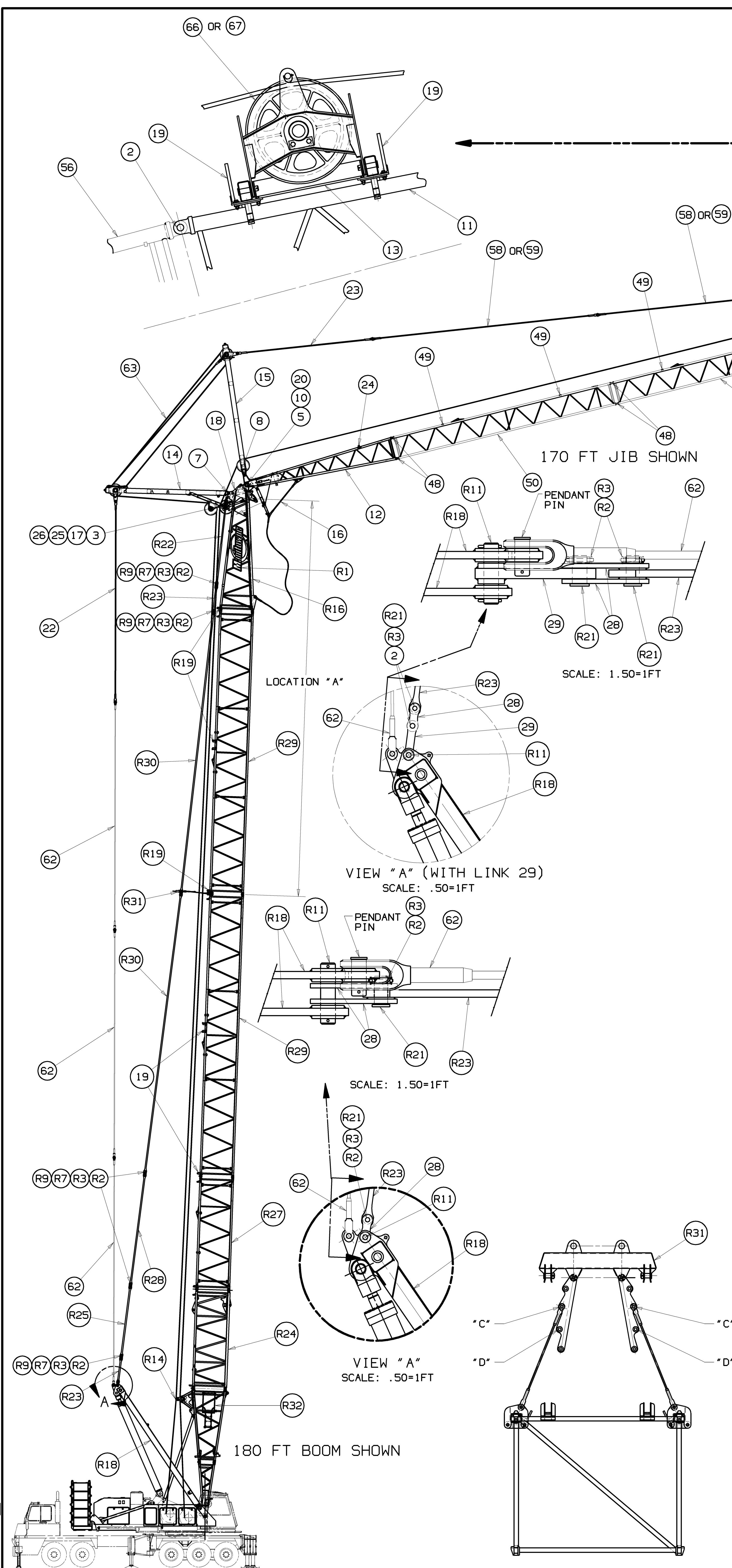




REQUIRED FOR VARIOUS JIB LENGTHS									
ITEM NO.		38	44	50 OR 56	40 OR 41	46 OR 47	58 OR 59	37, 43 49 OR 55	2, 36, 42 48 OR 54
JIB LENGTHS		10 FT 3.05 M INSERT	20 FT 6.10 M INSERT	40 FT 12.19 M INSERT	10 FT-1.00 (3.07M) OR 10 FT-0.00 (3.05M) PENDANT	20 FT-1.50 (6.13M) OR 20 FT-0.00 (6.09M) PENDANT	40 FT-3.00 (12.27M) OR 40 FT-0.00 (12.19M) PENDANT	WIRE ROPE TIMBERS	BOOM JOINT PIN
FEET	METERS								
70	21.3	0	1	0	0	2	0	1	8
80	24.4	1	1	0	2	2	0	2	12
90	27.4	OR 0 0	2 0	0 1	0 0	4 0	0 2	2 2	12 8
100	30.5	OR 1 1	2 0	0 1	2 2	4 0	0 2	3 3	16 12
110	33.5	0	1	1	0	2	2	3	12
120	36.6	1	1	1	2	2	2	4	16
130	39.6	OR 0 0	2 0	1 2	0 0	4 0	2 4	4 4	16 12
140	42.7	OR 1 1	2 0	1 2	2 2	4 0	2 4	5 5	20 16
150	45.7	0	1	2	0	2	4	5	16
160	48.8	1	1	2	2	2	4	6	20
170	51.8	OR 0 0	2 0	2 3	0 0	4 0	4 6	6 6	20 16

REQUIRED FOR VARIOUS BOOM LENGTHS (REFERENCE)													REQUIRED FOR VARIOUS JIB BACKSTAYS			
ITEM NO.		R33	R27 OR R35	R29 OR R36	R34	R28	R30	28	29	R19	R31			60	61	62
BOOM LENGTH 		10 FT 3.05 M INSERT	20 FT 6.10 M INSERT	50 FT 15.24 M INSERT	9 FT 5.00 2.87 M STRAP	19 FT 5.00 5.92 M STRAP	49 FT 5.00 15.06 M STRAP	9.00 LINK	1 FT 3.00 LINK	TIMBER (PERMA POLY)	INTERMEDIATE SUSPENSION ASSEMBLY			10 FT 0.00 3.05 M PENDANT	20 FT 1.50 6.13 M PENDANT	40 FT 3.00 12.27 M PENDANT
											LOCATION "A"		POSITION "B" OR			
	FEET	METERS										FEET	METERS			
60	18.3	0	0	0	0	0	0	4	2	0	-	-	-	0	0	0
70	21.3	1	0	0	2	0	0	4	2	0	-	-	-	2	0	0
80	24.4	OR 2 0	0 1	0 0	4 0	0 2	0 0	4 0	0 1	0 1	-	-	-	4 0	0 2	0 0
90	27.4	1	1	0	2	2	0	4	0	1	-	-	-	2	2	0
100	30.5	OR 2 0	1 2	0 0	4 0	2 4	0 0	4 0	0 2	1 2	-	-	-	0 0	4 0	0 2
110	33.5	OR 1 0	2 0	0 1	2 0	4 0	0 2	4 0	0 2	2 2	-	-	-	2 2	4 0	0 2
120	36.6	OR 1 2	0 2	1 0	2 4	0 4	2 0	4 0	0 2	2 2	-	-	-	4 0	0 2	2 2
130	39.6	OR 2 0	0 1	1 1	4 0	0 2	2 2	4 0	0 3	2 3	-	-	-	2	2	2
140	42.7	1	1	1	2	2	2	4	0	3	-	-	-	0 0	4 0	2 4
150	45.7	OR 2 0	1 2	1 1	4 0	2 4	2 2	4 0	0 4	3 4	70 21.3	D D	D	2 2	4 0	2 4
160	48.8	OR 1 0	2 0	1 2	2 0	4 0	2 4	4 0	0 4	4 70	70 21.3	D D	D	4 0	0 2	4 4
170	51.8	OR 1 2	0 2	2 1	2 4	0 4	4 2	4 0	0 4	4 70	70 21.3	C C	C	2	2	4
180	54.9	OR 2 0	0 1	2 2	4 0	0 2	4 4	4 0	0 5	4 70	70 21.3	C C	C	0 0	4 0	4 6

BILL OF MATERIAL				
ITEM NO.	DESCRIPTION	QUANTITY	UNIT	REMARKS
1410-4160	1.00 DIA. WIRE ROPE ON LUFFING JIB HOIST (REAR DRUM)			
631	1.00 X 600 FT WIRE ROPE 6X25 FW EIPS	719060	15	
64				

OPTIONAL JIB PARTS ASSEMBLY LIST

651	UNIV. WIRE ROPE ANCHOR JOINT ASSEM.	92046	
661	W.R.GUIDE SINGLE SHEAVE BRACKET ASSEM	179380	
671	W.R.GUIDE DOUBLE SHEAVE BRACKET ASSEM	179381	

REFERENCE BOOM PARTS LIST

R1	BOOM SIGN	A02735
R2	PIN	179959
R3	COLLAR	179862
R4		
R5	COLLAR	192878
R6	LINK	192377
R7	LINK	192284
R8	PIN	192879
R9	PIN	179863
R10	PIN	192877
R11	PIN	192869
R12	LINK	194243
R13	DRUM SHAFT ASS'Y - AUX.	179491
R14	WIRE ROPE GUIDE ASSEMBLY	195403
R15	BOOM POINT ASSEMBLY (LOWER)	192303
R16	BOOM TOP (20.0 FT) (6.1M)	179545
R17	PIN	78292
R18	MAST ASSEMBLY	192746
R19	TIMBER (PERMA POLY)	192330
R20	LINK	194242
R21	PIN	192871
R22	STRAP	192296
R23	STRAP	192345
R24	INSERT (17.50 FT) (5.33M)	192171
R25	STRAP	192385
R26	WIRE ROPE GUIDE ASSEMBLY	192738
R27	INSERT 20 FT (6.01M) W/JIB BACKSTAY	192337
R28	STRAP	192294
R29	INSERT 50 FT (15.24M) W/JIB BACKSTAY	192073
R30	STRAP	192295
R31	INTERMEDIATE SUSPENSION ASSEMBLY	193712
R32	BOOM ASSEMBLY SADDLE STORAGE	179678
R33	INSERT 10 FT (3.05M)	192335
R34	STRAP	192293
R35	INSERT 20 FT (6.01M) W/O JIB BACKSTAY	192336
R36	INSERT 50 FT (15.24M) W/O JIB BACKSTAY	192072
R37	SHEAVE	176712
R38	WIRE ROPE GUARD	193284
R39	PIN	172277
R40	SHAFT	192173

BILL OF MATERIAL				
ITEM NO.	DESCRIPTION	QUANTITY	UNIT	REMARKS
1410-4000	BASIC JIB FOR 70 FT. (21.3M)			(SEE TABLE OF COMPONENTS FOR VARIOUS JIB LENGTHS)
F 1	2 BOOM SIGN	A02743		
2	4 BOOM JOINT PIN	70366		
3	2 KEEPER PLATE	75107		
4	2 PIN	137919	8	
5	2 KEEPER PLATE	169810		
6				
7	2 PIN	170681		
8	2 PIN	176155		
9	1 JIB POINT ROLLER ASSEMBLY - 2 SHEAVE	177448		
10	2 PIN	177479		
11	TOP (23 FT-0.00)	177560		
12	BUTT (27 FT-0.00)	179287		
13	WIRE ROPE GUIDE FRAME ASSEMBLY	179379		
14	MAIN STRUT ASSEMBLY	179423		
15	JIB STRUT ASSEMBLY	179582		
16	JIB STOP ASSEMBLY	179585	16	
17	PIN	179648		
18	JIB STOP (AUTO) AND JIB ANGLE INDICATOR ASSEM	179664		
19	BRACKET	192299	17	
20	BAR -.50 X 1.00 X 6.00 LG	221009		
21				
22	PENDANT 35 FT - 5.50 (10.80M)	277462	7	
23	PENDANT 24 FT - 0.00 (7.32M)	277463	6	
24	PIN	563636		
25	.38-16UNC-2A X 1.00 LG HEX HD SCR	612454		
26	.38 LOCKWASHER	710304		
27				
28	LINK (9.00 IN.)	194242		
29	LINK (15.00 IN.)	194243	16	
30				
31				
32				
33				

8	2	PIN	176155
9	1	JIB POINT ROLLER ASSEMBLY - 2 SHEAVE	177448
10	2	PIN	177479
11	1	TOP (23 FT-0.00)	177560
12	1	BUTT (27 FT-0.00)	179287
13	1	WIRE ROPE GUIDE FRAME ASSEMBLY	179379

REEVING PROCEDURE (SEE STEP 1)

1. MOUNT AND PIN JIB STRUT ASSEMBLY (ITEM 15) TO JIB BUTT (ITEM 12). PIN JIB STRUT TO JIB BUTT WITH PIN (ITEM 24).
2. MOUNT AND PIN MAIN STRUT (ITEM 14) TO BOOM TOP WITH PIN (ITEM 7). PIN (LINK "B") FROM MAIN STRUT TO JIB STRUT.
3. REMOVE (PIN "A") AND ATTACH WIRE ROPE GUIDE TO BOOM TOP WITH (ITEMS 3,17,25 AND 26).
4. REMOVE ROPE GUARD IN BOOM POINT ASSEMBLY.
5. REEVE RIGGING AS SHOWN IN REEVING DIAGRAM.

MAIN STRUT ERECTION PROCEDURE
(SEE STEP 2)

DANGER: DO NOT STAND UNDER MAIN STRUT DURING ERECTION.

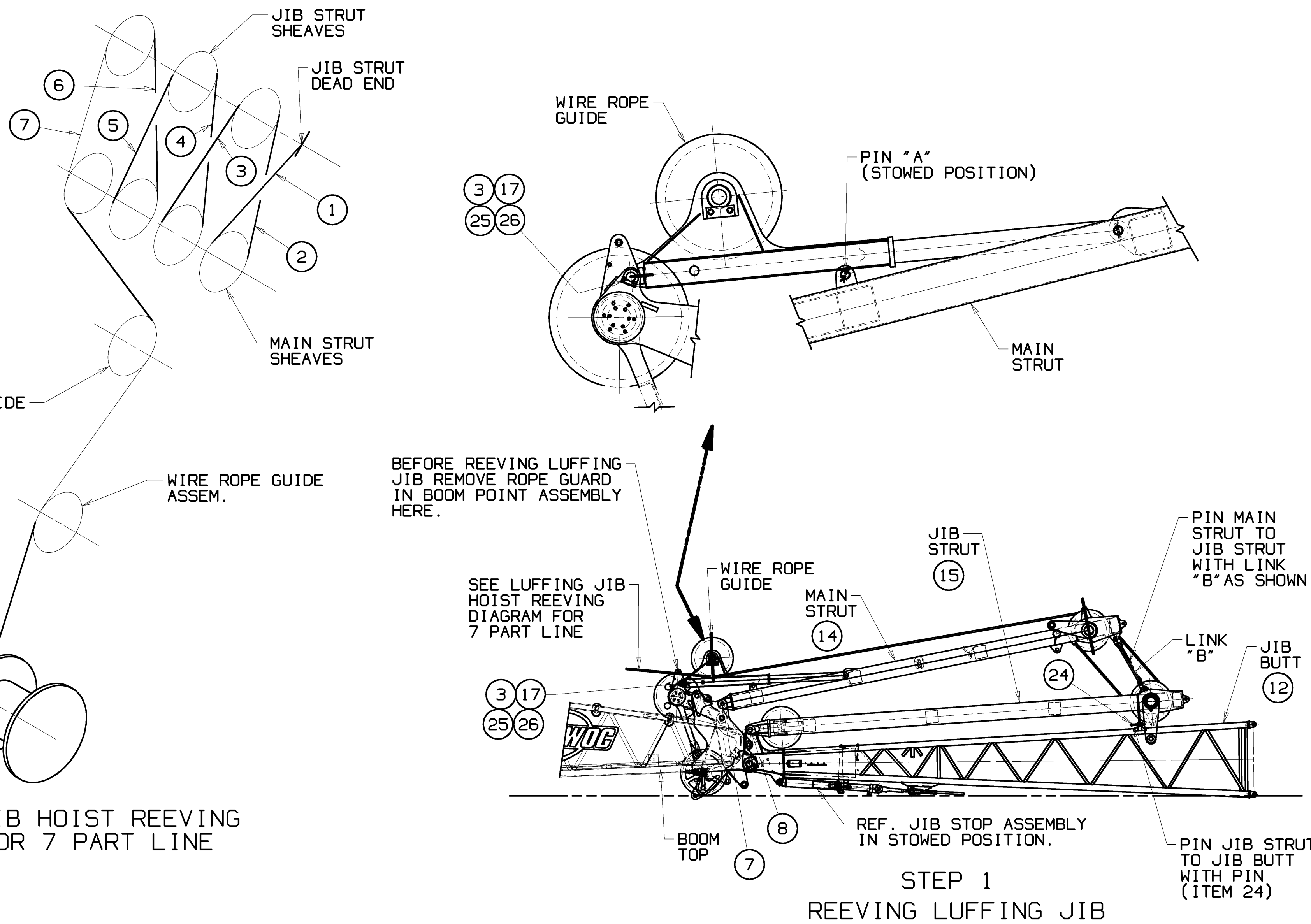
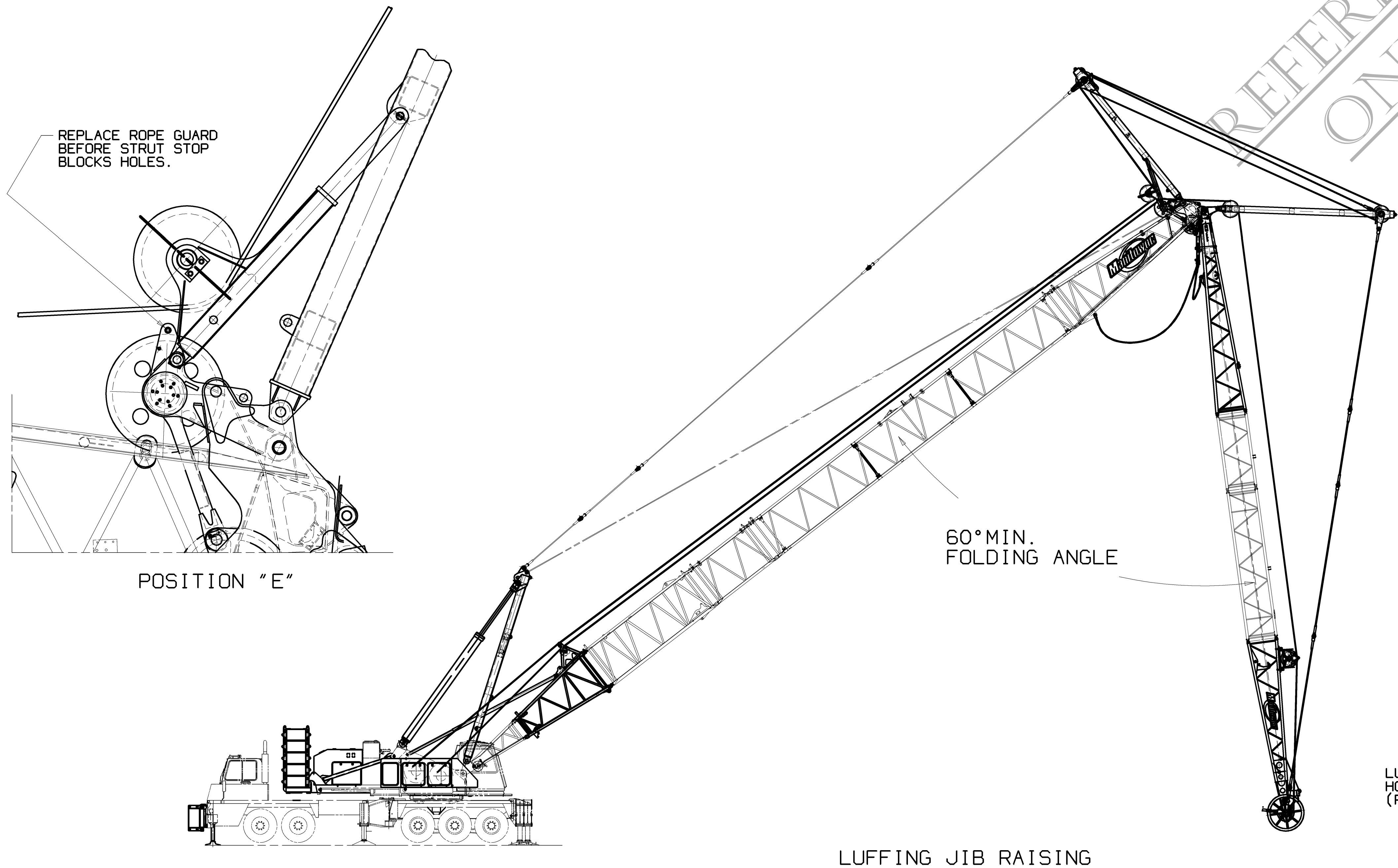
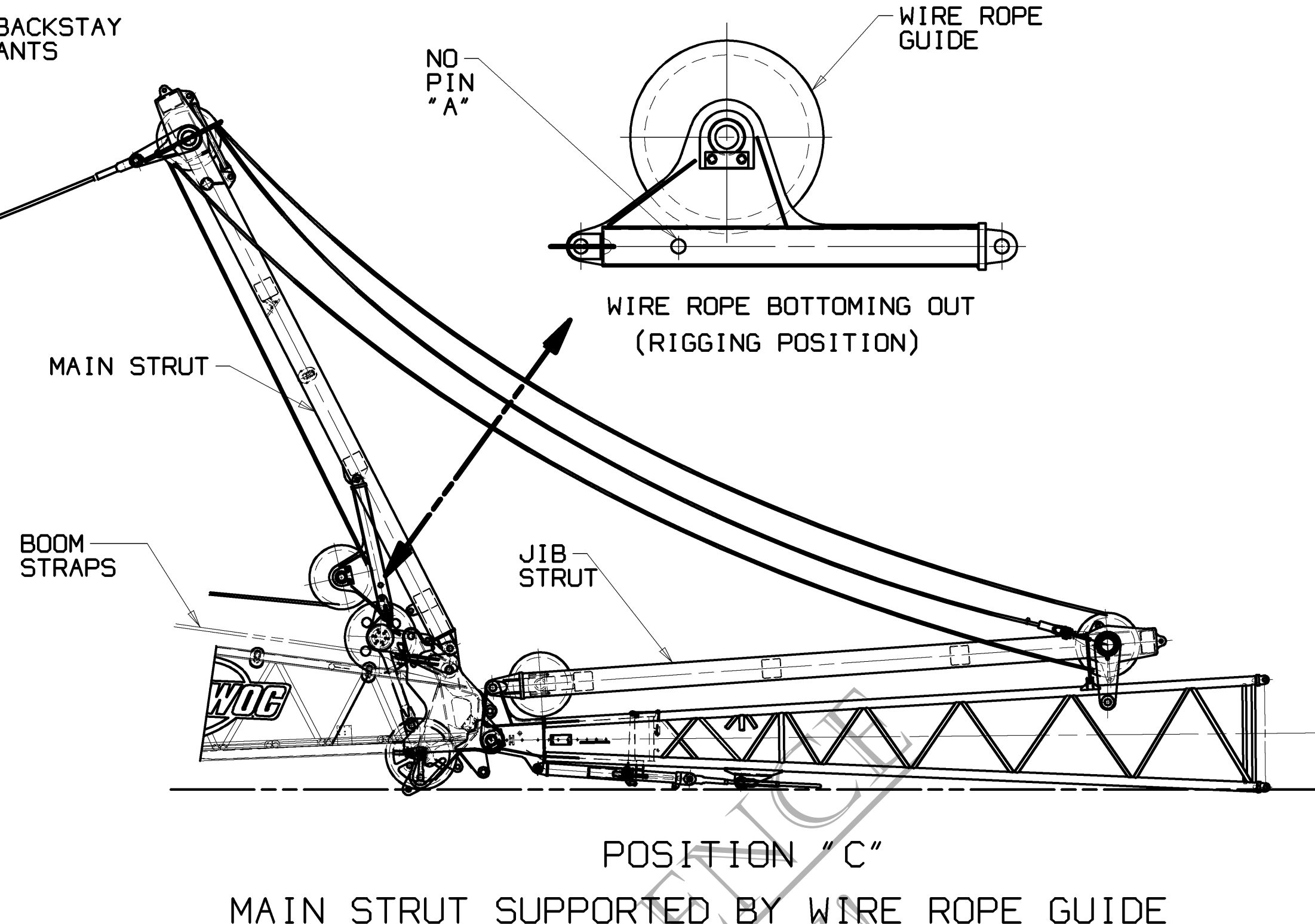
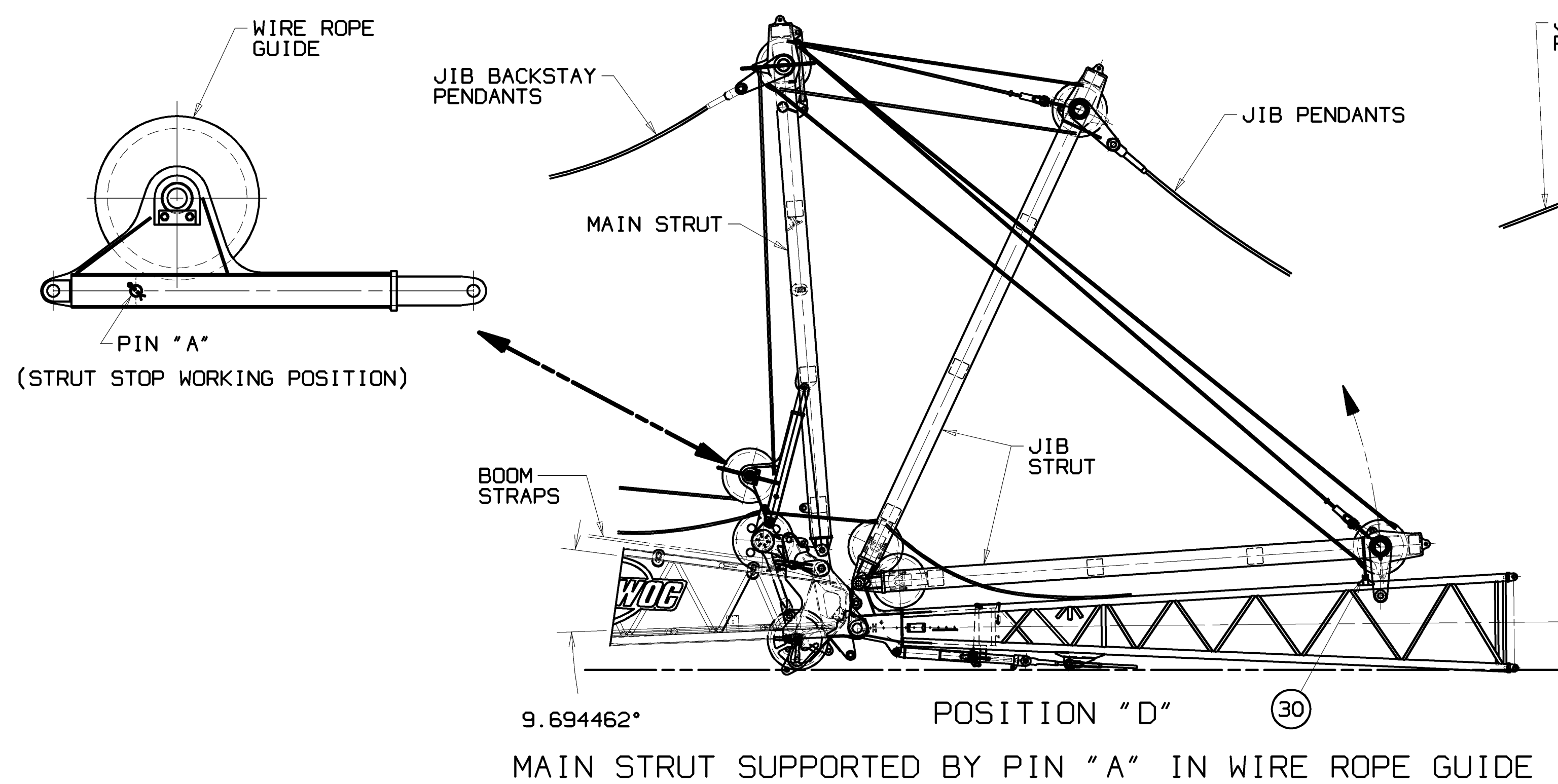
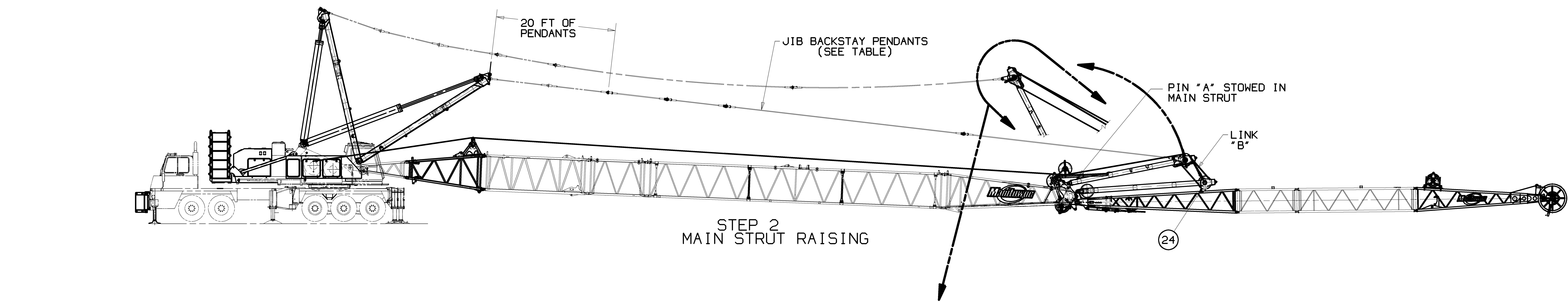
1. PIN (ITEM 24) AND (LINK "B") MUST BE IN PLACE.
2. ATTACH JIB BACKSTAY PENDANTS AS REQUIRED PER BOOM LENGTH. (SEE TABLE) ADD 20 FT. OF PENDANTS. LOWER MAST AND PIN.
3. RAISE MAST TO SUPPORT MAIN STRUT THEN UNPIN AND STOW (LINK "B").
4. (PIN "A") MUST BE IN STOWED POSITION IN MAIN STRUT.
5. RAISE MAST AND AT SAME TIME PAY OUT LUFFING HOIST RIGGING LINE. JIB HOIST RIGGING MUST HOLD BACK MAIN STRUT FROM FALLING FORWARD AFTER MAIN STRUT REACHES VERTICAL.
6. REPLACE ROPE GUARD IN BOOM POINT ASSEMBLY BEFORE STRUT STOP REACHES VERTICAL. (SEE POSITION "E").
7. WHEN MAIN STRUT GOES OVER CENTER, STOP RAISING MAST AND USE LUFFING HOIST RIGGING TO LOWER UNTIL TELESCOPING WIRE ROPE GUIDE BOTTOMS OUT AS SHOWN IN (POSITION "C").
8. INSTALL JIB BACKSTAY PENDANTS AND BOOM STRAPS (SEE TABLES).
9. RAISE MAST TO CLEAR LUFFING JIB HOIST LINE.
10. USING LUFFING HOIST RIGGING, MOVE MAIN STRUT FORWARD TO TO A POINT WHEN (PIN "A") CAN BE INSERTED INTO WIRE ROPE GUIDE FOR STRUT STOP WORKING POSITION.
11. SUPPORT MAIN STRUT WITH (PIN "A") AND REMOVE PIN (ITEM 24). (SEE POSITION "D")
INSTALL JIB PENDANTS (SEE TABLE)

REVISIONS
10-12-99 JJJ
ITEM NO. 8.
CORRECTED
10-31-07 TMB
VIEWS UPDATED

ENG. NO.
194151
SHT 2 OF 3

PRIVATE LABELING
REQUIREMENT TO
CONFORM TO
ENGINEERING
SPECIFICATION
6829103794 FOR
COMPONENTS LISTED
IN 6829103794-05-025
DATE
6-22-99
PATTERN NO.

ENG. NO.
194151
SHT 2 OF 3



TOLERANCE UNLESS OTHERWISE SPECIFIED				MATERIAL		MANUFACTURING		DRAWING		REVISIONS	
DECIMAL PLACES	FRACTIONS	INCHES	MILLIMETERS	ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION
1	16	1/16	1.5	1	1.5	1	1.5	1	1.5	1	1.5
2	64	1/64	0.15	2	0.15	2	0.15	2	0.15	2	0.15
3	1000	1/1000	0.015	3	0.015	3	0.015	3	0.015	3	0.015
4	65536	1/65536	0.0015	4	0.0015	4	0.0015	4	0.0015	4	0.0015
5	1048576	1/1048576	0.00015	5	0.00015	5	0.00015	5	0.00015	5	0.00015

BOOM ASSEMBLY PROCEDURE

1. ATTACH 17.5' INSERT TO BOOM BUTT. ATTACH RIGGING PENDANTS TO LUGS ON 17.5' INSERT.
2. ASSEMBLE TOP AND INSERTS. (SEE TABLE SHEET 1)
3. ATTACH STRAPS, INTERMEDIATE SUSPENSION, LINKS AND PINS AS REQ'D.
4. POSITION MACHINE TO ALIGN UPPER FACT PIN CONNECTOR HOLES ON 17.5' INSERT WITH UPPER PIN CONNECTOR HOLES ON TOP OR BOOM INSERT.
5. ENGAGE UPPER FACT PINS. CONTINUE BOOMING UP SLOWLY TO ALIGN LOWER PIN CONNECTOR HOLES ON 17.5' INSERT WITH LOWER PIN CONNECTOR HOLES IN TOP OR BOOM INSERT AND INSTALL PINS.

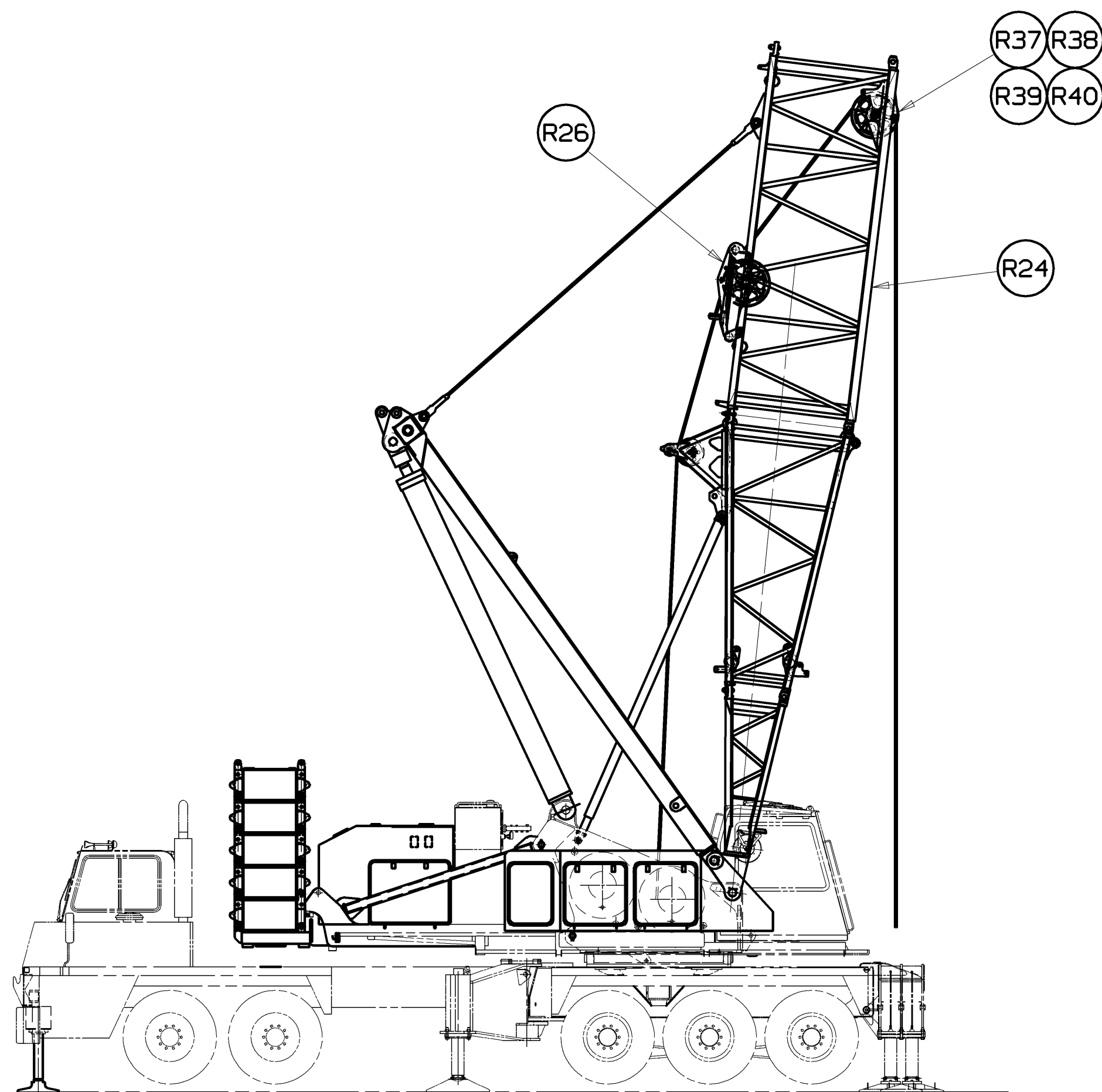
WARNING: DO NOT BOOM UP AFTER LOWER FACT CONNECTORS MAKE CONTACT. IF BOOMING UP CONTINUES AFTER CONNECTORS BOTTOM OUT OR AFTER PINS ARE INSERTED, DAMAGE TO BOOM WILL OCCUR.

6. BOOM DOWN TO DISCONNECT RIGGING PENDANT FROM 17.5' INSERT AND STOW.
7. ATTACH BOOM STRAPS TO MAST LINK.
8. SEE INTERMEDIATE SUSPENSION DIAGRAM ON SHEET 1 FOR 180 FT BOOM
9. BOOM UP TO DESIRED BOOM ANGLE.

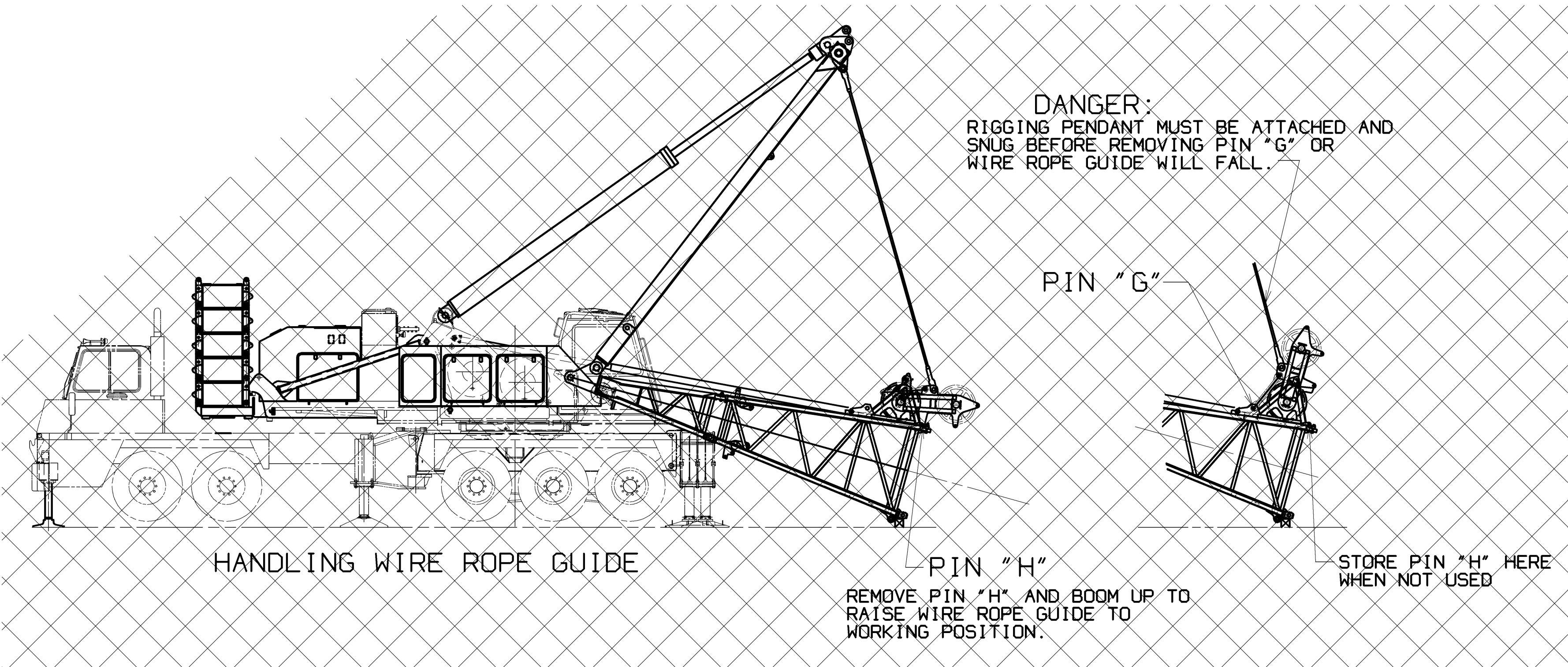
TO DISASSEMBLE BOOM

1. BOOM DOWN AND SUPPORT BOOM ON BLOCKING.
 2. DISCONNECT BOOM STRAPS FROM MAST LINKS.
 3. CONNECT RIGGING PENDANTS TO LUGS ON 17.5' INSERT.
 4. BOOM UP SLOWLY TO SUPPORT WEIGHT OF BOOM WITH RIGGING PENDANTS.
- WARNING: BOOMING UP TO SUPPORT FULL WEIGHT OF BOOM WILL DAMAGE BOOM.
5. REMOVE LOWER PIN CONNECTING 17.5' INSERT TO TOP OR INSERT.
- WARNING: BOOM MUST BE PROPERLY BLOCKED TO PREVENT SHIFTING DURING PIN REMOVAL.
6. SLOWLY BOOM DOWN TO DISENGAGE UPPER FACT CONNECTOR PINS AND BACK AWAY.

REVISED	BY	DATE	REVISIONS
3-17-99	JJJ		VIEW ADDED
10-12-99	JJJ		VIEW ADDED
10-3-00	JCC		VIEW ADDED
10-31-07	TMB		VIEW ADDED



RIGGED FOR COMPONENT HANDLING

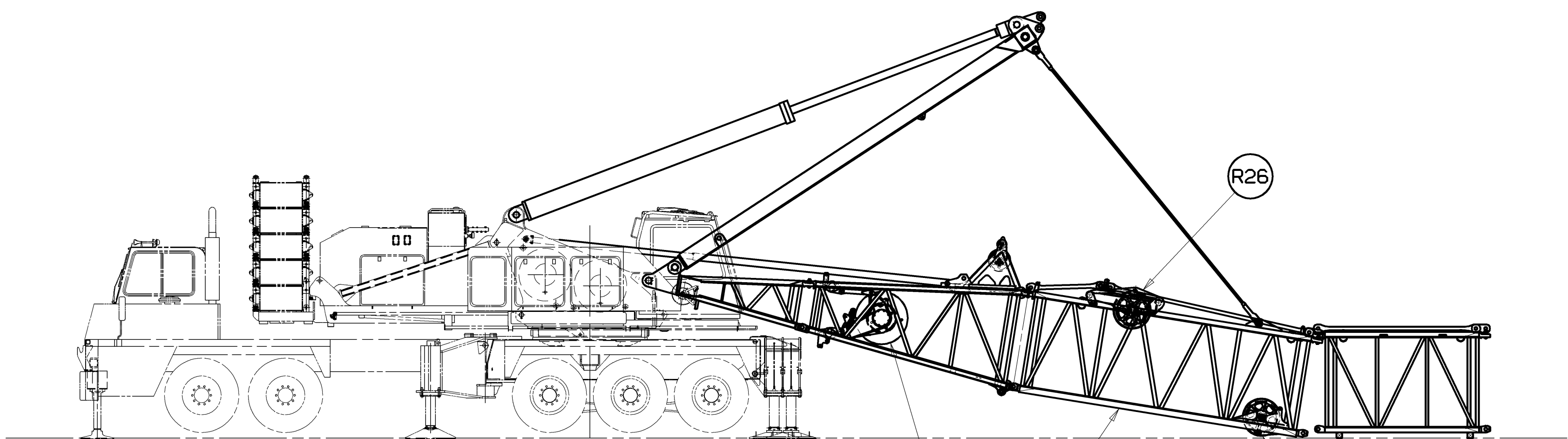


HANDLING WIRE ROPE GUIDE

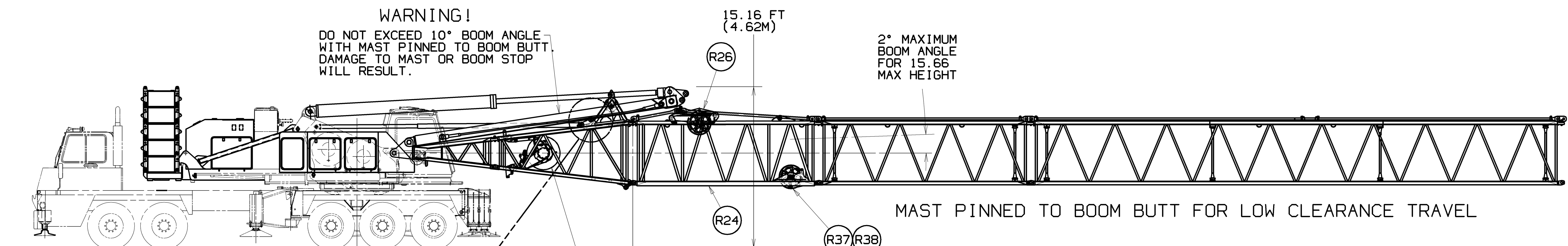
PIN "G"

PIN "H"
REMOVE PIN "H" AND BOOM UP TO
RAISE WIRE ROPE GUIDE TO
WORKING POSITION.

STORE PIN "H" HERE
WHEN NOT USED

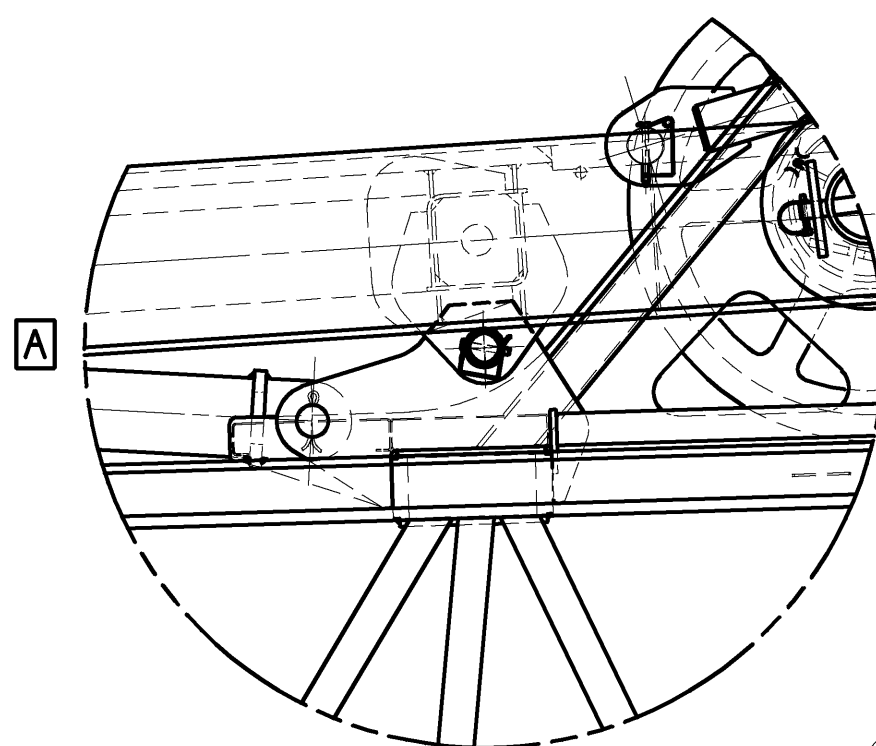


boom assembly with mast



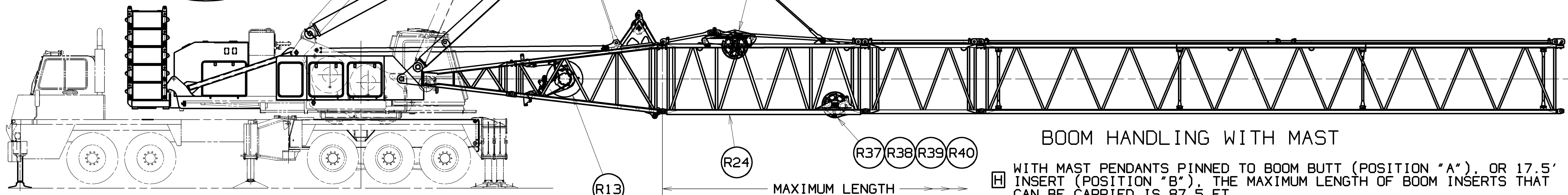
MAST PINNED TO BOOM BUTT FOR LOW CLEARANCE TRAVEL

MAST PINNED TO BOOM BUTT FOR LOW CLEARANCE TRAVEL:
MAXIMUM BOOM THAT CAN BE CANTILEVERED FROM
17.5' INSERT IS 87.5 FT OF INSERTS.



POSITION "A"

POSITION "B"



BOOM HANDLING WITH MAST

WITH MAST PENDANTS PINNED TO BOOM BUTT (POSITION "A"), OR 17.5' INSERT (POSITION "B"), THE MAXIMUM LENGTH OF BOOM INSERTS THAT CAN BE CARRIED IS 87.5 FT.

1. MAXIMUM NO. OF 10 FT (3.05 M) INSERTS = 2
2. MAXIMUM NO. OF 20 FT (6.10 M) INSERTS = 2
3. STARTING WITH THE BOOM BUTT, INSERTS AND PENDANTS MUST BE INSTALLED IN ORDER OF ASCENDING LENGTH.
4. STARTING WITH THE JIB BUTT, INSERTS AND PENDANTS MUST BE INSTALLED IN ORDER OF ASCENDING LENGTH.
5. DWG. 76280
6. DWG. 78145 SEE 14
7. DWG. 140773
8. INSTALL WITH HEAD OF PIN TO THE INSIDE.
9. WHEN (R24) INSERT 17.50FT. (5.33M) IS USED, WIRE ROPE GUIDE ASS'Y (R26) AND SHEAVE, WIRE ROPE GUARD, PINS & SHAFT (R37, R38, R39 & R40) ARE ALSO REQUIRED. 17.50FT. INSERT MUST BE ASSEMBLED ADJACENT TO THE BOOM BUTT AT ALL TIMES.
10. WHEN DRUM SHAFT ASS'Y - AUX. (R13) IS USED, (R24) INSERT 17.50FT. (5.33M) IS ALSO REQ'D.
11. THE FOLLOWING ITEMS MUST BE REMOVED WHEN USING 170FT. OR 180FT. OF BOOM:
(R13) DRUM SHAFT ASS'Y - AUX.
(R15) BOOM POINT ASS'Y (LOWER) 6-30.00 DIA. SHEAVES.
(R26) WIRE ROPE GUIDE ASS'Y.
(R37, R38, R39 & R40) SHEAVE, WIRE ROPE GUARD, PINS AND SHAFT.
12. REFER TO SPECIFIC CAPACITY CHART FOR APPROPRIATE BOOM AND JIB COMBINATIONS.
13. REFER TO LUFFING JIB RAISING PROCEDURE FOR RAISING AND LOWERING BOOM AND JIB.
14. DO NOT MIX PENDANTS OF DIFFERENT LENGTHS. PENDANTS MUST BE INSTALLED IN MATCHED SETS (PENDANTS ON ONE SIDE OF JIB MUST MATCH LENGTH OF PENDANTS ON OTHER SIDE OF JIB) FAILING TO OBSERVE THIS PRECAUTION WILL CAUSE JIB TO TWIST EXCESSIVELY.
15. WIRE ROPE - 1.00 INCH X 600 FT. 6 X 25 FILLER WIRE, EXTRA IMPROVED PLOW STEEL, RIGHT REGULAR LAY, 1WRC, MIN. BREAKING STRENGTH 103,400 LBS. FOR USE ON LUFFING JIB HOIST (REAR DRUM).
16. SEE JIB STOP ASSY ITEM 16 FOR INSTALLATION.
17. REMOVE (8) 1.50 LG. CAPSCREWS CALLED FOR ON W.R. GUIDE FRAME ASS'Y (ITEM 13) AND REPLACE WITH 2.00 LG. CAPSCREWS CALLED FOR ON BRACKETS (ITEM 19). APPLY TO THREADS, LOCTITE #271 (MCC CODE NO. 622292) AND TORQUE TO 53 FT.LBS.
18. LINKS (ITEM 29) ARE ONLY REQUIRED WITH BOOM LENGTHS OF 60FT. AND 70FT.

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