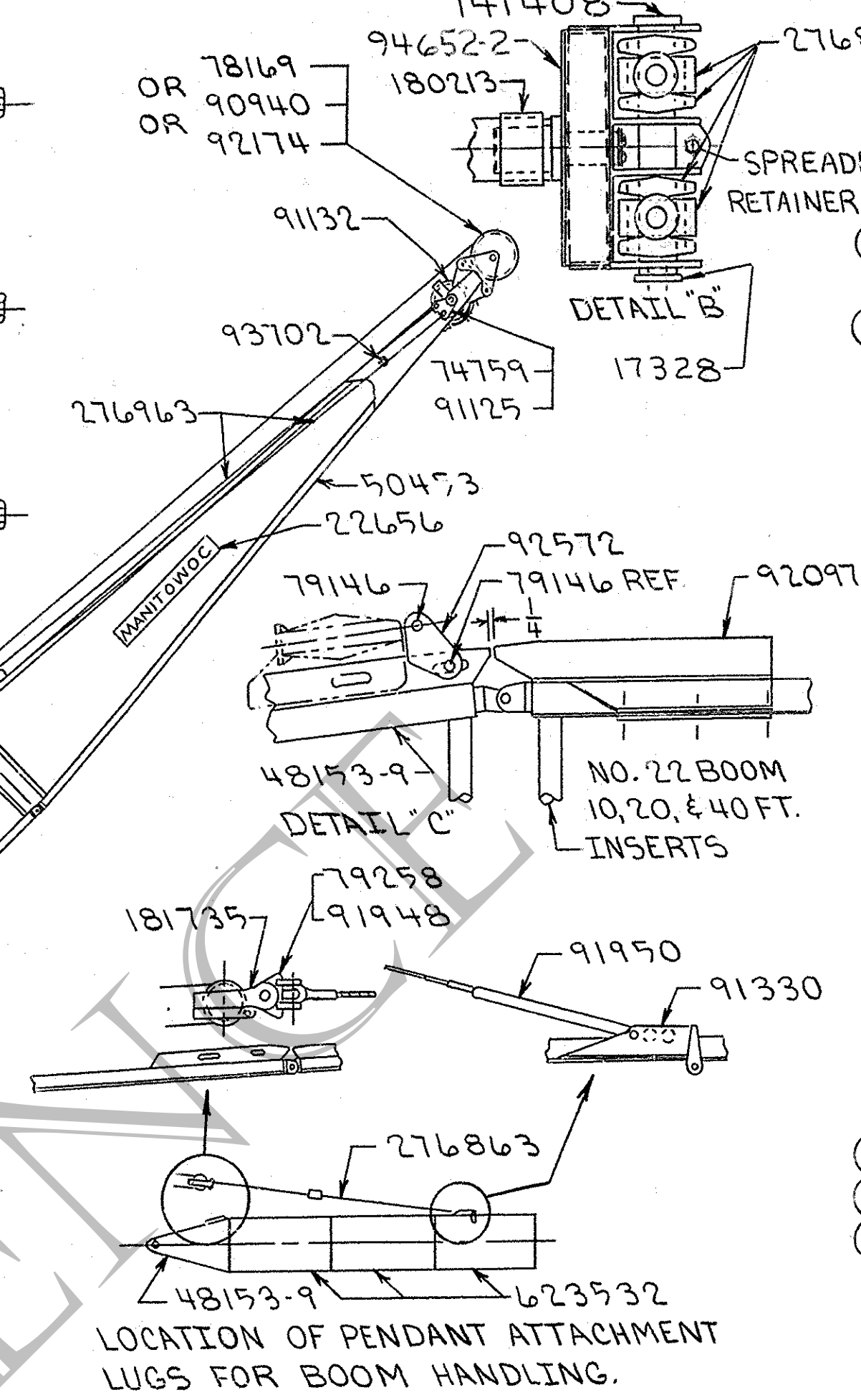
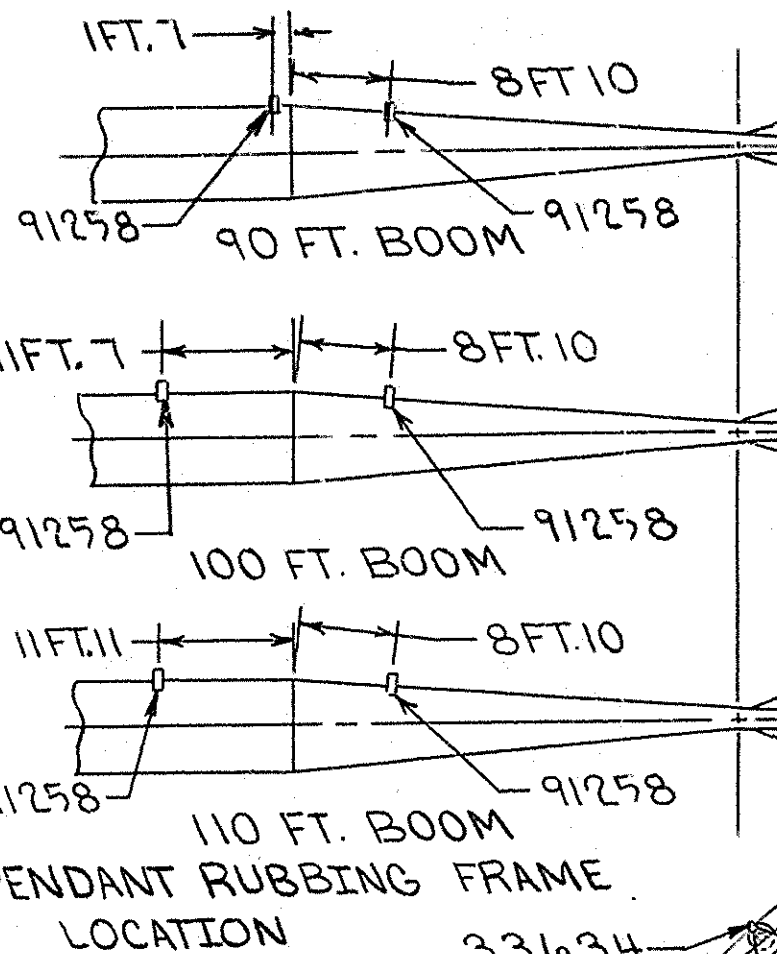


REQUIRED FOR VARIOUS BOOM LENGTHS						
DRAWING NUMBER	TOTAL LENGTH	TOTAL LENGTH	WIRE ROPE ROLLER GUIDE ASSY	WIRE ROPE ROLLER GUIDE ASSY	SPREADER IN LINE	PENDANT TIE BAR
BOOM LENGTH	OF INSERTS	OF PEND SETS				
80FT.	10FT.	10FT.	0	0	0	2
90FT.	20FT.	20FT.	0	1	0	2
100FT.	30FT.	30FT.	0	1	0	2
110FT.	40FT.	40FT.	1	1	0	2
120FT.	50FT.	50FT.	1	1	0	4
130FT.	60FT.	60FT.	2	1	1	2
140FT.	70FT.	70FT.	2	1	1	4
150FT.	80FT.	80FT.	3	1	1	4
160FT.	90FT.	90FT.	3	1	1	4
170FT.	100FT.	100FT.	4	1	1	2
180FT.	110FT.	110FT.	4	1	1	4
190FT.	120FT.	120FT.	5	1	1	4
200FT.	130FT.	130FT.	5	1	1	6
210FT.	140FT.	140FT.	6	1	1	4
220FT.	150FT.	150FT.	6	1	1	6

- INSERT NOTES:**
- MAX. NUMBER OF 10FT. INSERTS = 2
 - MAX. NUMBER OF 20FT. INSERTS = 2
 - BOOMS OVER 80FT SHOULD HAVE A MIN. OF (1) 20FT. INSERT TO PROPERLY LOCATE LOWER WIRE ROPE GUIDE.
 - INSERTS SHALL BE INSTALLED IN ORDER OF ASCENDING LENGTH.
 - COMBINATION OF 10FT. & 20FT. INSERTS CANNOT EXCEED 2-10FT. + 1-20FT. OR 1-10FT. + 2-20FT.

- 'PENDANT NOTES:**
- 'PENDANT SETS' DO NOT INCLUDE BASIC PENDANT #276963.
 - PENDANTS FURNISHED IN SETS OF FOUR.
 - MATCH LENGTHS OF PENDANT SETS TO LENGTHS OF INSERTS FURNISHED.
 - EIGHT 20FT. PENDANTS #276862 ARE REQUIRED TO LOCATE SPREADER FOR 110 AND 120 FT. BOOM LENGTHS.
 - FOR BOOM TOP OFFSET 4 1/2", PENDANT PINS #141408 AT EITHER 61 FT 7 3/4 OR 121 FT 7 3/4 FROM LOWER BOOM POINT TO ALLOW INSERTION OF SPREADER IN PROPER LOCATION.



- GENERAL NOTES:**
- SPREADER 33674 MAY NOT BE USED WITH THIS RIGGING ASSEMBLY.
 - PENDANT RUBBING FRAME REQ'D FOR 90FT. THRU 110FT. OF BM. WHEN TRAVELING WITH BM. & GANTRY DOWN. REMOVE FRAME FOR LENGTHS OVER 110FT.
 - JIB BACKSTAY LUGS ON BM. BUTT ARE OPTIONAL AND USED ONLY WITH 70 & 80FT. OF BM. JIB BACKSTAYS MUST BE DISCONNECTED BEFORE LOWERING EQUALIZER. (CANNOT BE USED WITH PENDANT TYPE BACKSTAYS.)
 - THIS RIGGING REQUIRES GANTRY ASSEMBLY 48175, 48177, 49263, 49621, OR 160814. FOR FIELD CONVERSION OF MACHINE WITH OTHER GANTRY, USE #48175.

BOOM HANDLING INSTRUCTIONS				
ATTACHMENT ARRANGEMENT	GANTRY POS. OF BM. HANDLED	BOOM MAKEUP	BOOM CONDITIONS OR LIMITATIONS	
EQUALIZER PINNED TO RAIL W/BOOM HANDLING LINK	DOWN	30FT. BUTT ONLY		
EQUALIZER PINNED TO RAIL W/BOOM HANDLING LINK	UP	BUTT & 40FT. INSERT		
PENDANTS PINNED TO ATTACHMENT LUGS (91330) ON INSERTS	DOWN	110FT. BUTT & 2-40FT. INSERTS	POINT OF ATTACHMENT MUST NOT EXCEED 80FT. FROM HINGE PIN.	
PENDANTS PINNED TO ATTACHMENT LUGS (91330) ON INSERTS	UP	150FT. BUTT & INSERTS	ONE 40FT. INSERT IS THE MAX. LENGTH TO BE CANTILEVERED FOR ANY LG. OF BOOM	
PENDANTS ATTACHED TO BOOM POINT (IN LINE TOP ONLY)	DOWN	110FT. BOOM NO JIB	BOOM CARRIED IN HORIZONTAL POSITION	
EQ. PINNED TO RAIL (REAR HOLE ON EQ. AT UPPER HOLE ON RAIL)			PROVIDES NECESSARY PENDANT SLACK FOR ASSEMBLY AND DISASSEMBLY	
EQ. PINNED TO RAIL (FWD. HOLE ON EQ. AT LOWER HOLE ON RAIL)			EQ. WILL NORMALLY LAND AT THIS POSITION WHEN LOWERED ONTO THE BUTT	

SPREADER INSTRUCTIONS FOR BOOM TOP IN LINE			
BOOM LENGTH	SPREADER REQUIRED	SPREADER LENGTH	LOCATION FROM LOWER BM. POINT
70FT.-120FT.	NO	-	-
130FT.-220FT.	YES	10FT. 6 5/8	81FT. 7 3/4

SPREADER INSTRUCTIONS (SEE NOTES) FOR BOOM TOP OFFSET 4 1/2"			
BOOM LENGTH	SPREADER REQUIRED	SPREADER LENGTH	LOCATION FROM LOWER BM. POINT
70FT.-90FT.	NO	-	-
100FT.-120FT.	YES	9FT. 8	61FT. 7-3/4
130FT.-170FT.	YES	11FT. 9-1/4	81FT. 7-3/4
180FT.-220FT.	YES	13FT. 5-1/4	121FT. 7-3/4

BILL OF MATERIAL					
ITEM NO.	QTY.	DESCRIPTION	LENGTH FT. IN.	MATERIAL	CODE NO. OR DWG. NO.

70 FT. BASIC BOOM					
NO.	DWG. NO.	DESCRIPTION	REMARKS	REVISIONS	
1	22656	BOOM SIGN			
1	33634	WIRE ROPE GUIDE	SEE GEN. NOTE 5		
1	48153-9	BOOM BUTT - 30FT.	SEE (A)		
1	160814	GANTRY ASSEMBLY	SEE GEN. NOTE 14		
1	50453	BOOM TOP - 40 FT.			
2	74759	BUSHING			
2	79146	PIN			
2	79258	PIN			
2	91125	PENDANT LINK			
1	91132	LOWER BOOM POINT ASSEMBLY	W-30D SHEAVES		
2	91948	PENDANT LINK			
2	92097	REMOVABLE EQUALIZER RAIL			
2	92572	BOOM HANDLING LINK			
1	181735	EQUALIZER ASSEMBLY			
4	276963	BASIC PENDANT - 40FT. 9-3/4	DWG. 139353		

OPTIONAL PARTS		
1	78169	JIB ADAPTOR ASSEMBLY
2	94652-2	SPREADER BRACKET
4	141408	PIN
4	17328	END PLATE
1	90940	UPPER BOOM PT. SHAFT ASSY (2-SHEAVE)
1	92174	UPPER BOOM PT. SHAFT ASSY (1-SHEAVE)
2	91330	PENDANT ATTACHMENT LUG ASSY
4	91258	PENDANT RUBBING FRAME (IN LINE TOP ONLY)
2	91950	PENDANT CONNECTING LINK
1	93110	PLATFORM FOR BOOM BUTT
1	93102	UNIVERSAL WIRE ROPE ANCHOR JOINT
1	138570	JIB BACKSTAY ANCHOR (IN LINE TOP ONLY)
33407-3	10FT. INSERT W/ MTC. CLIPS FOR ROPE GUIDE	
33426-3	20FT. INSERT W/ EQ. TIE DOWN OR SHEAR LUGS	
623532	40FT. INSERT W/ SHEAR LUGS	SEE (A) DWG. 50609
623526	40FT. INSERT W/ SHEAR & B'STAY LUGS	DWG. 50609
623580	20FT. INSERT W/ BACKSTAY LUGS	DWG. 33426
276861	10FT. PENDANT	DWG. 76280
276862	20FT. PENDANT	DWG. 76280
276863	40FT. PENDANT	DWG. 76280

OPTIONAL PARTS FOR 4-1/2" OFFSET TOP		
2	76998	BOOM JOINT PIN
2	79526	LINK
2	140555	SPACER

- (N) 1 BOOM BUTT 48153-9 CAN BE REPLACED BY 81012226
 (P) 2 BOOM INSERT 623532 CAN BE REPLACED BY 81013010

SUPERSEDES 48168 OF 9-7-79 & 48352	
MANITOWOC ENGINEERING CO.	BOOM RIGGING ASSY
MODEL 4000W	*22 BOOM
	LIFTCRANE

