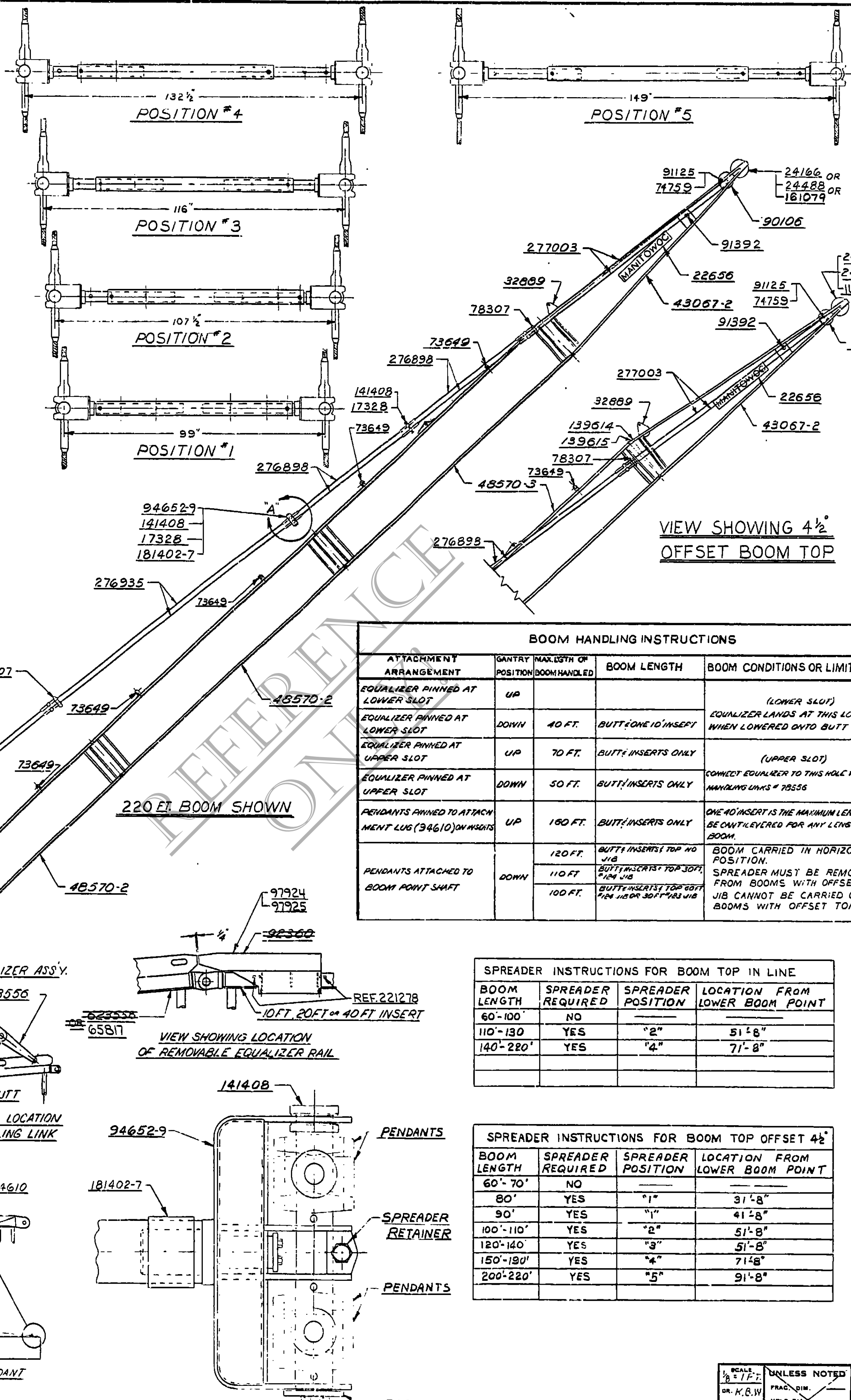
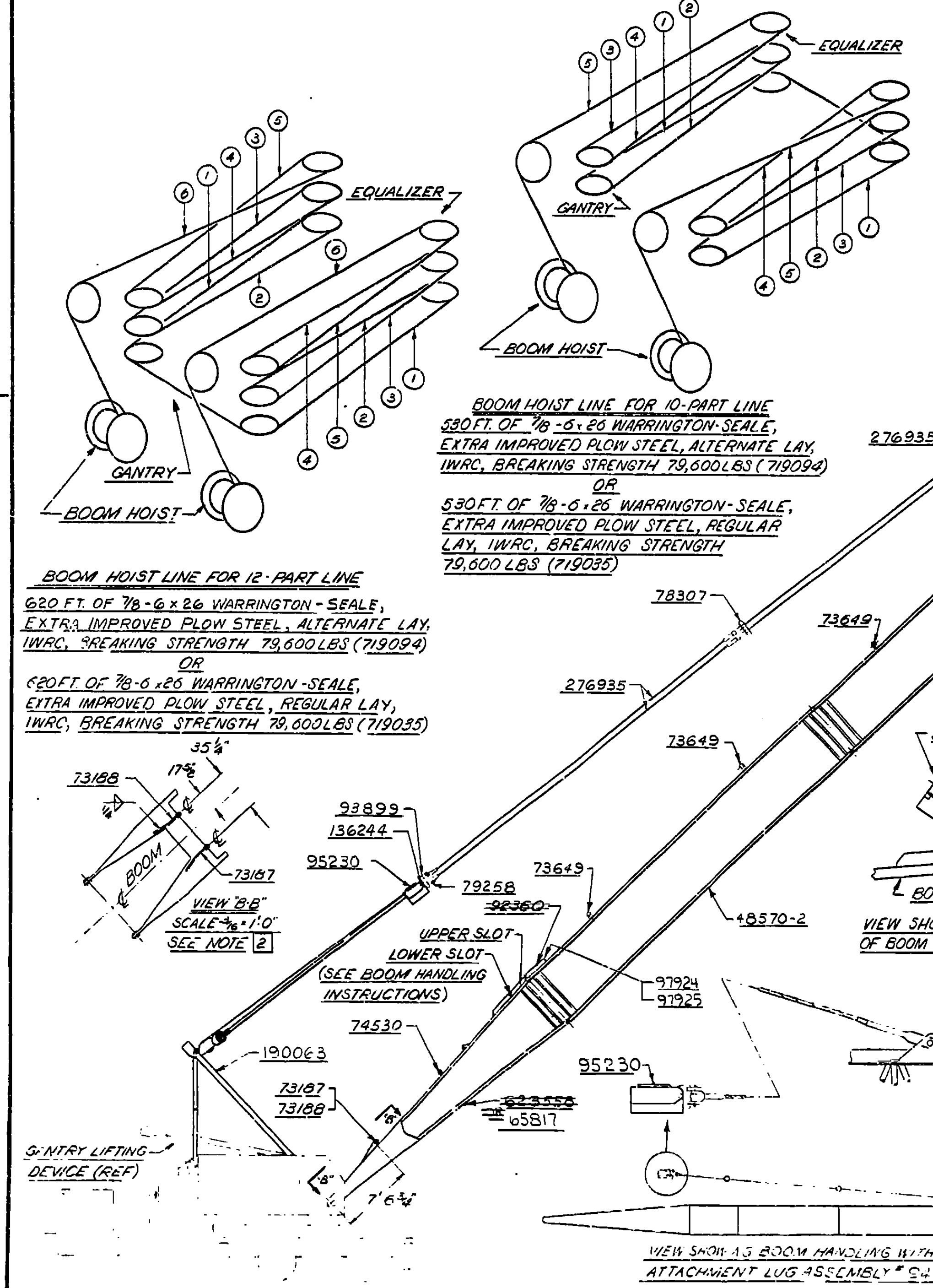


| RECOMMENDED FOR VARIOUS BOOM LENGTHS |                          |                          |            |            |                |                |                |                       |                           |                                 |                 |
|--------------------------------------|--------------------------|--------------------------|------------|------------|----------------|----------------|----------------|-----------------------|---------------------------|---------------------------------|-----------------|
| DWG. NO'S                            | 181391-2                 | 181429-2                 | 48570-2    | 48570-3    | 276897         | 276898         | 276935         | 73649                 | 181402-7                  | 78307                           |                 |
| BOOM LENGTH                          | 10 FT. HEAVY-DUTY INSERT | 20 FT. HEAVY-DUTY INSERT | 40' INSERT | 40' INSERT | PENDANT 10 FT. | PENDANT 20 FT. | PENDANT 40 FT. | WIRE ROPE GUIDE ASS'Y | SPREADER BOOM TOP IN LINE | SPREADER BOOM TOP OFFSET 4 1/2" | PENDANT TIE BAR |
| 70'                                  | 1                        | 0                        | 0          | 0          | 4              | 0              | 0              | 1                     | 0                         | 0                               | 2               |
| 80'                                  | 0                        | 1                        | 0          | 0          | 0              | 4              | 0              | 1                     | 0                         | 1                               | 2               |
| 90'                                  | 1                        | 1                        | 0          | 0          | 4              | 4              | 0              | 2                     | 0                         | 1                               | 4               |
| 100'                                 | 0                        | 0                        | 0          | 1          | 0              | 8              | 0              | 2                     | 0                         | 1                               | 4               |
| 110'                                 | 1                        | 0                        | 0          | 1          | 4              | 8              | 0              | 3                     | 1                         | 1                               | 4               |
| 120'                                 | 0                        | 1                        | 0          | 1          | 0              | 12             | 0              | 3                     | 1                         | 1                               | 4               |
| 130'                                 | 1                        | 1                        | 0          | 1          | 4              | 12             | 0              | 4                     | 1                         | 1                               | 6               |
| 140'                                 | 0                        | 0                        | 1          | 1          | 0              | 8              | 4              | 4                     | 1                         | 1                               | 4               |
| 150'                                 | 1                        | 0                        | 1          | 1          | 4              | 8              | 4              | 5                     | 1                         | 1                               | 6               |
| 160'                                 | 0                        | 1                        | 1          | 1          | 0              | 12             | 4              | 5                     | 1                         | 1                               | 6               |
| 170'                                 | 1                        | 1                        | 1          | 1          | 4              | 12             | 4              | 6                     | 1                         | 1                               | 8               |
| 180'                                 | 0                        | 0                        | 2          | 1          | 0              | 8              | 8              | 6                     | 1                         | 1                               | 6               |
| 190'                                 | 1                        | 0                        | 2          | 1          | 4              | 8              | 8              | 7                     | 1                         | 1                               | 8               |
| 200'                                 | 0                        | 1                        | 2          | 1          | 0              | 12             | 8              | 7                     | 1                         | 1                               | 8               |
| 210'                                 | 1                        | 1                        | 2          | 1          | 4              | 12             | 8              | 8                     | 1                         | 1                               | 10              |
| 220'                                 | 0                        | 0                        | 3          | 1          | 0              | 8              | 12             | 8                     | 1                         | 1                               | 8               |

NOTE: TABLE SHOWS THE MINIMUM NO. OF INSERTS REQ'D. FOR BOOM LENGTHS WITH NO 10FT & NO 20FT INSERTS, 2-20FT INSERTS MAY BE SUBSTITUTED FOR 1-40FT INSERT.



| BOOM HANDLING INSTRUCTIONS                         |                 |                     |                                                                      |
|----------------------------------------------------|-----------------|---------------------|----------------------------------------------------------------------|
| ATTACHMENT ARRANGEMENT                             | GANTRY POSITION | BOOM LENGTH         | BOOM CONDITIONS OR LIMITATIONS                                       |
| EQUALIZER PINNED AT LOWER SLOT                     | UP              | 40 FT.              | (LOWER SLOT) EQUALIZER LANDS AT THIS LOCATION WHEN LOWERED ONTO BUTT |
| EQUALIZER PINNED AT LOWER SLOT                     | DOWN            | BUTT+ONE 10" INSERT |                                                                      |
| EQUALIZER PINNED AT UPPER SLOT                     | UP              | 70 FT.              | BUTT+INSERTS ONLY                                                    |
| EQUALIZER PINNED AT UPPER SLOT                     | DOWN            | 50 FT.              | BUTT+INSERTS ONLY                                                    |
| PENDANTS PINNED TO ATTACHMENT LUG (34610) ON HOIST | UP              | 180 FT.             | BUTT+INSERTS ONLY                                                    |
| PENDANTS ATTACHED TO BOOM POINT SHAFT              | DOWN            | 120 FT.             | BUTT+INSERTS TOP NO JIB                                              |
|                                                    |                 | 110 FT.             | BUTT+INSERTS TOP 30FT. JIB                                           |
|                                                    |                 | 100 FT.             | BUTT+INSERTS TOP 30FT. JIB                                           |

| SPREADER INSTRUCTIONS FOR BOOM TOP IN LINE |                   |                   |                                |
|--------------------------------------------|-------------------|-------------------|--------------------------------|
| BOOM LENGTH                                | SPREADER REQUIRED | SPREADER POSITION | LOCATION FROM LOWER BOOM POINT |
| 60'-100'                                   | NO                |                   |                                |
| 110'-130'                                  | YES               | "2"               | 51'-8"                         |
| 140'-220'                                  | YES               | "4"               | 71'-8"                         |

| SPREADER INSTRUCTIONS FOR BOOM TOP OFFSET 4 1/2" |                   |                   |                                |
|--------------------------------------------------|-------------------|-------------------|--------------------------------|
| BOOM LENGTH                                      | SPREADER REQUIRED | SPREADER POSITION | LOCATION FROM LOWER BOOM POINT |
| 60'-70'                                          | NO                |                   |                                |
| 80'                                              | YES               | "1"               | 31'-8"                         |
| 90'                                              | YES               | "1"               | 41'-8"                         |
| 100'-110'                                        | YES               | "2"               | 51'-8"                         |
| 120'-140'                                        | YES               | "3"               | 51'-8"                         |
| 150'-180'                                        | YES               | "4"               | 71'-8"                         |
| 200'-220'                                        | YES               | "5"               | 91'-8"                         |

| BILL OF MATERIAL FOR 60' BASIC BOOM |         |                               | AMENDMENTS                |
|-------------------------------------|---------|-------------------------------|---------------------------|
| NO.                                 | QTY.    | DESCRIPTION                   | REMARKS                   |
| 2                                   | 22656   | BOOM SIGN                     |                           |
| 1                                   | 32889   | WIRE ROPE GUIDE ASS'Y         |                           |
| 1                                   | 43067-2 | BOOM TOP                      | 30 FT.                    |
| 1                                   | 190063  | GANTRY ASS'Y                  |                           |
| 1                                   | 74530   | WIRE ROPE ROLLER GUIDE ASS'Y  |                           |
| 2                                   | 79258   | PIN                           |                           |
| 1                                   | 90106   | LOWER BOOM POINT ASS'Y        |                           |
| 1                                   | 161079  | UPPER BOOM POINT ASS'Y        | ROLLER BEARING 1-3/8 DIA. |
| 2                                   | 91125   | LINK                          |                           |
| 1                                   | 97924   | REMOVABLE EQUALIZER RAIL-R.H. | SEE NOTE 3 & 7            |
| 1                                   | 97925   | REMOVABLE EQUALIZER RAIL-L.H. | SEE NOTE 3 & 7            |
| 2                                   | 136244  | PENDANT PIN                   |                           |
| 2                                   | 93899   | LINK                          |                           |
| 4                                   | 277003  | BASIC PENDANT 30FT-10" LG.    | DWG. 161164               |
| 1                                   | 65817   | BOOM BUTT                     | 50 FT.                    |
| 1                                   | 22656   | BOOM BUTT                     | 50 FT.                    |
| 1                                   | 48119   | EQUALIZER PULLOUT ASS'Y       | NOT SHOWN                 |
| 2                                   | 74759   | BUSHING                       |                           |
| 2                                   | 78556   | BOOM HANDLING LINK            |                           |
| 1                                   | 95230   | EQUALIZER ASSEMBLY            |                           |
| 2                                   | 92960   | REMOVABLE EQUALIZER RAIL      | SEE NOTE 3                |

| OPTIONAL PARTS |         |                                        |
|----------------|---------|----------------------------------------|
| NO.            | QTY.    | DESCRIPTION                            |
| 1              | 24106   | UPPER BOOM POINT ASS'Y                 |
| 1              | 24468   | UPPER BOOM POINT ASS'Y                 |
| 1              | 73187   | R.H. JIB BACKSTAY ANCHOR               |
| 1              | 73188   | L.H. JIB BACKSTAY ANCHOR               |
| 1              | 91392   | UNIVERSAL WIRE ROPE ANCHOR JOINT ASS'Y |
| 1              | 94610   | PENDANT ATTACHMENT LUG ASS'Y           |
| 1              | 93113   | PLATFORM FOR BOOM BUTT                 |
| 2              | 94652-9 | SPREADER BRACKET                       |
| 4              | 141408  | PIN - SEE NOTE 4                       |
| 4              | 17328   | END PLATE                              |
| 1              | 93940   | PENDANT RUBBING FRAME ASS'Y            |
| 1              | 184226  | SHOULDER BRACKET FOR 277003            |

| OPTIONAL PARTS FOR 4 1/2" OFFSET TOP |        |                |
|--------------------------------------|--------|----------------|
| NO.                                  | QTY.   | DESCRIPTION    |
| 4                                    | 139614 | BOOM JOINT PIN |
| 2                                    | 139615 | LINK           |

- PENDANTS CALLED FOR ARE ARRANGED TO LOCATE SPREADER IN PROPER POSITION. ONE 40 FT. INSERT MUST BE FURNISHED WITH EIGHT 20 FT. PENDANTS. FURNISH ALL 20 FT. INSERTS WITH MATCHING 20 FT. PENDANTS.
- JIB BACKSTAY LUGS ON THE BOOM BUTT ARE OPTIONAL AND ARE TO BE USED ONLY WITH BOOM LENGTHS OF 60 FT., 70 FT. AND 80 FT. THE FOLLOWING CONDITIONS APPLY:  
A. MAX. JIB ANGLE TO BOOM IS 20° W/ 123 JIB & 30° W/ 124 JIB.  
B. MAXIMUM JIB STRUT LENGTH IS 12'-6".  
C. JIB BACKSTAY LINES MUST BE DISCONNECTED BEFORE LOWERING EQUALIZER TO BOOM BUTT.  
D. PENDANT BACKSTAYS CANNOT BE USED WITH LUGS ON BUTT.
- REMOVABLE EQUALIZER RAIL-EQUALIZER MAY BE SLID FORWARD FROM BUTT ONTO THIS RAIL TO PROVIDE SLACK FOR CHANGING PENDANTS OR ASSEMBLING AND DISASSEMBLING BOOM.
- FOR BOOM TOP IN LINE, PENDANT PIN # 141408 MUST BE LOCATED IN RIGGING 51'-8" & 71'-8" FROM LOWER BOOM POINT TO ALLOW INSERTION OF SPREADER IN PROPER LOCATION. SEE SPREADER INSTRUCTION TABLE TO LOCATE PINS FOR BOOM TOP OFFSET 4 1/2".
- INSERTS DWG. # 181394 & 181429 MUST BE INSTALLED WITH HEAVY CHORDS AS THE LOWER CHORDS OF THE BOOM & LOCATED ADJACENT TO BUTT SECTION.
- PENDANT RUBBING FRAMES REQUIRED WHEN TRAVELING WITH GANTRY DOWN ON BOOM LENGTHS OF 70 FT. & OVER WHERE SPREADER IS NOT REQ'D. REMOVE FRAMES FOR LENGTHS REQUIRING SPREADER ASSEMBLY.
- FOR INSERTS MANUFACTURED BEFORE APRIL 1981, SHEAR STOPS CODE NO. 221278, MUST BE ADDED TO USE REMOVABLE EQUALIZER RAILS, 97924 & 97925.

SUPERSEDES 49447 OF 2-11-72

MANITOWOC ENGINEERING CO. BOOM RIGGING ASSY-9A  
BOOM WITH OPEN THROAT  
TOP DIAMETER 1 1/2" SWAGED END  
MODEL 30007 SERIES II