

BILL OF MATERIAL		
QTY	DESCRIPTION	MATERIAL
INSERT 40 FT. (12.19) ASSEMBLY WITH INTERMEDIATE FALL		
200	1 INSERT 40 FT. (12.19M) ASSEMBLY	A0705919
201	2 PENDANT 40 FT. -3.00 (12.27M)	27738417
202		
203		
204		
205		
INTERMEDIATE SUSPENSION FOR INTERMEDIATE FALL		
206	2 PIN	179959
207	6 PIN	196297
208	1 LINK ASSEMBLY	A07324
209	2 PIN	A0733044
210	2 PIN	A0733245
211	2 COLLAR	A07451
212	2 PENDANT 78.0 IN (1.98M)	A0777646
213	2 PENDANT 21.0 IN (.53M)	A0777747
214	2 LINK	A07778
215	1 BEAM	A07779
216		
217		
218		
219		
220		
LINKS & PINS - JIB BACKSTAY BOOM LENGTHS 100-130 FT. (30.5-39.6M)		
86	2 PIN	170690
87	2 PENDANT LINK 24.00 (610mm)	17755322
88		
LINKS & PINS - JIB BACKSTAY BOOM LENGTHS 70-90 FT. (21.3-27.4M)		
89	2 PENDANT LINK 39.00 (991mm)	17756922
90	2 PENDANT 10 FT. -1.00 (3.07M)	27738217
91		
LINKS - JIB BACKSTAY BOOM LENGTHS 100-200 FT. (30.5-61.0M)		
92	2 PENDANT LINK 11.00 (279mm)	17757022
93		
PENDANT 10 FT. - 1.00 (3.07M) JIB BACKSTAY FOR USE WITH 10 FT. BOOM INSERT		
94	2 PENDANT 10 FT. -1.00 (3.07M)	27738217
PENDANT 20 FT. - 1.50 (6.13M) JIB BACKSTAY FOR USE WITH 20 FT. BOOM INSERT		
95	2 PENDANT 20 FT. -1.50 (6.13M)	27738317
PENDANT 40 FT. - 3.00 (12.27M) JIB BACKSTAY FOR USE WITH 40 FT. BOOM INSERT		
96	2 PENDANT 40 FT. -3.00 (12.27M)	27738417
97		
98		
99		
1.00 WIRE ROPE FOR REAR HOIST DRUM		
100	1 1.00 X 850 FT. WIRE ROPE-CONSTRUCTEX	71939426
1.00 WIRE ROPE FOR REAR HOIST DRUM		
101	1 1.00 X 850 FT. WIRE ROPE - PYTHON	71939527
26mm WIRE ROPE FOR REAR HOIST DRUM		
102	1 26mm X 850 FT. WIRE ROPE - PYTHON	71939628
OPTIONAL JIB PARTS LIST		
SHEAVE, SHAFT & CLAMPS FOR USE WITH OPT. AUX. DRUM		
103	5 CLAMP	174844
104	1 SHEAVE ASSEMBLY	176799
105	1 ROPE GUARD CLAMP	177223
106	1 SHAFT	177455
107	2 NUT ST. HEX .625-11UNC	546058
108	2 PIN - HITCH .88 X 7.00 LG.	563699
109	8 SCREW CAP .625-11UNC X 6.50 LG.	61269134
110	6 WASHER LOCK .625	710307
111	1 SHEAVE WIRE ROPE ASSY	81007542
OPTIONAL JIB PARTS ASSEMBLY LIST		
112	1 UNIV. WIRE ROPE ANCHOR JOINT ASSEM.	92046
113	1 WIRE ROPE GUIDE ASSEMBLY	17736431
114	1 WIRE ROPE SUPPORT ASSEMBLY	17902736
115	1 W.R.GUIDE SINGLE SHEAVE BRACKET ASM	17938041
116	1 W.R.GUIDE DOUBLE SHEAVE BRACKET ASM	17938142
117	1 WIRE ROPE WINCH ASSEMBLY	17938340
118		
119		
120		

BILL OF MATERIAL		
QTY	DESCRIPTION	MATERIAL
BASIC JIB 110 FT. (33.5M)		
1	1 PIN	13368
2	2 PIN	14902-3
3	2 BOOM SIGN	A02743
4	1 PIN	75368
5	2 PENDANT PIN	13791921
6	2 PIN	143491
7	6 PIN KEEPER	169810
8	4 SPACER	170677
9		
10	2 SPACER	171554
11	8 SHEAVE ASSEMBLY	171693
12	4 PIN	172937
13	4 CLAMP	174844
14	2 PIN	176155
15	1 SHEAVE ASSEMBLY	176799
16	1 27 FT. BUTT	177053
17	10 SLEEVE	177107
18	10 WASHER	177108
19	1 MAIN STRUT	177439
20	1 JIB STRUT	177443
21	1 JIB POINT ROLLER ASSEMBLY-2 SHEAVE	177448
22	1 SHAFT	177456
23	1 SHAFT	177457
24	1 SHAFT	177458
25	1 SPACER	177471
26	1 SPACER	177472
27	2 PIN	177479
28	1 LINK SUB-ASSEMBLY	177481
29	1 ADAPTER ASSEMBLY	177493
30	1 SHEAVE WIRE ROPE ASSY	81007542
31	1 23 FT. TOP	177560
32	1 JIB STOP ASSEMBLY	177561
33	1 LINK SUB-ASSEMBLY	177565
34	1 JIB STOP & ANGLE IND. ASSEM. (AUTO)	195706
35	2 STRUT STOP TUBE ASSEMBLY	177590
36	1 WIRE ROPE GUIDE ASSEMBLY	177612
37	2 CLAMP	177633
38	2 STRUT	177634
39	1 24.00 DIA. SHEAVE ASSEMBLY	177636
40	1 LINK	177639
41	1 ROLLER	177640
42	1 SHAFT	178149
43	1 WIRE ROPE GUIDE FRAME ASSEMBLY	17937939
44	1 LINK SUB-ASSEMBLY	179958
45	2 BAR - .50 X 1.00 X 6.00 LG.	22100934
46	4 BEARING LOCKNUT	2251056
47	2 BEARING LOCKWASHER	225111
48	1 PENDANT 11 FT. -3.00 (3.43M)	277241
49	2 PENDANT 20 FT. -1.50 (6.13M)	27738316
50	2 PENDANT 25 FT. -1.00 (7.90M)	27743720
51	2 PENDANT 12 FT. -3.00 (3.73M)	27743923
52	2 PENDANT 23 FT. (7.01M)	27744021
53	12 NUT ST. HEX .625-11UNC	546058
54	1 PIN COTTER STEEL .375 X 3.00 LG.	562150
55	2 PIN - HITCH .88 X 7.00 LG.	563699
56	3 ROLLER	602162
57	1 ROLLER	602170
58	2 SCREW CAP HEX .625-11UNC X 6.00 LG.	61268932
59	4 SCREW CAP .625-11UNC X 6.50 LG.	61269132
60	1 WEDGE/SOCKET ASSEMBLY 1.00 WIRE ROPE	646246
61	6 WASHER LOCK .625	710307
62	10 SHIM	A0003843
63	2 SCR M8 X 30. 4.8 ZINC PLT	712117130149
64	2 NUT HEX M8-1.25 10 PLN	766117000449
65	2 WASHER LOCK M8	795117021049
NUMBER REQ. FOR THE FOLLOWING ITEMS ARE IN THE JIB LENGTH TABLE		
66	BOOM JOINT PIN	70366
67	INSERT 10 FT. (3.05M)	18013612
68	INSERT 20 FT. (6.10M)	18013712
69	TIMBER 55 LG X 3.50 W	8101773548
70	HHCS 5/8-11UNC X 5.00 GR 5	612685
71	HEX LOCK NUT 5/8-11UNC Gr5.2	7660201601
72	F WASHER SHIM 5/8 ST F436	709747
73	PENDANT 10 FT. -1.00 (3.07M)	27738217
74	PENDANT 20 FT. -1.50 (6.13M)	27738317
INSERT 40 FT. (12.19M) WITH OR WITHOUT JIB BACKSTAY LUGS		
76	INSERT 40 FT. (12.19M) WITH BACKSTAY LUGS	48208-212
77	INSERT 40 FT. (12.19M) W/O BACKSTAY LUGS	48208-312
78	BOOM JOINT PIN	70366
79	TIMBER 55 LG X 3.50 W	8101773548
80	PENDANT 40 FT. -3.00 (12.27M)	27738417
81	HHCS 5/8-11UNC X 5.00 GR 5	612685
82	HEX LOCK NUT 5/8-11UNC Gr5.2	7660201601
83	F WASHER SHIM 5/8 ST F436	709747

ASSEMBLIES USED IN

REVISIONS

DATE 11-01-11

PATTERN NO.

PRIVATE LABELING REQUIREMENT TO CONFORM TO ENGINEERING SPECIFICATION 6829103794 FOR COMPONENTS LISTED IN SECTION 05-005

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TOLERANCE UNLESS OTHERWISE SPECIFIED

DECIMAL PLACES	FABRICATION	MACHINING
(1) PLACE 0.1	± .12	± .10
(2) PLACE 0.00	± .06	± .015
(3) PLACE 0.000	± .005	± .005

ANGLES 1/32

DATE 03-16-09

DESIGNED BY DR. RDA

CHECKED BY CK. JAS

APP. JAS

MANITOWOC CRANES, INC. JIB LUFFING ASSEMBLY #82 BOOM/#135 JIB WITH STRAPS STOWED ON BOOM BUTT

DATE 11-01-11

PATTERN NO.

DATE 03-16-09

MANITOWOC CRANES, INC. JIB LUFFING ASSEMBLY #82 BOOM/#135 JIB WITH STRAPS STOWED ON BOOM BUTT

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MANITOWOC CRANES, INC. JIB LUFFING ASSEMBLY #82 BOOM/#135 JIB WITH STRAPS STOWED ON BOOM BUTT

DATE 11-01-11

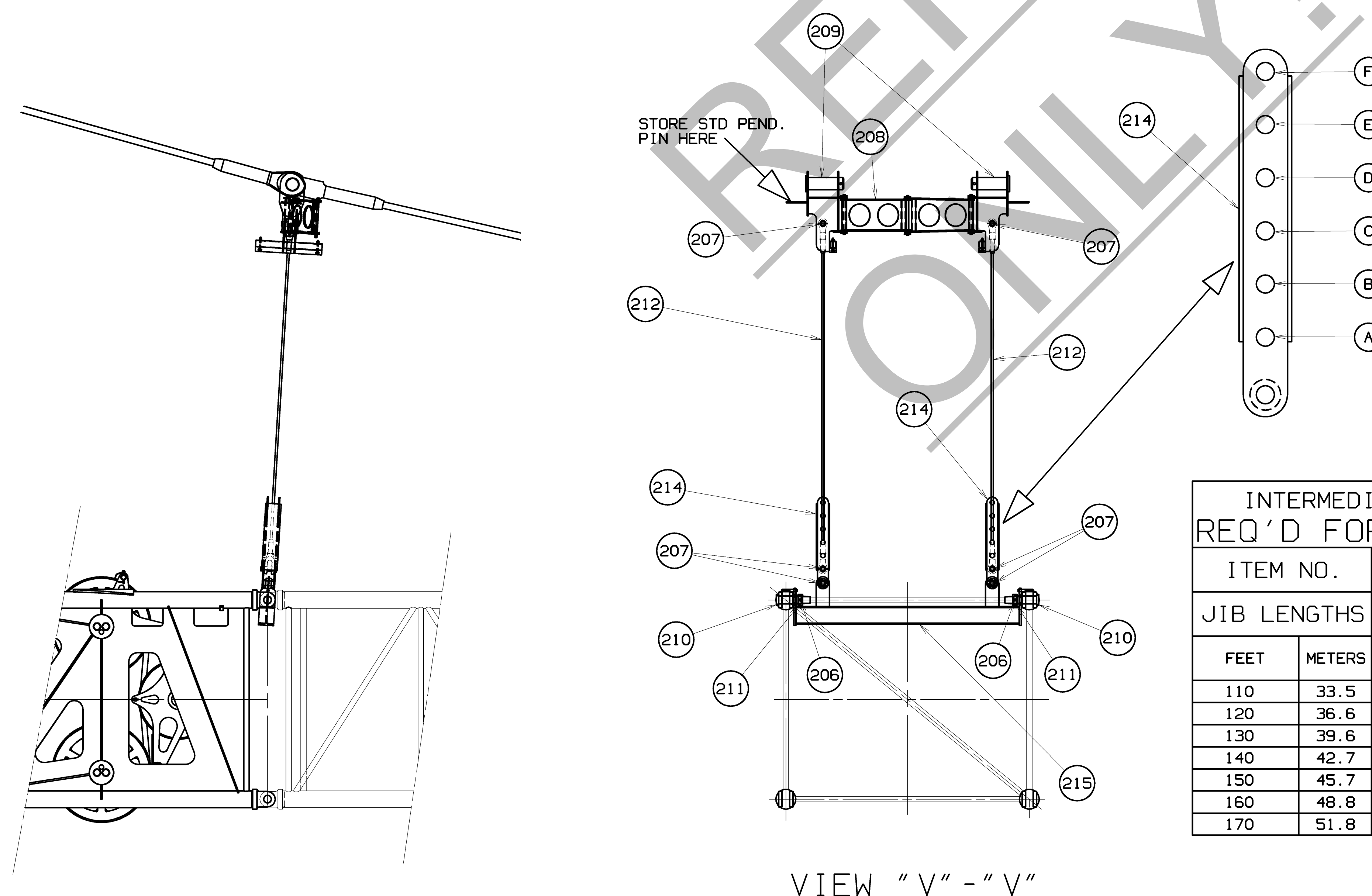
PATTERN NO.

INSERTS, PENDANTS, TIMBERS AND PINS REQ'D. FOR VARIOUS JIB LENGTHS													
ITEM NO.	67	68	76 OR 77	200	DWG. 69 78145	DWG. 74 78145	DWG. 80 78145	69 OR 79	70 OR 81	71 OR 82	72 OR 83	66 OR 78	
JIB LENGTHS	10 FT 3.05 M INSERT	20 FT 6.10 M INSERT	40 FT 12.19 M INSERT	40 FT 12.19 M INSERT ASSY SEE (19)	10 FT-1.0 3.07 M PENDANT	20 FT-1.5 6.13 M PENDANT	40 FT-3.0 12.27 M PENDANT	WIRE ROPE TIMBER	HHCS	LOCK NUT	FLAT WASHER	BOOM JOINT PIN	
FEET METERS													
110	33.5	0	1	0	1	0	2	2	3	12	12	12	8
120	36.6	1	1	0	1	2	2	2	4	16	16	16	12
130	39.6	OR 0	2	0	1	0	4	2	4	16	16	16	12
		0	0	1	1	0	4	4	4	16	16	16	8
140	42.7	OR 1	2	0	1	2	4	2	5	20	20	20	16
		1	0	1	1	2	0	4	5	20	20	20	12
150	45.7	0	1	1	1	0	2	4	5	20	20	20	12
160	48.8	1	1	1	1	2	4	6	6	24	24	24	16
170	51.8	OR 0	2	1	1	0	4	4	6	24	24	24	16
		0	0	2	1	0	0	6	6	24	24	24	12

INSERTS, PENDANTS, AND ROLLER GUIDES REQUIRED FOR VARIOUS BOOM LENGTHS					JIB BACKSTAY PENDANTS, LINKS & PINS REQUIRED FOR VARIOUS BOOM LENGTHS						
ITEM NO.	R2	R3	R4		90 & 94	95	96	89	92	87	86
BOOM LENGTH	10 FT 3.05 M INSERT ASSEMBLY SEE (10)	20 FT 6.10 M INSERT ASSEMBLY SEE (11)	40 FT 12.19 M INSERT ASSEMBLY	STRAP POSITION (2)	10 FT-1.0 3.07 M PENDANT SEE (30)	20 FT-1.5 6.13 M PENDANT SEE (30)	40 FT-3.0 12.27 M PENDANT SEE (30)	PENDANT LINK 39.00 (991mm)	PENDANT LINK 11.00 (279mm)	PENDANT LINK 24.00 (610mm)	PIN
FEET METERS											
80	24.4	1	0	0	A	OR 4	0	0	2	0	2
		0	0	0	A	0	0	0	0	0	0
90	27.4	OR 2	0	0	A	OR 6	0	0	2	0	2
		0	1	0	A	2	2	0	0	0	2
100	30.5	1	1	0	A	2	2	0	0	2	4
110	33.5	OR 2	1	0	A	OR 4	2	0	0	2	4
		0	2	0	A	0	0	0	2	2	4
		0	0	1	A	OR 0	0	0	2	2	4
120	36.6	OR 1	2	0	A	OR 2	4	0	0	2	4
		1	0	1	A	2	0	2	0	2	4
130	39.6	OR 2	0	1	A	OR 4	0	2	0	2	4
		0	1	1	A	OR 0	2	2	0	2	4
		0	0	1	A	OR 0	0	0	2	2	4
140	42.7	1	1	1	A	2	2	2	0	2	2
150	45.7	OR 2	1	1	A	OR 0	0	4	0	2	2
		0	2	1	A	OR 0	4	2	0	2	2
		0	0	2	A	OR 4	2	2	0	2	2
160	48.8	OR 1	2	1	A	OR 2	4	4	0	2	2
		1	0	2	A	2	0	4	0	2	2
170	51.8	OR 2	0	2	A	OR 4	0	4	0	2	2
		0	1	2	A	OR 0	2	4	0	2	2
180	54.9	1	1	2	A	2	2	4	0	2	2
190	57.9	OR 2	1	2	B	OR 4	2	4	0	2	2
		0	2	2	B	OR 0	0	0	0	2	2
		0	0	3	B	OR 0	4	4	0	2	2
200	61.0	OR 1	2	2	B	OR 2	4	4	0	2	2
		1	0	3	B	OR 2	0	6	0	2	2

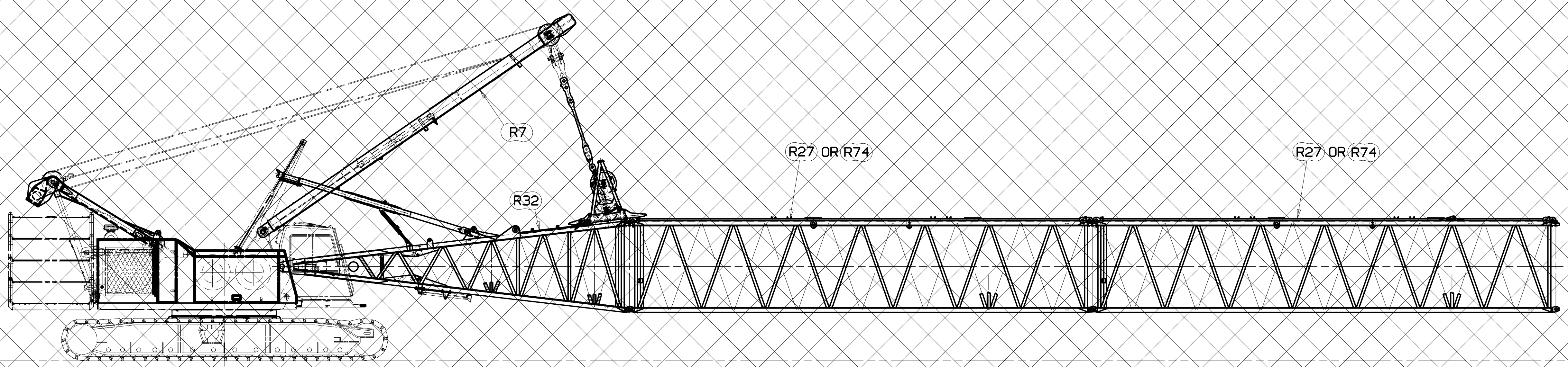
REFERENCE INSERTS REQUIRED FOR VARIOUS BOOM LENGTHS SEE TABLE FOR QUANTITIES

ITEM NO.	DESCRIPTION	CODE NO. OR DWG. NO.
R1	BOOM BUTT ASSEMBLY	196398
R2	10 FT INSERT ASSEMBLY	A01018
R3	20 FT INSERT ASSEMBLY	195463
R4	40 FT INSERT ASSEMBLY	195464
R5	40 FT INSERT W/ BACKSTAY LUG ASSEMBLY	195465
R6	BOOM TOP ASSEMBLY	A01024

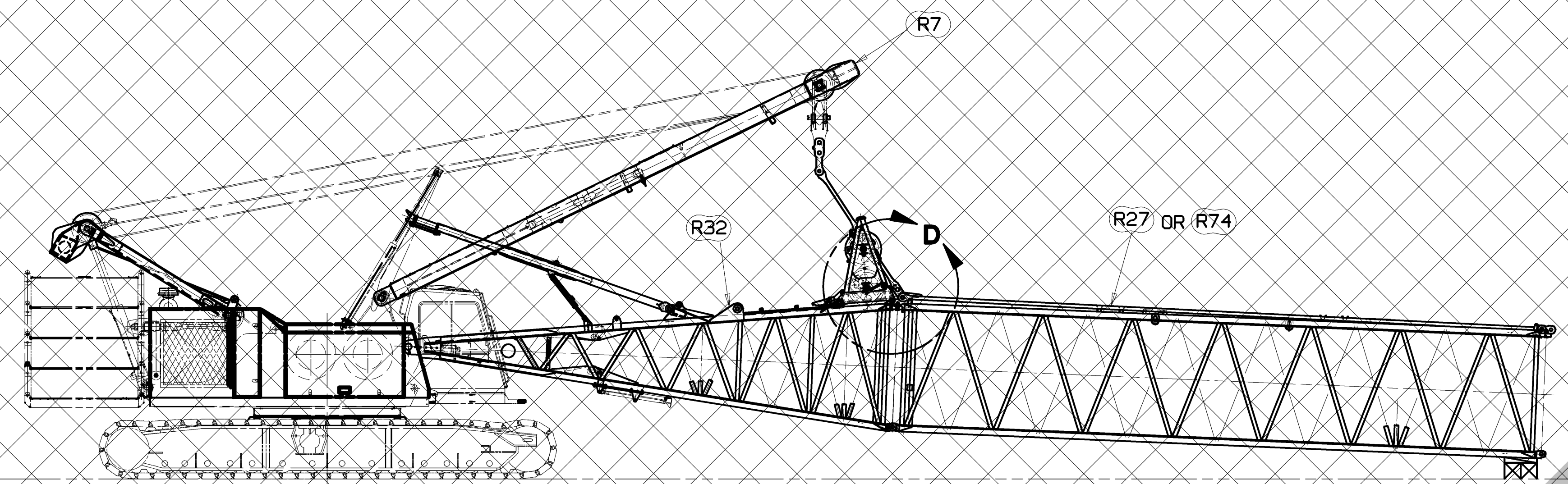


INTERMEDIATE SUSPENSION REQ'D FOR JIB LENGTHS

ITEM NO.	212	213	214
JIB LENGTHS	PENDANT 78.0 IN (1.98M)	PENDANT 21.0 IN (.53M)	LINK HOLE POSITION SEE ABOVE
FEET METERS			
110	33.5	2	0
120	36.6	2	0
130	39.6	2	2
140	42.7	2	2
150	45.7	2	4
160	48.8	2	4
170	51.8	2	4

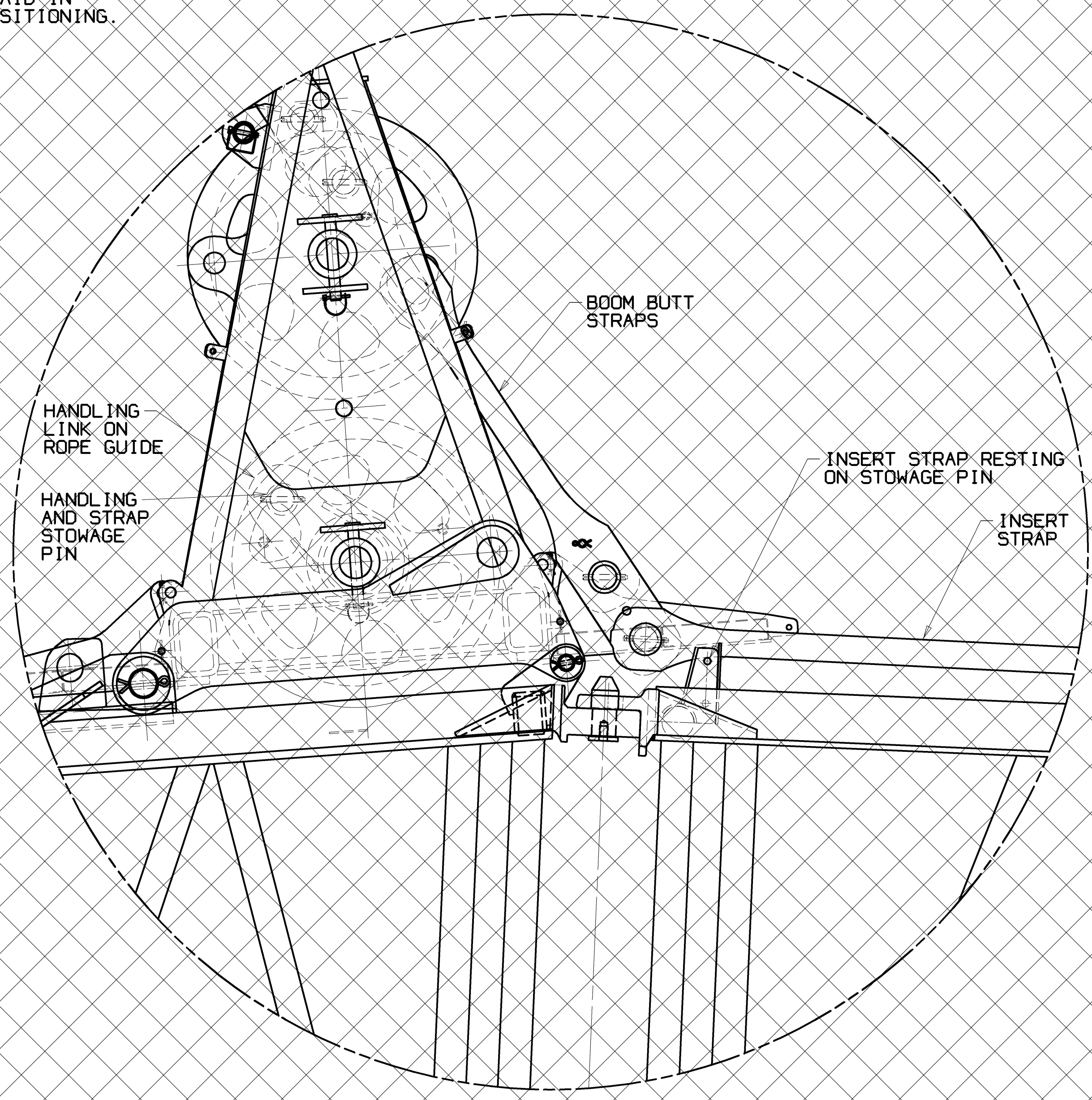


BOOM HANDLING WITH MAST



ATTACH OR DISCONNECT BOOM BUTT STRAPS FROM INSERT STRAPS

THIS PIN CAN BE USED TO AID IN STRAP POSITIONING.



VIEW "D"
 SCALE: 1.50 = 1FT

BOOM HANDLING WITH MAST
 WITH MAST STRAPS PINNED TO ROPE GUIDE
 LINKS: MAXIMUM BOOM THAT CAN BE CANTILEVERED IS AS FOLLOWS:

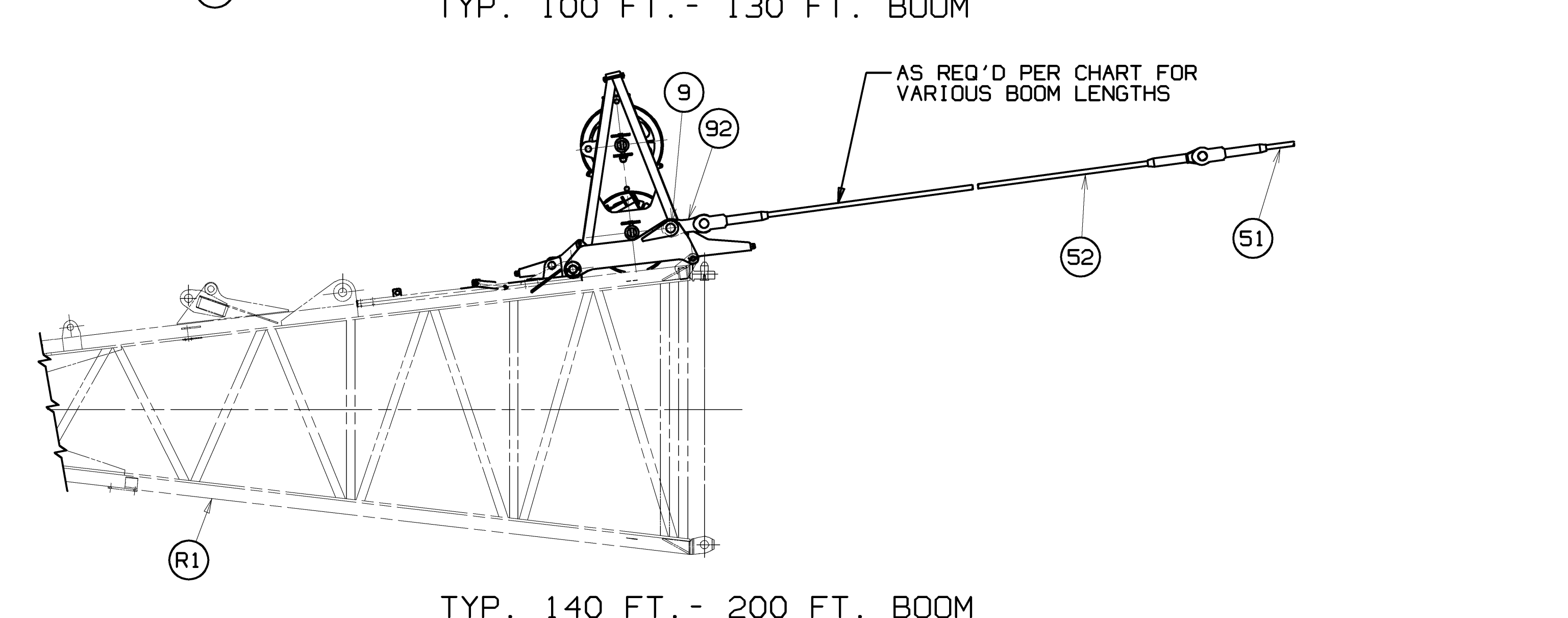
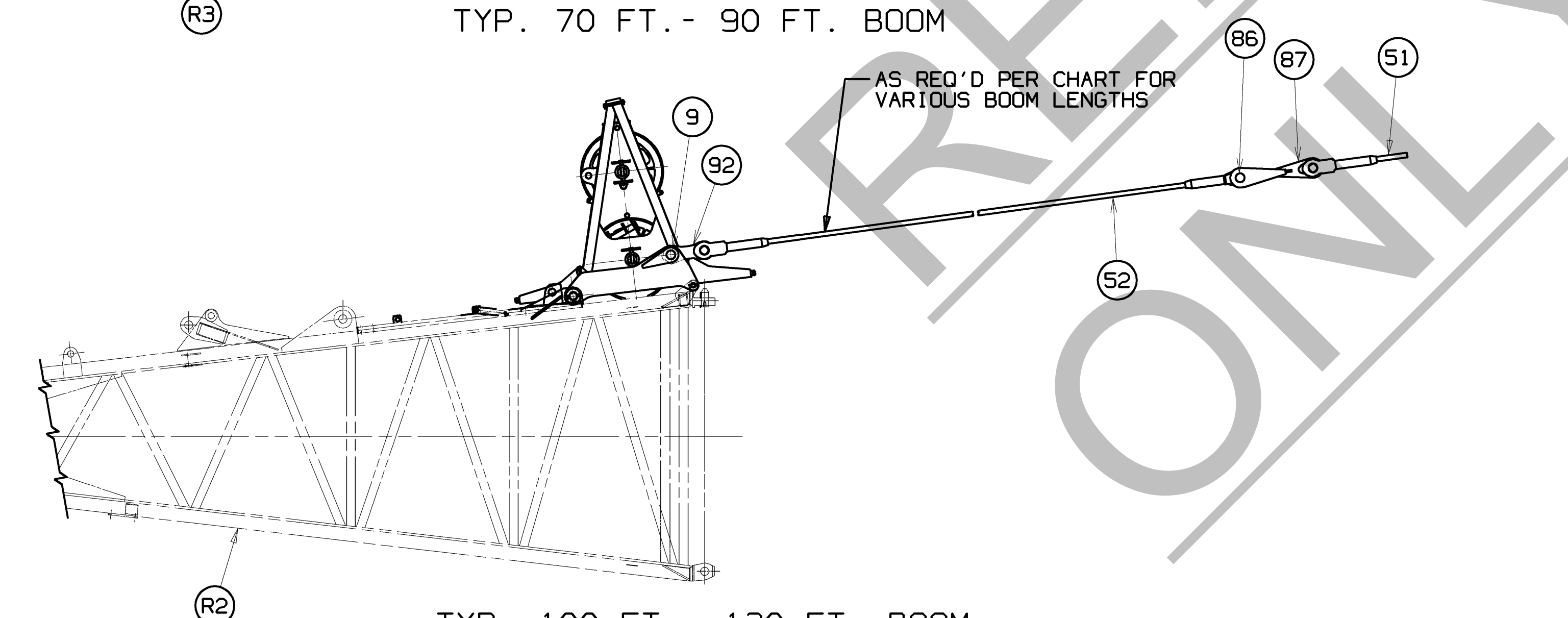
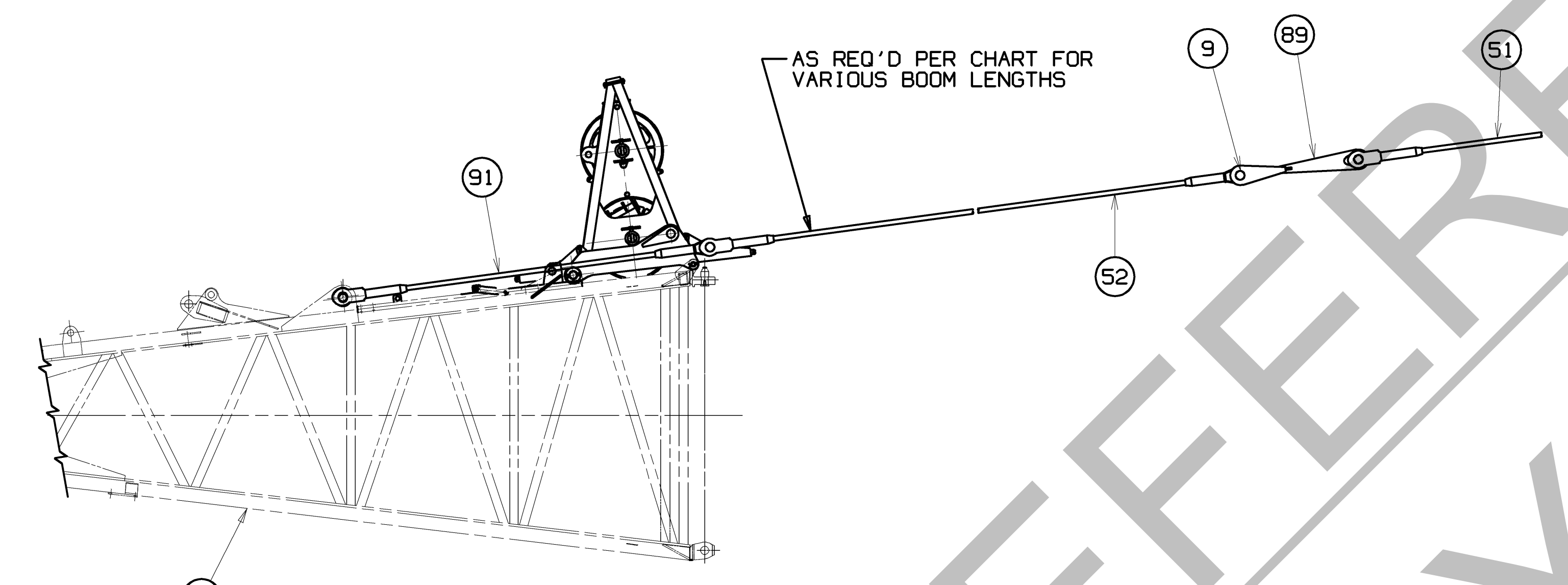
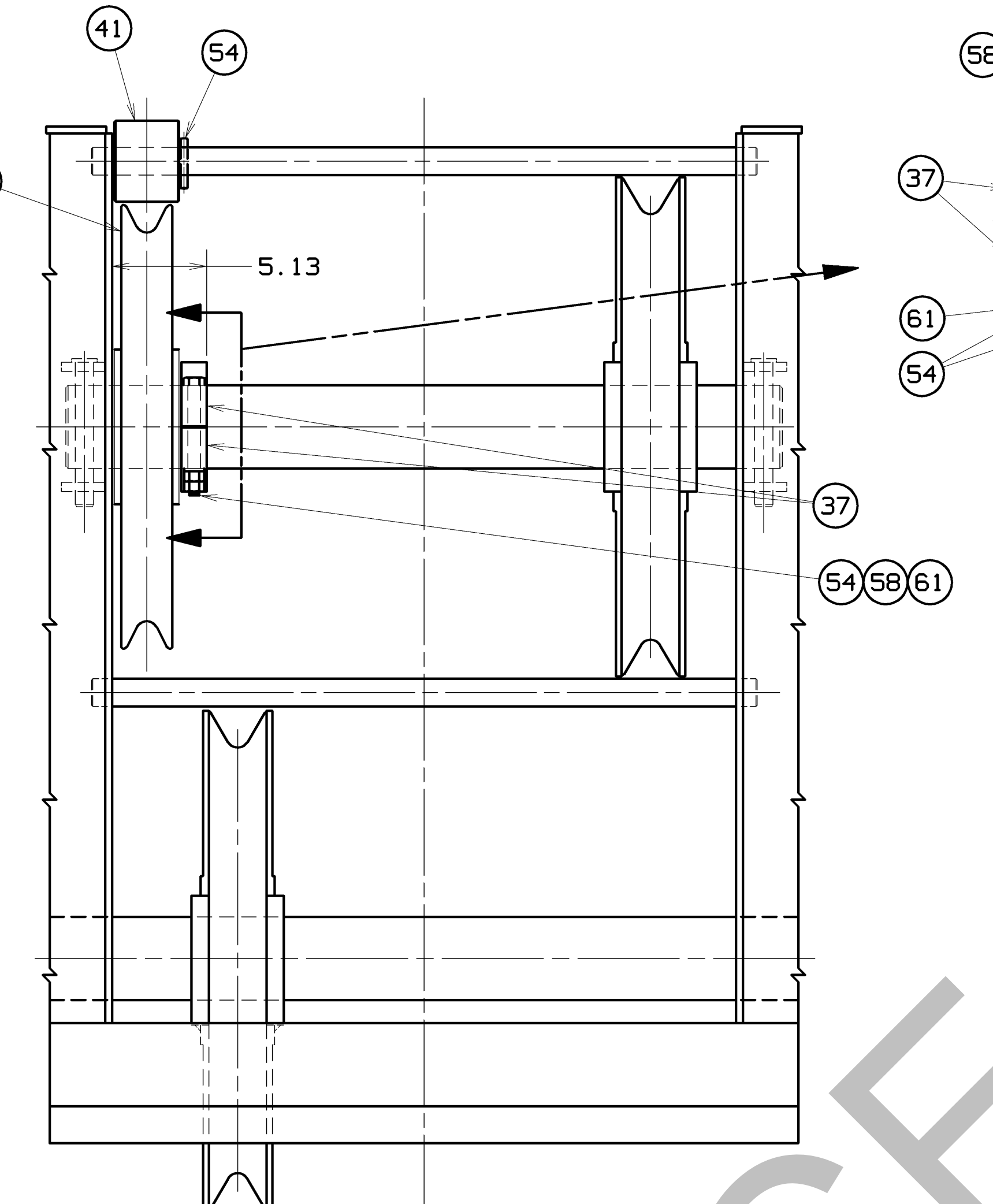
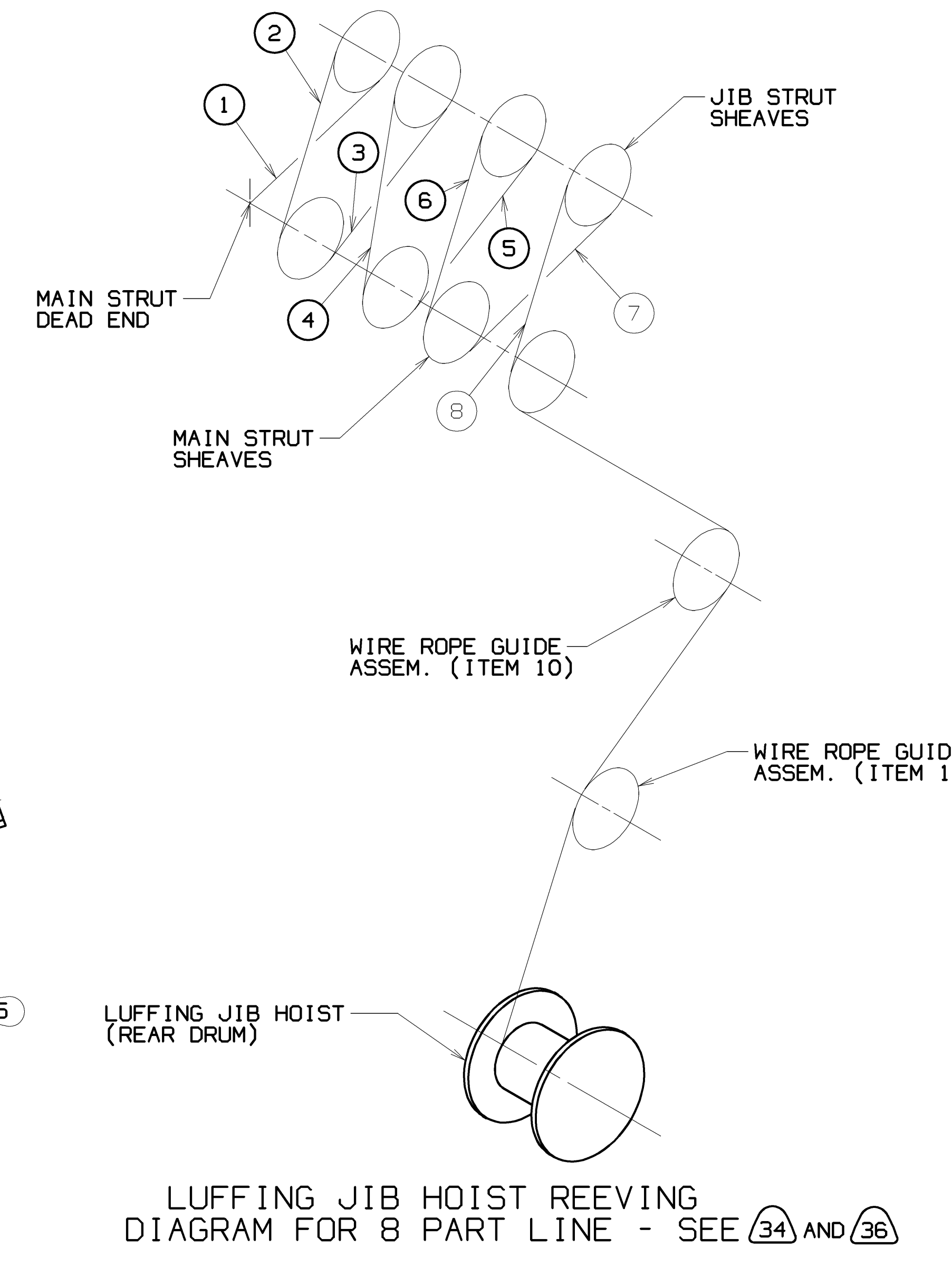
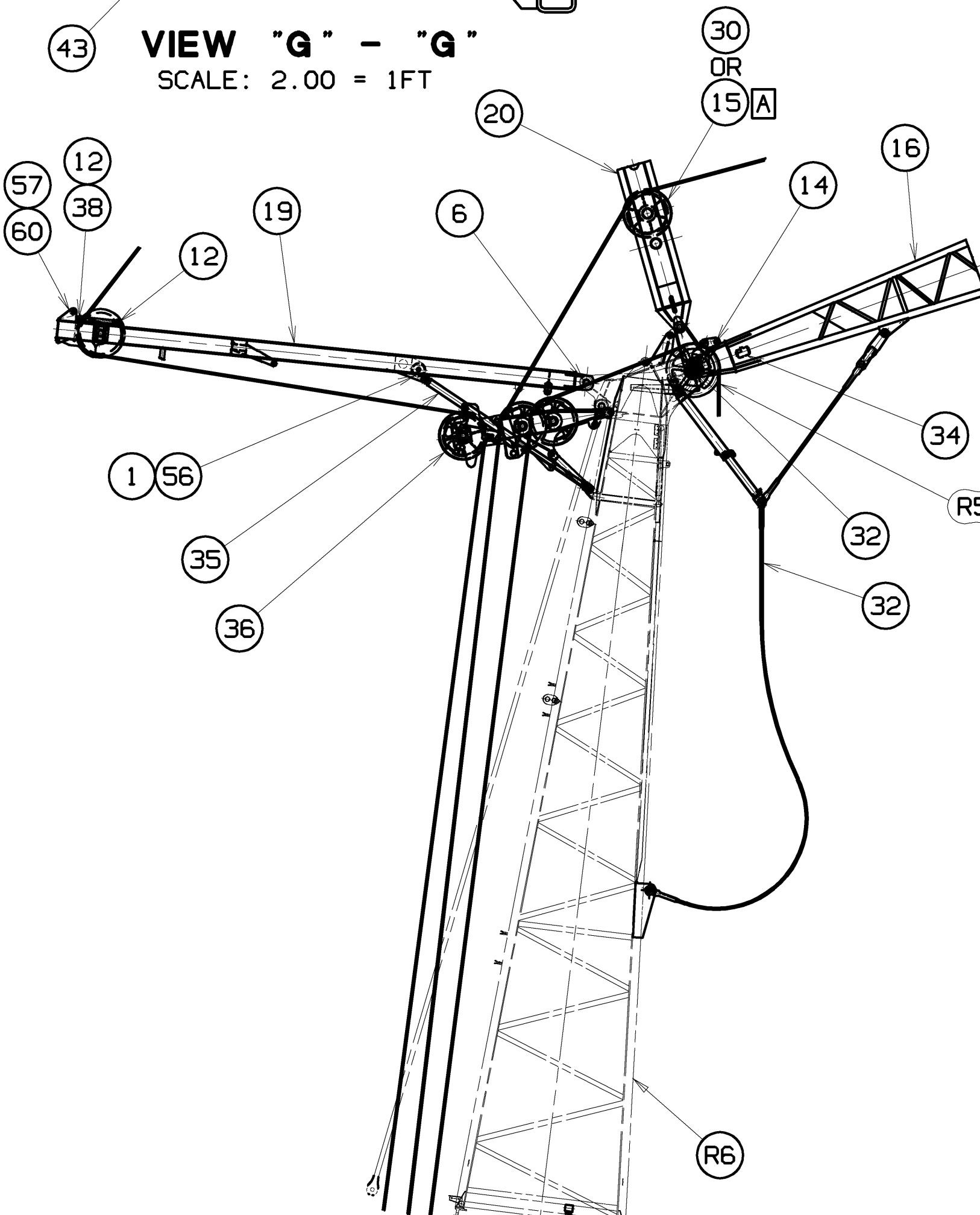
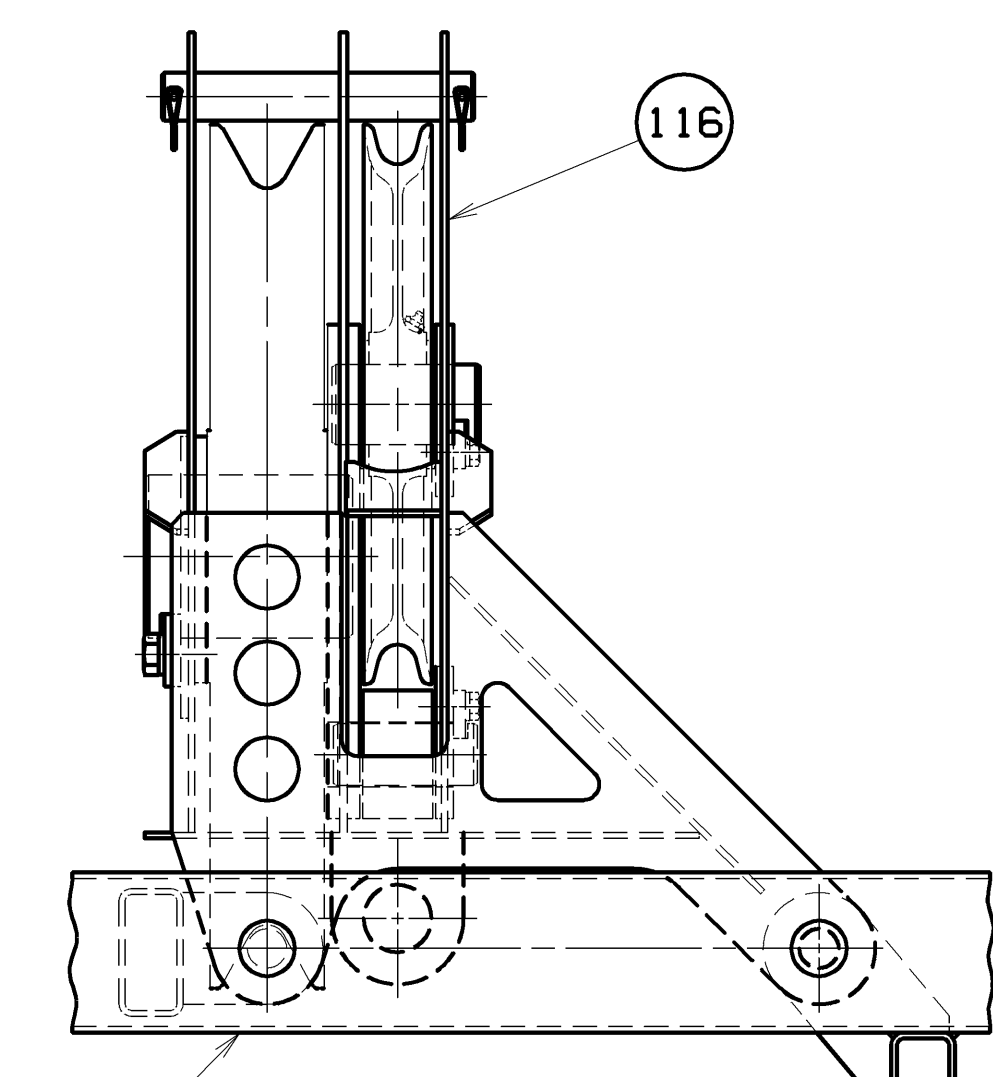
LENGTH	10 FT. (3.05 M) INSERT	20 FT. (6.10 M) INSERT	40 FT. (12.2 M) INSERT
40 FT. (12.2 M)	2	1	0
50 FT. (15.2 M)	1	2	0
60 FT. (18.3 M)	2	0	1
60 FT. (18.3 M)	0	1	1
60 FT. (24.4 M)	0	0	2

BOOM SECTION ASSEMBLY	BOOM SECTION WELDMENT (THIS NUMBER APPEARS ON NAMEPLATE)
BOOM ONLY, BOOM WITH #134 FIXED JIB, OR BOOM WITH #135 LUFFING JIB	
10FT. INSERT A01018	A01019
20FT. INSERT 195463	195455
40FT. INSERT 195464(A)	195456
40FT. INSERT 195465(B)	195457
40FT. TOP A01024	A01025
BOOM SECTIONS/ASSEMBLIES ABOVE REPLACE PAST PRODUCTION BOOM LISTED BELOW	BOOM WELDMENTS/MODIFICATIONS LISTED BELOW ARE ACCEPTABLE FOR WELDMENTS LISTED ABOVE
10FT. INSERT (C)	195454, A01014 OR A01015
10FT. INSERT (D)	A01122, 196006, A01016 OR A01017
20FT. INSERT	A01020
40FT. INSERT (A)	A01022
40FT. INSERT (B)	A01021
40FT. TOP	A01093, 195458, OR A01023
(A) WITHOUT JIB BACKSTAY LUGS	
(B) WITH JIB BACKSTAY LUGS	
(C) WITH SHEAVE FRAME WELDED TO INSERT	
(D) WITHOUT SHEAVE FRAME	

REVISIONS
 10-31-11 RDA DELETED ALL VIEWS AND TABLES (ITEMS SHOWN ON BOOM RIGGING)

DWG. NO. A09287
 SHT 3 OF 10

- 1 IF #23 BOOM TOP (191029) IS TO BE USED AS THE #135 LUFFING JIB TOP. MODIFY PER (421224).
- 2 SEE VIEW 'C'.
- 3 ON DRAWING (78145).
- 4 ON DRAWING (147109).
- 5 ON DRAWING (79335).
- 6 TIGHTEN BEARING LOCKNUT (ITEM 46) SUFFICIENTLY TO CLAMP BEARING INNER RACE.
- 7 MAXIMUM NO. OF 10 FT. (3.05M) BOOM INSERTS = (2)
- 8 MAXIMUM NO. OF 20 FT. (6.10M) BOOM INSERTS = (2)
- 9 COMBINATIONS OF 10 FT. (3.05M) AND 20 FT. (6.10M) BOOM INSERTS CANNOT EXCEED (2) - 10 FT. (3.05M) PLUS (1) - 20 FT. (6.10M) OR (1) - 10 FT. (3.05M) PLUS (2) - 20 FT. (6.10M).
- 10 SEE (7/9) AND (24)
- 11 SEE (8/9) AND (24)
- 12 STARTING WITH THE BOOM OR JIB BUTT, INSERTS AND STRAPS/PENDANTS MUST BE ASSEMBLED IN ORDER OF ASCENDING LENGTH. THE SHORTER INSERTS AND STRAPS/PENDANTS MUST BE CLOSEST TO THE BOOM OR JIB BUTT. SEE (19)
- 13 REQUIRED FOR BASIC BACKSTAY PENDANT. ATTACHES TO LINK SUB-ASSEMBLY (ITEM 33).
- 14 REQUIRED FOR BASIC JIB PENDANT. ATTACHES TO THE JIB TOP (ITEM 31) LINK.
- 15 (ITEMS 66, 71, 77, 82) ARE THE SAME PART NO. (70386).
(ITEMS 68, 73, 78, 83) ARE THE SAME PART NO. (192022).
(ITEMS 69, 90 & 94) ARE THE SAME PART NO. (277382).
(ITEMS 49, 74 & 95) ARE THE SAME PART NO. (277383).
(ITEMS 79, 84, 96 & 201) ARE THE SAME PART NO. (277384).
- 16 SEE (3/14) AND (15)
- 17 SEE (3/12) AND (15)
- 18 WHEN AUXILIARY DRUM SHAFT ASSEMBLY (ITEM R2) IS USED, #82 BOOM BUTT ASSEMBLY (ITEM R32), WIRE ROPE GUIDE ASSEMBLY (ITEM R12) AND 10 FT. (3.05M) #82 INSERT ASSEMBLY (ITEM R16) ARE REQUIRED. THE 10 FT. INSERT MUST BE ADJACENT TO THE BOOM BUTT AT ALL TIMES. MINIMUM BOOM LENGTH USING THESE COMPONENTS IS 80 FT. (24.38M).
- 19 INSERT 40 FT ASSY (ITEM 200) MUST BE ATTACHED TO JIB BUTT. STARTING WITH ITEM 200, INSERTS AND PENDANTS MUST BE ASSEMBLED IN ORDER OF ASCENDING LENGTH. THE SHORTER INSERTS AND PENDANTS MUST BE CLOSEST TO ITEM 200.
- 20 ATTACHES TO JIB STRUT LINK SUB-ASSEMBLY (ITEM 28).
- 21 INSTALL WITH HEAD OF PENDANT PIN (ITEM 5) TO THE INSIDE.
- 22 SEE VIEW 'D' (ON SHEET 4) FOR VARIOUS JIB BACKSTAY PENDANT (ITEM 52) AND PENDANT LINK (ITEMS 87, 89 AND 92) ARRANGEMENTS.
- 23 STRAPS SHOWN - SEE VIEW 'C' - (SHEET 1) ARE CALLED FOR ON BOOM BUTT ASSEMBLY (ITEM R32). STRAPS SHOWN-SEE VIEW 'C'-(SHEET 7) ARE CALLED FOR ON THE MAST ASSEMBLY (ITEM R39).
- 24 REFER TO SPECIFIC CAPACITY CHART FOR APPROPRIATE BOOM AND JIB COMBINATIONS.
- 25 REFER TO LUFFING JIB RAISING PROCEDURE (8248A) FOR RAISING AND LOWERING BOOM AND JIB.
- 26 WIRE ROPE - 1.00 INCH X 850 FT. CONSTRUCTEX. BREAKING STRENGTH OF 125,000 LBS. FOR USE ON REAR HOIST DRUM.
- 27 WIRE ROPE - 1.00 INCH X 850 FT. PYTHON 8F7KV RIGHT HAND REGULAR LAY. BREAKING STRENGTH OF 120,600 LBS. FOR USE ON REAR HOIST DRUM.
- 28 WIRE ROPE - 26MM X 850 FT. PYTHON 8F7KV RIGHT HAND REGULAR LAY. BREAKING STRENGTH OF 126,400 LBS. FOR USE ON REAR HOIST DRUM.
- 29 USE (4) PINS (70386) FROM INSERT ADJACENT TO ADAPTER ASSEMBLY (ITEM 29) FOR JIB TOP CONNECTION.
- 30 10 FT. (3.05M) PENDANT (276823), 20FT. (6.10M) PENDANT (276825) AND 40 FT. (12.19M) PENDANT (276892) MAY BE USED IN PLACE OF 10 FT. -1.00 (3.07M) PENDANT (277382), 20 FT. -1.50 (6.13M) PENDANT (277383) AND 40 FT. -3.00 (12.27M) PENDANT (277384) FOR JIB/JIB BACKSTAY.
- 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 OTHER SIDE OF BOOM). FAILING TO OBSERVE THIS PRECAUTION WILL CAUSE MAST TO TWIST EXCESSIVELY WHEN BOOM IS RAISED. STRUCTURAL DAMAGE TO MAST OR BOOM WILL OCCUR.
- 31 REQUIRED FOR FOLD UNDER LUFFING JIB - MUST BE REMOVED FOR RAISING MAXIMUM BOOM/JIB COMBINATIONS. REFER TO LUFFING JIB RAISING PROCEDURE (8248A).
- 32 TIGHTEN EACH SIDE EQUALLY TO PROVIDE AN EQUAL GAP. TORQUE (ITEMS 59, 56, AND 109) TO 120 FT. LBS. AND ADD SECOND (ITEM 54 OR 107) AS A LOCKNUT. SEE VIEW E-E AND SECTION N-N.
- 33 ATTACHES TO BACKSTAY LUG ON BOOM BUTT.
- 34 MATERIAL - A-514
- 35 REQUIRED FOR CLAM. UPPER BOOM POINT CANNOT BE USED WITH THIS ASSEMBLY.
- 36 FOR USE WITH FOLD UNDER LUFFING JIB WHEN BLOCK IS ATTACHED TO LOWER BOOM POINT / JIB BUTT ITEM 16.
- 37 (421256) AND (421262) ARE #22E BOOM BUTT MODIFICATIONS FOR USE AS #22EL JIB BUTTS.
- 38 SEE (12) OR (24)
- 39 BOLT TORQUE: (WITH LOCTITE #271)
APPLY LOCTITE #271 (MCC CODE NO. 622292) TO THREADS OF CAPSCREWS WITH (ITEM 43) - SEE VIEWS 'T' & 'V' AND TORQUE TO 180 FT. LBS.
- 40 WIRE ROPE WINCH ASSEMBLY (ITEM 117) IS REQUIRED FOR FOLD-UNDER LUFFING JIB AND CAN ONLY BE USED WITH WIRE ROPE GUIDE SINGLE SHEAVE BRACKET ASSEMBLY (ITEM 115).



- 41 WIRE ROPE GUIDE SINGLE SHEAVE BRACKET ASSEMBLY (ITEM 115) IS OPTIONAL FOR LAYOUT OR FOLD-UNDER LUFFING JIB.
- 42 WIRE ROPE GUIDE DOUBLE SHEAVE BRACKET ASSEMBLY (ITEM 116) IS OPTIONAL FOR LAYOUT LUFFING JIB BUT IS REQUIRED FOR USE WITH THE #138 JIB.
- 43 ADD SHIMS (ITEM 62) AS REQUIRED (IN AREA SHOWN) TO LIMIT LATERAL MOVEMENT OF JIB BUTT. USE AN EQUAL AMOUNT OF SHIMS ON BOTH SIDES TO CENTER JIB BUTT WITH BOOM TOP.
- 44 USE COTTER PIN 562172.
- 45 REPLACES BOOM JOINT PIN 70366 WHEN INTERMEDIATE SUSPENSION IS USED.
- 46 ON DRAWING (A06395).
- 47 ON DRAWING (A02427).
- 48 ATTACH TIMBERS SO THEY ARE FREE TO SLIDE UNDER THERMAL EXPANSION/CONTRACTION OF PLASTIC
- 49 EACH ITEM 3 REQUIRES A MINIMUM OF 10 SETS OF ITEMS 64, 65 AND 66.

#82 BOOM/#135 JIB ASSEMBLY WITH AUX. DRUM SHAFT ASSEMBLY

VIEW 'D' FROM SHEET 1 BASIC JIB BACKSTAY PENDANT ARRANGEMENTS SCALE: .375 = 1FT

DECIMAL PLACES	FRACTION	MACHINING
(1) PLACE 0.05 ± 0.01	1/20 ± 0.005	0.01
(2) PLACE 0.00 ± 0.002	1/500 ± 0.0005	0.002
(3) PLACE 0.000 ± 0.0002	1/5000 ± 0.0001	0.0002

DR: RH	MANITOWOC, WISCONSIN	#82 BOOM/#135 JIB
CK: RH	MODEL 999	WITH STRAPS STOWED
APP: BLS		ON BOOM BUTT OR MAST

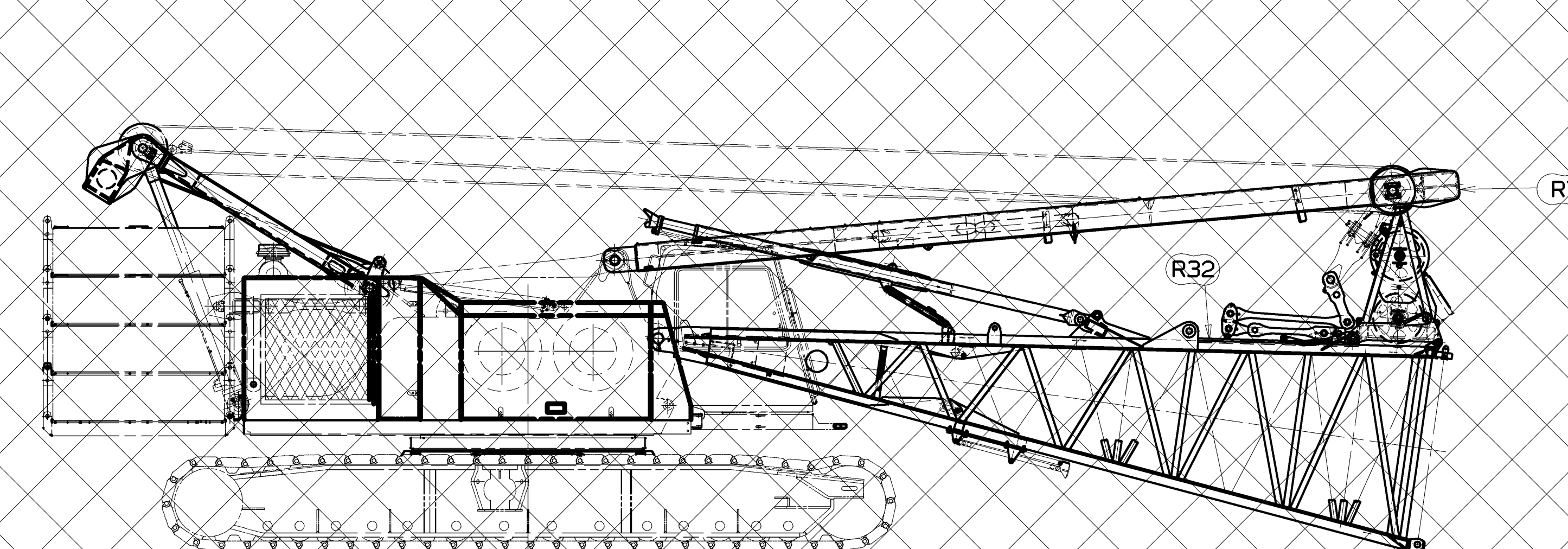
BOOM ASSEMBLY PROCEDURE

(MAST CAN BE USED TO ASSEMBLE ALL RIGGING COMPONENTS.)

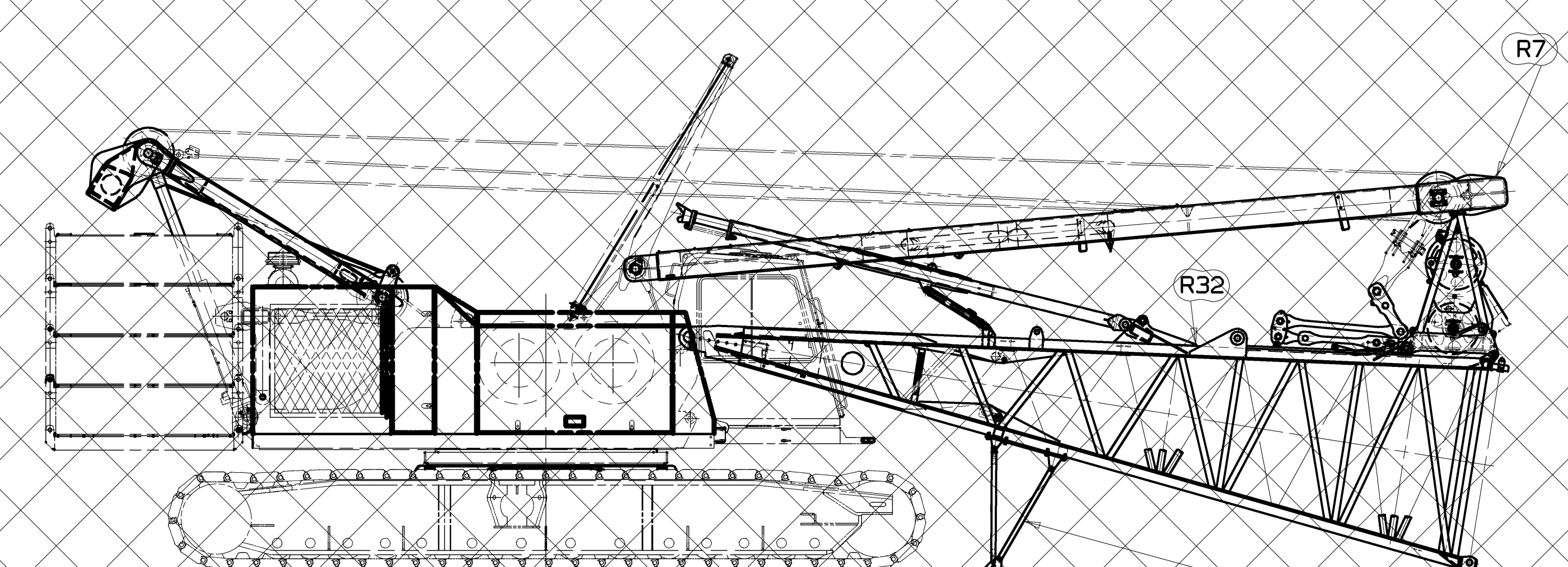
1. ASSEMBLE BOOM COMPLETE, WITHOUT BUTT.
2. ATTACH ROPE GUIDES, STRAPS, LINKS AND PINS AS REQ'D.
3. IF BUTT IS TO BE INSTALLED WITH AUXILIARY BLOCK, DO THAT NEXT. IF NOT PROCEED TO STEP 4.
4. ATTACH BOOM BUTT STRAPS TO MAST LINKS. SEE APPROPRIATE VIEWS AT LEFT. ALSO SEE CHART AND VIEWS ON SHEET 1 FOR PROPER PIN/LINK POSITION. LINKS MAY BE PINNED IN POSITION "A" OR "B" FOR BOOM ASSEMBLY OR HANDLING.
 WITH BUTT PINNED TO ROTATING BED, LOWER MAST TO ROPE GUIDE ON BUTT.
 OR
 WITH BUTT SUPPORTED BY BUTT ATTACHING ASSEMBLY, LOWER MAST DOWN TO: BUT NOT SUPPORTED BY WIRE ROPE GUIDE ON BUTT.
 REMOVE STORAGE LINKS, ATTACH BUTT LINKS TO MAST LINKS AND REMOVE SMALL STORAGE PINS.
 BOOM UP SLOWLY TO RAISE STRAPS FROM STOWED POSITION. (DO NOT PUT STRAPS IN TENSION) REMOVE STORAGE PIN BETWEEN LINKS AND SUPPORTS ON BUTT. WITH STRAPS HANGING VERTICAL, INSERT LOCKING PINS AS SHOWN IN VIEW "C"- "C" & "E"- "E".
5. IF BOOM BUTT WAS NOT INSTALLED IN STEP 3, INSTALL IT NOW USING THE OPTIONAL BOOM BUTT SUPPORT. ATTACH THE BUTT STRAPS TO THE HANDLING LINK ON THE ROPE GUIDE (AS SHOWN IN VIEW C-C) AND INSTALL THE BOOM BUTT WITH THE ROPE GUIDE AND BOOM STOPS TO THE ROTATING BED. (BOOM STOPS MUST BE IN THE SHIPPING/LOWER POSITION).
6. ATTACH BOOM STOP HANDLING PENDANTS TO BOOM STOP TUBES, RAISE AND PIN BOOM STOPS IN WORKING POSITION AND STOW HANDLING PENDANTS ON MAST.
7. WITH BUTT STRAPS ATTACHED TO BOOM HANDLING LINK ON ROPE GUIDE. (SEE VIEW "C"- "C") BOOM UP TO CLEAR GROUND WITH BUTT.
8. POSITION MACHINE TO ALIGN UPPER PIN CONNECTOR PINS ON BOOM BUTT WITH UPPER PIN CONNECTOR HOLES ON FIRST BOOM INSERT AND ENGAGE PINS.
9. SLOWLY BOOM UP TO ALIGN LOWER PIN CONNECTOR HOLES ON BOOM BUTT WITH LOWER PIN CONNECTOR HOLES IN FIRST BOOM INSERT AND INSERT PINS.
WARNING:
 DO NOT BOOM UP PAST LOWER CONNECTOR HOLES. IF BOOMING UP CONTINUES AFTER CONNECTORS BOTTOM OUT OR AFTER PINS ARE INSERTED, DAMAGE TO ROPE GUIDE AND BOOM BUTT WILL OCCUR.
10. BOOM DOWN TO DISCONNECT MAST STRAPS FROM ROPE GUIDE LINKS.
11. ATTACH BOOM BUTT STRAPS TO INSERT STRAPS. (SEE VIEW "D" ON SHT 2)
12. BOOM UP TO DESIRED BOOM ANGLE.

REVISIONS

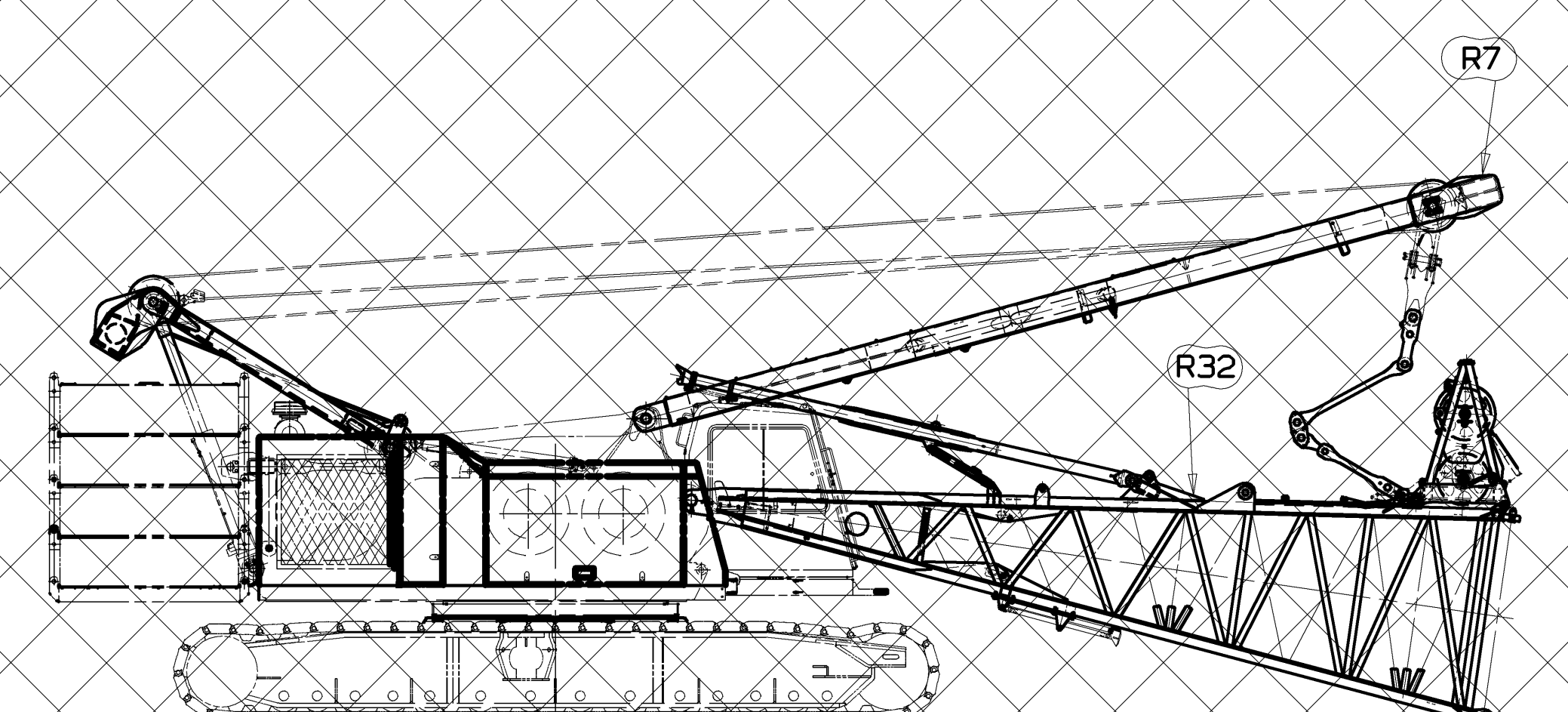
10-31-11	RDA	DELETED ALL VIEWS (ITEMS SHOWN ON BOOM RIGGING ASSY DWG)
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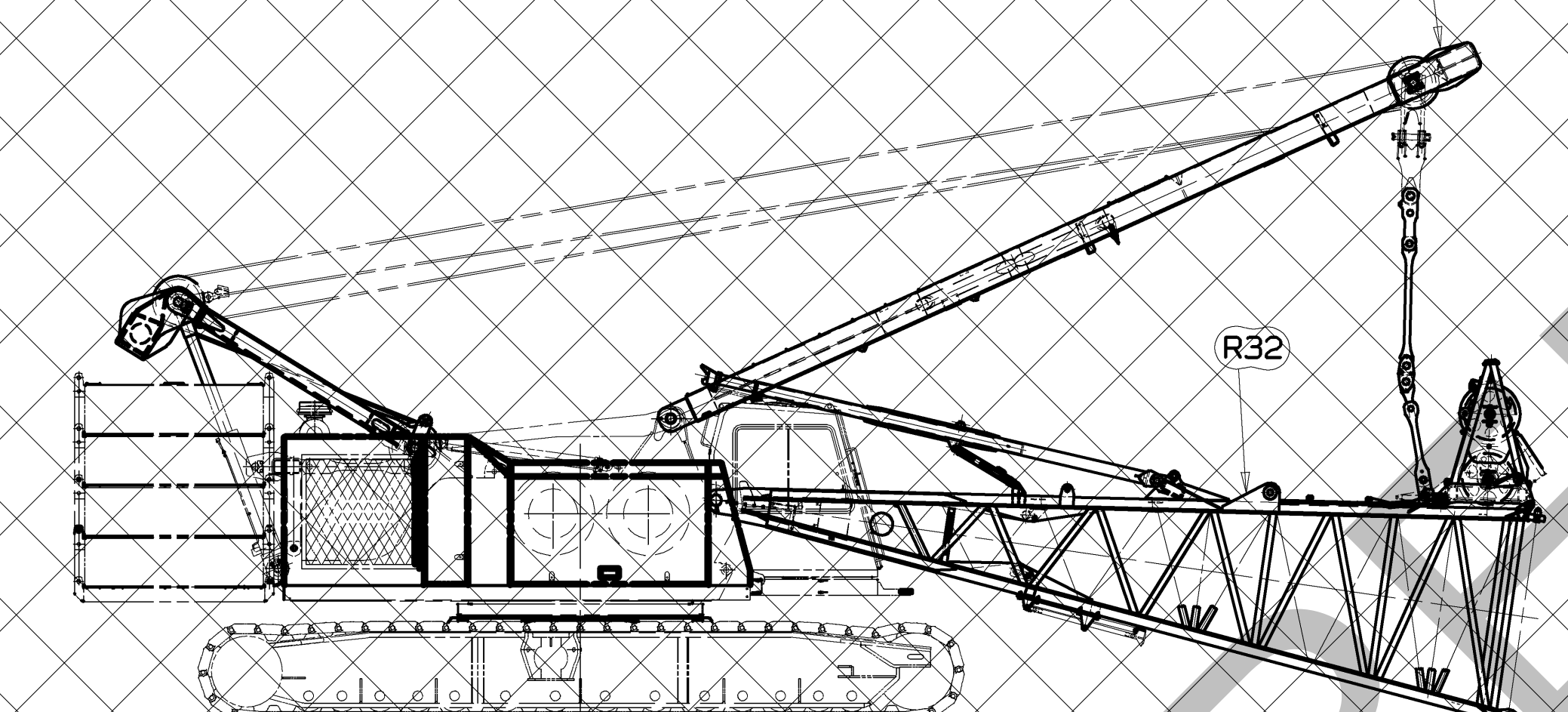
BOOM BUTT PINNED TO ROTATING BED.
 MAST RESTING ON BOOM BUTT WIRE ROPE GUIDE.
 ATTACH OR DISCONNECT BOOM BUTT STRAPS FROM MAST LINKS.



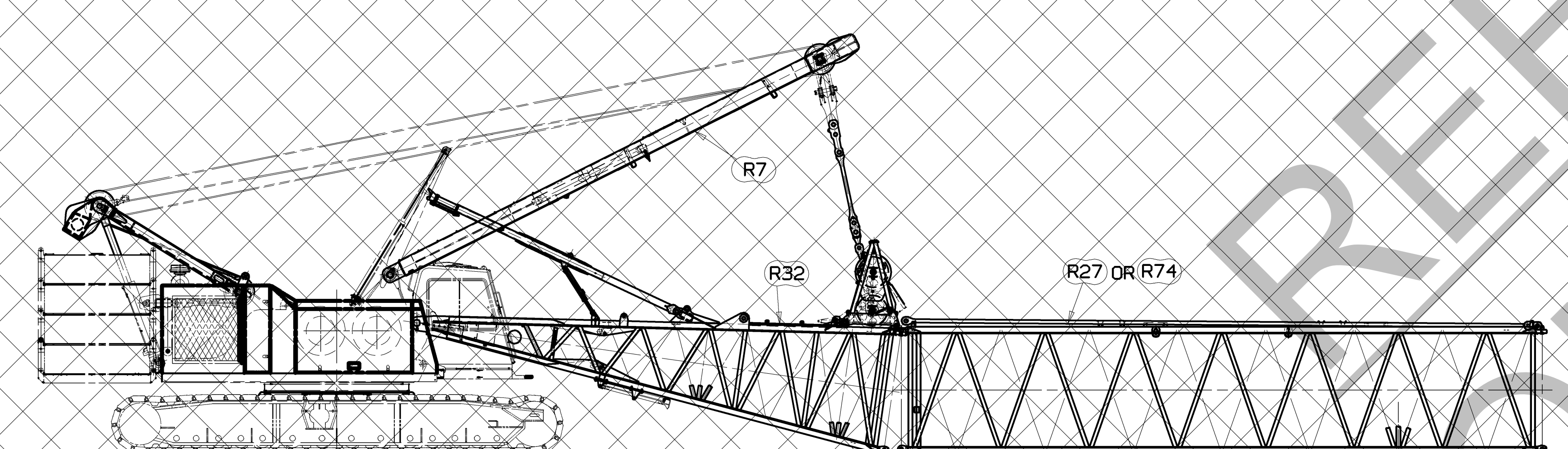
BOOM BUTT SUPPORTED BY OPTIONAL BUTT ATTACHING ASSEMBLY.
 MAST LOWERED TO, BUT NOT SUPPORTED BY, ROPE GUIDE.
 ATTACH OR DISCONNECT BOOM BUTT STRAPS FROM MAST LINKS.



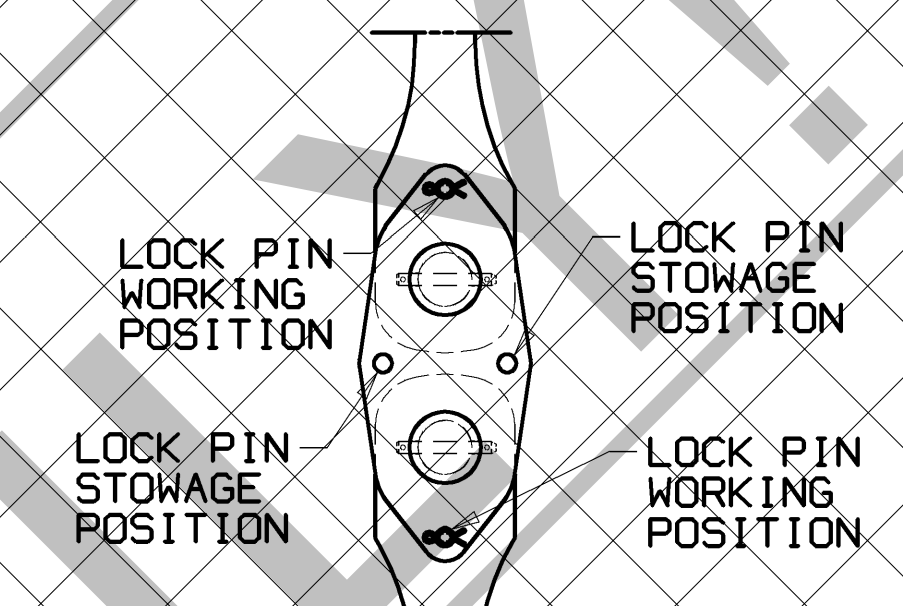
RAISE OR LOWER MAST WITH STRAPS



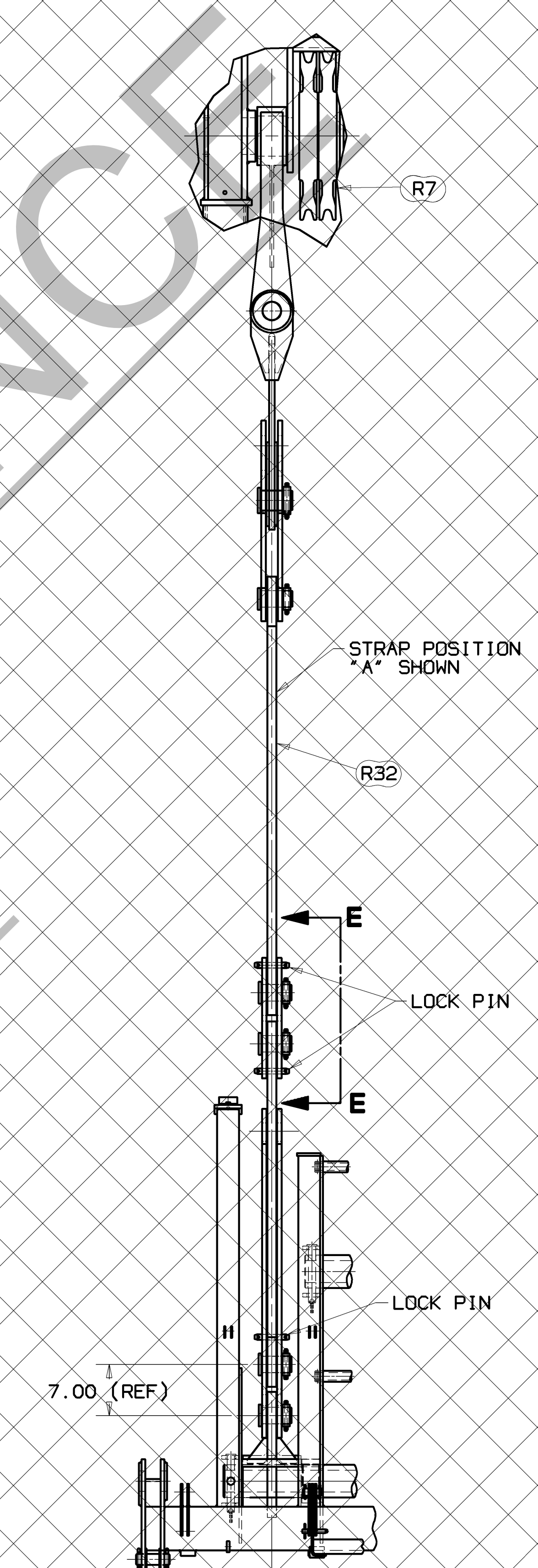
ATTACH OR DISCONNECT STRAPS FROM STOWAGE LUG ON BOOM BUTT



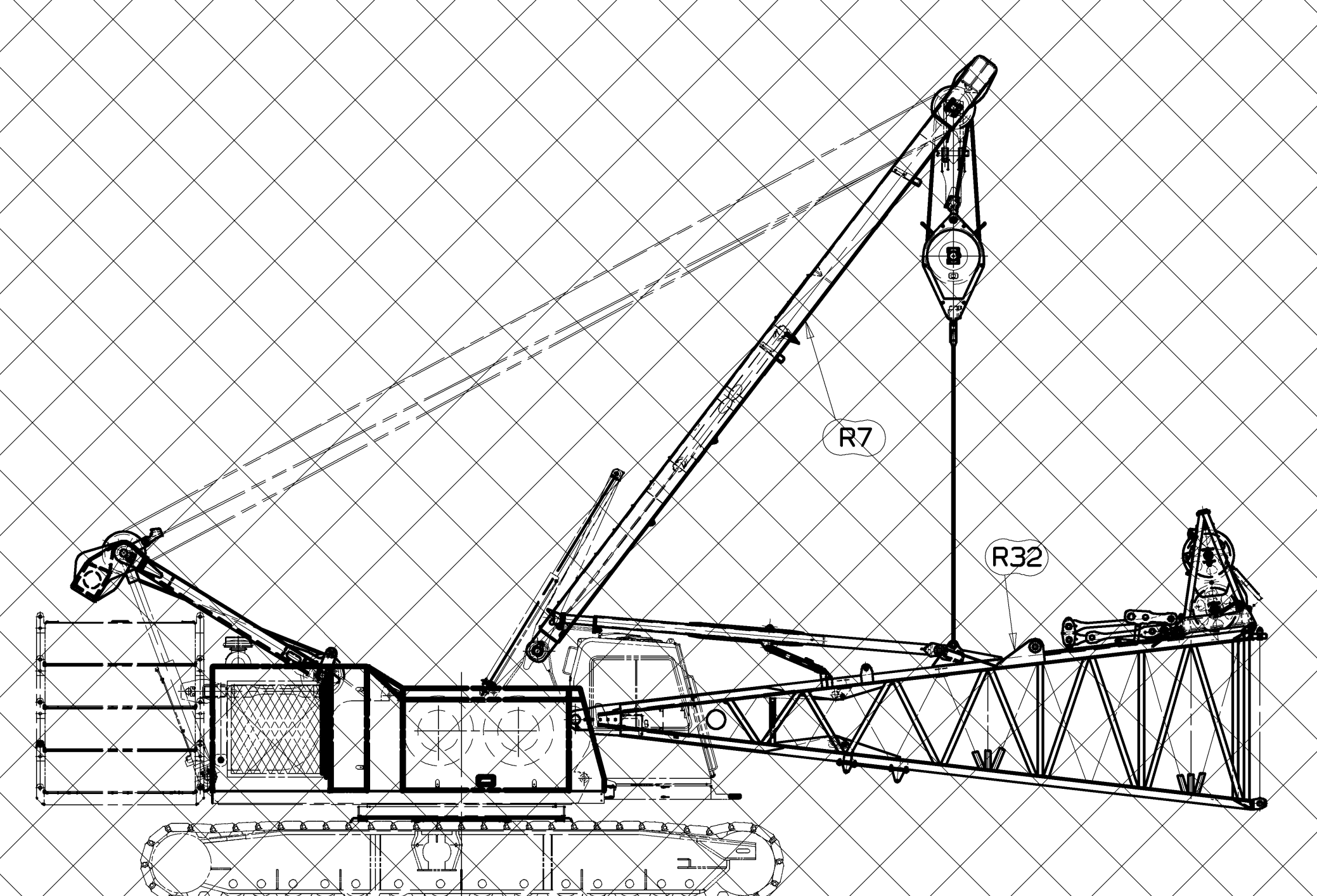
BOOM ASSEMBLY WITH MAST



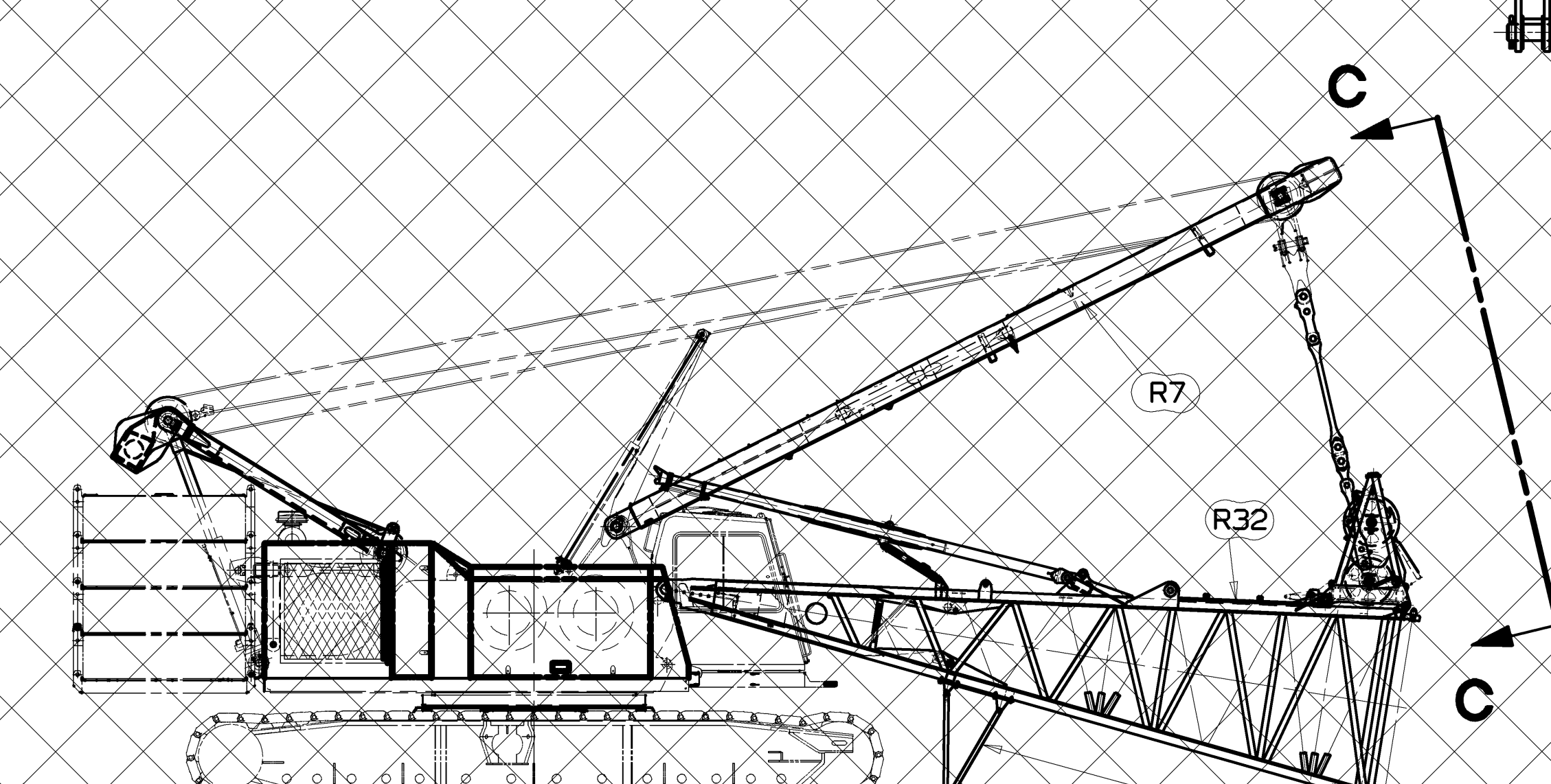
VIEW "E" - "E"
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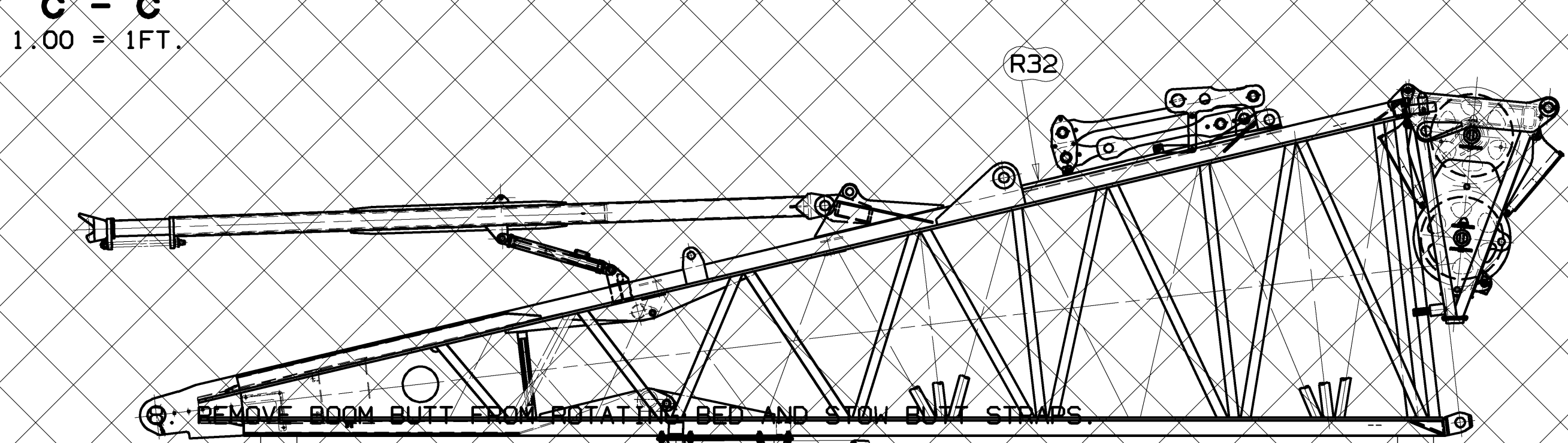
VIEW "C" - "C"
 SCALE: 1.00 = 1FT.



ATTACHING BOOM BUTT TO ROTATING BED USING AUXILIARY BLOCK IN MAST.



ATTACHING BOOM BUTT TO ROTATING BED USING OPTIONAL BUTT ATTACHING ASSEMBLY.



BOOM BUTT SHIPPING ARRANGEMENT

TO DISASSEMBLE BOOM

1. BOOM DOWN AND SUPPORT BOOM ON BLOCKING.
2. DISCONNECT BUTT STRAPS FROM BOOM INSERT STRAPS.
3. CONNECT MAST STRAPS TO HANDLING LINK ON ROPE GUIDE (SEE VIEW "C"- "C").
4. BOOM UP TO REMOVE SLACK FROM BUTT STRAPS.
WARNING:
 DO NOT BOOM UP TO PUT TENSION INTO BUTT STRAPS. (REMOVE SLACK ONLY) TENSION IN BUTT STRAPS WILL DAMAGE ROPE GUIDE AND BOOM BUTT.
5. REMOVE LOWER BUTT TO INSERT PINS AND BOOM DOWN TO DISENGAGE UPPER BOOM BUTT TO INSERT PINS.
WARNING:
 BOOM MUST BE PROPERLY BLOCKED TO PREVENT SHIFTING DURING PIN REMOVAL.
6. SLOWLY BACK AWAY FROM BOOM.
7. LOWER BOOM STOPS TO SHIPPING POSITION.
8. REMOVE BOOM BUTT FROM ROTATING BED AND STOW BUTT STRAPS.
9. DISASSEMBLE BOOM WITH MAST.

TOLERANCE UNLESS OTHERWISE SPECIFIED		MATERIAL		FINISHING		MACHINE		DR. RH		Mantowoc Cranes, Inc.		JIB LUFFING ASSEMBLY	
DECIMAL PLACES	FRACTIONS	STEEL	ALUMINUM	WELDING	GRINDING	DR. RH	DR. RH	DR. RH	DR. RH	DR. RH	DR. RH	DR. RH	DR. RH
(1) PLACE 0.1	± .12	± .12	± .12	± .015	± .015	± .015	± .015	± .015	± .015	± .015	± .015	± .015	± .015
(2) PLACE 0.00	± .008	± .008	± .008	± .005	± .005	± .005	± .005	± .005	± .005	± .005	± .005	± .005	± .005
(3) PLACE 0.000	± .0005	± .0005	± .0005	± .0005	± .0005	± .0005	± .0005	± .0005	± .0005	± .0005	± .0005	± .0005	± .0005
ANGLES	± 1.0°	± 1.0°	± 1.0°	± 0.5°	± 0.5°	± 0.5°	± 0.5°	± 0.5°	± 0.5°	± 0.5°	± 0.5°	± 0.5°	± 0.5°

FOLD-UNDER LUFFING JIB RAISING CONDITIONS

(SEE LUFFING JIB RAISING PROCEDURE 8248A)

- NOTE: THE FOLLOWING IS REQUIRED FOR FOLD-UNDER OPERATION.
- A) WIRE ROPE GUIDE ASSEMBLY (ITEM 113) MUST BE INSTALLED.
 - B) ADAPTER ASSEMBLY (ITEM 29) MUST BE EQUIPPED WITH PIN PULLER COMPONENTS CALLED FOR ON (ITEM 29 REF.).
 - C) WIRE ROPE WINCH ASSEMBLY (ITEM 117) AND WIRE ROPE GUIDE SINGLE SHEAVE BRACKET ASSEMBLY (ITEM 115) MUST BE INSTALLED.

NOTE: WHEN JIB BUTT IS FOLDED UNDER BOOM TOP (JIB PENDANTS NOT ATTACHED) USE CAUTION DURING ASSEMBLY AND RAISING OR LOWERING OF JIB THAT JIB STRUT DOES NOT CRASH INTO WIRE ROPE GUIDE ON FRONT OF BOOM TOP OR DAMAGE WILL OCCUR (SEE VIEW "S") (SHEET 6).

BOOM UP UNTIL THERE IS ENOUGH CLEARANCE TO CONNECT INTERMEDIATE SUSPENSION PENDANTS AND LINK TO BEAM (ITEM 215). CONTINUE TO BOOM UP UNTIL THERE IS ENOUGH CLEARANCE FOR WIRE ROPE GUIDE MOUNTED TO THE JIB TOP TO BE LOWERED WITH THE POSITIONING WINCH AND PINNED IN ITS WORKING POSITION. CONTINUE TO BOOM UP UNTIL JIB STRUT CAN HANG APPROXIMATELY VERTICAL. CONNECT JIB PENDANTS AND LINKS TO JIB POINT AND JIB STRUT TOP (EXCESS PENDANT SLACK SHOULD BE AT THE JIB STRUT END). LUFF UP TO REMOVE EXCESS JIB PENDANT SLACK ONLY (NEVER PUT JIB PENDANTS INTO TENSION). CONTINUE TO BOOM UP AND PERIODICALLY LUFF UP TO REMOVE EXCESS JIB PENDANT SLACK.

CAUTION: FAILURE TO MAINTAIN A MINIMUM ANGLE OF 74° BETWEEN JIB BUTT AND JIB STRUT WHILE RAISING MAY CAUSE JIB STRUT TO SNAP OVER CENTER AND CRASH THE JIB BUTT CAUSING DAMAGE.

NOTE: MAXIMUM BOOM ANGLE ALLOWED WITH JIB HANGING VERTICAL IS 75°.

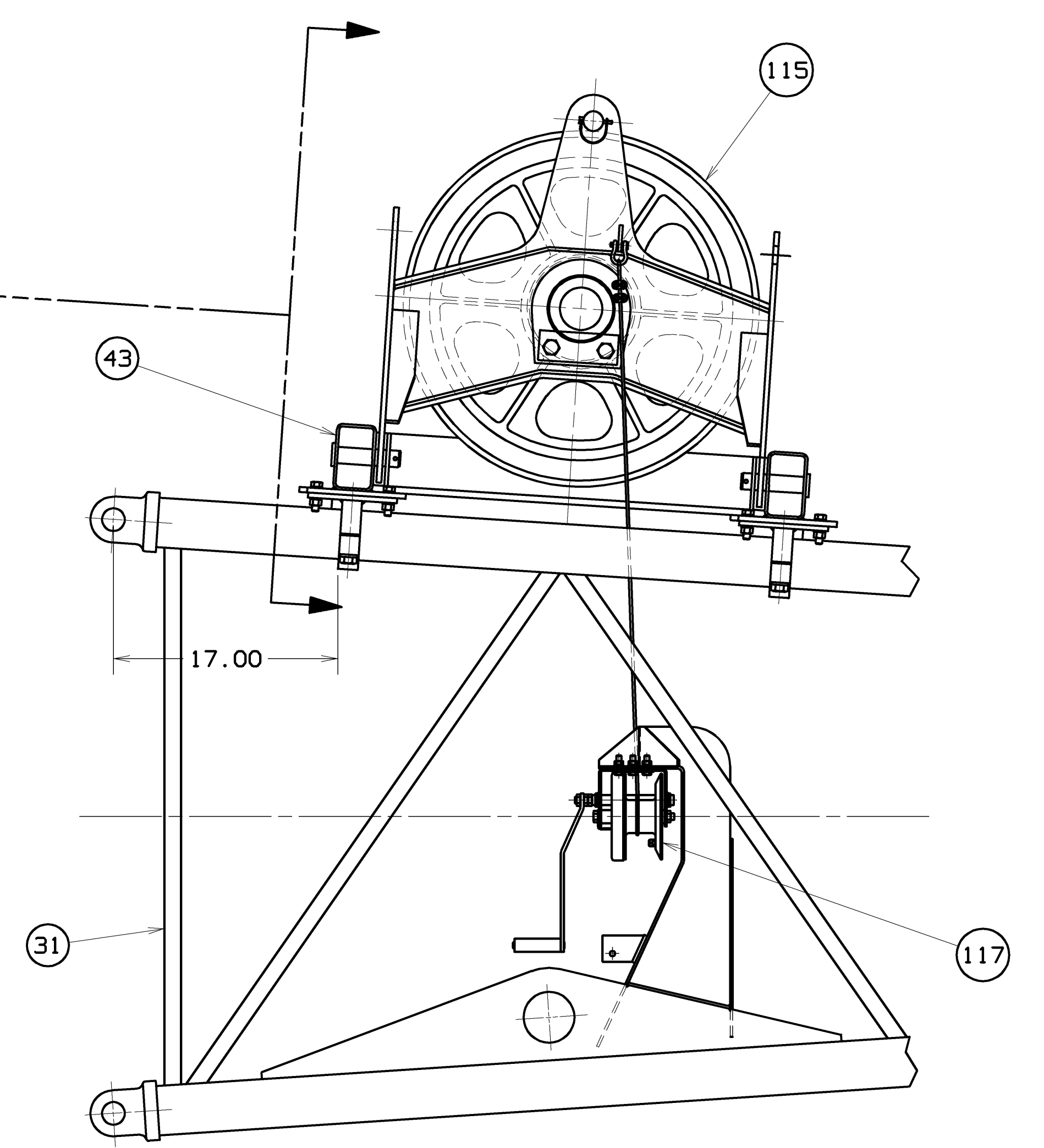
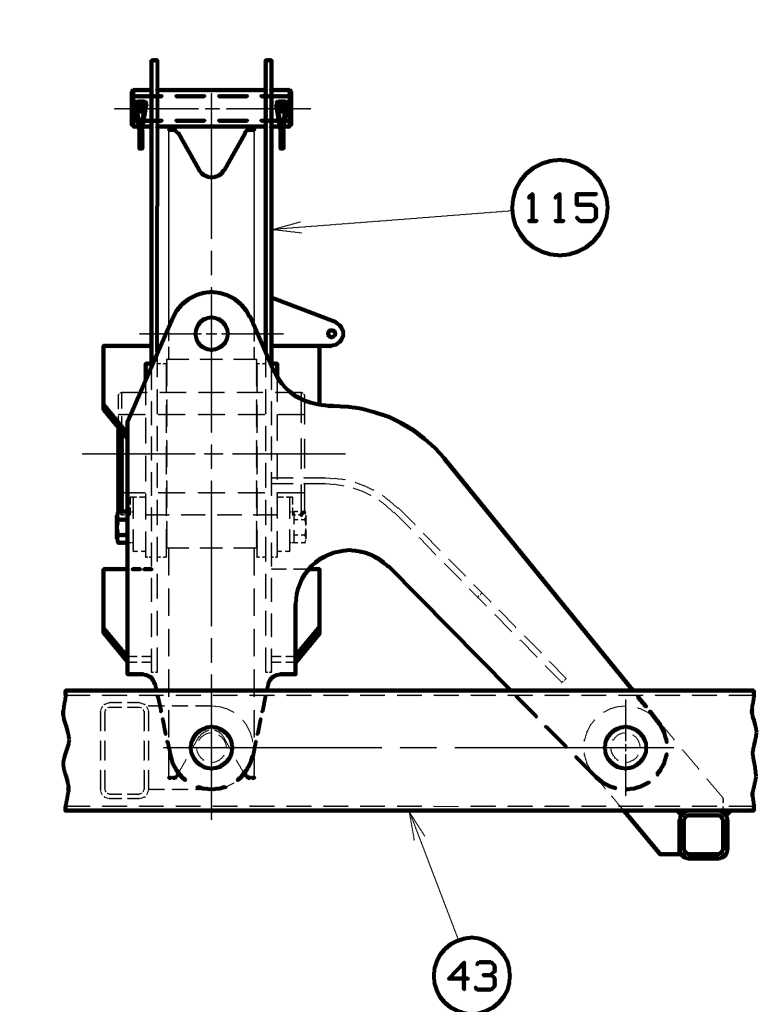
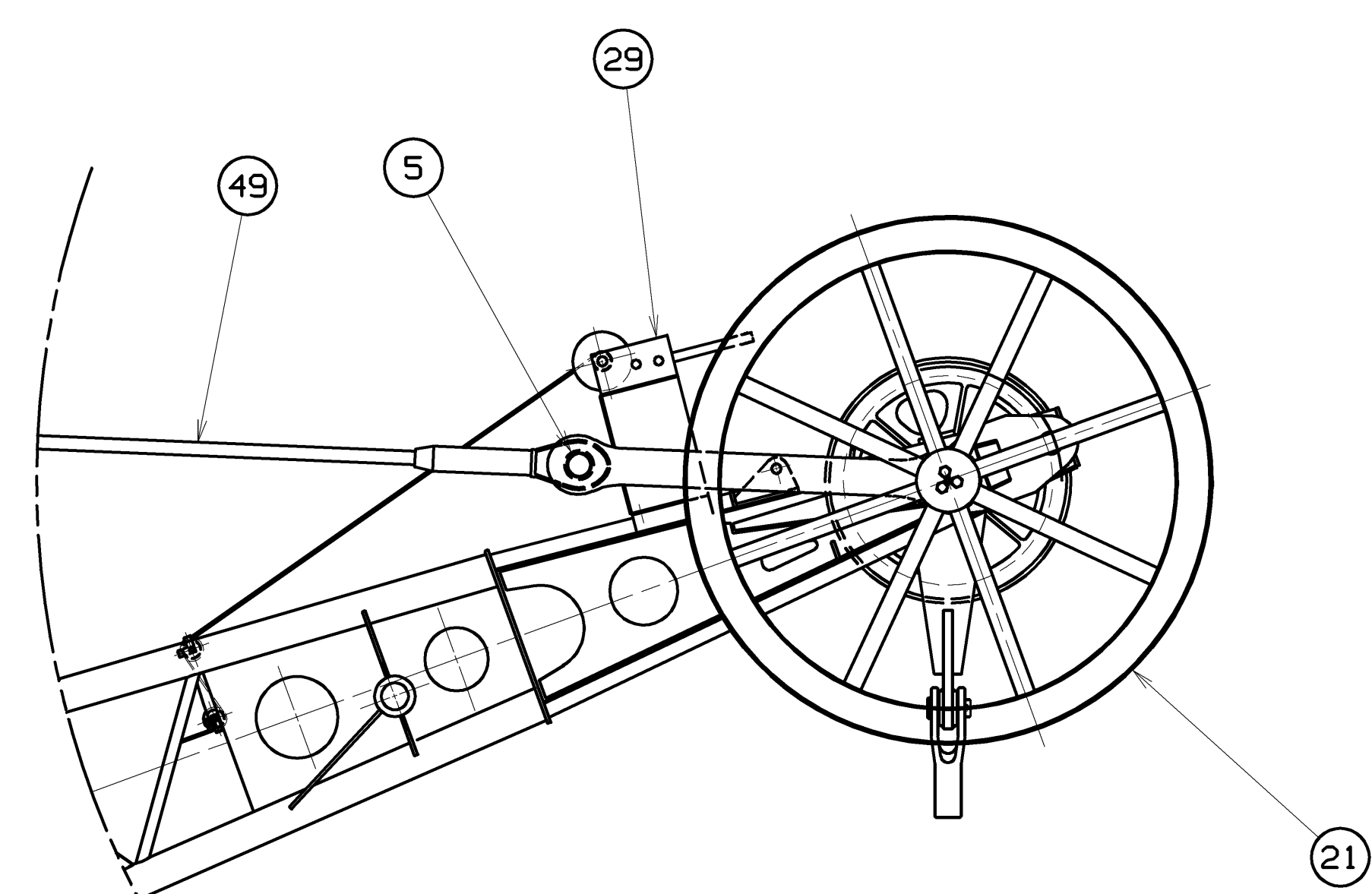
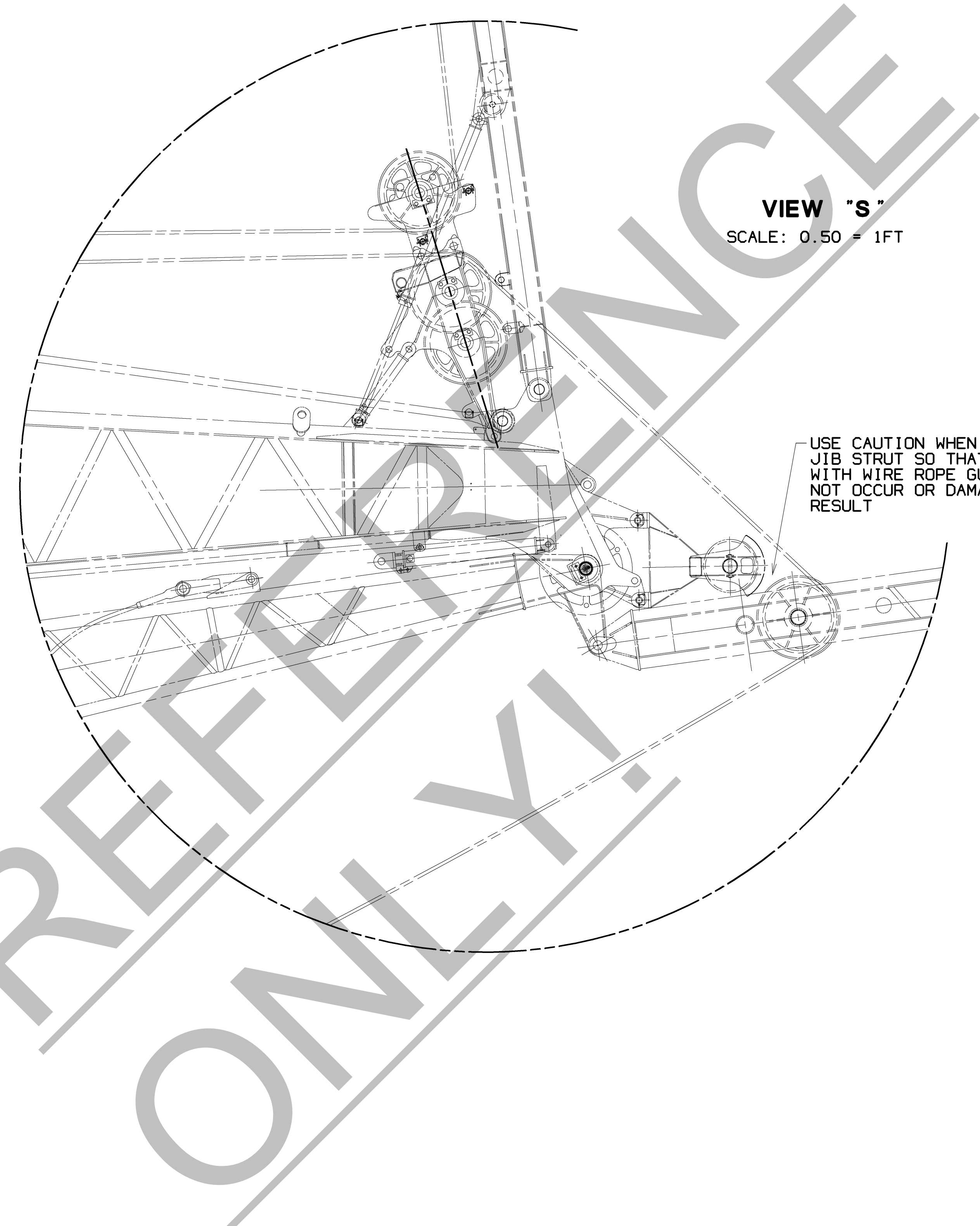
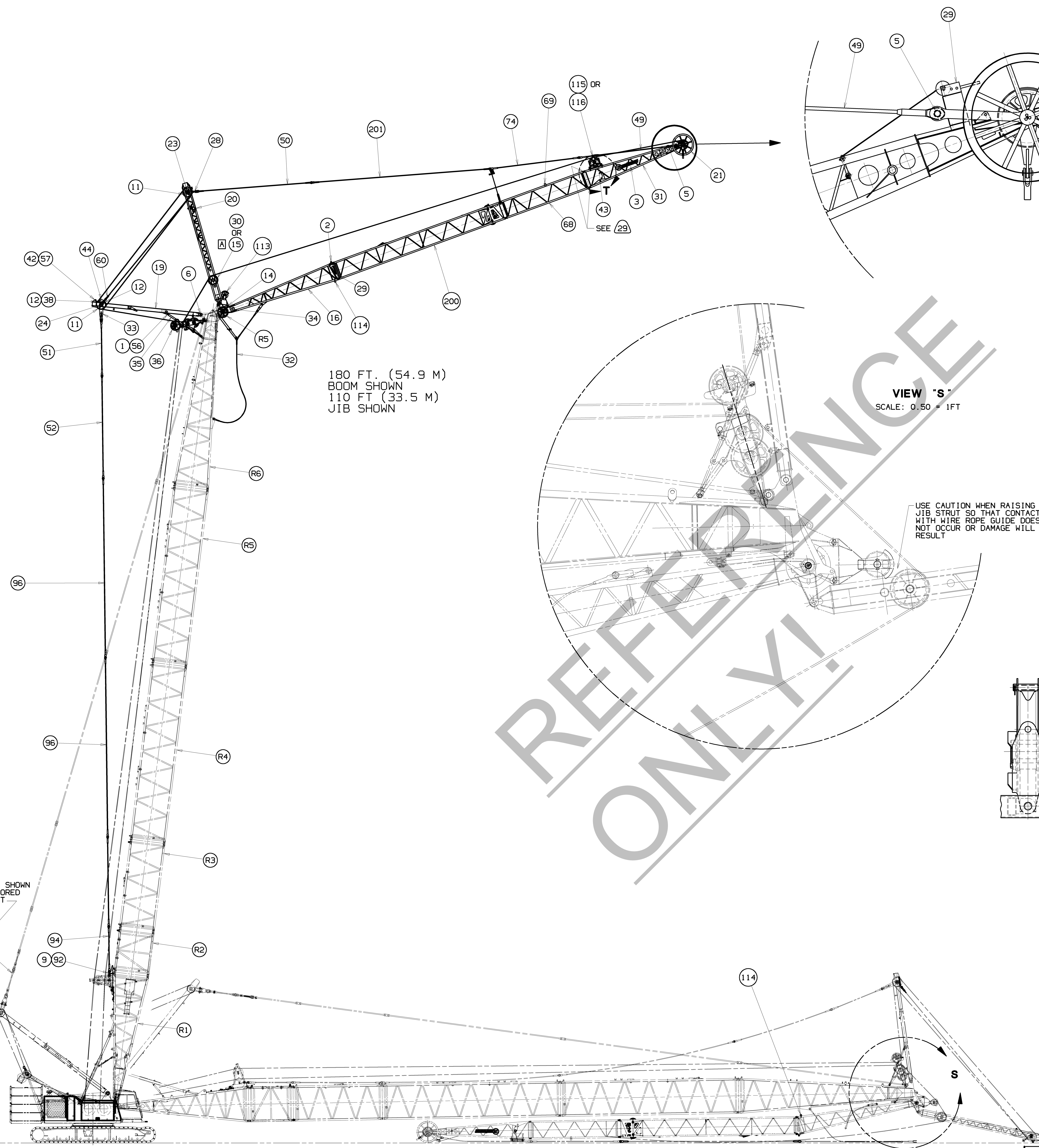
INSTALL BLOCK/HOOK AND WEIGHT BALL. CONTINUE TO BOOM UP TO DESIRED ANGLE AND LUFF UP TO DESIRED WORKING RADIUS (SEE LUFFING JIB RAISING PROCEDURE 8248A FOR BOOM TO JIB ANGLE REQUIREMENTS).

NOTE: REVERSE SEQUENCE TO LOWER AND FOLD LUFFING JIB. BOOM TO JIB CLEARANCE WILL DETERMINE TO WHAT DEGREE BOOM AND JIB CAN BE LOWERED. CLEARANCE POINTS WILL VARY DEPENDING ON BOOM/JIB COMBINATION, GROUND CONDITIONS AND BLOCKING USED. CLEARANCE POINTS AT JIB STOP STRUT TO JIB BUTT AND BOOM TOP. JIB INSERT TO BOOM LACING, JIB POINT WHEEL TO BOOM LACING AND JIB TOP WIRE ROPE GUIDE ASSEMBLY TO GROUND SHOULD BE MONITORED AS BOOM/JIB IS LOWERED. A MEANS TO START JIB UNDER BOOM WHEN FOLDING MAY BE REQUIRED.

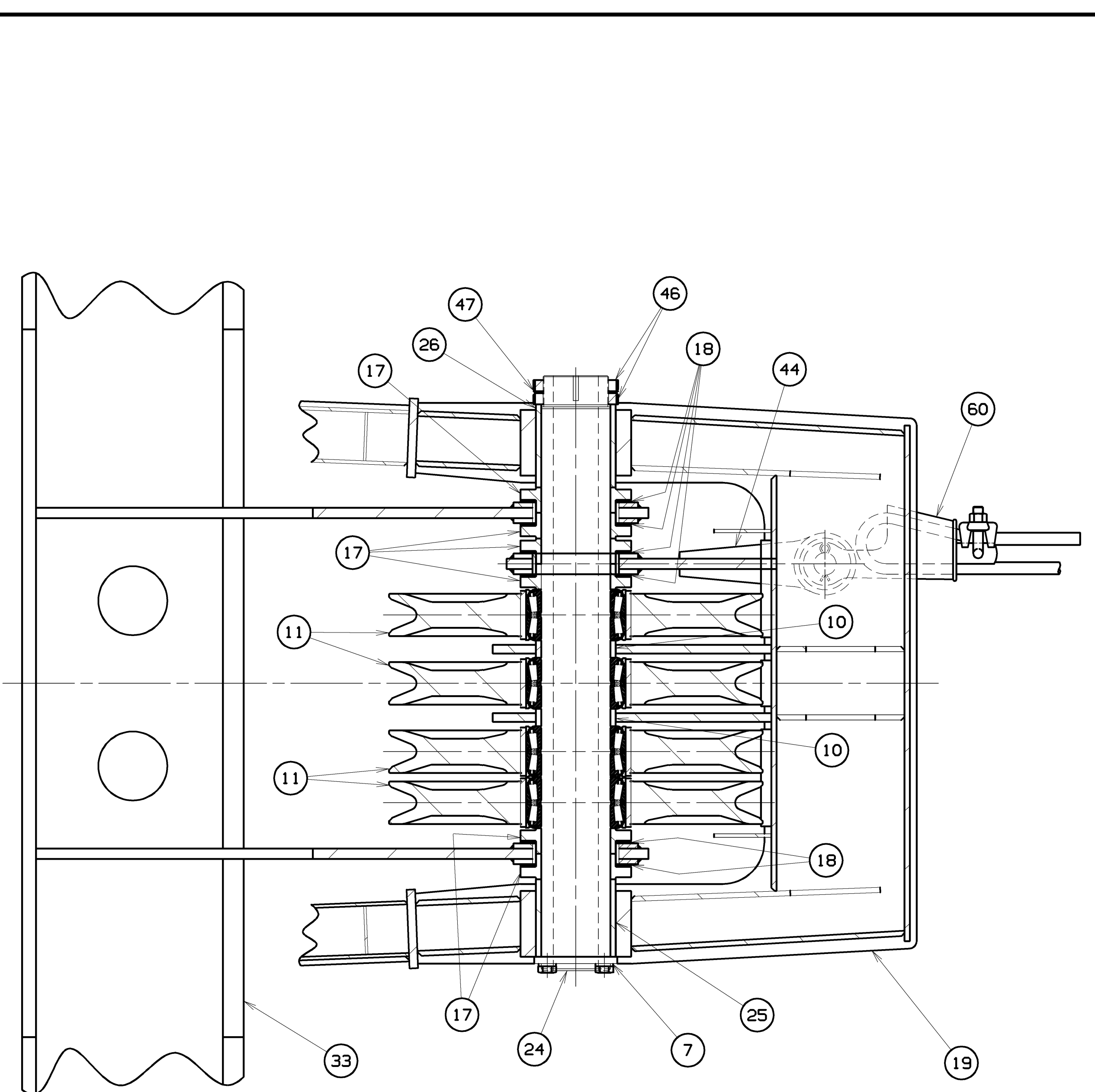
REVISED	BY	DATE	DESCRIPTION
A		03-16-09	MER VTEH
B		10-31-11	RDA UPDATED/DELETED REFERENCE BALLOONS. UPDATED BOOM SIGN.

QWG. NO. A09287
SHT 6 OF 10

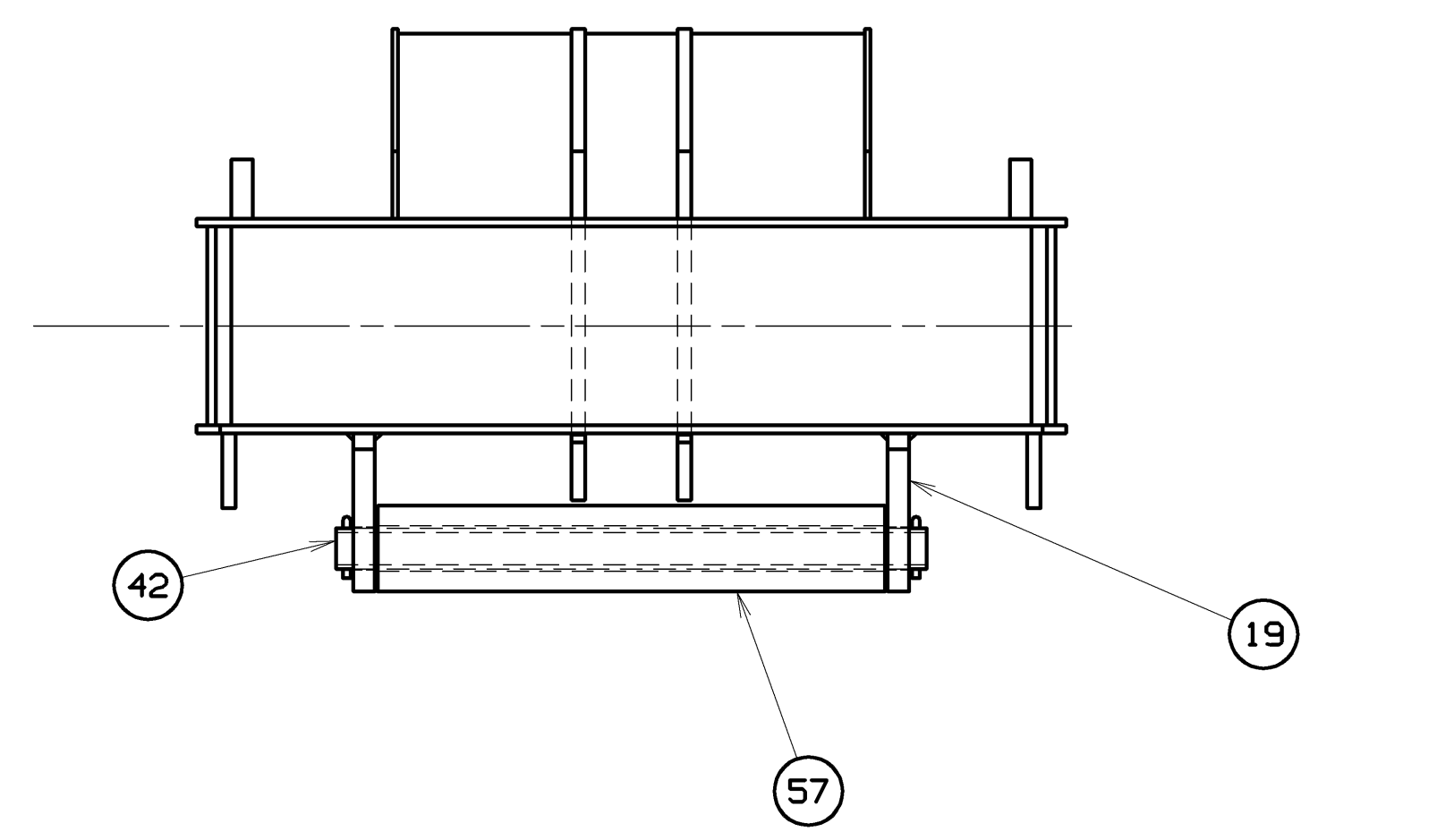
PRIVATE LABELING REQUIREMENT TO CONFORM TO ENGINEERING SPECIFICATION 6829103794 FOR COMPONENTS LISTED IN Q6500-09-005
DATE 11-13-03
PATTERN NO.



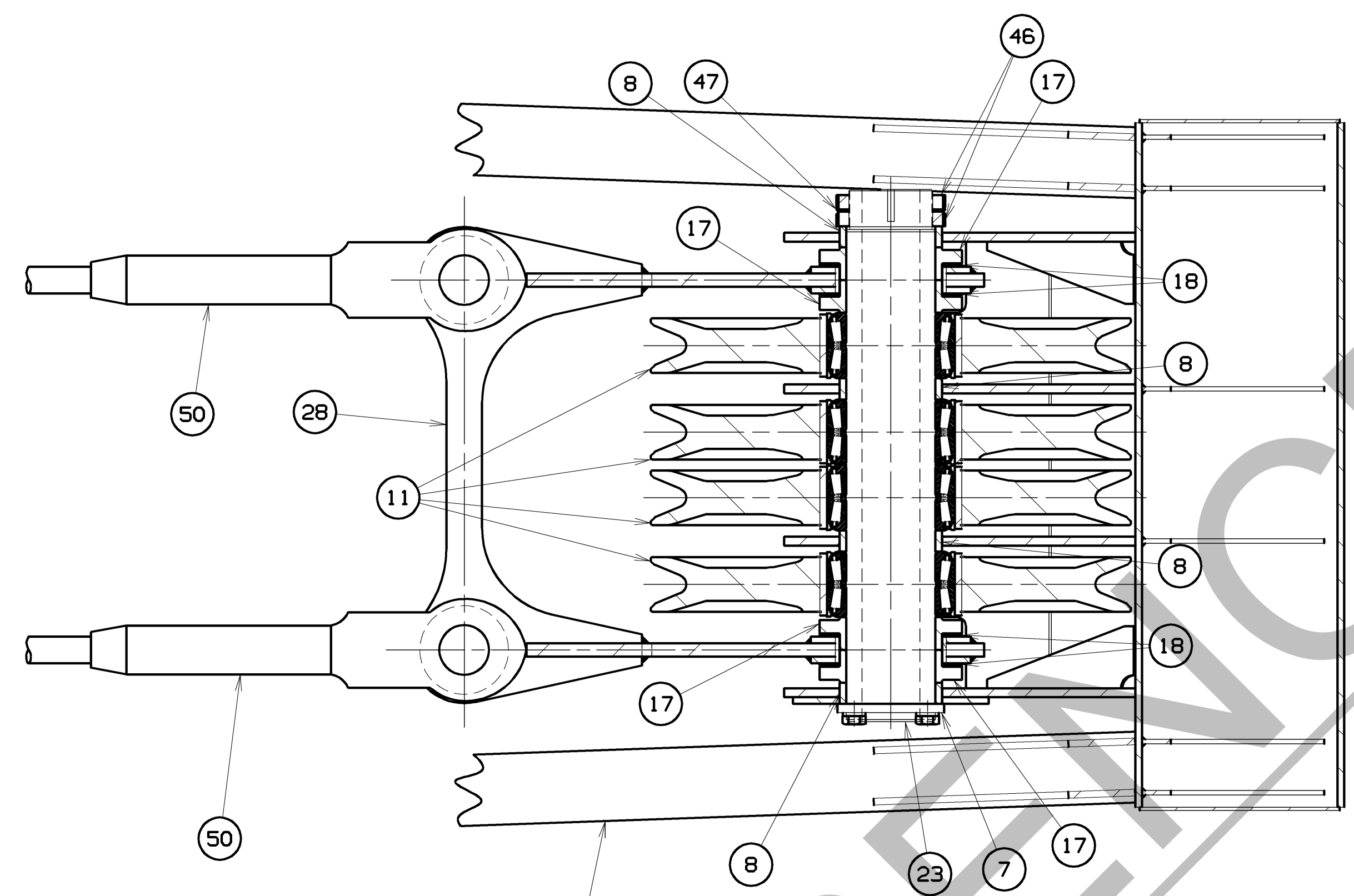
TOLERANCE UNLESS OTHERWISE SPECIFIED		MATERIAL		FINISH	
DECIMAL PLACES	FABRICATION	DECIMAL PLACES	MACHINING	DR. RH	MANITOWOC, WISCONSIN
(1) PLACE 0.0	±.12 ±.18 ±.12 ±.18	(1) PLACE 0.0	±.06 ±.12 ±.015	CK. RH	MODEL 999
(2) PLACE 0.00	±.06 ±.12 ±.015	(2) PLACE 0.000	±.005 ±.005	APP BLS	
(3) PLACE 0.000	±.005 ±.005	ANGLES	±1.00 ±0.50		



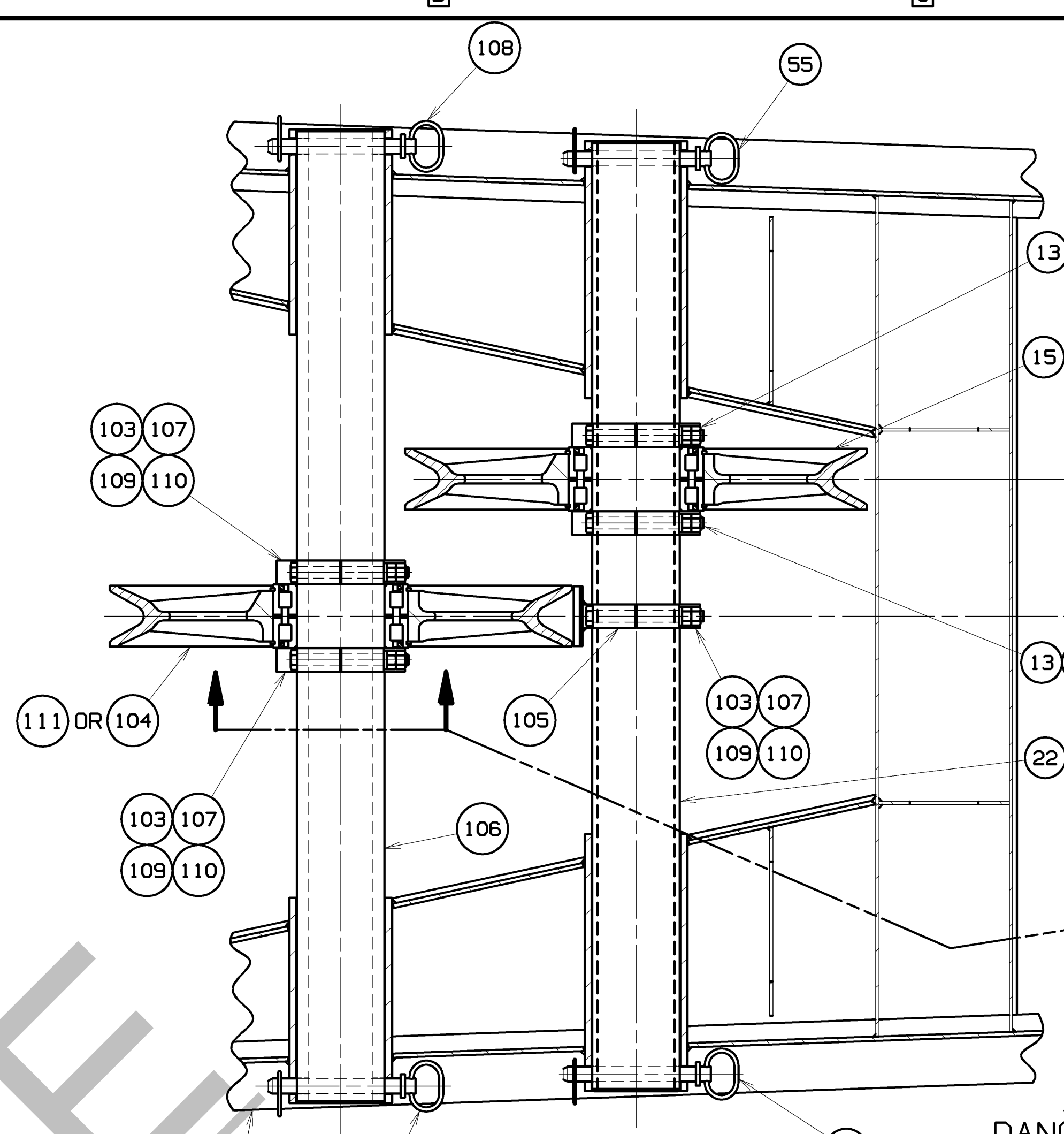
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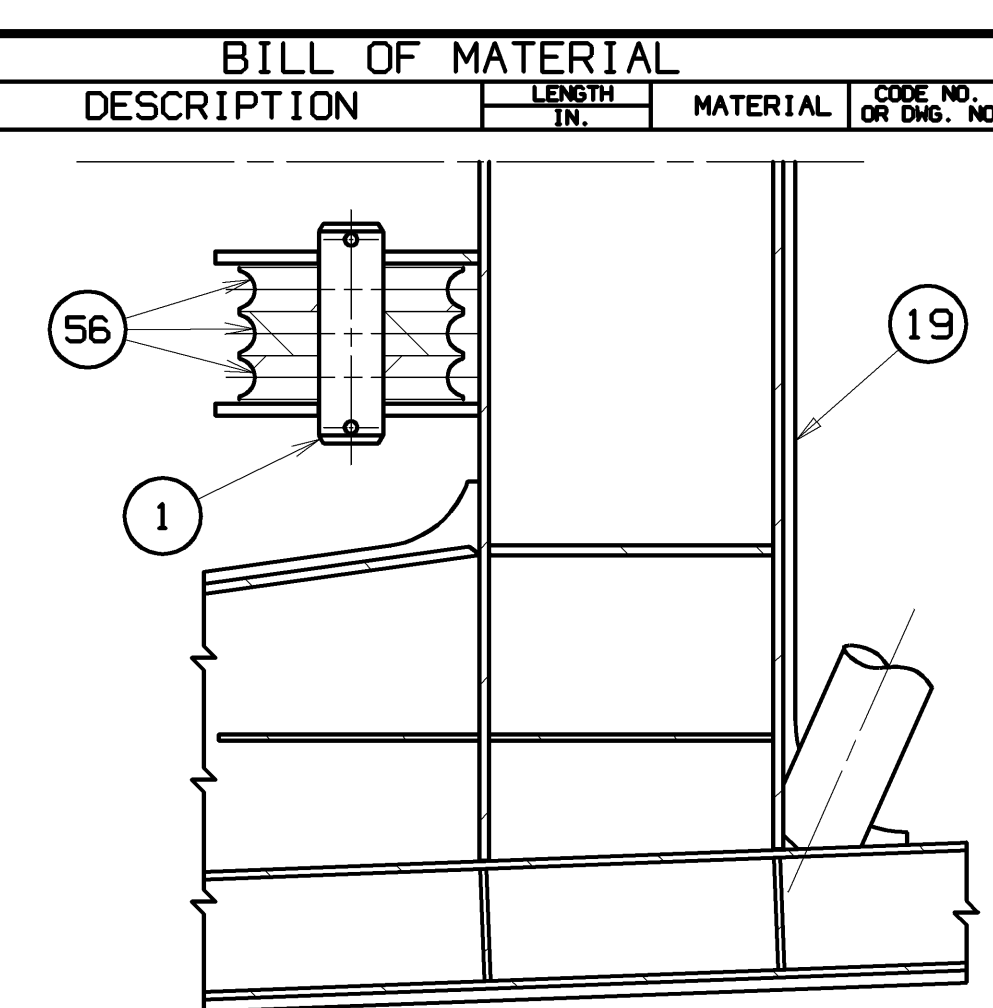
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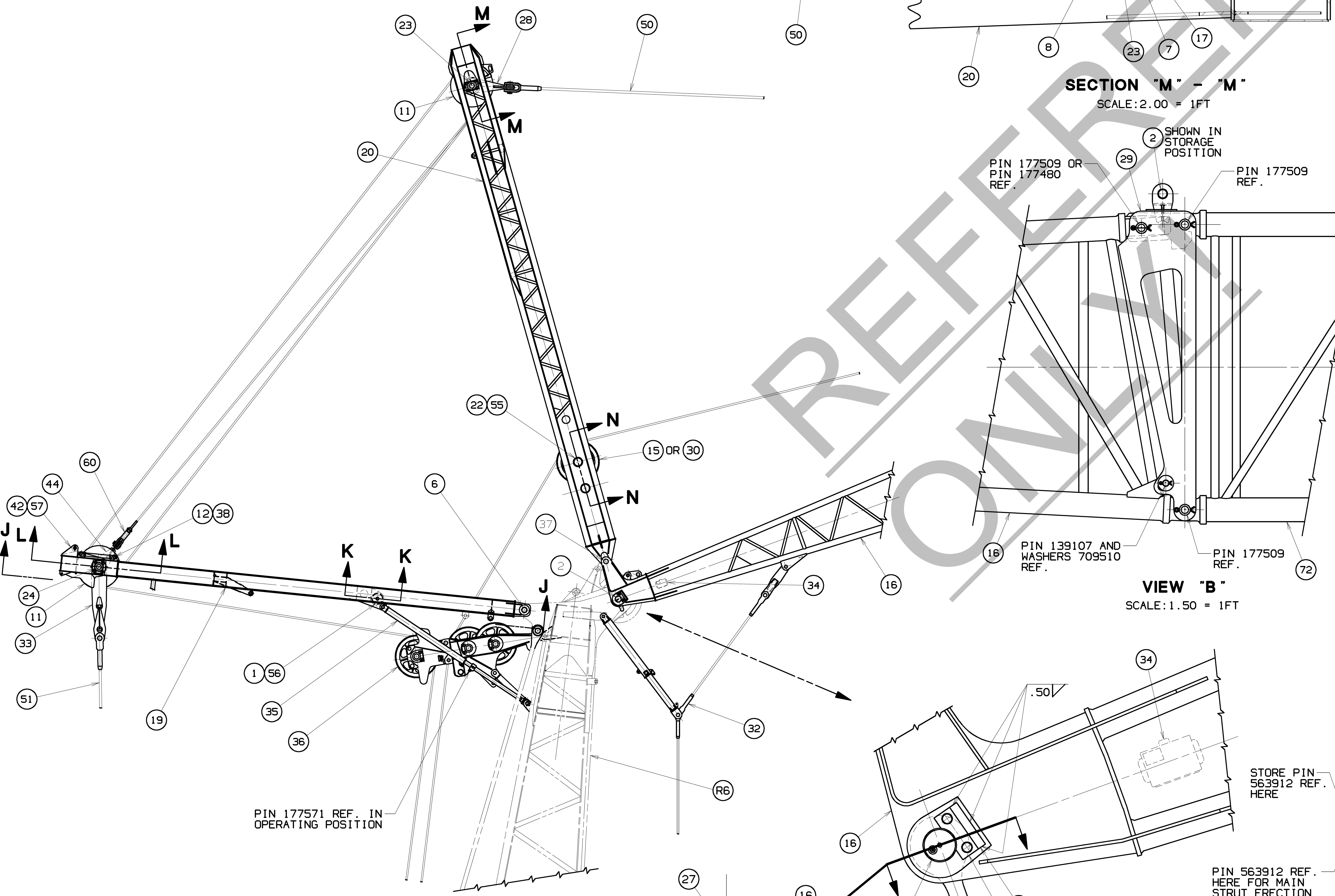
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SCALE: 2.00 = 1 FT



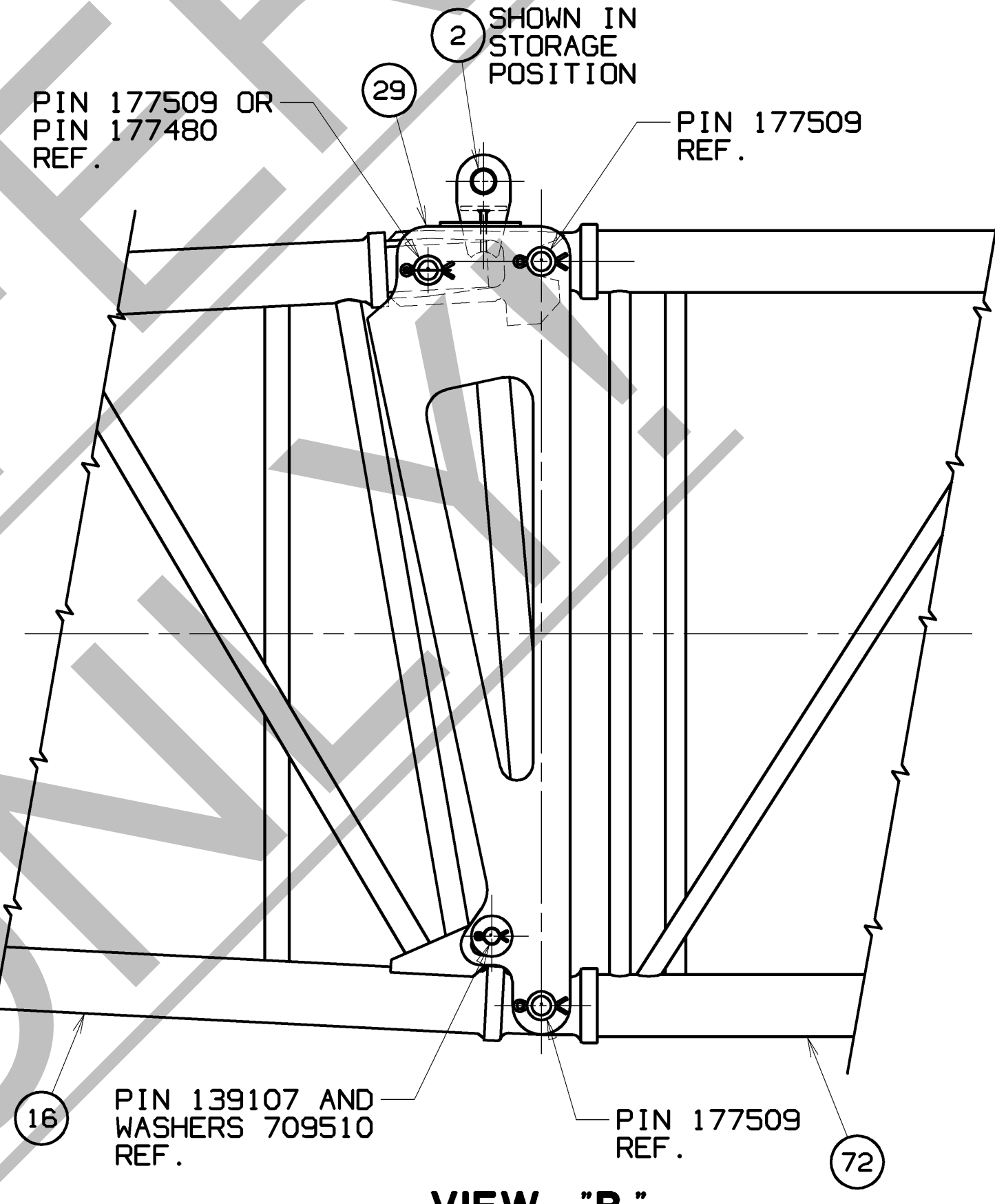
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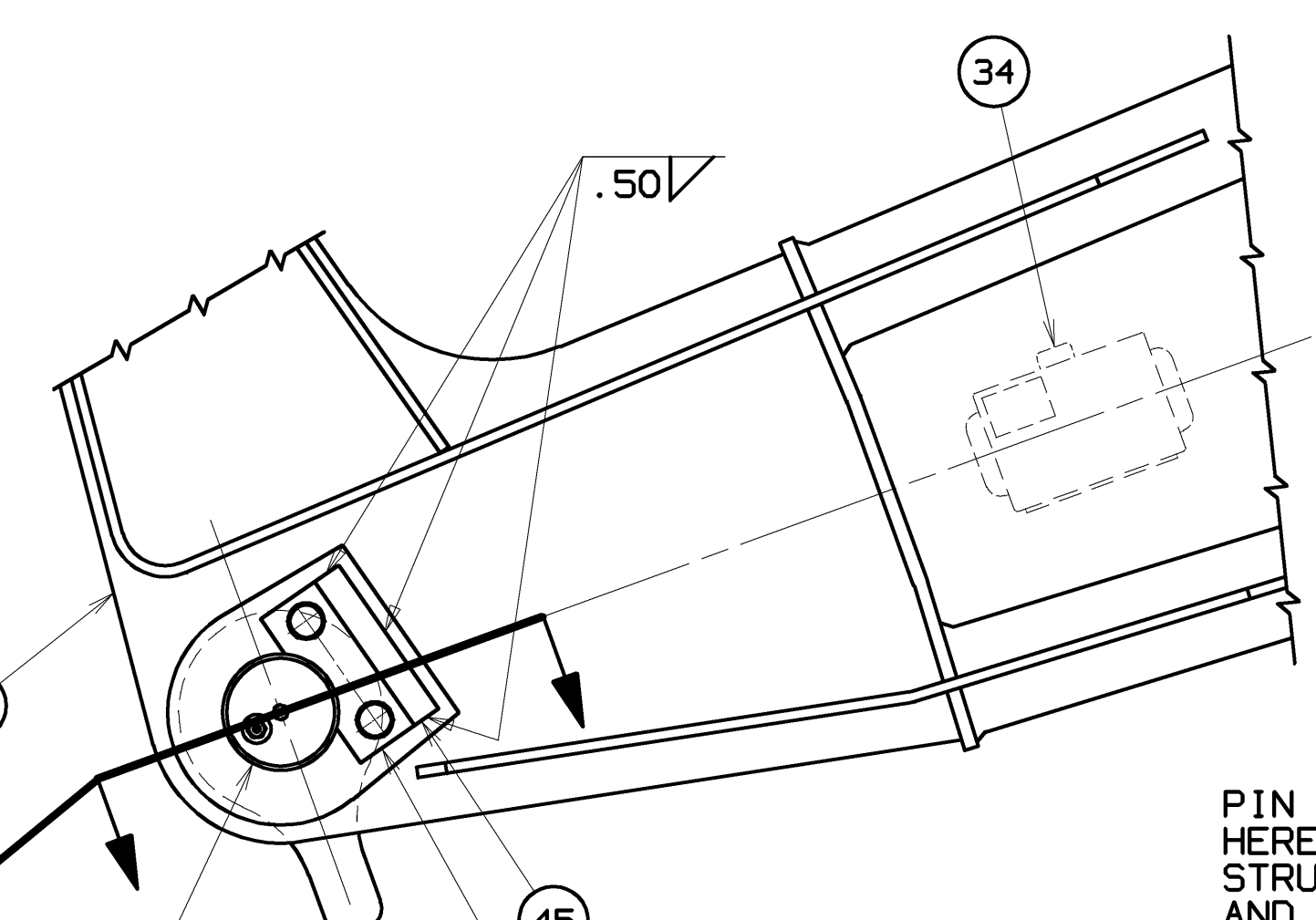
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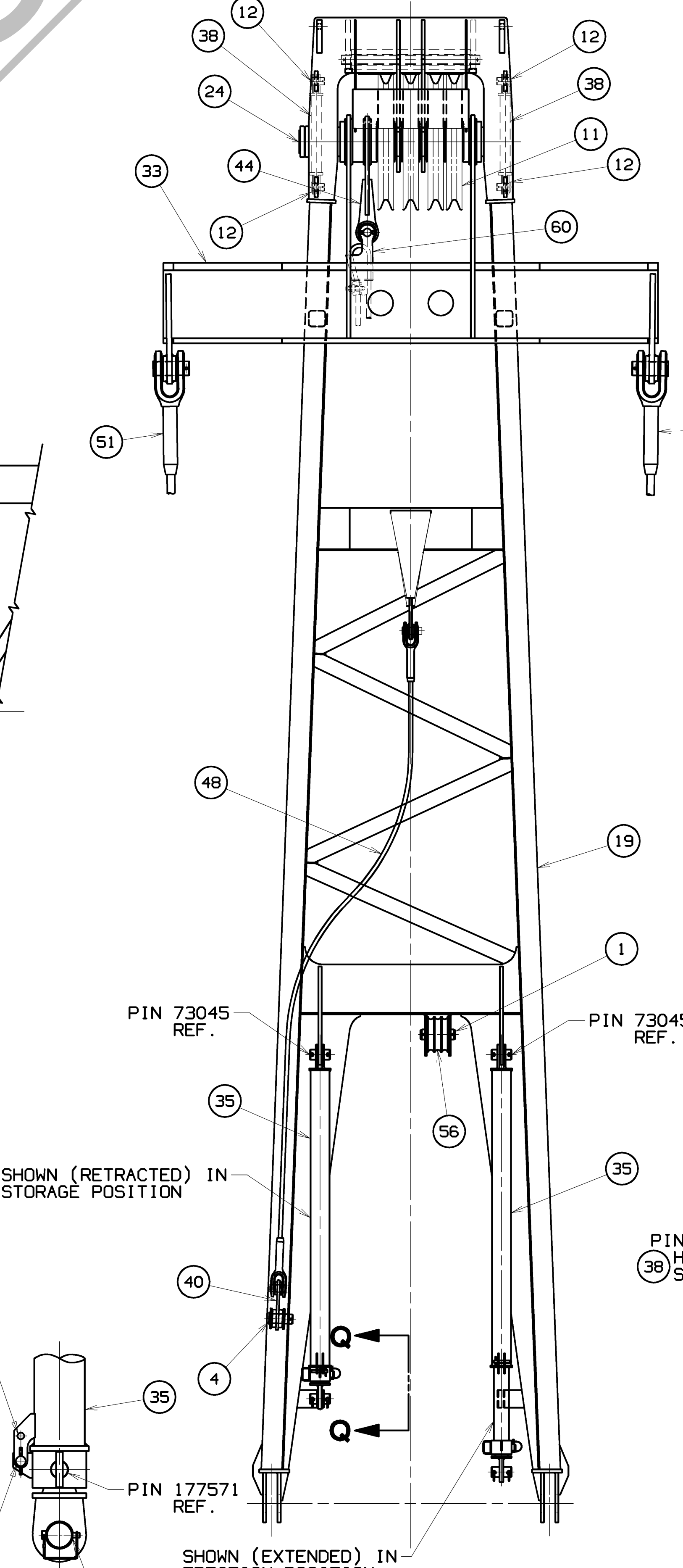
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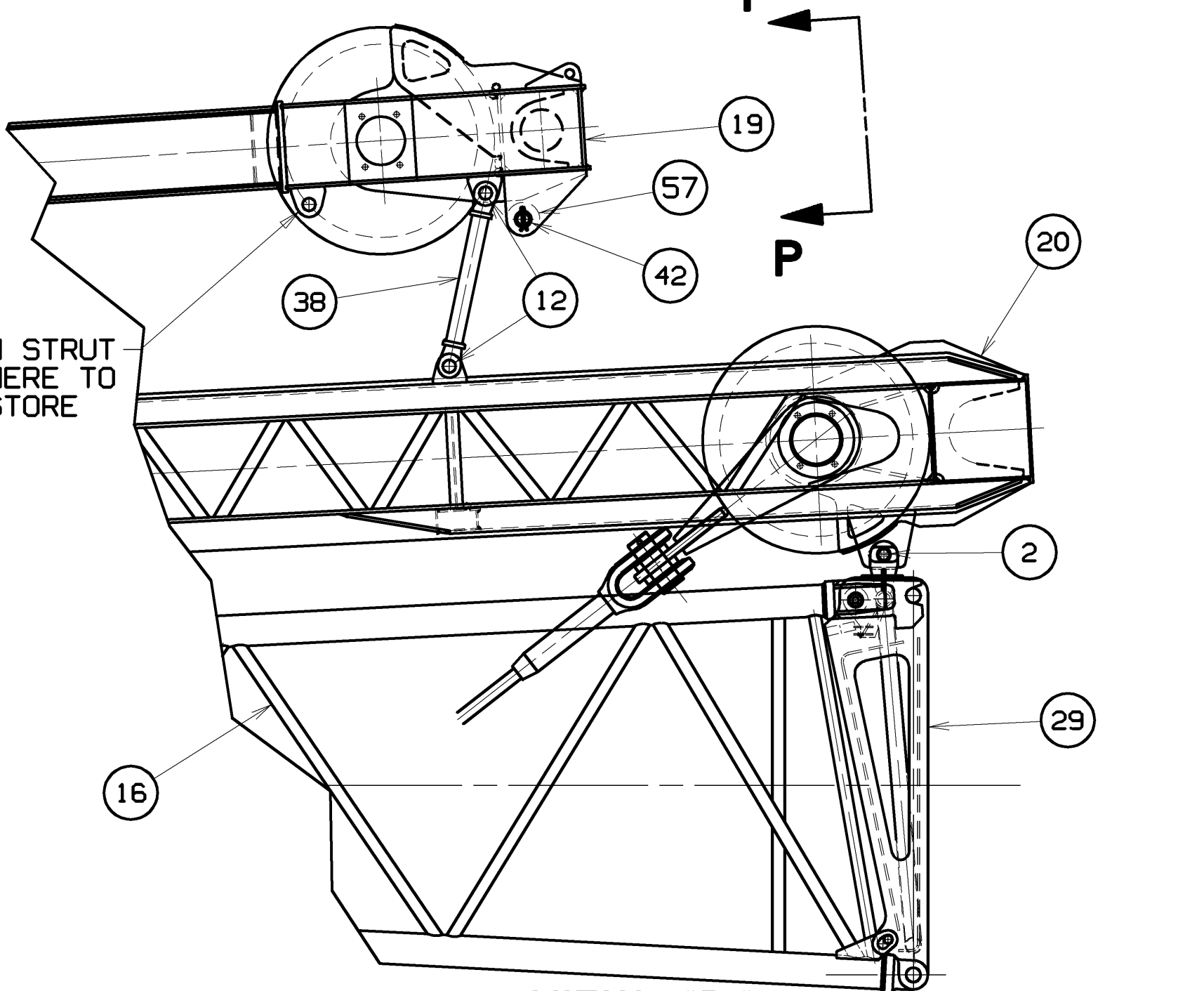
VIEW "B"
SCALE: 1.50 = 1 FT



VIEW "Q" - "Q"
SCALE: 2.00 = 1 FT



VIEW "J" - "J"
SCALE: 0.75 = 1 FT



VIEW "D"
SCALE: 0.75 = 1 FT.

MAIN STRUT ERECTION PROCEDURE

DANGER: DO NOT STAND UNDER MAIN STRUT DURING ERECTION. MAKE SURE JIB STRUT IS PINNED TO THE JIB BUTT BEFORE ATTEMPTING MAIN STRUT ERECTION.

- ASSEMBLE HEAD SECTION OF MAIN STRUT (ITEM 19) - SEE SECTION F-F. ATTACH BASIC BACKSTAY PENDANTS (ITEMS 51) TO LINK SUB-ASSEMBLY (ITEM 33) - SEE VIEW J-J. USE PINS (73045 REF.) TO ATTACH FEMALE END OF STRUT STOP TUBE ASSEMBLIES (ITEMS 35) TO MAIN STRUT. REMOVE PINS (563912 REF.) AND INSTALL IN STORAGE LOCATION - SEE VIEW O-O. FULLY EXTEND INNER TUBES (APPROX. 14.50) AND ALLOW THEM TO REST ON TOP OF THE STRUT STOP TUBE STORAGE LUGS ON THE MAIN STRUT.
- RUN A 1.00 OR 26mm WIRE ROPE FROM THE FRONT DRUM THRU GROOVE BETWEEN SHEAVE (ITEM 39) AND ROLLER (ITEM 41) ON WIRE ROPE GUIDE ASSEMBLY (ITEM 37) - SEE VIEW M-M. CONTINUE RUN OF WIRE ROPE OVER THE ROLLERS ON WIRE ROPE GUIDE ASSEMBLY (ITEM 36) AND ATTACH TO WEDGE SOCKET (75298 REF.) USING WEDGE (75447 REF.) CALLED FOR ON JIB POINT ROLLER ASSEMBLY (ITEM 21).
- WITH PENDANT (ITEM 48) ATTACHED TO THE MAIN STRUT AND LINK (ITEM 40), UNPIN LINK FROM THE MAIN STRUT AND ATTACH TO THE WEDGE SOCKET (75298 REF.) WITH PIN (ITEM 4).
- RAISE MAIN STRUT WITH LOAD LINE WHILE PAYING OUT LUFFING JIB HOIST LINE (DO NOT ALLOW LUFFING JIB HOIST LINE TO GO INTO TENSION UNTIL MAIN STRUT IS NEAR VERTICAL).
- RAISE THE MAIN STRUT TO A POSITION WHERE THE MALE LUG END OF THE STRUT STOP TUBE ASSEMBLY (ITEMS 35) ARE NEAR THEIR PINNING POSITION ON THE BOOM TOP LUGS. ADJUST TUBE LENGTH AS NECESSARY TO PIN TO THE BOOM TOP LUGS USING PINS (73045 REF.)
- LOWER MAIN STRUT WITH LUFFING JIB HOIST LINE UNTIL SUPPORTED BY THE RETRACTED STRUT STOP TUBE ASSEMBLIES (ITEMS 35). REINSTALL PINS (563912 REF.) IN THE STRUT ERECTION AND POSITIONING LOCATION - SEE VIEW O-O.
- CONNECT ALL BACKSTAY PENDANTS AND LINKS.
- DISCONNECT WEDGE SOCKET (75298 REF.) FROM LINK (ITEM 40) AND CONNECT LINK ALONG WITH PENDANT (ITEM 48) TO STORAGE LUGS ON MAIN STRUT WITH PIN (ITEM 4) - SEE VIEW J-J.
- REMOVE PINS (177571 REF.) IN STRUT STOP TUBE ASSEMBLIES (ITEMS 35) - SEE VIEW L-L. RAISE MAIN STRUT WITH LUFFING JIB HOIST LINE UNTIL OPERATING POSITION PIN HOLES IN TUBE ASSEMBLIES ARE IN LINE AND INSTALL PINS (177571 REF.) - SEE VIEW B.
- RELAX LUFFING JIB HOIST LINE AND REMOVE PINS (563912 REF.) FROM STRUT STOP TUBE ASSEMBLIES (ITEMS 35) AND STORE IN LOCATION SHOWN - SEE VIEW O-O.
- REVERSE PROCEDURE FOR LOWERING MAIN STRUT (ITEM 19).

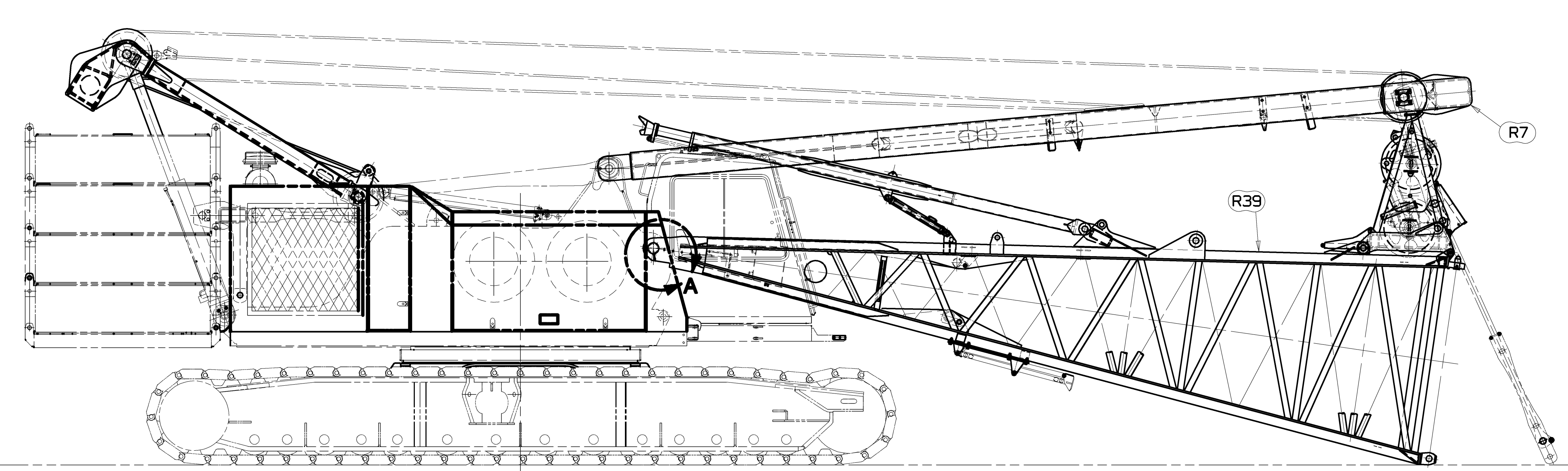
NO.	REV.	DESCRIPTION	DATE	BY	CHK.	APP.
1	03-16-09	MER				
2	10-31-11	RDA				
3	03-08-12	DELTA				

REVISIONS
03-16-09 MER
10-31-11 RDA
03-08-12 DELTA
NOTE 2

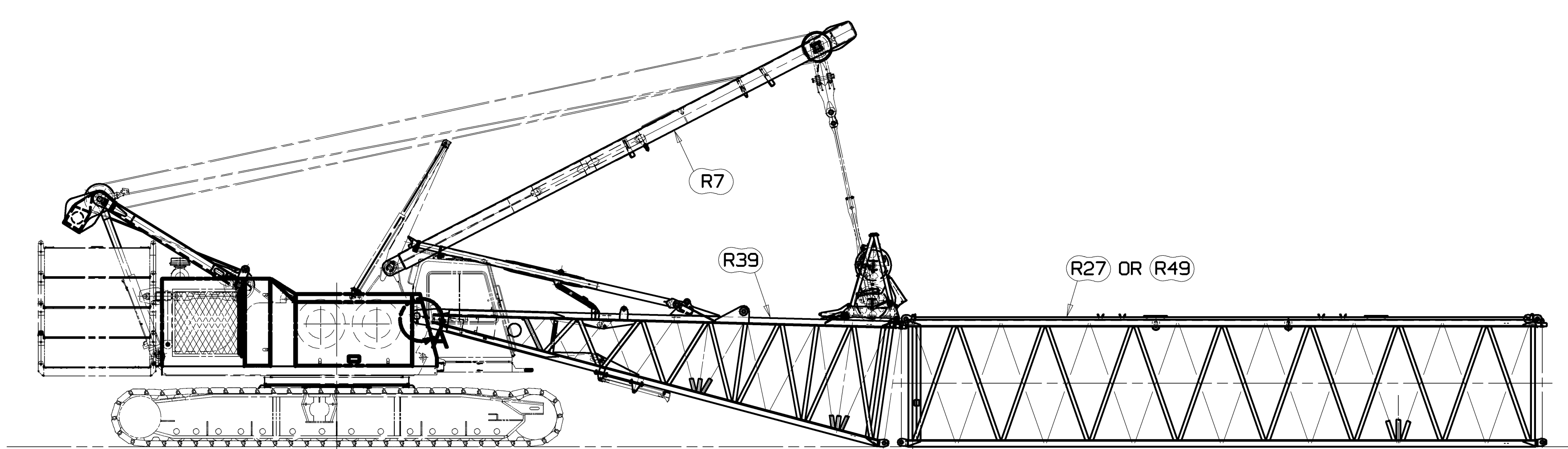
NO. A09287
SHT 7 OF 10

PRIVATE LABELING
REQUIREMENT TO
CONFORM TO
ENGINEERING
SPECIFICATION
6829103794 FOR
COMPONENTS LISTED
IN SECTION 05-026
DATE 11-13-03
PATTERN NO.

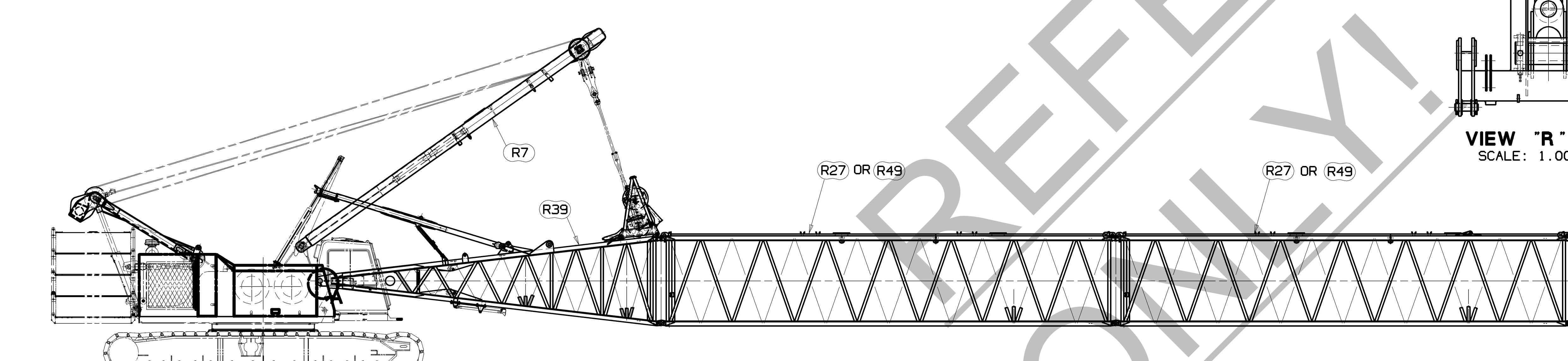
TOLERANCE UNLESS OTHERWISE SPECIFIED				MATERIAL		FINISH		SCALE		MANUFACTURER		PART NO.	
DECIMAL PLACES	FRACTIONS	ANGLES	WELDING	DR.	CK.	APP.	DR.	CK.	APP.	DR.	CK.	APP.	DR.
0.000	1/16"	1/2°	AS NOTED	RH	RH	BLS	RH	RH	BLS	RH	RH	BLS	RH
0.001	1/32"	1/4°	AS NOTED										
0.002	1/64"	1/8°	AS NOTED										
0.003	3/128"	3/16°	AS NOTED										
0.004	1/32"	1/4°	AS NOTED										
0.005	1/64"	1/8°	AS NOTED										
0.006	3/128"	3/16°	AS NOTED										
0.007	1/32"	1/4°	AS NOTED										
0.008	1/64"	1/8°	AS NOTED										
0.009	3/128"	3/16°	AS NOTED										
0.010	1/32"	1/4°	AS NOTED										



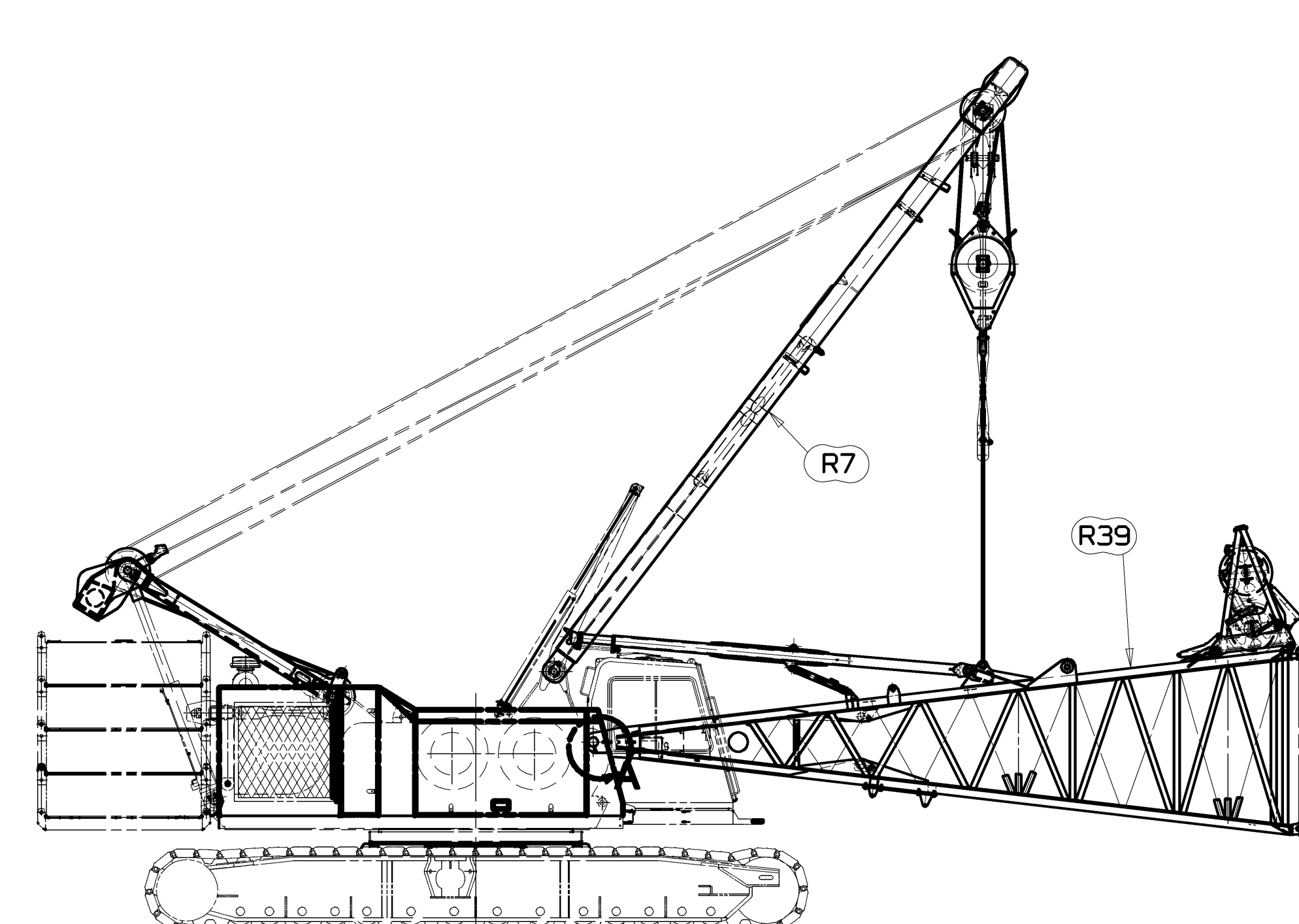
MAST RESTING ON BOOM BUTT WIRE ROPE GUIDE



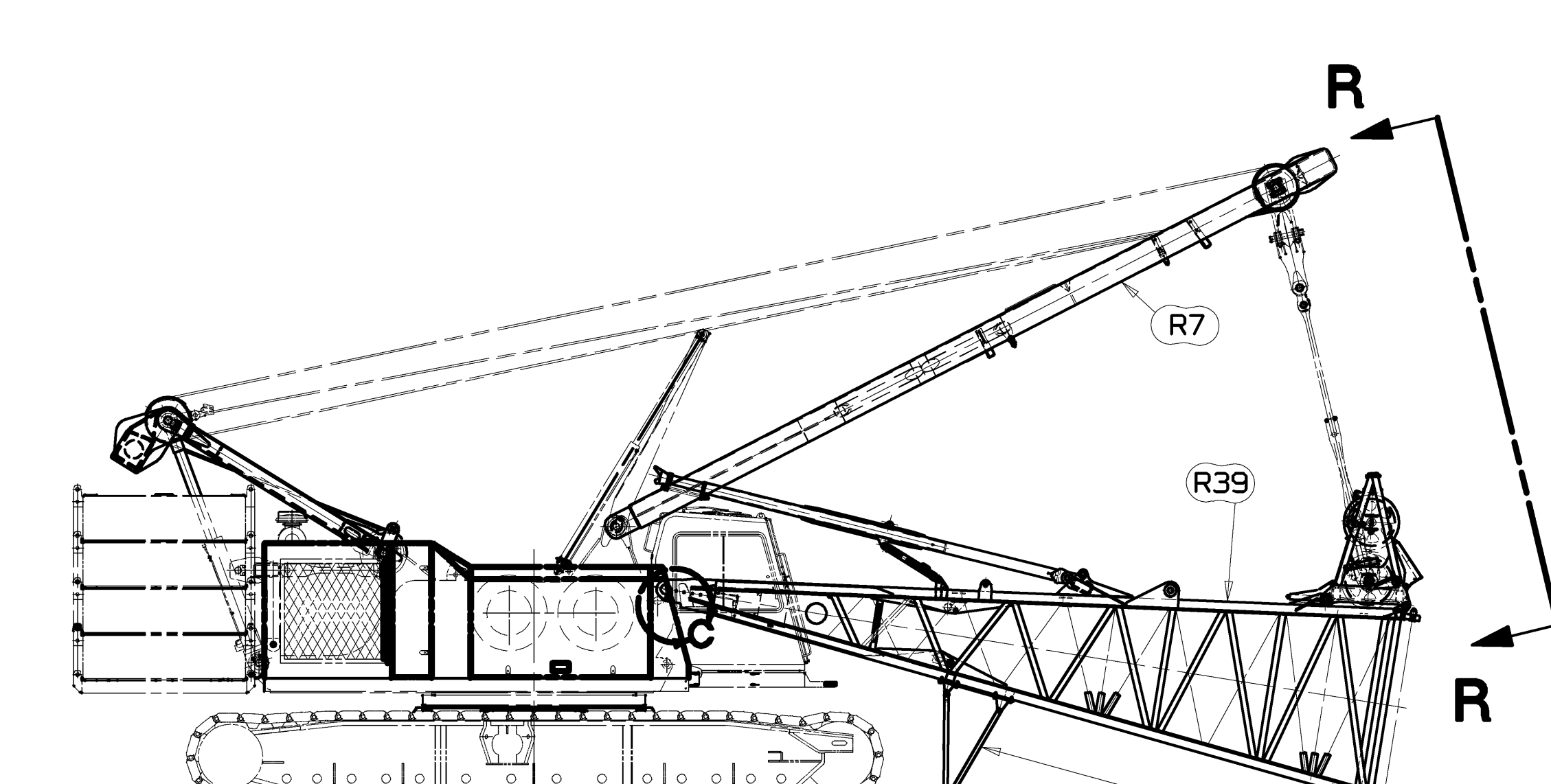
BOOM ASSEMBLY WITH MAST



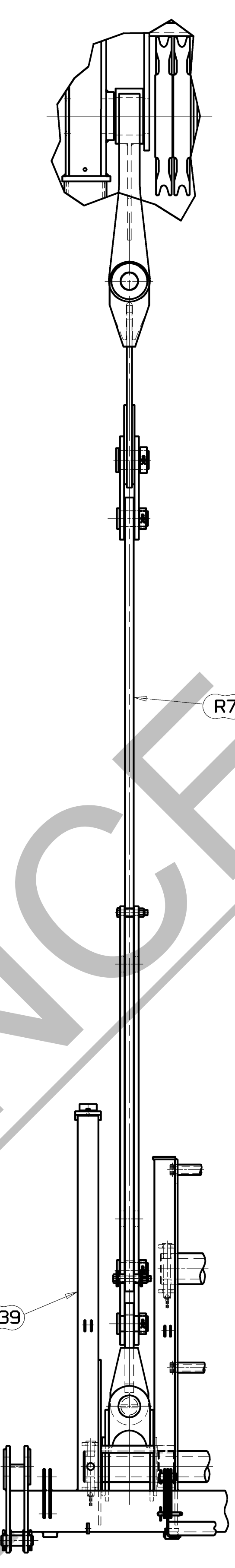
BOOM HANDLING WITH MAST



ATTACHING BOOM BUTT TO ROTATING BED USING AUXILIARY BLOCK IN MAST.



ATTACHING BOOM BUTT TO ROTATING BED USING OPTIONAL BUTT ATTACHING ASSEMBLY.



VIEW "R" - "R"
 SCALE: 1.00 = 1 FT.

- BOOM ASSEMBLY PROCEDURE**
 (MAST CAN BE USED TO ASSEMBLE ALL RIGGING COMPONENTS.)
1. ASSEMBLE BOOM COMPLETE, WITHOUT BUTT.
 2. ATTACH ROPE GUIDES, STRAPS, LINKS AND PINS AS REQ'D.
 3. USING THE MAST WITH AUXILIARY BLOCK OR THE OPTIONAL BOOM BUTT SUPPORT, INSTALL THE BOOM BUTT WITH ROPE GUIDE AND BOOM STOPS TO ROTATING BED. (BOOM STOPS MUST BE IN SHIPPING (LOWER) POSITION.)
 4. BOOM DOWN AND ATTACH MAST STRAPS TO BOOM HANDLING LINK ON ROPE GUIDE. (SEE VIEW "R"-"R")
 5. BOOM UP TO CLEAR GROUND WITH BUTT.
 6. POSITION MACHINE TO ALIGN UPPER PIN CONNECTOR PINS ON BOOM BUTT WITH UPPER PIN CONNECTOR HOLES ON FIRST BOOM INSERT AND ENGAGE PINS.
 7. SLOWLY BOOM UP TO ALIGN LOWER PIN CONNECTOR HOLES ON BOOM BUTT WITH LOWER PIN CONNECTOR HOLES IN FIRST BOOM INSERT AND INSERT PINS.

- WARNING:**
 DO NOT BOOM UP PAST LOWER CONNECTOR HOLES. IF BOOMING UP CONTINUES AFTER CONNECTORS BOTTOM OUT OR AFTER PINS ARE INSERTED, DAMAGE TO ROPE GUIDE AND BOOM BUTT WILL OCCUR.
8. BOOM DOWN TO DISCONNECT MAST STRAPS FROM ROPE GUIDE LINKS.
 9. ATTACH BOOM STOP HANDLING PENDANTS TO BOOM STOP TUBES, RAISE AND PIN BOOM STOPS IN WORKING POSITION AND STOW HANDLING PENDANTS ON MAST.
 10. ATTACH MAST STRAPS TO BOOM INSERT STRAPS.
 11. BOOM UP TO DESIRED BOOM ANGLE.

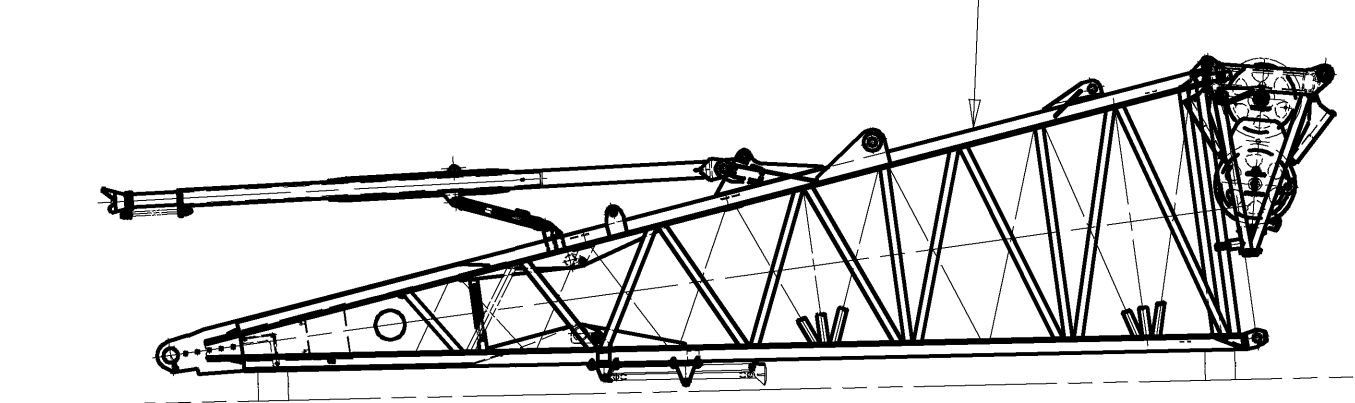
- TO DISASSEMBLE BOOM**
1. BOOM DOWN AND SUPPORT BOOM ON BLOCKING.
 2. DISCONNECT MAST STRAPS FROM BOOM INSERT STRAPS.
 3. LOWER BOOM STOPS TO SHIPPING POSITION.
 4. CONNECT MAST STRAPS TO HANDLING LINK ON ROPE GUIDE (SEE VIEW "R"-"R")
 5. BOOM UP TO REMOVE SLACK FROM MAST STRAPS.
- WARNING:**
 DO NOT BOOM UP TO PUT TENSION INTO MAST STRAPS. (REMOVE SLACK ONLY) TENSION IN MAST STRAPS WILL DAMAGE ROPE GUIDE AND BOOM BUTT.
6. REMOVE LOWER BUTT TO INSERT PINS AND BOOM DOWN TO DISENGAGE UPPER BOOM BUTT TO INSERT PINS.
- WARNING:**
 BOOM MUST BE PROPERLY BLOCKED TO PREVENT SHIFTING DURING PIN REMOVAL.
7. SLOWLY BACK AWAY FROM BOOM.
 8. REMOVE BOOM BUTT FROM ROTATING BED WITH MAST.
 9. DISASSEMBLE BOOM WITH MAST.

BOOM HANDLING WITH MAST
 WITH MAST STRAPS PINNED TO ROPE GUIDE LINKS: MAXIMUM BOOM THAT CAN BE CANTILEVERED IS AS FOLLOWS:

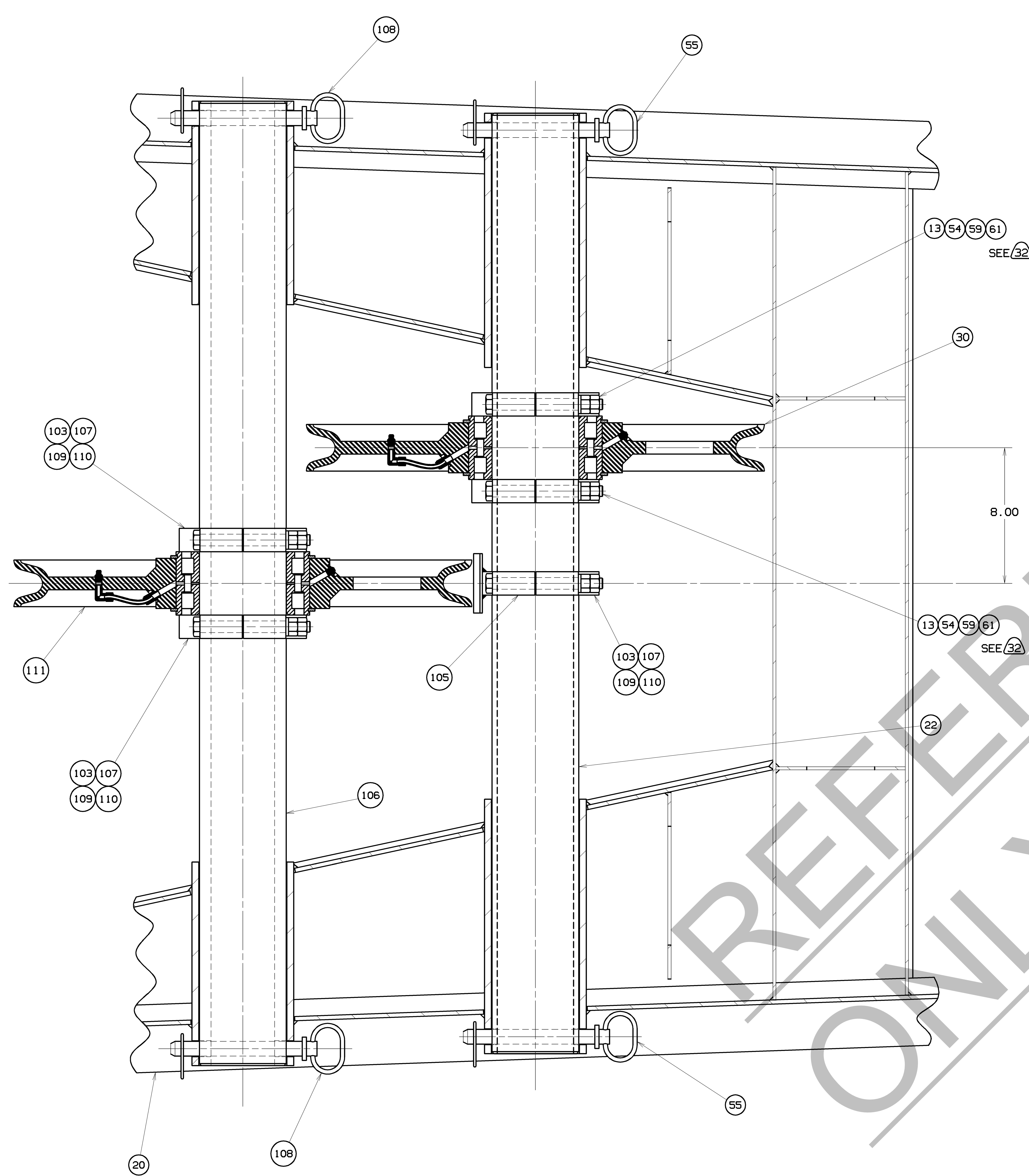
LENGTH	10 FT. (3.05 M) INSERT	20 FT. (6.10 M) INSERT	40 FT. (12.2 M) INSERT
40 FT. (12.2 M)	2	1	0
50 FT. (15.2 M)	1	2	0
60 FT. (18.3 M)	2	0	1
60 FT. (18.3 M)	0	1	1
80 FT. (24.4 M)	0	0	2

NOTE:
 THIS RIGGING AND STRAP ARRANGEMENT IS USED ON MACHINE S/N 9991001 THRU S/N 9991050.

NOTE:
 FOR ALL INFORMATION ON THIS SHEET REFERENCE BOM ON A09287 SHEET 8 OF 10.



BOOM BUTT SHIPPING ARRANGEMENT



SECTION "N" - "N"
 SHOWN ITEMS 30 & 111, FOR ORIENTATION OF GREASING ONLY
 SCALE: 4 = 1 FT

BILL OF MATERIAL	
ITEM NO.	DESCRIPTION
BOOM SECTION WELDMENT (THIS NUMBER APPEARS ON NAMEPLATE)	
BOOM SECTION ASSEMBLY	BOOM ONLY, BOOM WITH #134 FIXED JIB, OR BOOM WITH #135 LUFFING JIB
10FT. INSERT A01018	A01019
20FT. INSERT 195463	195455
40FT. INSERT 195464(A)	195456
40FT. INSERT 195465(B)	195457
40FT. TOP A01024	A01025
BOOM SECTIONS/ASSEMBLIES ABOVE REPLACE PAST PRODUCTION BOOM LISTED BELOW	
BOOM WELDMENTS/MODIFICATIONS LISTED BELOW ARE ACCEPTABLE FOR WELDMENTS LISTED ABOVE	
10FT. INSERT (C)	195454, A01014 OR A01015
10FT. INSERT (D)	A01122, 196006, A01016 OR A01017
20FT. INSERT	A01020
40FT. INSERT (A)	A01022
40FT. INSERT (B)	A01021
40FT. TOP	A01093, 195458, OR A01023
(A) WITHOUT JIB BACKSTAY LUGS	
(B) WITH JIB BACKSTAY LUGS	
(C) WITH SHEAVE FRAME WELDED TO INSERT	
(D) WITHOUT SHEAVE FRAME	

INSERTS, PENDANTS, TIMBERS AND PINS REQ'D. FOR VARIOUS JIB LENGTHS										
ITEM NO.	67	72	76 OR 81	200	69 DWG. 78145	74 DWG. 78145	79, 84 OR 201 DWG. 78145	68, 73 OR 83	66, 71 OR 82	
JIB LENGTHS FEET METERS	10 FT 3.05 M INSERT	20 FT 6.10 M INSERT	40 FT 12.19 M INSERT	40 FT 12.19 M INSERT ASSY SEE (19)	10 FT-1.0 3.07 M PENDANT	20 FT-1.5 6.13 M PENDANT	40 FT-3.0 12.27 M PENDANT	WIRE ROPE TIMBER	BOOM JOINT PIN	
110	33.5	0	1	0	1	0	2	2	3	8
120	36.6	1	1	0	1	2	2	2	4	12
130	39.6	OR 0	2	0	1	0	4	2	4	12
		0	0	1	1	0	0	4	4	8
140	42.7	OR 1	2	0	1	2	4	2	5	16
		0	0	1	1	2	0	4	5	12
150	45.7	0	1	1	1	0	2	4	5	12
160	48.8	1	1	1	1	2	4	6	6	16
170	51.8	OR 0	2	1	1	0	4	6	6	16
		0	0	2	1	0	6	6	6	12

INSERTS, PENDANTS, AND ROLLER GUIDES REQUIRED FOR VARIOUS BOOM LENGTHS						JIB BACKSTAY PENDANTS, LINKS & PINS REQUIRED FOR VARIOUS BOOM LENGTHS					
ITEM NO.	R16	R23	R27	LINK (196032) POSITION (2)	90 & 94	95	96	89	92	87	9 & 86
BOOM LENGTH FEET METERS	10 FT 3.05 M INSERT ASSEMBLY SEE (10)	20 FT 6.10 M INSERT ASSEMBLY SEE (11)	40 FT 12.19 M INSERT ASSEMBLY		10 FT-1.0 3.07 M PENDANT SEE (30)	20 FT-1.5 6.13 M PENDANT SEE (30)	40 FT-3.0 12.27 M PENDANT SEE (30)	PENDANT LINK 99.00 (991mm)	PENDANT LINK 111.00 (279mm)	PENDANT LINK 24.00 (610mm)	PIN
80	24.4	1	0	0	A	OR 0	0	0	2	0	2
		0	1	0	A	OR 2	0	0	2	0	2
90	27.4	OR 2	0	0	A	OR 6	0	0	2	0	2
		0	1	0	A	OR 2	0	0	2	0	2
100	30.5	1	1	0	A	2	2	0	2	2	4
110	33.5	OR 2	1	0	A	OR 4	2	0	2	2	4
		OR 0	0	1	A	OR 0	0	2	0	2	4
120	36.6	OR 1	2	0	A	OR 2	4	0	2	2	4
		OR 1	0	1	A	OR 2	0	2	0	2	4
130	39.6	OR 2	0	1	A	OR 4	0	2	2	2	4
		OR 0	1	1	A	OR 0	2	0	2	2	4
140	42.7	1	1	1	A	2	2	0	2	0	2
150	45.7	OR 2	1	1	A	OR 0	0	4	0	2	2
		OR 0	2	1	A	OR 0	4	2	0	2	2
160	48.8	OR 1	2	1	A	OR 2	4	2	0	2	2
		OR 1	0	2	A	OR 2	0	4	0	2	2
170	51.8	OR 2	0	2	A	OR 4	0	4	0	2	2
		OR 0	1	2	A	OR 0	2	4	0	2	2
180	54.9	1	1	2	A	2	2	4	0	2	2
190	57.9	OR 2	1	2	B	OR 4	2	4	0	2	2
		OR 0	2	2	B	OR 0	0	6	0	2	2
		OR 0	0	3	B	OR 0	4	4	0	2	2
200	61.0	OR 1	2	2	B	OR 2	4	4	0	2	2
		OR 1	0	3	B	OR 2	0	6	0	2	2

NOTE:
 THIS RIGGING AND STRAP ARRANGEMENT IS USED ON MACHINE S/N 9991001 THRU S/N 9991050.

NOTE:
 TABLES ON THIS SHEET REFERENCE BOM ON A09287 SHEET 8 OF 10.

REVISIONS
 Q3-16-09 MER
 A ADDED VIEW
 B ADDED NOTE

DWG. NO. A09287
 SHT 10 OF 10