

TECHNICAL DESIGN DEPT. REPORT CATALOGUE

This catalogue contains all the Technical Design reports connected with the Arrow, which have been found during clean-up. The catalogue lists whether we have calculations originals, report originals and how many copies. Calcs. originals in general are always filed with report copies but report originals are filed in separate cabinets. When a report contains calculations and report originals, inextricably mixed, then these are filed as calcs. originals, but a note is made to show the mixture. The assumption is made, for ease of cataloguing, that copies come only from report originals and calcs. originals are never printed.

If reports have been microfilmed, the microfilm reel number is shown in the "original" column.

Set 1 will be found in cabinets numbered 1 to 9, and report originals are in cabinets 10 and 11. Set 2 is in cabinets 12, 13 and 14 and Set 3 in cabinets 15 and 16.

MISC. AND FLT. TEST REPORTS ARE FILED IN CABINET # 9.

LIST OF SYMBOLS

✓ ⁺	Report original
✓ ⁰	Calculations original
✓*	Only part of report original or copy is available.
✓□	Report is filed in box on top of cabinets (too large to file normally)
2/✓	Issue 2
SUM. /	Summary
EX. /	Extract
ABS. /	Abstract
ADD. /	Addendum
APP. /	Appendix
AMEND. /	Amendment
①	Library copy

Combinations of the above symbols have been used where applicable, i.e. 2/✓⁺ portion of report original issue 2 is available.

Originals Missing
(where we have copies)

P/Aero Data/26	P/Geom/32
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Originals Missing
(where we have copies)

P/Simul/2	7/Systems/21	
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Originals Missing
(where we have copies)

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147 Iss. 1

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157 Iss. 5

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7/Tactics/ 2

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7/Tech. Des./ 1

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P/Wind Tunnel/ 33

97 Ext.

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S.P./Special/2

Originals Missing
(where we have copies)

F.C./Sched./1

A.C. Manoeuvres/2
3

Cockpit Sched./1

Damper Hardware/1

MISCELLANEOUS

Semi-Sub Falcon 45° Installation.

Miscellaneous Notes on Arrow Defuelling and Engine Maintenance.

C105 Air Conditioning PS 13 RCA Inst'n. Prelim. Study.

C105 A108/Hughes Autopilot/1. Aircraft Equations and Coefficients for Hughes Autopilot Study.

Engines Windmilling A/C Performance CF105 Report No. 7/3200/1/12 (3 copies)

Stability and Control Data Extracts Arrow 1

Minutes of Avro/Orenda Meeting re Inst'n of PS-13/CF105 (2 books)

Survey of Problems Associated with the Installation of British Engines in the C105.

The 1/7 Scale Orpheus Right Angled Nozzle Model Performance (2 books)

P/C105/12 C105 Performance with Pre-Production J67's Production J67's and PS-13 Engines (Extracts from P/Perf./81 and 85)

Emergency Power Brochure (4 copies)

Load Distributions on C105 Wing Due to Various Control Surfaces and Elastic Air Loads.

Automatic Computing Dept.

1. List of 704 Installations.
2. List of 704 Delivery Dates and Components.

Analysis of Oil Cooling System

Addendum to "Calculation of the Angular Firing Error from the Computed Miss Distance when Flying on a Lead Collision Course.

Miscellaneous Air Conditioning.

Miscellaneous Armament.

Miscellaneous - Air Supply to Accessories.

Escape from an Aeroplane.

MISCELLANEOUS

Hydraulic System for Flying Controls C105 A/C.

A Note on the Future Development of the CF105.

Mach 2.5 Development of CF105 Program for Initial Engineering Investigation.

Tech. Design Miscellaneous

Elevator Program C105.

Report and Discussion on Visit to Convair.

Development of the Avro Arrow (3 books)

Arrow Armament System Hydraulics

Arrows 1 and 2 Utility Hydraulic System Compensator Fluid Level.

Arrow 1 Applicability of MIL-T-5522B Test Procedure for A/C Hydraulic and Pneumatic Systems - General.

Arrow 2 Main L/G Retraction Jack.

Pre-Installation Test of Avro Qc Actuator System

Qc Actuator System Final Adjustment on A/C 25201

Stick Force Transducers

Hinge Moment Limiter System on A/C 25201.

Error in Pitot Static Tube at High Mach Numbers and Angles of Attack

Electro-Hydraulic Nose Wheel Steering System for Test Purposes

Miscellaneous Engine Data.

Arrow 3 - Note on a U.S.A.F. Long Range Intercept Mission.

Wheel Reactions During Take-Off Arrow 2

Longitudinal Stability 4 Degrees of Freedom

Miscellaneous C105 Attitudes

Miscellaneous Data - C105

Air Conditioning C105 Mk. 1 and 2

MISCELLANEOUS

Root Loci of the Pitch Damper.

Escape System - Miscellaneous - 4 parts.

Main U/C Jack - Damping Curves and Load Analysis -
3 parts.

Calculations for Semi-Sealed Vent System.

Thermal Stress Analysis - Arrow 2

The Armament Package Concept.

Miscellaneous Tactics CF105

Preflight Testing and Development of the F/C System
CF105

AILERON + RUDDER CONTROL JACK - DESIGN REQUIREMENTS

*ORIGINAL LESS GRAPHS PLUS COMPLETE COPY
THE EFFECT ON A/C WIND TUNNEL & FREE FLIGHT TESTS
ON THE ESTIMATED PERFORMANCE OF THE C105*

FLIGHT TEST

Arrow 2 Flight Test Instrumentation RD-88. A Preliminary Evaluation of the Overall Accuracy of an I.R.I.G. Flight Test Instrumentation System.

Report on Arrow Mk. 1 #25201 Cepe Arrow Detachment.

C105/FT/1

Preliminary Report on the Aerodynamic Noise and Associated Problems Expected on the (Prototype) C105 A/C.

C105 A/C 1, 2 and 3

Proposed Flight Test Program (2 books)

C105 A/C 1, 2 and 3

Instrumentation for A/C 4 and 5 Iss. 1.



AVRO AIRCRAFT LIMITED
MALTON - ONTARIO

TECHNICAL DEPARTMENT

REPORT NO. P/Aero Arm.

SHEET NO. 1

AIRCRAFT:

Technical Design Department
C.105 Report Catalogue

PREPARED BY

DATE

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DATE

No.	Title	Mk.	Original	Set 1	Set 2	Set 3
			REEL NO.			
1	Falcon Trajectory W.R.T. Fuselage (Pre. W.T. Tests Investigation)					
2	"Sparrow" Trajectory (Preliminary Investigation)		32			
3	Falcon Trajectory W.R.T. Fuselage (Based on W.T. Tests)		✓ _o			
4	Falcon Jettison		✓ _o			
5	Review of Experimental Analitical Program		✓ ₊	✓		
6	Missiles linkage Deflections Static Case		32			
7	Missiles linkage Dynamic Static Case		32			
8	A Tentative Scheme for Solution of the Trajectory of an/n flight launched missile		✓ _o			
9	Falcon in Captive Flight (a)		32			
10	Falcon in Captive Flight (b)		32			
11	Falcon in Captive Flight (c)		✓ _o 32			
12	Falcon in Captive Flight (d)		32			
13	Falcon in Captive Flight (e)		32			
14	Captive Flight Tip-off		32			
15	Falcon Missile Strength A		32			
16	Falcon Missile Strength B		32			
17						
18						
19	Critical Rolling Moments Sparrow II		32			
20	C_{L0} C_{Lq0} C_{M0} C_{Mq0} for Sparrow II		✓ _o 32			
22	Safe Launch Regions Clipped Tail Sparrow II					
21	Longitudinal & Lateral Motion of Falcon [†] Missile Under Carrier					
22	Safe Launch Regions Clipped Tail S II		✓ ₊ 20	✓ _*		



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TECHNICAL DEPARTMENT

REPORT NO. P/AERO DATA/

SHEET NO. 1

AIRCRAFT:

Technical Design Department
C.105 Report Catalogue

PREPARED BY

DATE

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DATE

No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Review of Wing Profile Drag		✓ 1/210 NO			
2	Review of Buffet CL for Swept Wings		✓ 10			
3	Drag Synthesis		✓ 10			
4	Drag Analysis (Delta C104)		✓ 10 46			
5	Variation of Lift Slope with Mach No. for Sweep Angles About 40°		✓ 10			
6	C104 Delta Drag Synthesis		✓ 10			
7	CL Buffet for the C104 (Delta)		✓ 10 46			
8	A Brief Investigation into the Inter- ference Drag of a Delta Wing Config- uration at Supersonic Speeds.		✓ 10			
9	The Effect of Camber and Twist on a Delta Configuration.		✓ 10			
10	Interference Drag of a Delta Wing at Supersonic Speeds		✓ 10			
11	Ground Effect on CL C104 Delta Config.		✓ 10			
12	Lift of Delta Wings (Including Ground Effect)					
13	Drag Estimate Comparison between Avro Canada and Avro Manchester					
14	N.A.C.A. Drag Research Models		✓ 10			
15	C104 'N' Delta (700) (Single Engine) Drag Synthesis		✓ 10			
16	C104Q (600) - Geometry and Drag		✓ 10 46			
17	C104P (1184 sq. ft.) - Geometry and Drag		✓ 10 32			
18	Variation of C_{L0} (with Mach No.		✓ 10 46			
19	Drag Data for C104U (Design Study)		✓ 10 46			
20	Longitudinal Stability Derivatives and Drag Data.	✓ 10	32	✓		



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TECHNICAL DEPARTMENT

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Technical Design Department
C.105 Report Catalogue

REPORT NO. P/AERO DATA/

SHEET NO. 2

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DATE

No.	Title	Mk.	Original	Set 1	Set 2	Set 3
21	Drag Data for C-105 (Wind Tunnel Data)		2 Vols. 32 ✓ 32			
22	Estimation of C_{L_s} for Symmetrically Deflected Ailerons		46			
23						
25	Summary Low Speed Lateral Derivatives					
26	Summary Lateral Derivatives					
27	C-105 Drag Data 3 1/2%		32 ✓ 46	✓	✓	✓
29	Velocity Stability		✓ 32			
30	Summary of Stability H.M. Derivatives		32	✓	✓	
32	Summary of Longitudinal Stability Derivatives 3 1/2% Wing		✓ 32	✓	✓	
33	Drag Estimation by Transonic Area Rule		✓ 48 ✓ 37			
34	Various Missile Configurations - Drag Estimation		✓ 46			
35	C-105 Optimum Nose Design for Larger Scanner		✓ 46			
36	Preliminary Extract from Wind Tunnel and Stability Reports		✓ 32			
37	Rigid Stability Derivatives (Clean Wing)		✓ 32	✓		
38	Drag Increase due to Surface Irregularities		✓ 46			
39	Preliminary Extract from Wind Tunnel and Stability Reports - Elastic Derivatives for Hughes A/C		✓ 32	✓	✓	
40	Drag Analysis of Oct. 54 Wind Tunnel Results (Notched and Extended L.E.)		✓ 46			
41	Rigid Stability Derivatives (Notched Wing)		✓ 32	✓	✓	
42	Rigid Stability Deriv. (Extended Wing)		✓ 32	✓		
43	Area Rule Calculations M=1.0					
44	Wave Drag of C-105, M = 1.0 (Legendres Formula)					



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Technical Design Department
C-105 Report Catalogue

REPORT NO. P/AERO DATA/

SHEET NO. 3

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
45	Area Rule Calculations M = 1.2					
46	Area Rule Calculations M = 1.5					
47	Drag Estimation of 1/8 Scale Crude Model by Area Rule M = 1.50					
48	C-105 Drag					
50	Aeroelastic Stability Derivatives (Clean Wing)		32	✓	✓	✓
51	Aeroelastic Stability Derivatives (Extended Wing)		32	✓	✓	✓
52	Corrections to C-105 W/T Drag Results					
53	Drag Analysis of March 1955 W/T Results					
54	Lateral Stability Derivatives at 2°G Elastic - Wing Notched and Extended		32	✓	✓	✓
55	Lateral stability Derivatives at 4°G Wing Notched and Extended		32	✓	✓	✓
56	Lateral Stability Derivatives - Crossplots - Wing Notched and Extended		32	✓	✓	✓
57	Jet Profiles - J-75 and Orenda 11					
58	Drag Analysis of June 1955 C.A.L. Wind Tunnel Tests					
59	Longitudinal Derivatives (Rigid) E ₁₀ N ₅ D ₈₋₄		32	✓	✓	✓
60	Lateral Derivatives (Rigid) E ₁₀ N ₅ D ₈₋₄		32	✓	✓	✓
61	Lateral Derivatives (Elastic 1 °G) E ₁₀ N ₅ D ₈₋₄			✓	✓	✓
62	Lateral Derivatives (Elastic 2 °G) E ₁₀ N ₅ D ₈₋₄		32	✓	✓	✓
63	Lateral Derivatives (Elastic 4 °G) E ₁₀ N ₅ D ₈₋₄		32	✓	✓	✓



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TECHNICAL DEPARTMENT

AIRCRAFT:

Technical Design Department
C.105 Report Catalogue

REPORT NO. P/AERO DATA/

SHEET NO. 4

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
64	Lateral Derivatives (Elastic - 2 'G')	✓ +	32	✓	✓	
65	1/80th Scale Model Sting Loads		10 32			
66	Drag Analysis of C-105 F.F.R.M. 5		10 38			
67	Elastic Lateral Derivatives - 1G at 33%	✓ +		✓	✓	✓
68	Elastic Lateral Derivatives - 1G at 35%	✓ +	32	✓	✓	✓
69	Low Speed Lateral Stability Derivatives	✓ +	32	✓	✓	
70	Drag Corrections to C-105 Langley Model		10			
70A	Effects of V/C on Stability Derivatives		10			
71	C105 Low Speed Drag N.A.E. Tunnel Tests		10 50			
72	Drag Analysis of C-105 F.F.R.M. No. 6 (Second Drag Model)		10			
73	C-105 Langley W/T .03 Scale Model - Preliminary Drag Analysis	2 vms	10 38	✓		
74	C-105 Mk. I + II Final Drag - Based on F.F.R.M. tests and C.A.L. and Langley W/T Tests	2 vms	10 38			
74A	Lateral Stability Derivatives in Body Axes.	✓ +		✓		
75	Variation of Longitudinal Derivatives with Q (N.A.E. tests)	✓ +		✓	✓	✓
76A	Longitudinal Derivatives in Body Axes.	✓ +	10 32	✓	✓	✓
76	Surface-to-Air Missile - Drag Character- istics.					
77	Preliminary Canard Study		10 38			
77A	Longitudinal Derivatives - Elastic A/C	✓ +	33	✓		✓
78	Estimation of Trim Drag at M.N. > 1.0		10			
78A	Variation of Lateral Derivatives with α	✓ +	10	✓	✓	
79	Drag Analysis C-105 F.F.R.M. NO. 7 - (Third Drag Model)		10 38			



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TECHNICAL DEPARTMENT

REPORT NO. P/AERO DATA/

SHEET NO. 5

AIRCRAFT:

Technical Design Department
C.105 Report Catalogue

PREPARED BY

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
79A	Comparison of C.105 with Requirements of Spec MIL 8785 (ASG) Section U.	✓+	45	✓	✓	✓
80	Detailed Analysis of Flying Qualities of C-105 as required by MIL-8785 (ASG)					
81	Rigid Lateral Derivatives vs Mach No. (C.A.L. and L.A.L. W/T Tests)	✓+	33			
82	Longitudinal Derivatives: Elastic A/C for New Derivatives from P/AD/81	✓+	33	✓	✓	✓
83	Elastic Lateral Derivatives	✓+	33	✓	✓	✓
84	Rigid Longitudinal Derivatives		33	✓	✓	✓
86	Effect of U/C on Stability Derivatives					
87	Symmetric and Antisymmetric Span Loading M = 0 to .8 by De Young					
88	Comparison of L.A.L. Results with Estimates	✓+	33	✓		
89	Reserved for Comparison of C-105 with Requirements of MIL-F-8785 - Not actual table	✓+		✓	✓	✓
90	Low Speed Data for the Flight Simulator					
91	Notes on the Flight Simulator - Phase I - Low Speed Flight			✓	✓	✓
92	Preliminary Reduction of Flight Test Data for Stability and Control Analysis	✓+	29	✓	✓	✓
93	Prediction of Incidence from Flight Test Data	✓+	20	✓	✓	✓
94	Drag due to Various Protuberances		38			
95	Elastic Factors on Lateral Derivatives		38			
96	Elastic Longitudinal Derivatives - Body Axes - Supersedes P/AD/82	✓+	38	✓	✓	✓
97	Elastic Lateral Derivatives - Body Axes - Supersedes P/Stab/129	✓+	45	✓	✓	✓
98	Rigid Longitudinal Der.			✓	✓	✓
99	Rigid Lateral Deriv. (Stal axes)	✓+	33	✓	✓	✓



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TECHNICAL DEPARTMENT

AIRCRAFT:

Technical Design Department
C.105 Report Catalogue

REPORT NO. 7/AERO DATA /

SHEET NO. 1

PREPARED BY

DATE

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DATE

No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Effects of Canopy Missiles and Bleeds etc. on Stability Derivatives	0	✓ ⁺ ✓ ⁰	✓		✓
2	Elastic Lateral Derivatives - Stability Axes .31 c.g.	0	✓ ⁰			
3	Available Control Hinge Moment Characteristics based on Jack Power and Linkage Geometry	0	✓ ⁰ 20			
4	Rigid C_{NB} - Fully corrected	1	✓ ⁰ 54			
5	Infra-Red Seeker - Interference on Pitot Tubes 2		✓ ⁰ 54			
6	Revised Rigid Rudder Derivatives in Body Axes	1-2	✓ ⁰ 54			
7	Collected Stability Data	1	✓ ⁺ *	✓	✓	✓
8	External Tank Drag	2	✓ ⁺ ✓ ⁰ 66	✓	✓	.
9	Effect of C.G. and Weight Change on δ_e	1-2	✓ ⁰			
10	Estimated Speed-Height Pressure Relationship	1	✓ ⁰			
11	Elevator Hinge Moment under Various 'G' Loading	1	EX ✓ ⁺ ✓ ⁰	EX ✓		
12	The Drag of the Arrow I	1		✓	✓	✓
13	Derivatives for Digital Response Programme 12 (In six degrees of freedom)	1-2	✓ ⁺ ✓ ⁰	✓	2 VOLS. ✓	✓
14	Summary of Air Data Boom Test Data	1	✓ ⁺	✓		
15	Summary of Effects of Missile Extension on Arrow Aircraft	2				
16	Aerodynamic Data for Design of the Arrow 2, Operational, Flight and Tactics Trainer	2	✓ ⁺ *	✓	✓	✓
17	Revised Drag Data - October 58	1-2	✓ ⁰			



AVRO AIRCRAFT LIMITED
MALTON - ONTARIO

TECHNICAL DEPARTMENT

REPORT No. **P/AERO ELASTICS/**

SHEET No. **1**

AIRCRAFT:

Technical Design Department
C.105 Report Catalogue

PREPARED BY

DATE

CHECKED BY

DATE

No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Deflection Analysis - Influence Coefficients		✓			
8	Fin Loads and Deflections - Rudder Reversal					
9	Elastic Effects on Wing Derivatives					
11	Simplified Flutter Analysis (2 cantilever Modes)					
12	Aileron Reversal Study					
13	Elastic Wing and Elevator Derivatives and Load					
14	Preliminary Vibration Modes of Wing					
15	Elastic Fin and Rudder Derivatives and Loads					
16	Preliminary Flutter Analysis - Two-Dimensional Binary - Subsonic and Supersonic					
17	Wing Modes					
20	Fin Vibration Modes					
21	Subsonic and Supersonic Fin Flutter					
22	Elastic Derivatives for Fin and Rudder					
23	Aerodynamic Coefficients (Three-Dimensional Subsonic (for flutter)					
24	Supersonic Lift Coefficients (Three-Dimensional) (for flutter)					
25	Preliminary Flutter Analysis with Control Surfaces Flapping, semi-three dimensional subsonic					
26	Three Dimensional Flutter Analysis C-105 without Control Surfaces. (extended Lawrence Theory), Symmetric Modes					



AVRO AIRCRAFT LIMITED
MALTON - ONTARIO

TECHNICAL DEPARTMENT

REPORT NO. P/AERO ELASTICS/

SHEET NO. 2

AIRCRAFT:

Technical Design Department
C.105 Report Catalogue

PREPARED BY

DATE

CHECKED BY

DATE

No.	Title	Mk.	Original	Set 1	Set 2	Set 3
27	Preliminary Wing Binary Flutter Analysis 'Symmetric Case'					
28	Investigation of Various Methods for Solving the C-105 Flutter Determinants					
29	Solution to the Flutter Determinants; 8th Order Symmetric System, Alt. Sea Level					
30	Subsonic Flutter Analysis (Point Theory)					
31	Flutter Analysis - Cantilever Wing - 2-Dimensional Strip Theory - Sea Level, $M = 0$					
32	Flutter Analysis, Cantilever Wing - 3-Dimensional Strip Theory - Sea Level, $M = 0$					
33	Flutter Analysis, Cantilever Wing - 3-Dimensional Strip Theory + 2-Dimensional Controls - Sea Level $M = 0$					
34	Flutter Analysis - Cantilever Wing - Point Theory - Sea Level, $M = 0$					
35	Flutter Analysis - Cantilever Wing - Point Theory + 2-Dimensional Controls - Sea Level $M = 0$					



AVRO AIRCRAFT LIMITED
MALTON - ONTARIO

TECHNICAL DEPARTMENT

AIRCRAFT:

Technical Design Department
C.105 Report Catalogue

REPORT NO 7 / AERO ELAS /

SHEET NO 1

PREPARED BY

DATE

CHECKED BY

DATE

No.	Title	Mk.	Original	Set 1	Set 2	Set 3
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1	Investigation of a Method for the Determination of V - g - W_p Flutter Curves	1				
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✓
V₀
✓
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2	Ground Resonance Calculations for Arrow Mk - 1 - First Aircraft	1				
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3	Aircraft Response to Elevators	1				
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AVRO AIRCRAFT LIMITED
MALTON - ONTARIO

TECHNICAL DEPARTMENT

REPORT NO. P/ARMAMENT/

SHEET NO. 1

AIRCRAFT

PREPARED BY

DATE

Technical Design Department
C.105 Report Catalogue

CHECKED BY

DATE

No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Proposed Armament Arrangement for C-104 Projects					
9	Proposal for Armament Firing Sequence			✓	✓	✓
10	General Theory of Collision Course Interception			✓		
11 and 12	Cancelled					
13	The Effect of Closing Rate on Detection and time to Strike - Ref. Hughes - Proposals for MX 1179			✓		
15	The Fuselage Interference on the View Field of Sparrow II	✓		EX. ✓	EX. ✓	EX. ✓



AVRO AIRCRAFT LIMITED
MALTON, ONTARIO

TECHNICAL DEPARTMENT

REPORT NO. /ARM/K/

SHEET NO. 1

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
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2	Some Notes on the Methods of Evaluation used on U.S.A.F. Project 456					
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3	Project K Target Tugs Estimated Performance					
---	--	--	--	--	--	--



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
A1	Falcon Missile Flight under Fuselage		/o			
A6	Sparrow Trajectory Under A/C		/o			
A17	Solution of Preliminary Equations for Sparrow Missile Trajectory		/o			
A65	Falcon Missile		/o			
A105	Falcon Captive Flight		/o			
A297	Estimate of the Effect of Lowering Missiles on Lateral Stability Damper On		/o			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Dynamic Manoeuvres including Fuel Flow for Avro Arrow	2		✓		
2	Stability of Unsymmetrically Loaded Aircraft	✓		✓	✓	✓
3	The Effect of Unsteady Lift and Moment Functions (due to penetration of a travelling gust) on the A/C Response	2	✓ ⁺ *	55. ✓	✓	✓
4	Rolling Pull-Out Traces at about $n = 4g$	2	✓ ⁺	✓	✓	
5	Frequency Response of Damped Aircraft	1				
6	Thermal Distributions in Insulated Skin	3		✓	✓	✓
7	Effect of Missile Lowering on Pitch Axis	2	✓ ⁺	✓	✓	
8	Evaluation of Damper Performance during Flight Test	1	✓ ⁺ □	✓	✓	
9	Aircraft Manoeuvres (Zoom)	2		✓	✓	✓

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Arrow Flight Test Data Reduction	0		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	Stable Numerical Procedure for Temperature Determination	0		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
12	Hinge Moments on Swept & 4 Wings-Low Speed		35			
13	Lateral Control of 4 Wings		35			
14	Centre of Pressure of Elevator Load		35			
15	Lift Effectiveness of Elevator		35			
16	Mach Variation of Hinge Moments		35			
17	Fin and Rudder Size Investigation		35			
18	Fin and Rudder Size Investigation (S.E. Version)		35			
19	Fin and Rudder Size Investigation		35			
20	Rolling Performance		35			
21	Rolling Performance		35			
23	Roll Response to Ailerons		35			
24	Wing Drooping Investigation		35			
25	Preliminary Calculations of Rolling Perf.		35			
26	Longitudinal Control of C-104/P		35			
27	Longitudinal Control of C104/Pmod		35			
28	Longitudinal Control of C104/R (Camber)	✓				
29	Longitudinal Control of C104/R		35			
30	Longitudinal Control of C104/N.	✓	35			
31	Longitudinal Control of C104/Q	✓	35			
32	Investigation of the Effects of Camber	✓	35			
34	Spanwise Hinge Moment Distributions	✓	35			
35	C.P. of Elevator and Aileron for 4 Wing	✓				
36	Analysis of Convair F-102 Data	✓	35			
37	Fin and Rudder	✓	35			
38	Longitudinal Control	✓	35			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
39	Lateral Control		✓ ^{Rec'd} 10 35	✓		
41	Pitch Control with a Small Canard Wing					
42	Effect of Reduced Wing Area on Longitudinal Control		✓ 10 35			
44	Longitudinal Dynamic Response of C-105		✓ 10 35			
45	Longitudinal Dynamic Response of C-105 Rocket Model		✓ 10 35			
46	Determination of Supersonic C_{H_a} Q		✓ 10 36			
47	Variation of Hinge Moment with Control Deflection		✓ 10 36			
48	Longitudinal Control C-105 Rigid		✓ 10 36	✓	✓	
49	Mach Variation of C_{H_a} (Aileron)		✓ 10 36			
51	Elevator Power Requirements		✓ ^{2 vols} 10 36			
52	Investigation of Stabilization Requirements - Analogue Computer		✓ ^{2 vols} 10 36			
53	Maximum Rolling Acceleration		✓ 10 36			
54	Analysis of Time Histories Obtained by the Electronic Computer		✓ 10			
55	Effect of Aileron Span Reduction on C_{L_a} A		✓ 10 36			
56	Longitudinal Control C-105 - Elastic		✓ 10 36			
57	Trailing-Edge Flap Hinge Moments		✓ 10 36			
59	Fin and Rudder Investigation into Modifications possibilities		✓ 10 36			
60	Longitudinal Control 3 1/2% Wing		✓ 10 36	✓	✓	
61	Longitudinal Frequency Response		✓ 10			
62	Aileron-Response for Non-Linear Aileron Power		✓ 10 36			
63	Fin and Rudder - Revision		✓ 10 36			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
64	Flying Control Notes					
65	Artificial Feel for Elevators					
66	Examination of Relative Merits of cable and push out operated controls					
67	Theoretical expressions for the Constants in the solutions for lat. Disturb. Motion and Responses to Stepfunction Control-Surface Deflections					
68	Long Frequency Responses		3 vols. ✓			
69	Elevator Power Control Rate of Heat generation and power supply under gust conditions.		✓	36		
70	Longitudinal Controls C 105 Notches & Extensions (wg)		✓	36	✓	
71	Elevator Damping		✓			
72	Spoiler Controls (Prelim.)					
73	Step by Step integration of Nonlinear equations		3 vols. ✓			
74	& N due to missiles		✓	36		
75	Power Available for flying controls - Engines windmilling					
76	Aileron Deflections for Asymmetric Fuel Load		✓	36		
77	Time Rate of Change of Dynamic Pressure		✓	36		
78	Longitudinal control C 105 L. E. Droop Notch Extension		✓	74	✓	✓
79	Rudder for assymetic power		4 vols. ✓	74		
80	Non-Linear ^{EAR} effects of C_M C_r		✓	74		
81	An Investigation of wing $C_{H\alpha}$		✓	74		
82	n-Speed Brake		✓	74		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
84	Increase of C_{M_0} by boundary layer suction	✓+	REF 1 NO 75.			
85	Comparison of yawing moment and side force due to aileron deflection for different wing infigurations		✓ 75.			
86	Take off and Landing Analysis from NRC W. T. Data	2 vols ✓	75. 45	EX ✓	EX ✓	
87	Directional Control at low speed		✓ 75.			
88	Cross Coupled Study of Maneuvering Flight					
89	Control Calcs. Formula's	✓+	75.	✓		
90	Elastic A/C Long Derivative & α Trim		✓ 75			
91	C F 105 Control Layout			✓		
92	Roll-Rate with Rudder Co-ordination at -2G, 1g, and 4g.		✓ 20			
93	α_{TR} & T_R Rigid Elastic A/C		✓ 75			
94	S_T including Ailerons power Elastic C_G change and Normal accel.		75	EX ✓	EX ✓	EX ✓
95		-	-	-	-	-
96	Low speed lateral control U/C down		✓ 75.	✓	✓	✓
97	Hinge moment limitations on Aileron & Rudder; & max sideslip angle	2 vols ✓+	75 20	✓	✓	✓
98	α_{TR} & T_R rigid & Elastic through whole range of from derivatives.		✓ 75.			
99	Final α Trim & Trim Calculations	5 vols ✓	75.			
100	C 105 Dynamic take off & landing analysis	✓+	20	✓	✓	
101	Landing Control Power requirements Engines out.		✓ 20			
102	Elevator effect on Aileron Hinge Moment	✓+	75			
103	Dynamic take off analysis for low speed simulator		✓ 20			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
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104	Angle of Attack Range at M=2.50 Elastic A/C		✓			
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105	α TRIM and δ TRIM (Elastic A/C) Plots		✓	✓	✓	✓
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REPORT NO. 7 / ELASTICS /

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Influence of Fuel Distribution on Stresses: Full Fuel vs No Fuel in Wings	1	✓ ⁰ 55 <i>1+2 together in one report</i>	✓	✓	✓
2	Influence of Fuel Distributions on Stresses: Fuel Sequencing	1	✓ ⁰ 55	✓	✓	✓
3	Review of Noise Problems of Arrow Aircraft	1-2	✓ ⁺ 55	✓	✓	
4	R/S Deflected Shapes for Induced Control Surface Bending under 8 "Elastic" Loading Cases	1	✓ ⁰ 64			
5	Reduction in Wing Stiffness due to Skin Buckling at Room Temperature	1	✓ ⁺	✓	✓	✓
6	Flexibility of Aircraft with Fully Effective Structure	1	<i>Vol. 1, 2, 3, 4 2.8 / 10 Vol. 4, 6, 14</i>			
7	Effects of Spanwise, Free Thermal Stresses on Wing Torsional Stiffness	2	✓ ⁺ 64	✓	✓	✓
8	Sting and Ejector Test Panels in Iroquois Engine Test Cell Noise Field	1	✓ ⁰ 64			
9	Flexibility of A/C with Fully-Effective Structure (Aileron and Control Box Omitted)	1	✓ ⁺ 64	✓	✓	✓
10	Effect of Plasticity and Buckling on Thermal Stresses in Beams	0	✓ ⁺ 64	✓	✓	✓
11	Main U/C Stiffness and Landing Loads	1	✓ ⁰			
12	Revised Calculated Aircraft Stiffness Based on U/C Springback and Rolling Pull-out Loading Cases	1	✓ ⁰	✓	✓	✓
13	Elevator Control Box Deflections in Flight	1	✓ ⁰			
14	Dynamic Response of Missile Pack to the Firing of the MB-1 Missile	2	✓ ⁺ ✓ ⁰	✓	✓	✓
15	A Method for Changing an Arbitrary Point Loading System into a Particular Point Loading System	1				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
16	Falcon Misorientation due to Structural Deformations of A/C in Manoeuvre	2	10			
17	Calculation of Ground Resonance Modes of Arrow MK. 2	2				
18	A note on Aileron Linkage Fairing Failures on A/C 25201 Flt. #20	1	10			
19	A method for changing an arbitrary Point Loading System into a Particular Point Loading System.	0				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Fuel Cell Volume Determination - Wing Cells + Fuselage Oxygen Cells		✓ 10			
2	Fuel Cell Volume Determinations - Wing Cells + Fuselage Oxygen Cells		✓ 10			
3	Fuel Cell Volume Determinations - Wing + Fuselage Cells		✓ 10			
4	Goodyear A/C Tire Handbook					
5	Fuel Cell Volume Comparison - C-104A (6-3:3-3) (4-4 Constant)		✓ 10			
6	Estimate of Wing Cell Capacity - (.05-.03-.03 Wing)		✓ 10			
7	Fuel Cell Capacity - (.05-.03) (.03-.03) Wing		✓ 10			
8	Fuel Cell Capacity - 3% Wing		✓ 10			
9	Fuel Capacity, Weight, and C.G. Determinations		✓ 10			
10	Fuel Capacity, Weight, and C.G. Determination		✓ 10			
11	Fuel Capacity, Weight, and C.G. Calculations - C104A 1 Engine		✓ 10			
16R	Avro Process Standard - Sealing of Integral Tanks and Covering of Fuel Cells Bays					
17	Cancelled					
18	Brake Parachute - General Informa- tion Received from Avro Manchester		✓ 10			
19	Air-Conditioning System Analysis					
20	Air-Conditioning System Spec.		✓ 10	✓ 10	✓ 10	✓ 10
22	Minutes of Meeting on C104 A/C Held at the Institute of Aviation Medicine - Apr. 53					
23	Electrical Load Analysis		✓ 10	✓ 10	✓ 10	✓ 10



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
24	Power Generation Systems for Electrics	✓	✓	✓	✓	✓
25	Design Data for L.P. Pneumatic System	✓	✓			
26	Report on E-9 and MX 1179 Electronic Systems by Mr. I. Liss			✓		
27	Fuel Tank Pressurization	✓	✓	✓		
28	Copy of 7/0531/2001 - Iss. 3 - Design Particulars - Tail Parachute Installation			✓		
29	Air-Conditioning Intake in Boundary Layer Bypass	✓	✓			
30	Air-Conditioning - General Data	✓	✓			
31	Air-Conditioning - Preliminary System Performance	✓	✓			
32	Air-Conditioning - Revision of Preliminary System Performance	✓	✓			
33	Air-Conditioning - Preliminary Vol. Flows in Ducting	✓	✓			
34	Air-Conditioning - Revised J67 Bleed Air Conditions and Revised Cooling Air-Conditioning	✓	✓			
35	Air-Conditioning - System Performance - Rev. 3 Charge and Cooling Air Duct Losses Check on Two Design Points	✓	✓			
36	Cockpit Temperatures	✓	✓			
37	Radar Temperature Control	✓	✓	✓	✓	✓
38	Duct Sizer					
39	Air Outlets - Fuselage Underside					
40	Temperature Control Analysis					
41	Air Conditioning System					
42	Notch Telemetering Antenna for B.T.V. Series of Test Vehicles			✓		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
43	Design Particulars of Tail Parachute Installation			✓		
44	Analysis of the Godfrey Engineering Proposal for the C-105 Air-Conditioning System			✓	✓	✓
45	Investigation of Cooling Air Circuit - B.L. Bypass Intakes - Godfrey System		✓			
46	Air-Conditioning - Misc. Calculations		✓			
47	Ram and Fan Cooling Air Circuits - Outlet Pressure Ratios Etc.		✓			
48	Armament Air-Conditioning					
49	Comparison of Strotor and AiResearch			✓		
50	Ground Air-Conditioning	✓		✓	✓	✓
51	Cooling Air Circuits (51A and B)		A.B. ✓			
52	Design of Shock Ramp Air and Air-Conditioning Exhaust Nozzles					
53	Analysis of AiResearch Proposal	✓		✓	✓	✓*
54	Comparison - Fan and Compressor System	✓		✓	✓	
55	Methods of Auxiliary Cooling	✓		✓		
56	Air-Oil Heat Exchange System		A.B. ✓			
57	Cabin Distribution Ducting		✓			
58	Oxygen System	✓		✓	✓*	
59	Bleed Ducting System		✓			
60	Skin Heating at Air-Conditioning Outlet		✓			
61	Alternator Cooling	61.61A) APP1) APP1 APP2	✓ ✓ ✓ ✓	ADD1 APP2 ✓ ADD1 APP2 ✓ ADD1 APP2 ✓	ADD1 APP2 ✓ ADD1 APP2 ✓ ADD1 APP2 ✓	ADD1 APP2 ✓ ADD1 APP2 ✓ ADD1 APP2 ✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
62	Air-Conditioning System	✓ + { 62 * { 62-1	62 ✓ 62-1 ✓ 62-13 ✓	62-1 ✓ 62-13 ✓	62-1 ✓ 62-13 ✓	62, 62-1 ✓ 62-13 ✓
63	Air-Conditioning System - Performance and Flow Distribution	A, B, C, D, E, F	✓			
64	Structural Heating due to Various Items					
65	Alternator Bullet De-Icing	30023	✓			
66	Pilot's Indication of A/C Skin Temperature			✓	✓	
67	Cockpit Leak Rate	✓ +		✓	✓	✓
68	P.S. 13 - Bleed Pressure and Temperature		✓			
69	P.S. 13 - Use of Fuel for Oil Cooling		✓			
70	P.S. 13 - Examination of Oil Cooling Methods		✓			
71	J-75 Air-Conditioning System - Performance		✓			
72	J-75 Ramp Perforation Area		✓			
73	P.S. 13 - Air-Conditioning at M = 2.0 and 2.5 - Standard Hot Day		✓			
74	P.S. 13 Air-Conditioning Equipment Performance	20023	✓	✓	✓	✓
75	P.S. 13 Air-Conditioning System Analysis			✓	✓	✓
76	P.S. 13 Air-Conditioning Emergency Ram System	20023	✓	✓	✓	✓
77	P.S. 13 Air-Conditioning Boiler Capacity		✓			
78	P.S. 13 Steam Outlet - Air-Conditioning		✓			
79	P.S. 13 Temperature Control Valves - Air-Conditioning					



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
80	P.S. 13 Air-Conditioning - Duct Sizes		✓			
81	P.S. 13 Air-Conditioning System Temperature and Pressure		✓			
82	P.S. 13 Air-Conditioning Bleed Pressure and Temp.					
83	P.S. 13 Sparrow Missile Cooling					
84	P.S. 13 Air-Oil Heat Exchanger System					
85	P.S. 13 Air-Conditioning TRU Cooling		✓			
86	P.S. 13 Air-Conditioning - Preliminary Investigation		✓	✓	✓	
87	P.S. 13 Air-Conditioning - Cockpit Leak Rate					
88	P.S. 13 Air-Conditioning - Insulation Requirements					
89	P.S. 13 Air-Conditioning - Environmental - Temp.					
90	P.S. 13 Air-Conditioning - Ground Air-Conditioning					
91	P.S. 13 Air-Conditioning Limits on Cockpit Press.		✓	✓	✓	✓
92	P.S. 13 Air-Conditioning System Analysis Method		✓	✓	✓	✓
93	P.S. 13 Air-Conditioning - Leak Detection		✓	✓	✓	✓
94	Mk. I Engine Nose Bullet Anti-Icing - Double Skin Scheme		✓			
95	Mk. I A/C's 4 and 5 System Analysis			✓	✓	✓
96	Mk. I Oil Cooling System					



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Arrow 1 Instrumentation List Aircraft 1, 2, 3		<i>9/4</i> <i>1,2,3</i> <i>✓</i>	<i>9/4</i> <i>✓</i>	<i>9/4</i> <i>✓</i>	<i>9/4</i> <i>✓</i>
2	Arrow 1 Proposed Flight Test Program Phase 1		<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>
3	Arrow 1 Proposed Flight Test Program Phase 1			<i>✓</i>		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
4	Control Mass Contribution to Hinge Moment	0	$\sqrt{+}$ *	✓	✓	✓
5	Control Surface Hinge Moment Derivatives from Flight Test	0	$\sqrt{+}$ 0	✓	✓	✓
6	Aircraft 25206 - Instrumentation	2	$2\sqrt{+}$ *	65 3/	3/	3/
7	Preliminary Programme - Arrow 1 First Flights	1				
8	Arrow 2 - Aircraft 25201 Instrumentation	2	$2\sqrt{+}$	65. (2/)	2/	2/
9	CANCELLED					
10	Photographic Coverage Required for Sparrow Lowering, Launching and Jettison Tests on Arrow 1	1	$\sqrt{+}$ 0	54 ✓	✓	✓
11	Arrow 1 Instrumentation - Armament Development Programme	1	$3\sqrt{+}$ *	65 3/	3/	3/
12	Reduction and Presentation of Flight Test Data for Stability Analysis	1		54 2/	(1/)	$\sqrt{+}$ *
13	Stability Derivatives from Steady State Tests	1	$\sqrt{+}$ * $\sqrt{+}$ 0	54 ✓	✓	✓
14	Arrow 2 - Aircraft 25209 Instrumentation	2	$3\sqrt{+}$	64 3/	3/	3/
15	Coding and Editing of Flight Test Sanborn Traces	1				
16	Arrow 2 - Aircraft 10 and 13 Instrumentation	2				
17	Aircraft 25207 - Avro Instrumentation	2				
18	Aircraft 25212 Instrumentation	2				
19	Aircraft 14 and 15 Instrumentation	2				
20	Aircraft 25202 - AFCS Instrumentation	1				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
21	Information Release Schedule	0	✓ ⁺ ^{REF 1} _{NO} ₂₃	✓		
22	Arrow 1 Analysis of Preliminary Take-Off and Landing Accelerate-Stop Tests	1	✓ ⁺ ✓ ⁰ 67	EX ✓	EX ✓	EX ✓
23	Stability and Control, Damper Optimization and Handling, Flight Test Requirements for Arrow 1	1	✓ ⁺ *	2 ✓	2 ✓	2 ✓
24	Summary of Preliminary Analysis of Flights No. 1 to 9	1		2 ✓	1 ✓	2 ✓
25	Preliminary Analysis of Arrow I Flight Test Times	1	✓ ⁰			
26	Preliminary Analysis of Flights No.'s 1 to 9	1	✓ ⁺	✓		
27	Objectives, Requirements and the Programme for Arrow Stability and Control and Structural Integrity Flight Testing	1-2				
28	Instrumentation - Arrow 2 - A/C 25211 and 12	2	✓ ⁺ 65	✓	✓	✓
29	Phase 2 Instrumentation	1	✓ ⁺ 65	✓	✓	✓
30	Flight Test Programme - Arrow 1 - A/C 25201, 25202, and 25203 - Phase I and II	1	✓ ⁺ *	65 (✓)	✓	✓
31	Investigation of J-75 R.P.M. Droop - Flight Results	1	EX ✓ ⁺ ADD ✓ ⁺	67 (EX ✓) (ADD ✓)	EX ✓ ADD ✓	EX ✓ ADD ✓
32	Arrow 1 Performance Analysis of Flights prior to Phase 2 Performance Testing	1-2	EX ✓ ⁺ ✓ ⁰ ADD ✓ ⁺	EX ✓ ADD ✓	EX ✓ ADD ✓	EX ✓ ADD ✓
33	Arrow 1 Preparations for Phase 2 Performance Testing	1	✓ ⁺	(✓)	✓	✓
34	Manoeuvre Limiter Devices in the Arrow Damper DYNAMIC - STRUCTURAL INTEGRITY PROGRAM	1	✓ ⁺ 65	(✓)	✓	✓
35	Astra Electronics - Standard Instrumentation	2				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
36	Flight Test Programme - Arrow - Preliminary Outline	2	✓ ⁺			
37	Proposed Methods for Correction and Presentation of Flight Test Stability Data	1-2	✓ ⁺	✓	✓	✓
38	A/C Response ^P redictions	1	✓ ^o			
39	A/C Response ^P redictions	1	✓ ^o			
40	A/C Response ^P redictions	1				
41	A/C Response ^P redictions	1				
42	Installed Engine Calibration Results for Establishing a Ground Trim Curve	1	✓ ⁺ ✓ ^o	⊙	⊙	✓
43	Preliminary Stability and Damper Analysis of First Seven Flights - Arrow 1 No. 25202	1	✓ ⁺	⊙	⊙	✓
44	Technical Design Department Report on Flight Test Findings for August	1	✓ ⁺	65 ⊙	⊙	✓
45	Preliminary Stability & Damper Analysis of Flights No. 8 to 15 of Arrow 1 - No. 25202	1	✓ ⁺	⊙	⊙	✓
46	Instrumentation Aircraft 25203 and 25205 MB-1 Armament Development Flight Test Program	1	✓ ⁺	65 ⊙	✓	✓
47	Preliminary Stability and Damper Analysis of Flights No. 16 to of Arrow 1 - No. 25202	1	✓ ⁺	⊙	⊙	✓
48	Aircraft Thrust & Drag Comparisons of Cylindrical (Mk. 1) and Divergent (Mk. 1A) Ejectors on Arrow 1 - A/C 25203	1	✓ ⁺	✓	✓	✓
49	Instrumentation - Arrow 1 - A/C 25203 MA-1 Fire Control System Flight Test Program	1				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
50	Technical Design Department Report on Flight Test Findings No. 2 for September	1	1 ⁺ 65	✓	✓	✓
51	Instrumentation for Performance and Handling Evaluation - R.C.A.F./Avro 2	2	1 ⁺ 75	⊙	✓	✓
52	Low Speed Lateral Derivatives U/C Up and Down - Flight No. 9, A/C 25202	1	1 ⁺ 10			
53	Arrow Flight Test Program	1&2	1 ⁺	⊙	⊙	✓
54	Structural Integrity Program	1		⊙	✓	✓
55	Quantitative Analysis of Flights No.'s 1 to 22 -A/C 25202	1	2 VINS 1 ⁺			
56	Digital Correction of α and δ Trim under Conditions	1	1 ⁺ 10	✓	✓	✓
57	Technical Design Dept. Report on Flight Test Findings on the Arrow Iss. 3	1	1 ⁺	⊙ 3	⊙ 3	3 ✓
58	Digital Computation of Control Surface Hinge Moment Derivatives from Flight Tests with Moving Controls	1	1 ⁺ 10	✓	✓	✓
59	Low Speed Lateral Derivatives U/C Up and Down - Flt. No. 21 A/C 25202	1	1 ⁺ 10			
60	Installed Engine Calibration Results for Phase 2 Performance Testing	1				
61	Stability and Control Report on Flights 12 to 23 of Arrow 25201	1	1 ⁺	✓	✓	✓
62	Proposed Method of Analysis of MB-1 Air Firing Tests - Avro Aircraft	1	1 ⁺	✓	✓	✓*
63	Note on Airborne Determination of Jump CF105/MA-1/MB-1 and Falcon	2	1 ⁺			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Firings of F.F. Models 1 and 2		REEL NO. 30	✓	✓	✓
2	Flight Data, Crude Model No. 1		✓			
3	Flight Data, Crude Model No. 2		✓ 25			
4	Data Reduction Techniques					
5	Time Lag of a Capillary Pressure Measurement System		✓			
6	Yaw Disturbance Calculations		2 VOLS ✓			
7	PAL 1-2 Accelerometer					
8	Flight Data, Crude Model No. 3		2 VOLS ✓ 30	✓	✓	✓
9	Flight Data, Crude Model No. 4		✓ 26			
10	Flight Data, 1st Drag Model (F.F.5)		✓ 25			
11	Operating Characteristics - TTG-5 PAL 1-2 Accelerometer		30	✓		
12	Summary of Firings - F.F. 3, 5 and 4					
13	Battery Activation, Visit to Eagle Picher					
14	Data Reduction of Drag Model (F.F. 5)					
15	Static Probe.Mod. to Airflow Distribution Pick-Up		✓ 26			
16	Repeatability and Temperature Tests on Various Types of Pressure Transducers		30	✓	✓	✓
17	Visit to White Sands Proving Ground and Resdel Engineering Comp. with Reference to Doppler Radar			✓	✓	✓
18	The Alpha-Beta Vane			✓	✓	
19	Doppler Radar - Recording and Data Reduction		26	✓	✓	✓
20	Description & Conclusions of Evaluation Tests of the Bifilar Suspension used for Experimental Determination of C105 F.F.M. Moments of Inertia.					



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
21	Summary of Firings of F.F. Models 6 & 7 May 1956.	✓+	39 26	✓	✓	✓
22	Rawinsonde Data, Tracking and Doppler Radar Data, F.F. Model 6		26	2 vols. ✓		
23	Reduced Telemetry Data, F.F. Model 6	✓	26			
24	Rawinsonde Data, Tracking and Doppler Radar Data, F.F. Model 7		26	3 vols. ✓		
25	Reduced Telemetry Data, F.F. Model 7	✓	26			
26	Data Recorded from Kine Theodolites F.F.M.'s No. 4 and 5 - Also Comp'n Tables	✓	26			
27	D.T.V. 1 and D.T.V. 2 - Fired at Picton Mar. 56 and June 56 - Data Reduction	✓	26			
28	Evaluation of Picton Range with Delta T.V. No. 2 - June 56	✓	26			
29	Sup's'd. by P/FFM/39	-	-	-	-	-
30	Summary of Firings of F.F. Models 8 & 9 Sept. 1956.	✓+	✓ 39 26	⊙	✓	✓
31	Flight Data and Data Reduction - F.F.M. 6	✓	26			
32	Flight Data and Data Reduction - F.F.M. 7	✓	26			
33	Flight Data and Data Reduction - F.F.M. 8	✓				
34	Flight Data and Data Reduction - F.F.M. 9	✓				
35	Flight Data and Data Reduction - F.F.M. 10	✓	26			
36	Flight Data and Data Reduction - F.F.M. 11	✓	26			
37	Kine. Theod. Survey Data and General Kine. Data Reduction.	✓	27			
38	Kine. Theodolite Data and Redn. F.F.M. 8	✓	27			
39	Kine. Theodolite Data and Redn. F.F.M. 9	✓	27			
40	Kine. Theodolite Data and Redn. F.F.M. 10	✓	27			
41	Kine. Theodolite Data and Redn. F.F.M. 11	✓	27			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
42	Reduced Telemetry Data, F.F.M. 8		✓ ⁰ ^{FFM 10}			
43	Reduced Telemetry Data, F.F.M. 9		✓ ⁰			
44	Reduced Telemetry Data, F.F.M. 10		✓ ⁰ 27			
45	Reduced Telemetry Data, F.F.M. 11		✓ ⁰ 27			
46	Summary of Firings of Free Flight Models 10 & 11 December 1956	✓ ⁺	✓ ⁰ 30 27	⊙	✓	✓
47	Summary of Free Flight Model Tests and Results (F.F.M. No. 1 to F.F.M. No. 7)	✓ ⁺ □	30	✓	✓	✓
48	Summary of Free Flight Model Tests and Results (F.F.M. No. 8 to F.F.M. No. 11)		✓ ⁰			
49	Check values of Model & Booster Dimensions F.F.M.'s 6 to 10	✓ ⁺	✓ ⁰ 27			
50	Lateral Derivatives from FF No. 8		✓ ⁰			
51	Lateral Derivatives from FF No. 2		✓ ⁰			
52	Lateral Derivatives Reduced to full scale A/C		✓ ⁰			
53	Longitudinal Derivatives from FF No. 10					
54	Longitudinal Derivatives from FF No. 11					
55	Longitudinal Derivatives reduced to full scale A/C					
56	F.F.M. Derivatives converted to C-105 Configuration	✓ ⁺				
57	Preliminary Comparisons of Free Flight Stability Model Results	✓ ⁺	27	✓		✓
58	Conversion of FFM No. 10 and 11 to Data Relevant to CF-105		^{2 vols.} ✓ ⁰ 27			
59	Comparison of FFM and W/T CH ₆ and CH ₄ with other Tests FFM CH ₆		✓ ⁰ 27			



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REPORT NO. **FUEL SYSTEM**

SHEET NO. **1**

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Report No.	No.	Title	Mk.	Original	Set 1	Set 2	Set 3
FS 1000	1	Hydraulic Powered Fuel System (Abridged)	1	✓	31		
FS 1001	2	Hydraulic Powered Fuel System	1	✓	31		
FS 1002/1	3	Prelim. Calcs - C.G. Calcs.	1	✓	31		
FS 1002/2	4	Prelim. Calcs - Pressure Refueling	1	✓	31		
FS 1002/3	5	Prelim. Calcs - Misc.	1	✓	31		
FS 1003	6	Fuel Line Losses	1	✓	31		
FS 1004	7	Pressurization System	1	✓			
FS 1006	8	Tank 6.7.8 Flow Areas	1	✓	33		
FS 1007	9	Fuel Slushing Analysis.	1	✓	33		
FS 1008	10	High Speed Mission (Prop Press.)	1	✓	33		
FS 1009	11	Misc. Calcs.	1	✓	33		
FS 1010	12	Fuselage Tank Venting System	1	✓			
FS 1011	13	Refueling Pressure Losses	1	✓	33		
FS 1012	14	C.G. Control with Proportioner	1	✓	33		
FS 1013	15	Fus. Tanks Press. System 15 psia	1	✓	33		
FS 1014	16	Reduction of Fuel Lines Tanks 1, 2 & 3	1	✓	33		
FS 1015	17	Defueling Time and Tender Req.	1	✓	33		
FS 1016	18	E.S. Equipment Log	1	✓	33		
FS 1017	19	Equipment & Pre-Flight Tests	1	✓	33		



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Report No.	No.	Title	Mk.	Original	Set 1	Set 2	Set 3
FS 1018	20	Simplification of Level Sens. V.	1	✓	33		
FS 1019	21	Hydraulic Grade Line (Eng. Feed)	1	✓			
FS 1020	22	Eng. Feed Line Flow Proportioner	1	✓			
FS 1021	23	Eclipse-Pioneer Prop. Test Analysis	1	✓	33		
FS 1022	24	Flow Limiter Calcs.	1	✓	33		
FS 1023	25	Pressure Relief Valves	1	✓	34		
FS 2000	26	C.G. Shift with Fuel Consumption	1&2	✓	33		
FS 2001	27	Wt. Analysis of Alternate Systems	1&2	✓	33		
FS 2002	28	Series Sequence Fuel Transfer	1&2	✓	33		
FS 2003	29	Pressurization Adequacies	1&2	✓	33		
FS 2004	30	Drop Tank Prelim. Calcs.	2	✓	33		
FS 2005	31	Optimum Sizes of Pipes and Valves	2	✓	33		
FS 2006	32	Schemes Considered	2	✓	33		
FS 2007	33	Prelim. Series Sequence Scheme	2	✓	33		
FS 2008	34	Booster Pump Inlet - Fixed or Flexible	2	✓	34		
FS 2009	35	Collector Tank Volumes	2	✓	33		
FS 2010	36	Engine Inlet Pressures	2	✓			
FS 2011	37	Refueling Time	2	✓	33		
FS 2012	38	Partial Refueling	2	✓	33		



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Report No.	No.	Title	Mk.	Original	Set 1	Set 2	Set 3
FS 2013	39	P.D. vs Flow Rate	2	✓	33		
FS 2014	40	Series Sequence Adequacy	2	✓	34		
FS 2015/1	41	Drop Tank Systems	2	✓	34		
FS 2015/2	42	Comp. of Drop Tank Systems	2	✓	34		
FS 2015/3	43	Air Bottle Design (Drop Tank)	2	✓	34		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Geometry C104 Version 'O' with 2 Sapphire 4 Engines and Afterburners and Rocket Engines - Wing AR - 2.78		✓			
2	Geometry C104 Version 'P' with 2 Sapphire 4 Engines and Afterburners and Rocket Engines - Wing AR 3.50		✓			
3	Geometry C-105 Version 'A'		✓			
7	Geometry of Tailless, Delta-Wing Version of C-104		✓			
8	Geometry C104 Version 'Q' S/B - with 2 SA-4 Engines + Afterburner and Rocket Engines		✓			
9	Geometry C-105 Version 'B'		✓			
10	Wing Geometry and Spar Cap Angles of C104 Δ Version 'C'					
11	Geometry C104 Δ - Version 'C' - 2 TR-9 Engines + Afterburners - Wing 5% to 3%		✓			
12	Geometry C104Δ Version 'D' - 2 TR-9 Engines + Afterburners - Wing 3%		✓			
14	Geometry - C104Δ Version E - 2 TR-9 Engines + Afterburners - Wing Area = 1.185		✓			
15	Adaptation of N.A.C.A. RM A51E01 Model Wing Data to C104 Δ (Scheme I)		✓			
16	Adaptation of N.A.C.A. RM A51E01 - Model Wing Data to C104Δ (Scheme II)		✓			
17	Geometry of Single Engine 'N' C104 Delta		✓			
18	Aircraft Geometry - C104/Q		✓			
19	Aircraft Geometry - C104/R		✓			
22	Comparison Frontal Areas - C104 - 'Q' and 'R'		✓			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
23	Geometry C104 - Version 'X'		✓ NO			
25	C104 A Version 'S' (SK 20545)		✓			
26	Equations for Thickness Distribution of N.A.C.A. 0003-63 Profile		✓			
27	C104 Geometry - Complete A/C					
28	Equation for Thickness Distribution of N.A.C.A. 0003-6 (3.7)					
29	Geometry - C104 Version 'U'		✓			
30	3 View G.A. 2-30" Dia. 10,000 lb. Thrust Engines - Low and High Wing Versions		✓			
32	C-105 Geometry Report			✓	✓	✓
33	C-105 Geometry Report - Basic			✓		



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No.

Title

Mk. Original Set 1 Set 2

Set 3

1 Control System Kinematics

1

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Icing I and Appendix II to Icing I		✓			
2	Appendix I to Icing I		✓			
3	Icing II and Freezing Rain Data					
4	Icing V and Icing IV (Superseded)					
6	Icing VII					
7	Icing VIII					
8	Icing Protection				⊙	⊙
9	Sublimation and Melting Rates of Ice in Clear Air					
10	Engine Intake Lips and Ramps Icing Protection - Preliminary Investigation.					



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Nobel Ejector Tests	1				
2	Nobel Ejector Tests	2				
3	A Simple Method of Measuring Distortion in the PS-13 on the C-105	2	✓ ⁺	67		
4	Collector Tank Air Ejector Vent Hood Design	2	✓ ⁰			
5	Mark III Intake Design, Part I	3	✓ ⁺ ✓ _*	65	⊙	✓
6	Method for Calculation of Propulsion System Net Thrust (Revised P/Power/97)	2	✓ ⁺ ✓ _*	65	⊙	✓
7	Arrow 3 Intake Design	3				
8	Windmilling Buzz Boundaries	2	✓ ⁺ ✓ _*	✓ ⁰ 65	⊙	✓
9	Tentative Report - Engine Intake	3			⊙	✓
10	Mark III Intake Design - Part II	3	✓ ⁺ ✓ _*	65	⊙	✓
11	Some Effects of Secondary Flow on Ejector Net Thrust	3	✓ ⁺	67	✓	✓
12	Improvement of Subsonic Cruise, Arrow 2, by Means of an Expendable Ejector Insert	2	✓ ⁺ ✓ _*	68	⊙	✓
13	Performance Calculations at Subsonic Cruise for Arrow 2 with 3 Ejectors of Small Throat Diameter Ratio			65	✓	✓
14	Distortion of Pressure Recovery at Compressor Face	2	✓ ⁺	67		
15	Icing Protection for the Arrow Intakes	2		67		
16	Deterioration of Propulsion System Thrust with Change in Engine Control System	2	✓ ⁺			
17	Arrow 3 Propulsion System - A Preliminary Assessment	3	✓ ⁺	65	✓	✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
18	Propulsion System Thrust, and Fuel Consumption, Arrow 2A, Infinitely Variable Divergent Ejector, Iroquois Series 2	3				
19	The Optimum Ejector Geometry for the Arrow 2A, and the Effects on Thrust of Deviations from this Optimum	2				
20	Revised Restrictor Geometry and Spring Characteristic	2	✓ ⁺ *	65. (D)	✓	✓
21	Comparison between J75-A25, J75-B23, Iroquois 2 on Basis of Uninstalled Net Thrust and Specific Fuel Consumption	0				
22	Thrust Derivatives: $\frac{\partial T}{\partial d}$, $\frac{\partial T}{\partial V}$, $\frac{\partial T}{\partial L}$, C_{N_T} , C_{M_T}	1				
23	Collector Tank Air Ejector	1		67. ✓	✓	✓
24	Air Bleed due to Zone 1 Ejector	1	✓ ⁺	67		
25	Comparison of Performance of the Arrow 1 with J75-A25 to the Arrow 1 with the Overspeeded J75, the J75-A27	1				
26	Comparison of Engine Installation Losses for the Arrow 1a and Arrow 2	0	✓ ⁺	67.		
27	Rumbling, Buzzing and Banging within the Arrow Propulsion System	0	✓ ⁺ *		✓	✓
28	Maximum Duct Pressures	2	✓ ⁺	67		
29	Low Mach Number Thrust Calculations for the Arrow 2	2				
30	The Effect of Changes in Afterburner Length for the Arrow 2	2				
31	Installed Engine Performance, Iroquois with N_H Control; Subsonic Performance consistent with 72/PERF/4	2				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
32	The Optimum Ejector for the Arrow 1 Aircraft	1				
33	Installed Engine Performance, N_H Control - N_H Maximum 8050	2				
34	Installed Engine Performance, N_H Control - N_H Maximum 7650	2				
35	Installed Engine Performance, N_H Control - N_H Maximum 8050, Derated Afterburner	2				
36	Installed Engine Performance, N_H Control - N_H Maximum 7650, Derated Afterburner	2				
37	Installed Engine Performance, N_H Control, N_H Maximum 7800, Derated Afterburner	2				
38	Ingestion of Foreign Objects into Arrow Engine Intakes	0	✓+			
39	Ground Idle	2				
40	Steady State Surge Protection for the Iroquois	2				
41	Adequate Venting of Engine Insulation Blankets, Arrow 1, 2	1,2				
42	Arrow 2 Bypass Restrictor Characteristics	2	✓+			
43	Windmilling Drag of the Arrow	0	✓+			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Falkner Lifting Surface Theory Wing Loads	✓	20			
2	Theoretical	✓	20			
3	Preliminary Wing Loads	✓	20			
4	Wing Loads (9 Point Solution)	✓	20			
5	Wing Leading Edge Pressures (Subsonic)	✓	20			
6	Loading, C_p and C_m due to Symmetrical Linear Wing Twist	✓	20			
7	WING LOADS DUE TO ROLLING DYNAMIC CASE	✓	20			
8	Equivalent Slopes, C_L & C_M of Arbitrary Sections	✓	20			
9	Fin and Rudder Loads	✓	20			
10	Supersonic Pressure Distribution on Delta Wings having Arbitrary Camber and Twist	✓	22			
11	Wing Loading: Normal Acceleration Cases	✓	20			
12	Wing Loading: Normal Acceleration Cases	✓	20			
13	Subsonic Loading using Multhopp's Method	✓	20			
14	Subsonic Loading using Multhopps Lifting Surface Theory - CLOAS	✓	20			
16	Chordwise and Spanwise Load Distribution due to Flap Deflection	✓	20			
17	Distribution of Theoretical Pressure to Agree with Experiment	✓	20			
18	Wing and Fuselage Air Loads - Supersonic Case	✓	20			
19	Antisymmetric Spanwise Load Distribution due to Roll and Aileron					
20	Distribution of Theoretical Pressure due to Flap Deflection (Subsonic)	✓	20			
21	Normal Acceleration in Dynamic Pitching Manoeuvres	✓	20			
22	Wing and Fuselage Airloads - Supersonic Revised Case	✓	21			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
23	Wing and Fuselage Airloads - Subsonic (M = 0.9)					
24	Drag Loads of Falcon Missile 'E'		✓ 0 21			
25	Subsonic Delta Wing Loading - Lawrence's Method					
26	Revision P/LOADS/20		✓ 0 21			
27	Vertical-Tail Loads in the Rolling Pull-Out Manoeuvre		✓ 0 21			
28	Supersonic Aerodynamic Influence Coeff.	+ 28A	✓ 0 21			
29	Loads on Cooling Duct, due to Ejector Pump Action		✓ 0 21			
31	Method for Computing Load Distribution due to Pitching - Subsonic					
32	Method for Computing Load Distribution due to Rolling - Subsonic					
33	Wing Loading due to Camber - Subsonic		✓ 0 21			
34	Fuselage Normal Airload - Subsonic		✓ 0 21			
35	Intake Loads - R.B. 106 and J67 Intake		✓ 0 21			
36	Fuselage Normal Airload - Supersonic		✓ 0 23			
37	Airload on Undercarriage Doors		✓ 0 21			
38	Dynamic Pitching Characteristics - Case A		✓ 0 21			
39	Dynamic Landing Loads on Undercarriage					
40	Normal Acceleration in Dynamic Pitching Manoeuvres		✓ 0 21			
41	Flight Envelopes		✓ 0 21			
42	Intake Ramp Loads		✓ 0 21			
43	Fin and Rudder Loads - Subsonic-Supersonic	3 V043	✓ 0 21			
44	Pressure Distribution over the Nose and Fuselage (Supersonic)		✓ 0 21			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
45	Subsonic and Supersonic Spanwise Loading Distribution of C-105 Wings, Elevator-Wing Considered as Flat Plate		<i>Ref NO</i> <i>10 21</i>			
46	Pressure Distribution over Nose of Fuselage (Supersonic)		<i>10 23</i>			
47	Gust Alleviation Factor		<i>10 21</i>			
48	Rigid Wing Loadings		<i>8000 22</i> <i>10 21</i>		<i>5000</i> <i>✓</i>	
49	Fin and Rudder Loads - 1/80th Scale Model		<i>10</i>			
50	Chordwise Pressure Distribution on the Wing due to Elevator Deflections		<i>10 22</i>			
51	Fin and Rudder Loads - Subsonic Rudder Kick and Fishtail Manoeuvres		<i>10 22</i>			
52	Normal and Chordwise Load Factors		<i>2000 22</i> <i>10 22</i>			
53	Airloads on Falcon Missiles		<i>10 22</i>			
54	Airloads on Canopy		<i>10</i>			
55	Pressures on Forward Fuselage		<i>10 22</i>			
56	Theoretical Value of C_{H_0} (Multhopp)		<i>10 22</i>			
57	Fin Loads in R.P.O. Manoeuvre		<i>10 22</i>			
58	Intake up Loads		<i>10 22</i>			
59	Subsonic Pressure on Forward Fuselage		<i>10 22</i>			
60	R.P.O. Manoeuvre: Linearized Method		<i>10 22</i>			
61	Lift Distribution on Supersonic Wings with Subsonic Leading Edges and Arbitrary Angle of Attack Distribution		<i>22</i>	<i>✓</i>		
62	Subsonic Wing Loading - Flat Plate		<i>10 22</i>			
63	Transonic Wing Loading - Flat Plate		<i>10</i>			
64	Supersonic Wing Loading - Flat Plate		<i>10 22</i>			
65	Elevator and Wing Loads due to Elevator Deflection - Supersonic		<i>10 22</i>			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
66	Aileron and Loads due to Aileron Deflection - Supersonic	2 VOLTS	✓ 22			
67	C-105 Fuselage Pressure Distribution	3 VOLTS	✓ 23			
68	Airloads at Wing Structural Stations		✓ 22			
69	C-105 Dive Brakes		✓ 22			
70	C-105 Rolling Performance - Rigid Wing		✓ 22			
71	C-105 R.P.O. TN 2633 Method		✓ 22			
72	C-105 Airloads on External Fuel Tank		✓ 22			
73	Elastic Wing Loads - Con 1-3a		✓ 23			
74	Elastic Wing Loads - Con 8-3A		✓ 23			
75	Elastic Wing Loads - Supersonic	2 VOLTS	✓ 23			
75a	Asymmetric Case, M=2.0 at 30,000'		✓ 23			
76	Engine and Mount Stressing Data	14 VOLTS	✓ 23			
77	Aerodynamic Matrix (Supersonic)		✓ 23			
78	Wing Loads due to Damping in Roll		✓ 23			
80	Wing Loads due to M=1.09 Asymmetric Case		✓ 23			
81	Fuselage Airload Shears	2 VOLTS	✓ 23			
82	Airloads on Sparrow Missiles		✓ 23			
83	C-105 Revised Fin		✓ 23			
84	Cockpit & Top Longeron Stressing Cases		✓			
85	Canopy Operating Loads		✓			
86	Flexible Wing Loads M=.372 (Rolling Case)		✓ 23			
87	LOADS ON REVISED WING		✓ 23			
88	Maximum Rolling Acceleration		2.3			
89	Wing Panel Loads		✓ 23			
90	R.P.O.: Fishtail and Rudder Kick - Fin and Rudder Loads	3 VOLTS	✓ 23			
91	Blast Loads on Falcon Missile		✓ 24			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
92	J-67 Nose Fairing		<i>REF NO</i>			
93	Internal Pressures and Armament Bay Loads		<i>✓</i>	<i>24</i>		
94	Duet Momentum Loads (J-75)		<i>✓</i>	<i>24</i>		
95	Comparison of Rigid and Flexible (balanced) Wing Loads		<i>✓</i>	<i>24</i>		
96	Armament Bay Hinge Moments-Falcon Missile		<i>✓</i>	<i>24</i>		
97	Fin and Rudder Loads in Steady Sideslip - Rudder Reversed Manoeuvre		<i>✓</i>	<i>24</i>		
98	Fin and Rudder Loads - Fishtail, Rudder-Kick and Steady Sideslip - Rudder Reversed - New Derivatives		<i>✓</i>	<i>24</i>		
99	Rolling Pull Out - Fin and Rudder Loads (with New Derivatives)		<i>✓</i>	<i>24</i>		
100	Rolling Pull Out from Truly-Banked Turn (New Derivatives)		<i>✓</i>	<i>24</i>		
101	Falcon Rocket Bay Pressure Distributions		<i>✓</i>	<i>24</i>		
102	R.P.O. from a Dive - Rudder Locked		<i>✓</i>	<i>24</i>		
103	Load Distribution over Rear of Aircraft		<i>2 vols</i> <i>✓</i>	<i>24</i>		
104	Wing Body Interference Effects		<i>✓</i>	<i>24</i>		
105	Aero-Centre for Various Wing-Nose-Intake Combinations		<i>✓</i>	<i>24</i>		
106	Fin and Rudder Loads in Rudder Kick, Fish-tail and Steady Sideslip Rudder Reversal Manoeuvres		<i>✓</i>	<i>24</i>		
107	Revised Nose Fuselage Airloads including Forward Undercarriage Bay Vent Pressures		<i>3 vols</i> <i>✓</i>	<i>24</i>		
108	R.P.O. Case: C-105, Balanced, M=0.8, 10,000 feet.		<i>✓</i>	<i>24</i>		
109	Preliminary Estimation of Constructional Tolerances based on Aerodynamic Criteria Part 1 - Fin.			<i>24</i>		
110	Elevator Hinge Moments		<i>✓</i>	<i>24</i>		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
111	Rigid Wing, Fuselage Loads for Wing with 10% L.E. Extension - Cases 7,8 & 11, a&b		✓	✓	✓	✓
112	Spanwise Load Distributions for a Variety of Control Surfaces, (Supersonic)		✓	✓	✓	✓
113	Revised Air Intake Loads		✓	✓	✓	✓
114	C-105 Engine Mounting Thrusts (P.S. 13)		✓	✓	✓	✓
115	Gust Loads on the C-105		✓	✓	✓	✓
116	Loads on Pilots and Nav. Canopies		✓	✓	✓	✓
117	Preliminary Loading Analysis - External Fuel Tank		✓	✓	✓	✓
118	Jettisoning External Fuel Tank		✓	✓	✓	✓
119	Loads External Fuel Tank		✓	✓	✓	✓
120	Flight Envelopes		✓	✓	✓	✓
121	Fatigue Loading Cases		✓	✓	✓	✓
122	Supersonic Speed Brake Loads		✓	✓	✓	✓
123	Pressures on Upper and Lower Wing Surface		✓	✓	✓	✓
124	Rolling Pullout from a Steady Turn - Solution of Full E/M by I.B.M. Computer		✓	✓	✓	✓
125	Rolling Performance, Single Degree of Freedom, Elastic Wing		✓	✓	✓	✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Canopy Hinge Moment from W/T	2	✓ ^{REFL NO.}			
2	Loads on the Seeker Head	1	✓ ⁰			
3	Loads on Rocket Sled at M = 1.167	1	✓ ⁰			
4	Fin Loads	1	✓ ^{EX.1 EX.2}	✓ ^{EX.1 EX.2}	✓ ^{EX.1 EX.2}	✓ ^{EX.1 EX.2}
5	Loads on Sparrow Missile Fairing	1	✓ ⁰			
6	Pilots Canopy Dynamic Loads	0	✓ ^{PAINT}	✓ ^{PAINT}	✓ ^{PAINT}	✓ ^{PAINT}
7	Venting of the Rear Fuselage of the CF-105	1-2	✓ ⁰			
8	Differential Pressures in the Forward Fuselage of the Arrow	1-2	✓ ⁰			
9	Loads on Seeker Head Mounted on Fin	1	✓ ⁰			
10	Preliminary Load Analysis Infra-Red Seeker	2				
11	Dynamic Manoeuvring Loads for an Asymmetric A/C	2	✓ ⁰			
13	Loads on External Tank	2				
14	Air Loads due to Jet Nozzle Extension	2	✓ ⁰			
15	Elastic Wing Loads during R.P.O., including the Effect on Fin Load	0	✓ ^{2 VCS}			
16	Aerodynamic Pressures on the Wing Fuel Tanks	1-2	✓ ⁰			
17	Preliminary Load Analysis Ejector Nozzle	2				
18	Incremental Air Loads for the Asymmetric Aircraft in Symmetric Manoeuvres	2	✓ ⁰			
19	Documents Tabled at the Meeting on May 8th, 1958 on Subject of Structural Integrity of the Arrow	2		✓	✓	
20	Investigation of Elevator Load Distribution using W/T Values of C _m , C _L , C _h	1-2	✓ ⁰			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
21	Air Loads on a Fairing of Fastair 16-MM Camera (Drg. 7-0164-103)	1	✓ ¹⁰			
22	Investigation of Elevator Loads	1-2	✓ ¹⁰	SUM ✓		
23	Landing Gear Extending Mechanism Investigation	1-2	✓ ^{N/t} ✓ ¹⁰ ✓ ^{1/2 M} ✓ ¹⁰	✓ ^N	✓ ^N	✓ ^N
24	Report on Investigation of Bearing Friction	1	✓ ⁺	⊙	✓	✓
25	Internal Pressures in the Sparrow Missile Cocoon and Armaments Bay due to Failure to Jettison of the Missile	2	✓ ¹⁰			
26	Air Load Distributions for Structural Integrity Programme	1-2	2 VELS. ✓ ¹⁰			
27	Loading over Elevator Region for Inadvertent Violent Manoeuvre (Flight 14)	1	✓ ¹⁰			
28	Calculation of Angular and Linear Accelerations from Accelerometer Data	1-2	✓ ⁺	✓	✓ [*]	
29	MB-1 Missile Initial Ejection Trajectory	1	✓ ¹⁰			
30	Preliminary Falcon Missile Captive Flight Airloads	2	✓ ¹⁰			
31	Rational Rolling Pull-Out Manoeuvres	0	✓ ¹⁰			
32	Blast Loads and Moments on the Speed Brakes due to Firing of Genie MB-1 and Falcon GAR 3a and 4a Missiles	2	✓ ¹⁰			
33	Investigation into the Calculation of Supersonic Aerodynamic Influence Coefficients	1-2	✓ ¹⁰			
34	Calculation of Aerodynamic Influence Matrices for Arrow Wing without L.E. Extension	1-2	✓ ¹⁰ ✓ ¹⁰ ✓ ¹⁰			
35	Calculation of Aerodynamic Influence Matrices for Arrow Wing Including L.E. Extension	1-2		✓		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	.07 Scale Wind Tunnel Model	0				
2	Cornell Transonic Model - C-105 Aircraft	2				
3	Model Data for Genie Jettison ^H Tests - C.A.L and N.A.E.	2	EX. / + 2 / ✓	EX. / 2 / ✓	EX. / 2 / ✓	



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
5	C-104 Ballistic Model					
6	C-104 Transonic Model-Cornell(.03 Scale)			✓	✓	
7	C-105 Free Flight (1/8 Scale)		✓ 30	⊙		
8	C-105 Subsonic (1/20 Scale)					
9	Hinge Moments & Lift Forces - 1/50 Scale Half Model		✓ 46			
10	C-105 Rolls Intake Model					
11	C-105 Reflection Plane ^{SRS}					
12	C-105 Sting ^{SRS}			✓		
13	C-105 Intake Model ^{SRS}					
14	C-105 Sting S-S			✓		
15	C-105 Spinning					
16	C-105 1/50 Scale Model - Stress Check		✓			
17	C-105 1/50 Scale Model		✓			
18	Vibration and Flutter of Booster Wing					
19R	Loading Analysis for Structural Test of C-105 Free Flight Model		✓ 26	✓	✓	
20	Basic Loading - C-105 Free Flight Model					
21	Deleted					
22	Antenna 1/10 Model					
23	C-105 - 1/40 Scale Intake Model		✓			
24	Longitudinal Stability-Free Flight Model		✓ 26			
25	Empennage Model					
26	General Engineering Notes for Rocket Powered Model		✓ 26			
27	C-105 1/80 Scale Supersonic Model		✓			
28	Calculation of Flutter Speed - C-105 Free Flight Model Booster Wing					



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
29	Flutter Analysis of the C-105 Model- Booster Combination					
30	C-105 Transonic .04 Scale(Cornell)				✓	
31	4 Rolling Moment of the Free Flight Crude Model		✓ ₀			
32	Weights, C.G.'s and Moment of Inertia of Free Flight Crude Model		✓ ₀			
33	Stress Analysis of F.F. Model Launcher		✓ ₀			
34	Detail Stressing of Booster Horizontal Fin		✓ ₀			
35	Detail Stressing of Booster Vertical Fin		✓ ₀			
36	Stress Analysis of Wing and Attachment for 1/8th Scale Icing Reflection Plane Model		✓ ₀			
37	Functional Tests of Free Flight Model Launcher		✓ ₀			
38	Weight and Balance Reports on Free Flight Model and Booster for Firing Tests - Crude Models		✓ ₀			
39	Ballasting and Swinging of Models		✓ ₊	✓	✓	✓
40	Estimates of Weights and C.G.'s for Nike Booster Rocket for Free Flight Models		✓ ₀			
41	F.F. Models - Moments of Inertia-Prelimi- nary report outlining Theory, Corrections to Apply and Procedure for Swinging		✓ ₀			
42	Crude Model Moments of Inertia - Based on Results of Actual Swinging Tests		✓ ₀			
43	Tests to Check and Prove System & Method used for Swing of Free Flight Models		✓ ₀			
45	.03 Scale C-105 Bedford					
46	Structural Investigation of a 3% t/c Ratio Plastic Model Fin		✓ ₊ ✓ ₀	✓	✓	✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
47	Mechanical Properties of Plastic Materials used in Structural Models of C-105 Aircraft		✓ 10			
48	Structural Investigation of a 1:5.25 Scale Plastic Model of the Forward Fuselage Structure on the C-105 Aircraft		✓ 4	✓ 10	✓	✓
49	Free Flight Models - Weights, C.G.'s and Moments of Inertia for Firing Tests		3 ✓ 10			
50	Estimates of Weights, C.G.'s and Moment of Inertias of Free Flight Models		✓ 10			
51	C-105 Jettison Models - Part I - Falcon Missile		✓ 10			
52	Model - Full Scale Parameters used in Plastic Structural Model Analysis					
53	Structural Investigation of a Typical Forward Fuselage Section containing Fuel Tank and Intake Ducts - Plastic Model					
54	Free Flight Models - Weights, C.G.'s and Moments of Inertia for Firing Tests - Yaw Models		30 10			
55	F.F.M. - Weights, C.G.'s and Moment of Inertia for Firing Tests - Stability Models		20 ✓ 10			
56						
57						
58						
59						
60	See P/MODELS/46			✓	✓	



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Manoeuvre and Gust Loads - Rad., of Turn AMP 1b. - Review of 'e' and Drag Rise of Swept and Triangular Wings - Drag		✓ ¹⁰			
2	Configuration Determination and Performance Analysis of Long Range Fighter Having Two Sapphire 4, Motors		✓ ¹⁰			
3	Preliminary Performance Estimates (Climb, Cruise, Combat, Turn, Etc.)		✓ ¹⁰			
4	The Effect of Wing Sweep and Wing Weight on the Supersonic Performance		✓ ¹⁰			
5	Cancelled					
7	Acceleration to Supersonic Speeds		✓ ¹⁰			
8	Performance for Brochure		✓ ¹⁰			
9	Performance for Brochure AR = 35		✓ ¹⁰			
10	Performance for Brochure, AR = 2.78		✓ ¹⁰			
11	Performance for Brochure		✓ ¹⁰			
12	Performance with AS SA4 Engine		2 vols ✓ ¹⁰			
13	Supersonic Performance		✓ ¹⁰			
14	C _{D0} Comparison with Developed Sapphire and Orenda Engines		✓ ¹⁰			
15	Reynolds No. Versus Altitude		✓ ¹⁰			
16	Performance with TR-9 Engines		✓ ¹⁰			
17	Performance with Up-rated Olympus 3 Engine		✓ ¹⁰			
18	Summary - Comparing C-104/A with C104/SR		✓ ¹⁰			
19	The Effect on Performance of Varying the Wing Span		✓ ¹⁰			
20	Single Engine Version - Preliminary		✓ ¹⁰			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
21	Take-Off and Landing Performance - TR-9 Engine	✓	no			
22	Supersonic Cruise of C104 _Δ - 2 TR-9 Engines	✓				
23	Air Brakes for the C-104 _Δ	✓	40			
24	Flight Envelopes for the C-104 _Δ	✓				
25	Take-Off and Top Speed Performance	✓				
26	Speed-Time-Altitude Breakdown over 100 hours Operational Time	✓				
27	Fore and Aft Load Factors					
30	Combat Missions	✓				
31	C104 'N' Performance Data (700 sq. ft.)	✓				
32	C104 'Q' Performance Data (600 sq. ft.)	✓				
33	C104 'P' Performance Data (Twin) (1184 sq. ft.)	✓				
34	Descent Analysis	✓				
35	Revise Flight Envelopes - C104/Q	✓				
36	Take-Off and Landing Distances	✓				
37	Take-Off and Landing Distances	✓				
38	Turning Performance (Single)	✓				
39	Turning Performance (Twin)	✓				
40	C104 Twin - Performance with Eleven	✓				
41	Project Y-O with 4 Sapphires	✓				
42	Increase of Ceiling by Zooming	✓				
43	Investigation of Elevator Drag	✓	37			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
44	Flare into Climb Altitude	✓	10			
45	C104/X Performance	✓	10			
46	C104/2 and C104/X Performance with Several Engines	✓	10			
47	Performance Data for Brochure No. 120 (Twist and Camber effects, sinking turns)	✓	10			
48	Missions	✓	10			
49	Parachute Energy Absorption - Review of ETD Landings	✓	10	38		
51	Effect of Change of Wing Plan Form on the Ceiling	✓	10			
52	C104/U Level Speeds - 2-J67 Engines Preliminary Data	✓	10			
53A	C104/U Performance - 2-J67 Engines	✓	10			
53B		✓	10			
55	Level Turns - F102 and C104/U	✓	10			
56	Single Engine, 750 sq. ft. aircraft with B.01.5 Engine	✓	10			
57	Calculations for Brochures P/C104/20 and (P/C105/1) (Design Study)	✓	10			
58	Comparative Level Turn Performance	✓	10			
59	C-105 Performance - 2 - 30" Engines	✓	10			
60A	C-105 Preliminary Performance - 2RB 106	✓	10			
60B		✓	10			
61	C-105 Acceleration with Dive and Climb Technique	✓	10			
62	C-105 Flight Envelopes	✓	10			
63	Performance with 2 x 37" dia. (overall) Engines	✓	10			



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No.	Title	Mk. Original	Set 1	Set 2	Set 3
64	C-105 Rocket Model - Trajectories	✓ ¹⁰			
65	Preliminary Performance with Cornell Wind Tunnel Results	✓ ¹⁰			
66	C-105 Altitude of Aircraft in Cruise etc.	✓ ¹⁰ 38			
67	C-105/1225 Turn Performance	✓ ¹⁰ 38			
68	C105/1225 - Effect of Camber on 'g's, ceiling, range	✓ ¹⁰ 38			
69	C-105/1225 General Performance (C.A.L. Wind Tunnel Data Sept. 1953)	✓ ¹⁰			
70	C-105 Model Spec.	✓ ¹⁰ 38			
71	Effect of A/C Performance of Variations in Type of Cabin Air-Conditioning System	✓ ¹⁰			
72	Investigation of Climb, Technique	✓ ¹⁰ 38			
73	C-105 Performance with RB-106 and 12° Intake Ramp	✓ ¹⁰ 38			
74	Supersonic Flight Time at Diff. Altitudes	✓ ¹⁰ 38			
75	A Preliminary Investigation of the Necessity for Dive Brakes on the C-105	✓ ¹⁰ 38			
76	C-105 Performance with Olympus 4 and 12° Intake Ramp	✓ ¹⁰ 38			
77	Comparison of Minimum Turning Radius and Flight Envelopes				
78	C-105 Performance with 2 Gyrons (Fixed 12° Intake Ramps)	✓ ¹⁰ 38			
79	C-105 Design Criteria Estimate	✓ ¹⁰ 38			
80	Escape situation in the C-105	45 ✓		✓	✓
81	C-105 Performance with P.S. 13 Engine	✓ ¹⁰ 40			
82	C-105 Performance with J-67 Engines	✓ ¹⁰ 38			



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No.	Title	Mk. Original	Set 1	Set 2	Set 3
83	C-105 Performance with J57 Engines	✓ ¹⁰ ^{KT12} 38			
84	C-105 Weapon Study	✓ ¹⁰ 38			
85	C-105 Performance with Y-67-W-1 Engine for Model Spec.	✓ ¹⁰ 38			
86	C-105 Weapon Study - Falcons and Rockets	✓ ¹⁰ 38			
87	C-105 Weapon Study - Performance of C-105 with 8 Falcons, 2 Red Deans and 3 Sparrows and 4 Ext. Sparrows	✓ ¹⁰ 38			
88	Deceleration of C-105 with Air Brakes	✓ ¹⁰ 38			
89	Revision of the Group Design Council Charts - J-67 Engines	✓ ¹⁰ 40			
90	C-105 Weapon Study - with Sparrows - Preliminary Report	✓ ¹⁰			
91	C-105 Performance with Various Engines	✓ ¹⁰ 49			
92	Fore and Aft Acceleration for U/C Study	✓ ¹⁰ 49			
93	C-105 Equipped with Falcons - New Detection Distances - Ref: Hughes Proposals for MX-1179	✓ ¹⁰			
94	Investigation of C-105 Take-Off and Landing with Various Engines	2 vols. ✓ ¹⁰ 49			
95	Preliminary C-105 Performance Variation with ^C DMIN	✓ ¹⁰ 49			
96	C-105 Performance with Various ^C DMIN Revised J-67 Engines	✓ ¹⁰ 49			
97	Preliminary C-105 Performance with J-67 Engines - A-21	✓ ¹⁰ 49			
98	Revised C-105 Performance with 2 P.S. 13 (Preliminary)	✓ ¹⁰ 49			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
99	Preliminary C-105 Performance with J-75 A-25 with Aero C/D No. 226E		✓ ¹⁰	49		
100	Work for Thermodynamics and Other Groups		✓ ¹⁰			
101	Work for the Standard Aircraft Characteristics with J-75 A-25		✓ ¹⁰	49 45		
102	Standard Aircraft Characteristics with P.S. 13 C.G. = .29%		✓ ¹⁰ ✓ ⁺	49 45	EX. ✓	EX. ✓
103	C-105 Performance Based on MIL-C-5011A		✓ ¹⁰	49		
104	Doddler Restrictions		✓ ¹⁰	49		
105	Standard Aircraft Characteristics with 2 JT 4A-25 Engines		✓ ¹⁰ ✓ ⁺	50 45	EX. ✓	EX. ✓
106	Standard A/C Characteristics with 2 - P.S. 13 Engines (Diameter Ratio = 1.2) C.G. = 31%		✓ ¹⁰	50		
107	Standard A/C Characteristics with 2 J-75 Engines C.G. = 33%		✓ ¹⁰	50		
108	C-105 Performance for Air Ministry or 329 D.H. Spectre Rocket Used		✓ ¹⁰ ✓ ⁺	50 45	EX. ✓	
109	C-105 Performance with Up-rated J-75 Engine (28000 lb.)		✓ ¹⁰	50		
110	Upper Air Temperature and Wind Velocity		✓ ¹⁰			
111	Time Limitations on Flying at Mach 2.0					
112	Trimmed Drag at h = .29 making allowance for K < 1		✓ ¹⁰	50		
113	Trimmed Drag at M = 1.5 for a Range of h and effect of Varying Missile Pack Weight		✓ ¹⁰	50		
114	Preliminary Note on Method of Estimating Trim Drag			45		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
115	C-105 Deceleration in Level Flight from M = 2.0 at 35,000, 45,000 and 55,000 ft.		✓ ⁰ 50			
116	C-105 Performance vs C _D MIN		✓ ⁰ 50			
117	C-105 Low Speed Performance		✓ ⁰ 50			
118	Interim CF-105 Performance		✓ ⁰ 49			
119	CF-105 Performance Development		✓ ⁰ 50			
121	Thrust Reversal for C-105 Preliminary Study		45 40	✓	✓	✓
122	Revised Performance with P.S. - 13 Using N.A.C.A. Tunnel Tests	✓ ⁺	✓ ⁰ 40	✓ ¹¹	✓	✓
123	Dynamic Climb and Turn Performance with Iroquois Engines		✓ ⁰ 40			
124	Data for Douglas Aircraft Study of Missile Cooling Problems			✓	✓	
125	Revised Performance with J75 Using NACA Tunnel Tests		2 vols. ✓ ⁰ 50	✓	✓	✓
126	CF-105 Pull-Up at Sea Level		✓ ⁰			
---	Extract - Dynamic Manoeuvre Studies for the CF-105 P/Perf/125					
127	Comparison of Step-by-Step Climb with Standard Climb Method		✓ ⁰ 50			
127A	Thrust Analysis		✓ ⁰			
128	Investigation of Climb with Rocket Boost		✓ ⁰ 50			
129	Drag Mechanization for C.G. at 29.5% M.A.C.		2 vols. ✓ ⁰ 40			
130	Development to M = 2.5, 3.0, 3.5 and 4		✓ ⁺			
131	Arrow Revised Estimates of Landing Distances		✓ ⁰			



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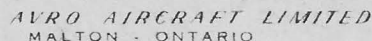
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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	October 1955	✓+	50 45	✓	✓	
2	November 1955	✓+	50 45	✓		
3	December 1955	✓+	50 45	✓	✓	
4	January 1956	✓+	50 45	✓	✓	✓
5	February 1956					
6	March 1956	✓+	50 45	⊙	✓	✓
7	April 1956	✓+	50			
8	May 1956	✓+	50 45	✓	✓	✓
9	December 1956	✓+	51 45	⊙	✓	✓
10	December 1956	✓+	51 45	⊙	✓	✓
11	October 1957		51	⊙	✓	✓
12	November 1957		51	✓	✓	✓
13	January 1958		51	⊙	✓	✓
13 Add. 1	January 1958		51	⊙	⊙	✓
14	August 1958	DRAFT ✓+	51	⊙	✓	✓
14 Add. 1	August 1958		51	⊙	✓	✓
15	November 1958			⊙	✓	✓
15A	November 1958			⊙	✓	✓
15B	November 1958			⊙	⊙	✓
15 Add. 1	December 1958			⊙	⊙	✓

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1 ^a	Instrumentation for Performance Testing of Arrow	0	1, APP. 1, APP. 2. ✓ APP. 1, APP. 2 + APP. 1, APP. 2 +	NEEL NC APP. 1 APP. 2 APP. 3 ✓	APP. 1 APP. 2 APP. 3 ✓	APP. 1 APP. 2 APP. 3 ✓
2	Programming for Performance Data from Arrow 1 Flight Tests	1	2/0 + 4/0 *	65. (4) ✓	4/0 ✓	4/0 ✓
3	Arrow 1 Performance	1	VOL. 1 VOL. 2, 3, 4. ✓ 0/0 0/0 0/0	67		
4	Arrow 2 Performance - Vol. I and III	2	3 VOLS. 0/0	EX. ✓	EX. ✓	
5	J-75 Engine Trimming for Arrow 1 - First Flight	1	APP. 1/0 + APP. 2/0 +	65. APP. 1/0 APP. 2/0 APP. 3/0	APP. 1/0 APP. 2/0 APP. 3/0	APP. 1/0 APP. 2/0 APP. 3/0
6	Arrow 2A Performance	2A	✓ + 0/0	✓	✓	
7	Arrow 1 Estimated Non-Dimensional Performance Curves for Flight Analysis	1	1 vol. 5 vols. 0/0 0/0	68.		
8	Effect of Change in O.W.E. on Arrow 2 Performance	2	0/0	67		
9	Arrow 3 Performance	3	3 vols. 0/0	66. 65.		
10	Trim Drag Correction to Flight Results	1	0/0	67. ✓	✓	✓
11	Arrow 1 Landing Performance	1	EX. ✓ + 0/0	64. EX. ✓	EX. ✓	
12	Arrow 2 Landing Performance	2	EX. ✓ + 0/0	(EX. ✓)	EX. ✓	EX. ✓
13	Performance for Employment in SAGE	2	0/0	67. 66. ✓	✓	✓
14	CANCELLED					
15 ^a	Arrow 2 Performance with 32.8" Cylindrical Ejector with Particular Reference to Overload Mission	2	2 volts 0/0	66.		
16	Improvement of Arrow 2 Overload Range Mission	2	✓ +			
17	Design Study of an Ejector Plug Nozzle to Increase the Aircraft Range in the Subsonic Flight Case	2		(D)	✓	✓
18	Arrow 2 Zoom Performance	1	0/0	66.		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
19	Arrow 1 Take-Off and Landing Performance	1	✓ ⁺ ✓ ⁰ 67.	✓	✓	✓
20	Arrow 2A Performance	2A	2 vols ✓ ⁰ 64.			
21	Investigation of Supersonic Area Rule Applicability	2A				
22	Performance with Up-rated J75 P-6 Engines	2	✓ ⁺ ✓ ⁺ ✓ ⁺ 2 vols ✓ ⁰ 66. 64.	✓ ⁺ ✓ ⁺ ✓ ⁺	✓ ⁺ ✓ ⁺ ✓ ⁺	✓ ⁺ ✓ ⁺ ✓ ⁺
23	Preliminary Zero Lift Wave Drag Calculation, Arrow 1, M = 1.5	1				
24	Performance - Arrow 2 - Revised Weight (Issued in conjunction with and under 72/PERF/22)	2	✓ ⁰ 64.			
25	Miscellaneous - Arrow 2 Performance	2	✓ ⁰ 66.			
26	Work for Periodic Performance Report No. 14	2	✓ ⁺ ✓ ⁰ 66. 64.			
27	Arrow 2X Performance	2X	✓ ⁰			
28	A/C Performance Testing and Thrust Measurements - Trip Report on Visit to Establishments in Calif.	2	✓ ⁰ 67.	✓	✓	
29	Pilot's Operating Instructions	1	✓ ⁺ ✓ ⁰	⊙	✓	✓
30	Revised Estimate of U/C Stressing Speed for Arrow	1-2	✓ ⁺ ✓ ⁰			
31	Performance Curves - Momentum Drag, Spillage Drag and Gross and Net Thrust	2	✓ ⁰			
32	Preliminary Calculations on Zero Lift Wave Drag of External Stores Vol. 1 Further Calculations etc. Vol. 2	0	Vol. 2 ✓ ⁺	Vol. 1 ✓ ⁺ Vol. 2 ✓ ⁺	Vol. 1 ✓ ⁺ Vol. 2 ✓ ⁺	Vol. 1 ✓ ⁺ Vol. 2 ✓ ⁺
33	Preliminary New Arrow Missions with Drag Revisions	2X		✓	✓	✓
34	Arrow 2 Dead Stick Landing Technique	2	✓ ⁰			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
35	Comments and Amendments to Revised MIL-C-5011A Proposals	0		✓	✓	✓
36	Arrow 2 Performance - Revised With New Drag Carpets	2	✓ ^o			
37	Arrow 2 Performance with Derated Iroquois Series 2 Engines	2	✓ ^o			
38	Effect on the Pilot of Crash-Landing the Arrow with Undercarriage Up	0	✓ ^o			
39	Arrow 2 Performance with Series 2 Iroquois - N _H = 7800 Derated Afterburner	2	✓ ^o			
40	Quasi Transfer Rule as Applied to Arrow 2, 1A and 1 at M = 1.5	0		✓	✓	✓
41	Spillage Drag BT Area Rule Method at M = 1.5	1	✓ ⁺ _*	⊙	✓	✓
42	Estimated Arrow 1 Nose Probe Position Error and Lag Corrections and Comparison to Preliminary Flight Results	1	✓ ⁺	✓ ^o	✓	✓
43	CANCELLED - See GEN/PERF/1	-				
44	Investigation of Factors Affecting Landing Performance and Handling	1	✓ ^o			
45	Arrow 2 Performance (Revised Wt.)	2				
46	The Variation of Wave Drag with Position of a 1000 Gallon Store on the Arrow Wing	0				
47	Arrow 2 Performance Information for Hughes A/C	2		✓	✓	✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Sapphire/Four Performance		✓ ¹⁰			
3	Preliminary TR-9 Performance (Superseded by P/Power/9)		✓ ¹⁰			
4	Effect of Pressure Ratio and Frontal Area on Performance		✓ ¹⁰			
7	TR 9 Performance		✓ ¹⁰ 48			
8	Spillage Drag and Diffuser Loss		✓ ¹⁰			
9	Olympus Performance		✓ ¹⁰			
10	Liquid Fuels for Rocket Motors - Consumption, density and miscellaneous Calcs.		✓ ¹⁰			
11	Performance of TR 9 (A/B Lit Revised)		✓ ¹⁰ 48			
12	TR 9 Data		✓ ¹⁰			
13	Performance of TR-9 - A/B Unlit		✓ ¹⁰			
14	C-104 Intakes					
15	J-67 Engine Performance		✓ ¹⁰ 48			
16	Choke between Sharp Lip and Round Lip		✓ ¹⁰			
17	Duct and Intake for British OL. 4		✓ ¹⁰			
18	RB-106 Engine Performance		✓ ¹⁰ 48			
19	Boundary Layer Bleeds, Intakes and Ducts for 1/8 Scale Free Flight Model		✓ ¹⁰			
20	Loads on Variable Intake Ramp		✓ ¹⁰			
21	B.OL. 4 Engine		✓ ¹⁰ 48			
22	Variable Ramp Intake for RB 106 Engines		✓ ¹⁰			
23	Comparison of Intakes for R.B.106 Engine		✓ ¹⁰ 47			
24	Position of Normal Shock with J-67 Intake		✓ ¹⁰			
25	Choice of Intakes for C-105 - Summary	2/1		2/	2/	1/
26	R.B. 106 Performance (Fixed 12° Ramp)		✓ ¹⁰ 48			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
27	Olympus 4 Performance (Fixed 12° Ramp)	✓ ⁰	48			
28	Gyron (PS 2.6) Performance (Fixed 12° Ramp)	✓ ⁰	48			
29	Intake Operation at Low Forward Speed	✓ ⁰				
30	Boundary Layer Bypass	✓ ⁰				
31	Fixed Ramp Intake for P.S. 13 Engine	✓ ⁰				
33	Intake for J-67 Engine-Revised Version	✓ ⁰				
34	Spillage Drag	✓ ⁰	48			
35	Correction for J-67 Engine	✓ ⁺	48	EX✓	EX✓	EX✓
36	Intake Operations to Control Mass Flows	✓ ⁰				
37	Total Pressure Losses in C-105 Duct (J-67)	✓ ⁰				
38	Afterburner Shroud Cooling & Bypass Flows	✓ ⁰				
39	Spillage Drag and Bypass Momentum Drag	✓ ⁰				
40	Revised Corrections for J-67	✓ ⁰				
41	Duct Area Variation, Bypass Air with the J-75-A24 & J-75 - B20					
42	Preliminary Corrected J-75 Engine Perf.	✓ ⁰	48			
43	Shock Structure Forward of Inlet to Duct					
44	Review of Literature on Spillage Drag	✓ ⁰				
45	Total Pressure Recovery, S.L. Static					
46	0.6 Scale J-67 Duct Static Tests-Feb./Mar.	✓ ⁰				
47	Preliminary Estimation of Separation Losses - J75 Duct	✓ ⁰				
48	Theoretical Analysis - Ramp Angle - M = 2.0 A/C 35,000 ⁺ J75					
49	Theoretical Analysis - Double Ramp Angle, M = 2.0 A/C 35,000, J75					
50	Separation of the Turbulent Boundary Layer from a Two-Dimensional Wedge					



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
51	Bypass and Ejector Characteristic for J75		✓ ^{2 vols} 45	✓	✓	✓
52	Static Differential Pressure, Compressor Face, J67, J75, P.S. 13 Duct.					
53	Design Criteria for Blow-in Doors and Bypass Gills		✓			
54	Engine Duct Static Pressure Variation, S.L., Static, J67, J75, P.S. 13		45	✓	✓	✓
55	Engine Operating Parameter for the P & W JT4A-25 Turbojet Engine		✓ ^{A/O} 45 29	✓	✓	✓
56	Ejector Characteristics and Performance P.S. 13 Ejector		✓ ^{2 vols} 48			
57	Selection of the Inlet Configuration for a Mark 2 Aircraft			✓	✓	✓
58	Spillage Drag for Side Intakes with Blunt Lips and Two-Dimensional Compression Ramps					
59	Preliminary Note on C-105 Intake tests at Lewis		45	✓		
60	C-105 Intake Tests, Lewis Laboratory, NACA, Cleveland - Dec. 55 - Jan. 56 - Final Plots and Terminal Calculations Model Photos, Schlieren Etc. etc.					
61	C-105 Inlet Test, Lewis Laboratory, NACA, Cleveland, DEC. 55 - Jan. 56 Control Room Data Only					
62	JT4A-25 Installed Performance		✓ 48			
63	Ramp Boundary Layer Bleed Modification		✓			
64	Comparison of Theory & Experimental J75 Inlet Performance					
65	Experimental Results, Final Configuration, J75 Inlet		✓ ⁺	✓		✓
66	C-105 Buzz Threshold, J75, PS 13			✓	✓	✓
67	Duct Geometry, P.S. 13					



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
68	Jet Noise, J75, P.S. 13					
69	Ramp Bleed Performance for 10 Configurations		✓ ⁰			
70	Flow Analysis Forward of the C-105 Ramp		✓ ⁺			
71	Bypass Performance					
72	P.S. 13 Installation and Auxiliaries		✓ ⁴⁸ 45	✓	✓	✓
73	Fuselage Diverter Bleed Performance					
74	Deceleration of the C-105 from M=2 with one Windmilling J75		✓ ⁰			
75	Generalized Parallel Ejector Characteristics.		48 46	✓	✓	
76	Porosity Characteristics of Perforated Materials in Parallel Flow		✓ ⁰			
77	The Criterion for Turbulent Boundary Layer Separation by a Shock Wave		✓ ⁰			
78	Some Analysis of 1/6 Scale C-105 Model Intake Test Results					
79	Variable Single and Double Conical Inlets for P.S. 13					
80	An Analysis of Variable Single and Double Ramp Inlets for the C-105 with P.S. 13 Engine.		✓ ⁰			
81	Ejector, Tone No. 1 J75 Fire Extinguisher Nozzles					
82	Distortion of Inlet Flow for the C-105 with J-75 Engine and Bypass on a Standard Cold Day at Mach Numbers up to 2.0 and altitudes up to 65,000'		✓ ⁰			
83	Aerodynamic Noise Generated on the Surfaces of the C-105					
84	Investigation of Variable Internal-Internal Contraction Inlets for C-105 with P.S. 13 Engine					



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
85	Correlation of Moeckel's Theory and Experiment for the Position of the Lip Normal Shock		✓ ⁰			
86	Aerodynamic Analysis of 1/40 Scale Model Ground Silencer					
87	Revised Iroquois Engine Performance		✓ ^{6 vols 0}	48		
88	External-Internal Compression Intakes	✓ ⁺	45	✓	✓	
89	A Comparison of Performance of Inlets with Sharp and Rounded Lips		✓ ⁰			
90	A comparison of Intakes for the P.S. 13 engine matched at Mach 2.0 with increased Airflow		✓ ⁰			
91	Some Analysis of 6/10 Scale Model Test Results - 180 In. ² Bypass					
92	Ejector Geometry for the Overspeed P.S.13					
93	Optimum Ejector Geometry for C105 - J 75					
94	Effect of Divergence Angle on Thrust - Divergent Ejector					
95	Performance Characteristics of a Series of Divergent Shroud Ejectors			✓	✓	✓
96	6/10 Scale Tests of 6.0 Sq. Ft. and 6.5 Sq. Ft. Intakes		✓ ⁰			
97	Abstract - Optimum Ejector Geometry for PS 13 Mk. 2			✓	✓	✓
98	Flame-Out R.P.M. vs Idling R.P.M.		✓ ⁰ 48			

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No.	Title	Mk. Original	Set 1	Set 2	Set 3
1.	Thrust Determination - J75 Engines with 45" Divergent Ejector	1	6VOLS ✓ 0	EX. 68 DRAFT 66 ✓	
2	Iroquois Series 2 - Installed Thrust Calculations	2	2VOLS ✓ 0	3 ✓	
3	An Engine and Afterburner Performance Indicator for the Iroquois Engine	2	✓ APC ✓ APC ✓ APC	55 ✓ ✓ APC ✓ APC ✓ APC	✓ APC ✓ APC
4	Series 3 Engine Performance	3	✓ 0 67		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
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1	Arrow 2A Zero Length Launch Investigation	2A	✓ ⁺ *	✓	✓	✓
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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Proposal for Demonstration of Arrow A/C	2		✓	✓	✓
2	Arrow Escape System Tests	2		✓		
3	Control Boxes Development Program	2		✓	✓	
4	Escape System Test and Development Program	2		✓	✓	✓
5	Facilities and Personnel Requirements for Operation of Arrow 2 A/C 25207	2		✓		
6						
7						
8	Iroquois Engine Development Arrow Flight Test Plan	2		✓	✓	✓
9	Program Proposal for Airframe Contractor Arrow - Astra 1 - Sparrow 2 Compatibility Trials A/C 25211 and 25214	2		✓	✓	✓
10						
11	Proposal for Extended Combat Radius Arrow 2	2		✓	✓	✓
12	Weapon Pack Development Program Arrow - Sparrow	2		✓	✓	✓
13	Arrow 2 Control Boxes - Development Program Progress Report	2		✓	✓	✓
14	Installation of Astra 1 in Arrow A/C 25205	1		✓	✓	
15						
16	Definition of MA-1c1 AWCS	2		✓	✓	✓



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17

18 Arrow 2 Development

2

19 Arrow 2 Control Boxes Development Program Progress Report

2

20 Study of the Arrow 2 with Two J75-P6, JT4B-23 Engines



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1						
22	Notes on the Flight Simulator Phase 1 Low Speed Flight				✓	
3	Checks on the Accuracy of the Low Speed Simulator		✓/b			
4	Aero Data for Flight Simulator				✓	
5						
6	Elastic, Lateral and Longitud- inal Derivatives Inherent in the Flight Simulator		2 vls. ✓/b			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Low Speed Data for the Flight Simulator	1				
2	Notes on the Flight Simulator - Phase 1 - Low Speed Flight	1				
3	Checks on the Accuracy of the Low Speed Simulator	1				
4	Aerodynamic Data for the Flight Simulator	1				
5	Drag Data for the Flight Simulator	1	✓ ^o	✓		
6	Elastic Lateral and Longitudinal Derivatives Inherent in the Flight Simulator	1				
7	Trim Conditions for the Flight Simulator (Thrust, Incidence and Elevator Deflection)	1	✓ ^o			
8	Approximation Functions for the J-75 Engine Thrust	1				
9	Lateral Dynamic Stability of the Flight Simulator (at constant speed)	1	✓ ^o	✓	✓	✓
10	Longitudinal Dynamic Stability of the Flight Simulator (at constant speed)	1				
11	Evaluation of the Required Instrument Responses for the Flight Simulator	1	✓ ^o			
12	Comparison of Old and New Lateral Derivatives used in Flight Simulator	1				
13	Tests on Simulator Control Sys.	1		⊙	✓	✓
14	General Information on the Arrow Flight Simulator	0		✓		
15	Check on the Yaw Damper Installed in A/C 25201	1	55.	✓	✓	✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Preliminary Stability and Control					
2	Preliminary Stability and Control					
3	Theoretical Low Speed $C_{L\delta}$ and $C_{l\delta}$					
4	Aerodynamic Centre of Delta Wings					
5	Stability and Control					
6	CANCELLED					
7	Take-Off and Landing (Twin Engine) Analysis					
12	Take-Off Analysis (Single Engine)					
13	Take-Off Analysis (Single Engine)					
14	Aerodynamic Centre According to Linearized Supersonic Theory					
15	Variation of C_{M_q} with 1/4 Chord Sweep					
16	Modified Take-Off Analysis (Twin Engine)					
17	Power Effects					
18	Convair F-102 Comparison between W/T and Estimates of a_1 and a.c.					
19	Aerodynamic Centre of Delta Wings - Revised Issue					
20	Sideslip Derivatives ($C_{y\beta}$, $C_{N\beta}$, $C_{l\beta}$)					
21	Yawing Derivatives (C_{y_r} , C_{N_r} , C_{l_r})					
22	Rolling Derivatives (C_{y_p} , C_{N_p} , C_{l_p})					
23	Aileron Derivatives (C_{δ_A} , $C_{l_{\delta_A}}$, $C_{y_{\delta_A}}$)					
28	Effect of Ground on Static Margin					
29	Downwash for C-105 Reduct. Model					
30	Derivative C_{L_q}					
26	Longitudinal Derivative C_{M_δ}					



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
31	Derivative $C_{L\alpha}$		$\int^{\infty} \frac{RFL}{\alpha}$	17		
32	Theoretical Supersonic $C_{L\alpha}$ and $C_{M\alpha}$			17		
33	Derivative $C_{M\alpha}$		\int^{∞}	17		
34	Lateral Dynamic Stability			17		
35	Comparison of Directional Stability of C-105 and other Delta Wing Designs			17		
36	Pitch Damper					
37	Mach Variation of Rolling Derivatives			17		
38	Derivative $C_{M\dot{\alpha}}$			17		
39	Rudder Derivatives ($C_{Y\delta_R}$, $C_{l\delta_R}$, $C_{N\delta_R}$)			17		
40	Derivatives $C_{Y\beta}$, $C_{l\beta}$, $C_{n\beta}$			17		
41	Derivatives C_{Yr} , C_{lr} , C_{nr}			17		
42	Derivatives at $h = 5,000$, $M = 0.8$, $N = 4.89$			17		
43	Derivatives $C_{D\dot{\alpha}}$ and $C_{D\alpha}$			17		
44	Lateral Stability of Model Booster Combination			17		
45	Long Period Dynamic Stability		$2 \text{ vol } \int^{\infty}$			
46	Longitudinal Automatic Stability					
48	Lateral Dynamic Stability for $M = 1.1$, Diff. Alt., Varying $C_{n\beta}$, C_{nr}					
49	Coefficients for Analogue Computer			17	✓	
50	Aileron/Rudder Gearing for Coordinated Turns			17		
51	Model-Booster Lateral Stability Qualities and Most Adverse Model F.F. Trajectory			17	✓	
52	Revised Take-Off and Landing Analysis (Vol. I)			17		
53	Revised Take-Off and Landing Analysis (Vol. II)			17		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
54	Elevator to Trim at Low Speed (S.L.)		17-2 NO 17			
55	Derivative C_{M_U}		✓ 28			
56	Derivatives $\partial T / \partial V$ and $\partial T / \partial \alpha$		✓ 20			
57	Directional Stability - Nose and Front Fuselage		✓ 21 17			
58	Revised Rolling Derivatives (Elastic A/C)		18 17			
60	T.O., and Landing Analysis		18			
61	Effects of Compressibility and Height on Slowly Damped Long. Motion, Power Off and On		✓			
62	Concerning C_{l_p}		18			
63	Free Flight Models Nos. 1 and 2 Preliminary Data Reduction and Comparison with Theory		✓			
64	Lateral Stability and Trajectory, C-105 F.F.M. and "Terrier"		18			
65	Lat. Dyn. Stability Characteristics for Derivatives of P/Aero Data/39					
66	Aerodynamic Crosscoupling Pitch-Yaw & Roll		18			
67	Derivative $\partial T / \partial h$		✓ 20			
68	Elastic Derivatives in Level Flight		✓ 18			
69	Thrust Response to Speed and Angle of Attack		✓ 20			
70	$C_{Y_{Y_E}}$ $C_{l_{Y_E}}$ $C_{N_{Y_E}}$ Including Tail Elastics Vols. I and II		18			
71	Elastic Derivatives in Level Flight		✓ 20			
72	C_{L_Q} at High Mach Numbers		18			
73	Rolling Derivatives - Rigid A/C		18			
74	AVRO (M/c) Report Comparing Derivs. of 720 and C-105 with Comments		18			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
75	Elastic Derivatives at 2'g' and 4'g' and Notched Extended	2 vols	18			
76	Elastic Rolling Deriv's at 2 and 4.6		18			
77	Lateral Computer Coefficients		18			
78	Target Issue-Longitudinal Stability		18			
79	Elevator Damping System - Preliminary Freq. Response Path for System Components		28			
80	Components - Interference					
81	Derivative C_{T_u} -Thrust Variation with Speed					
82	Factor for $C_{M\delta}(CL)$		19			
83	C_{L_u} for Config. W, E10, N5, D8-4 (Cal. W.T.T.)		19			
84	Elastic Rolling Derivatives at $n = 1, 2, 4, -2$ based on May 1955 Wind Tunnel Data		19			
85	Elastic Lateral Derivatives L.E. Droop Notches and Extensions - Level Flight		19			
86	Several Investigations into Means for Estimating C_{np}		19			
87	Sideslip and Rudder Derivatives at 2, 4, and -2δ		19			
88	Vertical Tail Effectiveness in Sideslip		19			
89	Derivative C_{D_j}		19			
90	Derivative $C_{D\alpha}$		19			
91	Missile and Booster (May Flight)		19			
92	Note on Aerodynamic Stability Problems		19			
93	Determination Lateral Unstable Region		19			
94	ρ Method of Lateral Stabilization		19			
95	Calculation of Lateral Stability		19			
96	Lateral Dynamic Stability		19			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
97	Note on Elevator Power and Pitching Moment at Zero Lift		19			
98	Wing - Drooped, Notched and Extended Trim at Low Speed		19			
99	Derivative $d\tau/dv$		19			
100	Lateral Dynamic Stability 4'G' Flight		19			
101	Automatic Stability and Control System C-105		20	✓	✓	✓
102	Lateral Dynamic Stability 2'G' Flight		19			
103	Analysis of Experimental Investigations to determine C_{np} for Delta Winged Aircraft		19			
104	Lateral Dynamic Stability Approach Condi.		19			
105	Comparison and Ground Effects, N.A.E. Theory		19			
106	Elevator Damping System - Hydraulic Actuator Transfer Function Estimated from B-1 Rig Data		✓ 20			
107	Investigation of Effectiveness of Auxiliary Fins		✓ 19			
108	Phugoid Characteristics including the Effects of Compressibility and Variations of Atmospheric Character with Height	✓	19	✓		
109	Short Period Oscillation		✓ 28			
110	Emergency Pull-Out at Low Altitude		✓ 19			
113	Calculations of Lateral Derivatives and Dynamic Stability for F.F.M. 6 and Comparison with Model Test Results		19			
114	Lateral Dynamic Stability - 2'G' Flight		19			
115	Reasons for Increase in Lateral Stability in 2 'G' Flight		✓ 28			
116	Estimation of Position Errors of Air Data Nose Boom	✓	28			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
117	Cross-coupling Derivatives $C_{L\beta}$ and $C_{M\beta}$ from Cornell and Langley W/T Tests	✓ ^{FILE NO}	28			
118	VTOL, Dyn. Stab. Char. in Hovering Flight					
119	Calculation of Gust Envelopes, and Time and Magnitude of (1-Cos) Gusts	✓ ⁰	28			
120	Estimated Pressure Lags and Time Lags in the Air Pressure Data System	✓ ⁰				
121	Effect of C.G. Change on Lateral Stability of F.F.M. 10 and 11	✓ ⁰	28			
122	C_{np} - A Revised Estimate	✓ ⁰				
123	Effect of Elastics on Long. Stab. Deriv.	✓ ⁺	✓ ⁰ 28 ✓			
124	Calculation of Lateral Derivatives for F.F.M. No. 8		✓ ⁰ 28			
125	Calculation of Longitudinal Derivatives for F.F.M. No. 10					
126	Calculation of Longitudinal Derivatives for F.F.M. No. 11					
127	Elastic Lateral Stability Derivatives Vs Q Stability Axis	✓ ⁺	20	✓	✓	
128	Some Dynamic Stability Studies of C-105 Free Flight Models	✓ ⁺		✓		
129	Elastic Lateral Stability Derivatives Vs Q in Body Axes	✓ ⁺	20	✓	✓	✓
130	Minneapolis Honeywell All Attitude Equations, and Equivalents written in Avro Notation			✓	✓	✓
131	Elastic Longitudinal Stab. Derivatives Vs. Q in Body Axes	✓ ⁰				
132	Dynamic Equations Relative to Body Axes	✓ ⁺	20	✓	✓	✓
133	Initial Analysis of Free Flight Stability Models (General)	✓ ⁺	40	✓		
134	Long. Stability Definitions and Analytical Expressions for Deriving the Defined Quantities	✓ ⁺	20	✓		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
135	Time Vector Analysis of F.F.M. Lateral Results	$\sqrt{+}$ /*	^{REFL} 40	✓	✓	✓/*
136	Lateral Accelerations for Instantaneous Rudder and Instantaneous Sideslip		$\sqrt{+}$ 28			
137	Damping System Development		³⁰ 20	✓	✓	✓
138	Approach Natural Lateral Stability	$\sqrt{+}$	28	✓	✓	✓
139	Stability Augmentation in the C-105	$\sqrt{+}$ /*	20	✓	✓	✓
140	Time Vector Analysis of F.F.M. Longitudinal Results	$\sqrt{+}$	20	✓	✓	✓
141	Revised Prediction of Elastic Effects on Q Trim and δ_L Trim		^{2 revs} $\sqrt{+}$ 28			
145	Estimated Effect of Altitude and Sideslip of Trajectories of 2.75 Inch Rockets					
146	Open Canopy Effects	$\sqrt{+}$	28	✓	✓	
148	Effects of Extending Inboard L.E. on Aerodynamic Centre	$\sqrt{+}$	$\sqrt{+}$ 28	✓		
147	Improvement of C_{ng} by Addition of Ventral Fins, Wing Fins, Fin Area	$\sqrt{+}$	28			
142	GROUND EFFECT ON SOME LONGITUDINAL STABILITY DERIVATIVES.		28	✓		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Trim Angles and Flight Envelope Limitations (Elastic A/C) (C_{M_0} and C_{H_0} from F.F.M.'s)	1	✓ ⁺	55. ✓	✓	
2	Available Rudder Angle for 10°/Sec. and 30°/Sec. Control Application	0	✓ ⁰			
3	Trim Angles and Flight Envelopes (Elastic A/C) with F.F.M. Derivatives - Calculations	1	✓ ⁰			
4	Low Speed Lateral Control, Under-carriage Down	0	✓ ⁺ ✓ ⁰			
5	Digital Computer Determination of Lateral Derivatives from Oscillatory Flight Tests	1	✓ ⁺	55. ✓	✓	✓
6	Digital Computer Determination of Longitudinal Derivatives from Oscillatory Flight Tests	1	✓ ⁺ ✓ ⁺ ✓ ⁰	55. ✓	✓	✓
7	Stick Force (Elevator) Emergency Model	1	✓ ⁺			
8	Dynamic Analysis of Fin Mounted I.R. Seeker	2	✓ ⁺	55. ✓	✓	
9	Digital Computation of Response using an Approximation to Lateral Damping System	1	✓ ⁺ ✓ ⁰ *		✓	✓
10	Digital Computation of Response using an Approximation to Pitch Damper System	1	✓ ⁺ ✓ ⁰		✓	✓
11	Revised C_{nr}	1	✓ ⁰			
12	Revision - Variation of C_{np} with Incidence	1	✓ ⁰			
13	Estimation of Control Hinge Moments for Flight Test	1	✓ ⁰			
14	Rudder - Pitch Coupling	0	✓ ⁰			
15	ARROW Lateral Dynamic Stability	0	EX. ✓ ⁺	EX. ✓ ⁺	EX. ✓	EX. ✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
16	Digital Computation and Analysis of Arrow Lateral Response in Emergency Mode	1	✓ ⁺ □	55. ✓	✓	✓
17	Digital Computation and Analysis of Arrow Longitudinal Response in Emergency Mode	1	✓ ⁺ □	55. ✓	✓	✓ ⁺
18	Heating Effects on Camber	2	✓ ^o			
19	Arrow 1 Flight Envelope Limitations at 40,000 and 50,000 ft. with Zero Angle	1	✓ ^o			
20	Digital Computation and Analysis of Lateral Response in Emergency Mode - Undercarriage Down	1				
21	Digital Computation and Analysis of Longitudinal Response in Normal Mode - Undercarriage Down	1				
22	Digital Computation and Analysis of Lateral Response in Normal Mode - Undercarriage Down	1				
23	Flight Envelopes at W = 55,600 lb., C.G. = .31c	2	✓ ^o 55.			
24	Review of Derivation of C_{np} at Low Speed	1-2	✓ ^o 55.			
25	Some Derivatives for the Simulator and IBM 704	1-2	✓ ^o			
26	Aerodynamic Effects of Underwing Fuel Tanks	2	✓ ^o 55.			
27	Longitudinal Stability of the Elastic Aircraft - Volumes 1 & 2	1	✓ ^o 55.	✓	✓	
28	Short Period Oscillation of the Elastic Aircraft	1				
29	Flight Measurements of Control Surface Duty Cycles	1	✓ ^o	2/	✓	✓
30	A Preliminary Investigation of Flight Envelope Limitations and Lateral Stability	3	✓ ^o			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
31	Digital Computation Method of Analysis of Lateral Motion with Moving Lateral Controls	1		✓	✓	✓
32	Effect of I.R. Seeker Installations on Directional Stability	1	✓ ⁰			
33	Arrow Lateral Dynamic Stability with Improved Tail Stiffness - W = 47,000 lb. C.G. = .31c	0	✓ ⁰ +			
34	Take-Off Analysis of Arrow 2 and 2A Calculations	2A		EX ✓	EX ✓	EX ✓
35	Trim Angles: All Weights and C.G. Positions	2	2 VOLS ✓ ⁺	✓ ⁰	✓	✓
36	Trim Angles at W = 47,000 lb. and C.G. = .29c	2	✓ ⁺	✓ ⁰	✓	
37	Digital Computation Response Prediction in Seven Degrees of Freedom	1	✓ ⁺ X	✓	✓	✓
38	Elevator Angle to Trim at M = 0.5 - Based on High R.M. W/T Tests	2	✓ ⁰			
39	Investigation of Various Methods to Improve the Lateral Stability of Arrow 3	3	✓ ⁰			
40	Determination of Flow Around the Fuselage of the Arrow, using Associated Legendre Functions of the 2nd Kind	0		✓	✓	✓
41	The Longitudinal Short Period W = 60,000 lb. C.G. = .30c	1	✓ ⁰			
42	Control and Duty Cycles	0	✓ ⁺ *	✓	✓	✓
43	Lateral Dynamic Stability with Improved Tail Stiffness - Weight = 60,000 lb. C.G. = .30c	0	✓ ⁺	✓ ⁰	⊘	✓
44	Conditioning the Mathematical Stability Model for Automatic Reception and Checking of Flight Analysis Derivatives	0				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
45	Arrow 2A - Zero Length Launch	2		✓	✓	✓
46	Predicted Responses in Seven Degrees of Freedom with Various Rudder Disturbances	1	✓ 10 11			
47	Complete Evaluation of Conditions During a Perfectly Banked Level Turn	0		✓	✓	✓
48	Rudder Disturbances in 'G' Turns at M = .7, 20,000' and M = 1.3, 40,000'	1	✓ 10 11			
49	Predicted Lateral Response to Varied Alternating Aileron Impulses	1	✓ 10 11			
50	An Investigation of Elevator Hinge Moment and Elevator Control Box Deflections in Flight	1				
51	Digital Theoretical Prediction of Servo and Control Movements of the Arrow Utilizing Recorded Responses and Pilot Command Forces	0				
52	Damper System Engaged Digital Theoretical Response Prediction of the Arrow to Pilot Command Forces	0				
53	Duty Cycle and Fatigue Life of Aileron Jacks	1	✓ 10 11	✓	✓	✓
54	Predicted Lateral Responses to Establish Nature of Two Types of Oscillation	0	✓ 10 11			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Preliminary Calculations on Section Geometry and Loads on a 55° Swept Wing	✓				
6	Preliminary Wing Calculations of Spar Sizes and Skin Thicknesses for $t/c=6\%$ and 5 spars	✓				
7	Spar Sizes and Skin Thickness for Wing of $t/c = 6\%$ and 3 spars	✓				
9	Calculation of Structural Loadings on Wing	✓				
10	Calculation of fuel Pressures on Wing Panels - Rolling Pull-out Case	✓				
11	Calculation of Structural Loading on Wing Supersonic Case	✓				
12	Calculation of Position of Airload Centroid - Outer Wing	✓				
13	Determination of Wing Box Skin Thickness and Weight	✓				
14	Airload Distribution and Resultant Moments on Control Surfaces and Inter-Wing Leading Edge Box	✓				
15	Determination of End Load Distribution Along Swept Spar Box - Outer Wing - Supersonic Case	✓				
16	Determination of No. of Cells and Skin Thickness Required - Spar - Outer Wing Panels	✓				
17	Effect on Moment of Inertia of Extending Spar Box from Rear Spar to Aileron Hinge Line	✓				
18	Vertical Shear Forces and Bending Moments on Inboard Wing Panels	✓				
19	Determination of Spanwise Shear Distribution Along Swept Spar Box - Outer Wing Panel - Supersonic Case	✓				
20	Selection of Corrugation Sizes for Wing Box with End Load 10,000 lb./inch.	✓				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
21	Check on Strength of Outer Wing Structure - Scheme 'A'		✓ ^{APPL}			
22	Investigation of Chordwise Stresses in Single Large Spar Box at 60.0 inches from A/C Centreline.		✓			
23	Distribution of U/C Loads between Wing Spars		✓			
24	Load Distribution for Landing Case with Forward Drag (Wing and Fuselage)		✓			
25	Aileron and Aileron Actuation Schemes		✓			
26	Preliminary Investigation of Loads and Required Structure - Lower Air Brake		✓			
27	Check on Strength of Outer Wing Structure Scheme 'B'		✓			
28	Skin - Stringer Selection		✓			
29	Spanwise Distribution of Shear, End Load and Torque for Normal & Manoeuvre Cases		✓			
31	Preliminary Wing Leading Edge Design		✓			
32	Structural Analysis of Wing Details - C-104 Δ Version 'L'		✓			
33	Calculation of Structural Loads on Wing - Supersonic Case - C104Δ - 1 Engine - 1 Seater		✓			
34	Calculation of Centroid of Airload - Outer Wing - Supersonic Case - C104Δ - 1 Engine - 1 Seater		✓			
35	Shear and B.M. Distribution along an assumed elastic Axis		✓			
36	Front Fuselage Design C104Δ		✓			
37	Engine Mount Loads		✓			
38	Analysis of Wing Structure		✓			
65	Miscellaneous Stressing U/C					



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
67	Structural Influence Coefficients - Fin					
68	Structural Influence Coefficients - Wing					
69	Analysis of Static Tests on Test Specimens for F.F. Model Booster Horizontal Fin					
70	EXTERNAL FUEL TANK, PRELIM, LOADING AND STRESS ANALYSIS			✓	✓	



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
234	Preliminary Main Landing Gear Retraction and Extension Velocities	1-2				
235	CANCELLED	1	—	—	—	—
236	Control Surface Actuator Force Limitation	1		⊙	⊙	✓
237	Operational Flight and Tactics Trainer	2		⊙	✓	✓
238	Nosewheel Dynamic Loads	1-2		✓	✓	
239	Requirements for, and Future Development of an Angular Momentum Mass Flow Controller for Mk. 2 Air Conditioning System	2	65	⊙	⊙	✓
240	Flight and Tactics Trainer for Constant Speed Drive Oil System	2	✓ ⁺	✓	✓	✓
241	Flight and Tactics Trainer for Accessories Gear Box Oil Cooling System	2	✓ ⁺	✓	✓	
242	Pilot's Switch Selection for Lowering and Retracting Missiles	2	65	✓	✓	✓
243	Control Surface Supports	2		⊙	⊙	✓
244	Defuelling Changes Required	2	65	⊙	✓	✓
245	Controls and System Management - Air-Conditioning System	2	65	⊙	✓	✓
246	Flying Control Hydraulics - Production Test Procedure - Mk. 2	2		⊙	⊙	⊙
247	Production Test Procedure - Arrow 2 Electrics	2	65	⊙	✓	✓
248	Production Test Procedure - ARA 25 U.H.F. Homer	1	✓ ⁺	✓	✓	
249	Umbilical Terminal Box - Drawing	2				
250	Suggestion for Liquid Level Sensor Design	2	65	⊙	✓	✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
251	Production Test Procedure - AN/ARC-552	2	✓	✓	✓	✓
252	Production Test Procedure - Integrated Electronic System	2				
253	Interim Q _c Actuator System for Arrow 1	1				
254	Genie Armament Pack	2				
255	Flying Control System - Production Test Procedure	2		⊙	✓	✓
256	'G' Trim Indicator System	2				
257	The Comparison of MA-1 and Astra Electronic System	2		⊙	✓	✓
258	Function Test Procedure - Para-brake	2		⊙	⊙	✓
259	CANCELLED - See 263	-	-	-	-	-
260	Nose U/C Gear	2	✓			
261	Mk. II Break-Out Amplifier for Bell Stick Force Transducer	0				
262	Comments on Avro-Designed Fuel No-Air Valves	2	DRAFT ✓	⊙	✓	✓
263	Engine Controls - Production Test Procedure	2		⊙	⊙	✓
264	Notes on Parameters of MA-1 Radar obtained during visit of H.A.C. to Avro	0		✓		
265	Schematic - Wheel Brake System - Single Shuttle Valve	1				
266	Schematic - Wheel Brake System and Anti-Skid Units	1				
267	Schematic - Wheel Brake System - 2 Shuttle Valves	2				
268	Schematic - Wheel Brake System and Anti-Skid Units	2				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
269	Investigation into the Cause of High "G" Accelerations at Approx. 1 cps occurring during Flight No. 14 on Sept. 28/57	1		✓	✓	✓
270	Schematic - Wheel Brake System - Single Shuttle Valve	2				
271	Visit to Douglas A/C Corp. Missile Engineering Division to discuss MB-1 Rocket	2	✓ +	✓	✓	✓
272	Schematic - Wheel Brake System	2				
273	Trip Report to H.A.C. to Discuss Power System for the MA-1 Installation in the Arrow	0		⊙	⊙	✓
274	Modification of Wheel Brakes Hydraulic Supply	1-2				
275	Electric Schematic - Electro-Hydraulic Nose Wheel Steering System - (Production Type)	2				
276	Hydraulic Schematic for Production - Electro-Hydraulic Nose Wheel Steering System	2				
277	Armament Pack Fuel Tanks	2	DRAFT	⊙	⊙	✓
278	Circuit Diagram - Electro-Hydraulic Nose Wheel Steering System	1-2				
279	Bell Crank Detail - N/W for Dirpot Mounting Information	2				
280	Wheel Brake Report - A/C 25202	1				
281	Investigation to Improve Arrow Ground Handling Characteristic without N/W Steering	1				
282	Weapon Pack Test Program	1-2	✓ +	⊙	✓	✓
283	Schematic Flying Controls - Hydraulic System A/C 2	1				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
284	Schematic - Flying Controls Hydraulic System A/C 2	1				
285	Elevator Feel and Trim - Schematic	1-2				
286	Elevator System Analysis + Derivation of Frequency Response Functions for Emergency Mode of Control	1-2		✓		
287	Genie-Falcon Armament Pack Schematic	2				
288	Falcon Armament Pack Schematic	1-2				
289	Tank 5 Nose Down Gauging System	2	✓ ⁺ *	✓	✓	✓
290	Factors Governing Engine Inlet Pressures	2	✓ ⁺ *	✓	✓	✓
291	Relief Capacity Adequacy	2	✓ ^o			
292	Study of Effects of Various Stiffnesses of Input Linkage from Stick to Valve on Response of Elevator Valve and Actuator for Emergency Mode of Control	1-2		✓		
293	Hydraulic Schematic of N/W Shimmy Damping and Self-Centering System	1				
294	Radar Ranges of MG-2, AI-18, Astra AI-23, MA-1 Radars	0				
295	Definition of Electronic Equipment for Aircraft 25202	1		⊙	⊙	⊙
296	Schematic - Reclosing Main U/C Door - Mechanical Sequencing	2				
297	Report on Meeting with H.A.C. - Nov. 19, 20, 21 - RE: Weapon Installation	0		⊙	✓	
298	Clear Range Determination in the Presence of Radar Jamming Sources	0		✓		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
299	Radome Boresight Range - Ref: Visit by K.P. Silveira of Calif. Tech. Industries to Avro to Check Installation of C.T.I. Boresight Error Measuring System 150A and •Familiarize Avro Personnel with some of its uses	0		✓		
300	MA-1C CCM Capability in an E.C.M. Environment	0		✓		
301	Effect of Burning Teflon on Cockpit Environment	0		✓	✓	✓
302	Maintenance Checking of Hydraulic Pump Performance	2		⓪	✓	✓
303	Mechanical Reclosing of the Main U/C Doors	2				
304	Circuit Diagram - Electro- Hydraulic Nose Wheel Steering System	2				
305	Definition of Electronic Equipment for A/C No.'s 25210, 11, 12 & 13	2		⓪	⓪	✓
306	Three-Dimensional Missile Traject- ory - Across the Flow Field of a Manoeuvring Launcher Aircraft	0				
307	Schematic Flying Control - Arrow 2 Phase 2	2				
308	Report on a Visit to Holloman A.F.B.	0	✓ ⁺	⓪	✓	✓
309	Comments on AIR-7-4 Issue 5	2	✓ ⁺	⓪	⓪	✓
310	Radar Sub-System Pressurization	1				
311	Performance Limitations of the Arrow Escape System	2				
312	Technical Co-ordination Index - Arrow/YMA-1C	2				
313	YMA-1C Co-ordination Sheets	2				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
314	Elevator System Analysis Derivation of Frequency Response Functions for Electric Mode of Control, Differential and Parallel Servo Inputs	1-2		✓		
315	Schematic - Utility Hydraulic Circuit - Arrow 1	1				
316	Schematic - Utility Hydraulic Circuit - Arrow 2	2				
317	Arrow Wheel Brake Hydraulic Supply	1-2	✓*	✓	✓	✓
318	Programme for the Radome Boresight Range	0				
319	Schematic - Flying Controls Hydraulics	2				
320	1958 Electron Devices Meeting	0		✓		
321	Pressure Refuelling - Some Aspects of Fluid Velocities in Fuel Systems	1-2				
322	Investigation Carried out on the Master Warning System for the CF-105	0				
323	Functional Test Procedure MB-1 Development Pack	2				
324	Arrow Armament Preparation and Fitting	0				
325	Removal of Transfer & Refuelling S.O. Valve	2				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1000/1	Check on Structural Weight	✓				
/2	Investigation of Aerodynamic Heating	✓				
1050/1	Fuselage - Estimate of Scantlings - Cycle 1 Phase 1	✓				
/2	Fuselage - Estimate of Scantlings - Cycle 2 Phase 1	✓				
/3	Investigation of Wing - Fuselage Marry-up Problems	✓				
/4	Fuselage Weight Investigation	✓				
/5	Further Investigations of Structure at the Wing - Fuselage Junction	✓				
1052/1	Front Fuselage - Phase 1	✓				
1060/1	Wing Complete (Less Skin and Stringers) Phase 1	✓				
/2	Wing Skin & Stringers Phase 1	✓				
/3	Estimate of Wing Deflections	✓				
/4	Sections 1 - Geometry	✓				
	2 - Loading & Reactions on Structure	✓				
	3 - Convention for Loads on Segments	✓				
	4 - Skin Shear Analysis	✓				
	5 - Equilibrium of Joints	✓				
	6 - Joint Relationships	✓				



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No.

Title

Mk. Original Set 1 Set 2 Set 3

1060/5

- C1 Rigid Wing Loads #1,2,3,4
Summary
- C2 Subsonic 1-3 a - M = .453
- n = y.33 - 27% Mac.
- C3 Supersonic 8 - 3a - M = 2.0
- n = 6.0 - 27% Mac.
- D1 Supersonic Roll - M = 2
- n = 4.89 - 27% Mac.
- D2 Subsonic Roll - M = 372
- n = 4.89 - 27% Mac.
- E1 Landing Tail Down 31% Mac.
- F1 Modification Due to Thrust
- F2 Uniform Load of 1 lb/ft
- F3 Uniform Load - Root Fixed

1060/6 Wing Deflections

- A1 Revision of Influence Coefficients Change of Stiffness at Bulkhead 485
- A2 ~~φ~~ Removed from Submatrices
- B1 Inertia Loads
- C1 Supersonic - 8 - 3a - m = 2
- n = 7.33 - 27% Mac
- C2 Subsonic - 1 - 3a - M = 453
- n = 7.33 - 27% Mac
- D1 Subsonic Roll - M = .372
- n = 4.89 - 27% Mac.
- D2 Supersonic Roll - M = 2
- n = 4.89 - 27% Mac.
- E1 Landing Tail Down - 31% Mac

1060/7 Wing Influence Coefficients for Revised Struct.

- A3 Torsion Boxes



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1060/7	A4 Structural Properties	✓				
	A7 Beam Submatrices	✓				
	A8 General Matrix	✓				
	A9 Computing	✓				
	A10 Symmetric Matrix & Inverse	✓				
	A11 Assymmetric Matrix & Inverse	✓				
	A12 Checks On Matrices	✓				
	A14 Corrections to Matrices	✓				
	A15 Bordering of Matrix	✓				
	A16 Bordered Deflection Matrices	✓				
	A17 Incidence Matrix	✓				
	A18 Graphical Check on (4)	✓				
	A19 Modified Asymmetric Case	✓				
	A20 Modified Asym. Incidence Matrix	✓				
	B1 Inertia Loads	✓				
	C1 Supersonic Flight Case Internal Loads	✓				
	D1 Supersonic Steady Roll	✓				
	F1 Temperature Effects on Wing Influence Coefficients	✓				
	F2 Unit Loading Cases	✓				
1060/8	Sym. & Antisym. Deflection Matrices and Internal Load Matrix - IBM 704 Listings.	✓				
	A2 Wing - Internal Loads - General Info. and Geometry	✓				
	A3 Torsion Boxes	✓				
	A4 Structural Properties	✓				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1060/8	A5. Equilibrium Equations		✓			
	A6 Joint Relationships		✓			
	A7 Beam Submatrices		✓			
	A8 General Matrix		✓			
	A9 Computing		✓			
	A10 Symmetric Matrix & Inverse		✓			
	A11 Asymmetric Matrix & Inverse		✓			
	A12					
	&13 Checks on Matrices		✓			
	A17 Symmetric Indicence Matrix - General & Matrix		✓			
	A18 Assymetric Incidence Matrix		✓			
	A19 Modified Asymmetric Case (Front Fuse. Restraint Included)		✓			
	A20 Modified Asymmetric Matrices		✓			
	A21 Internal Load Matrix & I.B.M. Computation		✓			
	A22 Symmetric & Cantileves Matrices of Wing Influence Coefficients		✓			
	A23 Assumptions and Data for C105 Influence coefficient Analysis		✓	31	✓	✓
	A24 Influence Coefficients for Aircraft on Elastuc U/C		✓			
	A25 Influence Coefficients for Aircraft on Elastic U/C		✓	31		
	A27 Stiffness Review in Light of Ground Resonance Test Results		✓			
	B1 Inertia Loads		✓	31		
	C1 Front Spar Stresses for Two 7 'G' Supersonic Flight cases.		✓	31		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1071/1	First Proposals - Structure of Dive Brakes (Upper & Lower)		✓			
1072/1	Lower Dive Brakes		✓			
1074/1	Aileron Structure Phase 1		✓			
1082/1	Elevator Structure Phase 1		✓			
1083/1	C105 FF Model Fin Incidence Influence Coefficients		✓			
1083/3	Fin Influence Coefficients		✓			
	3A Fin Influence Coefficients		✓			
	3B Fin Influence Coefficients		✓			
1083/4	Fin Internal Loads		✓			
1092/1	Main U/C Structure Investigation of Honeycomb Construction		✓			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
5	Fuselage Rings - Determination of Sizes by Strain Energy		✓ ⁰			
6	Analysis of Circular Fuselage Rings for Single Engined A/C		✓ ⁰			
9	Temp. Differentials between Wing Skin and Booms - Stresses Induced Thereby					
10	Estimate of Additional Material Required in Transport Joint and Front Spar for Undercarriage Loads		✓ ⁰			
11	Analysis of L/E Spar Deformation induced by Main U/C Loads and Wing inertia in Anti-Drag Case		✓ ⁰			
12	Main U/C Pick-Up Loads for Various Cases and Geometries		✓ ⁰			
13	Performance of Bogie Landing Gear		✓ ⁰			
14	Structural Adaptability					
15	Determination of Frame Stiffness to Stabilize Lower Boom of Fuselage Centre Beam		✓ ⁰			
16	U/C Loads and Taxiing Performance-Version 'O'		✓ ⁰			
17	Dowty Data for Stressing Jacks		✓ ⁰			
18	Cancelled					
25	Undercarriage Geometry		✓ ⁰			
26	Nose U/C Ground Reactions		✓ ⁰			
27	Main U/C Ground Reactions		✓ ⁰			
28	Explanatory Extract of U.S.A.F. Specs. to Determine Loads for U/C Design.	✓ ⁺		✓	✓	
29	Taxiing Performance		✓ ⁰			
30	Natural Frequencies of Undercarriage Leg					
31	Visit to P.R. Mallory and Co. regarding Manufacture of Elevator for F.F. Model	✓ ⁺		✓		
32	The Flight Limitations of the C-105	✓ ⁺	47	✓	✓	✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
33	Transient Temperature Distribution in Typical Wing Structure					
34	Engine Mount Temperatures - J75 Installation		✓			
35	Effect of High Engine Temperatures on Surrounding Structure					
36	Better Heat Resistant Aluminum Alloys, allowing High Speeds - Part 1: Investigation of Material Properties Part 2: Replacement of Materials (Detailed Calculation)			✓	✓	
37	An Investigation of Some Aspects of Rain Erosion on A/C Structure					



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Proposal to Revise Fuselage Fuel Tank Pressurization System	✓+	34	✓	✓	✓
2	Air Pressure Data System Proposal	✓+		✓	✓	✓
3	Pre-Flight Flying Control System Tests (Preliminary) Production Aircraft Elevator, Aileron and Rudder Control Systems	✓+		✓	✓	✓
4	Schematics - Theoretical Circuits Mk. 2	✓+		✓	✓	✓
5	Investigation of Utility Hyd. System Relief Valve Capacity					
6	Schematics - Theoretical Circuits Additions to Mk. 1					
7	Circuitry Affecting Bought-out Equipment					
8R	Load Analysis and Power System MK. II		54	✓	✓	
9	Pre-Flight Flying Control System Tests (Preliminary) Production Aircraft - Engine Control System	✓+		✓	✓	✓
10	Pitot-Static System Mk. 1	2✓+		2✓	1✓	1✓
11	Pitot-Static System Mk. 2	3✓+		3✓	3✓	3✓
12	Low Pressure Pneumatic System Mk. 2					
13	M.H. 64 Damper					
14	R.C.A. Astra 1 Scanner Hyd. System (Mk. 1 A/C 4 and 5)	✓+		✓		
15	Fuel System Booster Pump to Engine Inlet		✓ ⁰			
16	Fuel Tanks 6, 7 and 8 Flow Areas		✓ ⁰ 34			
17	Investigation of Utility Hydraulic System Power Circuit	✓+				
18	Air Pressure Data System Volume	1✓+		2✓	2✓	1✓
19	Investigation of Alternative Method of Fuel Transfer	✓+	34	✓	✓	✓
20	Fuel System Brochure Arrow 1 (Revised)					
21	Fuel Systems Brochure Arrow 2					



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
22	Mk. 2 Pressurization System					
23	Mk. I L/G Tests		✓+		✓	
24	Report on Radome De-Icing					
25	F/C Hydraulic System Brochure - Arrow 2					
26	Utility Hydraulic System Brochure - Arrow 2					
27	Electrics System Brochure - Arrow 2					
28	Flying Control System Brochure - Arrow 2					
29	L.P. Pneumatics System Brochure - Arrow 2					
30	Oxygen System Brochure - Arrow 2					
31	Fire Protection System Brochure - Arrow 2					
32	M-H 64 Damper Reliability					
33	Rudder Hinge Moment Limiter Modification					
34	Functional Check, Prod. & Pre.Flt. Electrical				3/	3/
35	Ram Air Turbine Investigation	1-2	2/		2/	2/
36	Fuel Contamination - A-C System	2	✓ 34			
37	Armament Hydraulic System Schematic	1-2				
38	Drop Tank in S-S Fuel System	2	✓		✓*	✓*
39	Fuel-No-Air Valve (Calculations)	1	✓ 34			
40	Armament Hydraulic Brochure	2				
41	AN/ARD 501 Development					
42	Load Analysis Electrics	1			⊙	⊙
43	CANCELLED					
44	Wheel Brakes Schematic Arrow	2				
45	A Proposed Escape System for the Arrow	1-2			✓	✓
46	Elevator Feel and Trim Unit	1-2	✓			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
47	Fuel Pressures due to A/C Manoeuvres	1	EX. 1 ✓	✓ ¹⁰	EX. 1 ✓	EX. 2 ✓
48	Air Conditioning Mk. II	2				
49	Electrical Load Analysis A/C 4 and 5	1			✓	
50	Airflow Limiter Performance Investigation	1		✓ ¹⁰	34	
51	Brochure Radome De-Icing Mk. 2	2				
52	CANCELLED					
54	Lead Collision Fire Control as Mechanized in Astra 1	1				
55	Investigation into Reduction of Wing Tank Air Pressures - Arrow 1	1				
56	Fuel System Advanced Test Results	1		✓ ¹⁰	34	
57	Arrow II Wheel Brake Report CANCELLED					
58	Minimum Total A/C Fuel Load When Individual Tanks are Full	1		✓ ¹⁰	34	
59	Functional Tests - Oxygen System	1			✓	✓
60	Functional Tests - Fire Extinguishing	1			✓	✓
61	Display of (1) Target to Interceptor Speed Ratio and (2) the Aspect Angle of Attack to the Crew of the Interceptor - Astra 1				⊙	
62	Investigation of a Venturi to Provide a Pressure Sensing Regulator	1-2		✓ ¹⁰	34	



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1	Mock-Up Brochure on Air Condition- ing. CANCELLED	2	_____	_____	_____	_____
2	Low Pressure Pneumatics CANCELLED	2	_____	_____	_____	_____
3	Antenna Evaluation Program	1	1/0	✓	✓	✓
4	Fire Extinguishing System	2	✓	_____	_____	_____
5	Production Testing Fuel System	1	34	✓	✓	✓
6	Bonding	0	_____	✓	✓	✓
7	Astra 1 System	2	30	✓	✓	✓
8	Mk. 2 Armament System	2	_____	✓	✓	✓
9	Low Pressure Pneumatics - Functional Test Procedure	1	_____	2/✓	✓	✓
10	Arrow Mk. 2 Air Conditioning Insulation	2	_____	_____	_____	_____
11	Utility Hydraulic - Functional Test Procedure	1	_____	2/✓	2/✓	2/✓
12	Production and Pre-Flight Tests - Air Cond. System	1	4/✓	4/✓	4/✓	4/✓
13	Engine Controls	1	_____	✓	✓	✓
14	Parabrake System	1	_____	✓	✓	✓
15	Nose Wheel Steering	1	_____	✓	✓	✓
16	Flying Control System - Arrow - Production Test Procedure	1	PART NO.	1. 2. 3. 1. 2. 3.	1. 2. 3.	1. 2. 3.
17	Flying Control Hydraulics	1	_____	3/✓	3/✓	3/✓
18	Fire Protection System	2	✓	_____	_____	_____
19	Nose Door Jack Stress	1	28	_____	_____	_____
20	Main Door Jack Stress	1	_____	_____	_____	_____
21	Fuel System	2	_____	✓	✓	✓



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22	Missile Lowering and Retraction Mechanism	1		✓		
23	Operational Sequencing for Single Missile Test Rig	2	✓ ⁺			
24	Qualification Test of Flow Limiter, Air	1	✓ ⁺	36 (✓)	(✓)	(✓)
25	Hydraulic Flying Control System	2				
26	Hydraulic Utility System	2		✓	✓	✓
27	Electrical System	2		(✓)	(✓)	(✓)
28	Flying Control System	2		(✓)	✓	✓
29	Low Pressure Pneumatics	2		(✓) (2/)	✓ (2/)	✓ (2/)
30	Oxygen System	2		✓ (2/)	✓ (2/)	✓ (2/)
31	Fire Protection	2		✓ (2/)	✓ (2/)	✓ 2/
32	Schematic Oxygen System	1&2	✓ ⁺			
33	Progress Report for the UHF Annular Slot Antenna	2		(✓)	✓	
34	Fire and Overheat Detection Proposal - Arrow 2	2	✓ ⁺	54 ✓	✓	✓
35	C.G. Control System - C.G. Shift	1	✓ ⁰	34		
36	C.G. Shift due to Fuel Shut-Off Valve Leakage	1	✓ ⁰	34		
37	Air Release System (Effect on Fuel No-Air Valve Failure)	1	✓ ⁰			
38	Arrow 2 - C.G. Shift	2	✓ ⁰	34		
39	Fuel Transfer Forward	2	✓ ⁰	34		
40	Hydraulic Armament System	2		✓	✓	
41	Drawing of Test Dearator C.S.D. Oil System	2		✓		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
42	Up-Lock Release - M/G - Emergency Operation	1				
43	Development Programme for the Crew Emergency Escape System in the Arrow A/C	0	2/1	2/	2/	1/
44	Brake Energy Absorption and Landing Run	2	28			
45	Accessories Gear Box - Oil Cooling System	2	2/1	✓	✓	
46	Constant Speed Drives Integrated Oil System	2	2/1	✓	✓	
47	Flow Limiter Design - 19 psi Pressure System	1	54			
48	Air-Conditioning System	2		✓	✓	✓
49	Air Supply to Constant Speed Drive and Access Gear Box	2	2/1	✓		
50	Effects of Failure in Astra Scanner Drive Hydraulic System	2	2/1	✓	✓	✓
51	Protection Against Ice	2		✓	✓	✓
52	Preliminary Investigation in Mk. 3 Air-Conditioning System	3	54	✓	✓	✓
53	Arrow Defuelling Tender Requirements	1	55	✓		
54	Production Test Procedures	1		✓	✓	✓
55	Arrow Fuel System Ground Test Air Requirements	1	54	✓		
56	Flying Control Hydraulics Functional Test Procedure	1		✓	✓	✓
57	Booster Pump Adequacy in 19 psi Fuel System	1	54	✓	✓	
58	Infra-Red Information Symposium - Pasadena, California - October 1st and 2nd, 1957	0		✓		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
59	Monthly Progress Report	2		✓		
60	Accuracy of Collector Tank Level Gauging System	1	✓ 54			
61	Temperature Drop in Air Pressurization Lines	2	✓ 54			
62	A Study of the Infra-Red Sub-System	0				
63	Antenna Switching of Multiplexing Arrow 1 & 2	1-2				
64	Stick Oscillations on the Pitch Axis of the Landing Mode on the Arrow	1	✓ +	✓	✓	✓
65	Phase 2 Air-Conditioning System Test Results	1	✓ +	66.		
66	Post Installation Check of AN/AIC-10 in Arrow Mark 1	1		30 (1)	✓	✓
67	Air Flow Pressure Losses in Pipes and Bends	1	✓ 34			
68	Arrow 2 Ram Air Turbine Installation	2	✓ +	✓		
69	Flying Control System Data Book	1		✓		
70	UHF L-Band Antenna Work on the Avro Arrow by Sinclair Radio Laboratory	1		30 (1)	✓	✓
71	Alternating Current Power Pack Schematic	1				
72	Speed Brake - Schematic	1				
73	Operation of Fire Detection System	0		55. 54	✓	✓
74	Ram Air Turbine Power Requirements	1		28		
75	Ram Air Turbine Actuation	1	✓ 28			
76	Monthly Progress Report (Antenna Programme)	2		30	✓	✓
77	Tests Performed on Humphrey Stick-Force Transducer	0		(1)	✓	✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
78	Redesigned Missile Firing System for A/C No. 3	1		✓	✓	✓
79	Arrow Air Trials Programme - Sparrow 2 Weapon Launching System	1		✓	✓	✓
80	Dual Pressure Range Pumps	2	✓+	✓	✓	✓
81	Nose Landing Gear Retraction Restrictor	1	✓+	✓		
82	Investigation into the Failure of Arrow Flying Control Hydraulic Pipes on Fatigue Test	1		✓	✓	✓
83	Installation of Autonetics Automatic Antenna Selector - 57A (C 2193/ARC)	1				
84	Assessment of the Simple Stable Platform	0		✓	✓	✓
85	Drainage of Aircraft Hydraulic Systems	0	✓+	✓	✓	✓
86	Nose Landing Gear Door-Closing Scheme	1	✓+	✓		
87	Constant Speed Drive System	2				
88	Study of Dynamics of Martin-Baker Mk. C5 Seats During Ejections, as influenced by Flexibility of Ejection Gun	0	✓+			
89	Theory of Trajectories of Bodies, Ejected from Flying Aircraft, and Application of this Theory to Establishment of Conditions Required for Martin-Baker Mk. C5 Seats to Miss the Fin of the Avro Arrow A/C	0	2/✓	✓	2/✓	2/✓
90	Study of Thrust Required to Keep Deceleration of Flying Bodies, such as Ejected Seats, within Predetermined Limits	0		2/✓	2/✓	2/✓
91	UHF Antenna Coverage Arrow 1 - A/C 25201	1		✓	✓	✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
92	Low Pressure Pneumatics	1	✓ ⁺			
93	Arrow - Electrical System Loads and Controls	0		65. ✓	✓	
94	Development of the Control Valve Dampers	1	✓ ⁺	✓	✓	✓
95	Power Switching and Launch Control Sparrow II	2		✓	✓	
96	F/C Booster Schematic	1	✓ ⁺			
97	The AiResearch Qc Actuator System	1		⊙	⊙	✓
98	First A/C Fuel System Flight Limitations	1		54. ⊙	⊙	✓
99	Temporary Solution to the Problems Encountered on the Arrow Simulator	1		⊙	⊙	
100	Simulator Flying Controls	1		⊙	⊙	✓
101	Arrow Model Antenna Pattern Tests	0		✓	✓	
102	Modification to Scheduling Servo Amplifiers	1		⊙	✓	✓
103	CANCELLED					
104	Arrow Braking Equipment and Performance	1		⊙	✓	✓
105	Captive Flight - Sparrow II Missile	2				
106	Qc Actuator System Problem	1				
107	S.R.L. Progress Report to January 16, 1958	0				
108	State of the B-1 Rig at Flight Simulation on January 23rd, 1958	1	✓ ⁺	⊙	✓	✓
109	Antenna Work on the Avro Arrow by S.R.L.	0				
110	Extra Fire Protection System	2				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
111	Model Specification for the Astra Electronic System for the Arrow Aircraft	2		✓	✓	✓
112	Arrow 2 Performance Proposals	2				
113	Post-Installation Check Setting-Up Procedure of the Qc Actuator	1		✓	✓	
114	Aileron Support with Hydraulics Off	1		✓	✓	✓
115	Pre-Flight Flying Controls Checks on A/C 25201	1		3/✓	3/✓	3/✓
116	Rudder Centering	1		✓	✓	✓
117	S.R.L. Work Schedule for March 1958	0				
118	Pre-Installation Tests on Avro Qc System	1		✓	✓	
119	Control Cable Friction Test	1		✓	✓	✓
120	Report on Nose Wheel Steering Valve Investigations	1		✓	✓	✓
121	Post Installation Check of Arrow Antenna for Aircraft 25206, 207, 208, 211	1		✓		
122	Recloseable Nose Undercarriage Door	2 ✓ ⁺				
123	Engine and Accessory Oil System Production Test Procedure	1 ✓ ⁺	57	2/✓	2/✓	✓
124	Nose Gear Door Jack Pressure Investigation	1-2				
125	Appraisal of the Existing Arrow Escape System	0		✓	✓	✓
126	Extra Fuel - Arrow 3 Aircraft	3		✓	✓	✓
127	Requirements for Arrow 2 Cockpit and Radar Temperature Control Systems	2 ✓ ⁺	55	3/✓	3/✓	3/✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
128	Fire Extinguishing System Functional Test Procedure	2		✓	✓	✓
129	Anti-Skid Installation	1-2	✓	✓	✓	✓
130	Constant Speed Drive - Separate Oil System	2	65			
131	Progress Report for S.R.L. from January 16 to March 16/58	0		⊙	⊙	✓
132	Avro Comments on Leg Clearance Ejection Tests, Arranged by Martin-Baker in England in Feb. 58	0		⊙	✓	✓
133	Arrow 1 - Temperature Setting of Turbine Outlet Limiting Regulator	1	✓ 54			
134	Weapons System Evaluation	2	✓			
135	Simplification of Elevator and Aileron Booster Circuits	2				
136	Missile/Instrument Pack Schematic	2				
137	Proposed Mass Flow Controller	2	65	✓	✓	✓
138	Damper System Reliability Requirements	2		✓	✓	✓
139	A Proposal for an Antenna Range System	2		⊙	⊙	✓
140	Astra Cooling Air Supply Arrow 1 (A/C 4 and 5) and Arrow 2	1-2	✓*	65	✓	✓
141	Long Range Fuel Capacities - Arrow 2 Aircraft	2		⊙	✓	✓
142	Tests Performed on Humphrey Stick Force Transducer No. 6	0		⊙	⊙	✓
143	Booster Pump Adequacy in 195 psia System Proportional	1	65	✓	✓	✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
144	Modification of the Mass Flow Controller Theory to the Precept of Complete Flow Guidance by the Rotor	2		65 ✓	✓	✓
145	Production Testing of the Fuel System - Arrow 2	2	✓ ⁺ AMEND. 4	65 (P) AMEND. ✓	(P) AMEND. ✓	✓ AMEND. ✓
146	Technical Recommendations with regard to Arrow 2 Ejection Seat Procurement Spec.	2		✓		
147	Report on Functions of the Ground Test Unit Assembly for Testing Arrow Armament Pack Contents	0	2/+ ✓	(1) ✓	(1) ✓	(1) ✓
148	Deletion of Nose Wheel Steering Selector Valve	1		✓		
149	Schematic A.C. Power Pack	1				
150	Schematic - Wheel Brake System	1				
151	CANCELLED					
152	Schematic - Nose Wheel Steering	1				
153	Schematic - Speed Brake Sub-System	1				
154	Schematic - Landing Gear Sub-System	1				
155	Schematic - Utility Pump Circuit and 1500 psi Circuit	1				
156	Schematic - A.C. Power Pack	2				
157	A/C 25206 - Engine Installation - Initial Ground Tests	2		65. (5) ✓	✓	✓
158	Schematic - Flying Controls Hydraulics - Aircraft 1, 2 & 3	1				
159	Schematic - Flying Controls Hydraulics Aircraft 4 and 5	1				
160	Schematic - Flying Controls Hydraulics	2				



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No.	Title	Mk. Original	Set 1	Set 2	Set 3
161	g _c Actuator System - Investigation for Arrow 2	2			
162	Arrow 2 Pump System Schematic	2			
163	A/C 25201 Landing Gear Schematic	1			
164	A Cockpit Temperature Controller for the Arrow 1 Air-Conditioning System	1	⊙	⊙	✓
165	Installation of Genie Missiles in Avro Arrow	2	⊙	✓	✓
166	Control Surface Position Indicator Design	2	⊙	✓	✓
167	Transparent Material for Windscreen and Canopy	2	65. ⊙	⊙	✓
168	Effects due to Lack of Temperature Compensation on Main L/G Liquid Spring	1 ✓ ⁺			
169	Investigation of Revised F/C Booster Hyd. Circuits	2			
170	Environmental Protection for Crew Members	2 ✓ ⁺	65. ✓	✓	✓
171	Equipment Pressurizing System	2			
172	Schematic - Flying Controls	2			
173	Schematic - Flying Controls Hydraulics Aircraft 25206, 7 & 8	2			
174	Schematic - Fire Extinguishing System	1			
175	Schematic - Oxygen System	1			
176	Schematic - Oxygen System	2			
177	Investigation of a Temperature Controlled Fuel Pressure Warning Switch	1	65. ⊙	✓	✓
178	Modification of Wheel Brakes Hydraulic Supply	1-2			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
179	Report on Interim Astra	2				
180	Slamming of Pilot's Canopy during Emergency Operation	1		✓	✓	✓
181	Schematic - Astra 1 Hydraulic System	1-2				
182	Production Test Procedure - Oxygen System	2		⓪	✓	✓
183	Fuel Transfer Schematics	1-2	65.			
184	Pressurization System Schematics	1-2	65.			
185	Production Test Procedure - low Pressure Pneumatics	2		⓪ ⁺ _{AM-ADS}	⓪ ⁺ _{AM-ADS}	✓ ⁺ _{AM-ADS}
186	Parabrake System Schematic - Arrow 2	2				
187	Schematic - Emergency Ejection and Canopy Operation	1		✓		
188	Schematic - Arrow 2 Wheel Brakes (less anti-skid)	2				
189	Lead Collision Fire Control Mode as Mechanized in Astra 1 (Revised P/SYSTEM/54)	0		✓		
190	Evaluation of Control Valves and Elevator, Aileron and Rudder Controls Systems	2	62.	✓	✓	✓
191	Flying Control Circuit - Heat Generated	1	✓ ⁺			
192	Post Installation Check of the APX-25A	2		⓪	✓	✓
193	Post Installation Check of the ARC-52	2		⓪	✓	✓
194	Post Installation Check of the Radio Compass System	2		⓪	✓	✓
195	Post Installation Check of the AIC-10A	2		✓	✓	



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
196	Landing Gear Circuit - Schematic	1				
197	Schematic - Adaptor Block	1				
199	Mag Amp and Moog Valve Connections	1				
200	Circuit Diagram of Steering System	1				
201	Transmitter Potentiometer Tapping Details	1				
202	Permissible Main L/G Wheel Weight	2				
203	Production Test - Escape System	1-2		✓	✓	✓
204	Electronic Break-Out System for Stick-Force Transducer	0		✓	✓	✓
205	Development Programme for the Arrow 2 Escape System	2	✓	✓	✓	✓
206	CANCELLED					
207	Modification to the q _c Actuator System to meet the Hinge Moment Limiter Requirements	1-2		✓	✓	✓
208	Theoretical Investigation into Leg Walking Problem	0	✓	✓		
209	Influence of Hydraulic Stiffness on Response of Flying Controls Hydraulic Circuit	2		✓	✓	
210	The Requirement for "Linked" Crew Escape from the Arrow	2		✓	✓	✓
211	Production Test Procedure for Q _c Actuator System	1		✓	✓	✓
212	Static Pressures in the Flying Controls System	1				
213	Flame Proofing of Fuel Vents	0		✓	✓	
214	Spin Up Time Arrow Main Wheels	0	✓			
215	Time History of Brake Applications	0	✓			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
216	Reduction in Residual Fuel	1	65.	✓		
217	Escape System - Rigging and Functional Procedure	1	1/4 2/4	2/✓	2/✓	2/✓
218	Windmilling Engine Powers	2	✓ ⁰			
219	Instrumentation for Arrow Aircraft 25211 - Functional Test Procedure	2				
220	Utility Hydraulic System - Arrow 2	2		✓	✓	✓
221	Constant Speed Drive - Production Test Procedure	2	✓ ⁺ ✓ ⁰	✓	✓	✓
222	Accessories Gear Box - Production Test Procedure	2	1/4 2/4	2/✓	✓	✓
223	Air Supply - Production Test Procedure	2	✓ ⁺	✓	✓	✓
224	Visit to NAMTC - Point Mugu in June 58 to review Sparrow 2D	2		✓	✓	✓
225	Landing Gear Schematic with Electric Sequencing on the Nose Door	2				
226	Air Conditioning Production Test Procedure	2	2/4 ✓ ⁺ 66.	2/✓	2/✓	2/✓
227	Main Landing Gear	2	2 VOLTS ✓ ⁰			
228	Schematic - Q _c Actuator System	2				
229	Block Diagram - Q _c Actuator System	2				
230	Requirement for a Beta Display - Arrow Pilots Cockpit	2		✓	✓	✓
231	Landing Gear Schematic (Electrical Nose and Mechanical Main)	2				
232	Antenna - UHF Annular Slot (formerly referred to as C-105-R-0021)	1		✓	✓	✓
233	Improvements to Defuelling Facilities	1	65.	✓*	✓*	



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	A Preliminary Study of the Tactical Implications of Lowering the Missiles Independently in Pairs	2	✓ ⁺	✓	✓	✓
2	Intercept Simulation in SAGE Environment	2		✓	✓	✓
3	Calculation of the Angular Firing Error from the Computed Miss Distance - Addendum	2		✓		
4	Comments on Astra Model Spec. - Issue 2	2	✓ ⁺	✓	✓	
5	Preliminary Study of the Steering Loop Gains	2	✓ ⁺	✓	✓	✓
6	Potential of the Avro Arrow - Progress Reports (Continuous)			64 ✓	✓	✓
7	Effect of Trim Limit Conversion Manoeuvres on the Terminal Phase Capabilities of the Arrow when Operating against Equal speed Targets	2		✓	✓	✓
8	Notes on Digital Computer Programs for Tactical Evaluation of the Arrow	2	✓ ⁺	✓		
9	Schematic Proposal for Study of the Mass Raid Problem	0	✓ ⁺	✓	✓	✓
10	Effect of the Steering Loop Gain's of the Interception of the Arrow	2	✓ ⁺	✓	✓	✓
11	Seeker Lock-On Range Requirements for the Sparrow 1242D Missile	0	✓ ⁺	⊙	✓	✓
12	Information Requirements in Support of Part 7 of the Co-ordinating Contractor's Statement of Work	0		✓	✓	
13	The Mathematical Model of the Arrow 2 Weapon System	2		⊙ ✓ 2	⊙ ✓ 2	✓ 2
14	Comment on Specification WSC-1	2		✓	✓	✓
15	Comment on R.C.A.F. Specification WSC1-4			66 ✓	✓	✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
16	A Mathematical Model of the Mid-course Guidance of the Arrow 2 Weapons System by SAGE	2	✓ ⁺	✓	✓	✓
17	Notes on Visit to AFHQ - Ottawa - Sept. 15/58	2	✓ ⁺			
18	A Comparison of Arrow 2 and Bomarc in the Air Defense of Eastern Canada	2	✓ ⁺	✓		✓
19	The Role of the Arrow in the Defence of North America	2	2/✓ ⁺	(2/✓)	(2/✓)	2/✓
20	Aerodynamic and Tactical Data on MB-1 Obtained during a Visit to Douglas Aircraft Corp. in Sept. 1958	2	✓ ⁺ ✓*	(✓)	(✓)	✓
94/1	SEEKER LOCK-ON RANGE REQUIREMENTS FOR THE SPARROW MISSILE		✓ ^o	✓		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Visit to Minneapolis-Honeywell to Discuss Fuel Distribution Control System	1		✓	✓	
2	Report on Visit to AFHQ Ottawa to Discuss Nickel-Cadmium Batteries for Arrow Aircraft	0	✓ ⁺	55. ✓	✓	
3	Report on Trip to I.R.E. Aero Com Symposium - RE: Data Link Equipment for Arrow	2				
4	Notes on Visit to Goodyear Tire and Rubber Co., Akron, Ohio - Concerning Arrow Brakes - Dec.2-6/57	0		✓	✓	✓
5	Trip Report - Nov. 20 - 22, R.C.A. Camden	0				
6	Further Notes on Visit to Goodyear Tire and Rubber Co. (See Report No. 70/Tech. Des./4)	1	✓ ^o	✓	✓	✓
7	Visit to C.A.R.D.E.'s Infra/Red Department	2		⊙	✓	✓
8	Meeting held at R.C.A., Camden - Jan. 7 and 8/58			✓	✓	
9	Visit to Goodyear Tire and Rubber Co. and Goodyear Aircraft Co., Akron, Ohio - Feb. 26 and 27/58 - Concerning Arrow Tires, Wheels and Brakes	0		✓	✓	✓
10	Notes on Visit to Goodyear A/C Ltd., Akron, Ohio, Monday, April 7th - Concerning Arrow Wheels & Brakes	2		✓	✓	
11	Barrier Braking	2	✓ ⁺ _*	✓	✓	✓
12	Visit to Goodyear Tire and Rubber A/C Apr. 16 & 17/58 - Re: Arrow Tires, Wheels and Brakes	2		✓		
13	Visit to B.F. Goodrich Wheel, Brake & Tire Dept., Troy & Akron - June 24 & 25/58	2		✓	✓	✓



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14	Visit to W.A.D.C., Dayton, Ohio, Re: Tires, Wheels, Brakes, Struts & Runway Barriers - June 23 & 24	2		✓	✓	✓
15	A Note on the Work Program for External Wing Tanks on the Arrow	0				
16	Notes on Visit to Goodrich Wheel & Brake Design Office, Troy, Ohio, and Goodrich Tire & Rubber Co., Akron, Ohio - Dec. 3, 4, & 5, 1958	2		✓	✓	✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Investigation of the Ejector Shroud Temperature	2	✓ ⁺	29 ✓		
2	Water Tank Heating	3	✓ ⁰	25 29		
3	Temperatures of Centre Rear Engine Mount - C105 Mk. 2	2	✓ ⁺	✓ ⁰	✓	✓
4	Overboard Air Bleeds	1	✓ ⁺	54 ✓	✓	
5	Approach and Landing Transient	1	✓ ⁺	54 ✓	✓	
6	Permanent Engine Rail	2	✓ ⁺	54 ✓	✓	
7	Engine Bay Cooling	0	✓ ⁺	54 ✓	✓	✓
8	Radiation Effects on Skin Temperature	0	✓ ⁺	54		
9	Temperature History throughout Life of C-105	0	✓ ⁺	IN ONE REPORT. ✓ ⁰ 54	IN ONE REPORT. ✓	IN ONE REPORT. ✓
10	Estimation of Fatigue Life due to Flight Missions and Jet Noise	2	✓ ⁺	IN ONE REPORT. ✓ ⁰ 64	IN ONE REPORT. ✓	IN ONE REPORT. ✓
11	C-105 Mk. 1 Fuel Temperatures	1				
12	Determination of Heat Transfer Coefficients over a Wing at Supersonic Speeds with Reference to Unequal Heating Rates of Upper and Lower Surfaces which may occur	2	✓ ⁺	54 ✓	✓	✓
13	Calculation of Fuel Temperatures in Wing Tanks	3	✓ ⁺	54 ✓	✓	
14	Bypass Air Requirements	3	✓ ⁺	54 ✓	✓	
15	Effect of Teflon and Micro-Quartz Insulation on Allowable Aircraft Time at M = 3, H = 70,000'	3	✓ ⁰	54		
16	One-Dimensional Heat Flow Investigations	3	✓ ⁰	54		
17	Miscellaneous Thermal Investigations	3	✓ ⁰			
18	Temperature and Stress Distributions in Centre Rear Spar Sections - M = 3.0 Mission	3	✓ ⁰			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
19	Temperature and Stress Distributions in Typical Spar and Rib Sections - Typical Mission (M=2.50)	3	$\sqrt{0}$			
20	A Simple Analytical Solution for Temperature Response in an Insulated Skin	0	$\sqrt{+}$	54	\checkmark	\checkmark
21	Transient Temperature Distributions - Inner Wing Tank Skins - Arrow 3 - M = 3.00 Mission	3	$\sqrt{0}$			
22	Calculation of Two-Dimensional Temperature and Thermal Stress Distributions in Structures	0	$\sqrt{+}$	54	\checkmark	\checkmark
23	Fuel Temperatures	2				
24	An Exact Solution for Temperature Response in an Insulated Slab	0	$\sqrt{+}$	64.	\checkmark	
25	Summary of Investigations of Temperatures and Thermal Stress Distributions	0	$\sqrt{+}$	54	\checkmark	\checkmark
26	Acceleration and its Effects on Thermal Stresses	0	$\sqrt{+}$	$\sqrt{0}$	64	\checkmark
27	Instrumentation for A/C 25201	1	$\sqrt{+}$	64.	\checkmark	\checkmark
28	Parachute Temperatures - Arrow 2	2	$\sqrt{+}$	64.	\checkmark	\checkmark
29	Description and Analysis of Arrow 2 Oil Cooling System	2	$\sqrt{+}$	64.	\checkmark	\checkmark
30	Transient Fuel Temperature at Engine Inlet - Arrow	2	$\sqrt{+}$	64.	\checkmark	\checkmark
31	An Analytical Solution of Steady State Temperature Distributions in Joints	0	$\sqrt{+}$	64	\checkmark	
32	Effect of Neglected Variation of Physical Properties with Temperature on Thermal Stresses	0	$\sqrt{+}$	64.	\checkmark	\checkmark
33	Equilibrium Temperature of an Isolated Skin	0	$\sqrt{+}$	$\sqrt{0}$	64.	\checkmark



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34	Temperature Distribution in the Navigator's Canopy Panel					
----	--	--	--	--	--	--

2

35	Temperature of Hydraulic Accumulators					
----	---------------------------------------	--	--	--	--	--

1

✓+

✓

✓

✓



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Weights and C.G. Determination C-104 - Version "O" - 2 Sapphire Engines and After- burners and Rocket Engines-Wing A.R. 2.78		✓ ^o			
2	Weights and C.G. Determination C-104 - Version "P" - 2 Sapphire Engines and After- burners and Rocket Engines-Wing A.R. 3.50		✓ ^o			
3	Weights and C.G. Determination C-105 Version A		✓ ^o			
5	Weight and C.G.		✓ ^o			
6	Wing Weight Estimation		✓ ^o			
7	Appendix Report to P/Weights/6 - Wing Weight Estimation		✓ ^o			
8	Weights and C.G. Determination C-104 "Q" 2-Sapphire 4 Engines + Afterburners + Rocket Engine		✓ ^o			
9	Weight Breakdown C105 "B"		✓ ^o			
10	Weight Estimation of 3 Percent Delta Wing by Preliminary Stressing		✓ ^o			
12	Weight Estimate of .06-.03-.03 and .05- .03-.03 Wings		✓ ^o			
14	Weights and C.G. Determination C104Δ Version "C" - 2 TR-9 Engines + After- burners - Wing - 5% to 3%		✓ ^o			
15	Weight Estimate of Fuselage & 3% High Wing - C-104Δ		✓ ^o			
16	Structural Weight Comparison for (6-3:3-3)% Wing - 24 ST Skin-Stiffener VS Magnesium Alloy Construction		✓ ^o			
17	Preliminary Weight Investigation of Solid Honeycomb Wing - 3% High Wing		✓ ^o			
18	Weights and C.G. Determination C-104Δ-'D' 2 TR-9 Engines + Afterburners + Rocket- Engine - Wing - 3% High Wing		✓ ^o			
20	Wing Structure Weight Prediction by Grinsted's Formula, with Comparisons for Other Aircraft.		✓ ^o			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
21	Weights and C.G. Determination C104 ^{A-E} High Wing - 3% t/c - Area .1185 sq. ft.		✓ ¹⁰			
23	Weight Analysis Electrical System		✓ ¹⁰			
24	Weight Estimate of Hydraulic System		✓ ¹⁰			
25	Weight Estimate of Hydraulic System - A General Method		✓ ¹⁰			
26	Estimation of the Weight of the C104/Δ Wing using Method outlined in R.A.E. Report Structures 109 (By E.L. Ripley)		✓ ¹⁰			
27	Weight Estimate for Radio, Radar and IFF Systems		✓ ¹⁰			
28	Weight Estimate of Fuel Tanics		✓ ¹⁰			
29	Weight Estimate and C.G. Determination Version 'G'		✓ ¹⁰			
30	Weight Estimate for Anti-Icing System		✓ ¹⁰			
31	Weight of Anti-Spin Parachute Installation		✓ ¹⁰			
32	Weight Estimates - Front Fuselage - C104/Δ Version 'G'		✓ ¹⁰			
33	Comparison of Fuselage Weights - Version 'G' and Modified for Bicycle Undercarriage		✓ ¹⁰			
34	Weight Estimate - Fuel System and Piping C104 - Version 'G'		✓ ¹⁰			
39	Main Undercarriage Comparison between tricycle (C104 Version 'G') and Bicycle (C104 Version 'K')		✓ ¹⁰			
40	Estimation Vertical Tail Weight-Version 'G'		✓ ¹⁰			
41	Weight of Fuselage Structure Associated with Engine Installation		✓ ¹⁰			
42	Investigation of Grinstead's Formula for Wing Weight		✓ ¹⁰			
43	Weight Estimate of Nose Undercarriage		✓ ¹⁰			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
44	Preliminary Weight Estimate of C104 A Version 'J' (Single Engine)		✓ ⁰			
45	Estimation of Weight of Flying Controls Group		✓ ⁰			
46	Weight Estimate of Air-Conditioning and Cabin Pressurization Demisting, L.P. Pneumatics, and Armament Heating		✓ ⁰			
47	Weight Calculation of Wing for C104 'G'		✓ ⁰			
49	Wing Weights - Version L		✓ ⁰			
54	Main Undercarriage Weight Calculations		✓ ⁰			
55	Preliminary Calculation of Moments of Inertia - Complete A/C		✓ ⁰			
56	Weight and C.G. Summary - Complete A/C		✓ ⁰			
57	Electrics for C104 (Single Engine Type)		✓ ⁰			
58	Wing Weight Distribution and C.G. Locations - L. Version		✓ ⁰			
61	Weight Est. for Radio and Radar (Covering Automatic A/C Control, Nav. and Rocket and Missile Fire Control)		✓ ⁰			
63	Weights and C.G. Determination of Single Engine Versions 'O' High Wing - 'N' Low Wing		✓ ⁰			
64	Weight of Engine Installation and Structure Associated Therewith		✓ ⁰			
65	Weight Calculation for Main and Nose U/C		✓ ⁰			
67	Preliminary Weight Estimate Low Pressure Pneumatic Services and Air-Conditioning Systems (SINGLE ENGINE, 27000 LBS)		✓ ⁰			
68	Detailed Weight Estimate of Hydraulic System for Single Engine Version of C-104		✓ ⁰			
69	Weight and C.G. Summary for Single-Engine C-104		✓ ⁰			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
70	Air-Conditioning & Pneumatics - Investigations for Design & Weight of Systems on C104 Δ		\checkmark			
71	Preliminary Weight Estimate Low Pressure Pneumatic Services & Air-Conditioning Systems		\checkmark			
73	Weight Estimate of Fuel Tanks for C-104 Single Engine		\checkmark			
74	Weight and C.G. Estimate-Fuselage Structure		\checkmark			
75	Weight and C.G. Estimate-Vertical Tail Structure		\checkmark			
76	Weight and C.G. - Wing Group - Single Engine C-104		\checkmark			
77	Detailed Weight Estimate of Fuel System and piping		\checkmark			
78	Detailed Weight Estimate of Oxygen System		\checkmark			
79	Weight, Circuit, Load, C.G. Analysis for Electrics		\checkmark			
80	Basic Geometrical Data required for Weights Use		\checkmark			
81	Miscellaneous Equipment - Instruments, Crew, Seats, Emergency Prov. etc. - Weight Estimate		\checkmark			
82	Weight and C.G. Summary - Project Y-0		\checkmark			
84	Preliminary Estimate - O/W Fuel Capacity		\checkmark			
86	Weights Statement		\checkmark			
108	Gross Weight Analysis of Current and Future Fighters (P/C104/19)		\checkmark			
110	Weights of Compressed Air Bottles		\checkmark			
111	Check on "Method for Estimating Wing Weight by A. Hyatt - Ref. I.A.S. Preprint No. 440		\checkmark			
114	Method for Estimating the Weight of A-C Electrical Power Generation Systems		\checkmark			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Weight Distribution for CF-105	1	✓ ⁺	✓ ^o <i>Rel</i>	✓	✓
2	Fluid Capacity Outer Wing	3	✓ ^o			
3	Fluid Capacity Vertical Tail	3	✓ ^o			
4	Fluid Capacity - Inner Wing - Forward Portion	3	✓ ^o			
5	C.G. Considerations for Additional Fuel and Water	3	✓ ^o			
6	Fluid Capacity - Fuselage	3	✓ ^o			
7	Weight Distribution for C-105	3	✓ ^o			
8	Extended Range Fuel Tankage	2	✓ ^o			
9	Weight Distribution C-105	2	✓ ^o			
10	Weight C.G. Considerations for Various Genie and Falcon Missile Arrangements with Armament Pack Fuel	2	✓ ^o			
11	Weight and C.G. Data for Misc. Over Load Fuel Arrangements	2	✓ ^o			
12	0.1 and 0.07 Scale Genie Wind Tunnel Models	2				



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Crew Chiefs' Reports and Run Schedule.	✓ ¹⁰	10			
2	Reduction Data	✓ ¹⁰	10			
3	Raw Data		1			
4	Preliminary I.B.M. Data		10			
5	Final I.B.M. Data (See 5a)		10			
5A	Corrections to P/Wind Tunnel/5					
6	Preliminary Plots Done, at Cornell		10			
7	Final Plots	✓ ⁺	10	Ⓟ		
8	Derivatives and Zero Values	✓ ⁺	10	Ⓟ		
9	Comparison W.T. and Estimates	✓ ⁺	10	Ⓟ	Ⓟ	
10	Corrections to Test Results		10			
11	Run Schedule		10	2 VOLTS ✓		
12	Reduction Data		10	✓	✓	
13	Raw Data		2			
14	Crew Chief's Reports		9			
15	I.B.M. Input Data		9	Ⓟ	Ⓟ	
16	Preliminary I.B.M. Data		9	Ⓟ	Ⓟ	Ⓟ
17	Pressure Data		9			
18	Pressure Data		9			
19	Corrected Plots	2 VOLTS ✓	10			
20	Derivatives and Zero Values	✓ ⁺	10	4 VOLTS ✓		
21	Comparison: 3% : 3 1/2% and Estimates	✓ ⁺	10	✓		
22	Run Schedule		10	✓		
23	Raw Data		2			
24	Crew Chiefs Reports					



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
24	Crew Chief's Reports		10			
25	Input Data		9	✓	✓	
26	Preliminary I.B.M.		9	✓	✓	✓
27	Rough Plots		9			
28	Pressure Data		9			
29	Corrected Plots	✓ ⁺	9	✓	EX ✓	EX ✓
30	Derivatives and Zero Values	✓ ⁺	9			
31	Comparisons and Estimates	✓ ⁺	9	✓		
32	Pressure Photographs		8			
33	Reduction Data		9	✓		
34	Raw Data		2			
35	Crew Chief's Reports		9			
36	Reduction Data					
37	Input Data					
38	Run Schedule		9	✓		
39	Corrected Plots	✓ ⁺	9	✓		
40	Derivatives and Zero Values	2 ✓ ⁺	9	✓		
41	Rough Plots		9			
42	Preliminary I.B.M.		9			
43	Run Schedule		9	✓		
44	Raw Data		2			
45	Crew Chief's Reports		9			
46	Reduction Data		74	✓		
47	Rough Plots		9			
48	Preliminary I.B.M.		8			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
49	Corrected Plots	✓ ⁺	8	✓		
50	Derivatives and Zero Values	✓ ⁺	8			
51	Comparisons and Estimates	✓ ⁺	8	✓		
52	Configuration and Reynolds No. Investigation	✓ ⁺	8			
53	Duct Calibration		74	✓		
54	Run Schedule		8	✓		
55	Raw Data		1			
56	Operations Log		8			
57	Reduction Data		8	✓		
58	Rough Plots		8			
59	Preliminary I.B.M.		8			
60	Final Plots	✓ ⁺	8			
61	Final Plots	✓ ⁺	3			
62	Comparison .03 and .04 Scale Plots	✓ ⁺	8			
63	Run Schedule		8	✓		
64	Operations Log		33	✓		
65	Reduction Data		8	✓		
66	Rough Plots		9			
67	Preliminary I.B.M.		9			
68	Final Plots	✓ ⁺	8	✓		
69	Bay Pressure Data (I.B.M.)		9			
70	Cross Plots	✓ ⁺	7			
71	Aileron Pressure Plots	✓ ⁺	7			
72	Run Schedule		7	✓		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
73	Operations Log Runs 451/664 and Occupancy Hours		^{FEEL} 7			
74	Raw Data		1			
75	Reduction Data		√ ⁰ 3			
76	Rough Plots		7			
77	Preliminary I.B.M. Data		7			
78	Pressure Data		10			
79	Final Plots	√ ⁺	3	✓	✓	
80	Derivatives and Zero Values	2 ^Y LS √ ⁺	3	✓		
81	Effect of Droop on Lift, Drag and Moment (Pitching)	√ ⁺	7	✓		
82	Final Plots High Reynolds No. & High Angle of Attack at M _∞ 0.5	√ ⁺	7	✓		
83	Calibration of Missile Launcher Balances (Cornell Report WTO-150)		7			
84	Variation of Derivatives with α	√ ⁺	7			
85	N.R.C. Wind Tunnel Tests Flow Assymetric Intake		√ ⁰ 7			
86	Calibration of Missile Launcher Balances		7			
87	Calibration of Bay Door H.M. Balances		7			
88	N.A.E. W.T. Tests LAB. Memo AE 46c		7			
89	N.A.E. W.T. Tests Data Sheets		7			
90	N.A.E. W.T. Tests Plots and Corrections		√ ⁰ 7			
91	" " " Raw Data.		1			
92	" " " Data Sheets		7			
93	" " " Plots		√ ⁰ 7			



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No.	Title			Mk.	Original	Set 1	Set 2	Set 3
94	N.A.E.	W.T.	Tests Operations Log		8			
94A	"	"	" Tunnel Log		✓			
95	"	"	" Raw Data		1			
96	"	"	" Data Sheets		8			
97	"	"	" Plots and Corrections	✓+	8	EX✓		
98	N.A.E.	W.T.	Tests Corrected Plots	✓+	6	✓		
99	Brief Summary of N.A.E.L.S. Tests			✓+	8	✓		
100	Calibration of 0.03 (Langley) Model 105				6			
101	1/50 Scale N.A.E. Tests - Reduction Data				✓ 6			
102	N.A.E. Supersonic Tests - Plots				✓ 6			
103	N.A.E. 1/50 Scale I.B.M. Data Preliminary				6			
104	Comparison of N.R.C. Results with N.A.C.A. & Cornell Data				6	✓		
105	N.R.C. Supersonic Raw Data 1/50 Scale				6			
106	N.R.C. Supersonic Raw Data				4			
107	N.R.C. W.T. Tests I.B.M. Data Final				✓ 0			
108	Comparison of Longitudinal Derivatives Low Speed - Cornell and N.R.C.			✓+	6	✓		
109	N.A.E. W.T. Tests - I.B.M. Data				6			
110	Avro Reduction of C.A.L. High Reynolds No. Tests No. To .31 and .35 C.G.				✓ 10			
111	.03 Langley Model at M = 1.41 Plots			✓+	7	✓		



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
112	Derivatives Zero Values Cross Plots	✓+	^{PLOT NO} 3	✓		
113	.03 Langley Model - Reduction Data		✓ ⁰ 8			
114	.03 Langley Model - Rough Plots and Calcs.		6			
115	Data Sheets		6	✓		
116	N.A.E. .07 Reduction Data		✓ ⁰ 6			
117	Original Data					
118	Data Sheets		6			
119	Plots		8	✓		
120	I.B.M. Data		3			
121	C-105 Fin Pitot Position Errors (from .04 W/T Tests)		✓ ⁰ 6			
122	.03 Langley Model in Unitary Tunnel M = 1.6, 1.8, 2.0 Body Axis Plots		✓ ⁰ 6	✓		
123	.03 Langley Model in Unitary Tunnel M = 1.6, 1.8, 2.0 Stability Axis	✓+	6	✓		
124	Derivatives Crossplots Body Axis					
125	Derivatives Crossplots Stability Axis		^{2 VPLS} ✓ ⁰ 6	✓		
126	Photographs in Tunnel		5	✓		
127	Photographs in Tunnel		5	^{3 VPLS} ✓		
128	Stress Analysis		6			
129	Miscellaneous Effects N.A.E. L.S. .07 W.T. Tests	EX/+	^{2 VPLS} ✓ ⁰ 10	EX/	EX/	
130	Unitary Reduction Data and Avro Log	✓+	✓ ⁰ 5			
131	Summary of Wind Tunnel Testing on	✓+	4	✓		✓*



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
132	Unitary Run Schedule and Tunnel Log		✓ ¹⁰ 5			
133	Est's of .03 C-105 in N.A.C.A. Supersonic 4' x 4' Wind Tunnel	✓ ⁺	✓ ¹⁰ 5	✓		
134	Canard F in Tests		4			
135	1/80 Scale Tests at N.A.E. (NAE-AE-46L)		4			
136	Unitary Rough Plots & Preliminary Calcs.		4			
137	Sparrow Trajectory & Jettison Tests (Programs Only) C.A.L. and N.A.E.	✓ ⁺	4			
138	C-105 .07 Scale Tank Jettison Tests (NAE) Series I and II	✓ ⁺	74	①	✓	✓
139	C-105 .07 Scale Sparrow Jettison Tests	✓ ⁺	30	✓	✓	✓
140	Run Schedule		✓ ¹⁰ 4			
141	Crew Chief's Reports		4			
142	Tunnel Operating Log		4			
143	Reduction Data.		✓ ¹⁰ 74			
144	Electronics & I.B.M. Set Up		✓ ¹⁰ 4			
145	Raw Data		4			
147	Rough Plots and Avro Log		4			
148	Final Plots (Armament)	✓ ⁺		✓		
149	Final Plots (Canopy)	✓ ⁺	5			
150	Final Plots (Aircraft)	✓ ⁺ ^{2 VOLTS.}	74			
151	Costs and Time of W/T Tests in N.A.E. No. 3 W.T. (N.A.E. Report AE-73)		5	✓		
152	Preliminary Results - C-105 with Ventral Fins (LSWT)	✓ ⁺	5			



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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
153	NAE Spinning Tests - Run Schedule	✓+	5	✓		
154	Flow Investigation Underneath Nose and Nose Boom (N.A.E.)	✓+	5	✓		
155	Flow Investigation Underneath Armament Bay (N.A.E.)	✓+	5			
156	Tuft Grid Survey of N.A.E. 6' x 10' Tunnel Test Section					
157	Flow Investigation - Rear Fuse- lage Area Aft of Fin (N.A.E.)	✓+	5	①		
158	.03 Model in Langley 4' x 4' Tunnel M = 1.41 Raw Data		1			
159	.03 Model in Unitary Prelim. Raw Data		4			
160	.03 Model in Unitary Body Axes I.B.M. Data (2 Vols)		4 2			
161	.03 In Unitary Raw Data		3			
162	.03 in Unitary Stability Axes I.B.M. Data (2 Vols)		✓ ⁰ 2			
163	.03 Model in Lngley 4' x 4' Tunnel M = 1.41 I.B.M. Data, Stability Axes		4			
164	Notes on Accuracy of Results - N.A.E. No. 3 W.T. (N.A.E. Report AE-74)		5	✓		
165	I.B.M. Data C.G. = .31 \bar{c} & .27 \bar{c}		4			
166	Calibration of Cal "E" Balance		5			
167	Calibration of Cal "G" Balance		5			
168	Calibration of Cal Aux. Balances		74	✓		
169	Misc. Data on Cal .03 Model		5			
170	Repeatability and Tare Investi- gation	✓+	5	✓		
171	Raw Data		1			



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REPORT NO. P/WIND TUNNEL/

SHEET NO. 9

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
172	Input Data			74		
173	I.B.M. Data			4		
174	Plots	✓+		74		
175.	RVNS IN NUMERICAL ORDER	✓+		3		



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REPORT NO. 7 / W. TUNN /

SHEET NO. 1

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	N.A.E. Wind Tunnel Tests on Vertical Fin	1	$\sqrt{0}$ ^{Rel} _{no}			
2	N.A.E. Wind Tunnel Tests - .04 Model Fin - Reduced Data Plots and Derivatives	1	$\sqrt{+}$		\checkmark	
3	Missile Cross-Plots - C.A.L. W.T. Tests - Feb. 57	1-2	$\sqrt{+}$		\checkmark	
4	Wind Tunnel Test at C.A.L. - Feb. and Mar. 1957	0	$\sqrt{0}$ 57			
5	Comparison of $C_{m\alpha}$ from P/W.T/98 and P/W.T./119	1 -2	$\sqrt{0}$ 57			
6	Wind Sensor W.T. Tests - C.A.L. Feb. 58 Reduction Data	1		57	\checkmark	
7	Wind Sensor W.T. Tests - C.A.L. Feb. 58 Operation Log & IBM Data	1	$\sqrt{0}$ 57			
8	Wind Sensor W.T. Tests - CAL Feb. 58 Vane Calibration Log	1		55	\checkmark	
9	Wind Sensor W.T. Tests - C.A.L. Feb. 58 Plots and Correction Data	1	$\sqrt{+}$	$\sqrt{0}$ 55	$\textcircled{\sqrt{+}}$	$\sqrt{+}$
10	Observer AI .07 Scale Ejection Tests	1	$\sqrt{+}$		\checkmark	\checkmark
11	N.A.E. Wind Tunnel Icing Tests of Pitot-Static Probe - Series 1	1	$\sqrt{0}$			
12	N.A.E. Wind Tunnel Tests, M = 1.57, Improvements of Directional Stability	3			\checkmark	
13	W/T Tests on Vertical Tail with IR Tip Pod Installation	1	$\sqrt{0}$			
14	Review of W/T Armament Tests and Theoretical Fuselage Flows	0			\checkmark	
15	Genie Program Details - C.A.L.	2	$\sqrt{+}$		\checkmark	\checkmark $\textcircled{\checkmark}$
16	Comparison of Observer AI-Seat Combination Ejection Trajectories from Data Obtained from .07 Scale Arrow Models, .07 Scale Model and Full Scale Coleman Rocket Sled Tests. 1		$\sqrt{+}$		\checkmark	\checkmark \checkmark



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REPORT NO. /DAMPER DRAW/

SHEET NO. 1

AIRCRAFT:

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
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1	Circuit Diagrams 5° of Freedom		✓	✓	✓	
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2	Block Diagrams Presented at C105 Damper System Finalization Conference			✓		
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REPORT NO. /DAMPER FAILURES/

SHEET NO. 1

PREPARED BY

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Preliminary Study of Damper Perf. with Temporary Power Failure		✓ ¹⁰			
2	Yaw Damper Failure in Level Flight		✓ ¹⁰	✓		
3	G-Limiter		✓ ¹⁰			
4	G-Limiter Study #2		✓ ¹⁰			
5	G-Limiter Studies No. 3		✓ ¹⁰			
6	G-Limiter - M-H - Avro Co-op Study of Various Limit Functions		✓ ¹⁰			
7A	G-Limiter - Series E - Avro		✓ ¹⁰			
8	G-Limiter - Series G - Result Sheets		✓ ¹⁰			
9	G-Limiter Error Study - To Determine if Aft - G-Limiter Accelerometer can be Re-Located		2 VOLS ✓ ¹⁰			



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REPORT NO. DAMPER FLIGHT TEST/

SHEET NO. 1

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Evaluation of Damper Performance During Flight Test	✓	✓	✓	✓	
1-1	Selection of Records from Arrow 1, 25201, Flight No. 1 Yaw Damper Parameters Only			✓		
1-2	Selection of Records from Arrow 1, 25201, Flight No. 2 Yaw Damper Parameters Only			✓		
1-3	Selection of Records from Arrow 1, 25201, Flight No. 3 Yaw Damper Parameters Only			✓		
1-4	Selection of Records from Arrow 1, 25201, Flight No. 4 Yaw Damper Parameters Only			✓		
1-5	Selection of Records from Arrow 1, 25201, Flight No. 5 Yaw Damper Parameters Only			✓		
1-6	Selection of Records from Arrow 1, 25201, Flight No. 6 Yaw Damper Parameters Only			✓		



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REPORT No. /DAMPER HARDWARE/

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
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1	(1) Preliminary Operating Instructions Ground Test Equipment			✓		
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	(2) Transmission Line Tests		✓			
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2	Derivation of the Differential Servo Transfer Function	✓	✓	✓		
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REPORT NO. /DAMPER MANOEUVRE/

SHEET NO. 1

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
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1	Transfer Function of CF105 Mk. 1 A/C Clean Airframe and Augmented					
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EX / +
✓

✓

EX /
✓

EX /
✓



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REPORT NO.

/DAMPER SCHEDULES/

SHEET NO

1

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
A6	(1) Falcon Missile Trajectory Under A/C		✓ ₀			
	(2) Wiring Diagrams Lateral Aerodynamics and Controls. Stability Axis Derivatives		✓ ₀			
A17	C105 Gain Schedules $\pm 2.48 \pm 7.5n$ and $\pm 9 = 1.5$ Used Elastic Derivatives from P/Aero Data/82		✓ ₀			
A26	(1) C105 Elevator Auxiliary Damping Electrical System		✓ ₀			
	(2) Falcon Flight		✓ ₀			
A38	Plots of Results of Static Test on Damper System Installed in Arrow 25201		✓ ₀			
A45	C105 Yaw Damper System Studies	2 VOLS.	✓ ₀			
A46	C105 Yaw Damper Systems Comparison Tests		✓ ₀			
A66	(1) C105 Yaw Damper Systems Comparison Tests		✓ ₀			
	(2) Wiring Diagrams Lateral Motion with Controls		✓ ₀			
A76	4n Feedback Studies 2° of Freedom	7 VOLS.	✓ ₀			
A96	(1) Preliminary 5° of Freedom		✓ ₀			
	(2) Minneapolis & Honeywell Control System		✓ ₀			
A97	Damper Schedules Gains Checked Out Using New Simulation of Diff. Servo and Rate Gyro		✓ ₀			
A98	Damper Schedules		✓ ₀			
A105	Longitudinal Solutions Phugoid Mode		✓ ₀			



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REPORT No. /DAMPER SCHEDULES/

SHEET No. 2

AIRCRAFT:

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
A106	(1) Evaluation of Minneapolis-Honeywell System Simulation of "Surface" Neglected		✓ ^o			
	(2) Pitch Damped Aircraft Responses		✓ ^o			
	(3) Schedule of <i>Sg 4.5 gm sm</i> Input into Differential Servo		✓ ^o			
A108	(1) MO-9 S.L. g-Feedback Studies		✓ ^o			
	(2) Solutions of the Phugoid Mode		✓ ^o			
	(3) Phugoid Damping with Filter		✓ ^o			
A115	Study of Hughes Original Damping System		✓ ^o			
A116	(1) Pitch Schedules		✓ ^o			
	(2) Trans-Sonic Response Times with Schedules of Oct./56		✓ ^o			
A126	Preliminary Work Using High-Speed Derivatives.		✓ ^o			



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REPORT NO. /DAMPER SIMULATOR/

SHEET NO. 1

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
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1	Mechanisation of Breadboard Damper Schedules.		✓	✓	✓	
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REPORT NO. /DAMPER SPECIAL/

SHEET NO. 1

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	The Effect of Unsteady Lift and Moment Functions (Due to Traveling Gusts) on the A/C Response		✓ ⁰			
2	(1) Reduction of Differential Servo Authority		✓ ⁰			
	(2) Reduced Hydraulics Engine Windmilling		✓ ⁰			
3	Pitch Response with Varying 4n Lead Filter Using Elastic Derivatives		✓ ⁰			
4	Tests Information Sent to R.C.A. Camden, N.J.		✓ ⁰			
6	Development of the Filter Installed in the Yaw Axis of the Arrow		2 vols. ✓ ⁰			



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REPORT NO.

/A.C. MANOEUVRES/

SHEET No

1

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Elevator to Trim, Elevator Per G., Period and Time to Half Amplitude Comparisons	✓ ^{EL} /+	✓ ⁰	EX ✓	EX ✓	
2	Extract - Plane Manoeuvres at Maximum "G" for the C105		✓ ⁰ □	EX ✓	EX ✓	EX ✓
3	Extract - Snap-up Climb Manoeuvres for the C105			✓	✓	✓
5	Zoom Manoeuvres for the Avro Arrow	✓/+				



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REPORT NO. /A.C. SIMULATOR/

SHEET NO. 1

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No.	Title	Mk. Original	Set 1	Set 2	Set 3
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1	Approximation Functions for the J-75 Engine	EX. / + ✓ *	✓ / 0 ✓ / 0	EX. / ✓	EX. / ✓
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3	Low Speed Simulation		✓ / 0		
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REPORT NO. /A.C. SPECIFICATION/
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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
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1	1 - Cosine Gust Data					
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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
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1	Preliminary Investigation of Rolling Characteristics		✓			
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2	Rolling Due to Sideslip at High "G" and Variable "G"		✓			
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3	Full 360° Roll Response at M2.0 and 30,000'		✓			
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4	C105 Examination of Stability		✓			
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CLEAN AIR & WITH DAMPED 45° FLIGHT



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REPORT NO. /AUTO SCHEDULES/

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
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1	Pitch Angle Hold Mode A.F.C.S.					
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2 vols. ☒ 10
REF. NO. ☒ EX/



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REPORT NO. /COCKPIT SCHEDULES/

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1	Copy 1			✓	✓	
2	Copy 2					



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REPORT NO. **COCKPIT SIMULATOR/**

SHEET NO. **1**

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Investigation of Feel Characteristics of Control Stick in the Emergency Mode First A/C and Simulator.		✓ ⁺	✓	✓	✓



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REPORT NO.

/F.C. SCHEDULES/

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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
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1	Arrow Electronic System M-H 64 A.F.C.S. Block Diagrams and Schedule Curves			✓	✓	✓
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No.	Title	Mk.	Original	Set 1	Set 2	Set 3
1	Thermal Distributions in a Typical Spar-Skin Joint		✓	✓	✓	✓
2	Thermal Distributions in Insulated Skin	3		✓		
3	Study of Accelerations at Stick Grip Due to Kinematics and Servo Motion		✓			