19.9-METRE SURVEY LAUNCH
OF THE DANISH ADMINISTRATION
OF NAVIGATION AND HYDROGRAPHY

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INTRODUCTION

The Danish Administration of Navigation and Hydrography has the responsibility of performing hydrographic surveys in the waters around Denmark, the Faroe Islands and Greenland. The Royal Danish Navy provides ships, personnel and equipment for such surveys. Since 1960, the archipelago and fjords of Greenland have been surveyed by 4 launches – SKA 3, SKA 4, SKA 5 and SKA 6 (**). These launches were planned for replacement in 1982 and 1983, and therefore in 1979 the following specifications were drawn up.

The new launches should be constructed of fibreglass reinforced polyester. They should accommodate a crew of 5 to 6 men. Their speed should be around 12 knots, with excellent manoeuvring capabilities in the spectre from 2 knots to maximum speed. They should be able to carry the automatic electronic surveying system in use in Danish hydrographic surveys.

JEROS MARINE, Svendborg, Denmark, was contracted by the Danish Material Command to build the four survey launches.

Details of the launch

Length overall 19.96 metres
Length p.p. 19.20 metres
Draught 2.10 metres

(*) c/o Farvandsdirektoratet Nautisk Afdeling, Esplanaden 19, DK-1263 København K, Denmark.
Displacement 52 tonnes
Engine General Motors Detroit Marine diesel engine type 16V-71N with 540 HP
Propeller Hændested type FR-HVP with controlled pitch
Rudder A flapped rudder
Speed 12.5 knots
Hull Fibre glass reinforced polyester
Power supplies Two BUKH diesels, type DV 36AU with two generators designed for parallel operation.
Output: $3 \times 380$ VAC, 50 Hz, max 15 kW
Tank capacity Fuel oil 10,000 litres
Fresh water 3,000 litres
Sewage water 1,000 litres

Equipment fit

- Echo sounder Navitronic RT-1, 30 kHz
- Position fixing Choice of Motorola Mini-Ranger
  - Magnavox Sat. Nav.
  - Decca MK-21 (only in Danish waters)
  - Toran, or
  - Syledis
- Radio SSB station, 400 W PEP, SAILOR type T 126.
  - Receiver SAILOR type 5 105.
  - VHF: SAILOR type RT 144 C, 25 W, 60 channels.
- Other equipment Autopilot with EMRI analog steering system.
  - Terma Elektronic A/S X-band navigational radar system, 7' antenna, 16” PPI, 20 kW.
  - Sperry Mark 37 gyro compass

Crew

The normal crew when surveying will be 5 or 6 men, with a surveyor as master.

Layout

The layout of the launch is shown in figure 1. In addition, the toilet/bath is equipped with vacuum toilet, wash basin and shower. The mess room and pantry have a refrigerator and freezer each with a capacity of 200 litres. The launch has two WEBASTO hot-air generators.
**Fig. 1.** - The layout of the new Danish surveying launch.

**Fig. 2.** - The new Danish surveying launch leaving harbour.
CONCLUSION

The two launches — SKA 11 and SKA 12 — have now been in commission since April and May 1981. Experience has shown that performance is according to expectations.

The diameter for a full turn is approximately 20 metres — the length of the launch. Acceleration from zero to 12 knots can be achieved in less than 2 minutes. Stop manœuvre from 12 knots to zero is possible in less than 30 seconds or about 30 metres. Consumption of fuel oil is about 70 litres per hour for the main engine and one generator.

The electronic data logging system is also working according to expectations. The launches are able to keep the predicted surveying lines within the stated margin of ±2 metres.