S/L Armstrong
We are after the Co on this matter. This RFT came out too late. Such request should come before A/C H line.
Kagd.

AVRO AIRCRAFT LIMITED

Inter-Departmental Memorandum

Ref: 9021/11/J
Date: May 13, 1958
To: S. E. Harper
From: T. Roberts
Subject: ARROW 1 - AIRCRAFT WEIGHING

Attached herewith is R.F.T. 5056, which covers the R.C.A.F. requirements for Weight and Balance and, to establish basic balance information on the Arrow 1.

T Roberts

EB*bb

T. Roberts
Technical Flight
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W/C G. Waterman
W/C G. Waterman (2) T.S.D. AVRO.RCAF for transmittal to S/L K. Owen C.E.P.E.

Central Files

AVRO AIRCRAFT LIMITED

MALTON, ONTARIO

REQUISITION FOR FLIGHT TEST

R.F.T. NO. 5056

SHEET NO. 1 OF

DATE: May 13, 1958

AIRCRAFT 25201	ASSIGNMENT NO.	WORK ORDER NO.

ARROW 1 - AIRCRAFT WEIGHING

PURPOSE OF TEST

1. To satisfy R.C.A.F. requirements for Weight and Balance as called up in CAP 479, Chap. 30.03 (5) i.e. Aircraft Weighed in "Dry" Condition.

2. To establish basic balance information (i.e. (1) Empty Weight (2) Trapped Fuel (3) Residual Fuel (4) Unmeasurable usable fuel), in order to eliminate Aircraft weighing before each flight.

1 METHOD

Calibrate fuel-gauge system:-

Weigh A/C in "dry" condition in 7° tail down attitude. Weigh A/C in level attitude. From results calculate Horizontal and Vertical Components of C.G.

2 METHOD

Put quantity of fuel in tanks and run system to ensure all lines full of fuel. Drain A/C in normal ground attitude through drain valves. Weigh aircraft in level attitude and establish Empty Weight.

Place a quantity of fuel in each tank and remove through normal operating fuel system. Drain and measure quantity of fuel from each tank and establish residual fuel quantity.

Add fuel to each tank individually, recording quantity of fuel added at which the Field Tester indicates the addition of added capacitance. This fuel is usable but not measurable.

Further details may be obtained from E. Burnett, Weights Dept, and A. Cornish, Technical Design.

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

AVRO AIRCRAFT LIMITED

MALTON, ONTARIO

REQUISITION FOR FLIGHT TEST

R.F.T. NO. 5054

SHEET NO. 1 OF

DATE: May 12, 1958

AIRCRAFT 25202	ASSIGNMENT NO.	WORK ORDER NO.

ENERGY ABSORBED BY LANDING GEAR DURING LANDING

1. OBJECT

In design of the landing gear the energy absorbed by wing deflection during landing was ignored, and it is the object of this test to measure the actual energy absorbed by the landing gear in an attempt to increase the permissible landing weight.

2. INSTRUMENTATION

2.1 Oscillograph recording will be required of the following:-

2.1.1 Strain gauges placed on the main undercarriage leg, the side stay and the back stay of both port and starboard legs. Six gauges are required at each section, making thirty six measurements in all. The exact location of the strain gauges and any other pertinent information, such as scaling on the oscillograph, may be obtained from the Stress Office.

2.1.2 Fore and Aft. leg acceleration - port and starboard (Reference numbers 31-016 and 31-017).

2.1.3 Normal acceleration at the aircraft C.G.

2.1.4 Normal acceleration at the undercarriage attachment to the wing - port and starboard.

2.1.5 Normal acceleration at each wing tip (Reference number 10-034, 10-035 or 10-036 port, and 10-020, 10-021 or 10-022 starboard).

2.2 Velocity of descent. The method of determination of this parameter should ideally give an accuracy of ∓ 0.1 ft/sec, but in any case it should not be worse than ∓ 0.3 ft/sec. This problem is being investigated by Flight Test Dept.

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. 5054

SHEET NO. 2 OF 2

DATE: May 12, 1958

AIRCRAFT 25202	ASSIGNMENT NO.	WORK ORDER NO.

2.3 Speed and ground angle at touch down. Photographic coverage from the side of the runway will be satisfactory.

2.4 It will be necessary to know the aircraft weight, C.G. position, ambient pressure, temperature and wind velocity during the landing.

2.5 A reasonably accurate determination of the oleo movement of each leg must be possible from an aircraft mounted camera.

3. PROCEDURE

A minimum of three landings should be made. These may be made at normal weights and descent rates. If it is found that conditions are widely different for the three landings made, some further instrumentated landing may be requested.

4. DATA

As listed under 2.0.

R.F.T. PREPARED BY:	APPROVED BY:	AUTHORIZED BY:
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