AVRO AIRCRAFT LIMITED

Inter-Departmental Memorandum

Ref 8191/22/J
Date April 17, 1958
To S. E. Harper
From T. Roberts
Subject AIRCRAFT 25202 - FIRST FLIGHT R.F.T.

R.F.T. 5049 is attached, covering the first flight of Arrow 1 Aircraft 25202.

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Central Files

AVRO AIRCRAFT LIMITED

MALTON, ONTARIO

REQUISITION FOR FLIGHT TEST

R.F.T. NO. 5049

SHEET NO. 1 OF 3

DATE: April 17, 1958

| AIRCRAFT 252 02 | ASSIGNMENT NO. X73-380 | WORK ORDER NO. |
|---|---|---|

FIRST FLIGHT ARROW 1 - AIRCRAFT 25202

1. OBJECT

The object of this flight is to obtain the pilot's preliminary assessment of the handling qualities of the aircraft.

2. EQUIPMENT

2.1 The following damping system signals are to be recorded on an oscillograph during the taxi tests of Section 3.1.

Normal Yaw Axis
2.1.1 Yaw Rate.
2.1.2 Aileron Position.
2.1.3 Lateral Acceleration.
2.1.4 $\int aq$ (product of aileron position and pitch rate)
2.1.5 Servo balance.
2.1.6 Yaw Normal Solenoid.

Emergency Yaw Axis
2.1.7 Yaw Rate
2.1.8 Aileron Position
2.1.9 Lateral Acceleration
2.1.10 Servo Balance.
2.1.11 Yaw Emergency Solenoid.

D.C. Signal
2.1.12 $A_y$ switch.

2.2 No instrumentation will be required for the flight test.
2.3 Two chase aircraft are required: one Sabre 6 and one CF100 Mk. 5.
2.4 Two Vinten F47 Cameras. (items 2.4 and 2.5 are to cover
2.5 One high speed camera (approx. 1000 frames/sec) taxi runs and take-off and landing).

3. PROCEDURE

3.1 Prior to first flight, taxi runs up to approx. 120 kts, should carried out to check the functioning of the landing parachute, the wheel brake system, and the damping system.

| R.F.T. PREPARED BY: Wm C. Etherington | APPROVED BY: | AUTHORIZED BY: |
|---|---|---|
| DATE FOR COMPLETION | PRIORITY | ESTIMATED COMPLETION DATE: |

AVRO AIRCRAFT LIMITED

MALTON, ONTARIO

REQUISITION FOR FLIGHT TEST

R.F.T. NO. 5049

SHEET NO. 2 OF 3

DATE: April 17, 1958

| AIRCRAFT 25202 | ASSIGNMENT NO. X73-380 | WORK ORDER NO. |
|---|---|---|

3.2 A pre-flight cockpit check should be carried out as given in Appendix 1 of R.F.T. 07-5024.

3.3 A flight is to be made to examine low speed and subsonic handling characteristics.

3.4 Handling is to be carried out at the pilot's discretion within the framework of the flight plan of section 3.5.

3.5 Flight Plan.

3.5.1 Take-off

The take-off should be made without afterburner and without damper.

3.5.2 Climb

With the landing gear extended climb to 5,000 ft. at 200 kts.

3.5.3 First Handling Check

(a) Level off at 5,000 ft. and 200 kts. and assess handling with the landing gear down and dampers off.

(b) With the landing gear down select normal damper GEAR UP and assess handling.

(c) Raise landing gear and assess handling.

(d) Accelerate to 300 kts. and climb to 10,000 ft.

3.5.4 Second Handling Check

(a) Level off at 10,000 ft. and 300 kts. and assess handling.

(b) Switch to emergency mode gear up and assess handling down to 250 kts.

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AVRO AIRCRAFT LIMITED

MALTON, ONTARIO

REQUISITION FOR FLIGHT TEST

R.F.T. NO. 5049

SHEET NO. 3 OF 3

DATE: April 17, 1958

| AIRCRAFT 25202 | ASSIGNMENT NO. X73-380 | WORK ORDER NO. |
|---|---|---|

(c) At 250 kts. switch to dampers off and assess handling.

(d) Reduce speed to 200 kts. and lower landing gear. Assess handling down to 160 kts. including the effects of speed brakes.

(e) Raise landing gear, select normal damper gear up mode and accelerate to 350 kts.

3.5.5 Second Climb

Climb at 350 kts. to the altitude corresponding to M = 0.90 (approx. 25,000 ft) and continue climbing at M 0.90. Light the afterburners at 30,000 ft. and continue climbing to 40,000 ft.

3.5.6 Third Handling Climb

(a) Level off at 40,000 ft., disengage the damper and assess aircraft handling at M = 0.90.

3.5.7 Descent

Descend at M = 0.90 to approx. 25,000 ft., continuing the descent to circuit height at 350 kts.

3.5.8 Land

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