

INSERTS, PENDANTS, AND TIMBERS REQ'D. FOR VARIOUS BOOM LENGTHS

DWG. NO.	171227	171228 (23)	171229	171471	277382 DWG. 78145	277383 DWG. 78145	277384 DWG. 78145	171697	666852
BOOM LENGTH	10 FT 3.05m INSERT	20 FT 6.10m INSERT	40 FT 12.19m INSERT	40 FT 12.19m LIGHT INSERT	10 FT 1.00 3.07m PENDANT	20 FT 1.50 6.13m PENDANT	40 FT 3.00 12.27m PENDANT	WIRE ROPE TIMBER	(OPTIONAL) PENDANT TIE DOWN STRAPS SEE (6) & (17)
	FEET	METERS							
190	0	2	1	0	0	8	8	4	14
200	1	2	1	0	4	8	12	5	18
210	0	1	2	0	4	8	12	5	16
220	1	1	2	0	4	8	12	6	20
230	0	2	2	0	4	8	12	6	20
240	1	2	2	0	4	8	12	7	24
250	0	1	3	0	4	8	16	7	22
260	1	1	3	0	4	8	16	8	26
270	0	2	3	0	4	8	16	8	26
280	1	2	3	0	4	8	20	8	24
290	1	0	4	0	4	8	16	9	30
300	1	1	3	1	4	4	20	10	32
310	0	2	3	1	0	8	20	10	32
320	1	2	3	1	4	8	20	11	36
330	0	1	3	2	0	4	24	11	34

BOOM HANDLING INSTRUCTIONS
TRAVEL SPEED NOT TO EXCEED 1/2 MPH (.80 km/h)
BOOM ANGLE AT 10° OR LESS.

GANTRY POSITION	MAX. LENGTH OF BOOM HANDLED		BOOM MAKE UP	BOOM CONDITIONS OR LIMITATIONS
	FEET	METERS		
DOWN	40	12.19	BUTT ONLY	EQUALIZER PINNED TO RAILS
UP	120	36.6	BUTT & INSERTS	EQUALIZER PINNED TO RAILS. CAN CANTILEVER 80 FT. (24.4m) OF INSERTS.

- INSERT NOTES:**
- THE SHORTER INSERTS MUST BE CLOSEST TO THE BUTT. (10 FT (3.05m) INSERT FIRST, THEN THE 20 FT (6.10m) INSERTS.)
 - SEE CRANE ASSEMBLY AND RIGGING GUIDE IN THE OPERATORS MANUAL FOR INSTRUCTIONS ON JIB STOWAGE.
 - INSERT 171471 (40 FT (12.19m) LIGHT INSERT) MUST BE LOCATED IMMEDIATELY BELOW THE TRANSITION INSERT.

- GENERAL NOTES:**
- WHEN #132 JIB IS USED, RUN LOAD LINE FROM WIRE ROPE GUIDE ASSEMBLY 173242, OVER JIB STRUT SHEAVE, TO JIB POINT.

BILL OF MATERIAL

QTY	DESCRIPTION	MATERIAL	QTY	DESCRIPTION	MATERIAL
1	190 FT. (57.9m) BASIC BOOM		2	BOOM SIGN	22656
2	END PLATE	76095	2	EQUALIZER PENDANT LINK	169834
2	WASHERS	137502	1	GANTRY ASSEMBLY	170418
2	PIN	167015	1	BOOM POINT SHAFT ASSEMBLY (LOWER)	170422
1	BOOM ANGLE INDICATOR ASSEMBLY	168779	4	PIN	170690
2	PENDANT LINK	169785	1	EQUALIZER ASSEMBLY	171248
2	EQUALIZER PENDANT LINK	169834	1	40 FT. (12.19m) BUTT LOWER SECTION	171283
1	GANTRY ASSEMBLY	170418	1	40 FT. (12.19m) BUTT UPPER SECTION	171284
1	BOOM POINT SHAFT ASSEMBLY (LOWER)	170422	1	LONG REACH BOOM TOP (40 FT.)-(12.19m)	171483
4	PIN	170690	1	LONG REACH BOOM TOP (40 FT.)-(12.19m)	174307
1	EQUALIZER ASSEMBLY	171248	2	PIN	171500
1	40 FT. (12.19m) BUTT LOWER SECTION	171283	1	UPPER ROPE GUIDE ASSEMBLY	171669
1	40 FT. (12.19m) BUTT UPPER SECTION	171284	1	TIMBER (WIRE ROPE)	171707
1	LONG REACH BOOM TOP (40 FT.)-(12.19m)	171483	1	TRANSITION INSERT (30 FT.)-(9.14m)	172048
1	LONG REACH BOOM TOP (40 FT.)-(12.19m)	174307	1	TRANSITION INSERT (30 FT.)-(9.14m)	171484
2	PIN	171500	2	PIN	172132
1	UPPER ROPE GUIDE ASSEMBLY	171669	2	TIMBER	172478
1	TIMBER (WIRE ROPE)	171707	2	PENDANT LINK	172669
1	TRANSITION INSERT (30 FT.)-(9.14m)	172048	2	PENDANT LINK	172670
1	TRANSITION INSERT (30 FT.)-(9.14m)	171484	2	PIN	172675
2	PIN	172132	2	LINK	172676
2	TIMBER	172478	4	PIN	172677
2	PENDANT LINK	172669	1	WIRE ROPE GUIDE ASSEMBLY	173242
2	PENDANT LINK	172670	4	PENDANT BASIC (30 FT.)-(9.14m)	276826
2	PIN	172675	2	PENDANT	277369
2	LINK	172676			
2	PIN	171780			
2	LINK	171795			
2	PIN	172028			
2	LINK	172029			
2	LINK	172030			

FOR MACHINES W/SELF-ERECT ADD THE FOLLOWING ITEMS:

2	PIN	139128
4	KEEPER	164479
1	LINK	171522
1	WIRE ROPE GUIDE ASSY CRAW. HANDLING	171621
2	PIN	172111
1	PIN	172112
4	BUSHING	A04261
1	CYLINDER	385413

OPTIONAL PARTS

1	BOOM POINT ASSEMBLY (UPPER)	170419
1	BOOM BUTT (40 FT.)-(12.19 M)	171230
1	TIMBER (JIB STORAGE)	171697
1	WIRE ROPE GUIDE ASSEMBLY	172559
1	RIGGING WINCH ASSEMBLY	172577
12	PENDANT TIE DOWN STRAP	666852

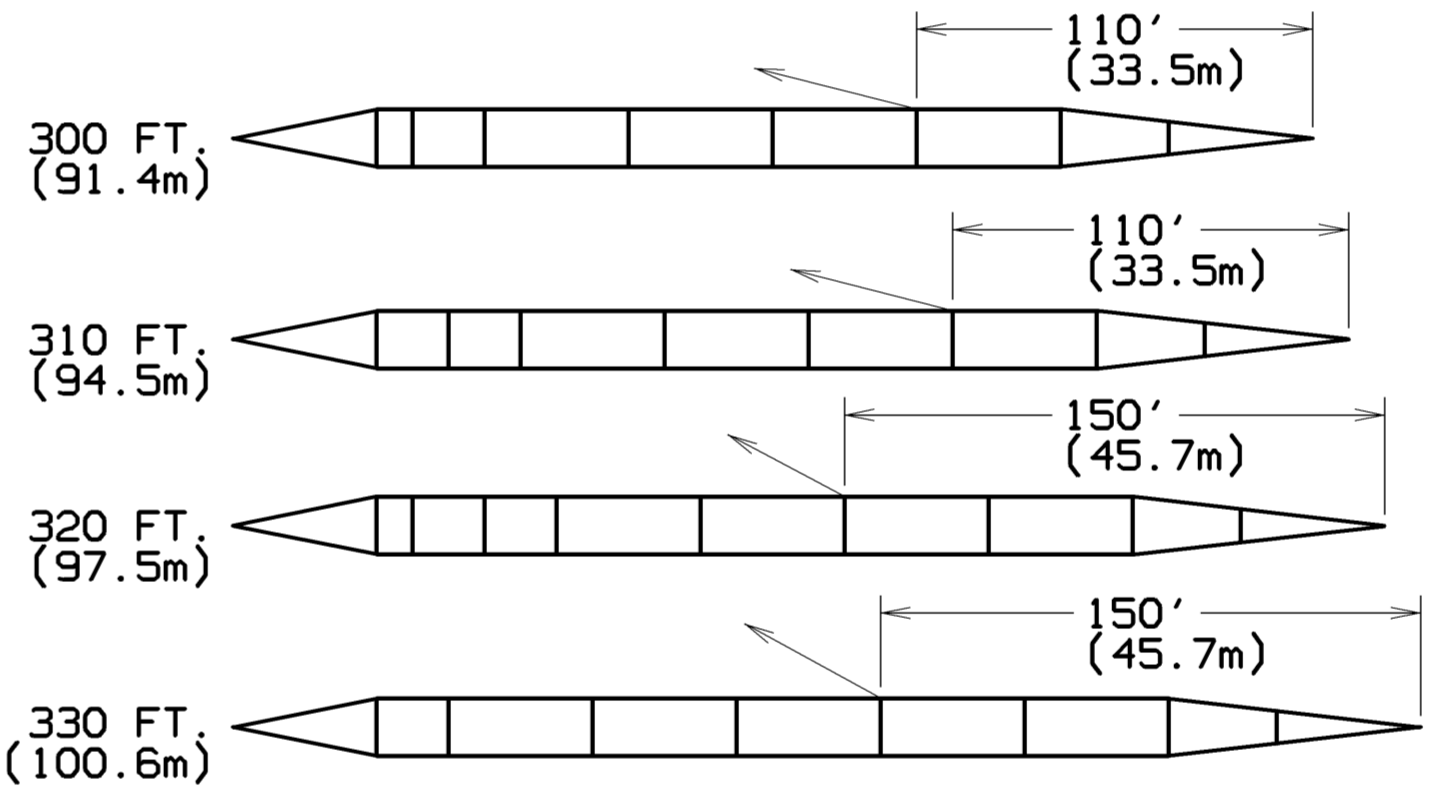
REQ. FOR INTERMEDIATE SUSPENSION

2	PIN	75465
2	PIN	171870
2	PIN	170844
2	LINK	171761
2	PIN	171780
2	LINK	171795
2	PIN	172028
2	LINK	172029
2	LINK	172030

PENDANTS REQ'D FOR INTERMEDIATE SUSPENSION

DWG. NO.	277182 DWG. 77523	277392 DWG. 77535	276897 DWG. 77535
BOOM LENGTHS	68 FT - 4.00 (20.80 M)	59 FT - 7.00 (18.20 M)	10 FT (3.05 M)
FEET	68	59	10
METERS	20.80	18.20	3.05
300	2	2	4 (SEE 16)
310	2	2	6 (SEE 16)
320	2	2	0
330	2	2	2 (SEE 16)

- INTERMEDIATE SUSPENSION NOTES:**
- INTERMEDIATE SUSPENSION REQ'D. FOR BOOM LENGTHS OF 300 FT. (91.4m) THRU 330 FT. (100.6m)
 - SUSPENSION IS ATTACHED TO BOOM USING LINK 171761, WHICH IS LOCATED AS FOLLOWS:



- LINKS 172029 AND 172030 SHOULD BE PINNED TOGETHER TO PROVIDE THE FOLLOWING LENGTH PRIOR TO CHECKING BOOM DEFLECTION.

BOOM LENGTH	LINK ASS'Y.	LENGTH DIM. "T" ON VIEW "C"
300	FEET	METERS
300	91.4	48.750 IN. (1238.25 mm)
310	94.5	44.875 IN. (1139.83 mm)
320	97.5	51.750 IN. (1314.45 mm)
330	100.6	49.625 IN. (1260.48 mm)

- ADJUST LINKS 172029 AND 172030 WITH THE BOOM ONLY IN THE SELF-SUPPORTED HORIZONTAL POSITION (0° BOOM ANGLE). TO THE FOLLOWING IN PLANE DEFLECTIONS:

BOOM LENGTH	DEFLECTION	DEFLECTION LOCATION
300	28.0" (711.2 mm)	
310	27.0" (685.8 mm)	DEFLECTION TO BE MEASURED AT LINK 171761.
320	30.0" (762.0 mm)	
330	31.5" (800.1 mm)	

- RIGHT AND LEFT SIDE OF BOOM MUST BE ADJUSTED AND CHECKED INDEPENDENTLY.

- USE LOCTITE #242 OR EQUIVALENT ON MOUNTING SCREW THREADS AT ASSEMBLY. DELETE WHEN OPTIONAL ONE PIECE BUTT 171230 IS USED.
- BOSS ON LINK 171761 MUST ALWAYS BE TO THE OUTSIDE OF THE BOOM. SEE SECTION D - D.
- LOCATE 10 FT (3.05m) PENDANTS NEXT TO EQUALIZER.
- SEE CRANE ASSEMBLY AND RIGGING GUIDE IN THE OPERATIONS MANUAL FOR INSTRUCTIONS ON PENDANT STOWAGE.
- USED ON BOOM TOP AND TRANSITION INSERT. 6 FOR BOOM TOP, 6 FOR TRANSITION INSERT.
- (12 FT.)-(3.66m)
- (28 FT.)-(8.53m)
- TOP 171483 MUST BE USED WITH TRANSITION INSERT 172048 (FACT PIN CONNECTOR).
- TOP 174307 MUST BE USED WITH TRANSITION INSERT 171484 (STD. PIN CONNECTOR).

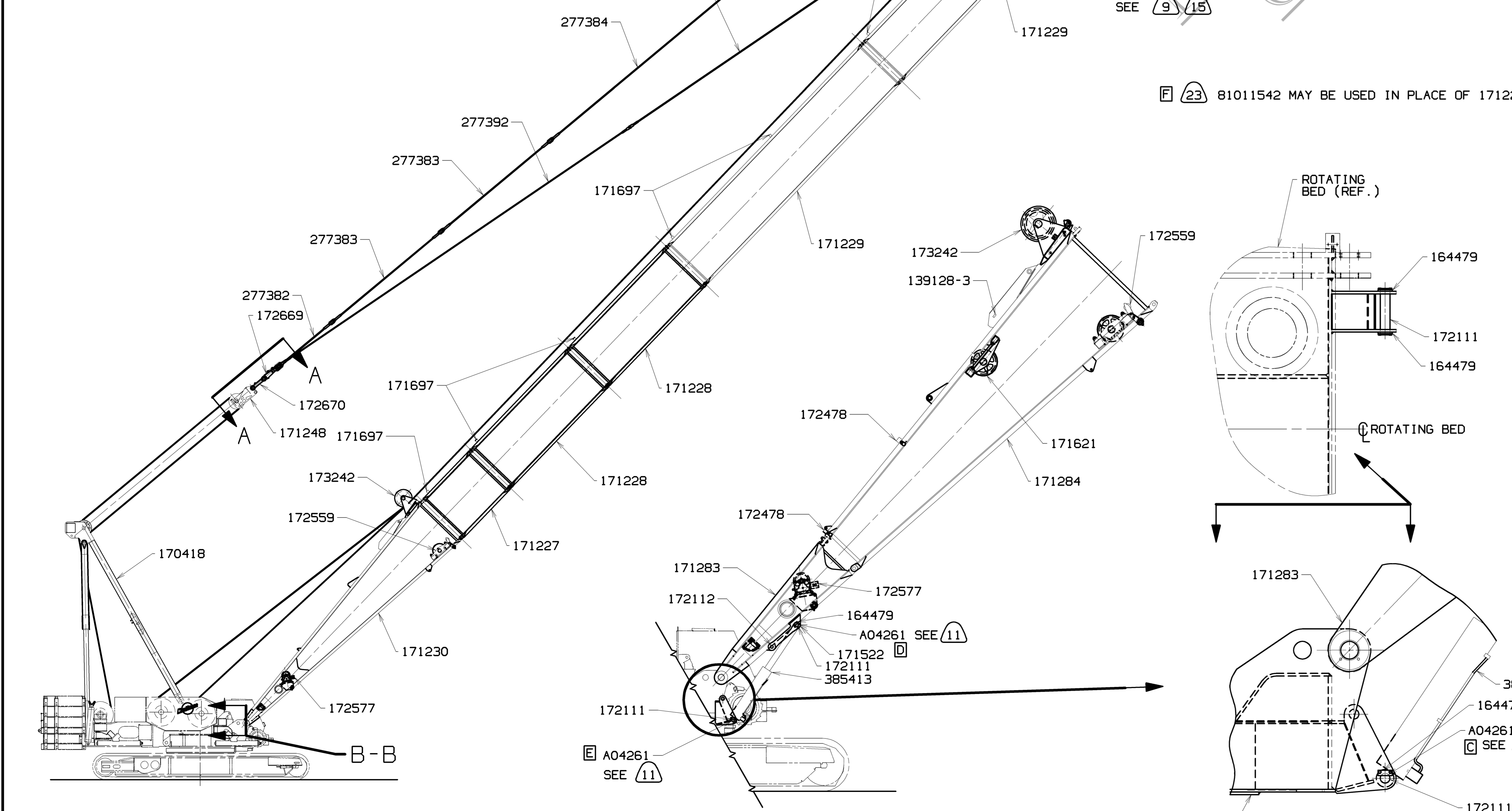
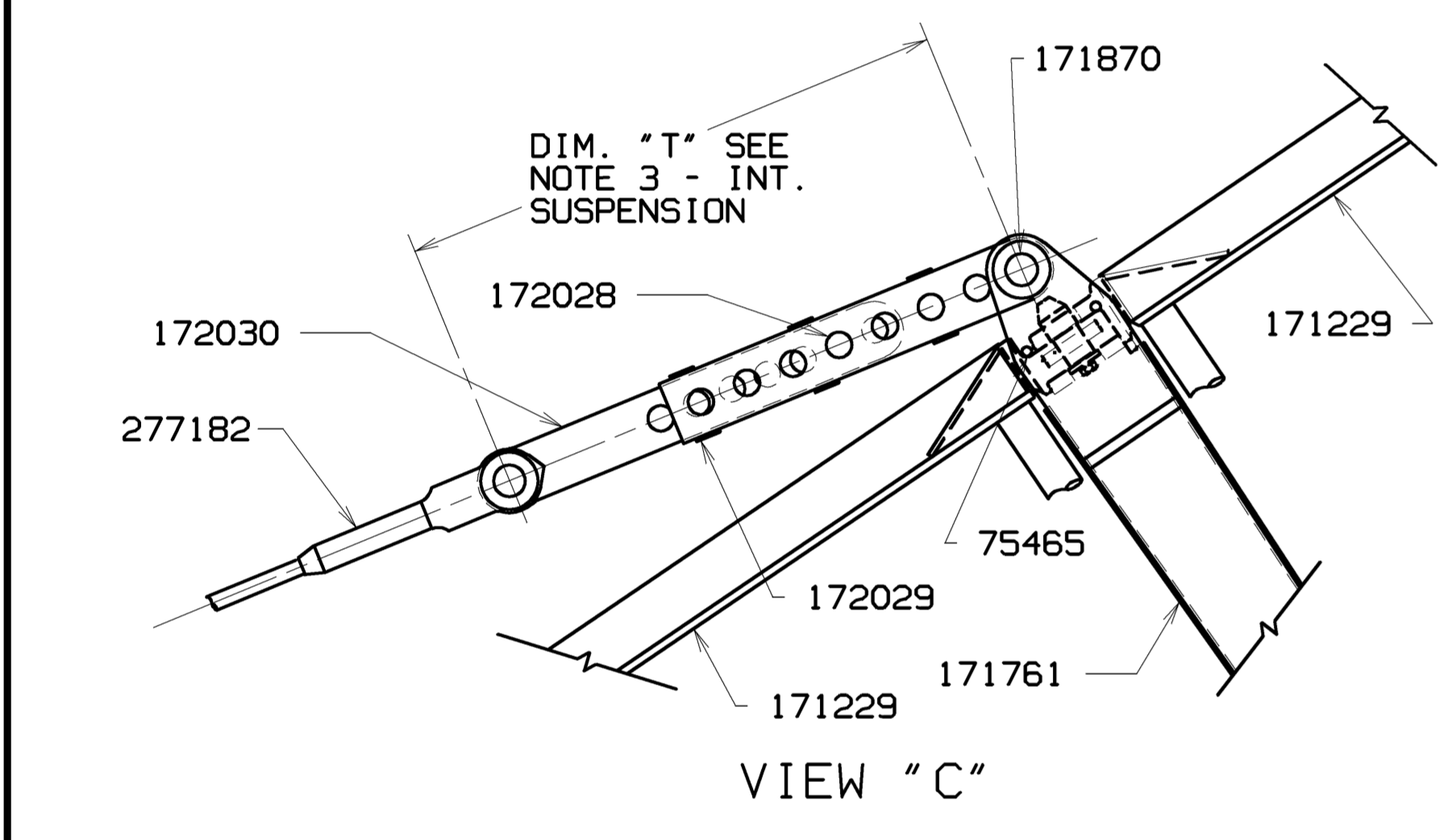
- 1.125 (29 mm) WIRE ROPE.
- ON DWG. 139117, GANTRY TIE DOWN PENDANT.
- ON DWG. 78145, LOCATE AS SHOWN, AFTER 277384 BELOW BOOM TOP.
- OPTIONAL 40 FT. (12.19 M) BUTT 171230 REPLACES THE COMBINATION OF BUTT SECTIONS 171283 & 171284. ONE PIECE BUTT CANNOT BE USED WITH SELF-ERECT.
- REQUIRED FOR LUFFING JIB, SELF-ERECT (CRAWLER HANDLING) AND RIGGING WINCH.
- REQUIRED FOR MACHINES W/SELF-ERECT.

STOWAGE TIMBER REQUIRED

STOWAGE CASE		TIMBERS (171697)
#132 JIB IN #44 BOOM		
FEET	METERS	
40	12.19	8
60 - 120	18.29 - 36.6	16
#133 JIB IN #44 BOOM		
FEET	METERS	
70 - 80	21.3 - 24.4	16
90 - 120	27.4 - 36.6	24
130 - 160	39.6 - 48.8	32
170 - 200	51.8 - 61.0	40

STOWAGE TIMBERS MUST BE REMOVED FROM BOOM SECTIONS FOR CRANE OPERATION.

- WITH USE OF INTERMEDIATE SUSPENSION, PIN 171500 IS REPLACED BY PIN 171780. INSTALL WITH HEAD ON BOTTOM. WIRE END PLATE SCREWS TOGETHER.
- IF MACHINE IS EQUIPPED WITH #132 JIB ASSEMBLY, LINKS 171761 AND PINS 75465, 170844 AND 171870 FROM JIB ASSEMBLY MAY BE USED.
- BOOM BUTT HANDLING:**
USED WITH 2-PIECE BOOM BUTT ONLY. MAX. COMBINATION THAT CAN BE HANDLED WITH CYLINDER 385413 IS: BUTT SECTIONS 171283 & 171284; ROPE GUIDES 173242, 172559 & 171621; RIGGING WINCH 172577; EQUALIZER 171248; BOOM STOPS 170474 REF. AND 2 PARTS OF 1.125 (29 mm) WIRE ROPE EQUALIZER HANDLING. CYLINDER MUST BE FULLY RETRACTED FOR CRANE OPERATION.
- INSTALL 2 BUSHINGS A04261 (1 EACH SIDE) IN LOWER PIN EYE AND 2 (1 EACH SIDE) IN UPPER PIN EYE OF CYLINDER 385413. BUSHINGS TO BE FLUSH WITH OUTSIDE FACE OF PIN EYE.
- PIN IN PLACE ONLY DURING EQUALIZER RELOCATION FROM GANTRY STORAGE TO BOOM BUTT EQUALIZER RAIL. PIN TO BE STOWED FOR NORMAL CRANE OPERATION.
- REMOVE WHEN JIB IS USED.



VIEW SHOWING 2-PIECE BUTT COMBINATION

ROTATING BED (REF.)

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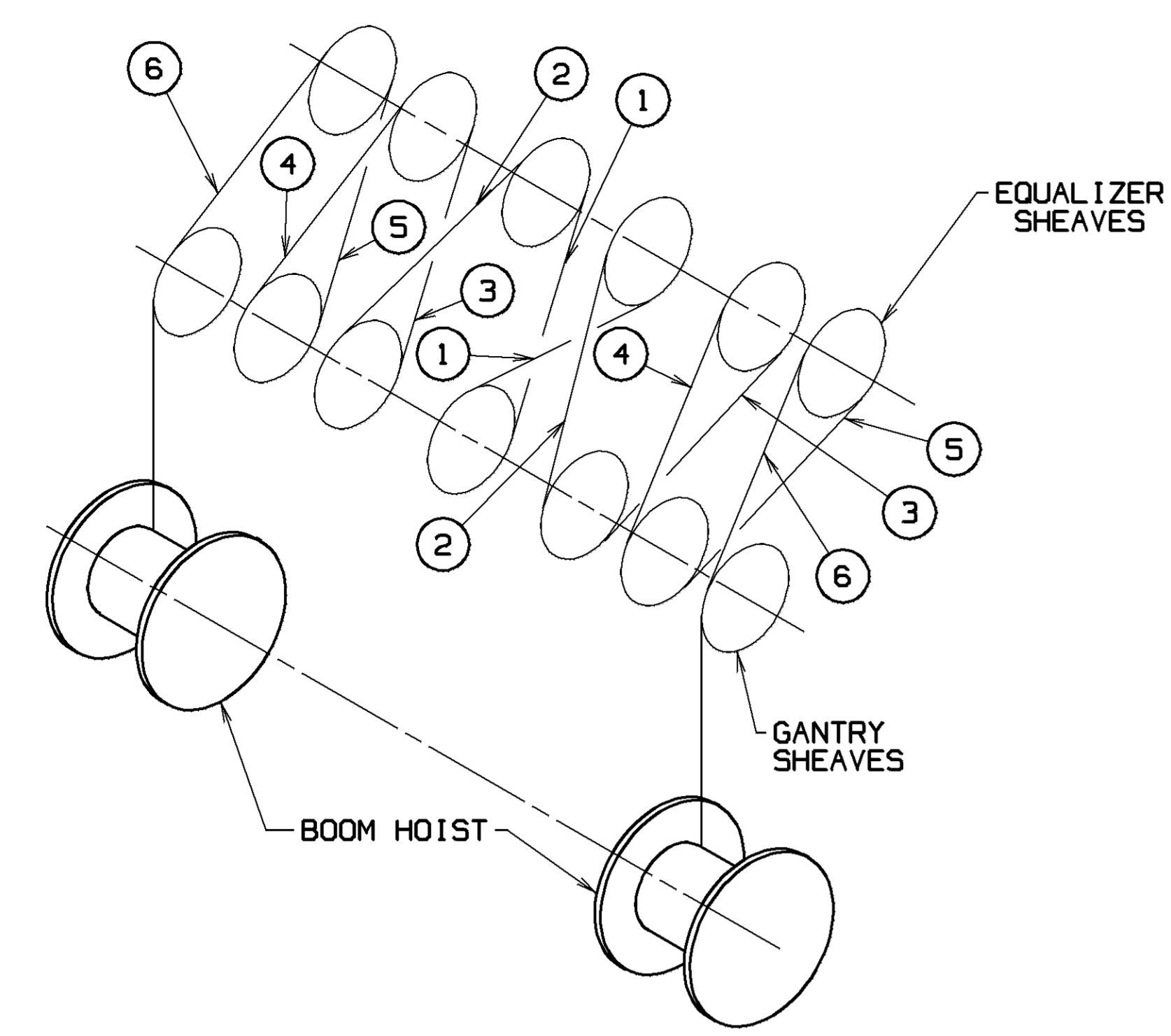
TOLERANCE UNLESS OTHERWISE SPECIFIED:
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FRACTIONS: 1/32 IN. (2.54 mm)
MACHINING: .0005
WELDING: .0005
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FITTING: .0005
THREADS: .0005
HOLE: .0005
SHAFT: .0005
RADIUS: .0005
ANGLE: 1:20

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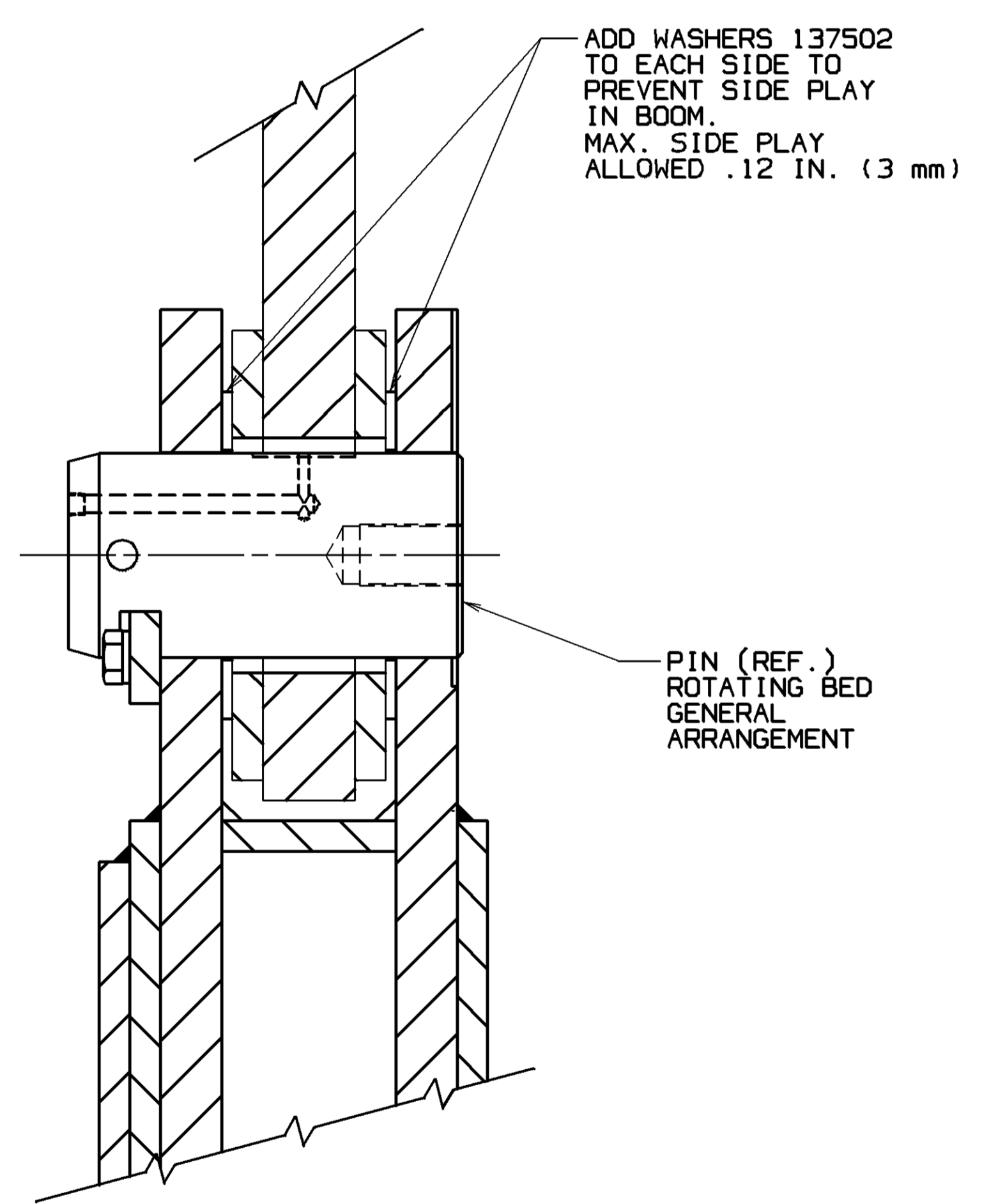
MANITOWOC CRANES, INC. BOOM RIGGING ASSEMBLY #44 BOOM LONG REACH 1.50 SHAGED PENDANTS (USA)

BILL OF MATERIAL				ASSEMBLIES USED ON
QTY	DESC	MATERIAL	UNIT	

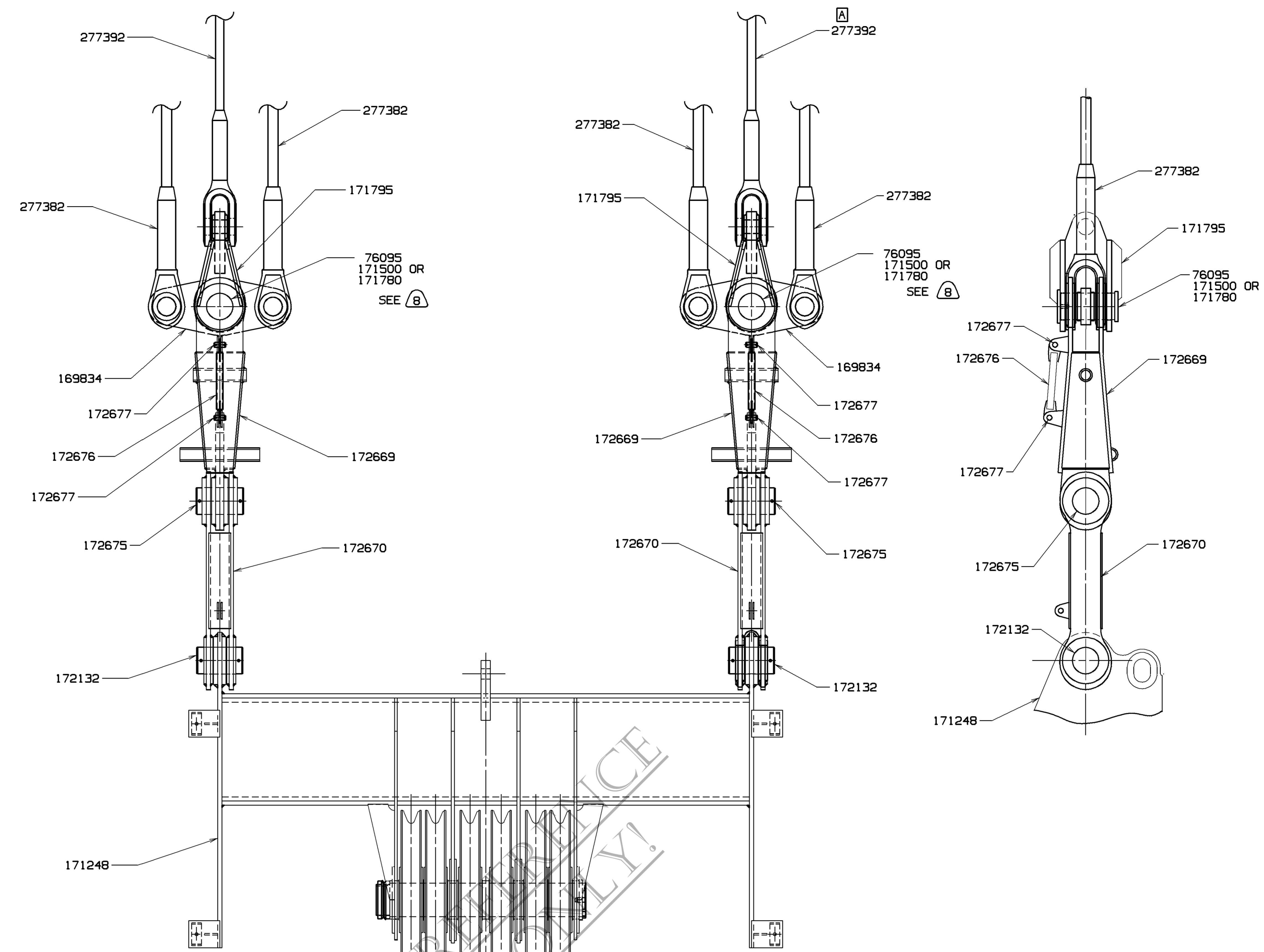
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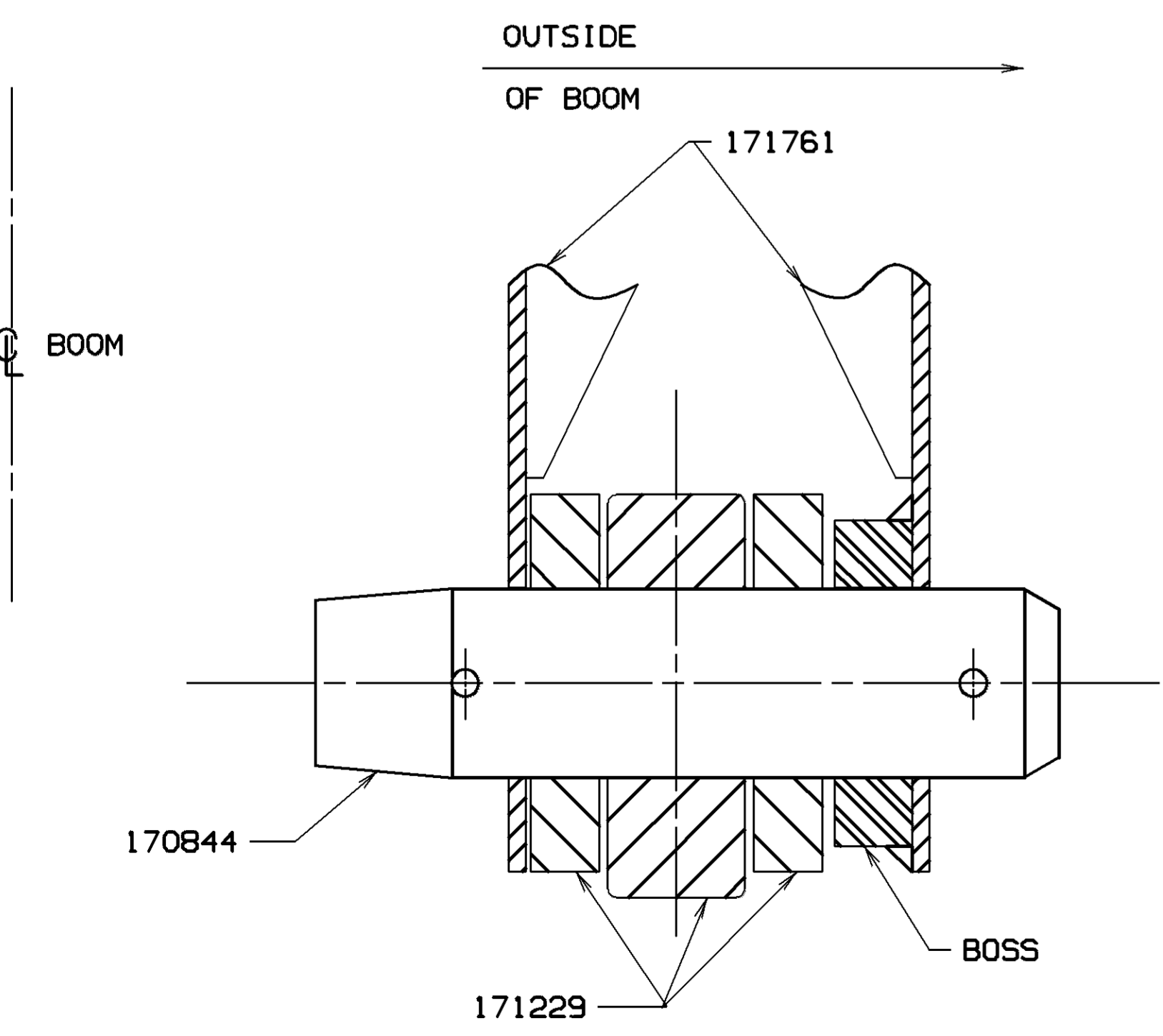
BOOM HOIST REEVING DIAGRAM FOR 12 PART LINE
 975 FEET (297.2m) OF 1.00" (26 mm)-6 X 26 WARRINGTON SEALE, EXTRA IMPROVED FLOW STEEL, ALTERNATE LAY, IWRC (719095) - B.S. 103,400 LBS. (46 900 kg)
 OR
 ALTERNATE WIRE ROPE
 975 FEET (297.2m) OF 1.00" (26 mm)-6 X 26 WARRINGTON SEALE, EXTRA IMPROVED FLOW STEEL, REGULAR LAY, IWRC (719276) - B.S. 103,400 LBS. (46 900 kg)
 OR
 ALTERNATE WIRE ROPE
 975 FEET (297.2m) OF 1.00" (26 mm) DYFORM-6 (719359) - B.S. 113,800 LBS. (51 620 kg)



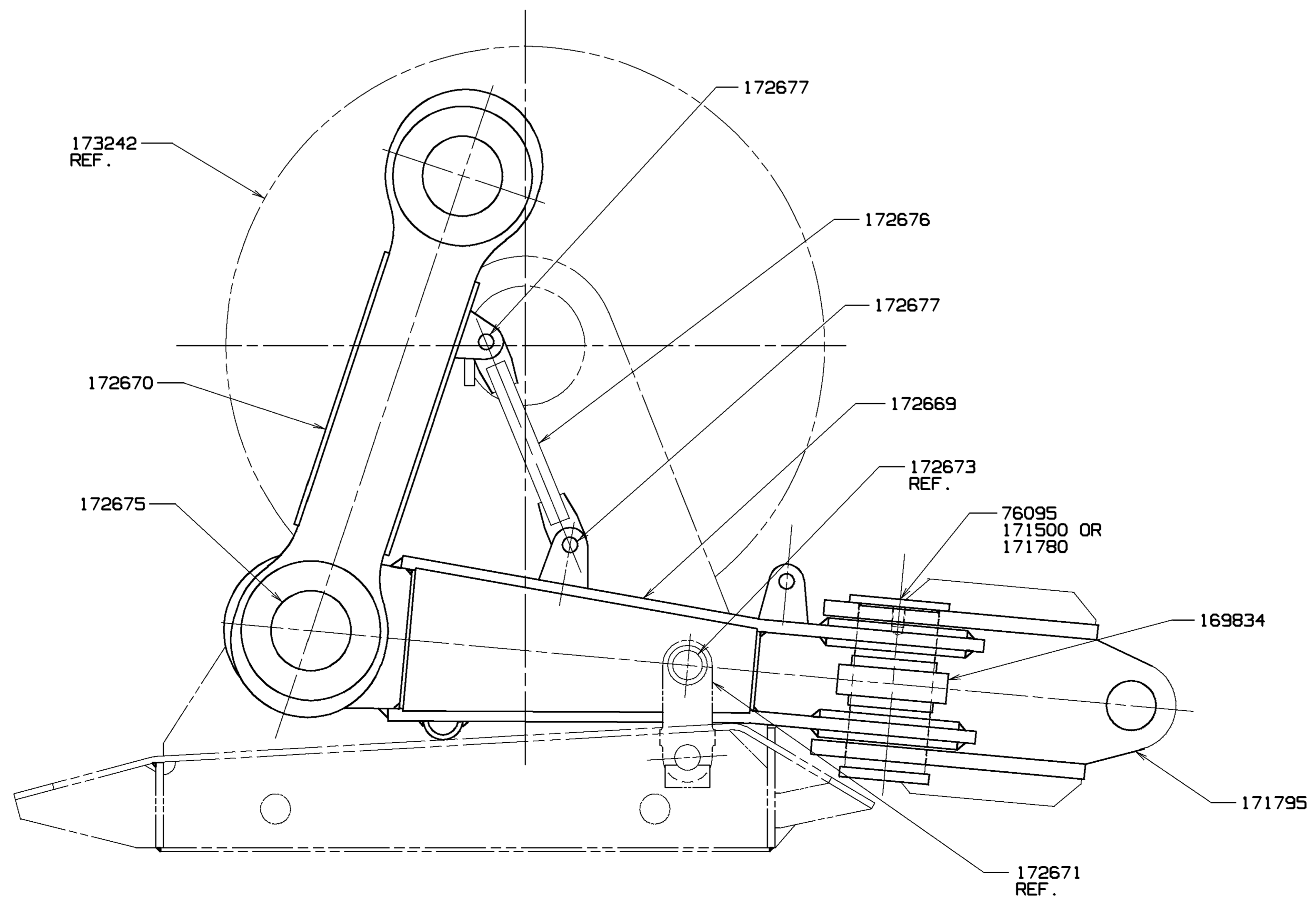
SECTION "B" - "B"



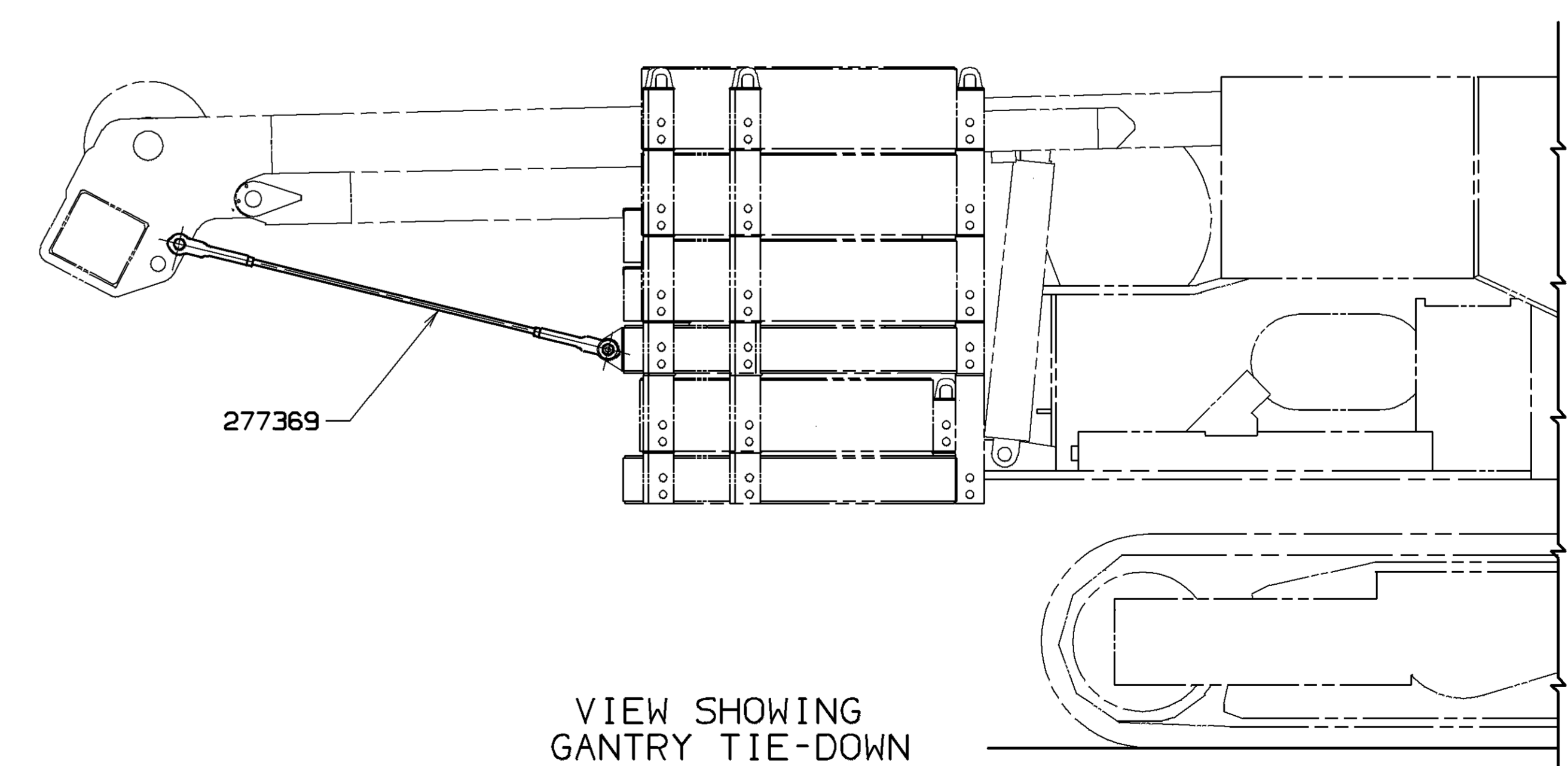
VIEW "A" - "A"



SECTION "D" - "D"



LINK STORAGE FOR SHIPPING



VIEW SHOWING GANTRY TIE-DOWN

SUPERSEDES 172612 OF 5-18-92

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DECIMAL PLACES	FABRICATION	MACHINING	DR: DJS	SCALE	DATE
(1) PLACE 0.0	± 1.50	± 1.50	DR: DJS	12-28-92	12-28-92
(2) PLACE 0.00	± 0.00	± 0.15	APP: TSC		
(3) PLACE 0.000	± 0.000	± 0.005			
ANGLES	± 30'	± 30'			