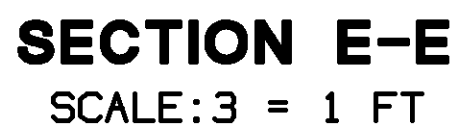


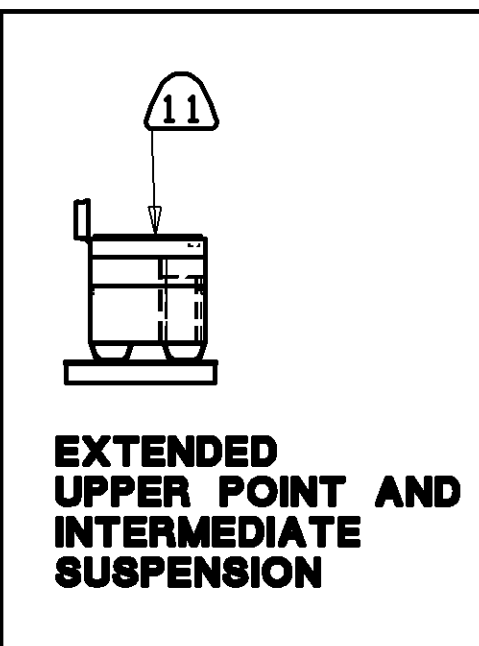
ITEM NO.		111	112	110	102	109	103	104	108	101	105	107	106	100	114
BOOM LENGTH		INSERT 3 M (9.8 FT) ASSY	STRAP 3 M (9.8 FT)	INSERT 6 M (19.7 FT) ASSY	STRAP 6 M (19.7 FT)	INSERT 12 M (39.4 FT) ASSY	STRAP 12 M (39.4 FT)	LINK	PIN	PIN SAFETY	PIN	COLLAR	PIN	PIN COTTER	INTER- MEDIATE SUSPENSION 
METERS	FEET														
44	144.4	0	0	1	2	1	4	12	8	10	16	16	16	48	0
47	154.2	1	2	1	2	1	4	16	10	12	20	20	20	56	0
50	164.0	0	0	0	0	2	6	12	8	10	16	16	16	48	0
53	173.9	1	2	0	0	2	6	16	10	12	20	20	20	56	0
56	183.7	0	0	1	2	2	6	16	10	12	20	20	20	56	0
59	193.6	1	2	1	2	2	6	20	12	14	24	24	24	64	0
62	203.4	0	0	0	0	3	8	20	14	16	20	20	20	56	0
65	213.3	1	2	0	0	3	8	20	12	14	24	24	24	64	0
68	223.1	0	0	1	2	3	8	20	12	14	24	24	24	64	0
71	232.9	1	2	1	2	3	8	24	14	16	28	28	28	72	1
74	242.8	0	0	0	0	4	10	20	12	14	24	24	24	64	1
77	252.6	1	2	0	0	4	10	24	14	16	28	28	28	72	1
80	262.5	0	0	1	2	4	10	24	14	16	28	28	28	72	1
83	272.3	1	2	1	2	4	10	28	16	18	32	32	32	80	1
86	282.2	0	0	0	0	5	12	24	14	16	28	28	28	72	1
89	292.0	1	2	0	0	5	12	28	16	18	32	32	32	80	1
92	301.8	0	0	1	2	5	12	28	16	18	32	32	32	80	1



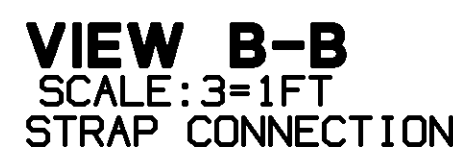
1. CENTER BOOM BUTT ON ROTATING BED.
2. INSERT THE THICKEST SHIM POSSIBLE BETWEEN THE BUTT HINGE PLATE AND THE INSIDE ADAPTER FRAME LUGS ON EACH SIDE OF THE MACHINE.
3. INSERT THE NEXT THICKEST SHIM POSSIBLE BETWEEN THE BUTT HINGE PLATE AND THE FIRST SHIM ON EACH SIDE OF THE MACHINE.
4. INSERT THE LAST SHIM IF POSSIBLE BETWEEN THE BUTT HINGE PLATE AND THE PREVIOUS SHIM ON BOTH SIDES OF THE MACHINE.
5. WITH THE SHIM TABS TO THE TOP SIDE RESTING ON THE ADAPTER FRAME HINGE SUPPORT PLATES, THE MAXIMUM BOOM BUTT SIDE PLAY IS TO BE 2mm.
6. ENGAGE BOOM HINGE PIN COMPLETELY.



- (11) ITEM 27 (PARTS BOOM) CONTAINS PARTS OF 250 (UPPER BOOM POINT) 12 (EXTENDED UPPER BOOM POINT) TO BE SHIPPED AS A LOOSE ITEM IN JOB BOX (81007957).
- (12) ITEMS 300, 301 AND 302 ARE TO BE USED FOR THE AUX DRUM OPTION
- (13) BOOM POINT UPPER ASSY A15946 CAN ONLY BE USED WITH 35° OFFSET ANGLE
- (14) INSERT 12M ASSY #58 (HEAVY) A14543 WITH ID TAG A14544 MAY BE USED IN PLACE OF INSERT 12M ASSY #58 (HEAVY) 81011915 AT LOCATION ADJACENT TO TRANSITION INSERT (ITEM 3)
- (15) INSERT ASSY #58 12.00M W/ EQ RAILS 81011592 WITH ID TAG #81011593 OR 81011594 CANNOT BE USED ON THE 71M #58WA BOOM
- (16) INSERT ASSY #58 12.00M W/ EQ RAILS 81011592 WITH ID TAG #81011593 OR 81011594 MAY BE USED IN PLACE OF INSERT ASSY #58 (HEAVY) 81011915 AS FIRST 12M INSERT AFTER 12M INSERT ASSY W/ AUX SHEAVES (ITEM 4)



VIEW SHOWING EXTENDED UPPER BOOM
POINT AT 35° OFFSET



VIEW C-C
SCALE: 1=1FT



NO. REQD. FOR THE FOLLOWING ITEMS ARE IN TABLES

OPTION 1: HOOK BLOCKS

DRG. NO.
81009833
SHT 1 OF 6

OPTION 3: LUFFING JIB PREP 12

JOB BOX REFERENCE ITEMS 11

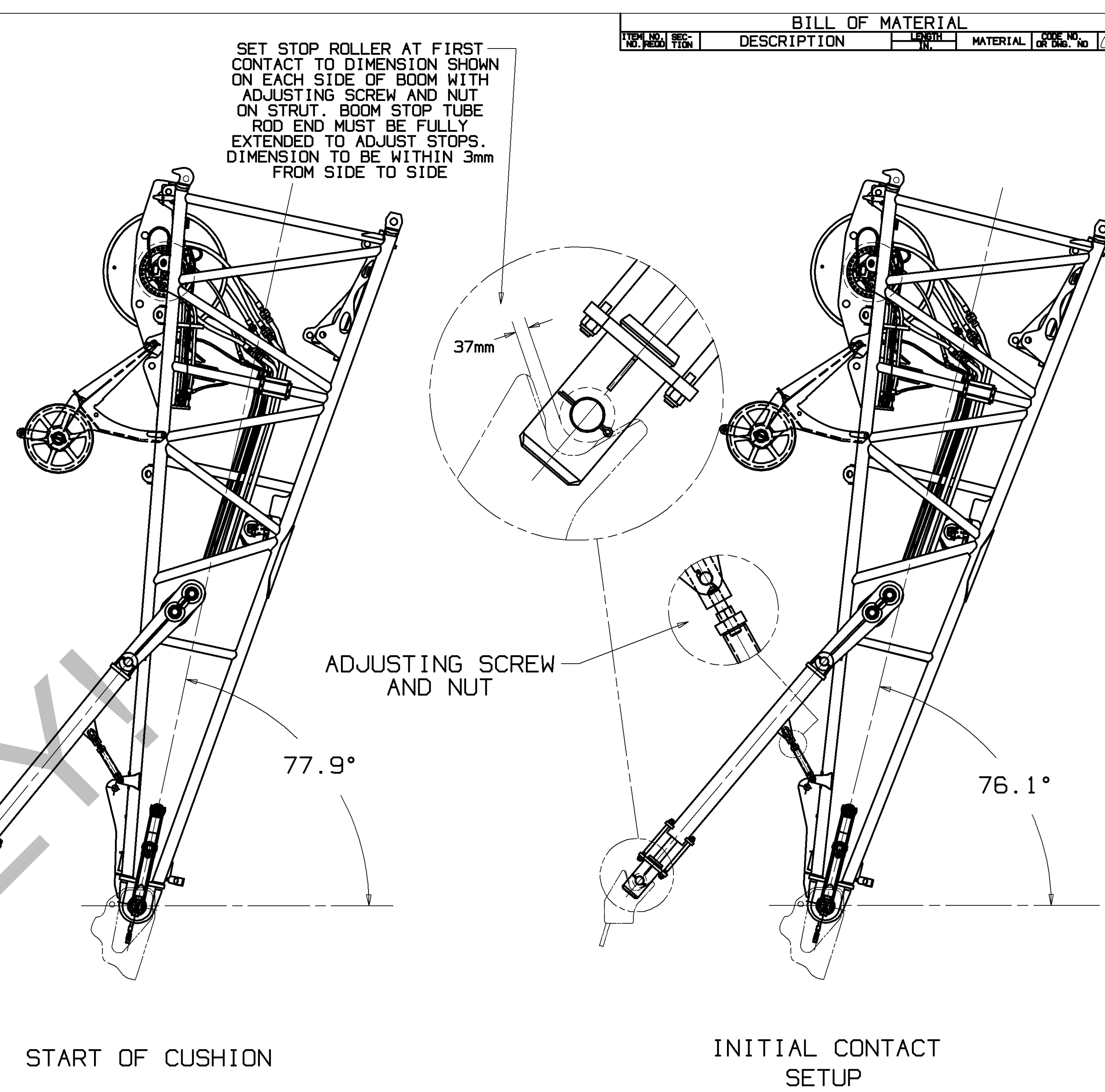
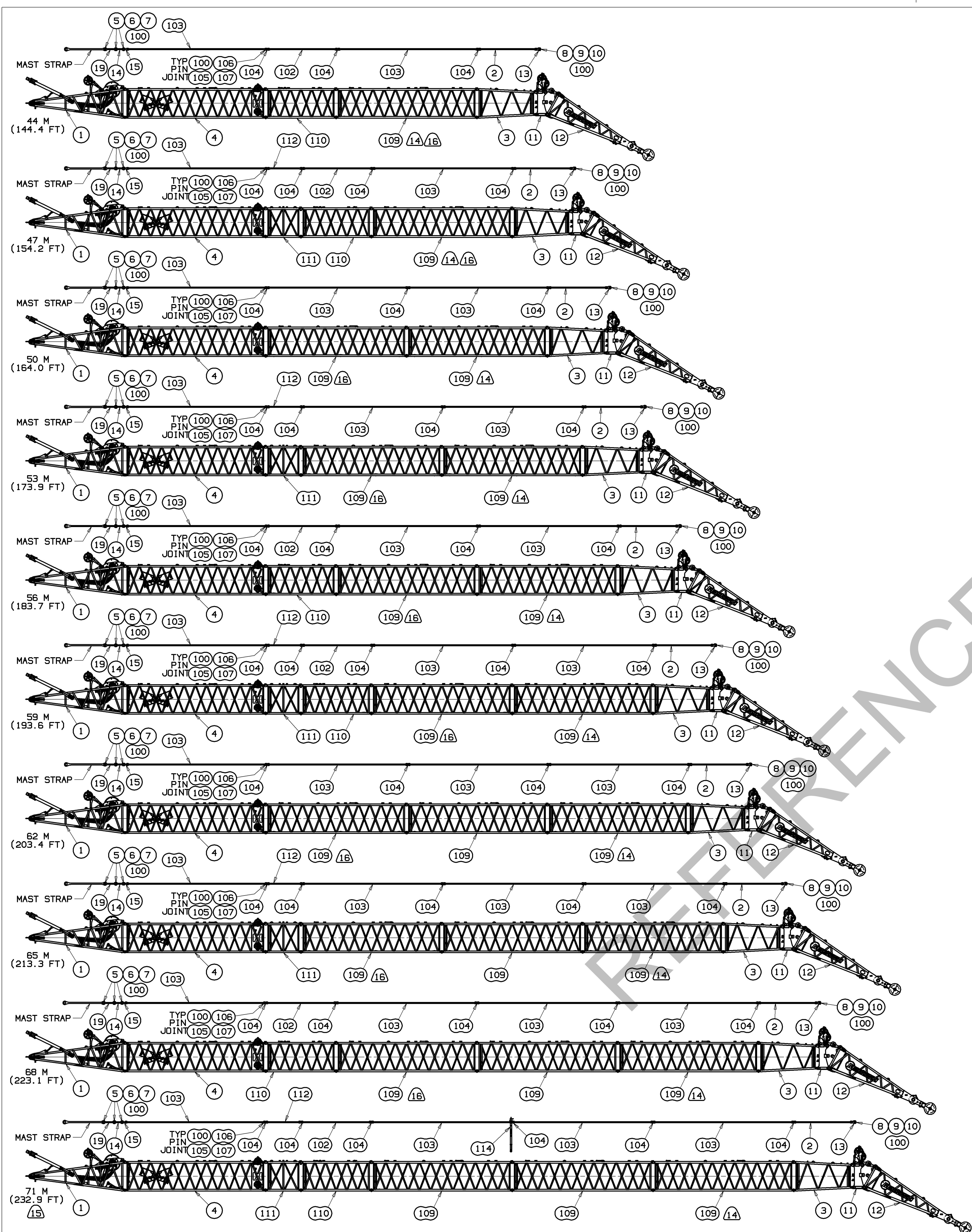
R50	2SHIM .119 (IN) THK	A13178
R51	2SHIM 6MM THK	A15521
R52	2SHIM .059 (IN) THK	A15522

- ① 71 M (232.9 FT) THROUGH 92 M (301.8 FT) BOOM REQUIRES INTERMEDIATE SUSPENSION ITEM 114. (SEE SHT 2 AND 4)
- ② MAXIMUM NUMBER OF 6 METER INSERTS = 1
MAXIMUM NUMBER OF 3 METER INSERTS = 1
- ③ AFTER 12 METER INSERT W/ AUX SHEAVES, INSERT ASSEMBLIES MUST BE INSTALLED IN ASCENDING LENGTH.
- ④ SEE SHEET 2 FOR BOOM MAKEUP
- ⑤ SEE ② AND ③ AND ⑩
- ⑥ SEE ② AND ③ AND ⑩
- ⑦ ALL LUFFING JIB AND BACKSTAY STRAPS, LINKS AND PINS STOWED WITH INSERTS MUST BE REMOVED FOR USE WITH THIS ASSEMBLY
- ⑧ ITEMS 100, 105, 106, AND 107 QUANTITIES INCLUDE ITEMS THAT ARE STOWED WHEN INTERMEDIATE SUSPENSION IS USED (SEE SHT 4)
- ⑨ USE FOR 2 PART LINE ON UPPER BOOM POINT. ALSO USED FOR MACHINE ASSEMBLY WITH 9.75 M (32 FT) LIVE MAST

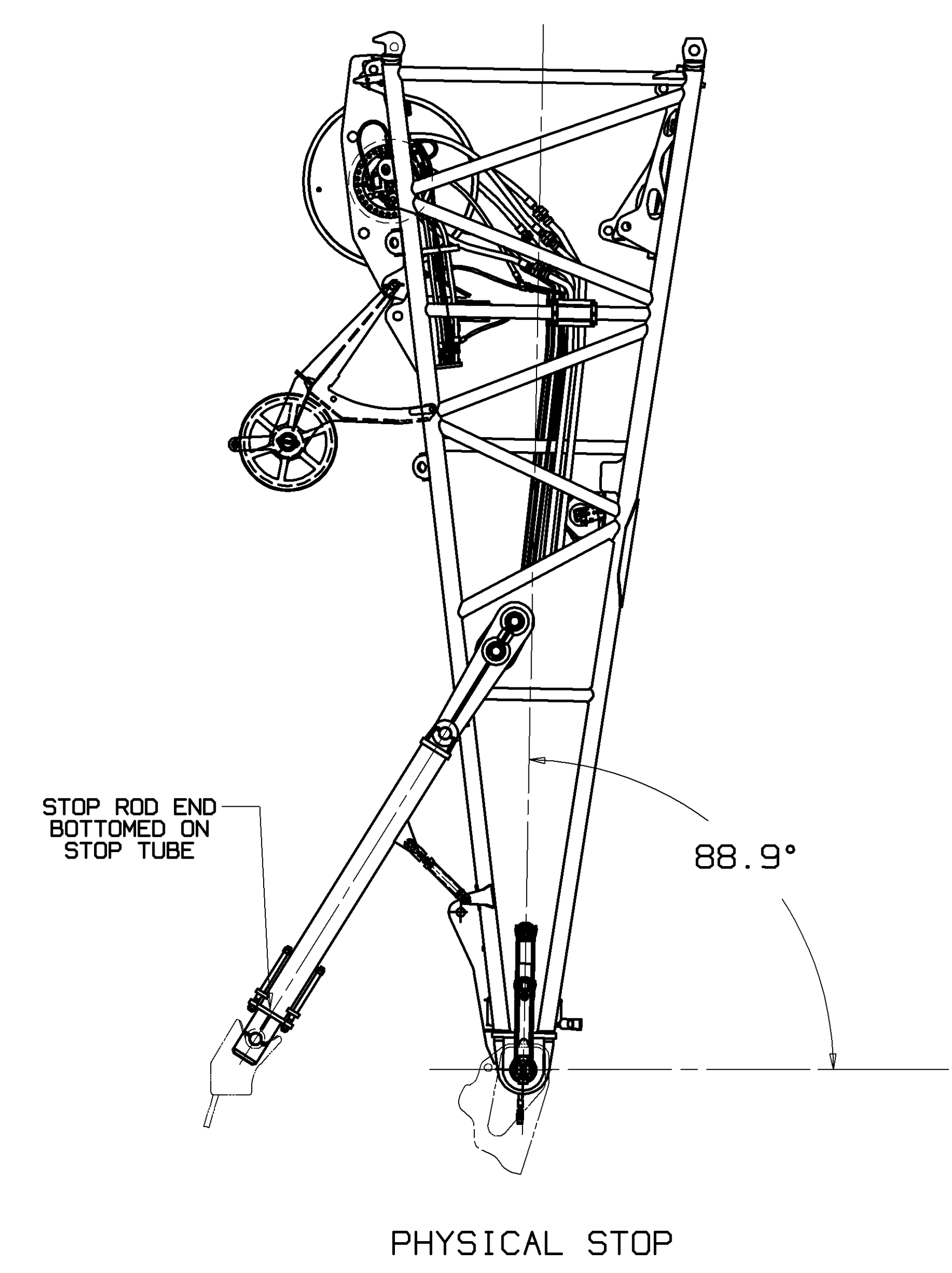
PRIVATE LABELING REQUIREMENT TO CONFORM TO ENGINEERING SPECIFICATION 6829103794 FOR COMPONENTS LISTED IN GDSS00-05-035
DATE 08-14-14
PATTERN NO.
DRG. NO. 81009833

SUPERSEDES 81009833 SHEET 1 OF 04-22-13

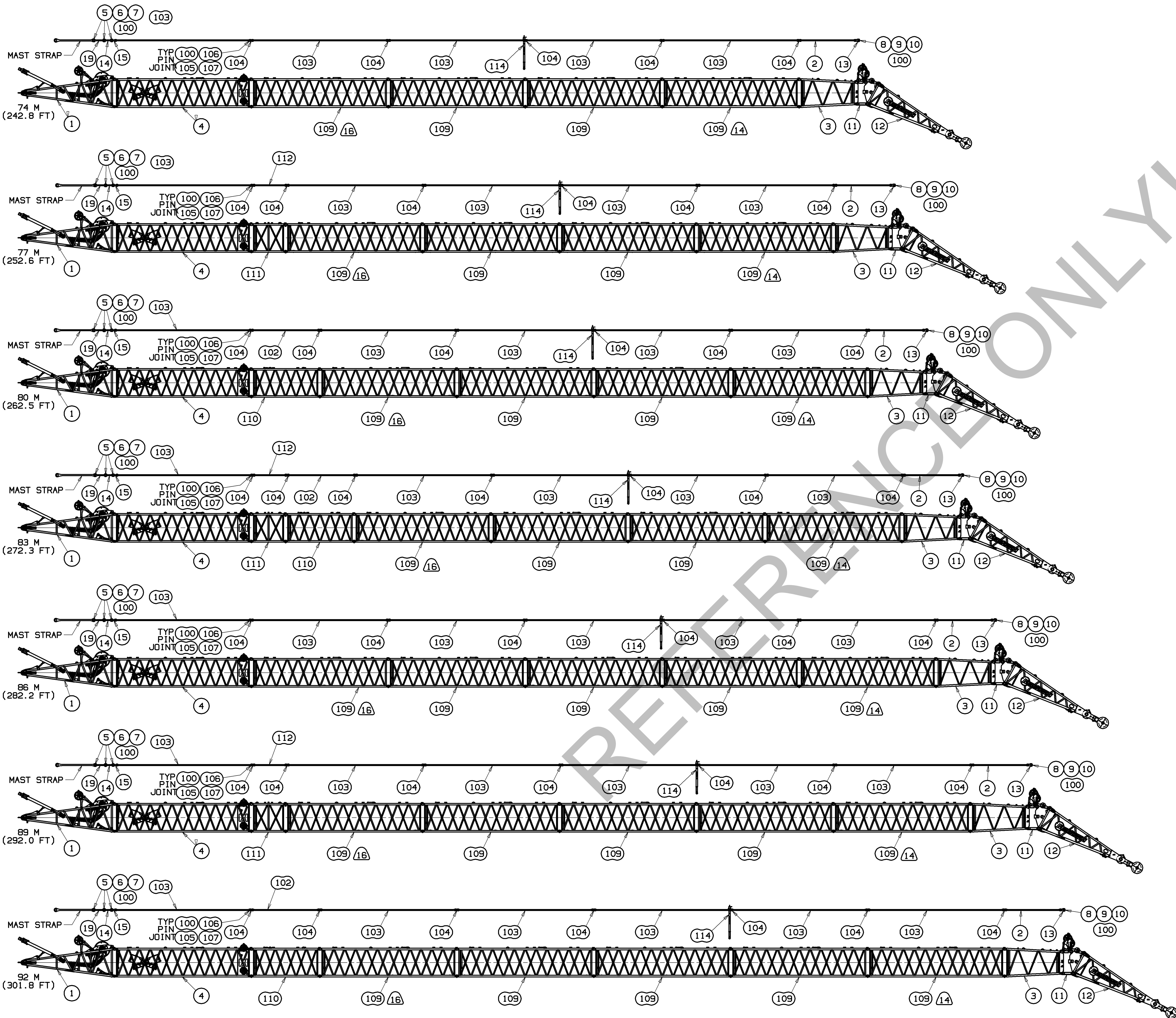
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	DECIMAL PLACES	FABRICATION	MACHINING			
	(1) PLACE 0.0	± 1/16 TO 1/8 FEET	± 0.015			
	(2) PLACE 0.00	± 1/32 TO 1/16 FEET	± 0.010			
	(3) PLACE 0.000	± 1/64 TO 1/32 FEET	± 0.005			



BOOM STOP SETUP AND ADJUSTMENT
SCALE: .375=1FT

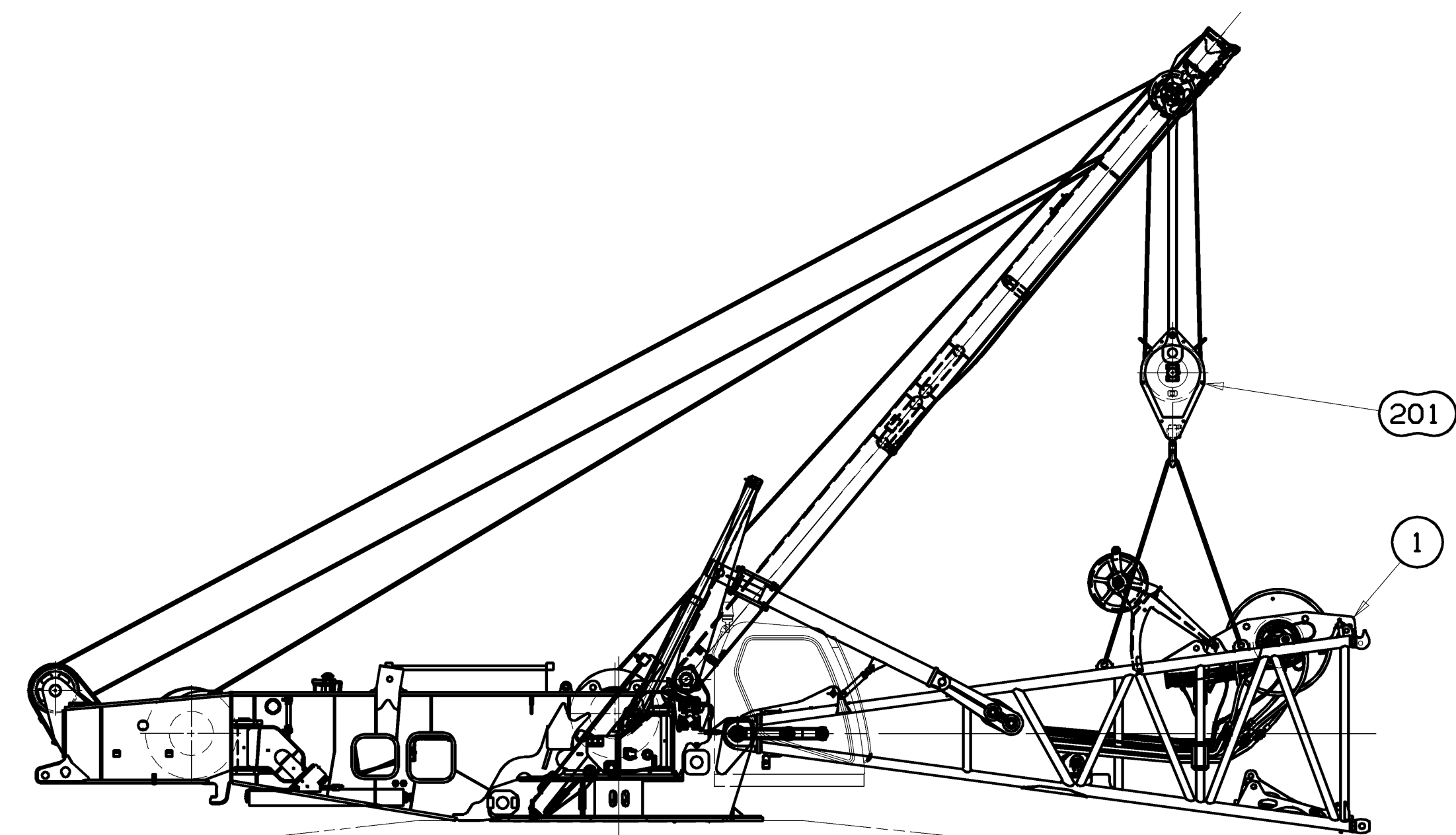


BILL OF MATERIAL				ASSEMBLIES USED IN
QTY	UNIT	DESCRIPTION	MATERIAL	QTY
REVISIONS				
03-24-10 JST				
1) ADDED DELTA				
22 AND 23 TO				
BOOM LENGTHS				
06-26-11 DLG				
BOOM LENGTHS				
FROM WAS 65M				
THROUGH 80M				
02-21-12 TK				
PICTURE				
06-14-14 CNB				
NOTE 14 WAS				
21				
NOTE 15 WAS				
22				
NOTE 16 WAS				
23				
81009833				
SHT 2 OF 6				
PRIVATE LABELING				
REQUIREMENT TO				
CONFORM TO				
ENGINEERING				
SPECIFICATION				
8829103794 FOR				
COMPONENTS LISTED				
IN 88290-06-026				
11-10-09				
PATTERN NO.				
81009833				
SHT 2 OF 6				

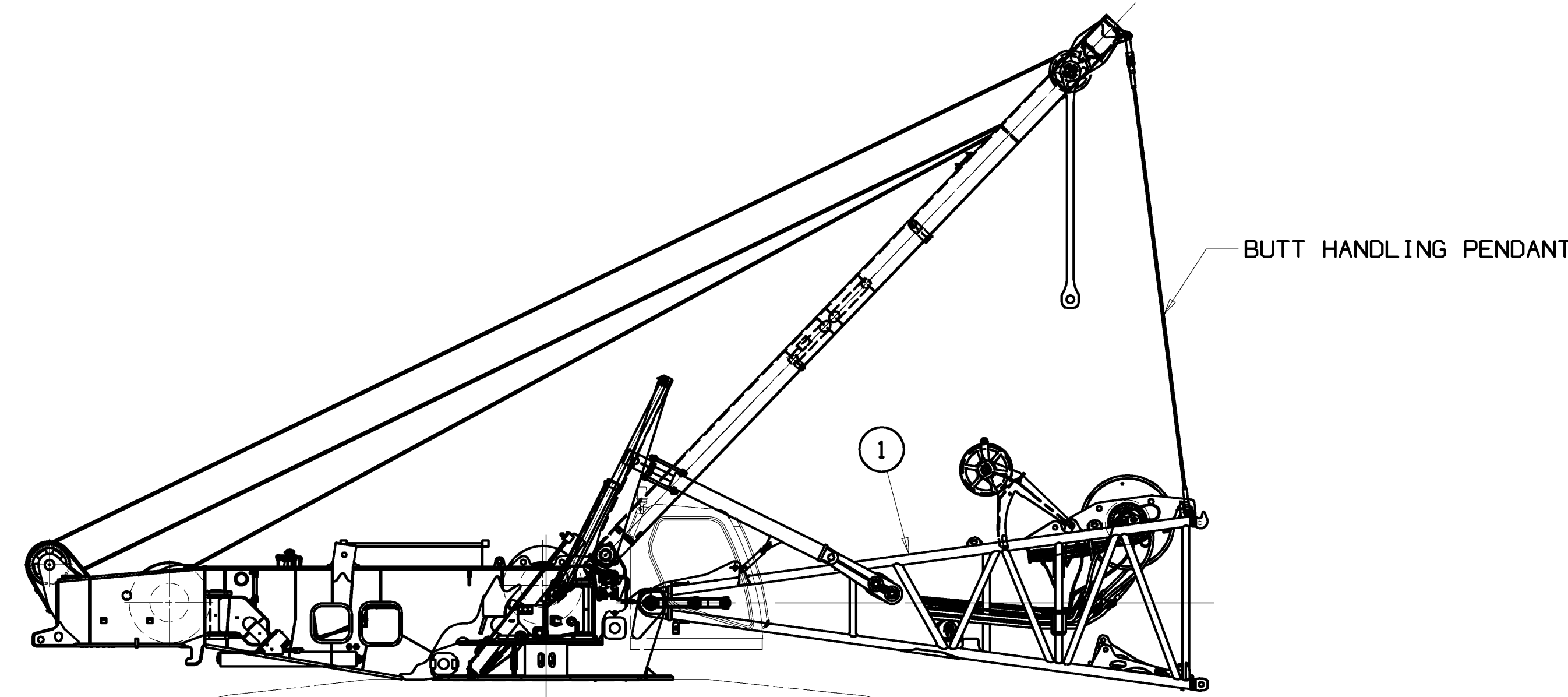


TOLERANCE UNLESS OTHERWISE SPECIFIED				MATERIAL			
DECIMAL PLACES	FRACTIONS	INCHES	FEET	DESCRIPTION	QUANTITY	UNIT	REMARKS
(1) PLACE 0.0	±.12	±.18	±.05	WELDING			
(2) PLACE 0.00	±.06	±.12	±.015	WELDING			
(3) PLACE 0.000	±.006	±.015	±.005	WELDING			
ANGLES	±1° 30'	±1° 30'	±1° 30'	WELDING			

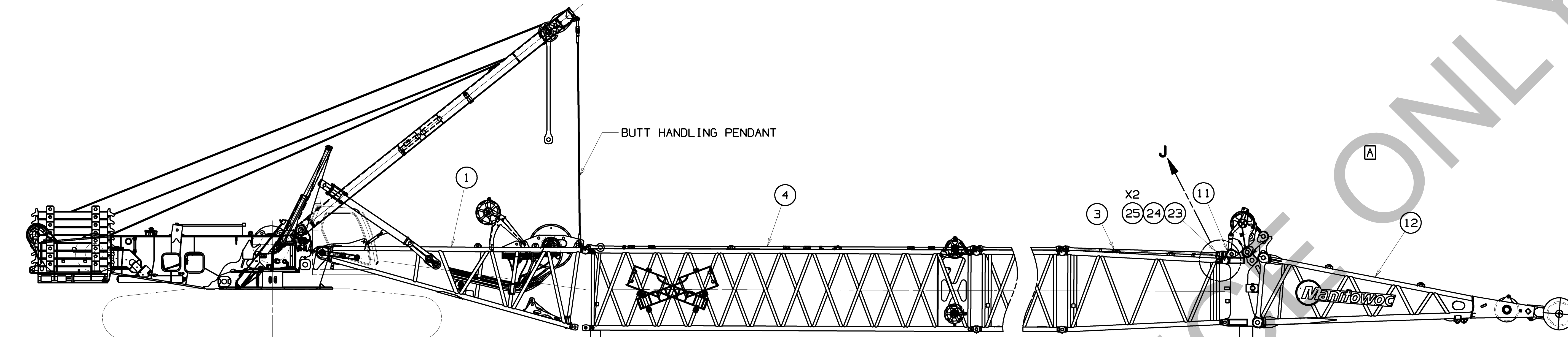
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--	--------------------------------	-----------------------------	---	--------------------



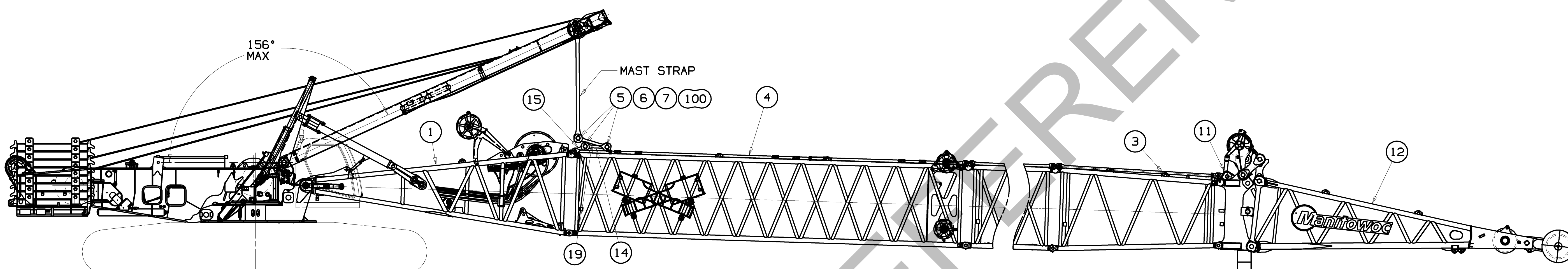
BOOM BUTT INSTALLATION WITH MAST



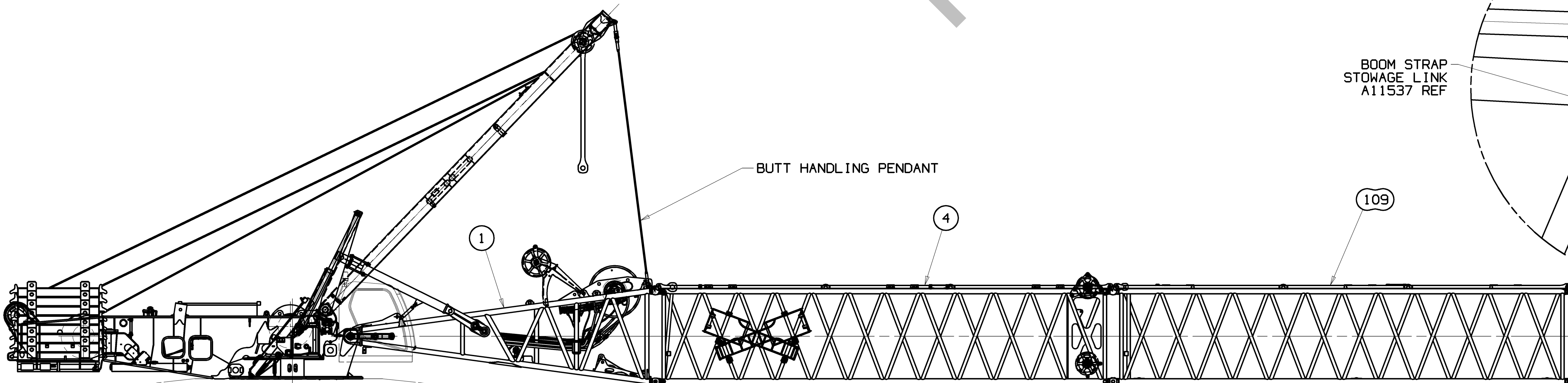
BOOM BUTT HANDLING WITH MAST



BOOM CLOSING



STRAP HOOKUP



BOOM HANDLING WITH MAST

TO ASSEMBLE BOOM

(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. INSTALL BUTT WITH MAST AND ASSEMBLY BLOCK.
4. ATTACH BOOM BUTT HANDLING PENDANTS TO LUGS ON BOOM BUTT. BOOM UP TO CLEAR GROUND WITH BUTT.
5. POSITION MACHINE TO ALIGN UPPER PIN CONNECTOR ON BOOM BUTT WITH UPPER PIN CONNECTOR PINS ON FIRST BOOM INSERT AND ENGAGE PINS.
6. 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 MAST AND/OR BOOM BUTT WILL OCCUR.

7. BOOM DOWN TO DISCONNECT BOOM HANDLING PENDANTS FROM BUTT AND STOW PENDANTS.
8. BOOM DOWN TO ATTACH BOOM STRAPS ON MAST TO INSERT STRAPS.

WARNING:

DO NOT BOOM DOWN MAST BEYOND 156° WITHOUT ATTACHING ASSIST CRANE OR MAST CAN FALL. UNDER SOME CONDITIONS IT MAY BE NECESSARY TO BLOCK UP STRAPS ON INSERT TO AID STRAP CONNECTION.

9. 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. CONNECT BOOM BUTT HANDLING PENDANTS FROM MAST TO BOOM BUTT LUGS.
4. BOOM UP TO REMOVE SLACK FROM BUTT HANDLING PENDANTS.

WARNING:

DO NOT BOOM UP TO PUT EXCESSIVE TENSION INTO BUTT HANDLING PENDANTS. (ENOUGH TENSION IS REQUIRED TO SUPPORT BOOM BUTT WHEN LOWER PINS ARE REMOVED.) LIFTING BOOM WITH HANDLING PENDANTS WILL DAMAGE MAST AND/OR BOOM BUTT.

5. REMOVE LOWER BUTT TO INSERT PINS AND BOOM DOWN TO BLOCKING 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. REMOVE BOOM BUTT FROM ROTATING BED.
8. DISASSEMBLE BOOM WITH MAST.

TO ATTACH ASSEMBLY BLOCK

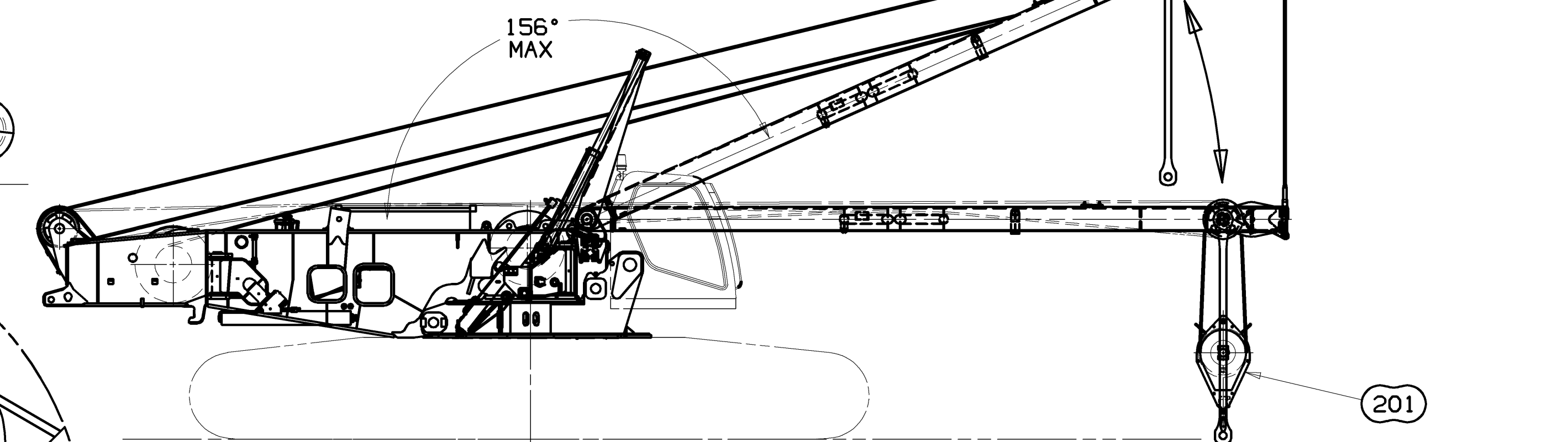
WITH MACHINE ON PEDESTALS FOR MACHINE ASSEMBLY
OR ON CRAWLERS FOR MACHINE DISASSEMBLY

1. BOOM DOWN MAST TO 156° MAXIMUM.

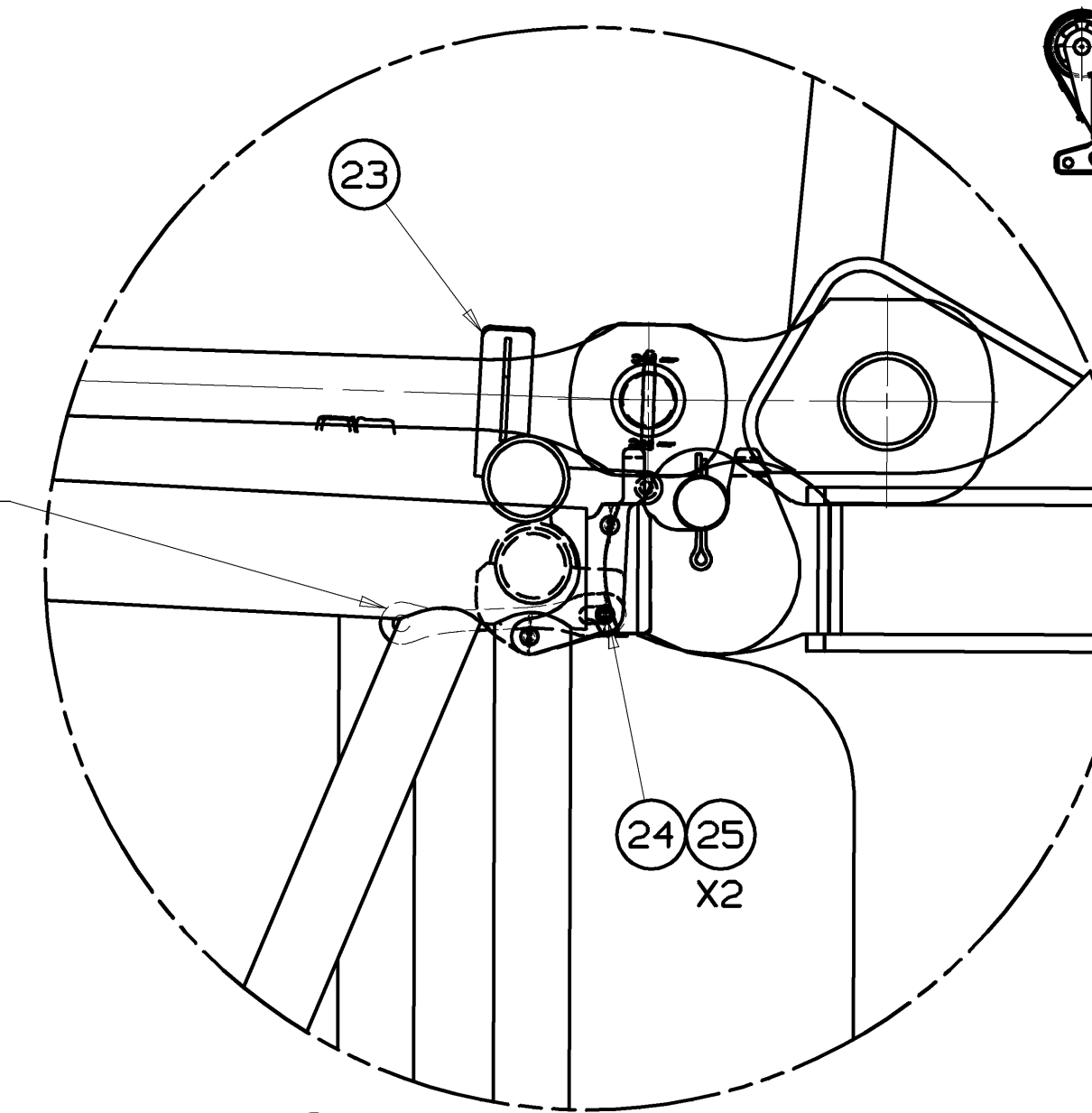
WARNING:

DO NOT BOOM DOWN MAST BEYOND 156° WITHOUT ATTACHING ASSIST CRANE OR MAST CAN FALL.

2. ATTACH ASSIST CRANE TO ONE OF THE BOOM BUTT HANDLING PENDANTS.
3. LOWER MAST WITH ASSIST CRANE WHILE BOOMING DOWN WITH BOOM HOIST TO LOWER MAST TO HORIZONTAL AND INSTALL BLOCK.
4. RAISE MAST WITH ASSIST CRANE WHILE BOOMING UP WITH BOOM HOIST TO RAISE MAST TO 156° OR LESS.
5. DISCONNECT ASSIST CRANE AND STOW PENDANT.



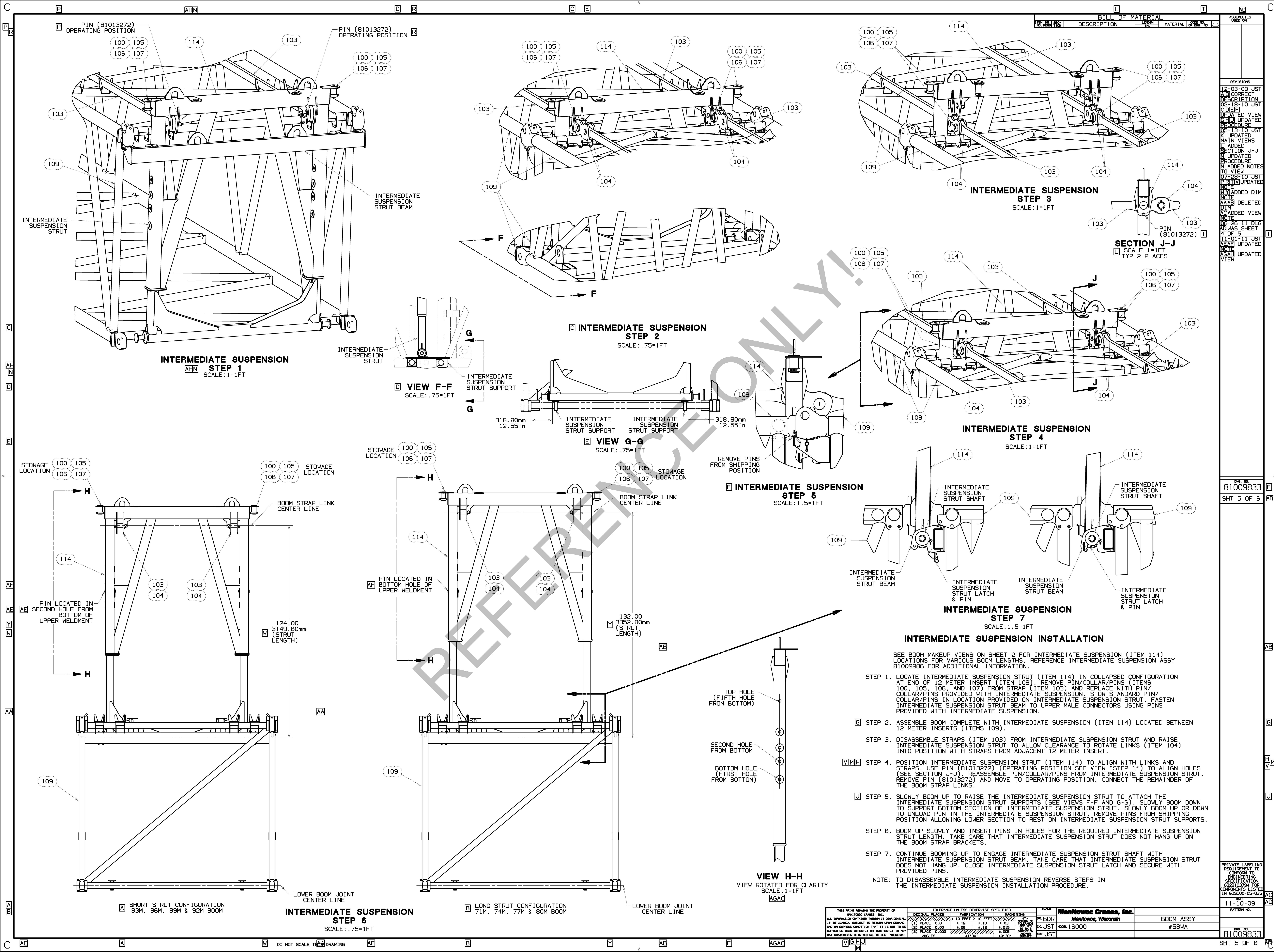
MAST LOWERING TO HORIZONTAL FOR ASSEMBLY BLOCK HOOKUP



DETAIL J
SCALE: 1-1/2=1FT

BOOM HANDLING WITH MAST WITH BOOM HANDLING PENDANTS ON MAST ATTACHED TO LUG ON BOOM BUTT: MAXIMUM BOOM THAT CAN BE CANTILEVERED IS AS FOLLOWS.			
LENGTH	3 M (9.8 FT)	6 M (19.7 FT)	12 M (39.4 FT)
12 M (39.4 FT)	0	0	1
15 M (49.3 FT)	1	0	1
18 M (59.1 FT)	0	1	1
21 M (69.0 FT)	1	1	1

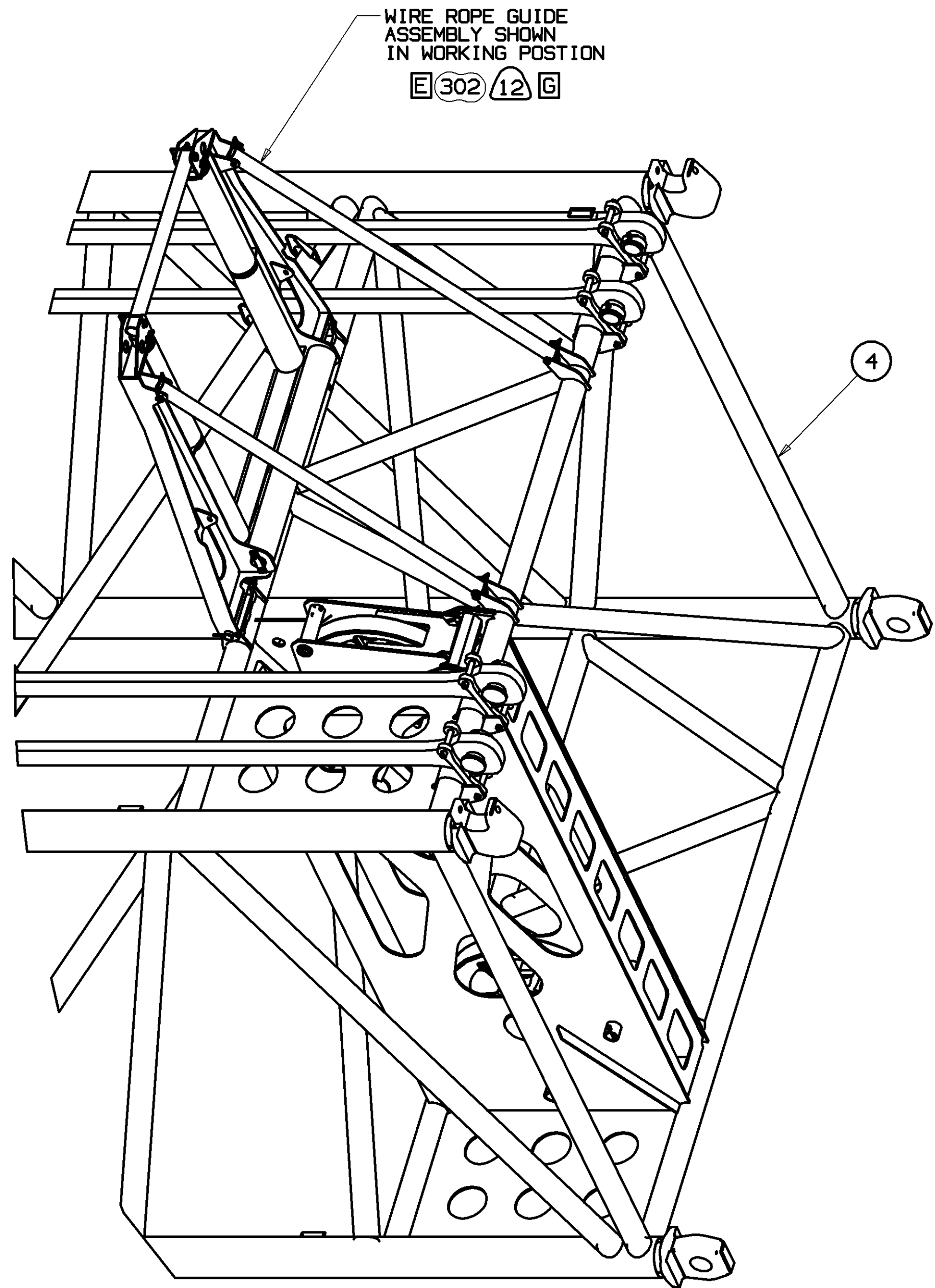
THIS PRINT REMAINS THE PROPERTY OF MANITOWOC CRANES, INC.		TOLERANCE UNLESS OTHERWISE SPECIFIED		SCALE 1"=1'-0"		Manitowoc Cranes, Inc.		ITEM NO.	
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(1) PLACE 0.0 1/16 0.05		1/32 0.10		1/8 0.25		DR. BDR		11-70-05	
(2) PLACE 0.00 1/32 0.06		1/16 0.12		3/16 0.18		APR JST		Dwg. No.	
(3) PLACE 0.000 1/8 0.12		1/4 0.25		1/2 0.50		MODEL 16000		810-19933	
(4) PLACE 0.0000 1/4 0.25		3/4 0.75		1 1.00		#58WA			



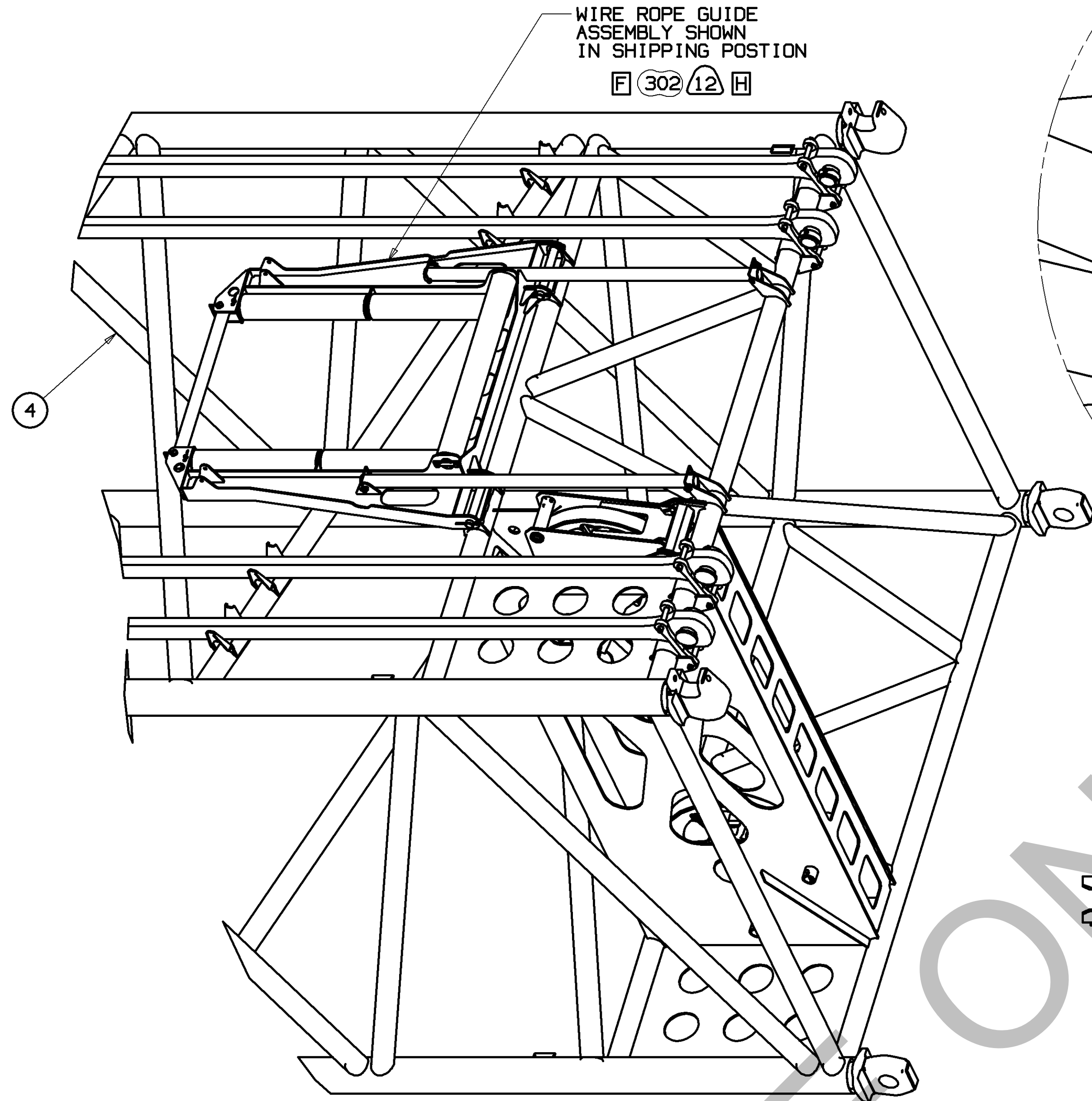
BILL OF MATERIAL			
QTY	DESCRIPTION	MATERIAL	QTY

ASSEMBLIES USED IN

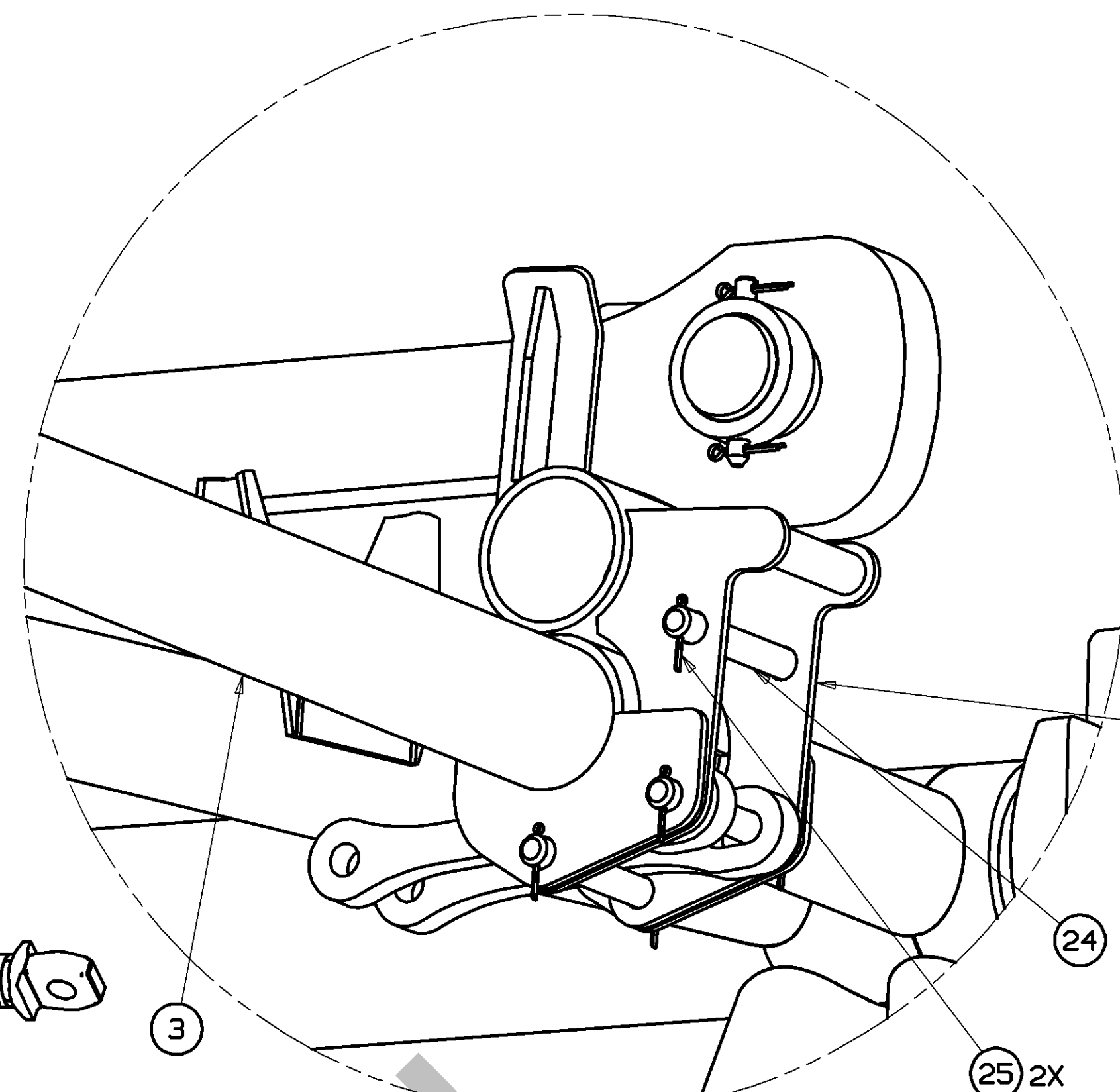
REVISIONS
03-18-10 JST ADDED VIEW
06-28-11 DLG DIMS SHEET 5 OF 5
08-14-14 CMB EIF WAS 212 NOTE WAS 13
EIF WAS 205



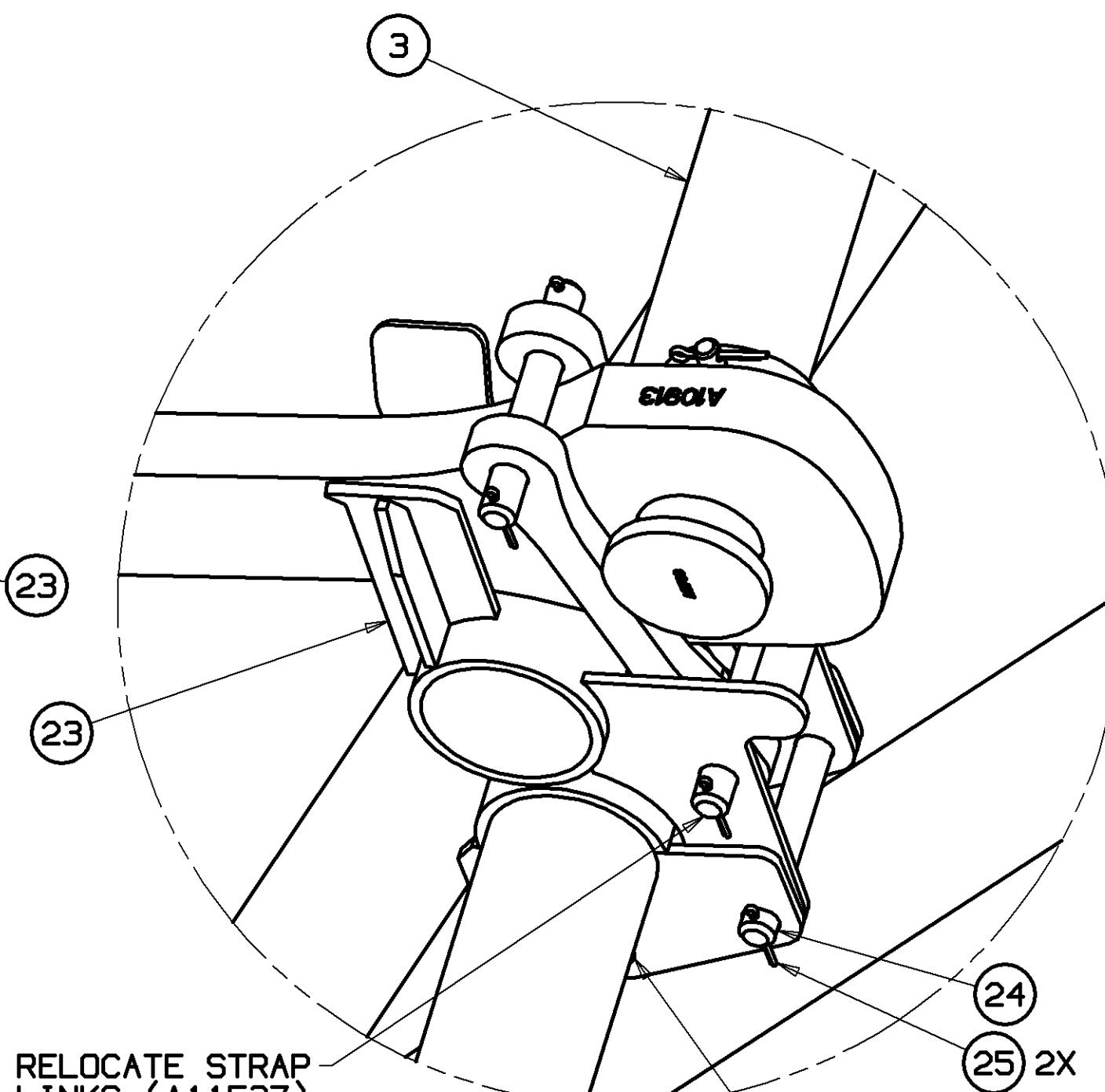
WIRE ROPE GUIDE IN WORKING POSITION



WIRE ROPE GUIDE IN SHIPPING POSITION



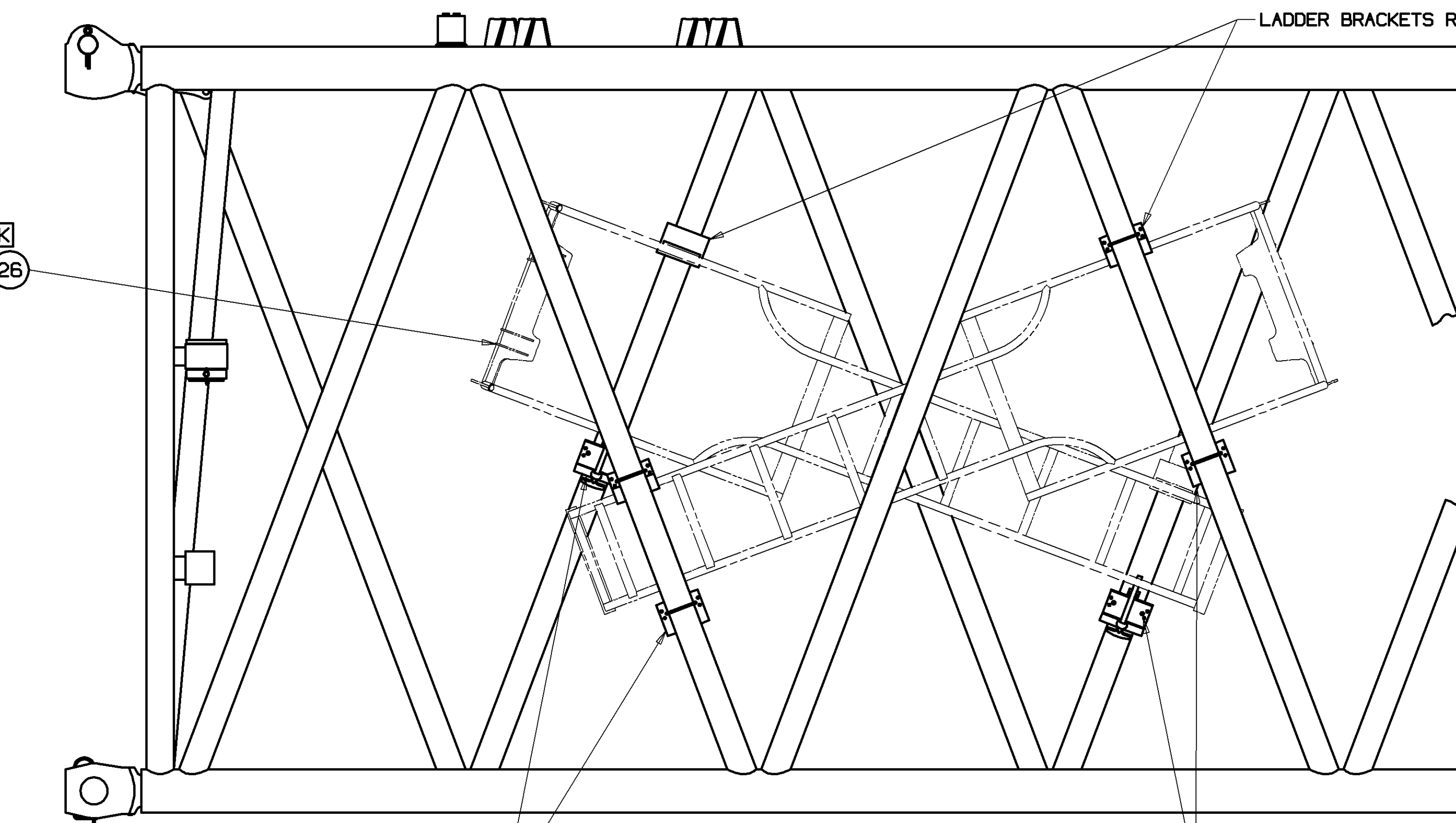
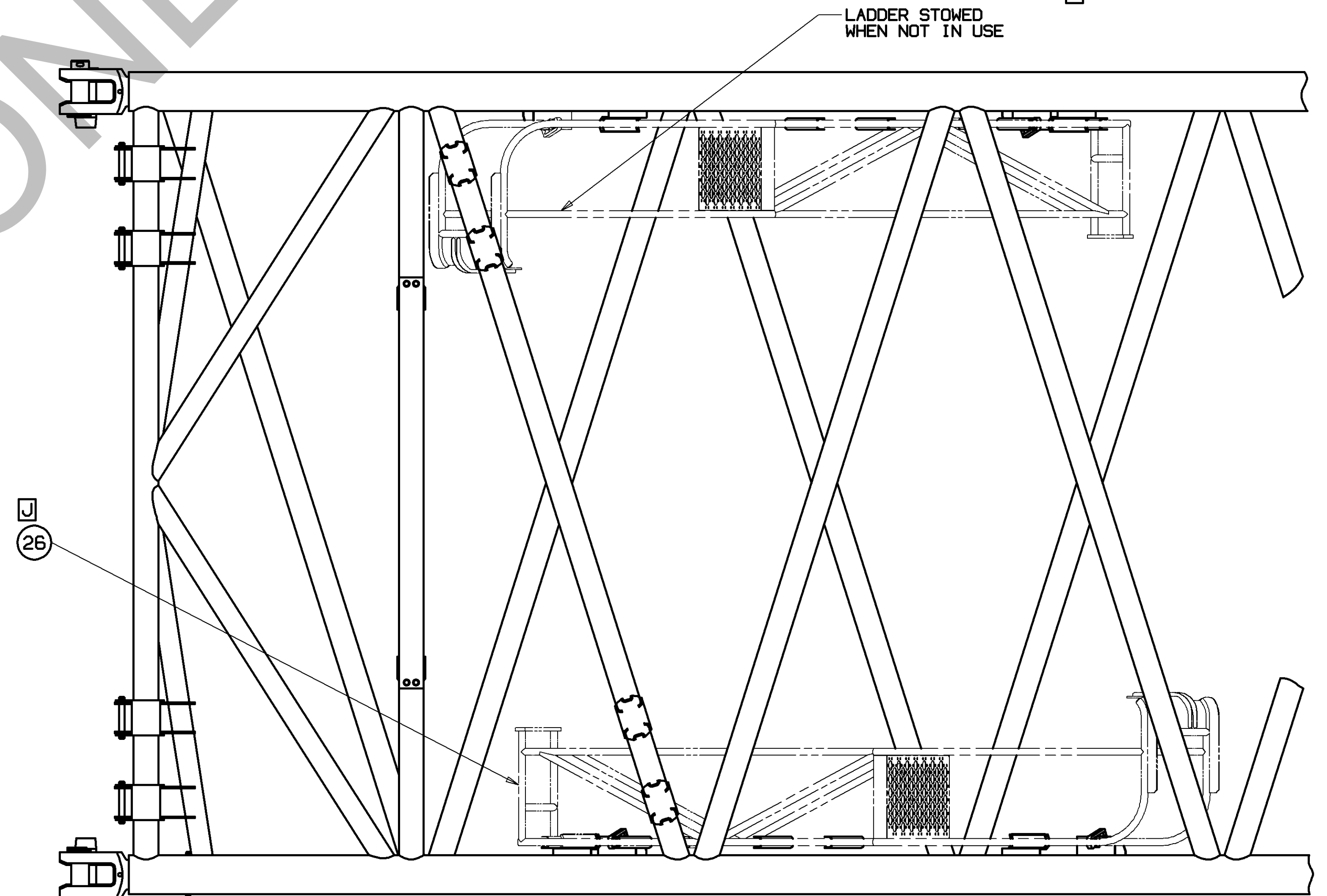
DETAIL K
SCALE 4=1FT
TYP 2 PLACES



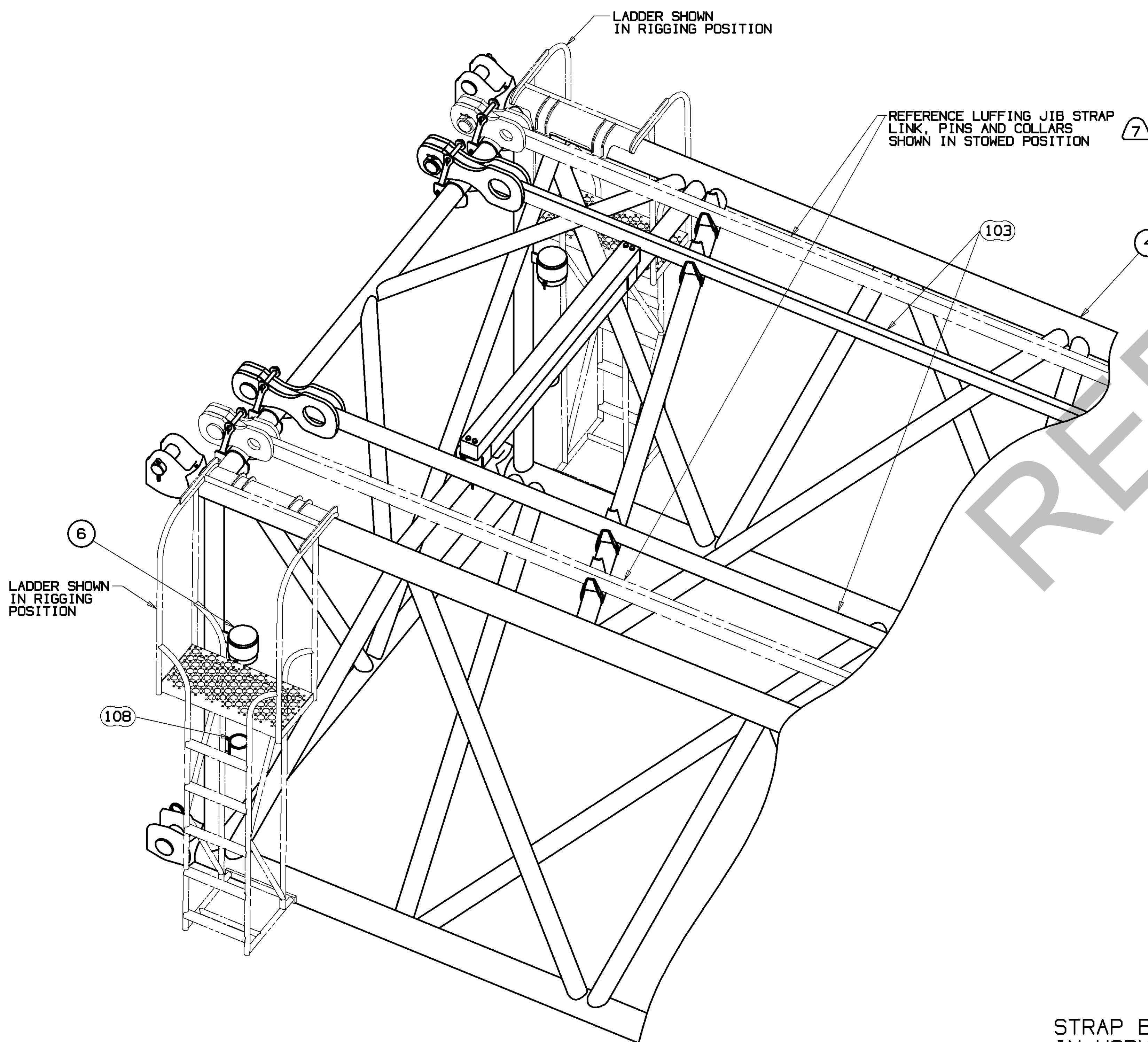
DETAIL L
SCALE 4=1FT
TYP 2 PLACES

RELOCATE STRAP
STOWAGE LINKS (A11537)
AND PINS (A11795) FROM
TRANSITION INSERT HERE
2 PLACES

PIN A11795 AND
QTY 2 COTTER
PINS (S62045)
FROM BOOM CAP ASSY
81009868 (NOT SHOWN)

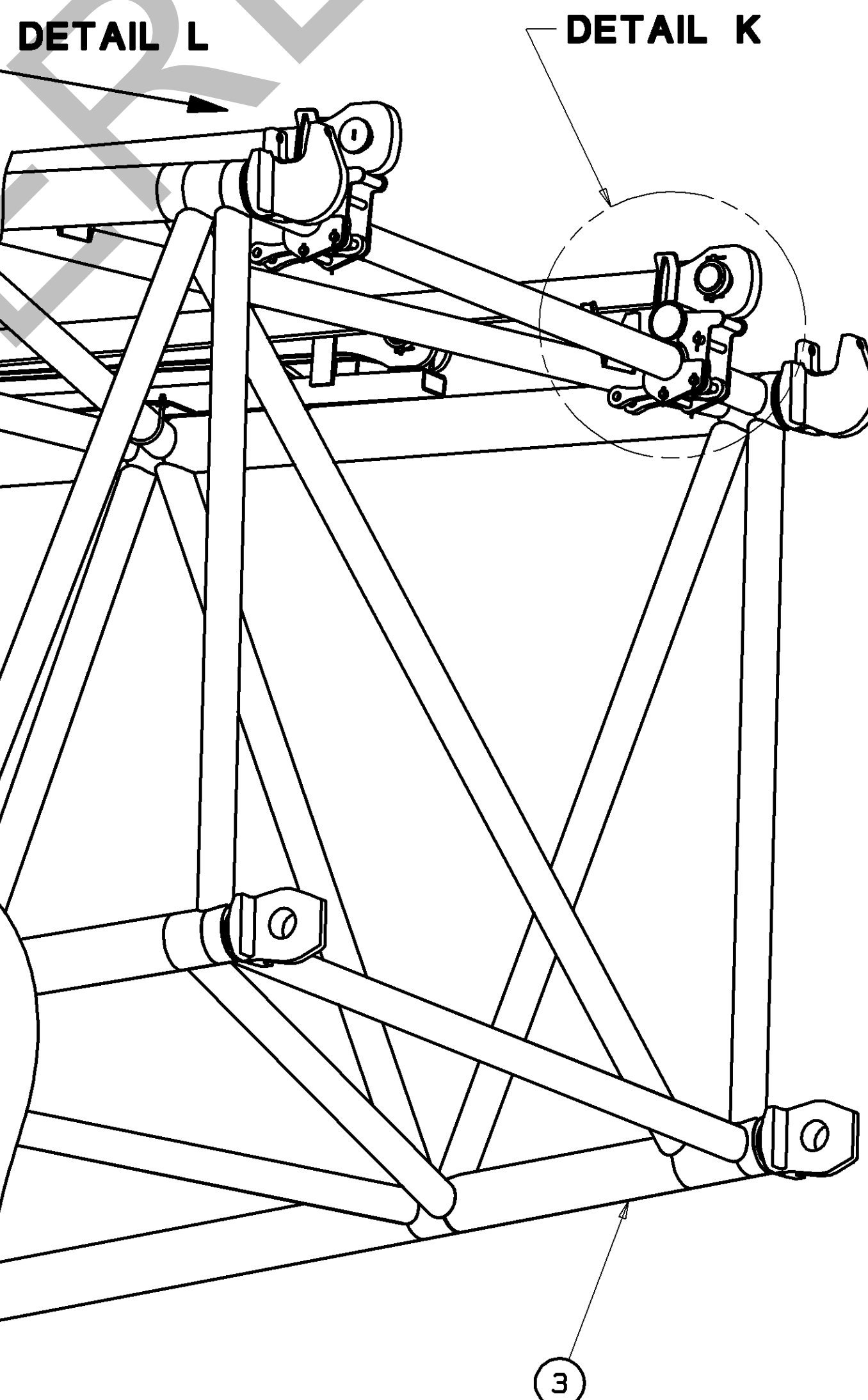


LADDER BRACKETS REF
SECURE LADDERS IN BRACKETS
FOR STORAGE AND SHIPPING



LADDER SHOWN
IN RIGGING
POSITION

REFERENCE LUFFING JIB STRAP
LINK, PINS AND COLLARS
SHOWN IN STOWED POSITION



DETAIL K

STRAP BRACKET 81011868 STORED ON BOOM CAP
IN WORKING POSITION ON TRANSITION INSERT

REFER TO INSERT ASSEMBLY
FOR DETAILED ITEMS

TOLERANCE UNLESS OTHERWISE SPECIFIED			
DECIMAL PLACES	FRACTIONS	MACHINING	WELDING
(1) PLACE 0.01	± 0.12	± 0.18	± 0.05
(2) PLACE 0.00	± 0.06	± 0.12	± 0.015
(3) PLACE 0.000	± 0.006	± 0.006	± 0.006
ANGLES	± 1° 30'	± 0° 30'	± 0° 30'

MANUFACTURED BY	81009833
DATE	11-10-09
PATTERN NO.	