
- Truck engine-field operating speed
- Truck transmission make and model
- Rear axle reduction
- Truck auxiliary transmission make and model (if so equipped)
- Rear tire size
- transmission PTO make and model

Spreader rate charts provide only approximate gate settings and actual operation may require adjustment. The spread rate chart below is a guide to help you get started.

Sample Spread Rate Chart

Conveyor Hydraulic Valve Setting	Cu. Ft./ Mile/ Inch of Gate Opening		
	15 MPH	30 MPH	45 MPH
1	1.84	0.92	0.61
2	4.28	2.14	1.39
3	5.28	3.14	2.09
4	8.12	4.06	2.71
5	9.72	4.86	3.24
6	11.68	5.84	3.89
7	13.32	6.66	4.44
8	14.92	7.46	4.97
9	16.16	8.08	5.39
10	18.10	8.70	6.08
11	18.24	9.12	6.08

- Above rates are theoretical and are provided as a starting point to establish desired feed gate openings.

- At higher valve settings it is critical that engine speed be sufficient to satisfy the hydraulic pumps requirements for oil flow.

SPREADER CALIBRATION

The spread rate chart shown is theoretical and if you want to be more accurate than it would be better to calibrate the spreader as outlined in the following instructions.

FIRST, we must determine the actual delivery of the material you plan to use for each revolution of the conveyor drive shaft. So, if you spread an abrasive/chemical mixture you should mix up several cubic yards - if you spread straight chemical only then several cubic yards of the material must be available.

Items required for test area are:

60 Ib. scale
Square yard of canvas with grommets on each corner
Steel file
Stop watch

1. With Steel file make a groove in edge of conveyor drive shaft (opposite side from gear box) for a shaft reference point also make a groove in bearing casting just opposite shaft groove.

2. Let engine that powers hydraulic pump idle with pump running and spreader turned off until hydraulic oil warms up to operating temperature

3. Set engine speed up at normal operating speed set conveyor valve first set- ting and engage spreader conveyor. When marks on conveyor shaft and bearing line, up start Stop Watch and count shaft R.P.M. using form provided in this manual and repeating for each valve setting.

4. Now load a couple cubic yards of material in spreader hopper that you will be spreading at rear part of body.

5. Place canvas under spinner and forward enough to catch material.

6. Open feed gate to two inches checking opening with a ruler and marking gate with file in such a way that same opening can be made by operator in the future - engage conveyor and run until material is conveyed back to spinner hopper and reference marks are lined up between conveyor drive shaft and bearing casting, If some material has fallen through to canvas remove it. Now run conveyor for one revolution of the conveyor drive shaft catching material on canvas then weigh material deducting for the canvas and record repeat this procedure several times and take an average to determine the delivery rate for each conveyor drive shaft revolution with feed gate set at a 2" opening.

You now have the data to figure how much you will be spreading over a mile at given truck speeds. Use the formula:

RPM (conveyor) x Discharge rate (per revolution @2" gate setting) x Truck Speed (in minutes required to go a mile).

EXAMPLE: You have a conveyor drive shaft speed of 10 RPM valve setting NO. 4 and you deliver 40 pounds of material per drive shaft revolution. Thus, the spreader will be delivering 400 pounds of material a minute to the road surface. Now if the truck was operating at 30 miles per hour it would take two minutes to go a mile thus you would be spreading 800 pounds of material per mile.

RPMX Discharge Rate X Truck Speed = material per mile 10 RPMX 40 Pounds x 2 Min/Mile = 800 Pounds per mile.

If a higher or lower rate is desired, then a different valve setting, and/or a different feed gate setting can be selected.

The minutes required to travel one mile at various speeds is as follows:

MPH	Minutes per Mile
55	0.09
50	1.20
45	1.33
40	1.50
35	1.71
30	2.00
25	2.40
20	3.00
15	0.00

Many variables are involved in spreader operation that can influence the calibration of a spreader such as oil temperature and viscosity, hydraulic pump and motor efficiency, control valve accuracy, engine speed, hydraulic hose size and system design and combinations of these. Consequently, a spreader should be calibrated annually to adjust for component wear.

TROUBLESHOOTING

PROBLEM	ACTION	CHECK
Conveyor or Spinner doesn't run.	Is PTO disengaged?	Engage PTO.
	Is PTO Driveline damaged?	Check to see if Pin fell out, Key slipped out or U-joint broke. If so, repair.
	Is Spinner Valve turned on?	Turn valve to desired position, usually "5" or "6".
	Is Conveyor Control Lever in the "off" position? Is it fully shifted?	Shift to desired position, "hi" or "lo" to be sure Lever is in proper position.
	Is Hydraulic Oil level too low?	Fill Reservoir.
	Is Hyd. Reservoir Shut-off Valve in the "off" position?	Open Valve fully by turning in a counter-clockwise direction.
	Is Relief Valve set too low?	See test at the bottom of page 22.
	Is Hydraulic Pump worn?	See test at the bottom of page 22.
	Is Conveyor jammed? Is Conveyor motor or Spinner Motor frozen?	Free up Chain. Free up Motors. If unable, replace Motors.
Spinner speed does not hold constant	Is Pump speed adequate to provide sufficient oil for constant speed?	Increase engine RPMs by selecting lower operating gear at same speed.
	Is Hydraulic Pump worn?	See test at the bottom of page 22.
	Is Relief Valve set too low?	See test at the bottom of page 22.
	Is Spinner Control Valve defective?	Replace Spool Spring. If no change, replace Valve.
Spinners run, but do not when Conveyor Control is "on".	Is Conveyor frozen or jammed?	Free up Conveyor Chain.
	Is Conveyor Motor frozen?	Replace Motor.
	Is Motor Shaft Key sheared?	Replace Key

TROUBLESHOOTING CONT'D

PROBLEM	ACTION	CHECK
	Is Hydraulic Pump worn?	Replace or install properly.
	Are Check Valves in Control Valve missing or installed improperly?	See test at the bottom of this page
Hydraulic Oil is overheating (over 180°)	Is too much oil being supplied to system?	PTO may be too fast. Hydraulic Pump may have too high a capacity, Change PTO or Pump.
	Is oil level too low?	Add oil to sight glass or fill line.
	Is Hydraulic Motor worn?	Excessive heating of Motor poor to system heating indicates worn. Motor. Replace Motor.
	Is Relief Valve set too low?	See test at the bottom of this page
	Is Hydraulic Hose obstructed or kinked?	Remove obstruction, reroute or replace Hose.
	Is application rate too high?	Reduce load on system by using a smaller Feed gate opening and lower gear for the same application rate.

To test the Relief Valve Setting;	Remove 1/4" Plug in Relief Valve and install Pressure Gauge. With hyd. system at normal operating temperature, block Spinners so they do not tum. With Spinner Valve fully open, gradually increase engine RPM and observe gauge. Pressure should build up to 2,500 PSI prior to bypassing at the Relief Valve. If it does not, adjust Valve accordingly.
To test for a worn Pump;	Install Flow Meter inline before the Relief Valve. Set Spinner Control Valve full off. With Relief Valve set properly, and with system at normal operating temperature, gradually tum Control Valve to full open at 2,500 to 3,000 RPM, and system at 2,500 PSI, flow should not drop of more than 3 GPM If it does, replace pump.

PARTS LIST AND ILLUSTRATIONS

Screens.....24-35

Feed gate.....36, 50-51

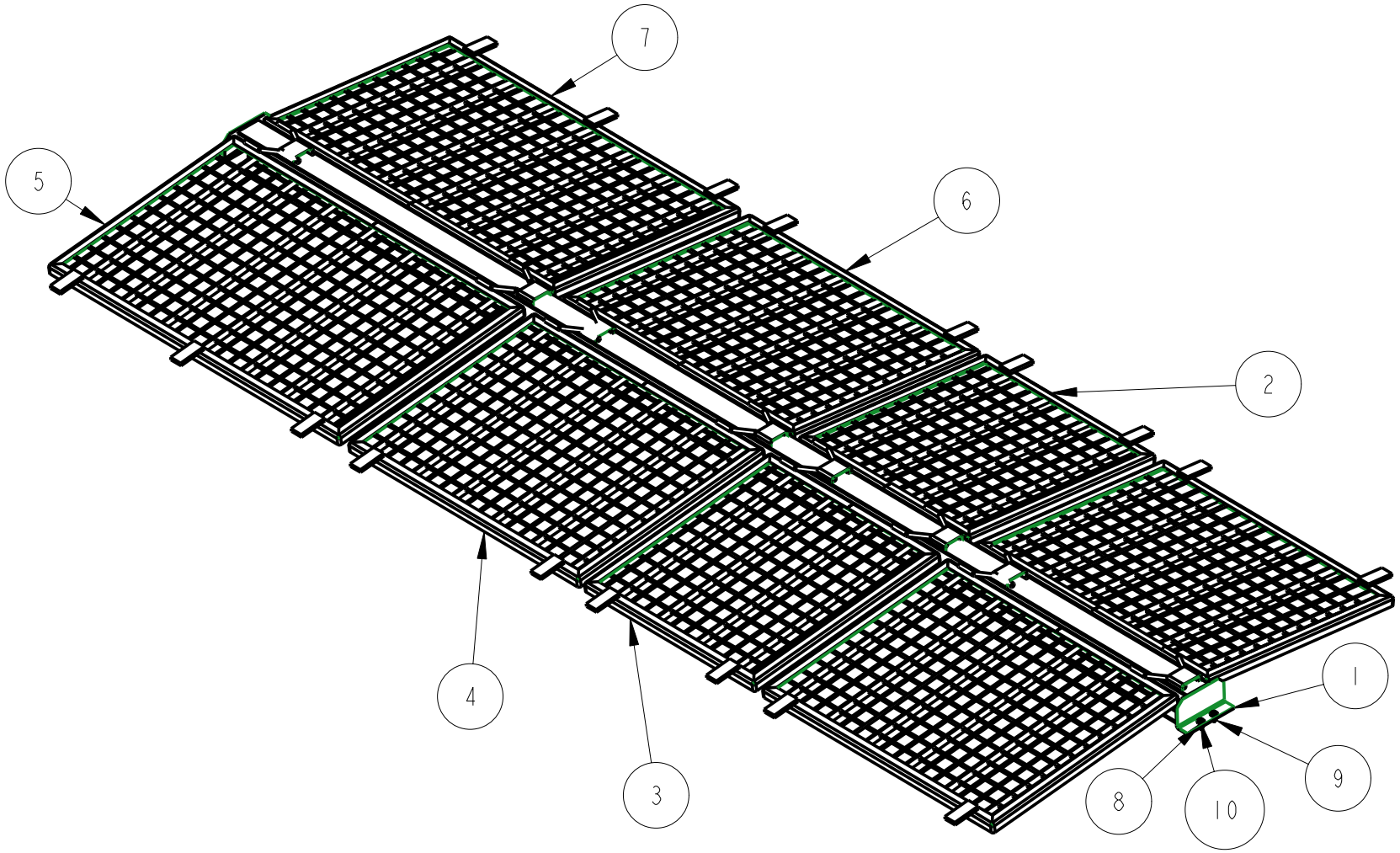
Hopper & Spreader Assembly.....37-48, 77-78

Chains & Conveyor Assembly 52-72, 74

Hydraulics.....73, 75-76

WARREN
COLLINS, MS.

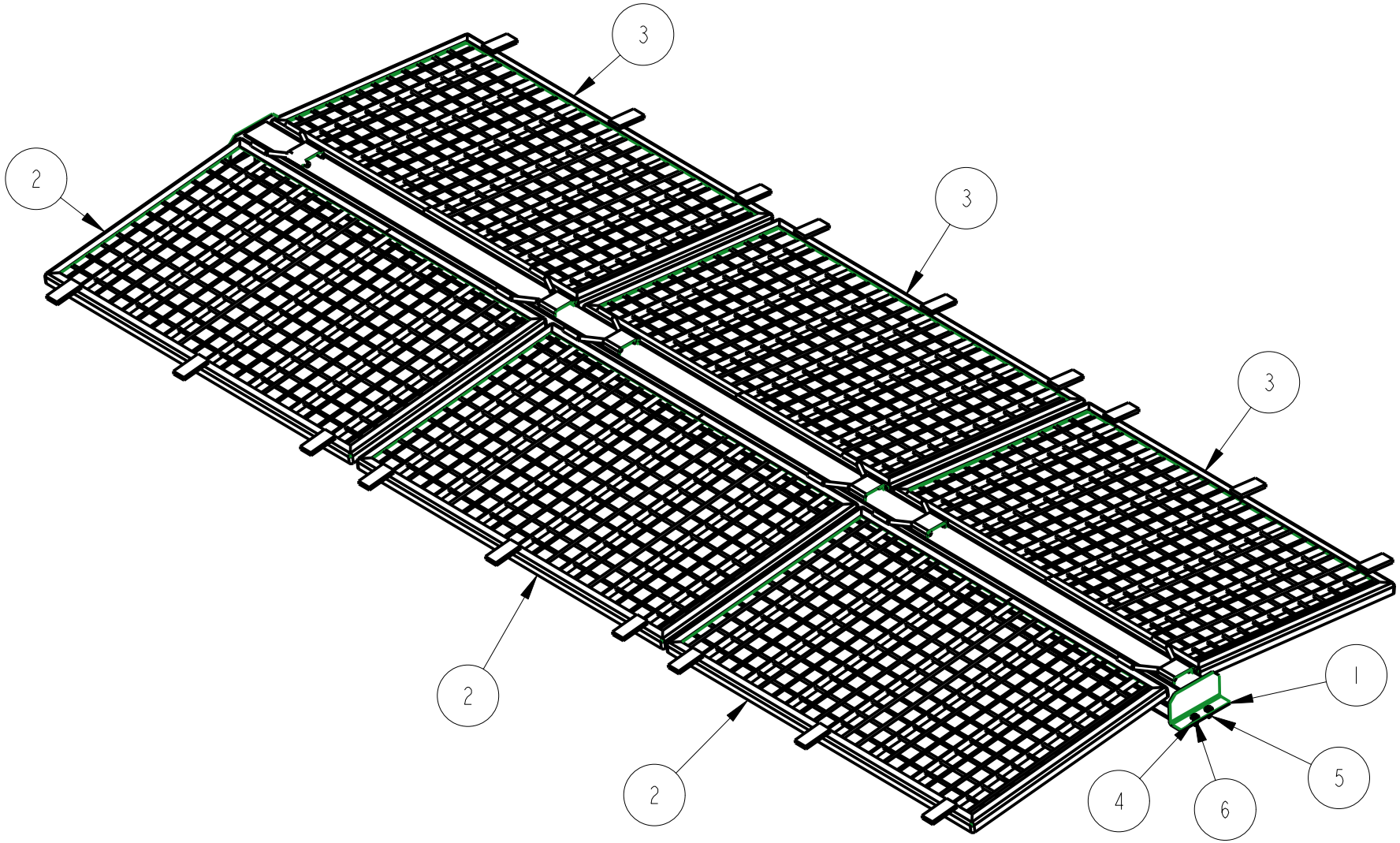
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	220070-34	300-30582	SCREEN BEAM WELDMENT - 16'	249.791
2	1	220071-00	300-30013	SCREEN SECTION - 3 FT - RH	55.928
3	1	220071-14	300-30012	SCREEN SECTION - 3 FT - LH	55.928
4	2	220071-15	300-30014	SCREEN SECTION - 4 FT - LH	71.719
5	1	220071-16	300-30016	SCREEN SECTION - 5 FT - LH	87.988
6	2	220071-23	300-30015	SCREEN SECTION - 4 FT - RH	71.719
7	1	220071-24	300-30017	SCREEN SECTION - 5 FT - RH	87.988
8	4	FF-00015	900-80106	3/8 FLAT WASHER ZN	0.021
9	4	FF-00023	900-80113	3/8-16 NUT-KEP ZN	0.026
10	4	FF-00229	900-80128	3/8-16 X 1-1/4 HEX CAP SCREW GR 8 YEL ZN	0.054



01-Dec-06	SCREEN ASSEMBLY - 16 FT	220175-09

WARREN
COLLINS, MS.

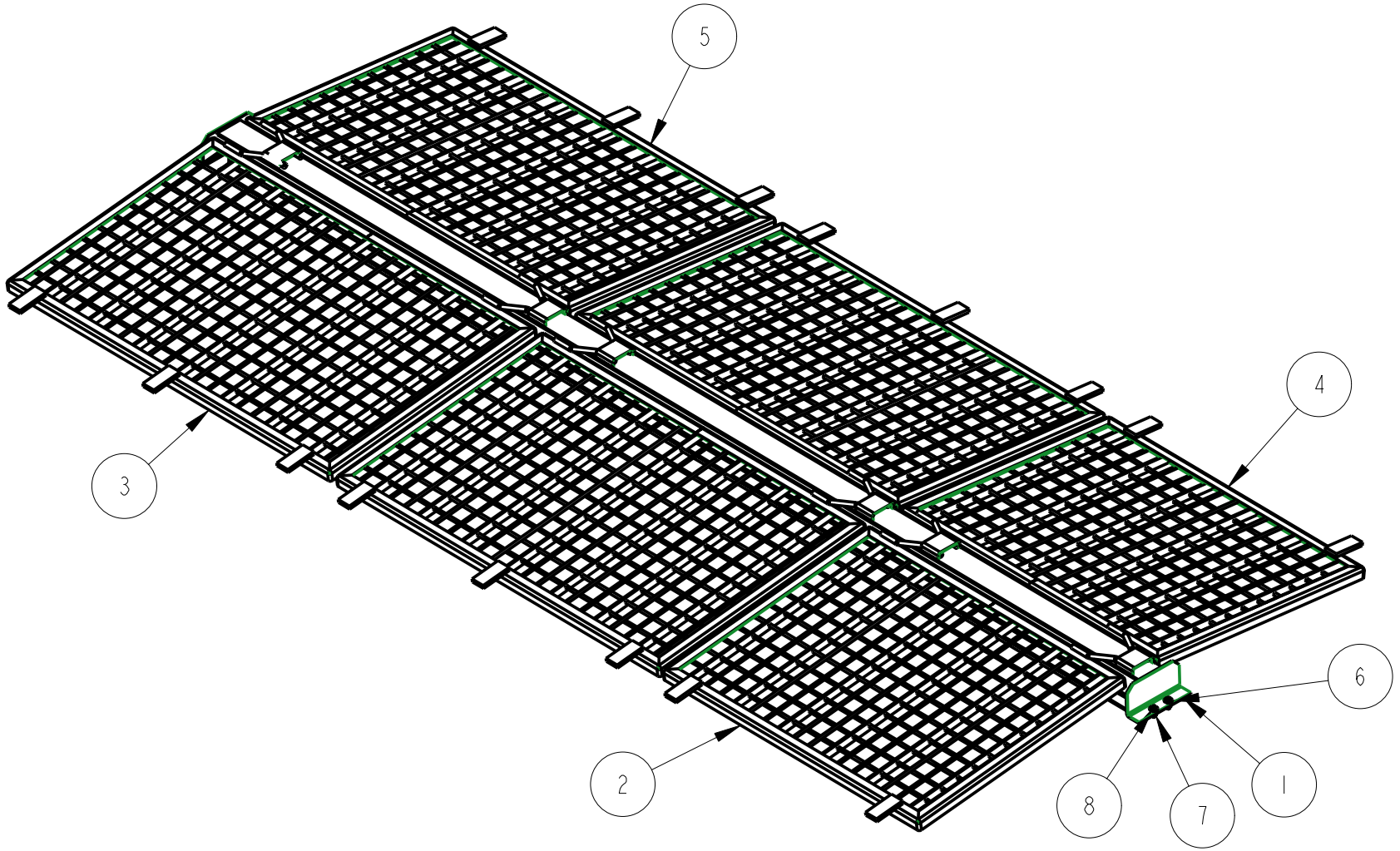
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	220070-33	300-30581	SCREEN BEAM WELDMENT - 15'	233.526
2	3	220071-16	300-30016	SCREEN SECTION - 5 FT - LH	87.988
3	3	220071-24	300-30017	SCREEN SECTION - 5 FT - RH	87.988
4	4	FF-00015	900-80106	3/8 FLAT WASHER ZN	0.021
5	4	FF-00023	900-80113	3/8-16 NUT-KEP ZN	0.026
6	4	FF-00229	900-80128	3/8-16 X 1-1/4 HEX CAP SCREW GR 8 YEL ZN	0.054



01-Dec-06	SCREEN ASSEMBLY - 15 FT	220175-08

WARREN
COLLINS, MS.

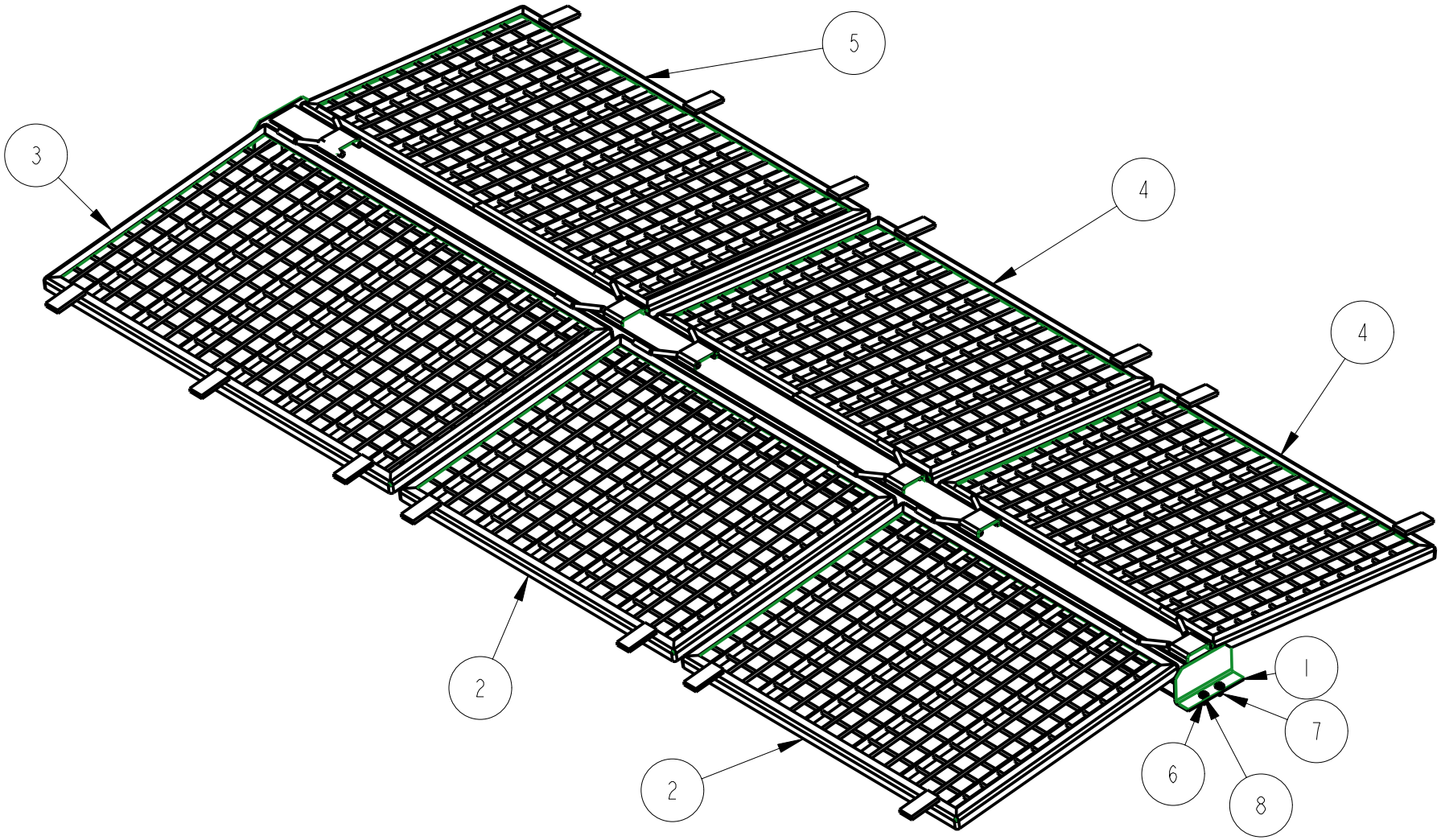
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	220070-32	300-30580	SCREEN BEAM WELDMENT - 14'	167.611
2	1	220071-15	300-30014	SCREEN SECTION - 4 FT - LH	71.719
3	2	220071-16	300-30016	SCREEN SECTION - 5 FT - LH	87.988
4	1	220071-23	300-30015	SCREEN SECTION - 4 FT - RH	71.719
5	2	220071-24	300-30017	SCREEN SECTION - 5 FT - RH	87.988
6	4	FF-00015	900-80106	3/8 FLAT WASHER ZN	0.021
7	4	FF-00023	900-80113	3/8-16 NUT-KEP ZN	0.026
8	4	FF-00229	900-80128	3/8-16 X 1-1/4 HEX CAP SCREW GR 8 YEL ZN	0.054



14-Jan-11	SCREEN ASSEMBLY - 14 FT	TBD	220175-07

WARREN
COLLINS, MS.

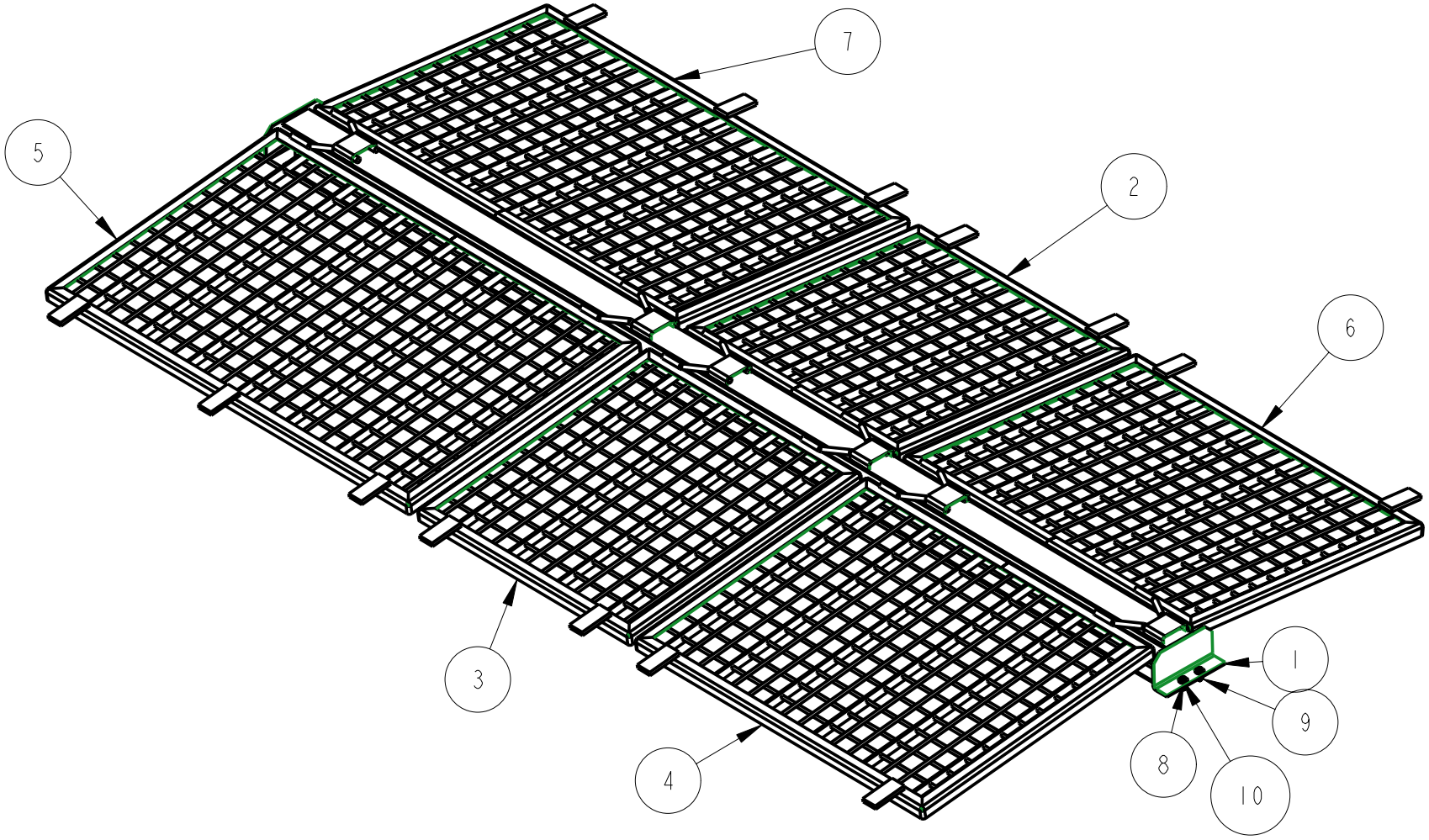
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	220070-31	300-30579	SCREEN BEAM WELDMENT - 13'	203.397
2	2	220071-15	300-30014	SCREEN SECTION - 4 FT - LH	71.719
3	1	220071-16	300-30016	SCREEN SECTION - 5 FT - LH	87.988
4	2	220071-23	300-30015	SCREEN SECTION - 4 FT - RH	71.719
5	1	220071-24	300-30017	SCREEN SECTION - 5 FT - RH	87.988
6	4	FF-00015	900-80106	3/8 FLAT WASHER ZN	0.021
7	4	FF-00023	900-80113	3/8-16 NUT-KEP ZN	0.026
8	4	FF-00229	900-80128	3/8-16 X 1-1/4 HEX CAP SCREW GR 8 YEL ZN	0.054



01-Dec-06	SCREEN ASSEMBLY - 13 FT	220175-06

WARREN
COLLINS, MS.

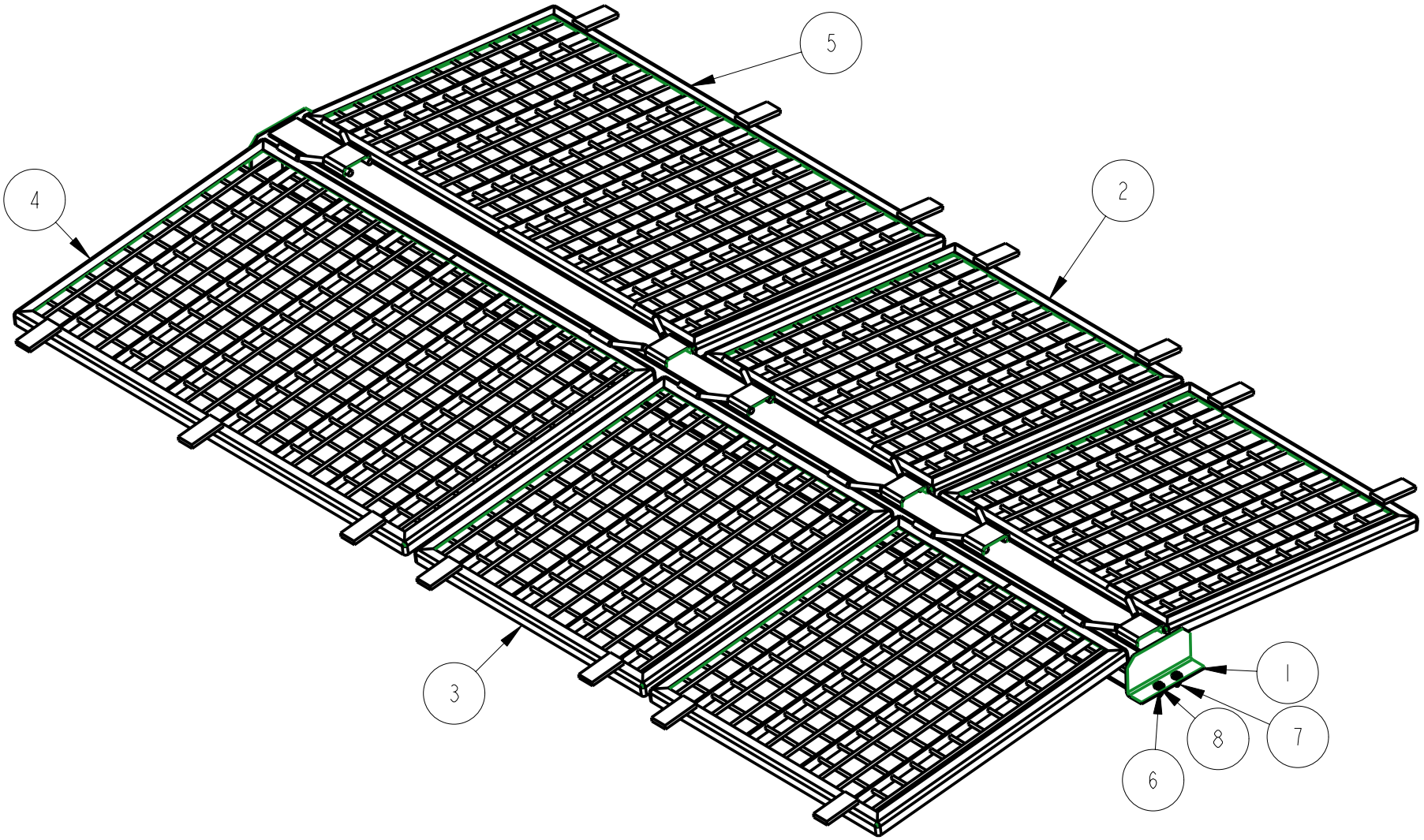
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	220070-30	300-30578	SCREEN BEAM WELDMENT - 12'	188.333
2	1	220071-00	300-30013	SCREEN SECTION - 3 FT - RH	55.928
3	1	220071-14	300-30012	SCREEN SECTION - 3 FT - LH	55.928
4	1	220071-15	300-30014	SCREEN SECTION - 4 FT - LH	71.719
5	1	220071-16	300-30016	SCREEN SECTION - 5 FT - LH	87.988
6	1	220071-23	300-30015	SCREEN SECTION - 4 FT - RH	71.719
7	1	220071-24	300-30017	SCREEN SECTION - 5 FT - RH	87.988
8	4	FF-00015	900-80106	3/8 FLAT WASHER ZN	0.021
9	4	FF-00023	900-80113	3/8-16 NUT-KEP ZN	0.026
10	4	FF-00229	900-80128	3/8-16 X 1-1/4 HEX CAP SCREW GR 8 YEL ZN	0.054



01-Dec-06	SCREEN ASSEMBLY - 12 FT	220175-05

WARREN
COLLINS, MS.

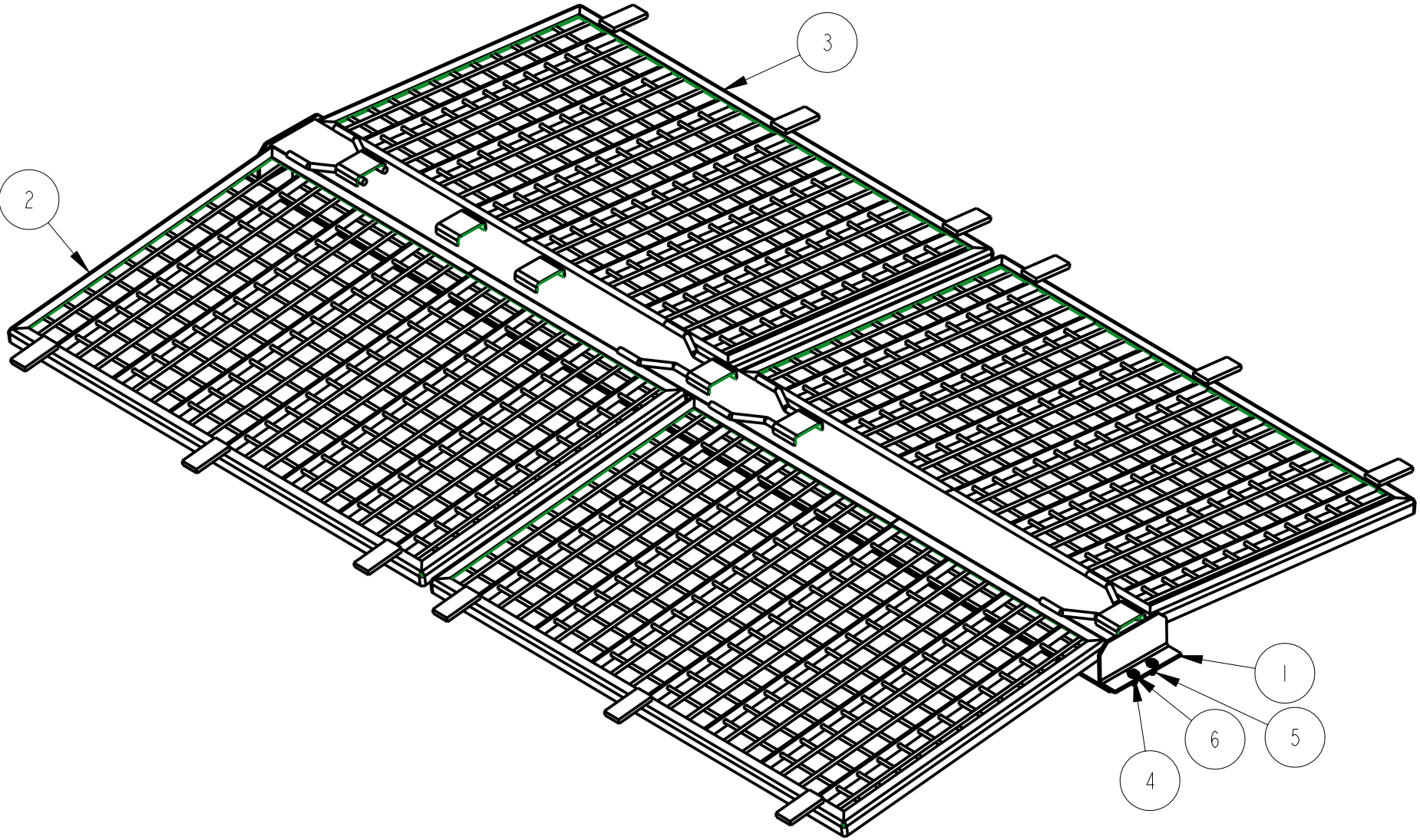
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	220070-29	300-30577	SCREEN BEAM WELDMENT - 11'	173.268
2	2	220071-00	300-30013	SCREEN SECTION - 3 FT - RH	55.928
3	2	220071-14	300-30012	SCREEN SECTION - 3 FT - LH	55.928
4	1	220071-16	300-30016	SCREEN SECTION - 5 FT - LH	87.988
5	1	220071-24	300-30017	SCREEN SECTION - 5 FT - RH	87.988
6	4	FF-00015	900-80106	3/8 FLAT WASHER ZN	0.021
7	4	FF-00023	900-80113	3/8-16 NUT-KEP ZN	0.026
8	4	FF-00229	900-80128	3/8-16 X 1-1/4 HEX CAP SCREW GR 8 YEL ZN	0.054



01-Dec-06	SCREEN ASSEMBLY - 11 FT	220175-04

WARREN
COLLINS, MS.

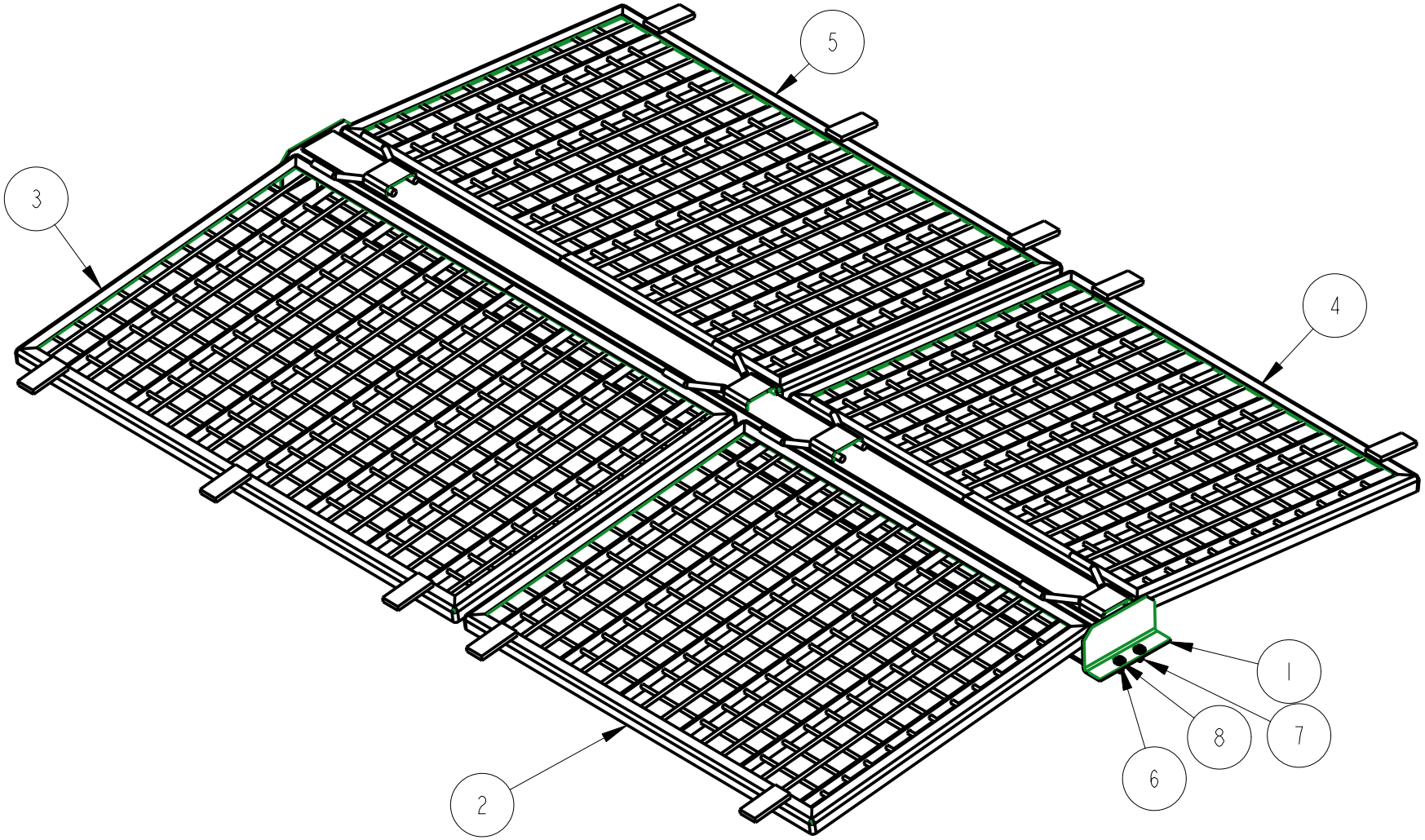
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	220070-28	300-30232	SCREEN BEAM WELDMENT - 10'	158.204
2	2	220071-16	300-30016	SCREEN SECTION - 5 FT - LH	87.988
3	2	220071-24	300-30017	SCREEN SECTION - 5 FT - RH	87.988
4	4	FF-00015	900-80106	3/8 FLAT WASHER ZN	0.021
5	4	FF-00023	900-80113	3/8-16 NUT-KEP ZN	0.000
6	4	FF-00229	900-80128	3/8-16 X 1-1/4 HEX CAP SCREW GR 8 YEL ZN	0.054



01-Dec-06	SCREEN ASSEMBLY - 10 FT	220175-03

WARREN
COLLINS, MS.

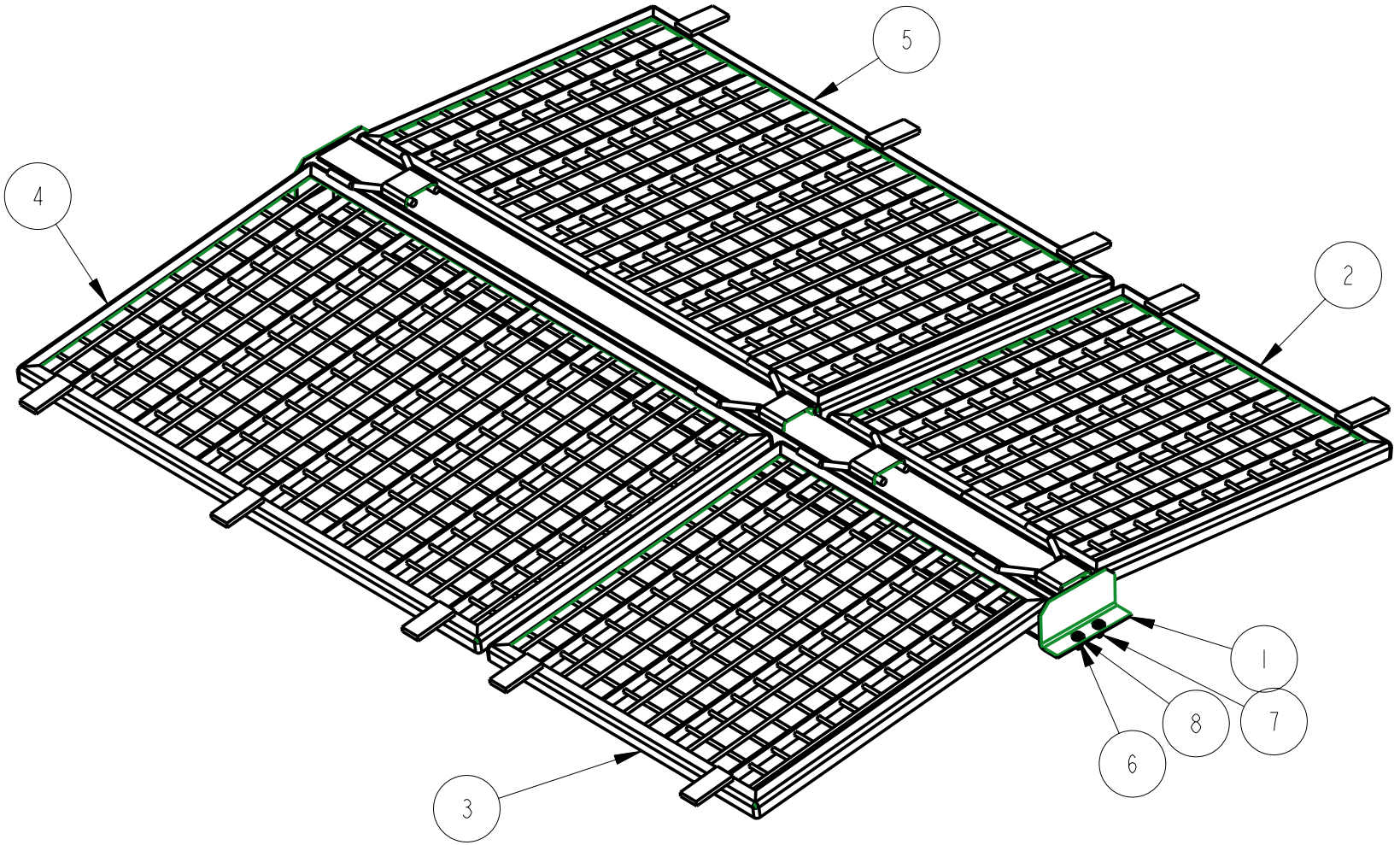
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	220070-27	300-30576	SCREEN BEAM WELDMENT - 9'	141.939
2	1	220071-15	300-30014	SCREEN SECTION - 4 FT - LH	71.719
3	1	220071-16	300-30016	SCREEN SECTION - 5 FT - LH	87.988
4	1	220071-23	300-30015	SCREEN SECTION - 4 FT - RH	71.719
5	1	220071-24	300-30017	SCREEN SECTION - 5 FT - RH	87.988
6	4	FF-00015	900-80106	3/8 FLAT WASHER ZN	0.021
7	4	FF-00023	900-80113	3/8-16 NUT-KEP ZN	0.026
8	4	FF-00229	900-80128	3/8-16 X 1-1/4 HEX CAP SCREW GR 8 YEL ZN	0.054



01-Dec-06	SCREEN ASSEMBLY - 9 FT	220175-02

WARREN
COLLINS, MS.

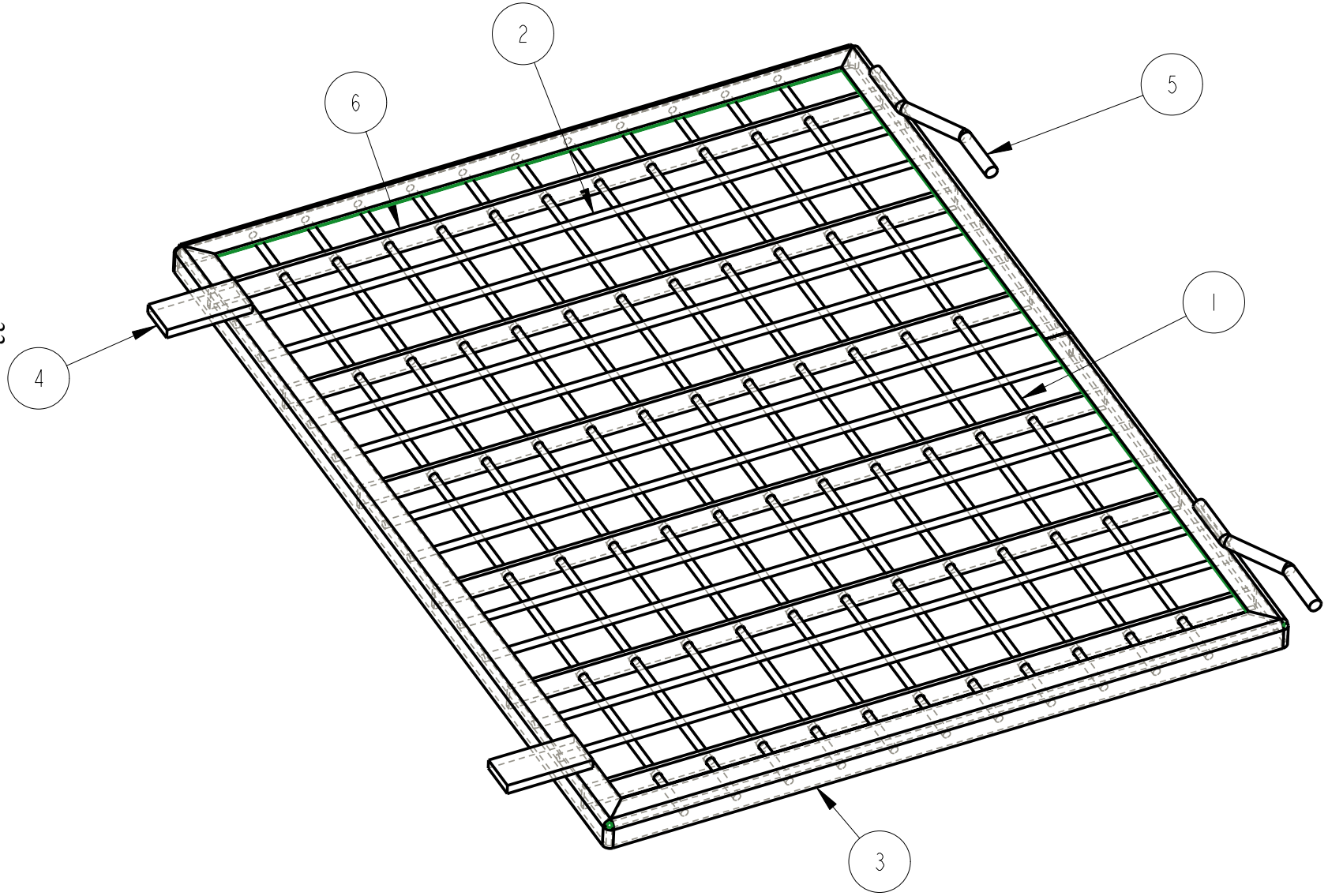
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	220070-26	300-30575	SCREEN BEAM WELDMENT - 8'	126.874
2	1	220071-00	300-30013	SCREEN SECTION - 3 FT - RH	55.928
3	1	220071-14	300-30012	SCREEN SECTION - 3 FT - LH	55.928
4	1	220071-16	300-30016	SCREEN SECTION - 5 FT - LH	87.988
5	1	220071-24	300-30017	SCREEN SECTION - 5 FT - RH	87.988
6	4	FF-00015	900-80106	3/8 FLAT WASHER ZN	0.021
7	4	FF-00023	900-80113	3/8-16 NUT-KEP ZN	0.026
8	4	FF-00229	900-80128	3/8-16 X 1-1/4 HEX CAP SCREW GR 8 YEL ZN	0.054



01-Dec-06	SCREEN ASSEMBLY - 8 FT	220175-01

WARREN
COLLINS, MS.

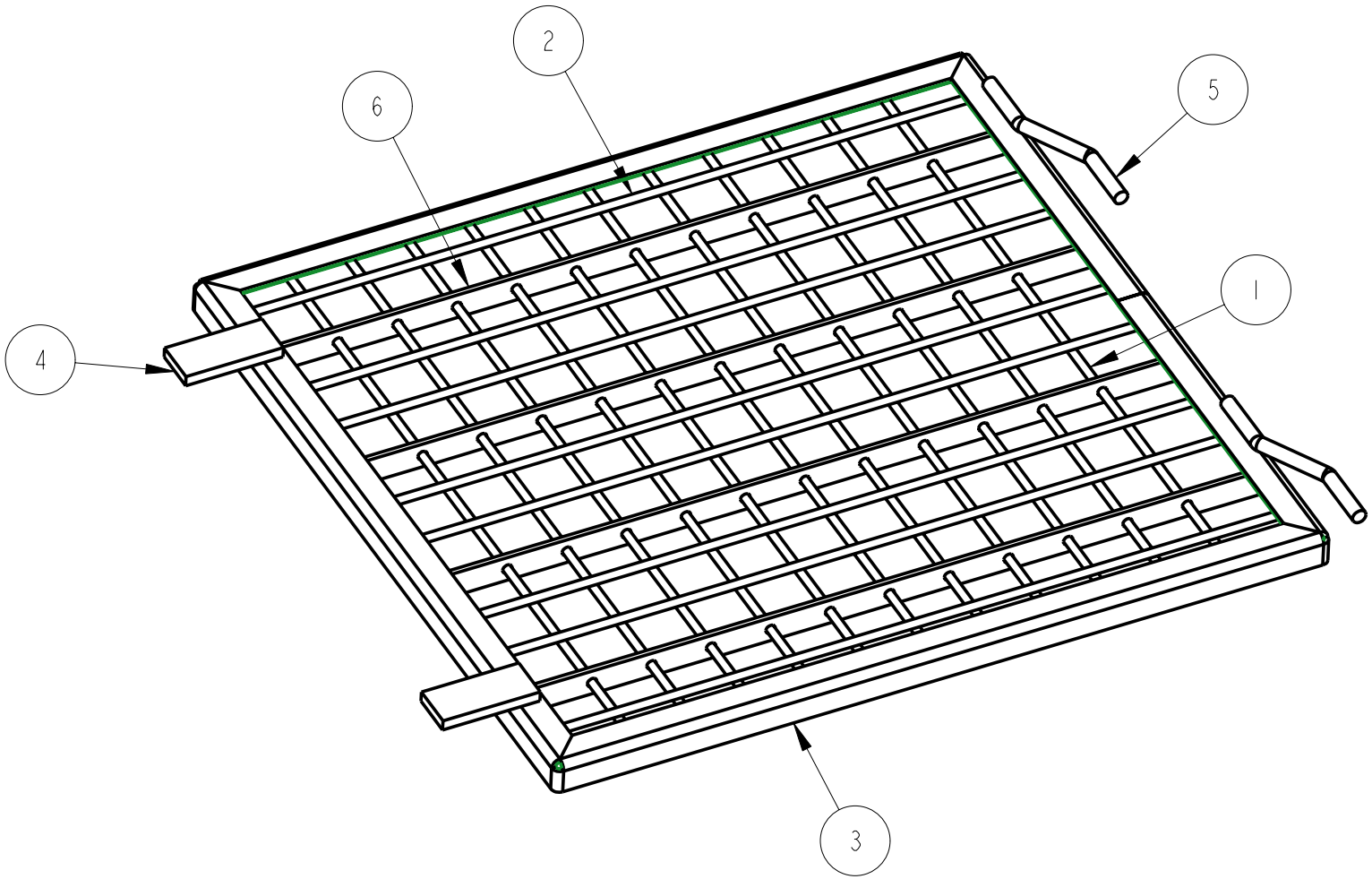
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	11	200173-01	300-30186	SCREEN ROD - 4 FT	1.425
2	10	200173-07	300-30187	SCREEN ROD CROSS BAR	1.104
3	1	200175-27	300-30566	SCREEN FRAME ANGLE - 4 FT.	19.373
4	2	200178-01	300-30189	SCREEN STOP	1.276
5	2	200181-02	300-30190	SCREEN HINGE - 5/8	0.800
6	6	200570-01	300-30223	SCREEN CROSS BAR	3.007



29-Oct-07	SCREEN SECTION - 4 FT - LH	220071-15

WARREN
COLLINS, MS.

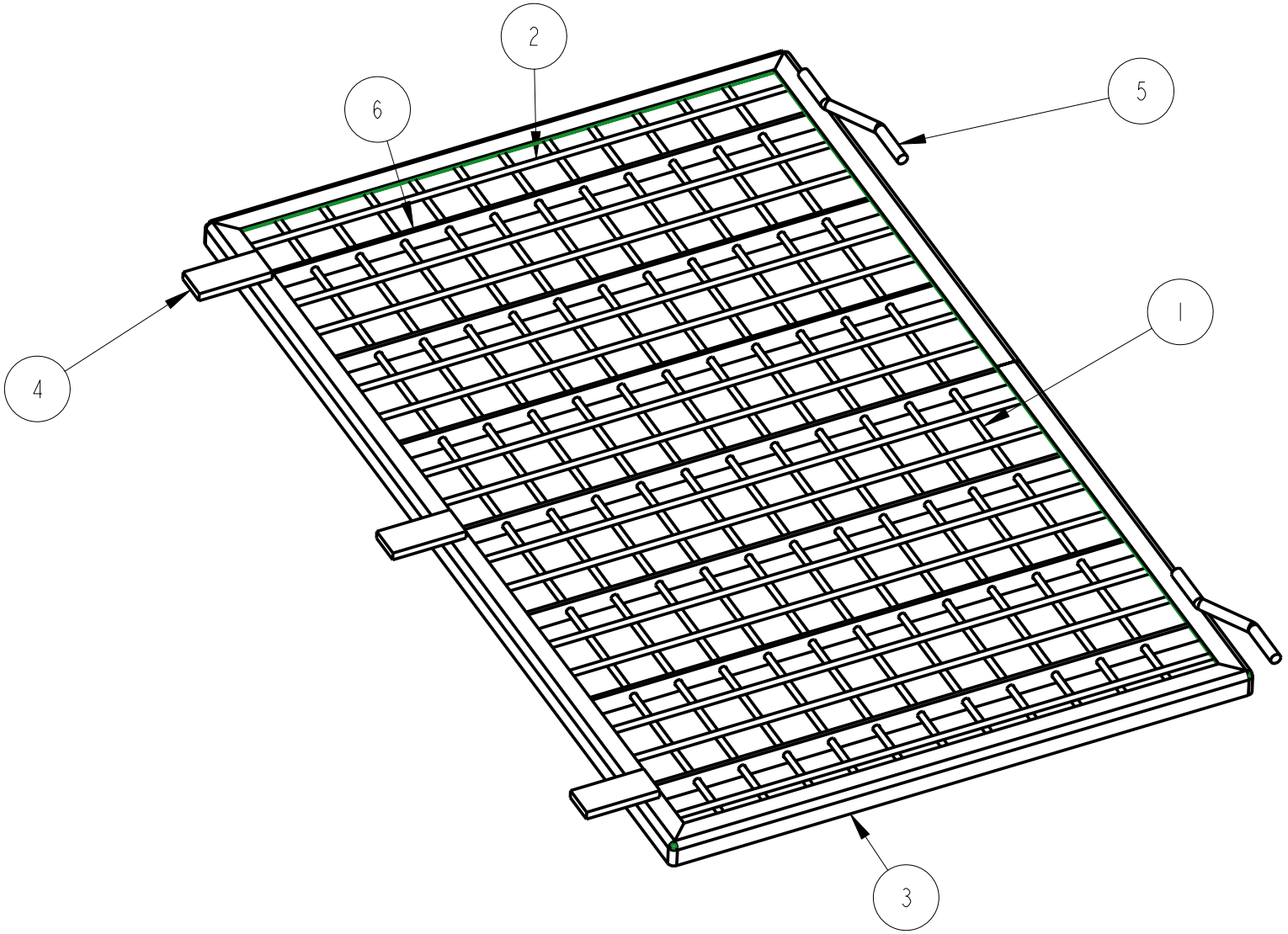
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	11	200173-06	300-30186	SCREEN ROD - 3 FT	1.049
2	8	200173-07	300-30187	SCREEN ROD CROSS BAR	1.104
3	1	200175-26	300-30565	SCREEN FRAME ANGLE - 3 FT.	19.373
4	2	200178-01	300-30189	SCREEN STOP	1.276
5	2	200181-02	300-30190	SCREEN HINGE - 5/8	0.800
6	4	200570-01	300-30223	SCREEN CROSS BAR	3.007



29-Oct-07	SCREEN SECTION - 3 FT - LH	220071-14

WARREN
COLLINS, MS.

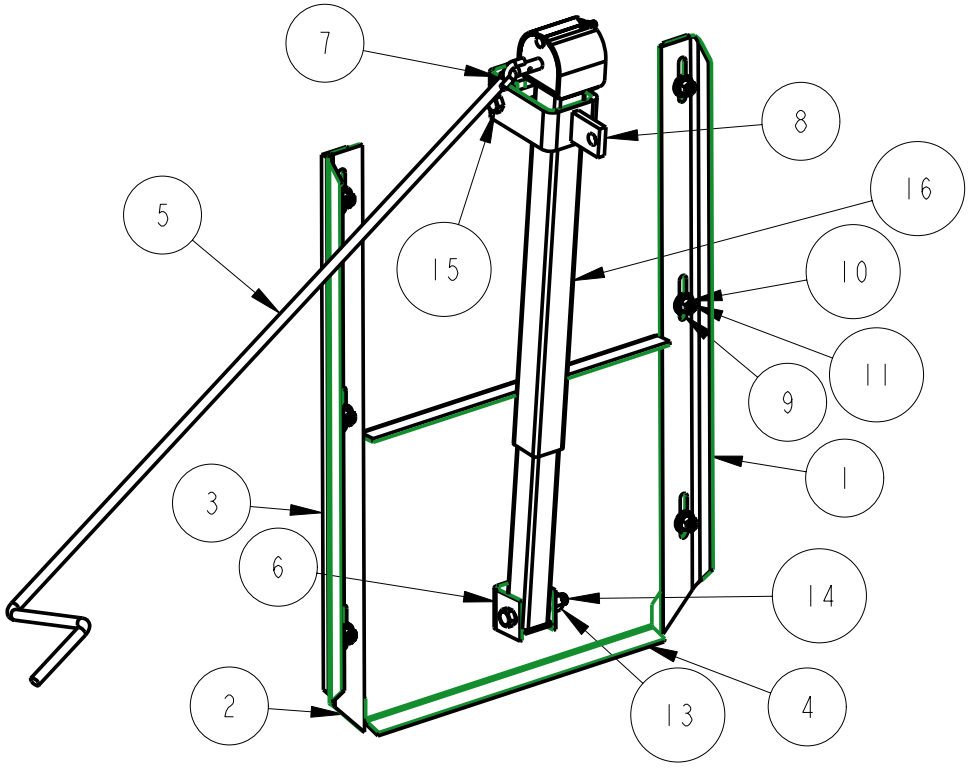
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	11	200173-02	300-30186	SCREEN ROD - 5 FT	1.801
2	14	200173-07	300-30187	SCREEN ROD CROSS BAR	1.104
3	1	200175-28	300-30188	SCREEN FRAME ANGLE - 5 FT.	19.373
4	3	200178-01	300-30189	SCREEN STOP	1.276
5	2	200181-02	300-30190	SCREEN HINGE - 5/8	0.800
6	7	200570-01	300-30223	SCREEN CROSS BAR	3.007



29-Oct-07	SCREEN SECTION - 5 FT - LH	220071-16

WARREN
COLLINS, MS.

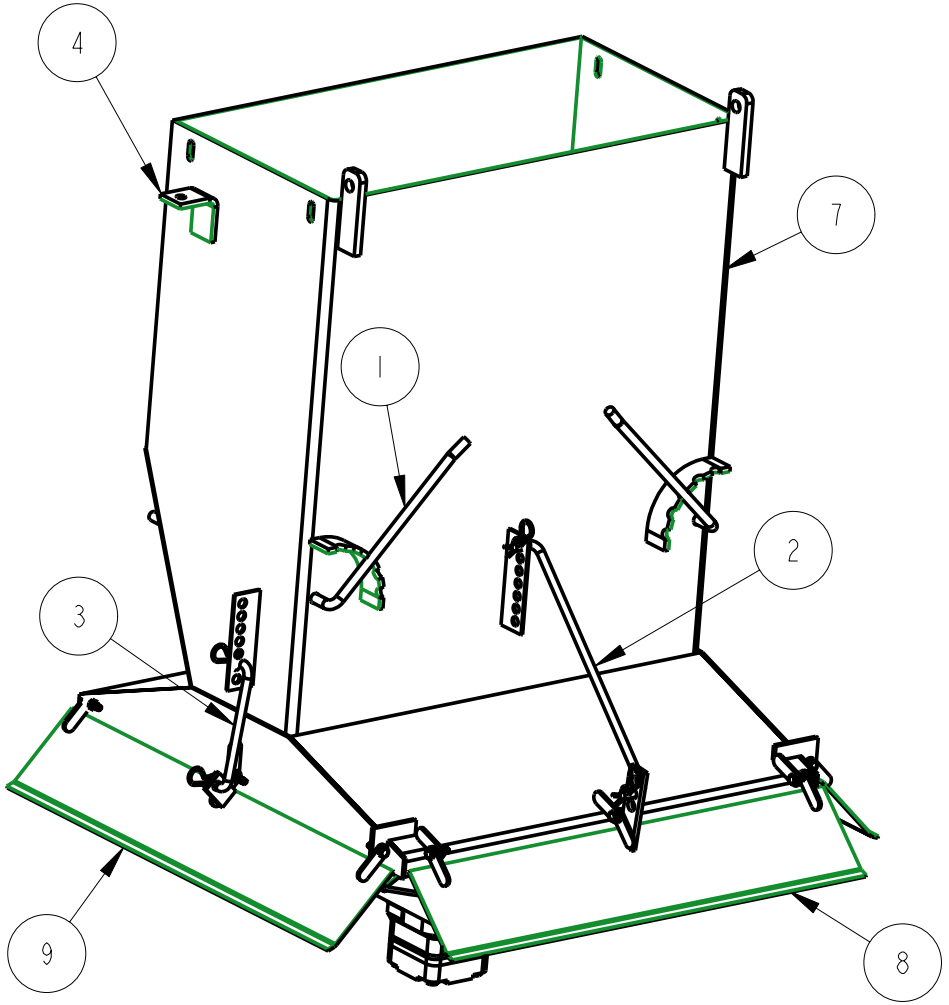
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	200016-03	300-30157	RETAINER -FEEDGATE - RH	4.163
2	1	200016-04	300-30158	RETAINER -FEEDGATE - RH	4.163
3	2	200017-02	300-30159	FEED GATE SPACER	4.300
4	1	200018-01	300-30160	FEED GATE	16.410
5	1	200019-01	300-30161	FEEDGATE JACK HANDLE - AC-24	9.144
6	2	200020-02	300-30162	BRACKET - FEEDGATE JACK MOUNTING	0.423
7	2	200329-02	300-30203	U-JOINT CHAIN LINK	0.052
8	1	220166-01	300-30234	FEEDGATE HOLDUP BRACKET	1.780
9	6	FF-00015	900-80106	3/8 FLAT WASHER ZN	0.021
10	6	FF-00023	900-80113	3/8-16 NUT-KEP ZN	0.000
11	6	FF-00029	900-80126	BOLT-CARRIAGE-3/8-16 x 1 1/4 - ZN	0.056
12	2	FF-00073	900-80019	1/2 SPLIT LOCKWASHER ZN	0.011
13	2	FF-00086	900-80022	1/2-13 HEX FINISH NUT ZN	0.037
14	1	FF-00116	900-80047	1/2-13 X 3-1/4 HEX CAP SCREW GR 8 YEL ZN	0.222
15	1	FF-50084	900-80048	1/2-13 X 4 HEX CAP SCREW GR 8 YEL ZN	0.264
16	1	FM-00517	300-30001	FEEDGATE JACK	9.490

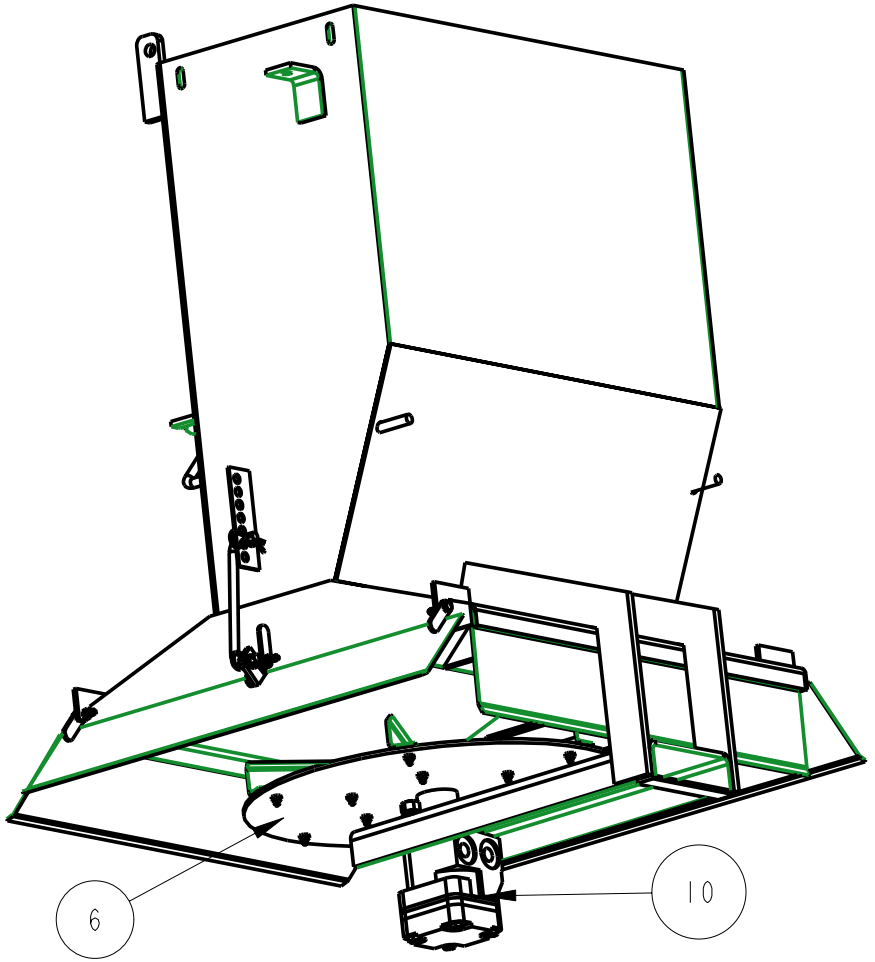


01-Dec-06	FEEDGATE ASSEMLBY - 24 WIDE	220034-01

WARREN
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	2	200156-01	300-30178	ROD - BAFFLE	0.996
2	1	200264-01	300-30194	ROD - FAN ASSEMBLY DEFLECTOR	0.470
3	2	200264-03	300-30195	ROD - FAN ASSEMBLY DEFLECTOR	0.251
4	2	200281-02	300-30198	T-BOLT MOUNTING ANGLE	0.424
5	2	200431-01	300-30211	INTERNAL BAFFLE - E/AC FAN ASSEM.	2.932
6	1	220123-03	300-30033	18" - SPINNER DISK WELDMENT	17.610
7	1	220184-01	300-30236	HOPPER WELDMENT - EAC - DUMP BODY MOUNT	122.579
8	1	220185-01	300-30237	REAR DEFLECTOR WELDMENT	12.852
9	2	220185-02	300-30238	SIDE DEFLECTOR WELDMENT	12.477
10	1	FHM-00114	400-30013	WHITE RS 200 SERIES MOTOR	15.792

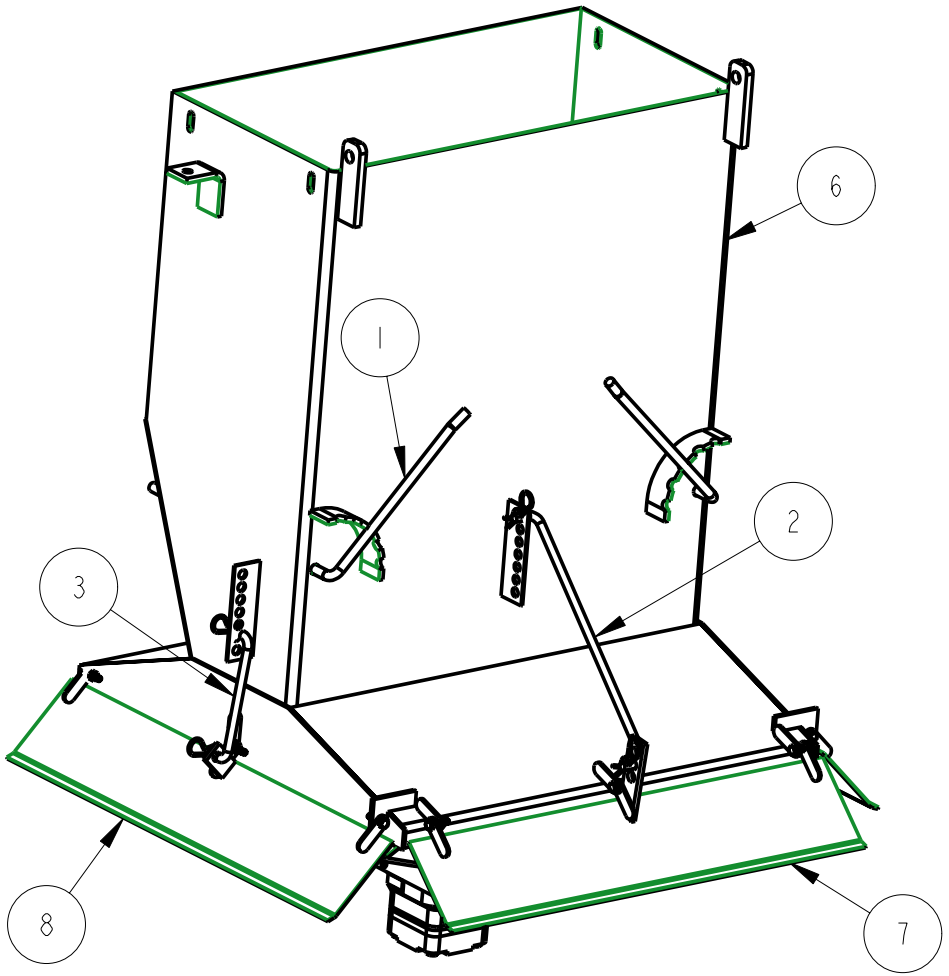


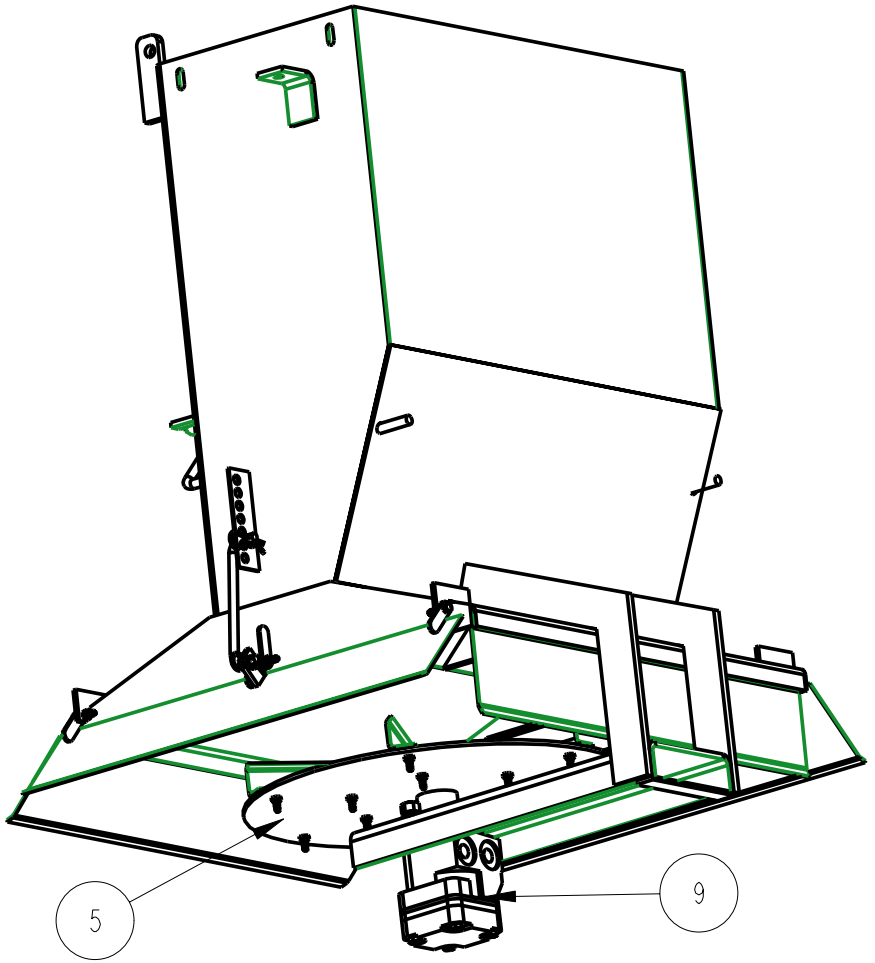


01-Dec-06	FAN ASSEMBLY - EAC - DUMP BODY MOUNT	220016-35

WARREN
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	2	200156-51	TBD	ROD - BAFFLE - SS	0.996
2	1	200264-51	TBD	ROD - FAN ASSEMBLY DEFLECTOR - SS	0.470
3	2	200264-53	TBD	ROD - FAN ASSEMBLY DEFLECTOR - SS	0.251
4	2	200431-51	300-30211	INTERNAL BAFFLE - E/AC FAN ASSEM.	2.932
5	1	220123-53	TBD	18" - SPINNER DISK WELDMENT - SS	17.636
6	1	220184-51	TBD	HOPPER WELDMENT - EAC - DB MOUNT - SS	123.435
7	1	220185-51	TBD	REAR DEFLECTOR WELDMENT	12.843
8	2	220185-52	TBD	SIDE DEFLECTOR WELDMENT	12.468
9	1	FHM-00114	400-30013	WHITE RS 200 SERIES MOTOR	15.792

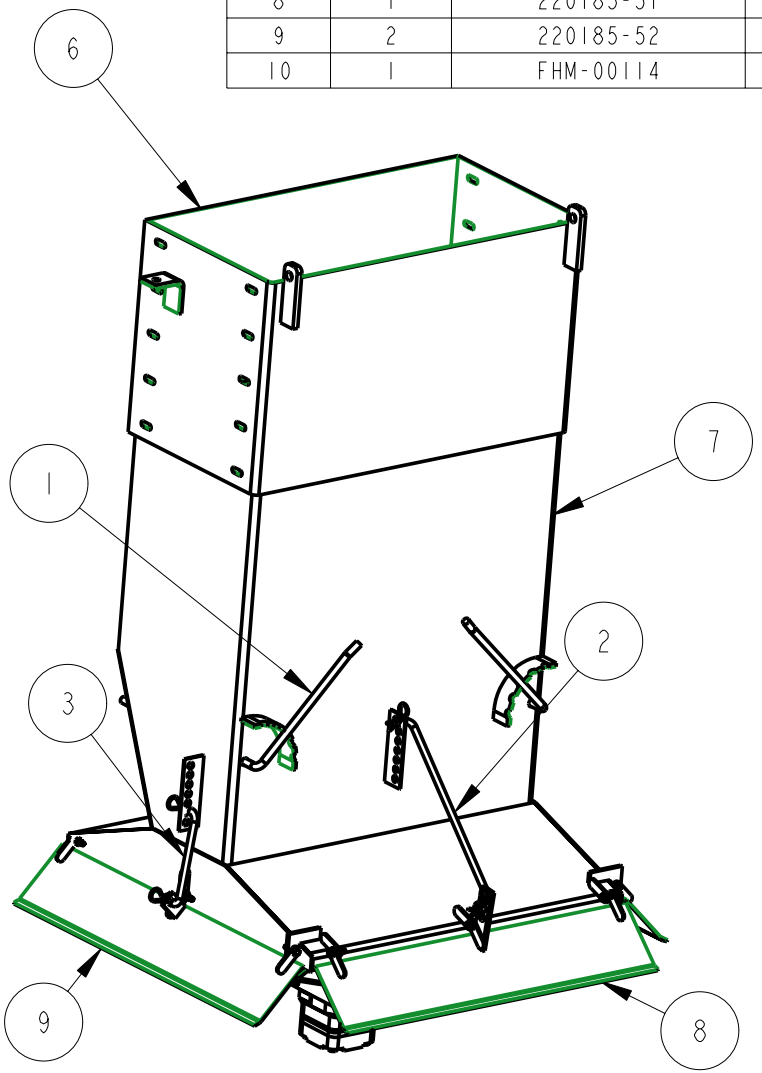


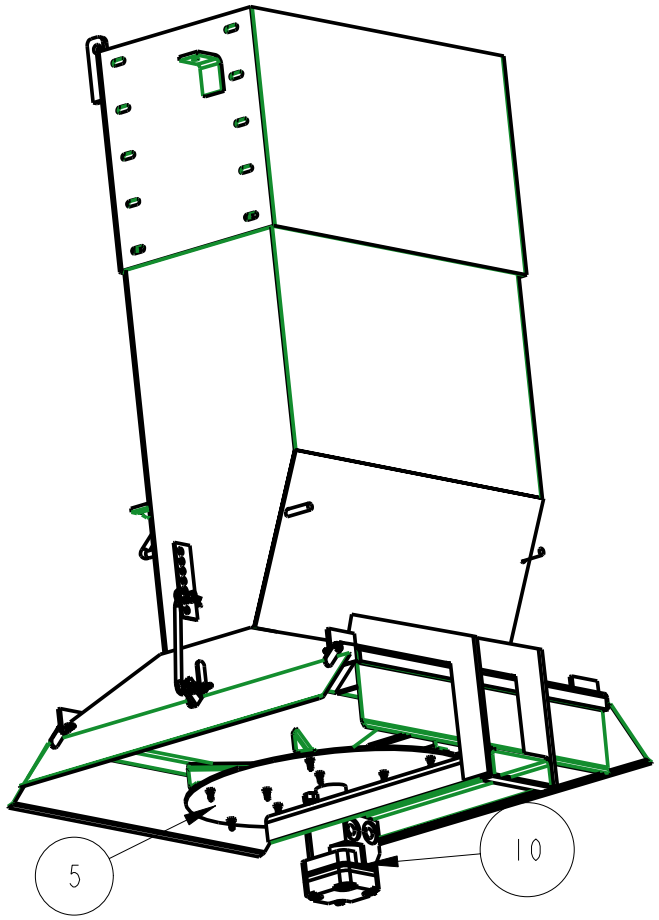


01-Dec-06	FAN ASSEMBLY - EAC - DUMP BODY MOUNT - SS	220016-85

WARREN
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	2	200156-51	TBD	ROD - BAFFLE - SS	0.996
2	1	200264-51	TBD	ROD - FAN ASSEMBLY DEFLECTOR - SS	0.470
3	2	200264-53	TBD	ROD - FAN ASSEMBLY DEFLECTOR - SS	0.251
4	2	200431-51	300-30211	INTERNAL BAFFLE - E/AC FAN ASSEM.	2.932
5	1	220123-53	TBD	18" - SPINNER DISK WELDMENT - SS	17.636
6	1	220183-52	TBD	EAC FAN ASSEMBLY EXTENSION - SS	0.000
7	1	220184-53	TBD	HOPPER WELDMENT-EAC-DB MOUNT-SS-EXTENDED	121.589
8	1	220185-51	TBD	REAR DEFLECTOR WELDMENT	12.843
9	2	220185-52	TBD	SIDE DEFLECTOR WELDMENT	12.468
10	1	FHM-00114	400-30013	WHITE RS 200 SERIES MOTOR	15.792

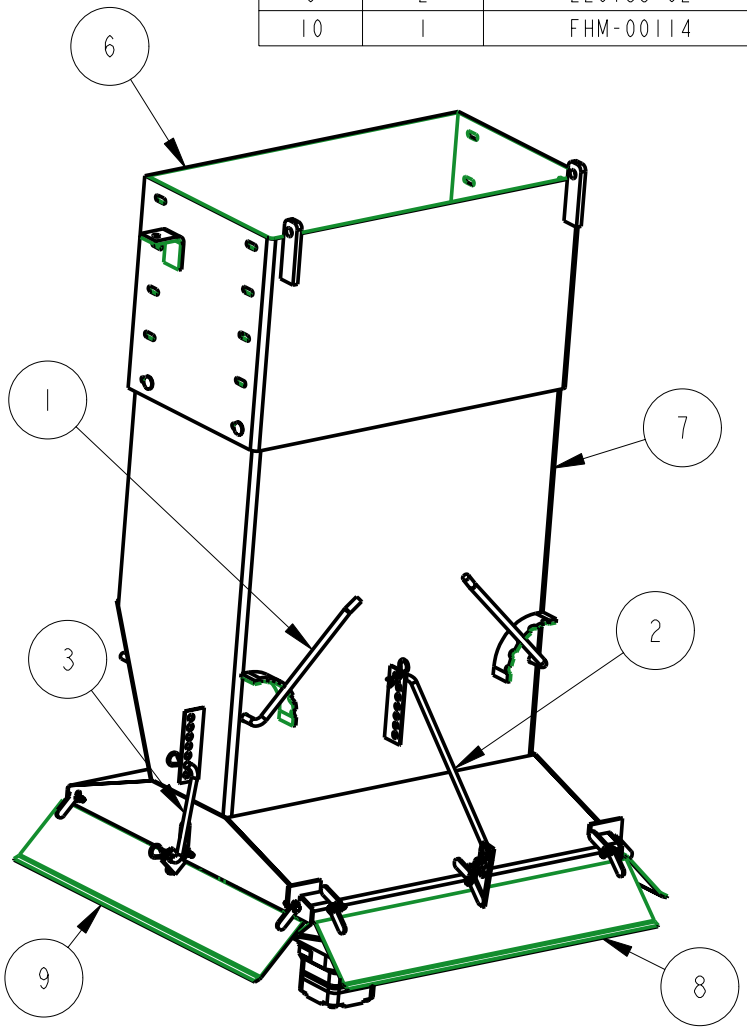


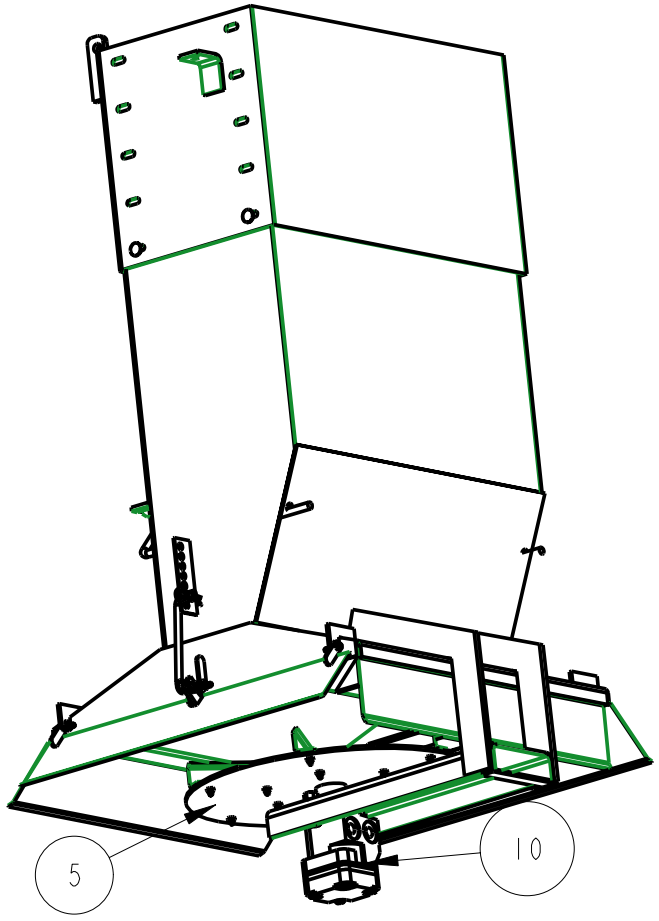


01-Dec-06	FAN ASSEMBLY-EAC-DB MOUNT-12" EXTENDED-SS	220016-84

WARREN
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	2	200156-01	300-30178	ROD - BAFFLE	0.996
2	1	200264-01	300-30194	ROD - FAN ASSEMBLY DEFLECTOR	0.470
3	2	200264-03	300-30195	ROD - FAN ASSEMBLY DEFLECTOR	0.251
4	2	200431-01	300-30211	INTERNAL BAFFLE - E/AC FAN ASSEM.	2.932
5	1	220123-03	300-30033	18" - SPINNER DISK WELDMENT	17.610
6	1	220183-02	TBD	EAC FAN ASSEMBLY EXTENSION	0.000
7	1	220184-03	TBD	HOPPER WELDMENT-EAC-DB MOUNT-EXTENDED	121.582
8	1	220185-01	300-30237	REAR DEFLECTOR WELDMENT	12.852
9	2	220185-02	300-30238	SIDE DEFLECTOR WELDMENT	12.477
10	1	FHM-00114	400-30013	WHITE RS 200 SERIES MOTOR	15.792

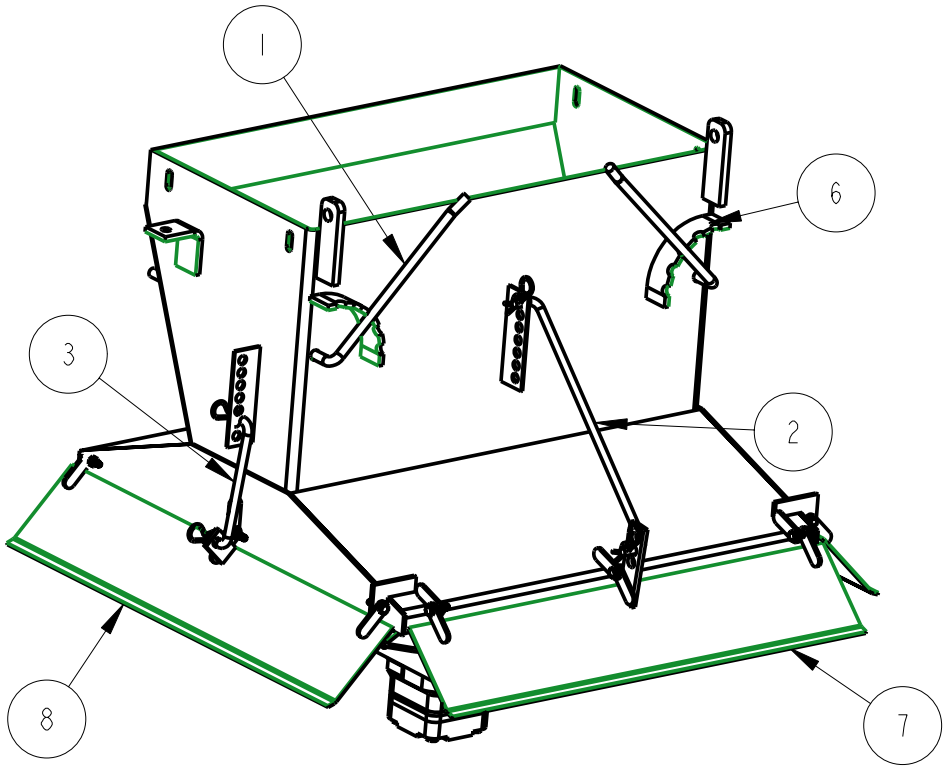


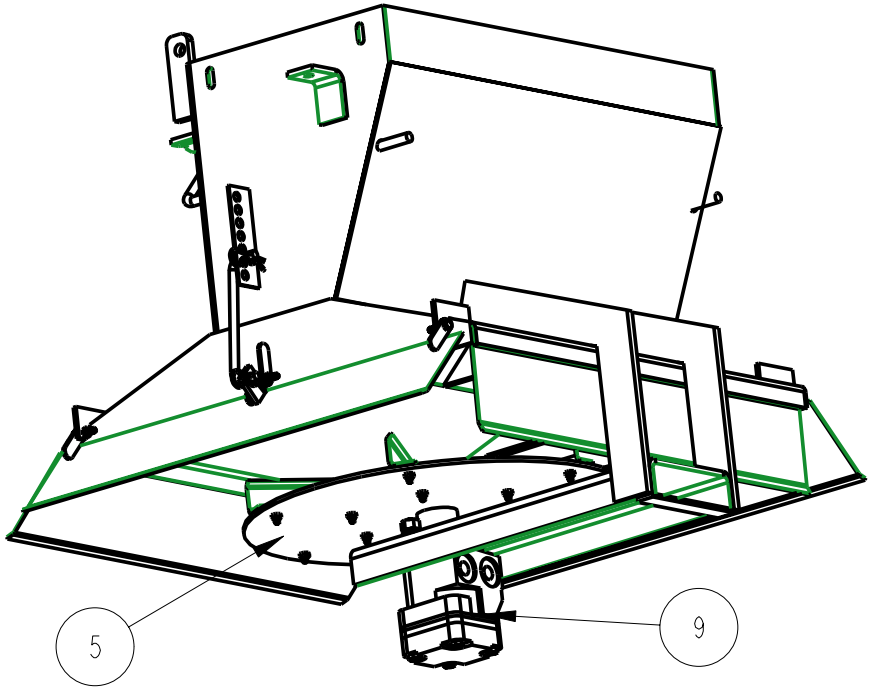


01-Dec-06	FAN ASSEMBLY - EAC - DB MOUNT - 12" EXTENDED	220016-34

WARREN
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	2	200156-01	300-30178	ROD - BAFFLE	0.996
2	1	200264-01	300-30194	ROD - FAN ASSEMBLY DEFLECTOR	0.470
3	2	200264-03	300-30195	ROD - FAN ASSEMBLY DEFLECTOR	0.251
4	2	200431-01	300-30211	INTERNAL BAFFLE - E/AC FAN ASSEM.	2.932
5	1	220123-03	300-30033	18" - SPINNER DISK WELDMENT	17.610
6	1	220184-02	TBD	HOPPER WELDMENT - EAC - CHASSIS MOUNT	98.841
7	1	220185-01	300-30237	REAR DEFLECTOR WELDMENT	12.852
8	2	220185-02	300-30238	SIDE DEFLECTOR WELDMENT	12.477
9	1	FHM-00114	400-30013	WHITE RS 200 SERIES MOTOR	15.792

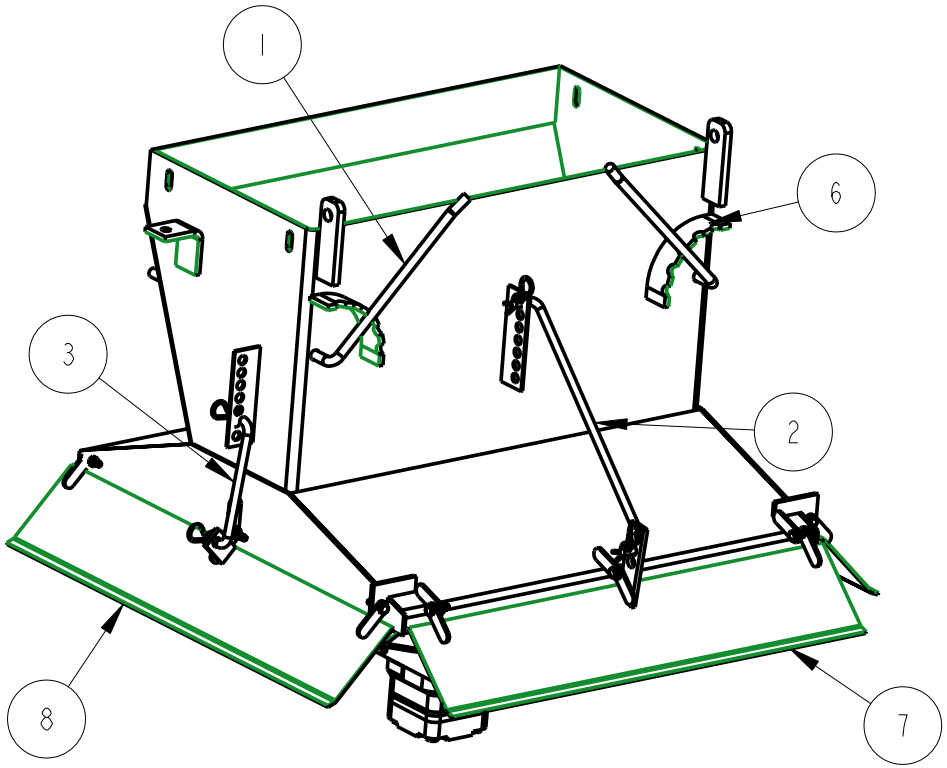


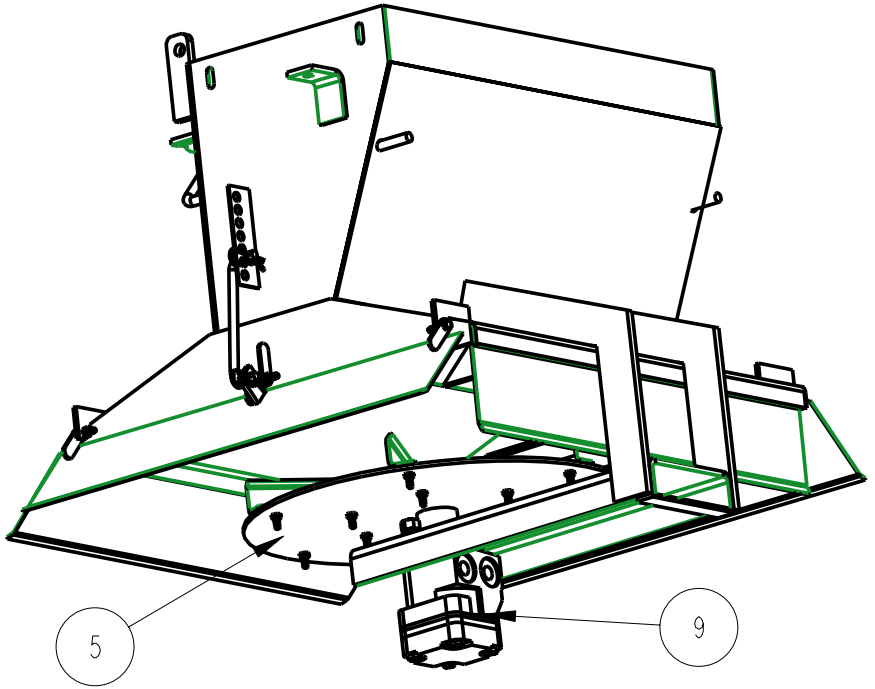


01-Dec-06	FAN ASSEMBLY - EAC - CHASSIS MOUNT	220016-40

WARREN
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	2	200156-51	TBD	ROD - BAFFLE - SS	0.996
2	1	200264-51	TBD	ROD - FAN ASSEMBLY DEFLECTOR - SS	0.470
3	2	200264-53	TBD	ROD - FAN ASSEMBLY DEFLECTOR - SS	0.251
4	2	200431-51	300-30211	INTERNAL BAFFLE - E/AC FAN ASSEM.	2.932
5	1	220123-53	TBD	18" - SPINNER DISK WELDMENT - SS	17.636
6	1	220184-52	TBD	HOPPER WELDMENT - EAC - DB MOUNT - SS	89.237
7	1	220185-51	TBD	REAR DEFLECTOR WELDMENT	12.843
8	2	220185-52	TBD	SIDE DEFLECTOR WELDMENT	12.468
9	1	FHM-00114	400-30013	WHITE RS 200 SERIES MOTOR	15.792

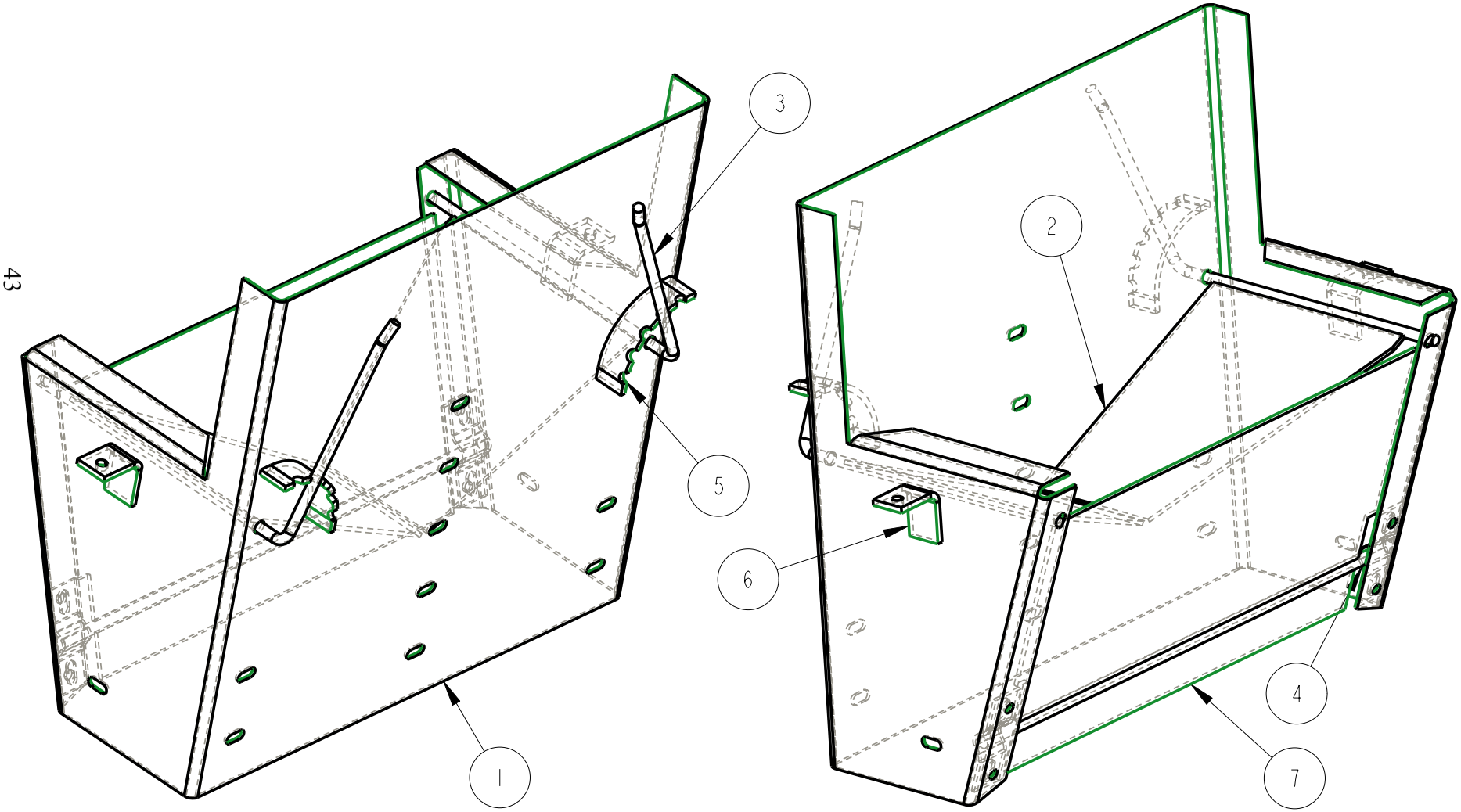




01-Dec-06	FAN ASSEMBLY - EAC - CHASSIS MOUNT - SS	220016-90

WARREN
COLLINS, MS.

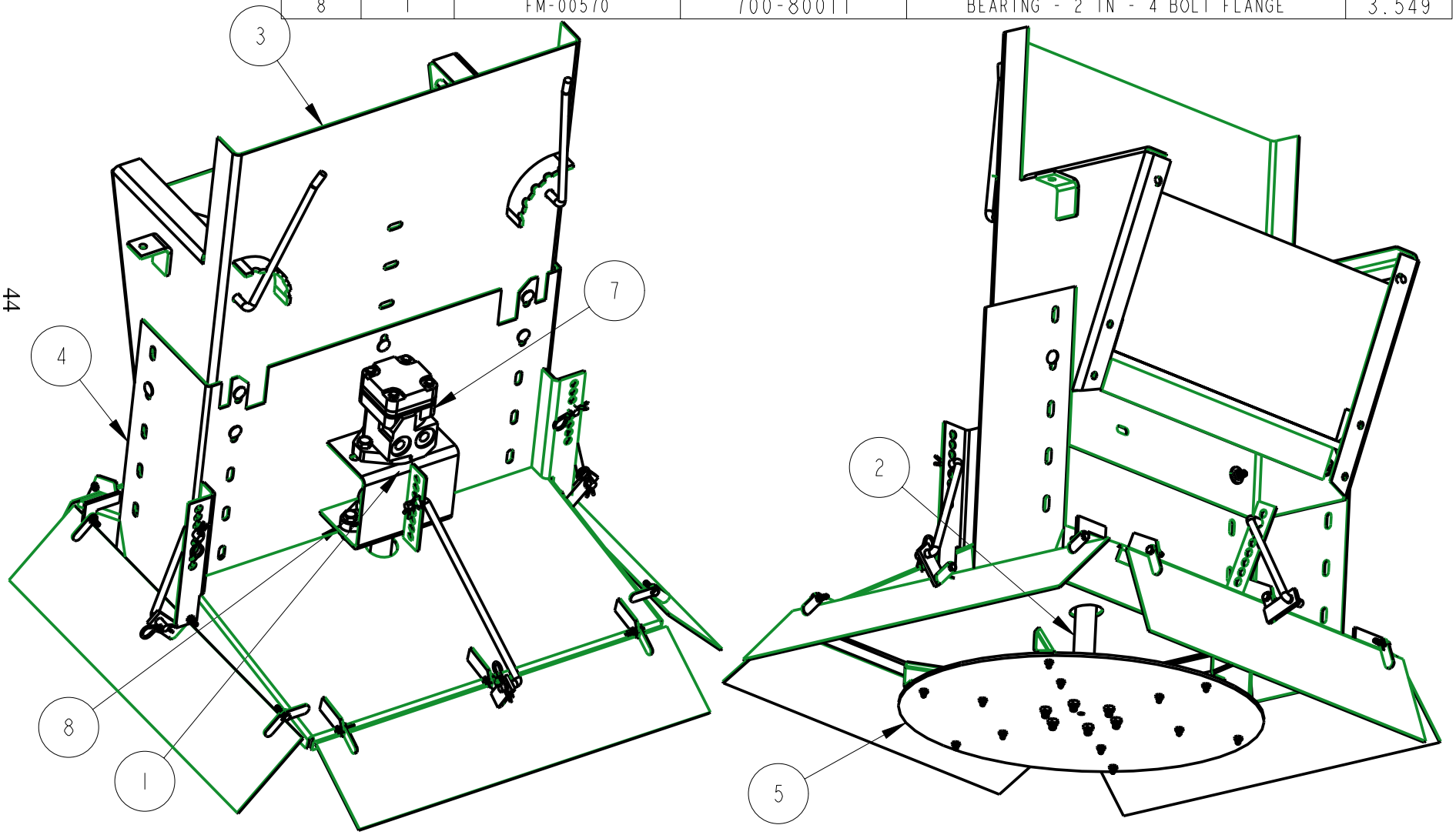
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	200149-01	TBD	FAN ASSY. MAIN BODY	37.792
2	2	200153-02	TBD	BAFFLE - INTERNAL	4.886
3	2	200156-01	300-30178	ROD - BAFFLE	0.996
4	2	200157-01	300-30944	HINGE BEARING	0.249
5	2	200162-01	300-30183	BRACKET - RADIUS ADJUSTMENT	0.515
6	2	200281-02	300-30198	T-BOLT MOUNTING ANGLE	0.424
7	1	220083-01	300-31052	MANUAL BAFFLE WELDMENT	17.690



08-Feb-08	UPPER HOPPER WELDMENT - AC2420A	300-31053	220085-01

WARREN
COLLINS, MS.

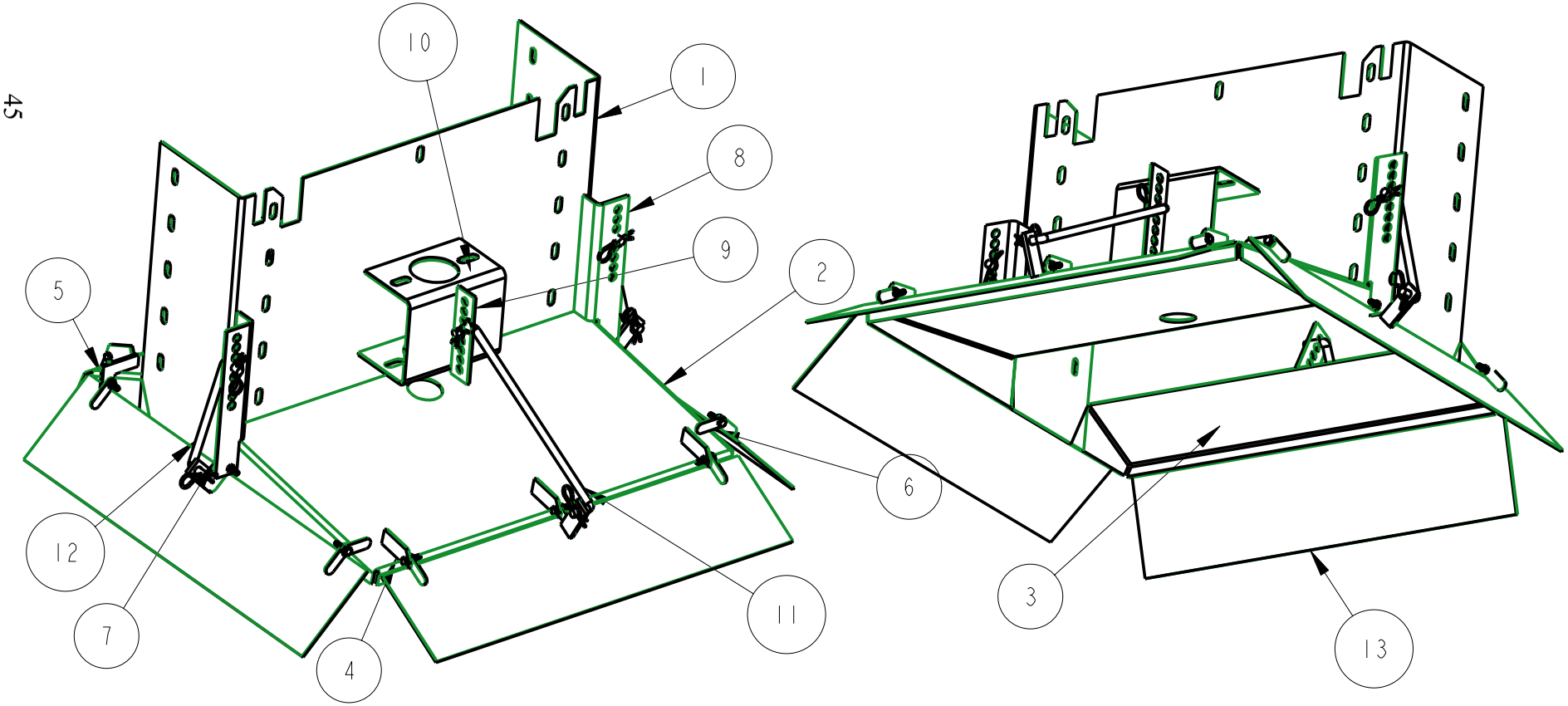
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	200165-01	300-30018	SHAFT COUPLING - 1 IN. MOTOR SHAFT	0.852
2	1	200166-01	300-30019	SPINNER SHAFT - AC	14.106
3	1	220085-01	300-31053	UPPER HOPPER WELDMENT - AC2420A	70.877
4	1	220085-02	300-31054	LOWER HOPPER WELDMENT AC2420A	100.236
5	1	220123-20	300-30033	22" - SPINNER DISK WELDMENT	27.374
6	1	FF-50058	900-80044	1/2-13 X 2-1/4 HEX CAP SCREW GR 8 YEL ZN	0.221
7	1	FHM-00114	400-30013	WHITE RS 200 SERIES MOTOR	15.792
8	1	FM-00570	700-80011	BEARING - 2 IN - 4 BOLT FLANGE	3.549



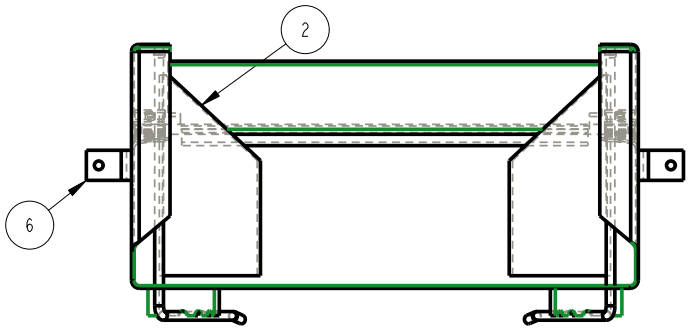
04-Dec-07	AC-2420 FAN ASSEM	300-30914	220016-33

WARREN
COLLINS, MS.

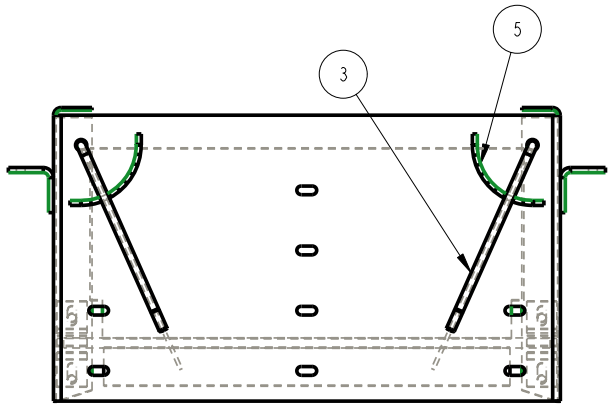
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	200150-01	TBD	LOWER MAIN BODY - FAN ASSY.	23.709
2	1	200151-01	TBD	FRONT SHROUD	16.465
3	1	200152-01	TBD	REAR SHROUD	6.281
4	6	200159-01	TBD	DEFLECTOR HINGE	0.115
5	2	200159-02	300-30180	DEFLECTOR HINGE	0.121
6	2	200159-03	300-30181	DEFLECTOR HINGE	0.042
7	1	200160-03L	TBD	COMBO HINGE/DEFLECTOR BRK - LH	0.000
8	1	200160-03R	TBD	COMBO HINGE/DEFLECTOR BRK - RH	0.000
9	2	200160-05	TBD	ADJUSTMENT BRK. - DEFLECTOR	1.231
10	1	200161-01	TBD	SPINNER MOTOR MNT. BRACKET	13.364
11	1	200163-02	TBD	ROD - DEFLECTOR ADJ.	2.274
12	3	200163-03	TBD	ROD - DEFLECTOR ADJ.	1.325
13	4	220084-01	300-30029	DEFLECTOR WELDMENT - FRT. & SD	0.000

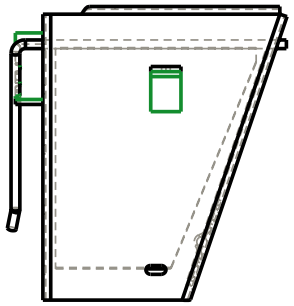


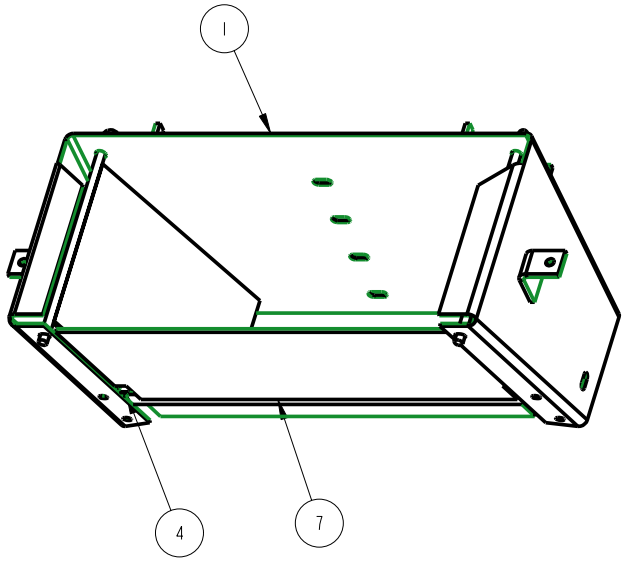
05-Dec-07	LOWER HOPPER WELDMENT AC2420A	TBD	220085-02



ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	200149-03	TBD	FAN ASSY. MAIN BODY	27.109
2	2	200153-02	TBD	BAFFLE - INTERNAL	4.886
3	2	200156-01	300-30178	ROD - BAFFLE	0.996
4	2	200157-01	TBD	HINGE BEARING	0.249
5	2	200162-01	300-30183	BRACKET - RADIUS ADJUSTMENT	0.515
6	2	200281-02	300-30198	T-BOLT MOUNTING ANGLE	0.424
7	1	220083-01	TBD	MANUAL BAFFLE WELDMENT	17.690







OP. #	OPERATION	MACH #	QTY.	CLK #	DATE

W/O#

DATE

QTY.

DEST.

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 ± .0625
FRACTIONAL ± 1/16
ANGULAR ± 1°

WARREN
COLLINS, MS.

NAME: UPPER HOPPER WELDMENT - AC2420A - AUGER

MATERIAL: NA

SCALE: 3/16

REQ'D.

DRAWN: JS

DATE: 04-Dec-07

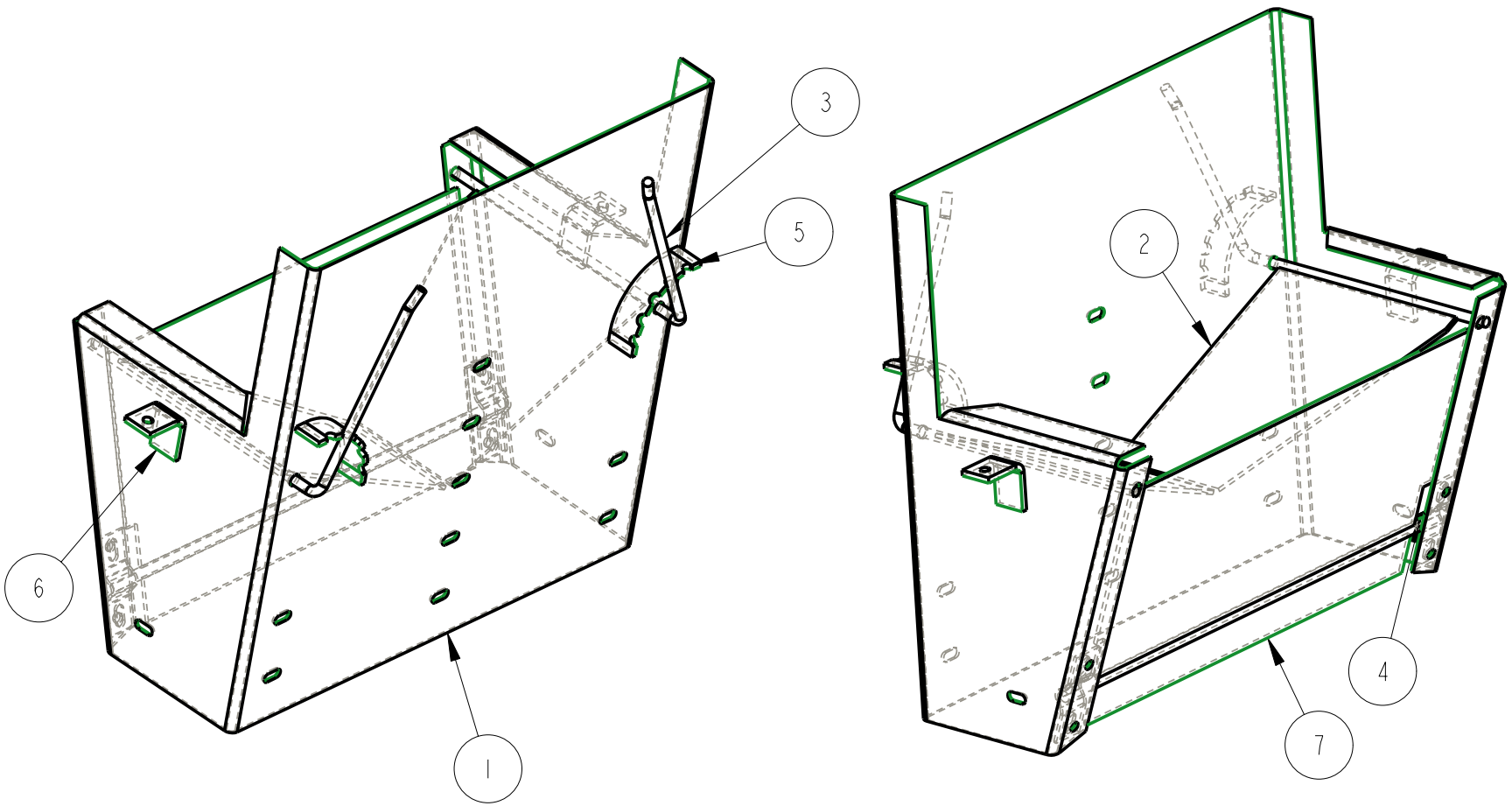
WEIGHT: 70.877

WARREN PART NO.: TBD

NUMBER: 220085-08

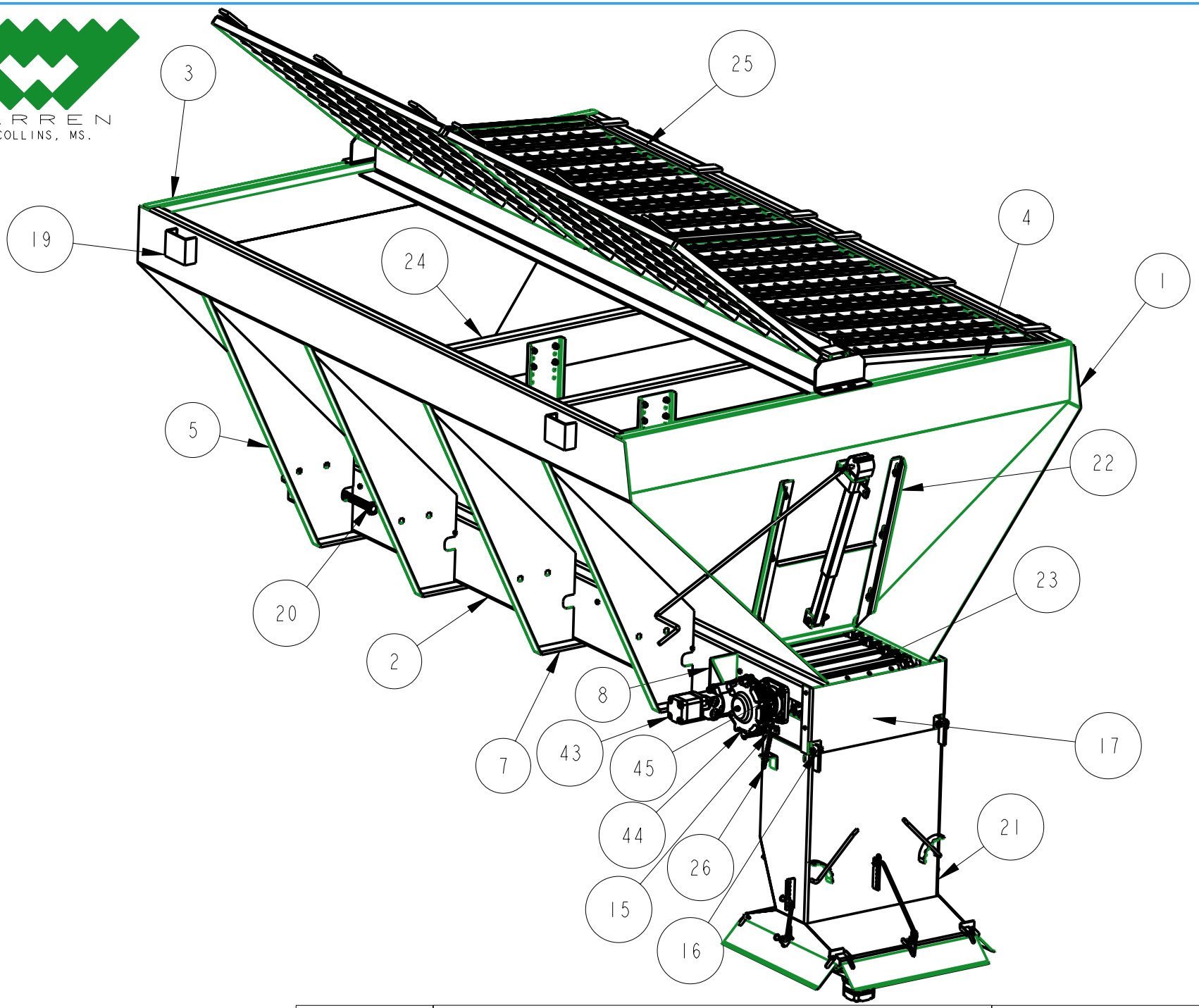
WARREN
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	200149-51	TBD	FAN ASSY. MAIN BODY	37.792
2	2	200153-52	TBD	BAFFLE - INTERNAL	4.886
3	2	200156-51	300-30879	ROD - BAFFLE - SS	0.996
4	2	200157-51	300-30944	HINGE BEARING	0.249
5	2	200162-51	300-30183	BRACKET - RADIUS ADJUSTMENT	0.515
6	2	200281-52	300-30198	T-BOLT MOUNTING ANGLE	0.424
7	1	220083-51	300-31052	MANUAL BAFFLE WELDMENT	17.690



08-Feb-08	UPPER HOPPER WELDMENT - AC2420A - SS	TBD	220085-51

WARREN
COLLINS, MS.



17-Nov-06	E/AC SPREADER ASSEMBLY - 10 FT	E-AC-10

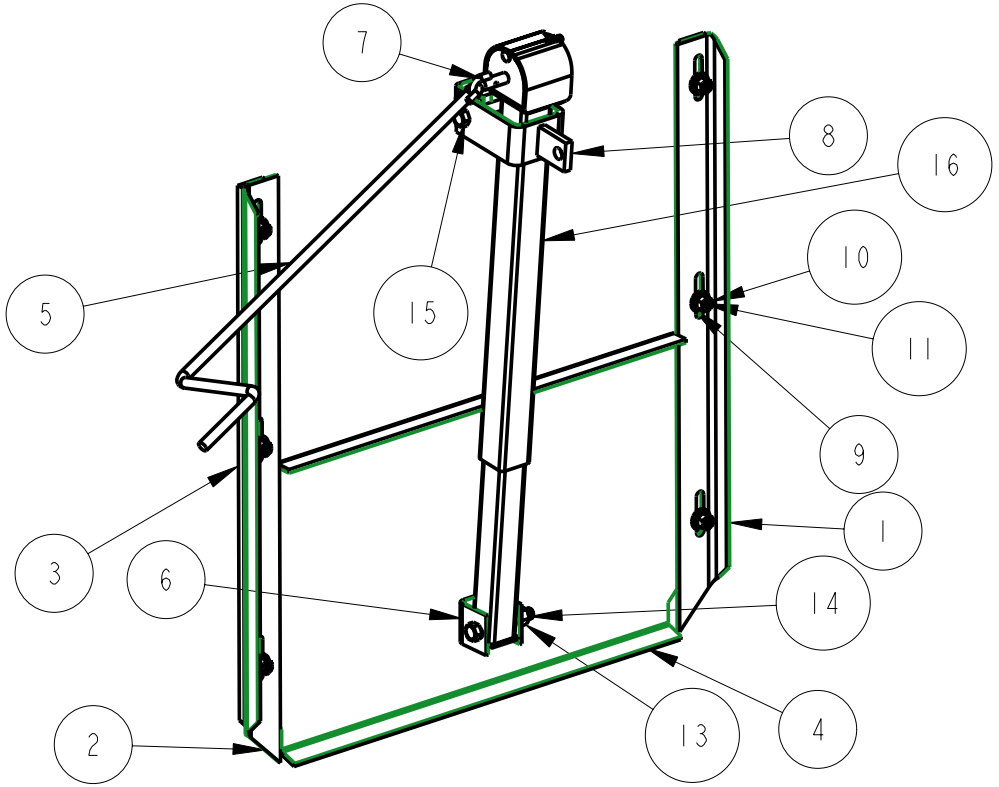
WARREN
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	200001-07	300-30148	SHEET - SIDE - E/AC - 10 FT	349.770
2	1	200001-08	300-30149	SHEET - SIDE - E/AC - 10 FT	350.682
3	1	200002-28	300-30150	PANEL - FRONT - E-AC - MS	100.575
4	1	200003-28	300-30151	PANEL - REAR - E-AC - MS	93.654
5	4	200005-34	300-30152	STAKE - SIDE - E/AC - AC - LH	16.675
6	4	200005-35	300-30153	STAKE - SIDE - E/AC - AC - LH	16.675
7	4	200011-05	300-30156	CROSSMEMBER - E-MODEL	10.919
8	1	200059-04	300-30167	PLATE - GEARBOX MOUNT - STD MS	6.329
9	1	200060-05	300-30168	SHAFT-DRIVE-6:1 GEAR BOX-24" PAN	30.125
10	1	200061-17	300-30169	SHAFT - IDLER - 24 WIDE	14.779
11	1	200101-01	300-30171	FRONT WIPER	0.775
12	1	200117-01	300-30177	FRONT WIPER BACKING STRIP - MS	0.552
13	2	200170-02	300-30020	SPROCKET - 8 TOOTH - FLAME CUT - 2 BORE	4.844
14	2	200170-03	300-30021	SPROCKET - 8 TOOTH - FLAME CUT - 1 1/2 BORE	5.136
15	4	200283-01	300-30201	T-BOLT MOUNT SLOT	0.458
16	2	200348-03	300-30204	HINGE - FLIP-UP FAN ASSEM.	0.499
17	1	200434-02	300-30214	COVER - SILL END	8.627
18	1	200434-17	300-30215	END COVER SUPPORT TAB	0.038
19	4	200790-01	300-30224	CHANNEL - LIFT	2.663
20	2	220007-45	300-30228	TAKE-UP	15.142
21	1	220016-35	300-30229	FAN ASSEMBLY - EAC - DUMP BODY MOUNT	204.185
22	1	220034-01	300-30230	FEEDGATE ASSEMLBY - 24 WIDE	55.901
23	1	220044-03	700-30112	CHAIN - #2 PINTLE	211.633
24	1	220053-13-10	300-30231	INVERTED VEE ASSEMBLY - 10 FT	121.608
25	1	220175-03	300-30235	SCREEN ASSEMBLY - 10 FT	510.562
26	2	220207-01	300-30239	TEE-BOLT WELDMENT	0.378
27	1	220375-16	300-30240	PAN WELDMENT - 10 FT - 24 WIDE	169.103
28	1	FB-00021-24	700-30005	BELT - REAR WIPER - 3 IN	0.601
29	2	FB-00021-SPKT	700-30005	BELT - REAR WIPER - 3 IN	0.087
30	18	FF-00023	900-80113	3/8-16 NUT-KEP ZN	0.000
31	18	FF-00031	900-80060	1/4-20 NUT-KEP ZN	0.000
32	9	FF-00033	900-80065	1/4-20 X 1 HEX CAP SCREW GR 5 ZN	0.020
33	9	FF-00042	900-80074	1/4-20 X 3/4 FLHD C/SUNK SCREW ZN	0.010
34	12	FF-00073	900-80019	1/2 SPLIT LOCKWASHER ZN	0.011
35	2	FF-00074	900-80020	1/2-13 HEX CAP SCREW SS	0.111
36	2	FF-00075	900-80034	1/2-13 X 1-1/2 HEX CAP SCREW SS	0.125
37	8	FF-00084	900-80037	BOLT-CARRIAGE-1/2-13 x 1 3/4 - ZN	0.128
38	12	FF-00086	900-80022	1/2-13 HEX FINISH NUT ZN	0.037
39	1	FF-00096	900-80175	5/8-11 HEX FINISH NUT ZN	0.080
40	1	FF-00098	900-80173	5/8 SPLIT LOCKWASHER ZN	0.020
41	1	FF-00106	900-80182	5/8-11 X 2 HEX CAP SCREW GR 8 YEL ZN	0.265
42	18	FF-00229	900-80128	3/8-16 X 1-1/4 HEX CAP SCREW GR 8 YEL ZN	0.054
43	1	FHM-00113	400-30011	WHITE RS 200 SERIES MOTOR	21.104
44	1	FM-00513	700-30034	GEARBOX - 6:1	8.563
45	2	FM-00556	700-30046	BEARING - 2 IN - 4 BOLT FLANGE	8.125

01-Dec-06	E/AC SPREADER ASSEMBLY - 10 FT	E-AC-10

WARREN
COLLINS, MS.

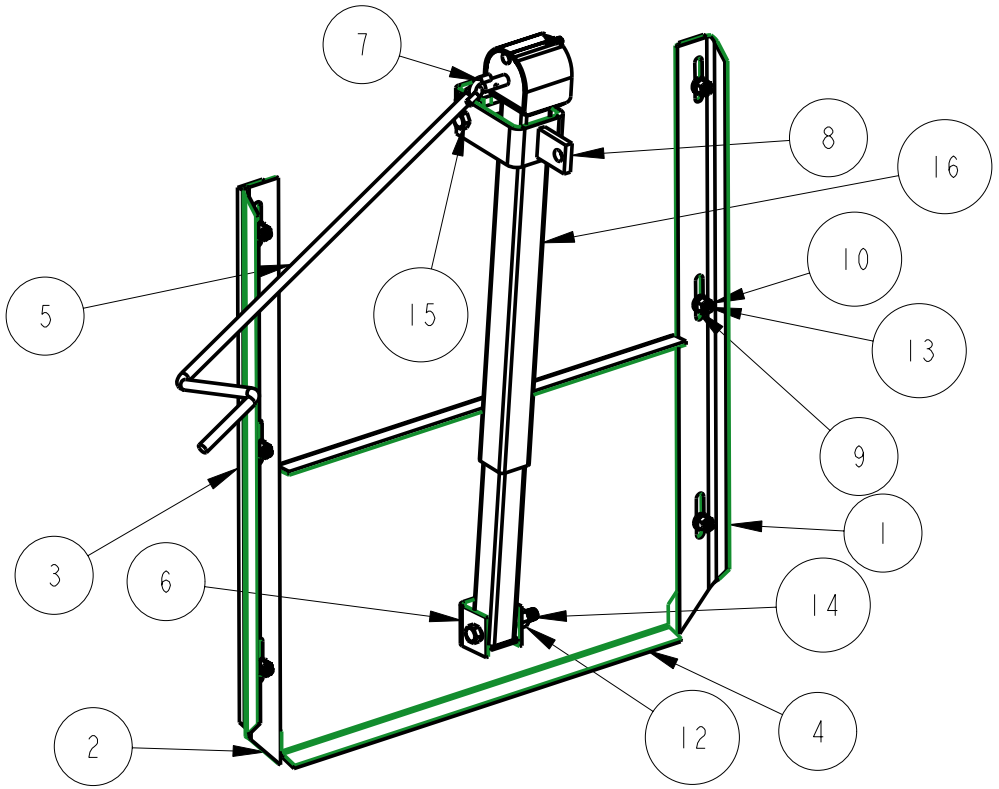
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	200016-03	300-30157	RETAINER -FEEDGATE - RH	4.163
2	1	200016-04	300-30158	RETAINER -FEEDGATE - RH	4.163
3	2	200017-02	300-30159	FEED GATE SPACER	4.300
4	1	200018-02	TBD	FEED GATE - 30 WIDE	21.700
5	1	200019-02	TBD	FEEDGATE JACK HANDLE - AC-30	9.144
6	2	200020-02	300-30162	BRACKET - FEEDGATE JACK MOUNTING	0.423
7	2	200329-02	300-30203	U-JOINT CHAIN LINK	0.052
8	1	220166-01	300-30234	FEEDGATE HOLDUP BRACKET	1.780
9	6	FF-00015	900-80106	3/8 FLAT WASHER ZN	0.021
10	6	FF-00023	900-80113	3/8-16 NUT-KEP ZN	0.000
11	6	FF-00029	900-80126	BOLT-CARRIAGE-3/8-16 x 1 1/4 - ZN	0.056
12	2	FF-00073	900-80019	1/2 SPLIT LOCKWASHER ZN	0.011
13	2	FF-00086	900-80022	1/2-13 HEX FINISH NUT ZN	0.037
14	1	FF-00116	900-80047	1/2-13 X 3-1/4 HEX CAP SCREW GR 8 YEL ZN	0.222
15	1	FF-50084	900-80048	1/2-13 X 4 HEX CAP SCREW GR 8 YEL ZN	0.264
16	1	FM-00517	300-30001	FEEDGATE JACK	9.490



03-Jul-07	FEEDGATE ASSEMLBY - 30 WIDE - AC	220034-09

WARREN
COLLINS, MS.

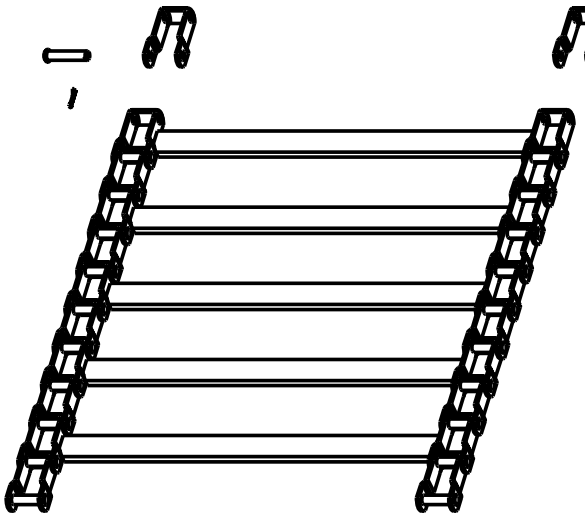
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	1	200016-53	300-30250	RETAINER -FEEDGATE - RH -SS	4.163
2	1	200016-54	300-30259	RETAINER -FEEDGATE - RH - SS	4.163
3	2	200017-52	300-30260	FEED GATE SPACER - SS	4.300
4	1	200018-52	TBD	FEED GATE - 30 WIDE - 304SS	16.389
5	1	200019-02	TBD	FEEDGATE JACK HANDLE - AC-30	9.144
6	2	200020-52	300-30162	BRACKET - FEEDGATE JACK MOUNTING - SS	0.421
7	2	200329-02	300-30203	U-JOINT CHAIN LINK	0.052
8	1	220166-51	TBD	FEEDGATE HOLDUP BRACKET-SS	1.780
9	6	FF-00012	900-80105	3/8 FLAT WASHER SS	0.010
10	6	FF-00027	900-80112	3/8-16 NUT-KEP SS	0.000
11	2	FF-00077	900-80018	1/2 SPLIT LOCKWASHER SS	0.011
12	2	FF-00078	900-80021	1/2-13 HEX FINISH NUT SS	0.037
13	6	FF-00197	900-80125	BOLT-CARRIAGE-3/8-16 x 1 1/2 - SS	0.063
14	1	FF-00198	TBD	CAPSCREW-HEX 1/2 NC x 3 1/2 SS	0.236
15	1	FF-50084	900-80048	1/2-13 X 4 HEX CAP SCREW GR 8 YEL ZN	0.264
16	1	FM-00517	300-30001	FEEDGATE JACK	9.490



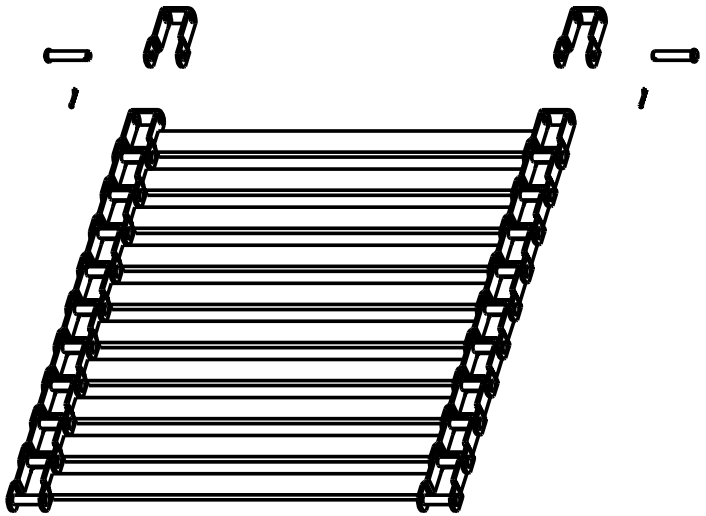
03-Jul-07	FEEDGATE ASSEMLBY - 30 WIDE - AC - SS	220034-59

WARREN
COLLINS, MS.

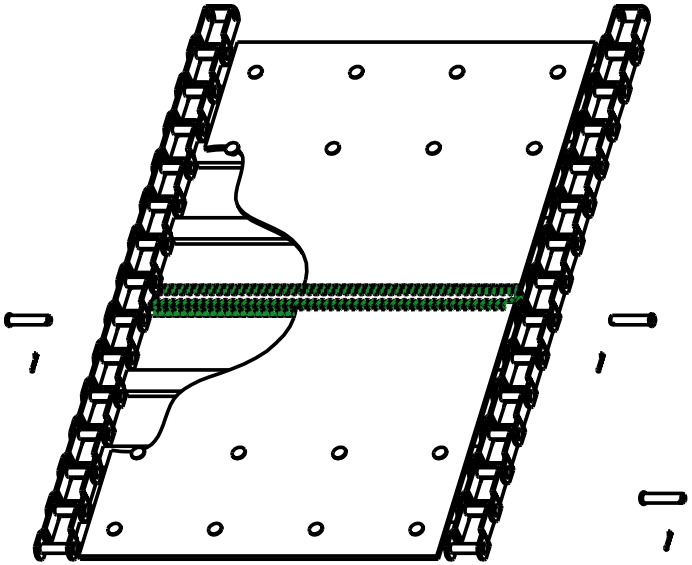
#2 PINTLE - BAR EVERY OTHER LINK



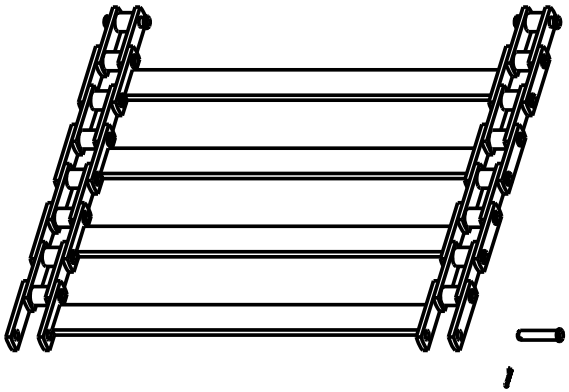
#3 PINTLE - BAR EVERY LINK



#4 BELT OVER - BAR EVERY LINK



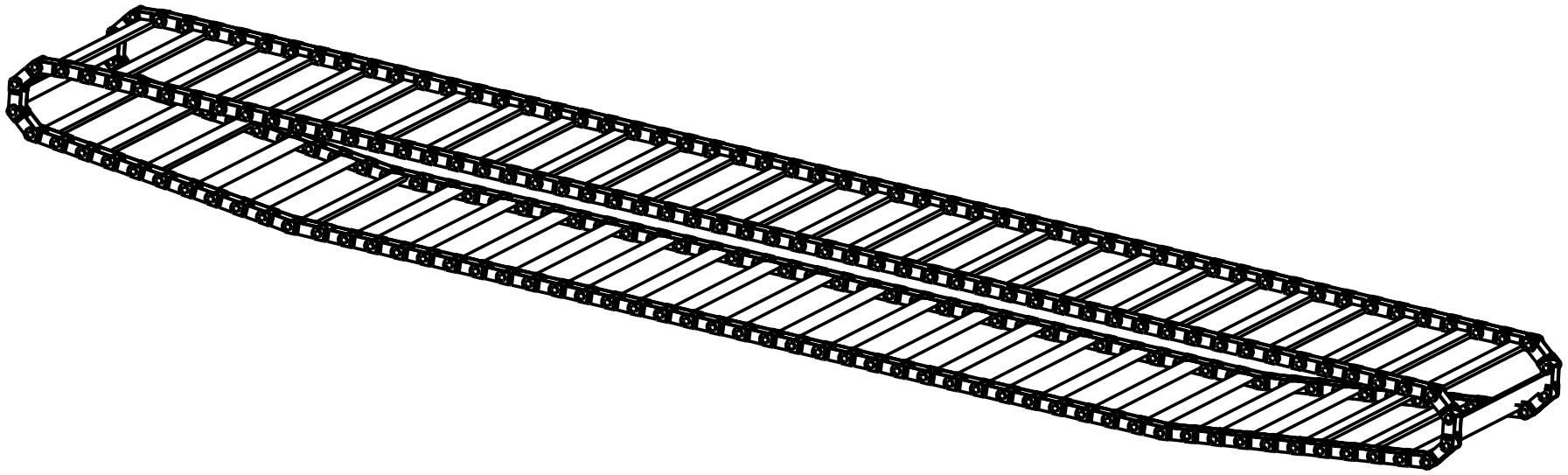
#2 ROLLER - BAR EVERY OTHER LINK



11-Jul-07	DIFFERENT TYPES OF CONVEYOR CHAIN	CONVEYOR_CHAIN_TYPES

WARREN
COLLINS, MS.

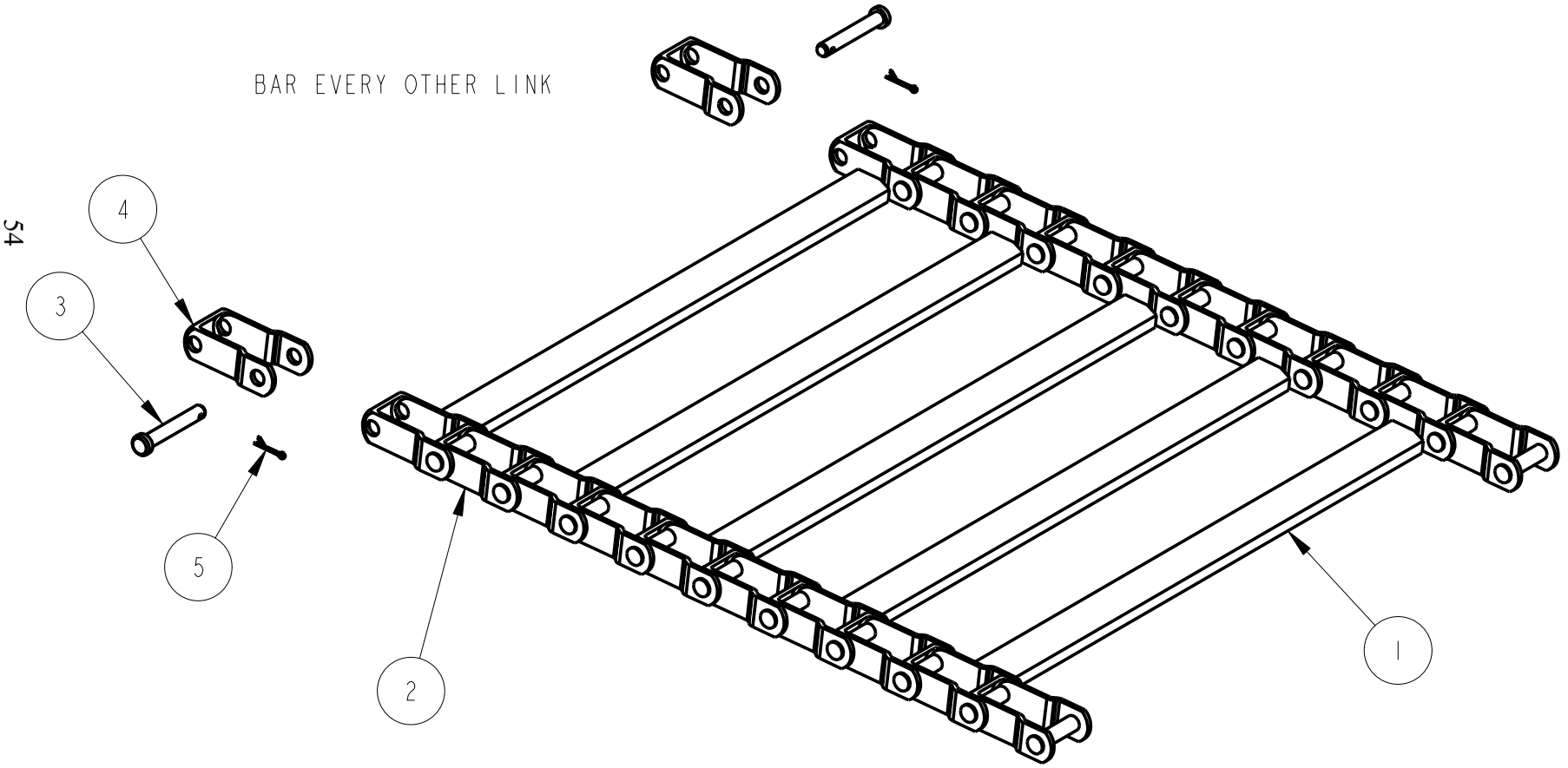
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	56	200070-20	300-30170	CROSS BAR - PINTLE CHAIN - 24 IN	2.537
2	224	667X_CHAIN	700-30032	CHAIN LINK - 667X CHAIN	0.310



01-Dec-06	CHAIN - #2 PINTLE	220044-03

WARREN
COLLINS, MS.

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

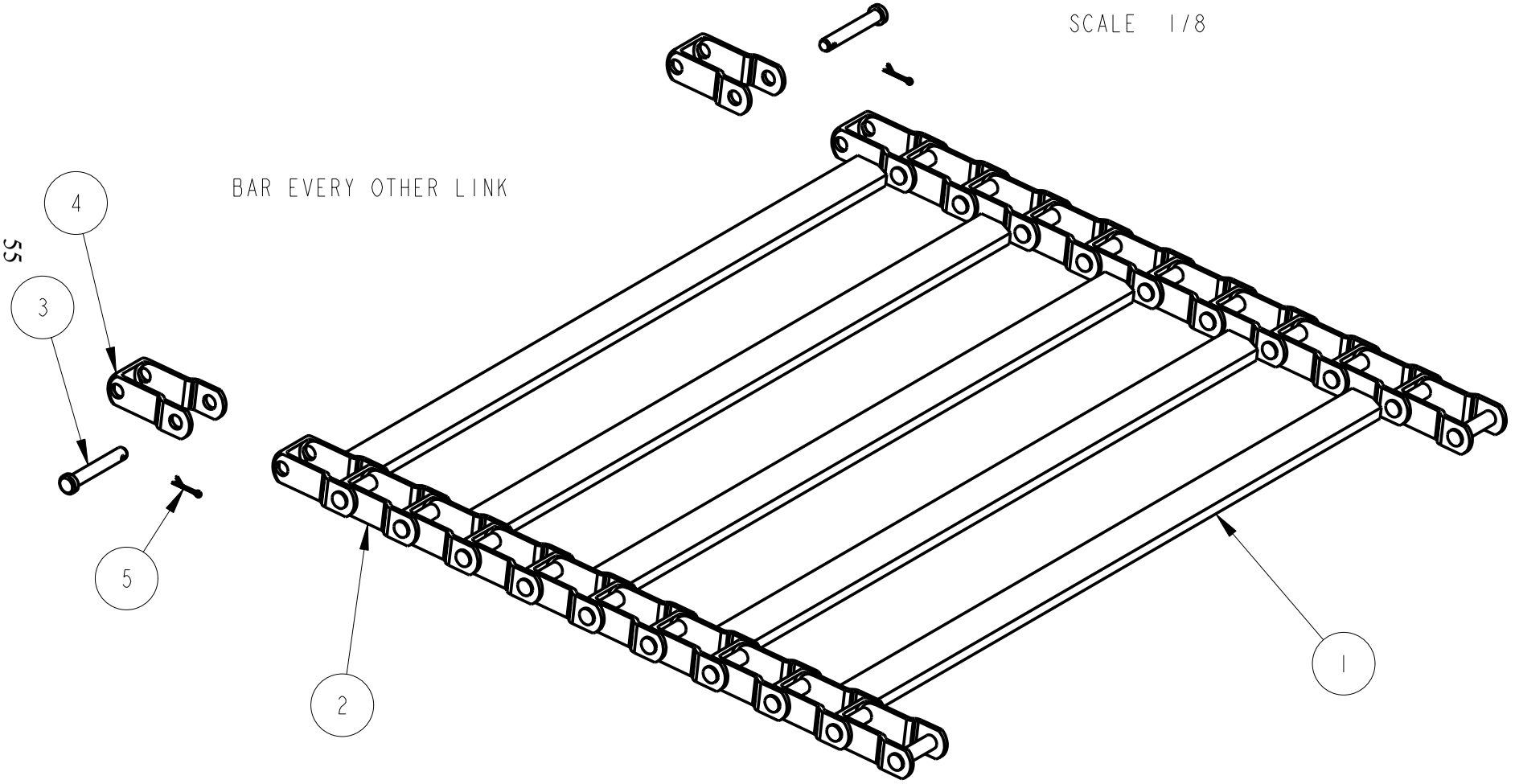


09-Jul-07	CONVEYOR CHAIN	CONVEYOR-NO2-24

WARREN
COLLINS, MS.

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

SCALE 1/8



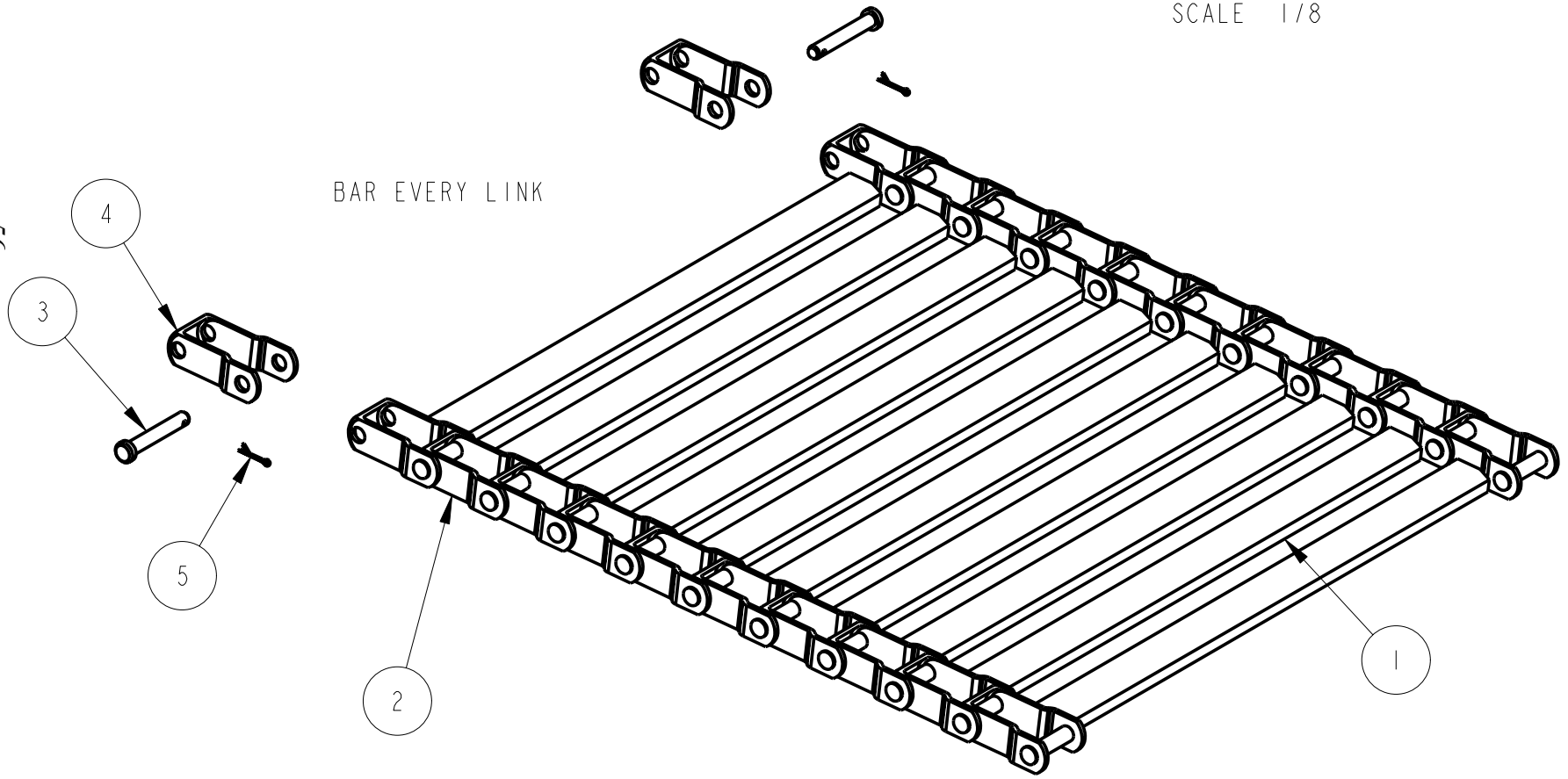
55

09-Jul-07	CONVEYOR CHAIN - #2 - 30 WIDE	CONVEYOR-NO2-30

WARREN
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	10	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

SCALE 1/8

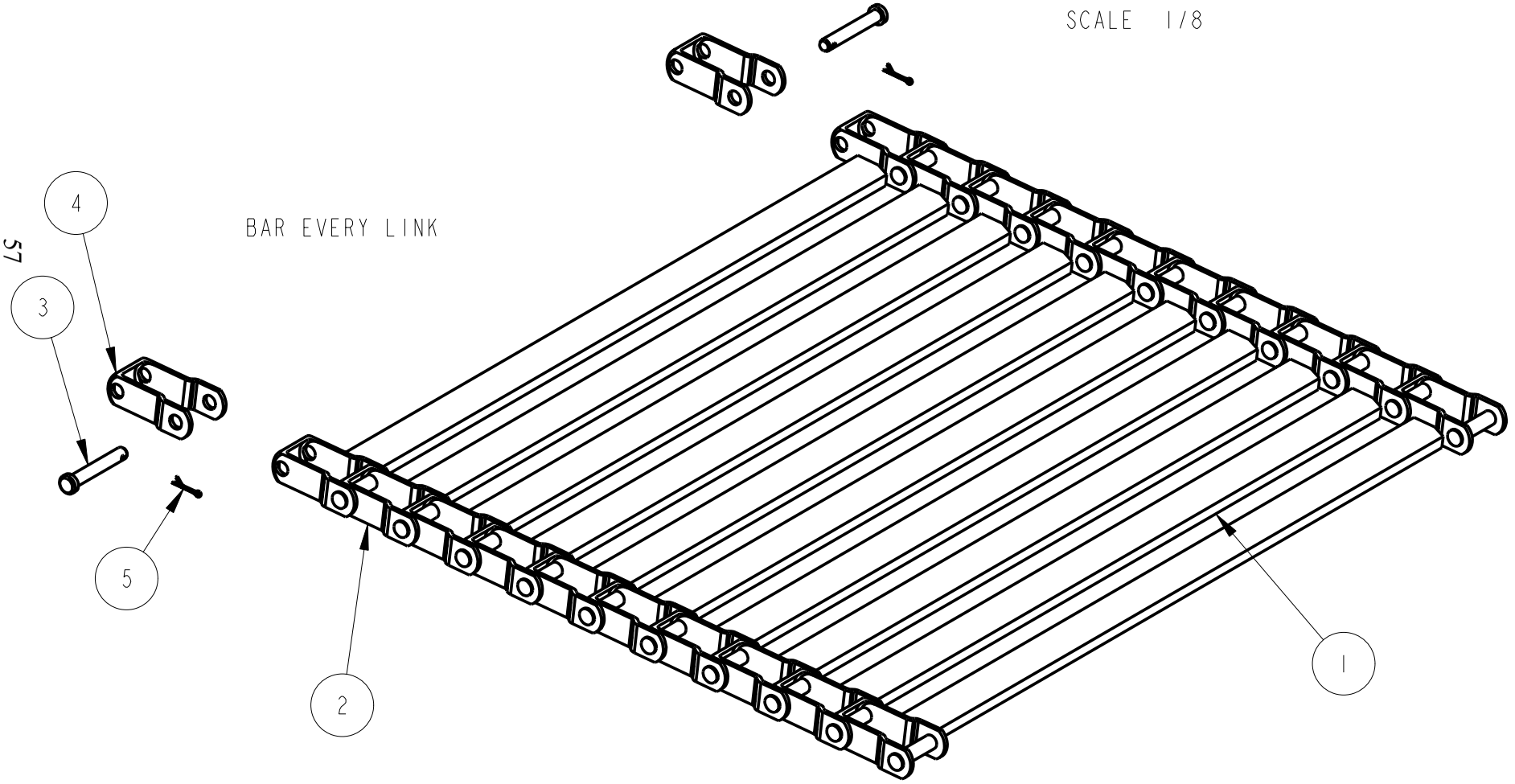


09-Jul-07	CONVEYOR CHAIN - #3 - 24 WIDE	CONVEYOR-NO3-24

WARREN
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	10	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

SCALE 1/8



BAR EVERY LINK

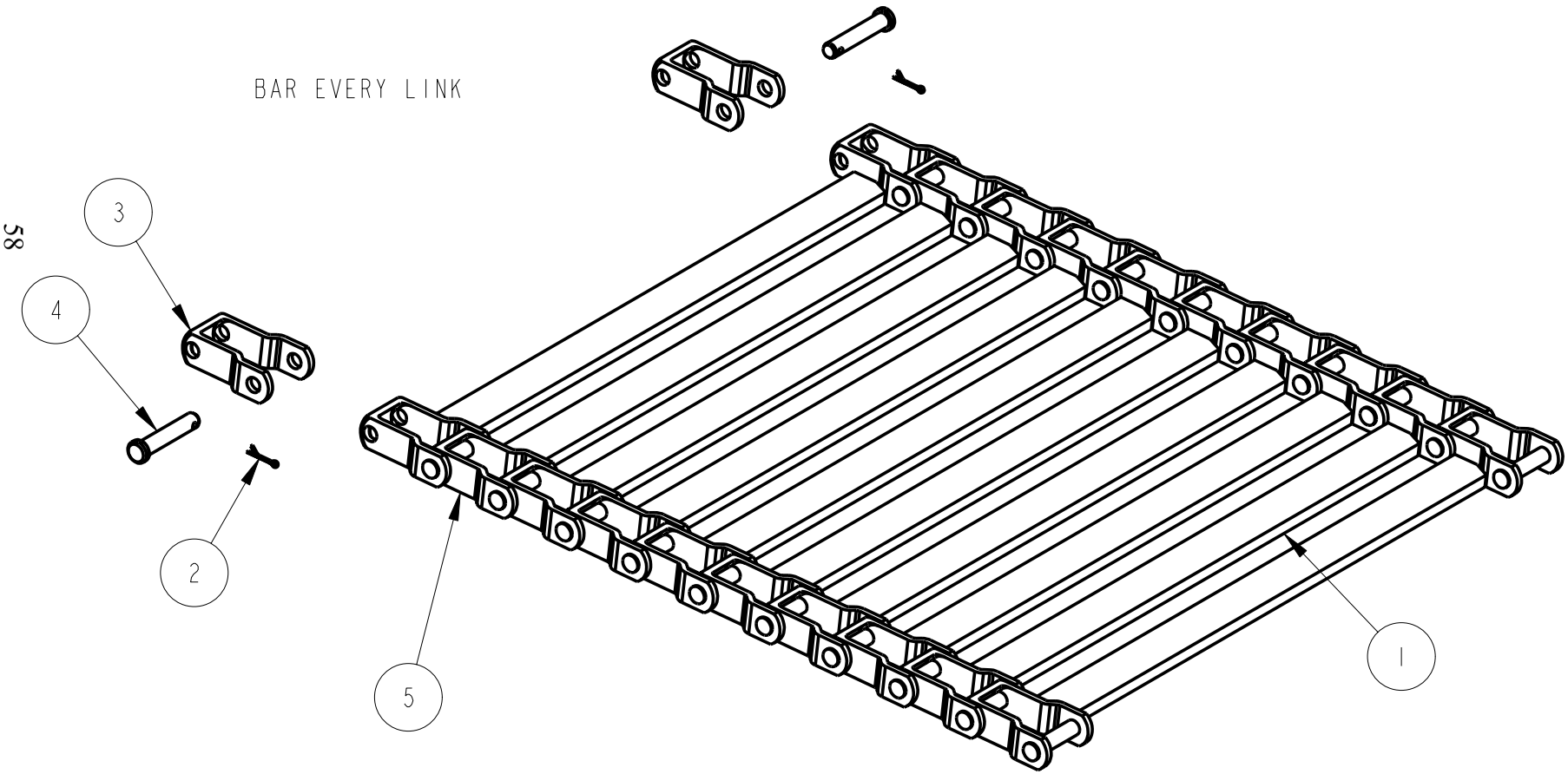
57

09-Jul-07	CONVEYOR CHAIN - #3 - 30 WIDE	CONVEYOR-NO3-30

WARREN
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
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

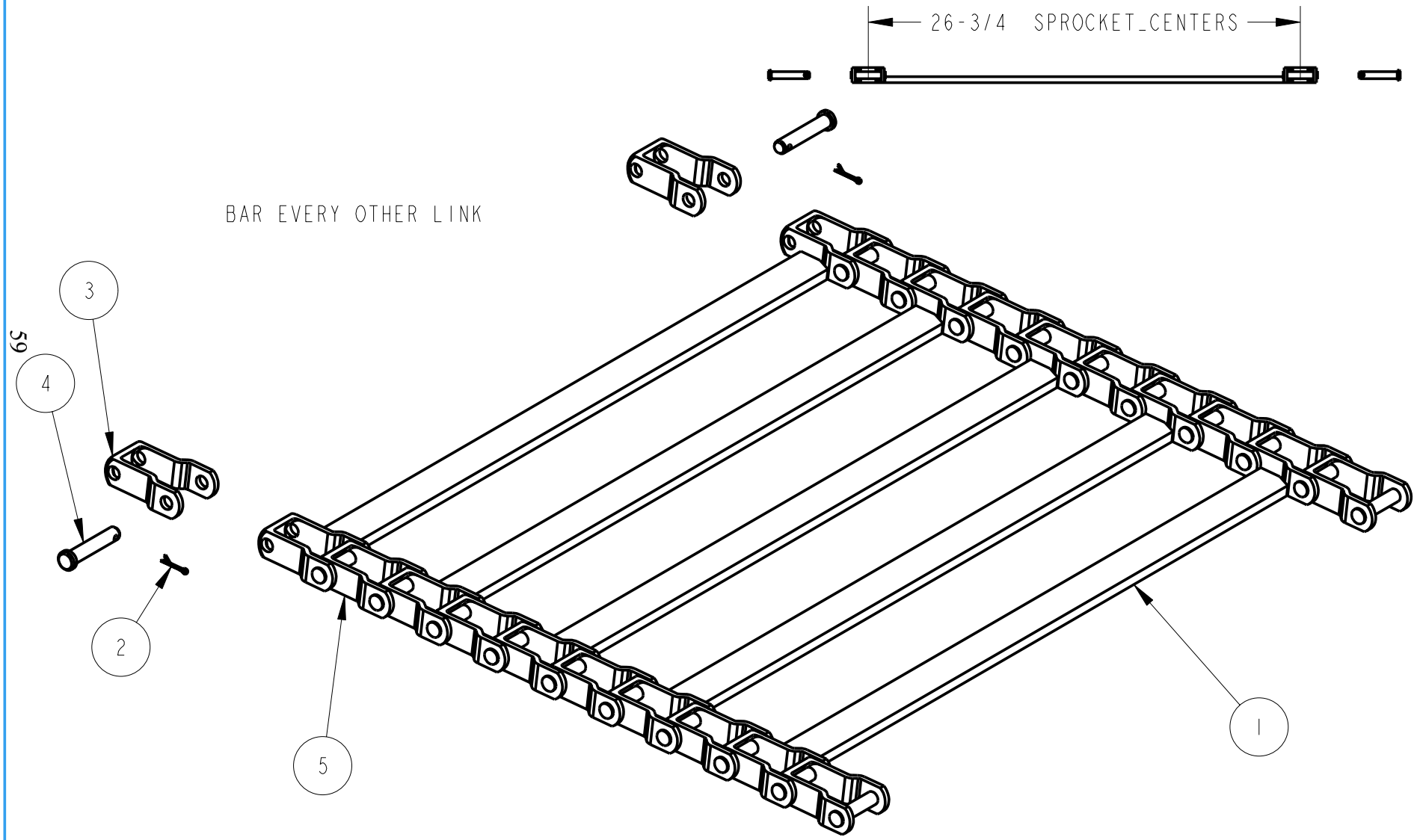
BAR EVERY LINK



09-Jul-07	CONVEYOR CHAIN - #3 - 24 WIDE - HD	CONVEYOR-NO3-24-HD

WARREN
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	5	200070-21	TBD	CROSS BAR - PINTLE CHAIN - 30 IN	3.335
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

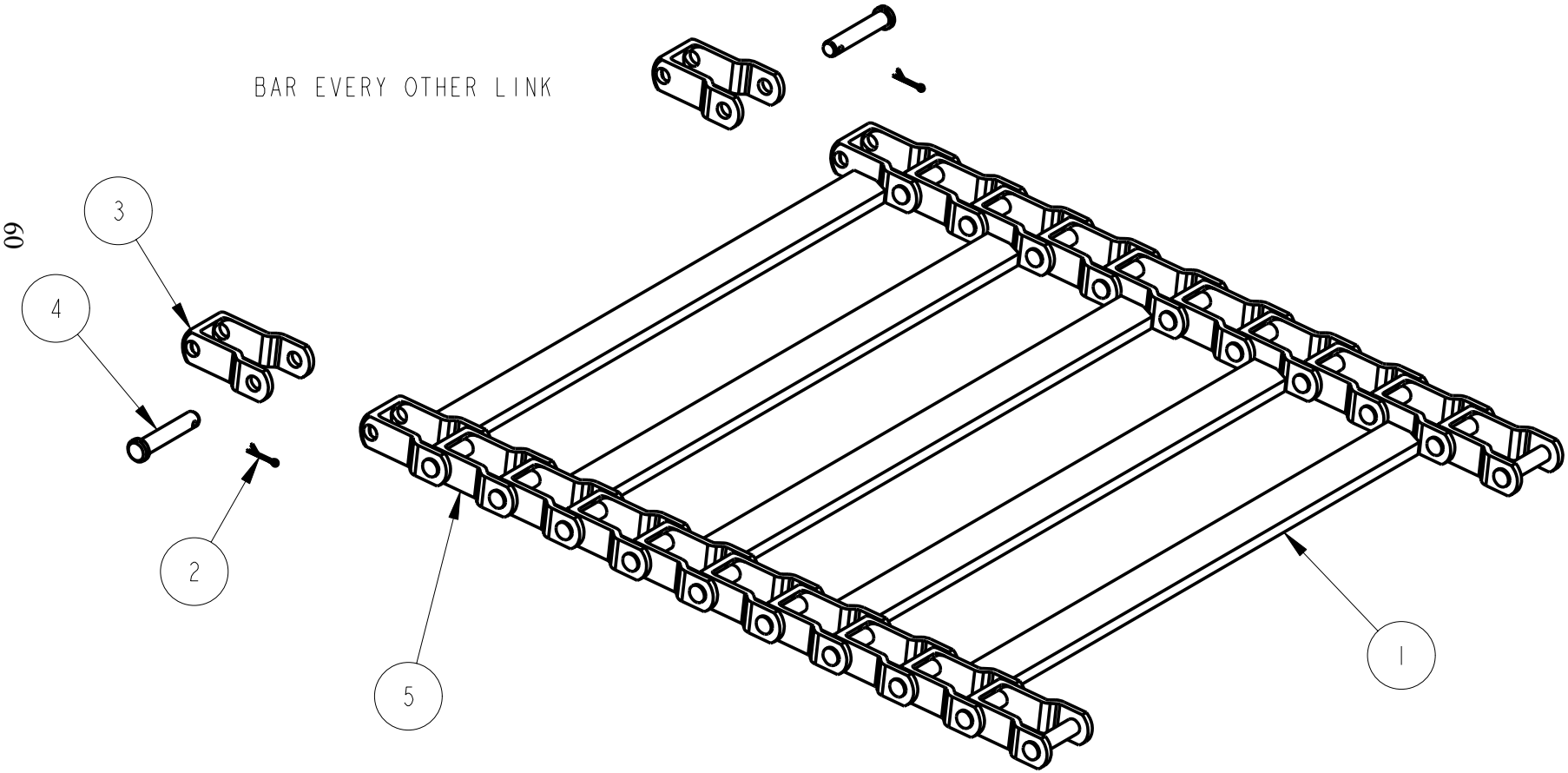


09-Jul-07	CONVEYOR CHAIN - #2 - 30 WIDE - HD	CONVEYOR-NO2-30-HD

WARREN
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	5	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	0.000
5	20	FM-00930	700-30100	CHAIN - PINTLE - 667XH	0.418

BAR EVERY OTHER LINK

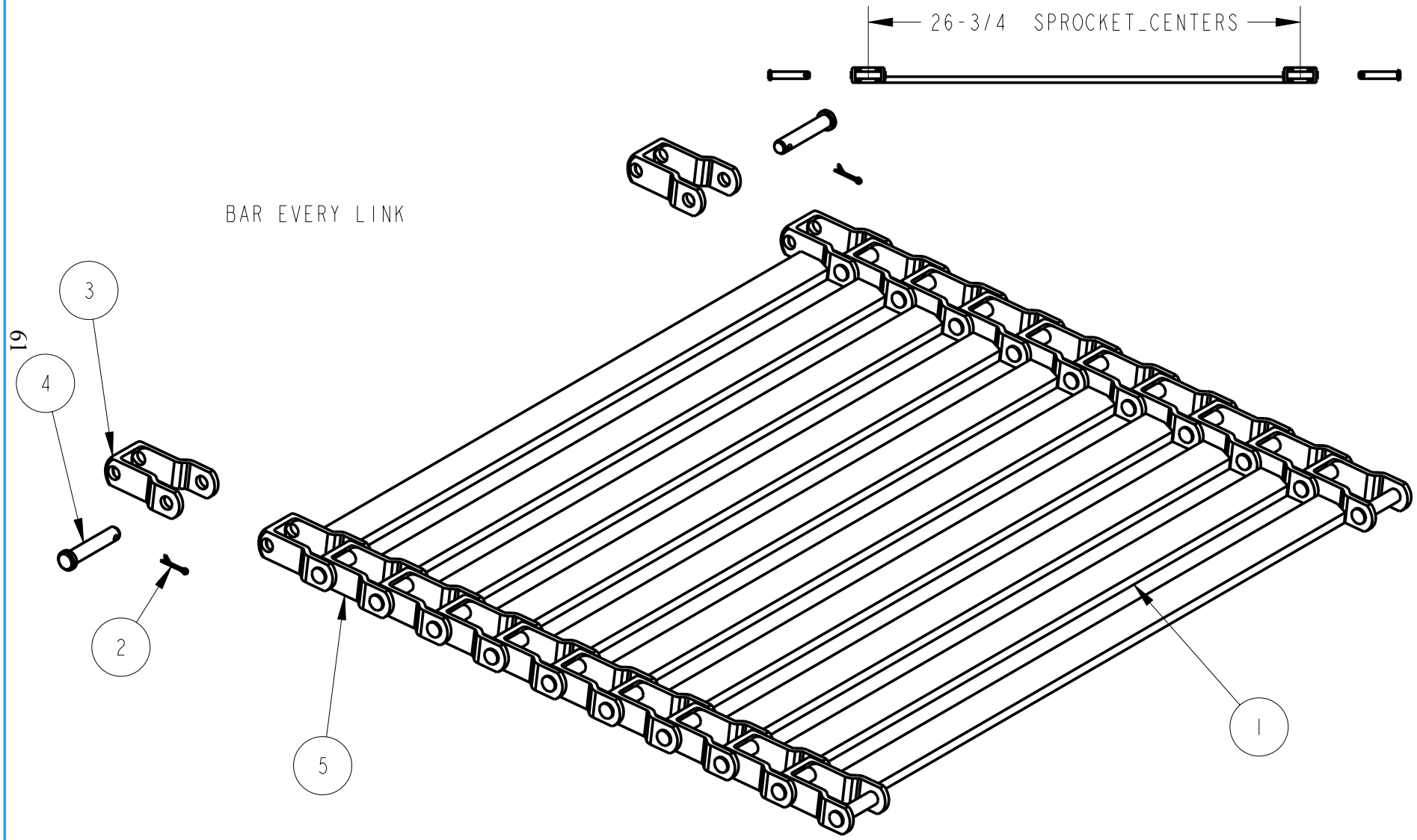


09

09-Jul-07	CONVEYOR CHAIN - #2 - 24 WIDE - HD	CONVEYOR-NO2-24-HD

WARREN
COLLINS, MS.

ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	10	200070-21	TBD	CROSS BAR - PINTLE CHAIN - 30 IN	3.335
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

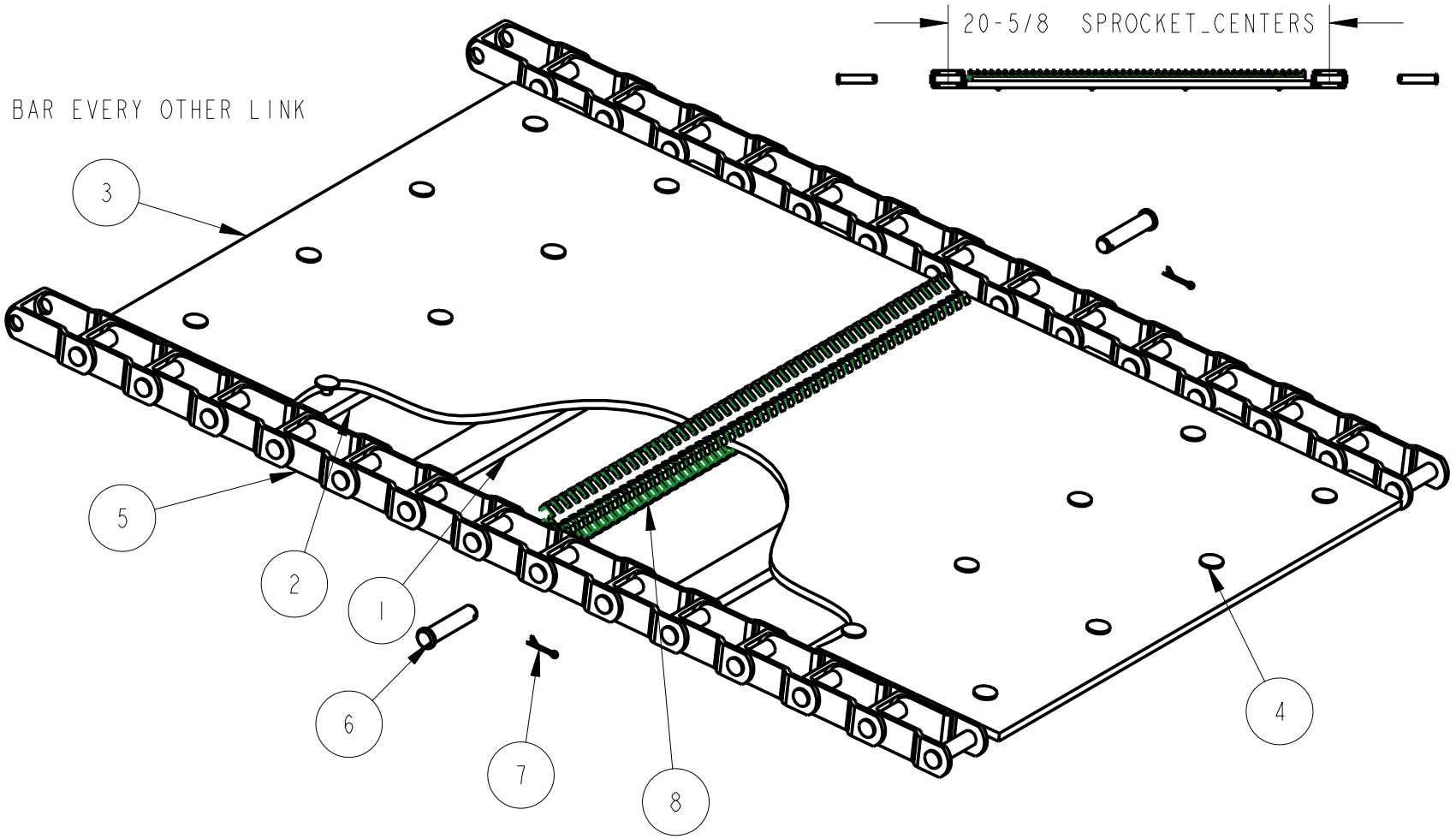


61

09-Jul-07	CONVEYOR CHAIN - #3 - 30 WIDE - HD	CONVEYOR-NO3-30-HD

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	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

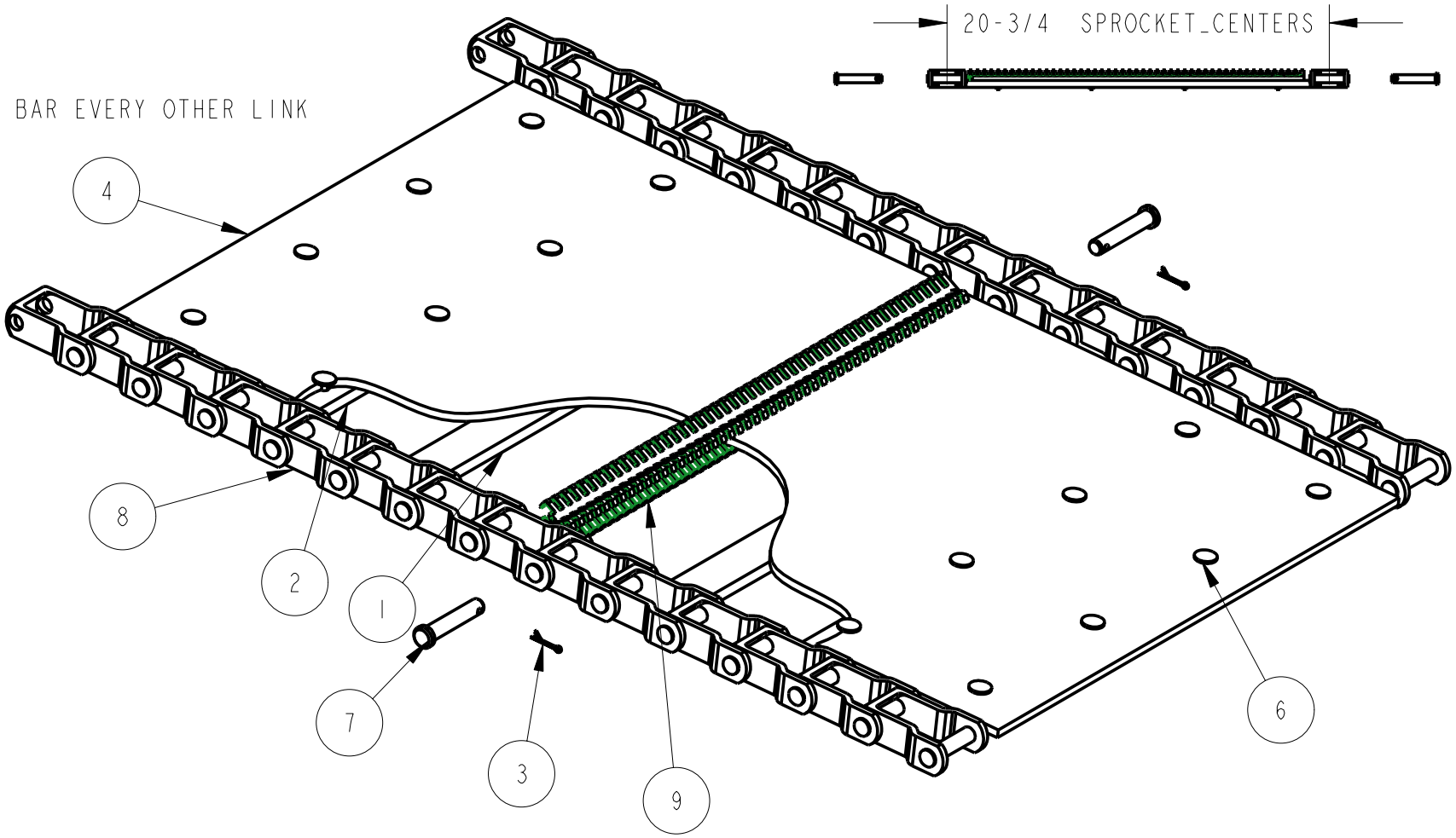


62

09-Jul-07	CONVEYOR CHAIN - 24 WIDE - #4	CONVEYOR-NO4-24

WARREN
COLLINS, MS.

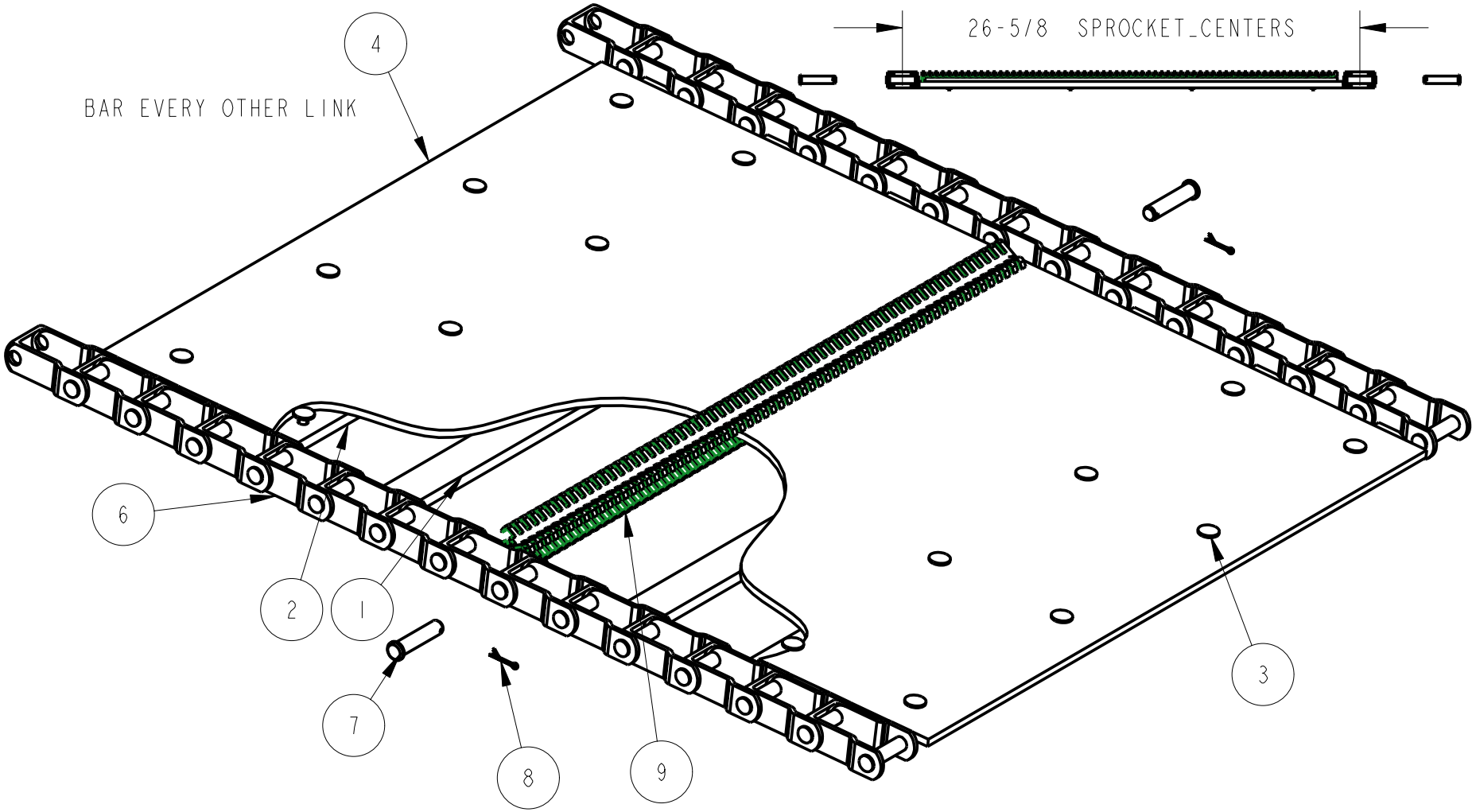
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	2	200070-20	300-30170	CROSS BAR - PINTLE CHAIN - 24 IN	2.537
2	4	200070-22	TBD	CROSS BAR - PINTLE CHAIN - 24 IN	2.511
3	2	COTTER_PIN-XH	NA	COTTER PIN FOR XH CHAIN	0.001
4	1	FB-00122	700-30006	CONVEYOR BELT - 18 IN.	2.503
5	1	FB-00122	700-30006	CONVEYOR 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



09-Jul-07	CONVEYOR CHAIN - 24 WIDE - #4 - HD	CONVEYOR-NO4-24-HD

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

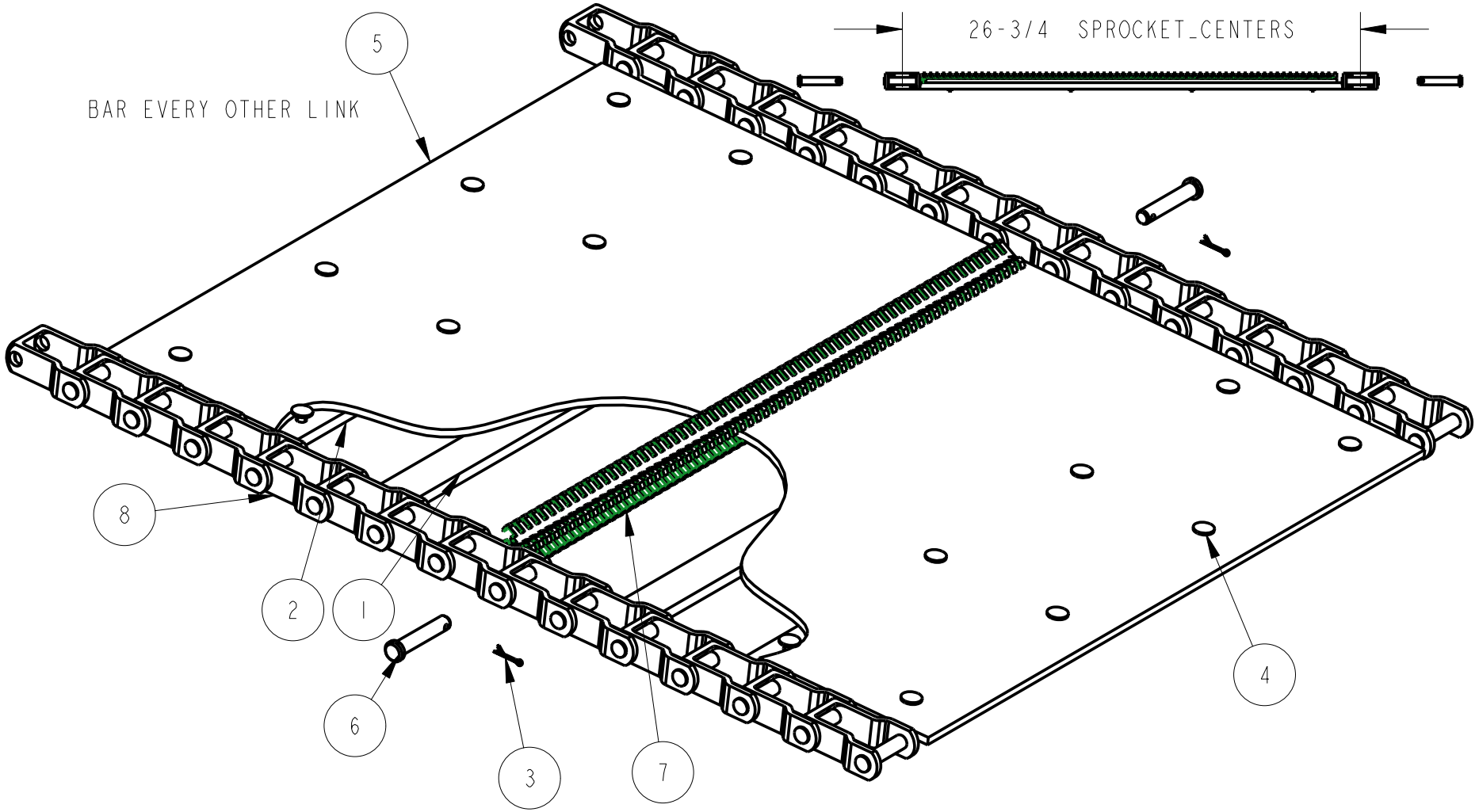


64

09-Jul-07	CONVEYOR CHAIN - 30 WIDE - #4	CONVEYOR-NO4-30

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	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

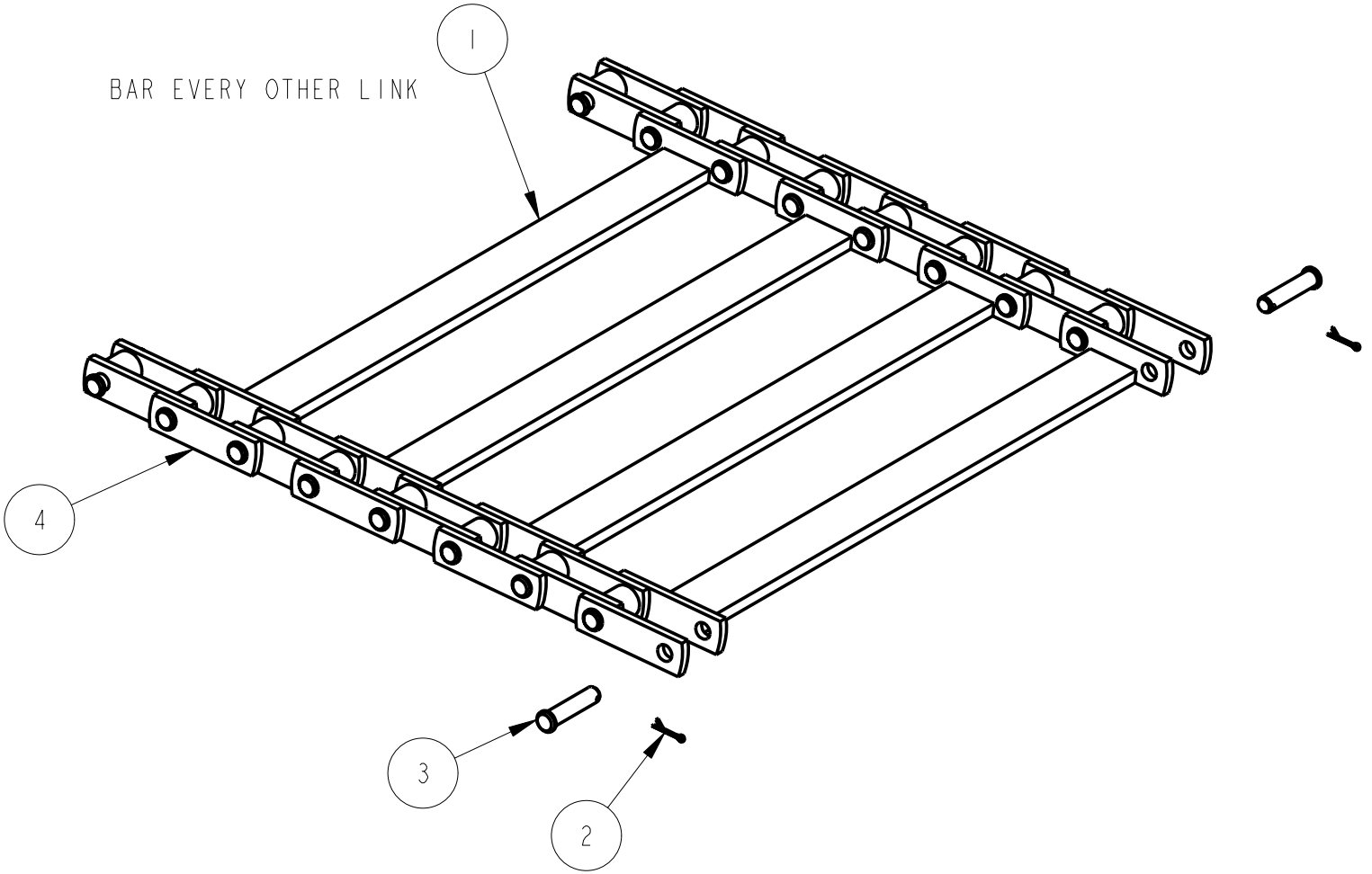


65

09-Jul-07	CONVEYOR CHAIN - 30 WIDE - #4 - HD	CONVEYOR-NO4-30-HD

WARREN
COLLINS, MS.

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

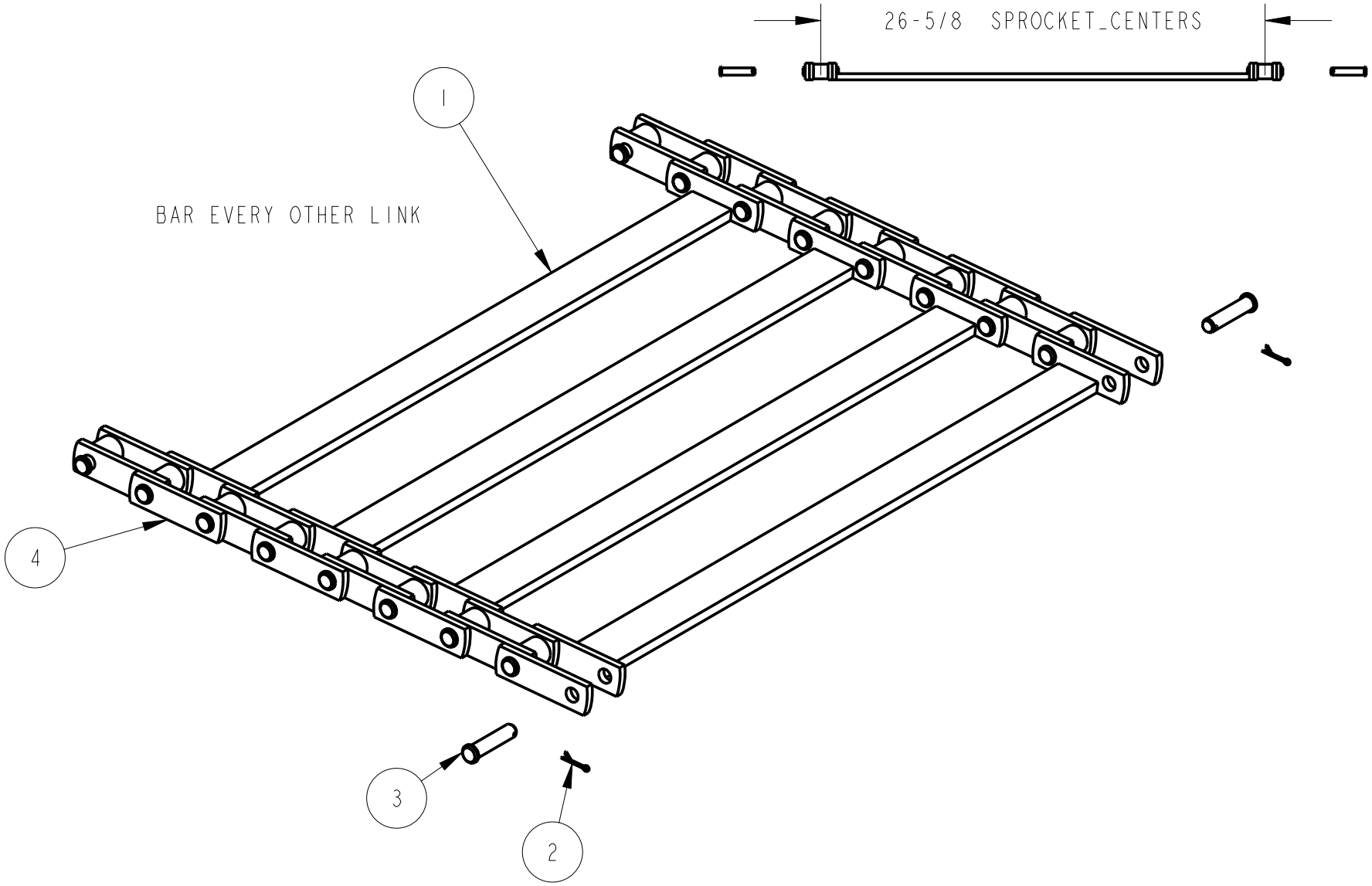


99

09-Jul-07	CONVEYOR CHAIN - ROLLER - 24 WIDE - #2	CONVEYOR-ROLLER-NO2-24

WARREN
COLLINS, MS.

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

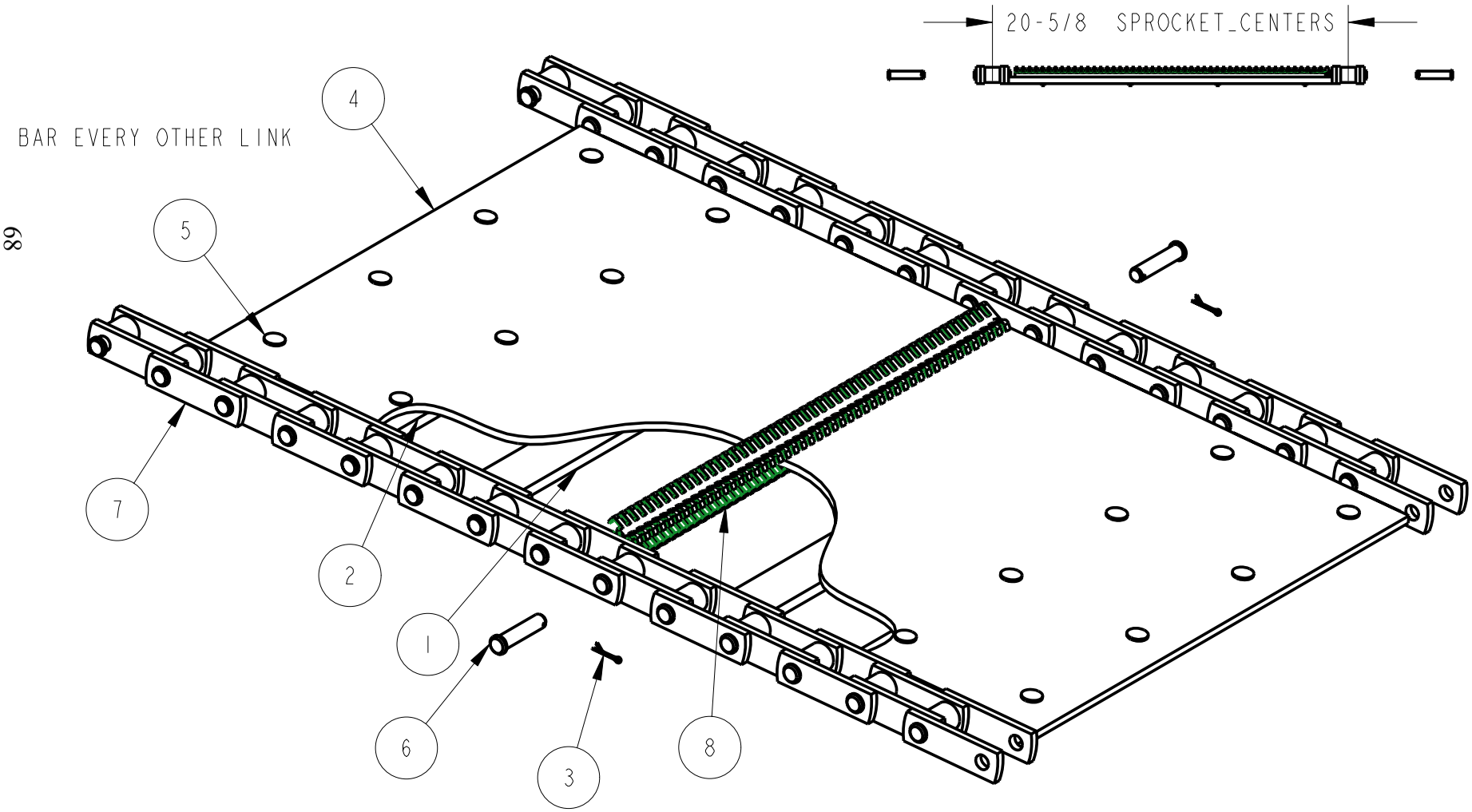


67

09-Jul-07	CONVEYOR CHAIN - ROLLER - 30 WIDE - #2	CONVEYOR-ROLLER-NO2-30

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

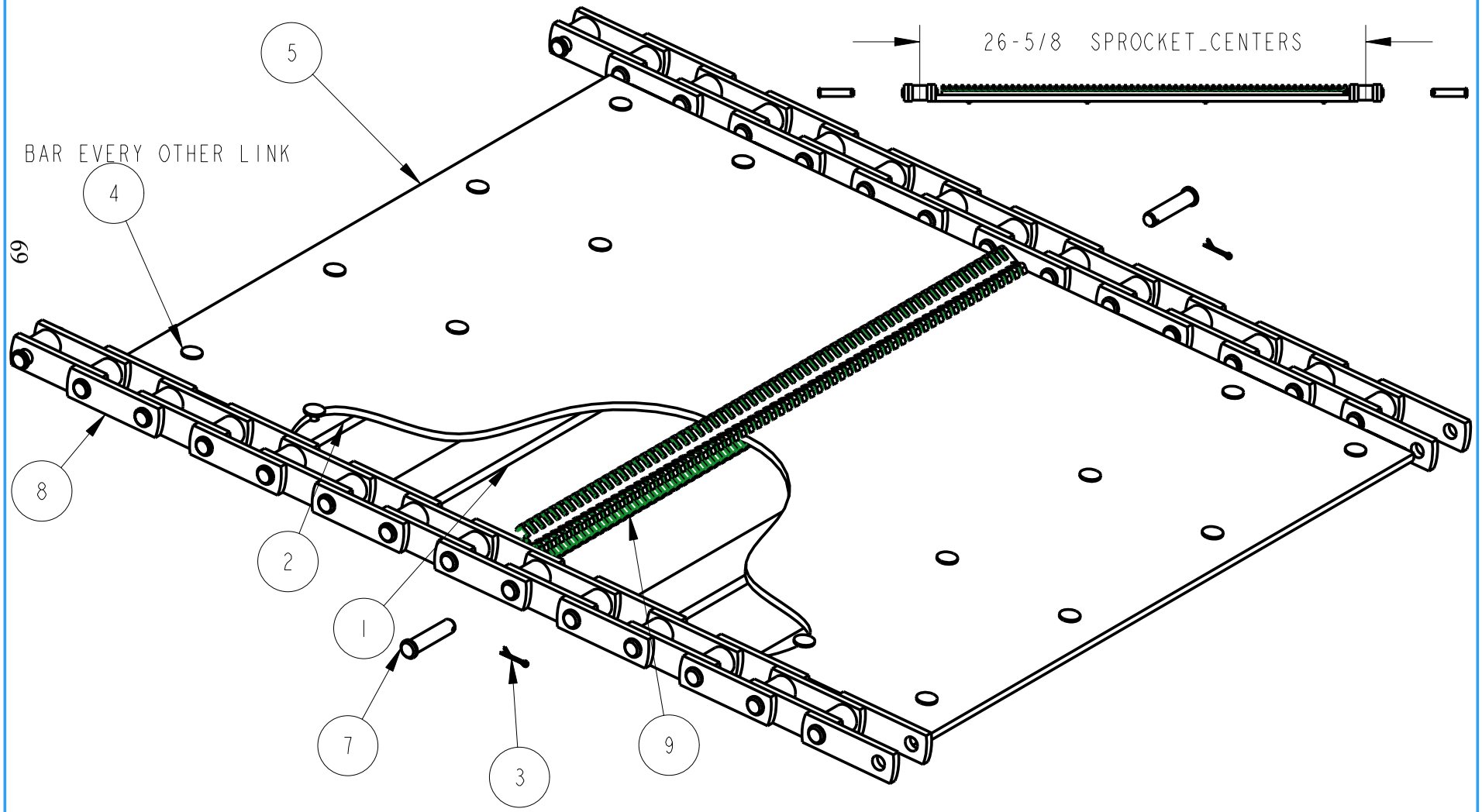


89

09-Jul-07	CONVEYOR - ROLLER CHAIN - 24 WIDE - #4	CONVEYOR-ROLLER-NO4-24

WARREN
COLLINS, MS.

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

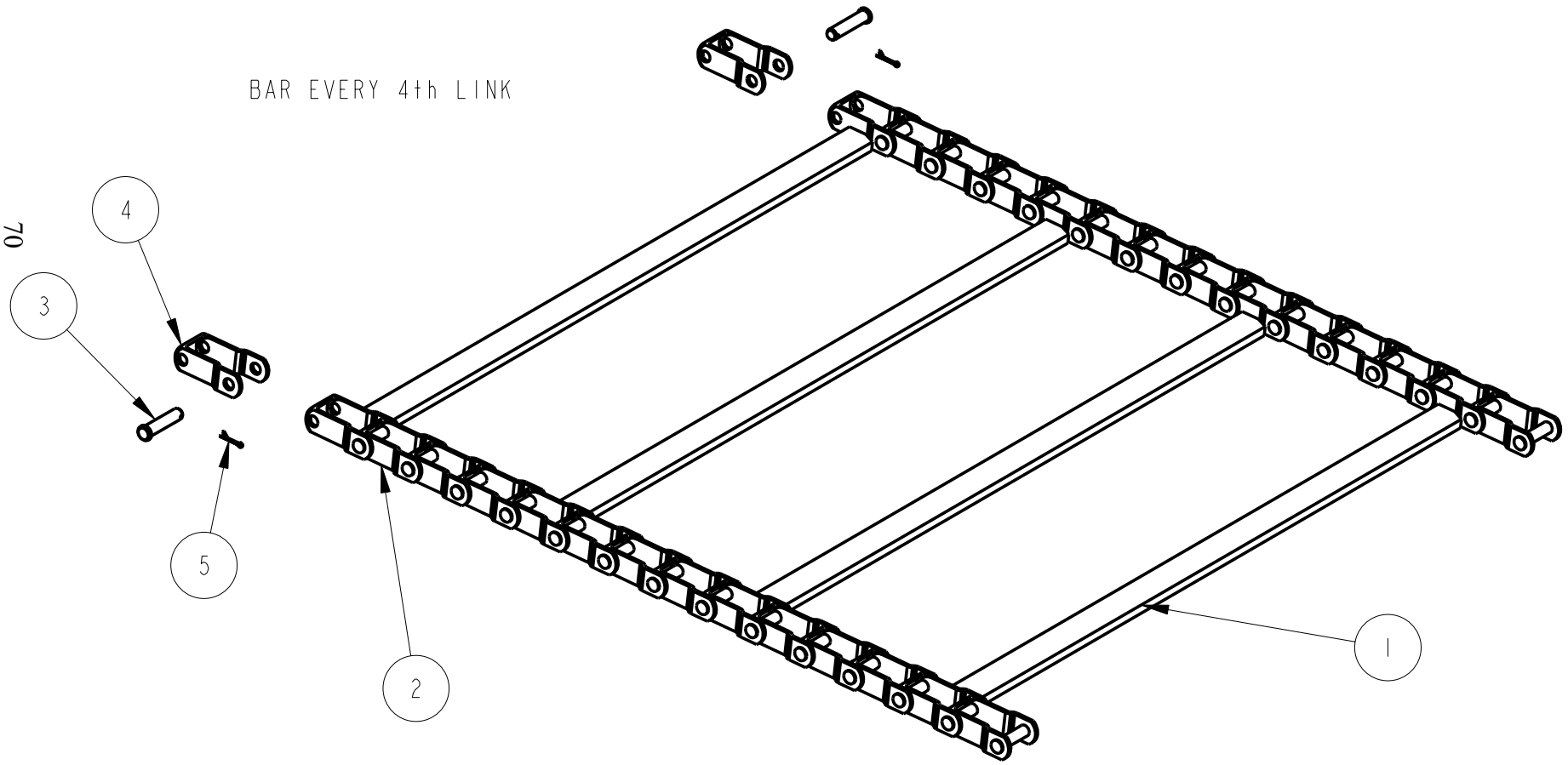


09-Jul-07	CONVEYOR - ROLLER CHAIN - 30 WIDE - #4	CONVEYOR-ROLLER-NO4-30

WARREN
COLLINS, MS.

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



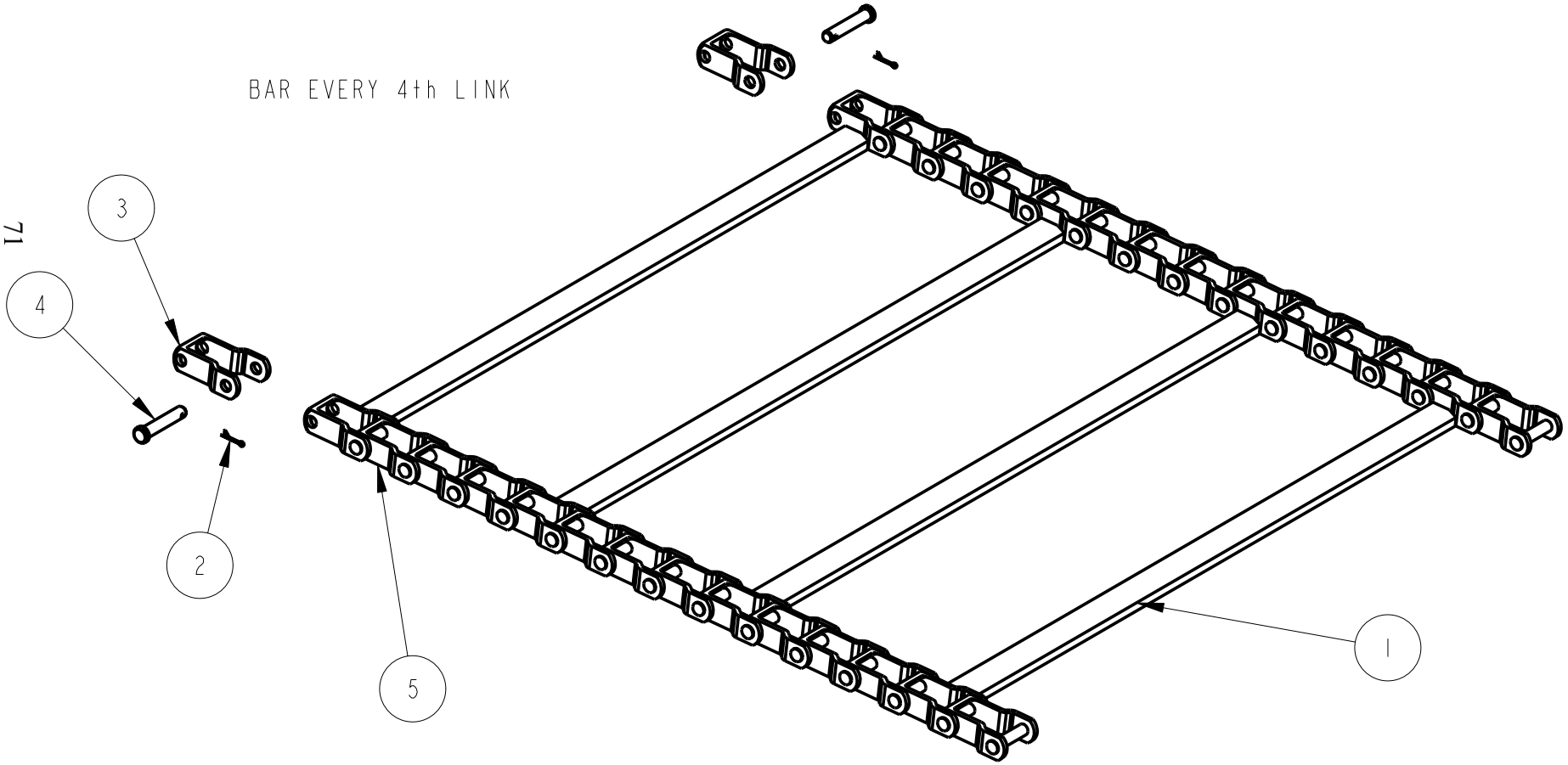
70

09-Jul-07	CONVEYOR CHAIN - 34 WIDE - #1	CONVEYOR-NO1-34

WARREN
COLLINS, MS.

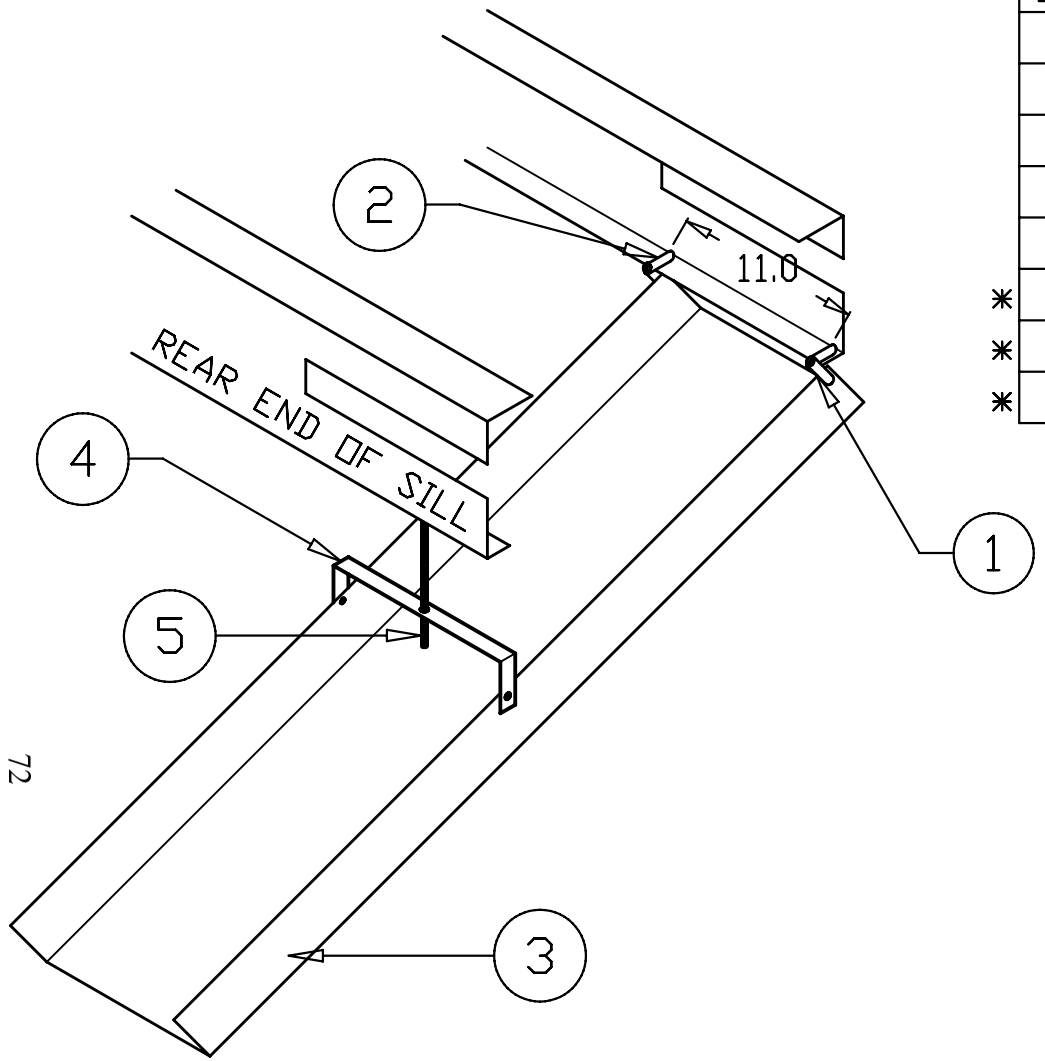
ITEM	QTY.	PART NO.	WARREN PART NO.	DESCRIPTION	WEIGHT
1	4	200040-18	TBD	CROSS BAR - PINTLE CHAIN - 30 IN	3.967
2	2	COTTER_PIN-XH	NA	COTTER PIN FOR XH CHAIN	0.001
3	2	FM-00653	700-30072	CHAIN LINK - 667XH CHAIN	0.326
4	2	FM-00654	800-30045	PIN - PINTLE CHAIN - 667XH	0.113
5	28	FM-00930	700-30100	CHAIN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

BAR EVERY 4th LINK



71

09-Jul-07	CONVEYOR CHAIN - 34 WIDE - #1 - HD	CONVEYOR-NO1-34-HD



	ITEM	QUAN	PART NO.	DESCRIPTION
	1	2	200159-03	HINGE (M/S)
	2	2	200159-53	HINGE (S/S)
	3	1	200544-02	WINDROW CHUTE
	4	1	200544-05	CHUTE HANGER BRKT
	5	1	200669-15	CHUTE ADJUSTMENT BOLT
*	6	4	FF-00196	1/4" NC X 1" S/S HEX HD C/S
*	7	4	FF-00214	1/4" NC S/S KEP NUT
*	8	4	FF-50102	5/16" NC HEX NUT

S.O. #7607

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 ± 1/16" ANGULAR ±

OP. #	OPERATION	MACH #	QTY.	CLK #	DATE

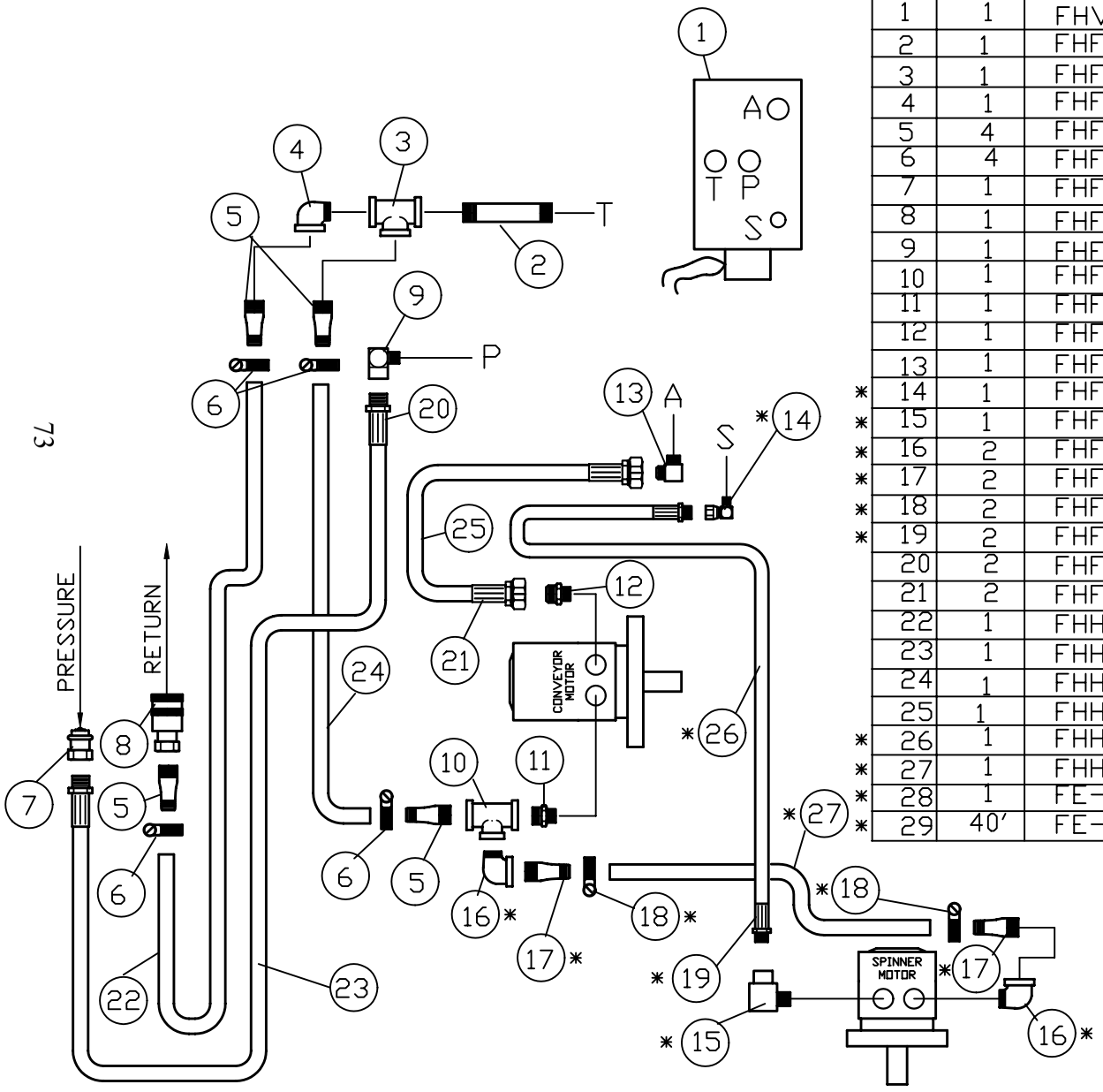
W/O#
DATE
QTY.
DEST.

WARREN
COLLINS, MS.

NAME
WINDROW CHUTE ASS'Y

MATERIAL

SCALE 1=12	REQ'D.
DRAWN GF	DATE 10-20-95
CHECKED	DATE
FOR CHASSIS MT. "E/AC"	
NUMBER A220274-06	

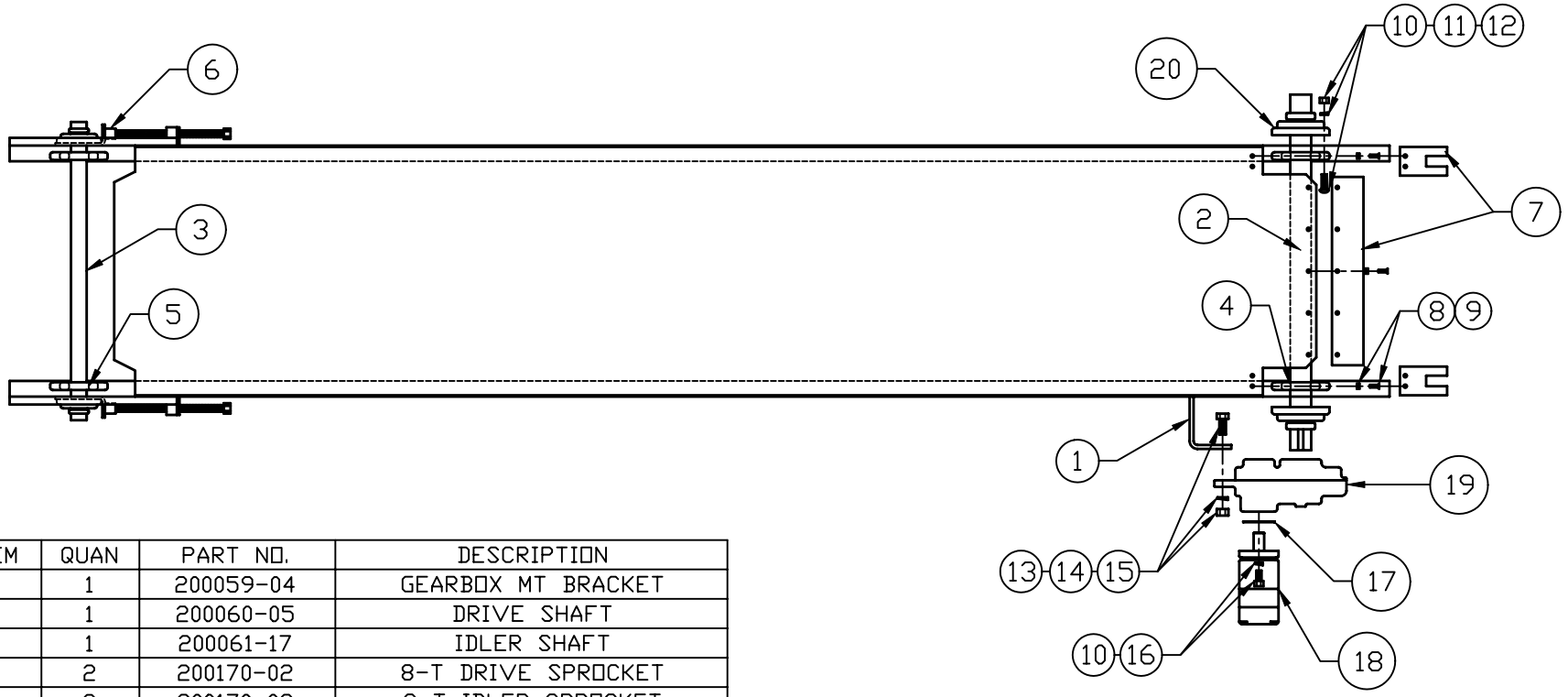


NO.	QUA.	PART NO.	DESCRIPTION
1	1	FHV-00269	VALVE-DUAL FLOW CONTROL W/ELEC. DUMP
2	1	FHF-50040	NIPPLE, 3/4" X 2" B.P.
3	1	FHF-50053	TEE, 3/4" NPT B.P.
4	1	FHF-50079	ELBOW, 90° 3/4" NPT B.P.
5	4	FHF-00236	NIPPLE, KING - 3/4" NPT B.P.
6	4	FHF-00278	CLAMP, 3/4" HOSE
7	1	FHF-00257A	QUICK COUPLER, 3/4" NPT (MALE)
8	1	FHF-00257B	QUICK COUPLER, 3/4" NPT (FEMALE)
9	1	FHF-50140	ELBOW, 90° 3/4" NPT (HIGH PRESS.)
10	1	FHF-50052	TEE, 3/4" X 3/4" X 1/2" NPT B.P.
11	1	FHF-00298	ADAPTER, 5/8" ORM X 3/4" NPTM
12	1	FHF-00204	ADAPTER, 5/8" ORM X 3/4" JICM
13	1	FHF-00274	ELBOW, 90° 3/4" JICM X NPTM
* 14	1	FHF-00317	ELBOW, 90° 1/2" NPTM X NPTFMSW
* 15	1	FHF-00266	ELBOW, 90° 1/2" NPT (HIGH PRESS.)
* 16	2	FHF-50078	ELBOW, 90° 1/2" NPT B.P.
* 17	2	FHF-00261	NIPPLE, KING - 1/2" NPT B.P.
* 18	2	FHF-00260	CLAMP, 1/2" HOSE
* 19	2	FHF-00442	HOSE END, 1/2" NPTM
20	2	FHF-00443	HOSE END, 3/4" NPTM
21	2	FHF-00456	HOSE END, 3/4" JICFMSW
22	1	FHH-00098	HOSE, 3/4" LOW PRESS. X 72"
23	1	FHH-00238	HOSE, 3/4" 100R2 X 72"
24	1	FHH-00098	HOSE, 3/4" LOW PRESS. X 60"
25	1	FHH-00238	HOSE, 3/4" 100R2 X 60"
* 26	1	FHH-00237	HOSE, 1/2" 100R2 X 84"
* 27	1	FHH-00117	HOSE, 1/2" LOW PRESS. X 60"
* 28	1	FE-00147	SWITCH, TOGGLE (NOT SHOWN)
* 29	40'	FE-00133	WIRE, 14 GA. SINGLE (NOT SHOWN)

* - ITEMS TO BE SHIPPED IN KIT

WARREN
COLLINS, MS.

SCALE 1=8	REQ'D.
DRAWN GF	DATE 9-26-95
CHECKED	DATE
NAME CONTROL VALVE w/ELEC. ON/OFF (MT ON LEFT REAR STAKE)	FOR AC-2420A
MATERIAL	NUMBER B220313-05



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

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

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

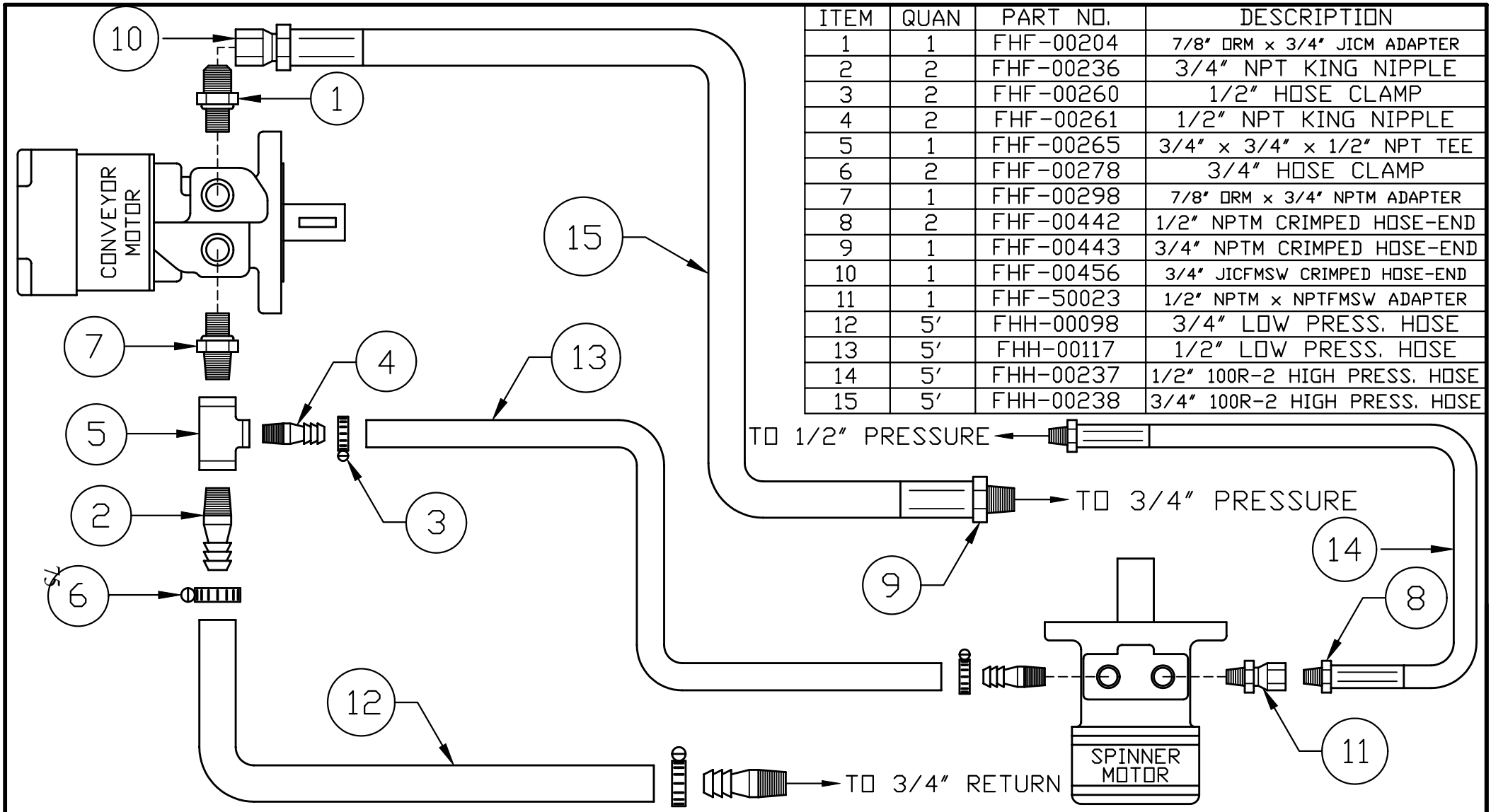
TOLERANCE-UNLESS OTHERWISE SPECIFIED.
DECIMAL ±
FRACTIONAL ±
ANGULAR ±

WARREN
COLLINS, MS.

NAME
CONVEYOR DRIVE ASS'Y

MATERIAL

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



ITEM	QUAN	PART NO.	DESCRIPTION
1	1	FHF-00204	7/8" ORM x 3/4" JICM ADAPTER
2	2	FHF-00236	3/4" NPT KING NIPPLE
3	2	FHF-00260	1/2" HOSE CLAMP
4	2	FHF-00261	1/2" NPT KING NIPPLE
5	1	FHF-00265	3/4" x 3/4" x 1/2" NPT TEE
6	2	FHF-00278	3/4" HOSE CLAMP
7	1	FHF-00298	7/8" ORM x 3/4" NPTM ADAPTER
8	2	FHF-00442	1/2" NPTM CRIMPED HOSE-END
9	1	FHF-00443	3/4" NPTM CRIMPED HOSE-END
10	1	FHF-00456	3/4" JICFMSW CRIMPED HOSE-END
11	1	FHF-50023	1/2" NPTM x NPTFMSW ADAPTER
12	5'	FHH-00098	3/4" LOW PRESS. HOSE
13	5'	FHH-00117	1/2" LOW PRESS. HOSE
14	5'	FHH-00237	1/2" 100R-2 HIGH PRESS. HOSE
15	5'	FHH-00238	3/4" 100R-2 HIGH PRESS. HOSE

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# DATE QTY. DEST.

WARREN
COLLINS, MS.

NAME
HOSES/FITTINGS ON SPREADER
(HYD. MOTORS SHOWN)

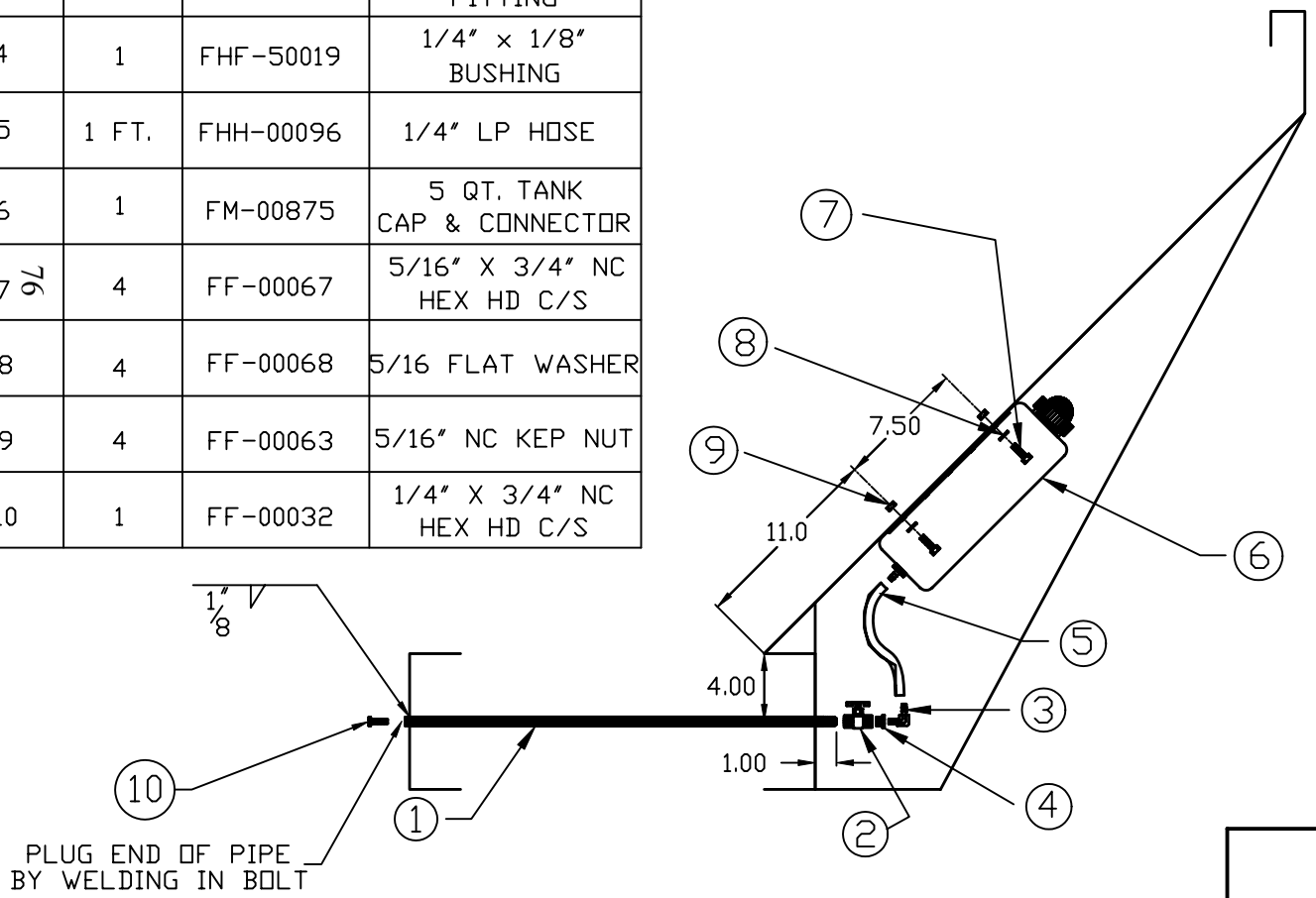
MATERIAL

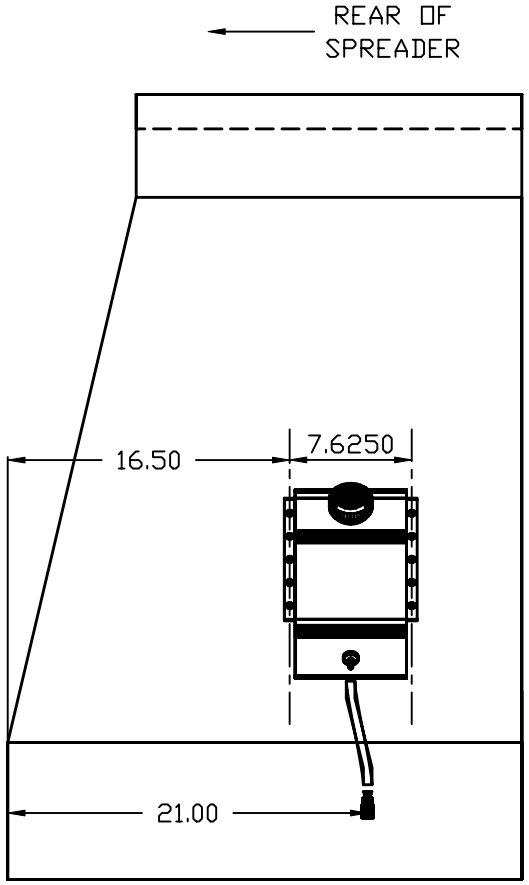
SCALE	REQ'D.
1=4	
DRAWN	DATE
GF	9-13-96
CHECKED	DATE

FOR E/AC-2420A w/6:1 GEARBOX

NUMBER
220178-25

ITEM	REQ'D	PART NO.	DESCRIPTION
1	1	200146-A	OILER PIPE
2	1	FHV-00278	1/4" NEEDLE VALVE
3	1	FHF-00434	1/4" ELBOW FITTING
4	1	FHF-50019	1/4" x 1/8" BUSHING
5	1 FT.	FHH-00096	1/4" LP HOSE
6	1	FM-00875	5 QT. TANK CAP & CONNECTOR
7 76	4	FF-00067	5/16" X 3/4" NC HEX HD C/S
8	4	FF-00068	5/16 FLAT WASHER
9	4	FF-00063	5/16" NC KEP NUT
10	1	FF-00032	1/4" X 3/4" NC HEX HD C/S





*	WIDTH	A
02	24"	03
04	30"	04

WARREN
COLLINS, MS.

NAME
CHAIN OILER ASSEMBLY

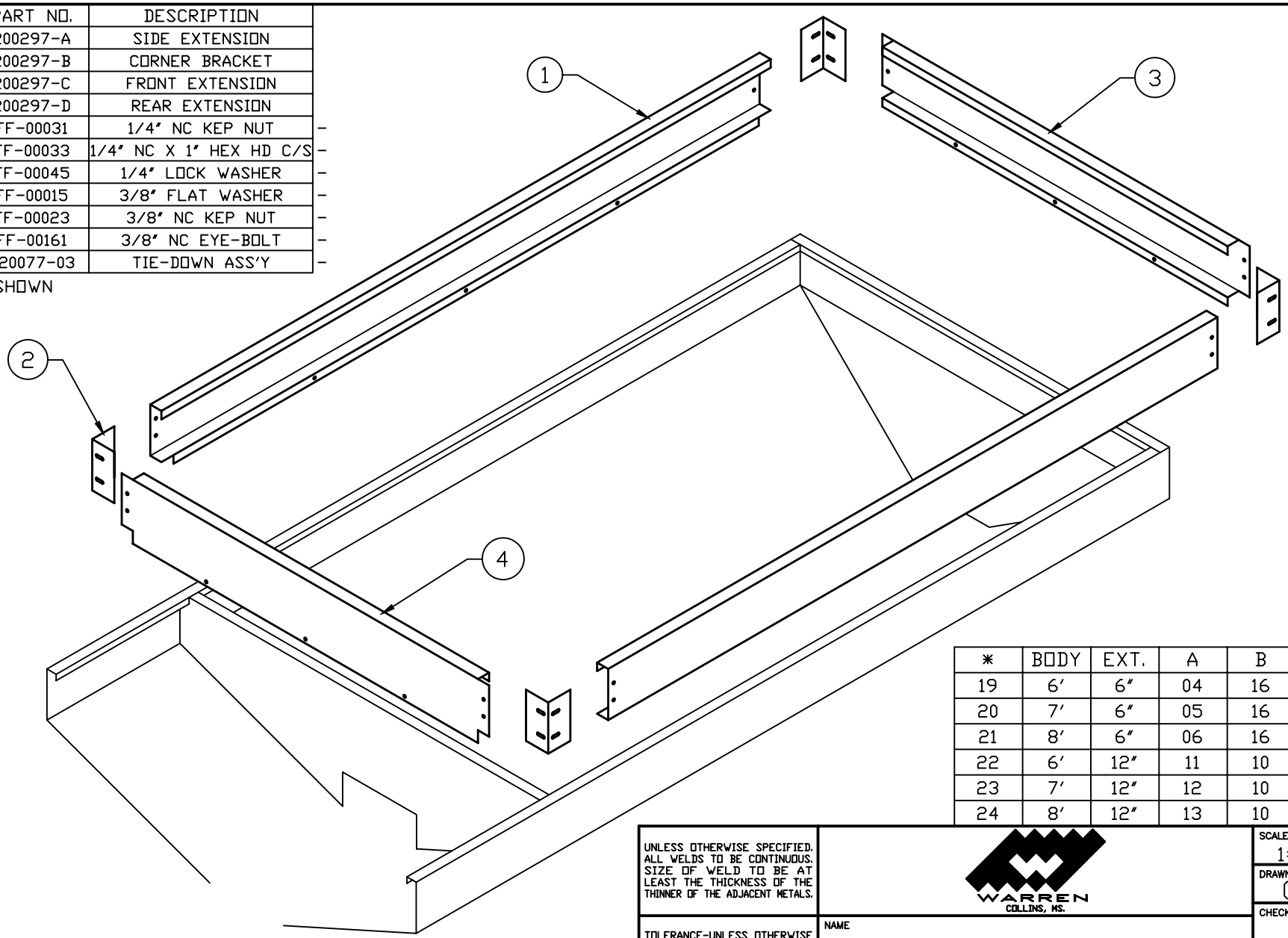
MATERIAL

SCALE	REQ'D.
1=8	
DRAWN GF	DATE 1-28-91
CHECKED	DATE
FOR "AC" & "E/AC"	
NUMBER 220087-*	

REVISED 2/21/96 GF ADDED CHART & BUSHING.

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



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*	BODY	EXT.	A	B	C	D
19	6'	6"	04	16	25	26
20	7'	6"	05	16	25	26
21	8'	6"	06	16	25	26
22	6'	12"	11	10	27	28
23	7'	12"	12	10	27	28
24	8'	12"	13	10	27	28

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

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 ±

WARREN
COLLINS, MS.

NAME
BOLT-ON HOPPER EXTENSIONS

MATERIAL

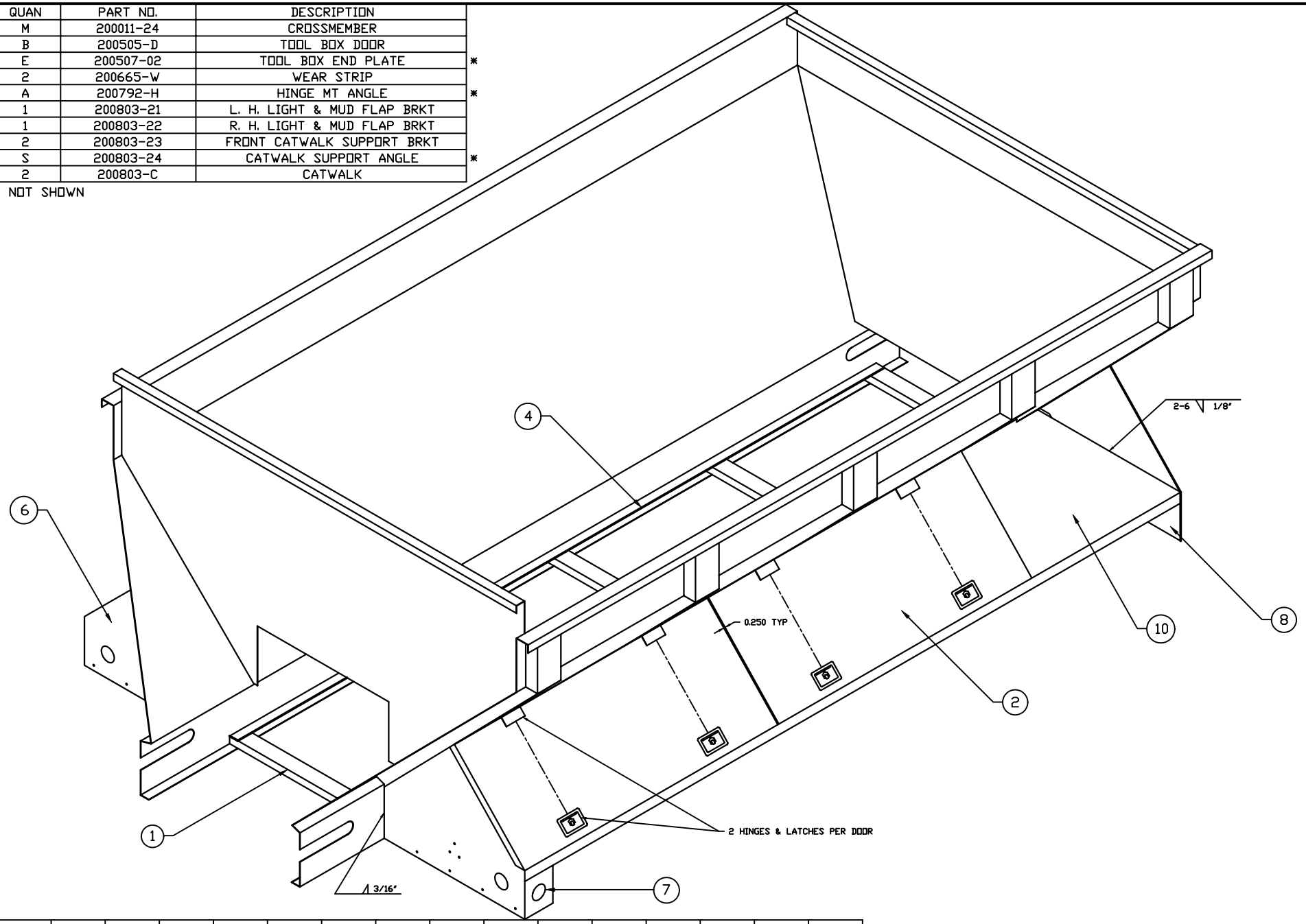
SCALE	REQ'D.
1=12	
DRAWN	DATE
GF	8-30-95
CHECKED	DATE

FOR
PICK-UP SPRDRS

NUMBER
220076-*

ITEM	QUAN	PART NO.	DESCRIPTION	
1	M	200011-24	CROSSMEMBER	
2	B	200505-D	TOOL BOX DOOR	
3	E	200507-02	TOOL BOX END PLATE	*
4	2	200665-W	WEAR STRIP	
5	A	200792-H	HINGE MT ANGLE	*
6	1	200803-21	L. H. LIGHT & MUD FLAP BRKT	
7	1	200803-22	R. H. LIGHT & MUD FLAP BRKT	
8	2	200803-23	FRONT CATWALK SUPPORT BRKT	
9	S	200803-24	CATWALK SUPPORT ANGLE	*
10	2	200803-C	CATWALK	

* - ITEMS NOT SHOWN



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BODY	8'	9'	10'	11'	12'	13'	14'	15'	16'	17'	18'	19'	20'	21'	22'
*	01	02	03	04	05	06	07	08	09	10	12	13	14	15	16
A	4	6	6	6	8	8	8	10	10	10	12	12	14	14	14
B	2	2	2	4	4	4	4	4	4	4	6	4 & 2	4 & 2	6	4 & 2
C	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
D	14	16	18	12	13	14	15	16	17	18	14	14 & 16	14 & 18	16	16 & 18
E	2	2	2	6	6	6	6	6	6	6	10	10	10	10	10
H	15	16	17	18	19	20	21	22	23	24	25	23	16	26	23
M	3	4	4	4	5	5	5	6	6	6	7	7	8	8	8
S	2	4	4	4	6	6	6	8	8	8	10	10	12	12	12
W	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21

NOTE: CHASSIS MT UNIT SHOWN IS 12' BODY.

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

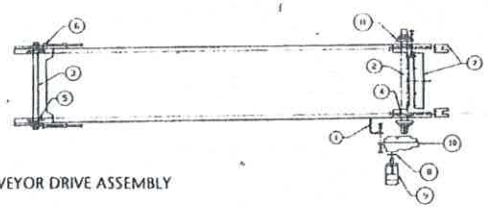
TOLERANCE-UNLESS OTHERWISE SPECIFIED.
DECIMAL ± 0.010"
FRACTIONAL ± 1/16"
ANGULAR ±

FONTAINE BODY & HOIST CO.
COLLINS, MISSISSIPPI

NAME: CATWALK & TOOL BOX LAYOUT

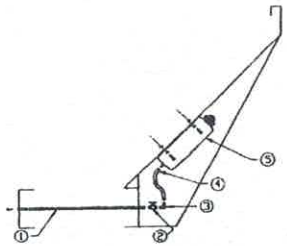
MATERIAL

SCALE	REQ'D.
1=12	
DRAWN	DATE
GF	10-23-92
CHECKED	DATE
FOR	
AC-3420	
NUMBER	
220112-*	

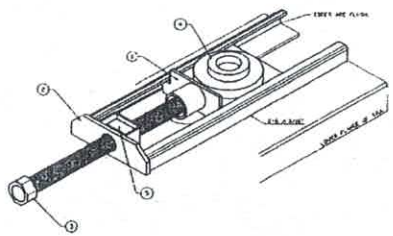


CONVEYOR DRIVE ASSEMBLY

ITEM	QTY	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	1	FHM-00056	O - RING SEAL
9	1	FHM-00113	HYDRAULIC MOTOR
10	1	FM-00513	6:1 GEARBOX
11	2	FM-00556	2" 4 - BOLT FLANGE BEARING



CHAIN OILER ASSEMBLY
(220087-02)



TAKE-UP BRACKET ASSEMBLY

CHAIN OILER ASSEMBLY (220087-02)

ITEM	QTY	PART NO.	DESCRIPTION
1	1	200146-03	OILER PIPE
2	1	FHV-00278	NEEDLE VALVE - 1/4"
3	1	FHF-00434	ELBOW - 1/4"
4	1 FT.	FHH-00096	HOSE - 1/4" LP
5	1	FM-00875	5 QT. TANK, CAP & CONNECTOR

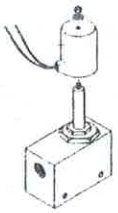
TAKE-UP BRACKET ASSEMBLY

ITEM	QTY.	PART NO.	DESCRIPTION
		220007-45	STD. ASSEMBLY - COMPLETE
		220007-46	SPRING LOADED OPTION - COMPLETE
1	1	220007-42	BACK PLATE & BOLT GUIDE WELD.
2	1	220007-43	TAKE-UP BRCKT WELD.
3	1	220007-44	ADJUSTMENT BOLT WELD.
4	1	FM-00250	1 1/2" 4-BOLT FLANGE BEARING
5	1	FF-00215	1" NC SQUARE NUT.
*	1	FM-00592	3/8" COIL SPRING

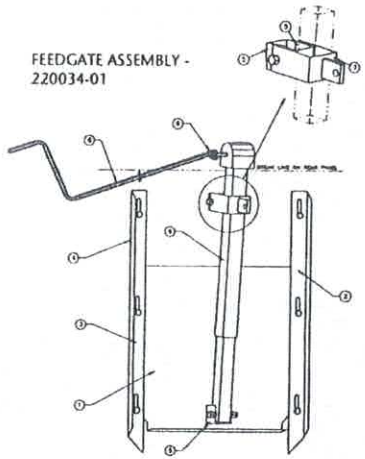
*REQUIRED WITH OPTIONAL SPRING LOADED ASSY

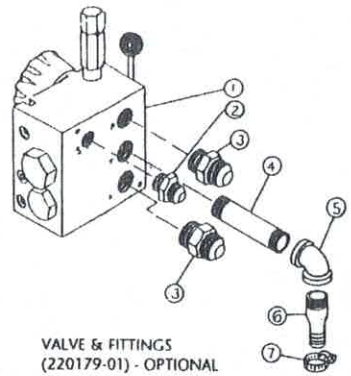
HYDRAULIC DUMP VALVE - OPTIONAL

ITEM	QTY	PART NO.	DESCRIPTION
		FHV-00249	VALVE - COMPLETE ASSY.
1	1	FHV-00260	COIL - ELECTRIC



FEEDGATE ASSEMBLY - 220034-01





VALVE & FITTINGS
(220179-01) - OPTIONAL

FEEDGATE ASSEMBLY - 220034-01

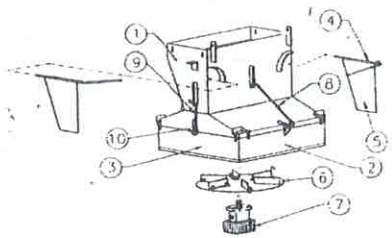
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	200018-01	FEED GATE
2	1	200016-03	RETAINER (RH)
3	1	200016-04	RETAINER (LH)
4	2	200017-02	SPACER
5	3	200020-02	JACK MOUNTING BRACKET
6	1	200019-01	JACK HANDLE
7	1	220166-01	FAN HOLD-UP BRACKET
8	2	200329-02	U-JOINT CHAIN LINK
9	1	FM-00517	FEED GATE JACK
10*	1	FM-00698	UNIVERSAL JOINT
11*	1	FM-00518	#8 HITCH PIN

*REQUIRED FOR AUXILIARY ENGINE UNITS

VALVE & FITTINGS (220179-01) - OPTIONAL

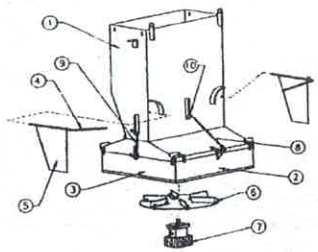
ITEM	QTY	PART NO.	DESCRIPTION
1	1	FHV-00169	VALVE - DUAL (FLUID CONTROLS)
2	1	FHF-00258	ADAPTER - 1/2 NRTM X 1/2 JICM
3	2	FHF-00252	ADAPTER - 3/4 NPTM X 3/4 JICM
4	1	FHF-50042	NIPPLE 3/4 X 4 B.P.
5	1	FHF-50071	ELBOW - 90° 3/4 B.P.
6	1	FHF-00278	CLAMP - HOSE 3/4
7	1	FHF-00236	NIPPLE - KING 3/4 NPTM
*	2	FHV-00167	KNOB FOR FHV-00169 VALVE
*	2	FHV-00262	KNOB FOR FHV-00255 VALVE

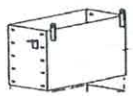
*NOT SHOWN



E/AC-2420A SPINNER ASSEMBLY (CHASSIS MOUNT) -OPTIONAL
220016-40 COMPLETE ASSEMBLY

ITEM	QTY	PART NO.	DESCRIPTION
1	1	220184-02	SPINNER HOPPER WLD.
2	1	220185-01	REAR DEFLECTOR WLD.
3	2	220185-02	SIDE DEFLECTOR WLD.
4	2	200156-01	INTERNAL BAFFLE ROD
5	2	200431-01	INTERNAL BAFFLE
6	1	220123-03	SPINNER DISK ASSY.
7	1	FHM-00114	HYDRAULIC MOTOR
8	1	200264-03	REAR DEFLECTOR ROD
9	2	200264-01	SIDE DEFLECTOR ROD
10	6	FM-00518	#8 HITCH PIN



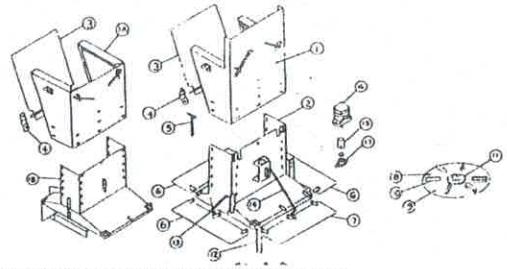


SPINNER HOPPER ADJ EXTN.
(OPTIONAL)

E/AC-2420A SPINNER ASSEMBLY (DUMP BODY MOUNT) - STANDARD
220016-35 COMPLETE ASSEMBLY
220016-35L COMPLETE ASSEMBLY W/EXTENTIONS

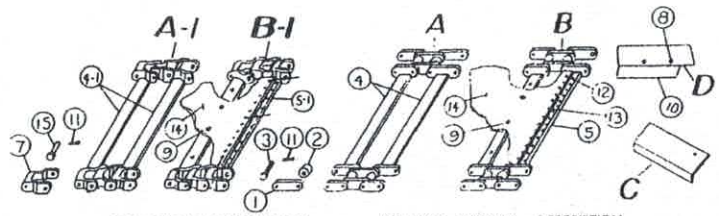
ITEM	QTY	PART NO.	DESCRIPTION
1	1	220184-01	SPINNER HOPPER WLD.
2	1	220185-01	REAR DEFLECTOR WLD.
3	2	220185-02	SIDE DEFLECTOR WLD.
4	2	200156-01	INTERNAL BAFFLE ROD
5	2	200431-01	INTERNAL BAFFLE
6	1	220123-03	SPINNER DISC ASSY.
7	1	FHM-00114	HYDRAULIC MOTOR
8	1	200264-03	REAR DEFLECTOR ROD
9	2	200264-01	SIDE DEFLECTOR ROD
10	6	FM-00518	#8 HITCH PIN

300-30866



STANDARD AC-2420A FAN ASSEMBLY (220016-33)

ITEM	QTY	PART NO.	DESCRIPTION
1	1	220085-01	UPPER FAN ASSEMBLY WELDMENT
1A	1	220085-08	UPPER WELD. AUGER SPREADER
2	1	220085-02	LOWER FAN ASSY. WELDMENT
3	1	220083-01	MAN. BAFFLE WELDMENT
4	2	200157-01	MAN. BAFFLE HINGE BRACKET
5	2	220207-01	TEE BOLT
6	3	220084-01	SIDE DEFLECTOR WELDMENT
7	1	220084-02	REAR DEFLECTOR WELDMENT
8	1	220123-20	SPINNER DISC ASSY.
9	1	200054-04	SPINNER DISC
10	6	200158-01	SPINNER FIN
11	1	200079-02	SPINNER HUB
12	1	200166-01	SPINNER SHAFT
13	3	200163-03	DEFLECTOR ROD (SIDES & FRONT)
14	1	200163-02	DEFLECTOR ROD (REAR)
15	1	200165-01	SPINNER COUPLER
16	1	FHM-00114	MOTOR, HYD.
17	1	FM-00570	FLANGE, BEARING, 2-BOLT 1 1/4"
18	1	220003-27	LOWER FAN ASSY. (MOTOR MTD. UNDERNEATH)
NS		220085-04	12" EXTENSION (OPTIONAL)

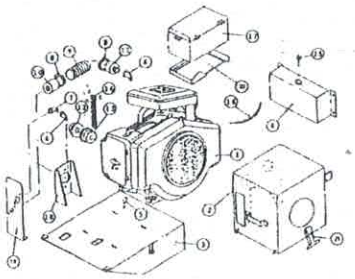


CONVEYOR ASSEMBLIES (24W SPREADER)

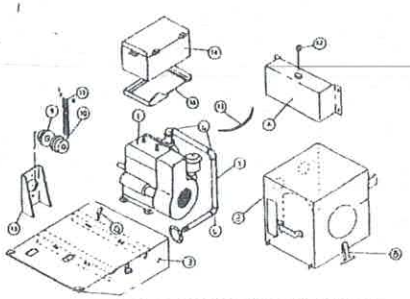
ITEM	QTY	PART NO.	DESCRIPTION
A*	1	220008	#2 CONVEYOR - ROLLER
A-1	1	220044	#2 CONVEYOR - PINTLE
B	1	220046	#4 B.O.C. - ROLLER
B-1	1	220069	#4 B.O.C. - PINTLE

*SPREADER LENGTH AND WIDTH REQUIRED

ITEM	QTY	PART NO.	DESCRIPTION
1	AR	FM-00464	LINK - ROLLER CHAIN SIDE
2	AR	FM-00306	ROLLER - ROLLER CHAIN
3	AR	FM-00305	PIN - ROLLER CHAIN
4	AR	200040-01	BAR - CROSS (ROLLER CHAIN)
4-1	AR	200070-20	BAR - CROSS (PINTLE CHAIN)
5	1	FM-00933	LACE KIT (BOC)
7	AR	FM-00498	CHAIN LINK - PINTLE
8	AR	FB-00213	RIVET - SEALER STRIP
9	AR	FB-00172	RIVET - BELT
10	AR	FB-00126	BELT - SEALER
11	AR	FM-00499	PIN - COTTER
14	AR	FB-00122	BELTING
15	AR	FM-00497	PIN - PINTLE CHAIN
C	2	200013	SHIELD - CHAIN
D	2	220047	SHIELD - B.O.C.



AUXILIARY ENGINE DRIVE FOR BRIGGS ENGINE



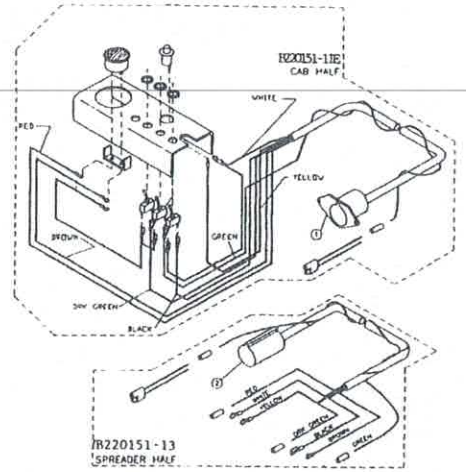
AUXILIARY ENGINE DRIVE FOR WISCONSIN ENGINE

AUXILIARY ENGINE DRIVE FOR BRIGGS ENGINE - OPTIONAL

ITEM	QTY	PART NO.	DESCRIPTION
1	1	FM-00643	BRIGGS & STRATTON ENGINE
2	1	220165-01	HOOD ASSY.
3	1	200303-01	ENGINE BASE
4	1	FM-00935	FUEL TANK ASSY.
5	1	FHF-50076	ELBOW - 90° STREET 3/8"
6	2	FHF-00350	ELBOW - 45° STREET 3/4"
7	1	FHF-50079	ELBOW - 90° STREET 3/4"
8	2	FHF-00228	CLAMP - 1 1/4"
9	1	FM-00714	EXHAUST - FLEX 24"
10	1	200360-01	ADAPTER - EXHAUST
11	1	FHF-50039	NIPPLE - CLOSE 3/4"
12	1	FM-00793	#40 SPROCKET - 5/8" BORE
13	1	FM-00690	#40 SPROCKET - 1" BORE
14	1	FM-00699	CHAIN #40
15	1	FHF-50028	PLUG - PIPE 1 1/4" (VENTED)
16	1	FHH-00192	HOSE - FUEL 1/4" X 50"
17	1	FE-00160	BATTERY BOX
18	1	200351-02	PUMP MOUNTING BRACKET
19	1	200446-01	BRIGGS MUFFLER MOUNT
20	1	200306-04	BATTERY BOX BOTTOM
21	1	FM-00880	RUBBER LATCH W/BRACKET

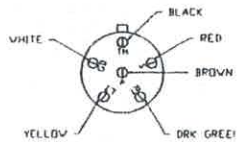
AUXILIARY ENGINE DRIVE FOR WISCONSIN ENGINE - OPTIONAL

ITEM	QTY	PART NO.	DESCRIPTION
1	1	FM-00644	WISCONSIN ENGINE
2	1	220165-01	HOOD ASSY.
3	1	200303-01	ENGINE BASE
4	1	FM-00935	FUEL TANK ASSY.
5	1	FHF-50076	ELBOW - 90° STREET 3/8"
6	3	FHF-50082	ELBOW - 90° STREET 1 1/4"
7	3' - 6"		1 1/4" SCH. 40 BLK PIPE
8	1	FM-00880	RUBBER LATCH W/BRACKET
9	1	FM-00793	#40 SPROCKET - 5/8" BORE
10	1	FM-00691	#40 SPROCKET - 1 7/16" BORE
11	1	FM-00699	CHAIN #40
12	1	FHF-50028	PLUG - PIPE 1 1/4" (VENTED)
13	1	FHH-00192	HOSE - FUEL 1/4" X 50"
14	1	FE-00160	BATTERY BOX
15	1	200351-02	PUMP MOUNTING BRACKET
16	1	200306-04	BATTERY BOX BOTTOM



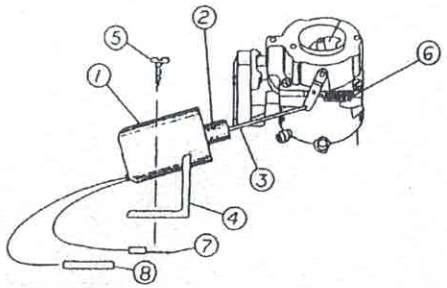
WIRING HOOK-UP

WIRE COLOR	LOCATION
RED	ALTERNATOR
WHITE	GROUND
YELLOW	STARTER POST ON SOLENOID
GREEN	DUMP VALVE
BLACK	KILL ON ENGIN
BROWN	BATTERY SIDE OF SOLENOID
DK. GREEN	ELECTRIC CHOI (BRIGGS ENG. C



ELECTRIC CONTROL PANEL FOR AUX. ENGINE
(BRIGGS & STRATTON OR WISCONSIN)

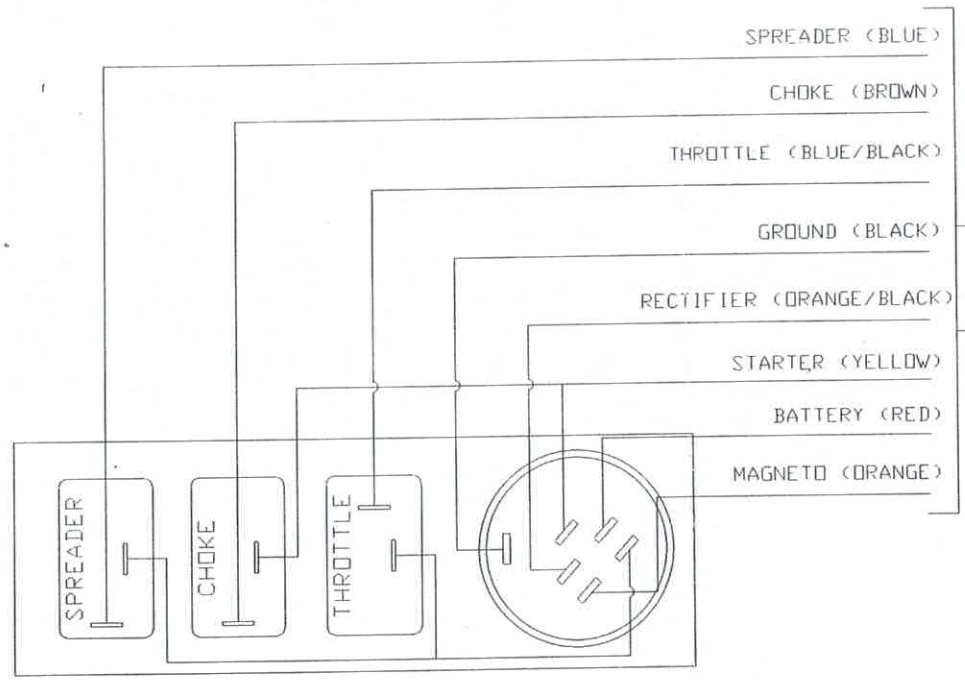
ITEM	QTY	PART NO.	DESCRIPTION
	1	B220151-11E	CONTROL PANEL - COMPLETE (CAB HALF)
1	1	FE-00149B	CONNECTOR - 6 PIN (FEMALE)
2	1	FE-00149A	CONNECTOR - 6 PIN (MALE)



ELECTRIC CHOKE ASSEMBLY (BRIGGS & STRATTON ONLY)

ITEM	QTY	PART NO.	DESCRIPTION
	1	220211-01	COMPLETE ASSY.
1	1	FE-00168	COIL - ELECTRIC
2	1	200500-01	ROD - CHOKE
3	1	200502-01	CHOKE - LINKAGE WIRE
4	1	200499-01	ANGLE - MOUNTING
5	2	FF-00206	SCREW - SELF TAPPING
6	1	FM-00715	SPRING - RETURN
7	1	FE-00178	EYE - WIRE
8	1	FE-00142	CONNECTOR - BUTT
9	1	200501-01	BOTTOM SLUG

R:\SPREAD~2\ASSEMBLY\B22015~4.DWG



REAR VIEW OF FACEPLATE

9-WAY CABLE 25'

9-WAY CONNECTOR		
TERMINAL	WIRE COLOR	FUNCTION
1 WHT	RED/BLACK	NOTUSED
2 BLU	BLUE	SPREADER
3 GRN	BLUE/BLACK	THROTTLE
4 BLK	BLACK	GROUND
5 RED	RED	BATTERY
6 BRN	BROWN	CHOKE
7 YEL	YELLOW	STARTER
8 GRY	ORANGE/BLK	RECTIFIER
9 ORN	ORANGE	MAGNETO

REVISED 2-6-03 BT CONNECT SWITCH HOT WIRES TO RECTIFIER WIRE
REVISED 10-31-02 BT ROTATED THROTTLE SWITCH
REVISED 10-10-02 BT ROTATED TOGGLE SWITCHES

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# DATE QTY. DEST.

WARREN
COLLINS, MS.

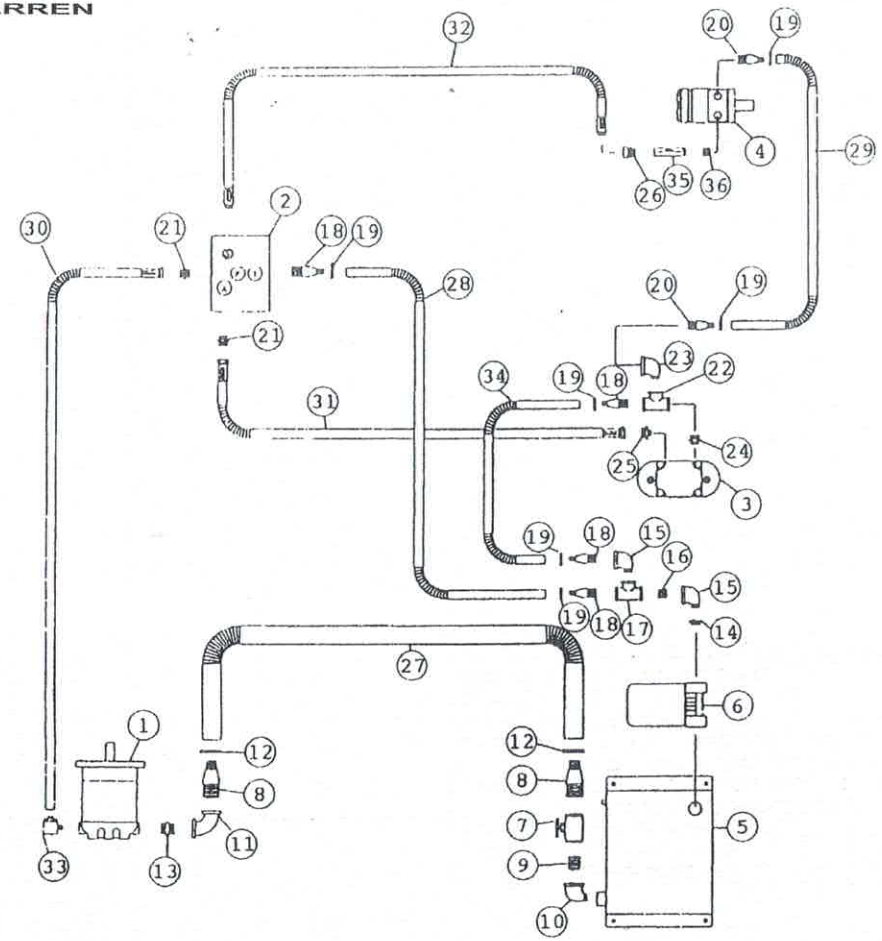
NAME ELEC. CONTROL PANEL (WIRING LAYOUT)

MATERIAL

SCALE	REQ'D.
DRAWN BT	DATE 9/15/02
CHECKED	DATE

FOR "AC" & "E/AC" w/18 hp ENG.

NUMBER B220151-17C



AUX. ENGINE HYD. PUMP DRIVE - OPTIONAL
W/INTEGRAL DUMP VALVE (NEW STYLE)

ITEM	QTY	PART NO.	DESCRIPTION
1	1	FHP-50050	PUMP - BRIGGS ENGINE
1-A	1	FHP-50050	PUMP - WISCONSIN ENGINE
2	1	FHV-00269	VALVE - DUAL CONTROL W/BUILT IN DUMP (NEW STYLE)
3	2	FHM-00113	MOTOR - CONVEYOR
4	1	FHM-00114	MOTOR - SPINNER
5	1	220021-04	HYDRAULIC RESERVOIR
6	1	FHF-00250	FILTER ASSY.
*		FHF-00249	FILTER ELEMENT ONLY
7	1	FHV-00129	GATE VALVE
8	2	FHF-50124	NIPPLE - KING 1 1/4"
9	1	FHF-50045	NIPPLE - CLOSE 1 1/4"
10	1	FHF-00352	ELBOW - STREET 90° 1" X 1 1/4"
11	2	FHF-00225	ELBOW - REDUCING 90° 1" X 1 1/4"
12	2	FHF-00228	HOSE CLAMP 1 1/4"
13	1	FHF-50084	ELBOW - 1" X 3/4" ST. NPT B.P.
14	1	FHF-00021	BUSHING 1/4" NPTM X 3/4" NPTFM
15	2	FHF-50079	ELBOW - STREET 90° 3/4"
16	1	FHF-50039	NIPPLE - CLOSE 3/4"
17	1	FHF-50053	TEE B.P. 3/4"
18	4	FHF-00236	NIPPLE - KING 3/4"
19	6	FHF-00278	HOSE CLAMP 3/4"
20	2	FHF-00261	NIPPLE - KING 1/2"
21	2	FHF-00252	ADAPTER - STRAIGHT 3/4" NPTM X 3/4" JICM
22	1	FHF-00265	TEE B.P. 3/4" X 3/4" X 1/2"
23	1	FHF-50078	ELBOW - STREET 90° 1/2"
24	1	FHF-00298	ADAPTER 5/8" ORM X 3/4" NPTM
25	1	FHF-00204	ADAPTER 5/8" ORM X 3/4" JICM
26	1	FHF-50023	ADAPTER - STRAIGHT SWIVEL 1/2" NPTM X 1/2" NPTM SW
27	1 1/2"	FHH-00121	HOSE - SUCTION 1 1/4"
28	4"	FHH-00098	HOSE - LOW PRESSURE 3/4"
29	5"	FHH-00117	HOSE - LOW PRESSURE 1/2"
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 34" 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° 3/4" ORM X 3/4" JICM
34	4"	FHH-00098	HOSE - LOW PRESSURE 3/4"
35	1	FHV-00277	VALVE - CHECK - 65 PSI
36	1	FHF-50037	NIPPLE - CLOSE 1/2"

*NOT SHOWN