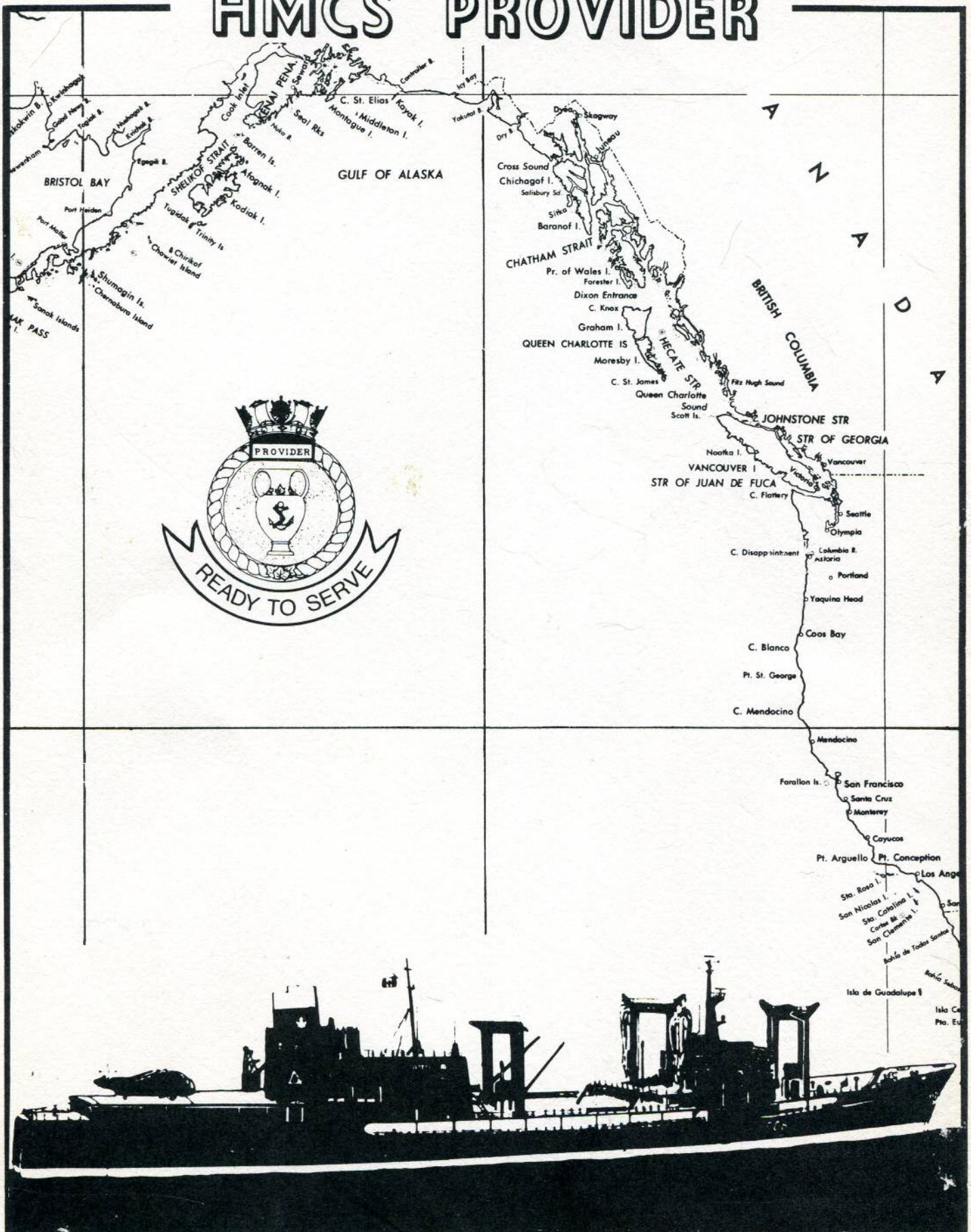


HMCS PROVIDER



HMCS PROVIDER AOR 508

WELCOME ABOARD

It is a great pleasure for me, on behalf of the Officer's and men of HMCS PROVIDER, to welcome you on board.

The purpose of the Fleet is to provide a tangible expression of Canada's policy with regards to the ocean areas surrounding our nation and overseas express our foreign policy in areas accessible from the sea if and when the need arises. Canadian warships are always ready to proceed to the assistance of coastal communities which require assistance as a result of a major disaster, and to aid shipping in our own waters and upon the high seas.

The role of PROVIDER is to replenish HMC Ships and those of allied navies at sea with fuel, ammunition, stores and provisions.

In addition, she is capable of operating helicopters or providing second line/field level support for Destroyer borne helicopters.

A secondary role for the ship is that of providing a limited sea-lift capability of troops and their equipment whenever it is required.

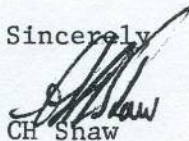
Thus the ship is a vital unit of the Pacific Fleet and her at-sea replenishment and helicopter operating capabilities provide a flexibility which greatly improves the performance of our Fleet.

To be effective in these rolls requires constant training and exercising of the Ship's Company. PROVIDER is fitted with a complex variety of modern equipment to achieve her role and this equipment requires a very high level of professional knowledge and experience on the part of all officer's and men. However, no matter how versatile and efficient the equipment, its effectiveness depends ultimately on the skills and dedication of the human operator.

During your visit you will have the opportunity to meet these men who will be pleased to answer your questions.

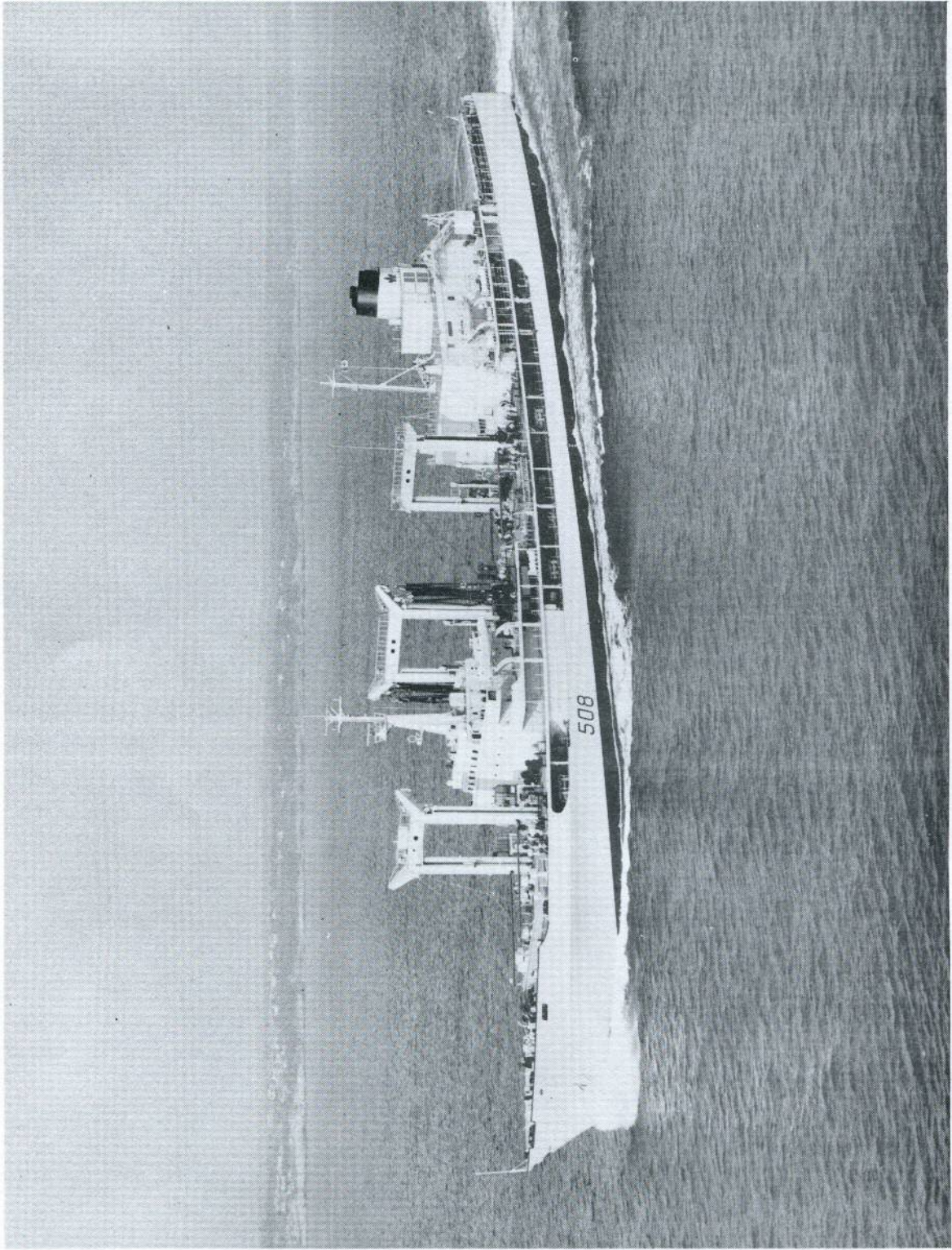
I hope you will find your visit both interesting and worthwhile.

Sincerely



CH Shaw

Captain (N)
Commanding Officer



HMCS PROVIDER AOR 508
OPERATIONAL SUPPORT SHIP

INTRODUCTION

HMCS PROVIDER was commissioned 28 September, 1963 at Davie Shipbuilding Ltd., Lauzon, PQ. She is the first Operational Support Ship in the Fleet and was designed with an inherent capacity for the stowage of fuels, ammunition, supplies, provisions (dry and refrigerated) and replacement helicopters. The ship is also designed and equipped to transfer these commodities and personnel while underway. Thus PROVIDER is in fact a fleet unit which remains with, and gives support to, operational forces while they are engaged in tasks at sea.

Here are some interesting vital statistics about PROVIDER:

DIMENSIONS

Length overall 555 feet (170 Meters)
Breadth overall 76 feet (23 Meters)

TONNAGES

Mean Draught 33 feet 10 Meters Displacement tons 24,600 tons
Mean Draught 30 feet 9.2 Meters Displacement tons 22,015 tons
Mean Draught 20 feet 6.1 Meters Displacement tons 13,830 tons
Light Ship Condition 8,000 tons

CREW: 15 Officers 168 Men

PROPULSION

- a. Main Engine: Westinghouse cross compound
double reduction turbine
- b. Boilers: 2 "Combustion Engineering" water tube
boilers 600 pounds per square inch at 850 degree (F)
- c. Shaft Horse Power:

<u>SPD</u>	<u>REVS</u>	<u>SHIP</u>
10	50	2400
14	69	6000
18	91	13500
20	102	20400
- d. MAX RPM - One boiler (ahead) 80 RPM -16 Kts
MAX RPM - Two boilers (ahead) 102 RPM - 20 Kts
MAX RPM - (astern) 75 RPM (restricted
to 50 to avoid excessive vibration)
- e. Propeller: Single 6 bladed with a diameter of
20.34 feet. (6.2 meters)

POWER

- a. Two 750 Kwatt Turbo Alternators
- b. Two 300 Kwatt Diesel Generators
- c. One 40 Kwatt Gas Turbine Emergency Generator

Basic power supply 440 Volts A.C.
3 phase 60 cycles.

ANCHORS AND CABLES

2 Bower Anchors - weight 11,600 pounds each
Stbd & Port cable - 11 shackles each with 2½
cable
Windlass - Electric - hydraulic

LIQUID AND SOLID CARGO CAPACITIES

PROVIDER has 25 cargo fuel tanks which hold approximately 12,000 tons (7,000 BBLs) of distillate, 1,460 tons (11,000 BBLs) of diesel fuel, and 510 tons (4,000 BBLs) of JP5.

She has the capability of replenishing and refuelling (3,400 bbs/hr) at speeds in excess of 18 KTS.

The limiting factor in PROVIDER'S ability to lift and safely carry liquid and solid cargo is that of weight rather than the cubic capacity of her liquid cargo tanks and solid cargo stowage spaces. This weight factor, or more specifically deadweight tonnage, will vary with the permissible mean draught (which changes with the season and geographical zone).

DOMESTIC ITEMS

At the beginning of a voyage, PROVIDER'S domestic requirements are brought up to 100 per cent. These items are:

Distillate	1,224	tons
Reserve Feed Water	40.5	tons
Fresh Water	206.5	tons
Helo JP5	20	tons
Provisions	50	tons
Misc Stores	30	tons
Engineer's Tanks	38	tons
	<hr/>	
	1,708	tons

BALLAST

It may be necessary to embark some ballast to control trim. Ballast tank capacities are:

After Peak	437	tons
Fore Peak	181.5	tons
Fore Ballast		
Tank	61	tons
	<hr/>	
	679.5	tons

CARGO CAPACITY

Liquid Cargo Tanks (95%)

JP5	510 tons
DISTILLATE	<u>14,260 tons</u>
	14,770 tons

AMMUNITION STOWAGE SPACES

"A" Magazine	24,800 cubic feet
"B" Magazine	25,870 cubic feet (Inert only)
Armament Store	690 cubic feet
Arm Gear Store	<u>1,180 cubic feet</u>
	52,540 cubic feet

PROVISION STORES

13,060 cubic feet

GENERAL STORES

9,560 cubic feet

MISC. STOREROOMS

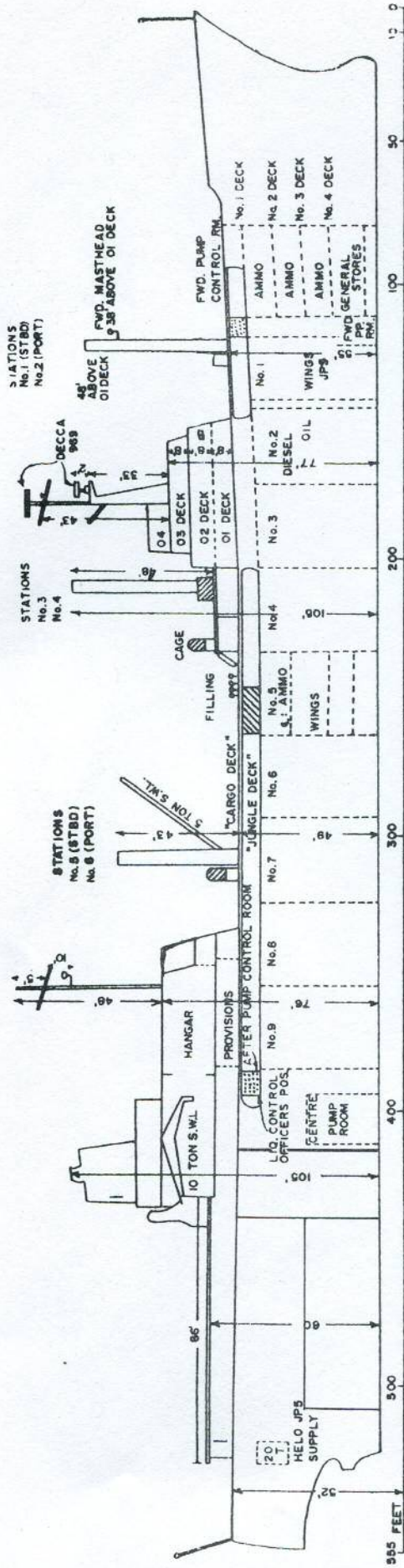
11,980 cubic feet

CARGO STOWAGE

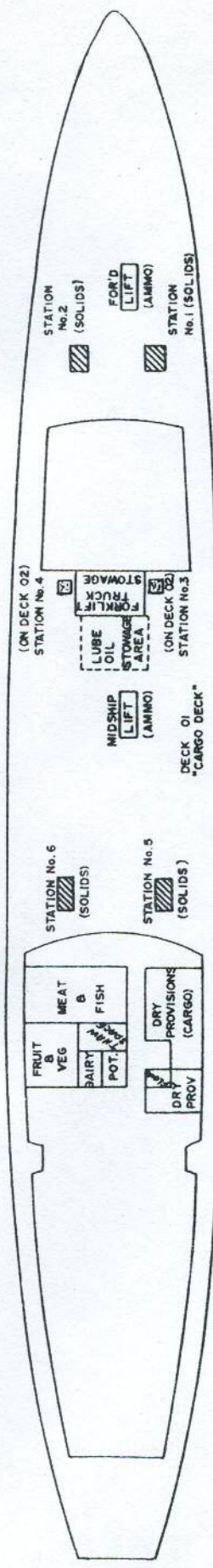
- a. Liquid Cargo is stored in nine transverse tanks. Each tank is sub-divided into three sections i.e. two wing tanks and a centre line tank. There are seven FFO transverse tanks which are for filling and pumping purposes are grouped into four separate sections. During replenishment operations pumping from these tanks is controlled from the after pump rooms. (Number 5 centre line tank is "B" Magazine". The remaining two transverse tanks contain Diesel oil, JP5 and AVGAS. During replenishment operations pumping from these tanks is controlled from the forward pumping room.

Solid Cargo is stored in spaces and compartments throughout the ship. Ammunition is palletized before it is embarked. "Forklifts" and "Pallet lifts" are used to position solid cargo at the appropriate stations during replenishment operations.

HMCS PROVIDER AOR 508



BODY PLANE



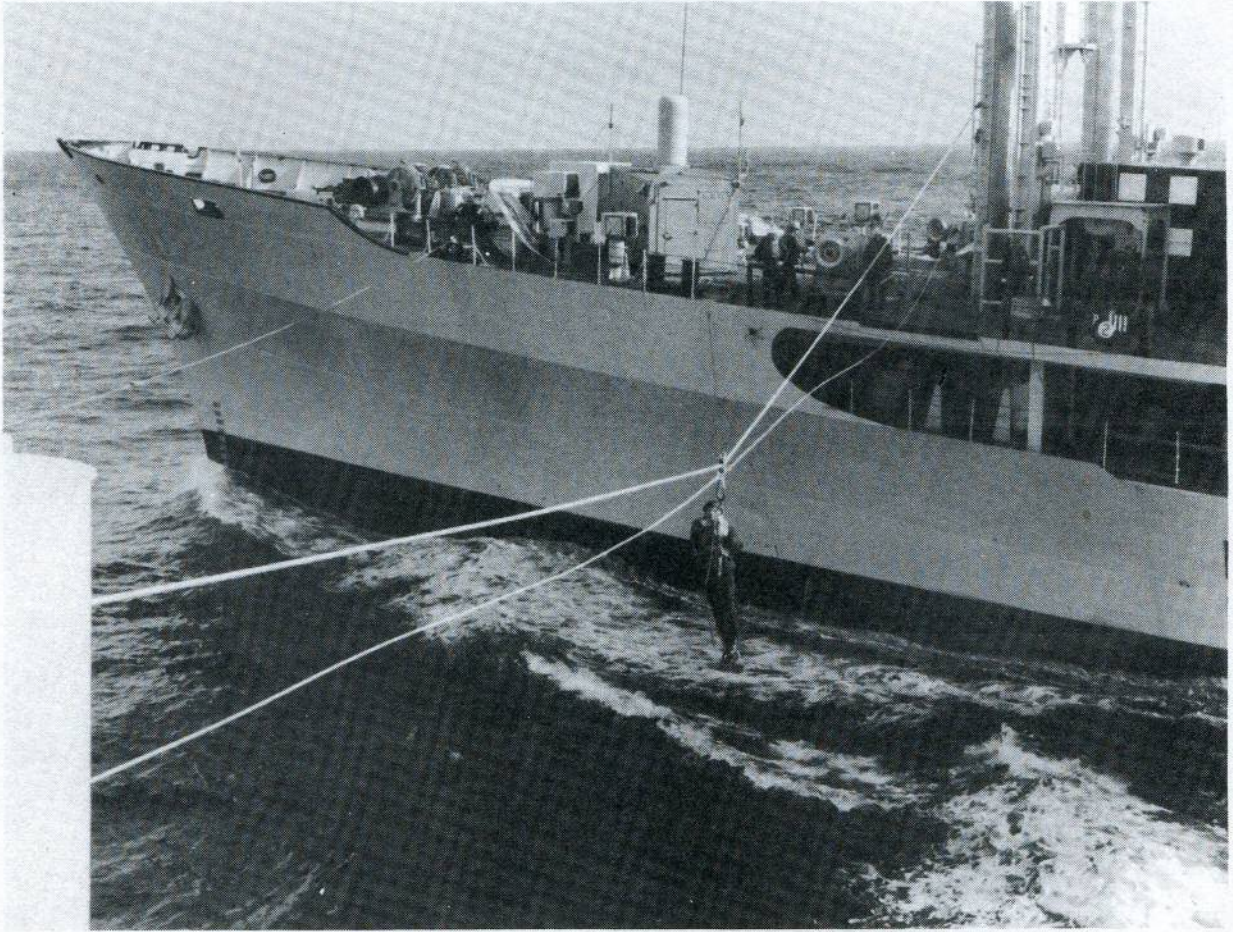
TOP VIEW - 01 CARGO DECK

REPLENISHMENT STATIONS

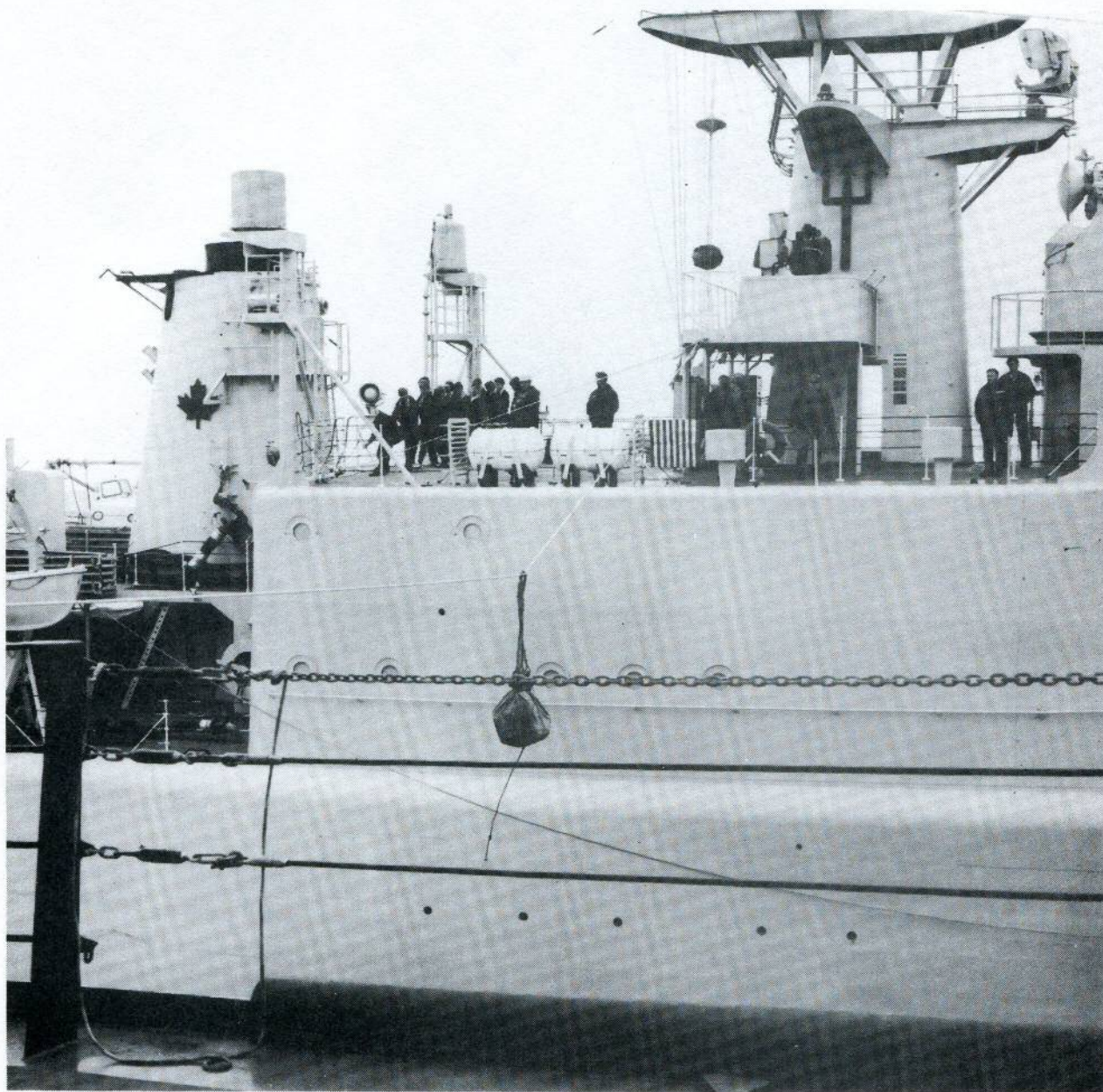
There are seven replenishment stations in PROVIDER. Six of these are located in the vicinity of the three Kingposts, and the flight deck is considered the seventh.

A light jackstay (mean load 500 lbs) is rigged at both stations one and two on the forecastle. This is a quick method of transferring personnel, mail and other light stores.

They are used most frequently, however, to handle the messenger, distance line, and telephone lines when stations 3 and 4 are involved in fuelling operations.



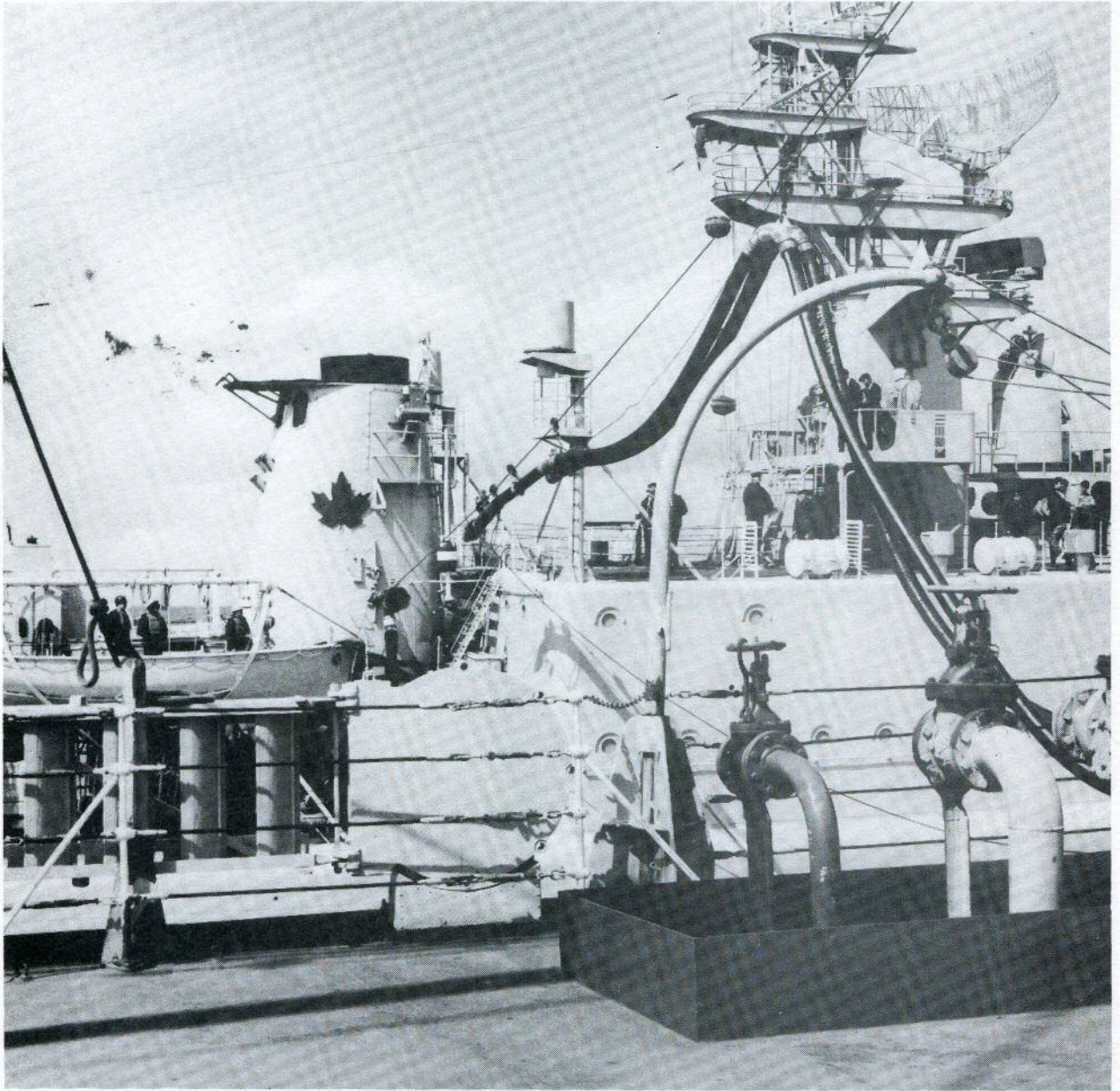
PERSONNEL TRANSFER.



LIGHT LINE TRANSFER

FUELLING

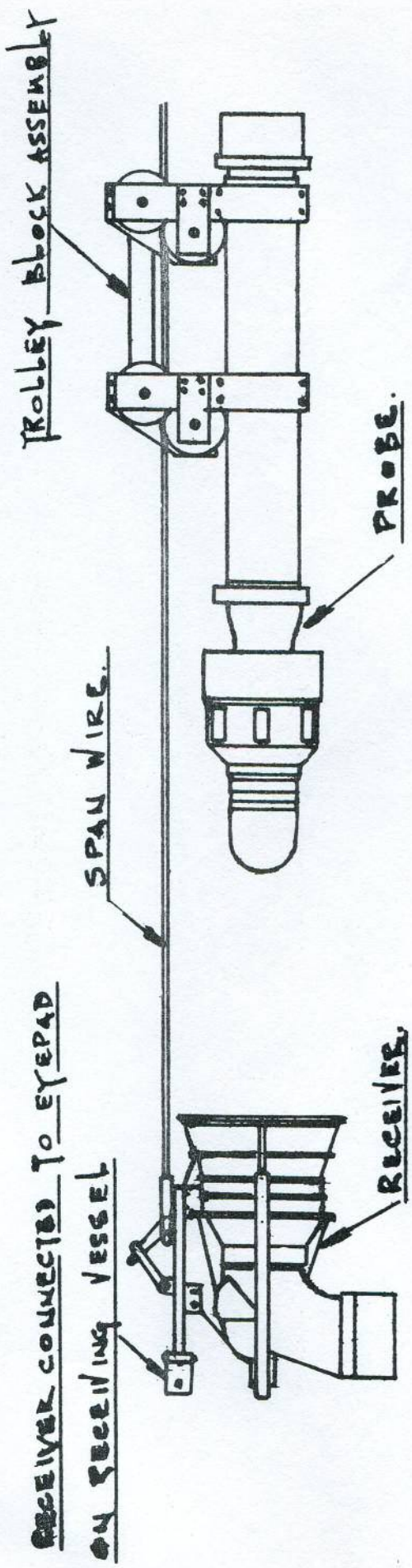
Ships requiring distillate and JP5 fuels are supplied from stations 3 and 4 (Midship Kingpost). During fuelling the hoses are suspended from a tensioned spanwire. A constant tension of several tons is maintained by two systems. The spanwire winch provides a "coarse" adjustment while the ram tensioner acts as a "cushion" for sudden tension and release thus providing a fine adjustment. These systems keep the probe in the receiving bell and maintain the hoses at the best slope for fuelling.



PROBE SLIDING DOWN SPANWIRE



FUELLING AND PERSONNEL TRANSFER



FUELLING PROBE & RECEIVER.

DECK WINCH SYSTEM

The fuelling hoses are suspended from the tensioned spanwire by means of four saddles. The lateral movement of the hoses beneath the spanwire must be constantly monitored to suit the separation of the two ships during the replenishment operation. Therefore the movement of the four saddles is controlled manually by three electro-hydraulic winches positioned in the vicinity of the replenishment stations. A protective case located immediately aft of the kingpost houses the operator and the remote controls for these three saddle winches.



SPANWIRE WINCHES

THE DENNISON WINCH SYSTEM

Ammunitions and heavier stores are passed from stations five and six. These stations are equipped with tensioned highlines incorporated in the Dennison System at station 5 and a Heavy Jackstay Rig at Station 6.

The Dennison winch system, station 5, is a FAST (Fast Automatic Shuttle Transfer) system employing three separate winches and a sliding padeye. In addition to the ram tensioning system, two electro-hydraulic winches operate the inhaul and outhaul lines. These two winches are powered by 125 HP, 1770 RPM electric motors. Loads of up to 3000 lbs. may be transferred by this system.



THE DENNISON WINCH SYSTEM

SOLID TRANSFER 6 STATION

Solid transfer at station 6 is accomplished by the use of a heavy jackstay. A traveller riding on a tensioned highline is controlled from PROVIDER using the inhaul and a hydraulic cargo winch.



HEAVY JACKSTAY

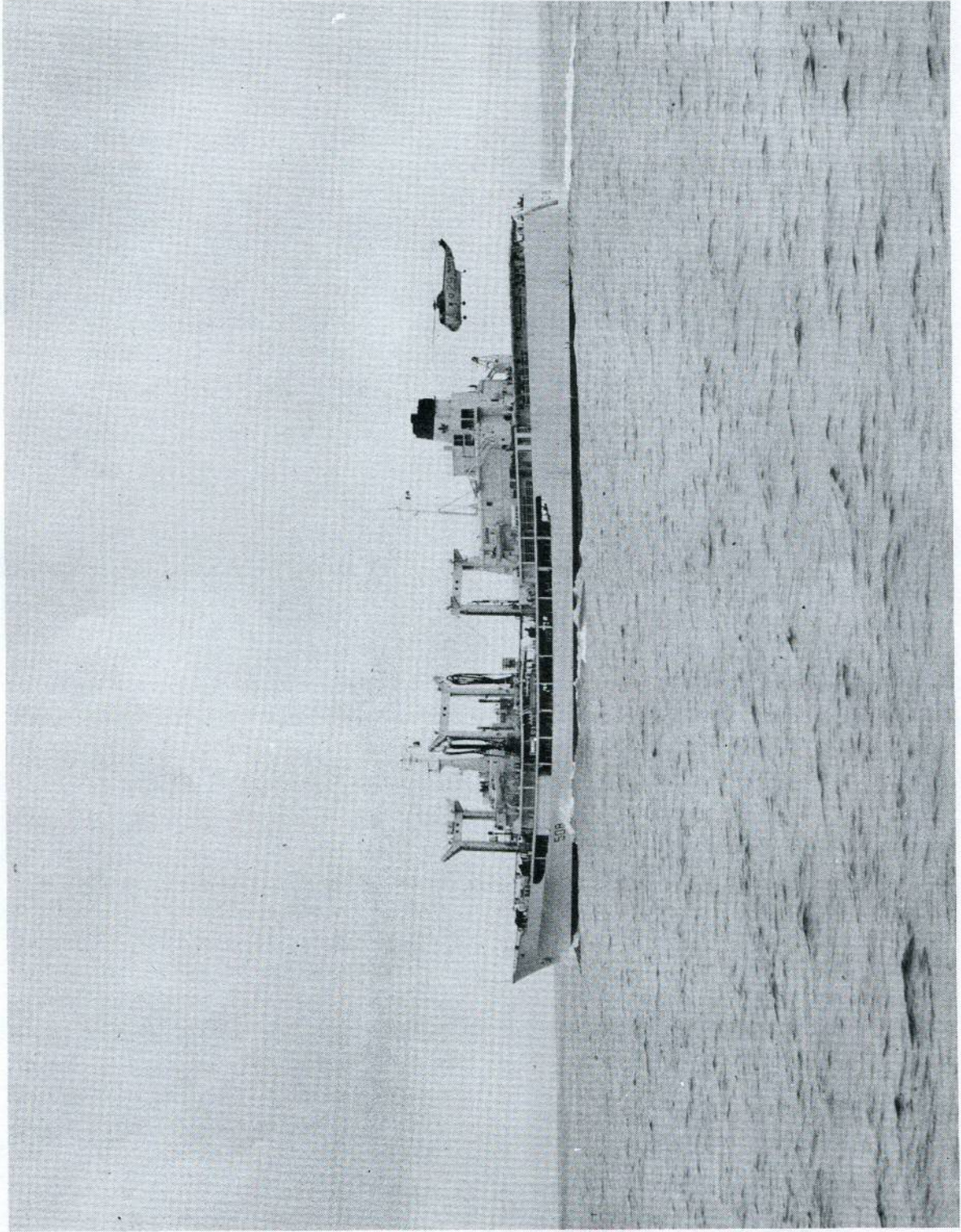
FLIGHT DECK

The flight deck is primarily used by an operational helicopter squadron which is frequently embarked for exercises. It is additionally used for vertical replenishments (Vertreps), in which a helicopter is used to transfer personnel, stores, ammunition, and medical evacuations to ships alongside or at a considerable distance. This flexibility and mobility provided by the helicopters and the requirement of relatively few personnel make it an excellent replenishment system.

HMCS PROVIDER is frequently tasked with two ships, conducting personnel transfers, handling ammunition replenishment and flying helicopters all at the same time.



FLIGHT DECK



VERTICAL REPLENISHMENT

CRANES AND BOOMS

Helicopter Cranes

The cranes are situated on each side of the flight deck abreast the after end of the Hangar. The centre of the crane is positioned 5.5 feet inboard from the ship's side, has 36 feet radius (30 degree angle) and is trainable through 252 degrees. It has a capacity of 22,500 pounds. (11,000 KG).

Cargo Booms

The ship is equipped with two booms at stations 5 and 6. These 5 ton S.W.L. booms are serviced by 2 ton capacity winches. If the winch runner is luffed to the boom it is possible to lift weights of up to 5 tons.

DAYS AT SEA - MILES STEAMED

1963	10 DAYS	2362.0 MILES
1964	67 DAYS	15383.1 MILES
1965	139 DAYS	38514.3 MILES
1966	145 DAYS	41681.6 MILES
1967	97 DAYS	26693.5 MILES
1968	111 DAYS	28649.0 MILES
1969	156 DAYS	45420.8 MILES
1970	75 DAYS	19582.6 MILES
1971	117 DAYS	33022.6 MILES
1972	121 DAYS	33646.9 MILES ✓
1973	46 DAYS	11015.0 MILES ✓
1974	117 DAYS	21488.4 MILES ✓

LIQUID REPLENISHMENT

FLIGHT DECK LANDINGS

1964	17	8
1965	179	43
1966	86	163
1967	147	14
1968	208	63
1969	207	297
1970	84	64
1971	98	52
1972	153	25
1973	43	164
1974	93	69

SOLID TRANSFERS

1968 -	1969	93
	1970	195
	1971	52
	1972	86
	1973	24
	1974	81



