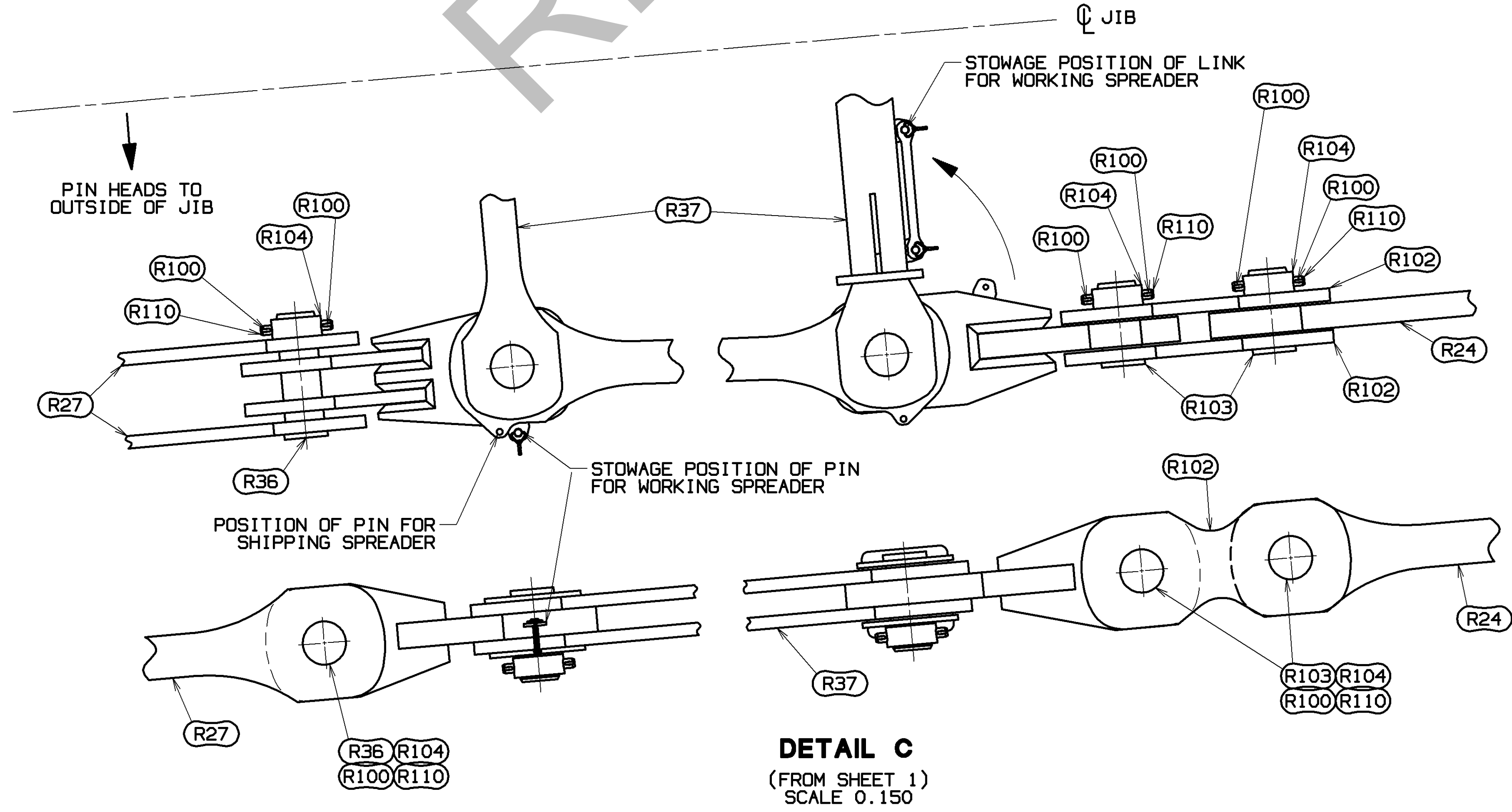


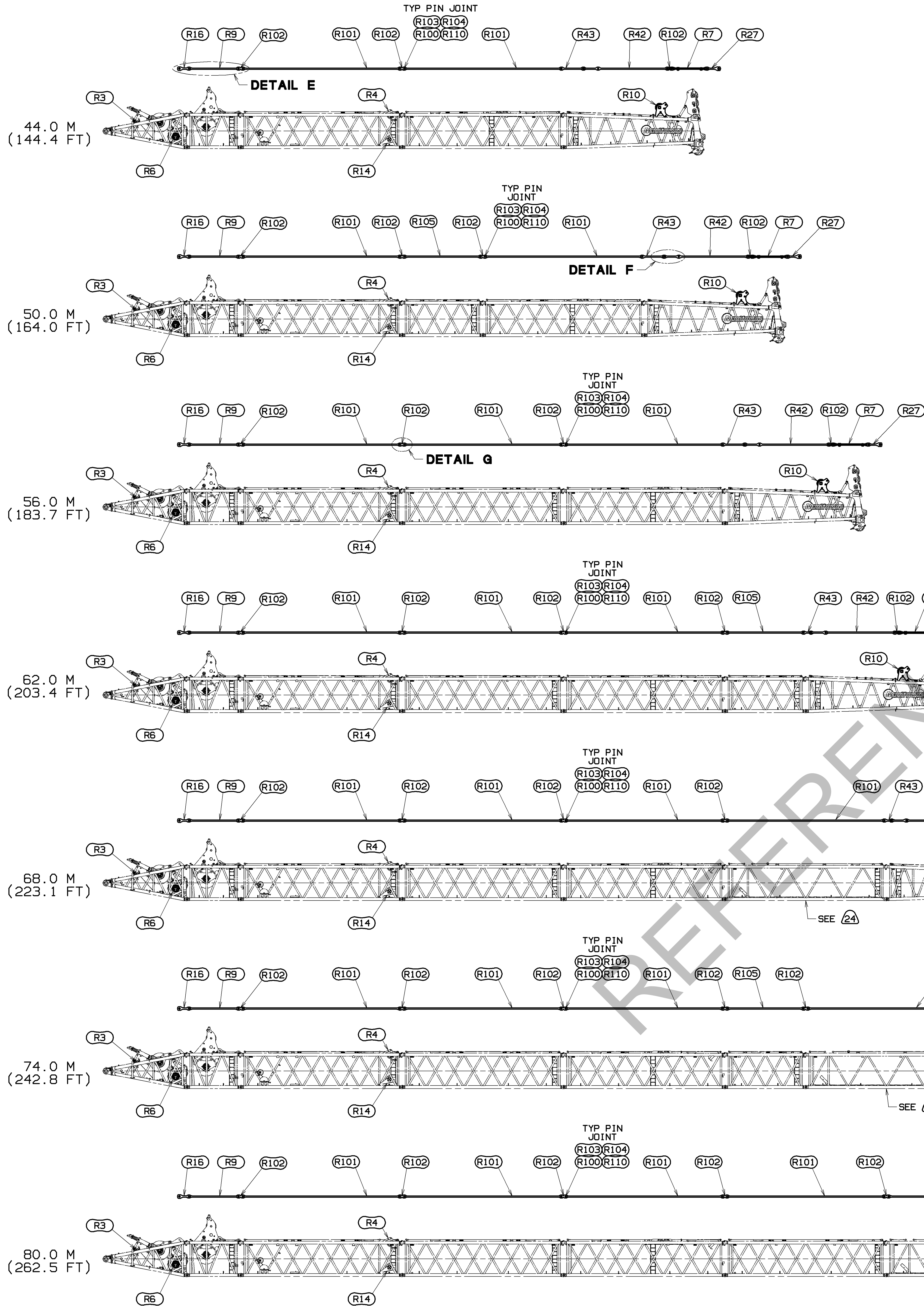
ITEMS REQ'D FOR VARIOUS JIB LENGTHS - SEE SHEETS 5 & 6 FOR JIB MAKE-UP																		
		#681 INSERTS			#682 INSERTS			STRAP					LINK	PIN		COTTER	COLLAR	SUSPENSION
ITEM NO.		105	101	103	100	104	102	R101	R107	R109	R105	R106	R102	R103	R110	R100	R104	R108 (A9)
JIB LENGTH		INSERT 12M (39.4FT) ASSY	INSERT 6M (19.7FT) ASSY	INSERT 3M (9.8FT) ASSY	INSERT 12M (39.4FT) ASSY	INSERT 12M (39.4FT) SUSP ASSY	INSERT 6M (19.7FT) ASSY	STRAP 12M (39.4FT)	STRAP LONG W/SUSP	STRAP SHORT W/SUSP	STRAP 6M (19.7FT)	STRAP 3M (9.8FT)	LINK	PIN	PIN	COTTER	COLLAR	PENDANT BUTTON NUMBER SEE (A9)
METERS	FEET																	
26	85.3	0	0	0	0	0	0	0	0	0	0	0	8	18	20	60	20	-
29	95.1	0	0	1	0	0	0	0	0	0	0	2	12	22	24	68	24	-
32	105.0	0	1	0	0	0	0	0	0	0	2	0	12	22	24	68	24	-
35	114.8	0	1	1	0	0	0	0	0	0	2	2	16	26	28	76	28	-
38	124.7	1	0	0	0	0	0	2	0	0	0	0	12	22	24	68	24	-
41	134.5	1	0	1	0	0	0	2	0	0	0	2	16	26	28	76	28	-
44	144.4	1	1	0	0	0	0	2	0	0	2	0	16	26	28	76	28	-
47	154.2	1	1	1	0	0	0	2	0	0	2	2	20	30	32	84	32	-
50	164.0	1	1	0	0	0	1	2	0	0	4	0	20	30	32	84	32	-
53	173.9	1	1	1	0	0	1	2	0	0	4	2	24	34	36	92	36	-
59	193.6	1	1	1	OR 0 1	1 0	0	2 4	2 0	2 0	2	2	28 24	38 34	40 36	100 92	40 36	-
65	213.3	1	1	1	0	1	1	2	2	2	4	2	32	42	44	108	44	4
71	232.9	1	1	1	1	1	0	4	2	2	2	2	32	42	44	108	44	2
77	252.6	1	1	1	1	1	1	4	2	2	4	2	36	46	48	116	48	3
83	272.3	1	1	1	2	1	0	6	2	2	2	2	36	46	48	116	48	3
89	292.0	1	1	1	2	1	1	6	2	2	4	2	40	50	52	124	52	1
95	311.7	1	1	1	3	1	0	8	2	2	2	2	40	50	52	124	52	2
101	331.4	1	1	1	3	1	1	8	2	2	4	2	44	54	56	132	56	3

ITEMS REQ'D FOR VARIOUS BOOM LENGTHS - SEE SHEETS 3 & 4 FOR BOOM MAKE-UP									
		STRAP		LINK	PIN		COTTER	COLLAR	JIB BACKSTAY ADJUSTMENT HOLE SEE DETAIL F ON SHEET 3
ITEM NO.		R101	R105	R102	R103	R110	R100	R104	
BOOM LENGTH		STRAP 12M (39.4FT)	STRAP 6M (19.7FT)	LINK	PIN	PIN	COTTER	COLLAR	
METERS	FEET								
44	144.4	4	0	12	18	20	40	20	A
50	164.0	4	2	16	22	24	48	24	A
56	183.7	6	0	16	22	24	48	24	A
62	203.4	6	2	20	26	28	56	28	B
68	223.1	8	0	20	26	28	56	28	B
74	242.8	8	2	24	30	32	64	32	B
80	262.5	10	0	24	30	32	64	32	B
86	282.2	10	2	28	34	36	72	36	B
92	301.8	12	0	28	34	36	72	36	B
98	321.5	12	2	32	38	40	80	40	B
104	341.2	14	0	32	38	40	80	40	B

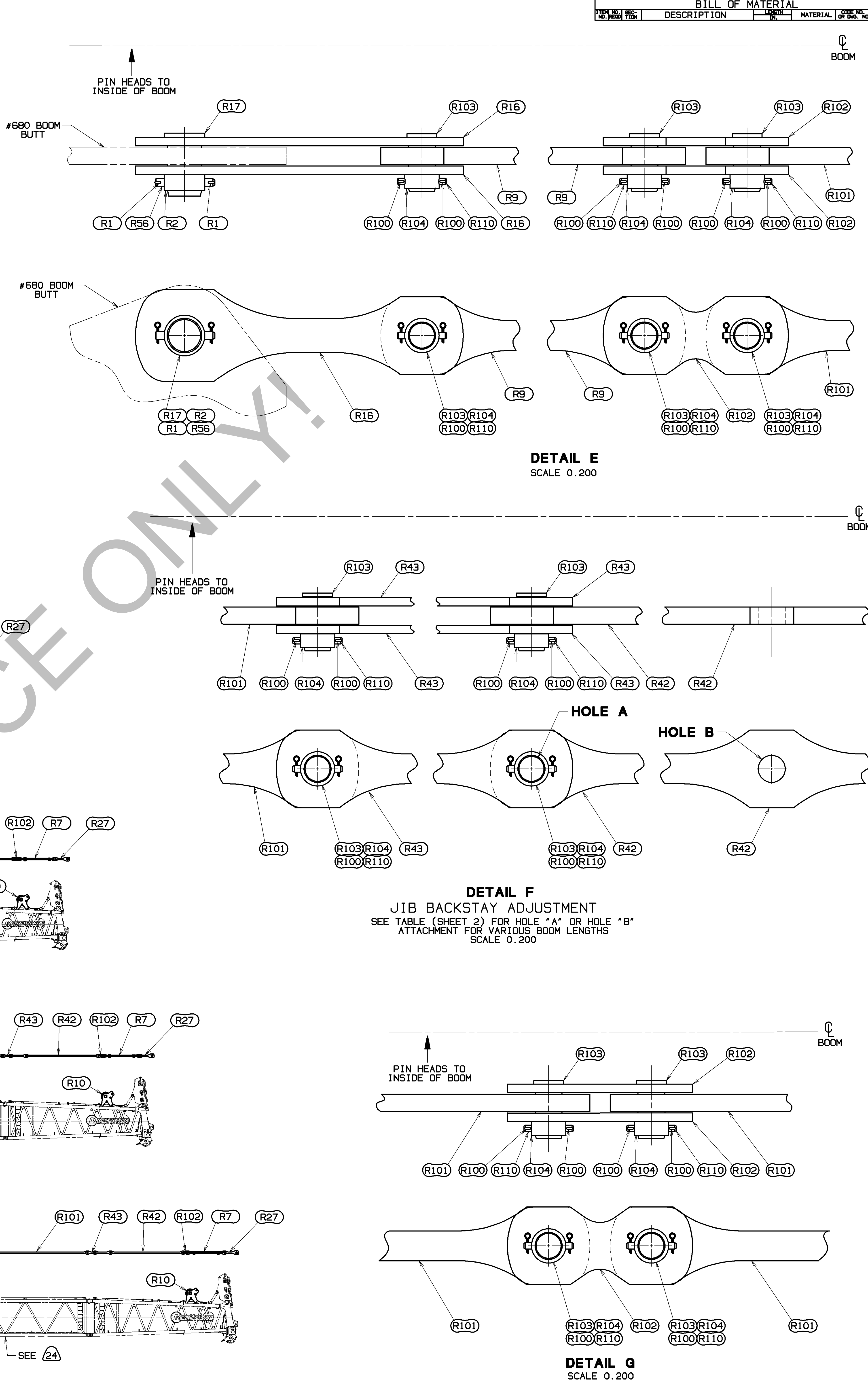
(DELTA NOTES CONTINUED FROM SHET 1)

- (A30) FOR ASSEMBLY AND RIGGING PURPOSE ONLY. STOWS ON 12M INSERT 81021310 (ITEM 5). SEE DETAIL AAA ON SHEET 11.
- (A31) FOR SHIPPING OF STRUT TOP (ITEM 2) AND REEVING OF LUFFING HOIST ROPE (DRUM 6).
- (C6) (A32) USE DRUM 2 IF AVAILABLE. WHEN USING DRUM 1 FOR STRUT RAISING 74M MINIMUM OF BOOM IS REQUIRED FOR PROPER WRAP ON THE 4M FLEETING SHEAVE. FOR SHORTER BOOMS AN ASSIST CRANE IS REQUIRED FOR STRUT RAISING OR DRUM 1 CAN BE USED PER INSTRUCTIONS AT STEP 10 ON SHEET 11.
- (A33) CAN BE MADE FROM 81029961
- (A34) FOR MAKEUP OF BOOM SEE BOOM RIGGING B60:680 DRAWING 81022686
- (D6B6) (A35) SEE BLOCK REEVING DRAWING 84029919 FOR 1 DRUM RIGGING CONFIGURATION OPTIONS AND INSTRUCTIONS. SEE RIGGING WINCH ASSY 81026267 FOR BLOCK AND WIRE ROPE ASSEMBLY.
- (D7B7) (A36) SEE BLOCK REEVING DRAWING 84029920 FOR 2 DRUM RIGGING CONFIGURATION OPTIONS AND INSTRUCTIONS. SEE RIGGING WINCH ASSY 81026267 FOR BLOCK AND WIRE ROPE ASSEMBLY.
- (B8) (A37) RELOCATE FROM MAIN BOOM. (STOWS ON #680 BOOM INSERT 81021996).
- (C8) (A38) USE FOR 2 PART LINE ON UPPER BOOM POINT. CAN BE USED WITH 28MM ROPE ONLY.
- (D8) (A39) SUSPENSION PENDANT MAY APPEAR SLACK DURING RAISING AND OPERATION. CHECK SUSPENSION LOCATION AND PENDANT BUTTON NUMBER AND CONTINUE OPERATION.
- (D9) (A40) IF EQUIPPED WITH LOWER BOOM CONNECTOR PIN COMPONENTS USED WITH HAND HELD CYLINDER (R204) 81030768. SEE DETAIL HHH ON SHEET 13.
- IF EQUIPPED WITH MANUAL LOWER BOOM CONNECTOR PINS, SEE DETAIL LLL ON SHEET 13.
- (D10) (A41) MAST RIGGING M10:684 (R13) CONTAINS MAST BUTT ASSY 81025380 WITH "PASSIVE" FIXED MAST STOP. MAST RIGGING M11:684 (R58) CONTAINS MAST BUTT ASSY 84041644 WITH "ACTIVE" FIXED MAST STOP.





REQ'D. #680 BOOM/BACKSTAY STRAP ASSEMBLY
SEE TABLE ON SHEET 2
FOR TYP PIN JOINT SEE DETAILS A, B, E, F & G
SEE 34



BILL OF MATERIAL			
QTY	DESC	UNIT	NO

ASSEMBLED USED ON

81022910
SHT 3 OF 16

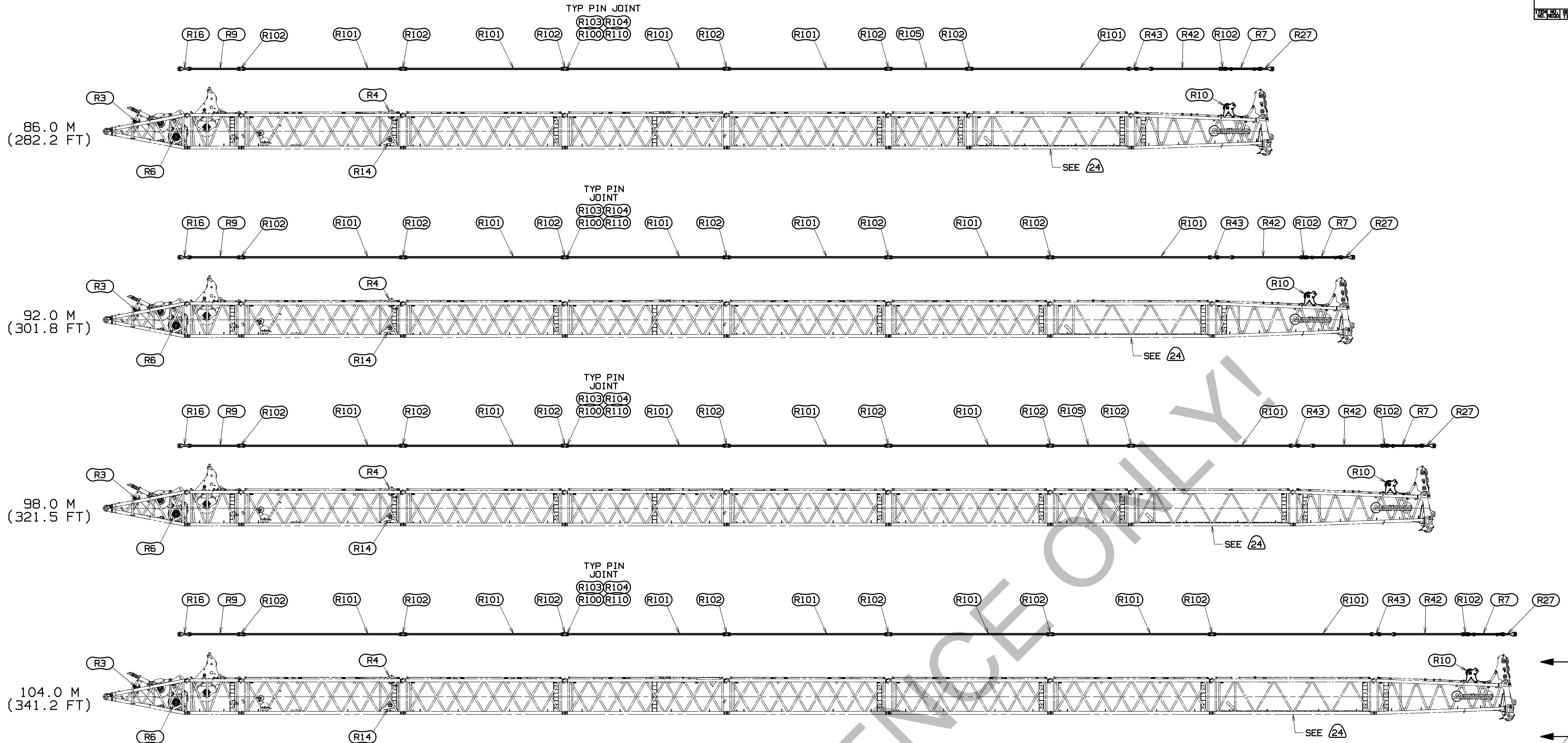
TOLERANCE UNLESS OTHERWISE SPECIFIED			
DECIMAL PLACES	FRACTIONS	INCHES	MILLIMETERS
(1) PLACE 0.0	± 1/16	± 0.06	± 1.5
(2) PLACE 0.00	± 1/32	± 0.015	± 0.38
(3) PLACE 0.000	± 1/64	± 0.006	± 0.15
ANGLES	± 30'	± 30'	± 30'

DATE	10-09-15
REV. LTR.	D

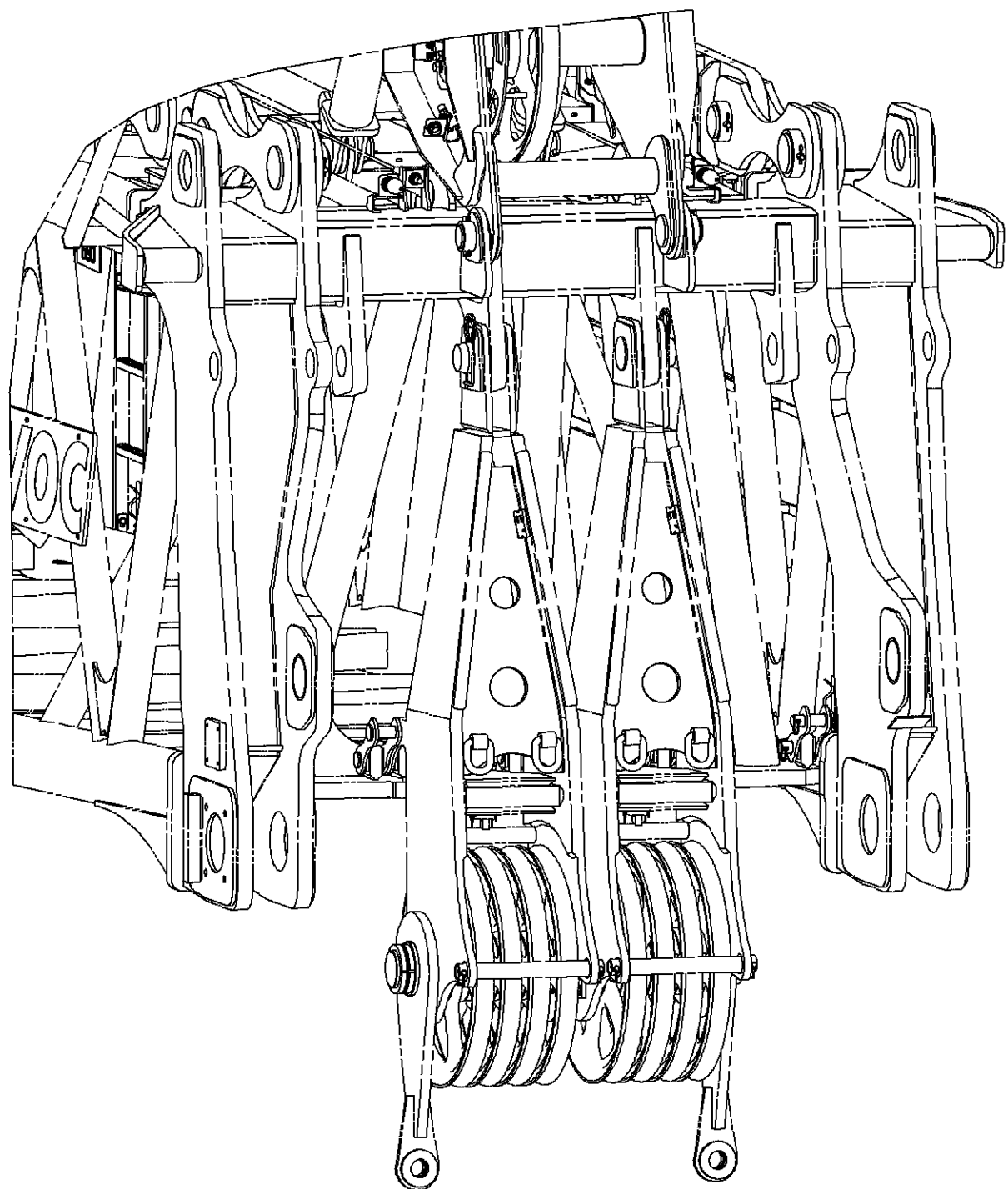
MANUFACTURED BY	Manitowoc Cranes, Inc.
MODEL	MLC650
APP TJA	

LUFFING JIB RIGGING
LJ on B60

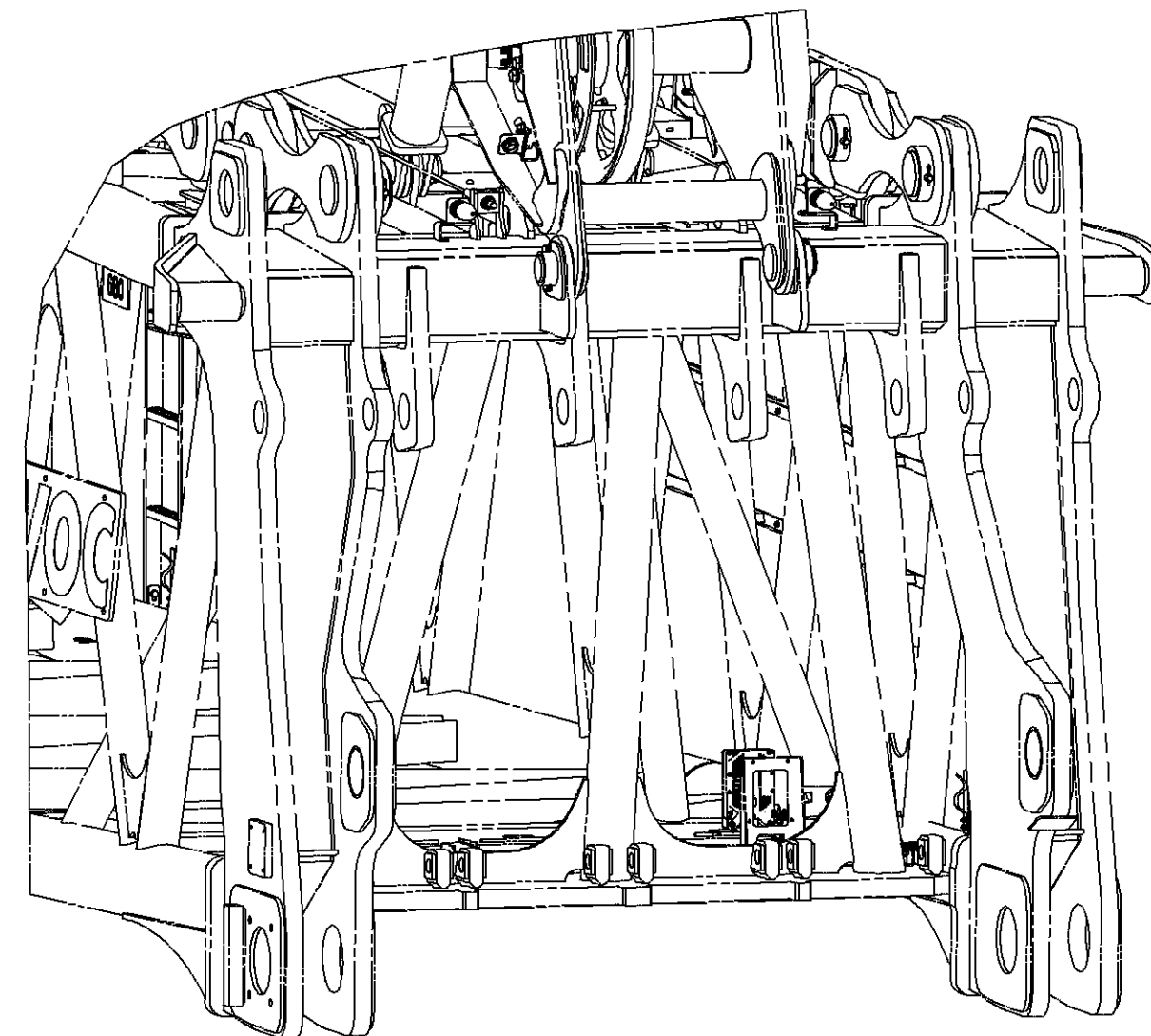
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CONFORM TO
ENGINEERING
SPECIFICATION
8629103794 FOR
COMPONENTS LISTED
IN 862910-06-026



REQ'D. #680 BOOM/BACKSTAY STRAP ASSEMBLY
SEE TABLE ON SHEET 2
FOR TYP PIN JOINT SEE DETAILS A, B, E, F & G
SEE 24



OPTION W/O BASIC CONFIGURATION
FOR BOOM W/LUFFING JIB
(2) 4 SHEAVE CENTER PACKS
SCALE 0.050



W/O BASIC AND OPTION CONFIGURATION
FOR BOOM W/LUFFING JIB
WITHOUT SHEAVE PACKS
SCALE 0.050

BILL OF MATERIAL					ASSEMBLED USED ON
QTY	UNIT	DESCRIPTION	LOCATION	MATERIAL	DATE

QTY	UNIT	DESCRIPTION	LOCATION	MATERIAL	DATE
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REV	DESCRIPTION
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81022910
SHT 4 OF 16

PRIVATE LABELING
REQUIREMENT TO
CONFORM TO
ENGINEERING
SPECIFICATION
8829103794 FOR
COMPONENTS LISTED
IN 882910-06-006

DATE
10-09-15

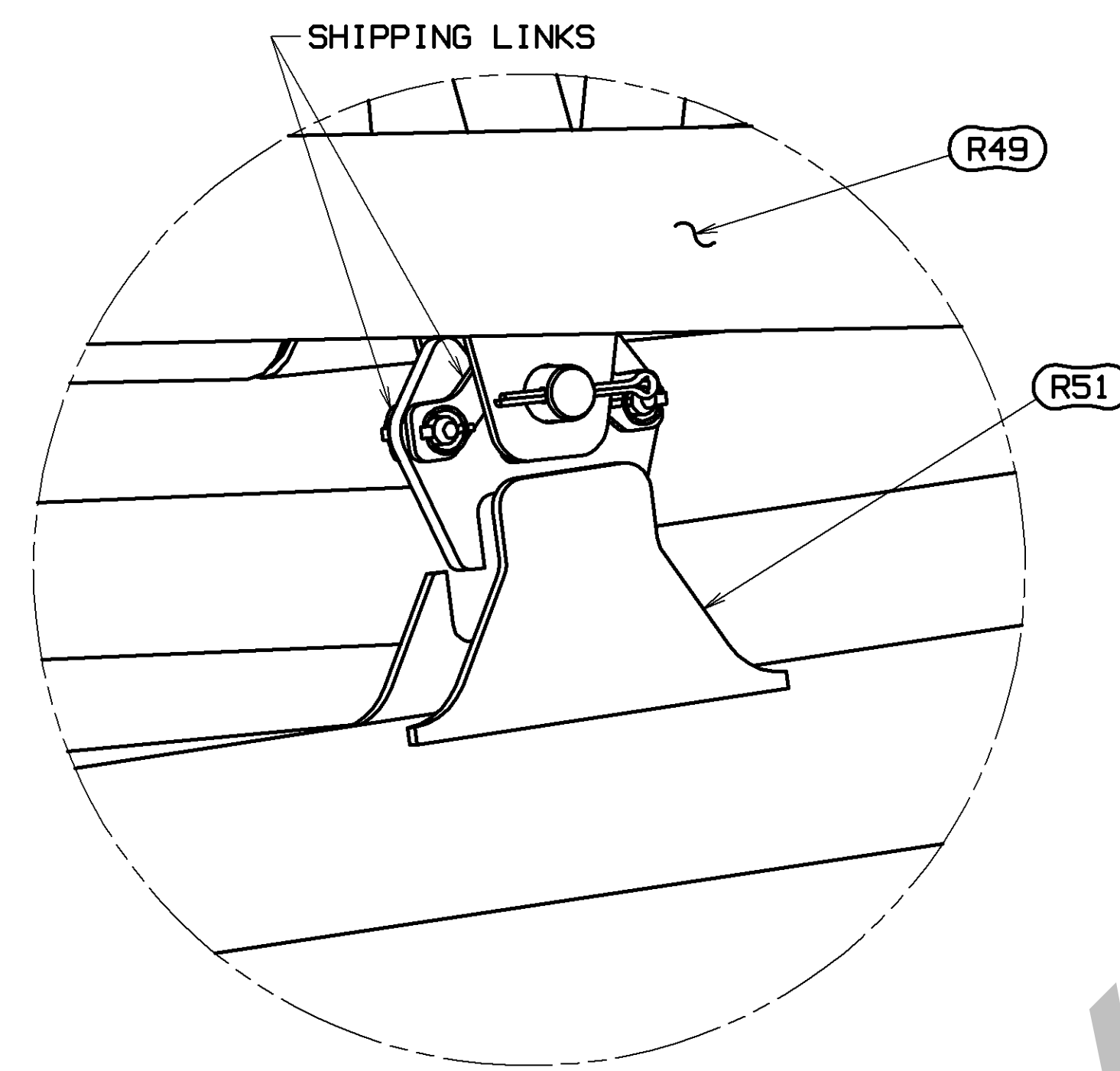
REV. LIT.
D

MANUFACTURED BY
Manitowoc Cranes, Inc.

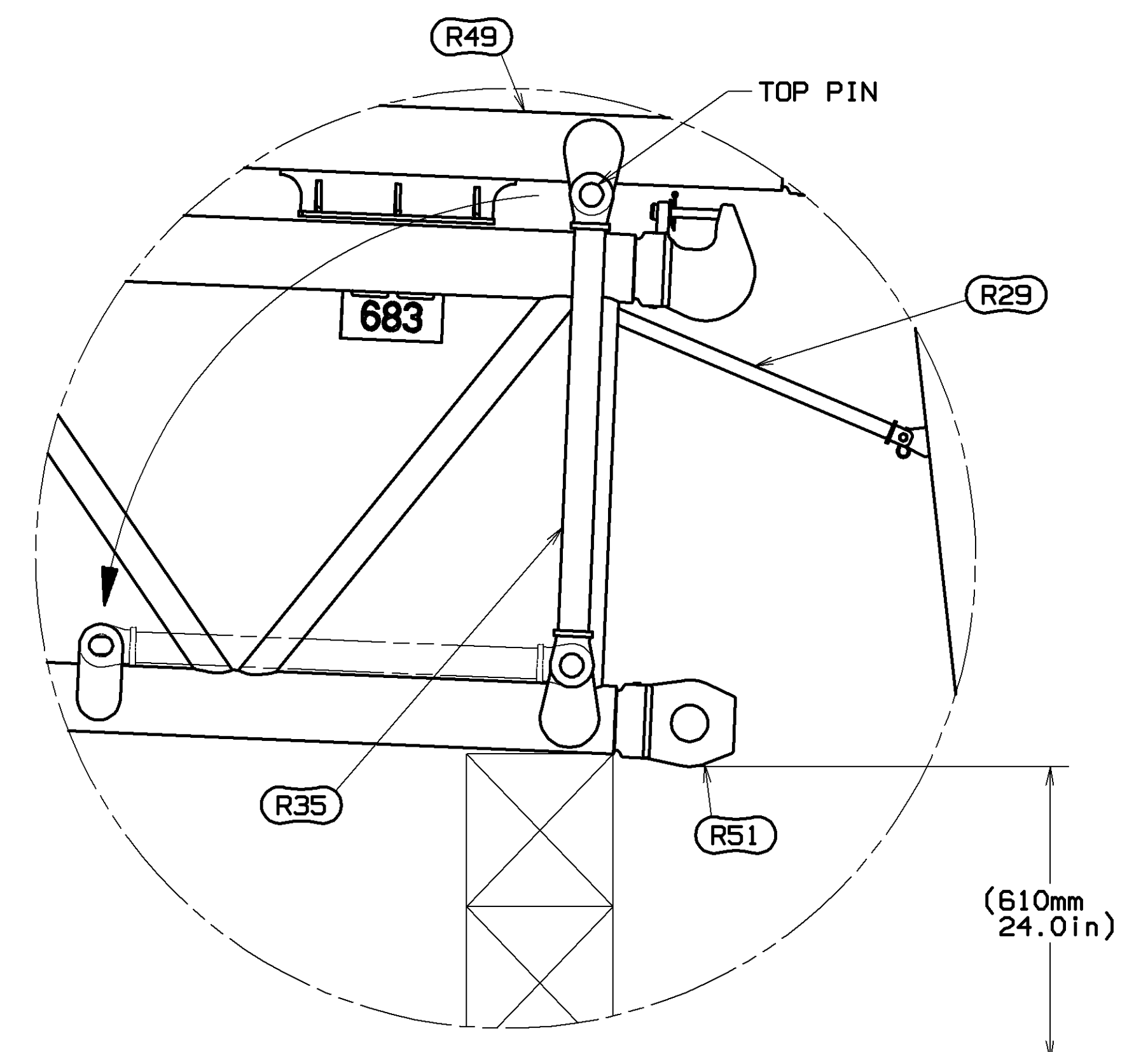
MODEL
MLC650

81022910

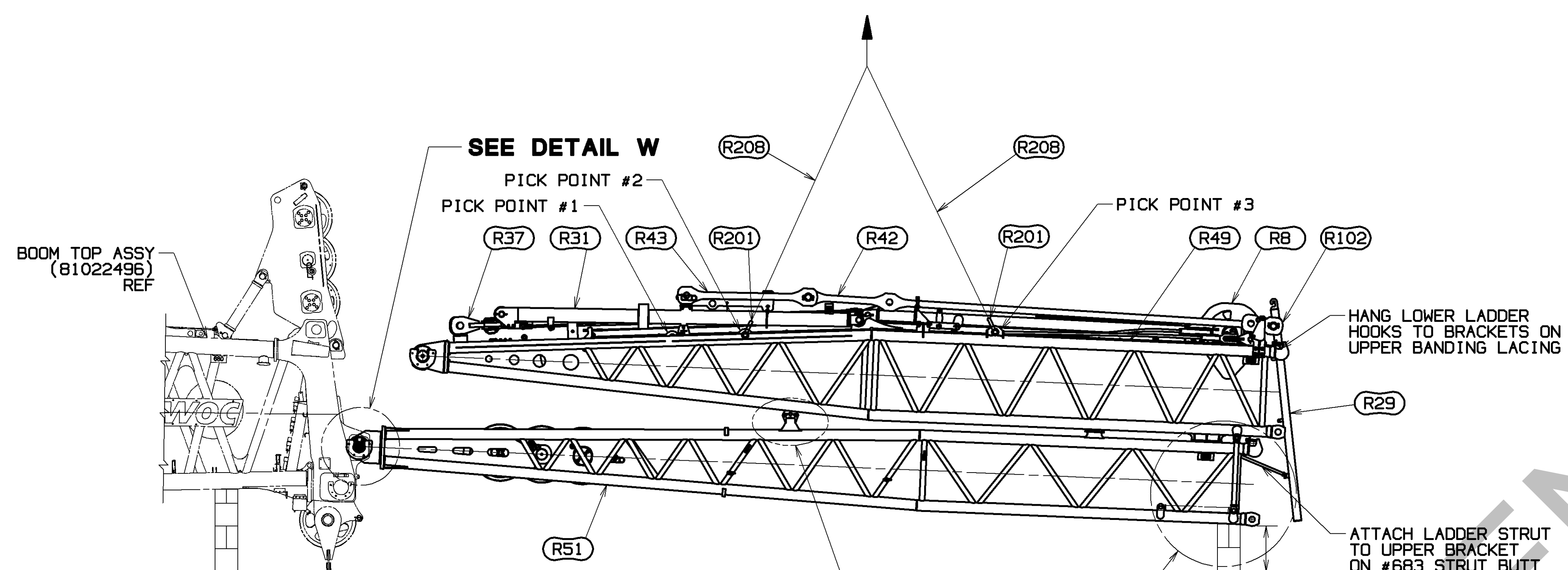
SHT 4 OF 16



DETAIL U
SCALE 0.250



DETAIL V
SCALE 0.100



DETAIL W
SCALE 0.120

JIB STRUT BUTT (R51)
ALIGNMENT PLATE
ON BOOM TOP

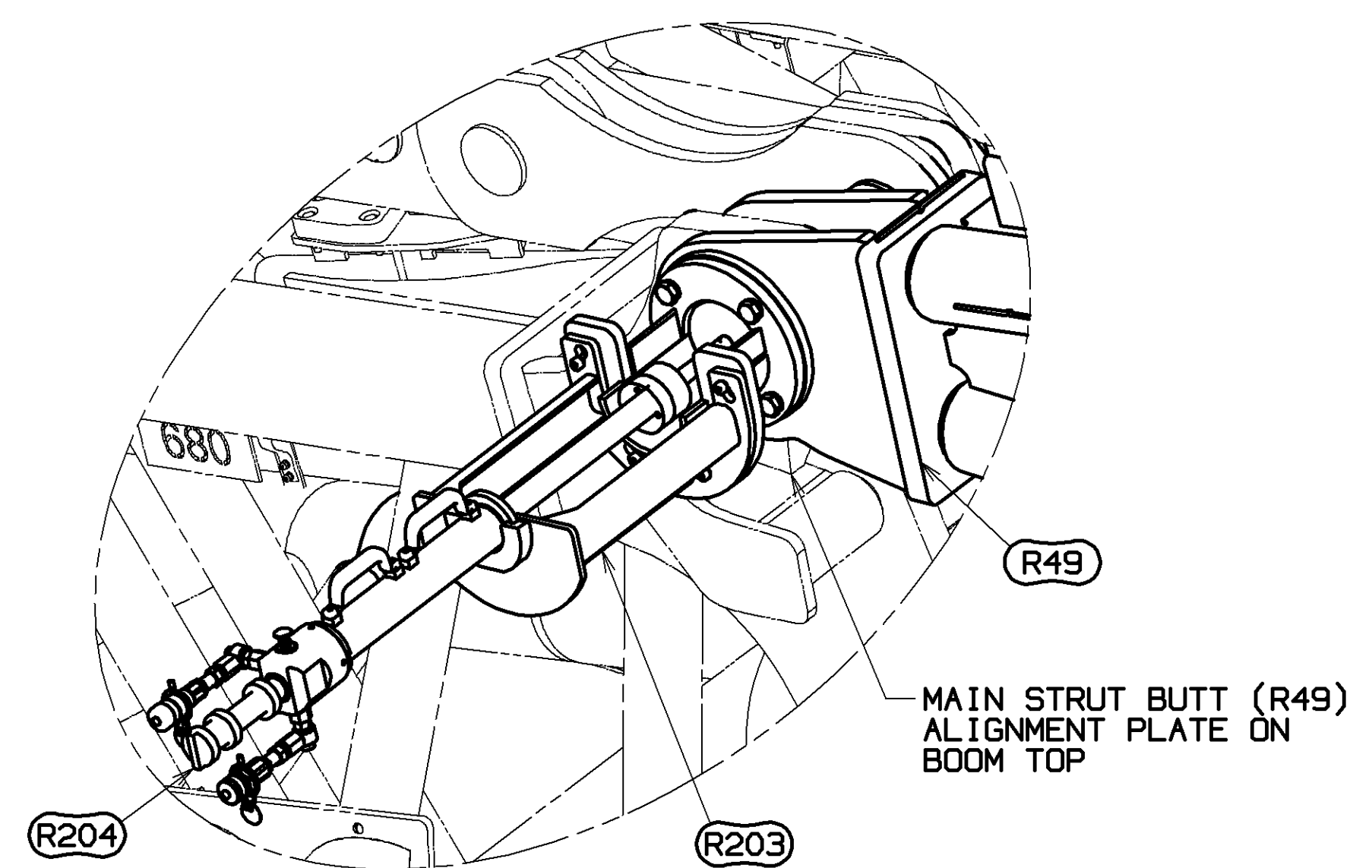
R204

R203

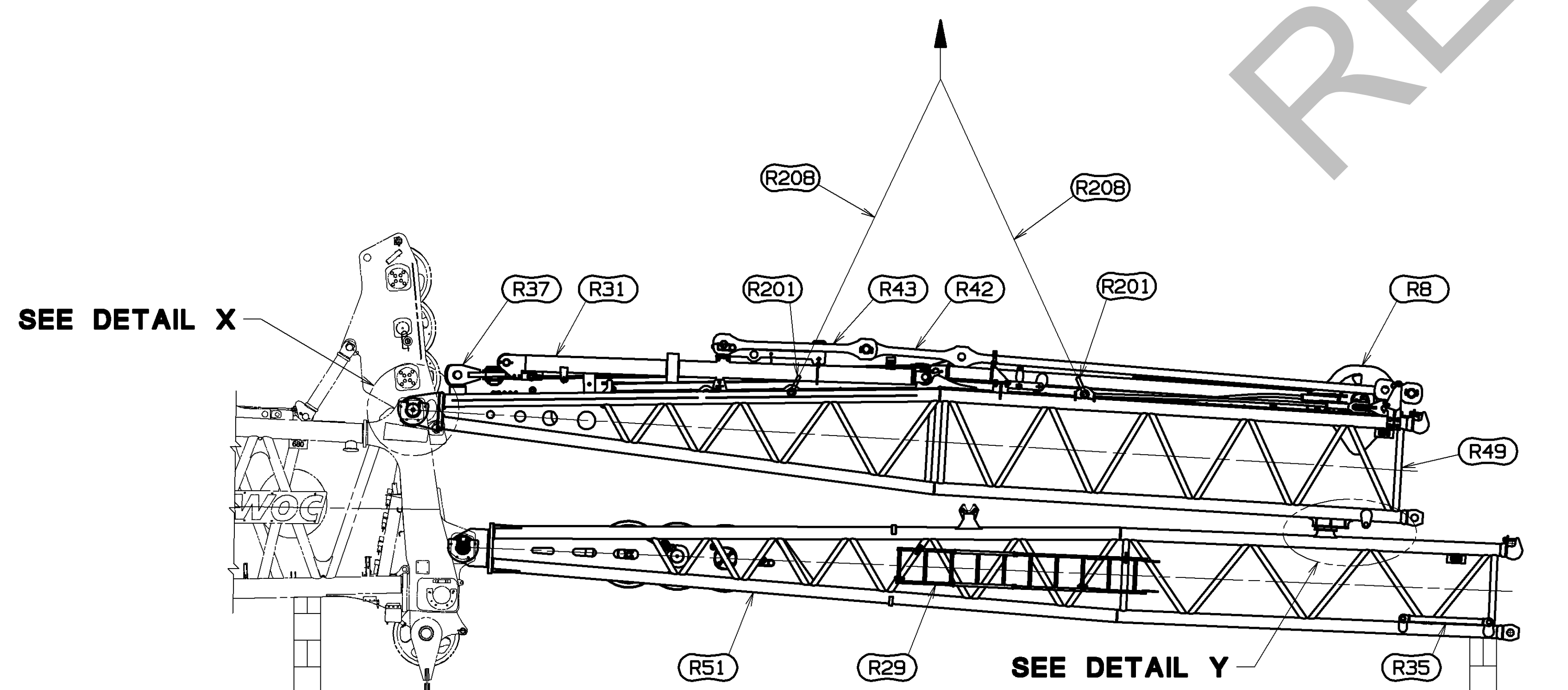
R51

BOOM TOP ASSY
(81022496)
R204

DETAIL W
SCALE 0.120



DETAIL X
SCALE 0.120



RESTING PAD

R49

R51

DETAIL Y
SCALE 0.120

STEP 1
UNLOAD

REMOVE LADDER (R29) FROM STOWAGE LOCATION ON JIB STRUT BUTT ASSY (R51).
PLACE UPPER LADDER HOOKS ON BRACKET OF UPPER BANDING LACING ON MAIN STRUT BUTT ASSY (R49).
ATTACH LADDER STRUT TO LOWER BRACKET ON JIB STRUT BUTT ASSY (R51).

USING LADDER (R29) FOR ACCESS, ATTACH STRUT BUTT SHIPPING ASSY (ITEM 1) TO ASSIST CRANE WITH (4) SLINGS (R20B)
AND (4) SHACKLES (R201) ATTACHED TO PICK POINTS #1 AND #3 OF MAIN STRUT BUTT.
LIFT BOTH STRUT BUTTS (ITEM 1) FROM TRAILER AND PROCEED TO STEP 2.

STEP 2 SEE DETAIL U SEE DETAIL V

JIB STRUT BUTT ASSEMBLY

USING ASSIST CRANE POSITION JIB STRUT BUTT (R51) ON BOOM TOP ALIGNMENT PLATES. (SEE DETAIL W).
ATTACH PIN PULLER CAGE WELDMENT (R203) 2-PLACES AND POSITION PIN PULLER ASSY (R204).
ACTIVATE CYLINDER TO INSTALL HINGE PIN INTO JIB STRUT BUTT (R51).

BLOCK JIB STRUT BUTT (R51) APPROXIMATELY AS INDICATED TO ACCOMMODATE PROPER FIT OF JIB STRUT TOP (R52) IN STEP 5 ON SHEET 8.
HANG LADDER HOOKS ON BRACKET OF UPPER BANDING LACING. REATTACH LADDER STRUT TO UPPER BRACKET ON STRUT BUTT ASSY (R51).
USING LADDER (R29) FOR ACCESS, REPOSITION TO LIFTING POINTS #2 AND #3 TO HANDLE MAIN STRUT BUTT ASSY (R49)
INDEPENDANT FROM JIB STRUT BUTT ASSY (R51). WHEN COMPLETED RETURN LADDER (R29) TO STOWAGE POSITION
ON JIB STRUT BUTT ASSY (R51).

REMOVE SHIPPING LINKS (SEE DETAIL U). REMOVE TOP PIN OF STRUT SUPPORT (R35) AND ROTATE STRUT
INTO HORIZONTAL OR STOWAGE POSITION ON JIB STRUT BUTT (R51). (SEE DETAIL V)

MAIN STRUT BUTT ASSEMBLY

USING ASSIST CRANE POSITION MAIN STRUT BUTT ASSY (R49) ON BOOM TOP ALIGNMENT PLATES (SEE DETAIL X).
ATTACH PIN PULLER CAGE WELDMENT (R203) 2-PLACES AND POSITION PIN PULLER ASSY (R204).
ACTIVATE CYLINDER TO INSTALL HINGE PIN INTO MAIN STRUT BUTT (R49).

LOWER MAIN STRUT BUTT (R49) ON JIB STRUT BUTT (R51) AT RESTING PAD. (SEE DETAIL Y).

BILL OF MATERIAL							ASSEMBLIES USED ON
ITEM NO.	NO. REQD.	SEC- TION	DESCRIPTION	LENGTH IN.	MATERIAL	CODE NO. OR Dwg. NO.	

REVISIONS

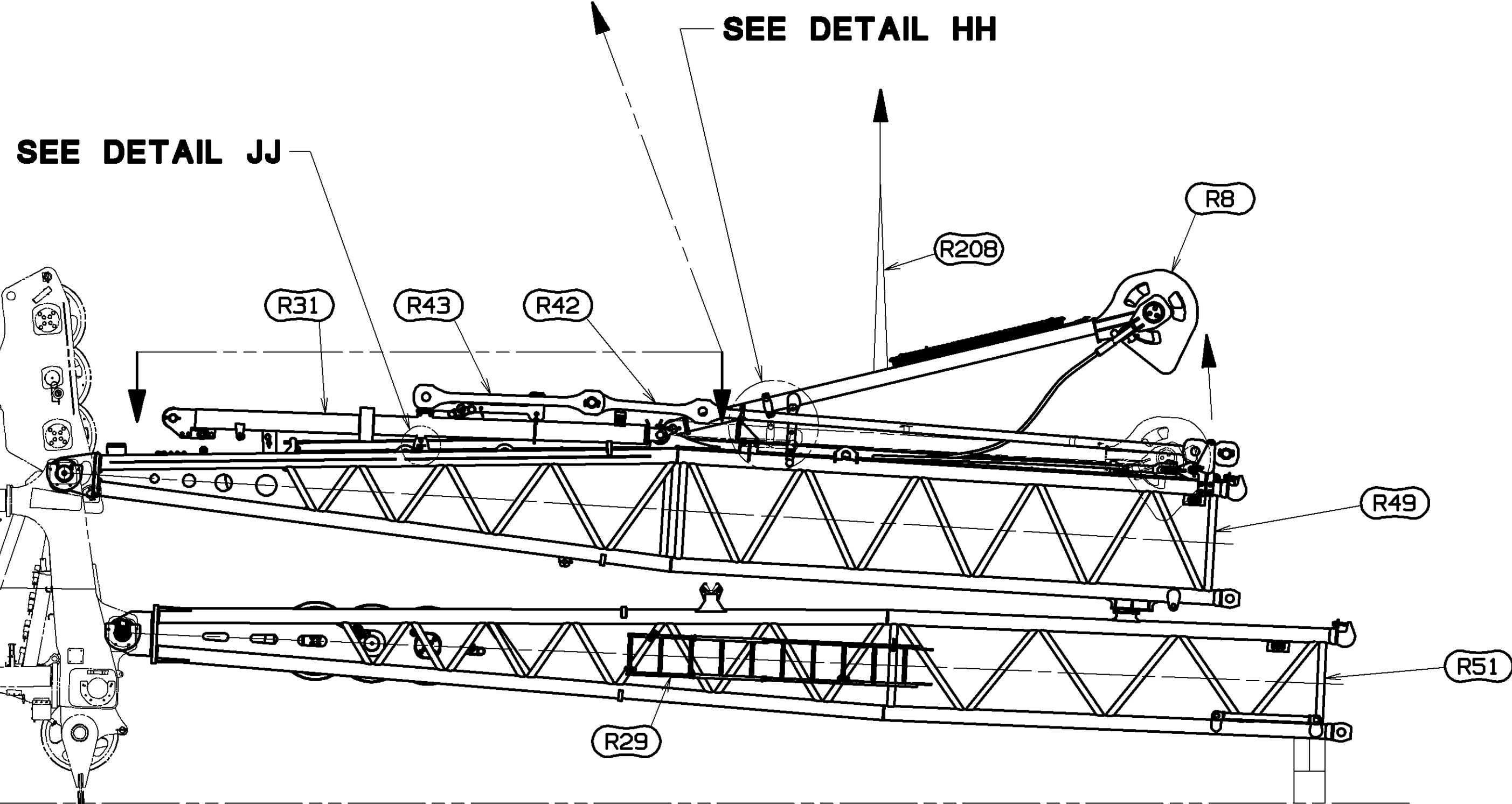
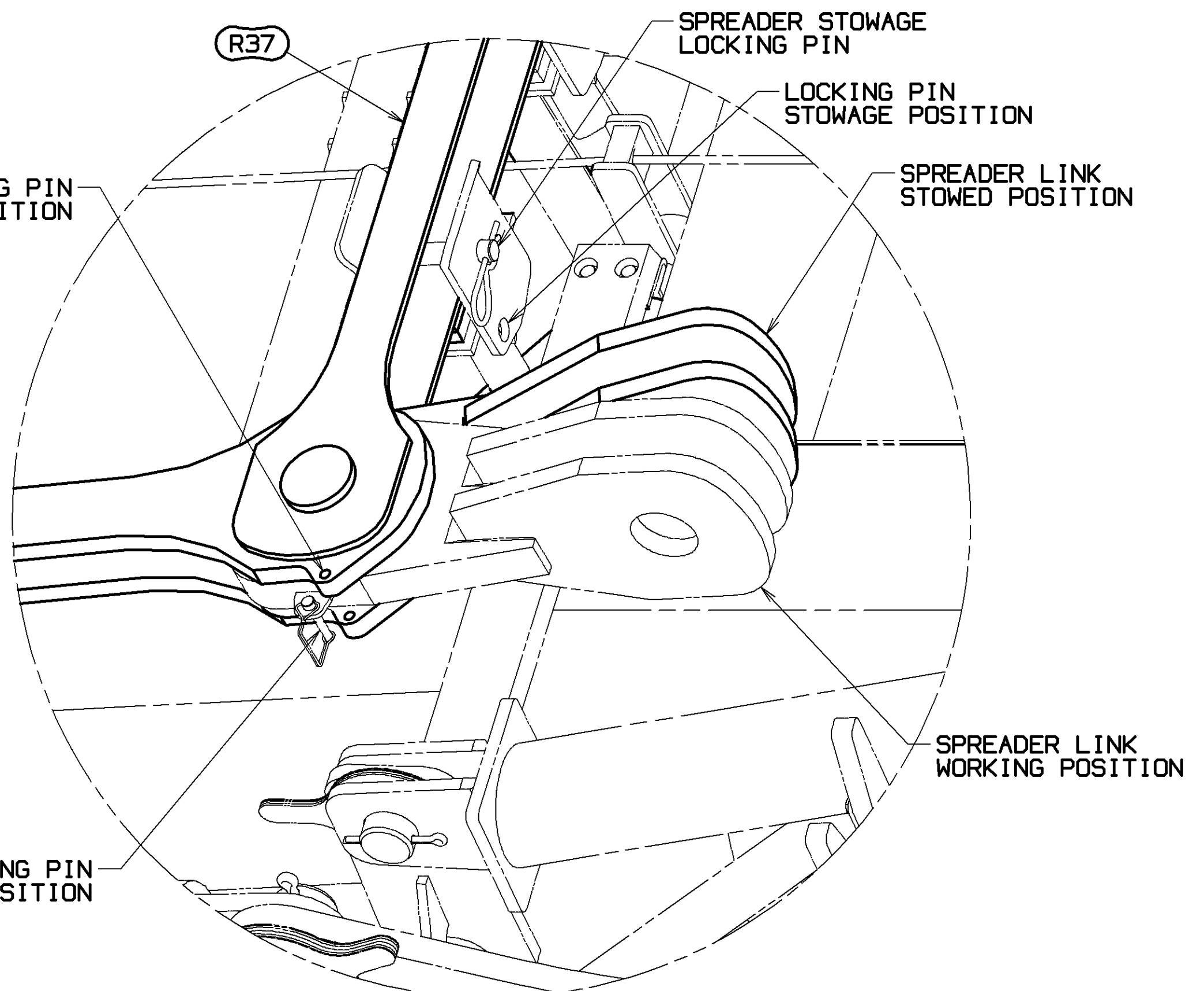
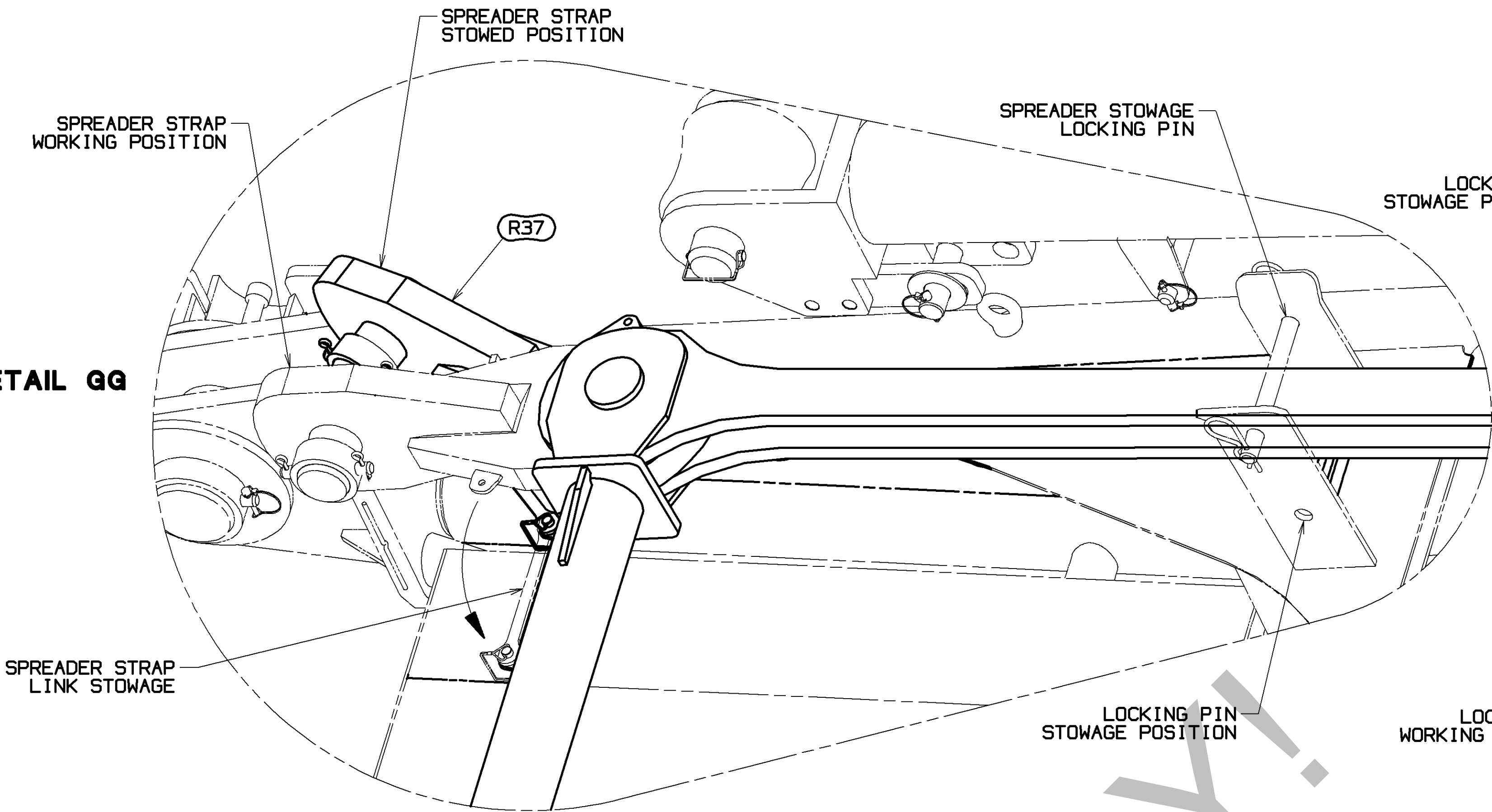
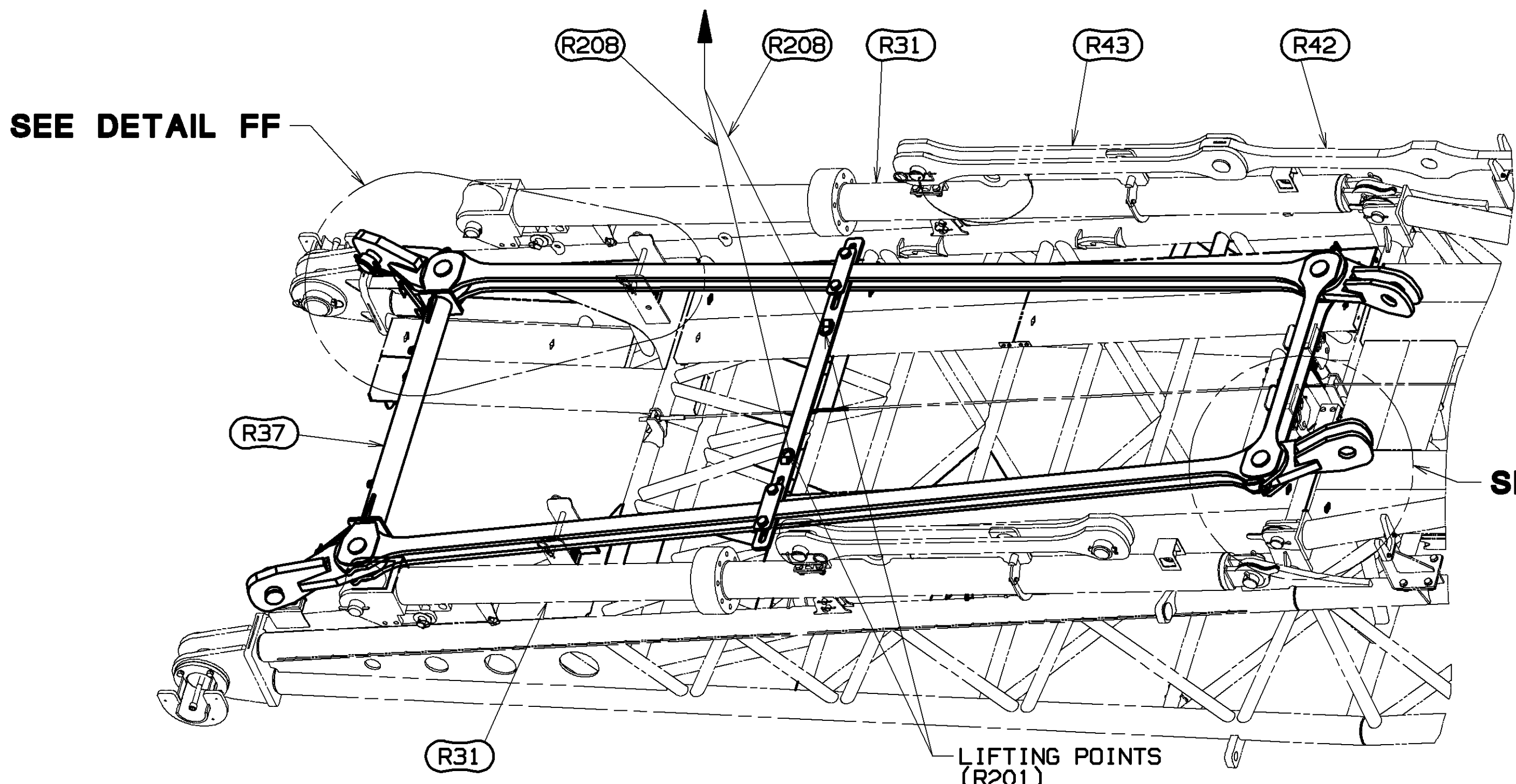
DWG. NO.
81022910
SHT 7 OF 16

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REQUIREMENT TO
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ENGINEERING
SPECIFICATION
6829103794 FOR
COMPONENTS LISTED
IN GDS500-05-035

DATE
10-09-15

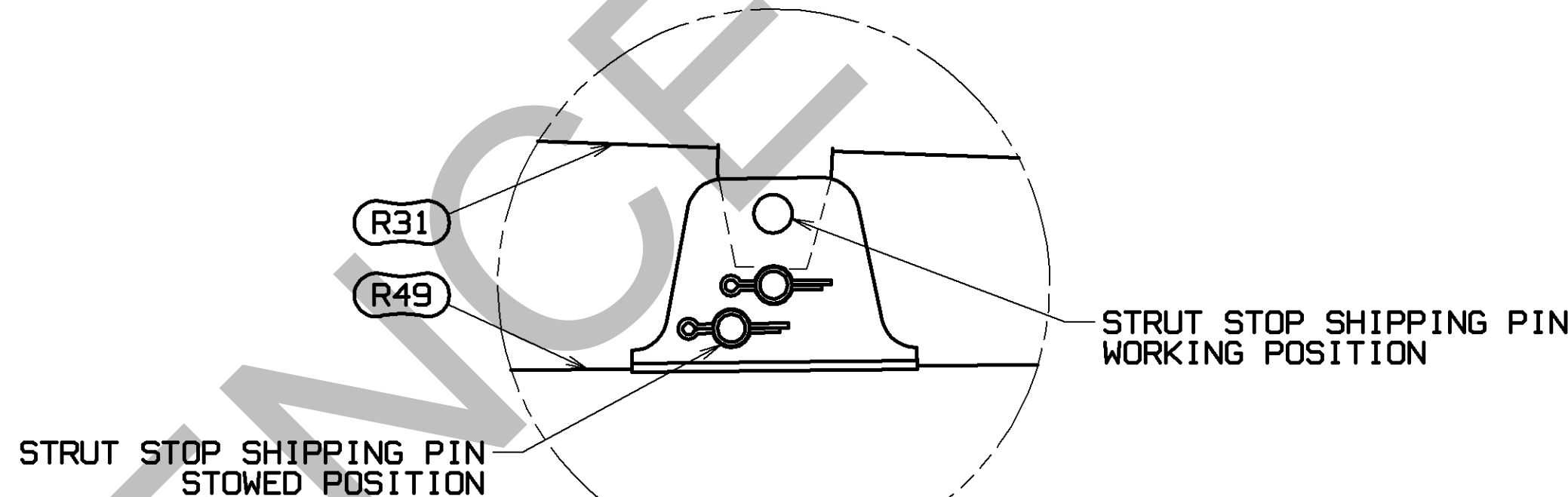
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 DATE 08-11-2010 BY 60322 UCBAW/BJS/STP

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QTY	REV	DESCRIPTION	LOC	MATERIAL	DATE

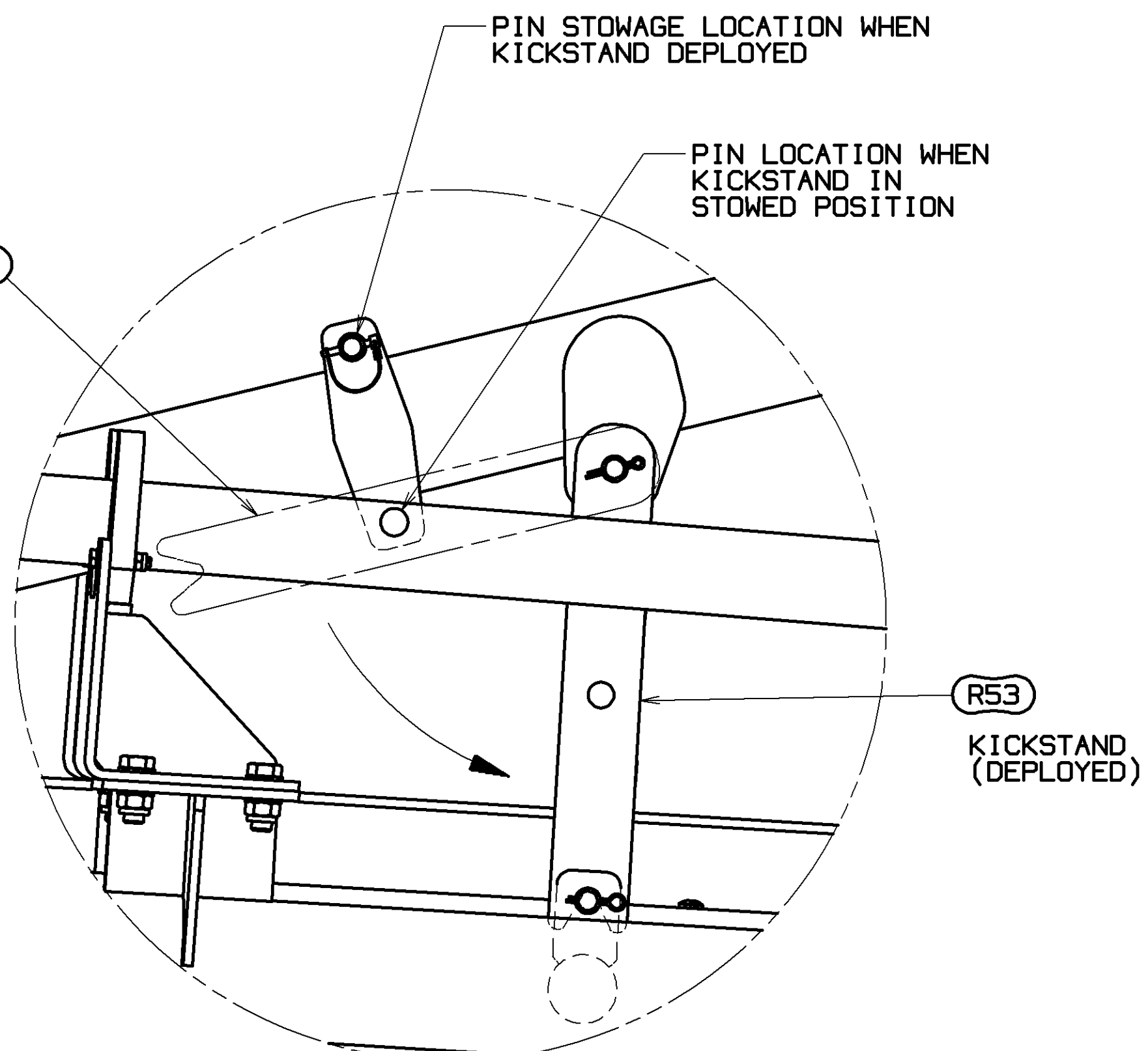


DETAIL FF
SCALE 0.200

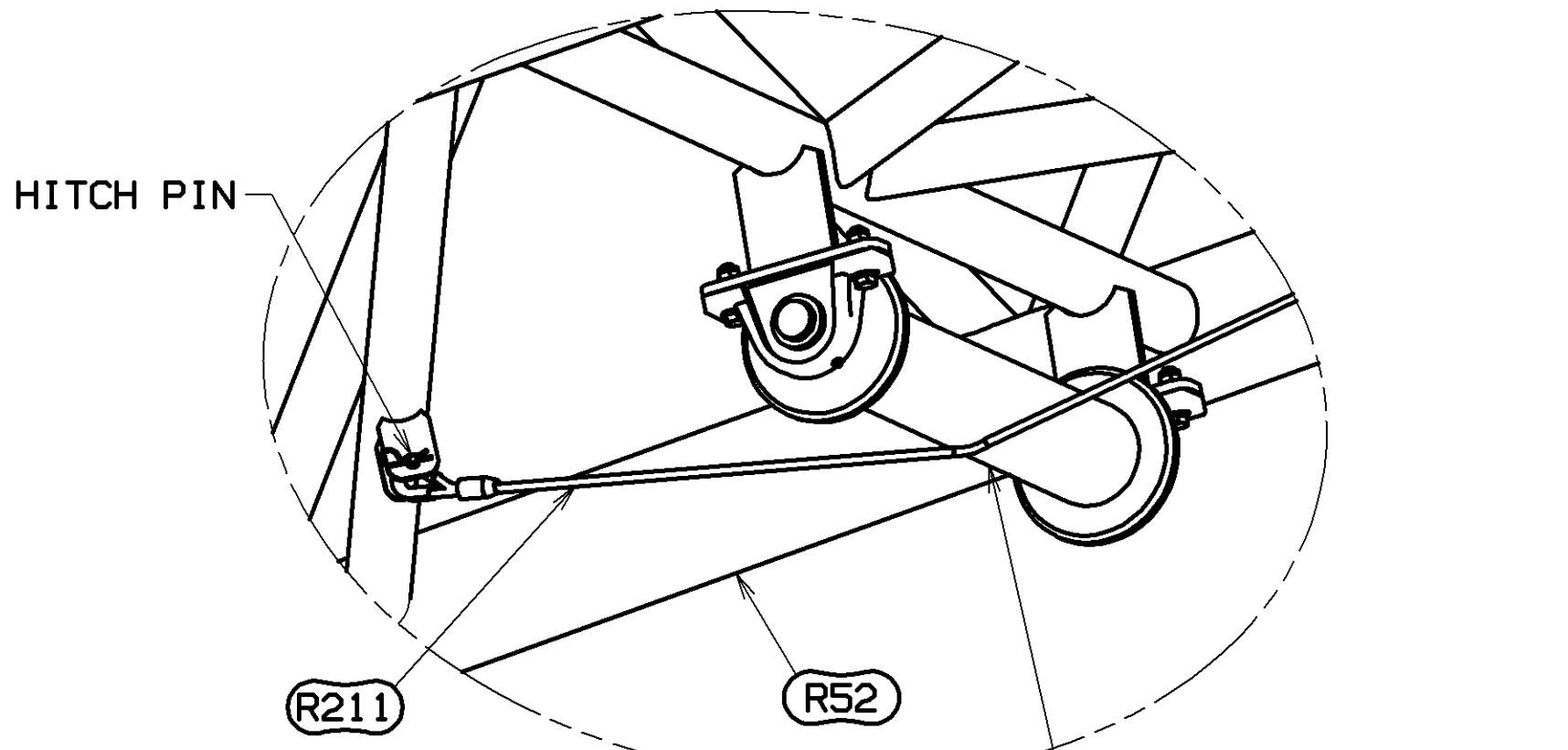
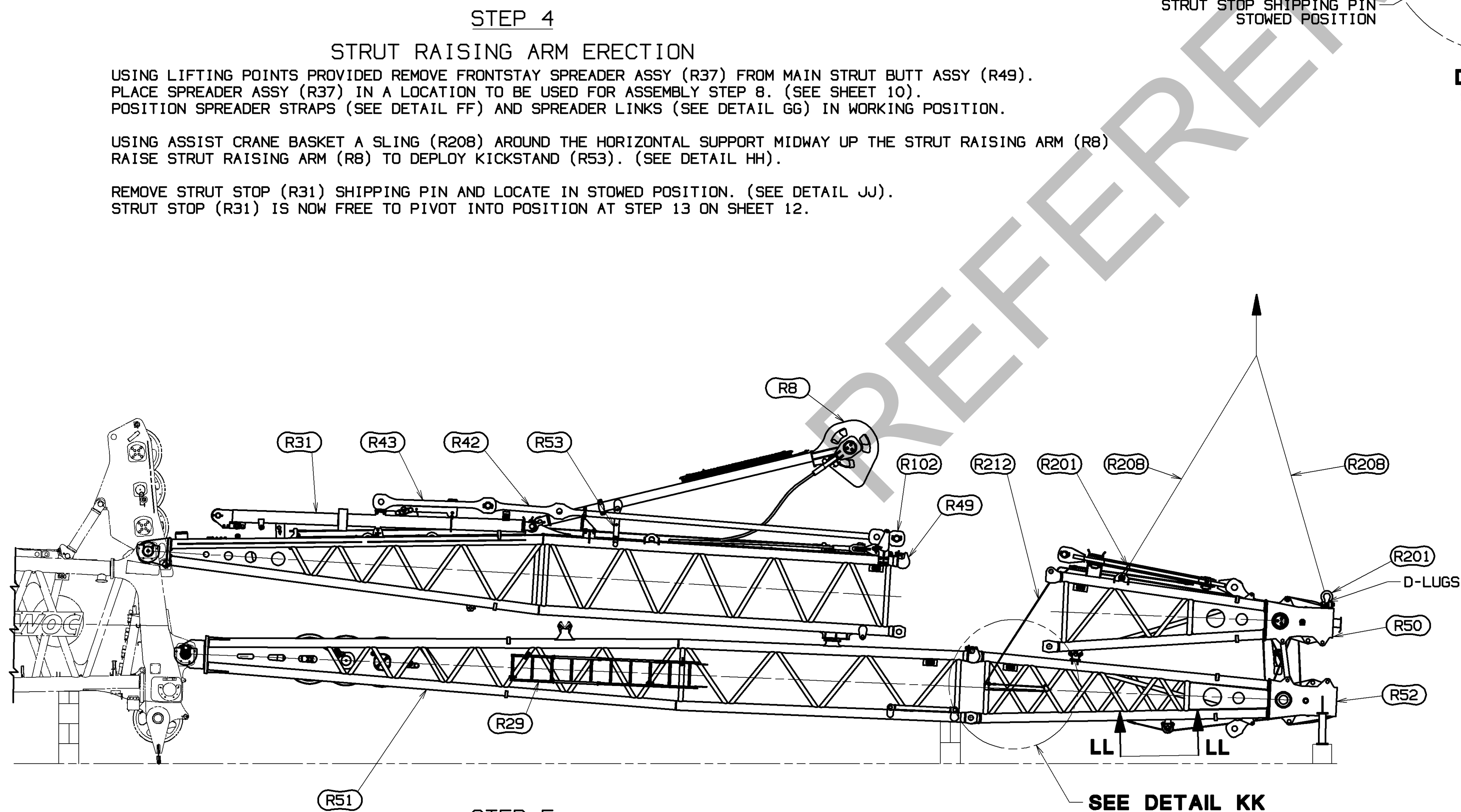
DETAIL GG
SCALE 0.200



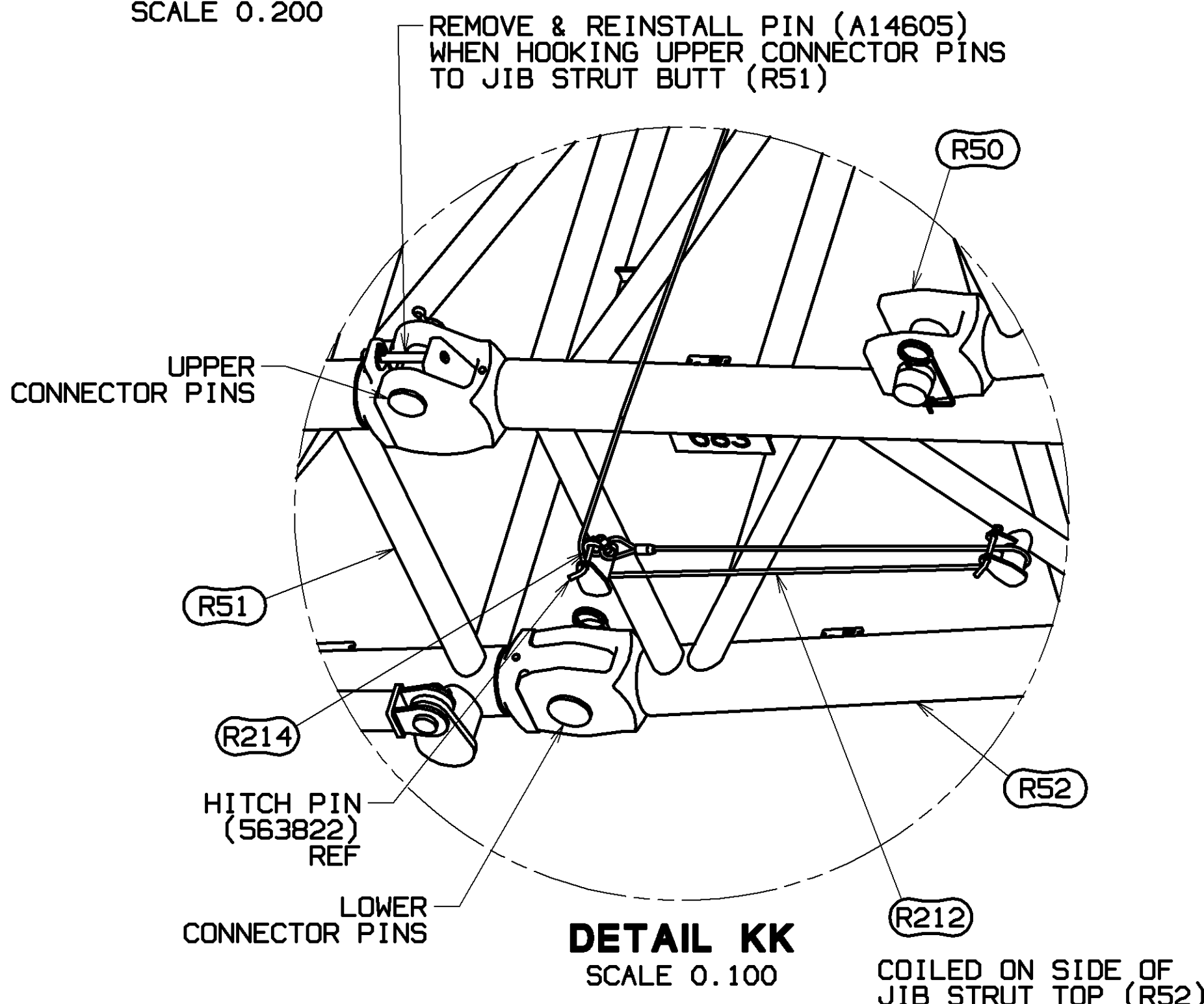
DETAIL JJ
SCALE 0.250



DETAIL HH
SCALE 0.200



VIEW LL-LL
SCALE 0.150



DETAIL KK
SCALE 0.100

STEP 4
STRUT RAISING ARM ERECTION
USING LIFTING POINTS PROVIDED REMOVE FRONTSTAY SPREADER ASSY (R37) FROM MAIN STRUT BUTT ASSY (R49). PLACE SPREADER ASSY (R37) IN A LOCATION TO BE USED FOR ASSEMBLY STEP 6. (SEE SHEET 10). POSITION SPREADER STRAPS (SEE DETAIL FF) AND SPREADER LINKS (SEE DETAIL GG) IN WORKING POSITION.
USING ASSIST CRANE BASKET A SLING (R208) AROUND THE HORIZONTAL SUPPORT MIDWAY UP THE STRUT RAISING ARM (R8) RAISE STRUT RAISING ARM (R8) TO DEPLOY KICKSTAND (R53). (SEE DETAIL HH).
REMOVE STRUT STOP (R31) SHIPPING PIN AND LOCATE IN STOWED POSITION. (SEE DETAIL JJ). STRUT STOP (R31) IS NOW FREE TO PIVOT INTO POSITION AT STEP 13 ON SHEET 12.

STEP 5
JIB STRUT TOP ASSEMBLY
USING ASSIST CRANE ATTACH (4) SLINGS (R208) AND (4) SHACKLES (R201) TO MAIN STRUT TOP (R50) AT CHAIN LIFTING LUGS AND D-LUGS. LIFT JIB STRUT TOP ASSEMBLY (ITEM 2) FROM TRAILER AND POSITION LOWER PORTION OF JIB STRUT TOP ASSY (R52) TO ALIGN UPPER PIN CONNECTOR WITH UPPER PIN CONNECTOR ON JIB STRUT BUTT ASSY (R51) AND ENGAGE PINS. LOWER JIB STRUT TOP ASSEMBLY (ITEM 2) TO ALIGN LOWER PIN CONNECTOR HOLES AND INSTALL LOWER CONNECTOR PINS. (SEE DETAIL KK).

TOLERANCE UNLESS OTHERWISE SPECIFIED					MATERIAL		DATE	
DECIMAL PLACES	FRACTIONS	INCHES	FEET	FEET	DR. AUB	MANUFACTURED	DATE	REV.
(1) PLACE 0.00	1/16	1/8	1/4	1/2	OK. RHV	MANUFACTURED	DATE	REV.
(2) PLACE 0.00	1/16	1/8	1/4	1/2	APP. TJA	MANUFACTURED	DATE	REV.
(3) PLACE 0.000	1/16	1/8	1/4	1/2				

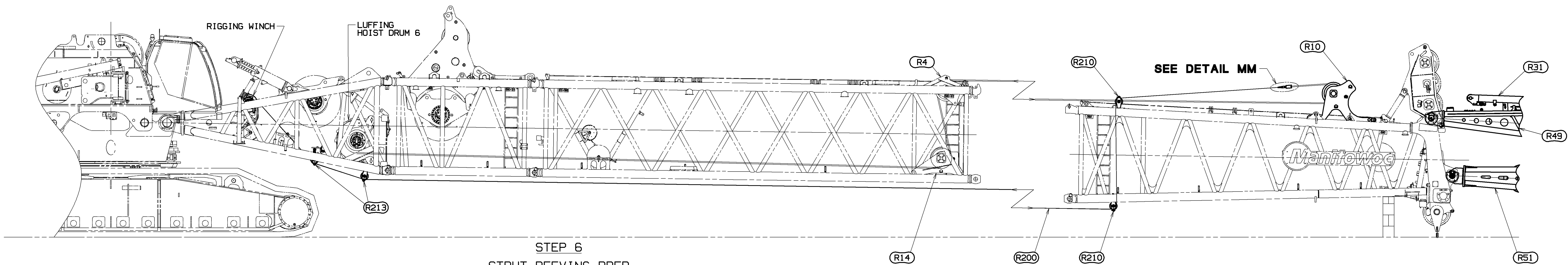
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CONFORM TO
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IN 882910-06-026

DATE 10-09-15

REV. 1

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SHT 8 OF 16



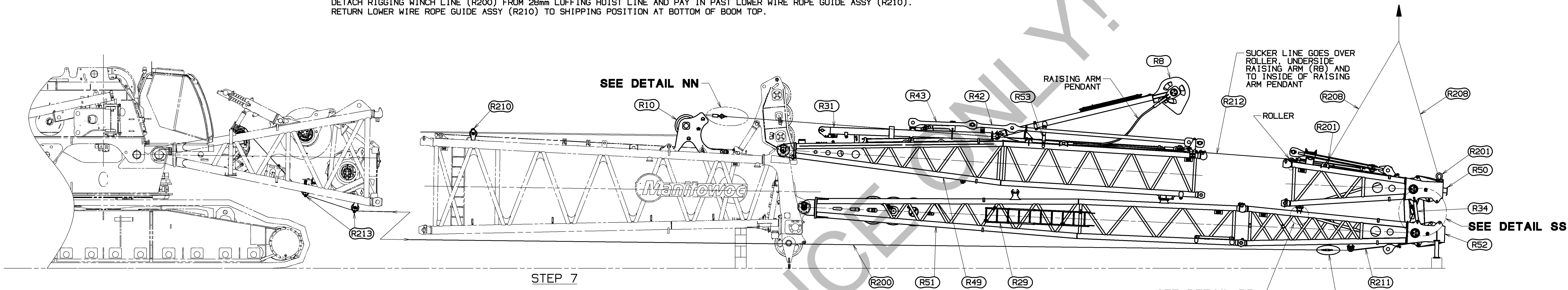
STEP 6

STRUT REEVING PREP

VERIFY THAT ALL RIGGING WINCH WIRE ROPE GUIDE ASSY'S (R210 & R213) ARE IN WORKING POSITION. ROUTE RIGGING WINCH LINE (R200) AS SHOWN. RIGGING WINCH LINE (R200) TO ROUTE THRU ROPE GUIDES (R213 & R210), OVER AND UNDER BOOM TOP LJ WRG (R10), OVER UPPER WIRE ROPE GUIDE (R4) AND UNDER LOWER WIRE ROPE GUIDE (R14).

ATTACH RIGGING WINCH LINE (R200) TO 28mm LUFFING HOIST LINE (DRUM 6) AND PAY IN RIGGING WINCH UNTIL LUFFING HOIST LINE IS OVER TOP OF WIRE ROPE GUIDE (R10). (SEE DETAIL MM).

DETACH RIGGING WINCH LINE (R200) FROM 28mm LUFFING HOIST LINE AND PAY IN PAST LOWER WIRE ROPE GUIDE ASSY (R210). RETURN LOWER WIRE ROPE GUIDE ASSY (R210) TO SHIPPING POSITION AT BOTTOM OF BOOM TOP.



STEP 7

STRUT REEVING PREP

REMOVE HITCH PIN TO DETACH SUCKER LINE (R211) FROM BOTTOM OF JIB STRUT TOP (R52). (SEE SECTION LL-LL ON SHEET 8). PAY OUT RIGGING WINCH LINE (R200) TO ATTACH TO SUCKER LINE (R211). (SEE DETAIL PP).

REMOVE HITCH PIN TO DETACH SUCKER LINE (R212) W/SHACKLE (R214) FROM COILED STOWAGE LOCATION ON JIB STRUT TOP (R52). (SEE DETAIL KK ON SHEET 8). POSITION THIS END OF SUCKER LINE (R212) ONTO MAIN STRUT BUTT (R49) AND CONNECT TO 28mm LUFFING HOIST LINE (DRUM 6) FROM OVER TOP OF ROLLER ON WIRE ROPE GUIDE (R10). (SEE DETAIL NN).

PAY IN RIGGING WINCH LINE (R200) TO PULL 28mm LUFFING HOIST LINE (DRUM 6) INTO REEVING OF MAIN AND JIB STRUT SHEAVES. PULL LUFFING HOIST LINE FAR ENOUGH TO MANUALLY RE-REEVE LAST SHEAVE AND ATTACH TO DEAD END LOCATED IN THE MAIN STRUT (R50).

NOTE:
FOR BOOM LENGTHS LESS THAN 56M REMOVE SUCKER LINE (R211) WHEN IT REACHES SHEAVE (R213) IN BOOM BUTT.
PAY OUT RIGGING WINCH LINE (R200) AND RECONNECT TO REMAINING SUCKER LINE (R212).

STORE/COIL SUCKER LINES (R211 & R212) AT SIDE OF JIB STRUT TOP (R52). (SEE DETAIL JJJ ON SHEET 10).

REATTACH (IF PREVIOUSLY DETACHED) ASSIST CRANE TO LIFTING POINTS ON MAIN STRUT TOP ASSEMBLY (ITEM 2) OR R50. REMOVE SHIPPING LINKS (SEE DETAIL RR) AND UNPIN TOP PIN OF SUPPORT STRUT (R34) AND ROTATE STRUT INTO HORIZONTAL OR STOWAGE POSITION ON JIB STRUT TOP (R52). (SEE DETAIL SS).

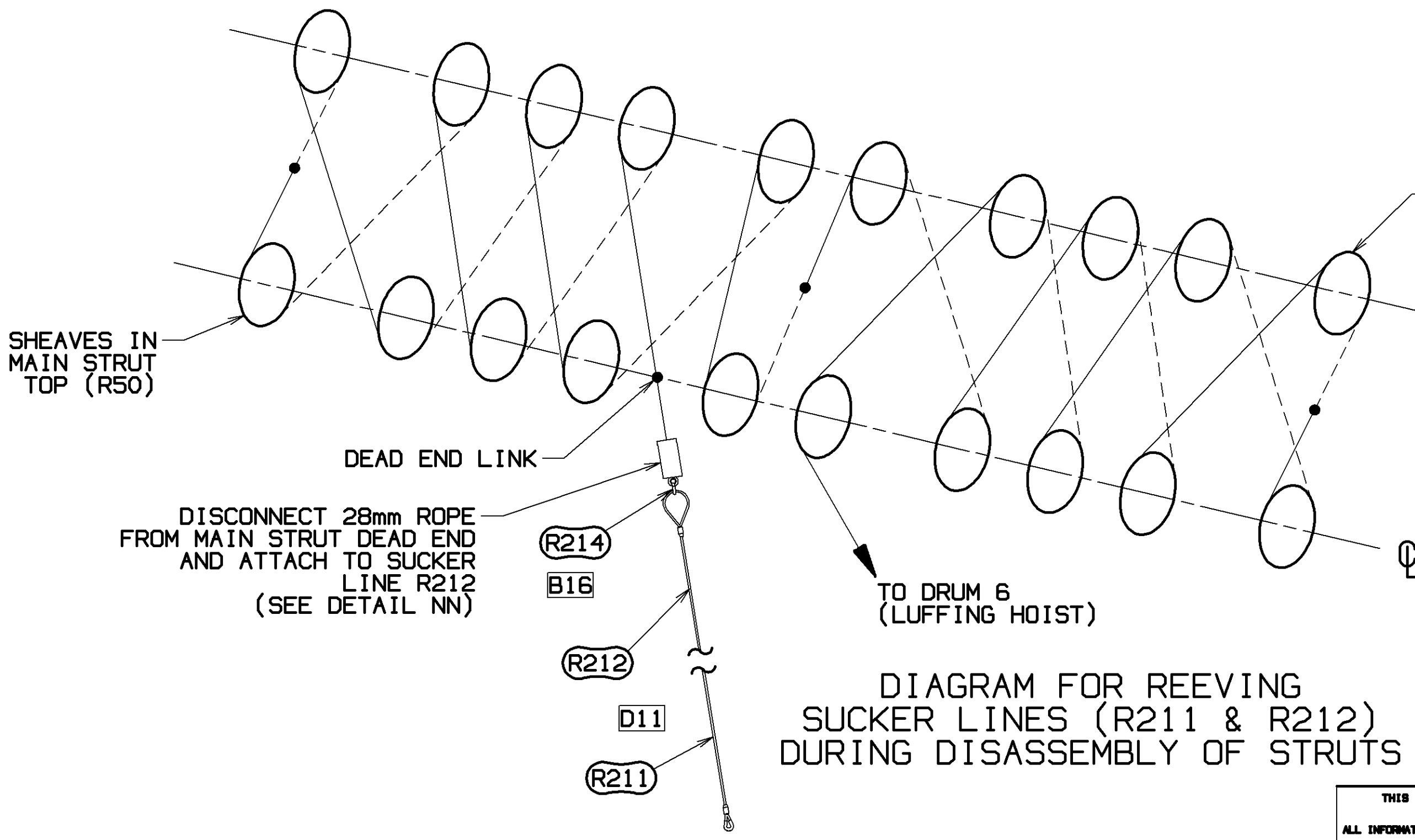
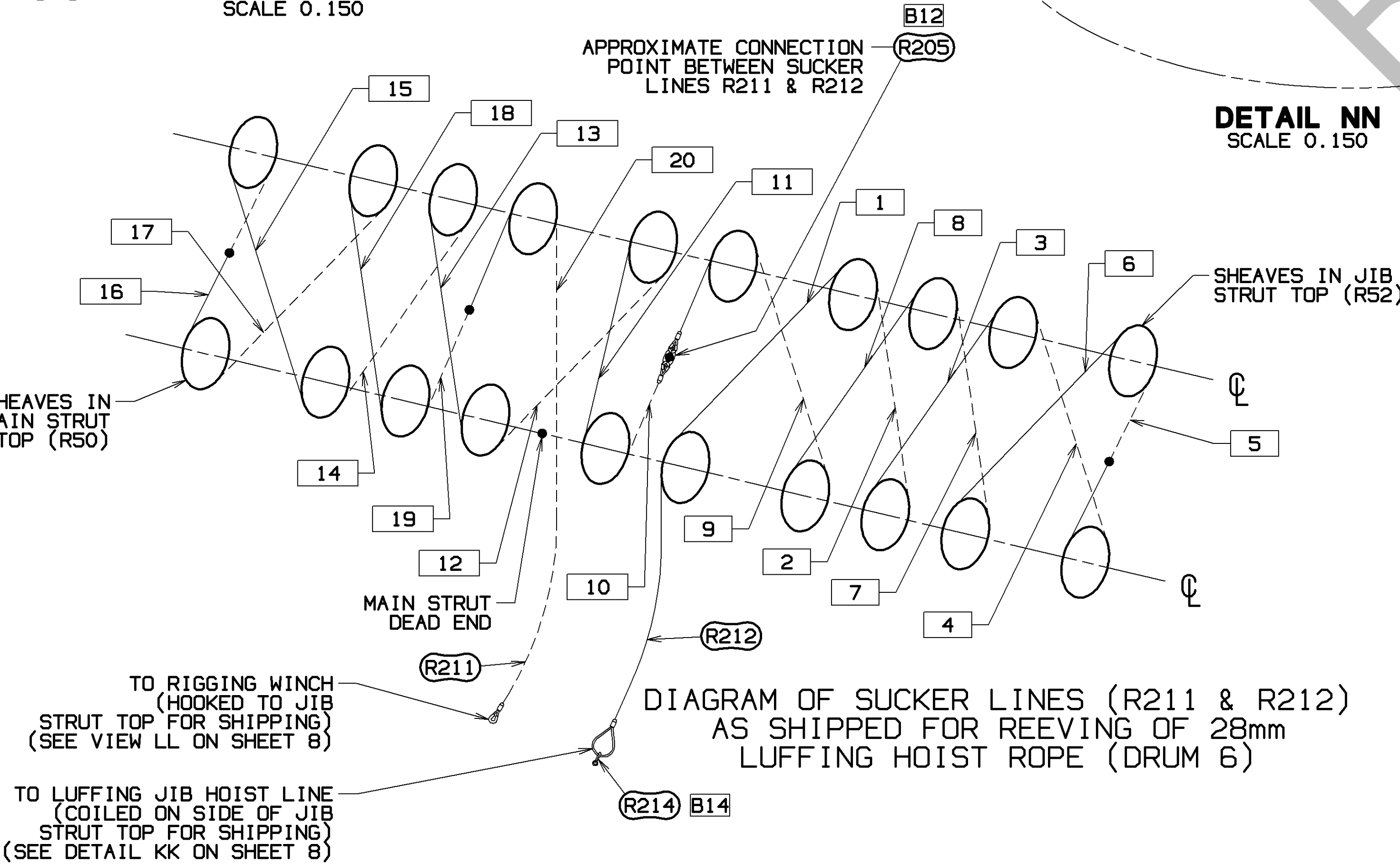
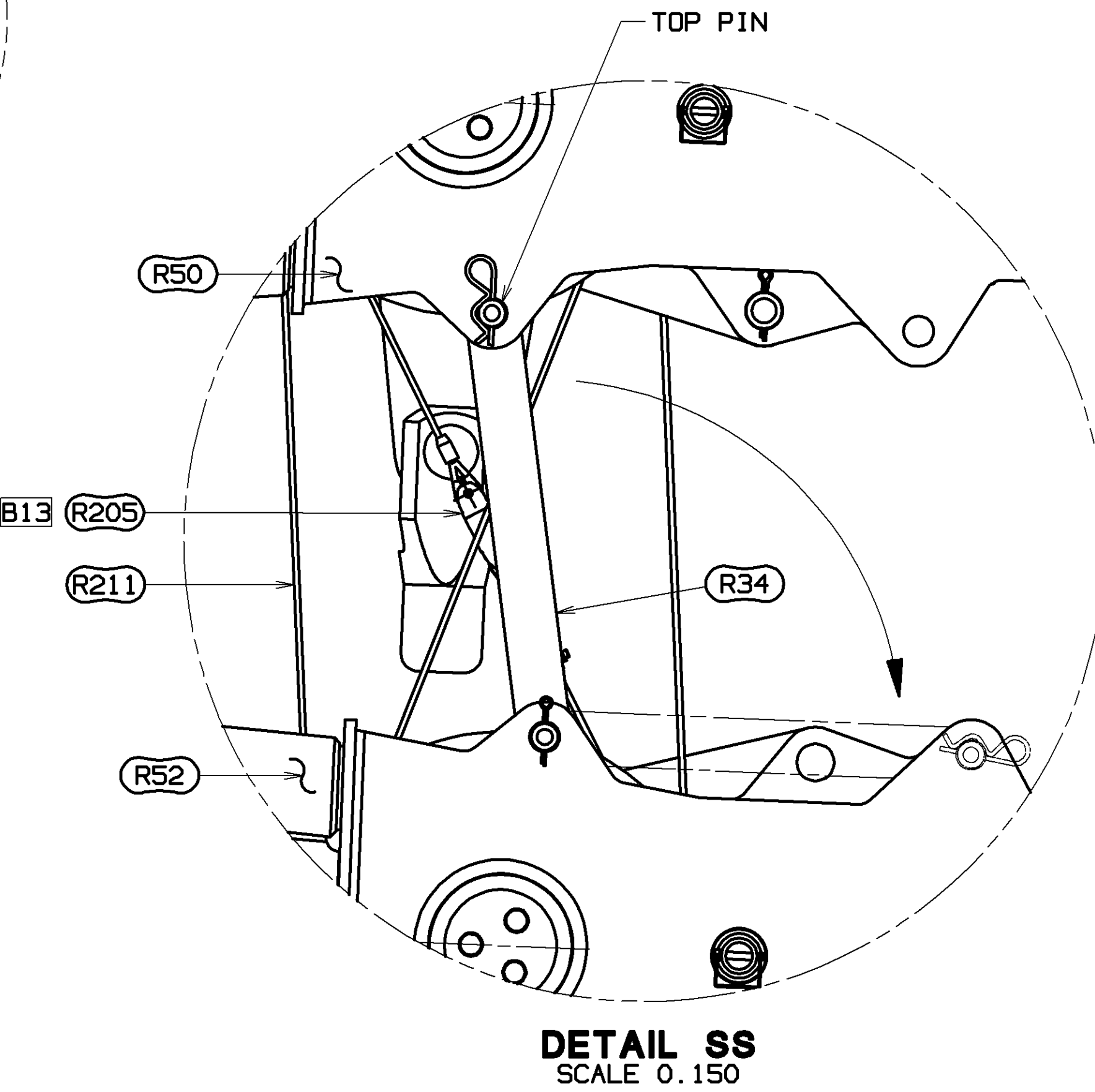
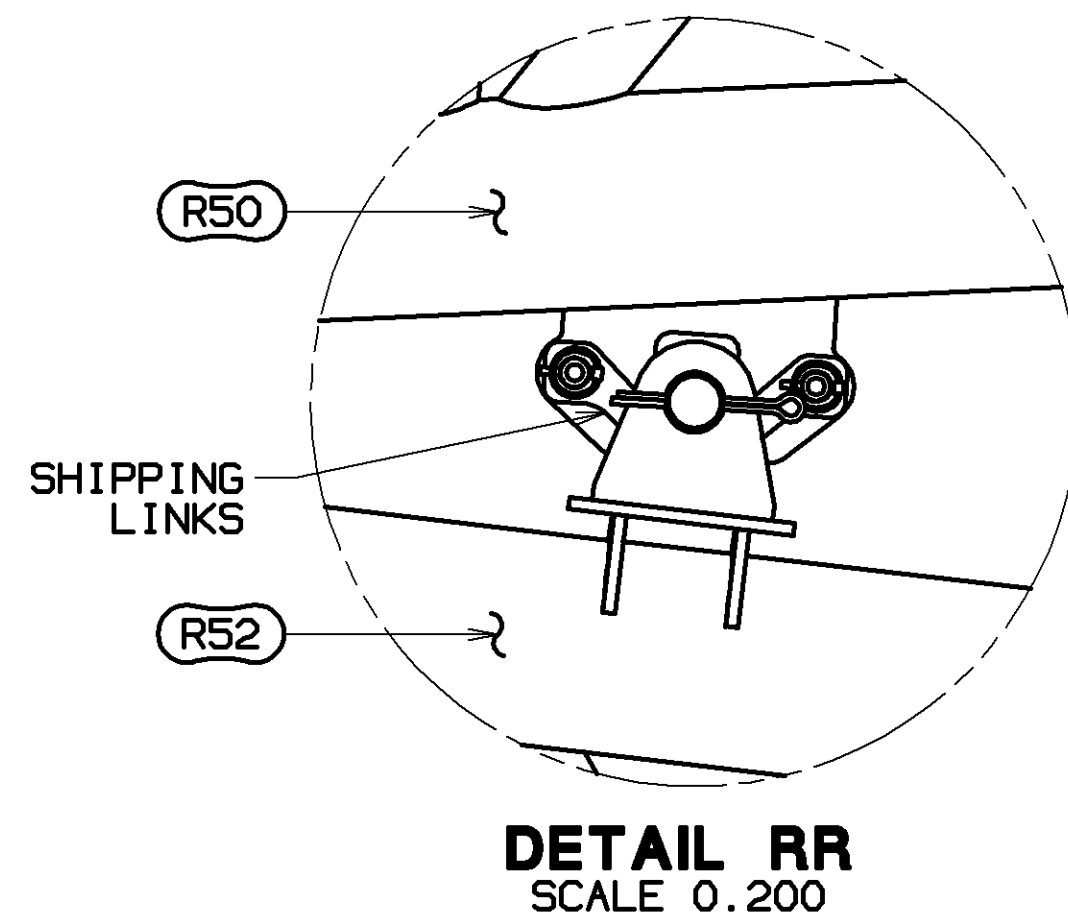
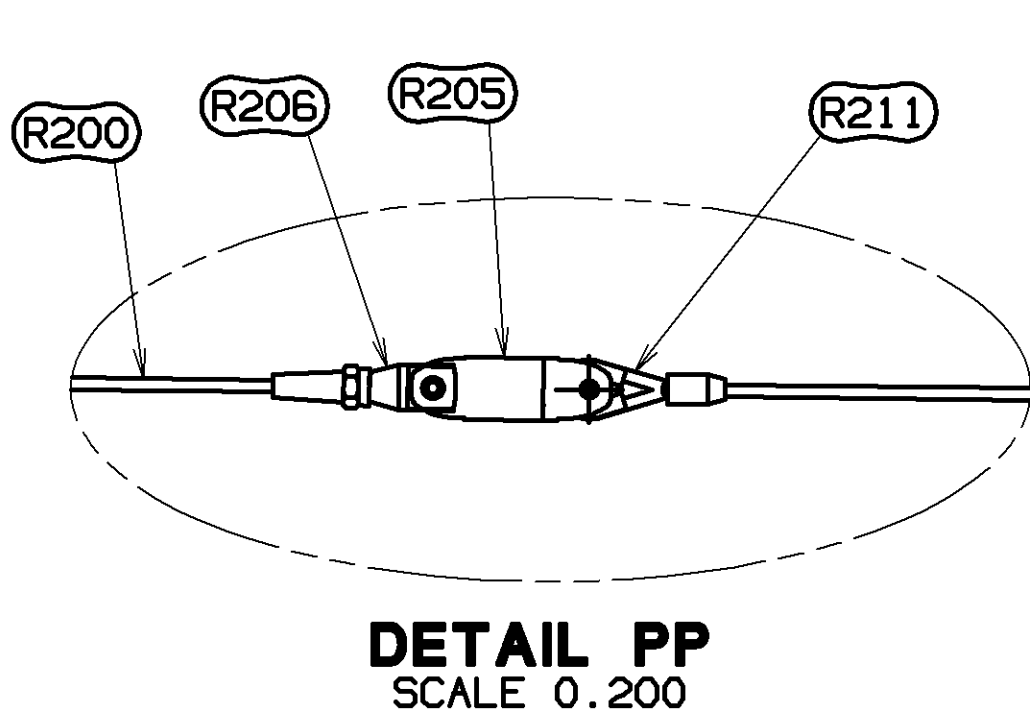
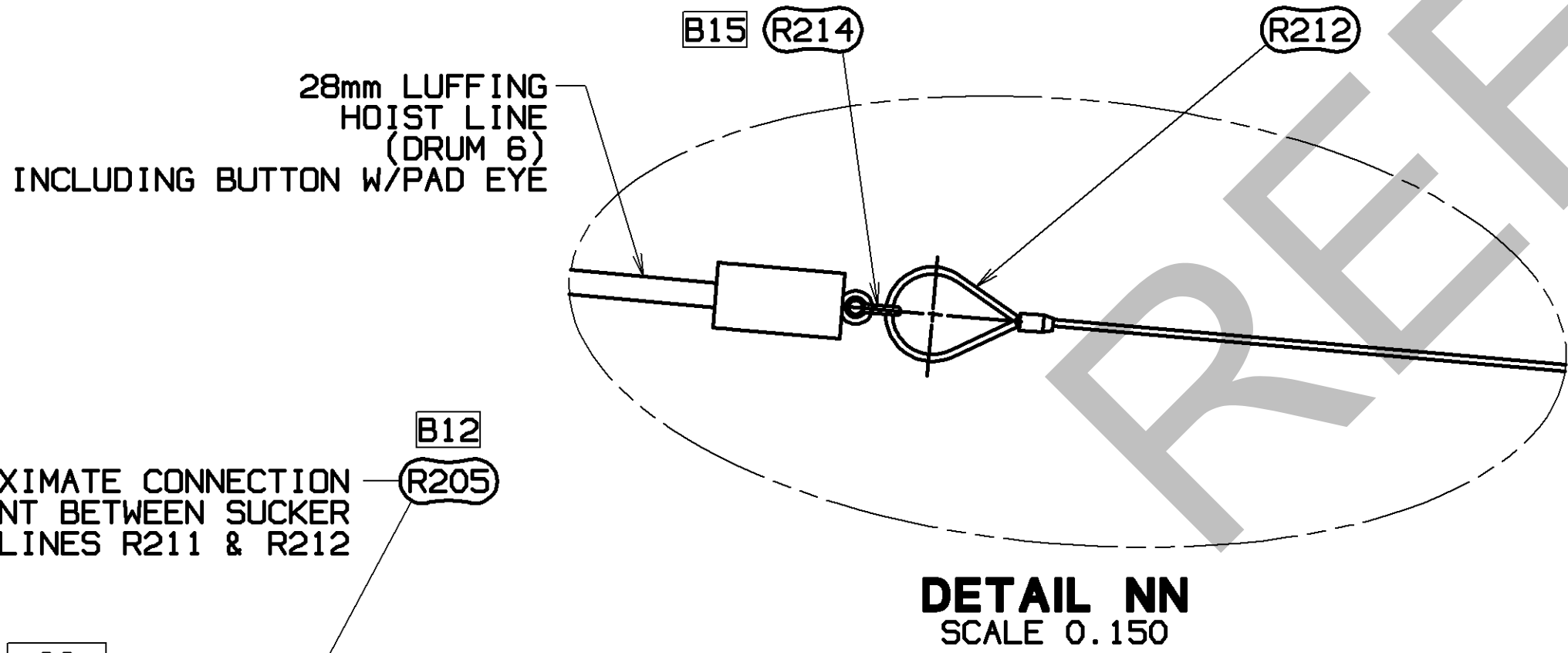
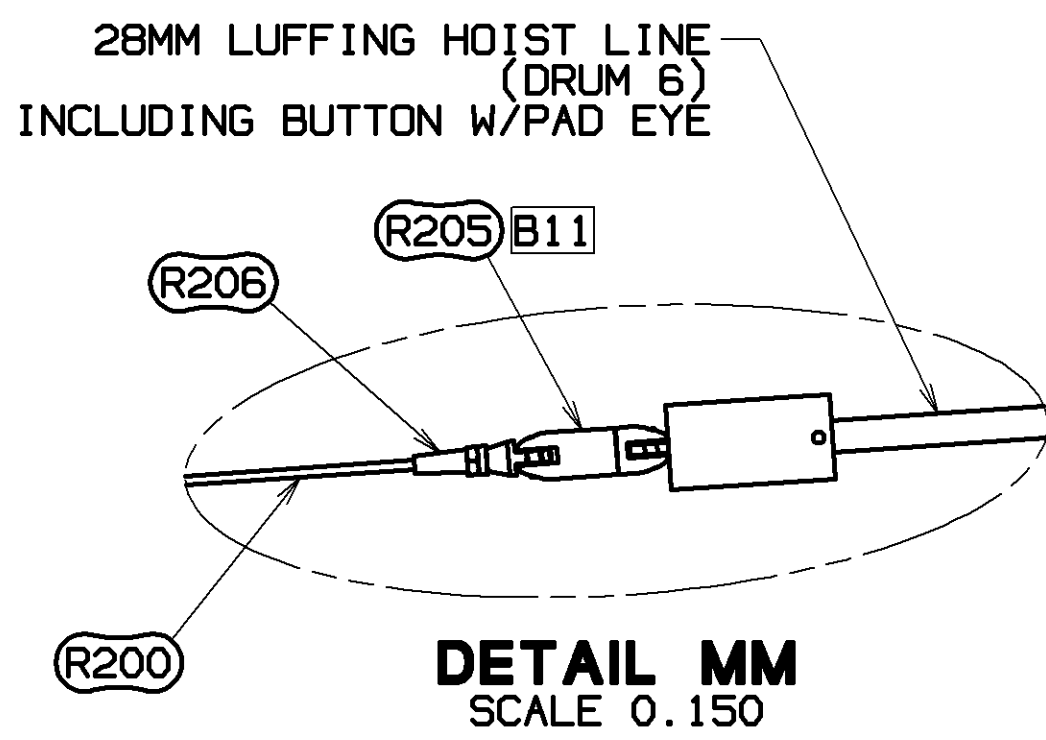
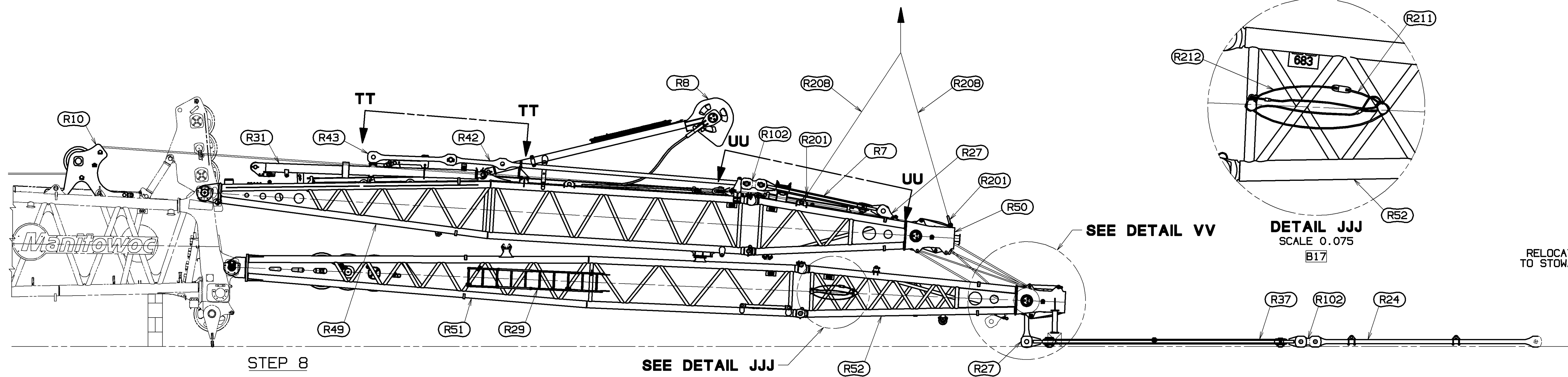


DIAGRAM FOR REEVING SUCKER LINES (R211 & R212) DURING DISASSEMBLY OF STRUTS

TOLERANCE UNLESS OTHERWISE SPECIFIED				MATERIAL			
DECIMAL PLACES	FRACTIONS	INCHES	MILLIMETERS	DESCRIPTION	QUANTITY	UNIT	REMARKS
(1) PLACE 0.0	±.12	±.18	±.05	DR. AUB	1	PC	MANITOWOC CRANES, INC.
(2) PLACE 0.00	±.06	±.12	±.015	CK. RHV	1	PC	MANITOWOC, WISCONSIN
(3) PLACE 0.000	±.03	±.06	±.005	APP. TJA	1	PC	MODEL MLC650



BACKSTAY AND JIB STRAP MAKEUP

USING ASSIST CRANE LIFT MAIN STRUT TOP ASSY (R50) AND ALIGN UPPER PIN CONNECTOR WITH UPPER PIN CONNECTOR ON MAIN STRUT BUTT ASSY (R49) AND ENGAGE PINS. LOWER MAIN STRUT TOP ASSY (R50) TO ALIGN LOWER PIN CONNECTOR HOLES AND INSTALL LOWER CONNECTOR PINS.

REMOVE HOLD DOWN PIN (R44) FROM LINKS (R43) AND PLACE IN STORED POSITION. (SEE VIEW TT). VERIFY ADJUSTABLE BACKSTAY STRAP LOCATION PER BOOM LENGTH TABLE ON SHEET 2 AND DETAIL F ON SHEET 3.

REMOVE ADJUSTABLE BACKSTAY STRAP (R42) HOLD DOWN PINS AND LOCATE IN STOWED POSITION. (SEE VIEW UU). REMOVE LJ BACKSTAY SPREADER (R7) HOLD DOWN PINS AND LOCATE IN STOWED POSITION. (SEE VIEW UU). REMOVE SHAFT STRUT LINK (R27) PINS AND LOCATE IN STOWED POSITION. (SEE VIEW UU). POSITION SPREADER STRAPS AND SPREADER LINKS IN WORKING POSITION AND CONNECT SPREADER STRAPS TO LINKS (R102). (SEE VIEW UU AND DETAIL B ON SHEET 2).

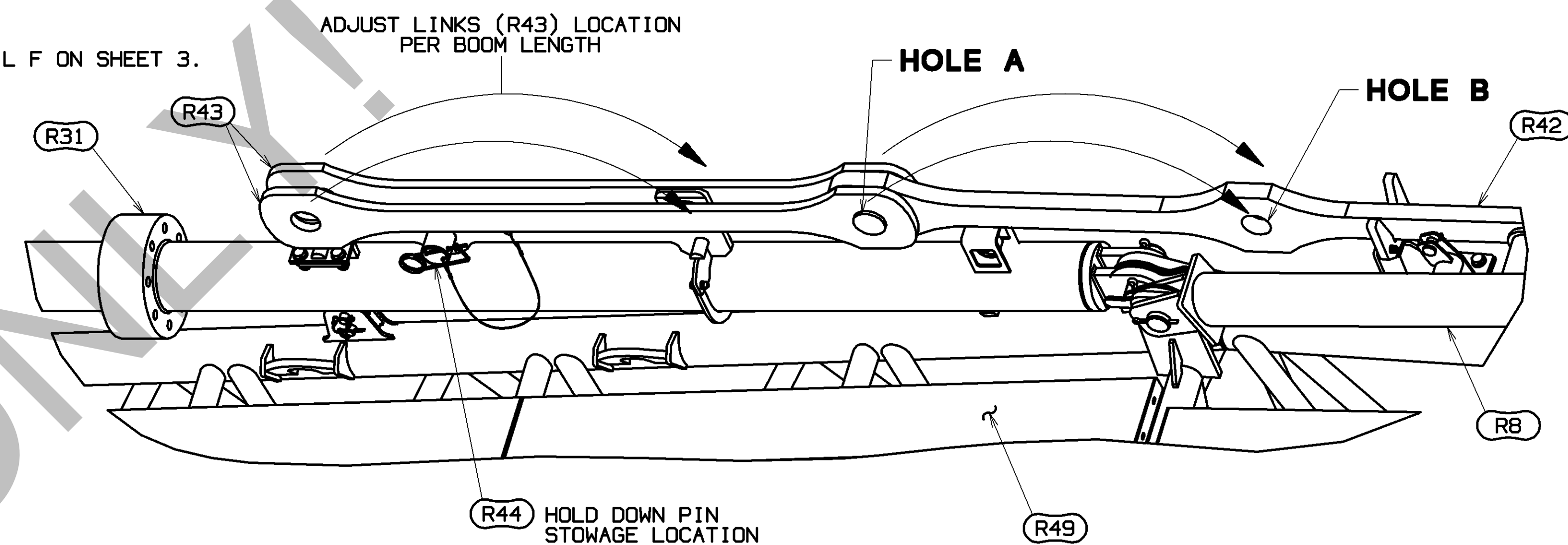
WITH JIB STRUT TOP (R52) ADEQUATELY BLOCKED REMOVE STRUT SHAFT LINK (R27) RETAINING PIN AND LOCATE IN STOWED POSITION. (SEE DETAIL VV). WITH STRUT SHAFT LINK (R27) IN VERTICAL POSITION LOCATE AND PIN TO FRONTSTAY SPREADER ASSY (R37) (SEE DETAIL VV) WHICH WAS PREVIOUSLY REMOVED FROM MAIN STRUT BUTT (R49) AT STEP 4 ON SHEET 8. REMOVE STRAPS (R24) AND LINKS (R102) FROM #680/681 12M INSERT (ITEM 5) AND CONNECT TO FRONTSTAY SPREADER ASSY (R37).

SEE DETAIL VV

DETAIL JJJ
SCALE 0.075
B17

RELOCATE LINK PINS
TO STOWAGE LOCATION

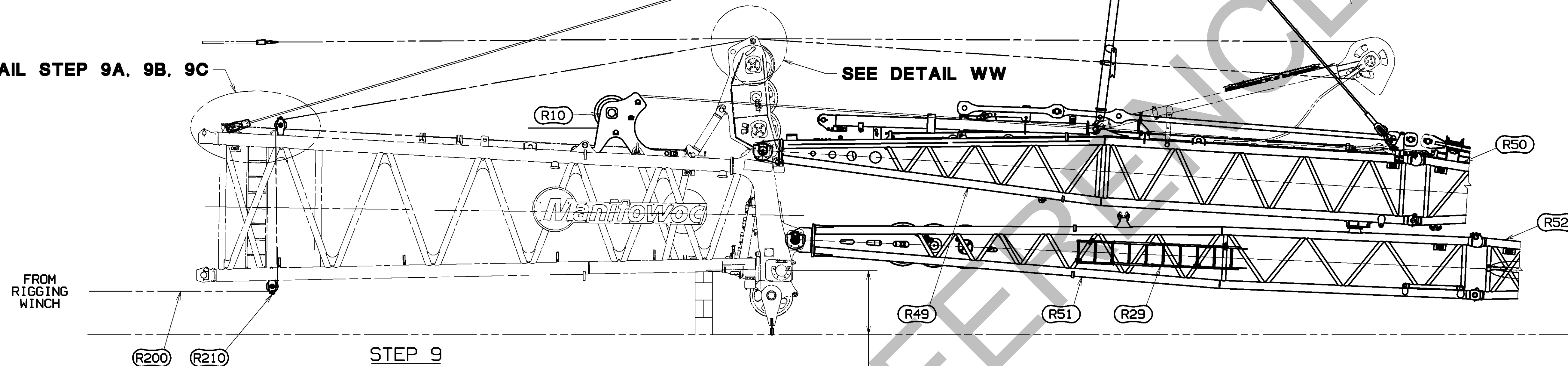
DETAIL VV
SCALE 0.050
BLOCK ADEQUATELY TO ALLOW SHAFT
LINKS TO PIVOT VERTICALLY



VIEW TT
SCALE 0.100

SEE DETAIL STEP 9A, 9B, 9C

SEE DETAIL WW



STRUT RAISING ARM REEVING

ROUTE RIGGING WINCH LINE (R200) AROUND BOTTOM BOOM TOP WIRE ROPE GUIDE ASSY (R210) AND UPPER BOOM TOP WIRE ROPE GUIDE ASSY (R210) AS SHOWN IN "DETAIL STEP 9A". ATTACH RIGGING WINCH LINE TO LOAD HOIST LINE (DRUM 1 OR 2, SEE DELTA NOTE 32). PAY IN RIGGING WINCH LINE (R200) TO PULL LOAD HOIST LINE TO BOOM TOP AND DETACH RIGGING WINCH LINE.

REROUTE RIGGING WINCH LINE (R200) AROUND BOOM TOP WIRE ROPE GUIDE ASSY (R210) AS SHOWN IN "DETAIL STEP 9B". OVER BOOM TOP WIRE ROPE GUIDE ROLLER (SEE DETAIL WW) AND UNDER TO OVER STRUT RAISING ARM SHEAVE (R8). ATTACH RIGGING WINCH LINE TO LOAD HOIST LINE. PAY IN RIGGING WINCH LINE (R200) TO PULL LOAD HOIST LINE PAST BOOM TOP WIRE ROPE GUIDE ASSY (R210) AND DETACH RIGGING WINCH LINE.

ATTACH SOCKET BUTTON (A06276) FROM LOWER BOOM POINT LINK ASSY DEAD END (R45) TO LOAD HOIST LINE. ATTACH LOAD HOIST LINE TO BOOM TOP BRACKET AS SHOWN IN "DETAIL STEP 9C".

PAY IN LOAD HOIST RAISING THE STRUT RAISING ARM (R8) UNTIL PENDANTS PULL TIGHT.

NOTE: REQUIRED MINIMUM BLOCK HEIGHT TO ASSEMBLE LUFFING JIB (STEP 10) EQUAL 1700mm FROM JIB HINGE & TO GROUND. (ASSUMES APPROX. 305mm UNDER LJ BUTT CONNECTOR).

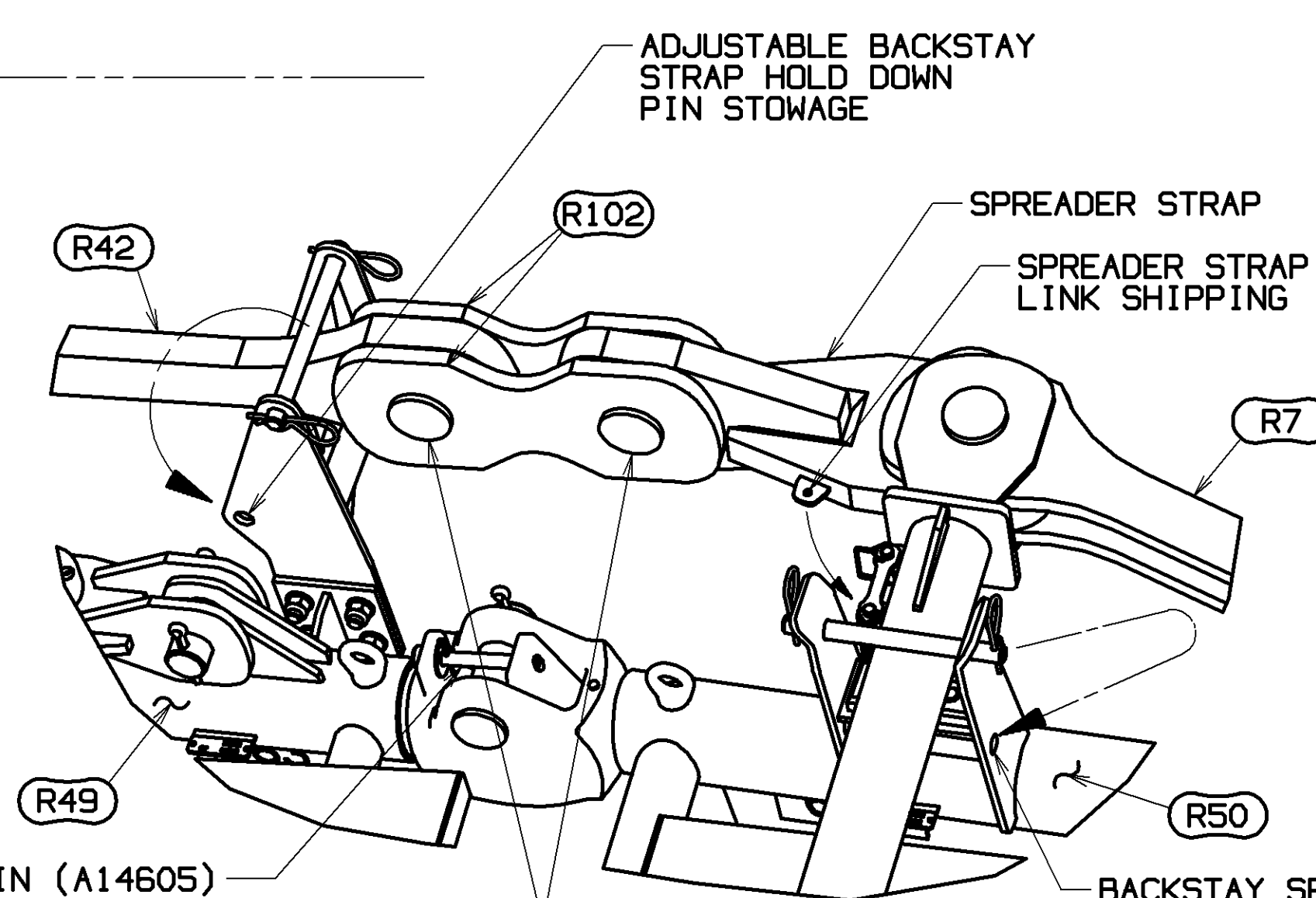
>62M BOOM:
RAISE EQUALIZER AND REEVE LOAD HOIST LINE UNDER EQUALIZER PRIOR TO REEVING STRUT RAISING ARM SHEAVES (R8).

44M-56M BOOM:
PROPER BLOCKING HEIGHT TO ASSEMBLE JIB IS REQUIRED AND EQUALIZER MUST BE DOWN. REEVE LOAD HOIST LINE TO STRUT RAISING ARM SHEAVE (R8) THRU THE BOOM HOIST REEVING.

TO LOAD HOIST
LINE
(DRUM 1 OR 2)
SEE 32

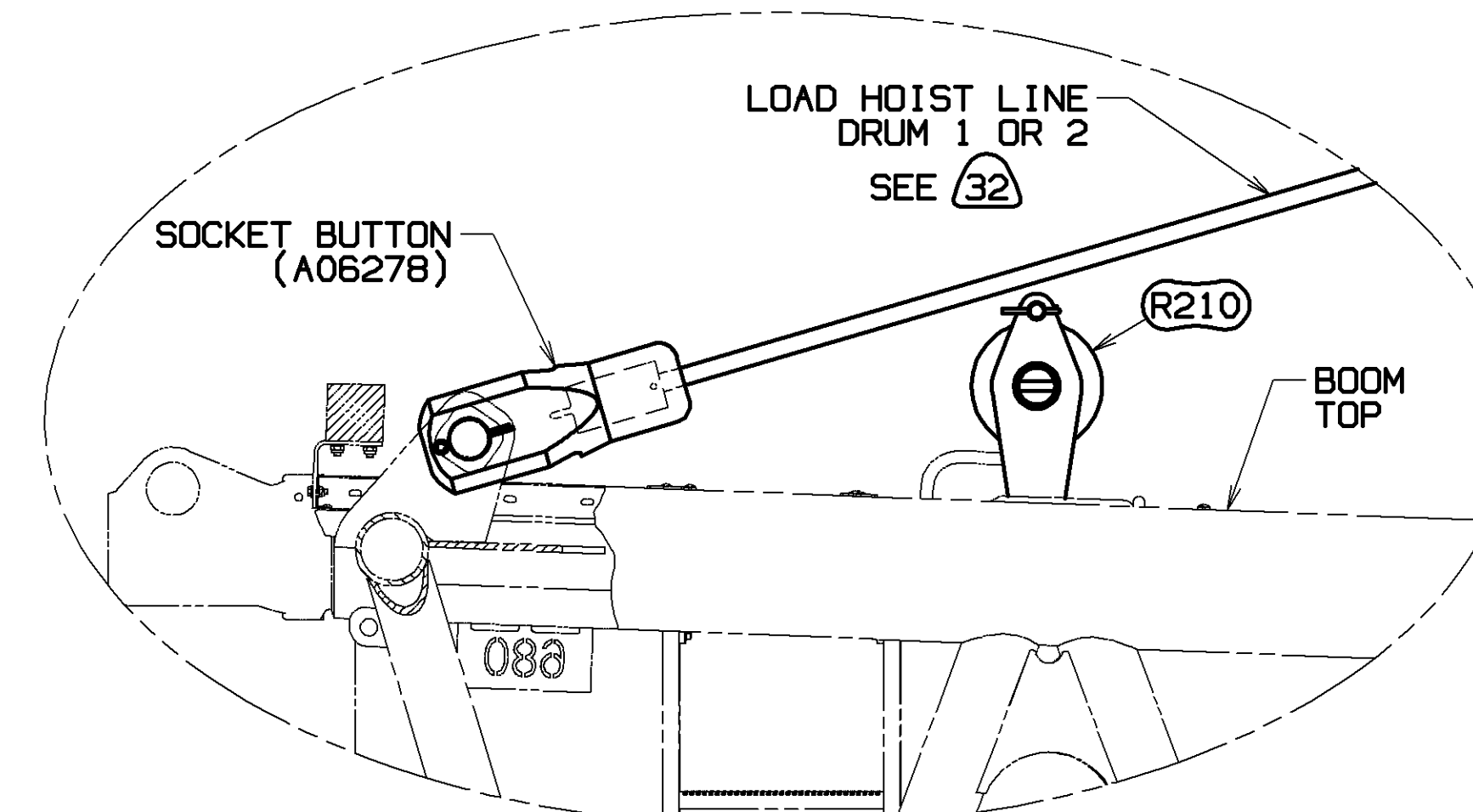
FROM
RIGGING
WINCH

DETAIL WW
SCALE 0.100

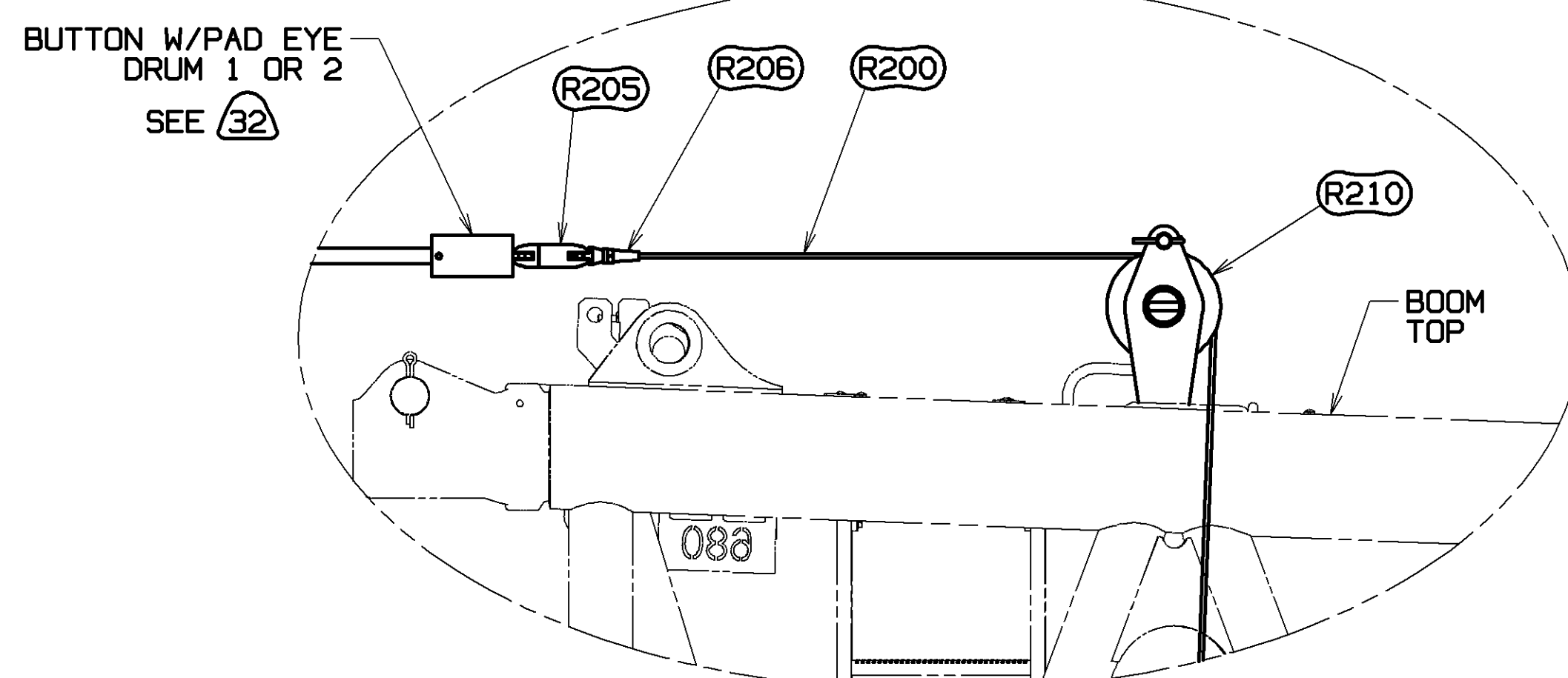


VIEW UU
SCALE 0.125

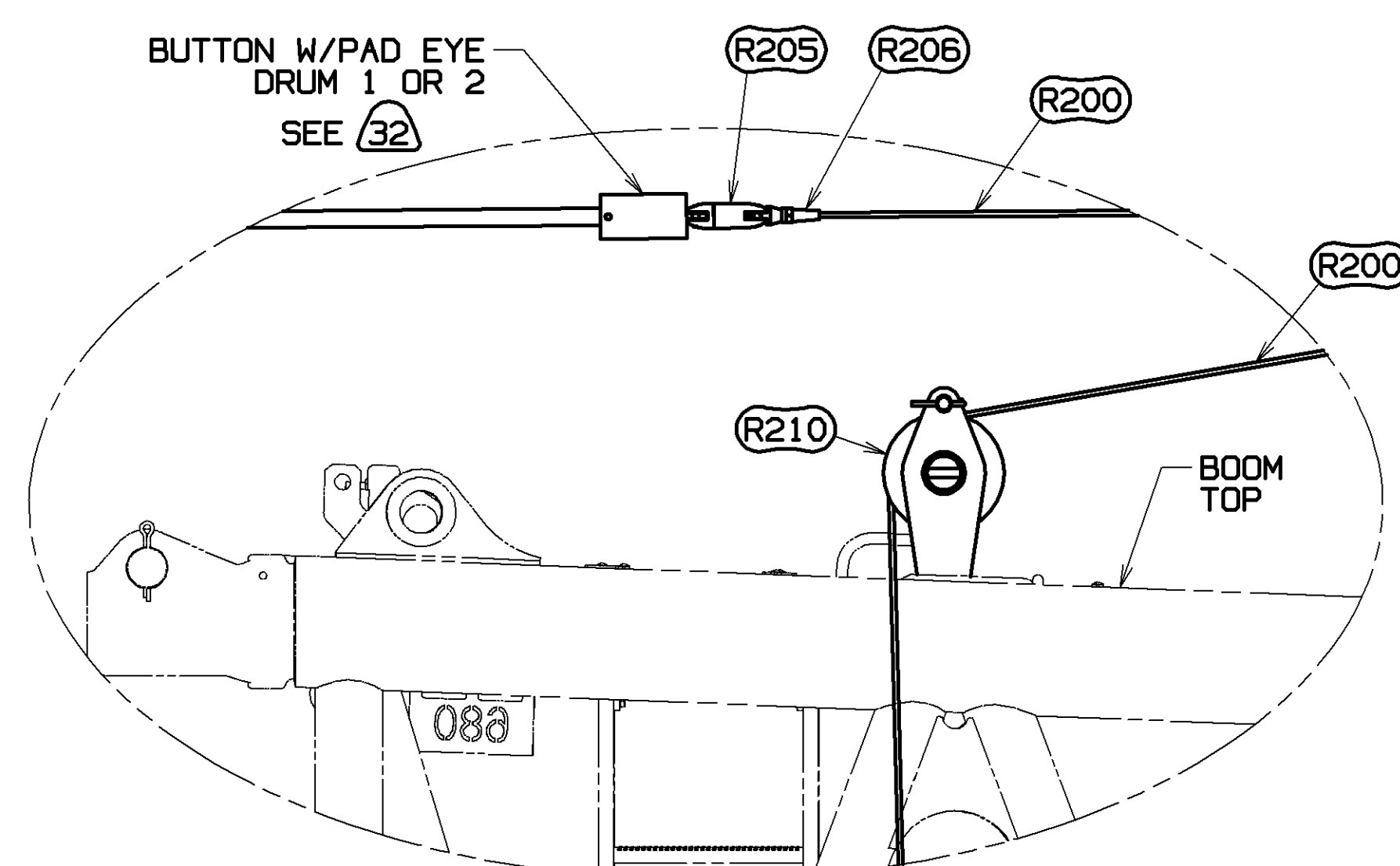
REMOVE AND REINSTALL PIN (A14605)
WHEN HOOKING UPPER CONNECTOR
PINS TO MAIN STRUT BUTT (R49)



DETAIL STEP 9C
SCALE 0.100



DETAIL STEP 9A
SCALE 0.100



DETAIL STEP 9B
SCALE 0.100

DO NOT SCALE THIS DRAWING

BILL OF MATERIAL				ASSEMBLERS USED ON
QTY	UOM	DESCRIPTION	MATERIAL	DATE

REVISIONS

81022910
SHT 10 OF 16

PRIVATE LABELING
REQUIREMENT TO
CONFORM TO
ENGINEERING
SPECIFICATION
8629103794 FOR
COMPONENTS LISTED
IN 862910-06-026

DATE
10-09-15
REV. LVL.
D

81022910
SHT 10 OF 16

TOLERANCE UNLESS OTHERWISE SPECIFIED				MANUFACTURING		MATERIAL		DATE	
DECIMAL PLACES	FRACTIONS	10 FEET	10 FEET	DR. AUB	DATE	DR. AUB	DATE	DATE	DATE
(1) PLACE 0.0	±.12	±.18	±.05	OK: RHV	MODEL: MLC650	OK: RHV	MODEL: MLC650	DATE	DATE
(2) PLACE 0.00	±.06	±.12	±.015	APP: TJA					
(3) PLACE 0.000	±.006	±.012	±.003						

Manitowoc Cranes, Inc.

Manitowoc, Wisconsin

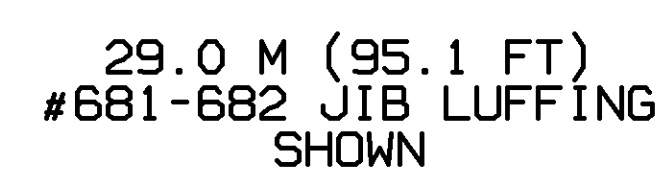
LUFFING JIB RIGGING
LJ on B60



STEP 13

STRUT STOP, JIB STRAP AND STOP PENDANT ATTACHMENT

ATTACH JIB STOP PENDANT FROM JIB STOP RAISING ROLLER (R55) TO BOOM TOP LUG.
PENDANTS TO BE SLACK WITH ROLLER ROTATED AWAY FROM BOOM TOP. (SEE DETAIL EEE).



DO NOT SCALE THIS DRAWING

SHT 12 OF 18

BILL OF MATERIAL					ASSEMBLIES USED ON
QTY	UOM	ITEM	DESCRIPTION	LOC	

DISASSEMBLY PROCEDURE 1

JIB STOP LOWERING

(SEE ILLUSTRATION FOR STEP 15 ON SHEET 12)
JACKKNIFE TO 150° MAX INCLUDED ANGLE TO ALLOW JIB STOP (R33) TO BE LOWERED INTO STOWAGE POSITION.

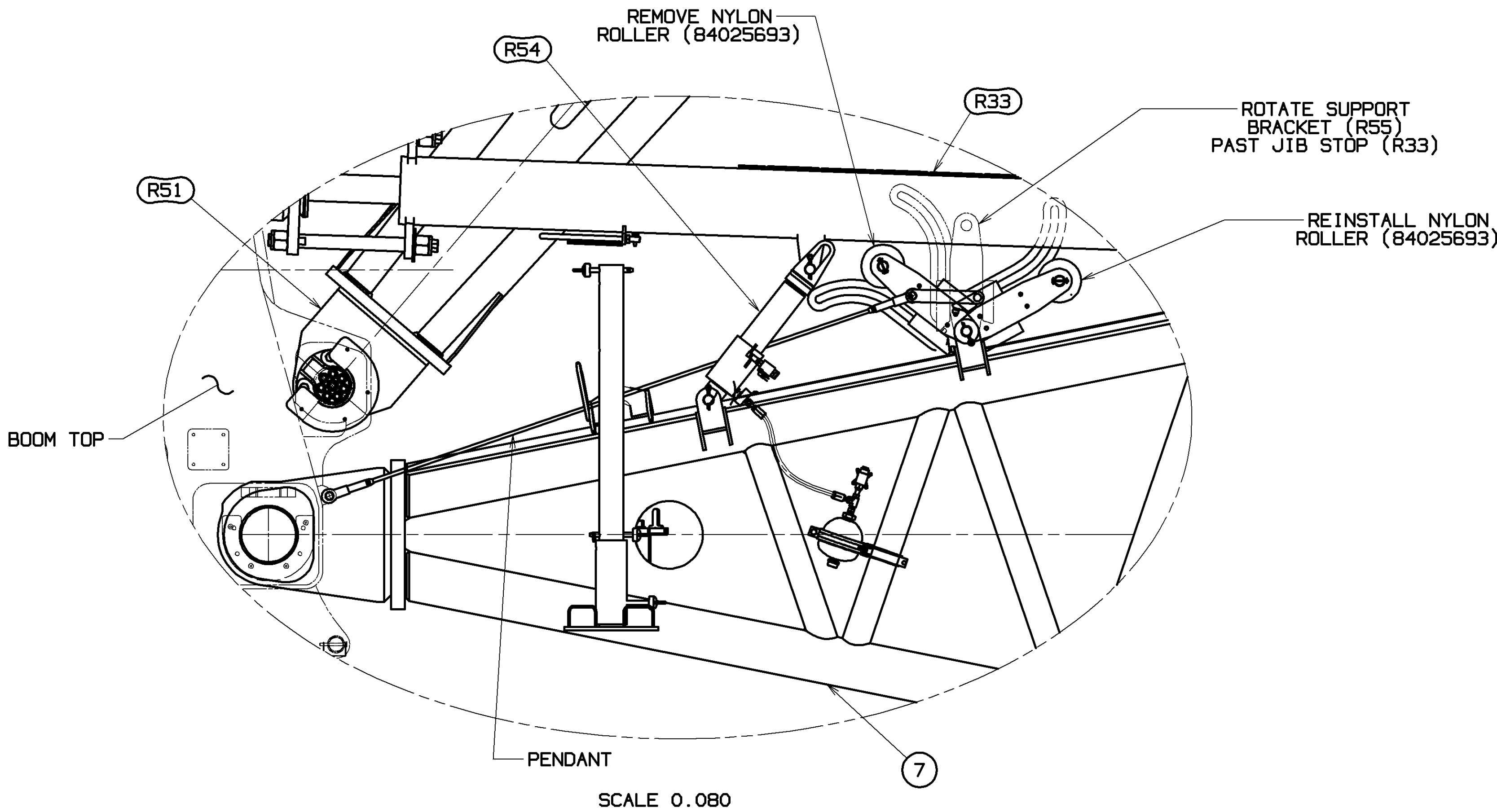
ACTIVATE ELECTRONIC VALVE IN SUPPORT CYLINDER (R54) TO ALLOW CYLINDER TO RETRACT UNDER WEIGHT OF THE JIB STOP (R33).
BOOM DOWN UNTIL BOOM AND JIB ARE HORIZONTAL.

DISASSEMBLY PROCEDURE 2

JIB STRUT TIE OFF

(SEE ILLUSTRATION FOR STEP 13 ON SHEET 12)
LUFF DOWN TO DETACH STRAPS (R24) FROM LINKS (R15) AT 12M INSERT (ITEM 5).

(SEE ILLUSTRATION FOR STEP 11 ON SHEET 11)
TIE OFF JIB STRAPS TO LUFFING JIB (ITEM 5) WITH SLINGS, SHACKLES AND BUSHING FOR HOLD BACK (SAME AS STEP 11 ON SHEET 11).



DISASSEMBLY PROCEDURE 3

JIB STOP RAISING ROLLER (R55) RESET

REMOVE NYLON ROLLER (84025693) FROM JIB STOP SUPPORT BRACKET (R55).
FLIP BRACKET (R55) OVER CENTER (AWAY FROM BOOM TOP) AND REASSEMBLE NYLON ROLLER TO BRACKET (R55).
DETACH JIB STOP PENDANTS FROM BOOM TOP LUG IF REMOVING JIB BUTT.

DISASSEMBLY PROCEDURE 4

MAIN STRUT ARM REEVING

(SEE ILLUSTRATION FOR STEPS 11 AND 12 ON SHEET 11)
DETACH PENDANT (R48) AT MAIN STRUT BUTT (R49) (SEE DETAIL CCC ON SHEET 11)
AND ATTACH TO LOAD HOIST LINE AND RIGGING WINCH LINE (R200).

PAY IN RIGGING WINCH LINE (R200) UNTIL ABLE TO ATTACH LOAD HOIST LINE W/SOCKET BUTTON (A06278)
TO BOOM TOP BRACKET AS SHOWN IN "DETAIL STEP 9C" ON SHEET 10.

OPEN MAIN STRUT STOP (R31) BYPASS VALVES VIA CRANE CONTROLS TO ALLOW STRUT TO ROTATE BACK.
LUFF DOWN TO RETRACT STRUT STOP TUBES. RELOCATE CYLINDER ROD RETAINING PIN SO
CYLINDERS DO NOT EXTEND. (SEE DETAIL CCC ON SHEET 11).

LUFF UP WITH LUFFING HOIST TO TAKE LOAD OFF OF OUTER TUBE LOWER PINS.
REMOVE STRUT STOP PINS AT LUG ON BOOM TOP (SEE DETAIL DDD ON SHEET 12).
CONTINUE TO LUFF UP UNTIL STOP (R31) CAN BE SWUNG TOWARD MAIN STRUT TO
REATTACH STOP ROLLER (R32) TO ROD END OF STRUT STOP (R31)

DISASSEMBLY PROCEDURE 5

DETACH BACKSTAYS

(SEE ILLUSTRATION FOR STEP 12 OF SHEET 11)
PAY IN LOAD HOIST ROTATING THE MAIN STRUT (R49 & R50) REARWARD TO DETACH STRUT LINKS (R43)
FROM BOOM BACKSTAY (R101). (SEE DETAIL BBB ON SHEET 11).

AS MAIN STRUT ROTATES BACK THE STRUT STOP (R31) WITH ROLLER (R32) WILL RIDE ON BOOM TOP STOP LUG
AND CHORD AS THE MAIN STRUT CONTINUES TO ROTATE BACK (SEE DETAIL CCC ON SHEET 11).

DISASSEMBLY PROCEDURE 6

STRUT LOWERING

PAY OUT LOAD HOIST LINE WHILE PAYING IN LUFFING HOIST TO BRING MAIN AND JIB STRUTS TOGETHER.
WHEN MAIN STRUT (R49 & R50) IS APPROXIMATELY 62° FROM JIB CENTERLINE DETACH SLINGS (R208),
SHACKLE (R202), BUSHING (R209), AND SLING (R207).
(REVERSE OF STEP 11 ON SHEET 11).

LOAD HOIST IN UNTIL JIB STRUT (R51 & R52) IS APPROXIMATELY 65° FROM HORIZONTAL.
USE PIN PULLER ASSY (R204) TO REMOVE JIB HINGE PINS AND ASSIST CRANE TO DISASSEMBLE LUFFING JIB.
(REVERSE OF STEP 10 ON SHEET 11).

(SEE ILLUSTRATIONS FOR STEP 9 ON SHEET 10 AND STEP 10 ON SHEET 11)
PAY OUT LOAD HOIST TO LOWER STRUTS TO BLOCKING AT GROUND.
DETACH AND REMOVE JIB STRUT STRAPS (R24), LINKS (R102) AND SPREADER (R37).
RETURN STRAPS (R24) AND LINKS (R102) TO #680/681 12M INSERT (ITEM 5) FOR SHIPPING LOCATION.
ROTATE STRUT SHAFT LINK (R27) INTO STOWED POSITION AND SECURE WITH LINK PINS. (SEE DETAIL VV ON SHEET 10)

DISASSEMBLY PROCEDURE 7

LOWER STRUT RAISING ARM

(SEE ILLUSTRATION FOR STEP 9 ON SHEET 10)
PAY OUT LOAD HOIST TO LOWER STRUT RAISING ARM (R8).
VERIFY THAT PENDANTS LAY PROPERLY AND THAT KICKSTAND (R53) IS DEPLOYED TO HOLD
UP STRUT RAISING ARM (R8). UNREEVE LOAD HOIST LINE FROM STRUT RAISING ARM (R8).

DISASSEMBLY PROCEDURE 8

STRUT TOPS SUCKER LINE REEVING AND TRAILERING

(SEE ILLUSTRATION FOR STEP 7 ON SHEET 9)
USING ASSIST CRANE DETACH MAIN STRUT TOP (R50) FROM MAIN STRUT BUTT (R49) AND RELOCATE TO SHIPPING POSITION
ON JIB STRUT TOP (R52). (SEE DETAILS RR & SS ON SHEET 9)
REMOVE SUCKER LINES (R211) & (R212) FROM STOWAGE LOCATION ON JIB STRUT TOP (R52) (SEE DETAIL KK ON SHEET 8)
AND REEVE TO RIGGING WINCH LINE (R200) (SEE DETAIL PP ON SHEET 9) AND LUFFING JIB HOIST LINE (SEE DETAIL NN ON SHEET 9).

(SEE ILLUSTRATION FOR STEP 5 ON SHEET 8)
BRING SUCKER LINES (R211) & (R212) INTO REEVING. COIL EXCESS SUCKER LINE ON JIB STRUT TOP (R52) AND STOW BOTH ENDS.
(SEE DETAIL KK AND SECTION LL-LL ON SHEET 8).
DETACH JIB STRUT TOP (R52) FROM JIB STRUT BUTT (R51).
TRAILER #683 STRUT TOP ASSY ITEM 2 (R50 & R52).

DISASSEMBLY PROCEDURE 9

LOWERING OF STRUT RAISING ARM

(REVERSE OF STEP 4 ON SHEET 8)
SECURE STRUT STOP (R31) IN STOWED POSITION. (SEE DETAIL JJ ON SHEET 8).

USING ASSIST CRANE BASKET A SLING (R208) AROUND THE HORIZONTAL SUPPORT MIDWAY UP THE STRUT RAISING ARM (R8).
LIFT STRUT RAISING ARM ENOUGH TO DISENGAGE AND SECURE KICKSTAND (R53) IN STOWED POSITION (SEE DETAIL HH ON SHEET 8).
LOWER STRUT RAISING ARM TO REST ON MAIN STRUT BUTT (R49).

LIFT FRONTSTAY SPREADER ASSY (R37), FROM DISASSEMBLY PROCEDURE 5, TO STOWED POSITION ON MAIN STRUT BUTT ASSY (R49).
POSITION SPREADER STRAPS (SEE DETAIL FF ON SHEET 8) AND SPREADER LINKS (SEE DETAIL GG ON SHEET 8) IN STOWAGE POSITION.

DISASSEMBLY PROCEDURE 10

MAIN STRUT BUTT DISASSEMBLY

(REVERSE OF STEP 3 AND STEP 2 ON SHEET 7)
USING ASSIST CRANE TO SUPPORT MAIN STRUT BUTT (R49) REMOVE HINGE PINS (SEE DETAIL X ON SHEET 7).
POSITION MAIN STRUT BUTT (R49) ON TOP OF JIB STRUT BUTT (R51). INSTALL SHIPPING LINKS
(SEE DETAIL U ON SHEET 7) AND POSITION STRUT SUPPORT (R35) TO ATTACH TO MAIN STRUT BUTT ASSY (R49)
(SEE DETAIL V ON SHEET 7).

DISASSEMBLY PROCEDURE 11

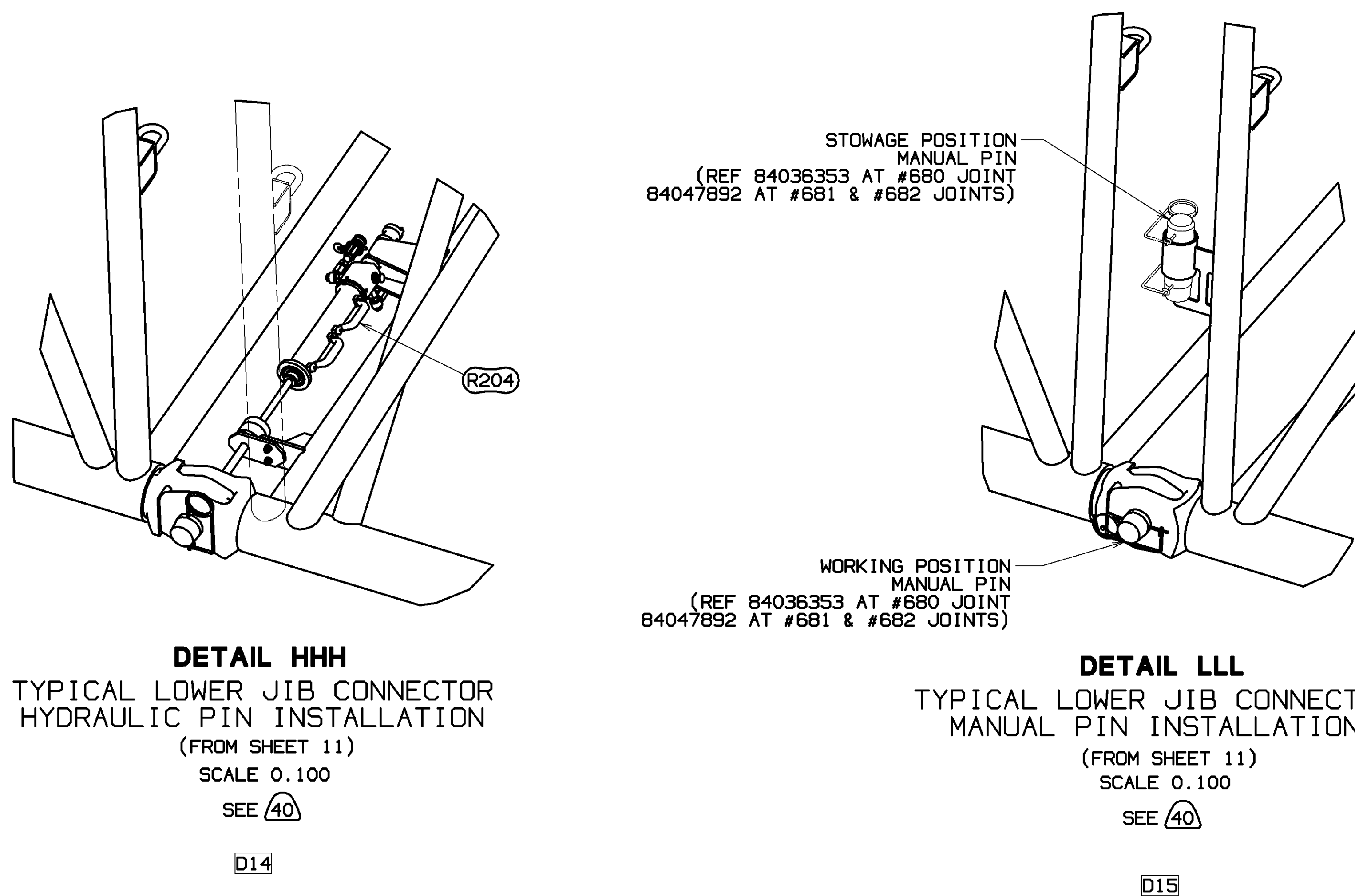
JIB STRUT BUTT DISASSEMBLY

(REVERSE OF STEP 2 ON SHEET 7)
USING ASSIST CRANE TO SUPPORT JIB STRUT BUTT (R51) REMOVE HINGE PINS (SEE DETAIL W ON SHEET 7).
POSITION LADDER (R29) ON STRUT BUTT SHIPPING ASSY (ITEM 1) TO PROVIDE ACCESS TO POINTS TOWARD HINGE PIN.

DISASSEMBLY PROCEDURE 12

LOADING STRUT BUTT ASSEMBLY

(REVERSE OF STEP 1 ON SHEET 7)
USING ASSIST CRANE LIFT BOTH STRUT BUTTS (ITEM 1) ON TRAILER.
WHEN COMPLETED RETURN LADDER (R29) TO STOWAGE POSITION ON JIB
STRUT BUTT ASSY (R51).



DETAIL HHH

TYPICAL LOWER JIB CONNECTOR HYDRAULIC PIN INSTALLATION

(FROM SHEET 11)

SCALE 0.100

SEE 40

D14

DETAIL LLL

TYPICAL LOWER JIB CONNECTOR MANUAL PIN INSTALLATION

(FROM SHEET 11)

SCALE 0.100

SEE 40

D15



SCALE 0.200

**VIEW S-S**

SCALE 0.150



(FROM SHEET 12)



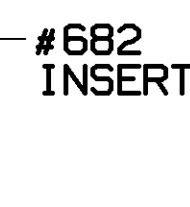
DETAIL B

(SEE DETAIL R-JIB TOP LINK PREP)

1. PRIOR TO ASSEMBLING INSERT TO JIB TOP ITEM 8 REMOVE LINK RETAINING PIN FROM SHIPPING POSITION.
2. ROTATE LINKS R28 TO NEAR VERTICAL POSITION AND REINSTALL LINK RETAINING PIN.
3. ROTATE LINKS R28 TO REST ON LINK RETAINING PIN.

(SEE DETAIL R-JIB TOP LINK TO INSERT STRAP CONNECTION)

4. WITH INSERT ASSEMBLED TO JIB TOP ITEM 8, REMOVE LINK RETAINING PIN, ROTATE LINKS R28 TO ALIGN INSERT STRAPS AND INSTALL PIN (R103), COLLAR (R104), PIN (R110) AND COTTERS (R100).
5. STOW LINK RETAINING PINS IN PIN STOWAGE BRACKET (SEE DETAIL R-JIB TOP LINK PREP)



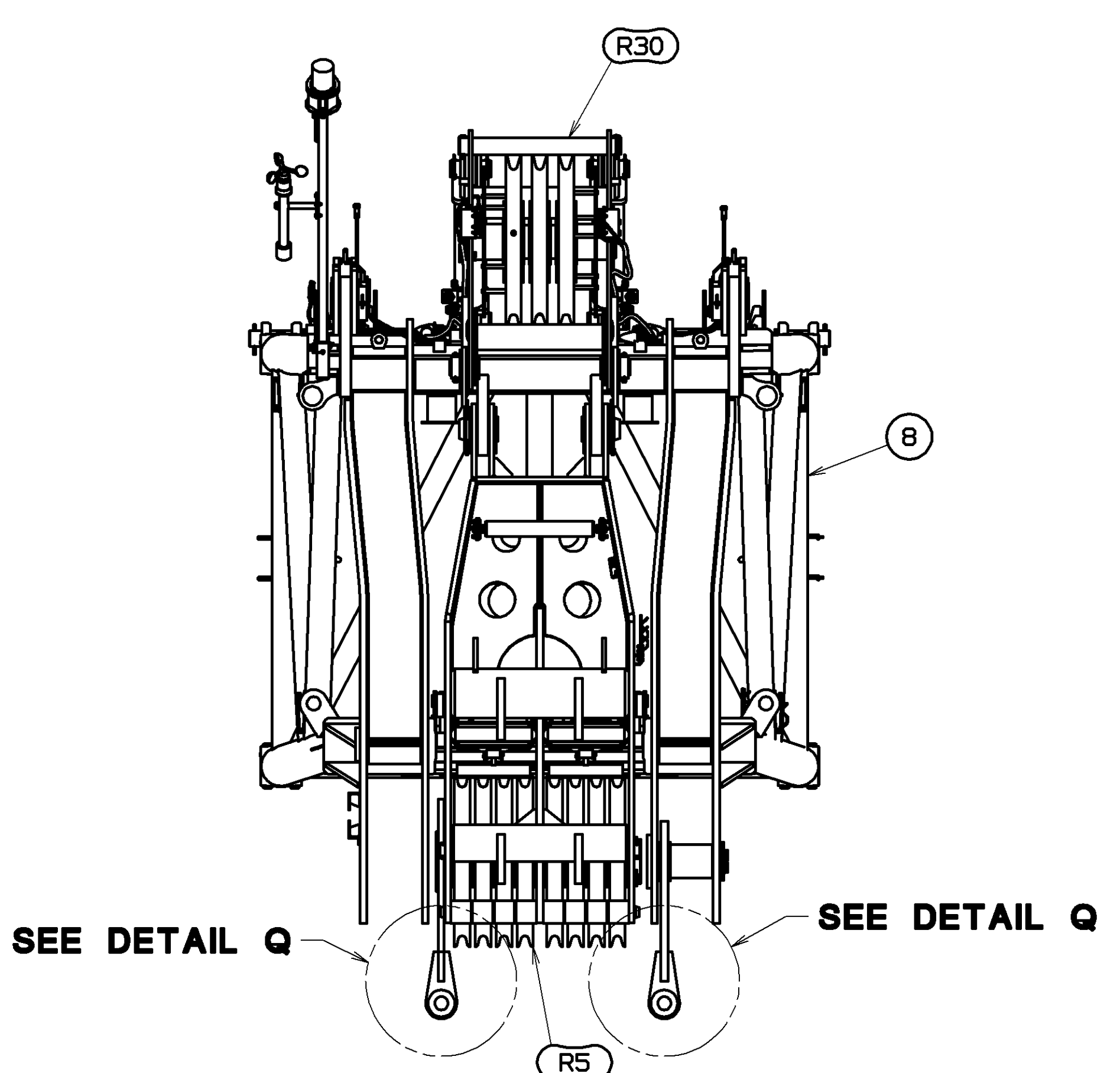
SEE TABLE

STOWABLE INSERT CONFIGURATION
(#682 INTO #680)

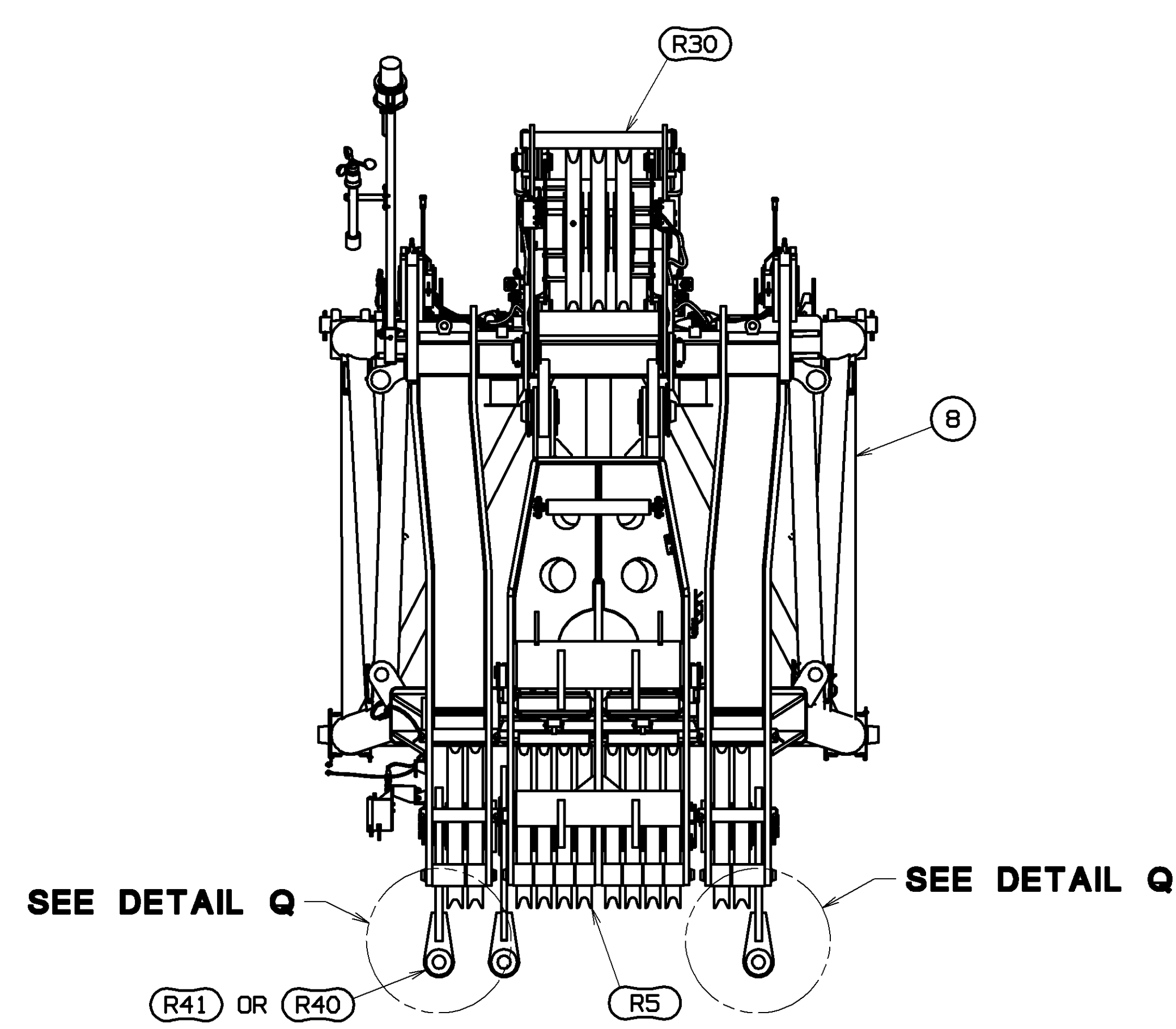
#680 INSERT W/STOWABLE #682 INSERT FEATURE	#682 (6M) STOWABLE INSERT	#682 (12M) STOWABLE INSERT
81020427 (6M)	81021307 (ITEM 102)	-----
81020424 (12M)	-----	81021198 (ITEM 100) 81032715 (ITEM 104)
81021299 (12M)	-----	81021198 (ITEM 100) 81032715 (ITEM 104)
81034977 (12M)	-----	81021198 (ITEM 100) 81032715 (ITEM 104)

DO NOT SCALE THIS DRAWING

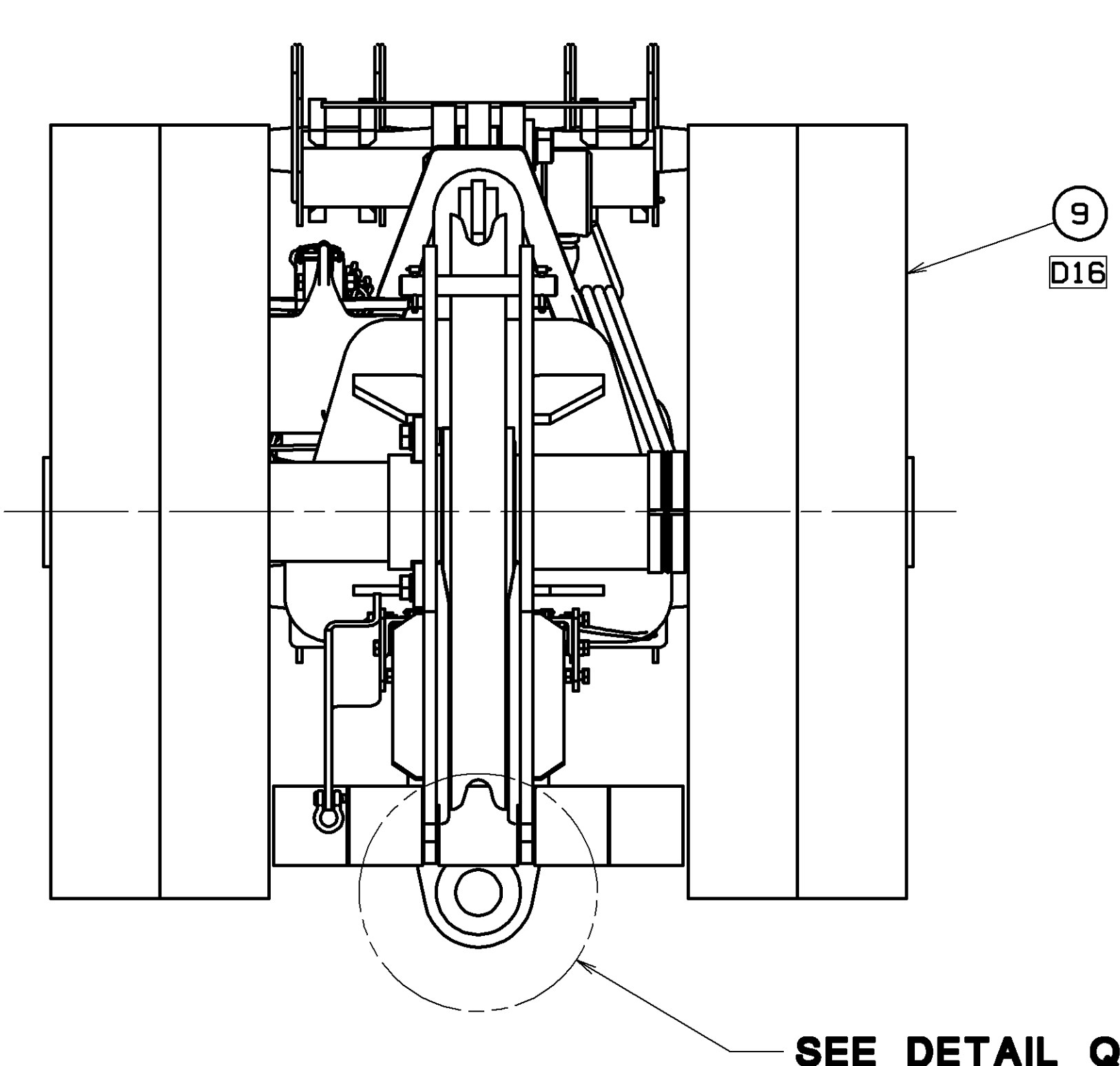
BILL OF MATERIAL					ASSEMBLIES USED ON
QTY	NO.	DESCRIPTION	QTY	NO.	ASSEMBLIES USED ON



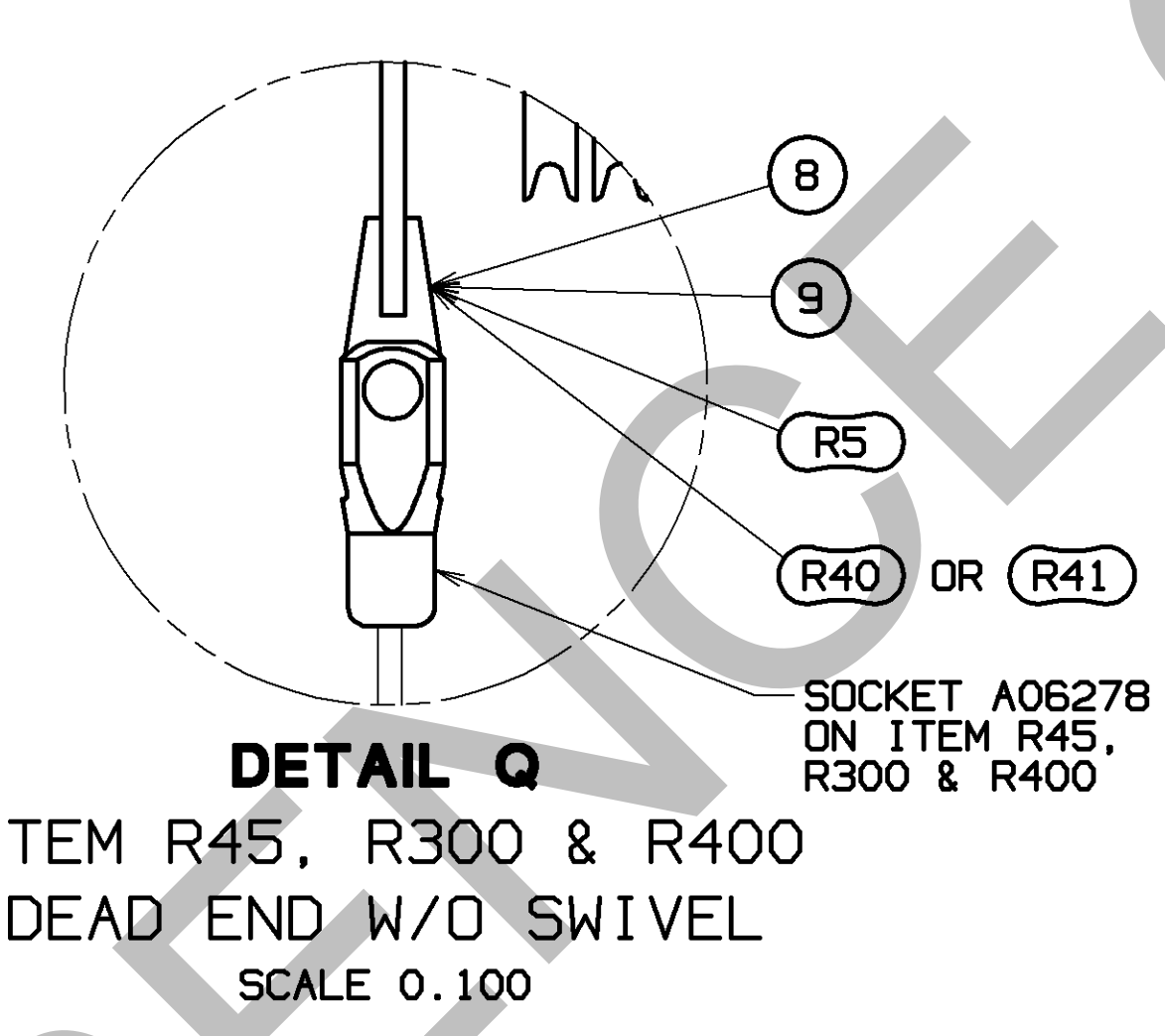
VIEW N-N
(FROM SHEET 6)
ALLOWS FOR REEVINGS UP TO 16 PARTS OF HOIST LINE
SCALE 0.050



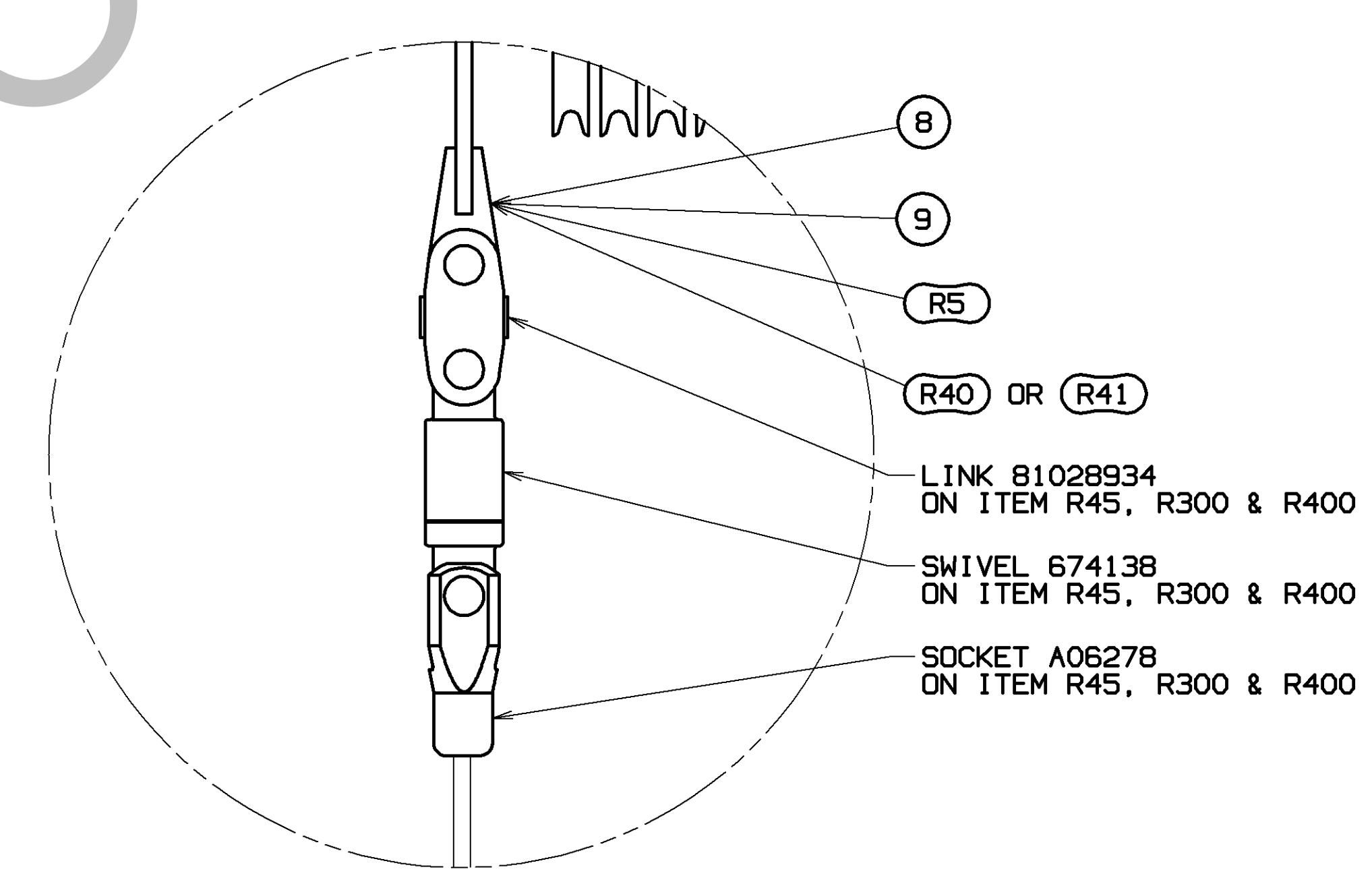
VIEW N-N
(FROM SHEET 6)
ALLOWS FOR REEVINGS UP TO 24 PARTS OF HOIST LINE
SCALE 0.050



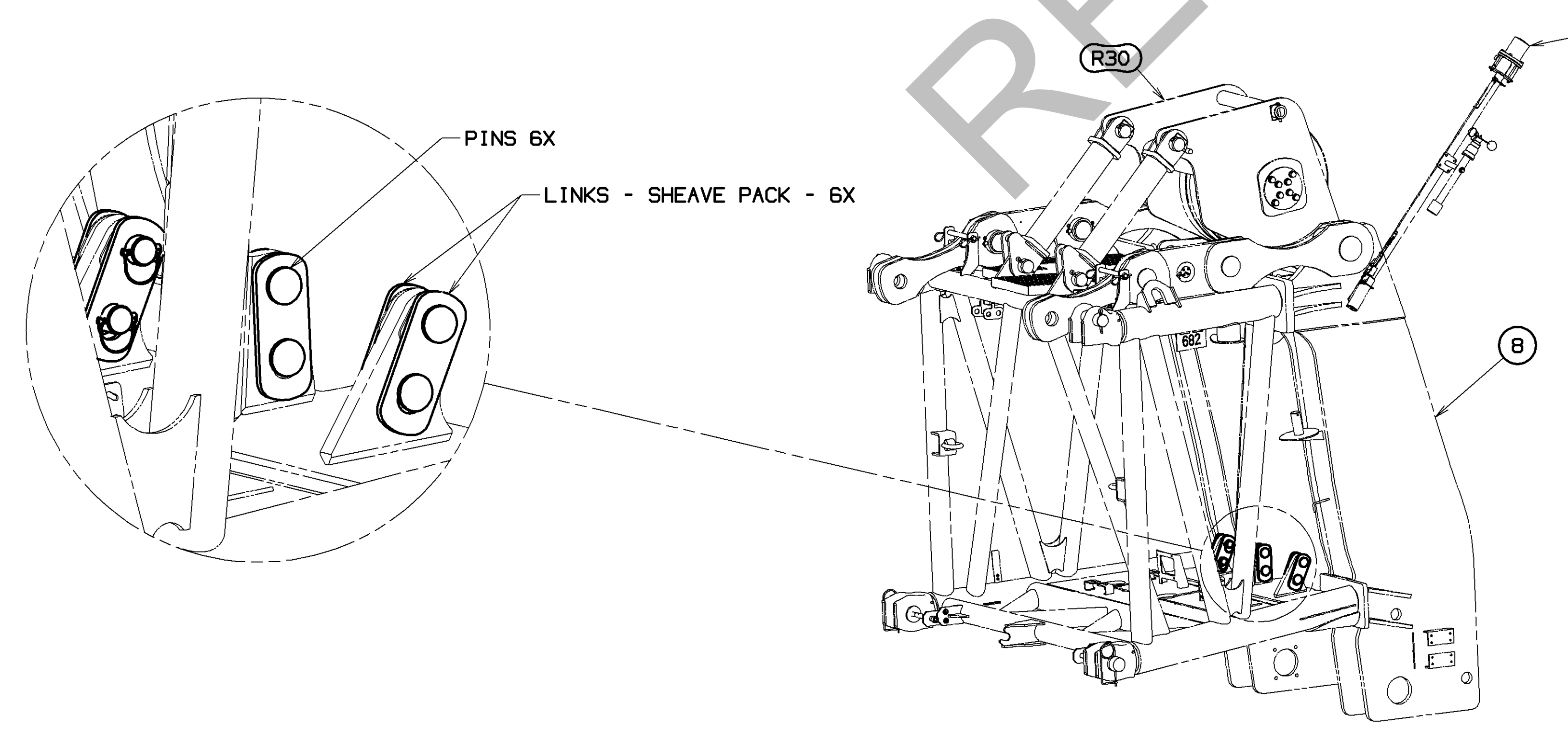
VIEW FFF-FFF
(FROM SHEET 1)
SCALE 0.150



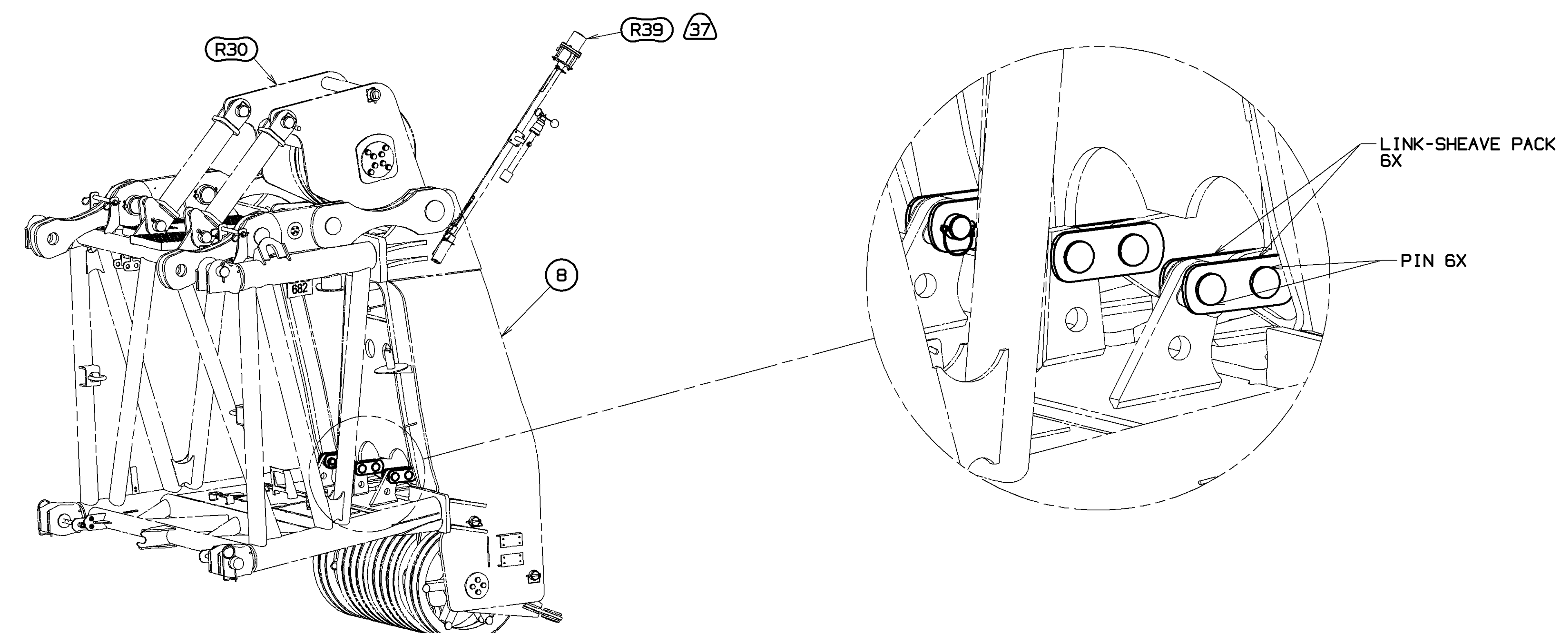
DETAIL Q
ITEM R45, R300 & R400
DEAD END W/O SWIVEL
SCALE 0.100



DETAIL Q
ITEM R45, R300 & R400
DEAD END W/SWIVEL
SCALE 0.100

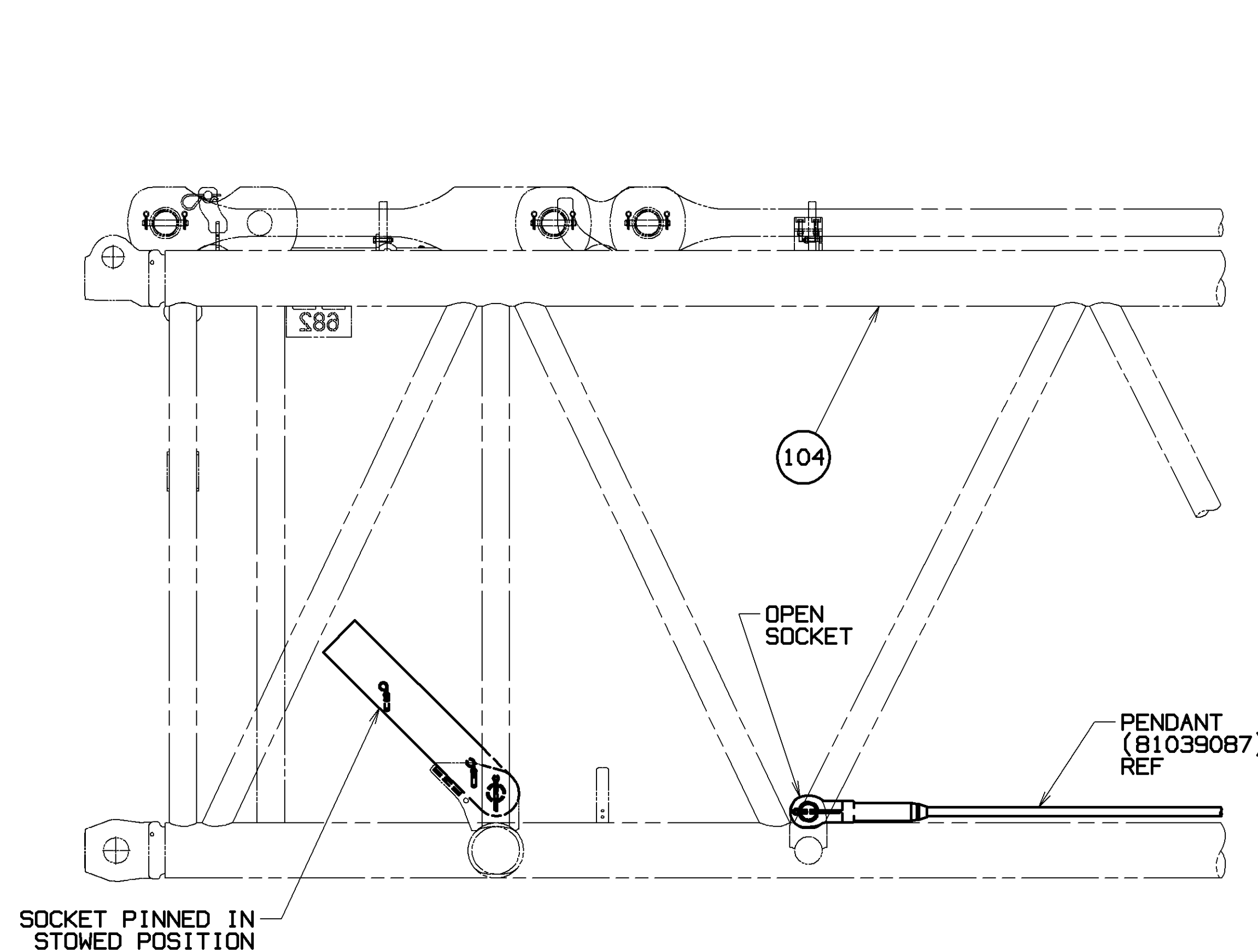


POSITION OF LOWER SHEAVE POINT
PINS AND LINKS WITHOUT OPTIONAL SHEAVE PACK
SCALE 0.050

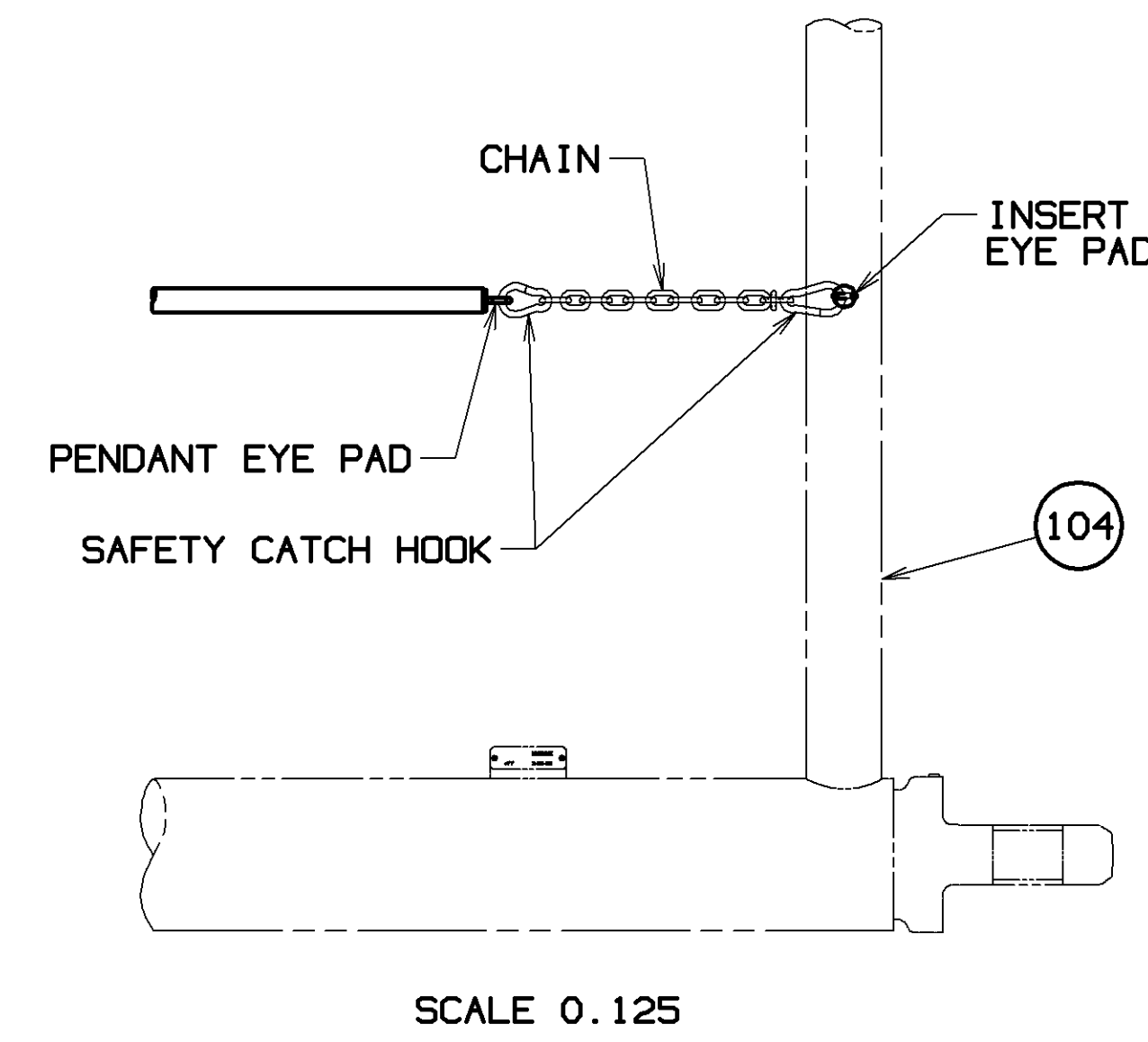


POSITION OF LOWER SHEAVE POINT
PINS AND LINKS WITH OPTIONAL SHEAVE PACK
SCALE 0.050

TOLERANCE UNLESS OTHERWISE SPECIFIED				DATE	
DECIMAL PLACES	FRACTIONS	INCHES	MILLIMETERS	10-09-15	REV. 1
(1) PLACE 0.0	1/16	1/16	0.0625	MANUFACTURED BY	
(2) PLACE 0.00	1/32	1/32	0.0156	CHECKED BY	
(3) PLACE 0.000	1/64	1/64	0.0039	APPROVED BY	
ANGLES	1/16	1/16	0.0625	DATE	
THIS PRINT REMAINS THE PROPERTY OF MANITOWOC CRANES, INC. IT IS LOANED, SUBJECT TO RETURN UPON DEMAND, AND ON EXPRESS CONDITION THAT IT IS NOT TO BE COPIED OR USED DIRECTLY OR INDIRECTLY IN ANY MANNER DETRIMENTAL TO OUR INTERESTS.				MANITOWOC CRANES, INC.	
DR. AUB				LUFFING JIB RIGGING	
CK. RHV				LJ on B60	
APP. TJA				81022910	

**DETAIL AA - STOWED SHIPPING**

SUSPENSION WIRE ROPE #682
ITEM R108, 81039008
(FROM SHEET 5)
SUSPENSION PENDANTS STOWED POSITION FOR SHIPPING
OR WHEN INSERT WORKING W/O SUSPENSION (59M JIB ONLY)
SCALE 0.075

**DETAIL BB - STOWED SHIPPING**

SUSPENSION WIRE ROPE #682
ITEM R108, 81039008
(FROM SHEET 5)
SUSPENSION PENDANTS STOWED POSITION FOR SHIPPING
OR WHEN INSERT WORKING W/O SUSPENSION (59M JIB ONLY)
SCALE 0.125

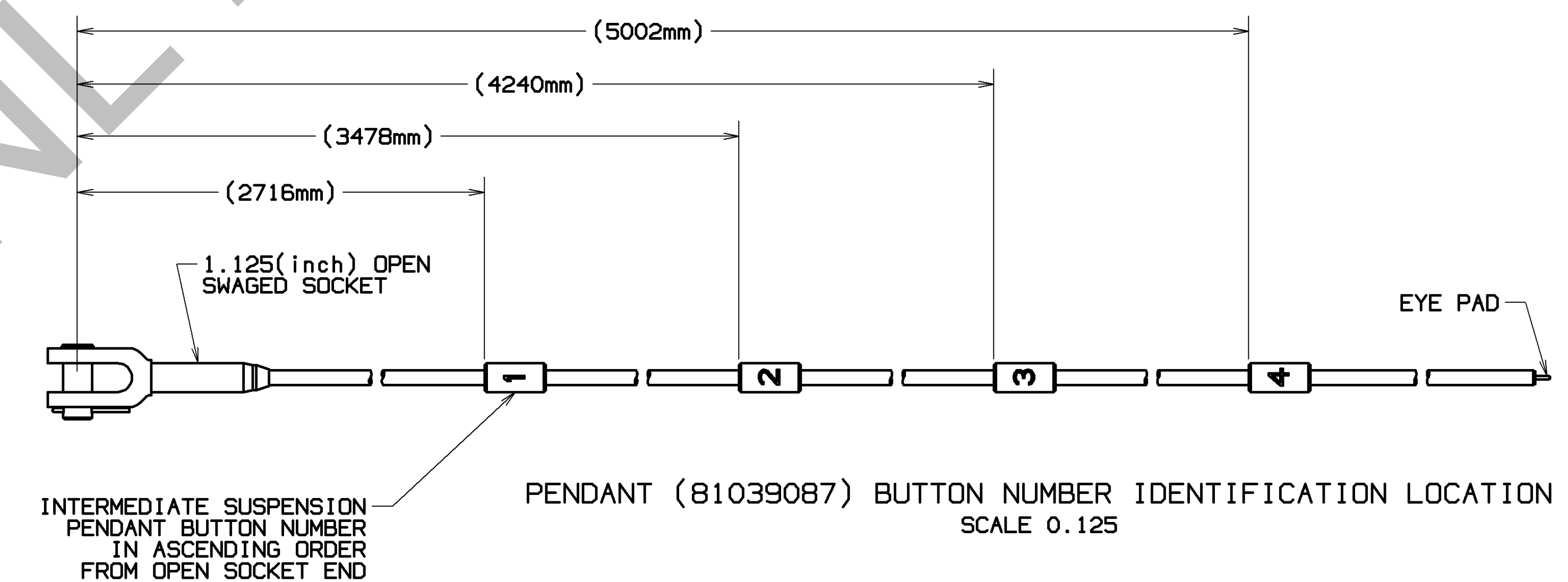
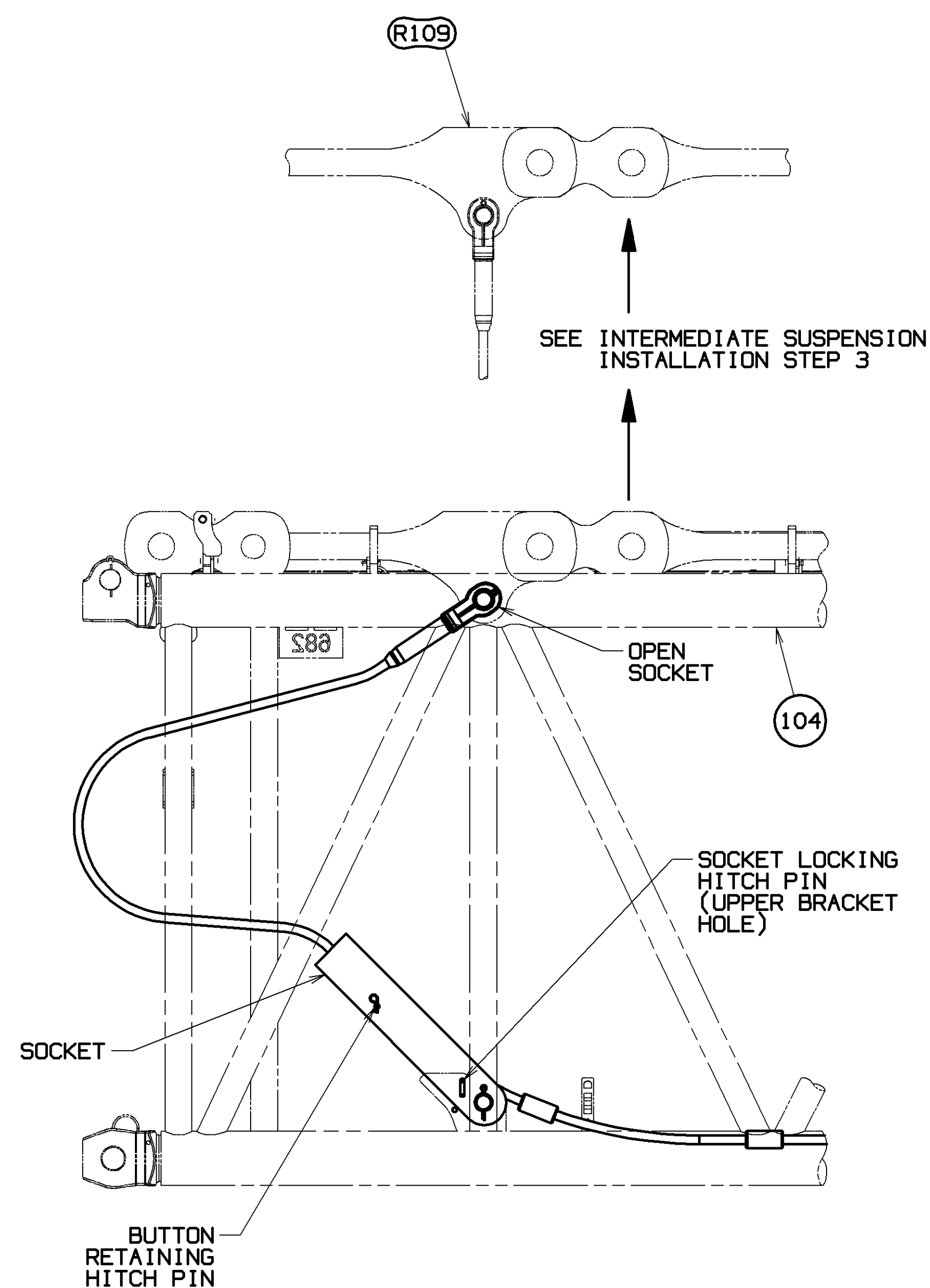
INTERMEDIATE SUSPENSION (R108) INSTALLATION

SEE JIB MAKEUP VIEWS ON SHEETS 5 & 6, AND JIB LENGTH
TABLE ON SHEET 2 FOR REQUIRED SUSPENSION & WIRE ROPE
BUTTON IDENTIFICATION LOCATION.

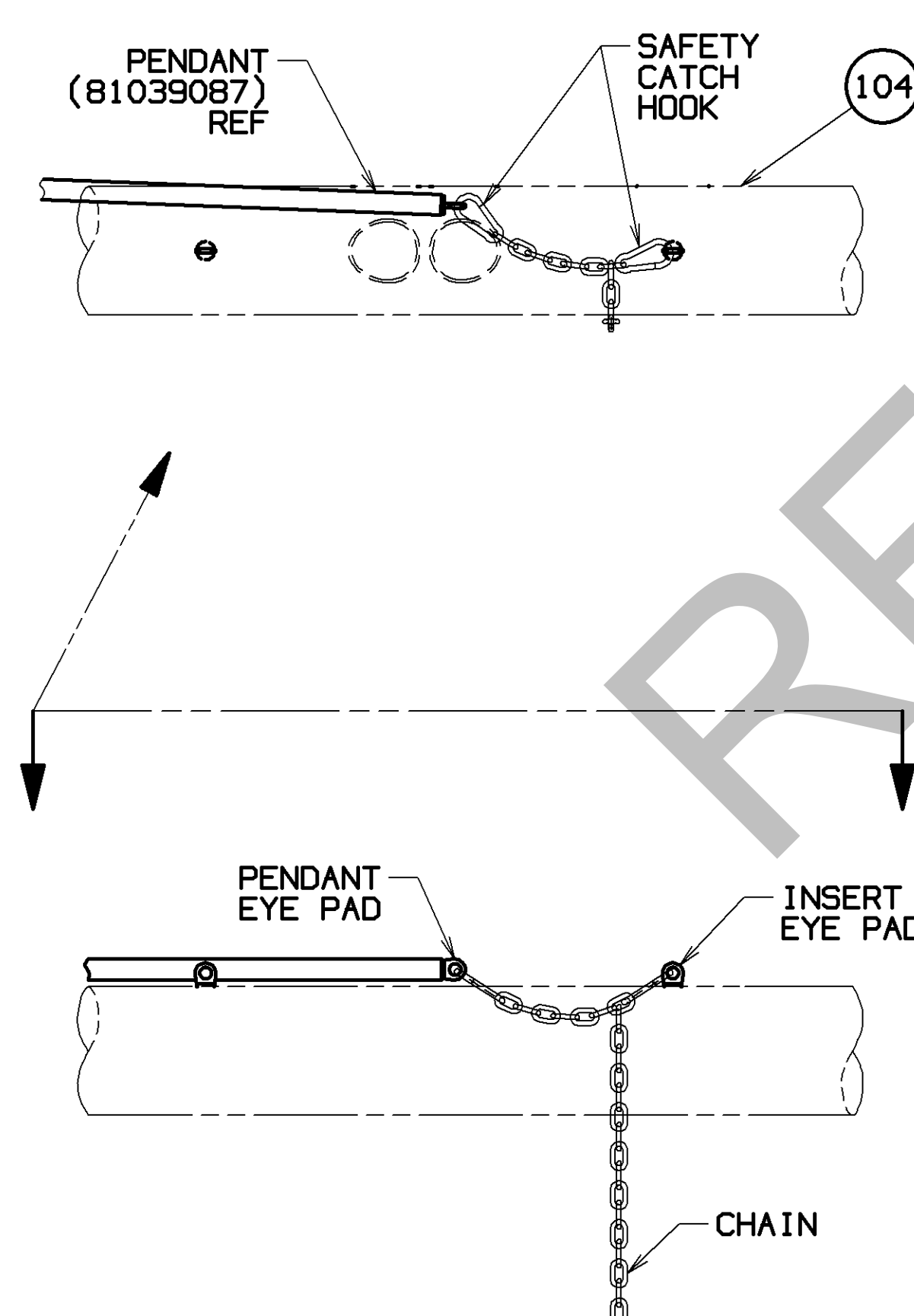
1. REMOVE MULTI-BUTTON PENDANT FROM STOWED SHIPPING POSITION. (SEE DETAIL AA & BB)
2. ATTACH OPEN SOCKET END OF PENDANT TO CONNECTING LINK R109 AT TOP OF INSERT ITEM 104. (SEE DETAIL CC - PREPPED NON-WORKING)
3. SLOWLY RAISE JIB. AS THE STRAPS RISE, GUIDE THE INTERMEDIATE SUSPENSION PENDANTS THROUGH THE OPENINGS IN THE JIB INSERT. STOP THE JIB RAISING PROCEDURE WHEN THE REQUIRED PENDANT BUTTON NEARS THE SOCKET. FROM STOWED POSITION REMOVE BUTTON RETAINING HITCH PIN FROM SOCKET AND POSITION THE IDENTIFIED PENDANT BUTTON INTO SOCKET. REINSTALL BUTTON RETAINING HITCH PIN INTO SOCKET. LOCKING PENDANT IN POSITION. (SEE DETAIL CC-PREPPED NON-WORKING)
4. RELOCATE SOCKET LOCKING HITCH PIN FROM SOCKET AND UPPER BRACKET HOLE TO LOWER BRACKET HOLE. (SEE DETAIL CC - WORKING)
5. ATTACH PENDANT EYE PAD TO INSERT EYE PADS USING A SAFETY CATCH HOOK AT EACH END OF CHAIN. ADJUST PENDANT TENSION BY POSITIONING SAFETY CATCH HOOK IN APPROPRIATE CHAIN LINK. (SEE DETAIL DD)
6. JIB UP SLOWLY AS PENDANT BECOMES TIGHT AND SOCKET PIVOTS INTO WORKING POSITION. (SEE DETAIL CC - WORKING)

FOR REMOVAL OF INTERMEDIATE SUSPENSION REVERSE INSTALLATION STEPS 1 THRU 6, ASSURING SOCKET PIVOTS TOWARD STOWAGE POSITION.

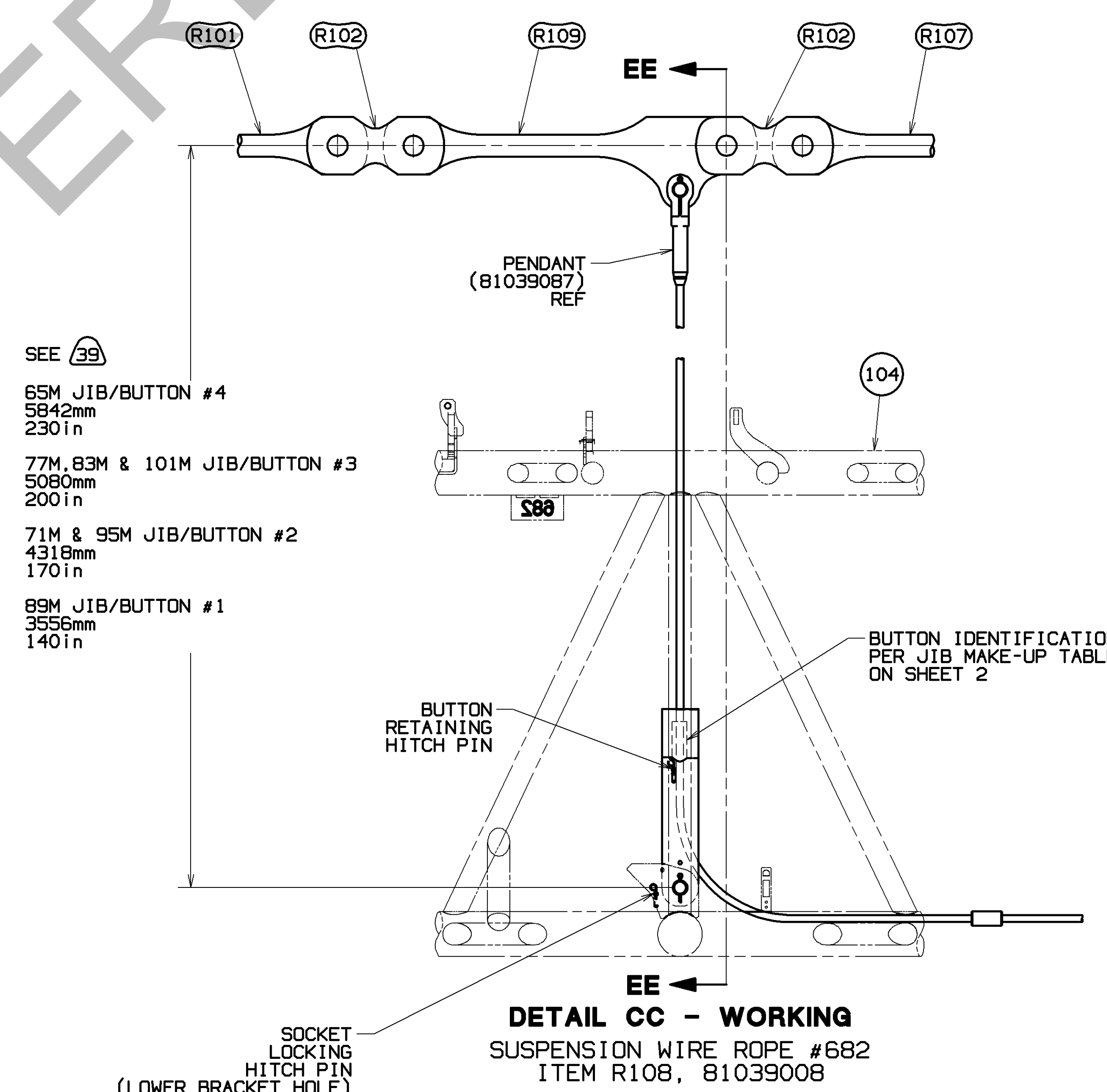
VERIFY THAT SLACK IN PENDANT CHAIN ALLOWS FOR SOCKET TO PIVOT INTO STOWED POSITION.

**PENDANT (81039087) BUTTON NUMBER IDENTIFICATION LOCATION****DETAIL CC - PREPPED NON-WORKING**

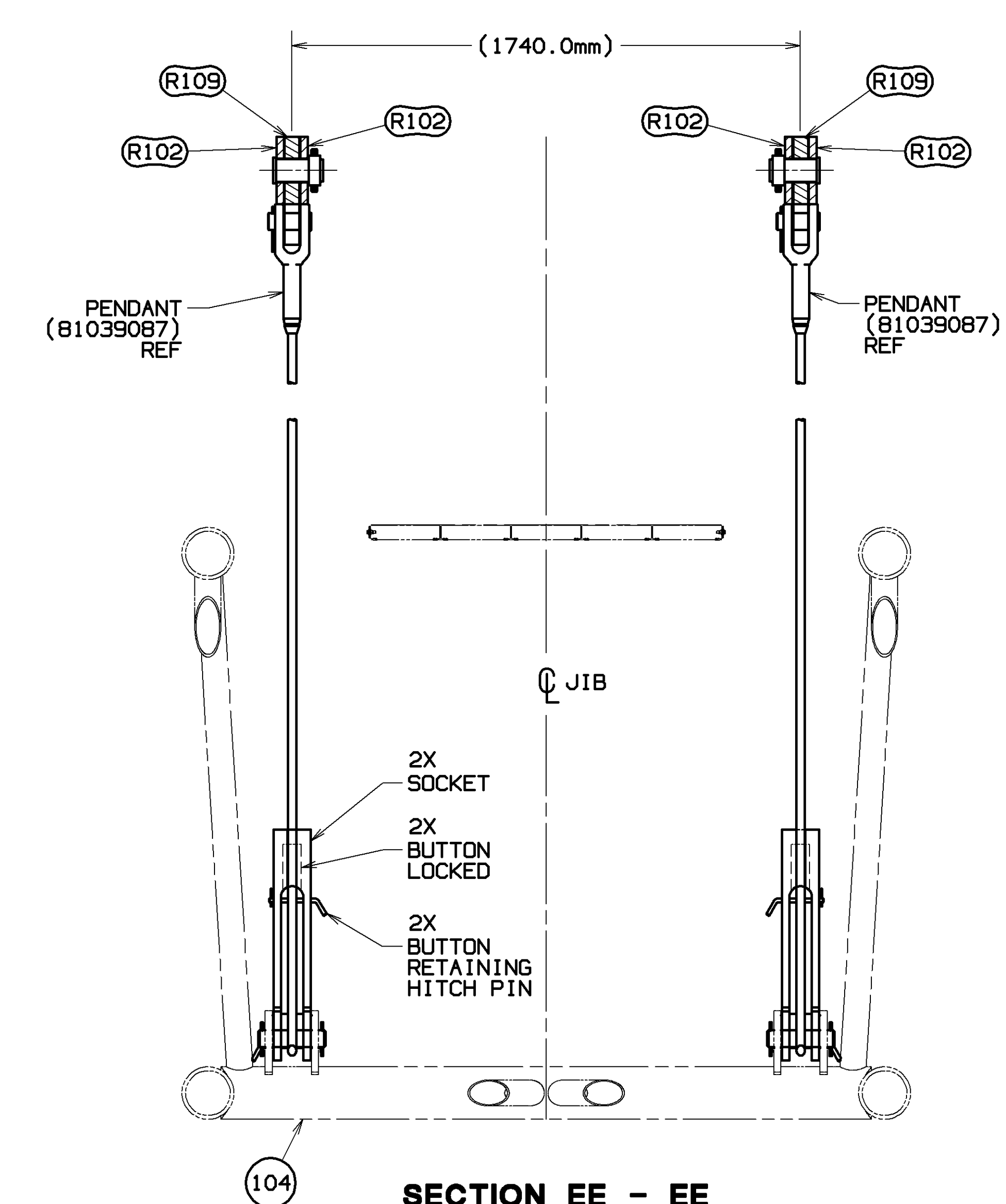
SUSPENSION WIRE ROPE #682
ITEM R108, 81039008
(FROM SHEET 6)
SUSPENSION SOCKET & ROPE LOCATION FOR
PREPPED NON-WORKING JIB LENGTHS 65M THRU 101M
SCALE 0.075

**DETAIL DD**

SUSPENSION WIRE ROPE #682
ITEM R108, 81039008
(FROM SHEET 6)
SCALE 0.125

**DETAIL CC - WORKING**

SUSPENSION WIRE ROPE #682
ITEM R108, 81039008
(FROM SHEET 6)
SUSPENSION SOCKET & ROPE LOCATION FOR
WORKING JIB LENGTHS 65M THRU 101M
SCALE 0.075

**SECTION EE - EE**

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DECIMAL PLACES										FABRICATION					MACHINING					BY: AJB		LUFFING JIB RIGGING		REV. CLH							
1) PLACE 0.00 1/16" 1/8" 1/4" 3/8" 1/2" 3/4" 1" 1 1/2" 2" 3" 4" 6" 8" 10" 12" 14" 16" 18" 20" 22" 24" 26" 28" 30"										1/16" 1/8" 1/4" 3/8" 1/2" 3/4" 1" 1 1/2" 2" 3" 4" 6" 8" 10" 12" 14" 16" 18" 20" 22" 24" 26" 28" 30"					1/16" 1/8" 1/4" 3/8" 1/2" 3/4" 1" 1 1/2" 2" 3" 4" 6" 8" 10" 12" 14" 16" 18" 20" 22" 24" 26" 28" 30"					DATE: MLC650		10-09-15									
2) PLACE 0.00 1/16" 1/8" 1/4" 3/8" 1/2" 3/4" 1" 1 1/2" 2" 3" 4" 6" 8" 10" 12" 14" 16" 18" 20" 22" 24" 26" 28" 30"										1/16" 1/8" 1/4" 3/8" 1/2" 3/4" 1" 1 1/2" 2" 3" 4" 6" 8" 10" 12" 14" 16" 18" 20" 22" 24" 26" 28" 30"					1/16" 1/8" 1/4" 3/8" 1/2" 3/4" 1" 1 1/2" 2" 3" 4" 6" 8" 10" 12" 14" 16" 18" 20" 22" 24" 26" 28" 30"					BY: RHV		LU on B60		REV. CLH							
3) PLACE 0.000 1/16" 1/8" 1/4" 3/8" 1/2" 3/4" 1" 1 1/2" 2" 3" 4" 6" 8" 10" 12" 14" 16" 18" 20" 22" 24" 26" 28" 30"										1/16" 1/8" 1/4" 3/8" 1/2" 3/4" 1" 1 1/2" 2" 3" 4" 6" 8" 10" 12" 14" 16" 18" 20" 22" 24" 26" 28" 30"					1/16" 1/8" 1/4" 3/8" 1/2" 3/4" 1" 1 1/2" 2" 3" 4" 6" 8" 10" 12" 14" 16" 18" 20" 22" 24" 26" 28" 30"					APP: TJA		81022910		REV. CLH							
ANGLES										1° 2° 3° 4° 5° 6° 7° 8° 9° 10° 11° 12° 13° 14° 15° 16° 17° 18° 19° 20° 21° 22° 23° 24° 25° 26° 27° 28° 29° 30°					1° 2° 3° 4° 5° 6° 7° 8° 9° 10° 11° 12° 13° 14° 15° 16° 17° 18° 19° 20° 21° 22° 23° 24° 25° 26° 27° 28° 29° 30°					DATE: MLC650		10-09-15									
DATE										BY					CHECKED					APPROVED					PROJECT		DRAWING NO.				
10-09-15										JTB					JTB					JTB					81022910					81022910	
MANITOWOC CRANES, INC.										MANITOWOC, WISCONSIN					LUFFING JIB RIGGING					LU on B60					APP: TJA					81022910	