Inter-Departmental Memorandum

Ref 2988/07/J
Date August 21, 1958
To Mr. S. E. Harper
From T. Roberts
Subject FLYING CONTROL DEVELOPMENT TESTING

Herewith R.F.T. 07-5070, Add. 3, stipulating requirements for the 2nd flight of A/C 25202, with yaw and roll damper activated.

T. Roberts

/b

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FLIGHT TEST

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FORM 1749 A

AVRO AIRCRAFT LIMITED

MALTON, ONTARIO

REQUISITION FOR FLIGHT TEST

R.F.T. NO. 07-5070 Add. 3

SHEET NO. 1 OF 3

DATE: Aug. 20, 1958

AIRCRAFT 25202	ASSIGNMENT NO. X73-383	WORK ORDER NO.

FLYING CONTROL DEVELOPMENT TESTING

The following testing is required on the next flight of A/C 25202 and with yaw and roll damper activated.

1. OBJECTIVE

1.1 Assess normal and emergency yaw damper.

1.2 Assess normal roll damper.

1.3 Carry out control surface taps proceeding in systematic steps to higher EAS.

2. INSTRUMENTATION

2.1 Telemetry

2.1.1 Stability and Control

1. Angle of attack
2. Angle of sideslip
3. Normal acceleration - near C.G.
4. Lateral acceleration - near C.G.
5. Roll rate
6. Port elevator angle - full range
7. Port aileron angle - full range
8. Rudder angle - full range
9. Port aileron differential servo position.

R.F.T. PREPARED BY:	APPROVED BY:	AUTHORIZED BY:
DATE FOR COMPLETION	PRIORITY	ESTIMATED COMPLETION DATE:

AVRO AIRCRAFT LIMITED

MALTON, ONTARIO

REQUISITION FOR FLIGHT TEST

R.F.T. NO. 07-5070 Add. 3

SHEET NO. 2 OF 3

DATE: Aug. 20, 1958

AIRCRAFT 25202	ASSIGNMENT NO.	WORK ORDER NO.

2.1.2 Structural Integrity

10. Rudder vibration pick-up accelerometer No. 58

11. Elevator vibration pick-up accelerometer No. 38.

Accelerometer nos. are as in fig. 5 of C105 Instrumentation, Issue 7.

3. TEST PROCEDURE

3.1 After engaging the following damper modes in straight and level flight assess aircraft handling with damper engaged by gentle movements of controls.

With yaw damper only engaged a rudder step input should be used, where indicated, for approximately 1 second.

With yaw and roll damper engaged rudder and aileron steps should be applied individually where indicated. The angle of bank should not exceed 45°.

3.2 Yaw Axis only

3.2.1 Engage Normal (gear up)and assess. Apply step input.

3.2.2 Engage Normal (gear down)and assess. Apply step input.

3.2.3 Engage Emergency (gear up) and assess.

3.2.4 Engage Emergency (gear down) and assess.

3.2.5 Carry out control stick taps and rudder kicks with dampers off.

3.3 Yaw and Roll Axis together

3.3.1 Engage Normal (gear up) and assess. Apply step input.

NOTE:- All take-offs should be with dampers off.

R.F.T. PREPARED BY:	APPROVED BY:	AUTHORIZED BY:
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REQUISITION FOR FLIGHT TEST

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SHEET NO. 3 OF 3

DATE: Aug. 20,

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4. TEST CONDITIONS

Test to be carried out in the following order.

4.1 At 20,000' and T.M.N. = 0.7 carry out item 3.2 only.

4.2 At 50,000' (or max. practical altitude) and T.M.N. = 1.2 carry out items 3.2 and 3.3.

4.3 Repeat 4.2 at 50,000' and T.M.N. = 1.3.

4.4 Repeat 4.2 at 50,000' and T.M.N. = 1.4.

4.5 Repeat item 3.2 only at 50,000' and T.M.N. = 1.6.

4.6 At 20,000' and T.M.N. = 0.7 carry out item 3.3 subject to confirmation by Operations Controller.

4.7 At 20,000' with dampers off carry out control stick taps and rudder kicks increasing speed in increments of 0.05 M.N. up to a T.M.N. = 0.95.

5. DATA

5.1 Sanborn records of parameters listed in 2.

5.2 Pilots comments.

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