

hoisting units (\$67,853); **Collins Radio Co. of Canada Ltd.**, Toronto, technical representative (\$14,567); **Computing Devices of Canada Ltd.**, Ottawa, transmitters, receivers, etc. (\$74,865).

De Havilland Aircraft of Canada Ltd., (Special Products & Applied Research Division), Malton, Ont., transformer/rectifier units (\$155,344), technical support for aircraft (\$70,000); **Dowty Equipment of Canada Ltd.**, Ajax, Ont., aircraft accessories (\$183,064); **E.M.I.-Cossor Electronics Ltd.**, Dartmouth, N.S., sonobuoys (\$994,921); **Enamel & Heating Products Ltd.**, Amherst, N.S., airframe spares (\$34,878); **Garrett Mfg. Ltd.**, Rexdale, Ont., technical representative (\$15,554).

Hawker Siddeley Canada Ltd., (Orenda Engines Division), Toronto, tools for aircraft engine (\$92,176), aircraft engine hardware (\$25,000); **Irvin Air Chute Ltd.**, parachute canopies (\$23,301); **Northwest Industries Ltd.**, Edmonton, Alta., engineering orders (\$78,897); **Sinclair Radio Laboratories Ltd.**, Downsview, Ont., design of antenna system for spacecraft (\$21,537); **Spartan Air Services Ltd.**, Ottawa, Ont., topographical maps (\$28,288); **Sperry Gyroscope Co. of Canada Ltd.**, Montreal, airspeed computer and transmitters (\$61,146), navigational equipment (\$43,133).

CDC's gift to nation

When Charles Hembery, president of Computing Devices of Canada Ltd., Ottawa, was in France for the Paris air show recently, he met the mayor of Hyeres-Brouage, birthplace of Champlain. He presented the mayor with a replica of Champlain's astrolabe navigation instrument, which has been used by the Canadian company for promotion purposes, as a symbol of its exploration into modern navigational methods. This gesture had a surprising sequel in the reciprocal gift of the deed of the birthplace of Champlain, founder of Canada, to Computing Devices. The company in turn proposes to present the property to Canada at the time of the centennial in 1967.

Apparently the people of Brouage have tried to interest Canada in the birthplace of its founder for many years, and they were moved to present the Champlain property, deeds of which were handed to Computing Devices' public relations manager, W. F. MacRae.

Hawker Siddeley changes

Reorganization of the Hawker Siddeley Group became effective on July 1. From this date, the group's principal interests and operations, other than in Canada, are integrated into six major subsidiaries and operating divisions.

Hawker Siddeley Aviation Ltd. will be responsible for aircraft design, development, production and supply. Aircraft types in current production include: Trident, Dove, Heron, 125, Comet, Sea Vixen, Argosy, P.1127, P.1154, Gnat, Vulcan, 748, Buccaneer. From now on all these aircraft together with aircraft



CHSS-2 delivery to RCN

in design (such as the 681 V/STOL transport) will be known as Hawker Siddeley aircraft.

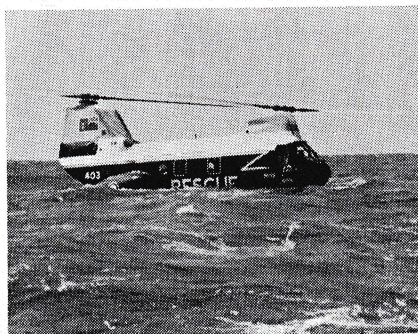
For administrative purposes, the company will operate in three divisions: Avro Whitworth Division, with Sir Harry Broadhurst as chief executive and with headquarters at Greengate, Manchester; Hawker Blackburn Division, with R. L. Lickley as chief executive and headquarters at Kingston-on-Thames, Surrey; and the de Havilland Division, with Air Commodore F. R. Banks as acting chief executive, at Hatfield, Herts.

Hawker Siddeley Group's interests in Canada are not affected by these arrangements.

Military

First CH-113 delivered

The first CH-113 helicopter produced by Boeing's Vertol Division for the RCAF, was ferried recently from Philadelphia to the Vertol Division, Boeing of Canada facilities at Arnprior, Ont. It will undergo a readiness and modification program prior to delivery to the RCAF. The aircraft completed a flight test program at Vertol Division's Flight Centre. Six CH-113's are scheduled for delivery to Arnprior during the next two months.



CH-113 in the rough

The photograph above was taken during recent rough sea testing, when the CH-113 handled satisfactorily in three to five foot waves off Cape May, New Jersey. Tests included a 360 degree turn on the water, taxiing in and out of wave patterns, and floating.

Navy trains on CHSS-2

By Jock Graham

The first four CHSS-2 helicopters for the Royal Canadian Navy have been delivered from the Sikorsky plant at Stratford, Conn. The remaining five, plus anticipated follow-on quantities up to an estimated forty-five aircraft, are scheduled to be assembled at United Aircraft of Canada's plant at Longueuil, Que., beginning early in 1964. Production may extend through 1967 with deliveries at the rate of one helicopter per month.

Since acceptance of the first CHSS-2 on May 24, six months from order date, senior RCN aircrew of HS-50 Squadron have been training on the new equipment with the USN, prior to joining HMCS Shearwater, their home base at Dartmouth, N.S. On arrival at Shearwater, the twin turbine helicopters will be utilized to capacity in a training program for the remaining squadron pilots.

Acquisition of the aircraft by the RCN marks the culmination of experiments that began in 1957 to determine the feasibility of operating large helicopters from destroyer-escort vessels, rather than conventional aircraft carriers. If the collective professional opinion of HS-50 is any yardstick, this potent combination heralds a new era in Anti-Submarine Warfare. Basically similar to the U. S. Navy HSS-2 helicopter, the CHSS-2, is equipped with automatic stabilization equipment and Canadian Marconi's CMC-651 GP Doppler navigation radar. Powered by twin GE turbine engines delivering a total of 2,500 shp, the 19,000 lb gross helicopter can carry detection equipment plus a complement of killer weapons on a four-hour mission.

The CHSS-2 embodies a winch down system designed and manufactured by Fairey Aviation Co. of Canada, which enables the helicopter to be secured to the flight deck on landing. A deck-mounted centring and moving mechanism and a folding tail rotor pylon, permits landings and hangar stowage of the helicopter in rough weather with up to 31 deg. of roll each side of vertical, and longitudinal pitching up to 8 deg.

Canadian content inherent in UAC's anticipated production program could bolster the Canadian economy by an estimated \$20 million. The program is still in the embryonic stage, but Sikorsky has already placed \$1 million worth of helicopter parts business with Canadian suppliers. A pioneer in production sharing, UAC has earned \$144 million (U. S.) over the past ten years on export sales of reciprocating engine parts.

Defence expenditures

Replying to questions in the House of Commons last month, Defence Minister Paul Hellyer gave the following figures on defence expenditures.

1. Percentage of total air force expenditure devoted to equipment, since 1955:

1955-56, 46.0, 1956-57, 27.1, 1957-58, 30.9, 1958-59, 35.8, 1959-60, 27.0, 1960-61, 26.9, 1961-62, 28.5, 1962-63, 21.3.

2. Total defence expenditures, and