

J. Parks

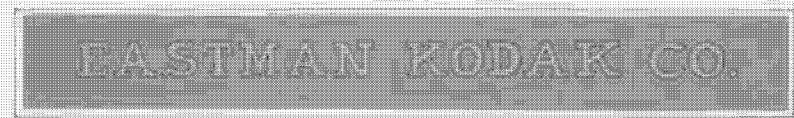
10-19-77

BIF008W-C-015446-OH-77

1 of 32 Pages

-001

~~SECRET G~~



~~SECRET G~~

This document has been reviewed per DOD 118001
 as unclassified, and is hereby approved for public release.
 Date of review: 1/11/2011
 Reviewer's initials: J. E.

Handle via BYEMAN
Control System Only

BIF008W-C-015446-OH-77

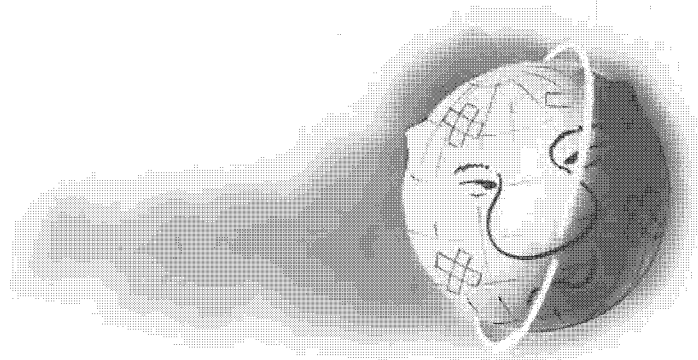
~~SECRET~~ G
CONTROL SYSTEM ONLY

K PROGRAM

PROVIDES PHOTOGRAPHIC PAYLOAD FOR PROGRAM 110,
THE GAMBIT DUAL RECOVERABLE SATELLITE
RECONNAISSANCE SYSTEM .

PROGRAM 110 OBJECTIVE

ACQUIRE VERY HIGH RESOLUTION STEREO PHOTOGRAPHS
OF SELECTED TARGET AREAS ANYWHERE ON EARTH .



~~SECRET~~ G
CONTROL SYSTEM ONLY

Handle via BYEMAN
Control System Only

BIF008W-C-015446-OH-77

~~SECRET~~ G

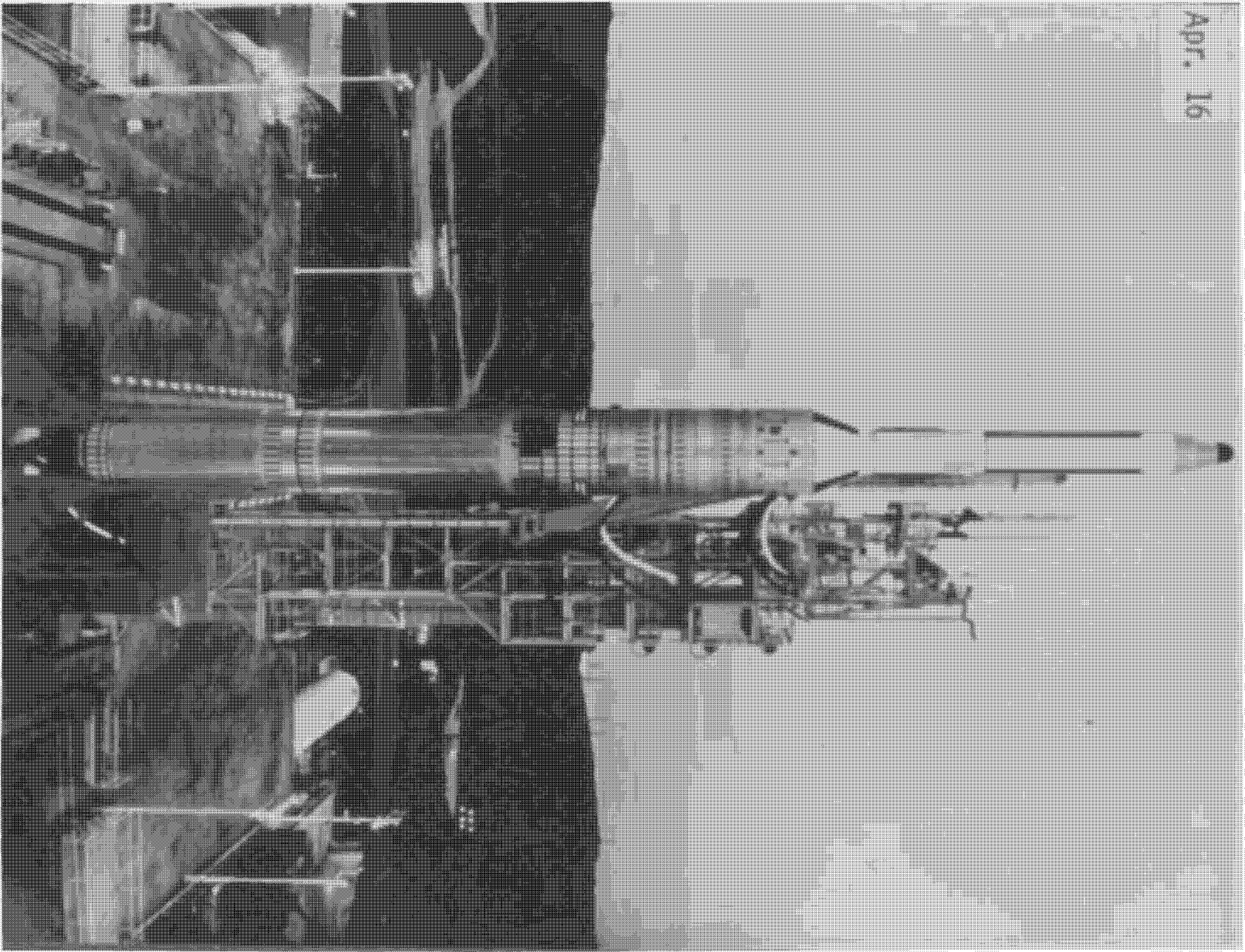
~~TOP~~



~~TOP SECRET~~ G

Handle Via BYEMAN
Control System Only

Apr. 16



BIF008W-C-015446-0H-77

~~TOP SECRET~~ G

4 of 32

~~TOP SECRET~~ G

Handle via BYEMAN
Control System Only

BIF008W-C-015446-OH-77

~~TOP~~ SECRET-G
WHICH YOU SEE
CONTROL SYSTEMS

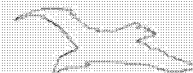
EVOLUTION OF GAMBIT SYSTEMS

LAUNCH DATES

1963 / 66

GAMBIT PROGRAM

- 3 FT. DIA. VEHICLE
- 30 + FLIGHTS



1966 / 69

ADVANCED GAMBIT

- 5 FT. DIA. VEHICLE
- SINGLE RECOVERY BUCKET
- FLIGHTS 1-22

1969 / 76

ADVANCED GAMBIT (FO-11)

- DUAL RECOVERY BUCKETS
- FLIGHTS 23-47

1976 / 82

ADVANCED GAMBIT (FO-7)

- DUAL RECOVERY BUCKETS
- DUAL CAMERA SYSTEMS (9" x 5")
- FLIGHTS 48-54
- FLIGHTS 55-60

1982 -

~~TOP~~ SECRET-G
WHICH YOU SEE
CONTROL SYSTEMS

BIF008W-C-015446-OH-77

PROGRAM MILESTONES

PROGRAM START _____ 1964

FIRST LAUNCH _____ 1966

ULTRA THIN BASE FILM _____ 1967

USE OF SO-121 COLOR FILM _____ 1968

DUAL SRVS. 14 DAY ORBITAL LIFE _____ 1969

USE OF 1414 HIGH DEF. B&W FILM _____ 1970

LOW COEF. OPTICAL MATERIALS _____ 1970

PPS FACTORY TO PAD _____ 1970

20 DAY ORBITAL LIFE _____ 1971

LENS FORMULA CHANGE R-5 _____ 1971

30 DAY ORBITAL LIFE _____ 1972

EXPOSURE SLIT CHANGE _____ 1972

INCREASED FILM CAPACITY (10,800) _____ 1973

IMPROVED OPTICAL QUALITY _____ 1973

USE OF SO-124 HIGH DEF. B&W FILM _____ 1973

USE OF SO-131 FALSE COLOR IR FILM _____ 1973

45 DAY ORBITAL LIFE _____ 1974

9x5 DUAL PLATEN CAMERA _____ 1977

75 DAY ORBITAL LIFE _____ 1977

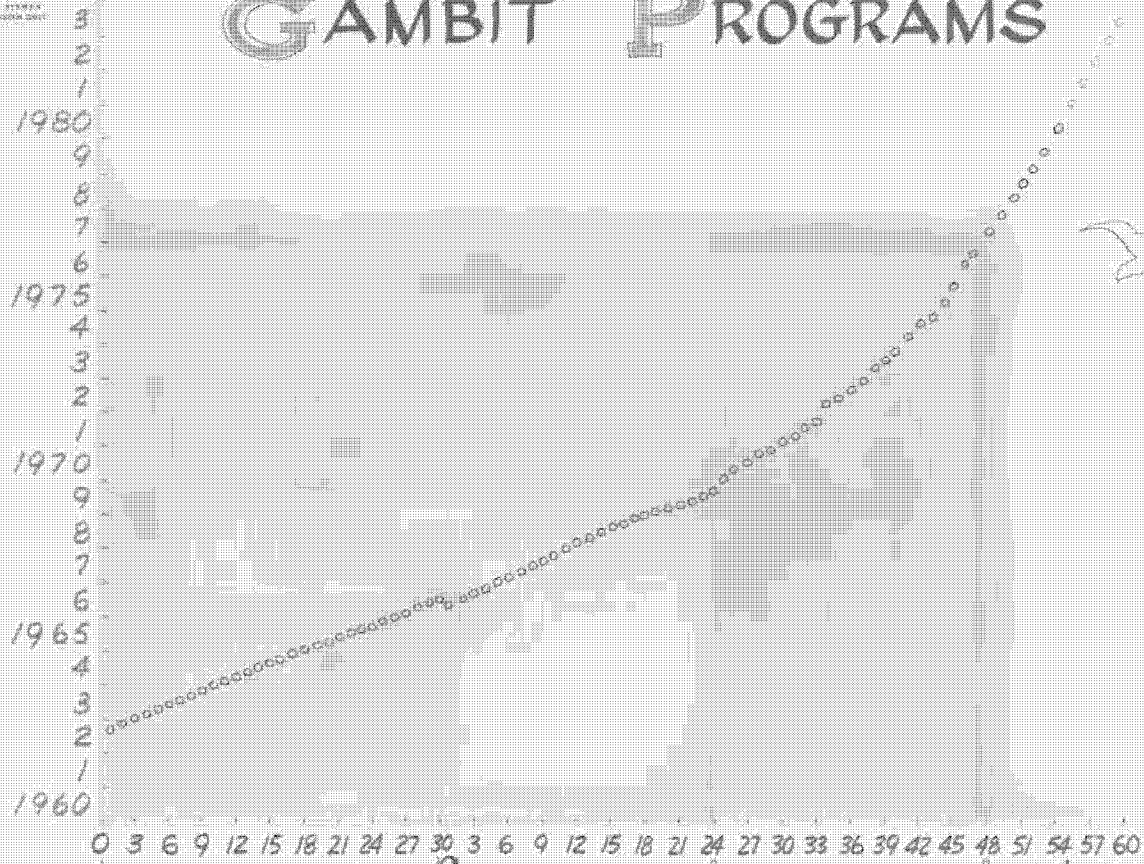
~~TOP SECRET G~~

6 of 32

BIF008W-C-015446-OH-77

~~SECRET~~ G

GAMBIT PROGRAMS



9:15"

~~SECRET~~ G

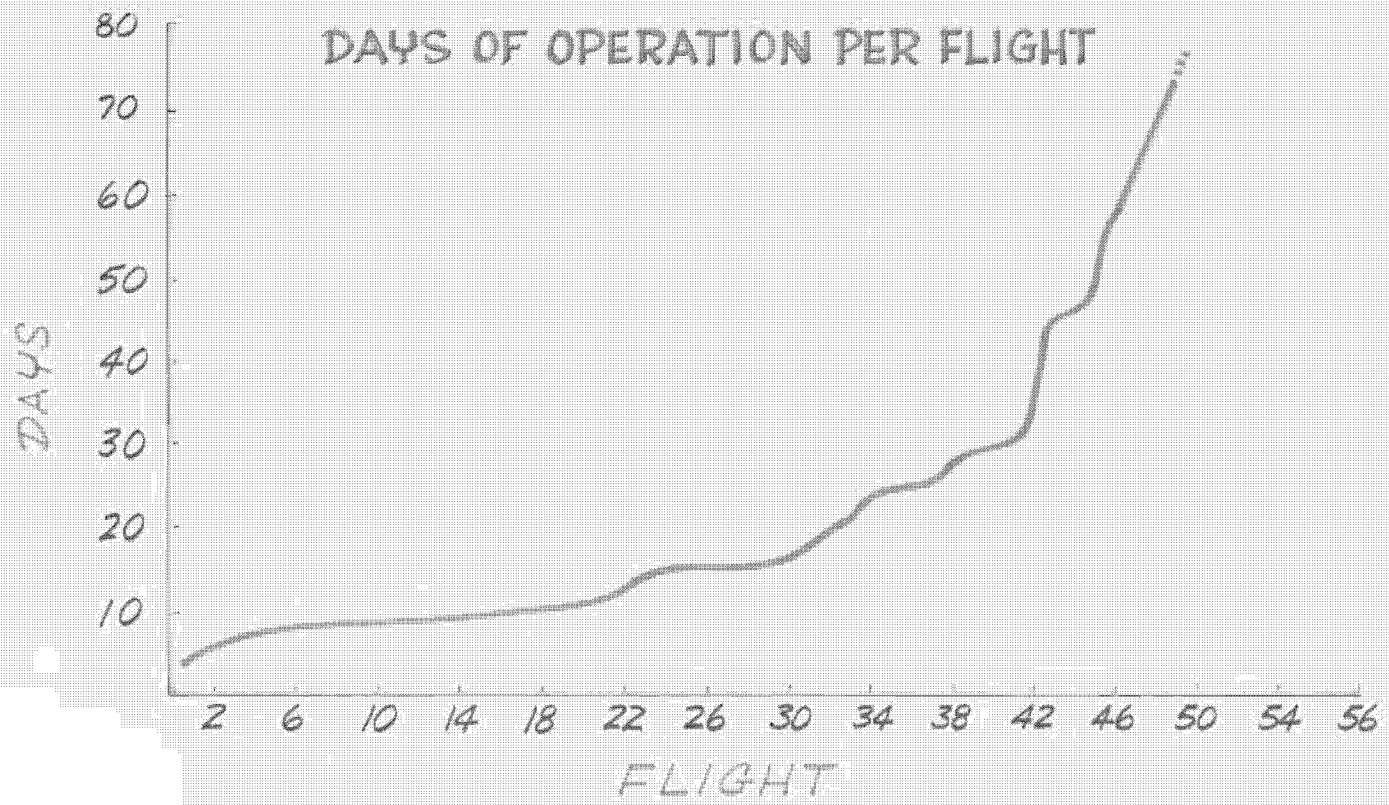
Handle via BYEMAN
Control System Only

BOOK CHART OF CHARTS

BIF008W-C-015446-0H-77

~~TOP SECRET-G~~
SHOULD NOT BE RELEASED
EXCEPT BY SYSTEM ONLY

ADVANCED GAMBIT

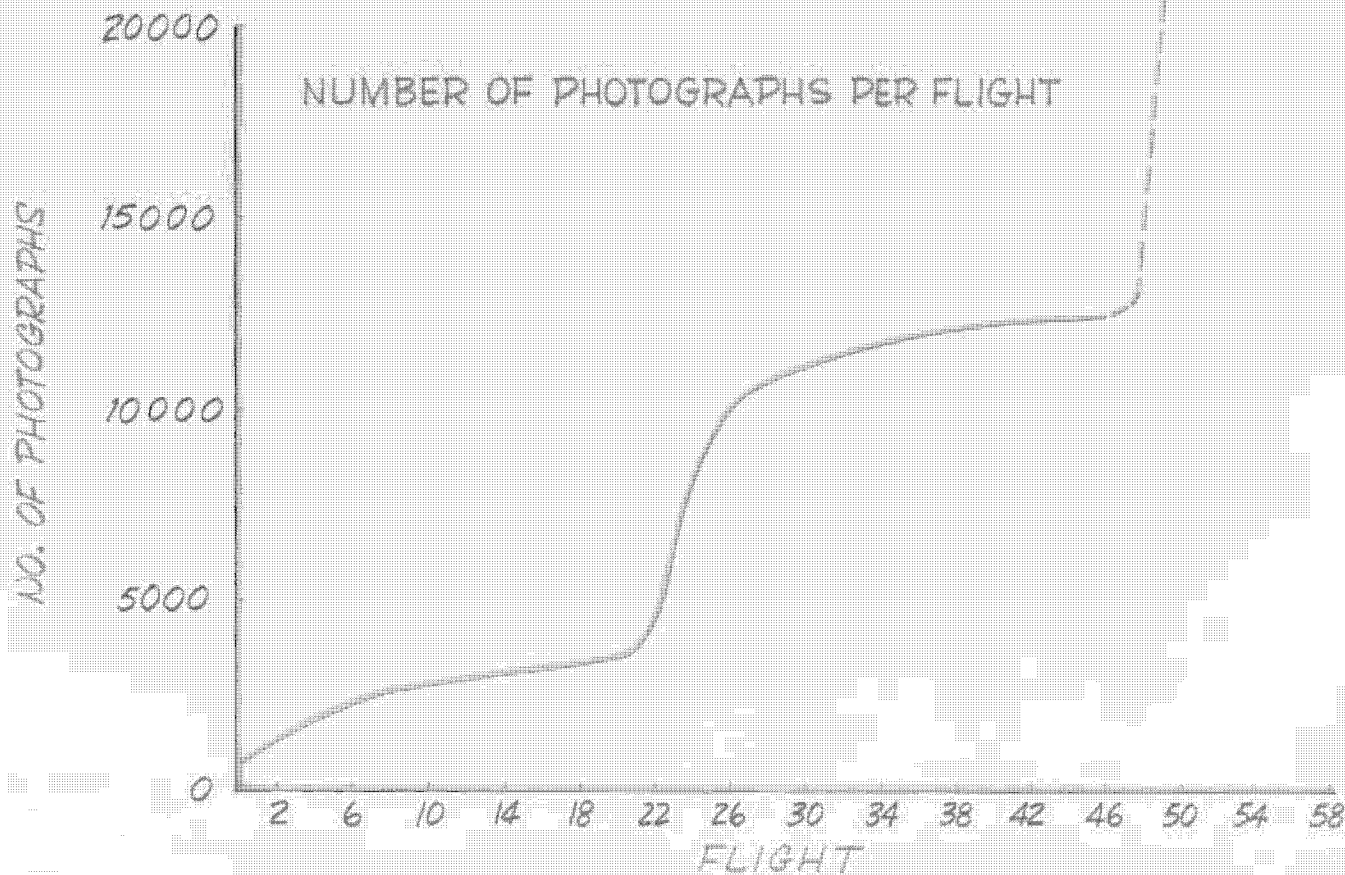


~~TOP SECRET-G~~
SHOULD NOT BE RELEASED
EXCEPT BY SYSTEM ONLY

BIF008W-C-015446-0H-77

~~SECRET G~~
GROUP 1 EXCLUDED
CONTROL SYSTEM ONLY

ADVANCED GAMBIT



~~SECRET G~~
GROUP 1 EXCLUDED
CONTROL SYSTEM ONLY

Handle via **BYEMAN**
Control System Only

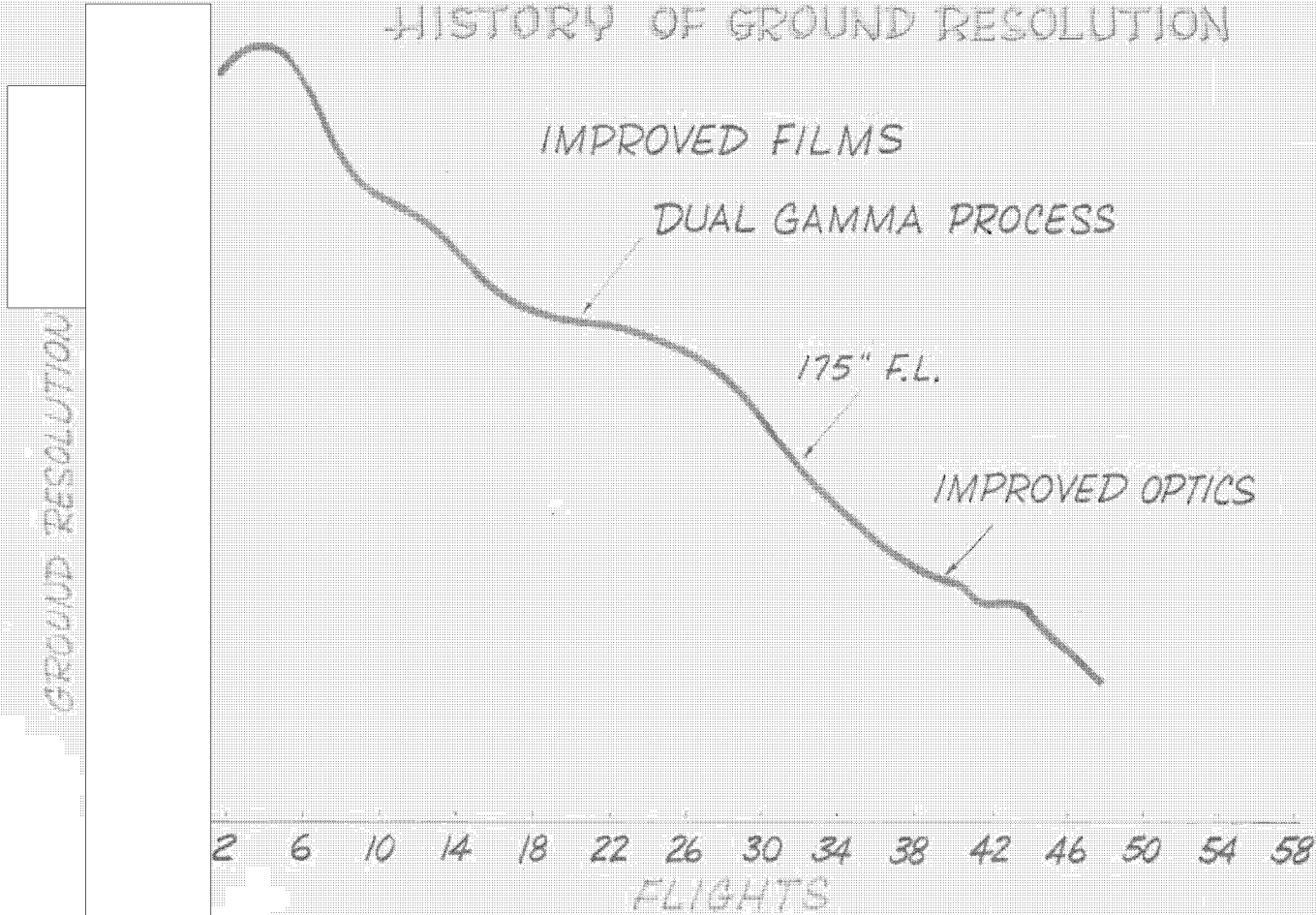
BOOK CHART OF CHARTS

~~SECRET~~ G
NOFORN, NO STAFF, NO CONTROL, SYSTEM ONLY

BIF008W-C-015446-OH-77

ADVANCED GAMBIT

HISTORY OF GROUND RESOLUTION



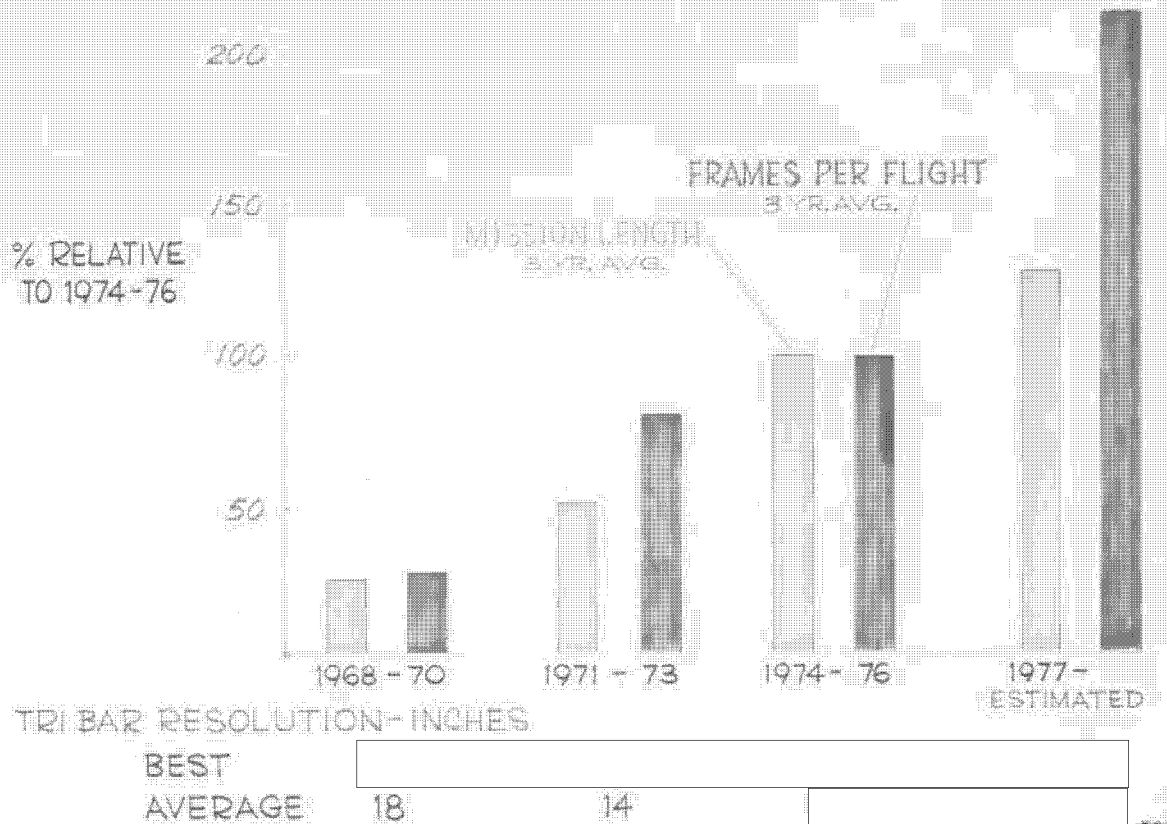
(b)(1)
(b)(3)
(b)(1)
(b)(3)

~~SECRET~~ G
NOFORN, NO STAFF, NO CONTROL, SYSTEM ONLY

BIF008W-C-015446-DH-77

~~SECRET~~
GROUP 1 - EXCLUDED FROM AUTOMATIC DOWNGRADING AND DECLASSIFICATION

PERFORMANCE COMPARISONS



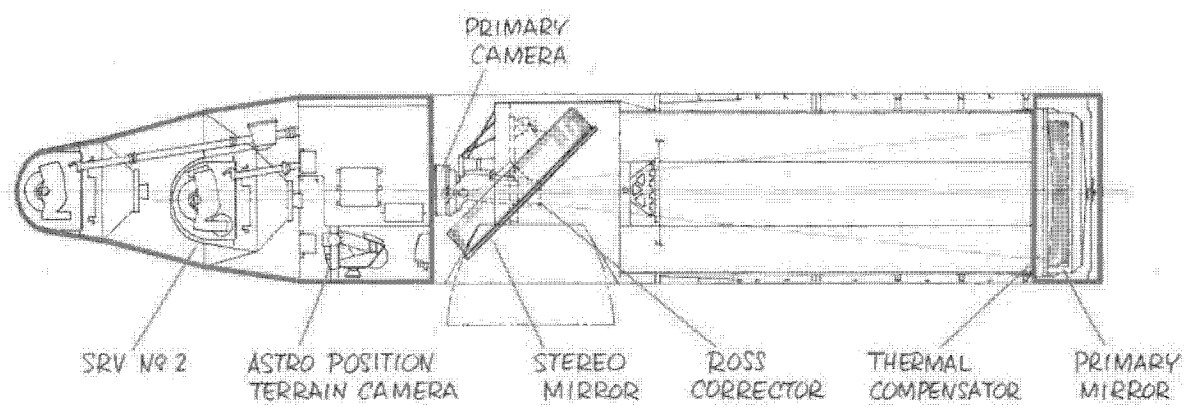
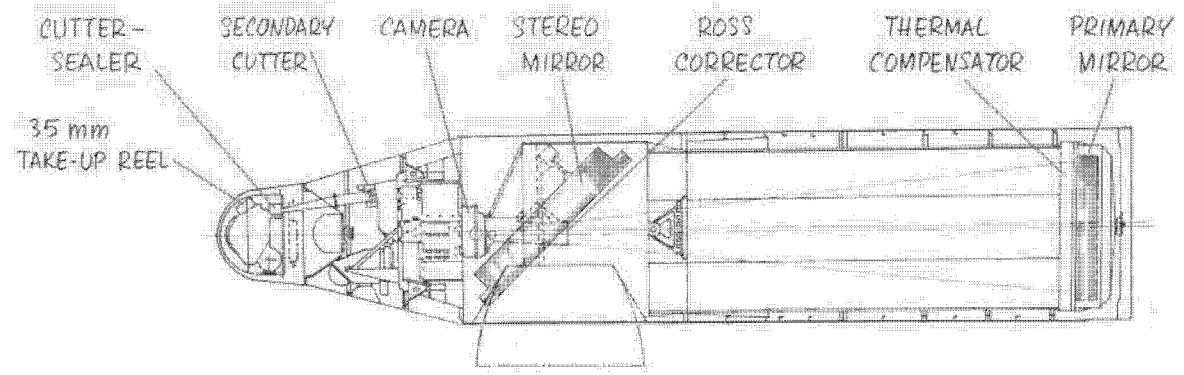
~~SECRET~~
GROUP 1 - EXCLUDED FROM AUTOMATIC DOWNGRADING AND DECLASSIFICATION

(b)(1)
(b)(3)

BIF008W-C-015446-OH-77

~~SECRET~~ G

G³/B² CONFIGURATIONS



~~SECRET~~ G
12 of 32

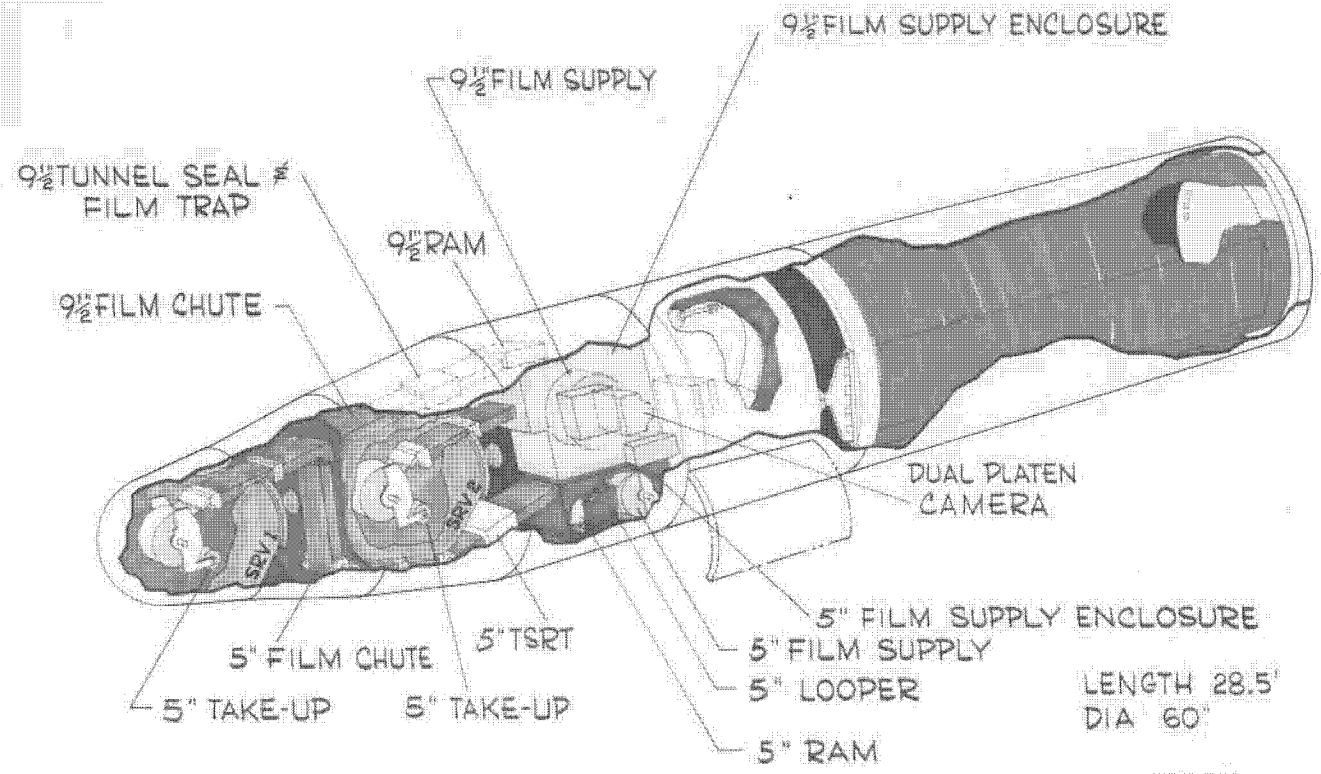
Handle via BYEMAN
Control System Only

BIF008W-C-015446-0H-77

~~SECRET~~ G

ERC GAMBIT PHOTOGRAPHIC PAYLOAD SYSTEM

FM 48-54 FLIGHT USE 1977-1980
INCORPORATE 9" x 5" CAMERA SYSTEMS

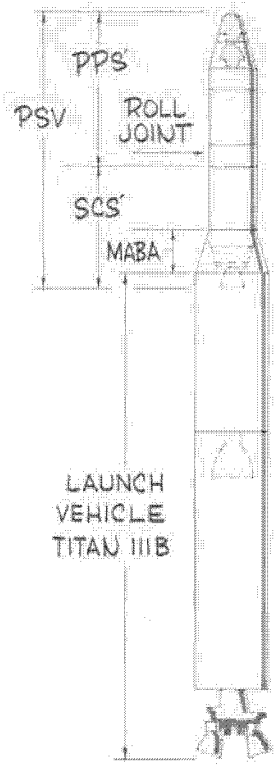


~~SECRET~~ G

Handle via BYEMAN
Control System Only

BIF008W-C-015446-0H-77

GAMBIT CONFIGURATION



ON PAD

<u>VEHICLE</u>	<u>LENGTH (ft.)</u>	<u>WEIGHT (lbs.)</u>	<u>ENGINE THRUST (lbs.)</u>
TITAN III B			
STAGE 1	77.8	311,000	450,000
STAGE 2	23.3	74,000	102,000
PSV			
SCS	18.3	17,300	17,000
PPS/PAS	30.1	5,300	
<u>TOTALS</u>	<u>149.5</u>	<u>407,600</u>	

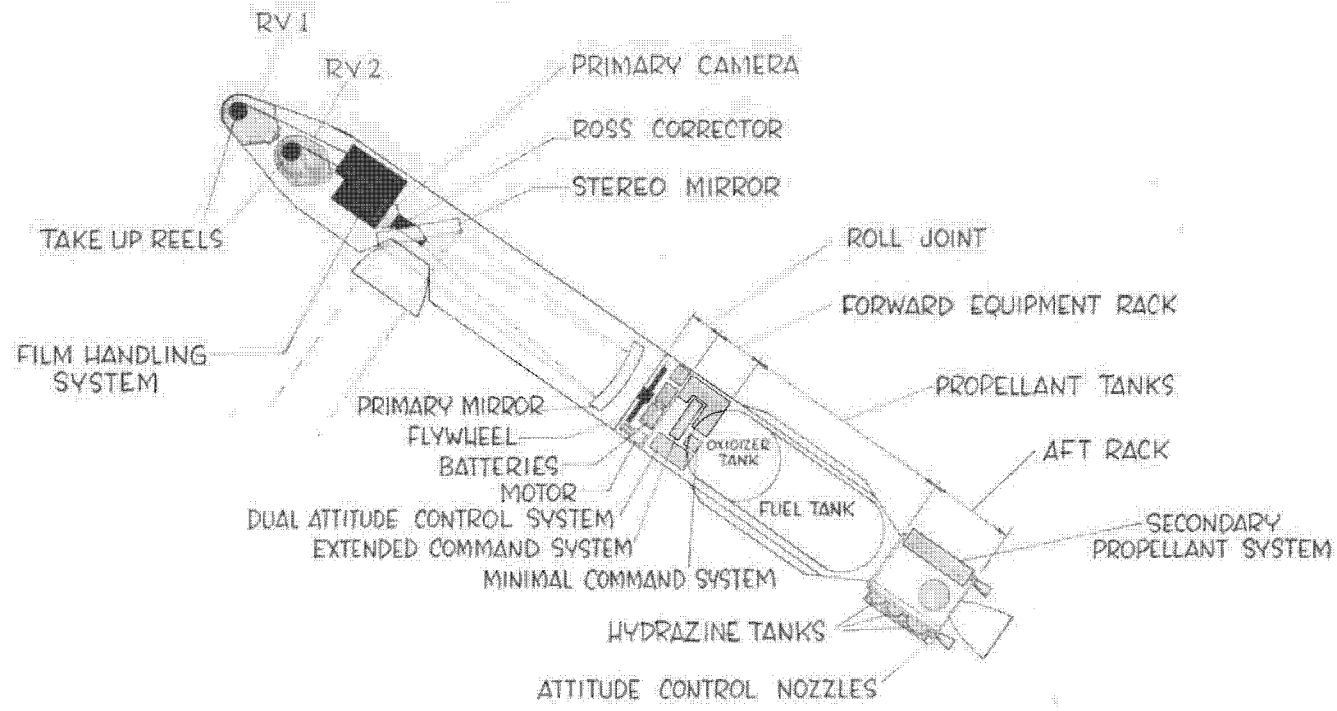
ON ORBIT

OVERALL LENGTH (ft.)	48.4
INJECTION WEIGHT (lbs.)	9,000
PROPULSIVE EXPENDABLES (lbs.)	300
TOTAL FILM WEIGHT (lbs.)	160
SATELLITE RECOVERY VEHICLE WEIGHT (lbs.)	400
RECOVERY VEHICLE WEIGHT AT AIR SUATCH (lbs.)	200

BIF008W-C-015446-OH-77

~~SECRET~~ G

ORBITING VEHICLE CONFIGURATION



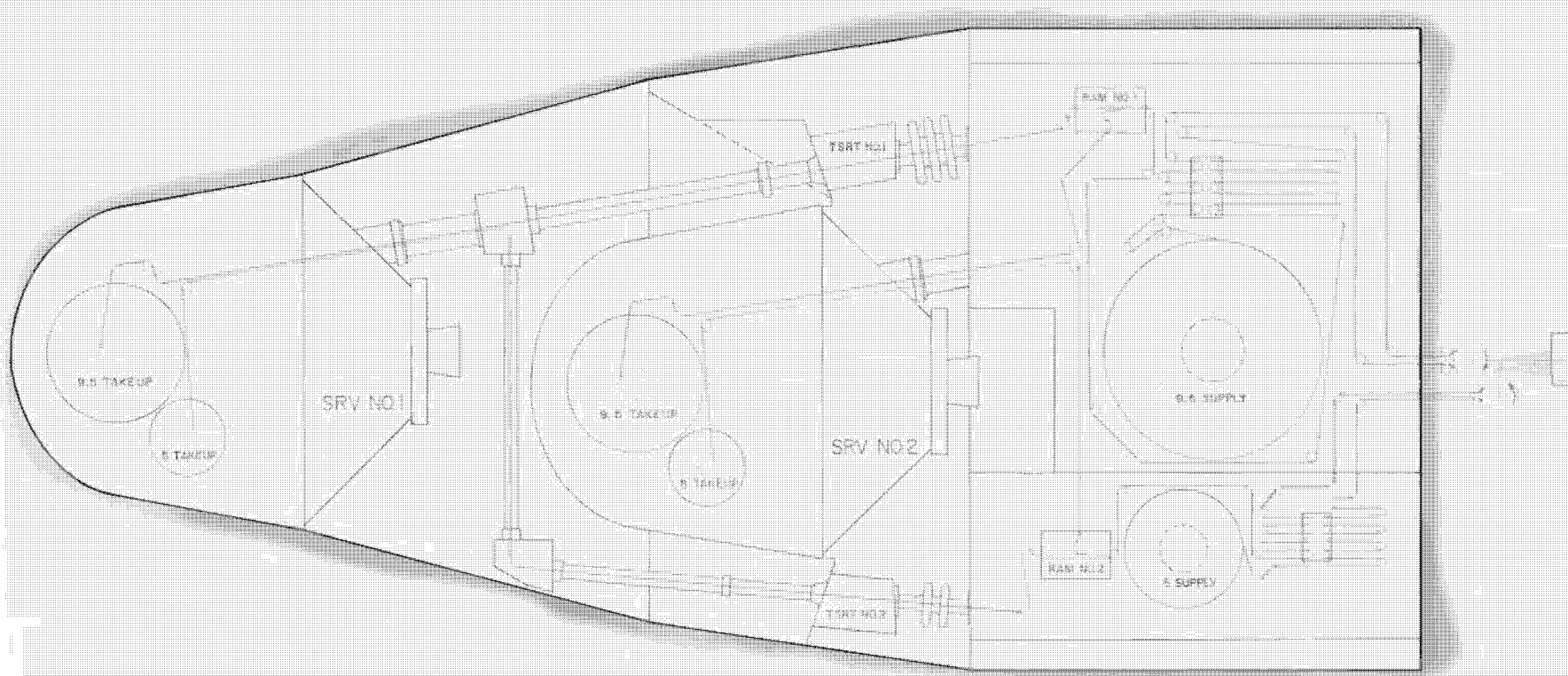
~~SECRET~~ G

Handle via BYEMAN
Control System Only

~~TOP SECRET~~

B1F008W-C-015446-OH-77

DUAL PLATEN CONFIGURATION

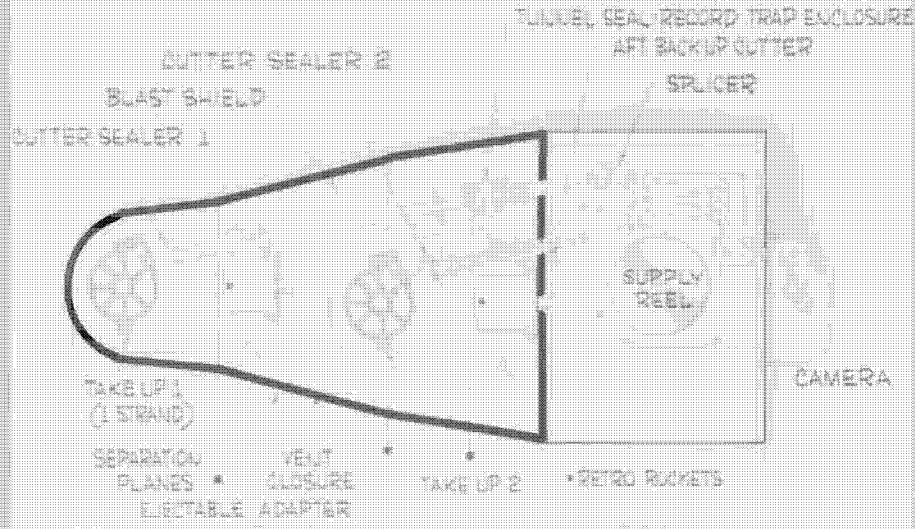


~~TOP SECRET-G~~
GROUP 1 - EXCLUDED FROM AUTOMATIC DOWNGRADING AND DECLASSIFICATION

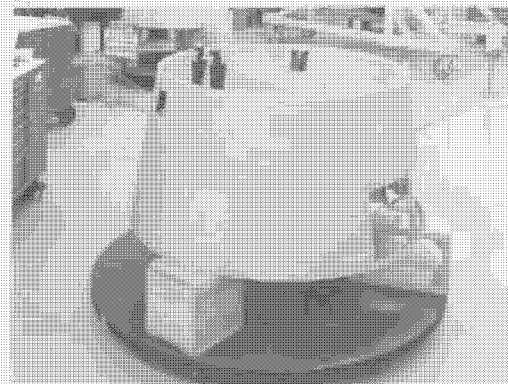
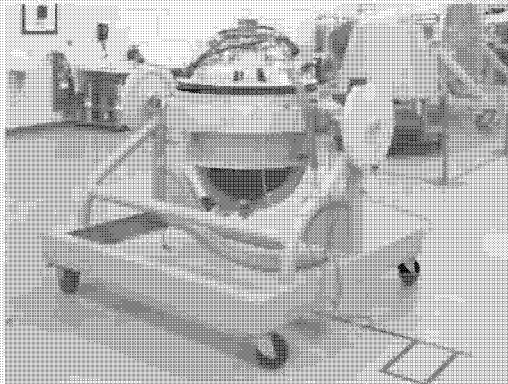
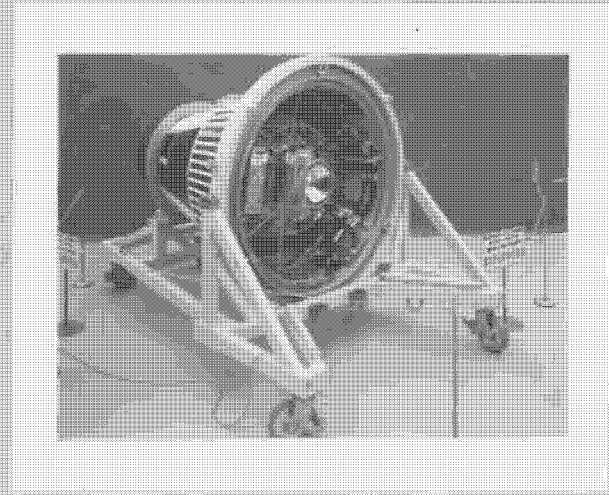
BIF008W-C-015446-0H-77

SEM/DRM

FM 42-47

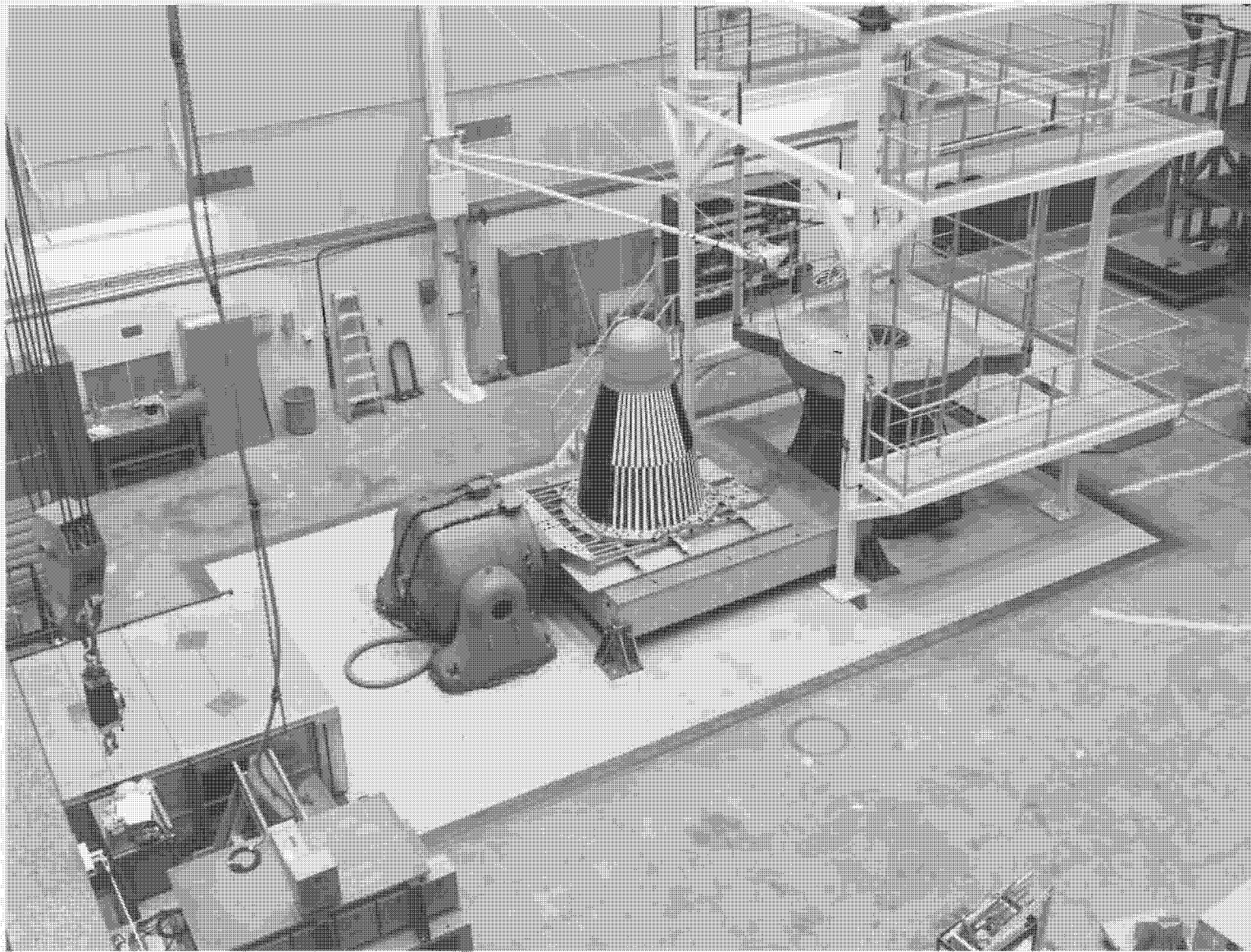


~~TOP SECRET G~~
Handle Via STEMAN
CONTROL SYSTEM ONLY



~~TOP SECRET G~~
Handle Via STEMAN
CONTROL SYSTEM ONLY

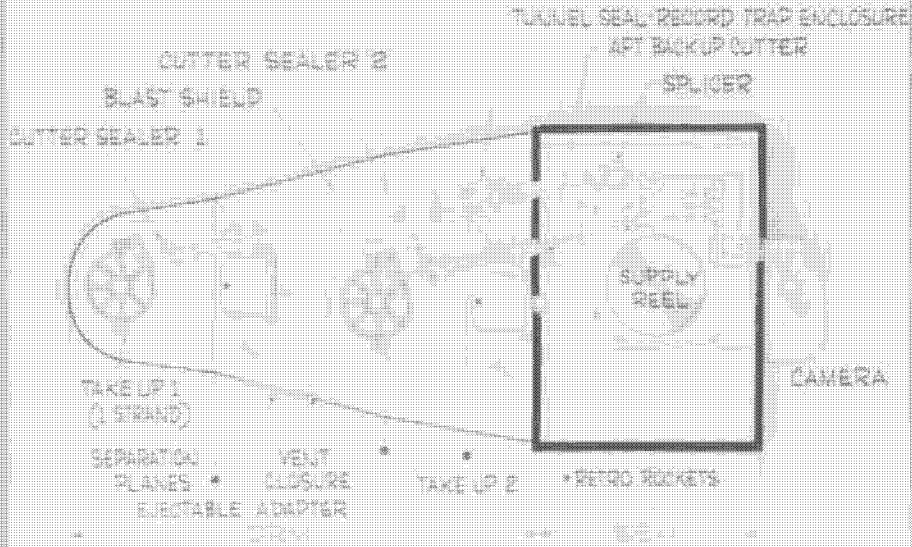
BIF008W-C-015446-0H-77



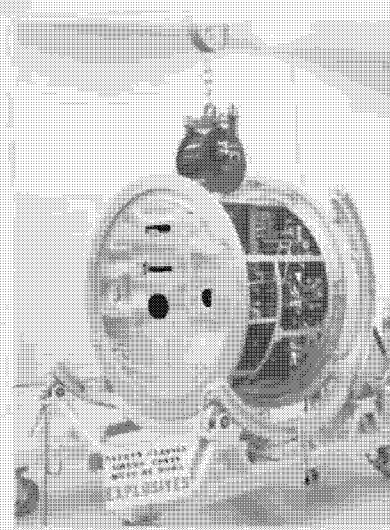
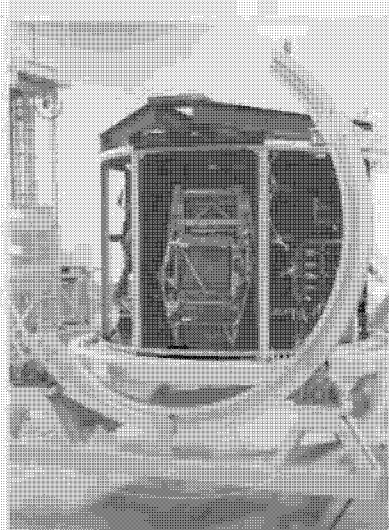
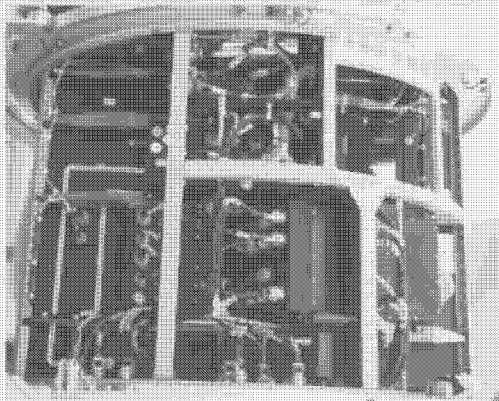
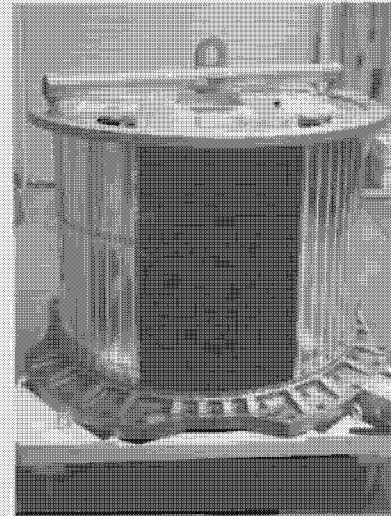
B1F008W-C-015446-OH-77

SEM/DRM

FM 42-47



~~TOP SECRET G~~
Handle Via STEMAN CONTROL SYSTEM ONLY



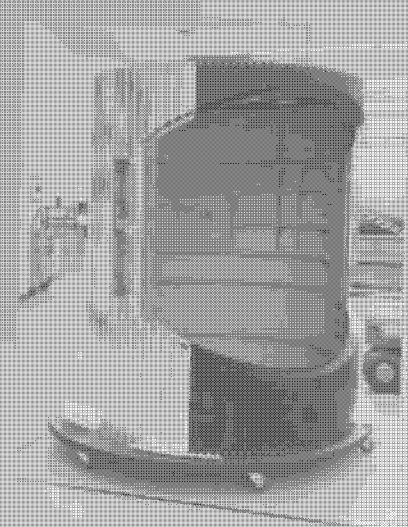
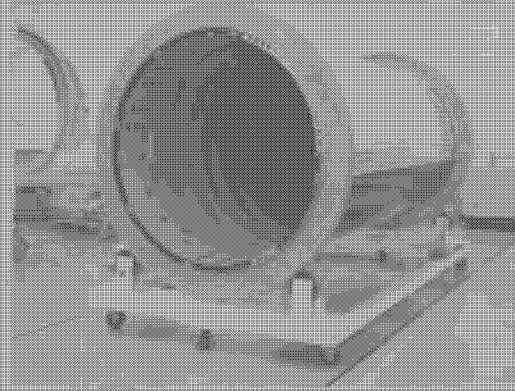
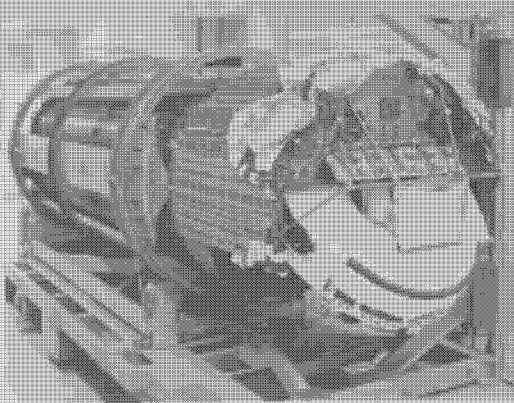
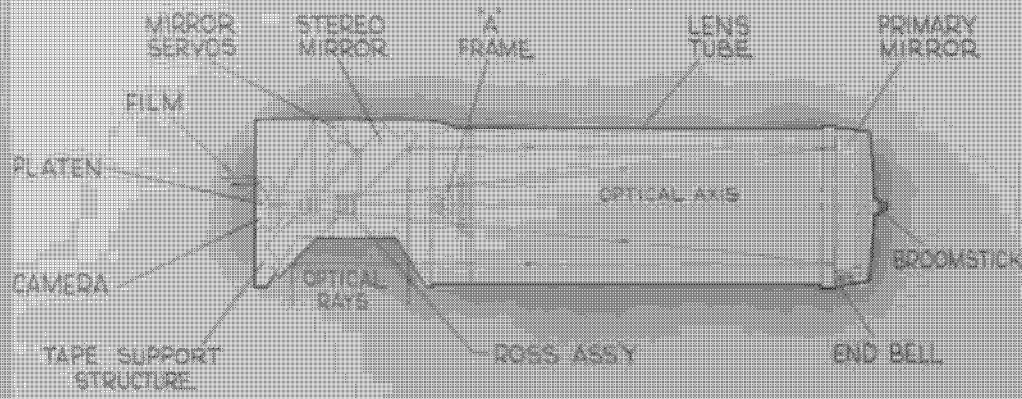
~~TOP~~

~~SECRET G~~
Handle Via STEMAN CONTROL SYSTEM ONLY

~~TOP SECRET~~

BIF008W-C-015446-0H-77

COA CONFIGURATION

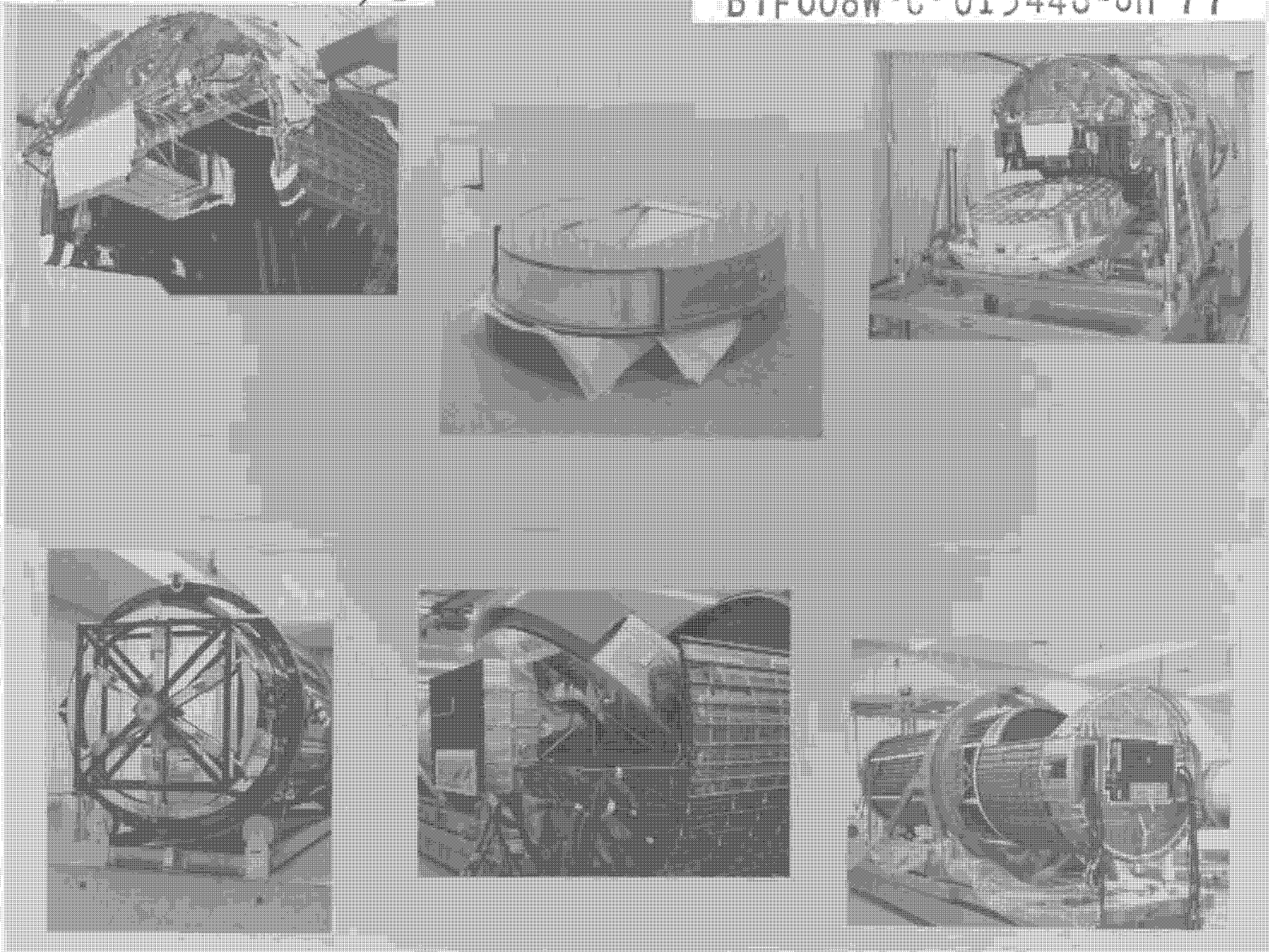


~~TOP SECRET G~~

Handle via BYEMAN Control System Only

~~TOP SECRET~~ / G

BIF008W-C-015446-OH-77

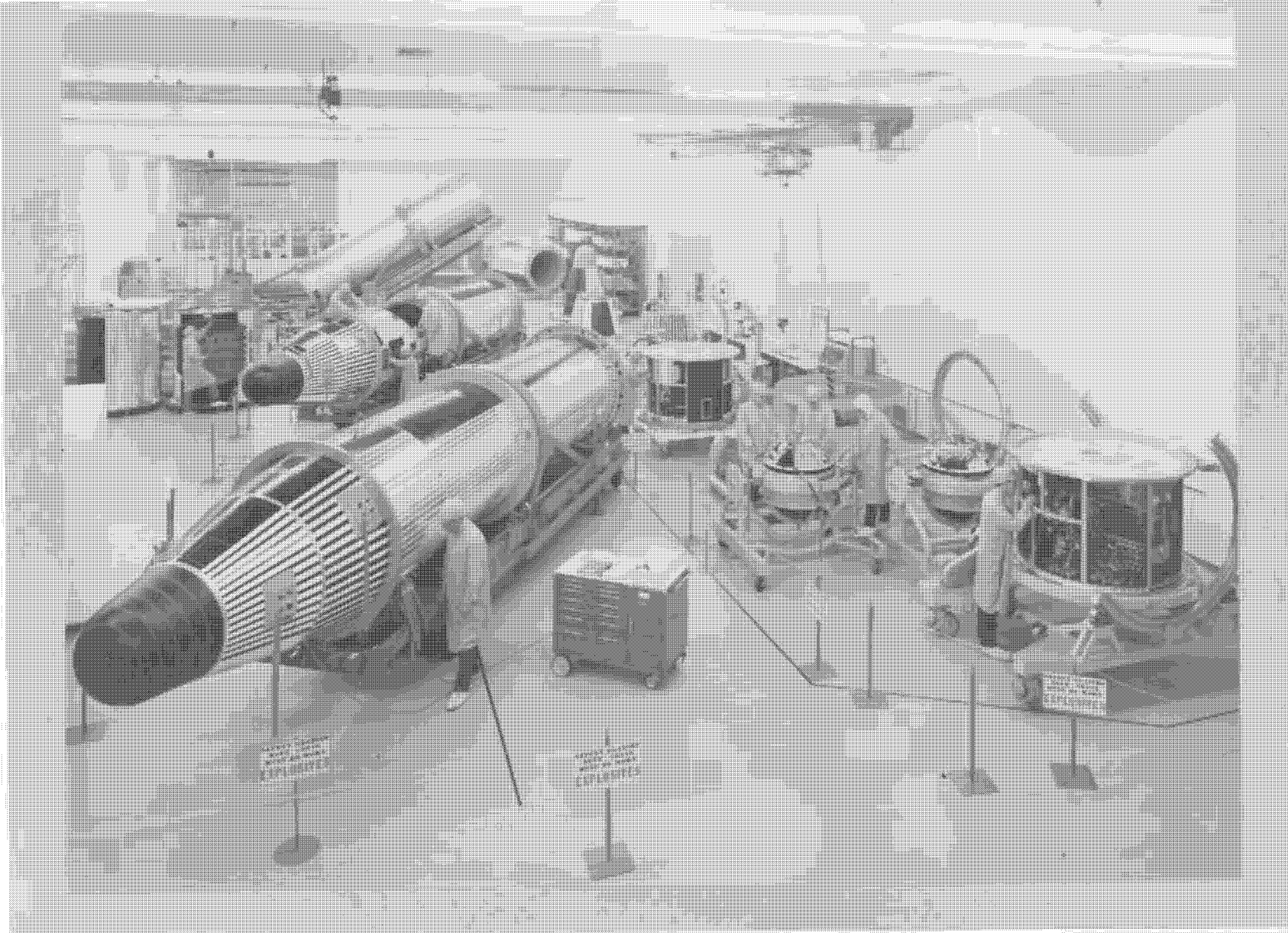


~~TOP SECRET~~ G

21 of 32 Handle via BYEMAN Control System Only

~~TOP SECRET G~~

BIF008W-C-015446-0H-77



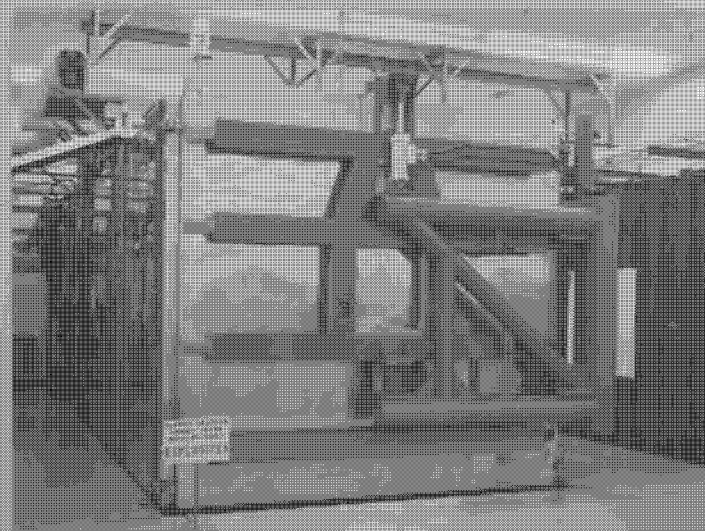
~~TOP SECRET G~~

22 of 32 Handle via BYEMAN
Control System Only

BIF008W-C-015446-0H-77

~~SECRET~~ G

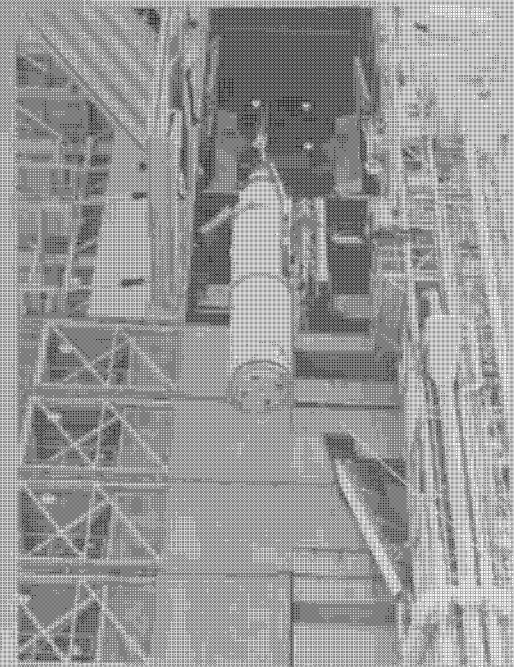
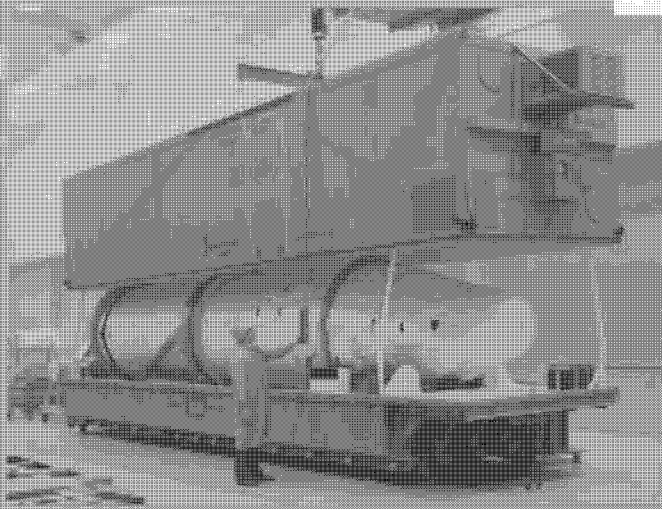
~~TOP~~



~~TOP SECRET~~ G

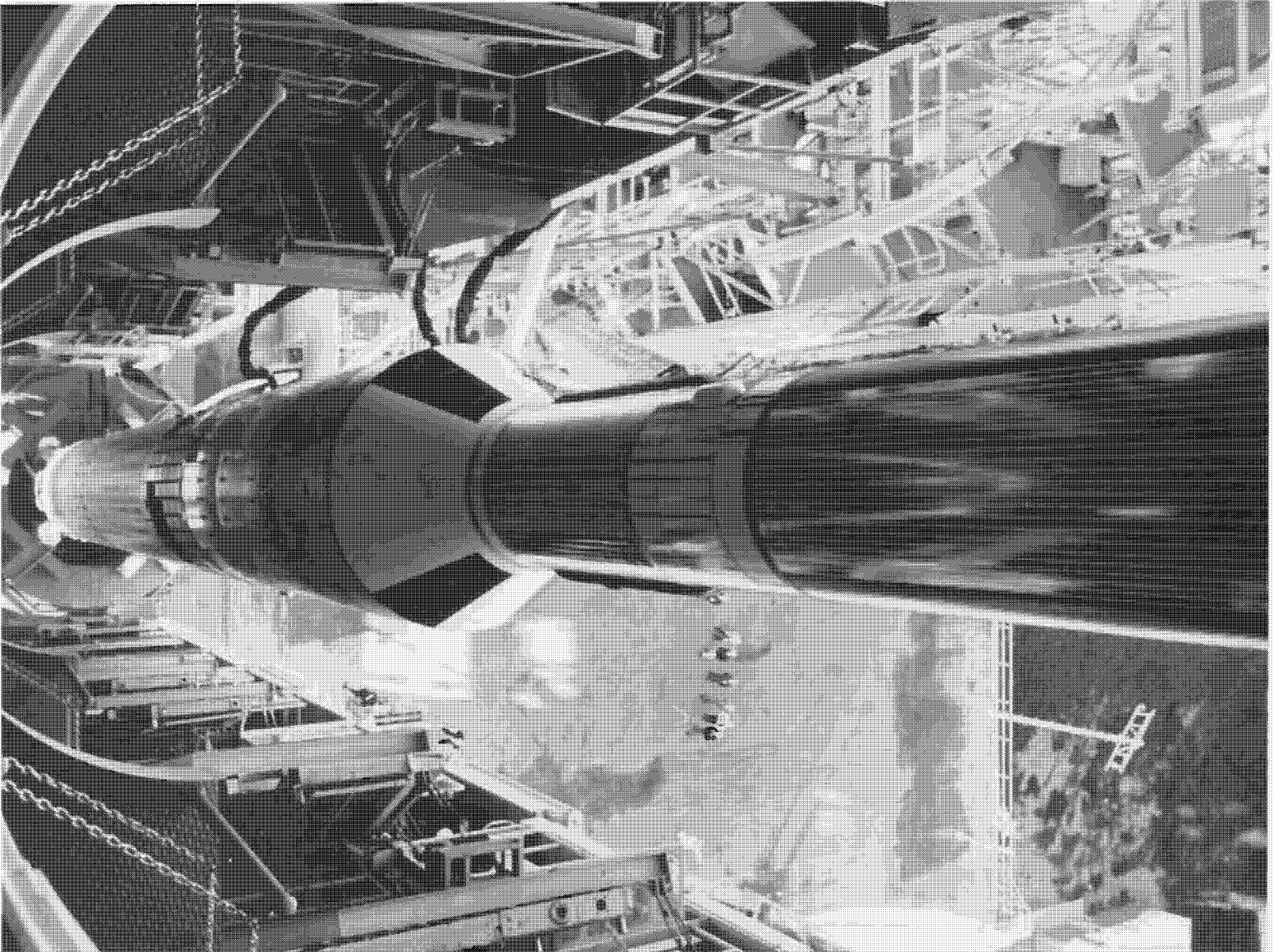
BIF008W-C-015446-OH-77

~~TOP SECRET G~~



24 of 32 Handle via BYEMAN Control System Only

~~TOP SECRET G~~



~~TOP SECRET~~ - G

BIF008W-C-015446-OH-77

25 02 32

~~TOP SECRET~~ - G

Handle via BYEMAN
Control System Only

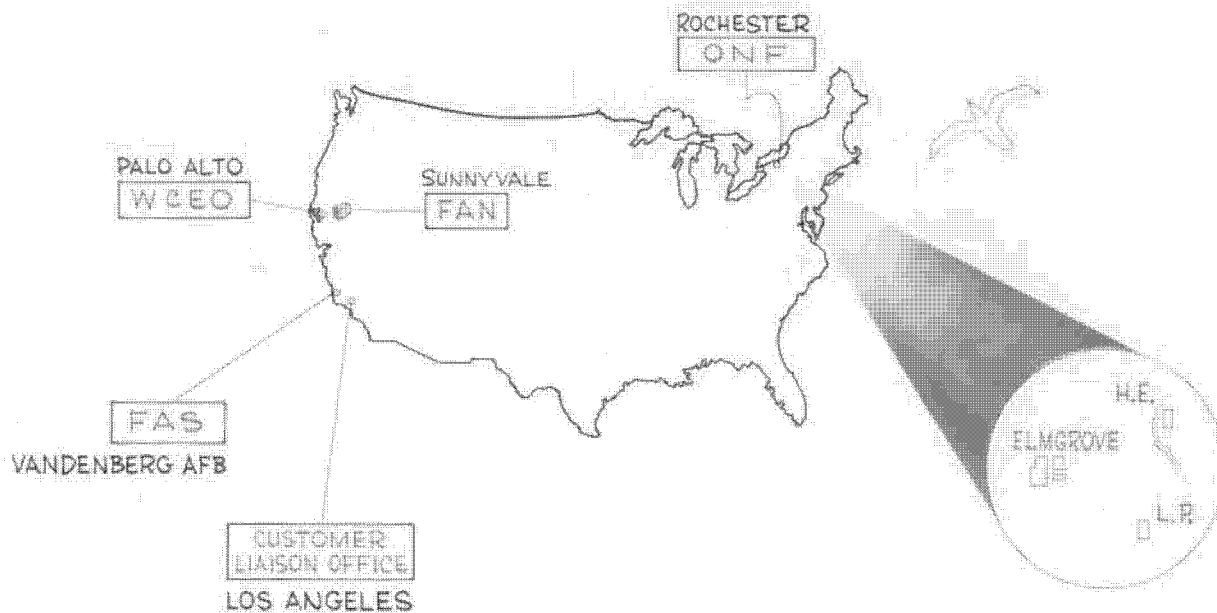
~~TOP SECRET~~

G

BIF008W-C-015446-OH-77

~~SECRET~~
G

LOCATION of PROGRAM ACTIVITIES



~~SECRET~~
G

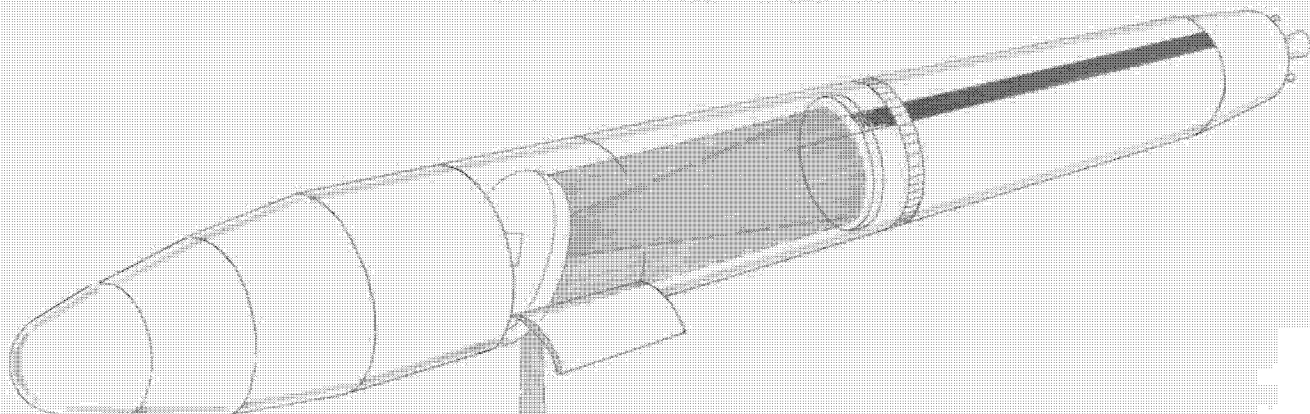
Handle via **BYEMAN**
Control System Only

~~TOP SECRET~~ G

BIF008W-C-015446-OH-77

~~SECRET~~ G
NOFORN DISSEM
CONTROL, IT/E/E/NOFORN

ADVANCED GAMBIT ORBITING VEHICLE



* STRIP MODE OPERATION

~~SECRET~~ G
NOFORN DISSEM
CONTROL, IT/E/E/NOFORN

Handle via **BYEMAN**
Control System Only

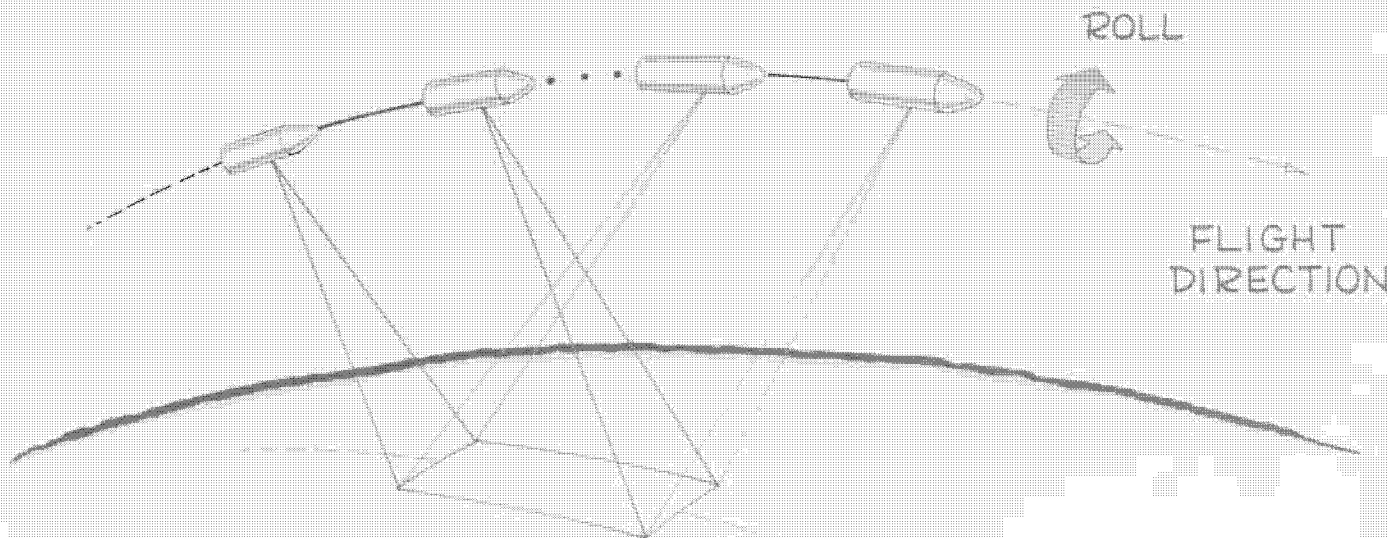
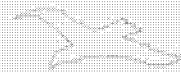
BOOK CHART OF CHARTS

BIF008W-C-015446-0H-77

~~SECRET~~ G
GROUP 1 - EXCLUDED
CONTROL SYSTEM ONLY

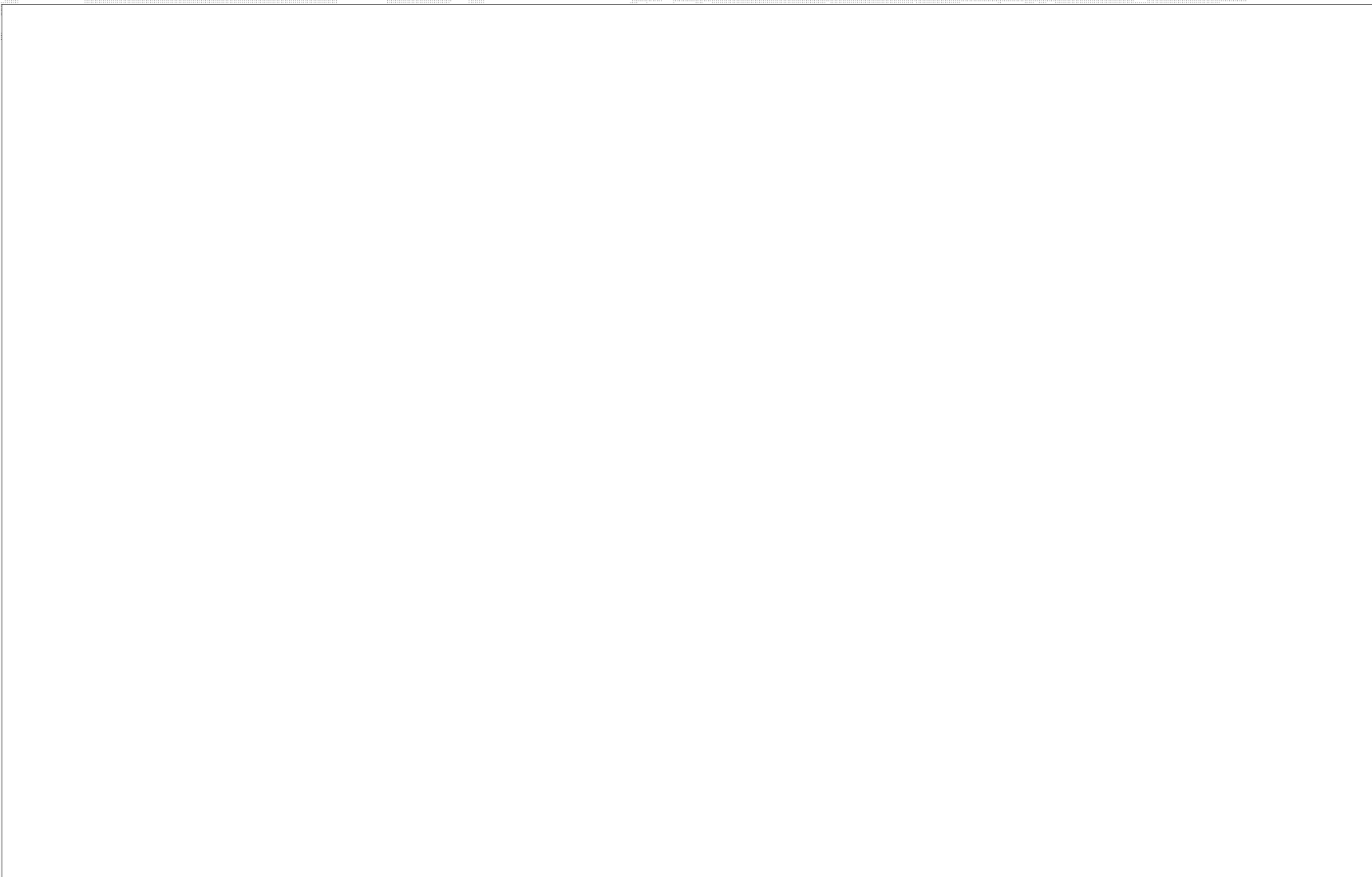
ADVANCED GAMBIT

OPERATIONAL MODES



~~SECRET~~ G
GROUP 1 - EXCLUDED
CONTROL SYSTEM ONLY

BIF008W-C-015446-0H-77



(b)(1)
(b)(3)

BIF008W-C-015446-DH-77

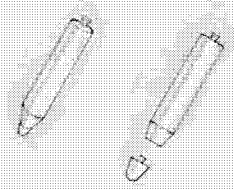
~~TOP SECRET G~~

RE-ENTRY SEQUENCE

DIRECTION OF FLIGHT

RV-ELECTRICAL DISCONNECT

RETRO ROCKET FIRE



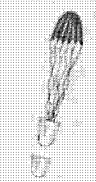
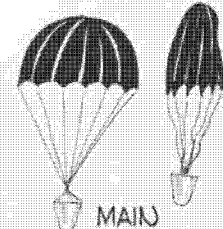
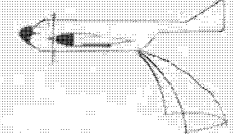
MECHANICAL SRV SEPARATION

THRUST CONE EJECTION

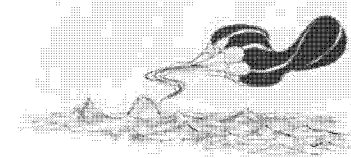
RECOVERY BEACON

RV STARTS RE-ENTRY

WATER RECOVERY IF NOT AIR RECOVERY



CHUTE DEPLOY. INITIATED



AIR RECOVERY

MAIN CHUTE BLOSSOM

MAIN CHUTE REEFED

DROGUE CHUTE BLOSSOM, HEAT SHIELD RELEASED.

~~TOP SECRET G~~

~~TOP~~

SECRET G
GROUP 1 AND 2 EXCLUDED
EYES ONLY

BIF008W-C-015446-OH-77

OPERATIONAL PERFORMANCE SCORE HISTORY

CONTRACT - 0009 (37 - 47)

<u>OM</u>	<u>%</u>	<u>OM</u>	<u>%</u>	<u>OM</u>	<u>%</u>
37	100	42	100	47	100
38	100	43	100		
39	100	44	100		
40	100	45	100		
41	100	46	100		

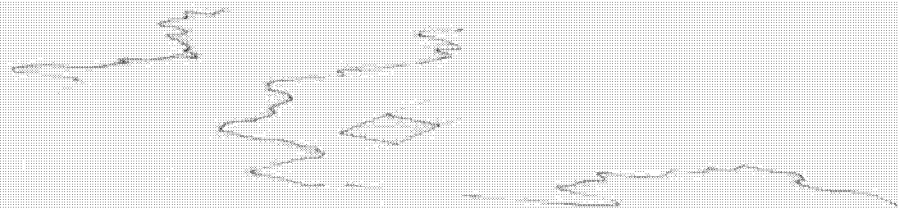
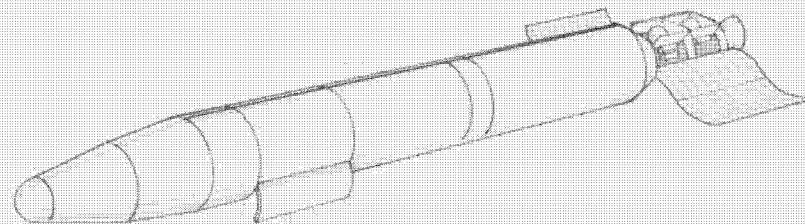
~~TOP~~ SECRET G

~~TOP SECRET G~~
GROUP 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

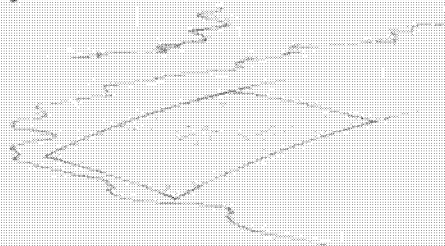
B1F008W-C-015446-0H-77

GAMBIT DUAL MODE CAPABILITY

○ SURVEILLANCE
LOW ALTITUDE (75 NM)
40 DAYS



○ SEARCH
HIGH ALTITUDE (500 NM)
80 DAYS



~~TOP SECRET G~~
GROUP 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100