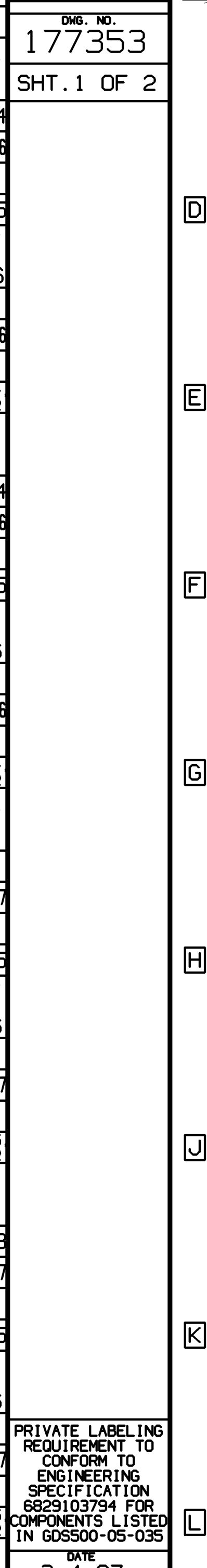
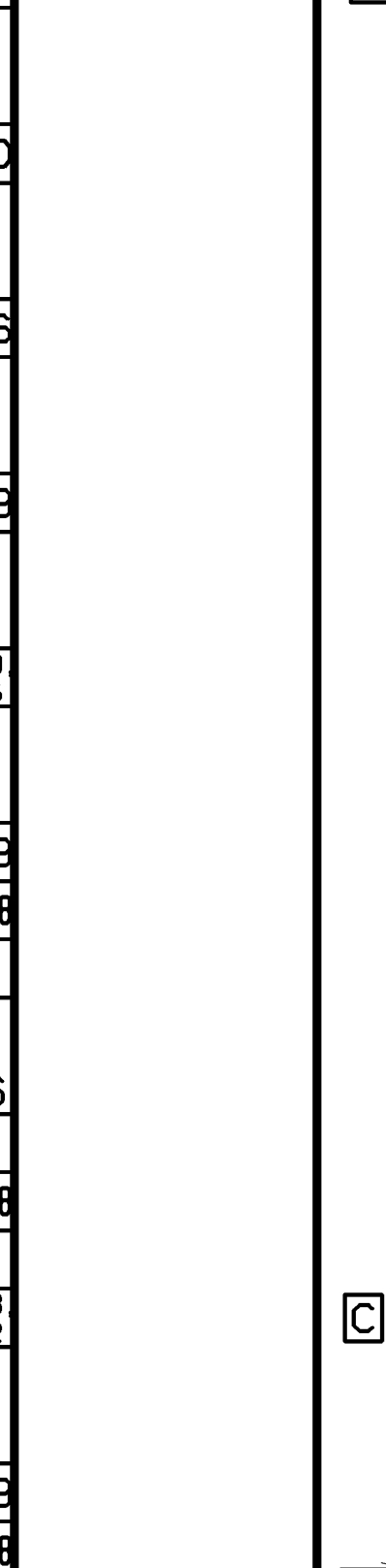


ASSEMBLIES USED ON	

		N
	revisions	
	09-18-97 ACK	
	A) ADDED	
	1-16-98 PGD	
	CIDEFIGHUKI	
	L WAS 77090	
	M) ADDED	
	05-12-00 JUM	
	NINJAS 177052	
	03-18-07 OVE	
	PINOTE ADDD	
	07-30-10 BDR	
	READ-RODD	
	1-15-11 RDA	
	TWAS 176831	A
	U WAS 709460	I
	DELETED	H
	YANABACADAAE	V
	ADDED	Y
		A)
		A)
		A)



3-4-97
PATTERN NO.
QMS. NO.
1-33-25-2

BOOM ASSEMBLY PROCEDURE

(MAST CAN BE USED TO ASSEMBLE ALL RIGGING COMPONENTS.)

1. ASSEMBLE BOOM COMPLETE, WITHOUT BUTT.
2. ATTACH ROPE GUIDES, PENDANTS, LINKS AND PINS AS REQ'D.
3. USING THE MAST WITH AUXILIARY BLOCK OR THE OPTIONAL BOOM BUTT SUPPORT, INSTALL THE BOOM BUTT WITH ROPE GUIDE AND BOOM STOPS TO ROTATING BED. (BOOM STOPS MUST BE IN SHIPPING (LOWER) POSITION.)
4. BOOM DOWN AND ATTACH INSIDE MAST PENDANT TO BOOM HANDLING LINK ON ROPE GUIDE ITEM 7. (SEE VIEW "A"-"A")
5. BOOM UP TO CLEAR GROUND WITH BUTT.
6. POSITION MACHINE TO ALIGN UPPER PIN CONNECTOR HOLES ON BOOM BUTT WITH UPPER PIN CONNECTOR HOLES ON FIRST BOOM INSERT AND INSERT PINS.
7. 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 ROPE GUIDE AND BOOM BUTT WILL OCCUR.

8. BOOM DOWN TO DISCONNECT MAST PENDANT FROM ROPE GUIDE LINKS.
9. ATTACH MAST PENDANT TO BOOM PENDANTS.
10. BOOM UP TO REMOVE SOME SLACK FROM PENDANTS.
11. CONNECT AIR SUPPLY TO BOOM STOPS AND RAISE BOOM STOPS INTO POSITION. ROTATE CYLINDER BRACKET INTO POSITION AND PIN.
12. BOOM UP TO DESIRED BOOM ANGLE.

TO DISASSEMBLE BOOM

1. BOOM DOWN AND SUPPORT BOOM ON BLOCKING.
2. DISCONNECT BOOM STOP AIR LINES ETC.
3. DISCONNECT MAST PENDANT FROM BOOM PENDANTS
4. CONNECT INSIDE MAST PENDANTS TO HANDLING LINK ON ROPE GUIDE ITEM 7.
(SEE VIEW "A"-"A")
5. BOOM UP TO REMOVE SLACK FROM MAST PENDANT.

WARNING:

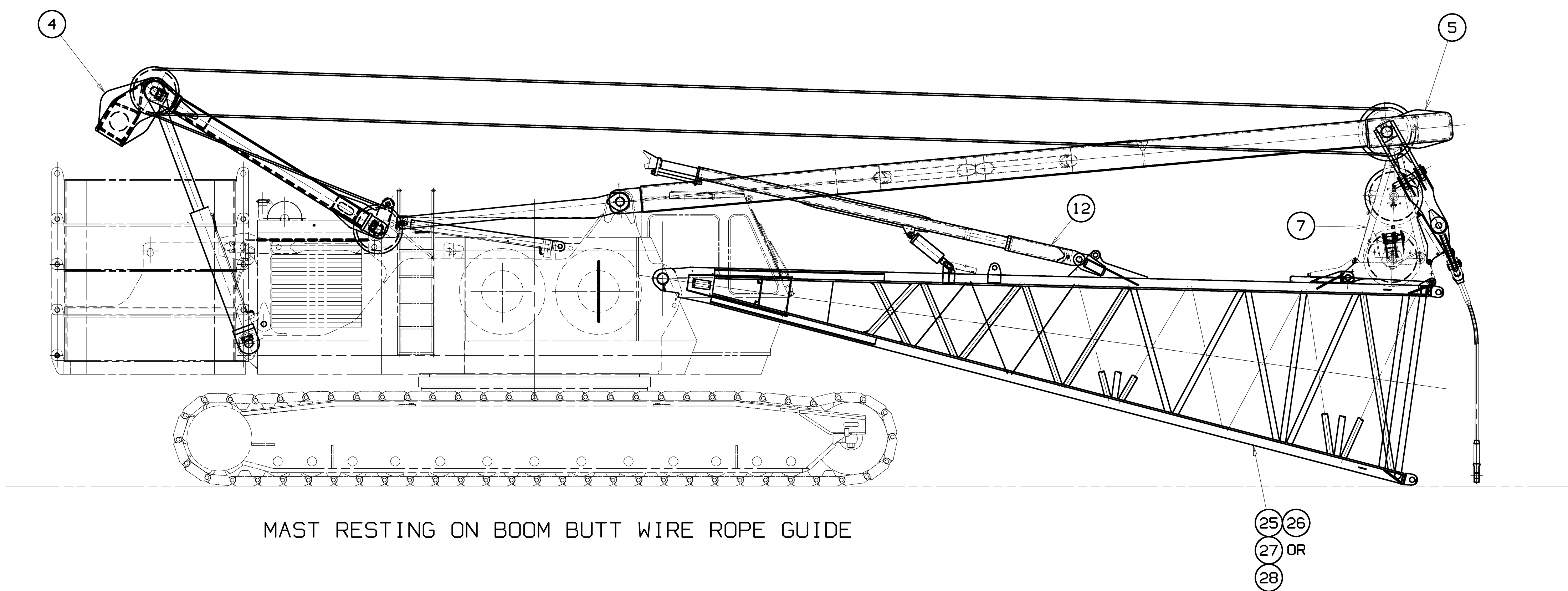
DO NOT BOOM UP TO PUT TENSION INTO MAST PENDANT. (REMOVE SLACK ONLY)
TENSION IN MAST PENDANT WILL DAMAGE ROPE GUIDE AND BOOM BUTT.

6. REMOVE LOWER AND THEN UPPER BOOM BUTT CONNECTOR TO BOOM INSERT CONNECTOR PINS.
WARNING:
BOOM MUST BE PROPERLY BLOCKED TO PREVENT SHIFTING DURING PIN REMOVAL.
7. SLOWLY BOOM UP TO SUPPORT BOOM BUTT WITH MAST PENDANT AND BACK AWAY FROM BOOM.
8. REMOVE BOOM BUTT FROM ROTATING BED WITH MAST.
9. DISASSEMBLE BOOM WITH MAST.

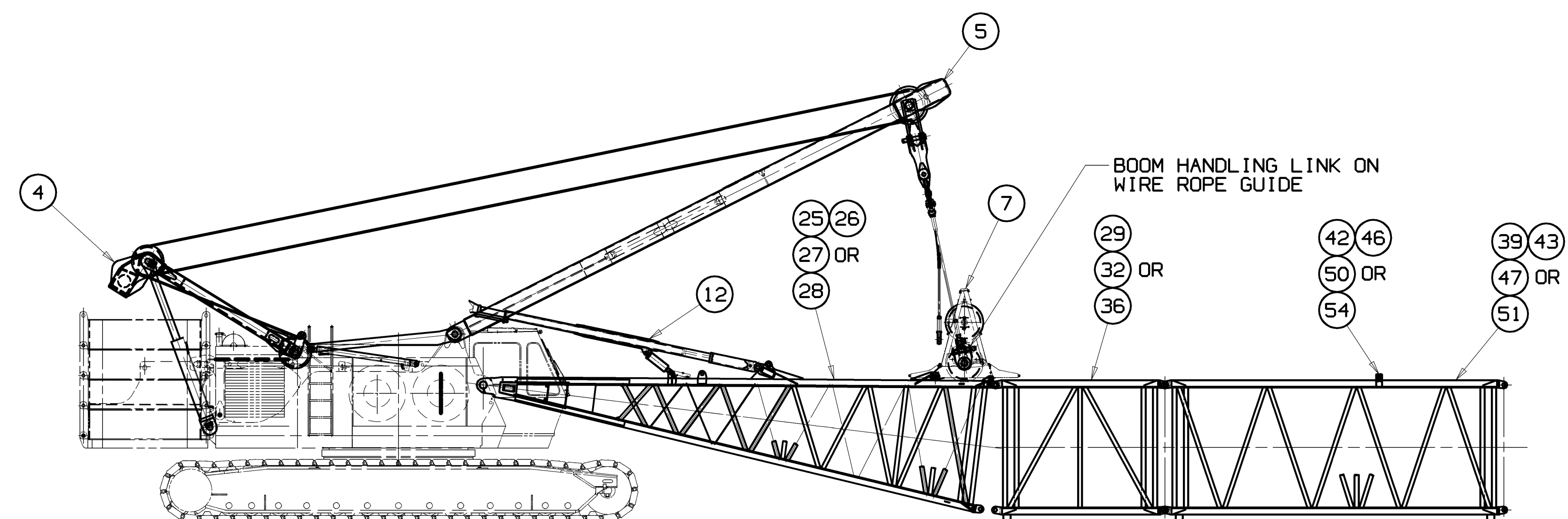
BOOM HANDLING WITH MAST
WITH MAST PENDANTS PINNED TO ROPE GUIDE
LINKS; MAXIMUM BOOM THAT CAN BE
CANTILEVERED IS AS FOLLOWS:

LENGTH	10 FT. (3.05 M) INSERT	20 FT. (6.10 M) INSERT	40 FT. (12.2 M) INSERT
40 FT. (12.2 M)	2	1	0
50 FT. (15.2 M)	1	2	0
60 FT. (18.3 M)	2	0	1
60 FT. (18.3 M)	0	1	1
80 FT. (24.4 M)	0	0	2

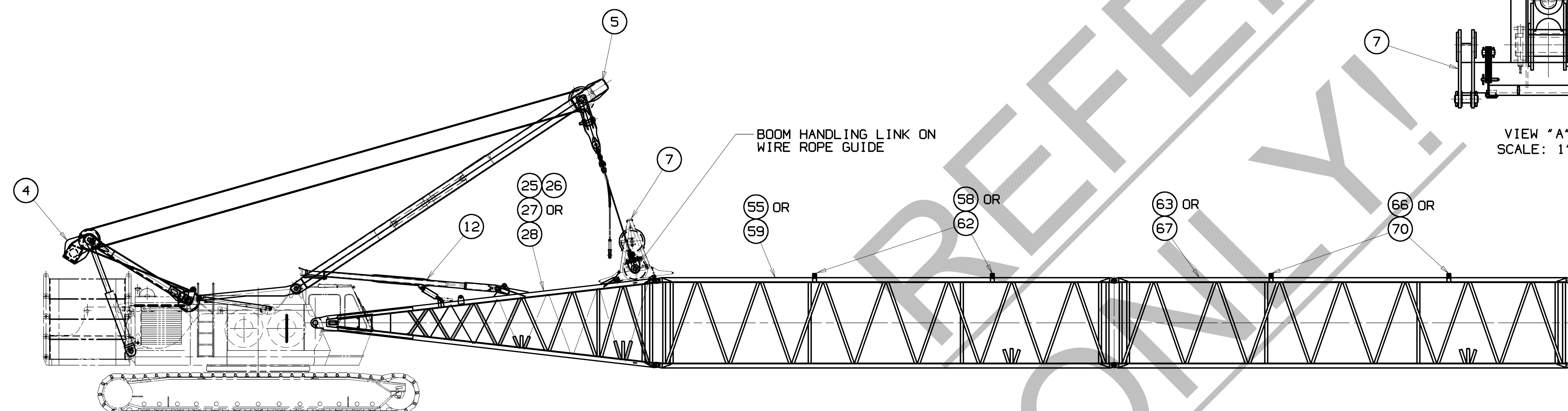
VIEW "A" - "A"
SCALE: 1"=1FT.



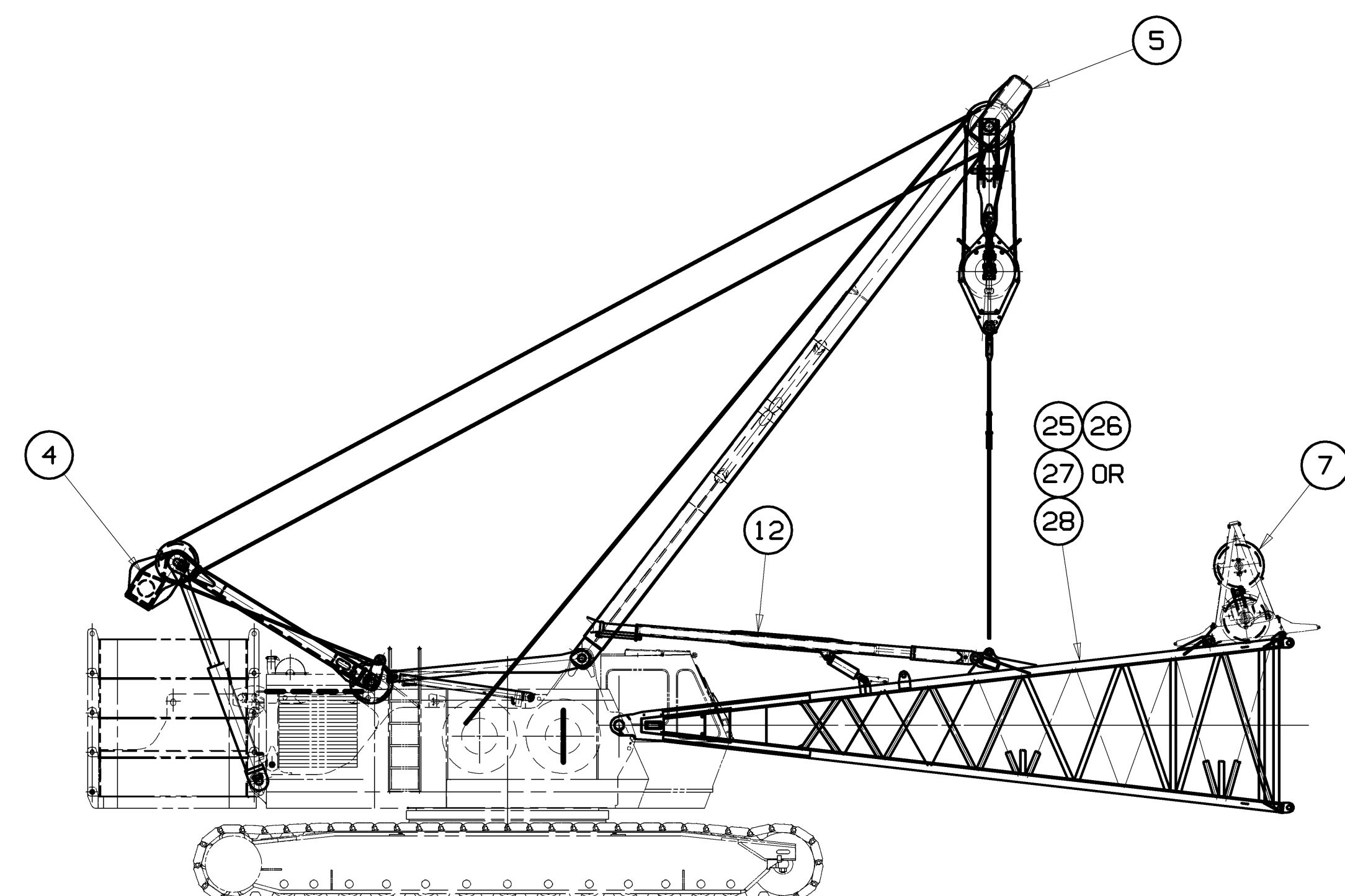
MAST RESTING ON BOOM BUTT WIRE ROPE GUIDE



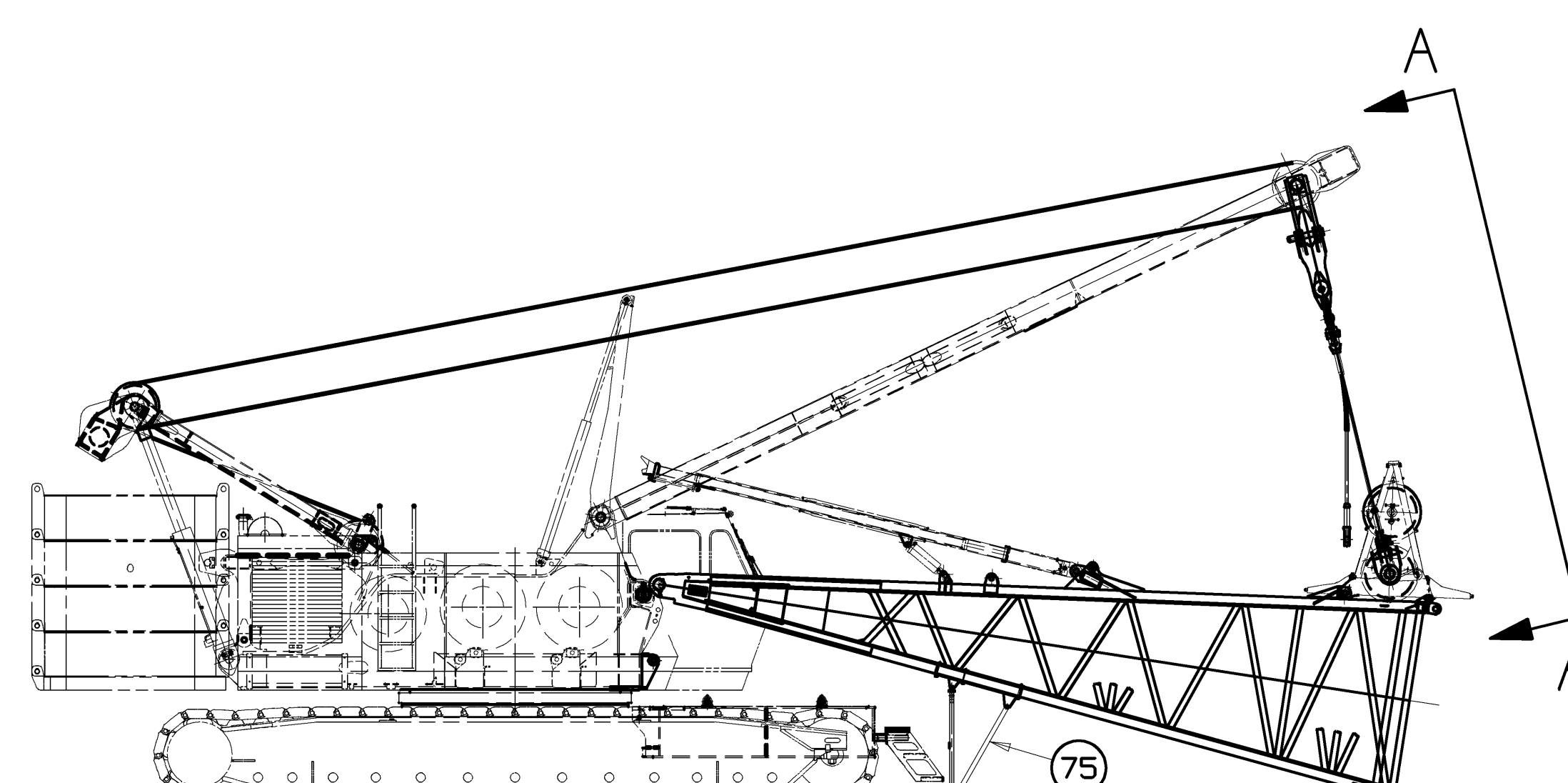
BOOM ASSEMBLY WITH MAST



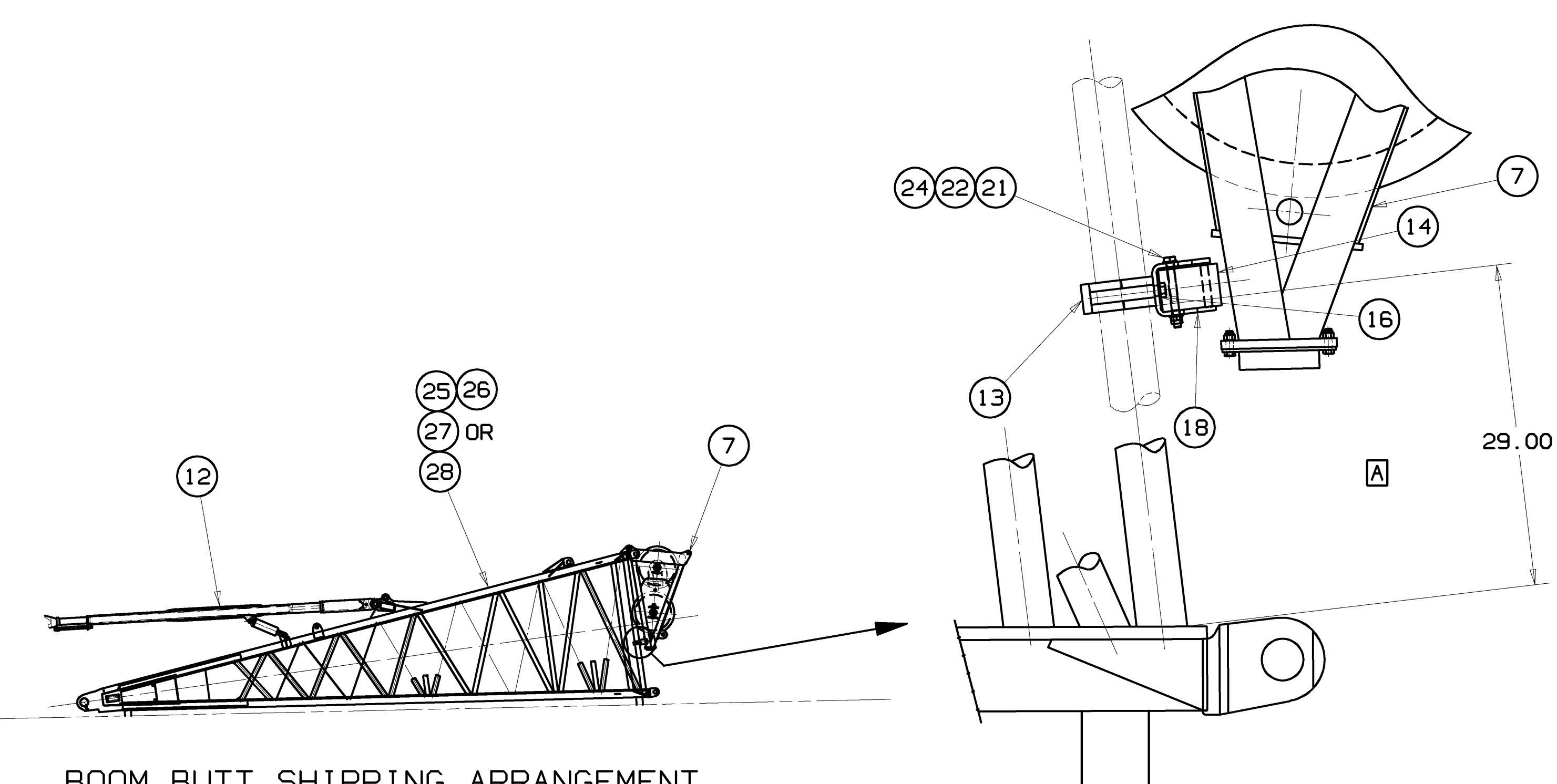
BOOM HANDLING WITH MAST



ATTACHING BOOM BUTT TO ROTATING BED
USING AUXILIARY BLOCK IN MAST.



ATTACHING BOOM BUTT TO ROTATING BED
USING OPTIONAL BUTT ATTACHING ASSEMBLY.



BOOM BUTT SHIPPING ARRANGEMENT

SUPERSEDES 177353 SHT 2 OF 2-19-96

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	DECIMAL PLACES	FRACTIONS	DR. 18-1F	Manitowoc Cranes, Inc. BOOM RIGGING ASSEMBLY	PATTERN NO.
	(1) .012	$\frac{1}{16}$ $\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{2}$ 1 2 4 8 16 32 64 128 256 512 1024 2048 4096 8192 16384 32768 65536 131072 262144 524288 1048576 2097152 4194304 8388608 16777216 33554432 67108864 134217728 268435456 536870912 1073741824 2147483648 4294967296 8589934592 17179869184 34359738368 68719476736 137438953472 274877906944 549755813888 1099511627776 2199023255552 4398046511104 8796093022208 17592186044416 35184372088832 70368744177664 140737488355328 281474976710656 562949953421312 1125899906842624 2251799813685248 4503599627370496 9007199254740992 18014398509481984 36028797018963968 72057594037927936 144115188075855872 288230376151711744 576460752303423488 1152921504606846976 2305843009213693952 4611686018427387904 9223372036854775808 18446744073709551616 36893488147419103232 73786976294838206464 147573952589676412928 295147905179352825856 590295810358705651712 1180591620717411303424 2361183241434822606848 4722366482869645213696 9444732965739290427392 18889465931478580854784 37778931862957161709568 75557863725914323419136 151115727451828646838272 302231454903657293676544 604462909807314587353088 $1208925819614629174706176$ $2417851639229258349412352$ $4835703278458516698824704$ $9671406556917033397649408$ $19342813113834066795298816$ $38685626227668133590597632$ $77371252455336267181195264$ $154742504910672534362390528$ $309485009821345068724781056$ $618970019642690137449562112$ $1237940039285380274899124224$ $2475880078570760549798248448$ $4951760157141521099596496896$ $9903520314283042199192993792$ $19807040628566084398385987584$ $39614081257132168796771975168$ $79228162514264337593543950336$ $158456325028528675187087900672$ $316912650057057350374175801344$ $633825300114114700748351602688$ $1267650600228229401496703205376$ $2535301200456458802993406410752$ $5070602400912917605986812821504$ $10141204801825835211973625643008$ $20282409603651670423947251286016$ $40564819207303340847894502572032$ $81129638414606681695789005144064$ $162259276829213363391578010288128$ $324518553658426726783156020576256$ $649037107316853453566312041152512$ $1298074214633706907132624082305024$ $2596148429267413814265248164610048$ $5192296858534827628530496329220096$ $10384593717069655257060992658440192$ $20769187434139310514121985316880384$ $41538374868278621028243970633760768$ $83076749736557242056487941267521536$ $166153499473114484112975882535043072$ $332306998946228968225951765070086144$ $664613997892457936451903530140172288$ $1329227995784915872903807060280344576$ $2658455991569831745807614120560689152$ $5316911983139663491615228241121378304$ $10633823966279326983230456482242756608$ $21267647932558653966460912964485513216$ $42535295865117307932921825928971026432$ $85070591730234615865843651857942052864$ $170141183460469231731687303715884105728$ $340282366920938463463374607431768211456$ $680564733841876926926749214863536422912$ $1361129467683753853853498429727072845824$ $272225893536750770770699685945414569152$ $544451787073501541541399371890829138304$ $1088903574147003083082798743781658276608$ $2177807148294006166165597487563316553216$ $4355614296588012332331194975126633106432$ $8711228593176024664662389950253266212864$ $17422457186352049329324779900506532425728$ $348449143727040986586495598010130648514$			