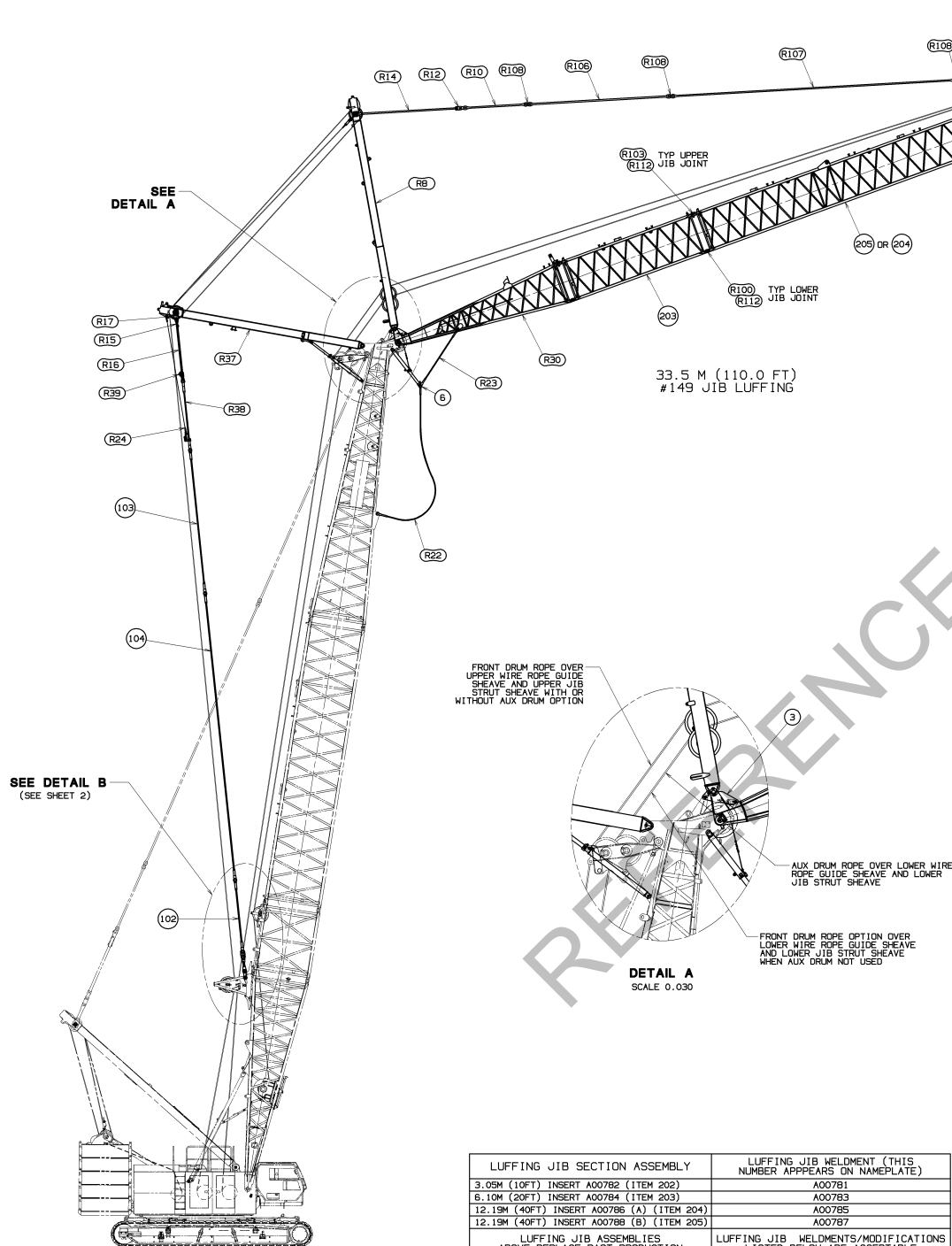




- 1 UPPER POINT I.D. TAG #174208.
- 2 ON DRAWING A03150.
- 3 THIS IS A LOOSE SHIP ITEM. ALL LOOSE SHIP ITEMS TO BE CRATED AND SHIPPED TOGETHER WITH THE LUFFING JIB.
- 4 TOP 7.62M (25FT) I.D. TAG #A00917.
- 5 70.1M (230FT) AND 73.2M (240FT) JIB REQUIRES INTERMEDIATE SUSPENSION ITEM 200. (SEE SHEET 12). (REFER TO B/M ITEMS R200 THRU R213 FOR COMPONENTS).
- 6 REQUIRED FOR #149 JIB LENGTHS ABOVE 51.8M (170FT). SEE DELTA NOTE 3. (SEE DETAIL B ON SHEET 8).
- 7 INSERT 3.05M (10FT) I.D. TAG #A00781. SEE DELTA NOTE 23.
- 8 INSERT 6.10M (20FT) I.D. TAG #A00783. SEE DELTA NOTE 24.
- 9 INSERT 12.19M (40FT) W/O BACKSTAY I.D. TAG #A00785.
- 10 INSERT 12.19M (40FT) W/BACKSTAY I.D. TAG #A00787. SEE DELTA NOTE 16.
- 11 SEE BLOCK REEVING DRAWING 80148052 FOR RIGGING CONFIGURATION OPTIONS AND INSTRUCTIONS.
- 12 BUTT 7.62M (25FT) I.D. TAG #195490.
- 13 RELOCATE FROM MAIN BOOM TOP.
- 14 PIN USED FOR 'IN AIR' ASSEMBLY OF LUFFING JIB.
- 15 FOR MAKEUP OF BOOM SEE BOOM RIGGING 810:82A DRAWING 80137888. NOTE EXCEPTION FOR #149 LUFFING JIB: 27.4M (90FT) BOOM MAKEUP REQUIRES USE OF (2) 3.05M (10FT) INSERT ASSEMBLIES. (SEE BOOM LENGTH TABLE ON SHEET 2 OF 8138075).
- 16 MAXIMUM NUMBER OF 12.19M (40FT) JIB INSERTS W/BACKSTAY (ITEM 205) = 1.
- 17 ON DRAWING A02422.
- 18 ON DRAWING A02308.
- 19 ON DRAWING A02331.
- 20 ON DRAWING A03603.
- 21 STORED IN PARTS BOX 80137468.
- 22 CONSISTS OF JIB STRUT ASSY 80149704 (ITEM RB). MAIN STRUT ASSY 80149690 (ITEM R37) AND BUTT ASSY 80138084 (ITEM R30).
- 23 MAXIMUM NUMBER OF 3.05M (10FT) JIB INSERTS = 1.
- 24 MAXIMUM NUMBER OF 6.10M (20FT) JIB INSERTS = 2.
- 25 STARTING WITH JIB BUTT (R30), INSERTS AND STRAPS MUST BE INSTALLED IN ORDER OF ASCENDING LENGTH. THE SHORTEST INSERTS AND STRAPS MUST BE CLOSEST TO THE JIB BUTT.
- 26 SEE SHEET 3 FOR BOOM BACKSTAY PENDANT MAKE-UP.
- 27 SEE SHEETS 4 & 5 FOR JIB AND JIB STRAP MAKE-UP.
- 28 DO NOT MIX PENDANTS OF DIFFERENT LENGTHS. PENDANTS MUST BE INSTALLED IN MATCHED SETS. PENDANTS ON ONE SIDE OF BOOM MUST MATCH LENGTH OF PENDANTS ON THE OTHER SIDE.
- 29 REFER TO SPECIFIC CAPACITY CHART FOR APPROPRIATE BOOM AND JIB COMBINATIONS.
- 30 THE INDICATED PORTION OF THE LUFFING JIB SECTION WELDMENT TABLE (SHEET 1) CORRESPONDS TO THE I.D. TAG CALCULATIONS ON THE JIB MAKE-UPS ON SHEETS 4 AND 5.
- 31 INSTALL ROPE GUARD (ITEM 3) AND RELOCATE LOWER POINT ROPE GUARD (R35) BEFORE JIB BUTT (R30) IS INSTALLED. ROPE GUARD (R35) IN BOOM TOP HOLES CANNOT BE REMOVED ONCE JIB BUTT (R30) IS INSTALLED. (SEE DETAIL N ON SHEET 6).
- 32 JIB STRUT I.D. TAG #80149705. ALTERNATE I.D. TAG #196335.
- 33 MAIN STRUT I.D. TAG #80149690. ALTERNATE I.D. TAG #A00929.
- 34 ROPE GUARD I.D. TAG #80152000. SEE DELTA NOTE 3.
- 35 MAXIMUM NUMBER OF 12.19M (40FT) BOOM INSERT W/BACKSTAY LUGS = 1.

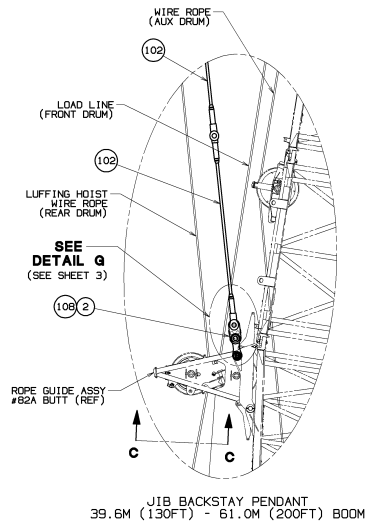
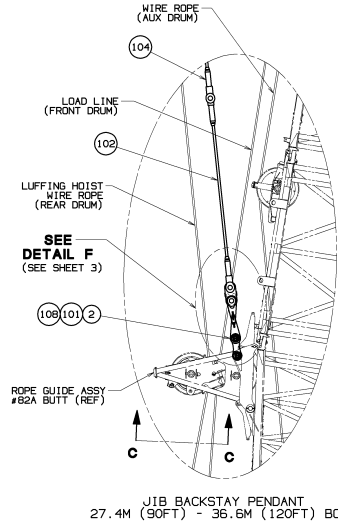
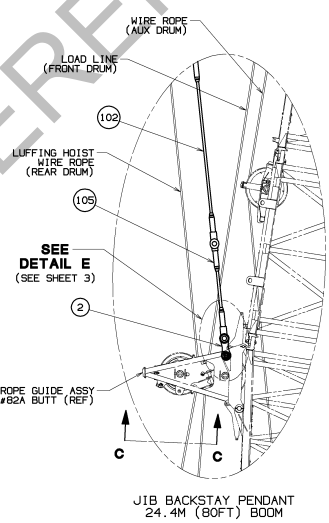
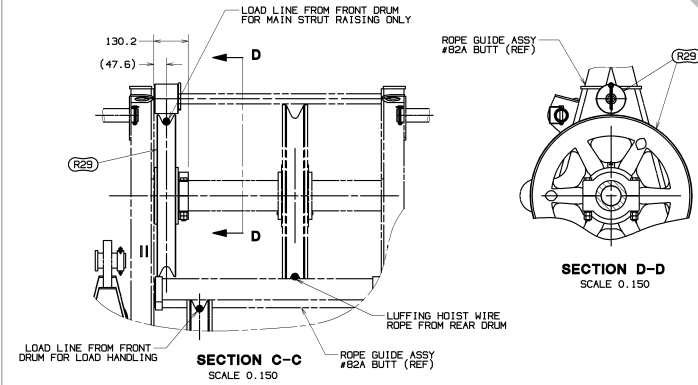
REFERENCE ITEMS FOR INTERMEDIATE SUSPENSION ASSY (ITEM 200) CONTINUED	
R210	2 PENDANT 9 FT-2.0 IN LG 277519
R211	4 PIN COTTER 3/16 DIA X 1.50 LG 562085
R212	4 PIN COTTER 1/4 DIA X 1.50 LG 562105
R213	2 PIN SAFETY .25 X 1.75 LG 563823

BILL OF MATERIAL			
ITEM NO.	DESCRIPTION	MATERIAL	QTY
LUFFING JIB RIGGING 149 ON 82A			
1	POINT UPPER W/ROLLER ASSY	174211	1
2	LINK	177570	1
3	GUARD ROPE ASSY	80151999	34
4	TOP #149 ASSY	80137964	4
5	BUTT #149 SHIPPING ASSY	80139234	22
6	STOP JIB ASSY #149	80139392	3
NO. RED'D FOR THE FOLLOWING ITEMS ARE IN THE BOOM LENGTH TABLE (SHEET 2)			
100	PIN 1 HOLE W/HO 2.75 DIA X 4.36 LG	170690	1
101	LINK PENDANT 24.00	177553	1
102	PENDANT 10 FT - 1.00 (3.07M)	277382	2
103	PENDANT 20 FT - 1.50 (6.13M)	277383	2
104	PENDANT 40 FT - 3.00 (12.27M)	277384	2
105	PENDANT 5 FT - 0.50 (1.54M)	277428	2
106	PIN COTTER 1/2 DIA X 5.00 LG	562178	1
108	LINK BACKSTAY #149 LUFFING JIB	A01168	1
109	PIN 2 HOLE 2.75 DIA X 8.50 LG	A01169	1
NO. RED'D FOR THE FOLLOWING ITEMS ARE IN THE JIB LENGTH TABLE (SHEET 2)			
200	SUSPENSION #149 INTERMEDIATE	80138041	5
201	WIRE ROPE ASSY #149 STOP	80139145	6
202	INSERT 10 FT ASSEMBLY #149	A00782	7
203	INSERT ASSY #149 20FT	A00784	9
204	INSERT ASSY #149 40FT W/O BACKSTAY	A00786	9
205	INSERT ASSY #149 40FT W/BACKSTAY	A00788	10
OPTION 1: HOOK BLOCKS			
300	HOOK BLOCK SHIP LOOSE OPTIONS	80141414	11
OPTION 2: WIRE ROPE			
400	WIRE ROPE 26MM X 275M DYFORM B	80146665	1
BASIC REFERENCE ITEMS			
R1	PIN 2 HOLE 2.00 DIA X 5.11 LG	139108	1
R2	PIN 2 HOLE 1.75 DIA X 2.72 LG	177367	1
R3	PIN KEEPER 4.00 DIA X 6.12 LG	177475	1
R4	PIN 1 HOLE W/HO 1.250 DIA X 4.24 LG	177571	1
R5	2 STRUT	177634	1
R6	1 LINK (RAISING PENDANT)	177639	1
R7	2 STOP #149 STRUT ASSY	196351	1
R8	1 STRUT JIB #149 LUFFING	80149704	30
R9	2 PIN 2 HOLE .75 DIA X 3.35 LG	196392	1
R10	2 JIB SUPPORT STRAP 8 FT 6.00	196415	1
R11	4 LINK JIB SUPPORT	196421	1
R12	4 JIB SUPPORT LINK	196422	1
R13	2 STRAP JIB 21 FT 9.50	196424	1
R14	2 JIB SUPPORT STRAP SUB-ASSEMBLY	196448	1
R15	1 LINK SPREADER	196448	1
R16	2 STRAP SPREADER	196449	1
R17	2 LINK BACKSTAY SUB-ASSY	196453	1
R18	2 PIN 2 HOLE 3.500 DIA X 4.53 LG	196458	1
R19	2 PIN STRUT SUPPORT BRACKET	196469	1
R20	4 PIN STRUT SUPPORT BRACKET	196470	1
R21	2 STRUT SUPPORT BRACKET	196471	1
R22	2 PENDANT 1.12 DIA X 269.0 INCH	277438	17
R23	2 PENDANT 1.12 DIA X 114.38 INCH	277513	18
R24	1 PENDANT 18 FT-4.00 (5.59M)	277514	19
R25	2 PIN QUICK RELEASE .75 DIA X 3.75 LG	563797	1
R26	2 PIN SAFETY .25 X 1.75 LG	563823	1
R27	2 PIN QUICK RELEASE .50 DIA X 2.00 LG	563912	1
R28			
R29	1 SHEAVE STRUT RAISING #82 BUTT	80136139	1
R30	1 BUTT #149 ASSY	80138084	12
R31	1 JIB STOP STRUT ASSY	80139392	1
R32	2 TEST POSITION LIGHT AND ANEMOMETER	81031642	13
R33	1 LOAD PIN SHEAVE ASSY	80142488	1
R34	1 LOAD PIN SHEAVE ASSY	80142523	1
R35	1 ROPE GUARD 2.00 OD X .25W (IN)	80151627	1
R36	1 SHIM .059 THK	A00038	1
R37	1 STRUT #149 MAIN ASSY	80149690	33
R38	2 PENDANT 1.50 DIA X 9FT-8IN LG	A01154	20
R39	1 SPREADER BEAM	A01158	1
R40	1 SOCKET BUTTON 22-26MM WIRE ROPE	111041	21
NO. RED'D FOR THE FOLLOWING REFERENCE ITEMS ARE IN THE JIB LENGTH TABLE			
R100	PIN BOOM JOINT 2.500 DIA X 8.75	076998	1
R101	COLLAR 3.00 DIA X 1.00 LG	179862	1
R102	PIN 2 HOLE .50 DIA X 3.28 LG	179959	1
R103	PIN 2 HOLE 2.00 DIA X 4.84 LG	195488	1
R104	PIN .75 DIA (INCH)	195489	14
R105	STRAP BASIC	196410	1
R106	STRAP BASIC	196411	1
R107	STRAP BASIC	196412	1
R108	LINK JIB SUPPORT	196413	1
R109	PIN 2.125 DIA X 3.50 LG	196416	1
R110	PIN COTTER 3/16 DIA X 1.50 LG	562085	1
R111	PIN COTTER 1/4 DIA X 1.50 LG	562105	1
R112	PIN COTTER 3/8 DIA X 6.00 LG	562158	1
REFERENCE ITEMS FOR INTERMEDIATE SUSPENSION ASSY (ITEM 200)			
R200	2 PIN 2 HOLE 0.50 DIA X 4.03 LG	196296	1
R201	4 PIN 1 HOLE W/HO 1.00 DIA X 2.92 LG	196297	1
R202	1 LINK	196487	1
R203	2 LINK	196488	1
R204	2 PIN 1 HOLE W/HO 2.50 DIA X 8.25 LG	196489	1
R205	2 COLLAR	196490	1
R206	4 LINK	197066	1
R207	4 PIN PENDANT LINK	197067	1
R208	2 PIN PENDANT LINK	197068	1
R209	2 PENDANT 4FT-7.25	277516	1

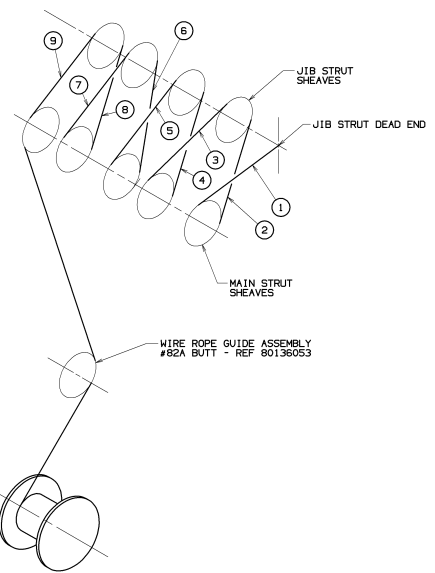
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FRY	MANITOWOC CRANES, INC.	MANITOWOC, WISCONSIN	LUFFING JIB RIGGING
DR	MANITOWOC	MANITOWOC	149 ON 82A
TRG	MANITOWOC	MANITOWOC	MANITOWOC
PP	MANITOWOC	MANITOWOC	MANITOWOC

ITEMS REQ'D FOR VARIOUS JIB LENGTHS (16) (23) (24) (27) (29)																			
		#149 INSERTS			CONNECTOR PINS			STRAPS			LINKS	LINK/STRAP CONNECTION		IN AIR ASSY		SUSPENSION	STOP		
ITEM NO.		202	203	204 OR 205	R100	R103	R112	R105	R106	R107	R108	R101	R102	R109	R110	R104	R111	200	201
JIB LENGTH		INSERT 3.05M (10FT) ASSY	INSERT 6.10M (20FT) ASSY	INSERT 12.19M (40FT) ASSY (ITEM 205 W/BSTAY)	PIN TAPERED 2 HOLES (LOWER)	PIN TAPERED 2 HOLES (UPPER)	COTTER .38 X 6.0	STRAP 2.87M (9.4FT)	STRAP 5.92M (19.4FT)	STRAP 12.0M (39.4FT)	LINK 174.6MM (6.91")	COLLAR	PIN CLEVIS	PIN W/HEAD	COTTER .19 X 1.5	PIN HOLES	COTTER .25 X 1.5	#149 INTER-MEDIATE	WIRE ROPE ASSY
METERS	FEET																		
21.3	70	0	1	0	4	4	16	0	2	0	8	16	16	16	32	4	8	0	0
24.4	80	1	1	0	6	6	24	2	2	0	12	20	20	20	40	6	12	0	0
27.4	90	0	OR 2	1	4	4	16	0	0	2	8	16	16	16	32	4	8	0	0
30.5	100	1	OR 2	0	6	6	24	2	4	0	12	20	20	20	40	6	12	0	0
33.5	110	0	1	1	6	6	24	0	2	2	12	20	20	20	40	6	12	0	0
36.6	120	1	1	1	8	8	32	2	2	2	16	24	24	24	48	8	16	0	0
39.6	130	0	OR 2	2	6	6	24	0	0	4	12	20	20	20	40	6	12	0	0
42.7	140	1	OR 2	1	8	8	32	2	0	4	16	24	24	24	48	8	16	0	0
45.7	150	0	1	2	10	10	40	2	4	2	20	28	28	28	56	10	20	0	0
48.8	160	1	1	2	10	10	40	2	2	4	20	28	28	28	56	10	20	0	0
51.8	170	0	0	3	8	8	32	0	0	6	16	24	24	24	48	8	16	0	0
54.9	180	1	0	3	10	10	40	2	0	6	20	28	28	28	56	10	20	0	1
57.9	190	0	1	3	10	10	40	0	2	6	20	28	28	28	56	10	20	0	1
61.0	200	1	1	3	12	12	48	2	2	6	24	32	32	32	64	12	24	0	1
64.0	210	0	0	4	10	10	40	0	0	8	20	28	28	28	56	10	20	0	1
67.1	220	1	0	4	12	12	48	2	0	8	24	32	32	32	64	12	24	0	1
70.1	230	0	1	4	10	12	44	0	2	8	24	32	32	32	64	12	24	1	1
73.2	240	1	1	4	12	14	52	2	2	8	28	36	36	36	72	14	28	1	1

ITEMS REQ'D FOR VARIOUS BOOM LENGTHS (26) (28) (29)														
		BOOM MAKEUP OF #82 INSERTS (13) (28)			PENDANTS				LINKS		PINS		COTTERS	
ITEM NO.					102	103	104	105	101	108	100	109	106	107
BOOM LENGTH		INSERT 3.05M (10FT) ASSY	INSERT 6.10M (20FT) ASSY	INSERT 12.19M (40FT) ASSY	PENDANT 3.07M (10.1FT)	PENDANT 6.13M (20.1FT)	PENDANT 12.27M (40.25FT)	PENDANT 1.54M (5.04FT)	LINK 609.5mm (24.01in)	LINK 12.9mm (8.51in)	PIN 1 HOLE W/HEAD	PIN HOLES 2	COTTER .50 X 4.0	COTTER .50 X 5.0
METERS	FEET													
24.4	80	1	0	0	2	2	0	2	0	0	2	0	0	2
27.4	90	2	0	0	4	2	0	0	2	2	4	4	8	4
30.5	100	1	1	0	2	4	0	0	2	2	4	4	8	4
33.5	110	OR 2 0 OR 0	1 2 0	0 0 1	OR 4 0 OR 0	4 6 2	0 0 2	0	2	2	4	4	8	4
36.6	120	OR 1 1 0	2 0 1	0 1 1	2	OR 2	6 2 0	0	2	2	4	4	8	4
39.6	130	OR 2 0 0	2 0 1	0 1 1	OR 4 0 0	4 2 2	0 2 0	0	0	2	2	4	8	2
42.7	140	1	2	1	2	4	2	0	0	2	2	4	8	2
45.7	150	OR 2 0 OR 0	1 2 0	1 2 2	OR 4 0 OR 0	4 6 2	2 2 4	0	0	2	2	4	8	2
48.8	160	OR 1 1 0	2 1 0	1 2 2	2	OR 6 2 4	2 2 4	0	0	2	2	4	8	2
51.8	170	OR 2 0 0	2 0 1	0 2 2	OR 4 0 0	4 2 4	0 4 0	0	0	2	2	4	8	2
54.9	180	1	1	2	2	4	4	0	0	2	2	4	8	2
57.9	190	OR 2 0 OR 0	1 2 0	2 2 3	OR 4 0 OR 0	4 6 2	4 4 6	0	0	2	2	4	8	2
61.0	200	OR 1 1 0	2 2 0	2 3 3	2	OR 6 4 6	4 6 6	0	0	2	2	4	8	2

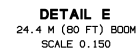
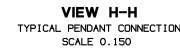


DETAIL B
BASIC LUFFING JIB BACKSTAY ARRANGEMENT
(FROM SHEET 1)
SCALE 0.035

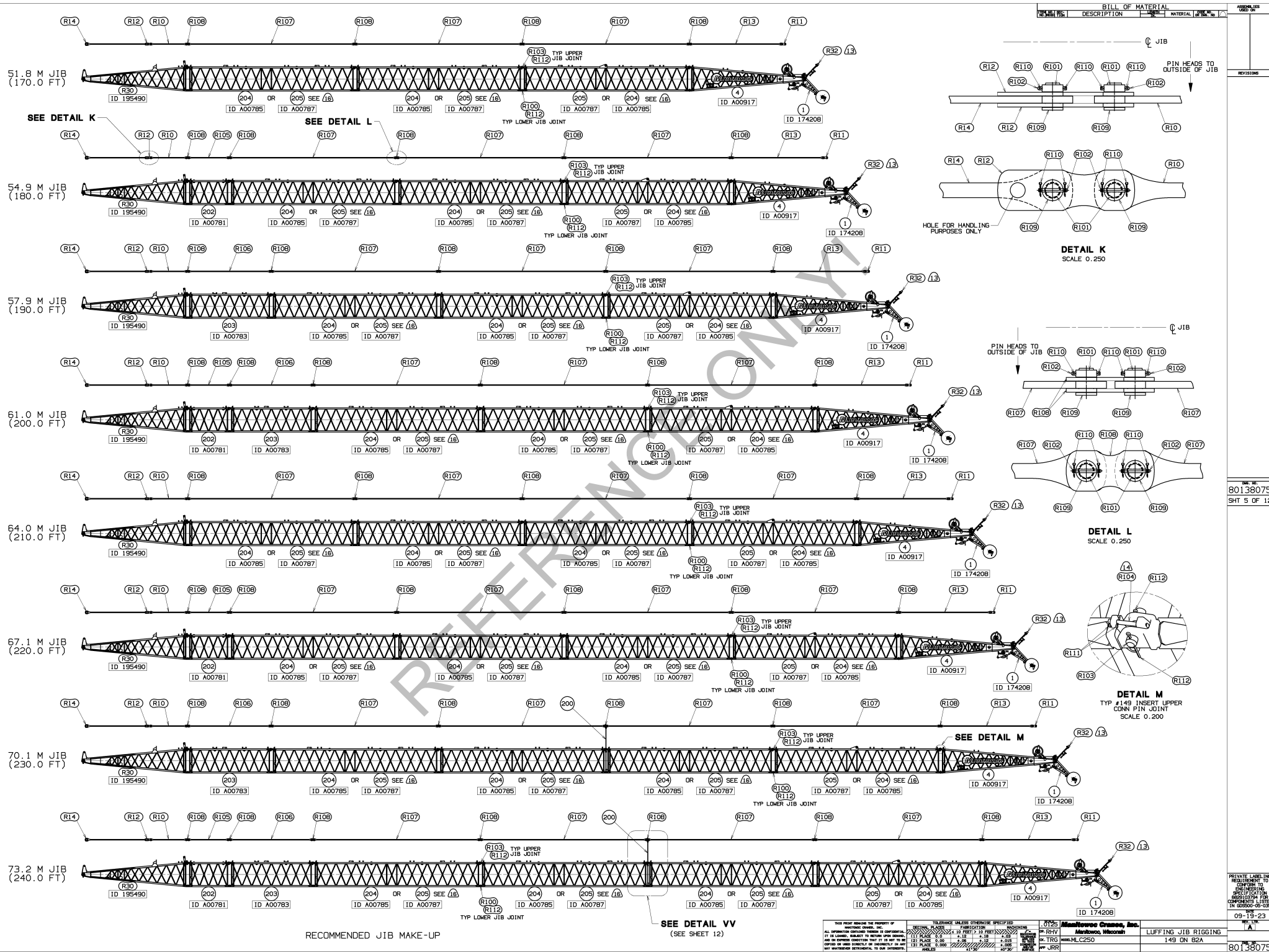


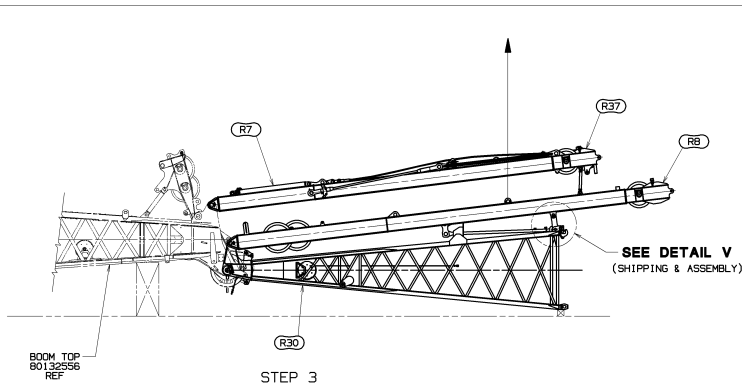
LUFFING JIB HOIST REEVING
DIAGRAM FOR 9 PART LINE

BILL OF MATERIAL				ASSEMBLY
ITEM NO.	DESCRIPTION	QTY	MATERIAL	REF



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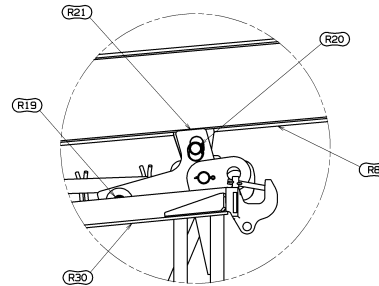


STEP 3
RAISING JIB STRUT TO ASSEMBLY POSITION

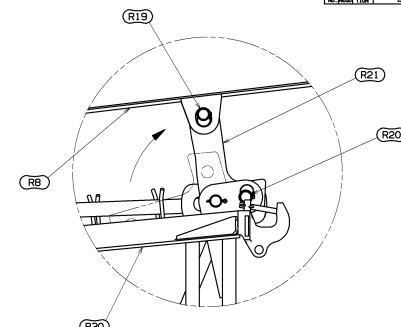
ATTACH LIFTING SLINGS FROM ASSIST CRANE TO TOP (2) LIFTING LUGS ON JIB STRUT (R8).
REMOVE STRUT SUPPORT PIN (R20) FROM JIB STRUT SUPPORT BRACKET (R21). (SEE DETAIL V-SHIPPING POSITION).

SLOWLY LIFT JIB STRUT (R8) TO A POSITION WHERE JIB STRUT SUPPORT BRACKET (R21) CAN BE ROTATED TO A VERTICAL POSITION.
REINSTALL PINS (R20) INTO HOLES LOCKING BRACKET (R21) VERTICALLY. (SEE DETAIL V-ASSEMBLY POSITION).

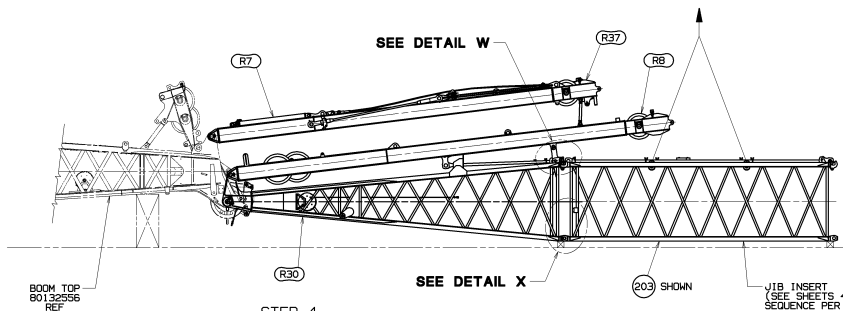
ALIGN CONNECTING HOLES IN JIB STRUT (R8) WITH HOLES IN JIB STRUT SUPPORT BRACKETS (R21) AND REINSTALL STRUT SUPPORT PINS (R19).
(SEE DETAIL V-ASSEMBLY POSITION).



DETAIL V
SHIPPING POSITION
SCALE 0.150



DETAIL V
ASSEMBLY POSITION
SCALE 0.150

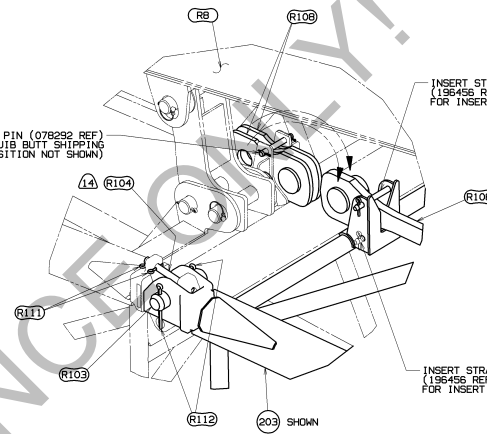


STEP 4
JIB INSERT INSTALLATION

TEMPORARILY REMOVE RETAINING PINS (R104) AND COTTERS (R111) FROM HOOKED CONNECTOR.
USING AN ASSIST CRANE ATTACH SLINGS TO THE (4) LIFTING LUGS AND LIFT INSERT (ITEM 202, 203, 204 OR 205)
INTO POSITION AT END OF JIB BUTT (R30) AND ENGAGE FIXED PINS (R103) IN INSERT.
REINSTALL RETAINING PINS (R104) AND COTTERS (R111). (SEE DETAIL W).

WITH BLOCKING IN PLACE LOWER INSERT TO ALIGN LOWER PIN CONNECTOR HOLES ON INSERT WITH LOWER PIN CONNECTOR HOLES IN JIB BUTT (R30).
INSERT TAPERED PIN (R100) AND COTTER PINS (R112). (LONG TAPERED END OF CONNECTING PINS (R100) MUST POINT INWARD). (SEE DETAIL X).

LINK RETAINING PIN (078292 REF)
FOR JIB BUTT SHIPPING
(JIB BUTT WORKING POSITION NOT SHOWN)

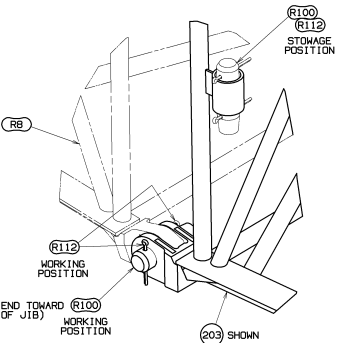


DETAIL W
(JIB BUTT AND STRUT SHOWN IN PHANTOM FOR CLARITY)
SCALE 0.200

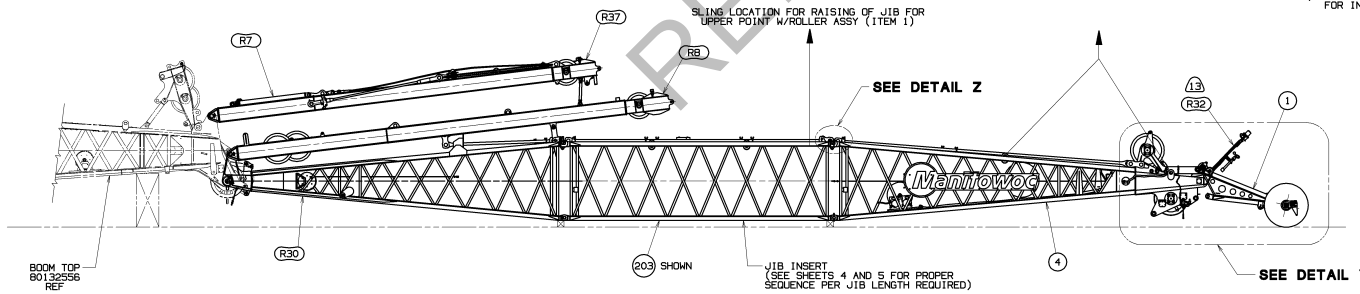
INSERT STRAP RETAINING PIN
(196456 REF) LOCATION
FOR INSERT SHIPPING

INSERT STRAP RETAINING PIN
(196456 REF) LOCATION
FOR INSERT WORKING

(LONG TAPERED END TOWARD R100
CENTERLINE OF JIB)



DETAIL X
(JIB BUTT SHOWN IN PHANTOM FOR CLARITY)
SCALE 0.200



STEP 5
JIB TOP AND UPPER POINT ROLLER INSTALLATION

INSTALL JIB TOP (ITEM 4) FOLLOWING THE SAME PROCEDURE AS DESCRIBED IN STEP 4-JIB INSERT INSTALLATION.

LIFT UPPER POINT ROLLER ASSY (ITEM 1) INTO POSITION AT END OF JIB TOP (ITEM 4) AND INSTALL UPPER PINS (074336-REF).
ATTACH SLINGS FROM ASSIST CRANE TO TOP CHORDS AT END OF JIB INSERT NEXT TO JIB TOP (ITEM 4).

WARNING:

ASSIST CRANE AND SLINGS MUST BE ABLE TO LIFT ONE-HALF WEIGHT OF COMPLETE JIB.

RAISE JIB TO ALIGN BOTTOM CONNECTING HOLES BETWEEN JIB TOP (ITEM 4) AND UPPER POINT ROLLER ASSEMBLY (ITEM 1).

INSTALL BOTTOM CONNECTING PINS (074336-REF). (SEE DETAIL Y).

NOTE:

UPPER AND LOWER CONNECTING PINS (074336-REF) ARE TO BE INSTALLED WITH LONG TAPERED END TOWARD CENTERLINE OF JIB.

SLING LOCATION FOR RAISING OF JIB FOR
UPPER POINT W/ROLLER ASSY (ITEM 1)

SEE DETAIL Z

STEP 6
JIB STRAP CONNECTION

REMOVE STRAP RETAINING PINS FROM UPPER HOLE IN STRAP BRACKETS AND
RELOCATE TO BOTTOM HOLE IN STRAP BRACKETS. (SEE DETAILS W AND Z).

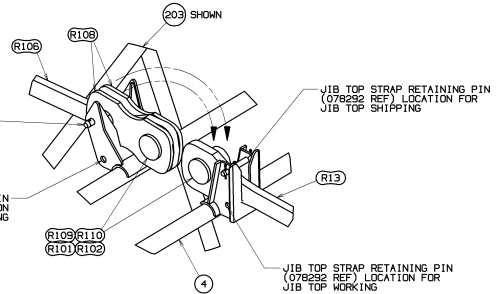
TEMPORARILY REMOVE PINS/COLLARS/PINS (R101, R102, R109 & R110) FROM STRAPS ON ADJACENT SECTION.
ROTATE LINKS (R108) FORWARD AND ATTACH TO ADJACENT STRAPS WITH
PREVIOUSLY REMOVED PINS/COLLARS/PINS. (SEE DETAILS W AND Z).

NOTE:

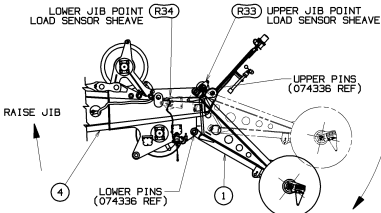
PIN HEADS TO BE TOWARD OUTSIDE OF JIB.
(SEE DETAIL L ON SHEET 5).

INSERT STRAP RETAINING PIN
(196472 REF) LOCATION
FOR INSERT SHIPPING

INSERT STRAP RETAINING PIN
(196472 REF) LOCATION
FOR INSERT WORKING



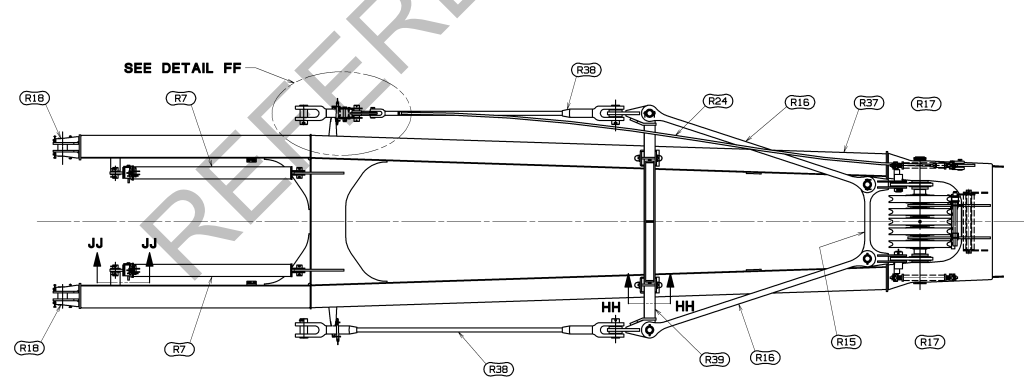
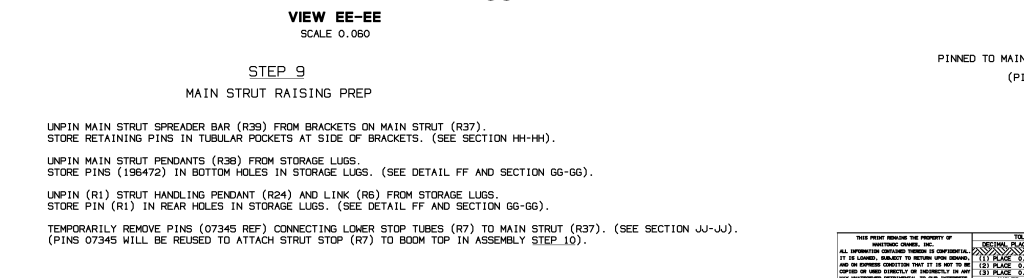
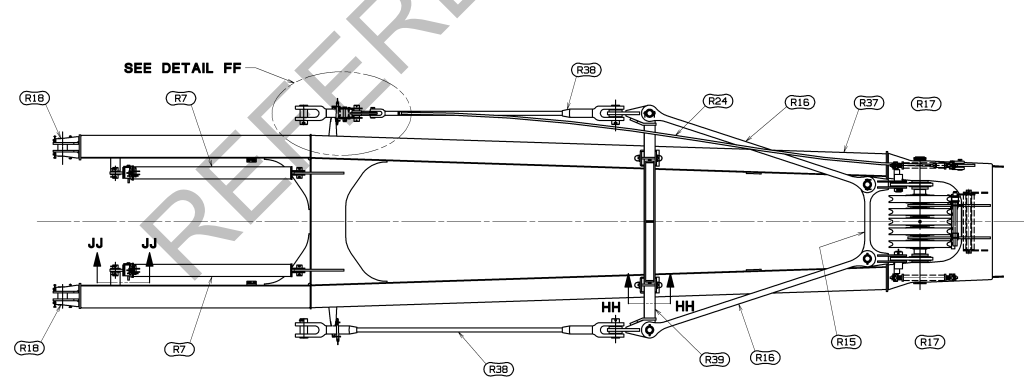
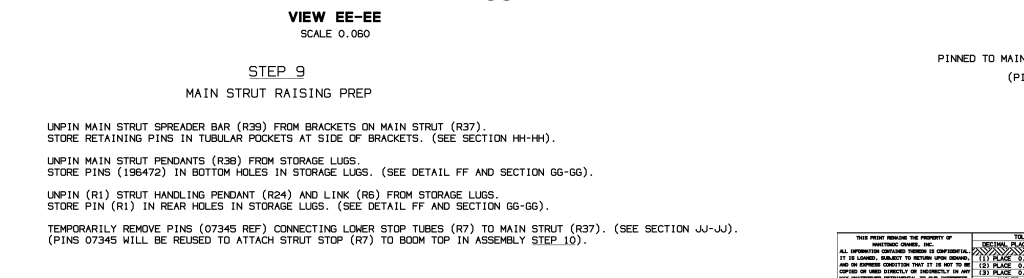
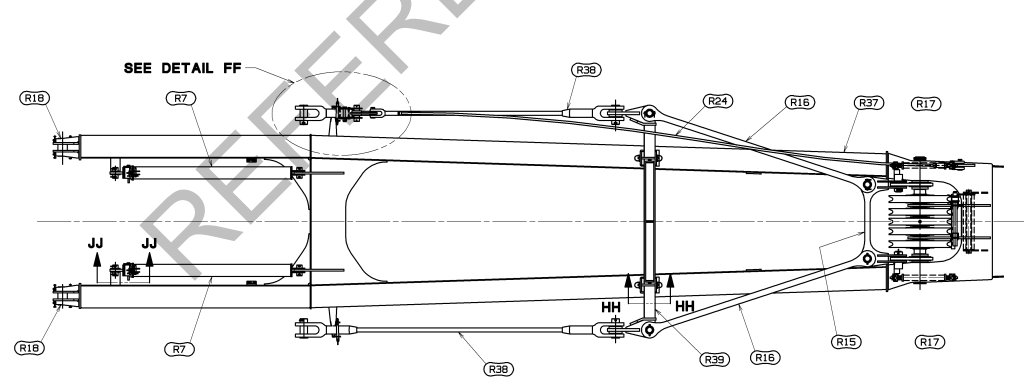
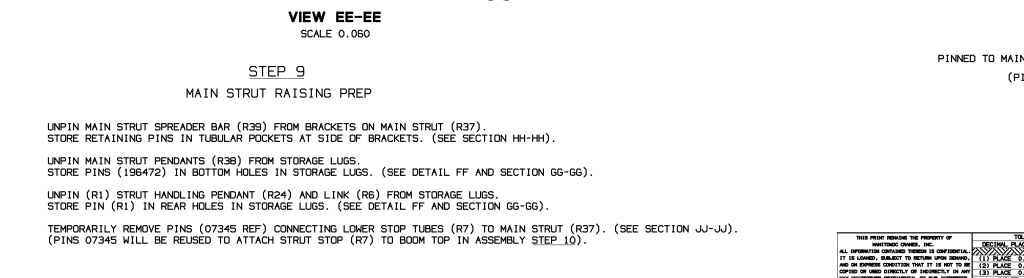
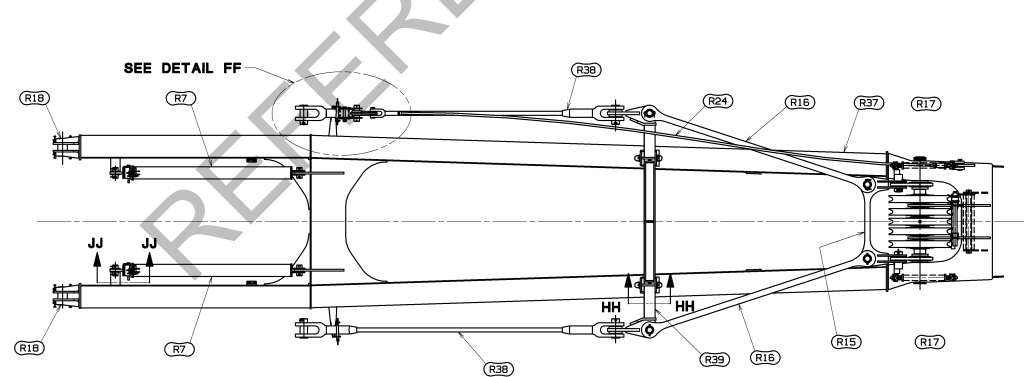
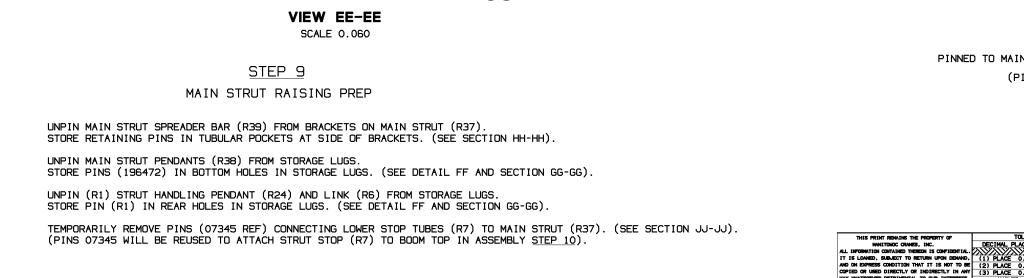
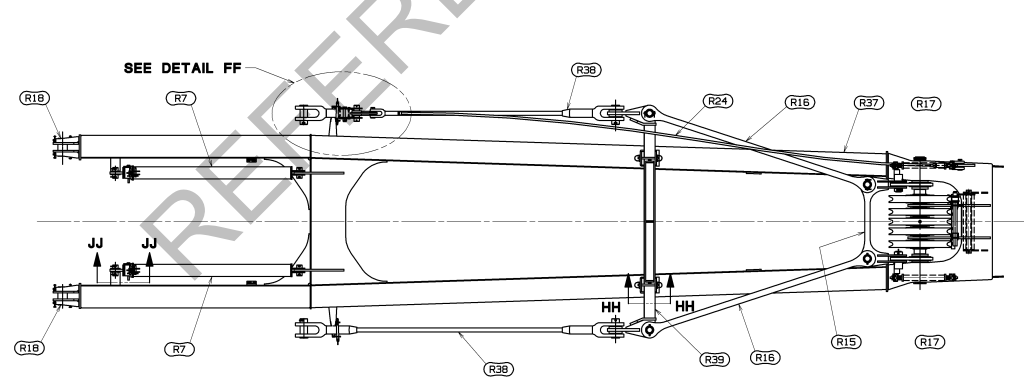
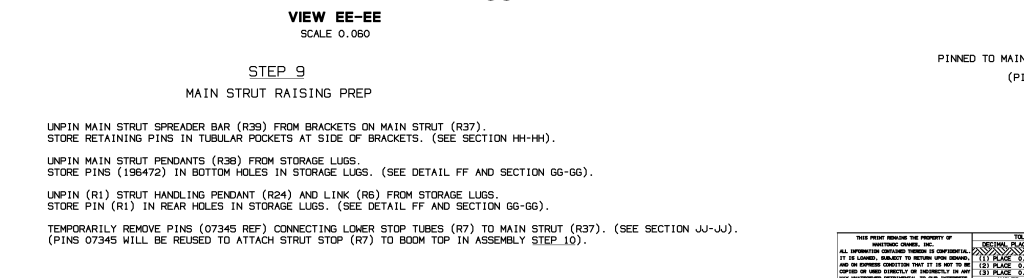
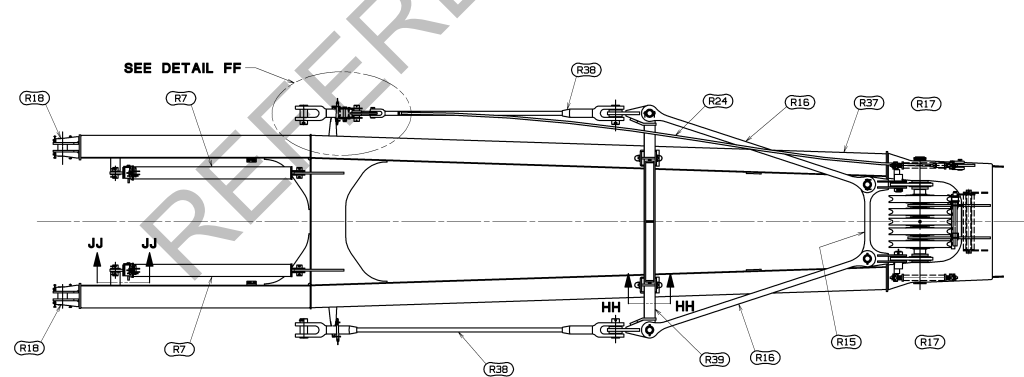
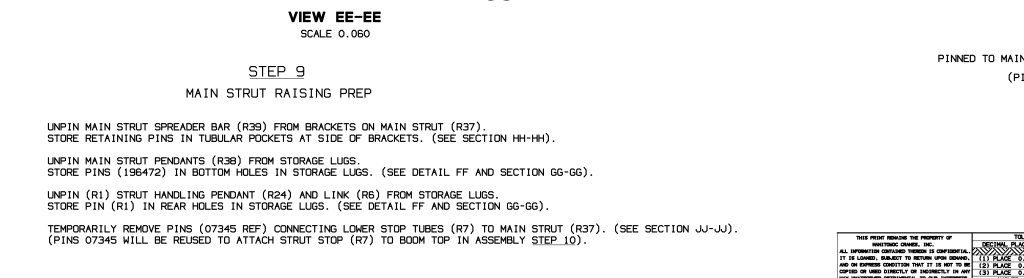
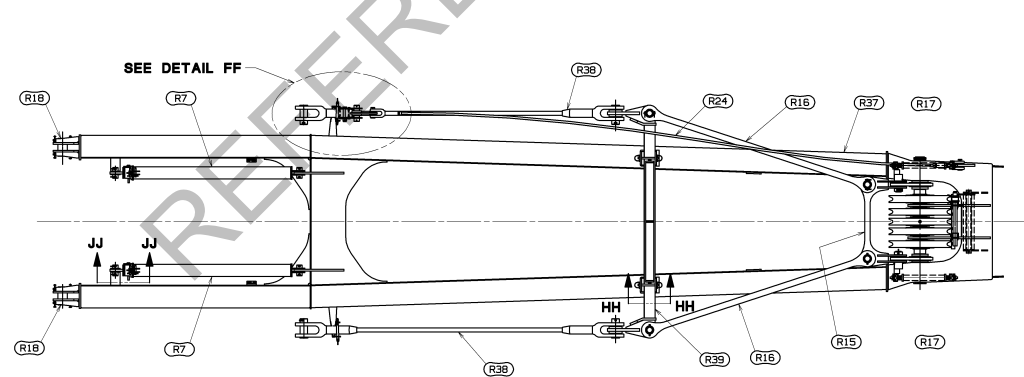
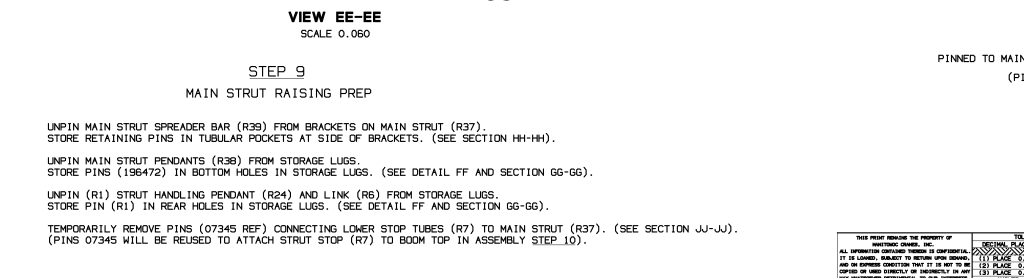
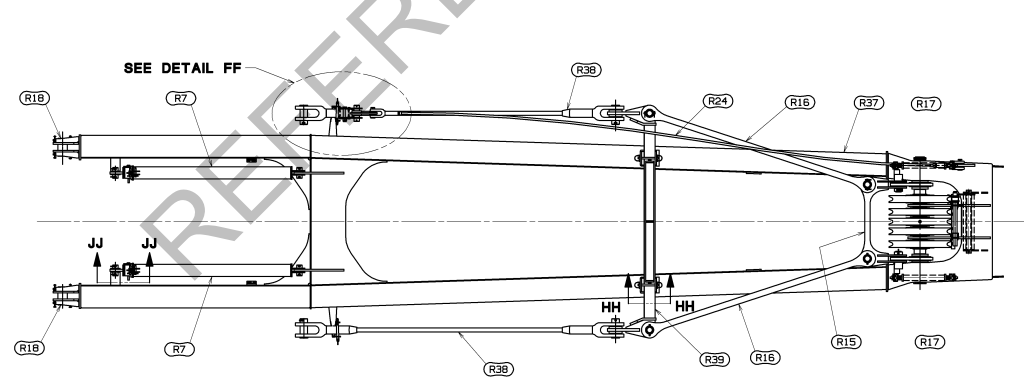
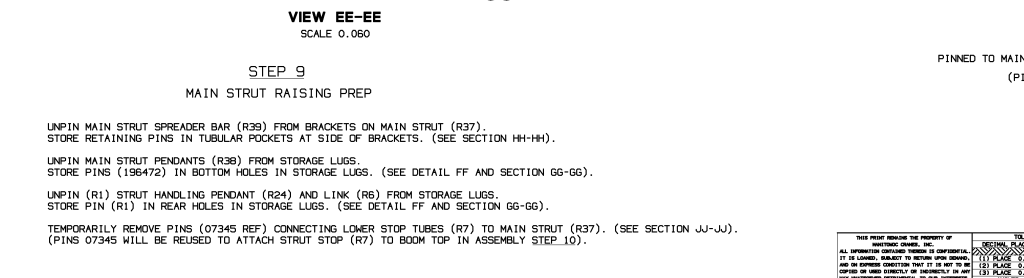
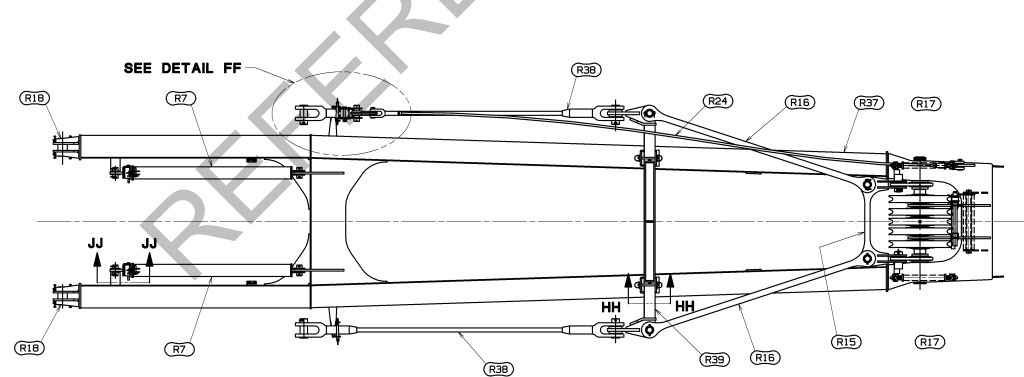
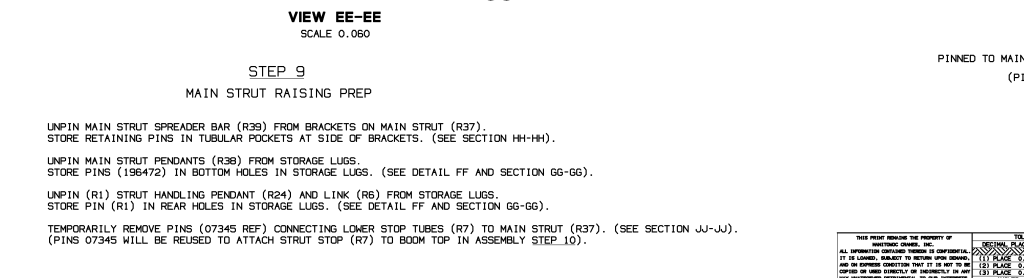
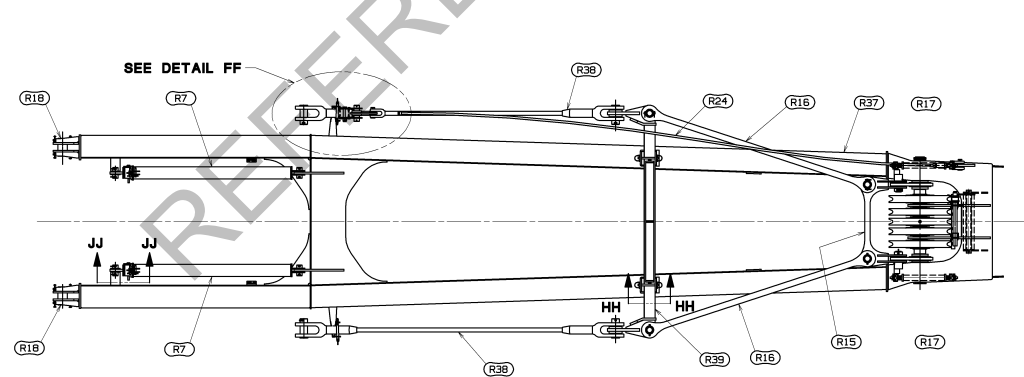
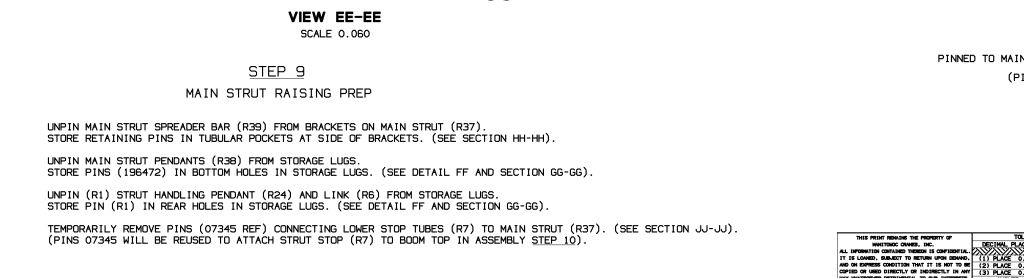
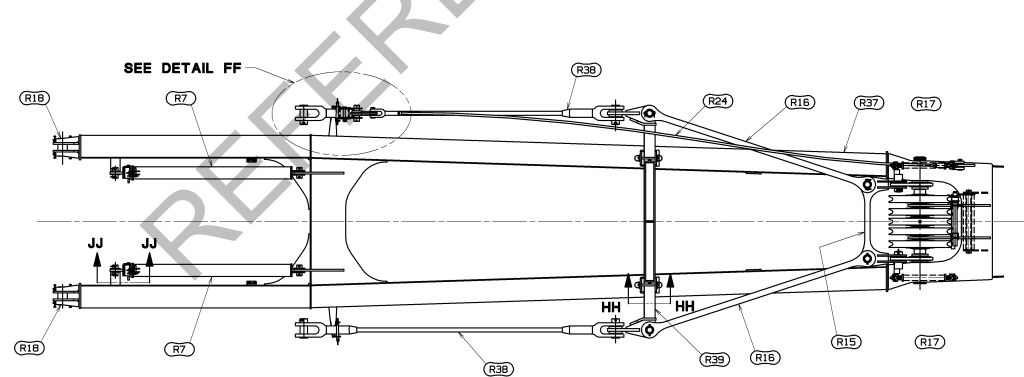
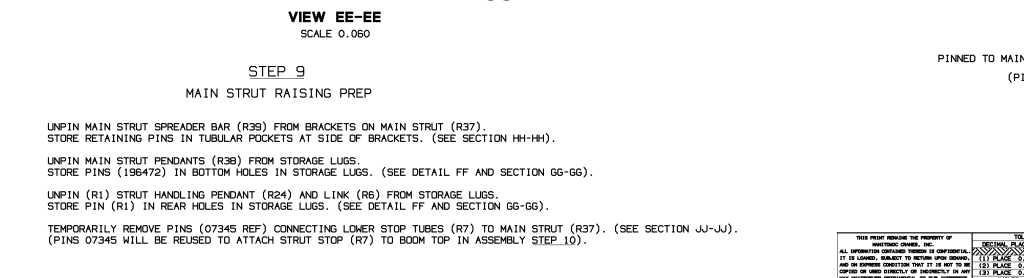
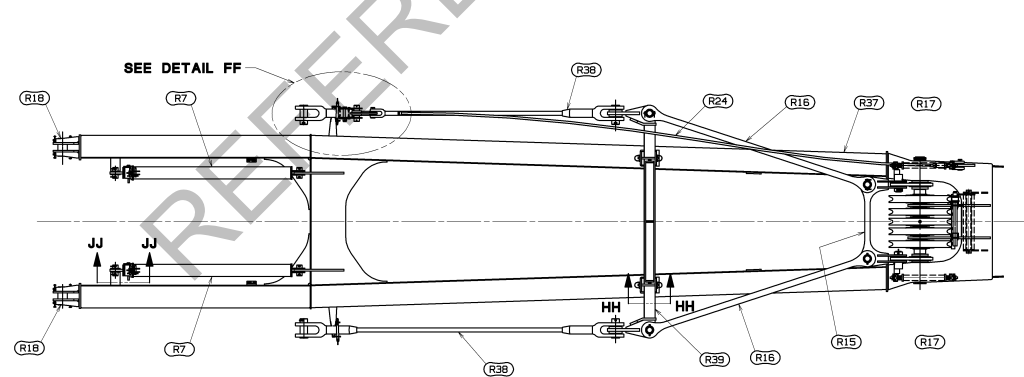
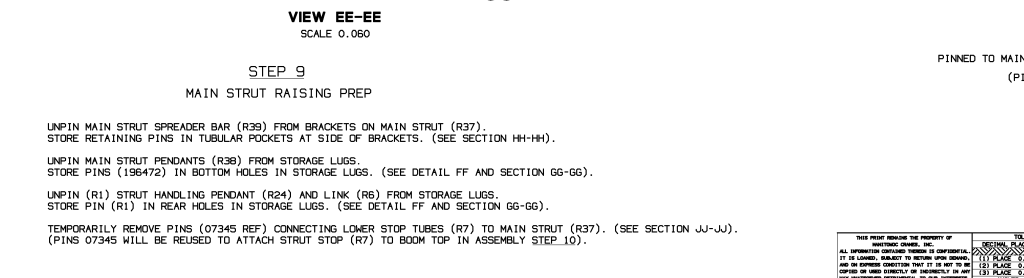
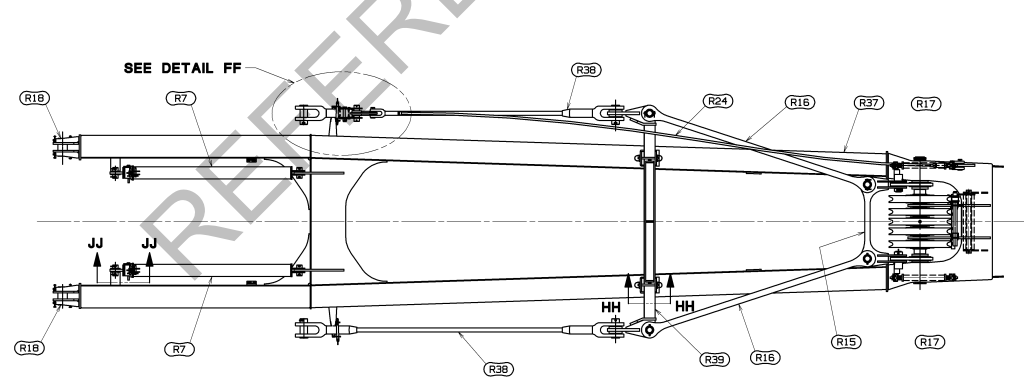
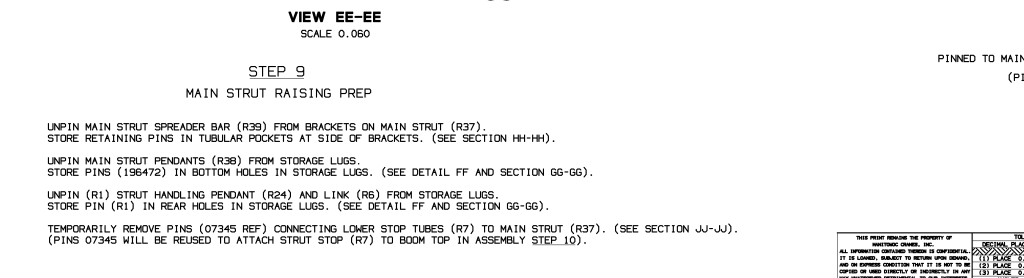
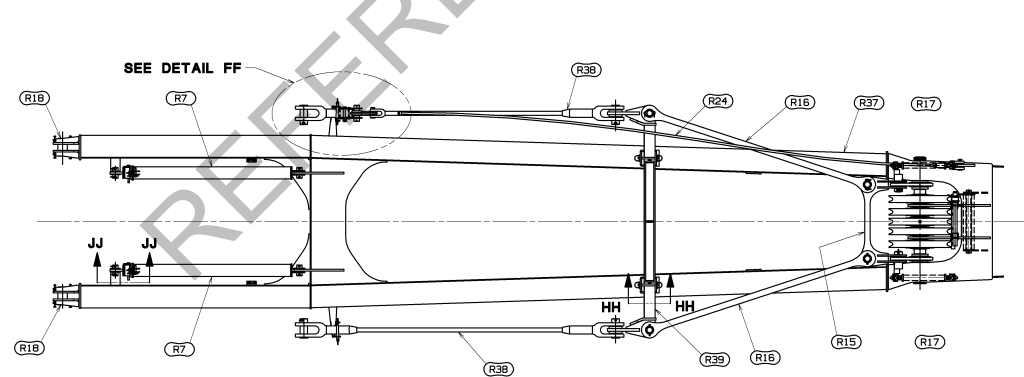
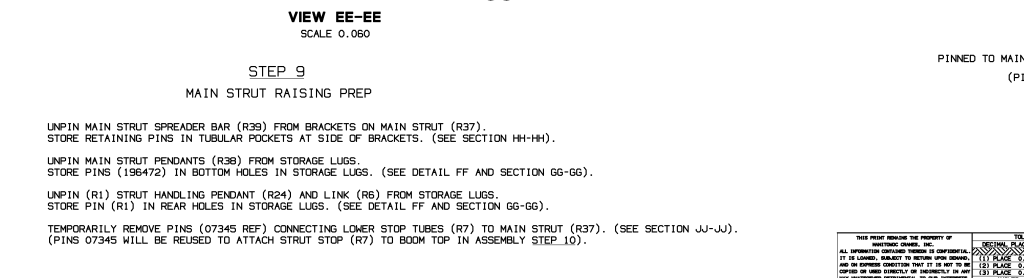
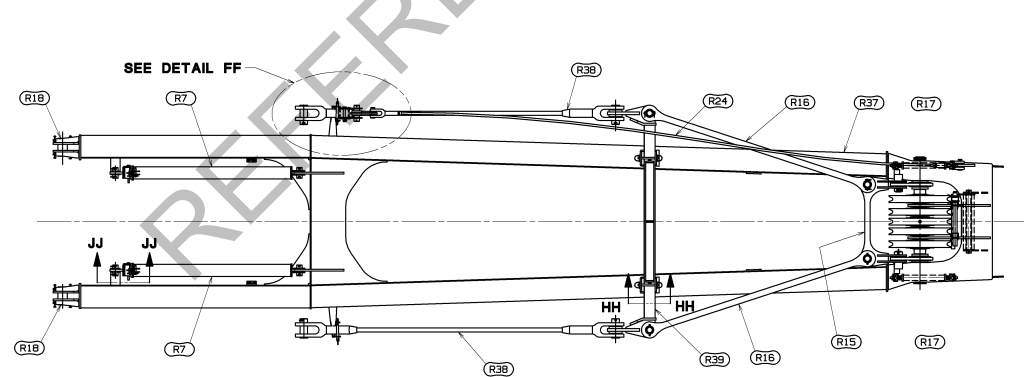
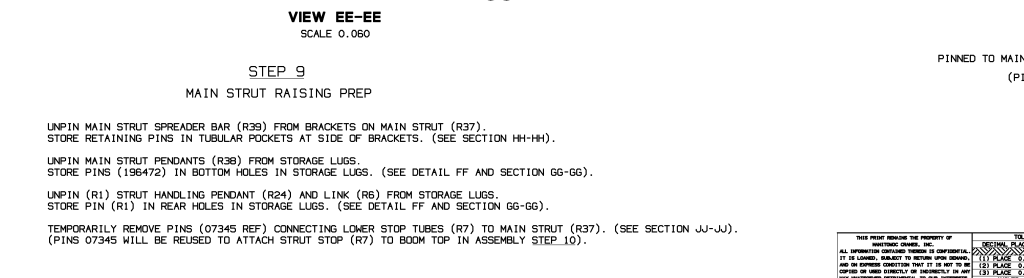
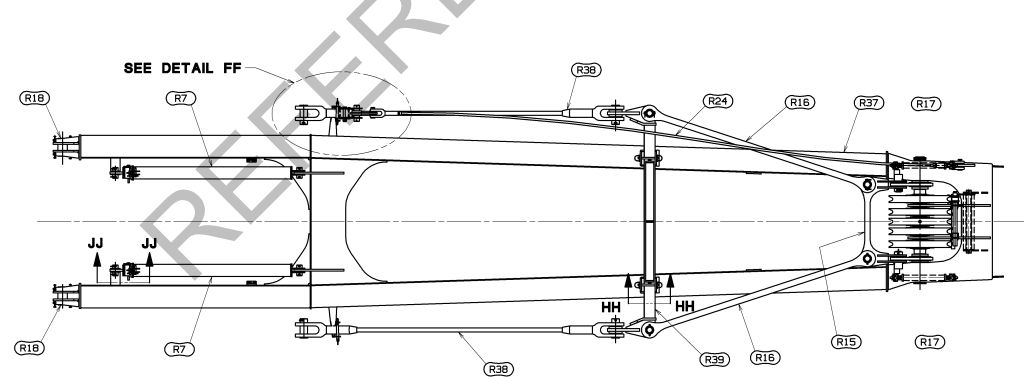
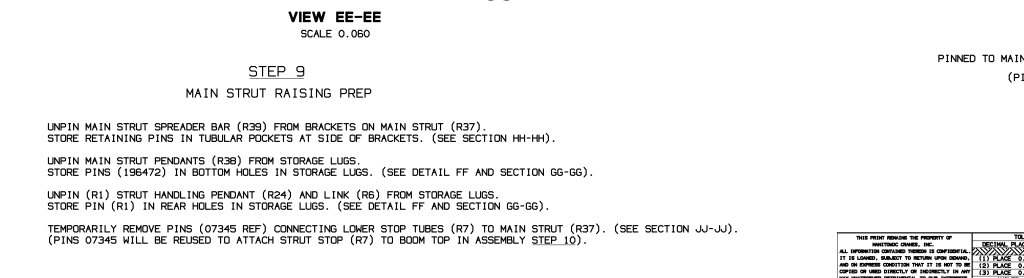
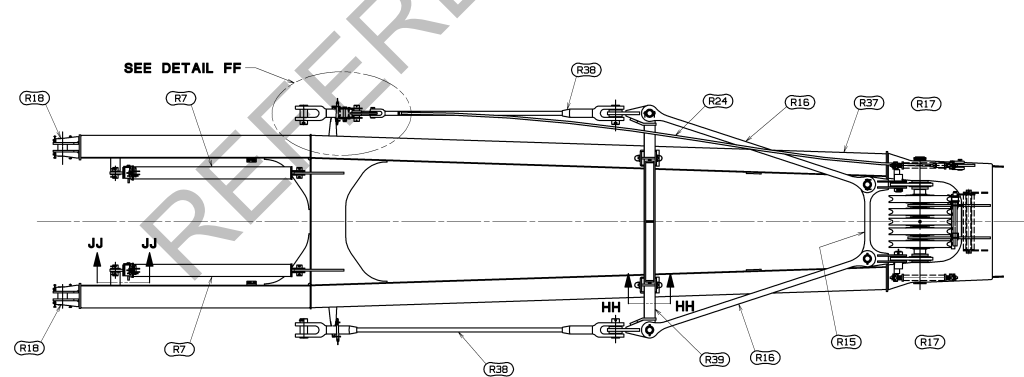
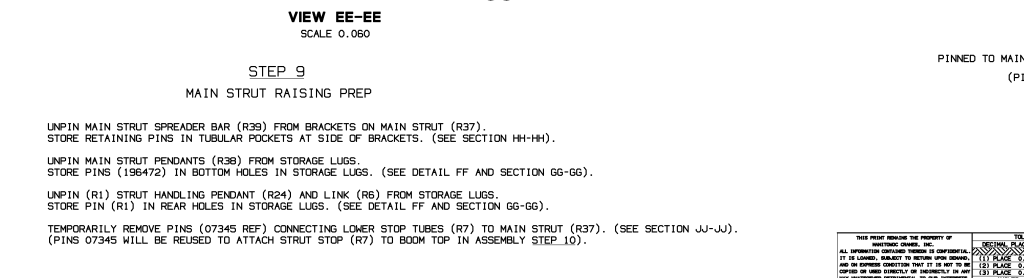
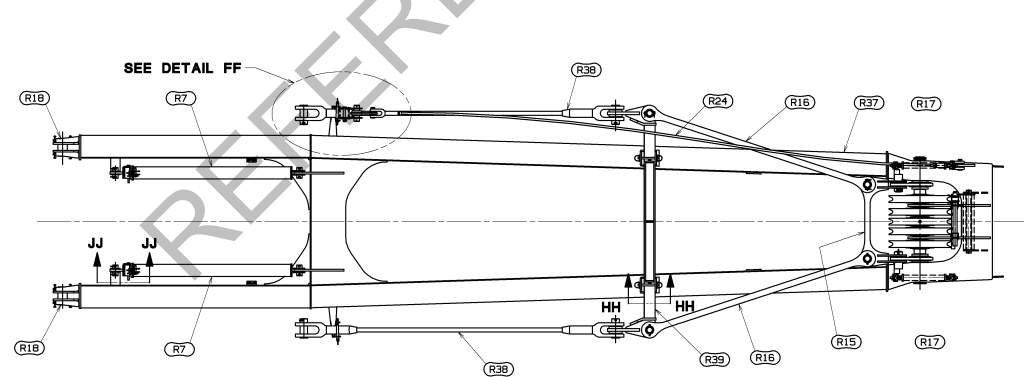
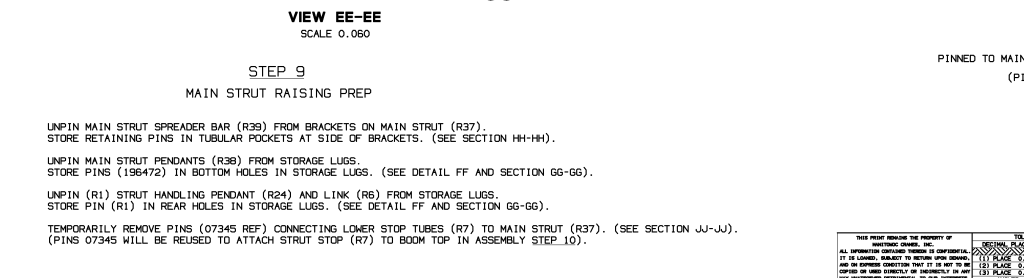
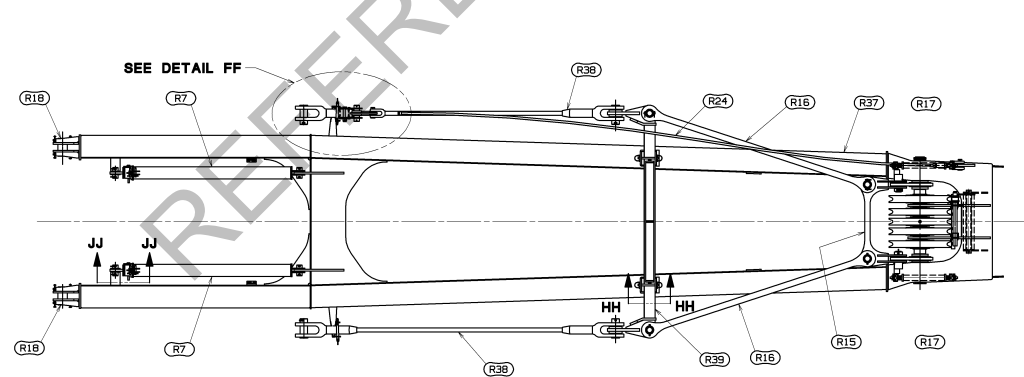
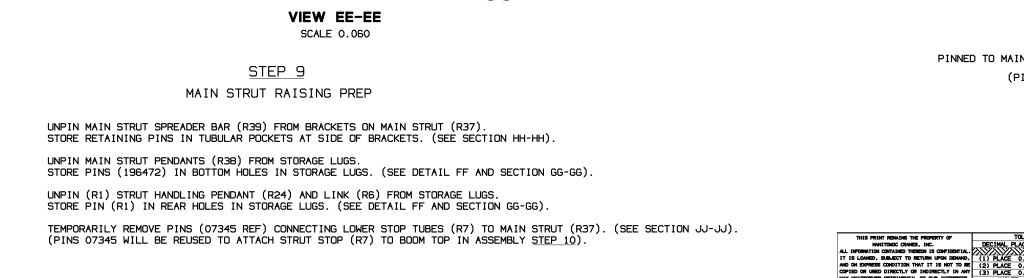
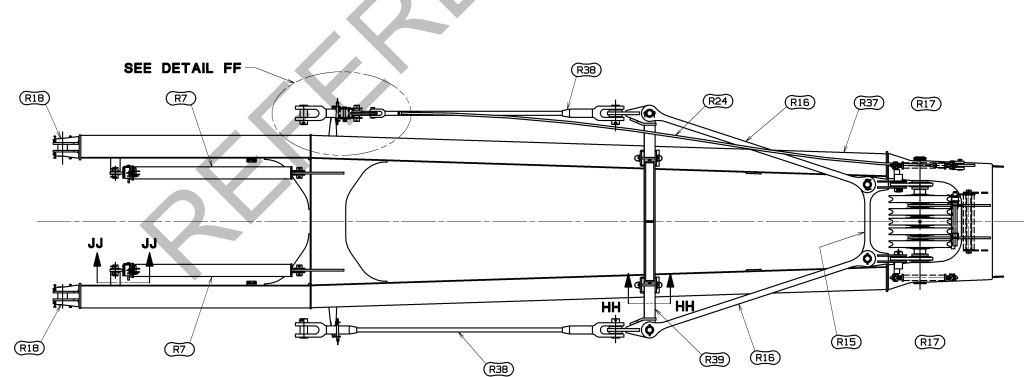
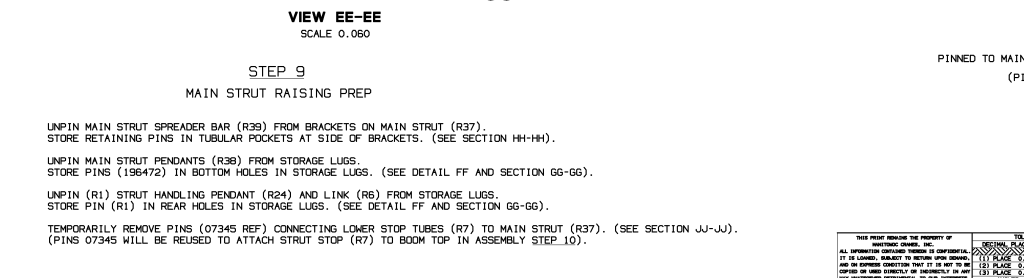
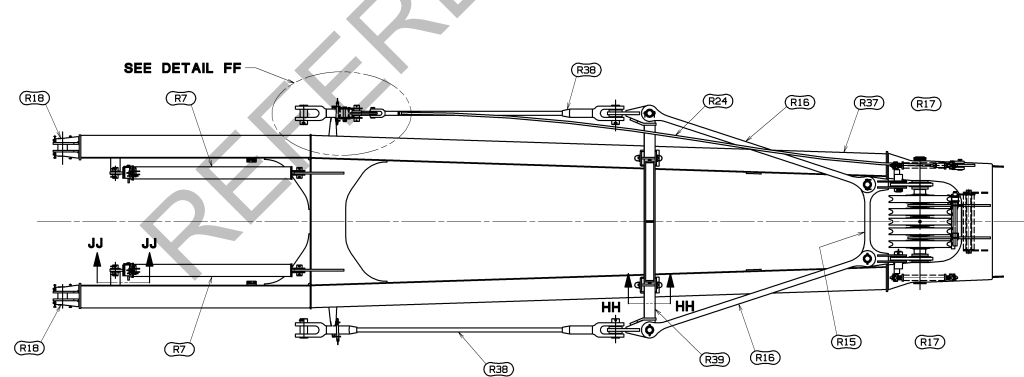
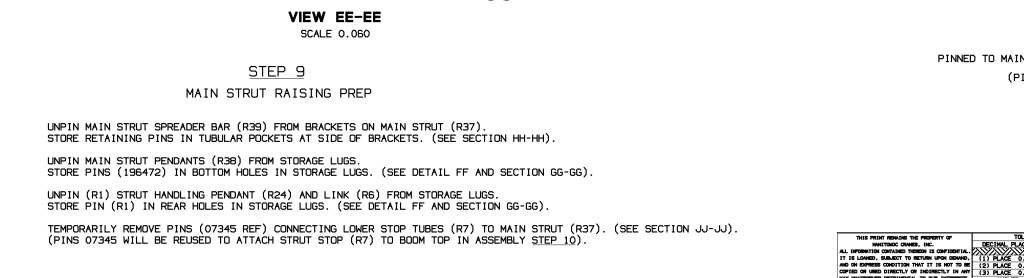
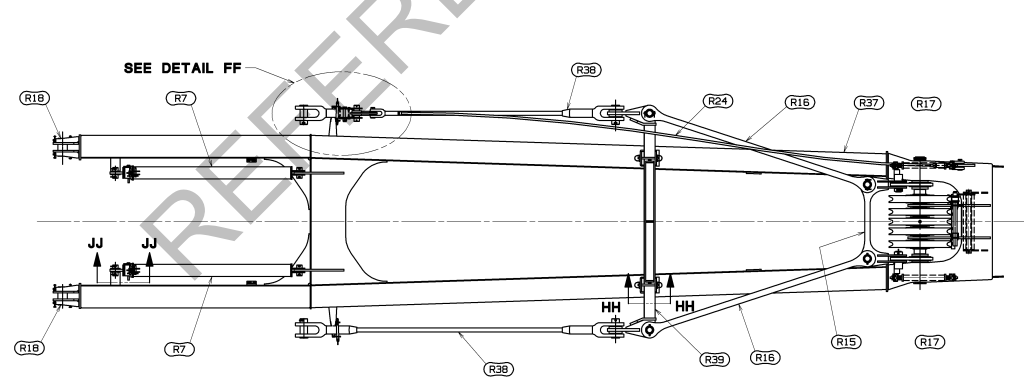
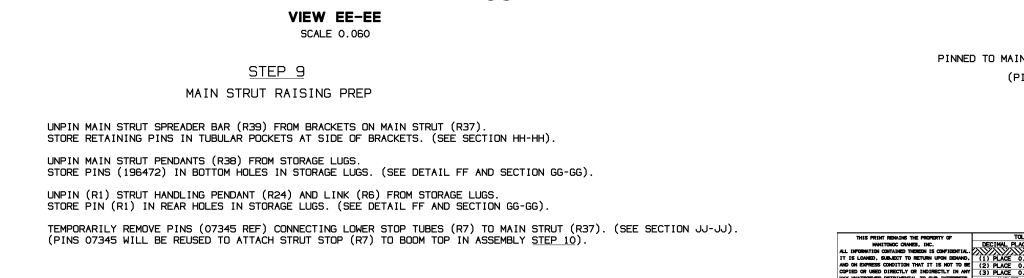
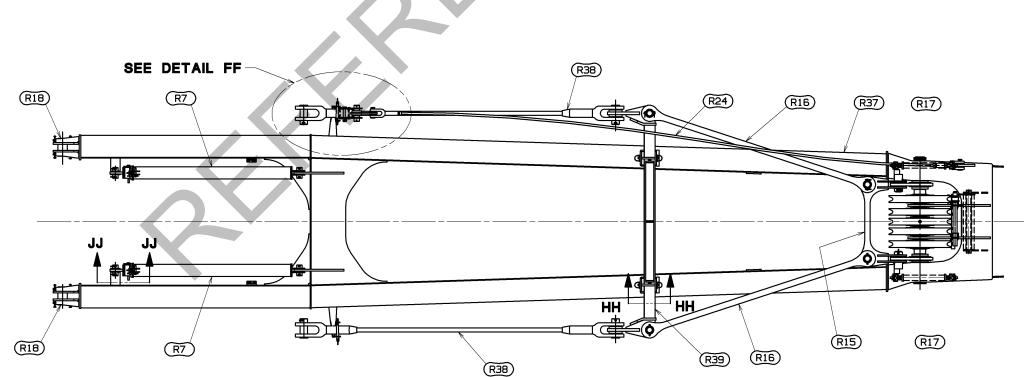
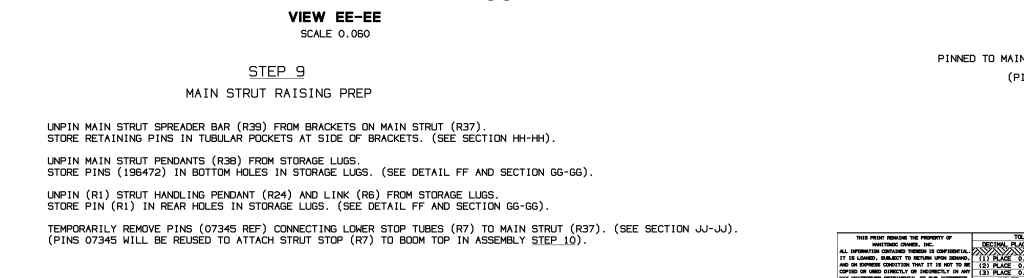
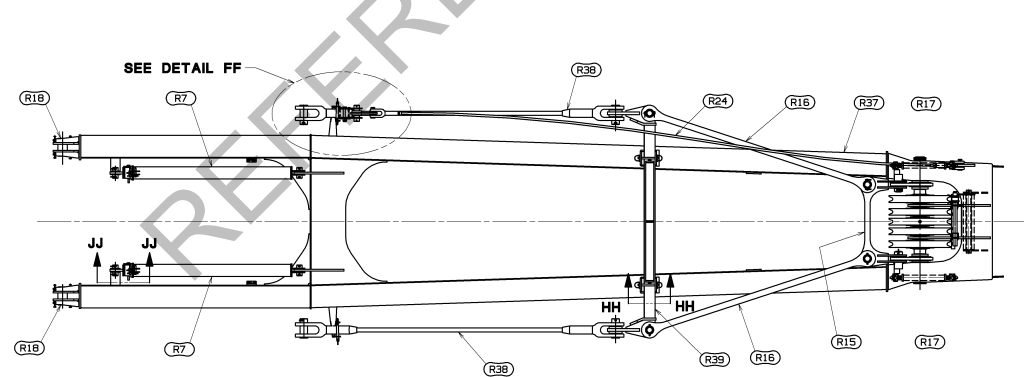
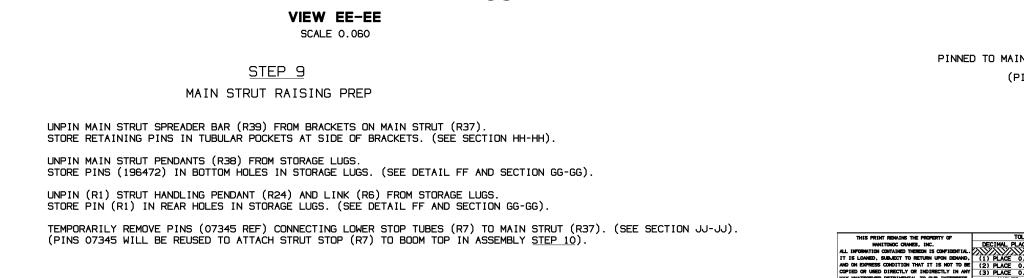
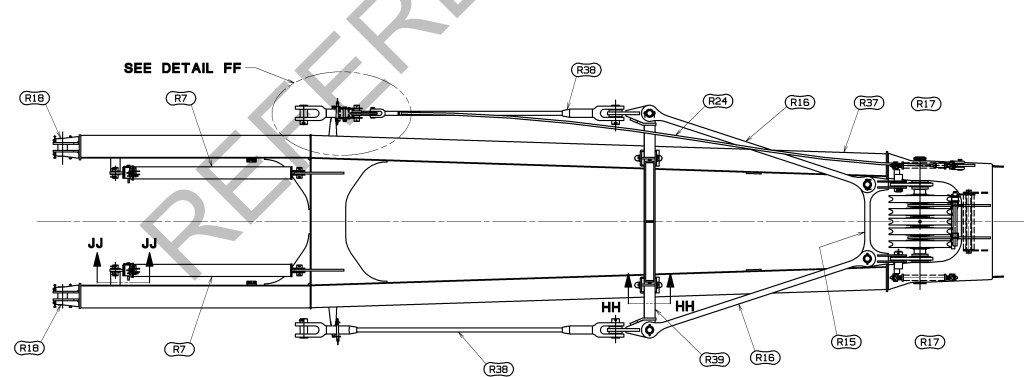
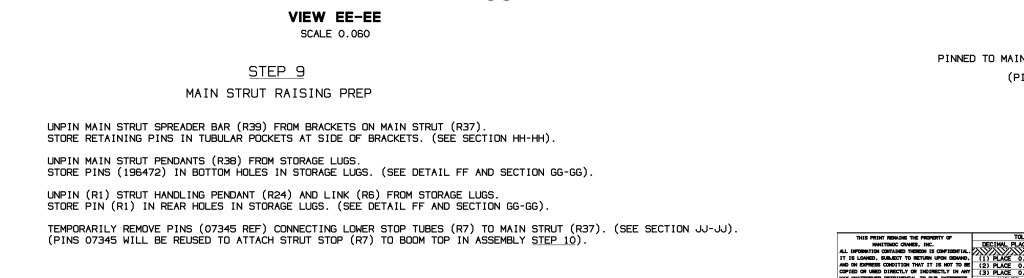
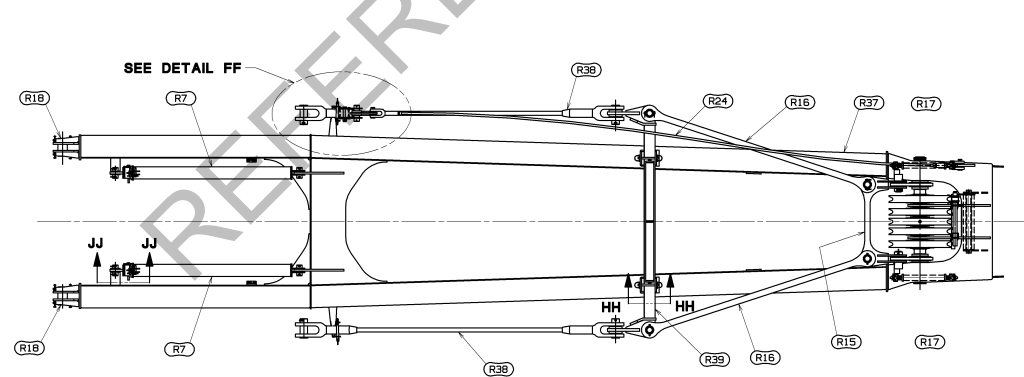
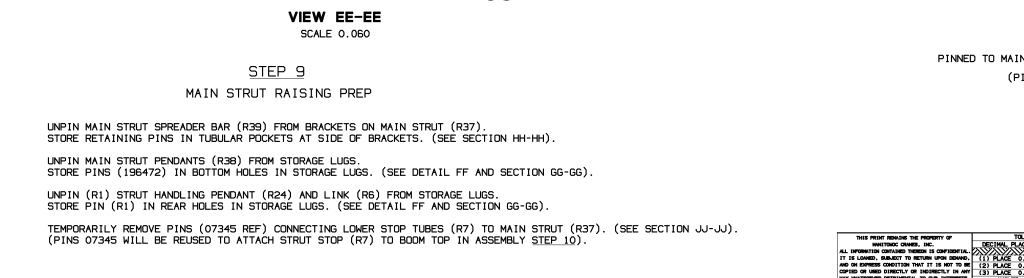
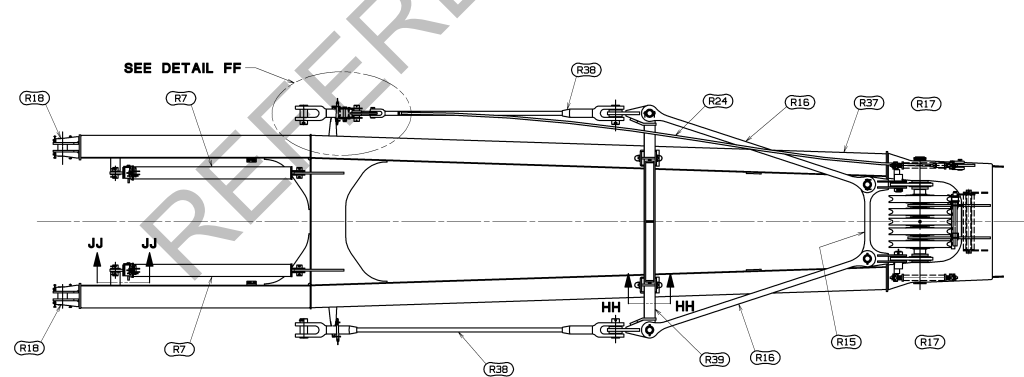
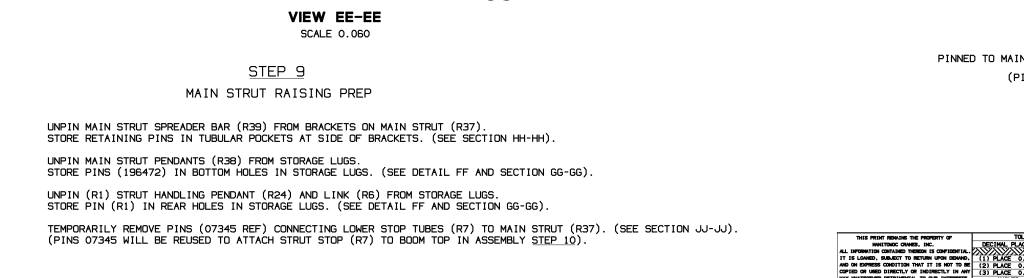
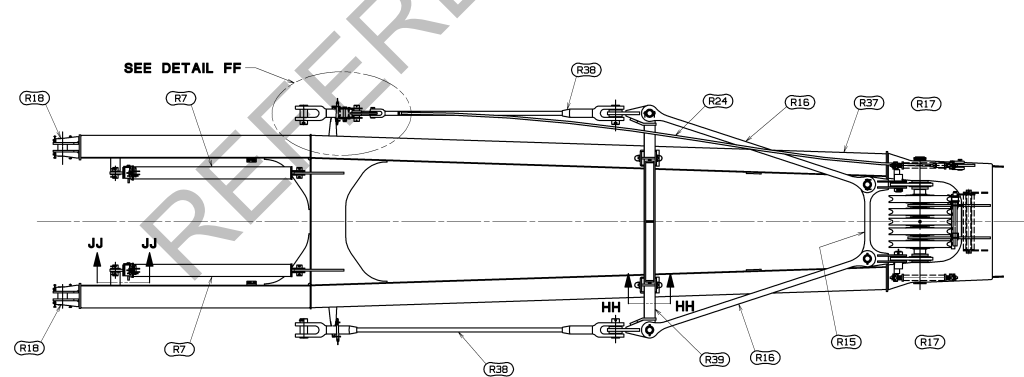
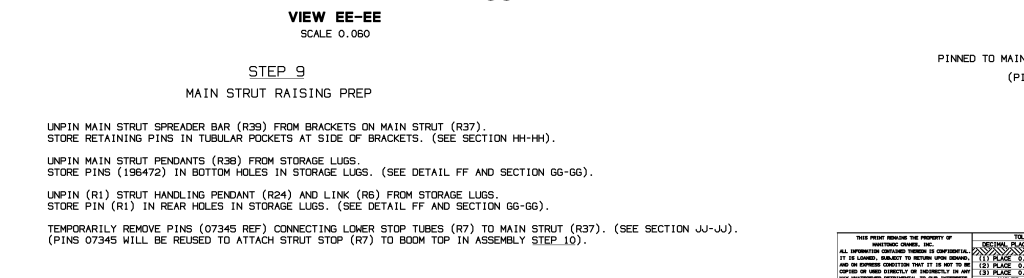
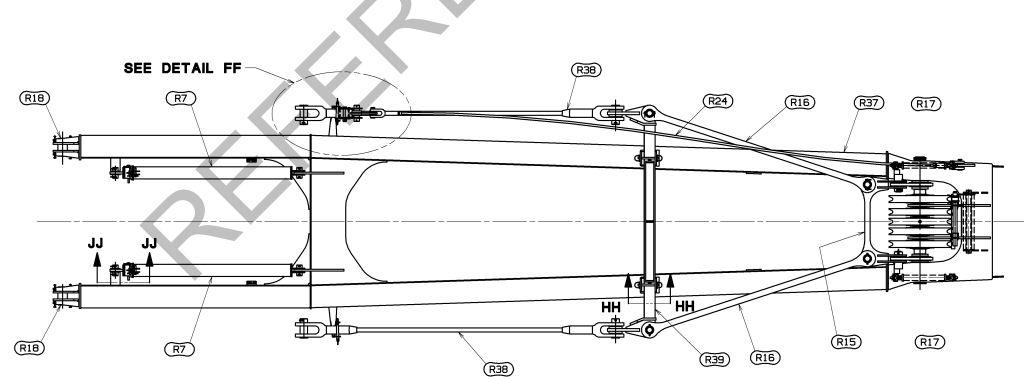
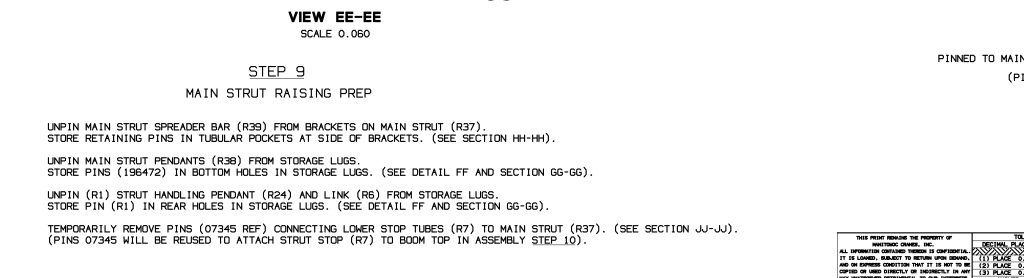
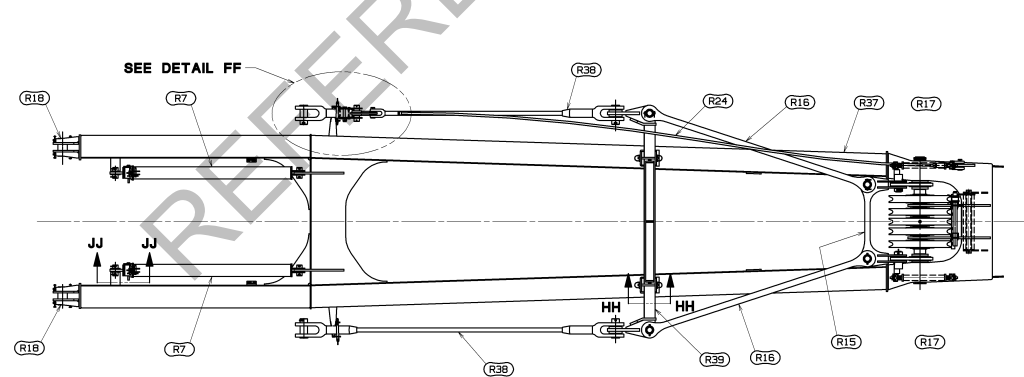
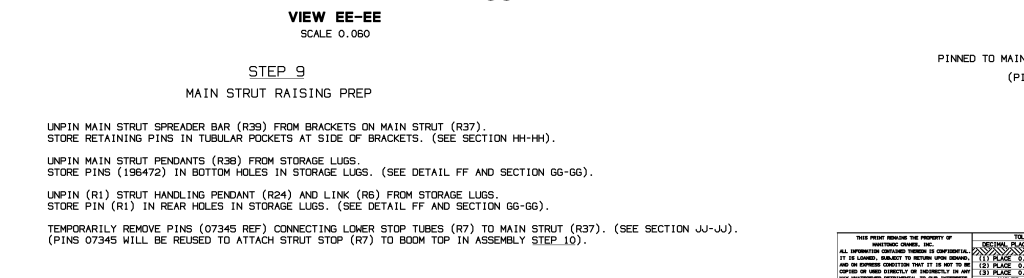
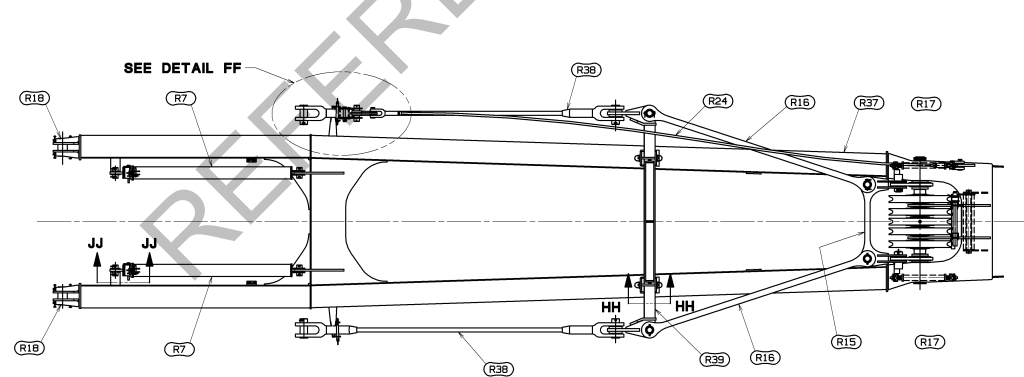
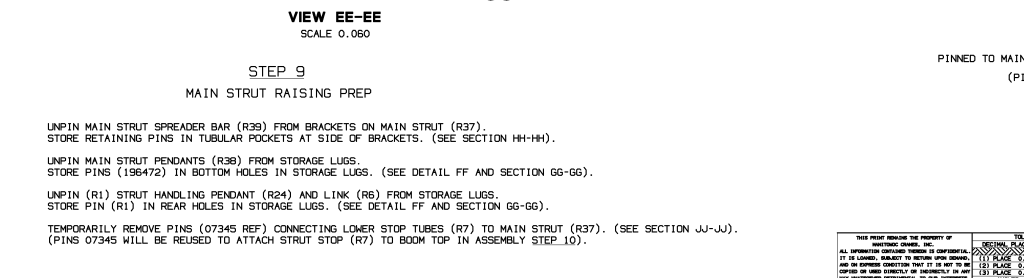
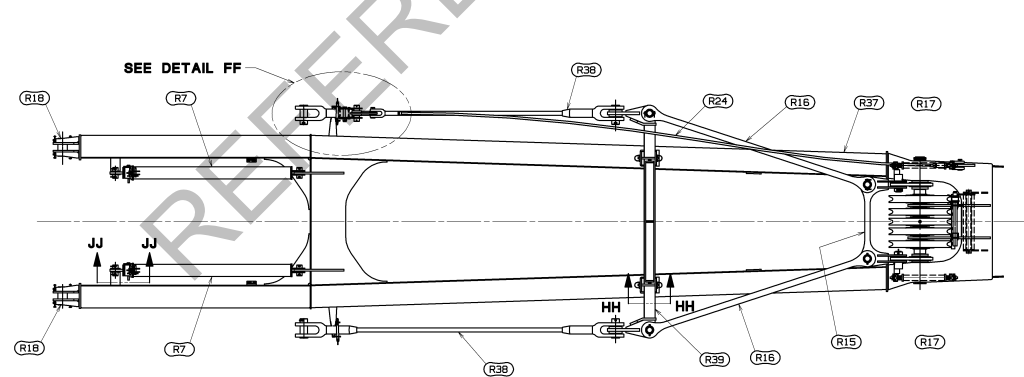
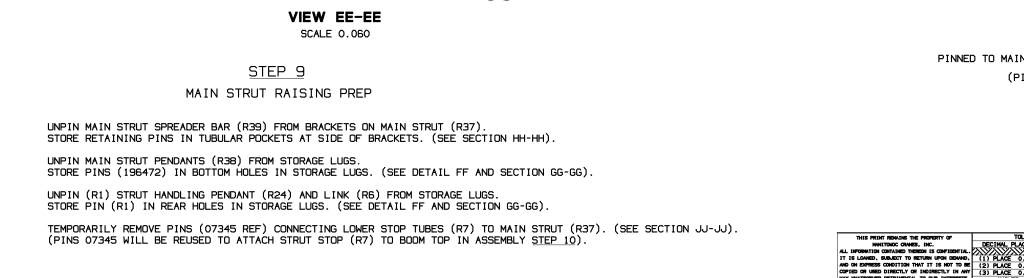
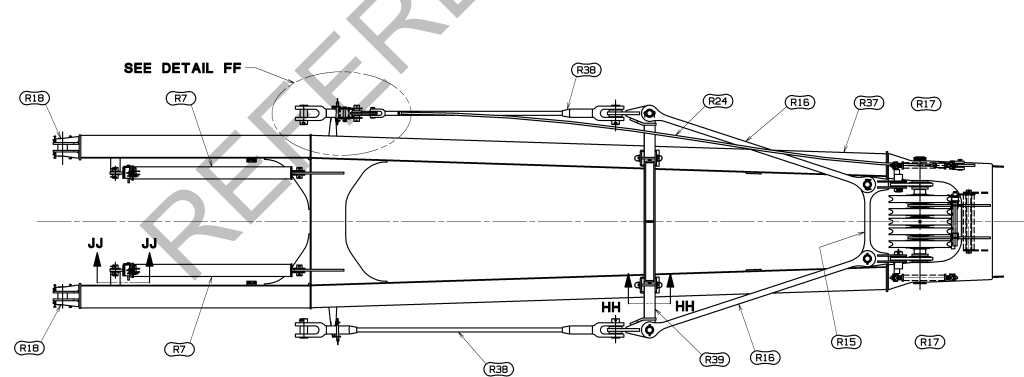
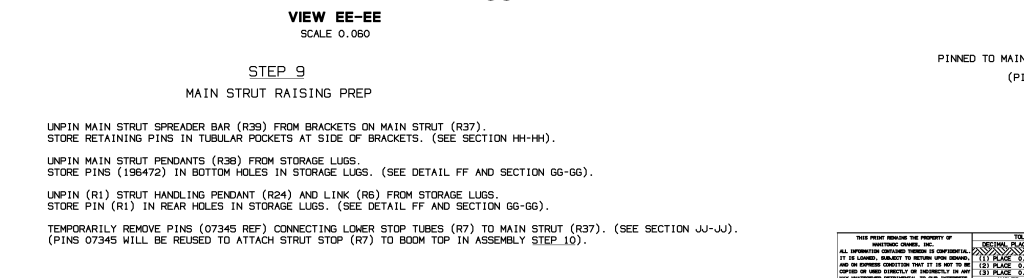
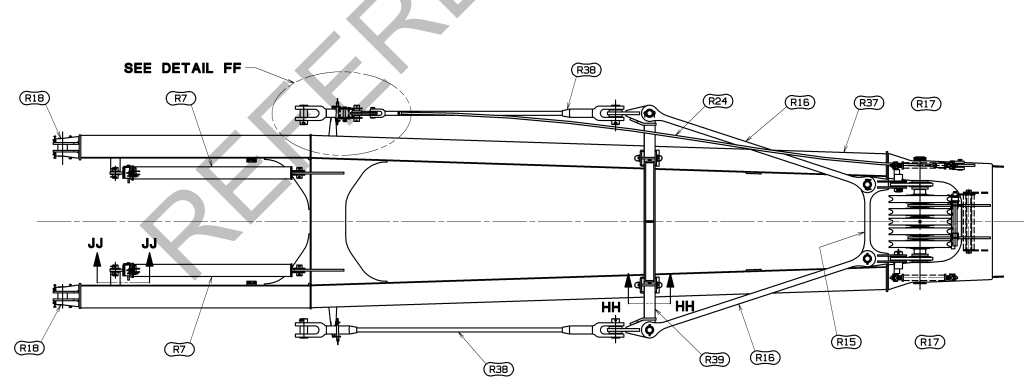
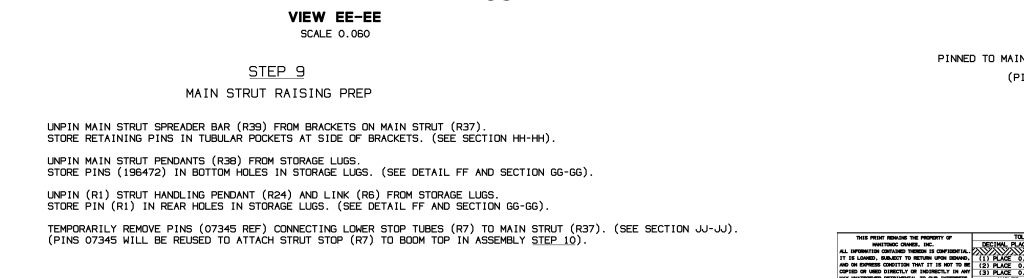
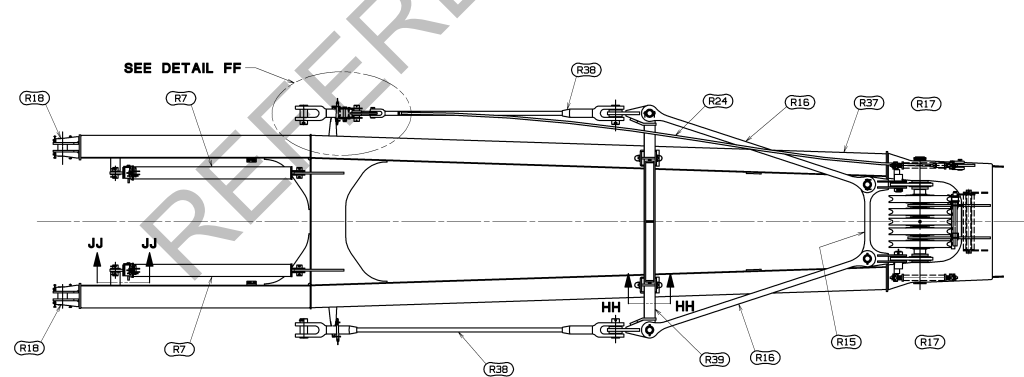
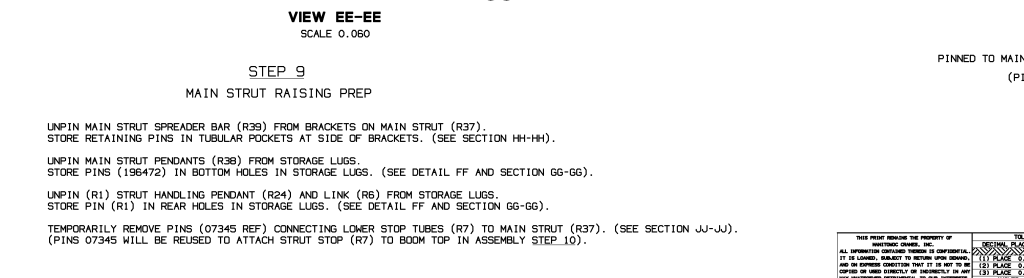
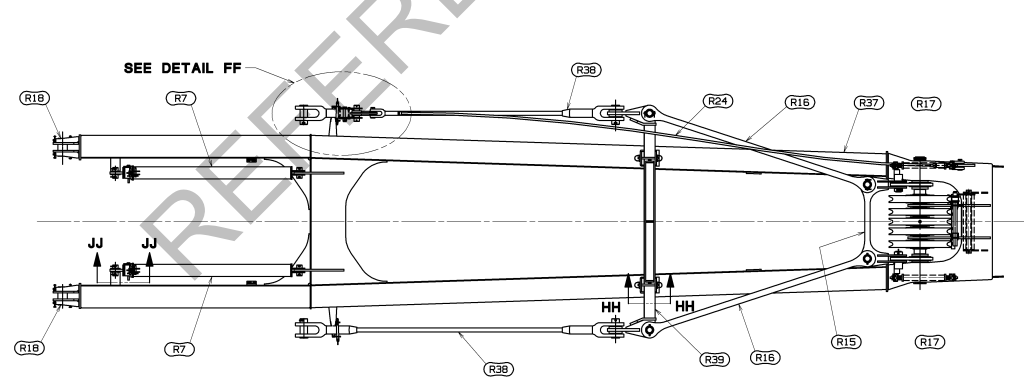
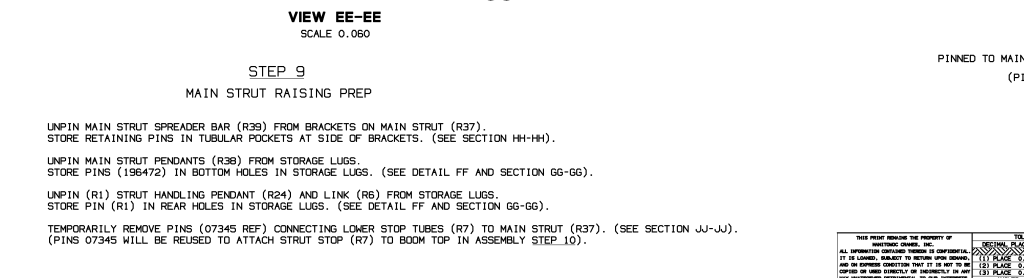
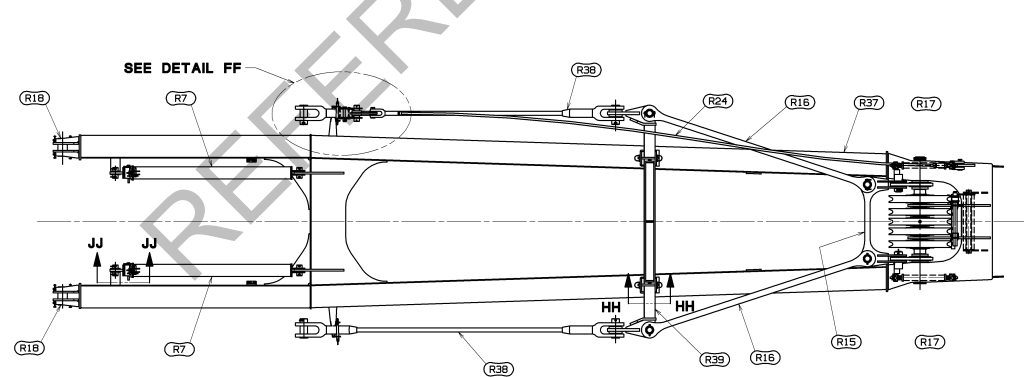
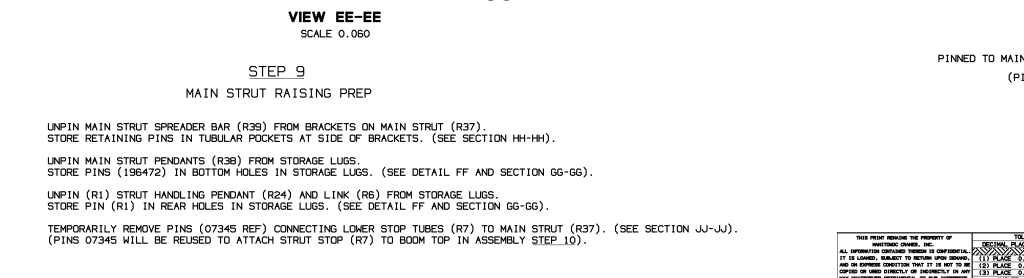
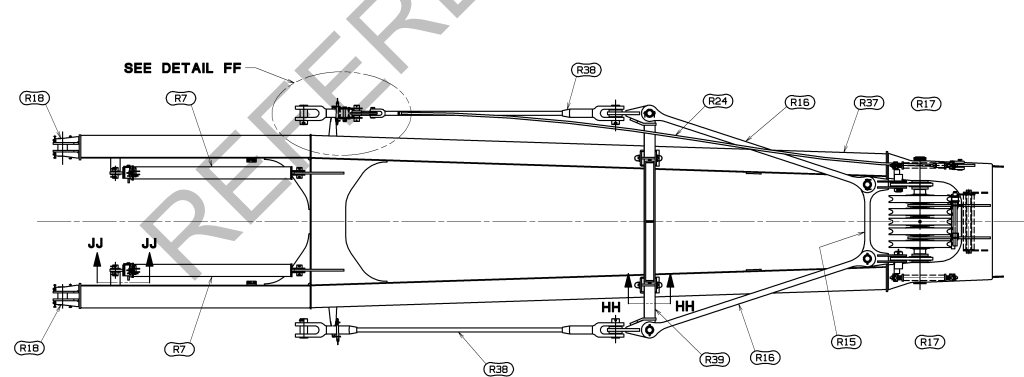
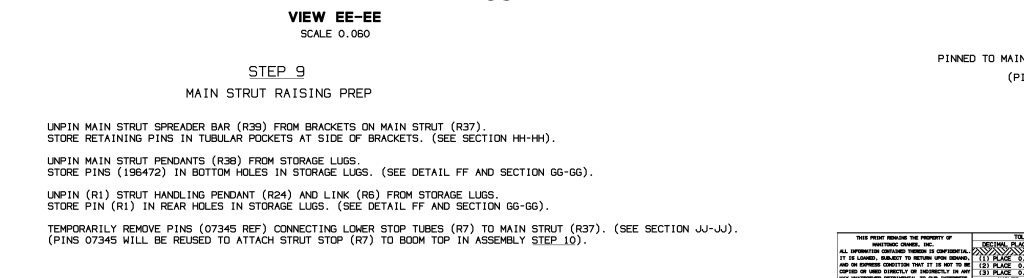
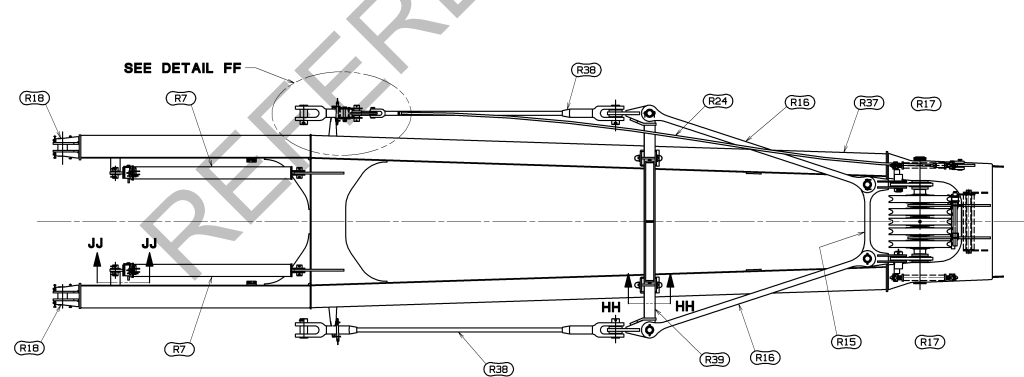
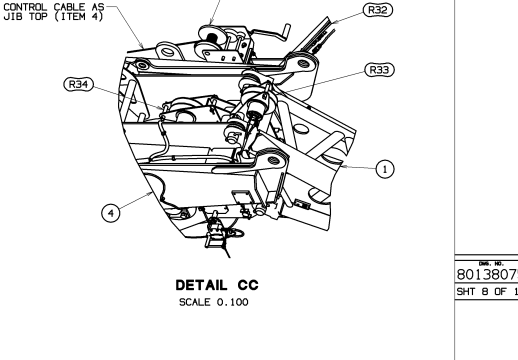
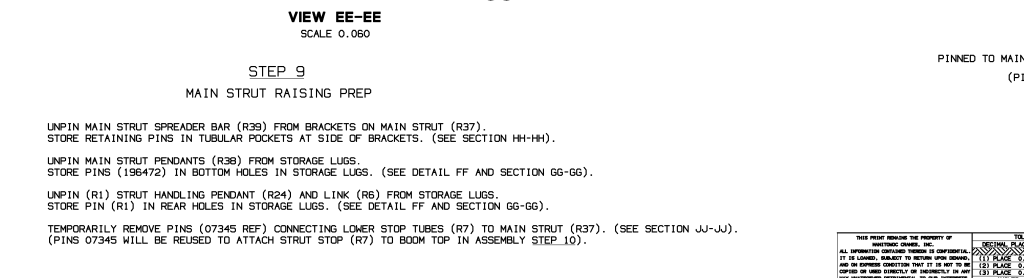
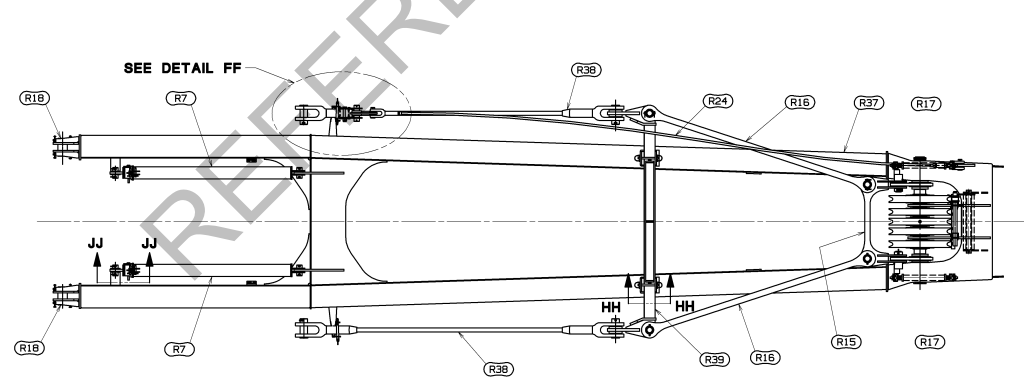
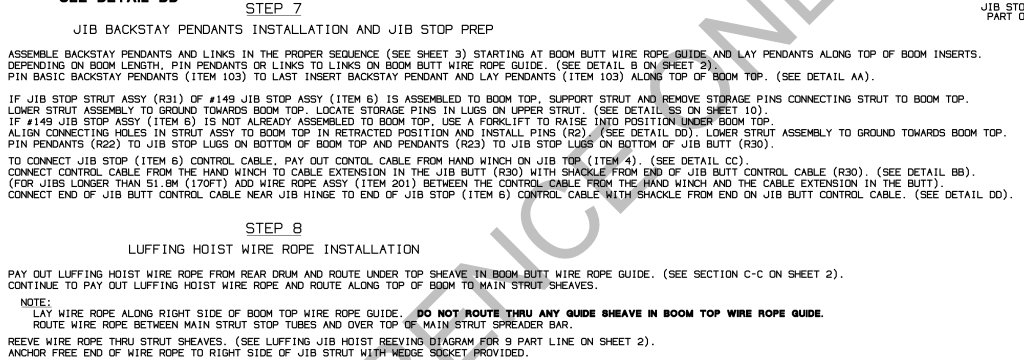
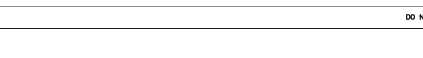
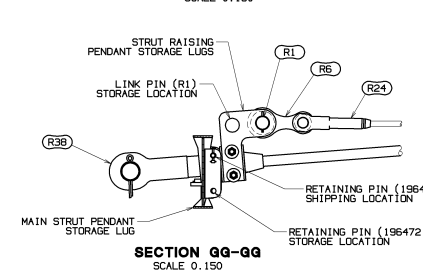
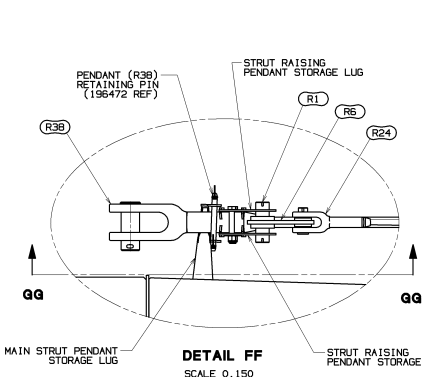
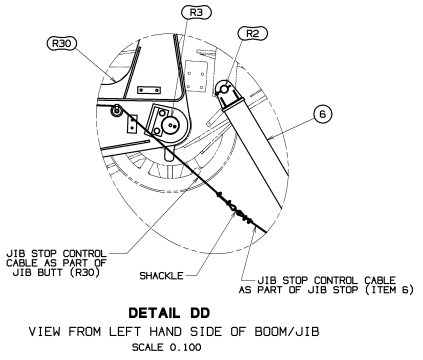
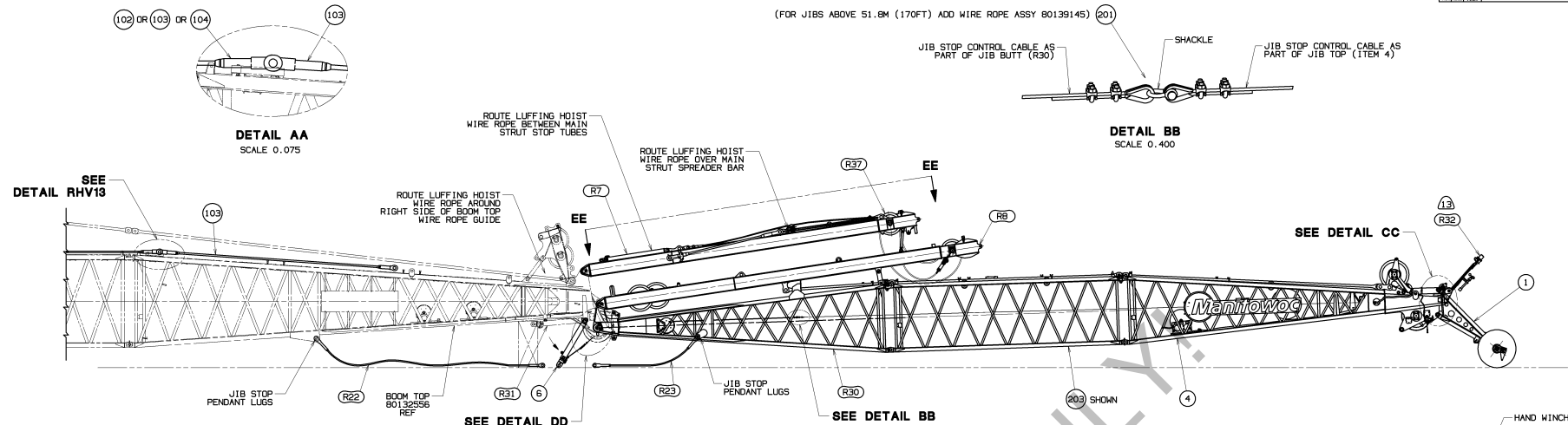
DETAIL Z
SCALE 0.200



DETAIL Y
SCALE 0.035

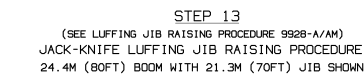
THIS PART REQUIRES THE PROPERTY OF HARTWIG CRANE, INC.				80138075	
ALL INFORMATION CONTAINED HEREIN IS CONFIDENTIAL, IT IS TO BE KEPT SECRET, AND NOT TO BE OR IN ANY MANNER DISCLOSED TO ANY OTHER PERSON OR ENTITY WITHOUT THE WRITTEN CONSENT OF HARTWIG CRANE, INC.				80138075	
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BILL OF MATERIAL				80138075
ITEM NO.	DESCRIPTION	QTY	MATERIAL	REV
1	MANITOWOC JIB	1	STEEL	1
2	MANITOWOC JIB	1	STEEL	1
3	MANITOWOC JIB	1	STEEL	1
4	MANITOWOC JIB	1	STEEL	1
5	MANITOWOC JIB	1	STEEL	1
6	MANITOWOC JIB	1	STEEL	1
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97	MANITOWOC JIB	1	STEEL	1
98	MANITOWOC JIB	1	STEEL	1
99	MANITOWOC JIB	1	STEEL	1
100	MANITOWOC JIB	1	STEEL	1



BILL OF MATERIAL					ASSEMBLIES USED ON	
ITEM NO.	QTY.	DESCRIPTION	UNIT	MATERIAL	QTY. REQ.	BY
BATH BOOM AND JIB POINT SHEAVES. ANGLE. LESS THAN 60°. (STRUCTURAL DAMAGE CAN OCCUR).						
						REVISIONS

-
- DETAIL UU**
SCALE: 0.025



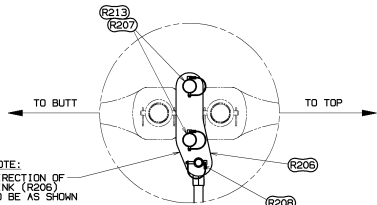
RAISE BOOM AND LUFFING JIB SIMULTANEOUSLY WITH ONLY BOOM HOIST UNTIL BOOM REACHES ANGLE LISTED IN THE LUFFING JIB RAISING PROCEDURE 9928-A/AM.

DO NOT SCALE THIS DRAWING

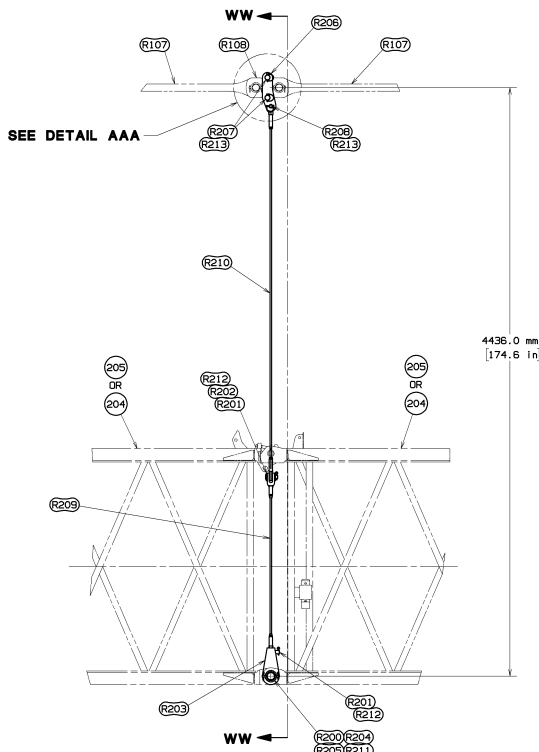
INTERMEDIATE SUSPENSION (ITEM 200) INSTALLATION

SEE JIB MAKEUP VIEWS ON SHEET 5 AND JIB LENGTH TABLE ON SHEET 2 TO DETERMINE LOCATION OF INTERMEDIATE SUSPENSION.

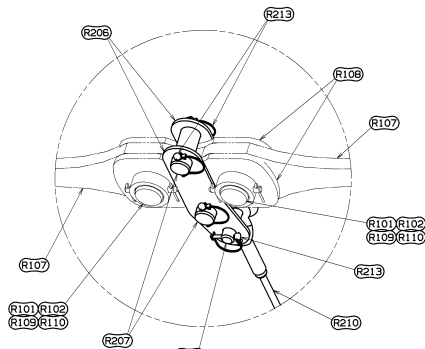
1. REMOVE EXISTING LOWER JIB INSERT CONNECTOR PINS (R100) BETWEEN REQUIRED JIB INSERTS (ITEMS 204 OR 205). STORE PINS (ITEMS 204 OR 205) IN STORAGE LOCATION ON JIB INSERT BANDING LACING. (SEE DETAIL ZZ).
2. CONNECT LINKS (R203) TO JIB INSERTS AT LOWER CONNECTORS WITH PINS (R204). COLLARS (R205), PINS (R200) AND COTTERS (R211). (SEE DETAIL ZZ).
3. ATTACH LOWER PENDANTS (R209) TO LINKS (R203) WITH PINS (R201) AND COTTERS (R212). (SEE DETAIL ZZ).
4. CONNECT LOWER PENDANTS (R209), LINK (R202) AND UPPER PENDANTS (R210) WITH PINS (R201) AND COTTERS (R212). (SEE DETAIL YY).
5. PIN LINKS (R206) AROUND JIB LINKS (R108) BETWEEN STRAPS (R107) WITH PINS (R207) AND SAFETY PINS (R213). (SEE DETAIL XX).
6. ATTACH UPPER PENDANT (R210) TO LINKS (R206) WITH PINS (R208) AND SAFETY PINS (R213). (SEE DETAIL XX).



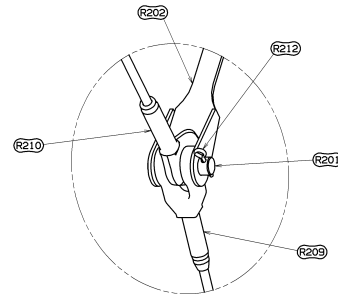
DETAIL AAA
SCALE 0.200



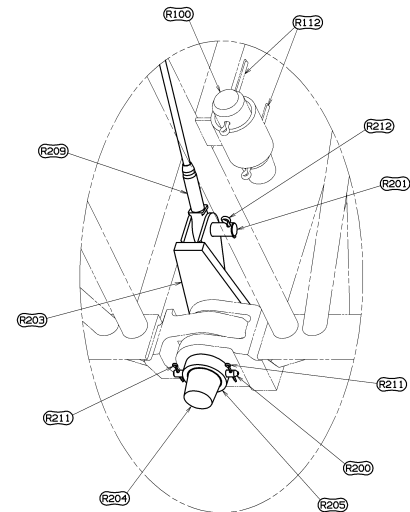
DETAIL VV
SUSPENSION #149 INTERMEDIATE
ITEM 200, 80138041
(FROM SHEET 5)
SCALE 0.075



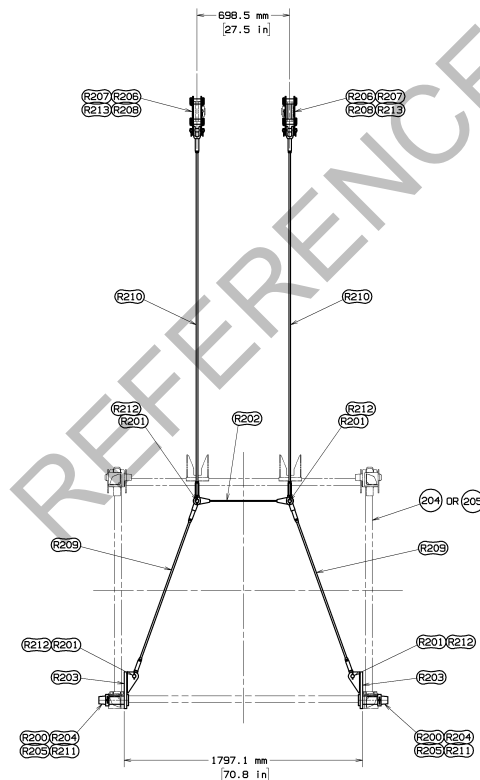
DETAIL XX
SCALE 0.300



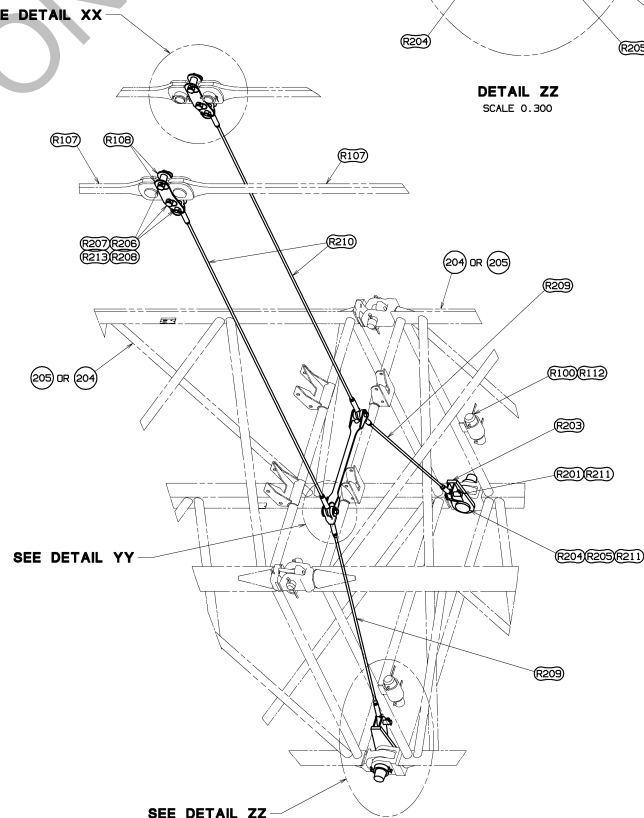
DETAIL YY
(INSERTS NOT SHOWN FOR CLARITY)
SCALE 0.400



DETAIL ZZ
SCALE 0.300



SECTION WW-WW
SCALE 0.075



#149 INTERMEDIATE SUSPENSION
SCALE 0.100

BILL OF MATERIAL			
ITEM NO.	DESCRIPTION	MATERIAL	QUANTITY

ASSEMBLY	REV. NO.
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REVISIONS

80138075
SHT 12 OF 12

PRIVATE LABELING
RESTRICTED TO
SUPPLIER'S
ENGINEERING
SPECIFICATION
800100754 FOR
COMPONENTS LISTED
IN 800500-05-035

09-19-23

REV. 1

MANITOWOC CRANES, INC.

MANITOWOC, WISCONSIN

LUFFING JIB RIGGING

149 ON 82A

80138075

SHT 12 OF 12

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ANY VIOLATION OF THIS NOTICE IS SUBJECT TO PROSECUTION.			
TOLERANCE UNLESS OTHERWISE SPECIFIED			
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67.0	68.0	69.0	70.0
68.0	69.0	70.0	71.0
69.0	70.0	71.0	72.0
70.0	71.0	72.0	73.0
71.0	72.0	73.0	74.0
72.0	73.0	74.0	75.0
73.0	74.0	75.0	76.0
74.0	75.0	76.0	77.0
75.0	76.0	77.0	78.0
76.0	77.0	78.0	79.0
77.0	78.0	79.0	80.0
78.0	79.0	80.0	81.0
79.0	80.0	81.0	82.0
80.0	81.0	82.0	83.0
81.0	82.0	83.0	84.0
82.0	83.0	84.0	85.0
83.0	84.0	85.0	86.0
84.0	85.0	86.0	87.0
85.0	86.0	87.0	88.0
86.0	87.0	88.0	89.0
87.0	88.0	89.0	90.0
88.0	89.0	90.0	91.0
89.0	90.0	91.0	92.0
90.0	91.0	92.0	93.0
91.0	92.0	93.0	94.0
92.0	93.0	94.0	95.0
93.0	94.0	95.0	96.0
94.0	95.0	96.0	97.0
95.0	96.0	97.0	98.0
96.0	97.0	98.0	99.0
97.0	98.0	99.0	100.0