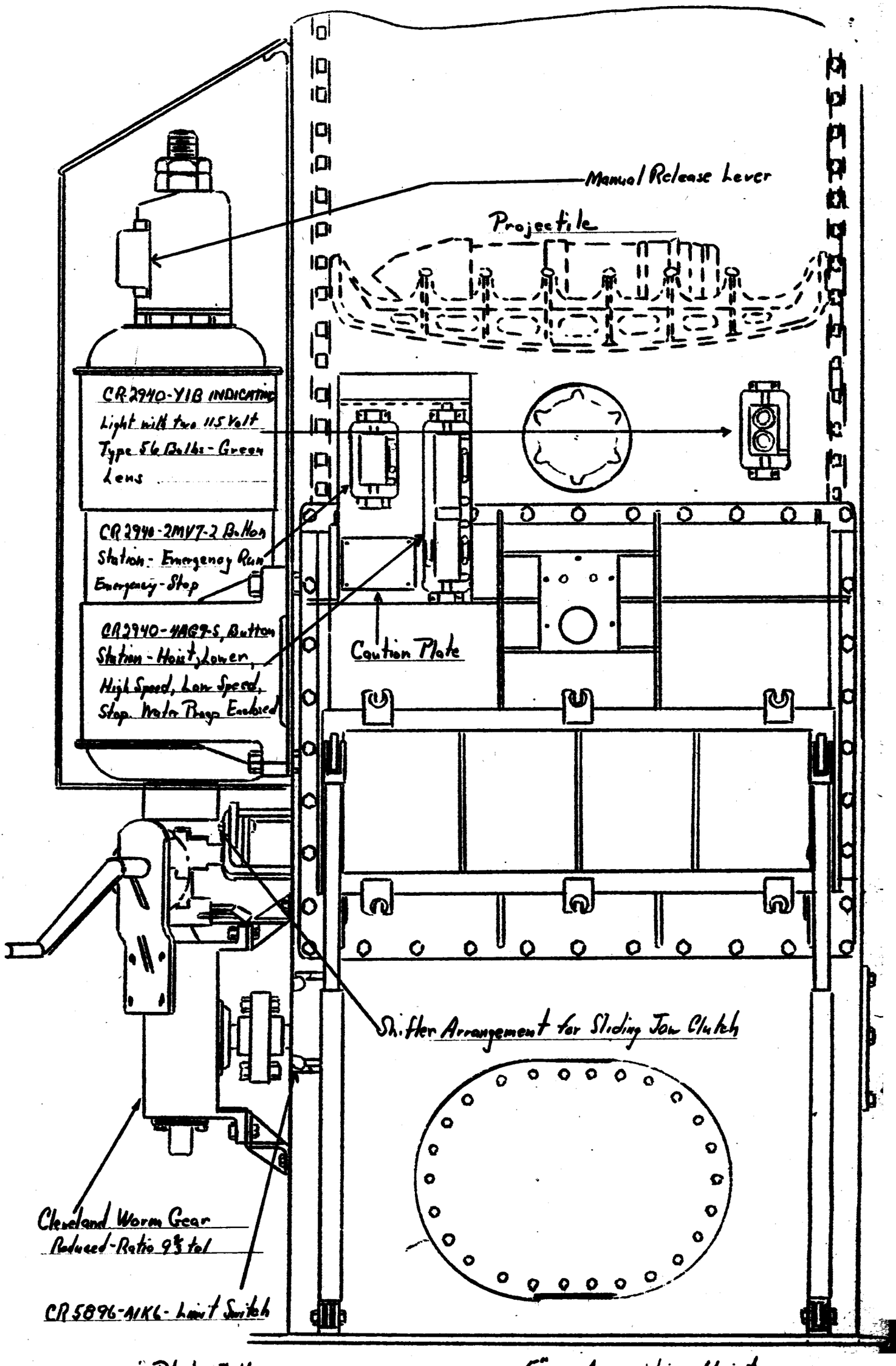


Plate # 4

5" Ammunition Hoist

MAGAZINES AND CLIPPING ROOMS

1. LOCATIONS AND TYPE STORAGE

Information concerning the quantity and kind of Ammunition carried by this vessel may be obtained from the Bureau of Ordnance allowance lists as follows:

5"/38 Cal D.P. Guns - Ord. List No. 19220

1.1" Quad AA Batteries Ord List No. 18481

Navy 20 MM (AA) (Oerlikon) Gun 18716

Information concerning the arrangement of the Ammunition stowage, showing the compartment number, deck, and number of rounds of each kind of ammunition stowed in each compartment, may be obtained from the finished contractor plans as tabulated below. Further information concerning capacities of various spaces is covered under Part 2, A-D of this section.

FED. S.B.&D.D. CO-DRAWING NO.	TITLE
27077-78030-12	Ammunition Stowage
27077-78030-13	Arrg't of Clipping Room
27077-78030-15	Location of ready Service Boxes.

For Instructions for handling explosives and the segregation of explosives, see Bureau of Ordnance Manuel.

LOCATION OF MAGAZINES AND CLIPPING ROOMS.

COMPARTMENT	DECK	FRAME NUMBERS
For'd 5 Magazine	2nd Platform Deck	32-40 P&S
Aft 5 Magazine	2nd Platform Deck	202-210 P&S
Clipping Room #1	Upper Deck	77 - 84 S
" " #2	" "	77 - 84 P
" " #3	Nav. Bridge Deck	91 - 95 S
" " #4	Nav. Bridge Deck	113 - 118 P
" " #5	Nav. Bridge Deck	113 - 118 S
" " #6	Bridge Deck	142 - 150 S

CAPACITIES FOR AMMUNITION STOWAGE OF CLIPPING ROOMS, MAGAZINES AND READY SERVICE.

A. 5"/38 cal. Magazines

LOCATION	PROJECTILES COMMON A.A.	PROJECETILES ILLUMINATING	POWDER CANS.
FWD 5" Magazine	525	105	624
AFT 5" Magazine	512	106	600
Total Magazines	1037	211	1224
Ready Service Gun #1	50		50
" " " #2	50		50
" " " #3	50		50
" " " #4	50		50
Total Ready Service	200		200
All Total S238 cal.	1237	211	1424

B. 20 M.M. Anti Aircraft Clipping Rooms & Magazines

LOCATION	IN BOXES		CLIPPED		TOTAL ROUNDS
Clipping Rooms #1	BOXES	ROUNDS	CLIPS	ROUNDS	
Clipping Room #1	134	24,120	20	1200	25,320
" " #2	134	24,120	20	1200	25,320
" " #3	-	-	-	-	-
" " #4	158	28,440	35	2100	30,540
" " #5	158	28,440	35	2100	30,540
" " #6	80	14,400	83	4980	19,380
Machine Gun Magazines	600	108,000	-	-	108,000
TOTALS	1302	227,520	193	11,580	239,100
READY SERVICE GUN #1&3			16	960	960
" " " #2-4			16	960	960
" " " #5-7			16	960	960
" " " #6-8			16	960	960
" " " #9-11			16	960	960
" " " #10-12			16	960	960
" " " #13-15			32	1920	1920
" " " #14-16			32	1920	1920
TOTAL READY SERVICE -		-	160	9,600	9,600
ALL TOTAL 20 M.M.	1302	227,520	353	21,180	248,700

C.1.1 M.G. AA CLIPPING ROOMS, MACHINE GUNS & MAGAZINES

LOCATION	TOTAL ROUNDS BOXES	PER BOX	TOTAL ROUNDS CLIPPED	PER CLIP	TOTAL
Clipping Room #5			(704 clips)	5132	5,632
" " "6	118	4,248	(448 clips)	3584	7,832
MACH. GUN MAGAZINE	946	34,056			34,056
Totals	1064	38,304	(1152 clips)	9,216	47,520

AMMUNITION

2. D. All total ammunition capacity and allowance lists.

TYPE	STORAGE-TOTAL ROUNDS	ALLOWANCE-ROUNDS
5"/38 cal. Projectiles	1428	1400
" " Powder	1424	1400
1.1(AA) Cartridges	47,520	38,784
20 M.M. (AA) Cartridges	248,700	35,040

LOCATION OF PASSING SCUTTLES

COMPARTMENT	DECK	FRAME	SIDE
5" Handling Room-FWD	Gun Plat.	36	Stb'd of Centerline
5" " " AFT	No passing scuttles - Use entrance doors to handling room.		
CLIPPING ROOM #1	Upper deck(Gun plat)	80	STb'd
" " #2	" " " "	80	Port
" " #3	Top of House	94	Stb'd
" " #4	Nav. Bridge deck(gun plat.)	115	Port
" " #5	" " " " "	115	Stb'd
" " #6	Nav. Bridge Deck	142	Centerline.

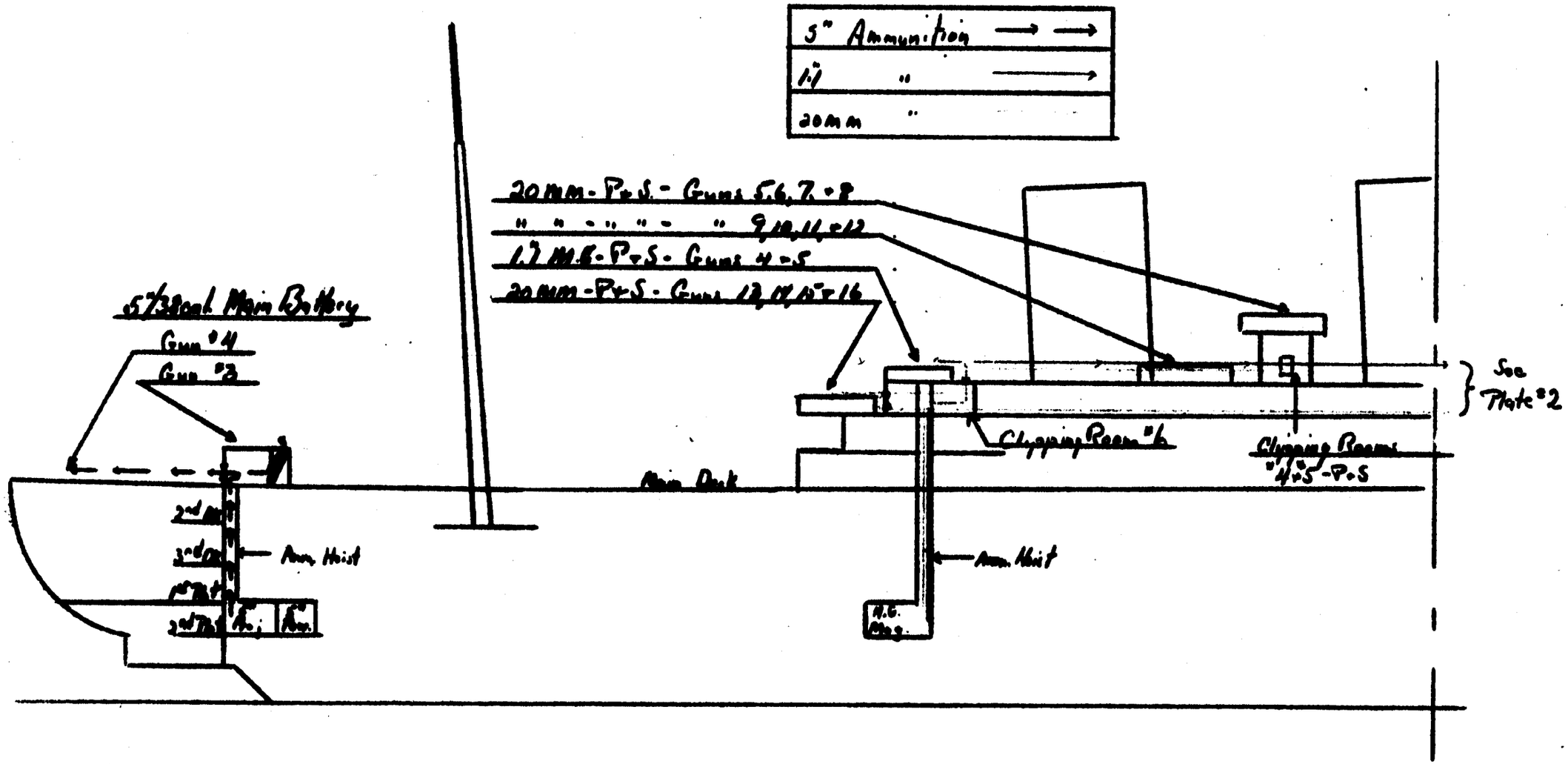


Plate #1

Ammunition Handling Plan

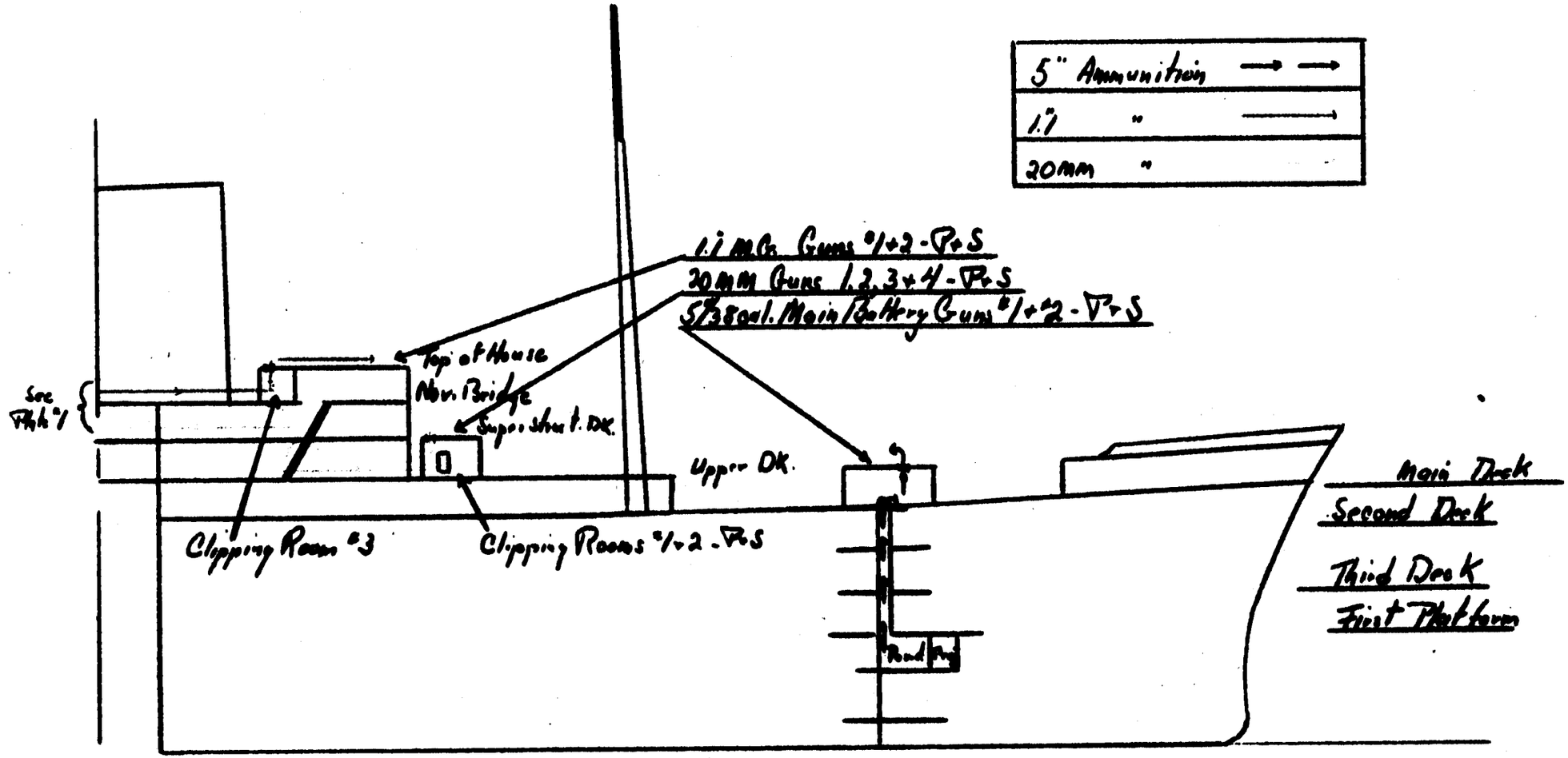


Plate #2

Ammunition Handling Plan

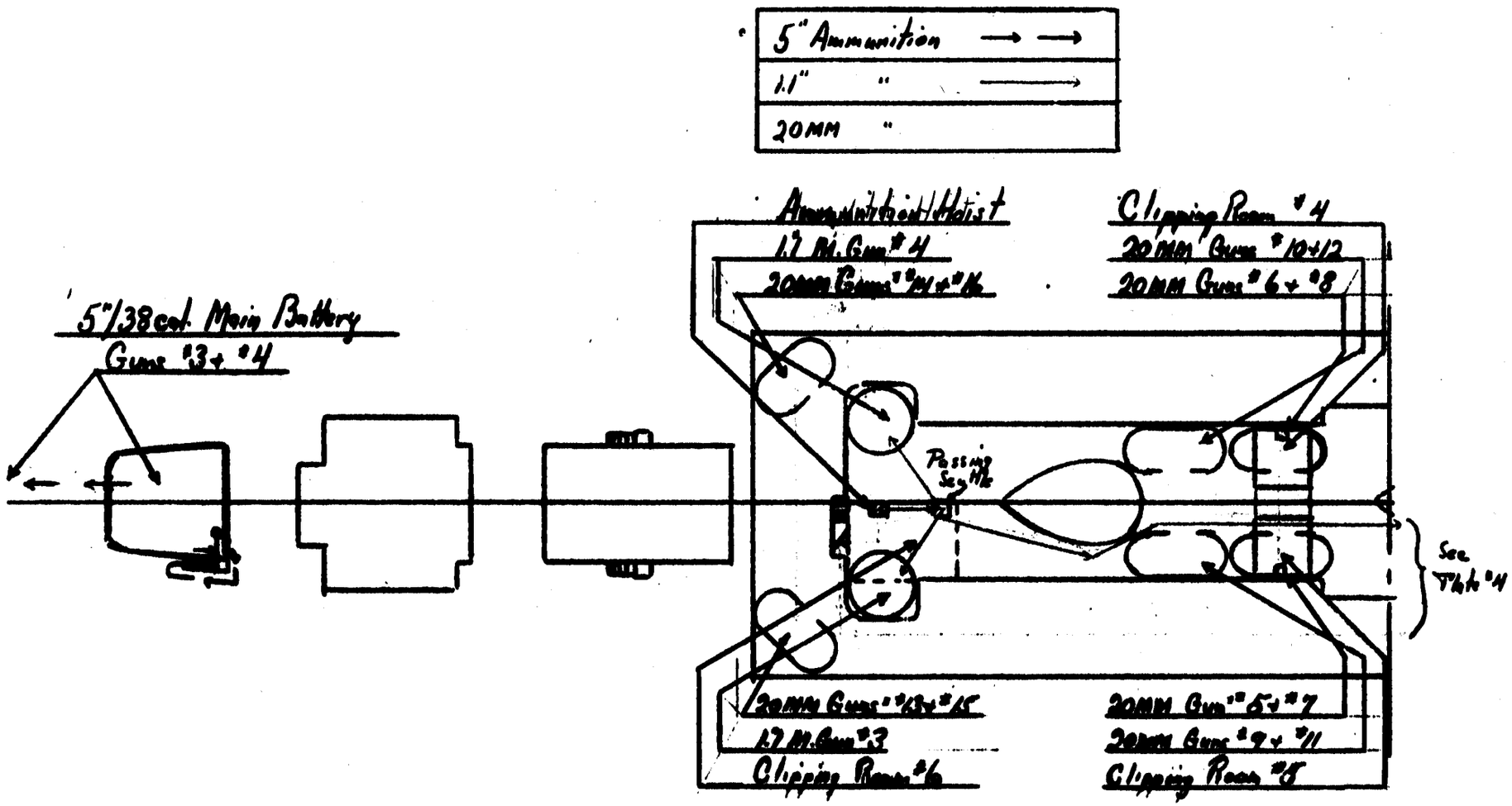


Plate #3

Ammunition Handling Plan

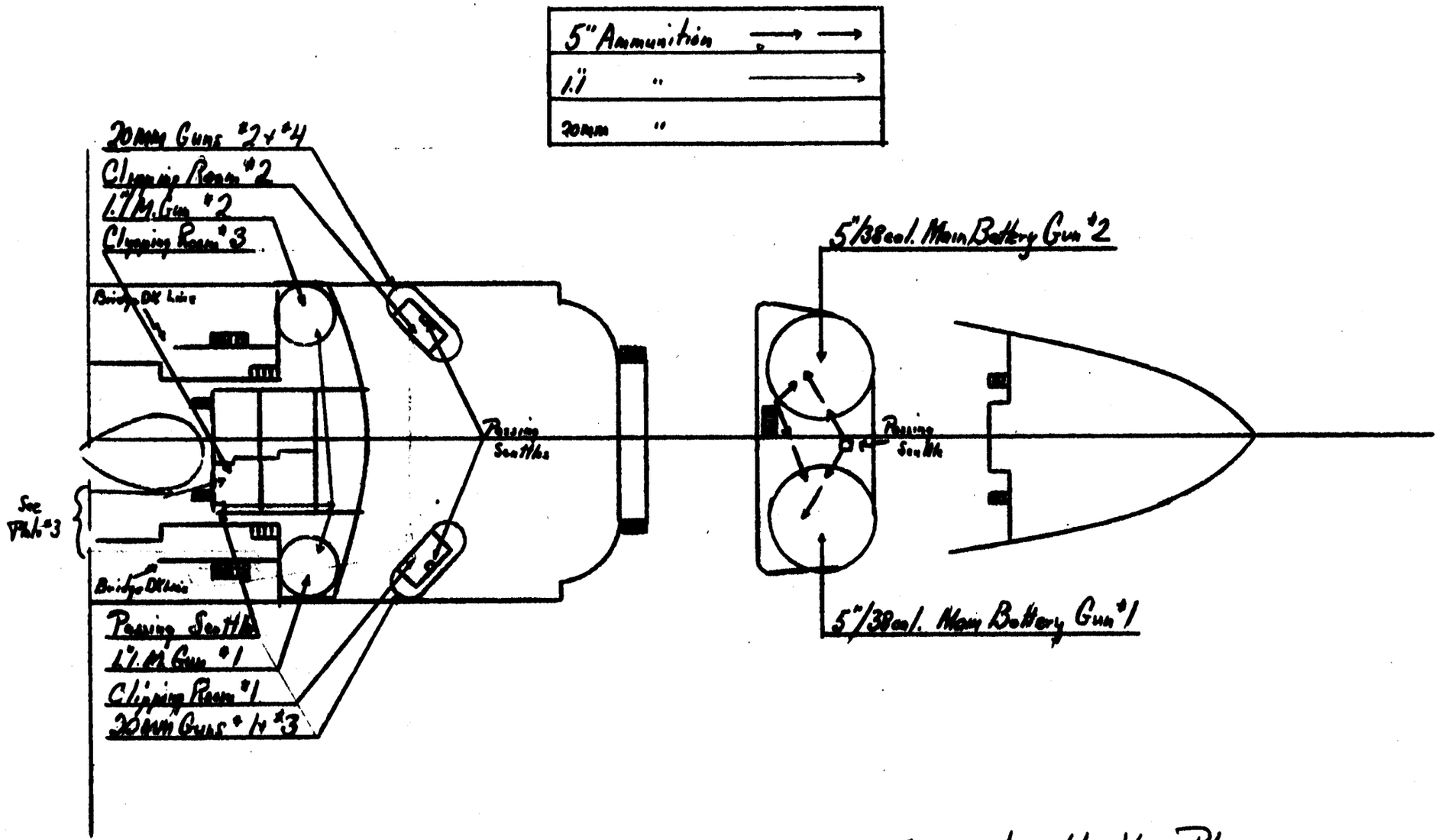


Plate #4

Ammunition Handling Plan

MAGAZINE AND CLIPPING ROOM SPRINKLING SYSTEM

A. LIST AND LOCATION OF VALVES FOR MAGAZINE AND CLIPPING ROOM SPRINKLING.

COMPARTMENT	LOCATION OF CONTROL VALVES		
Name and Number	Deck	Frame	Side
FWD 5" Magazine	2nd Deck	#40 Fwd of BH 40	Starboard
AFT 5" Magazine	2nd Deck	#210 FWD of BH 210	Starboard
Machine Gun Magazine	2nd Deck	#146	Starboard
M.G.Clipping Room #1	Upper Deck	#79(Bulk of clip.RM)	Starboard
M.G.Clipping Room #2	Upper Deck	#79(Bulk of clip.RM)	Port
M.G.CLIPPING ROOM#3	Nav. Bridge Deck	92	Centerline
M.G.CLIPPING ROOM#4	Nav. Bridge Deck	114 (Bulk. of clip)	Port of centerline
M.G.CLIPPING ROOM#5	Nav. Bridge Deck	" " " "	Starb. of centerline
M.G.CLIPPING ROOM#6	Bridge Deck	150	Starboard
FWD Handling Room	Main Deck	35	Port
Aft Handling Room	Main(wea.Deck)	208	Port

B. There are no direct means of flooding either of the three magazines by use of valves out side of the magazines themselves. The only means of direct flooding is to enter the magazine and open valves on two fire plugs installed near each ladder.

Each magazine and clipping room has a sprinkler system operated from an ajacent room or from above decks by a mechanical valve. These valve locations are tabulated for the various ammunition spaces in Port A. Valves are enclosed in a standard metal casing that is locked, but with glass plate on one side for opening in an emergency.

In addition to control valve, each magazine and clipping room is provided with a separate cut out valve, operated at the valve only, and locked in open position.

Drain cocks have been provided at the lowest points between the control valves and theindividual cut out valves, these cocks should be kept open for the purpose of draining any water that may leak past the control valve, and wet the ammunition and wet the ammunition.

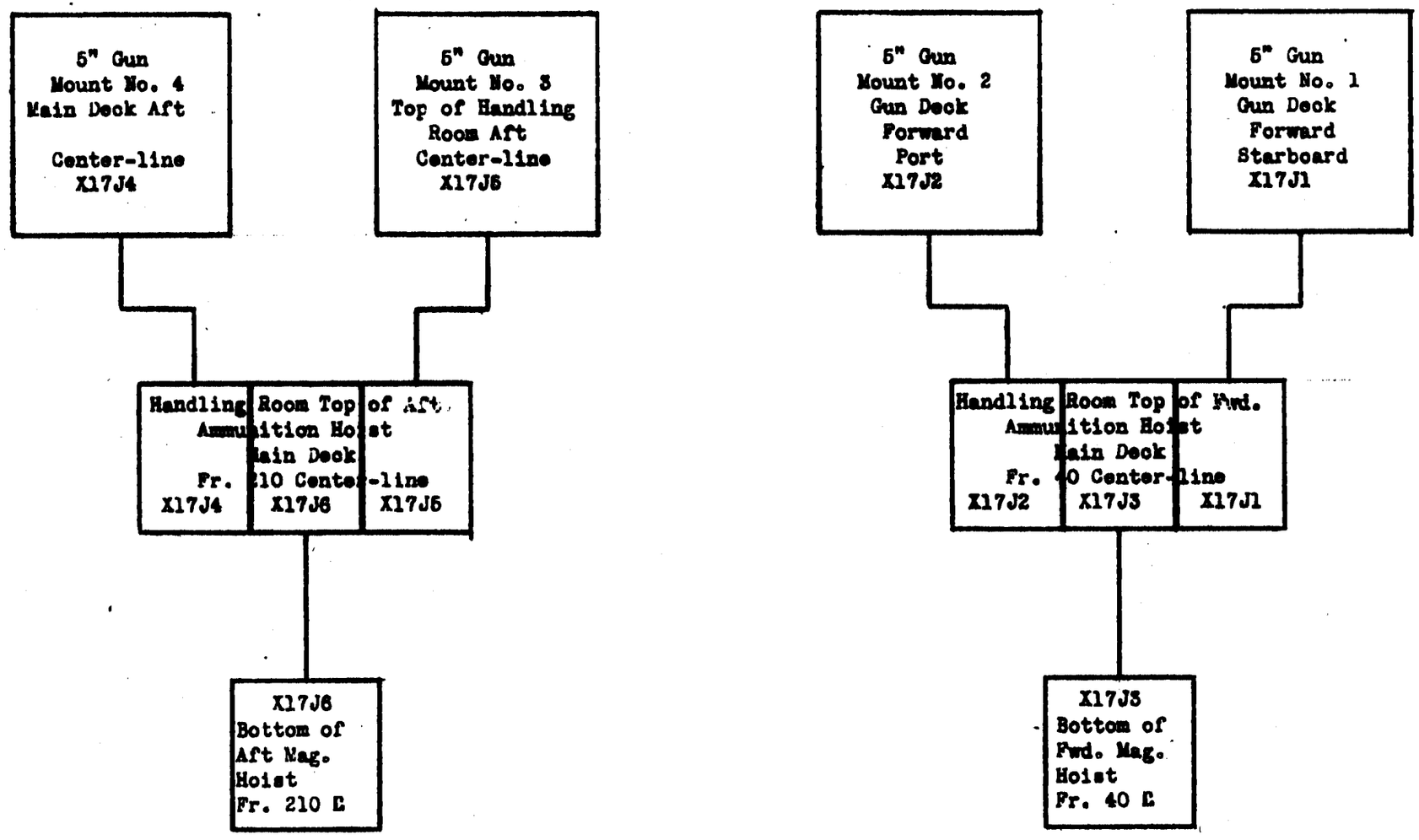
ventilation pipes and ammunition hoists act as air escapes and overflows. There are no check valves provided in the ventilation system to prevent flooding of the compartments. In view of these circumstances, if flooding of magazines become necessary, a check should be made for over flow in compartments that are on the same ventilating system as the magazine spaces with particular emphasis being placed on Forward 5" magazine and Machine Gun Magazine.

The perforations in the sprinkler pipe are arranged to drench the bounding bulkheads and to sprinkle the ammunition. The system was tested in conjunction with the fire main to a pressure of 125 pounds per square inch. In painting the pipes, any excess paint that may lodge in the perforations should be removed in order to allow a free flow of water.

SOUND POWERED BATTLE TELEPHONES

Circuits X17J1-2-3-4-5-6

5" Ammunition Hoists Circuits



MACHINE SHOP
SECTION-591

MACHINE SHOP

REFERENCES: BOOKLETS (SEPARATE)

1. The Hisey-Wolf Machine Co, Hisey type 5 USN double Wheel Floor Grinder.
2. The R K Leblond Machine Tool Co- Running A Regal.
3. Manning, Maxwell and Moore Inc. Drill Press, Instruction Booklet.

The machine shop is located in the after Engine Room, Port Side. Refer to the general section in which is given a layout of the after Engine Room showing the machine shop.

Located in the Machine Shop is the following equipment.

	MACHINE	MAKE	TYPE
1.	Lathe	LeBlond	Medium
2.	Drill Press	Royersford	Upright, Back Gear
3.	Grinder, Wet and Dry	Hisey Wolf	2 Wheel
4.	Work benches & Vises	Federal	Medium Duty

A GEARED HEAD ENGINE LATHE

Much can be said and discussed about the Leblond Lathe but since the aforementioned reference is more complete and compact than this section it is suggested that the reader refer to the reference. In this reference is discussed the following:

1. How to set up the Lathe (a complete description of each part from one end to the other)
2. Accessories Required for Lathe Work.
3. Lathe Tools.
4. Regal Equipment and attachments.
5. Methods of Holding Work in the Lathe.
6. How to Grind Lathe Tools.
7. Testing Lathe Centers.
8. Operations (facing to length)
9. Drilling, Boring and Reaming.
10. Instructions Concerning other types of work.

B DRILL PRESS

The following is a description of the equipment furnished:

1 - Royersford 21" back geared upright drilling machine, arranged for motor drive through gears, direct connected, provided with wheel and lever feed, self-feed automatic stop, adjustable table, ball bearing spindle. Other bearings bronze bushed.

1 - Motor - Westinghouse, Frame 224, type SK, 1½ H.P. 6.2 Amperes, 1800 RPM, 230 Volts, D.C. Marine Type, Ball Bearing, Drip-proof, Stabilized Shunt Wound, Self-Ventilated Marine Type, Class "A" Insulation, Grease Lubricated.

1 - Set - Spare Brushes.

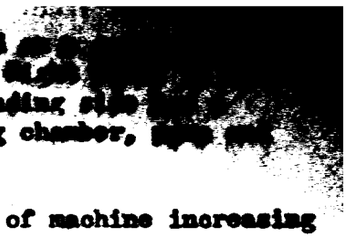
1 - Controller - WESTINGHOUSE #8585 with drip-proof control cabinet, waterproof pushbutton station HD-WP- overload protection and low voltage.

MECHANICAL SPARES:

1 Ea. Morse Taper Sockets - 1-4, 2-4, 3-4

1 - #14 Drill Chuck with #4 M.T. Arbor.

C. HISEY TYPE 5 U S N DOUBLE WHEEL FLOOR GRINGER.



Grinder is of the double wheel combined wet and dry type [illegible] motor is attached as part of the machine direct to the spindle. [illegible] anged for wet grinding and left wheel for dry grinding. Wet grinding [illegible] splash bowl and 2 ½ gallon xpm capacity water tank with settling chamber, [illegible] adjustable nozzle and valve.

A surface grinding attachment is furnished for use on left side of machine increasing the utility.

INSTALLATION

Connect machine to a circuit of the same electrical current as stamped on the name-plate. (10% variance in voltage allowable).

It is important that the proper size wire be used for connections from main switch box to the control switch of machine. The size depends upon the distance between the two points.

OPERATION

After proper electrical connections have been made, fill the reservoir with clean fresh water; not more than two and one-half gallons.

The water flow is controlled by the valve above the nozzle. The nozzle is adjustable in and out and up and down by loosening the cap screws in the clamp fittings attached to the guard. Water is circulated by a belt driven pump. This belt is adjusted by loosening two cap screws holding pump bracket, adjusting same and tightening screws. Pump gland is packed with graphite composition molded packing, automatically adjusted by coil spring.

To use surface plate, detach left wheel guard and grinding wheel. To attach surfaceg grinding attachment, replace the grinding wheel and clamp surface table to hub of left end bell. Surface table can be raised or lowered by means of adjusting screw and lock nuts.

SAFETY PRECAUTIONS

The motor is protected by Automatic starter with the correct overload and under voltage protection. Continued throwing out of the starter indicates overloading or line trouble. Investigate and correct condition.

Controller and fuses are mounted inside column and can be reached by opening column door.

To ground machine attach ground wire to motor frame and connect to suitable ground connection.

CARE AND MAINTENANCE

Proper care should be exercised to see that the ball bearings are properly lubricated from time to time, using a good grade lubricant. Bearing chambers should be cleaned and flushed thru the drain and plug once a year. Pump bearings should be maintenanced by using a good grade of mineral grease or non-medicated vaseline to fill the pump bearing grease cups. Water tank should be cleaned of sediment at regular intervals by removing pipe plugs at the bottom of tank and flushing out water bowl and settling chambers. All grease cups should be carefully cleaned before filling so as to insure no dirt or grit entering into the bearing chambers. Use grease N.D. SPEC. 14L3B.

Included in the reference are the following:

1. Plan of Machine
2. Motor Section and Parts list.
3. Motor Control Outline
4. Wiring Diagram
5. Spare Parts List.

D, WORKING BENCHES AND VISES

These are of the general type and it is suggested that a visit be made to the machine shops for any particulars concerning them.

DRILL PRESS (CONT.)

MECHANICAL SPARES (CONT.)

Drill floor plan.....Drawing A C 500 *

Motor.....Drawing 2-C-4468*

Controller Wiring Diagram.....2-C-6711*

* (These can be found in the reference)

INSTRUCTIONS FOR OPERATING ROYERSFORD 21" DRILL.

Keep Bearings Properly Lubricated

Do not Remove Guards

Stop machine To Change Belt Speed

Run Machine at Proper Speeds

Secure Work Firmly Before Drilling

Keep Cutting Tools Well Sharpened

Use Back Gears for Large Drills

Stop Machine to Engage Back Gears

THE IMPROVED 21-INCH MOTOR DRIVEN BACK GEARED UPRIGHT POWER DRILL

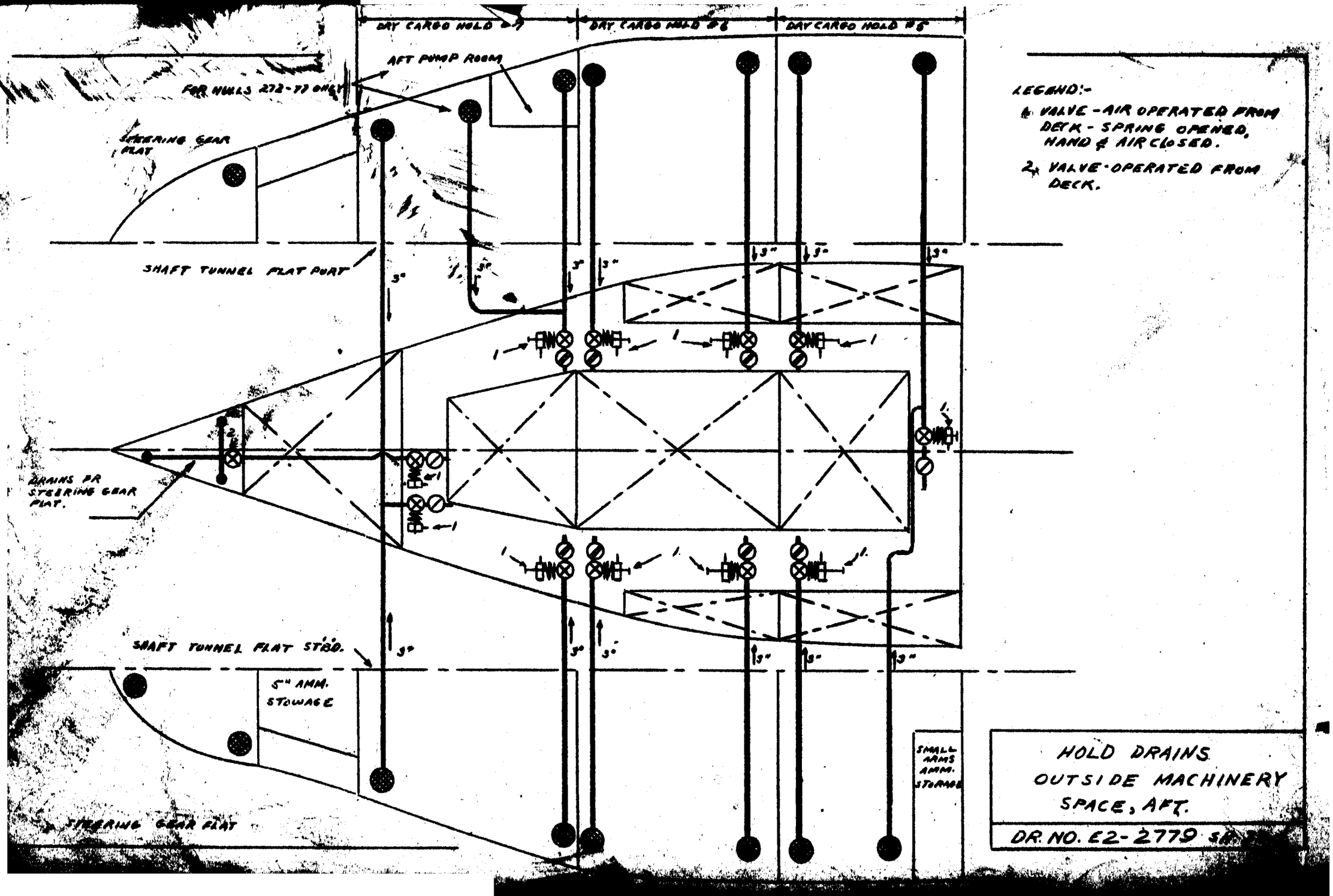
This is a most thoroughly modern and up-to-date power Drill, combining all the good features that a machine of its kind ought to have; in every respect equal and in many respects superior to any drill of its size previously placed on the market. It combines simplicity and speed in operation with strength and rigidity and drills with perfect accuracy from the smallest hole up to 1½-inch. The gears are machine cut. The bearings are all large and powerful. The change from a plain drill to a back-geared drill is done in an instant by simply sliding the gears. Ball Bearing thrust on top and bottom of the spindle.

The drill is made with square base; has eight speeds with three distinct and complete feeds power feed, hand screw feed and lever feed. It is supplied with all the graduated and automatic features of higher-priced drills. The spindle is counter-balanced by a weight in the hollow column; has automatid stop attachment with quick return to the lever giving rapid movement to the spindle. Has quick action screw for raising and lowering the table.

SPECIFICATIONS

Height of Drill.....76 Inches
Distance between table and spindle....29 Inches
Distance between spindle and base.....45 Inches
Distance from column to center spindle10½ Inches
Diameter of column.....5 1/16 Inches.
Traverse of table on column.....21 ½ Inches
Diameter of table.....18 Inches
Diameter of spindle.....1¼ Inches
Traverse of spindle.....9 Inches
Hole in spindle bored to fit Morse taper No. 3 or No. 4.
Size of cone pulleys (4step).....4, 5 3/4, 7½, 9x2 Inches face
Size of Motor Pinion.....2½ P.D. 15 teeth.
Size of driven gear.....14 P.D. 84 teeth
Floor space required.....23x62.
Horse power required.....1 Speed of motor.....1750 RPM
Weight - Net.....1050
Crated weight.....1200

Also, included in the reference is a complete discription of the WESTINGHOUSE TYPE SK MOTOR and control used with the Drill Press.


DRY CARGO HOLD #7
DRY CARGO HOLD #6
DRY CARGO HOLD #5
AFT PUMP ROOM
FOR HULLS 272-77 ONLY
STEERING GEAR FLAT
SHAFT TUNNEL FLAT PORT
3"
DRAINS FR STEERING GEAR FLAT.
SHAFT TUNNEL FLAT STBD.
5" AMM. STOWAGE
STEERING GEAR FLAT
SMALL ARMS AMM. STORAGE
LEGEND:-
1. VALVE - AIR OPERATED FROM DECK - SPRING OPENED, HAND & AIR CLOSED.
2. VALVE - OPERATED FROM DECK.
HOLD DRAINS OUTSIDE MACHINERY SPACE, AFT.
DR. NO. E2-2779 SH.