AVRO
VULCAN
PHASE 6

The design proposals for the Vulcan Phase 6 aircraft outlined in the Avro Brochure I. P. B. 104 retain the same crew layout and pressure cabin as the Mk. 2 Vulcan. The facilities provided by this arrangement are rather limited and may not be considered suitable for an endurance of 13 to 14 hours. This addendum to I. P. B. 104 presents an alternative arrangement in which more space is available for the crew. In addition, provision is made for a supernumerary crew member and ejection seats are provided at all stations. The general arrangement of the aircraft is shown in Figure 1 and a comparison with the Vulcan Mk. 2 in Figure 2.

The pressure cabin is extended by inserting a 10 ft. 9 in. portion of fuselage immediately forward of the rear pressure bulkhead (see Figure 3). The arrangement of the nose and the forward portion of the cabin including the pilots and bomb aimers station is identical to the Mk. 2 Vulcan. Four forward facing crew stations are located in pairs on the starboard side of the cabin and a gangway is provided on the port side. A toilet is installed immediately behind the pilots floor and two rest bunks are mounted on the rear pressure bulkhead. The entrance door is located on the port side and may also be used as a parachute exist.

The increase in fuselage length results in a forward movement of the centre of gravity. This necessitates a change in the planform of the proposed new outer wing in order to maintain balance. The opportunity has been taken to improve the high Mach No. characteristics of the aircraft by reverting to a kinked planform as used on the Vulcan Mk. 2. The existing outer outer wing is retained as in the previous proposal.

The introduction of ejection seat hatches in the top of the fuselage precludes the use of the Dorsal mounted fuel tanks, these have, therefore, been deleted and replaced by a larger capacity bomb bay fuel tank. Figure 4 shows the locations of the fuel tanks. The total fuel capacity remains unchanged.

The basic operational weight is increased by 3,840 lb. and with the same total fuel carried the maximum take-off weight is 348,500 lb. As a result of this weight increase, the endurance is reduced by 12 minutes. The take-off distance at maximum take-off weight is unaltered.

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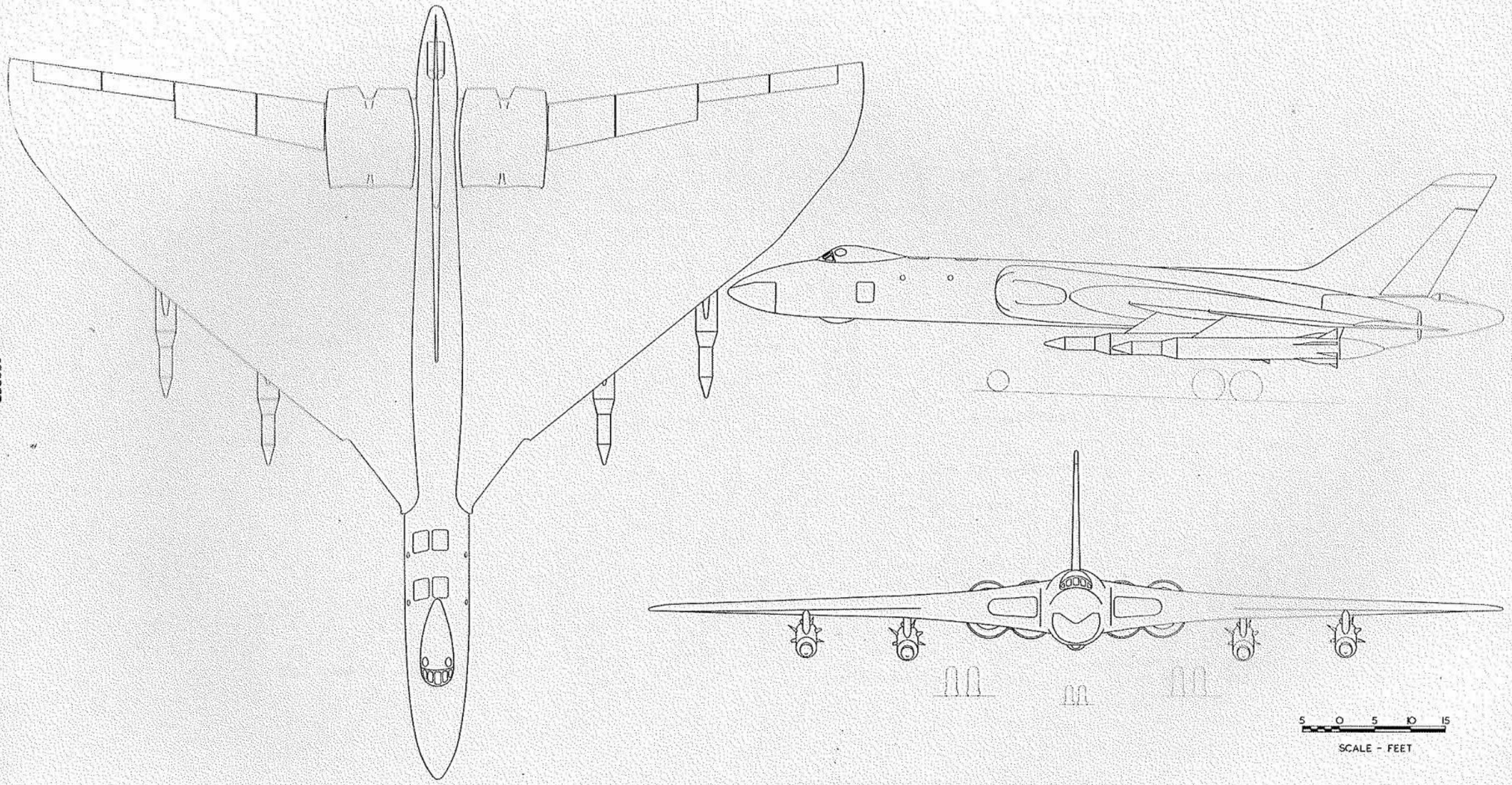


AVRO VULCAN PHASE 6

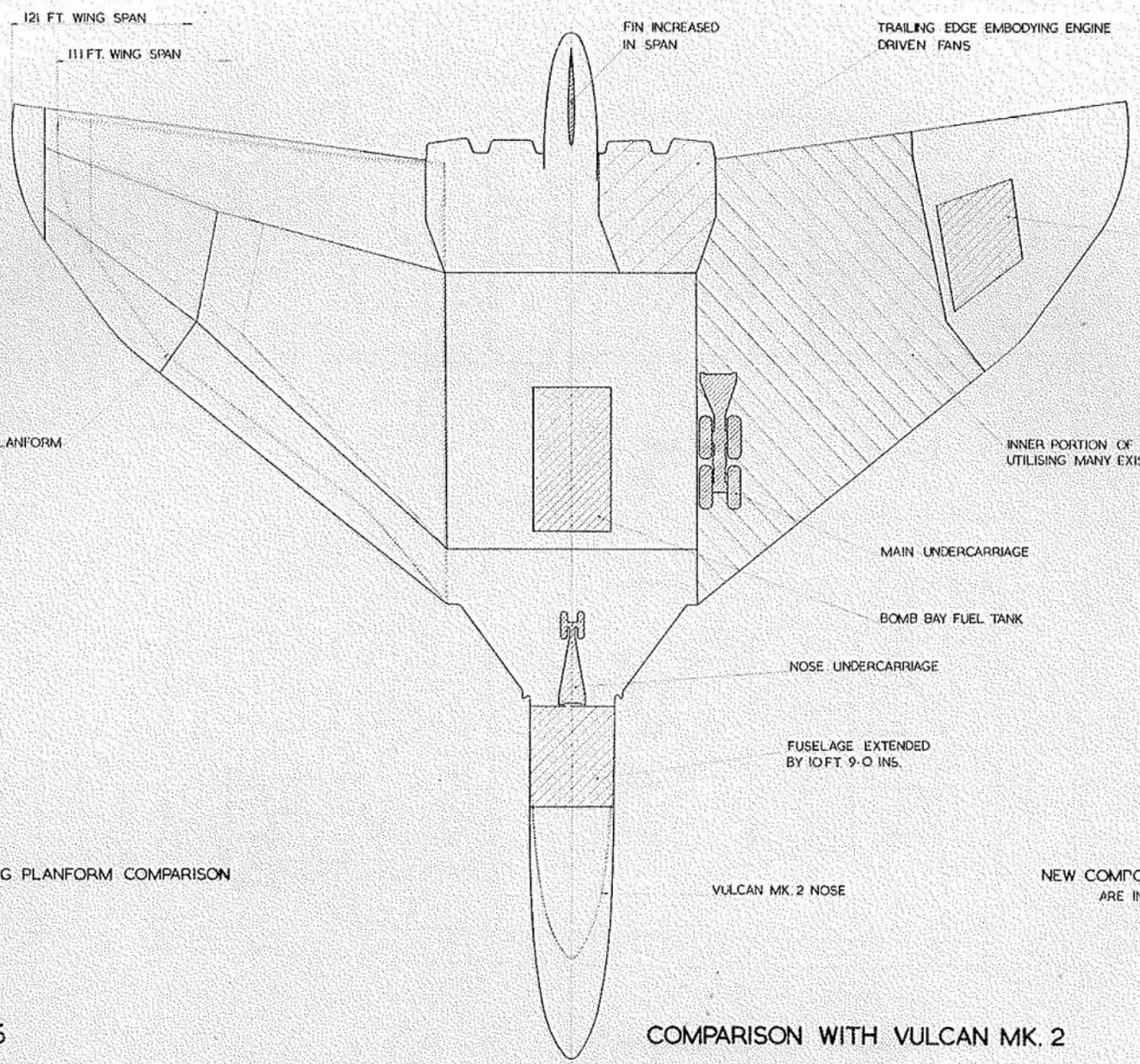
GENERAL ARRANGEMENT

BRISTOL SIDDELEY B.01.21/2 ENGINES WITH AFT FANS

P.D. 698/143

P.S.L.

I.P.D. 698/145



WING PLANFORM COMPARISON

VULCAN MK. 2 NOSE

NEW COMPONENTS REQUIRED ARE INDICATED THUS

AVRO VULCAN PHASE 6

COMPARISON WITH VULCAN MK. 2

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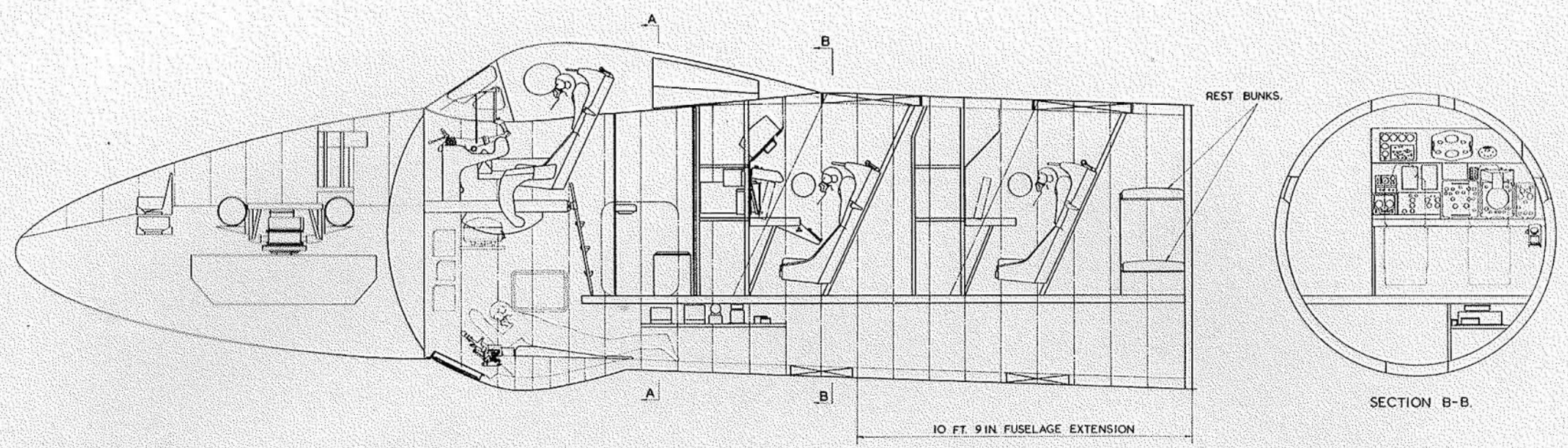
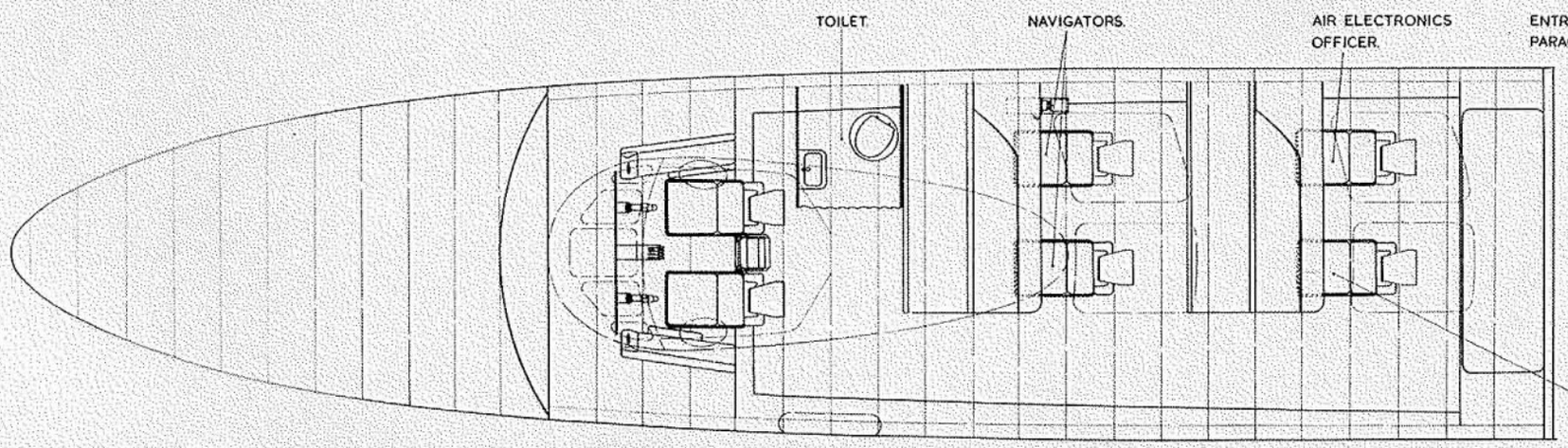
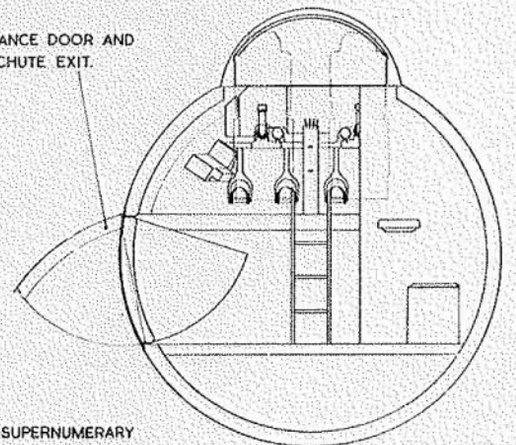
IPO. 6981/139



SECTION B-B.





SECTION A - A.

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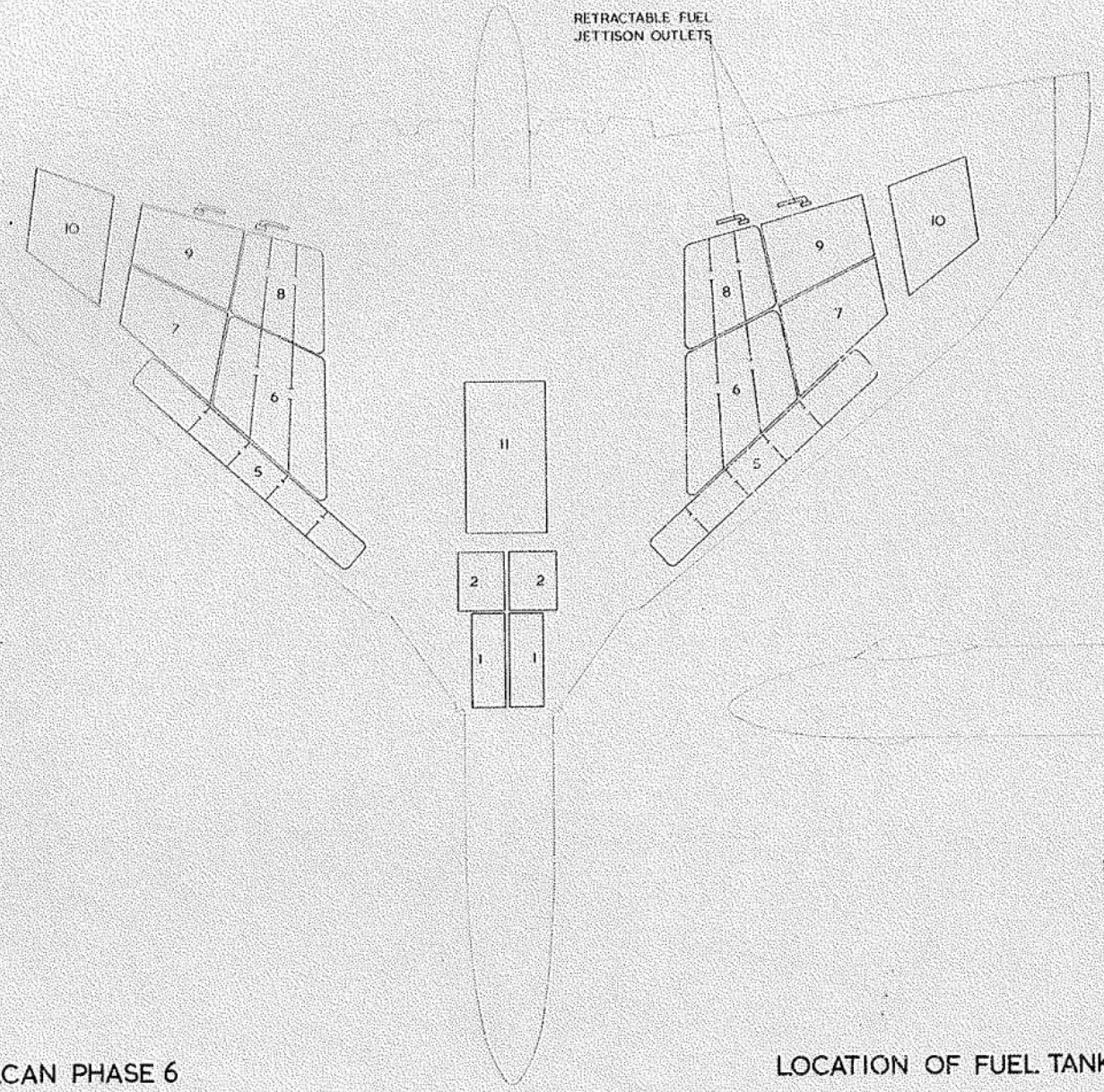
SCALE - FEET

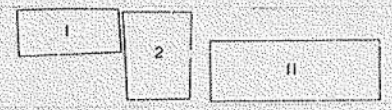
AVRO VULCAN PHASE 6

ARRANGEMENT OF CREW'S CABIN



	CAPACITY GALLONS	TYPE
No. 1 TANKS	1260	BAG
No. 2 TANKS	1900	
No. 5 TANKS	2230	BAG
No. 6 TANKS	4860	
No. 7 TANKS	2840	INTEGRAL
No. 8 TANKS	2360	BAG
No. 9 TANKS	2120	INTEGRAL
No. 10 TANKS	1140	
No. 11 TANK	3230	RIGID

TOTAL CAPACITY PER AIRCRAFT - 21,940 GALLONS



SECTION SHOWING FUEL TANKS IN FUSELAGE

SECRET

AVRO VULCAN PHASE 6

LOCATION OF FUEL TANKS

FIG. 4

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