

A-84-019
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DATE 26 July 1945
TO _____
FROM AH-4
SERIAL NO. T-167
SUBJECT: Kingman Test

RECEIVED *Oppenheimer*
FEB 16 1999
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LMP

Nature of Unit and Test:

FM, 32 partial, 1773's with tetryl pellet removed, 32 Blake MK II switches, X-Unit Model II, Brodo informers on detonation, MK III plaster blocks, mild steel ellipsoids, 3A's, O-3 informers on O-3 fuses normal ballistic data, four impact fuses with complete fuse trains should be used, 3 to 6 hours fly around prior to release to test X-Unit.

~~RESTRICTED DATA~~

~~This document contains Restricted Data as defined in the Atomic Energy Act of 1954. Unauthorized disclosure subject to Administrative and Criminal Sanctions.~~

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PUBLICLY RELEASABLE
LANL Classification Group

~~1-15-99~~

NOTE: This is a Preliminary Report.

This report is not to be considered final. It is a preliminary report subject to revision pending more complete data.

Project Representatives:

L. M. Redman
J. B. Conroy

FINAL DETERMINATION
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L. M. Redman

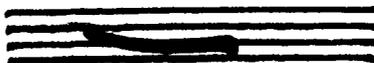
OCT 28, 1980

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PER DOE REVIEW JAN. 1973

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128
264



CONTENTS OF REPORT

I Date Sheet for 1560 type unit

- a. Physical Characteristics
- b. Mechanical Components
- c. Sphere
- d. Ellipsoids

Information Obtained by 1st Lt. Edward Zebronski

II a. X - 5 Detonator Equipment.

- a. Equipment and location of Mounting
- b. Tentative Results.

Information Obtained by 1st Lt. H. G. Ritter

III O-3 Fusing Equipment.

- a. Equipment and location of Mounting
- b. Tentative Results

Information Obtained by Captain Grandey

IV Loading of Unit 1560 to Plane

Information Obtained by Armand Iala

V Flight test data

Information Obtained by Captain Semple
Captain Grandey

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PHYSICAL CHARACTERISTICS: (Data taken on completed unit.)

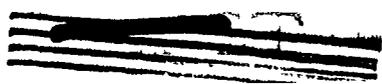
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|---|-------------------------------|--|
| 1. Gross Weight | <u>9,920</u> | Pounds. (Scales) |
| 2. Center of Gravity | <u>2 1/8</u> | Inches aft of parting line of ellipsoids. |
| 3. Alignment of Tail to the Right
Longitudinal axis.
(Dimensions taken from
parting line of ellip-
soids to aft edge of tail) | Right <u>79 1/2</u> | inches. |
| | Loft <u>79 3/4</u> | inches. |
| | Top <u>79 1/2</u> | inches. |
| | Bottom <u>79 3/4</u> | inches. |
| 4. Lug Location | <u>1 3/4</u> | inches (aft) of parting line of ellipsoids, measured from the center of lug bearing surface. |
| 5. Sealing (Gasket or stripable film, if sealed) | <u>Gasket & Stripable</u> | |
| 6. Overall Length | <u>128 1/2</u> | inches. |

MECHANICAL COMPONENTS:

- | | | |
|---|---|---------|
| 1. Tail | | |
| 1.1 Angle of Drag Plates | Measured with machinist square and shown on attached drawing. | |
| 1.2 Type of Tail | Standard: Drawing No. <u>Y-1560-3</u> | |
| 1.3 Weight of Tail | <u>510</u> | pounds. |
| 2. Sphere | | |
| 2.1 Detonator Booster Holes | <u>32 two inch holes</u> | |
| 2.2 Pit | <u>18 1/2 inch steel</u> | |
| 2.3 Spacers between blocks | <u>Paper 1/32 inch</u> | |
| 2.4 Spacers between Pit and blocks. (Thickness and material between Pit and blocks, and between inner and outer block where applicable) | <u>Felt 1/8 inch</u> | |
| 2.5 Blocks, Composition of | <u>Mk III Plaster</u> | |
| 2.6 Suspension Lug | <u>Steel with bronze insert</u> | |
| 2.7 Detonators | <u>Mk III Switches (8)</u> | |

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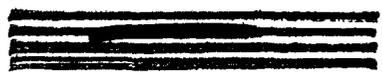
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- 2.8 Detonator Retainer Type Screws
- 2.9 Weight of Sphere 6,650
- 3. ELLIPSOIDS:
 - 3.1 Impact Fusos, type of AN-M-219 (INERT)
 - 3.2 Fuse-train Ass'y None
 - 3.3 Inside diameter of
Nose Ellipsoid.
(Wide End) Vertical Diameter 59 3/8 In.
Horizontal Diameter 59 1/2 In.
 - 3.4 Inside diameter of
Tail Ellipsoid.
(Wide End) Vertical Diameter 59 3/8 In.
Horizontal Diameter 59 1/2 In.

Reported By 1st Lt. Edward Zebrowski

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KINGMAN UNIT REPORT
X-5 DETONATOR EQUIPMENT

DROP NO. T-167

DROP DATE 26 July 1945

UNIT NO. 83

X-5 Flight Crew Lt. Bernstein

X-5 Equipment and Location of Mounting

A Plate

R.J. Box 1 Battery Box 1

Pump 1 Invertor 1

B Plate

X Unit 1

D Plate

Detonator Test Box 1

E Plate

Smoke Puffs 2

Blake Switch 8

Misc.

Safety Plugs 2

1. Plane control Box # 002
2. Data taken in Plane
(Charge and Discharge) Reasonable Yes
3. Plane's D.C. Voltage before drop 72
4. Internal Invertto Voltage
calibrate from plane's A.C. 120 v. A.C.
5. Internal Battery Voltage
calibrate from plane's D.C. 32 v. A.C.
6. Pull-out Plug breakage None
7. Informer Data
 - a. Armed Yes
 - b. Fired Camera jammed, operator heard fire
 - c. Detonator Switch 2 yes
8. Smoke Puffs observed Yes

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9. Remarks

This test proved to be successful in all respects as far as X-5 was concerned.

The X-Unit behaved well. It had been checked on arrival and found to be imperfect. Some little work was done on it and later when rechecked it proved to be O.K.

Reported By H. G. Ritter

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KINGMAN UNIT REPORT
O-3 FUSHING EQUIPMENT

DROP NO T-167 DROP DATE 26 July 1945
UNIT NO 83 O-3 FLIGHT CREW Lt. Hemker

Type of Unit FM Scaled - Standard

O-3 Information Desired Standard Information - Comparison of "C" plate mounted informer with "E" plate mounted informer - in effort to reduce vibration.

O-3 Equipment and Location of Mounting

C Plato:
Archies 3
Clock Box 1-13F21
Delay Relays 2
A B B 1
Informer 1 #1

E Plato:
Informer 3
I B B 1

Tail:
Static Eliminators

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Tentative Results

Informer 1 Std. "C" Plate Mounted	Informer 2 Std.	Informer 3 Std.	Informer 4 Std.
Camera Jammed See #1 in Remarks	Clocks Archie Relay Q ₂ Blake	Clocks Archie? Relay Q ₃ Blake	Clocks Archie? Relay Q ₄ Arm ?

REMARKS:

1. No film results. Officer monitoring signal said it was intermittent for the first 20 sec. after release. Then it came on with a very clear high tone and near the end changed to a very clear low tone. This indicates clocks and fire data were received. On the basis of the very clear signals, more experimental work should be carried out with "C" plate mounted informers.

2. Signals from I₂, I₃ and I₄ were very noisy.

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~~SECRET~~ Reported by Captain Grandey

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KINGMAN UNIT REPORT LOADING DATA

1. DATE 25 July 1945
2. SHOP NO. 83
3. AIRPLANE NO. 295
4. Preparation of Unit for Loading
 - a. How Delivered from Ordnance Trailer
 - b. How Placed in Pit C-2 Hoist
 - c. Pit Used #2
5. Method of Positioning Airplane Cloat Track and Tow Bar
6. Loading of Unit into Airplane Hydraulic Lift
7. Time Required
 - a. Placing in Pit On 24 July 45
 - b. Positioning Airplane 10 Minutes
 - c. Loading Unit 45 Minutos
8. Release Operation Chocked by T/Sgt. Bender
9. Difficulties Encountered, Irregularities, Etc.

This unit was supposed to have been loaded in plane 384. After getting the plane over the pit and attempting to load it, it was found that the unit was tilted in its cradle a little to the left therefore preventing the release from locking. Since it was late, and unable to get a hoist to straighten it out, it was left to be loaded the next day. Lt. Hall and his crew straightened it out and at 1300 it was loaded in plane 295 since plane 384 came back yesterday from a mission with an engine feathered and up to this morning repairs had not yet been made.

Project Representative Armand Iaia

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