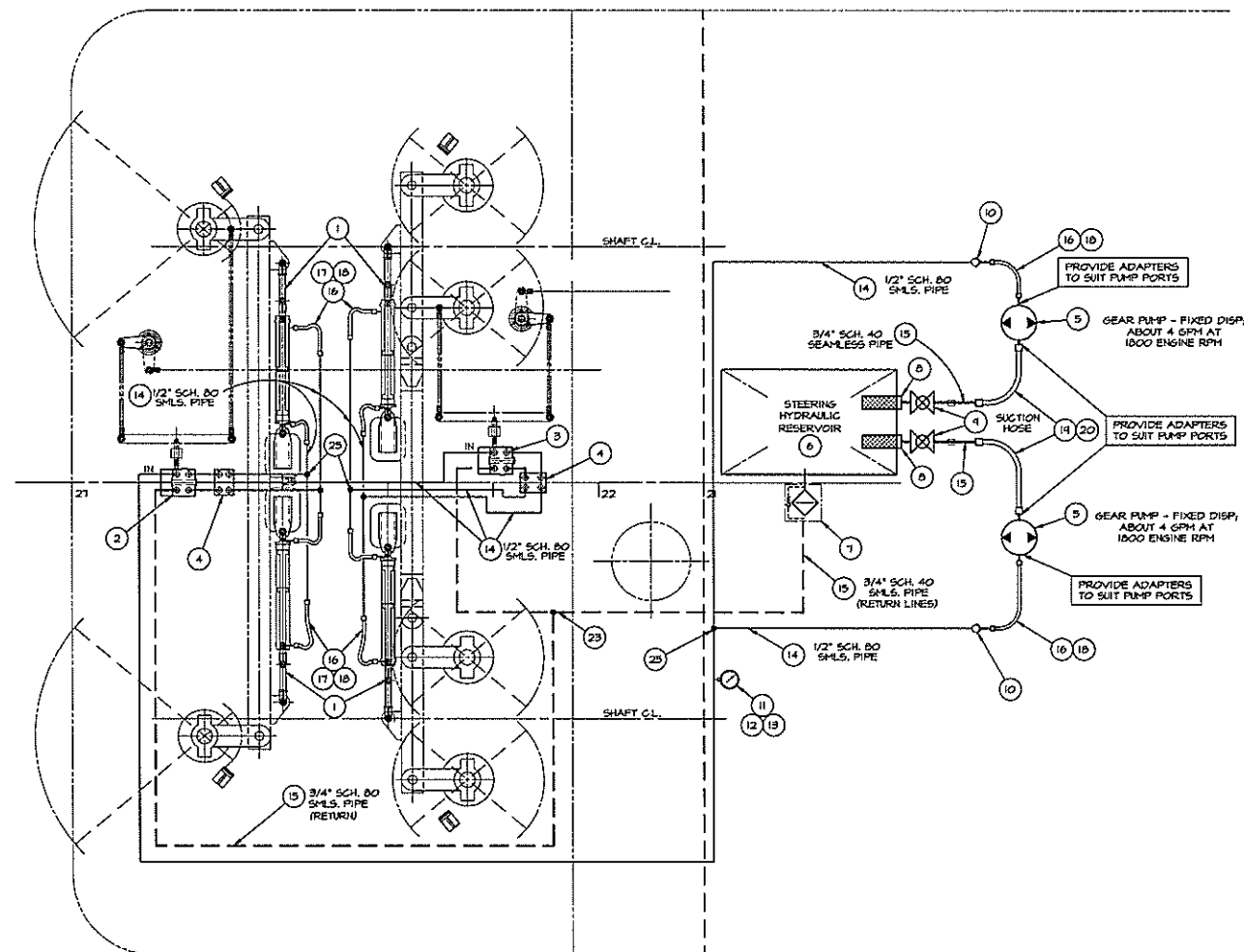


REVISIONS			
LR	DESCRIPTION	DATE	APPROVED
-	FIRST ISSUE	9/20/49	



**GENERAL NOTES**

1. MOUNT PUMPS (5) ON ACCESSORY DRIVE PADS OF ENGINES.
2. MOUNT RETURN FILTERS (1) AND 3/4" BALL VALVES (4) ON HYDRAULIC RESERVOIR (6).
3. RESERVOIR LOCATION AND APPROXIMATE SIZE ARE SHOWN ON DRAWING NO. 233-101, PURCHASE OR FABRICATE TO SUIT.
4. INSTALL HOSES PER MFR'S RECOMMENDED PROCEDURE, ALLOWING SUFFICIENT LENGTH FOR BENDS AND PRESSURE CHANGES.
5. SEE DRAWINGS 562-101 FOR RUDDERS, TILLERS AND TUBES.
6. SEE DRAWINGS 561-101 FOR STEERING CONTROL AND ACTUATION.
7. QUANTITIES OF FITTINGS MAY VARY TO SUIT FINAL ARRANGEMENT.
8. PROVIDE ONE MADE-UP SPARE OF EACH SIZE AND LENGTH OF HYDRAULIC HOSE, INCLUDING END FITTINGS.

HYDRAULIC STEERING SYSTEM - DIAGRAM OVER ARRANGEMENT

ITEM	QTY.	DESCRIPTION	MATERIAL/SPECIFICATION/REMARKS
35			
34			
33			
32			
31			
30			
29			
28			
27			
26			
25	5	TEE, 1/2" 3000# SOCKET WELD	BLACK FORGED STEEL, USA6 86.11 - LADISH OR EQUAL
24	AVR	40° ELBOW, 1/2" 3000# SOCKET WELD	BLACK FORGED STEEL, USA6 86.11 - LADISH OR EQUAL
23	1	TEE, 3/4" 3000# SOCKET WELD	BLACK FORGED STEEL, USA6 86.11 - LADISH OR EQUAL
22	AVR	40° ELBOW, 3/4" 3000# SOCKET WELD	BLACK FORGED STEEL, USA6 86.11 - LADISH OR EQUAL
21	AVR	PRESSURE HOSE, PARKER 301, W.P. # 2250 PSI	SAE 100R2, 31' JG-16 1/4-12 FEM. SWIVEL ENDS
20	2	ADAPTER, 1 1/8-12 31" MALE x 3/4" FPT	PARKER P/N 0203-12-12 SAE 070103
19	AVR	SUCTION HOSE, PARKER 881-12	SAE 100R4, 31' JG-12 1/4-12 FEM. SWIVEL ENDS
18	10	ADAPTER, 3/4-16 31" MALE x 1/2" FPT	PARKER P/N 0203-8-8 SAE 070103
17	10	ADAPTER, 3/4-16 31" MALE x 1/2" FPT	PARKER P/N 0303-0-8 SAE 070102
16	AVR	PRESSURE HOSE, PARKER 301, W.P. # 3000 PSI	SAE 100R2, 31' JG-08 3/4-16 FEM. SWIVEL ENDS
15	AVR	PIPE, 3/4" SCH. 80 SEAMLESS	ASTM-A106 BLACK STL.
14	AVR	PIPE, 1/2" SCH. 80 SEAMLESS	ASTM-A106 BLACK STL.
13	AVR	PIPE, 1/4" SCH. 80 SEAMLESS	ASTM-A106 BLACK STEEL
12	1	NEEDLE VALVE, 1/4" THREADED, 3000#	STEEL BARSTOCK
11	1	PRESSURE GAUGE, 0-3000 PSI	ENERGY OR EQUAL
10	2	1/2" CHECK VALVES, 3000# RATING	STEEL, ENERGY OR EQUIVALENT
9	2	BALL VALVE, 3/4" THREADED	BRONZE OR STEEL
8	2	SUCTION STRAINER, 3/4" OUTLET, 100 MESH	ZINSA 96-010-3 OR EQUAL
7	1	RETURN FILTER, 25 MICRON RATING, 25 PSI BYPASS	WICKERS OFRS 25 P-25 OR EQUAL
6	1	HYDRAULIC RESERVOIR, W/ 50% GAZE FILTER/SEPARATOR 1 INCH DIA. 20 GALLON RES. DING. 233-101 FOR LOCATION	
5	2	GEAR PUMPS, FIXED DISPLACEMENT, ABOUT 4 GPM AT 1800 ENGINE RPM	TYTRON OR EQUAL
4	2	CROSS PORT RELIEF VALVE, 1/2" NPT FPORTS	SUN MODEL NO. RPEC YBC - OR EQUAL
3	1	4-WAY, 3 POSITION DIRECTIONAL CONTROL VALVE, SPOOL OPERATED (NO LEVER), SPRING CENTER	6RESEN V10 OR EQUAL
2	1	POWER BEYOND, 4-WAY, 3 POSITION DIRECTIONAL CONTROL VALVE, SPOOL OPERATED (NO LEVER), SPRING CENTER W/ MAIN PRESSURE RELIEF	6RESEN V10 OR EQUAL
1	4	HYDRAULIC CYLINDER, CTR-250, 2 1/2" BORE, 20" STROKE, 3000 P.S.I.	ENERGY HYDRAULICS SERIES CTR-250 (2322) OR EQUAL

BILL OF MATERIALS			
OWN. C.J. BALESTRIERI	TGMD, Inc. / Timothy Graul marine design		
APPD.	naval architects marine engineers		
DATE 20 SEPT. 1949	Sturgeon Bay, WI 54235		
PROJECT	55'-0" x 18'-0" x 7'-0" BRUSSELS FERRY PUSHBOAT	Project No.	99005
IDOT JOB	D-48-078-49	Scale:	3/4" = 1'-0"
ILLINOIS DEPARTMENT OF TRANSPORTATION		REV. -	Date: 9/20/49
TITLE		Drawing No.	
HYDRAULIC SYSTEM			556-101

Proj. 99005 Dwg. 556-101 Rev. - Title HYDRAULIC SYSTEM