HULL 68 2030 SYSTEM SEA-WATER — PIPE LIST — SHEET 1 OF 2 DWG. 68-2030-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
169-SC-1	1"	STD	GALV				CARGO REFRIGERATION UNIT S.W. DISCHARGE OVERBOARD										
169-SC-2																	
169-SC-3	2"/1½"	STD/XHVY															
169-SC-4	1½	XHVY															
169-SC-5	3"	STD	SEE REFERENCE (5)														
170-SC-1	1½"	STD	GALV				DOMESTIC REFRIGERATION UNIT SUCTION FROM SEA-BAY										
170-SC-2																	
170-SC-3																	
170-SC-4																	
170-SC-5																	
170-SC-6																	
170-SC-7	1½"	STD															
170-SC-8	1½"	STD															
170-SC-9	10"/1½"	STD															
55-SC-1	1½"	STD	REFERENCE (5)														

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 2 OF 2 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
164-SC-1	2"/1½"	STD/XHVY	GALV				SEA-WATER TO A/C UNIT NR 5										
164-SC-2	2½"																
164-SC-3																	
164-SC-4																	
164-SC-5																	
164-SC-6																	
164-SC-7																	
164-SC-8																	
164-SC-9																	
164-SC-10																	
164-SC-11	2½"/1½"	STD/XHVY															
164-SC-12	2½"	STD															
164-SC-13	2½"	STD															
164-SC-14	2½"	STD															
164-SC-15	2½"	STD															
164-SC-16	2½"	STD															
164-SC-17	2½"	STD															
164-SC-18	2½"	STD															
164-SC-19	2½"	STD															
164-SC-20	2½"	STD															
164-SC-21																	
164-SC-22																	
164-SC-23	2½"	STD															

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 3 OF 3 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
165-SC-1	2½"	STD	GALV				SEA-WATER FROM A/C UNIT NR5 OVERBOARD										
165-SC-2	2½"	STD															
165-SC-3																	
165-SC-4																	
165-SC-5																	
165-SC-6																	
165-SC-7																	
165-SC-8																	
165-SC-9																	
165-SC-10																	
165-SC-11																	
165-SC-12																	
165-SC-13	1½"	STD	SEE REFERENCE (5)														
165-SC-1	1½"	STD	GALV				EMERGENCY SEA-WATER TO A/C UNIT NR5 FROM FIRE-MAIN										
166-SC-1	1½"	STD	GALV				CARGO REFRIGERATION SEA-WATER										
167-SC-1	1½"	STD	GALV				CIRC. PUMP SUCTION FROM SEA-BAY										
167-SC-2																	
167-SC-3																	

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 4 OF 4 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
153-SC-19	4"	STD	GALV				S.W. FROM A/C UNIT NR 2,3 AND 13										
153-SC-20																	
153-SC-21																	
153-SC-22																	
153-SC-23			SEE REFERENCE (2)														
154-SC-1	2"	STD	GALV				S.W. TO A/C UNIT NR 4										
154-SC-2	2½"																
154-SC-3	2½"																
154-SC-4																	
154-SC-5																	
154-SC-6	2½"/1½"	STD/XHVY															
154-SC-7	2½"	STD															
154-SC-8	2½"/1½"	STD/XHVY															
154-SC-9																	
154-SC-10																	

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 5 OF 5 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
157-SC-1	1"	STD	GALV				S.W. TO A/C UNIT NR 1										
157-SC-2																	
157-SC-3																	
157-SC-4																	
157-SC-5																	
157-SC-6																	
157-SC-7																	
158-SC-1	1"	STD	GALV				S.W. FROM A/C UNIT NR 13										
158-SC-2																	
158-SC-3																	
158-SC-4																	
158-SC-5																	

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 6 OF 6 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
160-SC-1	3"	STD	GALV				A/C UNIT NR 6 S.W. CIRC. PUMP SUCTION FROM SEA-BAY										
160-SC-2																	
160-SC-3																	
160-SC-4	3"	STD	SEE REFERENCE (4)														
161-SC-1	3"	STD	GALV				SEA-WATER TO A/C UNIT NR 6										
161-SC-2																	
161-SC-3																	
161-SC-4																	
161-SC-5																	
161-SC-6																	

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 7 OF 7 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
156-SC-19	2½"	STD	SEE REFERENCE (2)				S.W. TO A/C UNIT NR 6										
157-SC-1	1"	STD	GALV				S.W. TO A/C UNIT NR 1										
157-SC-2																	
157-SC-3																	
157-SC-4																	
157-SC-5																	
157-SC-6																	
157-SC-7																	
158-SC-1	1"	STD	GALV				S.W. FROM A/C UNIT NR 13										
158-SC-2																	
158-SC-3																	
158-SC-4																	
158-SC-5																	

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 8 OF 8 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
154-SC-12	2½"	STD	GALV				S.W. TO A/C UNIT NR 4										
154-SC-13																	
154-SC-14																	
154-SC-15																	
154-SC-16																	
154-SC-17	2½"/1½"	STD/XHVY															
154-SC-18	2½"	STD															
154-SC-19	2½"/1½"	STD/XHVY															
154-SC-20	2½"	STD															
154-SC-21																	
154-SC-22																	
154-SC-23	2½"	STD															
155-SC-1	2½"	STD	GALV				EMERGENCY S.W. TO A/C UNIT NR 4										

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 9 OF 9 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
153-SC-1	2½"	STD	GALV				S.W. FROM A/C UNIT NR 3										
153-SC-2																	
158-SC-3																	
153-SC-4																	
153-SC-5																	
153-SC-6							S.W. FROM A/C UNIT NR 2										
153-SC-7																	
153-SC-8																	
153-SC-9																	
153-SC-10	1"	STD					S.W. FROM A/C UNIT NR 2 AND 3										
153-SC-11	2½"/1½"	STD/XHVY					S.W. FROM A/C UNIT NR 2,3 AND 13										
153-SC-12	1½"	STD															
153-SC-13	4"	STD															
153-SC-14	2½"/1½"	STD/XHVY															
153-SC-15																	
153-SC-16																	
153-SC-17																	
153-SC-18	2½"/1½"	STD/XHVY															

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 10 OF 10 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
150-SC-1	4"	STD	GALV				A/C S.W. CIRC. PUMPS SUCTION FROM SEA-BAY										
150-SC-2	2½"																
150-SC-3	3"																
150-SC-4	4"	STD															
6-SC-1	4"	STD	SEE REFERENCE (5)														
151-SC-1	4"	STD	GALV				S.W. TO A/C UNIT NR 2,3 AND 13										
151-SC-2																	
151-SC-3																	
151-SC-4																	
151-SC-5																	
151-SC-6	2½"/1½"	STD/XHVY															
151-SC-7	2½"	STD															
151-SC-8																	
151-SC-9																	
151-SC-10	2½"/1½"	STD/XHVY															
151-SC-11	4½"	STD															

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 11 OF 11 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
171-SC-1	1½"	STD	GALV				SEA-WATER TO DOMESTIC REFRIGERATS UNIT										
171-SC-2																	
171-SC-3																	
171-SC-4																	
171-SC-5																	
171-SC-6	1"/¾"	STD/XHVY															
171-SC-7	1"	STD															
171-SC-8																	
171-SC-9																	
171-SC-10	1"	STD															
172-SC-1	1"	STD	GALV				DOMESTIC REFRIGERATION SEA-WATER DISCHARGE OVERBOARD										
172-SC-2	1"/¾"	STD/XHVY															
172-SC-3	1"	STD															
172-SC-4	1½"	STD															
172-SC-5	1"	STD															

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 12 OF 12 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
172-SC-6	5"	STD	SEE REFERENCE (3)				DOMESTIC REFRIGERATION SEA-WATER DISCHARGE OVERBOARD										

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 13 OF 13 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
167-SC-8	1½"	STD	GALV				CARGO REFRIGERATION SEA-WATER CIRC. PUMP SUCTION FROM SEA-BAY										
167-SC-5																	
167-SC-6	1½"	STD															
167-SC-7	1½"																
167-SC-8	1½"	STD															
30-SC-1	1½"	STD	SEE REFERENCE (3)														
168-SC-1	1½"	STD	GALV				SEA-WATER TO CARGO REFRIGERATION UNIT										
168-SC-2																	
168-SC-3																	
168-SC-4																	
168-SC-5																	
168-SC-6	1½"	STD															
168-SC-7	1"	STD/XHVY															
168-SC-8																	
168-SC-9																	
168-SC-10																	
168-SC-11																	

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 14 OF 14 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
54-SC-7	2"	STD	GALV				SEA-WATER TO A/C UNIT NR 6										
54-SC-8																	
54-SC-9	1½"	STD															
54-SC-10	1½"																
54-SC-11																	
147-SC-1	1½"/1"	STD/XHVY	GALV				A/C UNIT NR 6 SEA-WATER DISCHARGE OVERBOARD										
147-SC-2	2"																
147-SC-3	1½"	STD															
147-SC-4	1"	STD	SEE REFERENCE (4)														
163-SC-1	3"	STD	GALV				A/C UNIT NR 5 S.W. CIRC. PUMP SUCTION FROM SEA-BAY										
163-SC-2																	
163-SC-3																	
163-SC-4																	
163-SC-5																	
5L-SC-1			SEE REFERENCE (5)														

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 15 OF 15 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
169-SC-6	1½"	STD	GALV				CARGO REFRIGERATION SEA-WATER DISCHARGE OVERBOARD										
169-SC-7	1½"																
169-SC-8	1½"	STD															
169-SC-9	1½"	STD															
169-SC-10	1½"	STD															
169-SC-11	1½"	STD															
169-SC-12	1½"	STD															
169-SC-13	1½"	STD															
169-SC-14	1½"	STD															
169-SC-15	1½"	STD															
169-SC-16	1½"	STD															
169-SC-17	1½"	STD															
169-SC-18	1½"	STD															
169-SC-19	1½"	STD															
169-SC-20	1½"	STD															
169-SC-21	1½"	STD															
169-SC-22	1½"	STD															
169-SC-23	1½"	STD															

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 16 OF 16 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
156-SC-1	2½"	STD	GALV				S.W. FROM A/C UNIT NR 4										
156-SC-2																	
156-SC-3																	
156-SC-4																	
156-SC-5																	
156-SC-6																	
156-SC-7																	
156-SC-8																	
156-SC-9																	
156-SC-10																	
156-SC-11																	
156-SC-12																	
156-SC-13																	
156-SC-14																	
156-SC-15																	
156-SC-16																	
156-SC-17																	
156-SC-18																	

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 17 OF 17 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
153-SC-1	2½"	STD	GALV				S.W. FROM A/C UNIT NR 3										
153-SC-2																	
158-SC-3																	
153-SC-4																	
153-SC-5																	
153-SC-6							S.W. FROM A/C UNIT NR 2										
153-SC-7																	
153-SC-8																	
153-SC-9																	
153-SC-10	1"	STD					S.W. FROM A/C UNIT NR 2 AND 3										
153-SC-11	2½"/1½"	STD/XHVY					S.W. FROM A/C UNIT NR 2,3 AND 13										
153-SC-12	1½"	STD															
153-SC-13	4"	STD															
153-SC-14	2½"/1½"	STD/XHVY															
153-SC-15																	
153-SC-16																	
153-SC-17																	
153-SC-18	2½"/1½"	STD/XHVY															

HULL 68 2080 SYSTEM SEA-WATER — PIPE LIST — SHEET 18 OF 18 DWG. 68-2080-B — DWG. TITLE REFRIGERATION AND AIR CONDITN S.W. CIRC. ARRGT

PIPE NO.	SIZE	SCH.	BLN OR DRG	BLN OR DRG	REF	DETAIL SHEET NO.	DESCRIPTION	FAB.	ERECTION: WELD	ERECTION: FIT	ERECTION: BEND	BEND: HOT	BEND: COLD	INSTALL: PIPE	INSTALL: VALVE	INSTALL: FITTING	TEST
								1	2	3	4	5	6	7	8	9	10
152-SC-1	8"	STD	GALV				EMERGENCY S.W. TO NR 2,5,AND 13 A/C UNITS										
152-SC-2																	

PENETRATION LIST

REF	HOLE SIZE	CENTRE OF HOLE (ATHWARTSHIPS)	CENTRE OF HOLE (HEIGHT A/B)	DIMENSIONS (LONGITUDINAL)	DIMENSIONS (PENETRATED)	STRUCTURE PENETRATED	LINE DESCRIPTION	PIPE NO
(A)	16"	25'-0" PORT	17'-0" A/B	9"FWD FROM FR	17'-0" FLAT	S.W. CONN TO NR 4 A/C UNIT		154-SC-8
(A)	7⅝"	25'-3" PORT	17'-0" A/B	7"FWD FROM FR	17'-0" FLAT	S.W. TO NR 2,3 AND 13 A/C UNITS		153-SC-3
(A)	7⅝"	25'-4" PORT	17'-0" A/B	7"FWD FROM FR	17'-0" FLAT	S.W. FROM NR 2,3 AND 13 A/C UNITS		153-SC-21
(A)	7⅝"	25'-4" STBD	17'-0" A/B	7"FWD FROM FR	17'-0" FLAT	S.W. FROM NR 2,3 AND 13 A/C UNITS		153-SC-22
(A)	7⅝"	6'-0" STBD	17'-0" A/B	7"FWD FROM FR	17'-0" FLAT	S.W. CONN TO NR 6 A/C UNIT		154-SC-9
(A)	7⅝"	5'-8" PORT	21'-6" A/B	9"FWD FROM FR	21'-6" FLAT	S.W. CONN TO NR 5 A