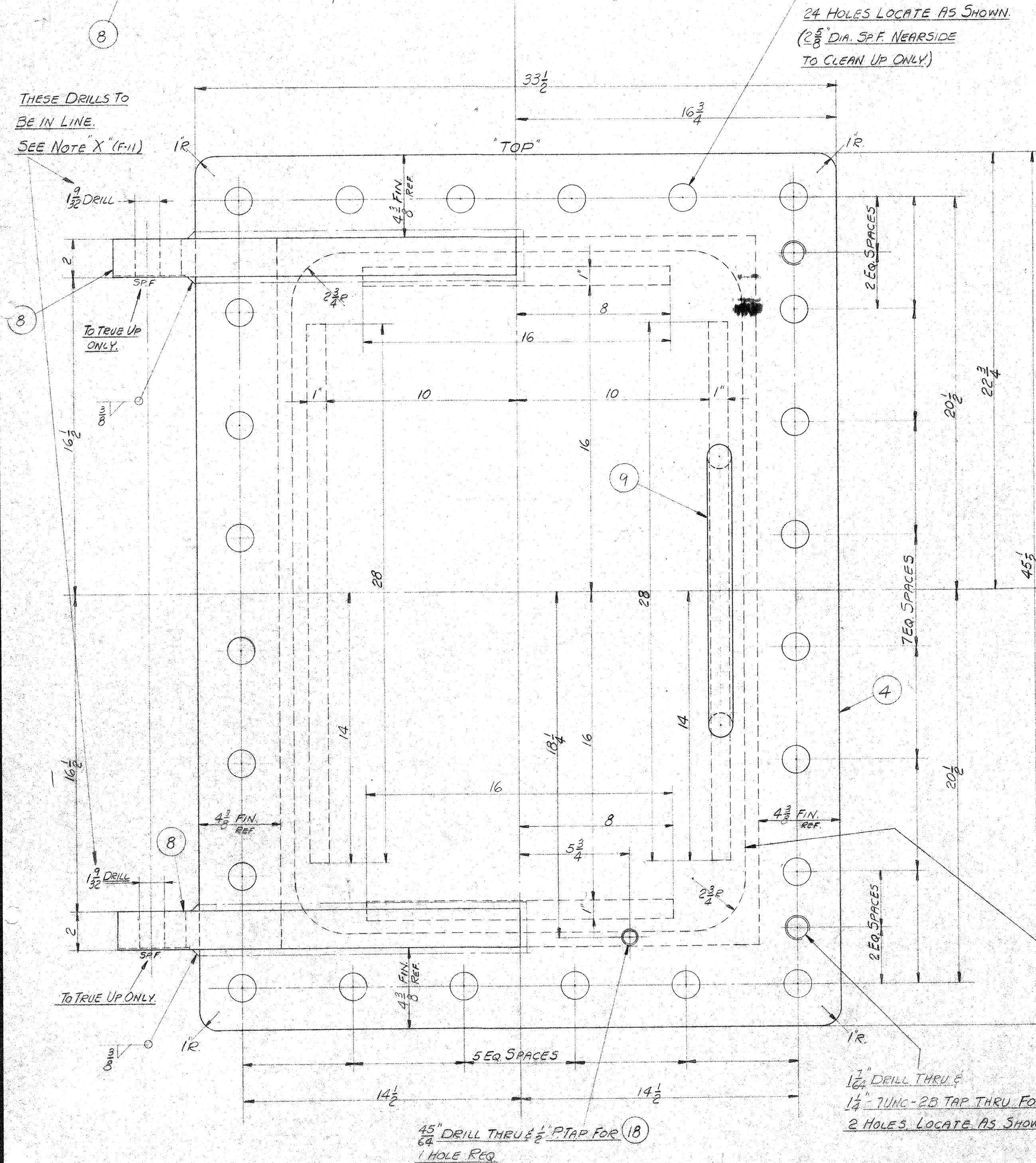


9								
8								
7								
20*	6	WELD ROD	CLASS R-1	STEEL				
1	5	FRAME SIDE	(M.F. MAT. OF 02-203-141-00-001) (SEE SKETCH "X" DEG. 02-203-141)	STEEL	THIS	005	430*	R
2	4	FRAME SIDE	(M.F. MAT. OF 02-203-141-00-001) (SEE SKETCH "X" DEG. 02-203-141)	STEEL ASTM A36 PLATE PENDING QUALITY 65. A - TREAT TYPICAL MIL TEST	THIS	004	220*	R
1	3	FRAME SIDE	(M.F. MAT. OF 02-203-141-00-001) (SEE SKETCH "X" DEG. 02-203-141)		THIS	003	160*	R
	2							
	1	MANHOLE SADDLE			02-402-048	501	1050*	R
							800* FMS 750* FIN.	
REQ. AC. IN. SOL.	ITEM	DESCRIPTION		MATERIAL	DRAWING	MARK	WEIGHT	



1 7/16" DRILL THRU
24 HOLES LOCATE AS SHOWN.
(2 5/8" DIA. SP.F. NEAR SIDE
TO CLEAN UP ONLY.)

BREAK CORNERS ALL
AROUND APPROX. $\frac{1}{32}$

CEMENT GASKET (17) TO
COVER WITH 3M-EC 870
ADHESIVE. (20)

NOTE:-

BAFFLE (5) IS DROP-OUT OF
SPIRAL CASE DRG. NO. 02-502-521
ITEM (19).

NOTE:-

THIS SURFACE TO BE FLUSH WITH INSIDE OF SPIRAL CASE.

NOTE "X" :-

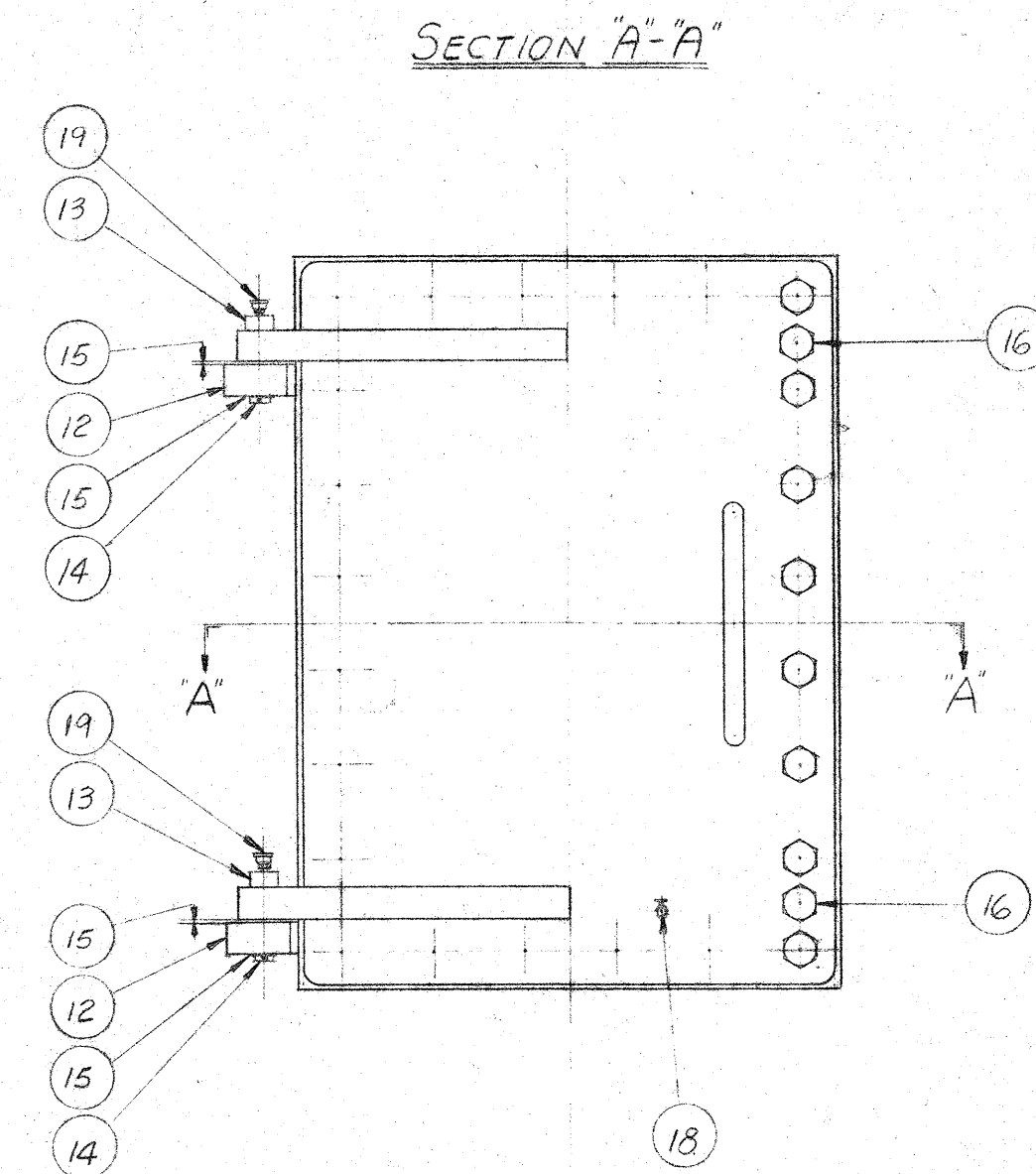
1. BOLT COMPLETELY MACHINED COVER TO SPIRAL CASE WITH GASKET (17) IN PLACE HAVING HINGED SIDE TO THE LEFT.
2. PLACE LUGS (12) IN POSITION SHOWN. TRIM TO PROPER LENGTH. SCRIBE & DRILL HOLES.
3. CLAMP LUGS TO COVER BY MEANS OF BOLTS, PLACING $\frac{1}{8}$ " THK WASHER (15) BETWEEN LUGS & HINGES.
4. WELD LUGS SECURELY TO SPIRAL CASE.
5. REMOVE BOLTS & LINE REAM IF NECESSARY FOR PIN (13).

NOTE "R"

OUTSIDE SURFACES OF MANHOLE COVER TO BE CLEANED & PAINTED PER DEG. 02-103-517 MK. 401.
SEE NOTE "S"(A-10) FOR PAINTING INSIDE SURFACES. NOTIFY CORPS OF ENGINEERS
INSPECTOR BEFORE APPLYING PAINT.
PROTECT FINISHED SURFACES PER DEG. 02-103-517 MK. 403.

NOTE:-

MANHOLE COVER TO BE WELDED PER DRG. 02-203-106
STRESS RELIEVING IS NOT REQUIRED.

[illegible]

SECTION "A"- "A"

APPROVED 4-10-58

01 11 - 6 - 57

TBH
A.B
Δ (H-1) WAS 5" RAD.
ITEM ⑮ WAS. PET COCK
ABOVE CHANGES AS PER
CUSTOMERS REQUEST (12-24

02	1 -	- 50
----	-----	------

TCH
A.B.
2(E-10) SHIFTED CENTERLINE 12"
3(F-9) WAS $3\frac{9}{16}$ "
4(B-9) WAS $3\frac{1}{16}$ "
ADDED ITEM 11.
ABOVE CHANGES PER CORPS OF EN
REQUEST.

03	3-	22	-5
----	----	----	----

KWK
A B

110

... ..

...and the

1. *Journal of the American Medical Association*, 277: 1025-1030, 1997.

...the ...

Figure 1 is a map of the northern Adriatic region, showing the coastline of Italy. The map includes a scale bar from 0 to 100 km and a north arrow. The sampling stations are marked with numbers 1 through 10 along the coast.

For all the above, the following is the definition of the \mathcal{H}_∞ norm of a system Σ :

100

100

...and the ...

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

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February 2006

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Age Group	Percentage of Respondents
18-29	65%
30-49	75%
50-69	80%
70+	85%

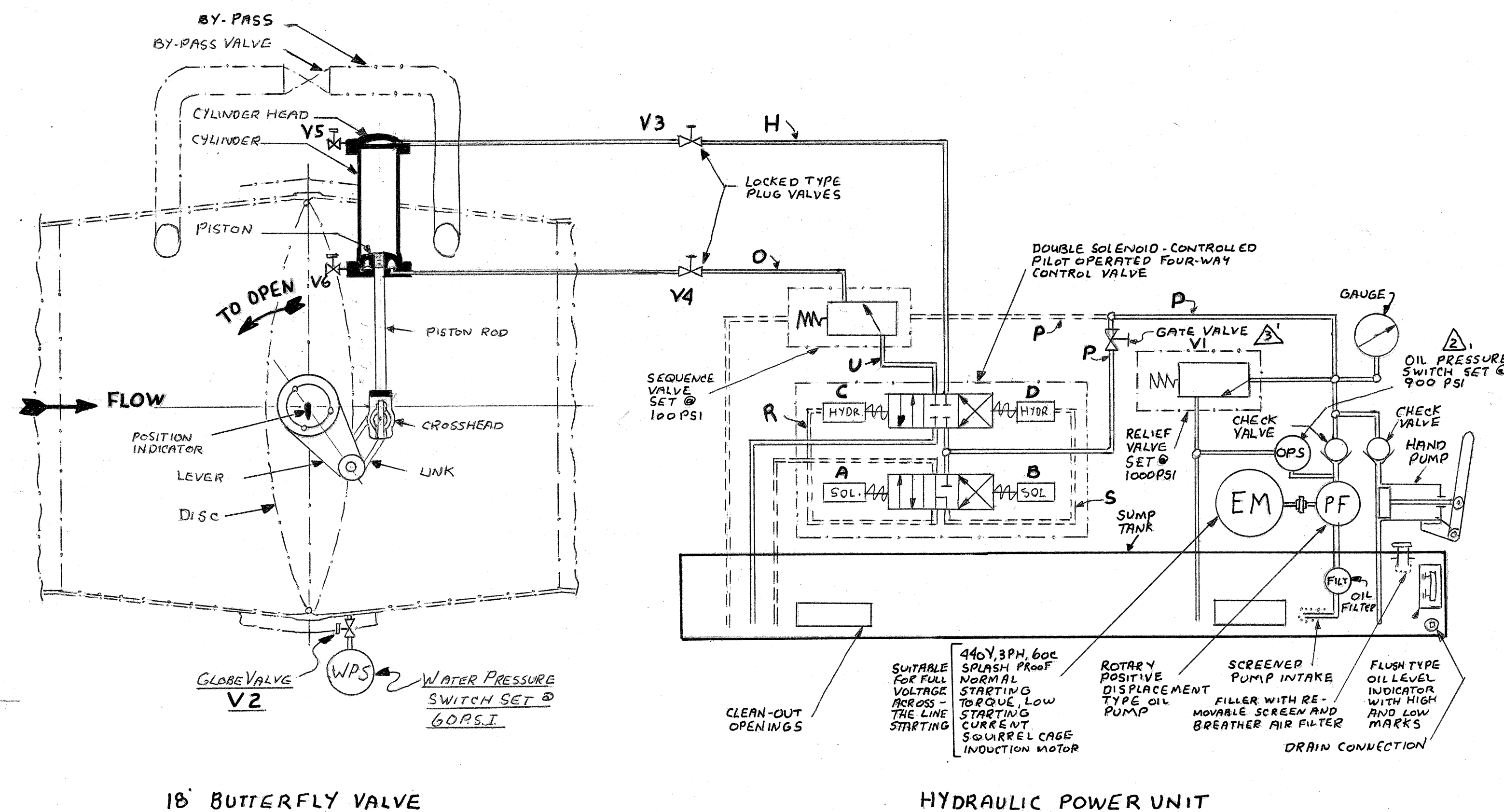
8. *Journal of the American Medical Association*, 1997; 278: 1039-1044.

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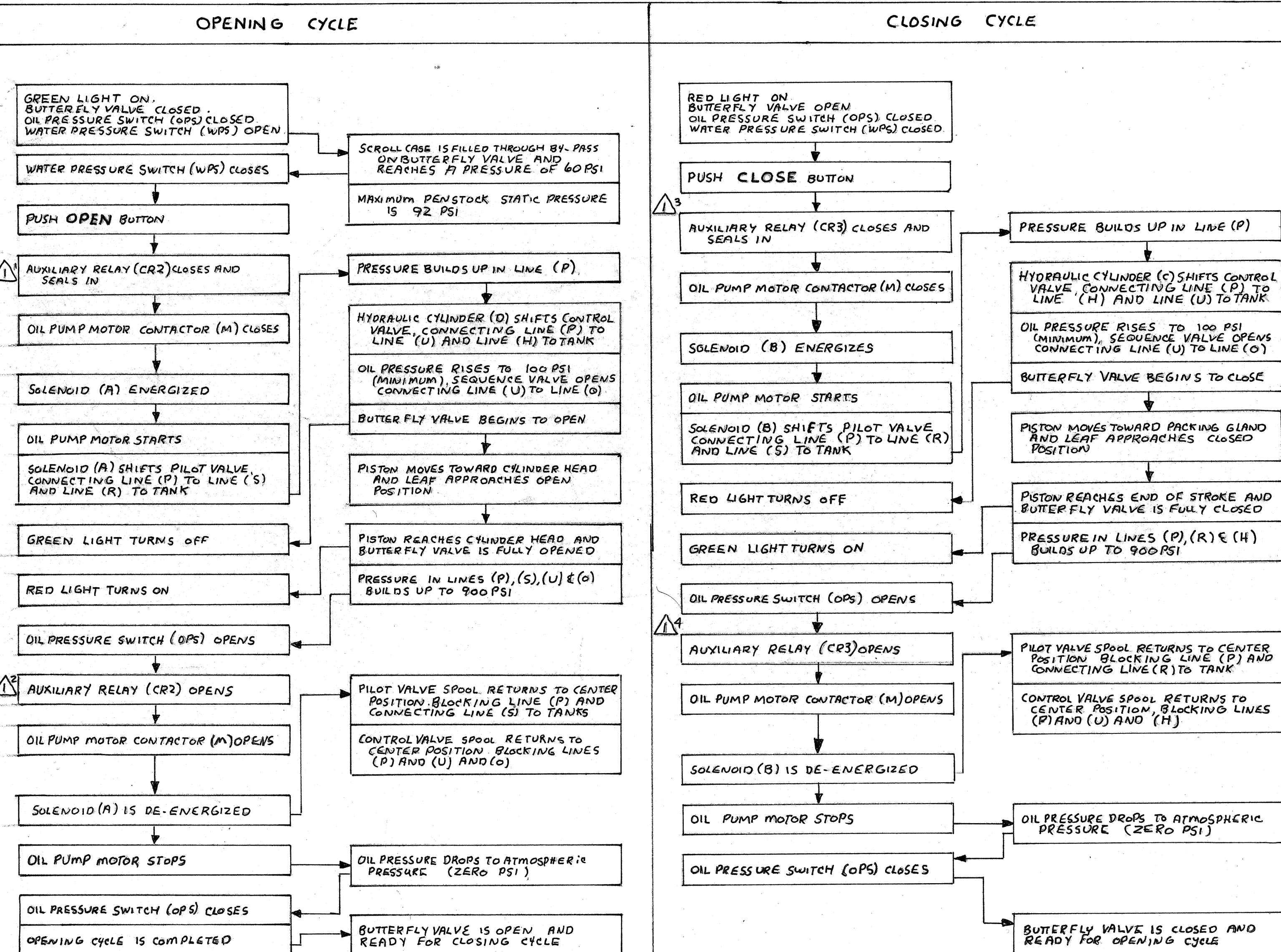
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OPERATING DIAGRAM



SEQUENCE DIAGRAM (CABINET & REMOTE)



NOTE: TO REVERSE BUTTERFLY VALVE DURING OPENING CYCLE PUSH STOP BUTTON THEN START CLOSING CYCLE

NOTE: TO REVERSE BUTTERFLY VALVE DURING CLOSING CYCLE PUSH STOP BUTTON, THEN START OPENING CYCLE

M - MOTOR CONTROLLER

CR2 - AUX RELAY FOR SOL A

CR3 - AUX RELAY FOR SOL B

OPS - OIL PRESSURE SWITCH

WPS - WATER PRESSURE SWITCH

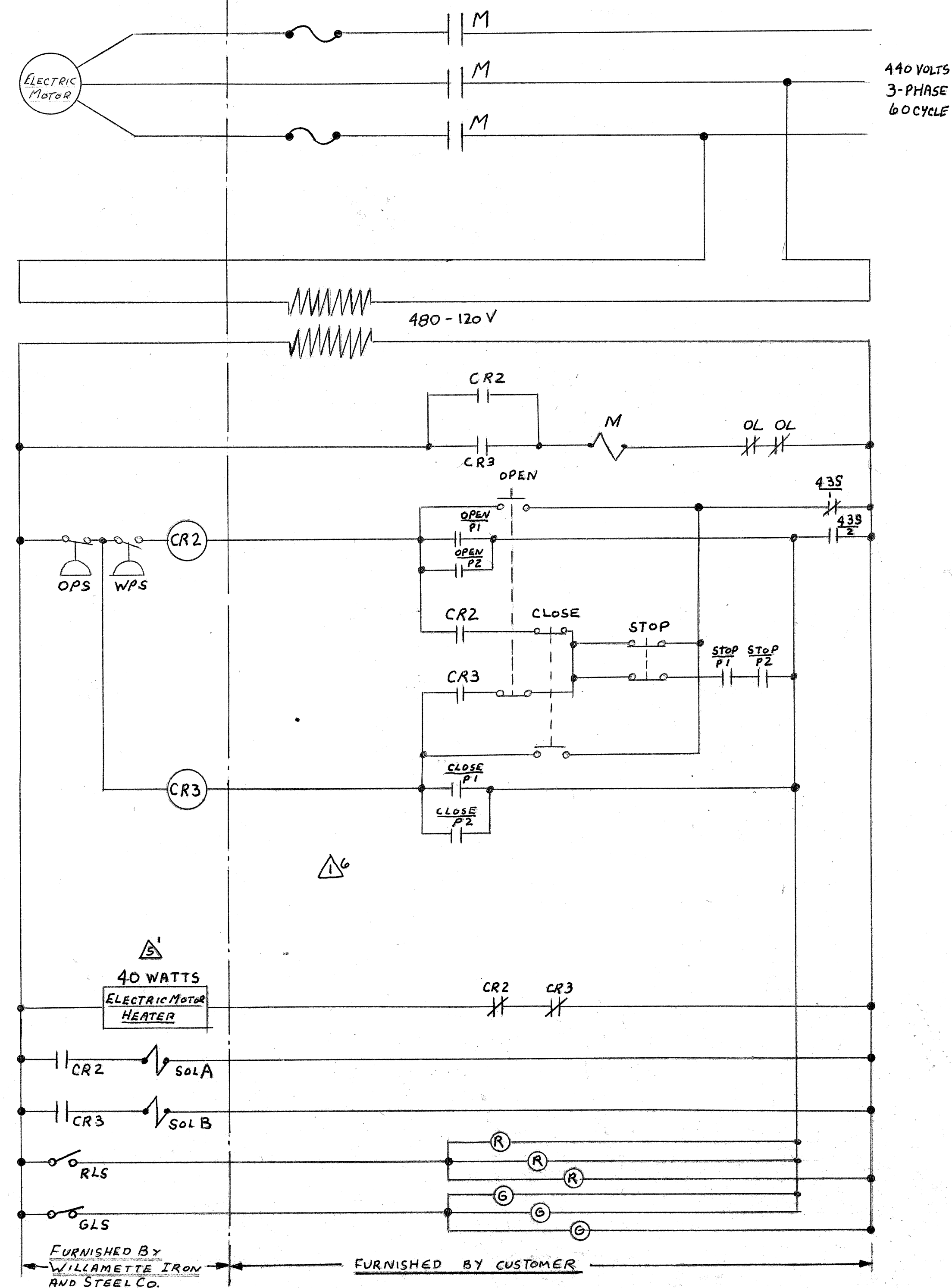
SOL A - SOLENOID ON 4 WAY VALVE

SOL B - SOLENOID ON 4 WAY VALVE

RLS - RED LIGHT LIMIT SWITCH

GLS - GREEN LIGHT LIMIT SWITCH

WIRING DIAGRAM (FOR BUTTERFLY VALVE IN CLOSED POSITION)



NOTE: 1. VALVE SELECTOR SWITCH SHOWN IN "VALVE ROOM" POSITION AND MAIN VALVE SWITCHES SHOWN IN "STOP" POSITION.

SERVICING AND OPERATING INSTRUCTIONS

I. SERVICING INSTRUCTIONS

A. SWITCH AND VALVE SETTINGS

1. SET OIL PRESSURE SWITCH (OPS) TO BREAK AT 900 PSI AND TO REMAKE AT 400 PSI
2. SET WATER PRESSURE SWITCH (WPS) AT ZERO PSI OR USE JUMPER ACROSS CONTACTS (FOR TESTING ONLY)
3. SET OIL PRESSURE RELIEF VALVE TO OPEN AT 1000 PSI
4. SET SEQUENCE VALVE TO OPEN AT 100 PSI
5. FULLY OPEN VALVES V1, V2, V3 AND V4. CLOSE V5 & V6

B. FILLING SYSTEM WITH OIL

1. FILL OIL TANK WITH CLEAN LIGHT HYDRAULIC OIL (SIMILAR TO S.A.E. 10 W). CONTAINING A RUST INHIBITOR. ADD OIL TO TANK AS REQUIRED DURING THE PROCESS OF FILLING THE SYSTEM. APPROXIMATELY 200 GALLONS OF OIL WILL BE REQUIRED FOR THIS SYSTEM FOR ONE BUTTERFLY VALVE.
2. WITH THE BUTTERFLY VALVE IN THE OPEN POSITION START THE OIL PUMP WITH THE CLOSE PUSH BUTTON. OIL WILL BE PUMPED THROUGH LINE (H) AND WILL FILL THE CYLINDER UNDER THE PISTON. AIR IN THE CYLINDER CAN BE VENTED TO THE OUTSIDE THRU VALVE V5 OR V6.
3. WHEN PRESSURE BUILDS UP TO 800 PSI, OIL PRESSURE SWITCH (OPS) WILL OPEN AND STOP THE OIL PUMP. AFTER THE SYSTEM HAS RETURNED TO ATMOSPHERIC PRESSURE AND THE OIL PRESSURE GAUGE INDICATES ZERO, REVERSE THE CYCLE BY PUSHING THE OPEN BUTTON. REPEAT CLOSING AND OPENING CYCLES UNTIL ALL THE AIR IS VENTED FROM THE SYSTEM.
4. AFTER REMOVING JUMPER FROM ACROSS THE CONTACTS, RESET WATER PRESSURE SWITCH (WPS) TO MAKE AT 60 PSI AND BREAK AT 25 PSI.
5. OIL LEVEL IN TANK SHALL BE MAINTAINED BETWEEN THE LEVELS INDICATED ON THE SIGHT GAUGE.

C. POSITION INDICATOR ADJUSTMENT

1. SET POINTER ON POSITION INDICATOR TO CORRESPOND WITH THE POSITION OF THE BUTTERFLY LEAF
2. SET INDICATING LIGHTS TO OPERATE AS FOLLOWS: VALVE CLOSED, GREEN LIGHT ON; VALVE OPEN, RED LIGHT ON; INTERMEDIATE VALVE POSITIONS, BOTH LIGHTS OFF

D. OPERATING & SERVICING GREASING SYSTEM

1. START GREASING OPERATION WITH SELECTOR LEVER ON HAND PUMP IN THE "H" POSITION.
2. OPERATE HAND PUMP UNTIL ALL METERING VALVE INDICATORS ARE IN THE UP (OR DOWN) POSITION.
3. PULL SELECTOR LEVER TO THE "OUT" POSITION AND OPERATE HAND PUMP UNTIL ALL VALVE INDICATORS RETURN TO THEIR ORIGINAL POSITION.

3. (cont) THIS COMPLETES ONE GREASING CYCLE.
4. TO REPLENISH GREASE IN HAND PUMP RESERVOIR USE BARREL TRANSFER PUMP FURNISHED.

5. USE WATER RESISTANT GREASE HAVING A NATIONAL LUB. GREASE INSTITUTE NO. O CONSISTENCY

II. OPERATING INFORMATION

A. OPENING CYCLE

1. THE SCROLL CASE MUST BE FILLED WITH WATER IN ORDER TO ACTIVATE THE WATER PRESSURE SWITCH (WPS) BEFORE THE OPENING CYCLE WILL START

B. GENERAL

1. VALVES V1, V2, V3 AND V4 ARE NORMALLY OPEN, V5 & V6 CLOSED
2. CLOSE VALVES V3 AND V4 (FOR SAFETY) TO PREVENT OPENING OF BUTTERFLY VALVE WHEN SCROLL CASE MANHOLE IS OPEN
3. WHEN BUTTERFLY VALVE IS OPERATED INFREQUENTLY THE TRUNNIONS SHOULD BE GREASED ONCE A WEEK
4. CLEAN THE OIL FILTER ANNUALLY OR AS REQUIRED
5. THE SEQUENCE VALVE IS TO PREVENT THE BUTTERFLY VALVE FROM SLAMMING SHUT PERIODICALLY
6. ALL ELECTRICAL EQUIPMENT MUST BE CHECKED PERIODICALLY
7. REMOVE LOCK BOLT ON VACUUM VALVE BEFORE FILLING SCROLL CASE

INSPECTION: *None*
CLEANING: *None*
PAINTING: *None*

WELD PROCEDURE: *None*
STRESS RELIEVE: *None*
TESTING: *None*

LUBRICATION: *None*
TOLERANCES: *None*

CUSTOMER'S APPROVAL

REFERENCE DRAWINGS
5233-0100

REV	DATE	DESCRIPTION	BY	DATE
1	12-21-59	ADD NOTE 5	FEW	
2	8/4/59	ADDED 40 WATTS TO ELEC. MOTOR HEATER	FEW	
3	7/21/59	CHANGED LOCATION OF ELEC. VALVE	FEW	
4	1/20/59	REMOVED PER SC LETTER	FEW	
5	1/20/59	REVISED PER 1/2 LETTER 1/2/59	FEW	

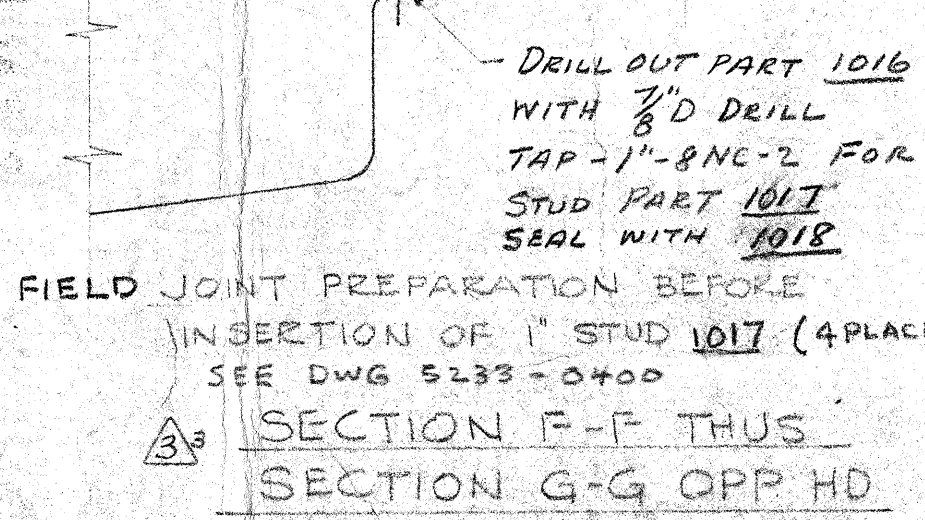
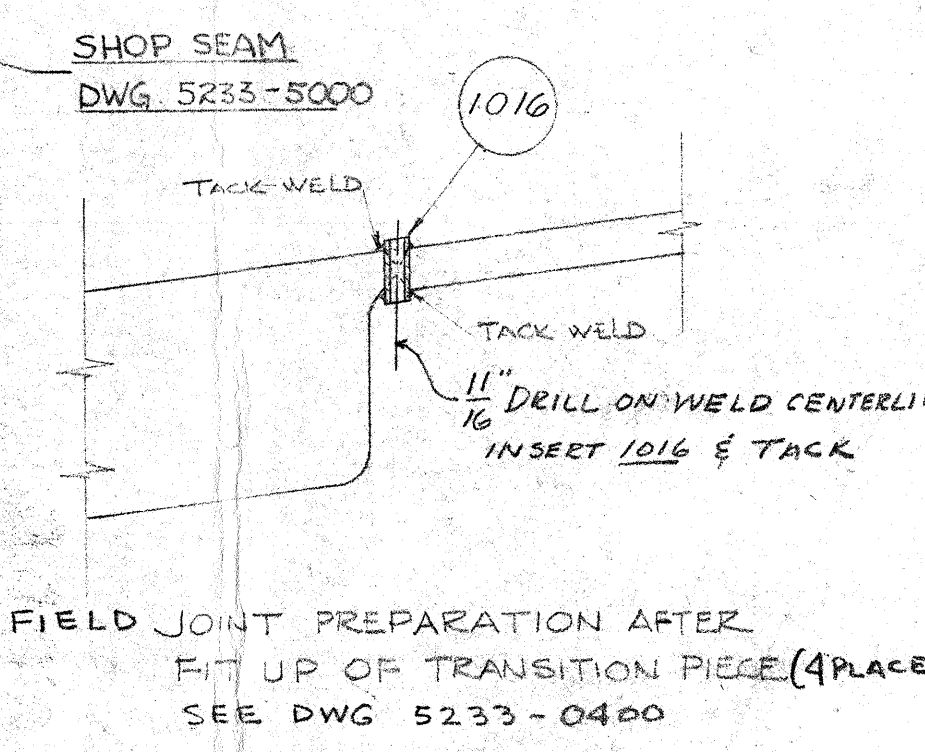
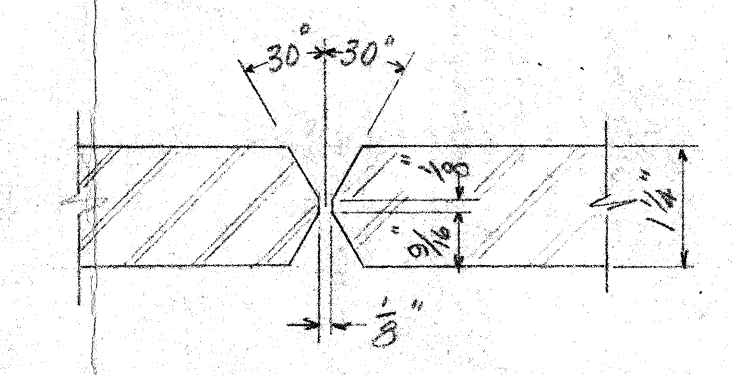
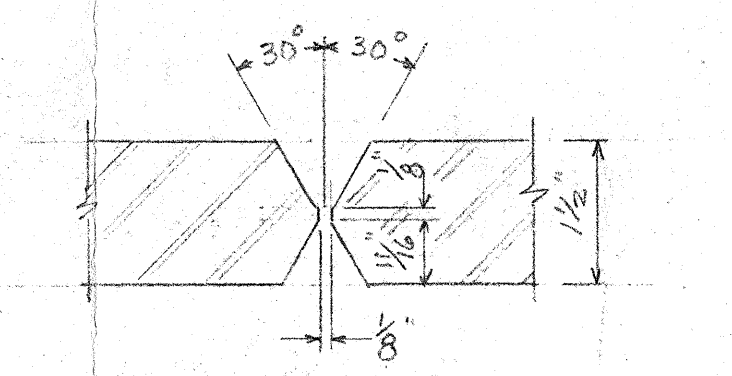
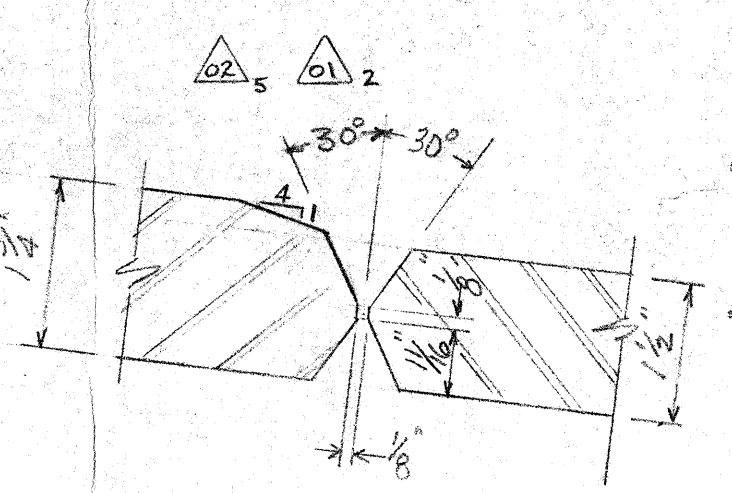
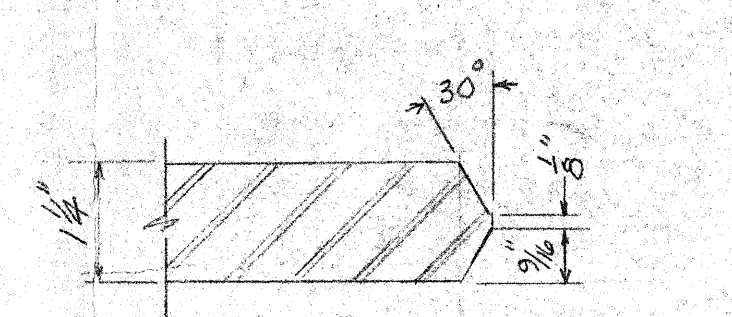
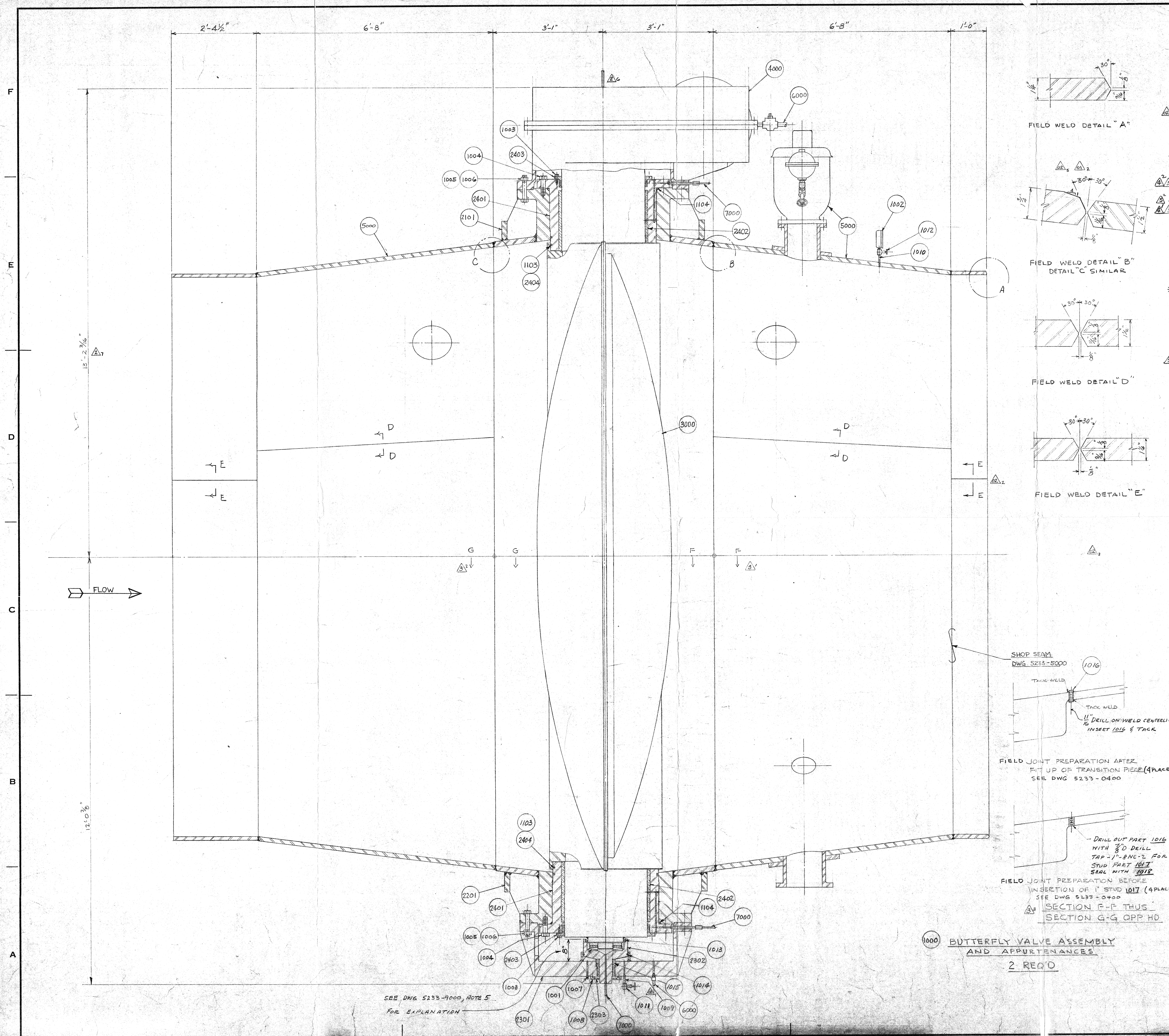
FOR CONTRACT
DATE: JAN. 19, 1959

TITLE
FORT PECK DAM
18 FOOT BUTTERFLY VALVE
OPERATING & WIRING DIAGRAMS AND INSTRUCTIONS

WILLAMETTE IRON AND STEEL COMPANY
2800 N. W. FRONT AVENUE
PORTLAND 10, OREGON

DR. NO.	SCALE	DATE	FILE NO.
DR. 40	SCALE: 1/2" = 1'-0"	DATE: 12-21-59	FILE NO. 4066
TR.	DATE: 12-21-59	DATE: 12-21-59	DATE: 12-21-59
CH. 218	APPROV. FEW	DATE: 12-21-59	DATE: 12-21-59
SALES ORDER NO.	COMPONENT	REV.	REV.

5233 0200 06



SEE DWG 5233-9000, NOTE 5 FOR EXPLANATION

PARTS LIST				
PART NO.	SUB PART NO.	NO. REQD.	DESCRIPTION	MATERIAL
1000	2	1	BUTTERFLY VALVE ASSY	
1001	2	1	THRUST BRG	BRG - 511
1002	2	1	PRESS SWITCH (RANGE 0 TO 50 PSI)	DA 31-3
1003	48	1	1/4" BNC-2 X 2 LG. HEX. HD. CAP. SCR.	COMM'L STEEL
1004	48	1	1/4" BNC-2 X 2 LG. HEX. HD. CAP. SCR.	COMM'L STEEL
1005	64	1	1/4" BNC-2 X 2 LG. HEX. HD. BOLT	SAE GR. 5
1006	64	1	1/4" BNC-2 X 2 LG. HEX. HD. NUT	SAE GR. 5
1007	2	1	1/4" NPT BOTTOM HD FITTING	ALUMINUM
1008	4	1	1/4" BNC-2 X 2 LG. HEX. HD. CAP. SCR.	COMM'L STEEL
1009	2	1	1/4" NPT X 3 LG. STD. PIPE NIPPLE	TYPE 302
1010	2	1	1/4" NPT X 3 LG. STD. PIPE NIPPLE	TYPE 302
1011	2	1	1/4" BNC-2 X 2 LG. HEX. HD. CAP. SCR.	COMM'L STEEL
1012	2	1	1/4" BNC-2 X 2 LG. HEX. HD. CAP. SCR.	COMM'L STEEL
1013	3	1	SEAL	BRASS
1014	3	1	1/4" O.D. X 1/4" I.D. O-RING	BRASS
1015	3	1	1/4" O.D. X 1/4" I.D. O-RING	BRASS
1016	8	1	1/4" STD. PIPE X 4" LG.	TYPE 302
1103	12	1	1/2" SQ. X 5/8" GARLOCK # 7892	5233-1100
1104	6	1	1/2" DIA. X 3/8" RD. O-RING	5233-1100
1017	8	1	1/4" BNC-2 X 2 LG. HEX. HD. CAP. SCR.	COMM'L STEEL
2101	2	1	UPPER BODY HALF	5233-2100
2201	2	1	LOWER BODY HALF	5233-2200
2301	2	1	BEARING HOUSING	5233-2300
2302	2	1	THRUST BRG CARRIER	" "
2303	2	1	LOCK PLATE	" "
2401	2	1	BEARING CARRIER	5233-2400
2402	2	1	BEARING	" "
2403	2	1	GLAND	" "
2404	12	1	CARRIER SEAL	" "
3000	2	1	DISC ASSY	5233-3000
4000	2	1	OPERATOR ASSY	5233-4000
5000	2	1	TRANSITIONS ASSY	5233-5000
6000	2	1	HYD. UNIT & PIPING	5233-6000
7000	2	1	LUBRICATION UNIT & PIPING	5233-7000
8000	2	1	ANCHOR BOLT DET. & INSTAL.	5233-8000
9000	2	1	HANDLING & VALVE ASSY. PROCEDURE	5233-9000
1018	1	1	PERMATEX 11402 TUBE #2	COMM'L

* INCLUDES ONE SET OF SPARES

NOTE:
1. FOR HALF-SECTION & END VIEW ASSY. SEE DWG 5233-1100.
2. FOR FIELD WELD DETAILS SEE DWG 5233-5000.

3. EACH VALVE TO BE ASSEMBLED AT WISCO SHOP ASSY. (WITHOUT TRANSITION SECTIONS) AND VALVE OPERATED TO ASSURE PROPER FUNCTIONING OF ALL PARTS. THEN MATCH MARKED AND DISASSEMBLED FOR SHIPPING. NO HYDROSTATIC TEST OF VALVE AT WISCO SHOP ASSY. (CYL. TEST PER 5233-4000) ASSY. PROCEDURE PER DWG 5233-9000.

4. TRANSITION TO BE ASSEMBLED TO VALVE BODY AT WISCO SHOP ASSY. TO ASSURE PROPER FIT, THEN MATCH MARK AND DISASSEMBLED FOR SHIPPING.

5. ALL CLIP AND LIFTING LUGS USED FOR ERECTION PURPOSES TO BE REMOVED AT FIELD ASSEMBLY.

INSPECTION: BY WISCO AND BY
CLEANING: NONE
PAINTING: COAT ALL MACHINED SURFACES WITH COSMOLINE 1072 BEFORE SHIPPING

WELD PROCEDURE: SEE DETAIL DWG
STRESS RELIEVE: SEE DETAIL DWG
TESTING: PER NOTE 3 & DWG 5233-9000

LUBRICATION: DWG 5233-7000
TOLERANCES: SEE DETAIL DWG

CUSTOMER'S APPROVAL

FINAL RECORD

JAN 14 1960

REFERENCE DRAWINGS DWG 5233-100, 5233-200, 5233-300, 5233-1100

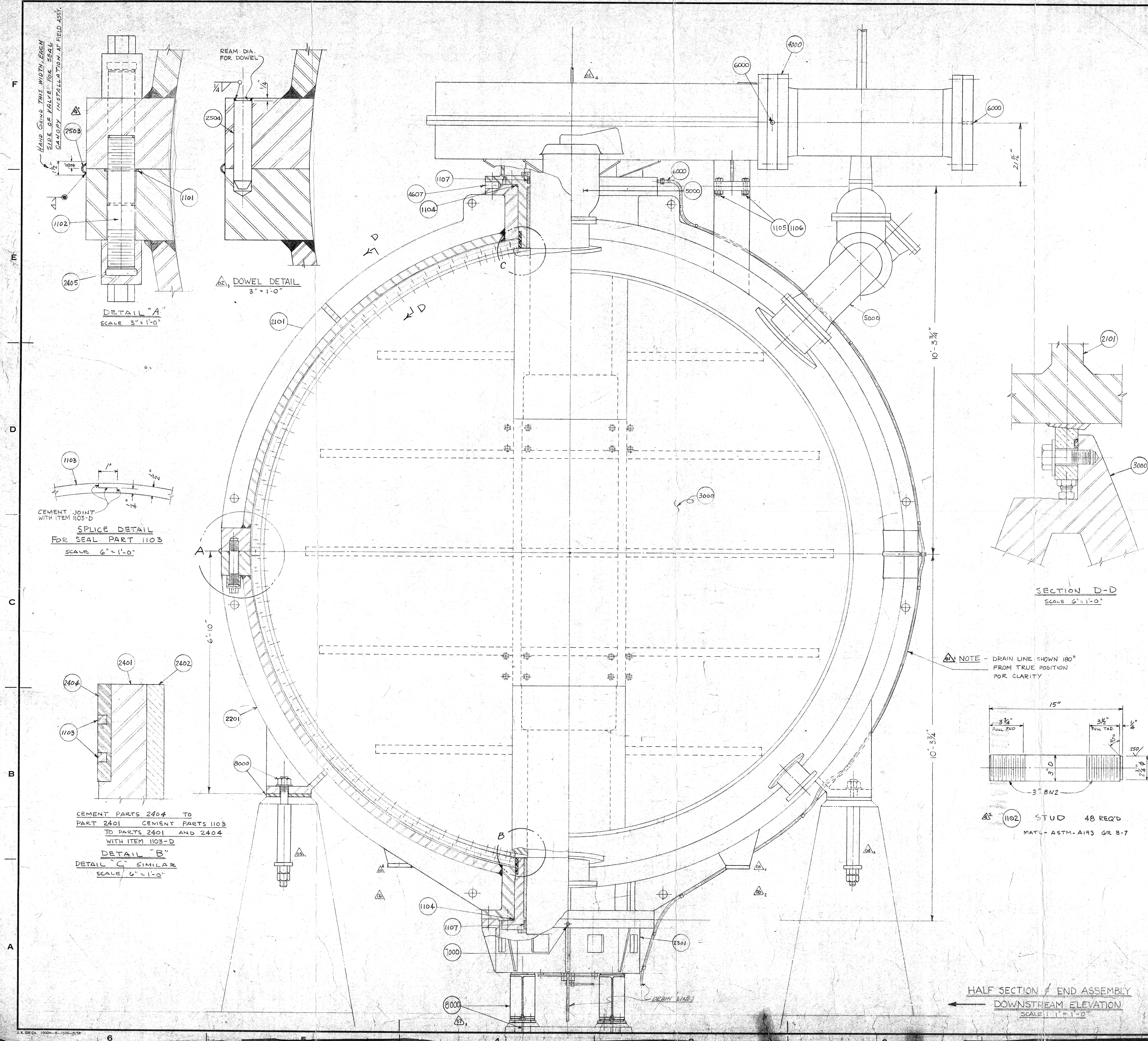
REV.	NOTE NO.	DATE	BY	CHKD.
1	REV. NOTE NO. 3, ADDED NOTE NO. 4 & 5 - PART 1017 & 1018	1/10/60	FW	FW
2	E-1 PARTS 1016 & 1017 BNC-2 WAS 1/4"	1/10/60	FW	FW
3	E-2 ADDED SECTION F-F G-G	1/10/60	FW	FW
4	E-3 REVISED INDICATOR PER 5/8" LETTER	1/10/60	FW	FW
5	E-4 DATED 1/10/60	1/10/60	FW	FW
6	E-5 REVISED PER 3/8" LETTER	1/10/60	FW	FW
7	E-6 SCHEMATIC PART DETAIL - F-F & G-G	1/10/60	FW	FW
8	ADDED NOTE 3	1/10/60	FW	FW

FOR CONTRACT DA-32-015 - CIVENG-59-113

TITLE: PORT PECK DAM, 18 FT. BUTTERFLY VALVE, SECTIONAL VALVE ASSEMBLY

WILLAMETTE IRON AND STEEL COMPANY
2800 N. W. FRONT AVENUE
PORTLAND 10, OREGON

DR. FEW SCALE 1" = 1 FT. DATE 9/24/58
CH. W. H. P. APP'D. [Signature]
SALES ORDER NO. 5233 COMPONENT 1000 REV. [Signature]



PARTS LIST				
PART NO.	SUB PART NO.	NO. REQ'D.	DESCRIPTION	MATERIAL
1101	72	4	4" OD, 3" I.D. x 1/4" THK GASKET	GASKETS NO. 260
1102	48	3	3.5M-2X15L6 STUD 3/4" THD EACH END	STUDS NO. 261
* 1103	12	1/4	1/4" SQ X 9.6"	GASKETS NO. 262
	D	10T.	BLACK NEOPRENE CEMENT	N-71
* 1104		4	1/4" X 3/4" X 1/4" P.D. O-RING	NEOPRENE O-RINGS DURO.
1105	12	1 1/2"	6N-2 X 5 L6 HEX HD. CAP. SCR.	GRADE 5
1106	12	1 1/2"	6N-2 X 5 L6 HEX HD. NUT	GRADE 5
* 1107	65ETS	2810 X 29	40D X 4 RING	GASKETS #430
			CHEMPOUR TAILRING	
2101	**	**	UPPER BODY HALF	DWG 5233-1100
2201	**	**	LOWER BODY HALF	DWG 5233-1200
2301	**	**	BEARING HOUSING	DWG 5233-2300
2405	48	SPECIAL	NUT	5233-2400
2401	**	**	BEARING CARRIER	DWG 5233-2400
2502	**	**	BEARING	"
* 2404	12	CARRIER	SEAL	"
* 2503	6	SEAL	CANOPY	5233-2500
2504	8	BODY HALVES	ALIGNING DOWEL	5233-2500
3000	**	**	DISC ASSEMBLY	5233-3000
4000	**	**	OPERATOR ASSY	5233-4000
4607	16	SHEAR PIN		5233-4600
5000	**	**	TRANSITION ASSY	5233-5000
6000	**	**	HVD. UNIT & PIPING	5233-6000
7000	**	**	LUBRICATION UNIT & PIPING	5233-7000
8000	**	**	ANCHOR BOLT DET & INSTAL.	5233-8000
9000	**	**	HANDLING & VALVE ASSY PROCEDURE	5233-9000

** FOR NO. REQ'D SEE DWG 5233-1000

* INCLUDES ONE SET OF SPARES

NOTE:
1. FOR SECTIONAL VALVE ASSEMBLY
SEE DWG 5233-1000

INSPECTION: BY WISCO AND C/E
CLEANING: NONE
PAINTING: COAT ALL MACHINED SURFACES WITH COSMOLINE 1072
BEFORE SHIPPING
WELD PROCEDURE: SEE DETAIL DWGS.
STRESS RELIEVE: SEE DETAIL DWGS.
TESTING: DWG. 5233-200 & 5233-1000
LUBRICATION: DWG. 5233-7000
TOLERANCES: SEE DETAIL DWGS.

FINAL RECORD

JAN 14 1960

REFERENCE DRAWINGS		5233-100, 5233-200		
5233-300	5233-1000			
C-2	ADDED NOTE TO DRAWING LINE	R/LD	10/27	R/H
B-5/F	REVISED PER 7/6 LETTER	R/LD	1/31	FEW
A-5.3.2	DATED 12/28/51	R/LD	1/31	FEW
A-5.3.3	REMOVED 7/6 LETTER	R/LD	1/24/52	
A-4	DATED 11/25/51	FEW	3/13/54	
B-1	ADDED OVER THE DETAIL OF STUD PART 11.0			
R1	SUPP. 11.0 & 20-KING	FEW	1/4/55	
A-5.3	PART 11.0 & 20-KING	FEW	1/4/55	
A-5.3	ADD OUTLINE OF PER	ARN	10/18/50	244
A-4	RELOCATE SUPPORTS WHICH WERE ADDED ON REV. 6	ARN	10/26/50	

MARK	ZONE	REVISIONS	BY	DATE	REF.
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FOR CONTRACT
DA-32-015-CIVENG-59-113

TITLE

FORT PECK DAM
18 FT BUTTERFLY VALVE
HALF SECTION & END VIEW ASSEMBLY

WILLAMETTE IRON AND STEEL COMPANY
2800 N. W. FRONT AVENUE
PORTLAND 10, OREGON

DR. <u>FEW</u> SCALE <u>1"</u> — 1 FT.		DATE ISSUED <u>JAN 5 1960</u>	
TR. DATE <u>9/22 1958</u>		FILE NO.	
CHK. <u>W.H.P.</u> APPVD. <u>MM</u>		H- <u>4068</u>	
SALES ORDER NO.		COMPONENT	REV.

5233	1100	07
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