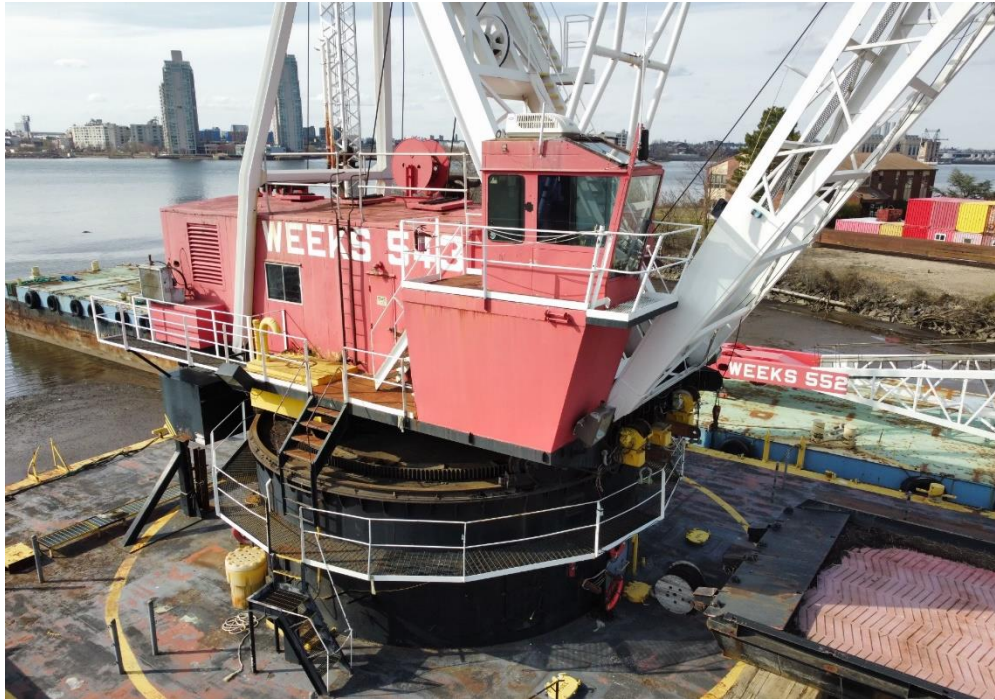


WEEKS 543 Clyde 28



Crane

Model: Clyde 28DE180

S/N: CW3970

Hoist: Clyde frame 9-10-10-9

Hoist S/N: 27245

Year: 1972

Swingers S/N: 27246 and 27247

Boom: 180' to twin falls, and 199.5' to the aux. Capacity: 80 ton (tandem pick) and 15-ton aux.

Hoist motor: Detroit 8v71

HPU/Genset motor: Cummins KTA19P600

Generator: Marathon Electric 504ADDR33BB

Tuggers: The machine has two tugger winches

Notes:

1. The boom and auxiliary hoist have been upgraded to be independent and hydraulic
2. The machine is equipped with a monkey tower to perform bucket work

Barge

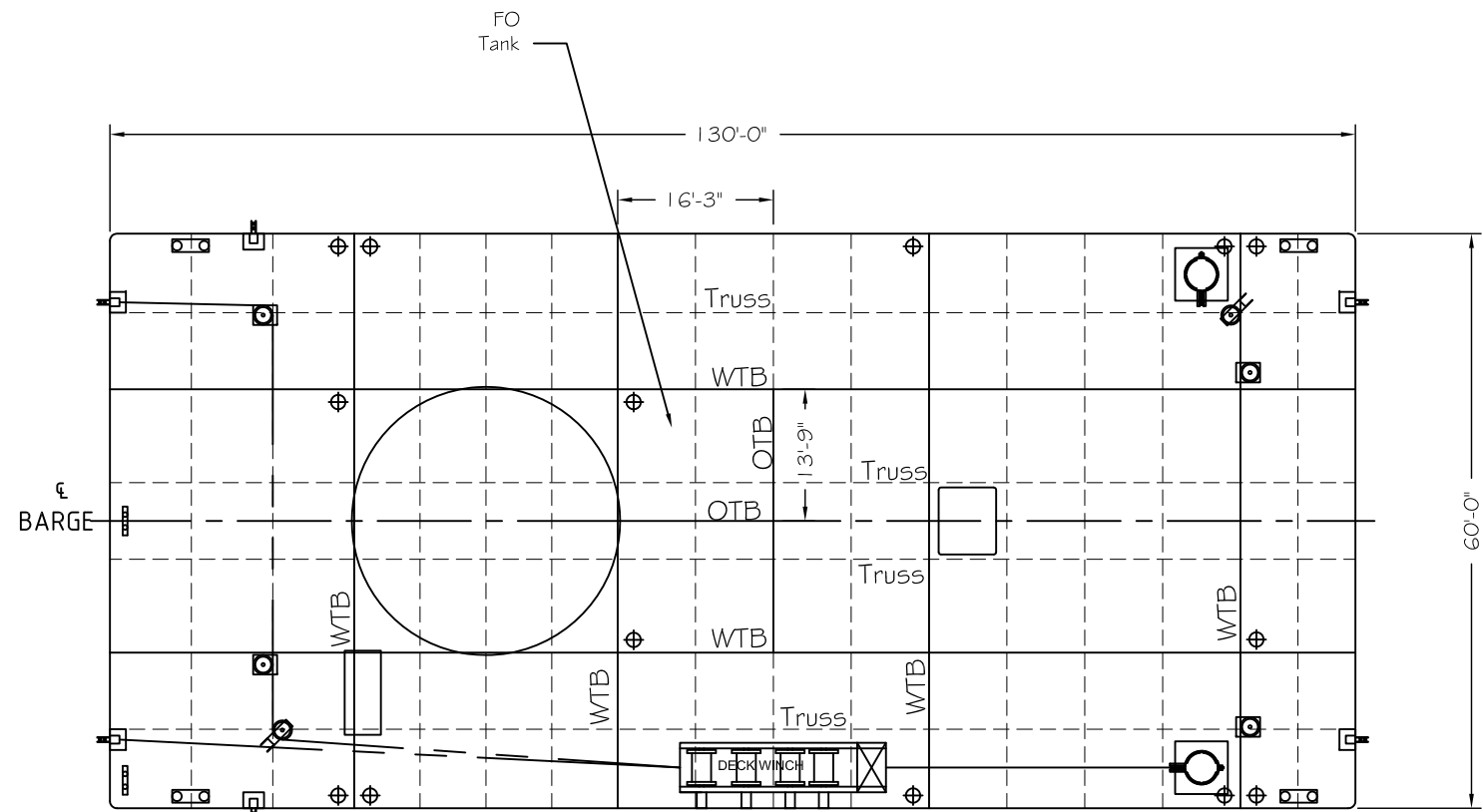
Size: 130' x 60' x 11'

Year: 1972

Builder: Tidewater equipment corporation

Misc.: Former ABS certified barge

Spudwells: Two wells for 36" size pipe wells on the port and starboard bow



NOTES

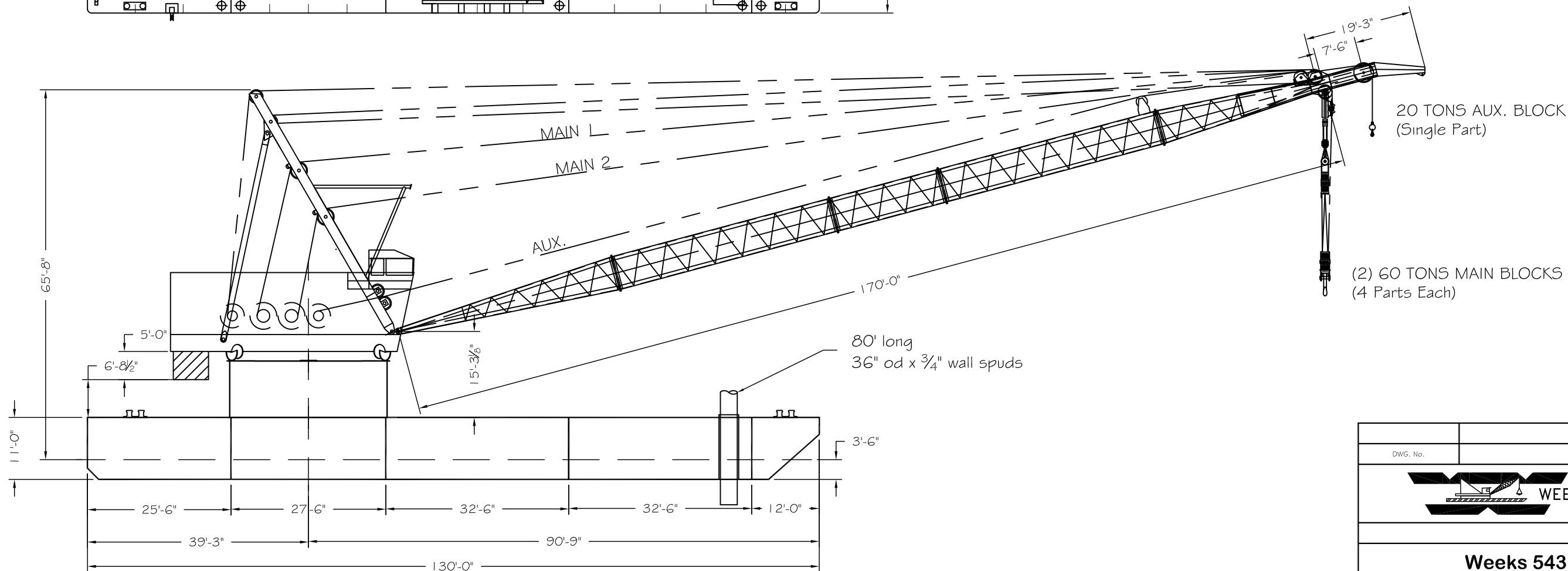
CRANE: CLYDE 28 (CW3970)

COUNTERWEIGHT: 340,000 LBS @ 350 #/FT ^ 3

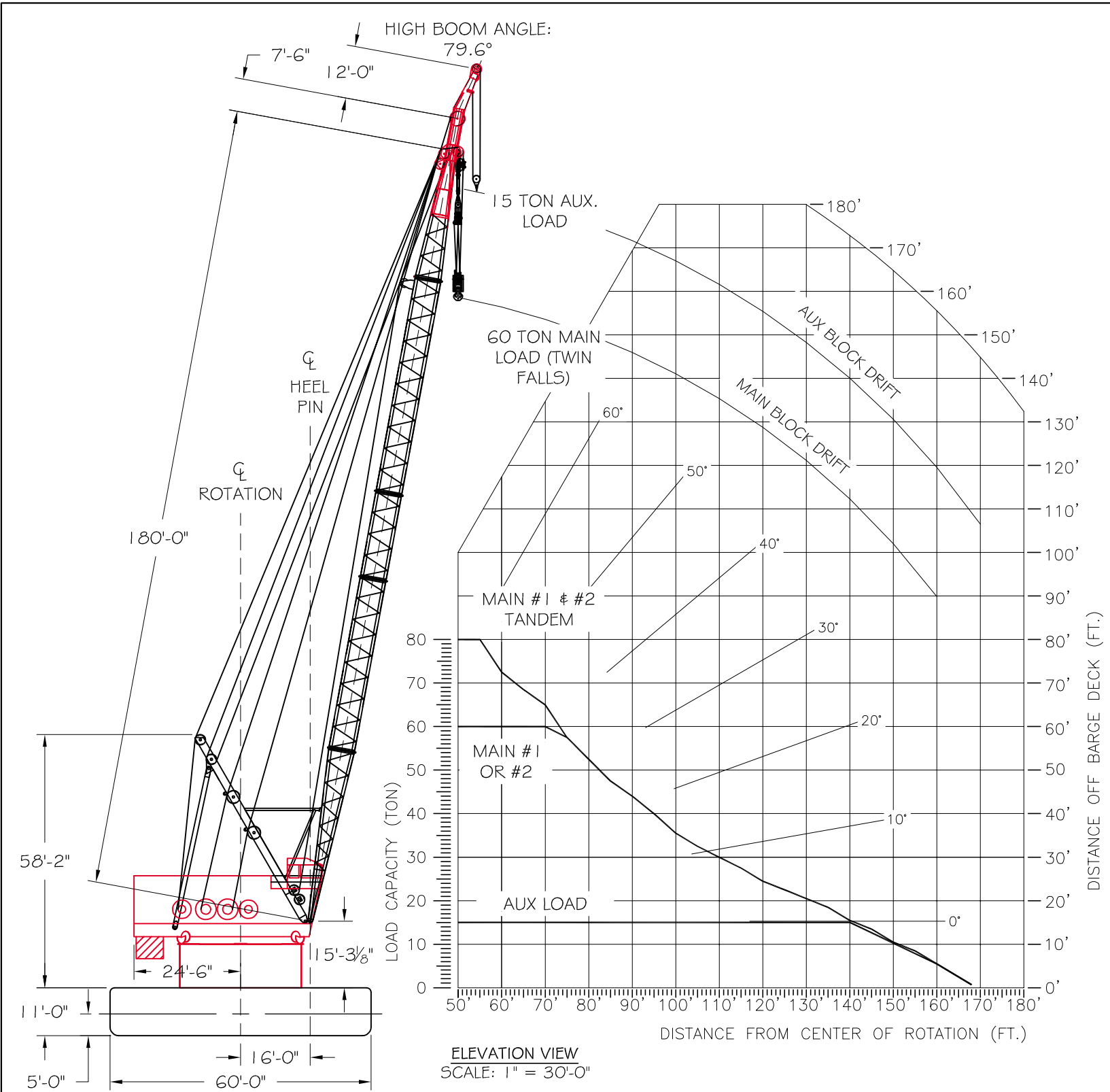
HOIST: FRAME 9-10-10-9 4-DRUM
 BOOM HOIST: FR. 9 -HYDRAULIC DRIVE
 MAIN HOIST 1: FR. 10 -
 MAIN HOIST 2: FR. 10 -
 AUX HOIST: FR. 9 -HYDRAULIC DRIVE

WIRE ROPES:

BOOM HOIST: 16 PARTS - 1" 6X19 EIPS/IWRC
 MAIN HOIST 1 & 2: 1 1/4" 6X19 EIPS/ IWRC
 AUX HOIST: 7/8" 6X19 EIPS/IWRC



DWG. No.		REFERENCE DRAWINGS	
 WEEKS MARINE, INC. 4 COMMERCE DRIVE CRANFORD, NJ 07016-3598		(908) 272-4010	
		Weeks 543 Crane Barge GENERAL ARRANGEMENT	
DRAWN BY:	RWL	SCALE:	1" = 20'-0"
CHECKED BY:	J Patel	DATE:	06/17/15
APPROVED BY:		SHEET	1 OF 1
REV. #	DATE	REVISION	BY
DWG. NO.		543-RWL-061715-GA-R00	



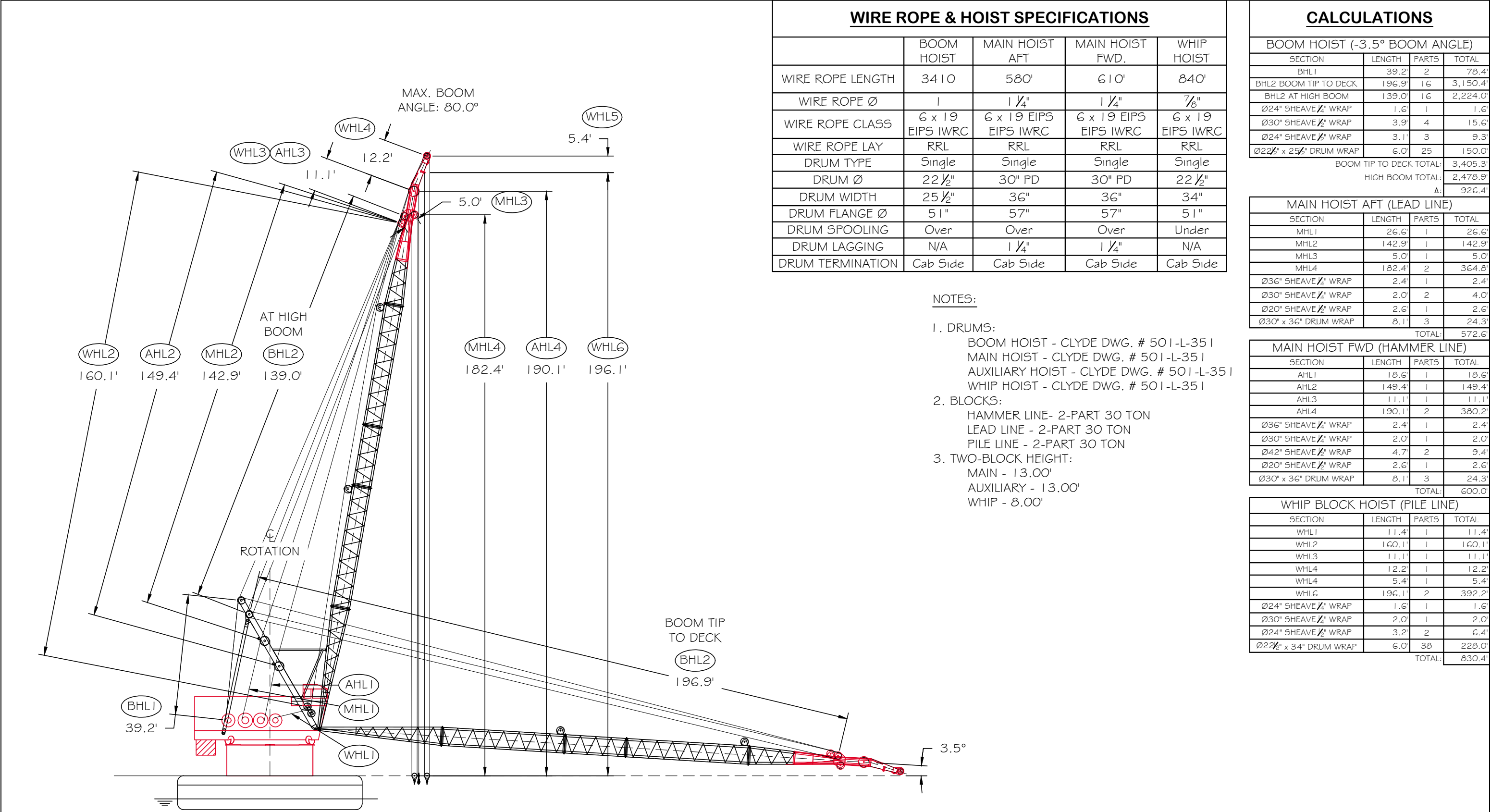
Wire Rope:
Boom Hoist - 16 Part Ø1" x 3,550 Feet 6 x 19 EIPS IWRC
Main Block #1 - 4 Parts Ø1¼" x 1,100 Feet 6 x 19 EIPS IWRC
Main Block #2 - 4 Parts Ø1¼" x 1,100 Feet 6 x 19 EIPS IWRC
Auxiliary Block - 2 Part Ø7⁄8" x 600 Feet 6 x 19 EIPS IWRC

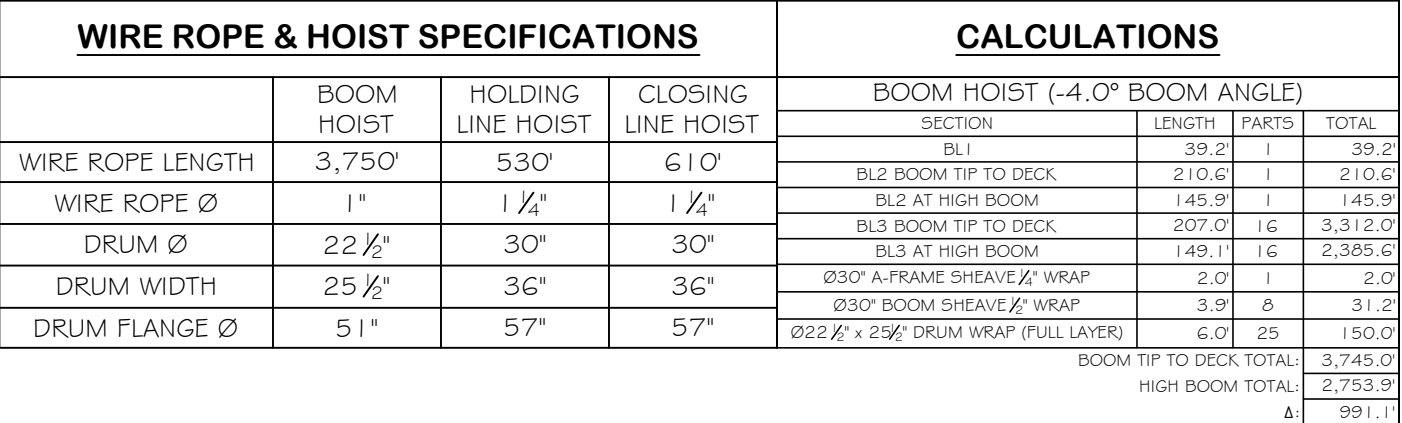
Revolver Crane
Manufacturer: Clyde
Model: 28 w/ 180'-0" long boom (to main block)
Serial No.: CW3970

360° (Fully Revolving) Capacities (Twin Falls)					
SUSPENDED LOAD RADIUS (ft)	MAIN #1 OR #2 (Ton)	MAIN #1 & #2 TANDEM (Ton)	MAIN BOOM ANGLE (°)	AUX. LOAD (Ton)	AUX. BOOM ANGLE(°)
50	60.0	80.0	79.6		
55	60.0	80.0	78.0	15.0	78.5
60	60.0	72.5	76.3	15.0	76.9
65	60.0	68.5	74.7	15.0	75.3
70	60.0	64.0	73.0	15.0	73.7
75	57.5	57.5	71.4	15.0	72.1
80	52.5	52.5	69.7	15.0	70.5
85	47.5	47.5	67.9	15.0	68.9
90	44.0	44.0	66.2	15.0	67.2
95	40.0	40.0	64.5	15.0	65.6
100	35.5	35.5	62.7	15.0	63.9
105	32.5	32.5	60.9	15.0	62.1
110	30.0	30.0	59.0	15.0	60.4
115	27.5	27.5	57.1	15.0	58.6
120	24.5	24.5	55.2	15.0	56.8
125	22.5	22.5	53.2	15.0	54.9
130	20.5	20.5	51.2	15.0	53.0
135	18.5	18.5	49.1	15.0	51.1
140	15.5	15.5	46.9	15.0	49.1
145	13.5	13.5	44.7	13.5	47.0
150	10.5	10.5	42.4	10.5	44.9
155	8.5	8.5	39.9	8.5	42.6
160	5.5	5.5	37.4	5.5	40.3
165	2.5	2.5	34.6	2.5	37.9
166	1.9	1.9	34.0	1.9	37.4
167	1.3	1.3	33.5	1.3	36.8
168	0.7	0.7	32.9	0.7	36.3

- NOTES AND ADDITIONAL INFORMATION:**
- All capacities are in short ton and are net below the hook.
 - Linear Interpolation between radii and rated capacities listed on the chart is permitted.
 - Load Radius is measured from centerline of rotation of crane to centerline of freely suspended load.
 - Boom Angles are for reference only and shall not be used to determine lift capacity. Actual Boom Angle will vary with Barge Heel.
 - Load radius will change with barge heel and/or trim. Freely suspended load will swingout or swing in with changing barge heel/trim.
 - Barge will heel towards the crane CWT (Backlist) when swung over the side of the barge in certain low load and/or high boom angle conditions.
 - Barge heel should be corrected prior to lift.
 - For all main fall lifts which generate a 2° list or more, spuds are to be raised and pinned off.
 - Capacity chart conforms to stability requirements of ASME B30.8. As per ASME B30.8 Section 8-1.2.2, for floating Cranes rated at over 25 Tons, maximum allowable list or trim shall be 7°. However, 5° is recommended. Wind load created by windspeed of up to 40 mph shall be considered in establishing operating criteria.
 - Load indicators on hoisting lines equipped with audible overload alarm.
 - Anti-2-block on hoisting lines equipped with audible limit alarm.
 - Boom angle indicator equipped with audible alarm.
 - List and trim inclinometers installed in operators cab.
 - Barge dimensions: 130'x60'x11'-0".
 - This load chart is based on Amclyde capacity chart for 180' boom, doc no. 1541961.
 - Weight of upper hanger = 2,460 lb.
Weight of triplate = 788 lb.
Weight of upper blocks = 2,070 lb. each
Weight of lower blocks = 7,000 lb. each

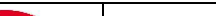
4	05/15/2020	Corrected Main Block Parting in Elevation View	Barlow	 WEEKS MARINE, INC. 4 COMMERCE DRIVE CRANFORD, NJ 07016-3598 (908) 272-4010		DRAWN BY: T. Folger	DATE: 12/22/2016	JOB NO.: 543	JOB DESCRIPTION:		
3	07/29/2018	Updated Aux block from single part 7.5 tons to two parts 15 tons.	J Patel			CHECKED BY: J. Patel	SCALE: 1" = 30'-0"	Weeks 543 With 180'-0" Boom Load Chart (360° Full Revolving) with Twin Main Falls			
2	02/02/2018	Updated Boom Length	TDF			APPROVED BY:	DWG. SIZE: 11 x 17	DWG. NO.: 543-TDF-05042017-001-R4 Load Chart		SHEET: 1 OF 2	
REV. #	DATE	REVISION	BY								

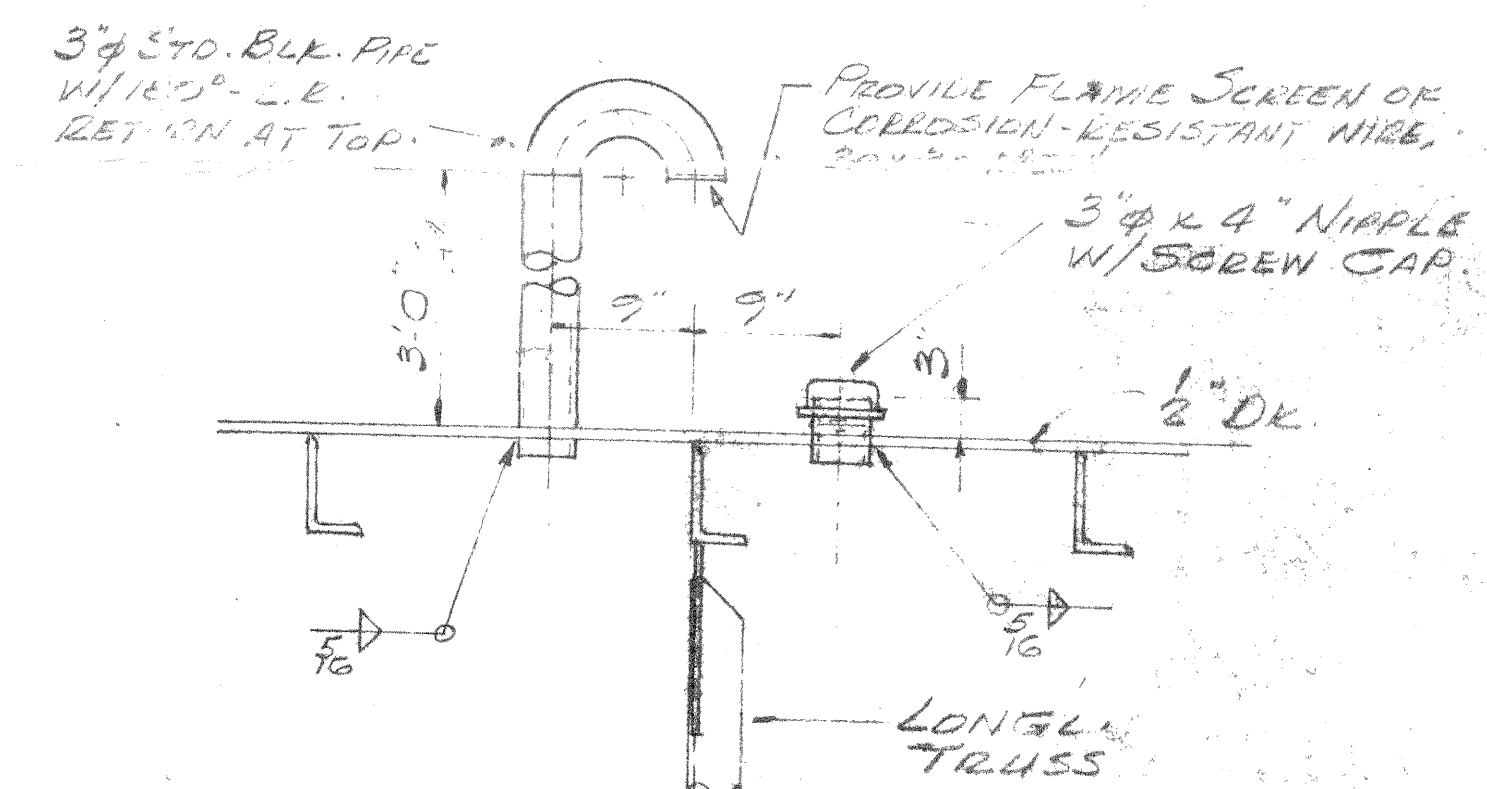
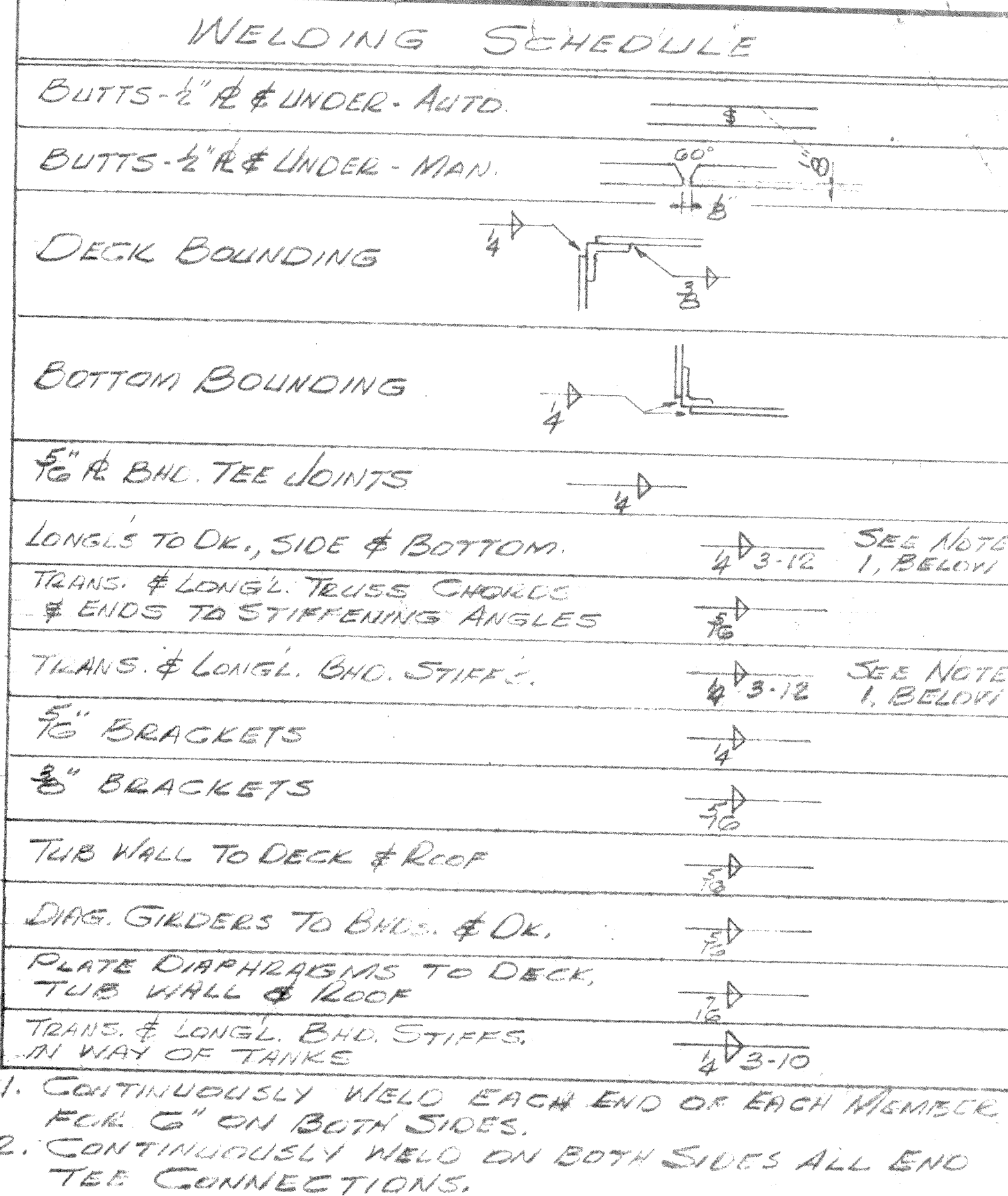




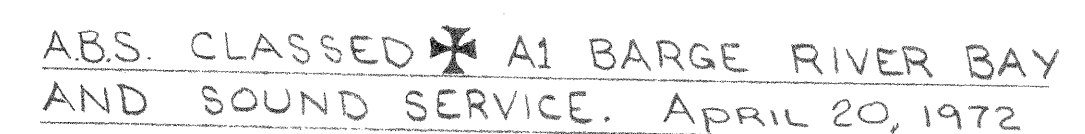
CLOSING LINE HOIST			
SECTION	LENGTH	PARTS	TOTAL
CL1	18.6'	1	18.6'
CL2	170.6'	1	170.6'
CL3	215.6'	1	215.6'
UPPER TO LOWER BUCKET SHEAVES	10.0'	6	60.0'
Ø21" BUCKET SHEAVE ½" WRAP	3.0'	5	15.0'
Ø36" A-FRAME SHEAVE ¼" WRAP	2.4'	1	2.4'
Ø42" BOOM SHEAVE ½" WRAP	5.5'	1	5.5'
30" x 36" DRUM WRAP (HALF LAYER)	8.1'	14	113.4'
		TOTAL:	601.1'

WIRE ROPE REQUIREMENTS (180' BOOM WITH BUCKET)

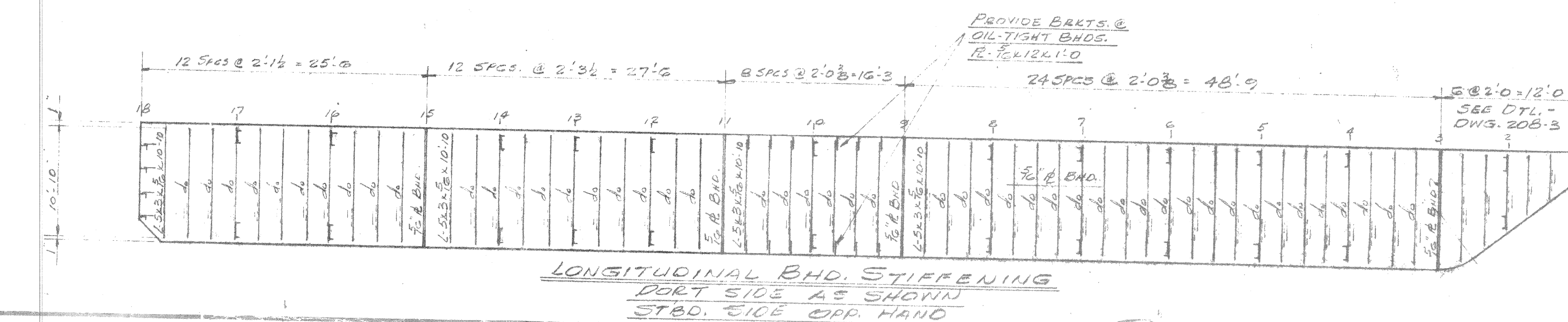
				 WEEKS MARINE, INC. 4 COMMERCE DRIVE CRANFORD, NJ 07016-3598 (908) 272-4010 	DRAWN BY: T. Folger	DATE: 08/07/2017	JOB NO.: 543	JOB DESCRIPTION: Wire Rope Requirements	
					CHECKED BY: J. Patel	SCALE: 1" = 30'-0"	Weeks 543 With 180'-0" Boom Wire Rope Requirements For Bucket Work		
1	02/02/2018	Updated Boom Length	TDF		APPROVED BY:	DWG. SIZE: 11 x 17			
REV. #	DATE	REVISION	BY						



DETAIL A
2 REQ'D.
SCALE: 1" = 1'-0"



SIDE STIFFENING
PORT SIDE SHOWN
STBD. SIDE OPP. HAND



5	0/9/72	CTK	RELOCATED SHIPS LADDER
4	4/6/72	CTK	REV. WELONING SCHEDULE
3	4/14/72	CTK	REV. DECKHOUSE & HATCHES
2	4/28/72	CTK	TO ABS FOR APPROVAL
1	6/21/72	CTK	TO TRK FOR APPROVAL
REV.	DATE	BY	3RMAD

TIDEWATER EQUIPMENT CORPORATION HULL NO. 75

TIDEWATER - RAYMOND - KIEWIT
NORFOLK VIRGINIA

DERRICK HULL - 130'-0" X 60'-0" X 11'-0"
PLAN & SIDE VIEW
LAYOUT OF BRANTLINGS - WELDING SCHEDULE

TIDEWATER EQUIPMENT CORPORATION
NORFOLK, VIRGINIA

SUBMITTED BY _____	P. E. _____	DESIGN	TEC	_____	CHECKED
		DRAWN	KIRBY	2/9/72	CHECKED
SCALE 1" = 10'	JOB 600	DRAWING NUMBER 100			REV.

8

7

6

5

4

3

DWG. NO. 1535380

1

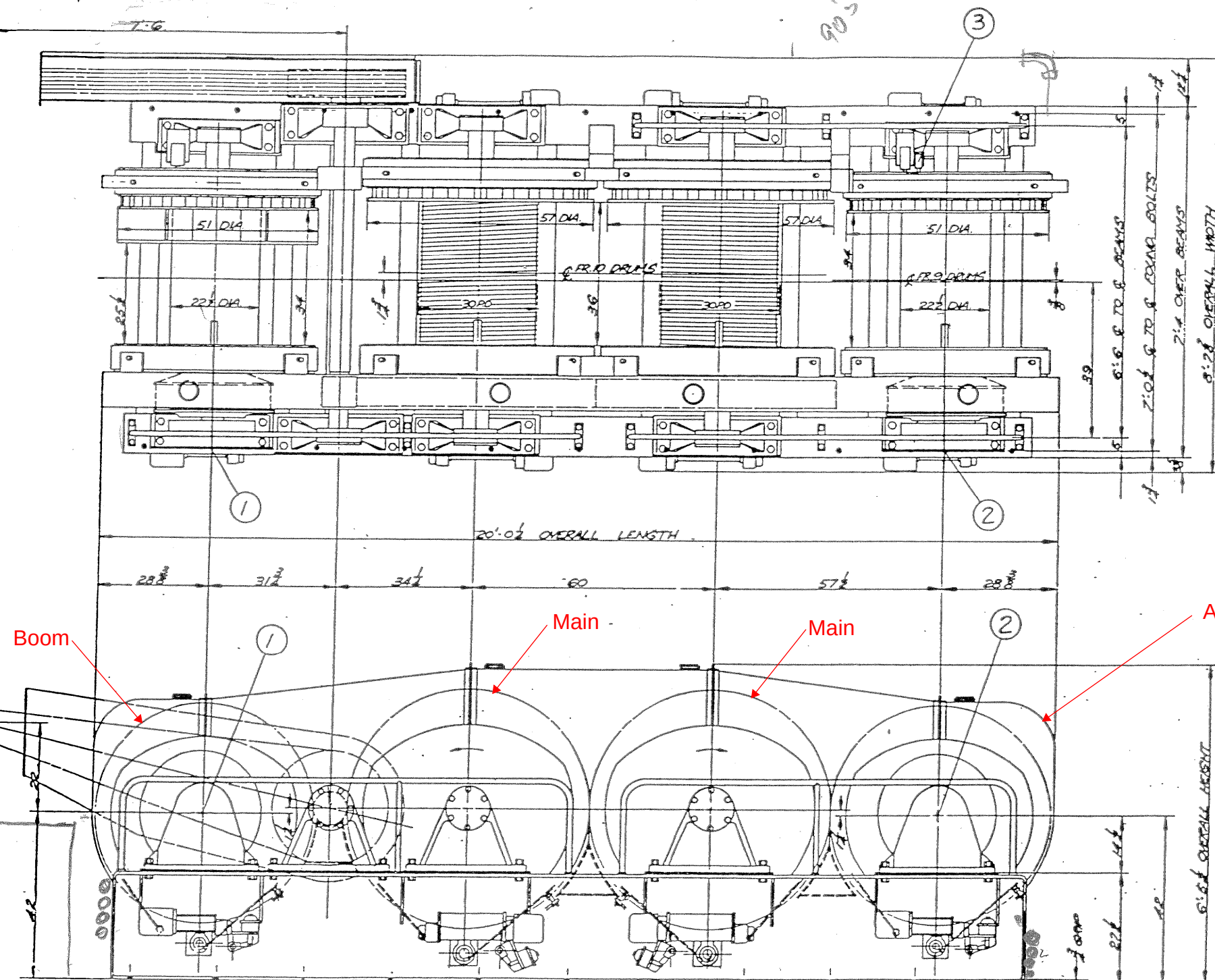
REV	CHANGE RECORD	DATE	BY
0	303070	7-20-90	ALB
1			

D

C

B

A



Boom

Main

Main

Aux.

Ballast
Box

SUB-ASSEMBLIES

ITEM	QUAN.	DESCRIPTION	PART No.	WT.
1	1	DRUM SHAFT ASS'Y BOOM	1535378	2,362
2	1	DRUM SHAFT ASS'Y AUX.	1535379	2,100
3	1	CENTRIFUGAL SWITCH	1535748	12

ORIGINAL SN: 27245

THE DRAWING AND THE INFORMATION CONTAINED ON IT ARE THE PROPERTY OF AMCLYDE. THIS DRAWING IS NOT TO BE REPRODUCED	MATERIAL SPECIFICATION 1	DIMENSIONS IN INCHES UNLESS OTHERWISE STATED TOLERANCE CODE F11.804 F12.808 F13.812 F14.816 F15.820 F16.824 F17.828 F18.832 F19.836 F20.840	SUPPLY FORM PROJECT: 1000-11715 ASBY MODEL: 1535380 DATE: 7-20-90 CHECKED: ALB DATE:	TITLE HOIST MOD. GENERAL ARRANGEMENT
	HARDNESS 1	111.804 112.808 113.812 114.816 115.820 116.824 117.828 118.832 119.836 120.840	121.844 122.848 123.852 124.856 125.860 126.864 127.868 128.872 129.876 130.880	131.884 132.888 133.892 134.896 135.900 136.904 137.908 138.912 139.916 140.920

AMCLYDE

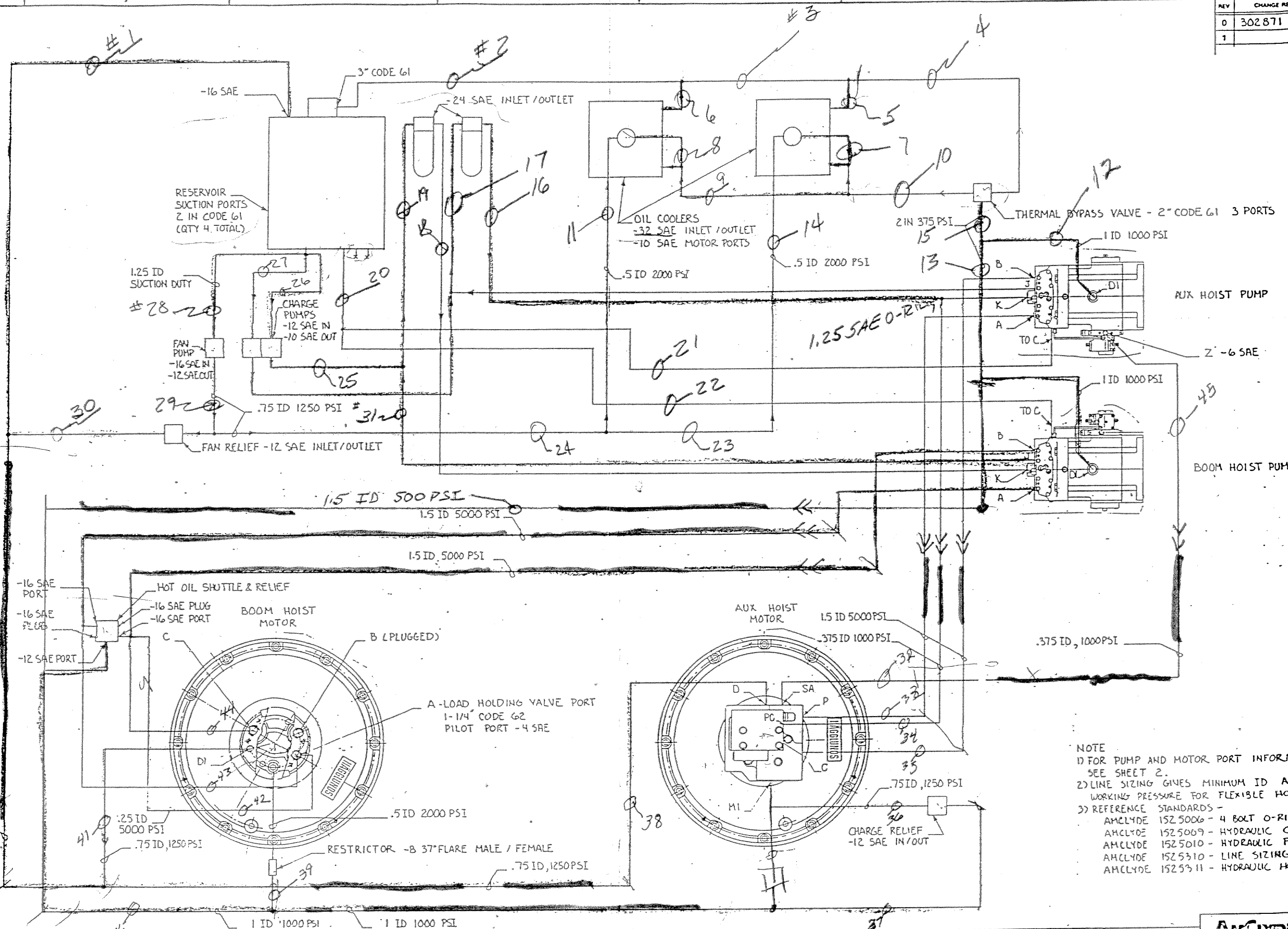
Engineered Products, Inc.

St. Paul, Minnesota 55104

4 = 1/4"
6 = 3/8"
8 = 1/2"
10 = 5/8"
12 = 3/4"
16 = 1"
20 = 1 1/4"
24 = 1 1/2"
32 = 2"
48 = 3"

DWG NO 1535426

REV	CHANGE RECORD	DATE	BY
0	302871	6-18-90	PEM
1			

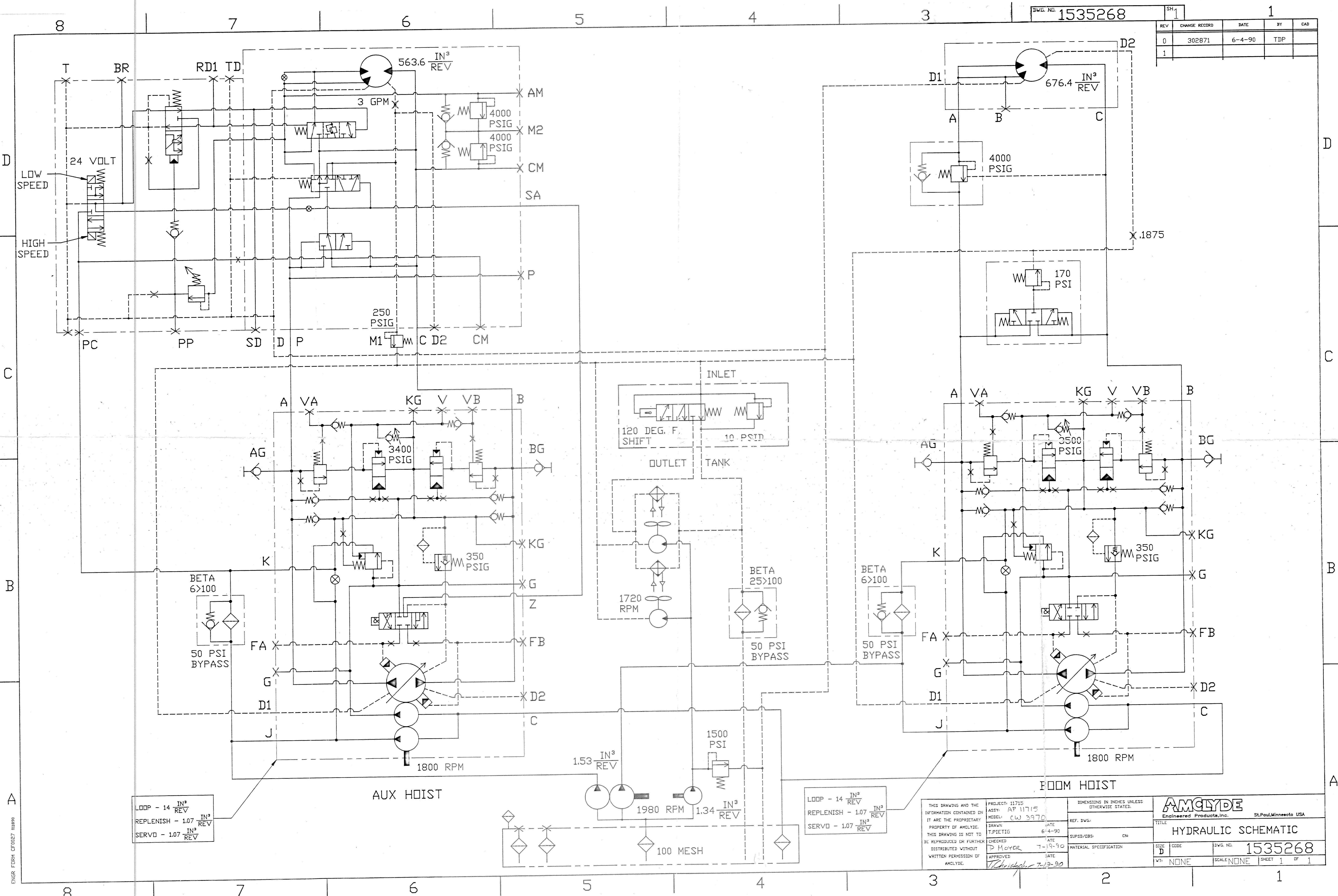


NOTE
1) FOR PUMP AND MOTOR PORT INFORMATION SEE SHEET 2.
2) LINE SIZING GIVES MINIMUM ID AND RATED WORKING PRESSURE FOR FLEXIBLE HOSE.
3) REFERENCE STANDARDS -
AMCLYDE 1525006 - 4 BOLT O-RING FLANGE
AMCLYDE 1525009 - HYDRAULIC CLEANLINESS
AMCLYDE 1525010 - HYDRAULIC FITTINGS
AMCLYDE 1525310 - LINE SIZING
AMCLYDE 1525311 - HYDRAULIC HOSE

How to tubing connection

1408 FORM 1115 1-1-84

THIS DRAWING AND THE INFORMATION CONTAINED ON IT ARE THE PROPERTY OF AMCLYDE. THIS DRAWING IS NOT TO BE REPRODUCED OR FURTHER DISTRIBUTED WITHOUT WRITTEN PERMISSION OF AMCLYDE.	MATERIAL SPECIFICATION SEE PUMP/DRIVE ASSY P/N 1535432	DIMENSIONS IN INCHES UNLESS OTHERWISE STATED TOLERANCE CODE T12.004 T12.080 T22.004 T22.170 T32.012 T32.190 T42.020 T42.240 T52.040	SLIP/DOBS PROJECT 11715 ASSY AP 11715 MODEL CW 3970 DATE 6-18-90 DRAWN P MOYER CHECKED P MOYER DATE 7-12-90 APPROVED T. L. L. 7-20-90	AMCLYDE Engineering Products, Inc. St. Paul, Minnesota USA PIPING DIAGRAM SIZE D CODE 1535426 SCALE NONE WT. SHEET 1 OF 2
	HARDNESS	ANGLES — DIMENSIONS — SURFACE FINISH —		
	ALL TOLERANCES UNLESS OTHERWISE STATED ARE			



DWG. NO. 1535268

REV	CHANGE RECORD	DATE	BY	CAD
0	302871	6-4-90	TDP	
1				

LOOP - 14 $\frac{\text{IN}^3}{\text{REV}}$
REPLENISH - 1.07 $\frac{\text{IN}^3}{\text{REV}}$
SERVO - 1.07 $\frac{\text{IN}^3}{\text{REV}}$

LOOP - 14 $\frac{\text{IN}^3}{\text{REV}}$
REPLENISH - 1.07 $\frac{\text{IN}^3}{\text{REV}}$
SERVO - 1.07 $\frac{\text{IN}^3}{\text{REV}}$

THIS DRAWING AND THE INFORMATION CONTAINED ON IT ARE THE PROPRIETARY PROPERTY OF AMGLYDE. THIS DRAWING IS NOT TO BE REPRODUCED OR FURTHER DISTRIBUTED WITHOUT WRITTEN PERMISSION OF AMGLYDE.		PROJECT: 11715 ASSY: AP 11715 MODEL: CW 3970 DRAWN: T.PIETIG DATE: 6-4-90 CHECKED: D. MOYER DATE: 7-13-90 APPROVED: [Signature] DATE: 7-13-90	DIMENSIONS IN INCHES UNLESS OTHERWISE STATED. REF. DWG: SUPPL/DWG: ON MATERIAL SPECIFICATION	AMGLYDE Engineered Products, Inc. St. Paul, Minnesota, USA TITLE: HYDRAULIC SCHEMATIC SIZE: D SCALE: NONE SHEET: 1 OF 1
--	--	---	---	--

DWG NO. 1535432

REV	CHANGE RECORD	DATE	BY
0	302871	7-18-90	PEM
1	303022	7-26-90	PEM

ALIGNMENT PROCEDURE - PTO/GEARBOX

1. POSITION DISK ASSEMBLY ON PUMP DRIVE SHAFT AND FLANGE ASSEMBLY ON PTO SHAFT AS SHOWN IN FIGURE 1.
2. CHECK PUMP DRIVE GEARBOX FOR ANGULAR ALIGNMENT AND PARALLEL OFFSET AS SHOWN IN FIGURES 2 AND 3. ADJUST UNTIL WITHIN LIMITS, USE SHIM STOCK AS REQUIRED.

PUMP DRIVE
SHAFT

PTO SHAFT

FIG. 1

2.06

ALIGNMENT PROCEDURE - GEARBOX/GENERATOR

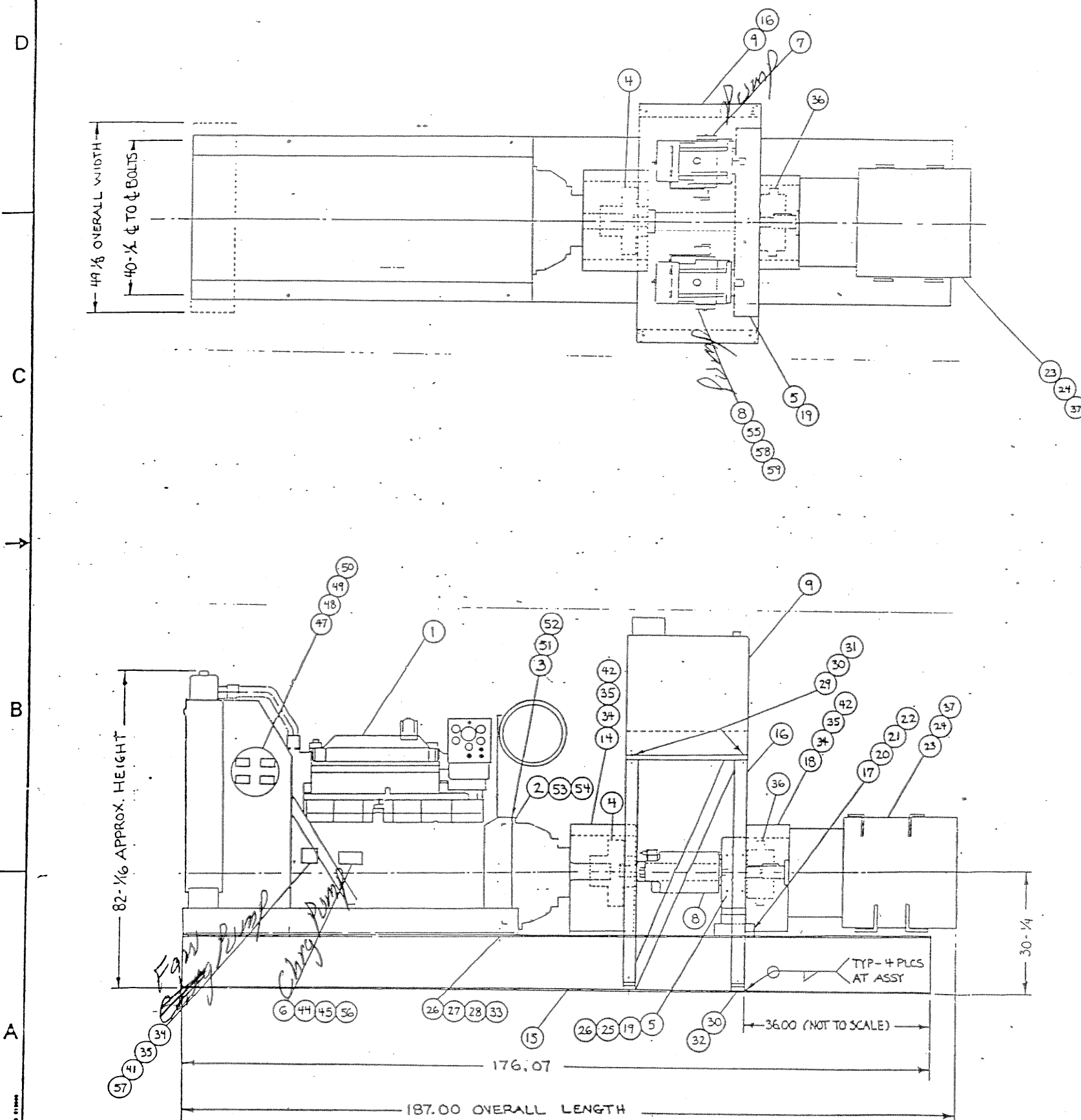
1. MOUNT GEARBOX IN PLACE AND COMPLETE ENGINE/GEARBOX ALIGNMENT.
2. INSTALL FLOATING SLEEVES OVER MOTOR AND GEARBOX SHAFTS IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS.
3. HEAT GENERATOR HUB IN OIL BATH OR OVEN TO MAXIMUM OF 275°F (135°C). DO NOT REST GEAR TEETH ON THE BOTTOM OF CONTAINER OR APPLY A FLAME DIRECTLY TO THE GEAR TEETH.
4. MOUNT HUB ON GENERATOR SHAFT - CHECK FOR CORRECT ORIENTATION OF HUB. FACE OF HUB TO BE FLUSH WITH END OF SHAFT.
5. MOUNT HUB ON GEARBOX OUTPUT.
6. ADJUST GAP BETWEEN HUBS TO $.12" \pm .010$. CHECK ANGULAR ALIGNMENT BY MEASURING GAP AT 90° INTERVALS WITH GAUGE, .10" MAX. VARIANCE ALLOWED.

FIG. 2

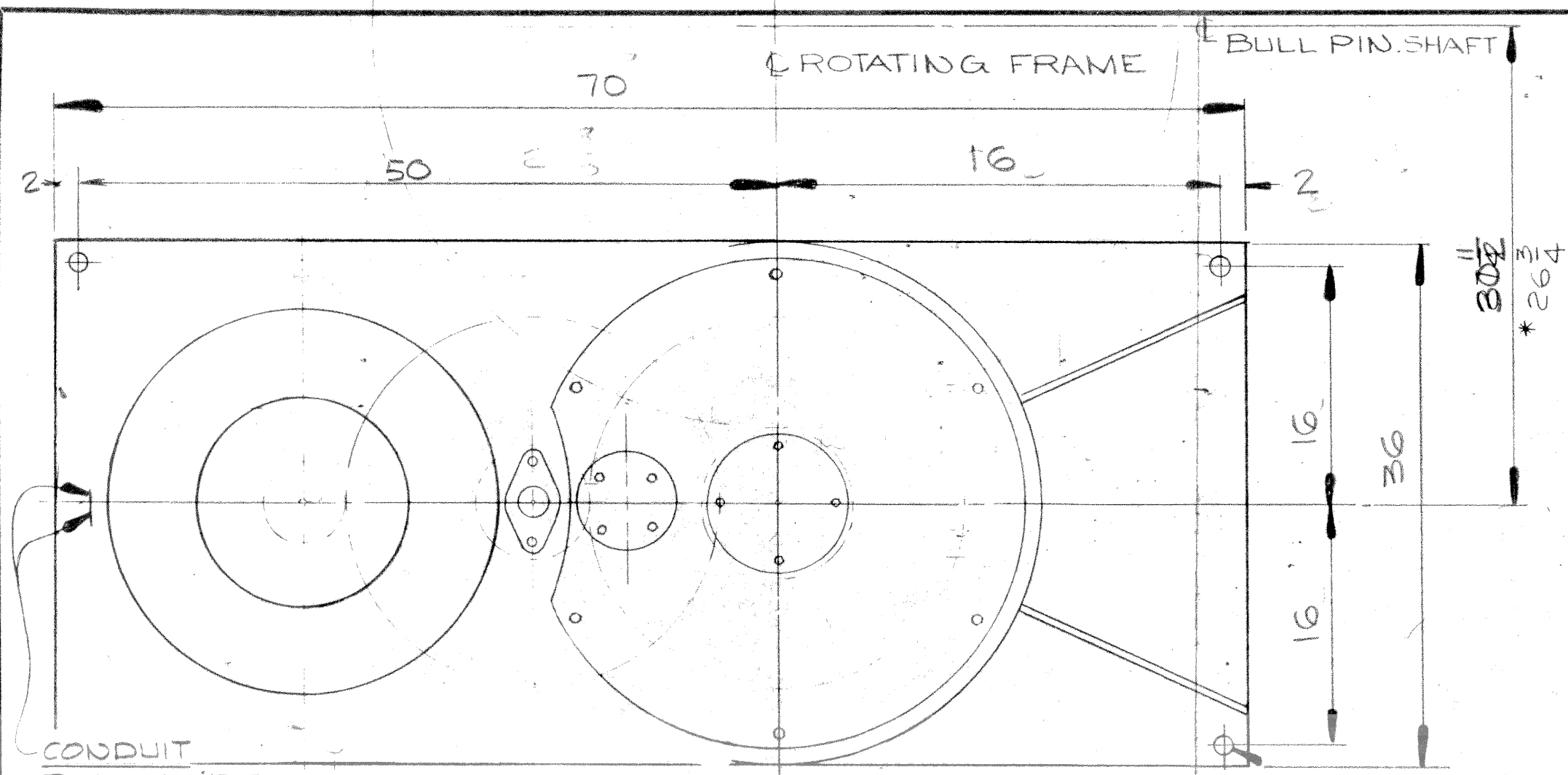
7. INSTALL DIAL INDICATOR ON GEARBOX SHAFT AND CHECK OFFSET ALIGNMENT RELATIVE TO THE GENERATOR SHAFT. MAXIMUM VARIANCE ALLOWED OVER 360° IS .020°.

FIG. 3

NOTE: LOCATE COUPLING GUARDS (ITEMS 14 AND 18) AT ASSEMBLY, USE AS TEMPLATE TO DRILL 7/16 DIA. MOUNTING HOLES.



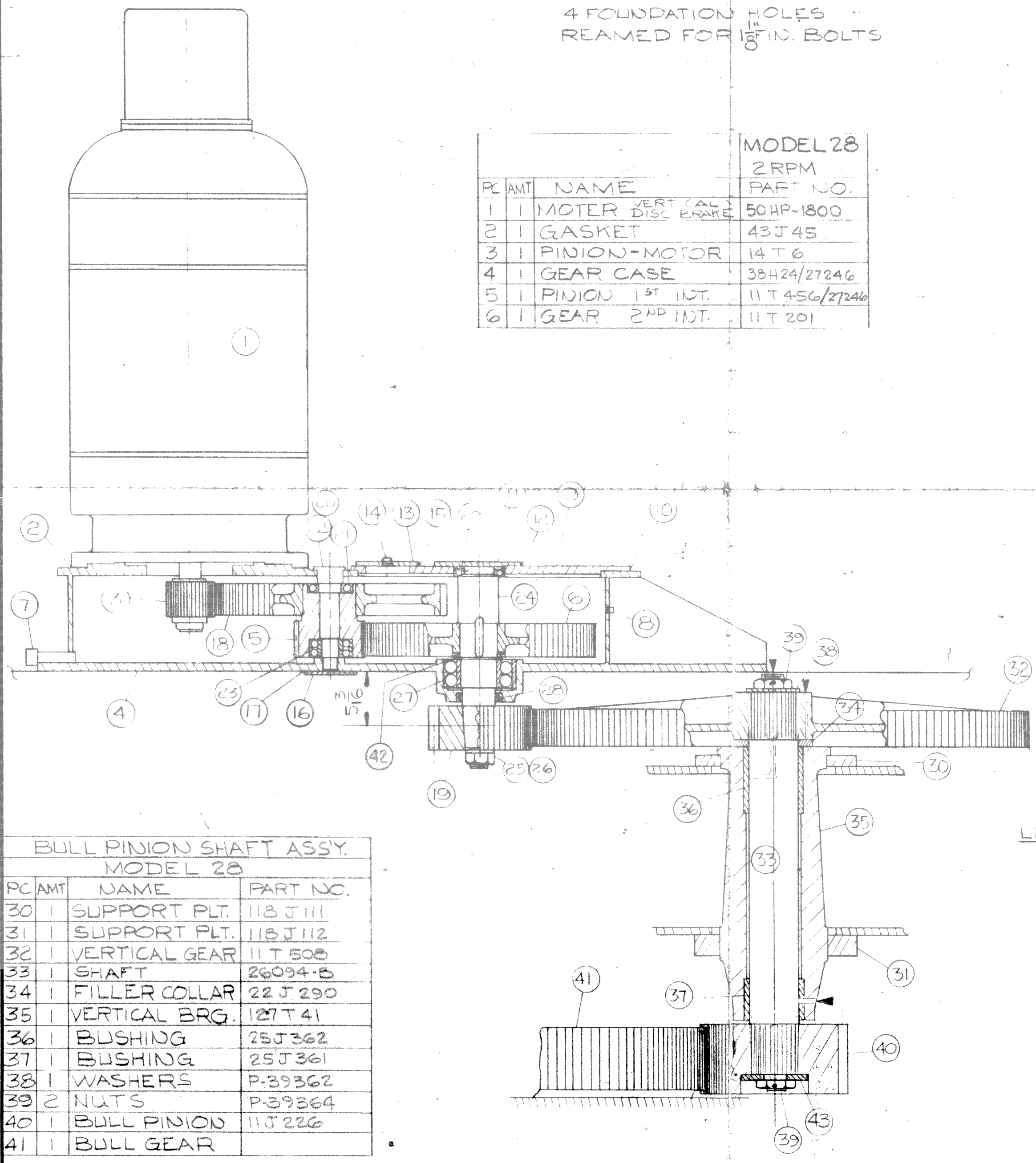
THIS DRAWING AND THE INFORMATION CONTAINED ON IT ARE THE PROPERTY OF AMCLYDE. THIS DRAWING IS NOT TO BE REPRODUCED OR FURTHER DISTRIBUTED WITHOUT WRITTEN PERMISSION OF AMCLYDE.	MATERIAL SPECIFICATION SEE SHT 2	DIMENSIONS IN INCHES UNLESS OTHERWISE STATED. TOLERANCE CODE F12.004 F12.008 F12.012 F12.016 F12.020	SUPPLIER'S PROJECT: 11715 ASSY: AP 11715 MODEL: CW 3970 DATE: 7-18-90 CHECKED: J. WILSON APPROVED: P. MOYER	TITLE PUMP DRIVE ASSEMBLY	
	HARDNESS	ANGLES — DIMENSIONS — SURFACE FINISH —	DATE: 7-18-90 SCALE: 1:15 WT: 6809.28 LB	DWG NO. 1535432 SHEET 1 OF 2	



MODEL 28			
PC	AMT	NAME	PART NO.
7	1	PIPE PLUG-3/4	
8	1	PIPE PLUG-3/8	
9	1	COVER	79T44/27099
10	1	GASKET	43J36
11	1	RETAINER	28J279/27099
12	1	GASKET	43J34/27099
13	1	COVER	79J65
14	1	PIPE REDUCER	1/4 x 1/2
15	1	GASKET	43J26
16	1	COVER	79J66
17	1	GASKET	43J25
18	1	GEAR-1 ST INT.	14T5
19	1	PINION-2 ND INT.	11J150/27099
20	1	SHIMS - TIM.	K21105-7-20
21	1	BALL BRG-MRC	212-M
22	1	SHAFT-1 ST INT.	62J61/27099
23	1	BALL BRG-MRC	5410
24	1	SHAFT-2 ND INT.	62T146/27099
25	1	HALF NUT 2 1/2	K-10340
26	1	WASHER	K-10438
27	1	BALL BRG-MRC	SKF 22224-C
28	2	GR. SEAL-TYPE P	550416
29	1	BALL BRG-MRC	316M
42	1	SPACER	27099-D
43	1	WASHER	26094-D

4 FOUNDATION HOLES
REAMED FOR 1/8" FIN. BOLTS

MODEL 28 2 RPM			
PC	AMT	NAME	PART NO.
1	1	MOTOR VERT. CAL. DISC BRAKE	50HP-1800
2	1	GASKET	43J45
3	1	PINION-MOTOR	14T6
4	1	GEAR CASE	38H24/27246
5	1	PINION 1 ST INT.	11T456/27246
6	1	GEAR 2 ND INT.	11T201



BULL PINION SHAFT ASSY. MODEL 28			
PC	AMT	NAME	PART NO.
30	1	SUPPORT PLT.	118 J 111
31	1	SUPPORT PLT.	118 J 112
32	1	VERTICAL GEAR	11 T 508
33	1	SHAFT	26094-B
34	1	FILLER COLLAR	22 J 290
35	1	VERTICAL BRG.	127 T 41
36	1	BUSHING	25J362
37	1	BUSHING	25J361
38	1	WASHERS	P-39362
39	2	NUTS	P-39364
40	1	BULL PINION	11J 226
41	1	BULL GEAR	

LUBRICATION
GEAR CASE - KEEP FILLED TO
LEVEL OF PIPE
PLUG NO. 8 WITH
SAE NO. 90 OIL
► GRS. FITTINGS AL. HYD. PRESSURE
GREASE LUBRI-
CATION.

THIS DRAWING IS THE PROPERTY OF THE
CLYDE IRON WORKS, INC.

THIS DRAWING IS LOANED WITHOUT OTHER CONSIDERATION THAN
THIS AGREEMENT AND CONDITION THAT IT IS NOT TO BE REPRODUCED,
COPIED OR OTHERWISE DISPOSED OF, DIRECTLY OR INDIRECTLY, AND
IS NOT TO BE USED IN WHOLE OR IN PART TO ASSIST IN MAKING OR TO
FURNISH ANY INFORMATION FOR THE MAKING OF DRAWINGS, PRINTS,
APPARATUS OR PARTS THEREOF.
THE ACCEPTANCE OF THIS DRAWING WILL BE CONSTRUED AS AN
ACCEPTANCE OF THE FOREGOING CONDITIONS, AND AS AN ADMISSION
OF THE EXCLUSIVE OWNERSHIP OF THE CLYDE IRON WORKS, INC., IN
AND TO THE DRAWING.

MACHINING TOLERANCES UNLESS NOTED: FRACTIONAL ± 1/64 DECIMAL ± .010 ANGLE ± 1°				NO.	REVISION DESCRIPTION	BY	DATE
CLYDE IRON WORKS, Inc. DULUTH, MINN.				ASSEMBLY - SWINGER MOD. 28 SUB. ASSM. CW 3970			
WT.	RGH.	FIN.	SCALE 1/2 IN. = 1 FT.	MATERIAL			
EST.			DWN. TR. CHK.	DRAWING NUMBER			
ACT.			DATE 2-16-72 APR 1972	504H4 27246			