AVRO AIRCRAFT LIMITED

Inter-Departmental Memorandum

Ref: 8568/02B/J
Date: April 29, 1958
To: S. E. Harper
From: T. Roberts
Subject: ARROW 1 ELECTRICAL SYSTEM FLIGHT TESTS

Herewith R.F.T. 5041, Add. 1, which supersedes and cancels R.F.T. 5041. This Addendum covers flight tests to be carried out during the Phase 1 engineering test program of aircraft 25201, 25202 and/or 25203. The initial tests will be carried out with the instrumentation pack power supplied from the shedding bus, as it is at present on aircraft 25201. For later flights, it will be necessary to rearrange the power supply system so that the instrumentation can be supplied from the essential bus.

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Central Files

AVRO AIRCRAFT LIMITED

MALTON, ONTARIO

REQUISITION FOR FLIGHT TEST

R.F.T. NO. 5041 Add. 1

SHEET NO. 1 OF

DATE: April 29, 1958

AIRCRAFT 25201 2 5202 and/or 25203	ASSIGNMENT NO. X73-384	WORK ORDER NO.

ARROW 1 ELECTRICAL POWER SYSTEM FLIGHT TESTS

1. OBJECT

1.1 To check that the cooling air flow through the A.C. generator is adequate for all conditions of electrical loading and that the maximum operating temperature of the A.C. generator rear bearing is within safe operating limits.

1.2 To check temperatures in different zones where electrical equipment is mounted to ensure operating ambients are satisfactory.

2. FLIGHT CONDITIONS

Instrumentation measurements are to be taken during the following conditions:-

(a) Taxi
(b) Take off & Climb.
(c) Minimum speed at S.L.
(d) Intermediate speeds at S.L.
(e) Max. speed at S.L.
(f) Typical speeds at each 10,000 ft. of altitude.
(g) Max. speed at max. altitude.
(h) Landing.

3. EQUIPMENT & INSTRUMENTATION

1. Temp of aft bearing - port alternator.
2. Frequency (A phase on the essential bus).
3. Exhaust temp of T.R.U.S. (one unit only.)
4. Temp of N.W. well, above circuit breaker.
5. Temp of N.W. well, above master warning box.
6. Temp of electrical bay.
7. Temp of main wheel well (one side only) above brakes.

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

AVRO AIRCRAFT LIMITED

MALTON, ONTARIO

R.F.T. NO. 5041 Add. 1

SHEET NO. 2 OF

OATE: April 29, 1958

REQUISITION FOR FLIGHT TEST

AIRCRAFT 25201 25202 and/or 25203	ASSIGNMENT NO. X73-384	WORK ORDER NO.

During initial instrumentation flights the power supply for the instrumentation pack is to remain as it is at present, i.e. - Telemetry on the essential bus with the remainder supplied from the shedding bus.

This means that only Telemetry will be retained in the event of an A.C. generator failure or an engine flame out.

For later flights all instrumentation is to be supplied from the essential bus so that generator shut-off and transfer can be accomplished without loss of instrumentation.

4. PROCEDURE

On initial flights (with instrumentation power pick off as is) records are to be taken during conditions quoted in para. 2. On later flights (with instrumentation power pick off as per para. 3) records are to be taken during conditions quoted in para. 2 with generator switching to cause transfer. Switching to be conducted during the cruise condition only.

5. DATA REQUIRED

5.1 Frequency (one phase essential bus)
5.2 Generator rear bearing temperature.
5.3 Compartment temperatures.

Accumulated data to be presented in graphical form vs time.

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