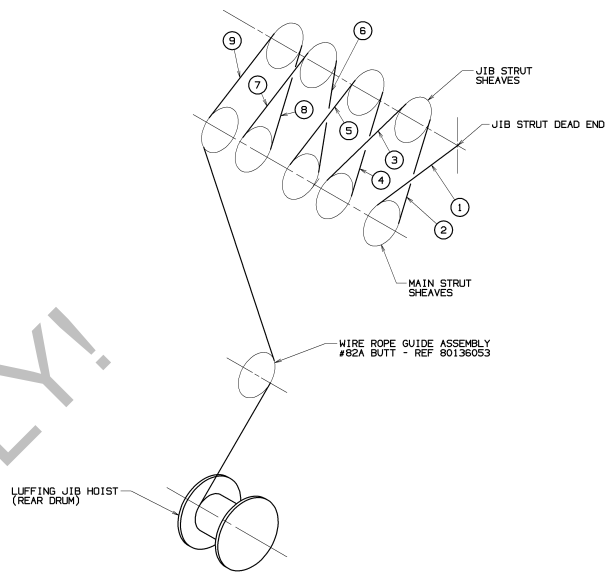




ITEMS REQ'D FOR VARIOUS JIB LENGTHS (16) (23) (24) (27) (29)

BILL OF MATERIAL				ASSEMBLY
ITEM NO.	DESCRIPTION	MATERIAL	QUANTITY	REQ'D BY

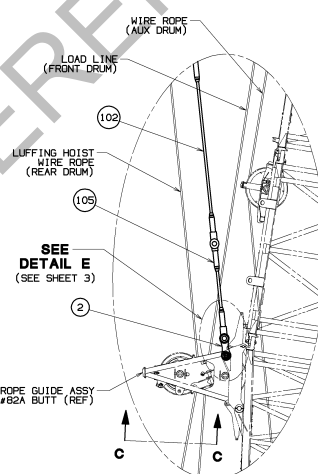
ITEM NO.	#149 INSERTS				CONNECTOR PINS			STRAPS			LINKS		LINK/STRAP CONNECTION		IN AIR ASSY		SUSPENSION	STOP	
	202	203	204 OR 205	R100	R103	R112	R105	R106	R107	R108	R101	R102	R109	R110	R104	R111	200	201	
JIB LENGTH	INSERT 3.05M (10FT) ASSY	INSERT 6.10M (20FT) ASSY	INSERT 12.19M (40FT) ASSY (ITEM 205 W/BSTAY)	PIN TAPERED 2 HOLES (LOWER)	PIN TAPERED 2 HOLES (UPPER)	COTTER 38 X 6.0	STRAP 6.87M (9.4FT)	STRAP 5.92M (19.4FT)	STRAP 12.0M (39.4FT)	LINK 174.6MM (6.91in)	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	0	1	0	4	4	16	0	2	0	8	16	16	16	32	4	8	0	0
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	2	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	0	4	2	16	24	24	24	48	8	16	0	0
45.7	150	0	1	2	8	8	32	0	2	4	16	24	24	24	48	8	16	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



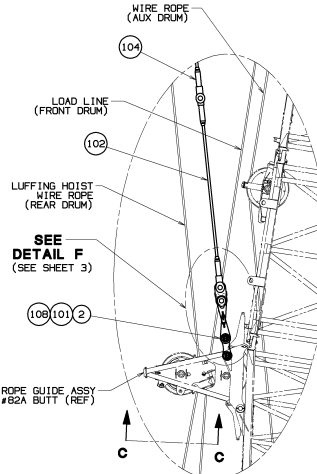
ITEMS REQ'D FOR VARIOUS BOOM LENGTHS (26) (28) (29)

ITEM NO.	BOOM MAKEUP OF #82 INSERTS	PENDANTS				LINKS		PINS		COTTERS			
		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 215.5mm (8.51in)	PIN 1 HOLE W/HEAD	PIN HOLES	COTTER .50 X 4.0	COTTER .50 X 5.0
METERS	FEET	1	0	0	2	2	0	2	0	0	2	4	8
24.4	80	1	0	0	2	2	0	2	0	0	2	4	8
27.4	90	2	0	0	4	2	0	2	2	4	4	8	4
30.5	100	1	1	0	2	4	0	2	2	4	4	8	4
33.5	110	OR 2	1	0	OR 4	4	0	0	2	2	4	8	4
36.6	120	OR 0	0	1	OR 0	0	2	2	2	4	4	8	4
39.6	130	OR 1	2	0	OR 2	2	0	2	2	4	4	8	4
42.7	140	OR 0	1	1	OR 4	4	2	0	2	2	4	8	2
45.7	150	OR 2	1	1	OR 4	4	2	0	2	2	4	8	2
48.8	160	OR 0	2	1	OR 2	2	0	0	2	2	4	8	2
51.8	170	OR 1	0	2	OR 6	2	4	0	2	2	4	8	2
54.9	180	OR 2	0	2	OR 4	4	0	0	2	2	4	8	2
57.9	190	OR 1	1	2	OR 4	4	4	0	2	2	4	8	2
61.0	200	OR 0	2	2	OR 6	4	0	0	2	2	4	8	2

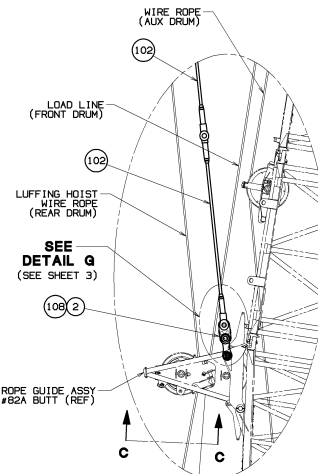
REFERENCE ONLY!



JIB BACKSTAY PENDANT 24.4M (80FT) BOOM

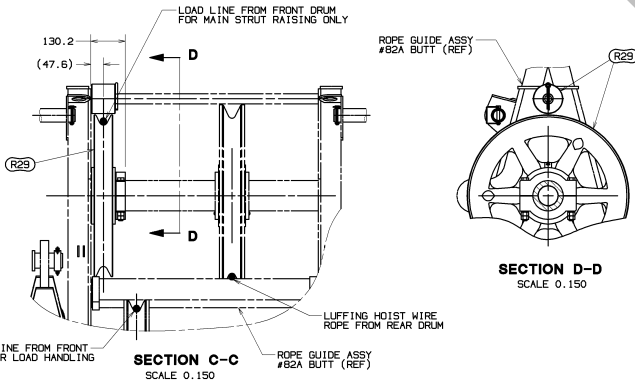


JIB BACKSTAY PENDANT 27.4M (90FT) - 36.6M (120FT) BOOM



JIB BACKSTAY PENDANT 39.6M (130FT) - 61.0M (200FT) BOOM

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



SECTION D-D SCALE 0.150

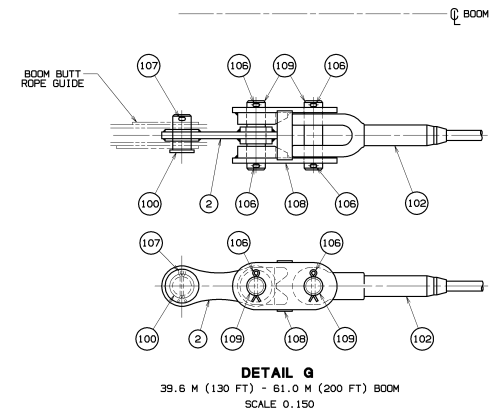
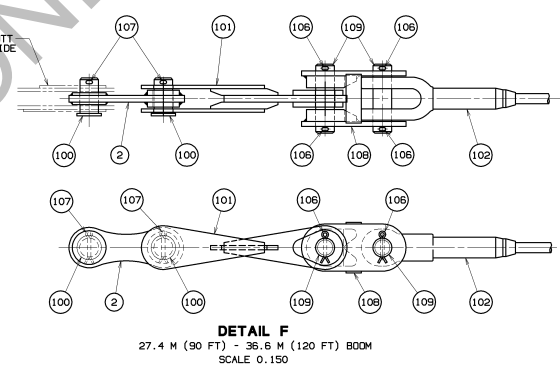
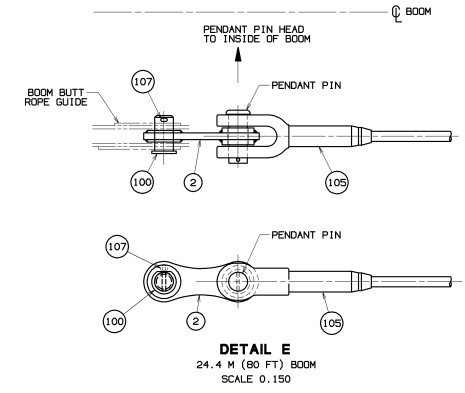
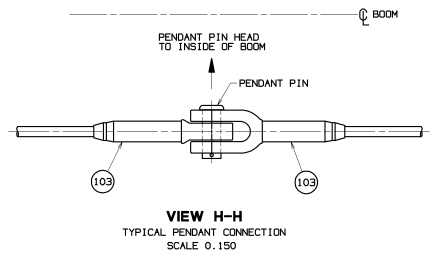
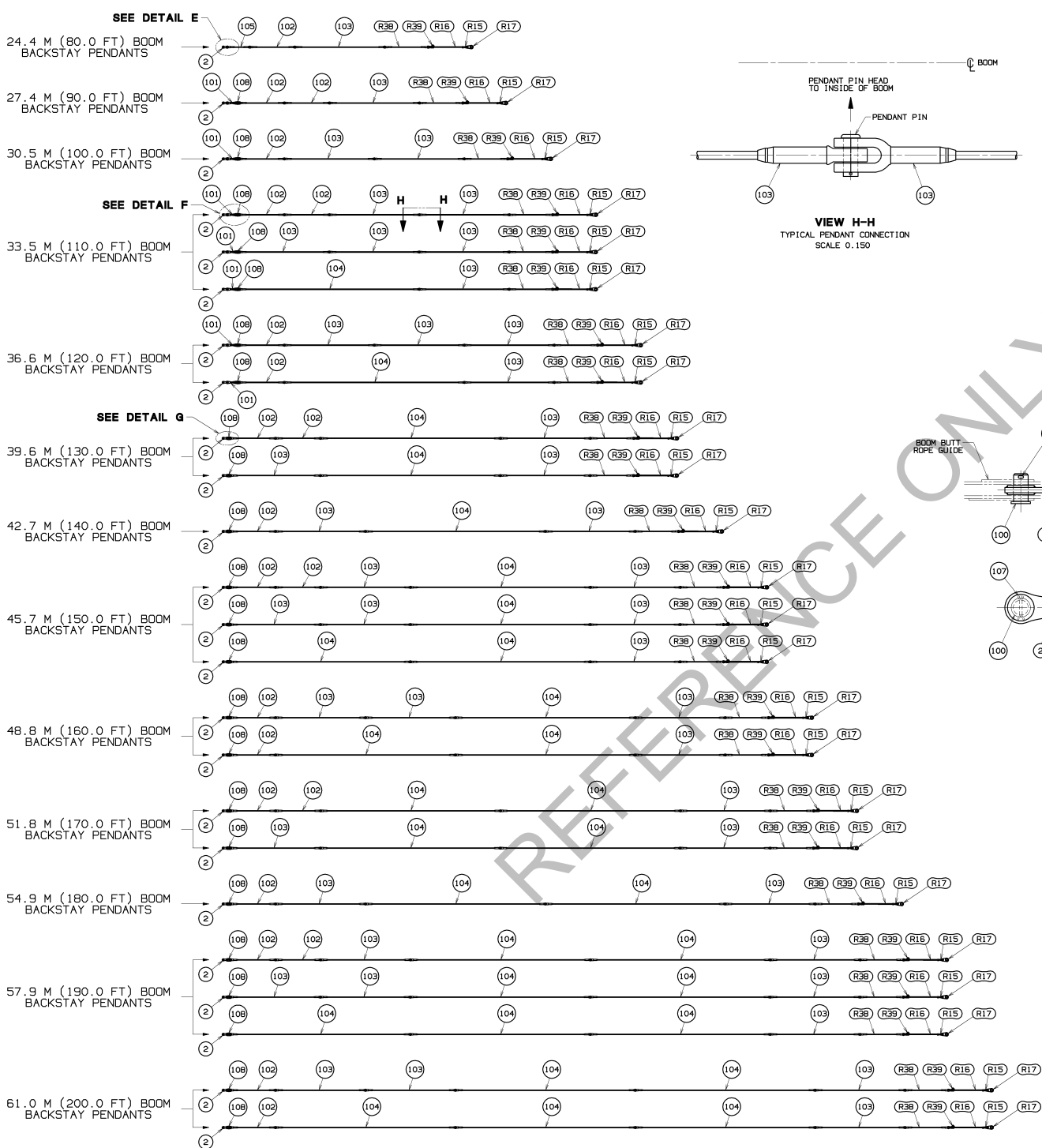
SECTION C-C SCALE 0.150

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	1:10 1:20 1:50 1:100	01	MM/MC/CSO	149 ON B2A
	0.005 0.010 0.020 0.050		PP/JRR	

99-19-23  
80138075  
SHT 2 OF 12  
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BILL OF MATERIAL				ASSEMBLY
ITEM NO.	DESCRIPTION	MATERIAL	QUANTITY	REQ. BY



BOOM BACKSTAY PENDANT CONFIGURATIONS

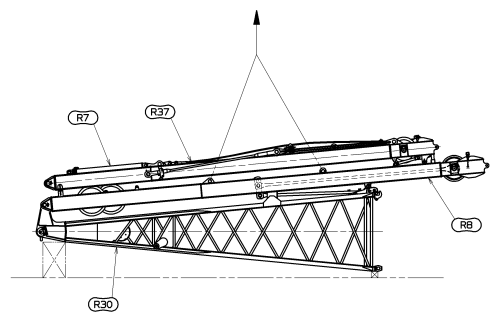
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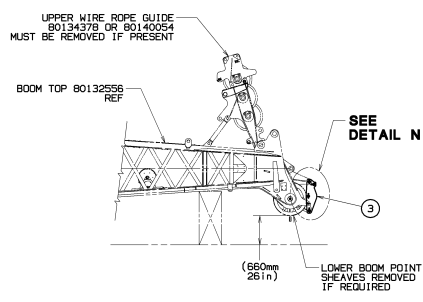


BILL OF MATERIAL				ASSEMBLY
NO.	QTY	DESCRIPTION	MATERIAL	REV.
90129040				



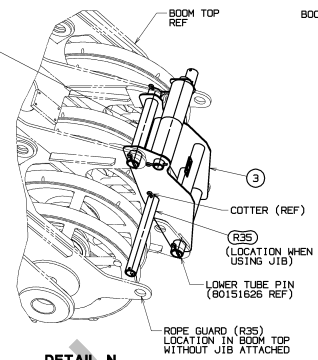
**LUFFING JIB BUTT SHIPPING ASSEMBLY - ITEM 5**

SHIPPING ASSEMBLY CONSISTS OF THE JIB BUTT (R30), MAIN STRUT (R37) AND JIB STRUT (R8). TO HANDLE SHIPPING ASSEMBLY, ATTACH LIFTING SLINGS FROM ASSIST CRANE TO FOUR LIFTING LUGS ON JIB STRUT (R8) WITH SLINGS PASSING THROUGH OPENING IN MAIN STRUT (R7).

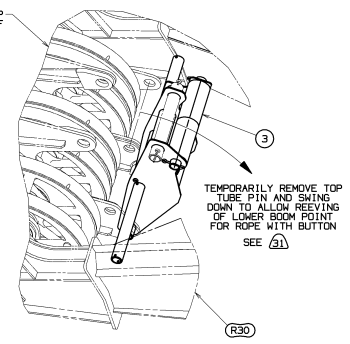


**BOOM TOP PREP FOR JIB SEE A1**

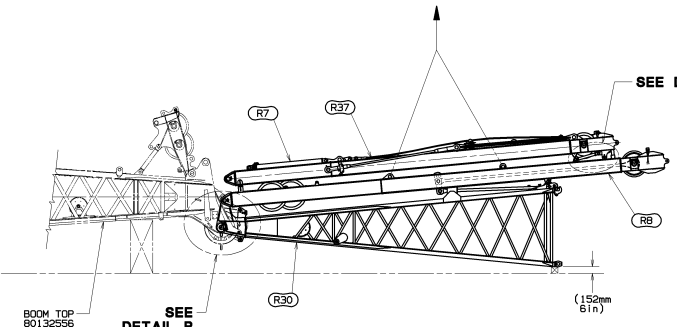
TEMPORARILY REMOVE LOWER POINT ROPE GUARD (R35) FROM BOOM TOP. USING UPPER AND LOWER TUBE PINS, INSTALL ROPE GUARD ASSY (ITEM 3) ONTO BOOM TOP. (SEE DETAIL N).  
INSTALL LOWER POINT ROPE GUARD (R35) INTO ROPE GUARD ASSY (ITEM 3) LOCATING COTTER PINS IN HOLES NEAREST BOOM CENTERLINE.



**DETAIL N**  
WORKING POSITION (ITEM 3)  
SCALE 0.125



**DETAIL N**  
ROTATION OF ROPE GUARD ASSY (ITEM 3) FOR REEVING OF LOWER BOOM POINT WITH #149 JIB BUTT (R30) ATTACHED  
SCALE 0.125

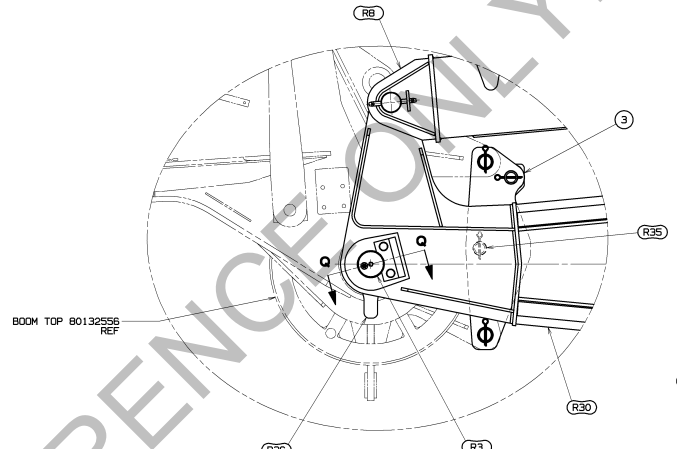


**STEP 1**  
JIB BUTT ASSEMBLY TO BOOM

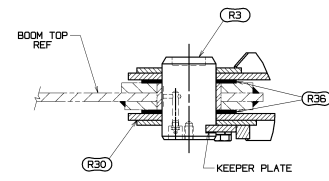
FROM JIB BUTT (R30) TEMPORARILY REMOVE HINGE PINS (R3), KEEPER PLATES AND SHIMS (R36). (SEE DETAIL P).

WITH PROPER BLOCKING IN PLACE LIFT BUTT #149 SHIPPING ASSY (ITEM 5) INTO POSITION AT END OF BOOM TOP AND ALIGN CONNECTING HOLES IN JIB BUTT (R30) WITH HOLES IN BOOM TOP. REINSTALL HINGE PINS (R3), KEEPER PLATES AND SHIMS (R36). (SEE DETAIL P).

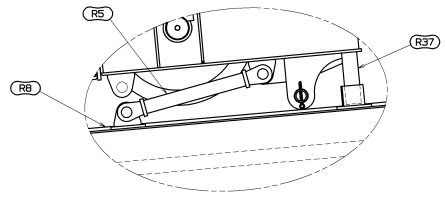
NOTE:  
ADD SHIMS (R36) AS REQUIRED TO LIMIT LATERAL MOVEMENT OF JIB BUTT (R30). USE AN EQUAL AMOUNT OF SHIMS ON BOTH SIDES TO CENTER JIB BUTT WITH BOOM TOP. (SEE SECTION Q-Q).



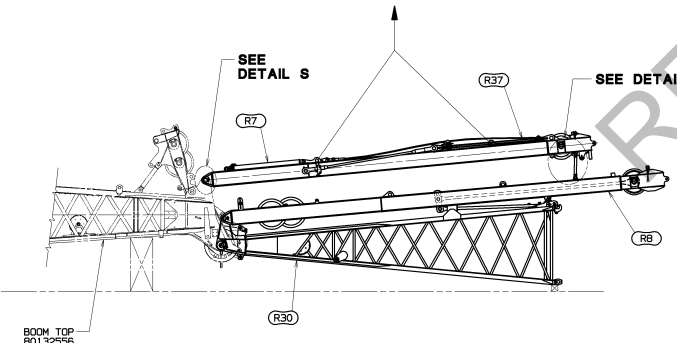
**DETAIL P**  
SCALE 0.150



**SECTION Q-Q**  
SCALE 0.300



**DETAIL R**  
CONFIGURATION OF STRUT SUPPORTS (R5) IN SHIPPING ASSY OF LUFFING JIB BUTT AND STRUTS (ITEM 5)  
SCALE 0.150



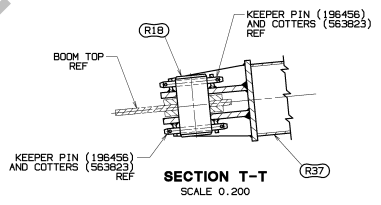
**STEP 2**  
MAIN STRUT TO BOOM TOP

ATTACH LIFTING SLINGS FROM ASSIST CRANE TO FOUR LIFTING LUGS ON MAIN STRUT (R37). FROM MAIN STRUT (R37) TEMPORARILY REMOVE HINGE PINS (R18), KEEPER PINS AND COTTERS. (SEE DETAIL S).

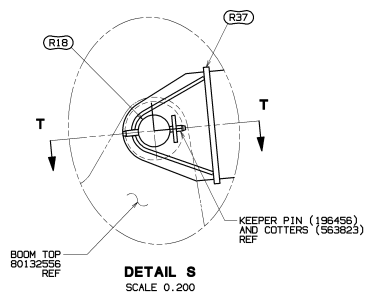
SLOWLY LIFT MAIN STRUT (R37) UNTIL IT IS SUPPORTED BY ASSIST CRANE.  
UNPIN STRUT SUPPORTS (R5) FROM JIB STRUT (R8) AND PIN IN STORAGE POSITION ON MAIN STRUT (R37). (SEE DETAIL U).

ALIGN CONNECTING HOLES IN END OF MAIN STRUT (R37) WITH HOLES IN BOOM TOP. REINSTALL HINGE PINS (R18), KEEPER PINS AND COTTERS. (SEE DETAIL S).

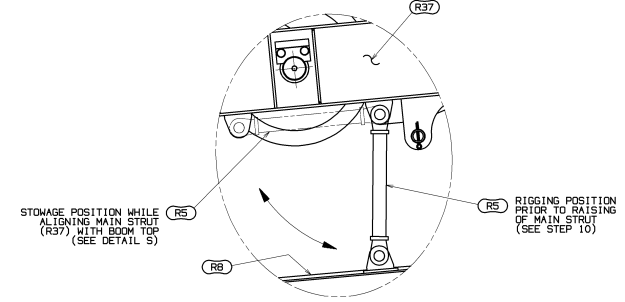
CONTINUE TO SUPPORT MAIN STRUT WITH ASSIST CRANE AND UNPIN STRUT SUPPORTS (R5) FROM STORAGE POSITION ON MAIN STRUT (R37) AND REPIN TO JIB STRUT (R8) IN RIGGING POSITION. (SEE DETAIL U).



**SECTION T-T**  
SCALE 0.200



**DETAIL S**  
SCALE 0.200



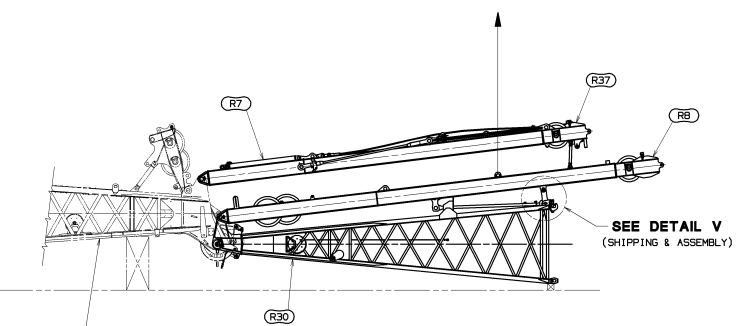
**DETAIL U**  
SCALE 0.150

STORAGE POSITION WHILE ALIGNING MAIN STRUT (R37) WITH BOOM TOP (SEE DETAIL S)

RIGGING POSITION PRIOR TO RAISING OF MAIN STRUT (SEE STEP 10)

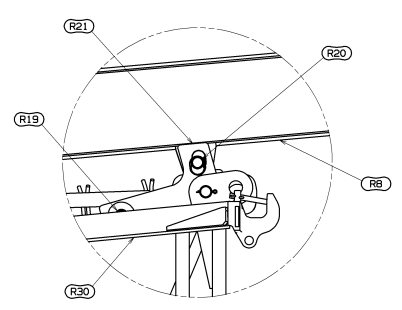
THIS PRINT REMAINS THE PROPERTY OF MARITIME CRANES, INC.		TOLERANCE UNLESS OTHERWISE SPECIFIED		DATE		025		Maritime Cranes, Inc.		09-19-23	
ALL INFORMATION CONTAINED HEREIN IS CONFIDENTIAL. IT IS LOANED, SUBJECT TO STRICT NON-DISCLOSURE AND NON-REPRODUCTION AGREEMENT. THE USER OF THIS INFORMATION AGREES TO HOLD MARITIME CRANES, INC. HARMLESS FROM ANY AND ALL DAMAGES, LOSSES AND EXPENSES, INCLUDING ATTORNEY'S FEES, THAT MAY BE INCURRED BY MARITIME CRANES, INC. OR ANY OF ITS AFFILIATES, AS A RESULT OF THE USER'S FAILURE TO MAINTAIN THE CONFIDENTIALITY OF THIS INFORMATION.		FABRICATION		REV.		BY		M. Markowski		REV. 1	
		1. PLACE 0.005 ± 0.005		2. HOLE 0.005 ± 0.005		3. HOLE 0.005 ± 0.005		4. HOLE 0.005 ± 0.005		5. HOLE 0.005 ± 0.005	
		6. HOLE 0.005 ± 0.005		7. HOLE 0.005 ± 0.005		8. HOLE 0.005 ± 0.005		9. HOLE 0.005 ± 0.005		10. HOLE 0.005 ± 0.005	
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		183. HOLE 0.005 ± 0.005		184. HOLE 0.005 ± 0.005		185. HOLE 0.005 ± 0.005		186. HOLE 0.005 ± 0.005		187. HOLE 0.005 ± 0.005	
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		191. HOLE 0.005 ± 0.005		192. HOLE 0.005 ± 0.005		193. HOLE 0.005 ± 0.005		194. HOLE 0.005 ± 0.005		195. HOLE 0.005 ± 0.005	
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		207. HOLE 0.005 ± 0.005		208. HOLE 0.005 ± 0.005		209. HOLE 0.005 ± 0.005		210. HOLE 0.005 ± 0.005		211. HOLE 0.005 ± 0.005	
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BILL OF MATERIAL				ASSEMBLY
ITEM NO.	DESCRIPTION	MATERIAL	QTY	REF. IN
80138075				80138075

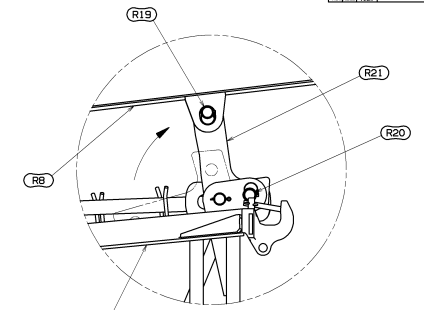


**STEP 3**  
RAISING JIB STRUT TO ASSEMBLY POSITION

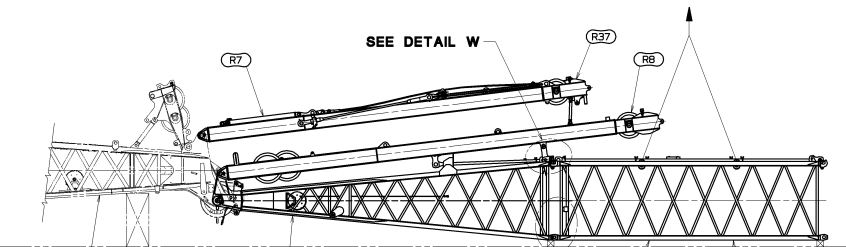
ATTACH LIFTING SLINGS FROM ASSIST CRANE TO TOP (2) LIFTING LUGS ON JIB STRUT (R8). REMOVE STRUT SUPPORT PIN (R20) FROM JIB STRUT SUPPORT BRACKET (R21). (SEE DETAIL V-SHIPPING POSITION). SLOWLY LIFT JIB STRUT (R8) TO A POSITION WHERE JIB STRUT SUPPORT BRACKET (R21) CAN BE ROTATED TO A VERTICAL POSITION. 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



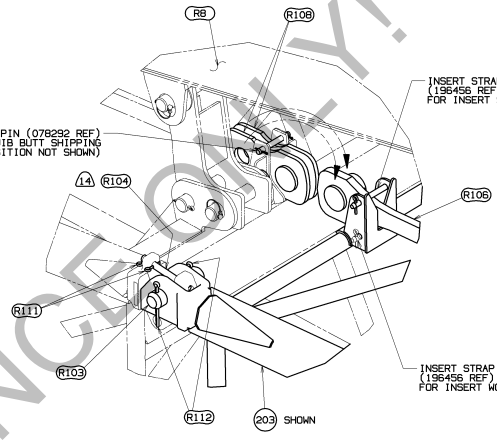
**DETAIL V**  
ASSEMBLY POSITION  
SCALE 0.150



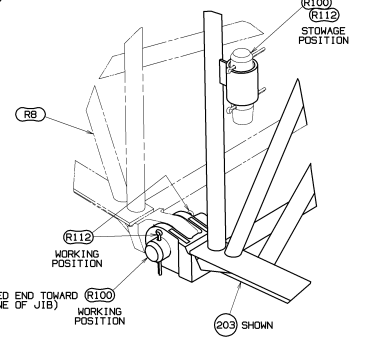
**STEP 4**  
JIB INSERT INSTALLATION

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).

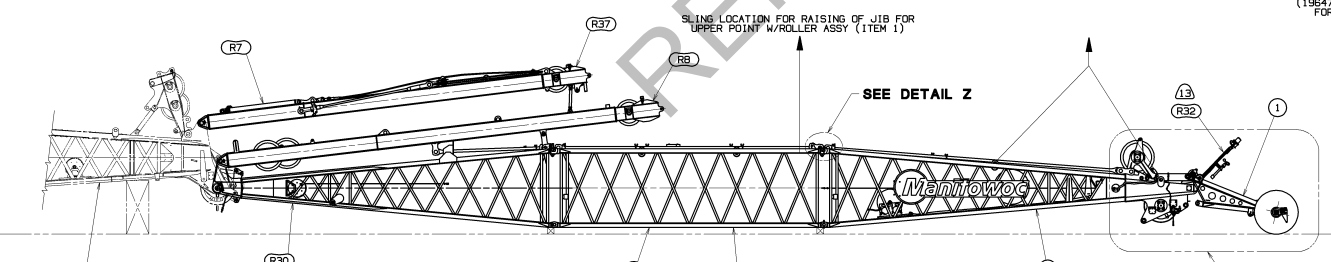
LINK RETAINING PIN (07B292 REF) FOR JIB BUTT SHIPPING POSITION (JIB BUTT WORKING POSITION NOT SHOWN)



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



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

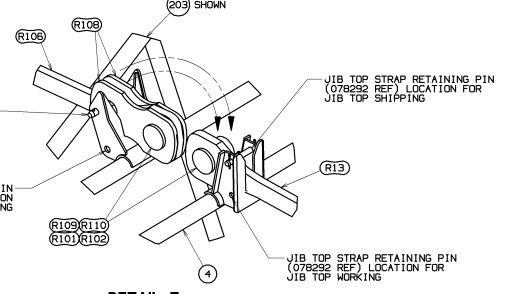


**STEP 5**  
JIB TOP AND UPPER POINT ROLLER INSTALLATION

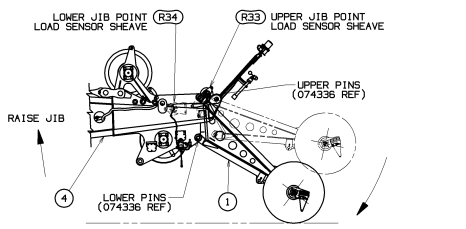
INSTALL JIB TOP (ITEM 4) FOLLOWING THE SAME PROCEDURE AS DESCRIBED IN STEP 4-JIB INSERT INSTALLATION. LIFT UPPER POINT ROLLER ASSY (ITEM 1) INTO POSITION AT END OF JIB TOP (ITEM 4) AND INSTALL UPPER PINS (074336-REF). ATTACH SLINGS FROM ASSIST CRANE TO TOP CHORDS AT END OF JIB INSERT NEXT TO JIB TOP (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).

**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).



**DETAIL Z**  
SCALE 0.035



**DETAIL Y**  
SCALE 0.035

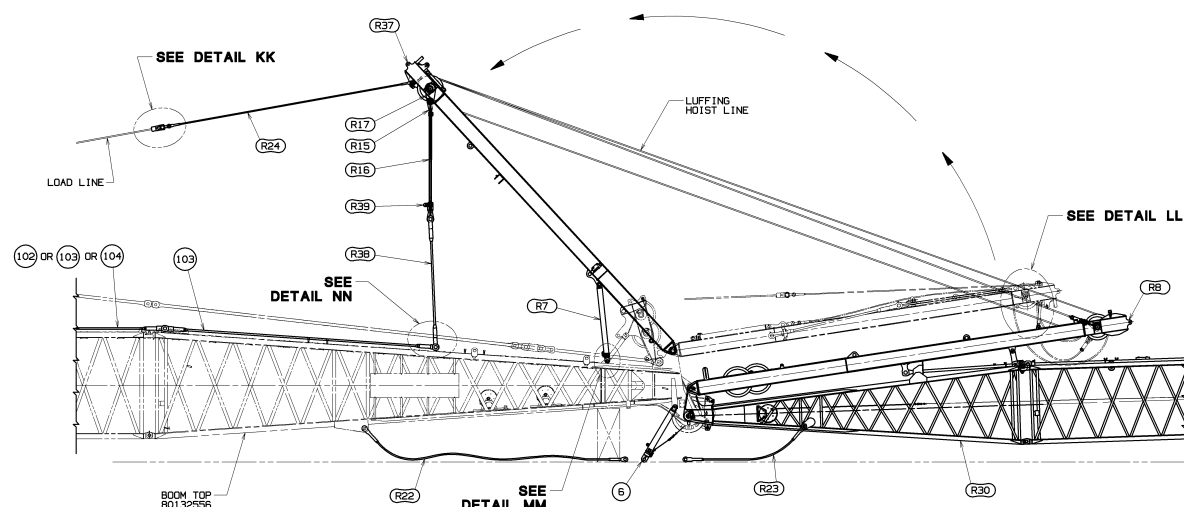
DO NOT SCALE THIS DRAWING

TOLERANCE UNLESS OTHERWISE SPECIFIED		FABRICATION		FINISH		MATERIAL		QTY		DESCRIPTION	
(1) FRACTIONS	± 0.005	(1) FRACTIONS	± 0.005	(1) FRACTIONS	± 0.005	(1) FRACTIONS	± 0.005	(1) FRACTIONS	± 0.005	(1) FRACTIONS	± 0.005
(2) DECIMALS	± 0.005	(2) DECIMALS	± 0.005	(2) DECIMALS	± 0.005	(2) DECIMALS	± 0.005	(2) DECIMALS	± 0.005	(2) DECIMALS	± 0.005
(3) ANGLES	± 0.005	(3) ANGLES	± 0.005	(3) ANGLES	± 0.005	(3) ANGLES	± 0.005	(3) ANGLES	± 0.005	(3) ANGLES	± 0.005

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**STEP 10**  
**MAIN STRUT RAISING. STRUT STOP ATTACHMENT AND BACKSTAY CONNECTION**

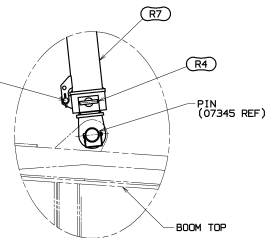
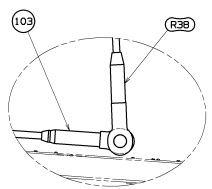
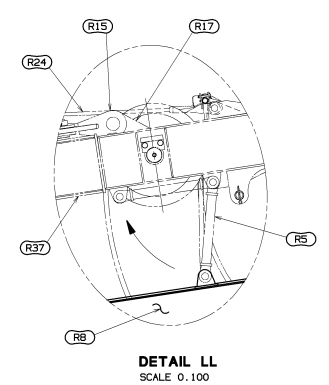
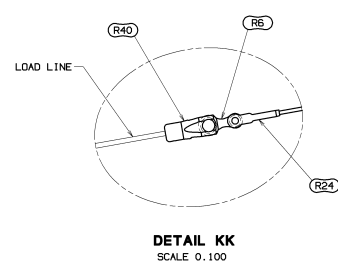
ROUTE LOAD LINE FROM FRONT DRUM OVER LEFT UPPER SHEAVE IN BOOM BUTT WIRE ROPE GUIDE. (SEE SECTION C-C ON SHEET 2). LAY LOAD LINE DOWN CENTER OF BOOM AND ALONG LEFT SIDE OF BOOM TOP WIRE ROPE GUIDE. CONTINUE RUN OF WIRE ROPE AND ATTACH TO SOCKET BUTTON (R40). (SEE DETAIL KK). ATTACH SOCKET BUTTON (R40) TO LINK (R6) AND PENDANT (24) THAT WERE PREVIOUSLY UNPINNED FROM PENDANT (R36) IN STEP 9 PER DETAIL FF ON SHEET 8.

HAUL IN THE LOAD LINE JUST ENOUGH TO SUPPORT THE MAIN STRUT (R37). UNPIN STRUT SUPPORTS (R5) FROM THE JIB STRUT (R8) AND ROTATE AND PIN STRUTS TO HORIZONTAL OR STORAGE POSITION ON THE MAIN STRUT (R37). (SEE DETAIL LL).

RAISE MAIN STRUT (R37) WITH LOAD LINE WHILE PAYING OUT LUFFING JIB HOIST LINE (DO NOT ALLOW LUFFING JIB HOIST TO GO INTO TENSION UNTIL MAIN STRUT IS NEAR VERTICAL). CONTINUE TO HAUL IN LOAD LINE AND PAY OUT LUFFING HOIST WIRE ROPE TO LOWER MAIN STRUT TO REAR.

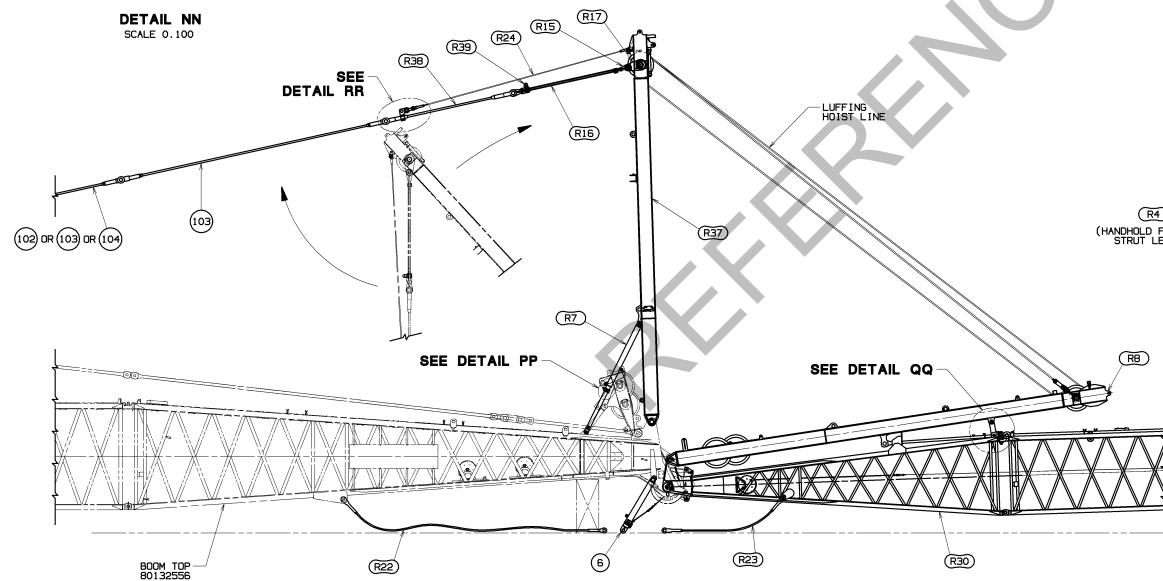
STOP LOWERING THE MAIN STRUT (R37) WHEN THE HOLES IN LUGS ON ENDS OF STRUT STOP INNER TUBES (R7) LINE UP WITH THE HOLES IN LUGS ON THE BOOM TOP. PIN THE LOWER STOP TUBE TO THE LUGS ON THE BOOM TOP WITH PINS 07345 FROM STRUT STOP ASSY (R7). (SEE DETAIL MM).

WITH BACKSTAY PENDANTS AND LINKS ASSEMBLED PER STEP 7, PIN VERTICALLY HANGING PENDANTS (R39) TO BASIC BACKSTAY PENDANTS (ITEM 103) ON BOOM TOP. (SEE DETAIL NN).



**DETAIL NN**  
 SCALE 0.100

**DETAIL MM**  
 SCALE 0.150



**STEP 11**  
**STRUT STOP ENGAGEMENT AND JIB STRUT DISCONNECT**

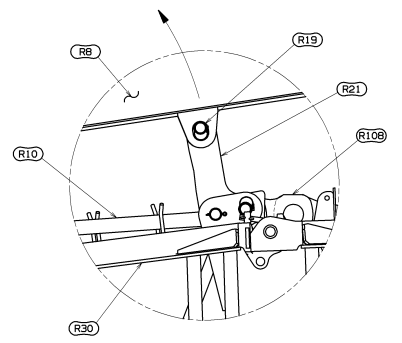
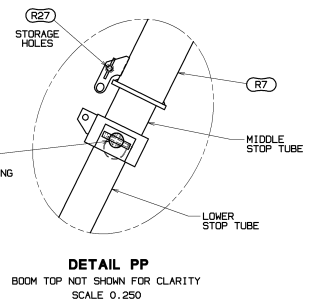
UNPIN THE LOAD LINE FROM THE STRUT HANDLING PENDANT LINK (R6). PIN STRUT HANDLING PENDANT (R24) AND LINK (R6) TO LEFT SIDE MAIN STRUT PENDANT (R36). (SEE DETAIL RR).

ENSURE QUICK-RELEASE PINS (R27) ARE STILL IN ERECTING HOLES (SEE DETAIL MM) TO RESTRICT MOVEMENT OF STOP TUBES. REMOVE STOP PINS (R4) FROM MIDDLE STOP TUBES. SLOWLY HAUL IN THE LUFFING HOIST WIRE ROPE UNTIL THE HOLES IN MIDDLE STOP TUBES LINE UP WITH THE UPPER HOLES IN LOWER STOP TUBES. INSTALL STOP PINS (R4) IN MIDDLE STOP TUBES. REMOVE QUICK-RELEASE PINS (R27) FROM ERECTING HOLES AND INSTALL THEM IN THE STORAGE HOLES. (SEE DETAILS MM AND PP).

LUFF UP OR DOWN AS REQUIRED TO LOOSEN HOLD-DOWN PINS (R19) IN STRUT SUPPORTS (R21). REMOVE HOLD-DOWN PINS (R19). LUFF UP UNTIL JIB STRAPS ON INSERT NEXT TO JIB BUTT ARE CLEAR OF STRAP BRACKETS. (JIB STRUT AT APPROXIMATELY 80°). STORE HOLD-DOWN PINS (R19) IN THE STRUT SUPPORTS (R21). (SEE DETAIL QQ).

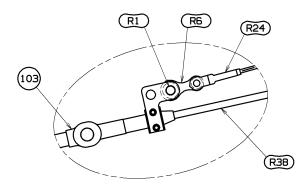
**CAUTION: DO NOT ALLOW JIB STRUT (R8) TO COME INTO CONTACT WITH BOOM TOP WHEN LUFFING UP. (JIB STRUT DAMAGE COULD OCCUR).**

REROUTE FRONT DRUM LOAD LINE USED FOR STRUT RAISING FROM BOOM BUTT WIRE ROPE GUIDE UPPER SHEAVE (R29) TO TOP OF LOWER SHEAVE ON BOOM BUTT. (SEE SECTION C-C ON SHEET 2 AND DETAIL A ON SHEET 1). REFER TO LOAD LINE REEVEING FOR ROUTING. CONSULT LUFFING JIB RAISING PROCEDURE TO DETERMINE WHEN LOWER BOOM POINT SHEAVES NEED TO BE REMOVED.

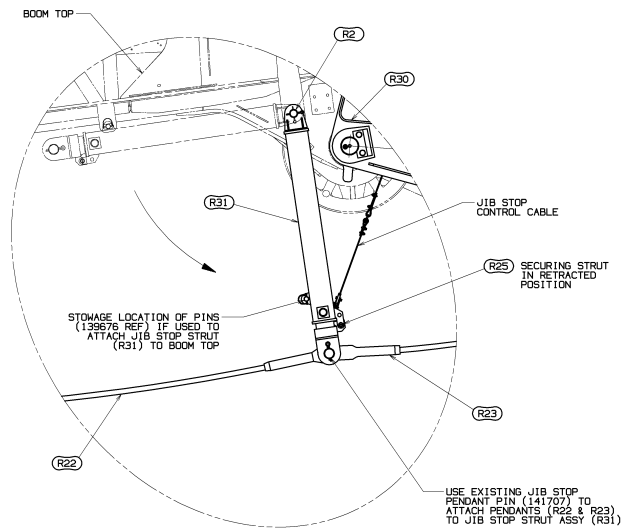


**DETAIL PP**  
 BOOM TOP NOT SHOWN FOR CLARITY  
 SCALE 0.250

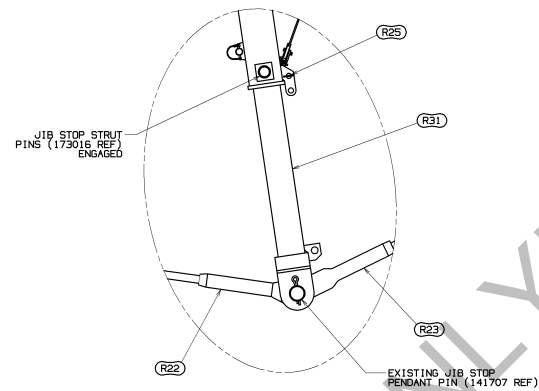
**DETAIL QQ**  
 SCALE 0.150



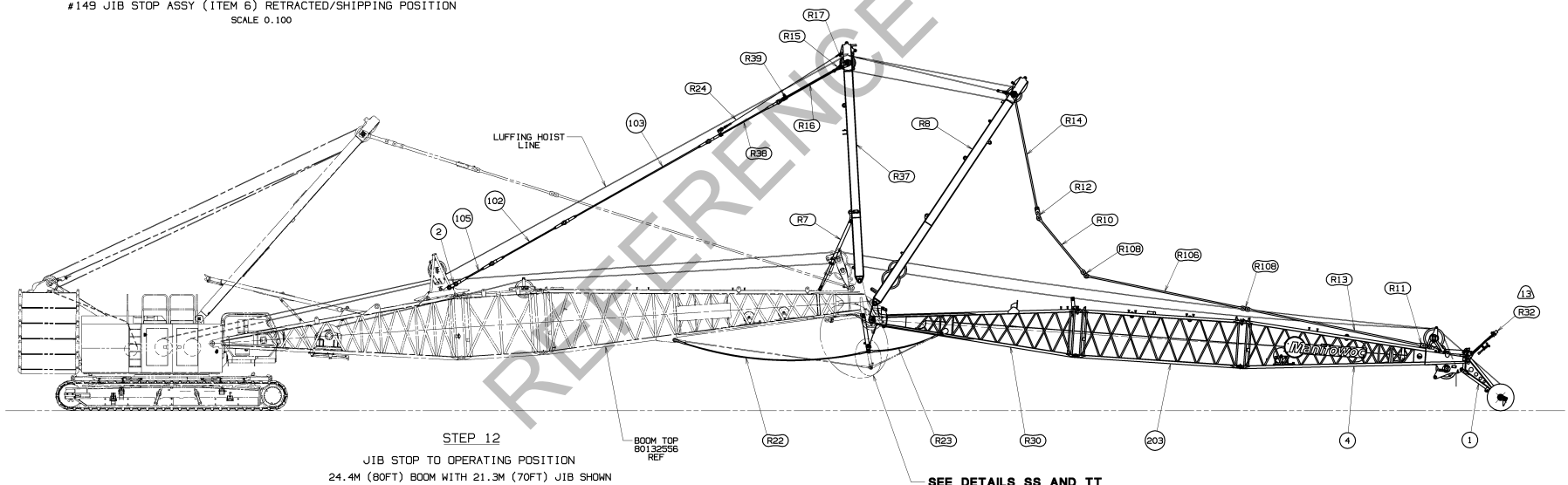
**DETAIL RR**  
 SCALE 0.100



**DETAIL SS**  
#149 JIB STOP ASSY (ITEM 6) RETRACTED/SHIPPING POSITION  
SCALE 0.100



**DETAIL TT**  
#149 JIB STOP ASSY (ITEM 6) EXTENDED/WORKING  
SCALE 0.150



**STEP 12**  
JIB STOP TO OPERATING POSITION  
24.4M (80FT) BOOM WITH 21.3M (70FT) JIB SHOWN

SEE DETAILS SS AND TT

IF JIB STOP STRUT ASSY (R31) IS IN STORAGE LOCATION ON BOOM TOP, SUPPORT STRUT AND REMOVE STORAGE PINS CONNECTING STRUT TO BOOM TOP. LOWER THE JIB STOP STRUT TO THE OPERATING POSITION. STORE PINS ON OUTER TUBE LUGS OF STRUT. (SEE DETAIL SS).

USING THE HAND WINCH ON THE JIB TOP (SEE DETAIL CC ON SHEET 8), SLACKEN THE JIB STOP CONTROL CABLE UNTIL IT RESTS ON THE BOTTOM LACINGS OF THE JIB.

**WARNING:**  
JIB STOP INNER STRUT WILL NOT EXTEND PROPERLY AND PINS WILL NOT ENGAGE IF CONTROL CABLE IS TIGHT.

SLOWLY BOOM UP TO ALLOW 2 TO 4 FT (0.6 TO 1.2 M) CLEARANCE BETWEEN ENDS OF JIB STOP INNER STRUT AND GROUND. IF NOT ALREADY ATTACHED PIN JIB STOP PENDANTS (R22) TO BOOM TOP LUGS AND JIB STOP PENDANTS (R23) TO JIB BUTT LUGS.

PIN JIB STOP PENDANTS TO JIB STOP INNER STRUT (R31). (SEE DETAIL SS). STAND TO SIDE OF JIB STOP STRUT (R31) AND REMOVE QUICK RELEASE PIN (R25) FROM BOTH SIDES OF THE JIB STOP STRUT. (SEE DETAIL TT).

**NOTE:** INNER STRUT WILL EXTEND SLIGHTLY WHEN THIS STEP IS PERFORMED.

STORE QUICK RELEASE PIN (R25) IN THE STORAGE HOLES ON OUTER STRUT. (SEE DETAIL TT).

**NOTE:** REFER TO OPERATOR MANUAL FOR ADDITIONAL PROCEDURE WHEN LOWER BOOM POINT IS RECEIVED.

SLOWLY BOOM UP UNTIL THE JIB STOP INNER STRUT IS FULLY EXTENDED. THE BOOM TO LUFFING JIB ANGLE WILL BE APPROXIMATELY 168°. JIB STOP STRUT PINS WILL ENGAGE AUTOMATICALLY WHEN THE INNER STRUT IS FULLY EXTENDED. DO NOT RAISE THE BOOM ANY HIGHER UNTIL BOTH PINS ARE ENGAGED. (SEE DETAIL TT).

USING THE HAND WINCH ON THE JIB TOP (SEE DETAIL CC ON SHEET 8), VERIFY THAT THE JIB STOP CONTROL CABLE IS SLACK AND RESTS ON THE BOTTOM LACINGS OF THE JIB.

**WARNING:**  
JIB STOP CONTROL CABLE MUST BE SLACK AT ALL TIMES DURING LUFFING JIB OPERATION; OTHERWISE, PINS MAY DISENGAGE OR CABLE MAY BREAK.

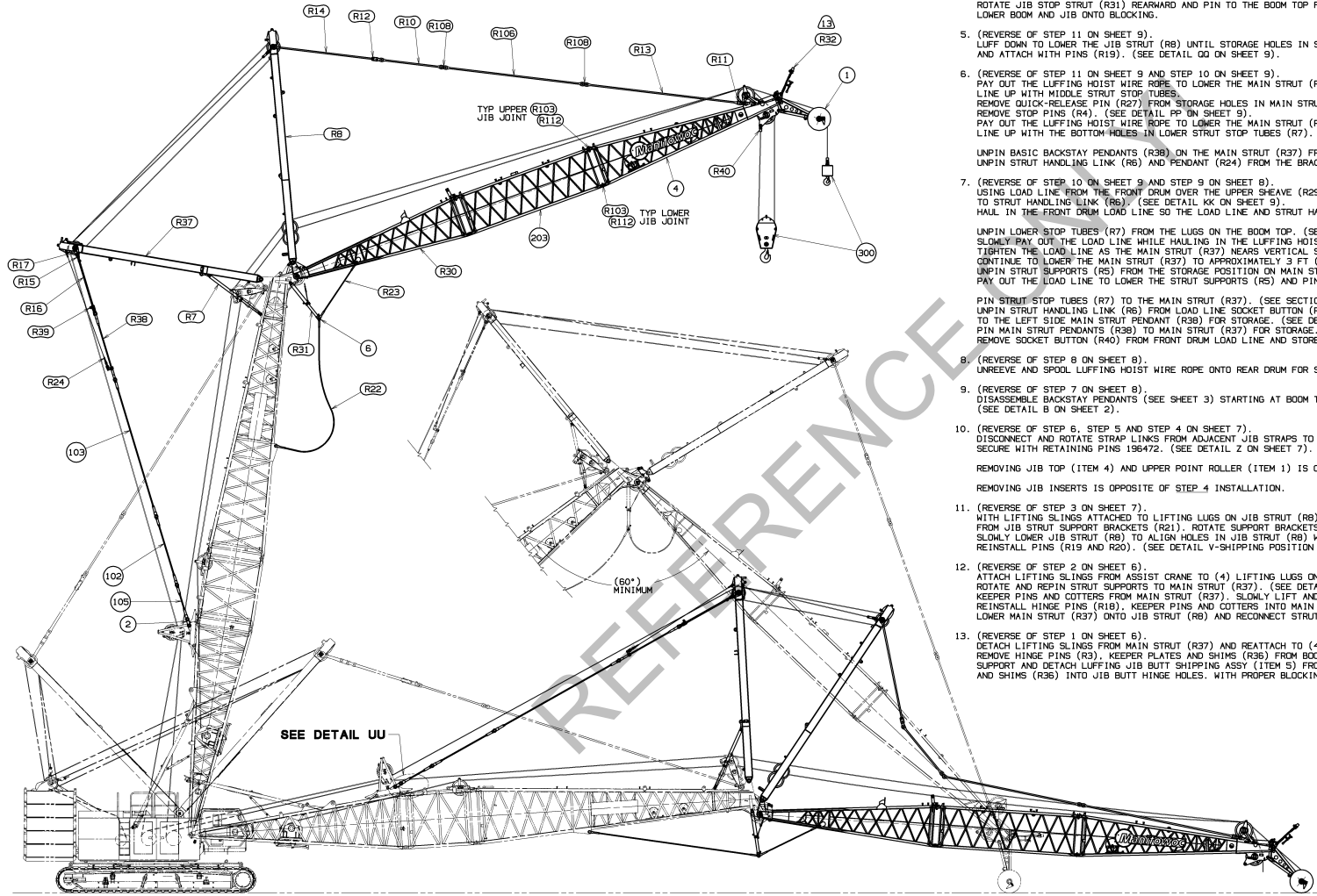
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(1) PLACE	0.00	+0.18	-0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
(2) PLACE	0.00	+0.18	-0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
(3) PLACE	0.00	+0.18	-0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ANGLES	1/16"		1/32"		1/64"		1/32"		1/64"		1/32"		1/64"		1/32"	

0.75	Manitowoc Cranes, Inc.	09-19-23
DR: RLV	Manitowoc, Wisconsin	REV: 1
DR: TRG	MAN/MLC250	149 ON B2A
APP: JRR		

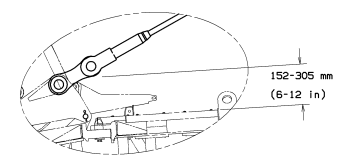
BOOM/JIB LOWERING AND DISASSEMBLY PROCEDURE

BILL OF MATERIAL			
REV	DESCRIPTION	MATERIAL	QUANTITY

- REFER TO LUFFING JIB RAISING PROCEDURE 9928-A/AM FOR MAXIMUM ALLOWABLE WEIGHT BENEATH BOOM AND JIB POINT SHEAVES.
- POSITION THE BOOM AT 85° AND POSITION THE JIB AT THE REQUIRED BOOM TO LUFFING JIB ANGLE.  
(DO NOT LOWER BOOM AND JIB TO GROUND UNTIL THIS STEP HAS BEEN COMPLETED).  
CAUTION: DO NOT UNDER ANY CONDITION ALLOW BOOM TO LUFFING JIB ANGLE TO BECOME LESS THAN 60°. (STRUCTURAL DAMAGE CAN OCCUR).
- (REVERSE OF STEP 13 ON SHEET 11).  
SLOWLY LOWER THE BOOM UNTIL THE JIB POINT ROLLERS CONTACT THE GROUND.  
THE JIB STRAPS AND BACKSTAY PENDANTS WILL SLACKEN AS THE BOOM AND JIB LOWER. LUFF UP AND DOWN, AS REQUIRED, WHILE THE BOOM AND JIB LOWER SO THE JIB STRAP REMAIN ABOVE THE JIB CHORD.  
(DO NOT SUPPORT BOOM OR JIB WITH JIB STOP STRUT)
- (REVERSE OF STEP 12 ON SHEET 10 AND STEP 7 ON SHEET 8).  
CONTINUE LOWERING UNTIL THE JIB STOP PENDANTS START TO GO INTO TENSION (APPROXIMATELY 168° BOOM TO JIB ANGLE).  
DISENGAGE THE JIB STOP STRUT FROM THE HAND WINCH ON THE JIB TOP (ITEM 4).  
CONTINUE LOWERING UNTIL JIB STOP IS 2 TO 4 FT (0.6 TO 1.2M) ABOVE THE GROUND.  
RETRACT THE JIB STOP INNER STRUT AND CONNECT THE JIB STOP INNER STRUT TO THE OUTER STRUT IN THE RETRACTED POSITION.  
UNPIN JIB STOP PENDANT (R22) FROM BOOM TOP AND JIB STOP (R31). REINSTALL JIB STOP PINS (R4).  
LOWER LOOSE PENDANTS (R22 AND R23) TO THE GROUND.  
DISCONNECT CONTROL CABLE FROM THE HAND WINCH TO CABLE EXTENSION IN THE JIB BUTT (R30). (SEE DETAIL BB ON SHEET 8).  
DISCONNECT END OF JIB BUTT CONTROL CABLE NEAR JIB HINGE FROM END OF JIB STOP (R31) CONTROL CABLE. (SEE DETAIL DO ON SHEET 8).  
ROTATE JIB STOP STRUT (R31) REARWARD AND PIN TO THE BOOM TOP FOR STORAGE OR STORE SEPARATELY WITH PENDANTS (R22 AND R23).  
LOWER BOOM AND JIB ONTO BLOCKING.



- (REVERSE OF STEP 11 ON SHEET 9).  
LUFF DOWN TO LOWER THE JIB STRUT (R8) UNTIL STORAGE HOLES IN STRUT LINE UP WITH HOLES IN STRUT SUPPORT (R21) AND ATTACH WITH PINS (R19). (SEE DETAIL QQ ON SHEET 9).
- (REVERSE OF STEP 11 ON SHEET 9 AND STEP 10 ON SHEET 9).  
PAY OUT THE LUFFING HOIST WIRE ROPE TO LOWER THE MAIN STRUT (R37) UNTIL OUTER STRUT STOP TUBE ERECTING HOLES LINE UP WITH MIDDLE STRUT STOP TUBES.  
REMOVE QUICK-RELEASE PIN (R27) FROM STORAGE HOLES IN MAIN STRUT STOP TUBES (R7) AND INSTALL IN ERECTING HOLES. REMOVE STOP PINS (R4). (SEE DETAIL PP ON SHEET 9).  
PAY OUT THE LUFFING HOIST WIRE ROPE TO LOWER THE MAIN STRUT (R7) UNTIL THE HOLES IN MIDDLE STRUT STOP TUBES (R7) LINE UP WITH THE BOTTOM HOLES IN LOWER STRUT STOP TUBES (R4). (SEE DETAIL MM ON SHEET 9).  
UNPIN BASIC BACKSTAY PENDANTS (R36) ON THE MAIN STRUT (R37) FROM THE BACKSTAY PENDANTS (ITEM 103) ON THE BOOM.  
UNPIN STRUT HANDLING LINK (R6) AND PENDANT (R24) FROM THE BRACKET ON LEFT SIDE MAIN STRUT PENDANT (R36). (SEE DETAIL RR ON SHEET 9).
- (REVERSE OF STEP 10 ON SHEET 9 AND STEP 9 ON SHEET 8).  
USING LOAD LINE FROM THE FRONT DRUM OVER THE UPPER SHEAVE (R29) IN WIRE ROPE GUIDE PIN WIRE ROPE SOCKET BUTTON (R40) TO STRUT HANDLING LINK (R6). (SEE DETAIL KK ON SHEET 9).  
HAUL IN THE FRONT DRUM LOAD LINE SO THE LOAD LINE AND STRUT HANDLING PENDANT (R24) ARE JUST SLIGHTLY SLACK.  
UNPIN LOWER STOP TUBES (R7) FROM THE LUGS ON THE BOOM TOP. (SEE DETAIL MM ON SHEET 9).  
SLOWLY PAY OUT THE LOAD LINE WHILE HAULING IN THE LUFFING HOIST WIRE ROPE TO RAISE THE MAIN STRUT (R37) TO VERTICAL. TIGHTEN THE LOAD LINE AS THE MAIN STRUT (R37) NEARS VERTICAL SO THE STRUT MOVES SMOOTHLY PAST VERTICAL.  
CONTINUE TO LOWER THE MAIN STRUT (R37) TO APPROXIMATELY 3 FT (1 M) ABOVE THE JIB STRUT (R8).  
UNPIN STRUT SUPPORTS (R5) FROM THE STORAGE POSITION ON MAIN STRUT (R37) AND ALLOW THEM TO HANG VERTICALLY. PAY OUT THE LOAD LINE TO LOWER THE STRUT SUPPORTS (R5) AND PIN TO LUGS ON JIB STRUT (R8). (SEE DETAIL LL ON SHEET 9).  
PIN STRUT STOP TUBES (R7) TO THE MAIN STRUT (R37). (SEE SECTION JJ-JJ ON SHEET 8).  
UNPIN STRUT HANDLING LINK (R6) FROM LOAD LINE SOCKET BUTTON (R40) AND PIN HANDLING LINK (R6) AND PENDANT (R24) TO THE LEFT SIDE MAIN STRUT PENDANT (R36) FOR STORAGE. (SEE DETAIL FF ON SHEET 8).  
PIN MAIN STRUT PENDANTS (R36) TO MAIN STRUT (R37) FOR STORAGE. (SEE DETAIL HH ON SHEET 8).  
REMOVE SOCKET BUTTON (R40) FROM FRONT DRUM LOAD LINE AND STORE.
- (REVERSE OF STEP 8 ON SHEET 8).  
UNREEVE AND SPOOL LUFFING HOIST WIRE ROPE ONTO REAR DRUM FOR STORAGE.
- (REVERSE OF STEP 7 ON SHEET 8).  
DISASSEMBLE BACKSTAY PENDANTS (SEE SHEET 3) STARTING AT BOOM TOP AND WORKING TOWARD BOOM BUTT WIRE ROPE GUIDE. (SEE DETAIL B ON SHEET 2).
- (REVERSE OF STEP 6, STEP 5 AND STEP 4 ON SHEET 7).  
DISCONNECT AND ROTATE STRAP LINKS FROM ADJACENT JIB STRAPS TO STORAGE POSITION.  
SECURE WITH RETAINING PINS 196472. (SEE DETAIL Z ON SHEET 7).  
REMOVING JIB TOP (ITEM 4) AND UPPER POINT ROLLER (ITEM 1) IS OPPOSITE OF STEP 5 INSTALLATION.  
REMOVING JIB INSERTS IS OPPOSITE OF STEP 4 INSTALLATION.
- (REVERSE OF STEP 3 ON SHEET 7).  
WITH LIFTING SLINGS ATTACHED TO LIFTING LUGS ON JIB STRUT (R8) SUPPORT JIB STRUT WHILE REMOVING STRUT SUPPORT PINS (R19) FROM JIB STRUT SUPPORT BRACKETS (R21). ROTATE SUPPORT BRACKETS (R21) TO HORIZONTAL POSITION.  
SLOWLY LOWER JIB STRUT (R8) TO ALIGN HOLES IN JIB STRUT (R8) WITH HOLES IN LOCKING BRACKET (R21).  
REINSTALL PINS (R19 AND R20). (SEE DETAIL V-SHIPPING POSITION ON SHEET 7).
- (REVERSE OF STEP 2 ON SHEET 6).  
ATTACH LIFTING SLINGS FROM ASSIST CRANE TO (4) LIFTING LUGS ON MAIN STRUT (R37). UNPIN STRUT SUPPORTS (R5) FROM JIB STRUT (R8). ROTATE AND REPIN STRUT SUPPORTS TO MAIN STRUT (R37). (SEE DETAIL U ON SHEET 6). TEMPORARILY REMOVE HINGE PINS (R18).  
KEEPER PINS AND COTTERS FROM MAIN STRUT (R37). SLOWLY LIFT AND SUPPORT MAIN STRUT (R37) AWAY FROM BOOM TOP.  
REINSTALL HINGE PINS (R18). KEEPER PINS AND COTTERS INTO MAIN STRUT HINGE HOLE.  
LOWER MAIN STRUT (R37) ONTO JIB STRUT (R8) AND RECONNECT STRUT SUPPORTS (R5) TO JIB STRUT (R8). (SEE DETAIL R ON SHEET 6).
- (REVERSE OF STEP 1 ON SHEET 6).  
DETACH LIFTING SLINGS FROM MAIN STRUT (R37) AND REATTACH TO (4) LIFTING LUGS ON JIB STRUT (R8).  
REMOVE HINGE PINS (R3). KEEPER PLATES AND SHIMS (R36) FROM BOOM TOP/JIB BUTT HINGE. (SEE DETAIL P ON SHEET 6).  
SUPPORT AND DETACH LUFFING JIB BUTT SHIPPING ASSY (ITEM 5) FROM BOOM TOP AND REINSTALL HINGE PINS (R3). KEEPER PLATES AND SHIMS (R36) INTO JIB BUTT HINGE HOLES. WITH PROPER BLOCKING IN PLACE LOWER LUFFING JIB BUTT SHIPPING ASSY (ITEM 5) TO GROUND.



DETAIL UU  
SCALE 0.075

STEP 13  
(SEE LUFFING JIB RAISING PROCEDURE 9928-A/AM)  
JACK-KNIFE LUFFING JIB RAISING PROCEDURE  
24.4M (80FT) BOOM WITH 21.3M (70FT) JIB SHOWN

BOOM UP WHILE LUFFING JIB POINT WHEELS ROLL ON GROUND.  
LUFF UP AND DOWN, AS REQUIRED, WHILE THE BOOM AND JIB RISE SO THE BACKSTAY PENDANT CONNECTORS REMAIN 152-305mm (6-12in) ABOVE THE JIB CHORD (SEE DETAIL UU) AND THE JIB STRAPS REMAIN SLACK AND LAY ON JIB TOP.

WHEN LOWERING BOOM TO JIB ANGLE IS REACHED, SLOWLY LUFF UP UNTIL JIB STRAPS START TO GO INTO TENSION.

CAUTION:  
DO NOT UNDER ANY CONDITION ALLOW BOOM TO LUFFING JIB ANGLE TO BECOME LESS THAN 60°. (STRUCTURAL DAMAGE CAN OCCUR).

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

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		019 Martinowicz Cranes, Inc. Milwaukee, Wisconsin LUFFING JIB RIGGING	019 Martinowicz Cranes, Inc. Milwaukee, Wisconsin LUFFING JIB RIGGING

