BILL OF MATERIALS

NO. REQ'D	SIZE	DESCRIPTION	CERT. MAT'L REQ'M	VENDOR	MAT'L SPEC. GRADE
1	2	RUDDER STOCK (MS SK2	275		
2	2	RUDDER TUBE (MS STL A53	274		
3	2	TUBING 24"O.D. x 2"	274		
4	2	PLATE STL FLANGE 3/4"	274		
5	2	PACKING GLAND-MECH.	215		
6	6	TUBING GLAND FLANGE			
7	2	STUDS 3/4"x6" STL			
8	2	NUTS CARBON STEEL			
9	2	PACKING RING-BRONZE			
10	2	INSERT PLATE-1" PLATE	275		
11	2	LINER-1/2" STL			
12	2	UPPER BEARING RUBBER	274		
13	12	MECH. LONG SET MACHINE			
14	6	BOLTS 3/4"x3" HEX HD STL	274		
15	2	LOWER GLAND FLANGE	275		
16	2	BEARING WASHER-3/4"			
17	12	ERECTION BOLTS			
18		STAINLESS STL WORKMANSHIP			
19	2	RUDDER BLANK 1" STL			
20	250	1/2" STL (BKTS)			
21	2	PLATE STEEL 3/4"			
22	10	5"x3"x5/16" L STL			
23	2	LINER-1/2" SS 304			
24	2	KEY STOCK 1"x1"DEEP			
25	4	BEARING PLANK SEGMENT			
26	2	SPLIT RING 3/16"x 48"THK			
27	2	FLAT BAR 3"x 3/8"			
28	2	PACKING	275		
29	2	BEARING WEDGE RING	274		
30	2	GASKET 1/16" THK			
31	2	BOLTS ACCESS PLATE STL	275		
32	40	5/8"x 3 1/2" W/F GASKET			
33	48	PIONEER SCREW HEX HD STL			
34	2	1.50 DIA STUDS			
35	16	3/4"x 6" STL	275		
		1.50 CONNECTOR			

* FINISHED DIM. GIVEN

ABS RUDDER CALCULATION

$V_s = 14.4$ kn
$A = 365$ sq ft
$A_1 = 8.0$ sq ft
$S_1 = 1.26 \times \frac{365}{(26.67)(26.67)} = 0.6$
$S_2 = 0.6667$
$S_M = \frac{1.75}{26.67} + 0.3 = 0.366$
$S_T = \frac{504.38}{(26.67)^2} + 0.5 = 1.2$
$D = \sqrt{\frac{(108.5)(0.366)(1.2)}{(0.4)(14.4)^2}} = 10.3928"$
USE: 10.50"

NO.	DESCRIPTION	DATE	BY
4	ADDED GRAPHITE PACKING, DECK GUARDS, REVISED BEARING DIMS.	5/14/75	RAM
3	REV. RUDDER STOCK KEYWAY	5/14/75	RAM
2	REV. INTERNAL RUDDER BEARING, REV. RUDDER STOCK & TAILSHAFT	5/14/75	RAM
1	REVISED SHOP DRAWING NOTES	5/14/75	RAM

REVISIONS

APPROVALS
ABS: A-1 ⚓ E.S.
USCG
USPHS

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U.S. NAVAL SHIP SYSTEMS COMMAND
WASHINGTON D.C. 20360

OCEANOGRAPHIC RESEARCH SHIP
AGOR (UTILITY) CLASS

00023

HALTER MARINE SERVICES, INC.
P.O. BOX 29266 NEW ORLEANS, LA. 70129

RUDDER ASSEMBLY & DETAILS

SCALE:	NOTED	DATE	1-23-75	HALTER DWG. NO.
DRAWN BY:	[illegible]	CK'D BY	[illegible]	M-2
HALTER HULL NO.	375	HALTER P.O. NO.	2-519-28	REV. 4

NAVSHIPS NO. 340P 21-519-6011

GYRE194