

Aide-memoire on Transonic Transport - Project 1011

Cruising speed $M = 1.15$ - established by Sonic Boom considerations. (No-boom speed for overland operations).

Range - whatever customer wants, but datum chosen for comparison 3,000 statute miles, on assumption that Transatlantic served by $M = 2-3$ Transports.

Size - 160 passengers + 5,000 lb. freight. This is also size which would match military requirements for weapon carrier, and troop transport. (140 fully equipped troops for 4,000 n.m. at $M = 1.15$ or 5,000 n.m. at $M = .95$).

Developments - it does not require any major breakthrough in design.

- a) Structure. Since not operating at high temperature no new material problems, and can concentrate on variable geometry.
- b) Systems. No new techniques required.
- c) Aerodynamics. Mainly refinements on present knowledge to achieve optimum performance at transonic speed. Much work but fewer risks than $M = 2-3$.

Handling - landing and take-off will not require new pilot techniques or traffic control changes, since with wings forward it is not a 'hot' aircraft and approach speeds and circuit speeds are similar to present large jets.

Main advantages - 1) Unique flexibility of operations at various speeds. Can trade speed for range by changing wing sweep.

2) Cruising speed probably fastest that will be allowed over land areas for large aircraft in the foreseeable future, which puts it in a unique position regarding competition since there will not be the terrific pressure for speed development which has made aircraft types obsolescent in the past.

3) Long operational life because of 2) and will allow Manufacturers and Airlines to concentrate on important things such as development of power plants, reduction in seat mile costs etc.

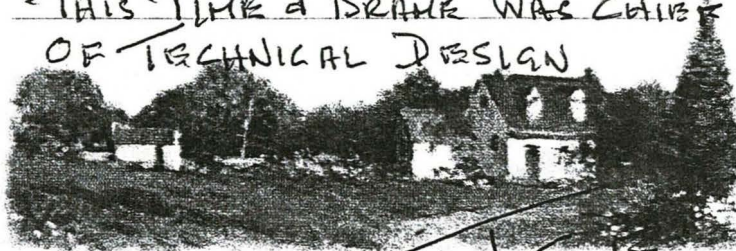
Market - Appears to be world market (including U.S.) for about 400 - 450 Civil Transports of this size (neglecting Transatlantic). Additional Military market for unspecified numbers of these aircraft. The weapon carrier version will have a supersonic dash capability up to speeds of $M = 2$.

1. C. F. F. d.

A note from...

Mr. James C Floyd

ALTHOUGH I BEEN BACK AND
FORTH TO THE U.K. TO SET UP
APG DURING APRIL-MAY/59.
I WAS STILL A DIRECTOR OF
AVRO CANADA UNTIL OCT./59
AND ONE OF MY LAST TASKS AT
MALTON WAS TO COMMISSION A
REPORT ON ONGOING 'RESCUE'
PROJECTS. THIS WAS THE RESULT.
LINDLEY, CHAMBERLIN ETC. HAD
ALREADY GONE TO THE U.S.A BY
THIS TIME A BRANK WAS CHIEF
OF TECHNICAL DESIGN



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