



BILL OF MATERIAL									
ITEM NO.	NAME	TOTAL REQD.	MATERIAL	SIZE, FINISH, PATTERN, ETC.	UNIT	REQUISITION NUMBER	BY	DATE	APP.
1	INTERMEDIATE RUDDER STOCK	1	STL. FORG.	HULL STD. #483-ALT. B	S				
2	LOWER RUDDER STOCK	1	STL.	SEAMLESS TUBING 17.5" O.D. X 1.188" WALL	O				
3	PINTLE	1	STL. FORG.	DET. 4-F	M				
4	PINTLE BUSHING	1	BRONZE	DET. 4-G	M				
5	3/4" EX. STR. PIPE	1	STEEL	17.5" LONG	S				
6	40.8" TOP PLATE	1	STEEL	SECTION 4-E	S				
7	40.8" TOP PLATE	1	STEEL	SECTION 4-E	S				
8	40.8" BOTTOM PLATE	1	STEEL	SECTION 4-E	S				
9	40.8" BOTTOM PLATE	1	STEEL	SECTION 4-E	S				
10	40.8" BOTTOM PLATE	1	STEEL	SECTION 4-E	S				
11	17.85" FAIRING PLATE	2	STEEL	27" W. X 17" D.	S				
12	17.85" FAIRING PLATE	2	STEEL	27" W. X 17" D.	S				
13	17.85" FAIRING PLATE	2	STEEL	17.85" W. X 17" D.	S				
14	RUDDER ARM 4" DIA.	2	STL. FORG.	SECTION 4-B	M				
15	RUDDER ARM 5" DIA.	2	STL. FORG.	SECTION 4-B	M				
16	RUDDER POST SLEEVE	1	STL. FORG.	13.5" O.D. X 1.188" WALL	M				
17	1" X 1/2" FB. BACKING PL.	1	STEEL	CUT TO SUIT	S				
18	3" EX. STR. PIPE	1	STEEL	LENGTH TO SUIT	S				
19	2" DIA. HEX. BOLT	6	STEEL	FOR 2" DIA. BOLT	M				
20	HEX. NUT	6	STEEL	FOR 2" DIA. BOLT	M				
21	1/2" DIA. SPLIT PIN	6	STEEL	2 1/2" LONG	S				
22	1" DIA. LBS. PLUG	2	BRASS	SOLID	S				
23	2" DIA. PLUG	2	BRONZE	2" STD. PIPE THREADS	S				
24	SPLIT BUSHING	1	BRONZE	SEE NOTE UNDER DET. 2-A	M				

GENERAL NOTES - 7.819 APPROX. ABS. AND LLOYD'S APPROVAL

ADDITIONAL DIMENSIONS ADDED TO DETAILS 4-C, 4-D, 4-E, 4-F, 4-G, 4-H, 4-I, 4-J, 4-K, 4-L, 4-M, 4-N, 4-O, 4-P, 4-Q, 4-R, 4-S, 4-T, 4-U, 4-V, 4-W, 4-X, 4-Y, 4-Z, 4-AA, 4-AB, 4-AC, 4-AD, 4-AE, 4-AF, 4-AG, 4-AH, 4-AI, 4-AJ, 4-AK, 4-AL, 4-AM, 4-AN, 4-AO, 4-AP, 4-AQ, 4-AR, 4-AS, 4-AT, 4-AU, 4-AV, 4-AW, 4-AX, 4-AY, 4-AZ, 4-BA, 4-BB, 4-BC, 4-BD, 4-BE, 4-BF, 4-BG, 4-BH, 4-BI, 4-BJ, 4-BK, 4-BL, 4-BM, 4-BN, 4-BO, 4-BP, 4-BQ, 4-BR, 4-BS, 4-BT, 4-BU, 4-BV, 4-BW, 4-BX, 4-BY, 4-BZ, 4-CA, 4-CB, 4-CC, 4-CD, 4-CE, 4-CF, 4-CG, 4-CH, 4-CI, 4-CJ, 4-CK, 4-CL, 4-CM, 4-CN, 4-CO, 4-CP, 4-CQ, 4-CR, 4-CS, 4-CT, 4-CU, 4-CV, 4-CW, 4-CX, 4-CY, 4-CZ, 4-DA, 4-DB, 4-DC, 4-DD, 4-DE, 4-DF, 4-DG, 4-DH, 4-DI, 4-DJ, 4-DK, 4-DL, 4-DM, 4-DN, 4-DO, 4-DP, 4-DQ, 4-DR, 4-DS, 4-DT, 4-DU, 4-DV, 4-DW, 4-DX, 4-DY, 4-DZ, 4-EA, 4-EB, 4-EC, 4-ED, 4-EE, 4-EF, 4-EG, 4-EH, 4-EI, 4-EJ, 4-EK, 4-EL, 4-EM, 4-EN, 4-EO, 4-EP, 4-EQ, 4-ER, 4-ES, 4-ET, 4-EU, 4-EV, 4-EW, 4-EX, 4-EY, 4-EZ, 4-FA, 4-FB, 4-FC, 4-FD, 4-FE, 4-FG, 4-FH, 4-FI, 4-FJ, 4-FK, 4-FL, 4-FM, 4-FN, 4-FO, 4-FP, 4-FQ, 4-FR, 4-FS, 4-FT, 4-FU, 4-FV, 4-FW, 4-FX, 4-FY, 4-FZ, 4-GA, 4-GB, 4-GC, 4-GD, 4-GE, 4-GF, 4-GG, 4-GH, 4-GI, 4-GJ, 4-GK, 4-GL, 4-GM, 4-GN, 4-GO, 4-GP, 4-GQ, 4-GR, 4-GS, 4-GT, 4-GU, 4-GV, 4-GW, 4-GX, 4-GY, 4-GZ, 4-HA, 4-HB, 4-HC, 4-HD, 4-HE, 4-HF, 4-HG, 4-HH, 4-HI, 4-HJ, 4-HK, 4-HL, 4-HM, 4-HN, 4-HO, 4-HP, 4-HQ, 4-HR, 4-HS, 4-HT, 4-HU, 4-HV, 4-HW, 4-HX, 4-HY, 4-HZ, 4-IA, 4-IB, 4-IC, 4-ID, 4-IE, 4-IF, 4-IG, 4-IH, 4-II, 4-IJ, 4-IK, 4-IL, 4-IM, 4-IN, 4-IO, 4-IP, 4-IQ, 4-IR, 4-IS, 4-IT, 4-IU, 4-IV, 4-IW, 4-IX, 4-IY, 4-IZ, 4-JA, 4-JB, 4-JC, 4-JD, 4-JE, 4-JF, 4-JG, 4-JH, 4-JI, 4-JJ, 4-JK, 4-JL, 4-JM, 4-JN, 4-JO, 4-JP, 4-JQ, 4-JR, 4-JS, 4-JT, 4-JU, 4-JV, 4-JW, 4-JX, 4-JY, 4-JZ, 4-KA, 4-KB, 4-KC, 4-KD, 4-KE, 4-KF, 4-KG, 4-KH, 4-KI, 4-KJ, 4-KK, 4-KL, 4-KM, 4-KN, 4-KO, 4-KP, 4-KQ, 4-KR, 4-KS, 4-KT, 4-KU, 4-KV, 4-KW, 4-KX, 4-KY, 4-KZ, 4-LA, 4-LB, 4-LC, 4-LD, 4-LE, 4-LF, 4-LG, 4-LH, 4-LI, 4-LJ, 4-LK, 4-LL, 4-LM, 4-LN, 4-LO, 4-LP, 4-LQ, 4-LR, 4-LS, 4-LT, 4-LU, 4-LV, 4-LW, 4-LX, 4-LY, 4-LZ, 4-MA, 4-MB, 4-MC, 4-MD, 4-ME, 4-MF, 4-MG, 4-MH, 4-MI, 4-MJ, 4-MK, 4-ML, 4-MM, 4-MN, 4-MO, 4-MP, 4-MQ, 4-MR, 4-MS, 4-MT, 4-MU, 4-MV, 4-MW, 4-MX, 4-MY, 4-MZ, 4-NA, 4-NB, 4-NC, 4-ND, 4-NE, 4-NF, 4-NG, 4-NH, 4-NI, 4-NJ, 4-NK, 4-NL, 4-NM, 4-NN, 4-NO, 4-NP, 4-NQ, 4-NR, 4-NS, 4-NT, 4-NU, 4-NV, 4-NW, 4-NX, 4-NY, 4-NZ, 4-OA, 4-OB, 4-OC, 4-OD, 4-OE, 4-OF, 4-OG, 4-OH, 4-OI, 4-OJ, 4-OK, 4-OL, 4-OM, 4-ON, 4-OO, 4-OP, 4-OQ, 4-OR, 4-OS, 4-OT, 4-OU, 4-OV, 4-OW, 4-OX, 4-OY, 4-OZ, 4-PA, 4-PB, 4-PC, 4-PD, 4-PE, 4-PF, 4-PG, 4-PH, 4-PI, 4-PJ, 4-PK, 4-PL, 4-PM, 4-PN, 4-PO, 4-PP, 4-PQ, 4-PR, 4-PS, 4-PT, 4-PU, 4-PV, 4-PW, 4-PX, 4-PY, 4-PZ, 4-QA, 4-QB, 4-QC, 4-QD, 4-QE, 4-QF, 4-QG, 4-QH, 4-QI, 4-QJ, 4-QK, 4-QL, 4-QM, 4-QN, 4-QO, 4-QP, 4-QQ, 4-QR, 4-QS, 4-QT, 4-QU, 4-QV, 4-QW, 4-QX, 4-QY, 4-QZ, 4-RA, 4-RB, 4-RC, 4-RD, 4-RE, 4-RF, 4-RG, 4-RH, 4-RI, 4-RJ, 4-RK, 4-RL, 4-RM, 4-RN, 4-RO, 4-RP, 4-RQ, 4-RR, 4-RS, 4-RT, 4-RU, 4-RV, 4-RW, 4-RX, 4-RY, 4-RZ, 4-SA, 4-SB, 4-SC, 4-SD, 4-SE, 4-SF, 4-SG, 4-SH, 4-SI, 4-SJ, 4-SK, 4-SL, 4-SM, 4-SN, 4-SO, 4-SP, 4-SQ, 4-SR, 4-SS, 4-ST, 4-SU, 4-SV, 4-SW, 4-SX, 4-SY, 4-SZ, 4-TA, 4-TB, 4-TC, 4-TD, 4-TE, 4-TF, 4-TG, 4-TH, 4-TI, 4-TJ, 4-TK, 4-TL, 4-TM, 4-TN, 4-TO, 4-TP, 4-TQ, 4-TR, 4-TS, 4-TT, 4-TU, 4-TV, 4-TW, 4-TX, 4-TY, 4-TZ, 4-UA, 4-UB, 4-UC, 4-UD, 4-UE, 4-UF, 4-UG, 4-UH, 4-UI, 4-UJ, 4-UK, 4-UL, 4-UM, 4-UN, 4-UO, 4-UP, 4-UQ, 4-UR, 4-US, 4-UT, 4-UV, 4-UW, 4-UX, 4-UY, 4-UZ, 4-VA, 4-VB, 4-VC, 4-VD, 4-VE, 4-VF, 4-VG, 4-VH, 4-VI, 4-VJ, 4-VK, 4-VL, 4-VM, 4-VN, 4-VO, 4-VP, 4-VQ, 4-VR, 4-VS, 4-VT, 4-VU, 4-VV, 4-VW, 4-VX, 4-VY, 4-VZ, 4-WA, 4-WB, 4-WC, 4-WD, 4-WE, 4-WF, 4-WG, 4-WH, 4-WI, 4-WJ, 4-WK, 4-WL, 4-WM, 4-WN, 4-WO, 4-WP, 4-WQ, 4-WR, 4-WS, 4-WT, 4-WU, 4-WV, 4-WX, 4-WY, 4-WZ, 4-XA, 4-XB, 4-XC, 4-XD, 4-XE, 4-XF, 4-XG, 4-XH, 4-XI, 4-XJ, 4-XK, 4-XL, 4-XM, 4-XN, 4-XO, 4-XP, 4-XQ, 4-XR, 4-XS, 4-XT, 4-XU, 4-XV, 4-XW, 4-XX, 4-XY, 4-XZ, 4-YA, 4-YB, 4-YC, 4-YD, 4-YE, 4-YF, 4-YG, 4-YH, 4-YI, 4-YJ, 4-YK, 4-YL, 4-YM, 4-YN, 4-YO, 4-YP, 4-YQ, 4-YR, 4-YS, 4-YT, 4-YU, 4-YV, 4-YW, 4-YX, 4-YZ, 4-ZA, 4-ZB, 4-ZC, 4-ZD, 4-ZE, 4-ZF, 4-ZG, 4-ZH, 4-ZI, 4-ZJ, 4-ZK, 4-ZL, 4-ZM, 4-ZN, 4-ZO, 4-ZP, 4-ZQ, 4-ZR, 4-ZS, 4-ZT, 4-ZU, 4-ZV, 4-ZW, 4-ZX, 4-ZY, 4-ZZ, 4-AA, 4-AB, 4-AC, 4-AD, 4-AE, 4-AF, 4-AG, 4-AH, 4-AI, 4-AJ, 4-AK, 4-AL, 4-AM, 4-AN, 4-AO, 4-AP, 4-AQ, 4-AR, 4-AS, 4-AT, 4-AU, 4-AV, 4-AW, 4-AX, 4-AY, 4-AZ, 4-BA, 4-BB, 4-BC, 4-BD, 4-BE, 4-BF, 4-BG, 4-BH, 4-BI, 4-BJ, 4-BK, 4-BL, 4-BM, 4-BN, 4-BO, 4-BP, 4-BQ, 4-BR, 4-BS, 4-BT, 4-BU, 4-BV, 4-BW, 4-BX, 4-BY, 4-BZ, 4-CA, 4-CB, 4-CC, 4-CD, 4-CE, 4-CF, 4-CG, 4-CH, 4-CI, 4-CJ, 4-CK, 4-CL, 4-CM, 4-CN, 4-CO, 4-CP, 4-CQ, 4-CR, 4-CS, 4-CT, 4-CU, 4-CV, 4-CW, 4-CX, 4-CY, 4-CZ, 4-DA, 4-DB, 4-DC, 4-DD, 4-DE, 4-DF, 4-DG, 4-DH, 4-DI, 4-DJ, 4-DK, 4-DL, 4-DM, 4-DN, 4-DO, 4-DP, 4-DQ, 4-DR, 4-DS, 4-DT, 4-DU, 4-DV, 4-DW, 4-DX, 4-DY, 4-DZ, 4-EA, 4-EB, 4-EC, 4-ED, 4-EE, 4-EF, 4-EG, 4-EH, 4-EI, 4-EJ, 4-EK, 4-EL, 4-EM, 4-EN, 4-EO, 4-EP, 4-EQ, 4-ER, 4-ES, 4-ET, 4-EU, 4-EV, 4-EW, 4-EX, 4-EY, 4-EZ, 4-FA, 4-FB, 4-FC, 4-FD, 4-FE, 4-FG, 4-FH, 4-FI, 4-FJ, 4-FK, 4-FL, 4-FM, 4-FN, 4-FO, 4-FP, 4-FQ, 4-FR, 4-FS, 4-FT, 4-FU, 4-FV, 4-FW, 4-FX, 4-FY, 4-FZ, 4-GA, 4-GB, 4-GC, 4-GD, 4-GE, 4-GF, 4-GG, 4-GH, 4-GI, 4-GJ, 4-GK, 4-GL, 4-GM, 4-GN, 4-GO, 4-GP, 4-GQ, 4-GR, 4-GS, 4-GT, 4-GU, 4-GV, 4-GW, 4-GX, 4-GY, 4-GZ, 4-HA, 4-HB, 4-HC, 4-HD, 4-HE, 4-HF, 4-HG, 4-HH, 4-HI, 4-HJ, 4-HK, 4-HL, 4-HM, 4-HN, 4-HO, 4-HP, 4-HQ, 4-HR, 4-HS, 4-HT, 4-HU, 4-HV, 4-HW, 4-HX, 4-HY, 4-HZ, 4-IA, 4-IB, 4-IC, 4-ID, 4-IE, 4-IF, 4-IG, 4-IH, 4-II, 4-IJ, 4-IK, 4-IL, 4-IM, 4-IN, 4-IO, 4-IP, 4-IQ, 4-IR, 4-IS, 4-IT, 4-IU, 4-IV, 4-IW, 4-IX, 4-IY, 4-IZ, 4-JA, 4-JB, 4-JC, 4-JD, 4-JE, 4-JF, 4-JG, 4-JH, 4-JI, 4-JJ, 4-JK, 4-JL, 4-JM, 4-JN, 4-JO, 4-JP, 4-JQ, 4-JR, 4-JS, 4-JT, 4-JU, 4-JV, 4-JW, 4-JX, 4-JY, 4-JZ, 4-KA, 4-KB, 4-KC, 4-KD, 4-KE, 4-KF, 4-KG, 4-KH, 4-KI, 4-KJ, 4-KK, 4-KL, 4-KM, 4-KN, 4-KO, 4-KP, 4-KQ, 4-KR, 4-KS, 4-KT, 4-KU, 4-KV, 4-KW, 4-KX, 4-KY, 4-KZ, 4-LA, 4-LB, 4-LC, 4-LD, 4-LE, 4-LF, 4-LG, 4-LH, 4-LI, 4-LJ, 4-LK, 4-LL, 4-LM, 4-LN, 4-LO, 4-LP, 4-LQ, 4-LR, 4-LS, 4-LT, 4-LU, 4-LV, 4-LW, 4-LX, 4-LY, 4-LZ, 4-MA, 4-MB, 4-MC, 4-MD, 4-ME, 4-MF, 4-MG, 4-MH, 4-MI, 4-MJ, 4-MK, 4-ML, 4-MM, 4-MN, 4-MO, 4-MP, 4-MQ, 4-MR, 4-MS, 4-MT, 4-MU, 4-MV, 4-MW, 4-MX, 4-MY, 4-MZ, 4-NA, 4-NB, 4-NC, 4-ND, 4-NE, 4-NF, 4-NG, 4-NH, 4-NI, 4-NJ, 4-NK, 4-NL, 4-NM, 4-NN, 4-NO, 4-NP, 4-NQ, 4-NR, 4-NS, 4-NT, 4-NU, 4-NV, 4-NW, 4-NX, 4-NY, 4-NZ, 4-OA, 4-OB, 4-OC, 4-OD, 4-OE, 4-OF, 4-OG, 4-OH, 4-OI, 4-OJ, 4-OK, 4-OL, 4-OM, 4-ON, 4-OO, 4-OP, 4-OQ, 4-OR, 4-OS, 4-OT, 4-OU, 4-OV, 4-OW, 4-OX, 4-OY, 4-OZ, 4-PA, 4-PB, 4-PC, 4-PD, 4-PE, 4-PF, 4-PG, 4-PH, 4-PI, 4-PJ, 4-PK, 4-PL, 4-PM, 4-PN, 4-PO, 4-PP, 4-PQ, 4-PR, 4-PS, 4-PT, 4-PU, 4-PV, 4-PW, 4-PX, 4-PY, 4-PZ, 4-QA, 4-QB, 4-QC, 4-QD, 4-QE, 4-QF, 4-QG, 4-QH, 4-QI, 4-QJ, 4-QK, 4-QL, 4-QM, 4-QN, 4-QO, 4-QP, 4-QQ, 4-QR, 4-QS, 4-QT, 4-QU, 4-QV, 4-QW, 4-QX, 4-QY, 4-QZ, 4-RA, 4-RB, 4-RC, 4-RD, 4-RE, 4-RF, 4-RG, 4-RH, 4-RI, 4-RJ, 4-RK, 4-RL, 4-RM, 4-RN, 4-RO, 4-RP, 4-RQ, 4-RR, 4-RS, 4-RT, 4-RU, 4-RV, 4-RW, 4-RX, 4-RY, 4-RZ, 4-SA, 4-SB, 4-SC, 4-SD, 4-SE, 4-SF, 4-SG, 4-SH, 4-SI, 4-SJ, 4-SK, 4-SL, 4-SM, 4-SN, 4-SO, 4-SP, 4-SQ, 4-SR, 4-SS, 4-ST, 4-SU, 4-SV, 4-SW, 4-SX, 4-SY, 4-SZ, 4-TA, 4-TB, 4-TC, 4-TD, 4-TE, 4-TF, 4-TG, 4-TH, 4-TI, 4-TJ, 4-TK, 4-TL, 4-TM, 4-TN, 4-TO, 4-TP, 4-TQ, 4-TR, 4-TS, 4-TT, 4-TU, 4-TV, 4-TW, 4-TX, 4-TY, 4-TZ, 4-UA, 4-UB, 4-UC, 4-UD, 4-UE, 4-UF, 4-UG, 4-UH, 4-UI, 4-UJ, 4-UK, 4-UL, 4-UM, 4-UN, 4-UO, 4-UP, 4-UQ, 4-UR, 4-US, 4-UT, 4-UV, 4-UW, 4-UX, 4-UY, 4-UZ, 4-VA, 4-VB, 4-VC, 4-VD, 4-VE, 4-VF, 4-VG, 4-VH, 4-VI, 4-VJ, 4-VK, 4-VL, 4-VM, 4-VN, 4-VO, 4-VP, 4-VQ, 4-VR, 4-VS, 4-VT, 4-VU, 4-VV, 4-VW, 4-VX, 4-VY, 4-VZ, 4-WA, 4-WB, 4-WC, 4-WD, 4-WE, 4-WF, 4-WG, 4-WH, 4-WI, 4-WJ, 4-WK, 4-WL, 4-WM, 4-WN, 4-WO, 4-WP, 4-WQ, 4-WR, 4-WS, 4-WT, 4-WU, 4-WV, 4-WX, 4-WY, 4-WZ, 4-XA, 4-XB, 4-XC, 4-XD, 4-XE, 4-XF, 4-XG, 4-XH, 4-XI, 4-XJ, 4-XK, 4-XL, 4-XM, 4-XN, 4-XO, 4-XP, 4-XQ, 4-XR, 4-XS, 4-XT, 4-XU, 4-XV, 4-XW, 4-XX, 4-XY, 4-XZ, 4-YA, 4-YB, 4-YC, 4-YD, 4-YE, 4-YF, 4-YG, 4-YH, 4-YI, 4-YJ, 4-YK, 4-YL, 4-YM, 4-YN, 4-YO, 4-YP, 4-YQ, 4-YR, 4-YS, 4-YT, 4-YU, 4-YV, 4-YW, 4-YX, 4-YZ, 4-ZA, 4-ZB, 4-ZC, 4-ZD, 4-ZE, 4-ZF, 4-ZG, 4-ZH, 4-ZI, 4-ZJ, 4-ZK, 4-ZL, 4-ZM, 4-ZN, 4-ZO, 4-ZP, 4-ZQ, 4-ZR, 4-ZS, 4-ZT, 4-ZU, 4-ZV, 4-ZW, 4-ZX, 4-ZY, 4-ZZ

GENERAL NOTES - CONT'D

8. THE INTERMEDIATE RUDDER STOCK FORGING AND THE SEAMLESS TUBING FOR THE LOWER STOCK ARE TO BE TESTED BY BOTH AMERICAN BUREAU AND LLOYD'S SURVEYORS.

9. THE ELECTRIC WELDING MUST BE DONE WITH AN APPROVED ELECTRODE AND THE REQUIREMENTS OF LLOYD'S RULES FOR CONSTRUCTION AND WELDING FOR BUILDING AND CLASSING STEEL VESSELS - SECTION 24 - WELDING MUST BE CARRIED OUT.

DEPARTMENT: ☐ 10-23-54

OWNERS: ☐ 10-23-54

ENGINEERING: ☐ 10-23-54

CONSTRUCTION: ☐ 10-23-54

SHIP: ☐ 10-23-54

SHIP(S): LIBERTY SHIP

TITLE: SINGLE PLATE RUDDER FOR LIBERTY SHIPS

DRAWN BY: E. W. ROBERTSON

CHECKED BY: ☐ 10-23-54

SCALE: AS SHOWN

DATE: 10-23-54

CONTRACT NO.: ☐ 10-23-54

CHARGE NUMBER: ☐ 10-23-54

DRAWING NO.: H.S. 584