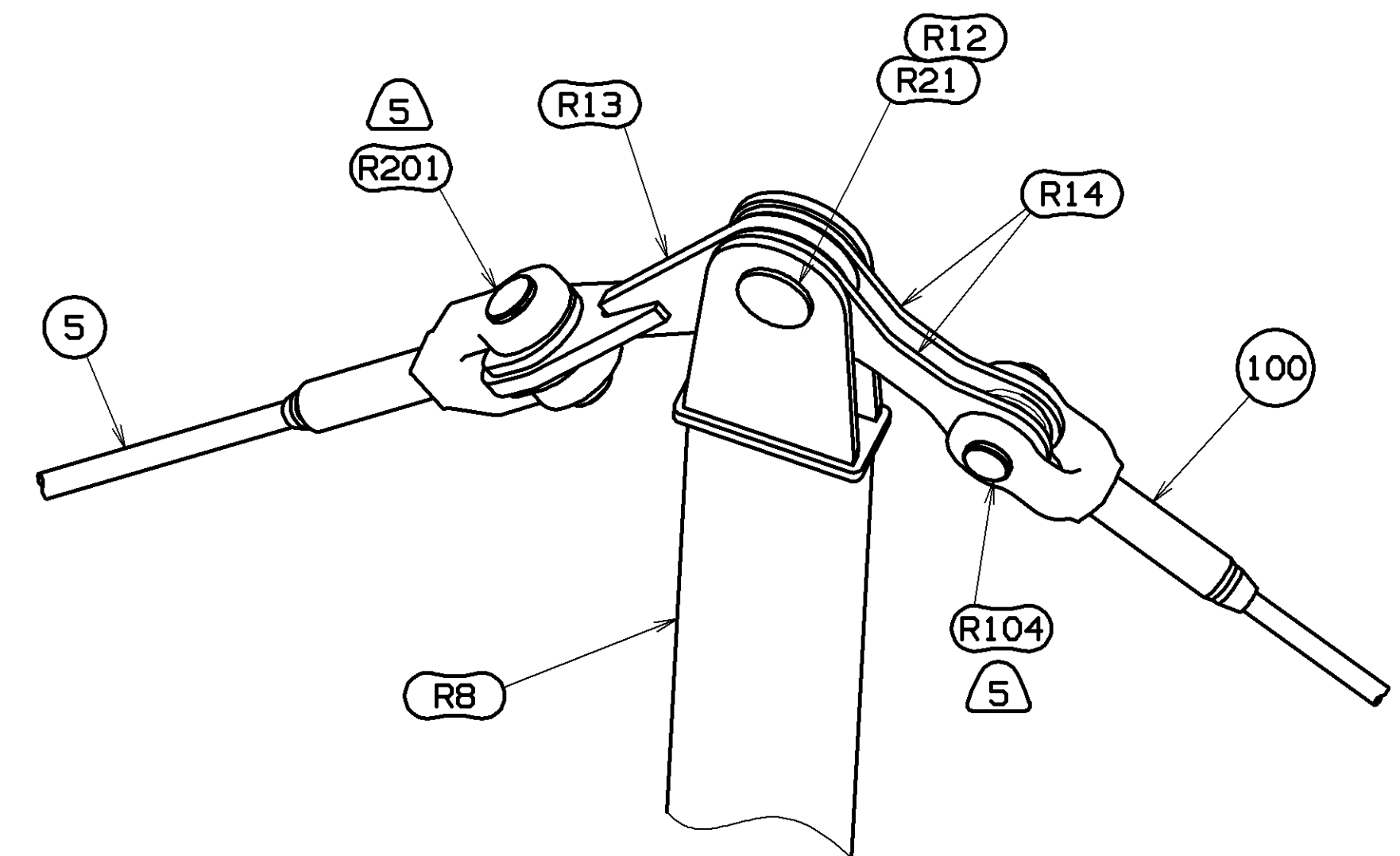
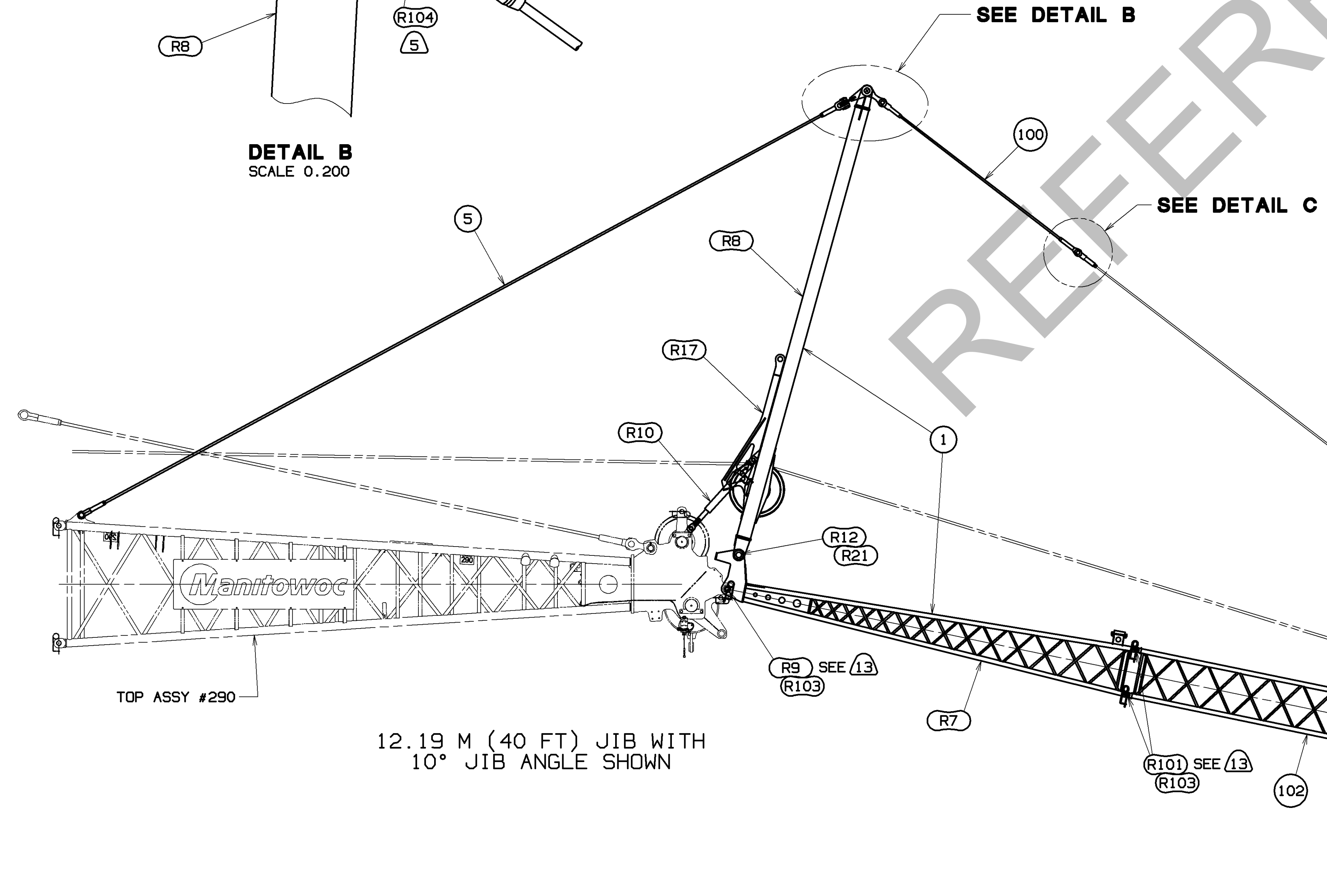


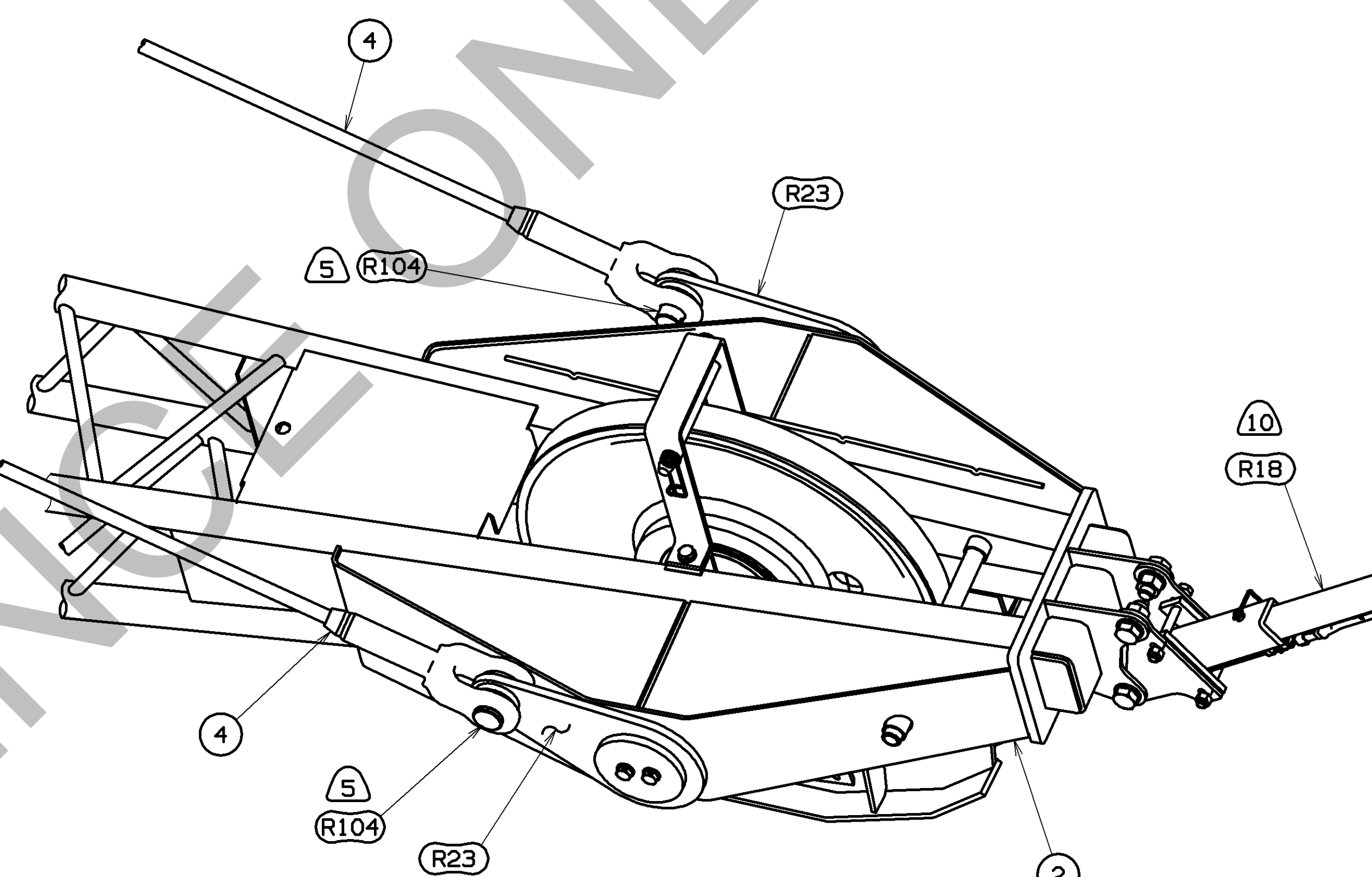
12.19 M (40 FT) JIB WITH 30° JIB ANGLE SHOWN



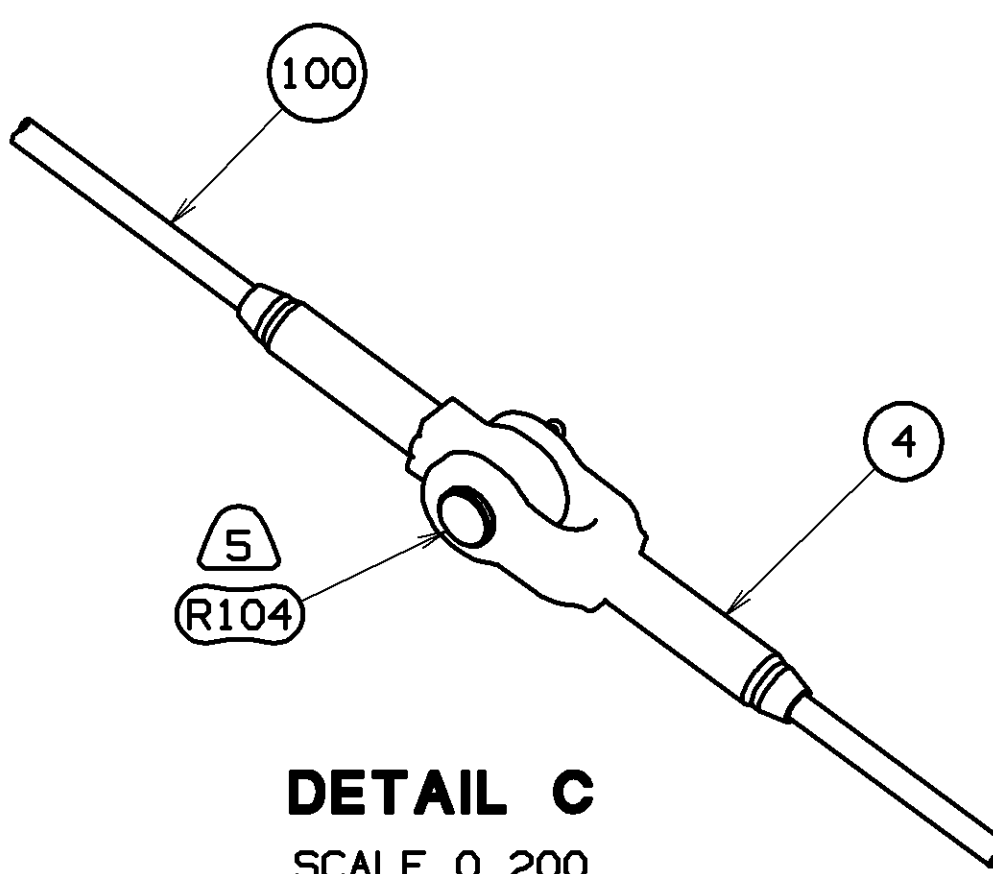
DETAIL A  
SCALE 0.200



12.19 M (40 FT) JIB WITH 10° JIB ANGLE SHOWN



DETAIL D  
SCALE 0.180



DETAIL C  
SCALE 0.200

REQUIRED FOR VARIOUS JIB LENGTHS						
ITEM NO.	102	100	R101	R103	R104	
JIB LENGTH	INSERT 3.05 M (10 FT-0) ASSY	PENDANT 2.74 M (9 FT-0)	PIN JIB JOINT	PIN COTTER	PENDANT PIN (5)	
METERS	FEET					
9.14	30	0	0	4	10	4
12.19	40	1	2	8	14	6
15.24	50	2	4	12	18	8
18.29	60	3	6	16	22	10

REQUIRED FOR VARIOUS JIB ANGLES			
ITEM NO.	200	R201	JIB STOP ADJUSTMENT HOLE SEE DETAIL L ON SHEET 3
JIB ANGLE	PENDANT 1.16 M (3 FT-9.5)	PENDANT PIN (5)	
10°	0	4	B
30°	2	6	A

BILL OF MATERIAL				ASSEMBLIES USED ON
ITEM NO.	DESCRIPTION	QTY	MATERIAL	NO.
JIB RIGGING FJ117 ON B10:290				
1	JIB ASSY #117 BUTT	1	80106953	1
2	TOP JIB #117 ASSY	2	80109828	2
3				
4	PENDANT .75 DIA X 32FT-9 LG	6	A05817	6
5	PENDANT FJ117 BSTAY	11	80111331	11
6				
7				

NO. REQ'D FOR THE FOLLOWING ITEMS ARE IN THE JIB LENGTH TABLE			
100	PENDANT .75 DIA X 9FT-0 LG	276691	7
101			
102	INSERT ASSY #117 10FT	80109727	3
103			

NO. REQ'D FOR THE FOLLOWING ITEMS ARE IN THE JIB ANGLE TABLE			
200	PENDANT FJ117 BSTAY	80111341	12
201			

BASIC REFERENCE ITEMS			
R1	PIN 2 HOLE 1.00 DIA X 6.22 LG	177363	
R2	PIN COTTER 1/4 DIA X 2.50 LG	562109	
R3	PIN SAFETY .375x2.25 LG	563871	
R4			
R5			
R6			
R7	BUTT WELD #117 15 FT	80106952	4
R8	STRUT ASSY #117	80107363	9
R9	PIN 59.00 DIA X 140.0 LG	80108746	13
R10	STOP ASSY #117 STRUT	80109151	9
R11	PIN 1 HOLE 20.0 DIA X 78.5 LG	80109345	
R12	PIN 59.50 DIA X 70.0 LG	80109349	
R13	LINK MACH BACKSTAY	80109723	
R14	LINK JIB FRONTSTAY #117	80119161	
R15			
R16	PIN 2 HOLE 39.0 DIA X 40.8 LG	80110325	
R17	ARM STRUT RAISING	80110922	8
R18	ESI ANEMOMETER POSN LT	80107595	10
R19			
R20			
R21	RETAINING RING EXT 60X2.0	84051453	
R22			
R23	LINK 8.50 LG	A08001	
R24			

NO. REQ'D FOR THE FOLLOWING REFERENCE ITEMS ARE IN THE JIB LENGTH TABLE			
R100			
R101	PIN 2 HOLE 28.48 DIA X 63.0 LG	80119261	13
R102			
R103	PIN SAFETY .243 OD X 5.00	563640	
R104	PIN 1 HOLE W/HD 1.375 DIA X 3.23 LG	564094	5

NO. REQ'D FOR THE FOLLOWING REFERENCE ITEMS ARE IN THE JIB ANGLE TABLE			
R200			
R201	PIN 1 HOLE W/HD 1.625 DIA X 3.69 LG	564095	5

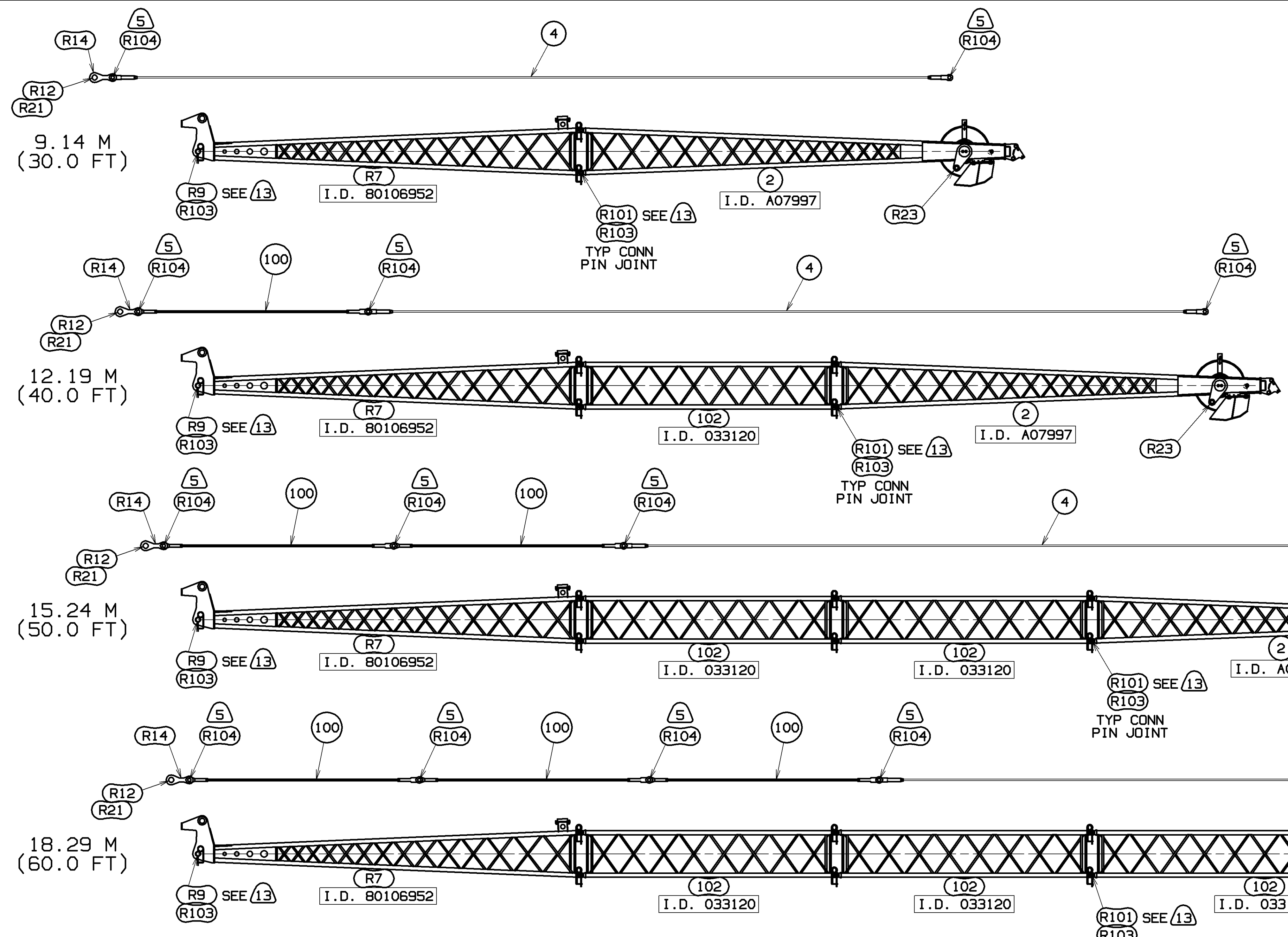
- 1 SEE DETAIL G ON SHEET 2 FOR FIXED JIB BUTT ASSEMBLY SHIPPING CONFIGURATION.
- 2 TOP 15 FT (4.57 M) I.D. TAG #A07997.
- 3 INSERT 10 FT (3.05 M) I.D. TAG #033120.
- 4 BUTT 15 FT (4.57 M) I.D. TAG #80106952.
- 5 FOR REPLACEMENT INFO ONLY. PENDANT PINS ARE FURNISHED WITH PENDANT.
- 6 ON DRAWING A02331.
- 7 ON DRAWING 073026.
- 8 WHEN ASSEMBLING #117 JIB TO #290 BOOM LENGTHS LESS THAN 22M (72.2FT) ROUTE LOAD LINE THRU BOOM HOIST REEVING.
- 9 SEE DETAIL L ON SHEET 3 FOR HOLE IDENTIFICATION ON STOP (R10) FOR 10° AND 30° JIB ANGLES.
- 10 RELOCATE FROM MAIN BOOM.
- 11 ON DRAWING 80111330.
- 12 ON DRAWING 80111340.
- 13 LOCATE PIN LONG TAPERED END TOWARD CENTERLINE OF BOOM.

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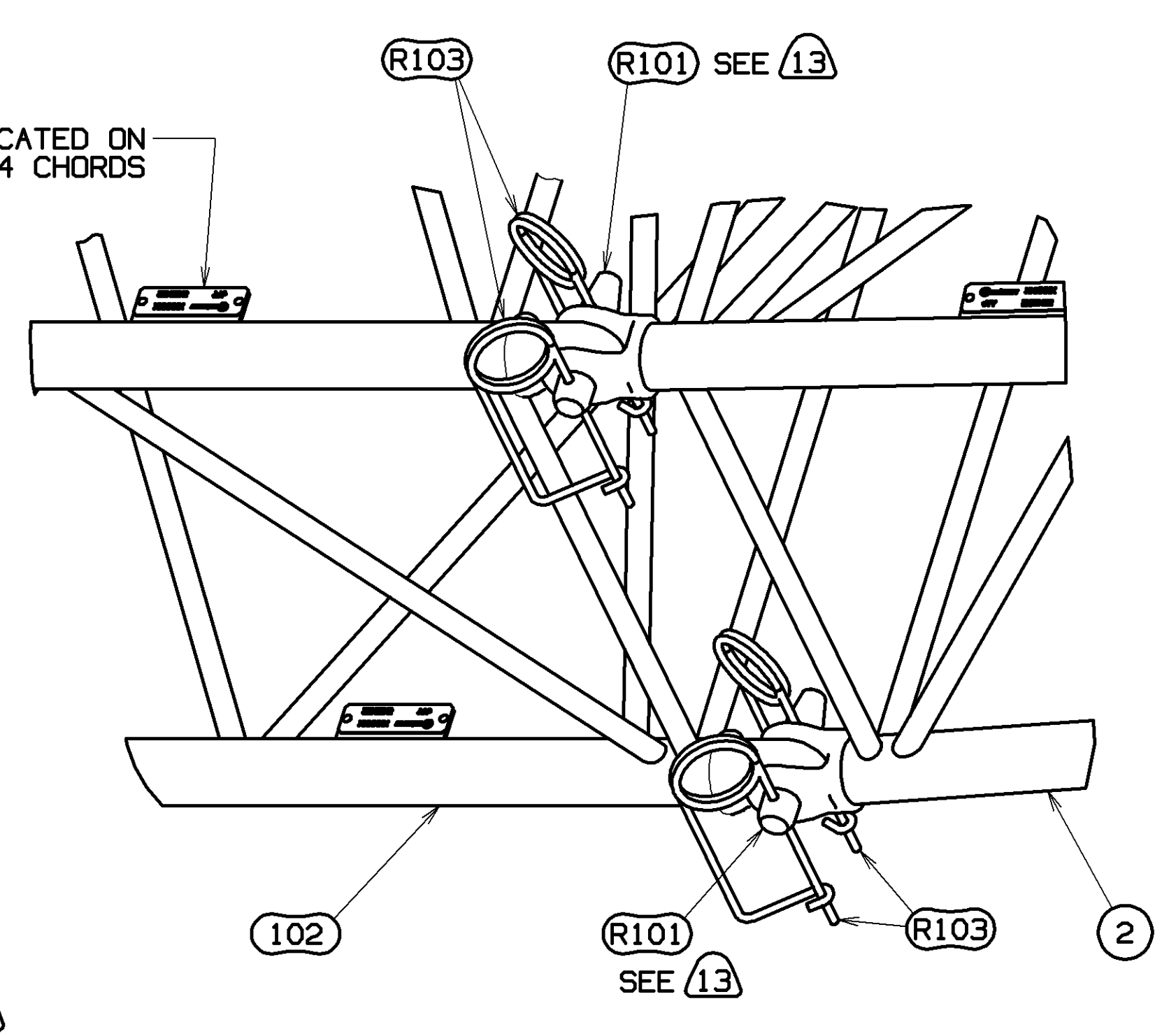
DECIMAL PLACES	FRACTIONS	WELDING	DATE
(1) PLACE 0.5	1/2	WELDING	04-11-19
(2) PLACE 0.00	1/16	WELDING	
(3) PLACE 0.000	1/32	WELDING	
ANGLES	11.25°	WELDING	

MANITOWOC CRANES, INC.  
JIB RIGGING  
FJ117 ON B10:290  
MLC90-1, MLC80A-1

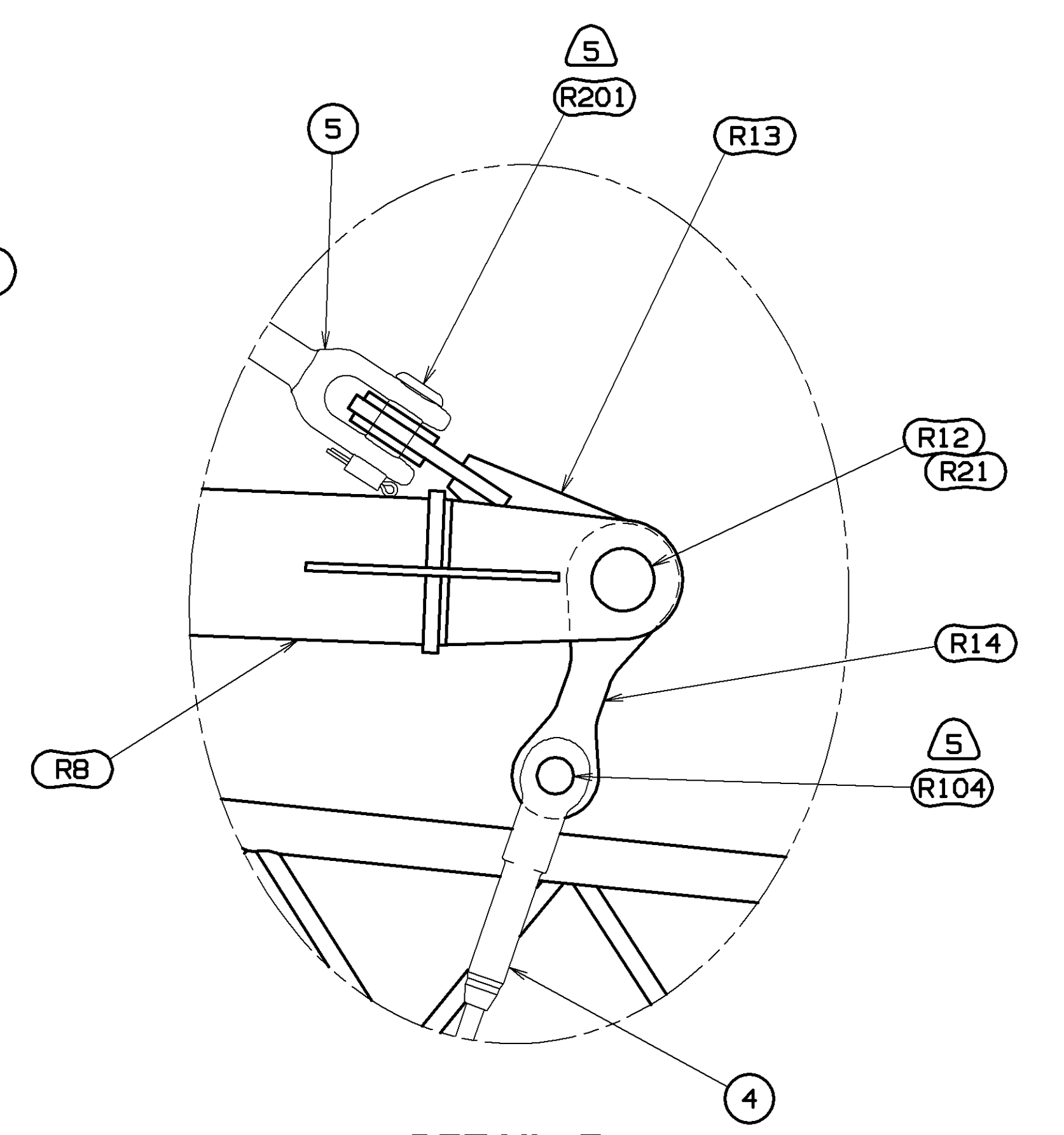
BILL OF MATERIAL				ASSEMBLIES USED ON
QTY	ITEM NO.	DESCRIPTION	MATERIAL	DATE



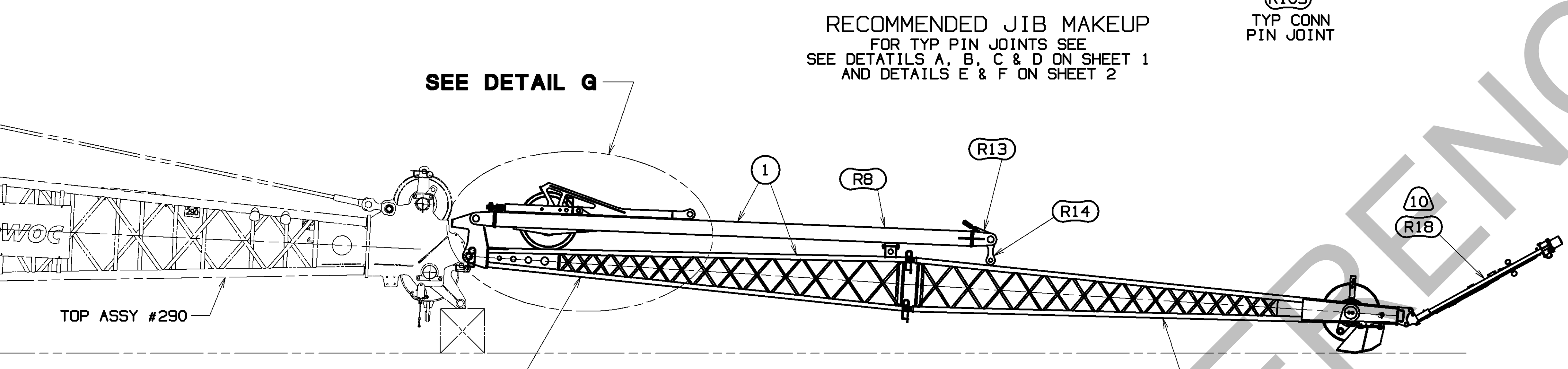
ID TAGS LOCATED ON EACH OF 4 CHORDS



**DETAIL E**  
SCALE 0.250



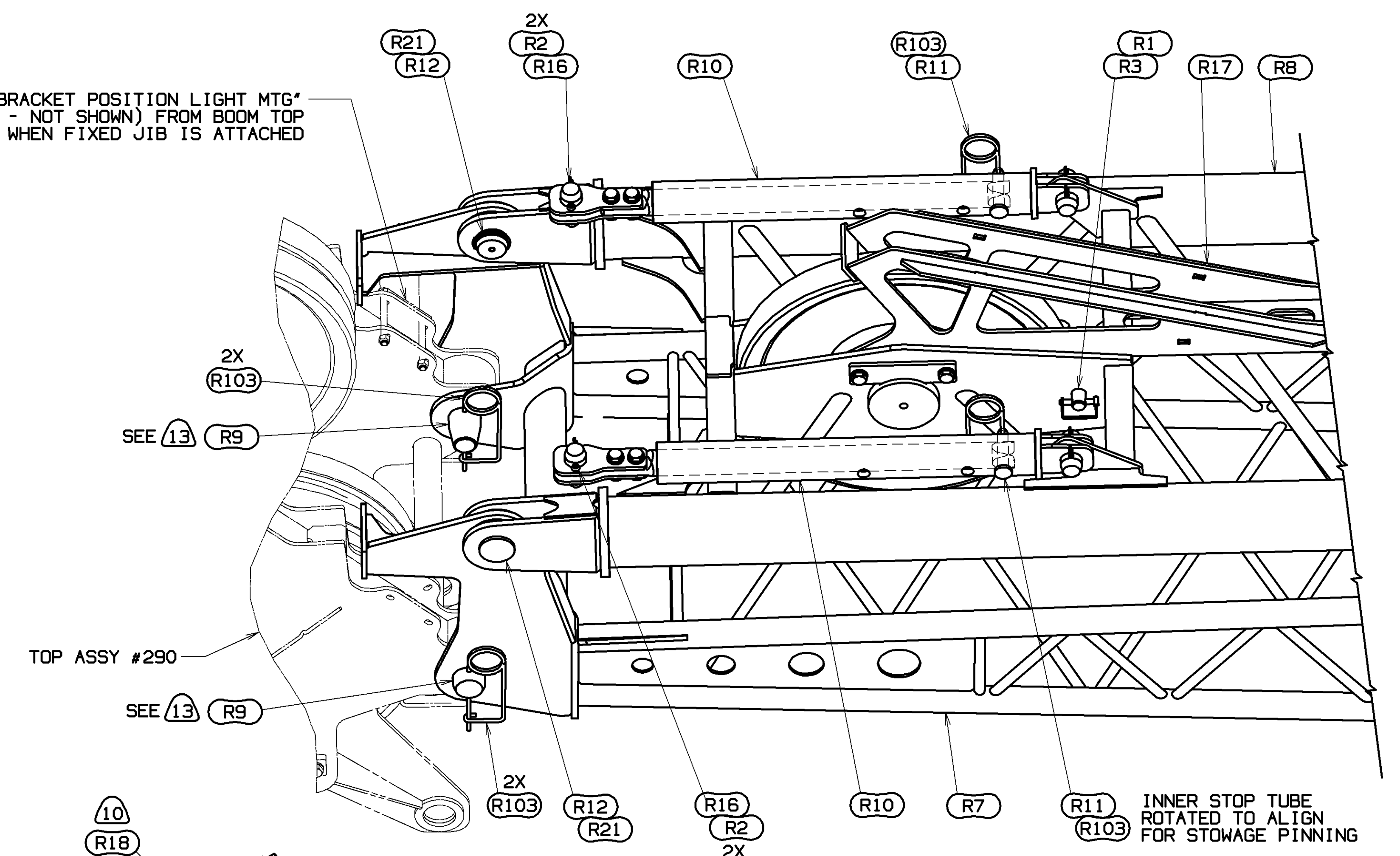
**DETAIL F**  
SCALE 0.250



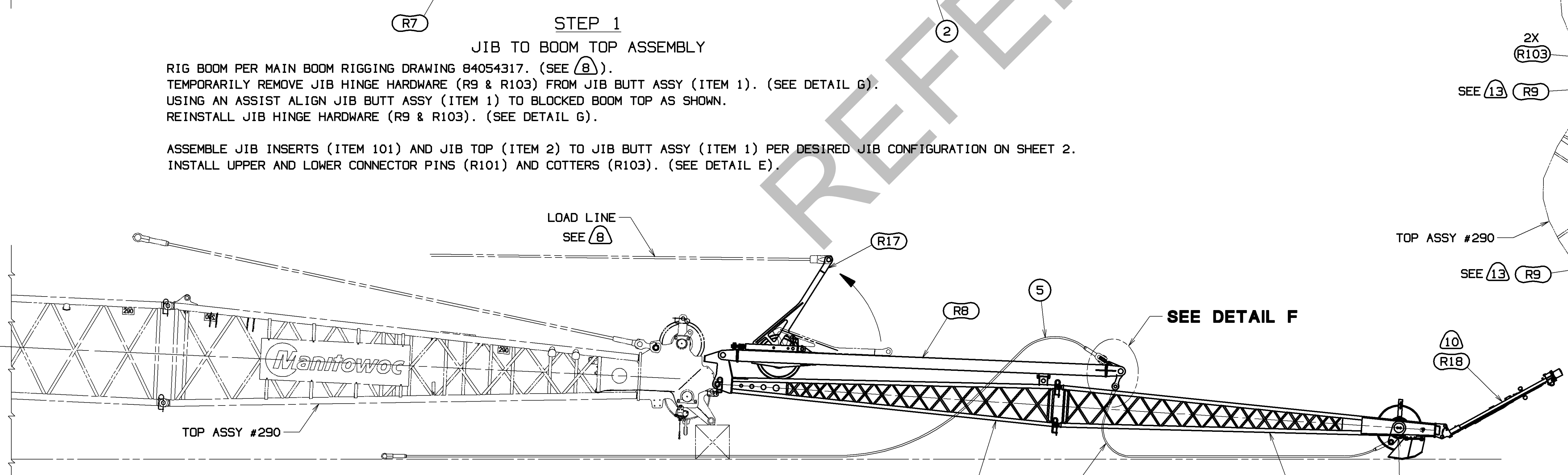
RECOMMENDED JIB MAKEUP  
FOR TYP PIN JOINTS SEE  
SEE DETAILS A, B, C & D ON SHEET 1  
AND DETAILS E & F ON SHEET 2

SEE DETAIL E

NOTE:  
REMOVE "BRACKET POSITION LIGHT MTG"  
(80104651 - NOT SHOWN) FROM BOOM TOP  
WHEN FIXED JIB IS ATTACHED

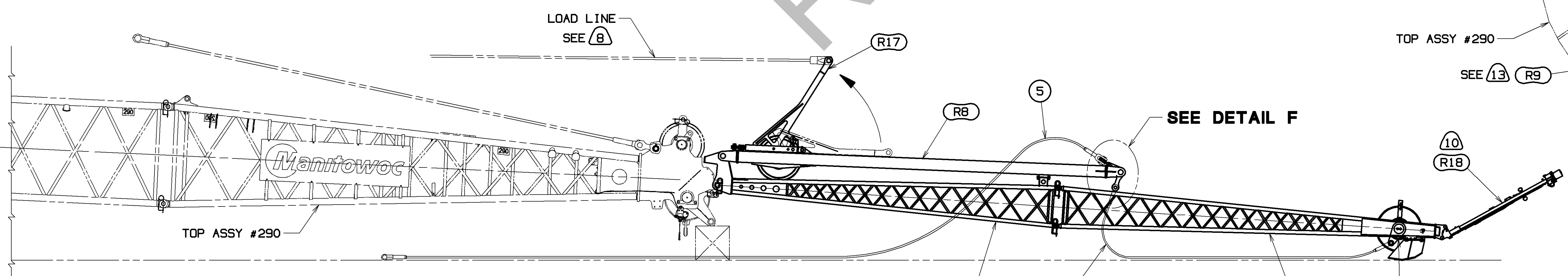


**DETAIL G**  
FIXED JIB BUTT ASSEMBLY (ITEM 1)  
SHIPPING CONFIGURATION  
SCALE 0.170



**STEP 1**  
JIB TO BOOM TOP ASSEMBLY

RIG BOOM PER MAIN BOOM RIGGING DRAWING 84054317. (SEE B).  
TEMPORARILY REMOVE JIB HINGE HARDWARE (R9 & R103) FROM JIB BUTT ASSY (ITEM 1). (SEE DETAIL G).  
USING AN ASSIST ALIGN JIB BUTT ASSY (ITEM 1) TO BLOCKED BOOM TOP AS SHOWN.  
REINSTALL JIB HINGE HARDWARE (R9 & R103). (SEE DETAIL G).  
  
ASSEMBLE JIB INSERTS (ITEM 101) AND JIB TOP (ITEM 2) TO JIB BUTT ASSY (ITEM 1) PER DESIRED JIB CONFIGURATION ON SHEET 2.  
INSTALL UPPER AND LOWER CONNECTOR PINS (R101) AND COTTERS (R103). (SEE DETAIL E).

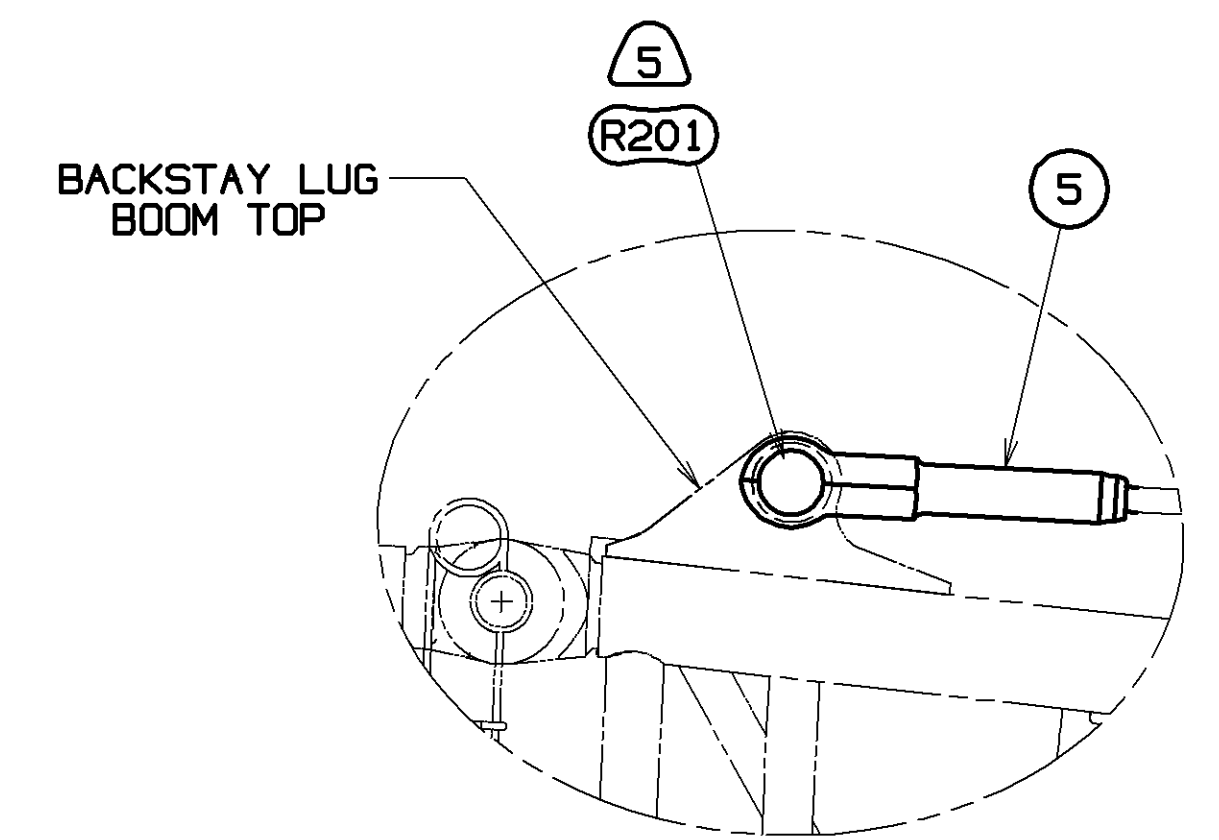


**STEP 2**  
FRONTSTAY & BACKSTAY PENDANT INSTALLATION

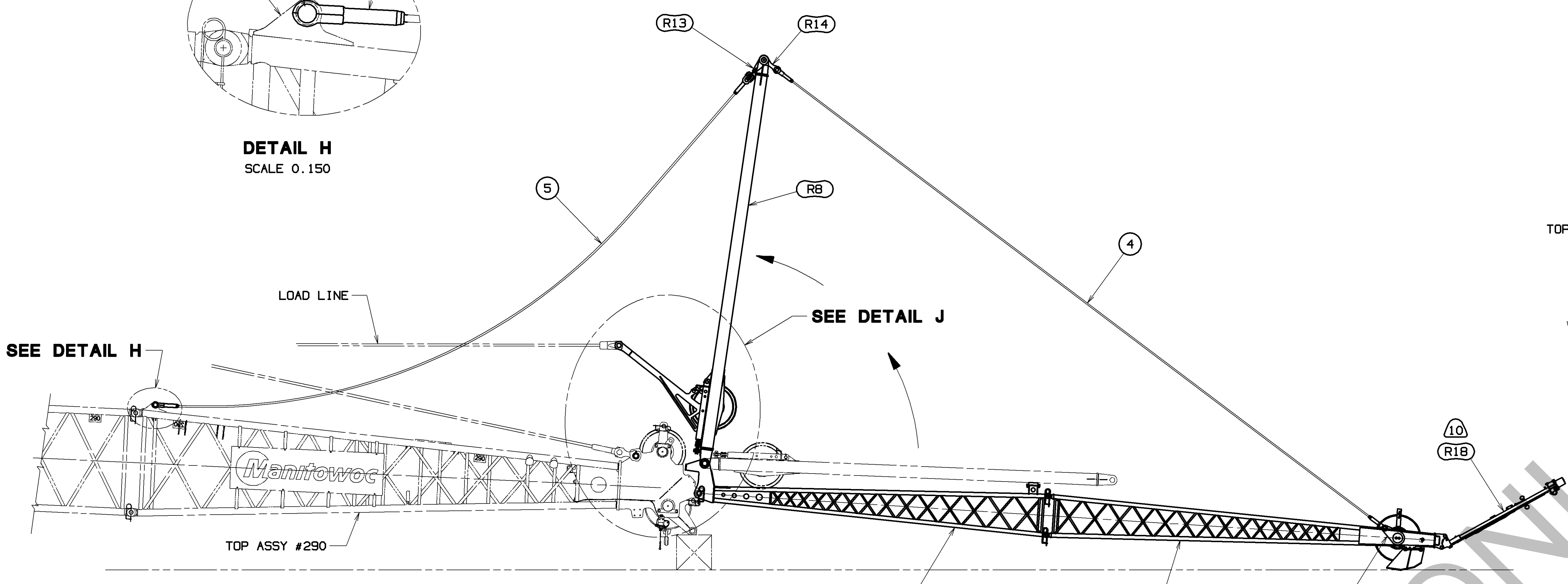
USING PENDANT PIN PROVIDED ATTACH FRONTSTAY PENDANT (ITEM 4) TO FRONTSTAY LINK (R23). (SEE DETAIL D ON SHEET 1).  
PIN PENDANT TO PENDANT (SEE DETAIL C ON SHEET 1) PER DESIRED JIB LENGTH.  
PIN REMAINING FREE END OF FRONTSTAY PENDANT TO STRUT FRONTSTAY LINKS (R14). (SEE DETAIL B ON SHEET 1).  
  
USING PENDANT PIN PROVIDED ATTACH BACKSTAY PENDANT (ITEM 5) TO STRUT BACKSTAY LINK (R13). (SEE DETAIL B ON SHEET 1).  
PIN PENDANT (ITEM 200) TO PENDANT (ITEM 5) (SEE DETAIL A ON SHEET 1) PER DESIRED JIB ANGLE.  
  
WARNING:  
REFER TO DELTA NOTE B ON SHEET 1 BEFORE CONTINUING WITH STRUT RAISING PROCEDURE PER ASSEMBLY STEPS 2, 3 & 4.  
  
REMOVE WIRE ROPE GUARD (R1) AND SAFETY PIN (R3) FROM STRUT (R8). (SEE DETAIL G).  
ROTATE STRUT RAISING ARM (R17) UPWARD AND ATTACH TO LOAD LINE.

DO NOT SCALE THIS DRAWING

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PRIVATE LABELING REQUIREMENT TO CONFORM TO ENGINEERING SPECIFICATION 8629103794 FOR COMPONENTS LISTED IN SECTION 05-1056		MARITOWOC CRANES, INC.		JIB RIGGING		MODEL MLC100-1, MLC100A-1		FU117 ON B10:290		SHT 2 OF 3	

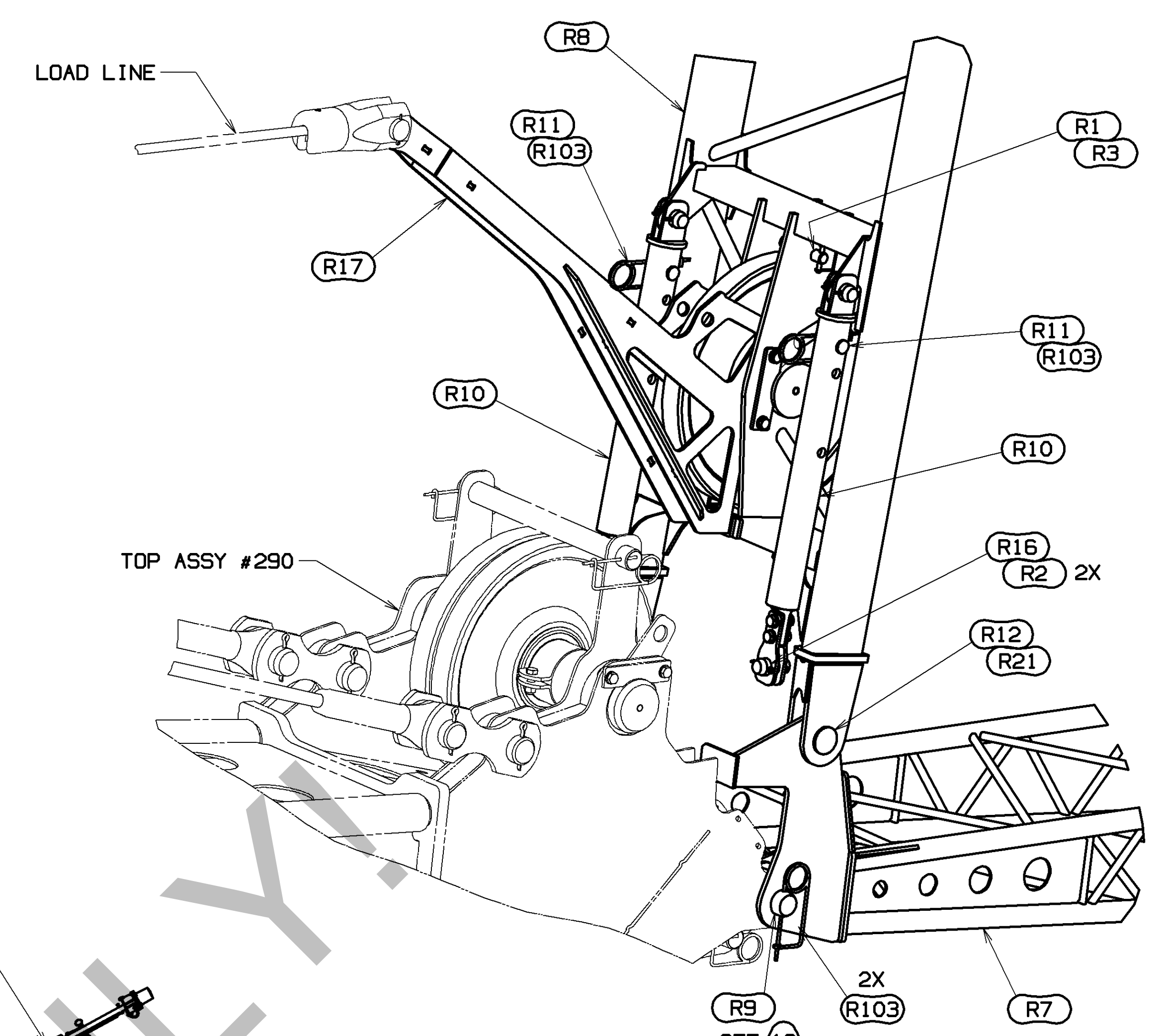


**DETAIL H**  
SCALE 0.150

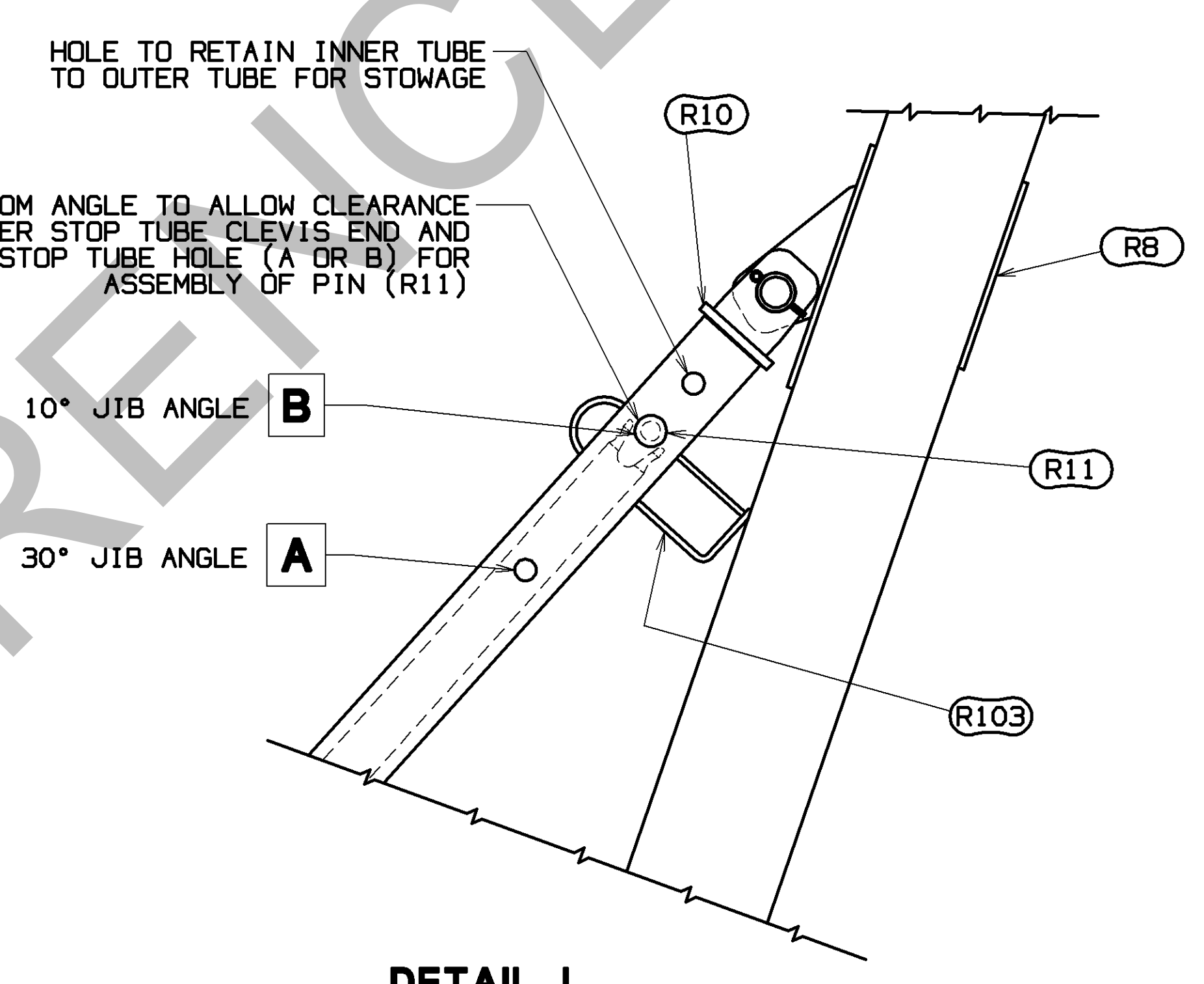


**STEP 3**  
STRUT RAISING AND BACKSTAY PENDANT TO BOOM TOP

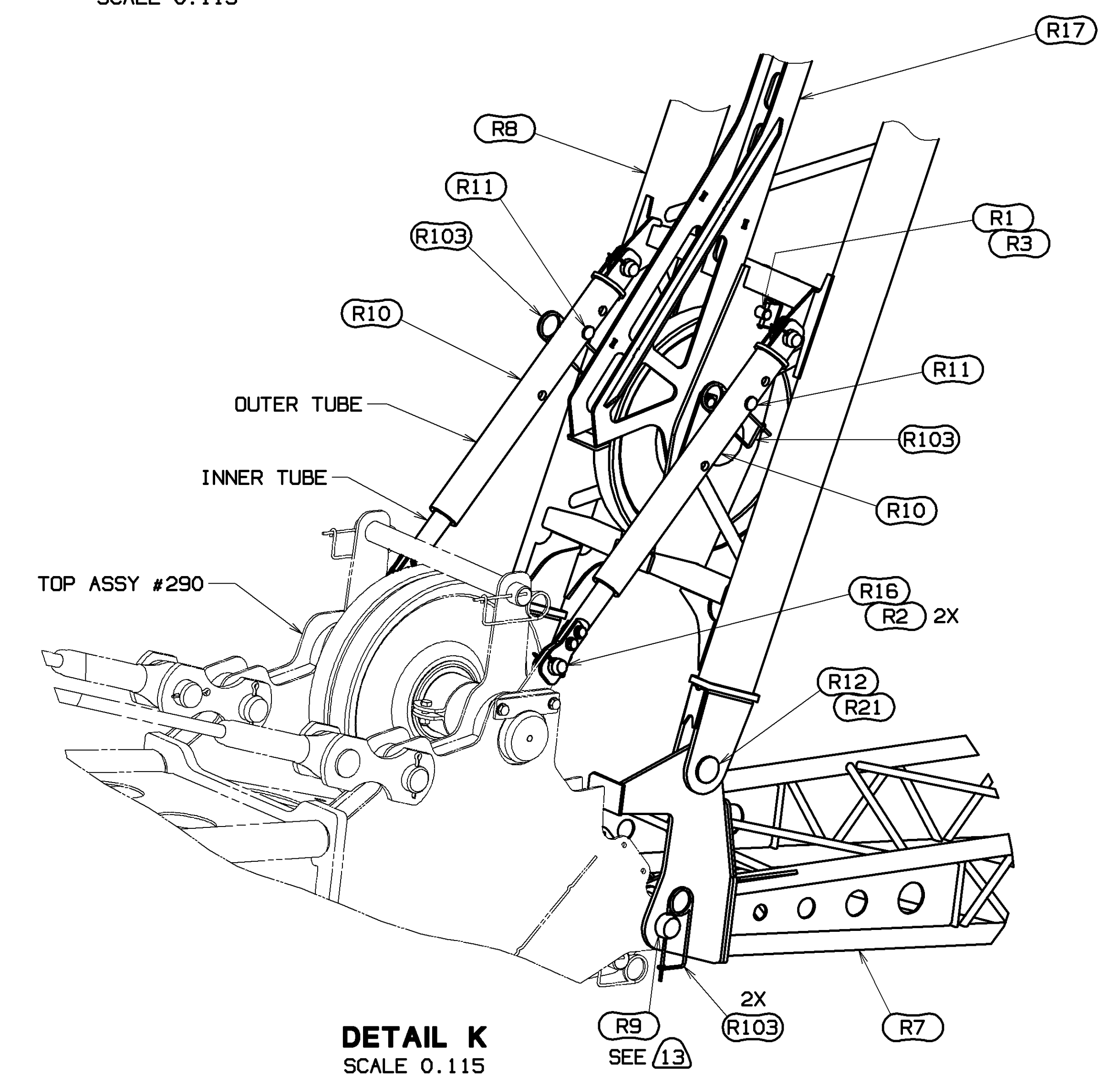
HOIST IN TO RAISE STRUT (R8). CONTINUE RAISING STRUT WITH LOAD LINE UNTIL FRONTSTAY PENDANTS ARE TIGHT. PIN BACKSTAY PENDANT (ITEM 5 FOR 10° JIB ANGLE OR ITEM 201 FOR 30° JIB ANGLE) TO BACKSTAY LUGS ON BOOM TOP. (SEE DETAIL H).  
NOTE: IF REQUIRED LIFT JIB OFF GROUND USING THE LOAD LINE TO PIN BACKSTAY PENDANTS TO BACKSTAY LUGS.  
DO NOT RAISE JIB MORE THAN REQUIRED TO MAKE BACKSTAY CONNECTION.



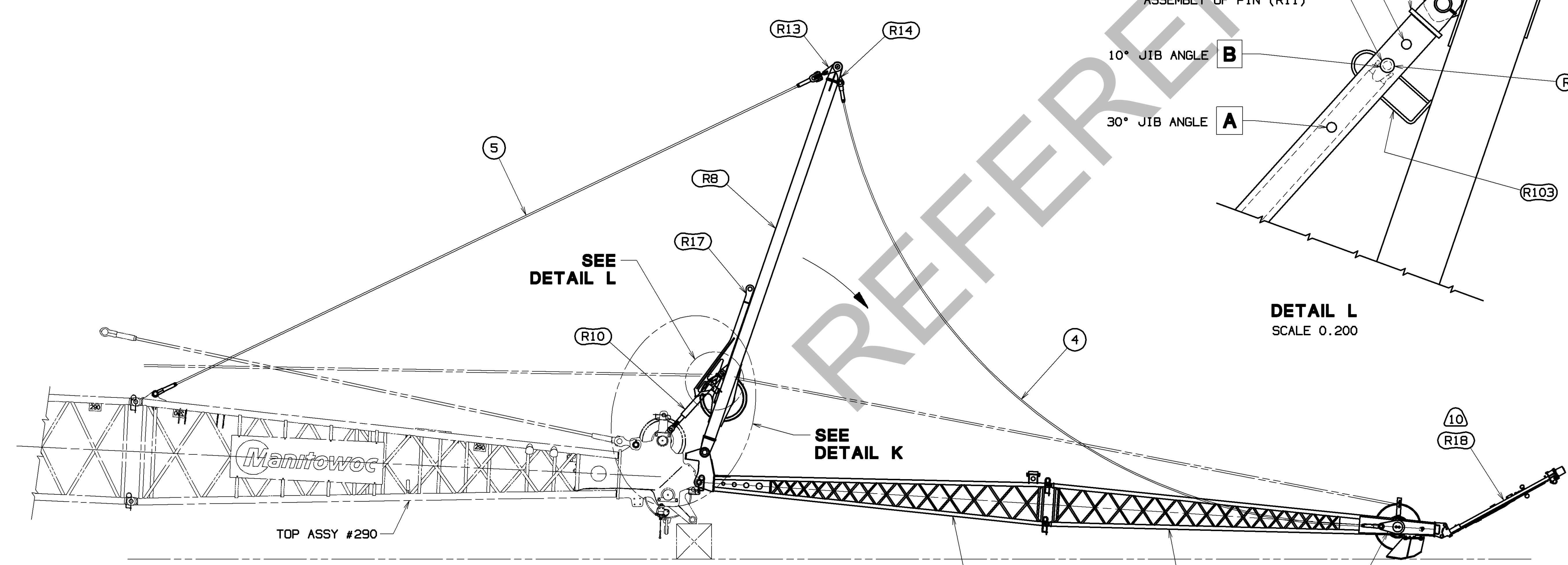
**DETAIL J**  
SCALE 0.115



**DETAIL L**  
SCALE 0.200



**DETAIL K**  
SCALE 0.115



**STEP 4**  
STRUT RAISING ARM STOWAGE AND STOP ASSEMBLY INSTALLATION

ALLOW STRUT (R8) TO ROTATE FORWARD UNTIL BACKSTAY PENDANTS (ITEM 5 OR ITEM 200) ARE TIGHT. DETACH LOAD LINE FROM STRUT RAISING ARM (R17). ROTATE STRUT RAISING ARM TOWARD STRUT. REATTACH STRUT RAISING ARM (R17) TO STRUT (R8) WITH PREVIOUSLY REMOVED WIRE ROPE GUARD (R1) AND SAFETY PIN (R3). (SEE DETAIL K).  
REMOVE PIN (R16) AND COTTER PINS (R2) FROM THE ATTACHMENT PLATES AT THE END OF THE INTERNAL TUBE OF STRUT STOPS (R10). (SEE DETAIL J). FROM OUTER TUBE OF STRUT STOPS (R10) REMOVE PIN (R11) AND SAFETY PIN (R103) FROM TOP HOLE THAT RETAINS INNER TUBE TO OUTER TUBE. ROTATE INNER TUBE ASSY 90° AND ATTACH TO BOOM TOP STRUT STOP LUGS WITH PIN (R16) AND COTTER PINS (R2). (SEE DETAIL K). REINSTALL PIN (R11) AND SAFETY PIN (R103) INTO OUTER STOP TUBE HOLE AS INDICATED PER JIB ANGLE TABLE ON SHEET 1. (SEE DETAIL K AND DETAIL L).  
NOTE: IF REQUIRED BOOM UP TO ALLOW INNER STOP TUBE CLEARANCE TO INSTALL PIN (R11). (SEE DETAIL L).  
REEVE LOAD LINE THROUGH JIB STRUT WIRE ROPE GUIDE TO JIB TOP.  
RAISE BOOM UNTIL BACKSTAY AND FRONTSTAY PENDANTS ARE TIGHT.

HOLE TO RETAIN INNER TUBE TO OUTER TUBE FOR STOWAGE  
ADJUST BOOM ANGLE TO ALLOW CLEARANCE OF INNER STOP TUBE CLEVIS END AND OUTER STOP TUBE HOLE (A OR B) FOR ASSEMBLY OF PIN (R11)

10° JIB ANGLE B  
30° JIB ANGLE A

**TO DISASSEMBLE JIB**

1. BOOM DOWN TO ALLOW JIB TOP TO MAKE CONTACT WITH GROUND.
2. CONTINUE TO BOOM DOWN AND SUPPORT BOOM ON BLOCKING.
3. UNREEVE LOAD LINE.
4. DETACH STRUT STOPS (R10) FROM BOOM TOP STRUT LUGS AND LOCATE STOP INNER TUBE TO OUTER TUBE. (REVERSE OF ASSEMBLY STEP 4).
5. DISENGAGE STRUT RAISING ARM (R17) AND ATTACH TO LOAD LINE. HOIST IN TO RAISE STRUT (R8) WITH STRUT RAISING ARM (R17). (SEE DETAIL J).
6. DETACH BACKSTAY PENDANT (ITEM 5 OR ITEM 200) FROM BACKSTAY LUGS ON BOOM TOP. (SEE DETAIL H).
7. HOIST OUT TO LOWER STRUT (R8) ONTO JIB BUTT (R7). (REFER TO STEP 2 ON SHEET 2 FOR CONFIGURATION).
8. LOWER STRUT RAISING ARM (R17) ONTO STRUT (R8) AND SECURE WITH WIRE ROPE GUARD (R1) AND SAFETY PIN (R3). DETACH LOAD LINE. (SEE DETAIL G ON SHEET 2).
9. DETACH BACKSTAY PENDANT (ITEM 5) FROM STRUT LINK (R13) AND FRONTSTAY PENDANT (ITEM 4 OR ITEM 100) FROM STRUT LINK (R14). (SEE DETAIL B ON SHEET 1). DETACH FRONTSTAY PENDANT (ITEM 4) FROM JIB TOP (ITEM 2) AND LINK (R23). (SEE DETAIL D ON SHEET 1).
10. DISASSEMBLE JIB AND DETACH JIB BUTT ASSY (ITEM 1) FROM JIB TOP. (REVERSE OF ASSEMBLY STEP 1 ON SHEET 2).