TL.114-53/01

19

op. local

Classification cancelled / Changed to UNCLAS

By authority of DRDA

Date 10 Dec 64

PROJECT 'Y' Signature

Unit / Rank / Appointment DRDA-7

A Theoretical and Preliminary Numerical Study of Stability and Control

Recommend declass + release

25 Oct 64

UNCLASSIFIED

SECRET

A. V. Roe Canada Limited
Malton, Ont.

January 8, 1953.

COMPONENT DATE PREP BY **SECRET**

PROJECT Y

Fig 1

ESTIMATED RESPONSE OF AIRCRAFT TO SMALL CONTROL SURFACE DEFLECTIONS

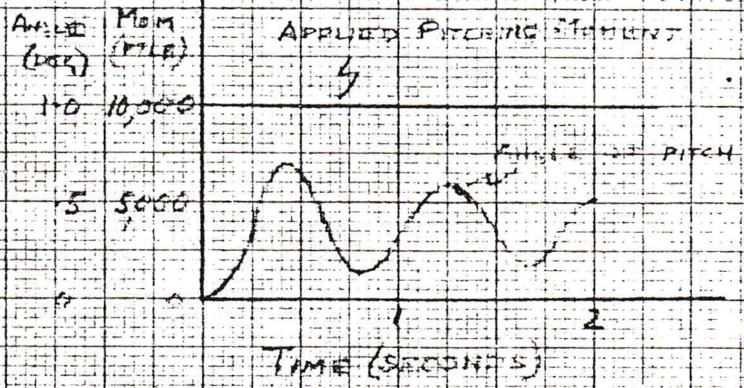
ENGINE OFF (NOT OPERATING)

M = 2.0

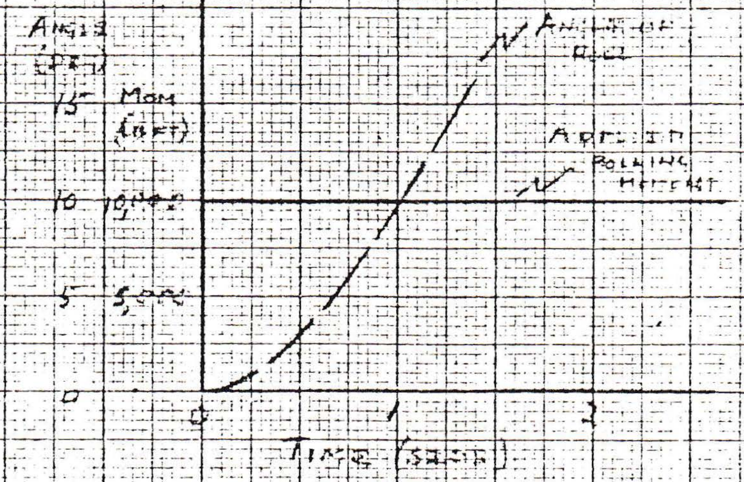
ALT = 50,000 FT

STATIC MARGIN = 3% OF MEAN CHORD (STABLE)

(a) RESPONSE TO APPLIED PITCHING MOMENT



(b) RESPONSE TO APPLIED ROLLING MOMENT



FORM 1748

PROJECT Y

E-2

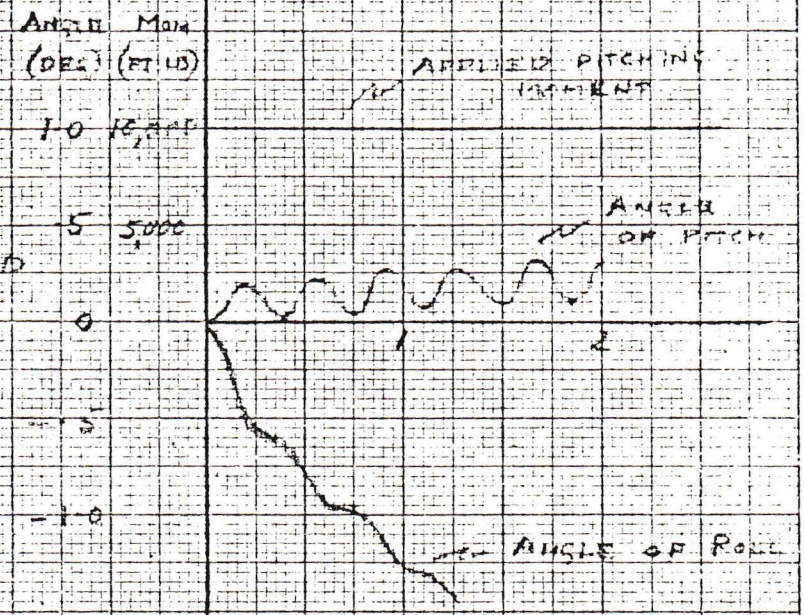
ESTIMATED RESPONSE OF AIRPLANE TO SMALL CONTROL SURFACE DEFLECTIONS

M = 2.0

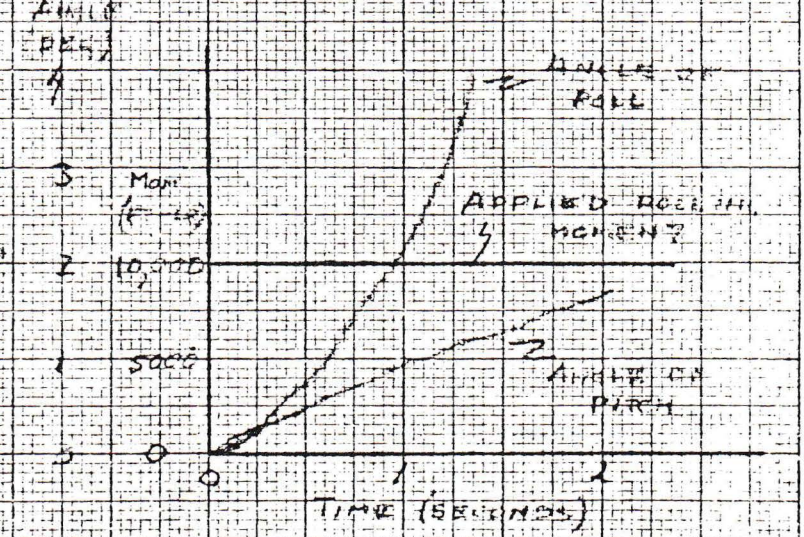
ALT. = 50,000 FT

STATIC MARGIN = 5% OF MEAN CHORD AT C.G.

(a) RESPONSE TO APPLIED PITCHING MOMENT



(b) RESPONSE TO APPLIED ROLLING MOMENT



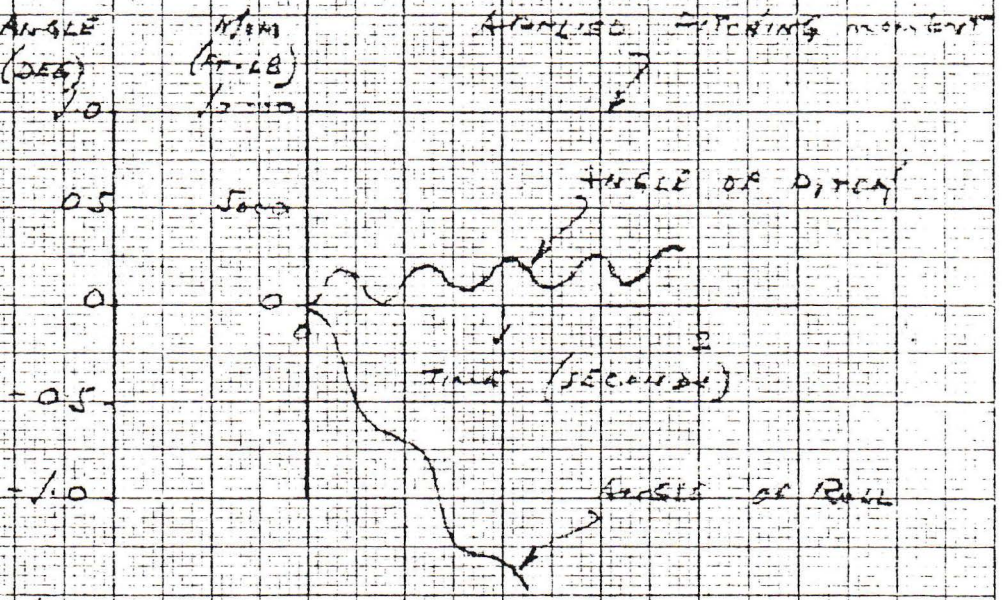
FORM 1746

FIG. 3.

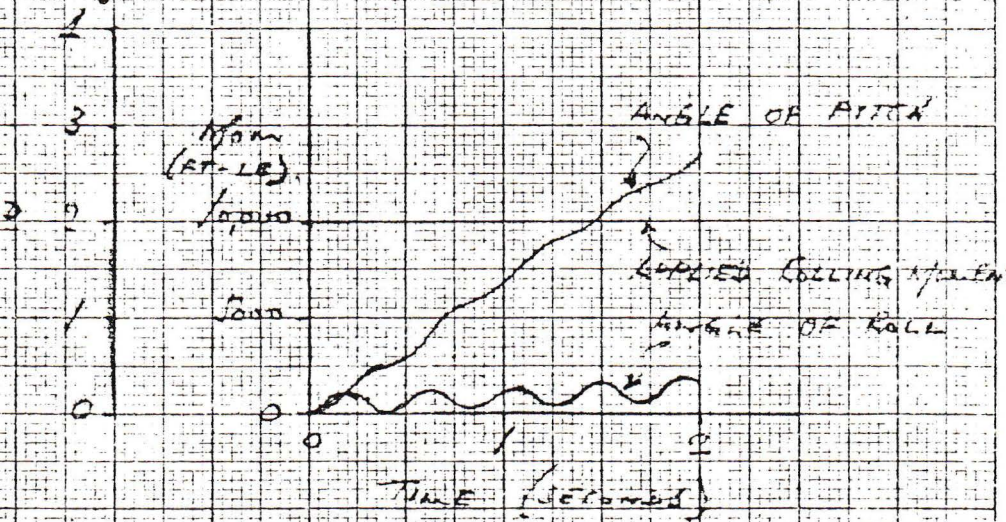
PROJECT Y

ESTIMATED RESPONSE OF AIRCRAFT TO SMALL CONTROL SURFACE DEFLECTIONS.

ENGINE ON (800 RPM)
M = 2.0
ALT = 50,000 FT.
STATIC MARGIN = 0



2) RESPONSE TO APPLIED PITCHING MOMENT



3) RESPONSE TO APPLIED ROLLING MOMENT

FORM 1746

RAFT COMPONENT SHEET No. REPORT No. SECRET
DATE PREP. BY

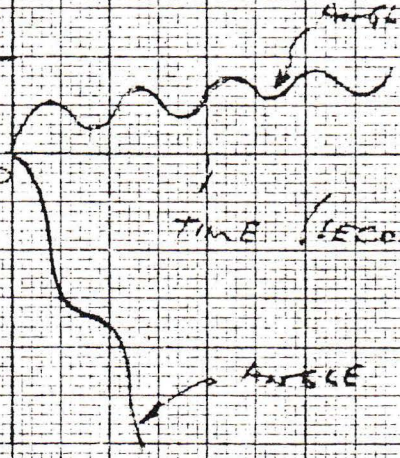
PROJECT Y FIG 4.

ESTIMATED RESPONSE OF AIRCRAFT TO SMALL CONTROL SURFACE DEFLECTIONS.

ENGINE ON (800 RPM)
M = 0.5
ALT. = 36,000 FT.
STATIC MARGIN = 20% OF MEAN CHORD (UNSTABLE)

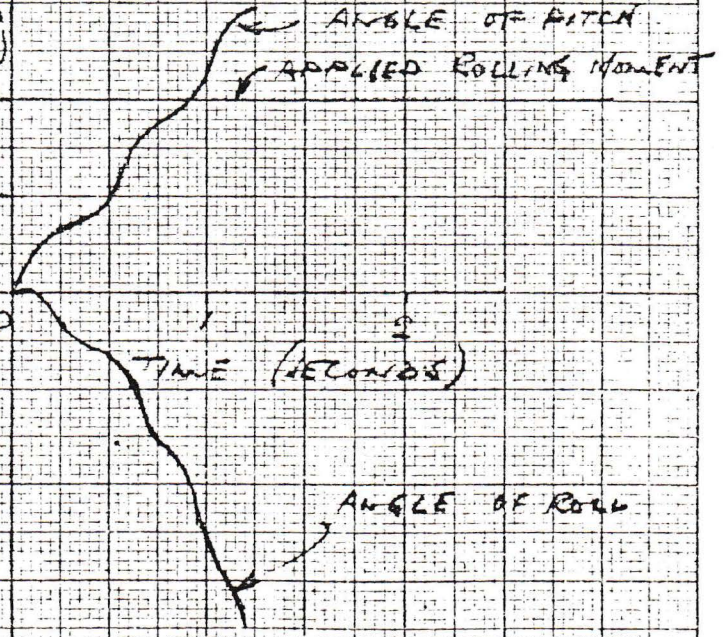
1) RESPONSE TO APPLIED PITCHING MOMENT

ANGLE (DEG) | M (FT-LB)
0 | 10,000
0.5 | 5000



2) RESPONSE TO APPLIED ROLLING MOMENT

ANGLE (DEG) | M (FT-LB)
0 | 10,000
0 | 5000



FORM 1746