

~~SECRET~~ DBIF-008- F-035080-RH
(Control Number)

-68

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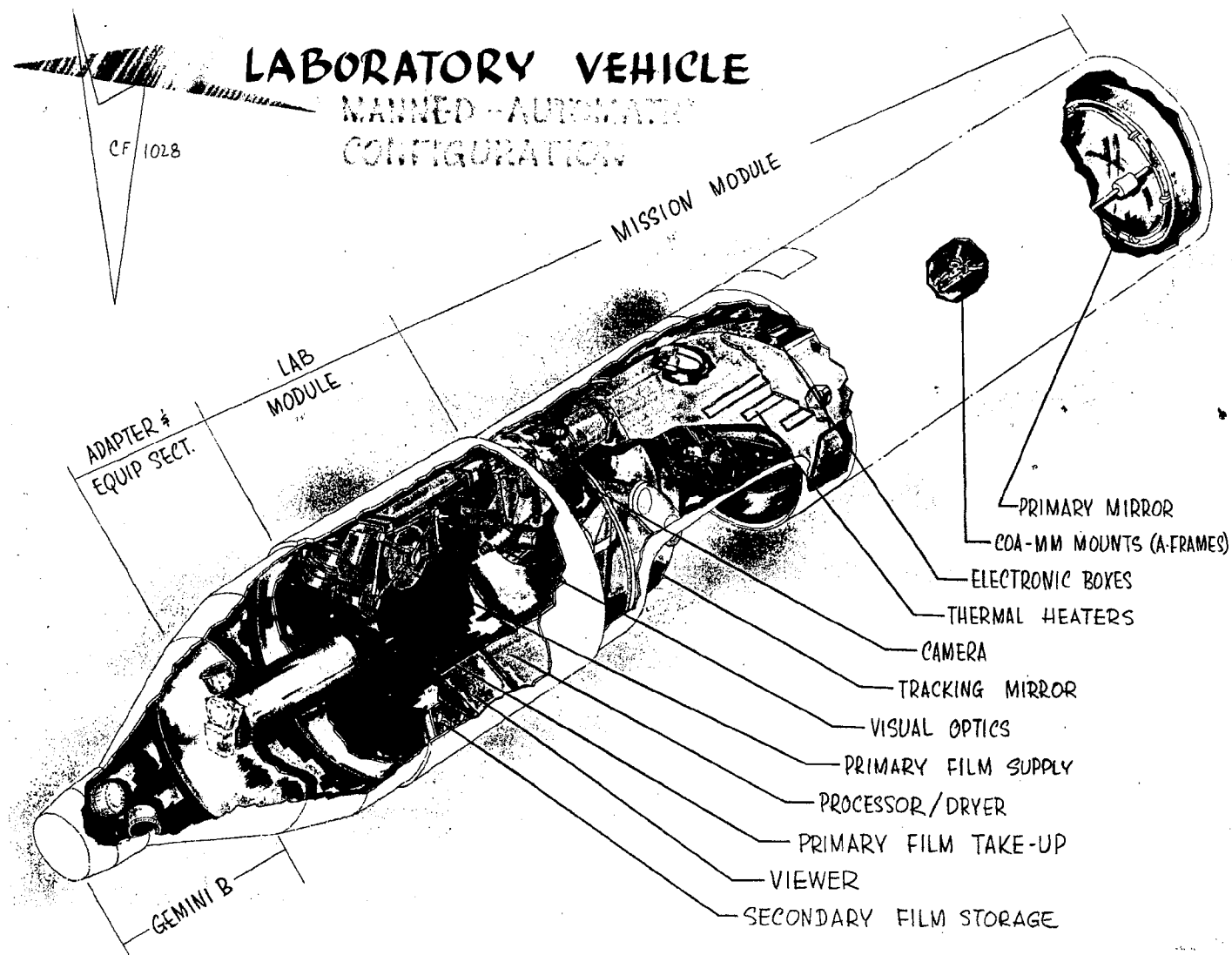


Figure 1.2-1. Orbiting Vehicle M/A Mode

Handle via BYEMAN
Control System Only~~SECRET~~ D

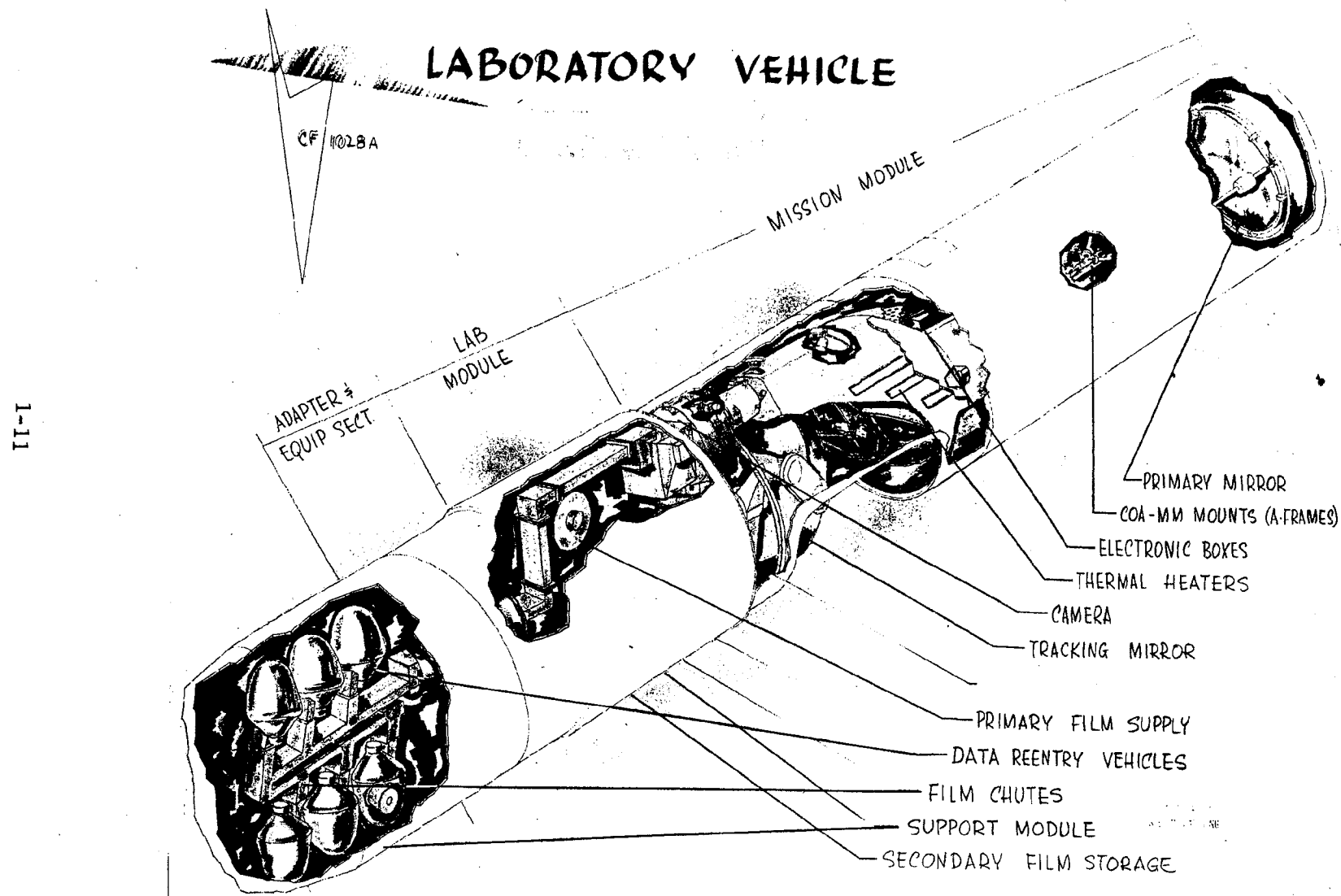


Figure 1.2-2. Orbiting Vehicle-Automatic Mode (Typical)

Handle via BYEMAN
Control System Only

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BIF-008- F-035080-RH -68
(Control Number)

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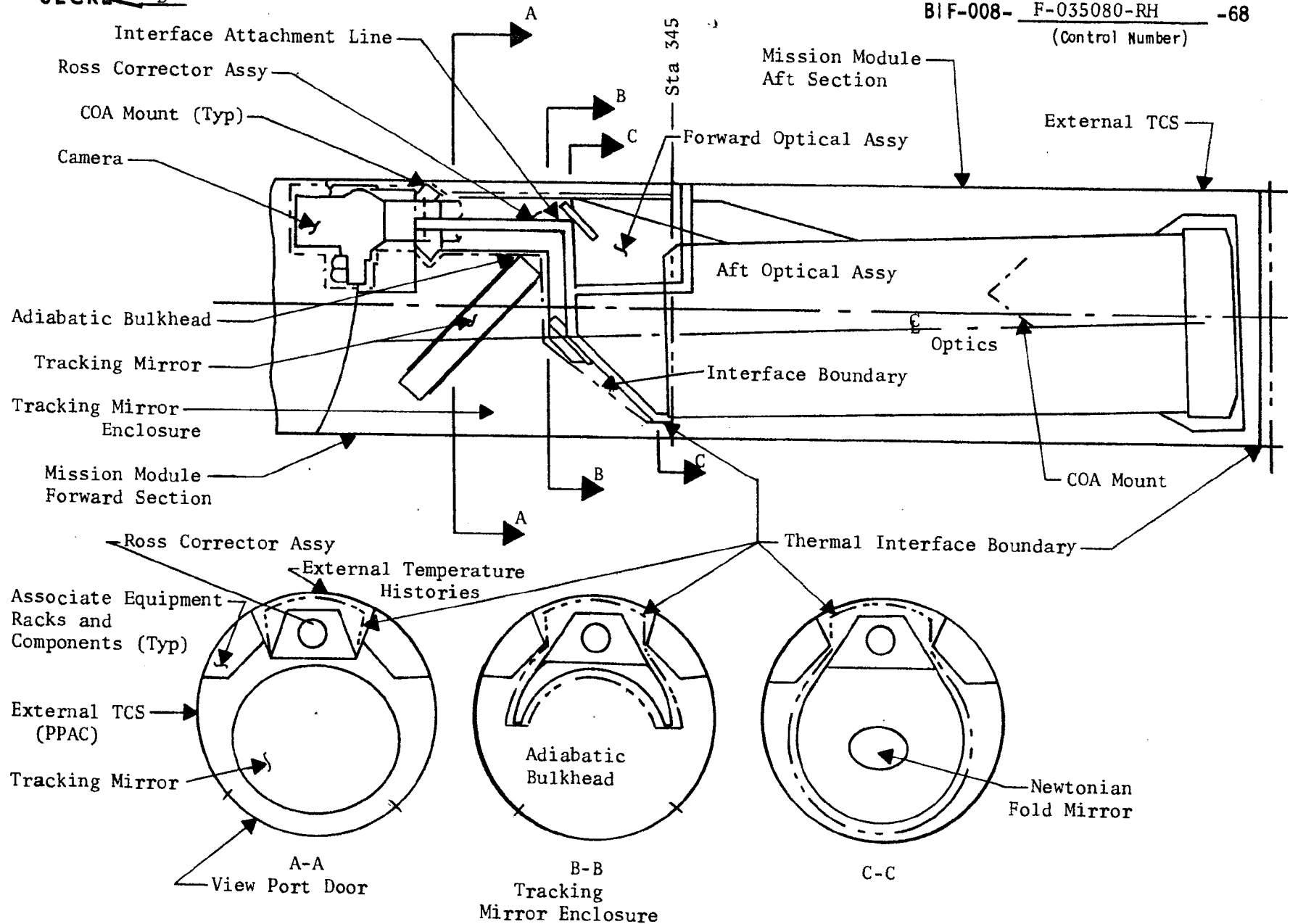


Figure 3.2-1. Mission Module Thermal Interface Boundaries

Handle via BYEMAN
Control System Only

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BIF-008- F-035080-RH -68
(Control Number)

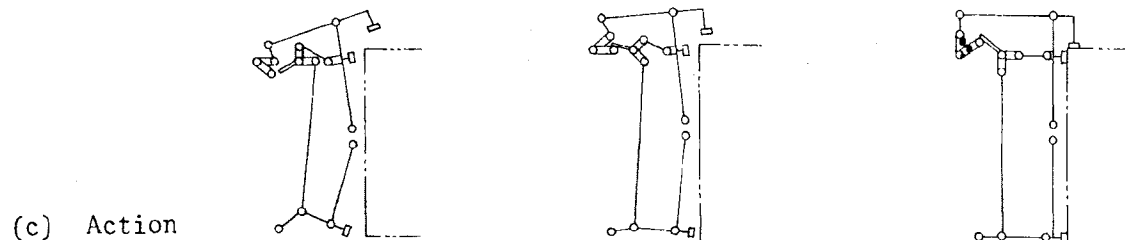
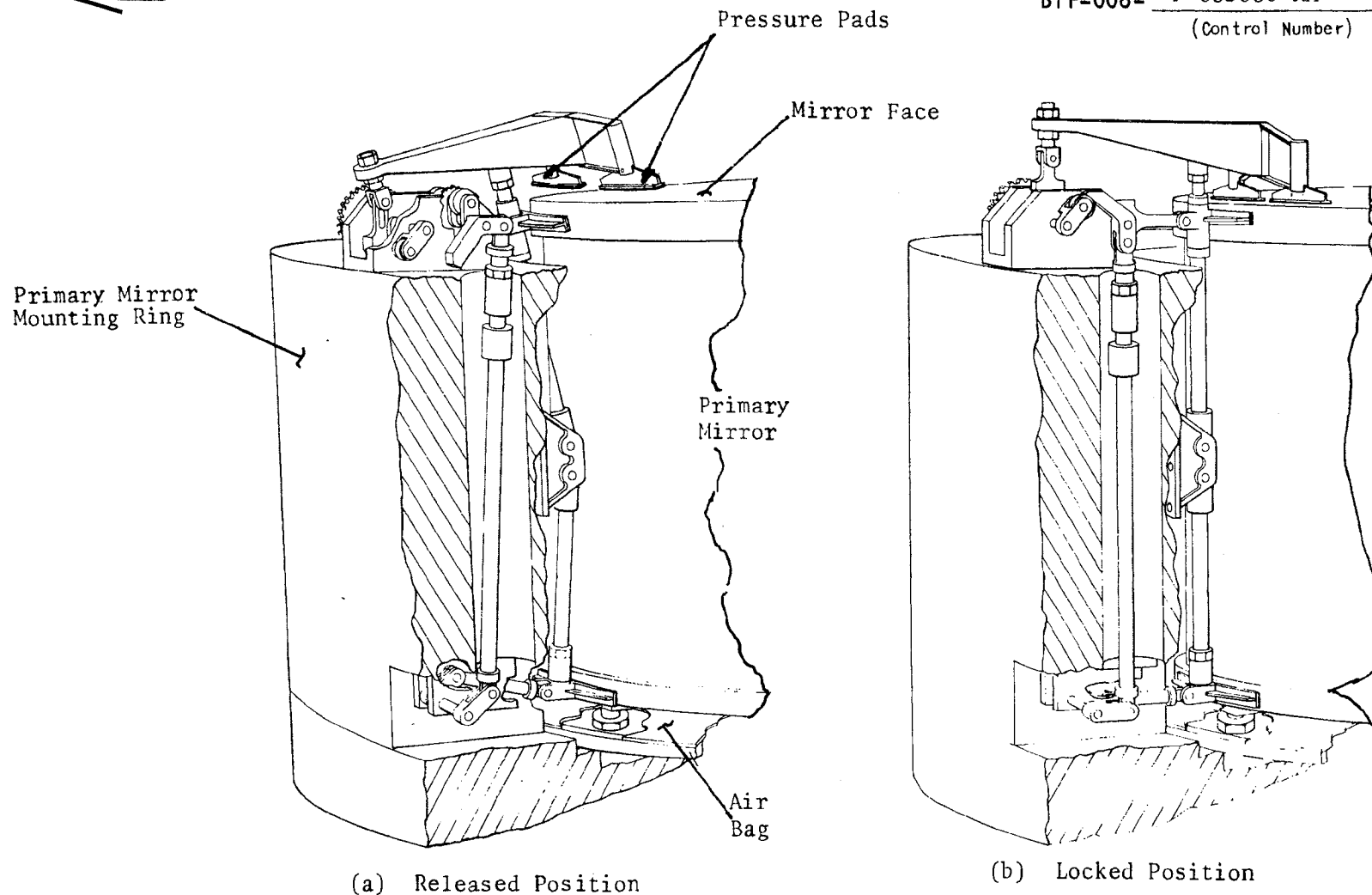


Figure 4.1-12. Primary Mirror Launch Lock

Handle via BYEMAN
Control System Only

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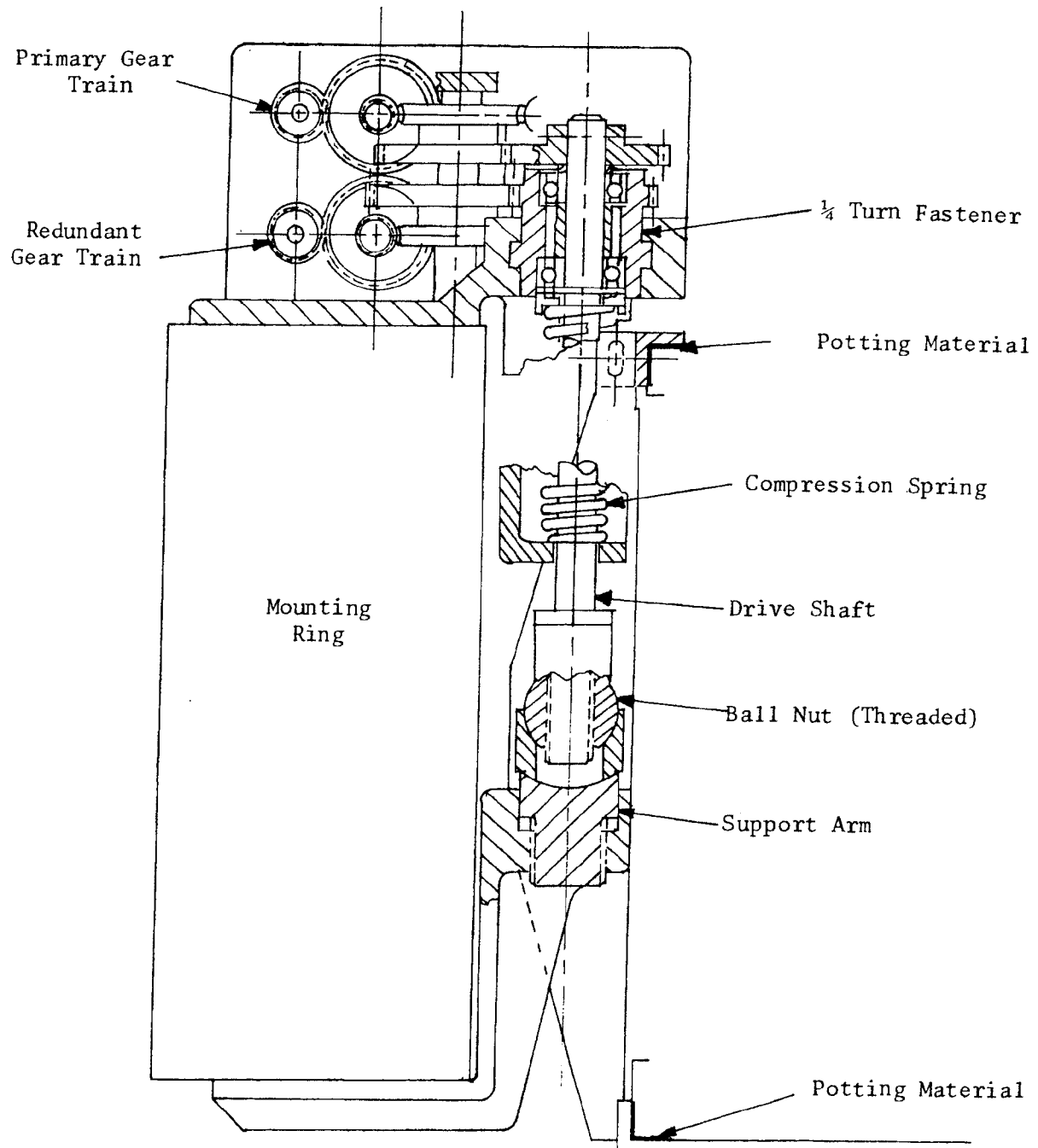
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(Control Number)

Figure 4.1-14. Lock-Set Design for Cer-Vit Mirrors

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Control System Only

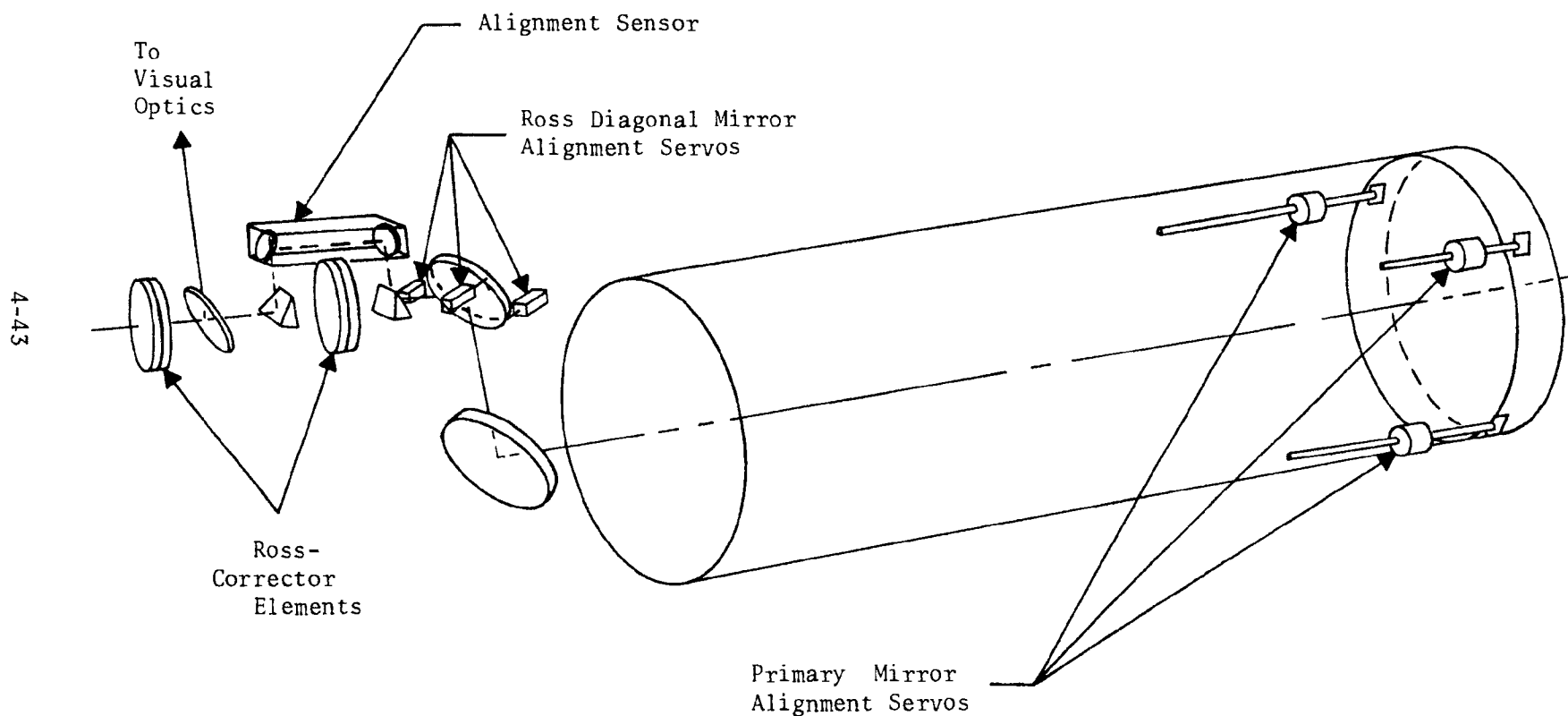
~~SECRET~~ DBIF-008- F-035080-RH -68
(Control Number)

Figure 4.1-16. Alignment Sensor and Servo Drive

Handle via BYEMAN
Control System Only~~SECRET~~ D

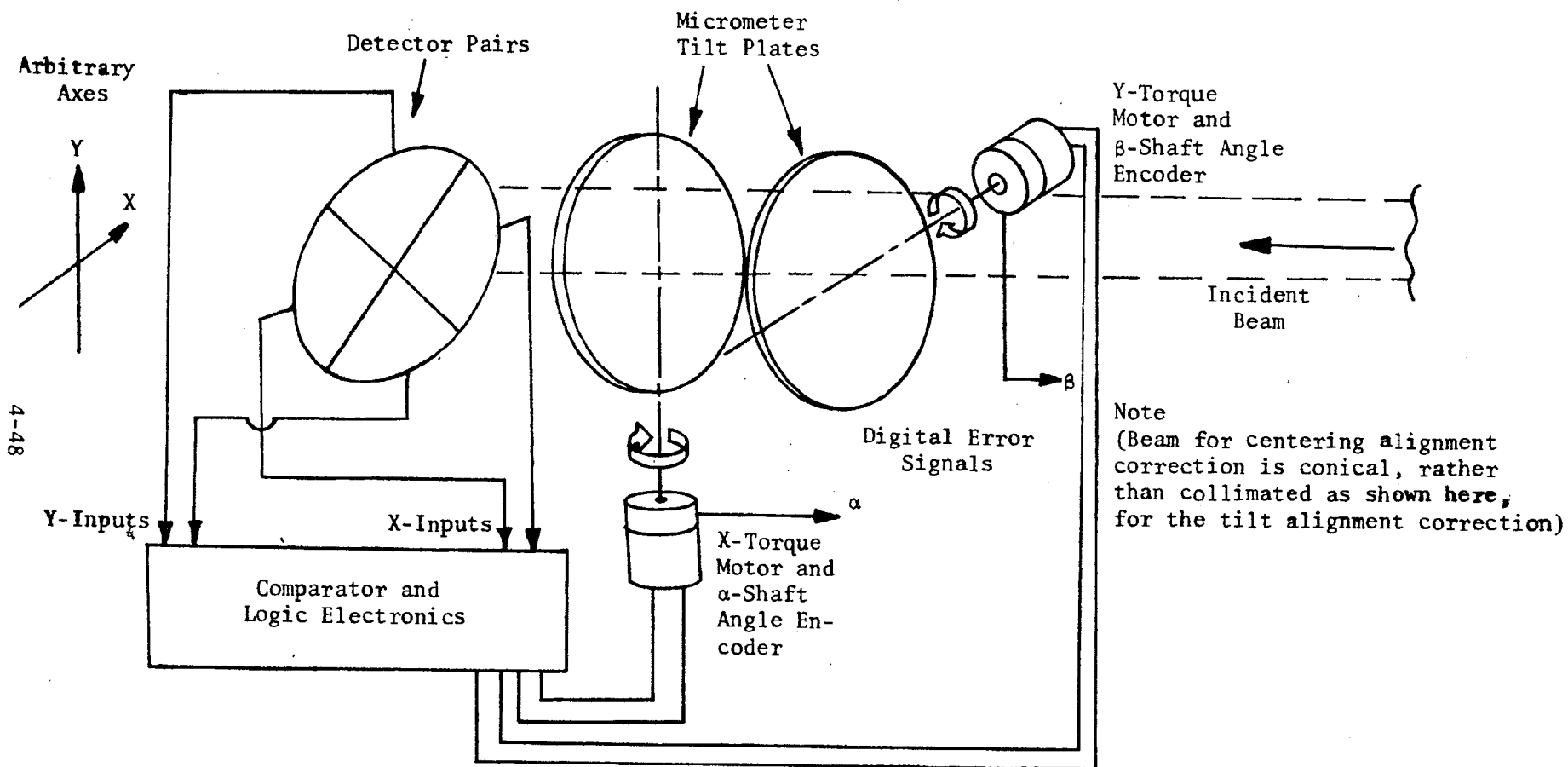
~~SECRET~~ DBI F-008- F-035080-RH -68
(Control Number)

Figure 4.1-18. Schematic of Alignment Sensor Configuration

Handle via BYEMAN
Control System Only~~SECRET~~ D

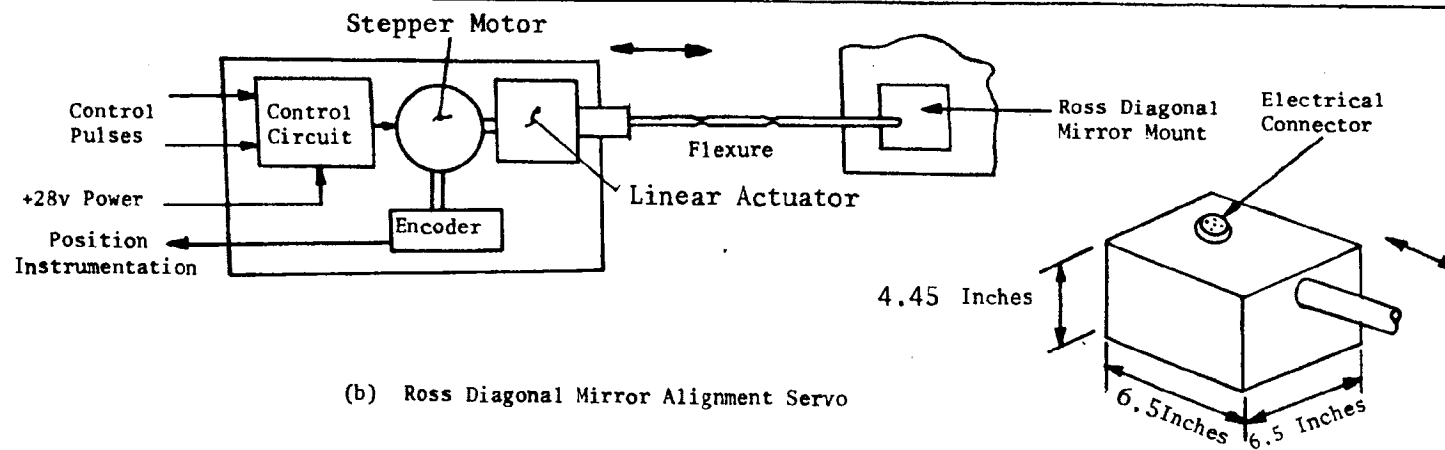
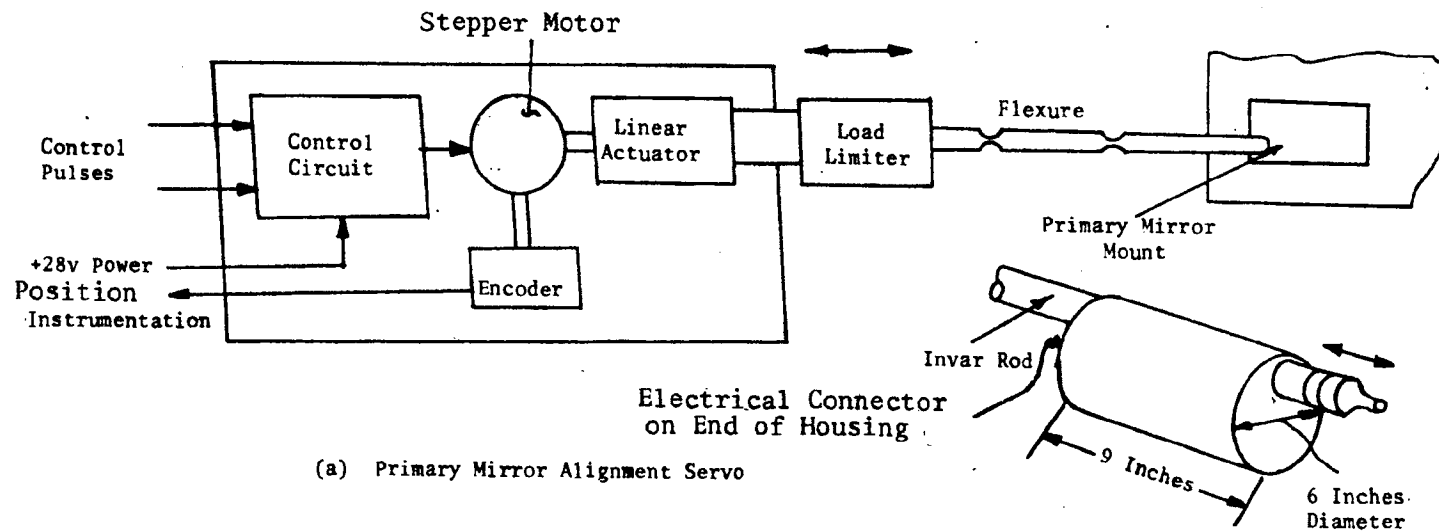
~~SECRET~~ DBIF-008- F-035080-RH -68
(Control Number)

Figure 4.1-22. Alignment Servos

Handle via SYEMAN
Control System Only~~SECRET~~ D

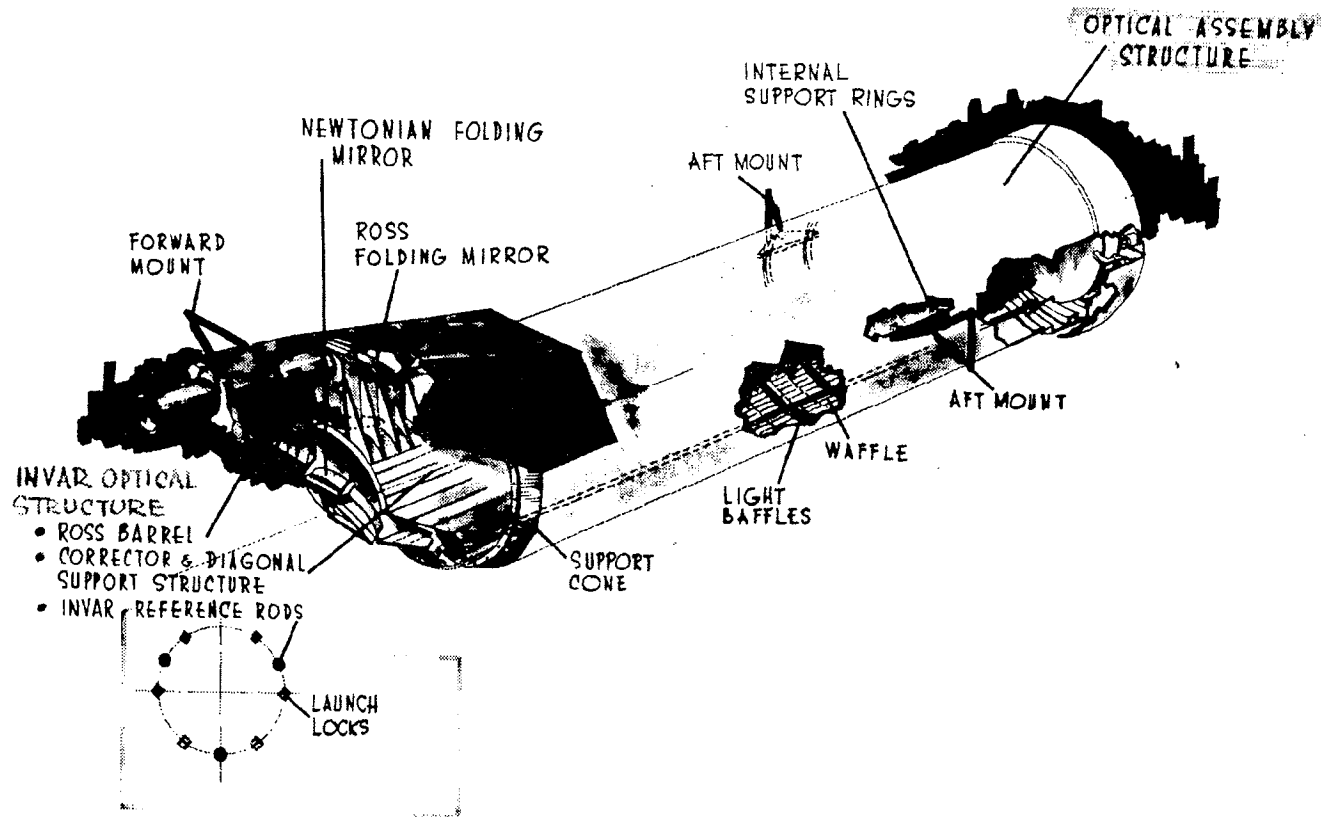


Figure 4.2-1. Optical Assembly Structure and Mounts

Handle via BYEMAN
Control System Only

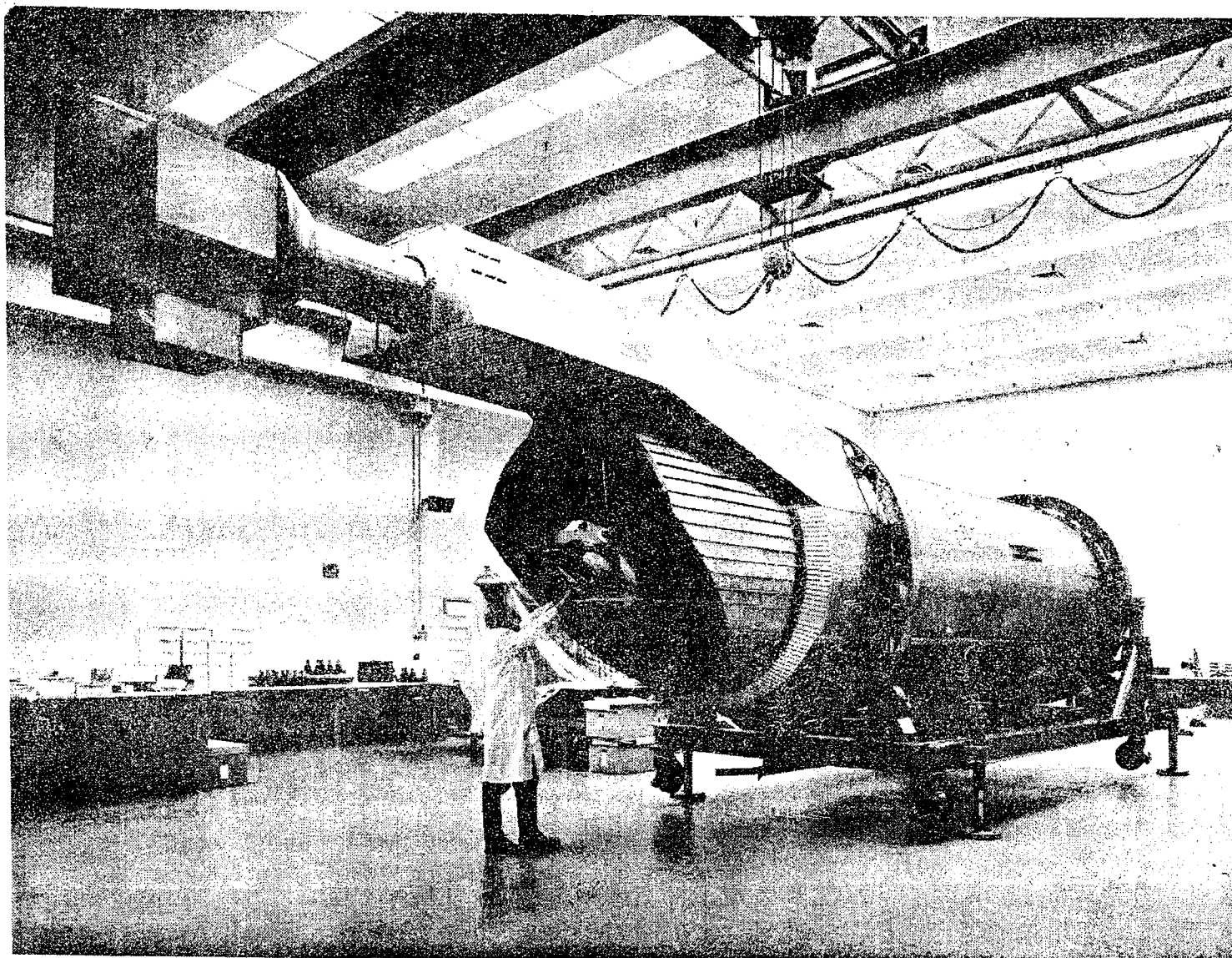


Figure 4.2-2. Structural Development Model COA

Handle via BYEMAN
Control System Only

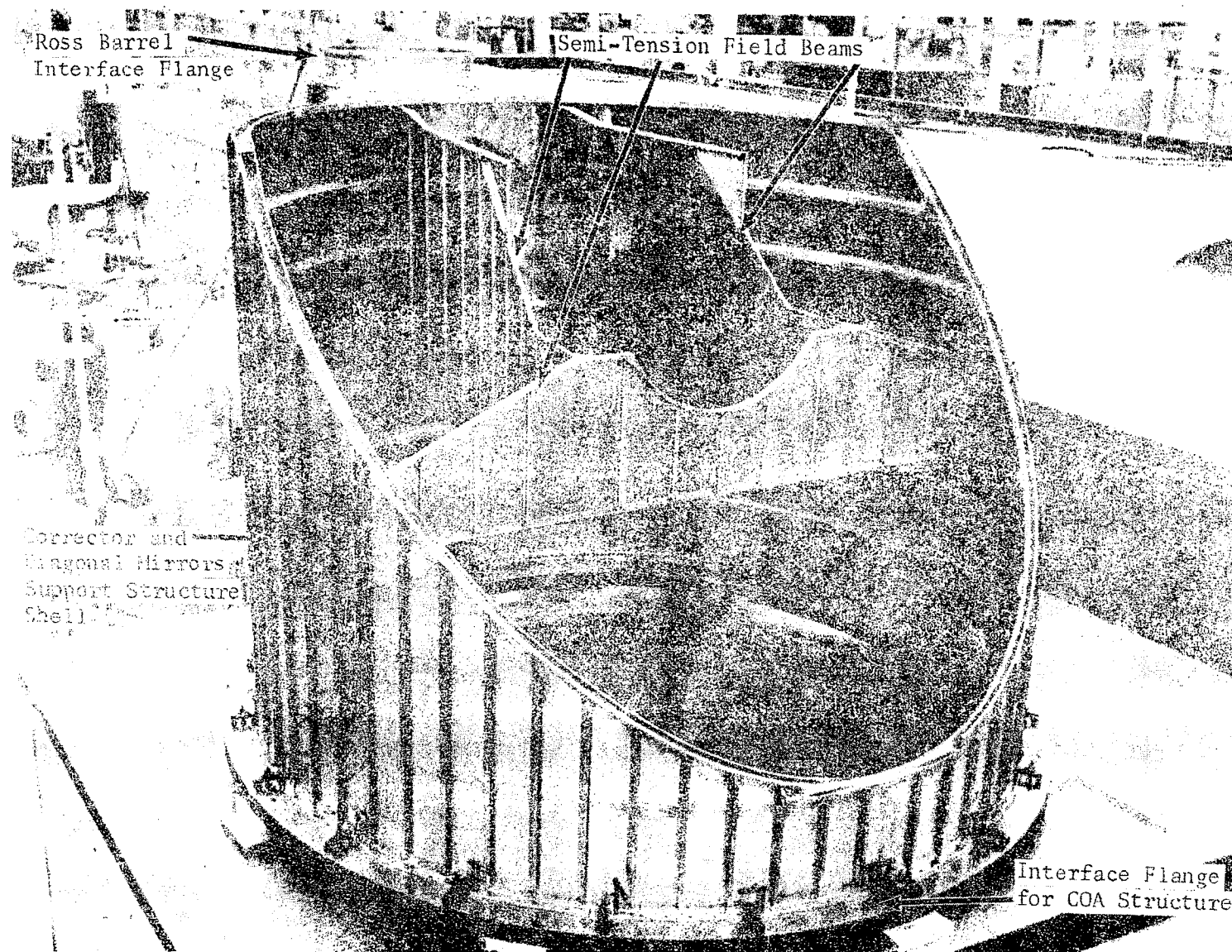
~~SECRET~~ DBIF-008- F-035080-RH -68
(Control Number)

Figure 4.2-3. Corrector and Diagonal Mirrors Support Structure

Handle via BYEMAN
Control System Only~~SECRET~~ D

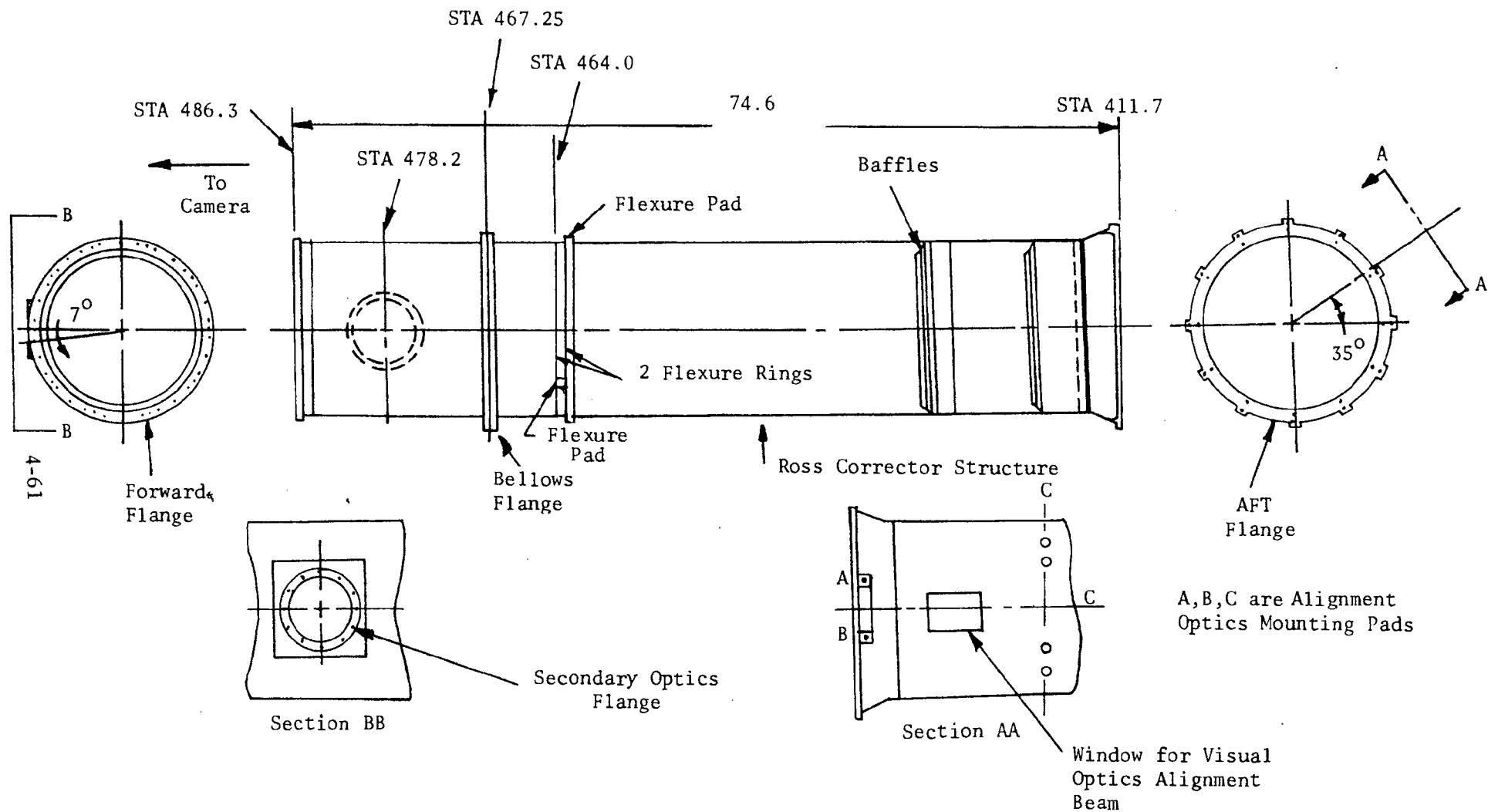
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(Control Number)

Figure 4.2-4. Ross Barrel Structure

Handle via BYEMAN
Control System Only~~SECRET~~ D

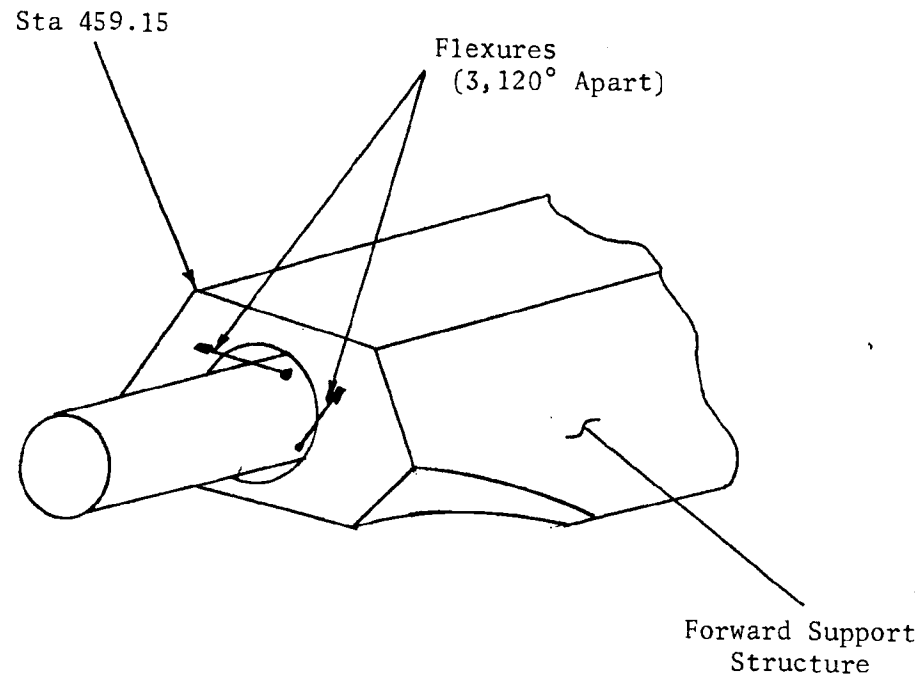


Figure 4.2-5. Forward Support Structure

Handle via BYEMAN
Control System Only

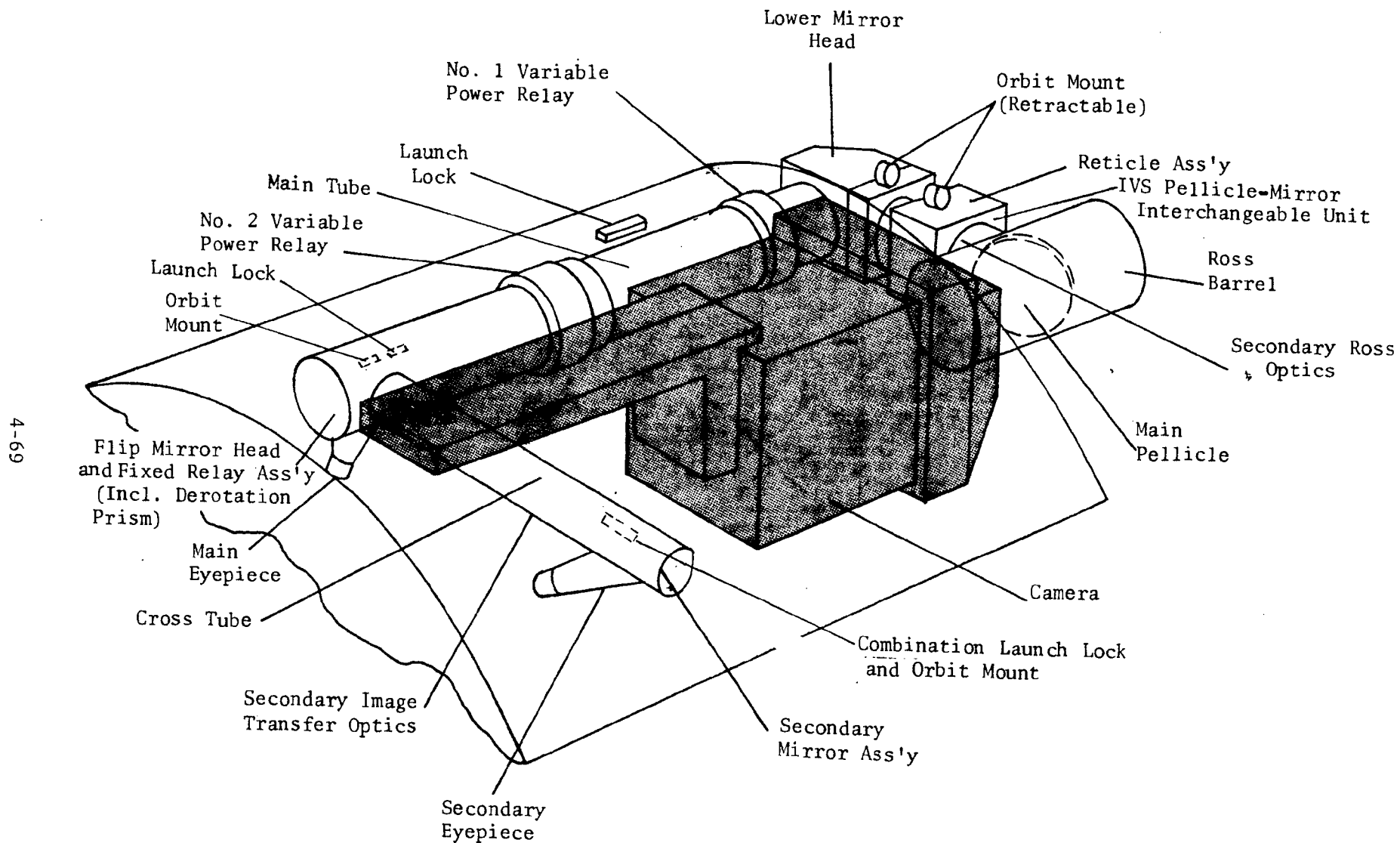
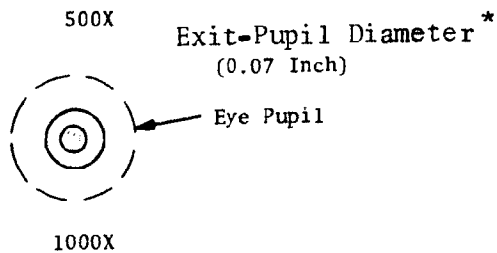
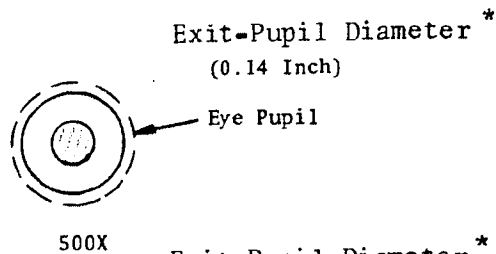
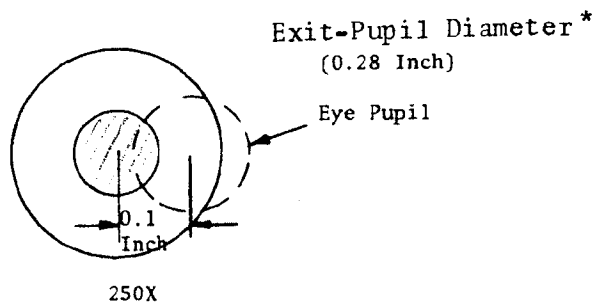
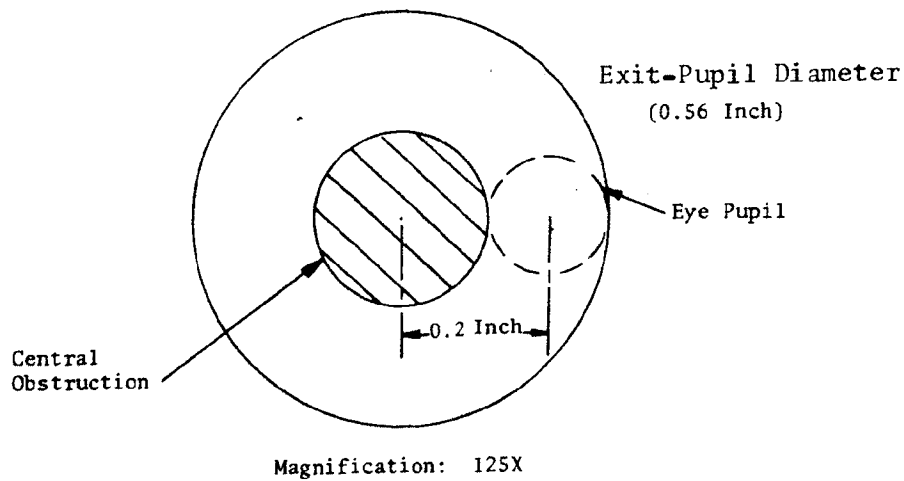
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(Control Number)

Figure 4.3-1. Schematic of Visual Optics Assembly

Handle via BYEMAN
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(Control Number)



* Primary mirror only; tracking mirror dimensions not included

Figure 4.3-6. Exit Pupil/Eye Pupil Relationships

4-80

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Handle via BYEMAN
Control System Only

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BIF-008- F-035080-RH -68
(Control Number)

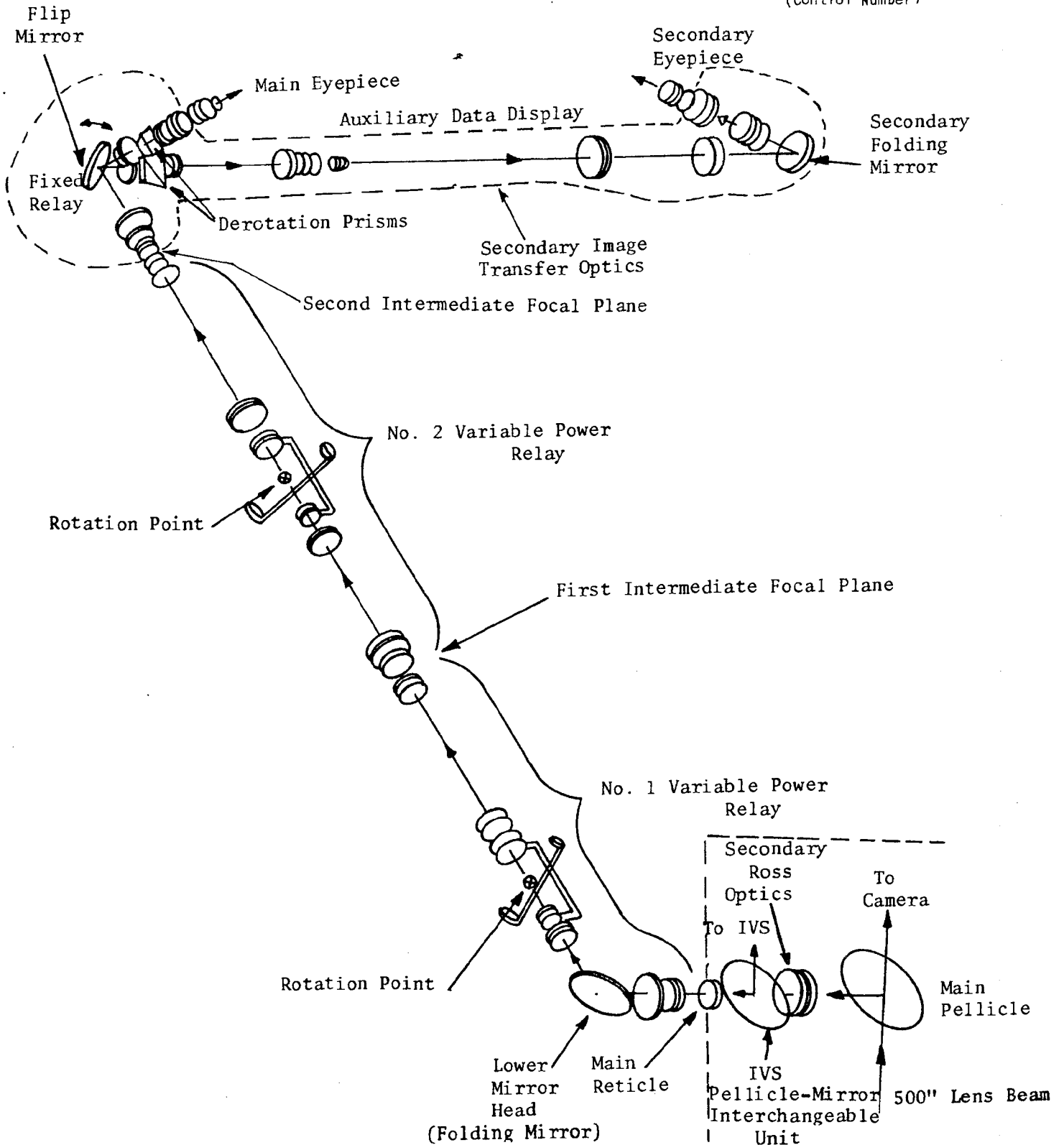


Figure 4.3-7. VO Optical Element Configuration

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BIF-008- F-035080-RH -68
(Control Number)

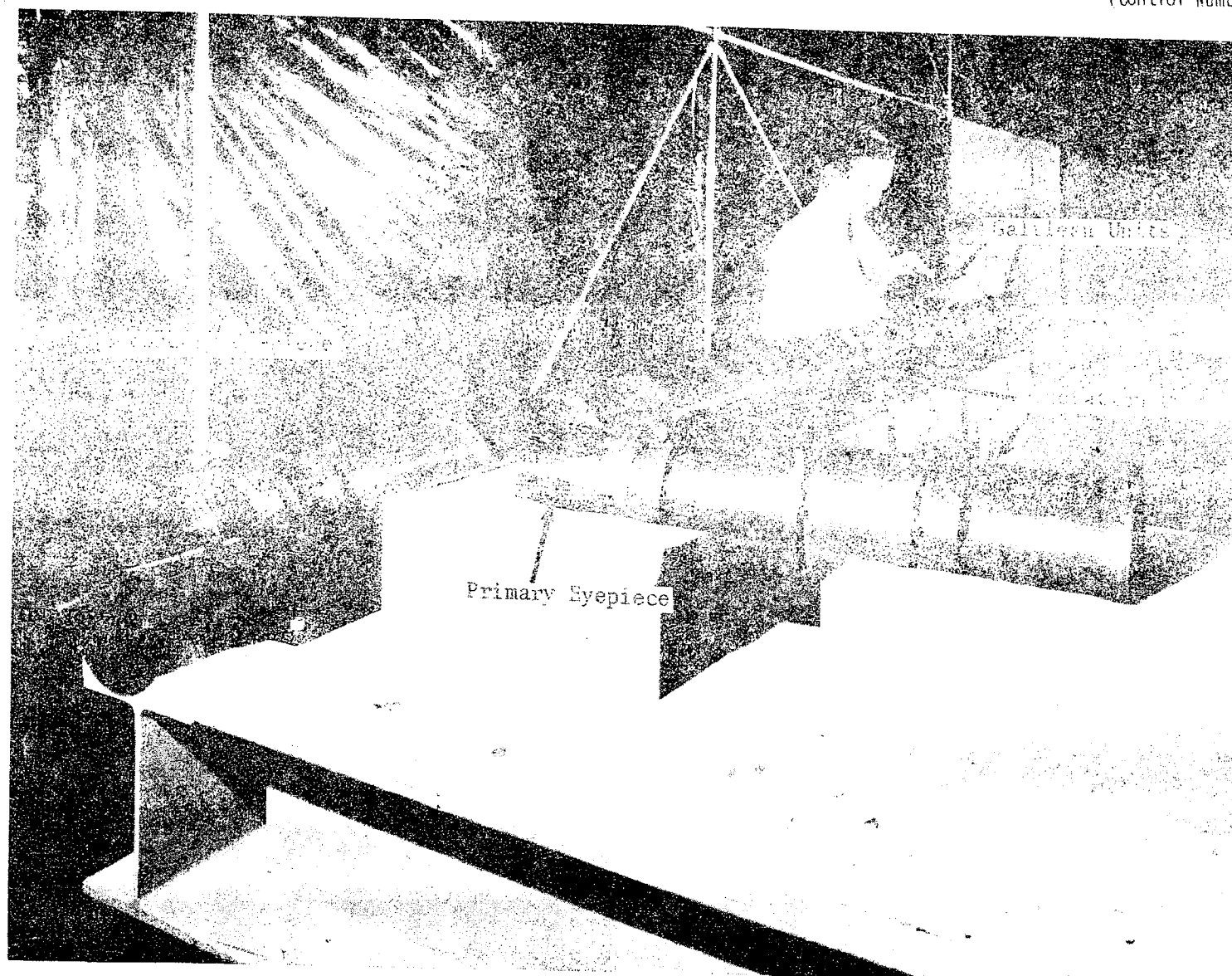
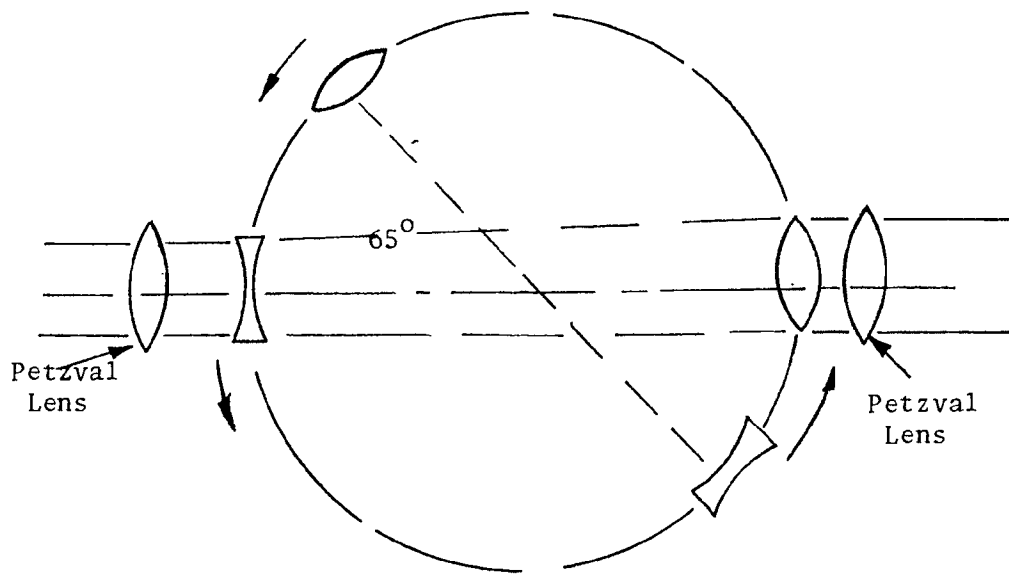


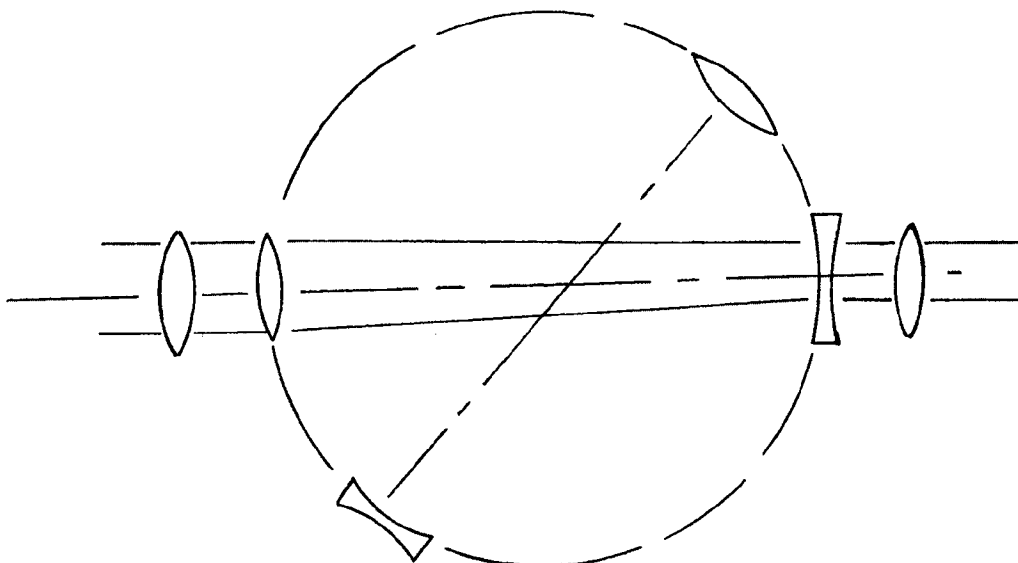
Figure 4.3-8. Formula Sample - Visual Optics Relay and Eyepieces

Handle via BYEMAN
Control System Only

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(Control Number)

First Position



Second Position

Figure 4.3-9. Magnification Change Unit (Rotatable Galilean Telescope Pair) Mounted in Collimated Light Space of Variable Power Relays

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BIF-008- F-035080-RH -68
(Control Number)

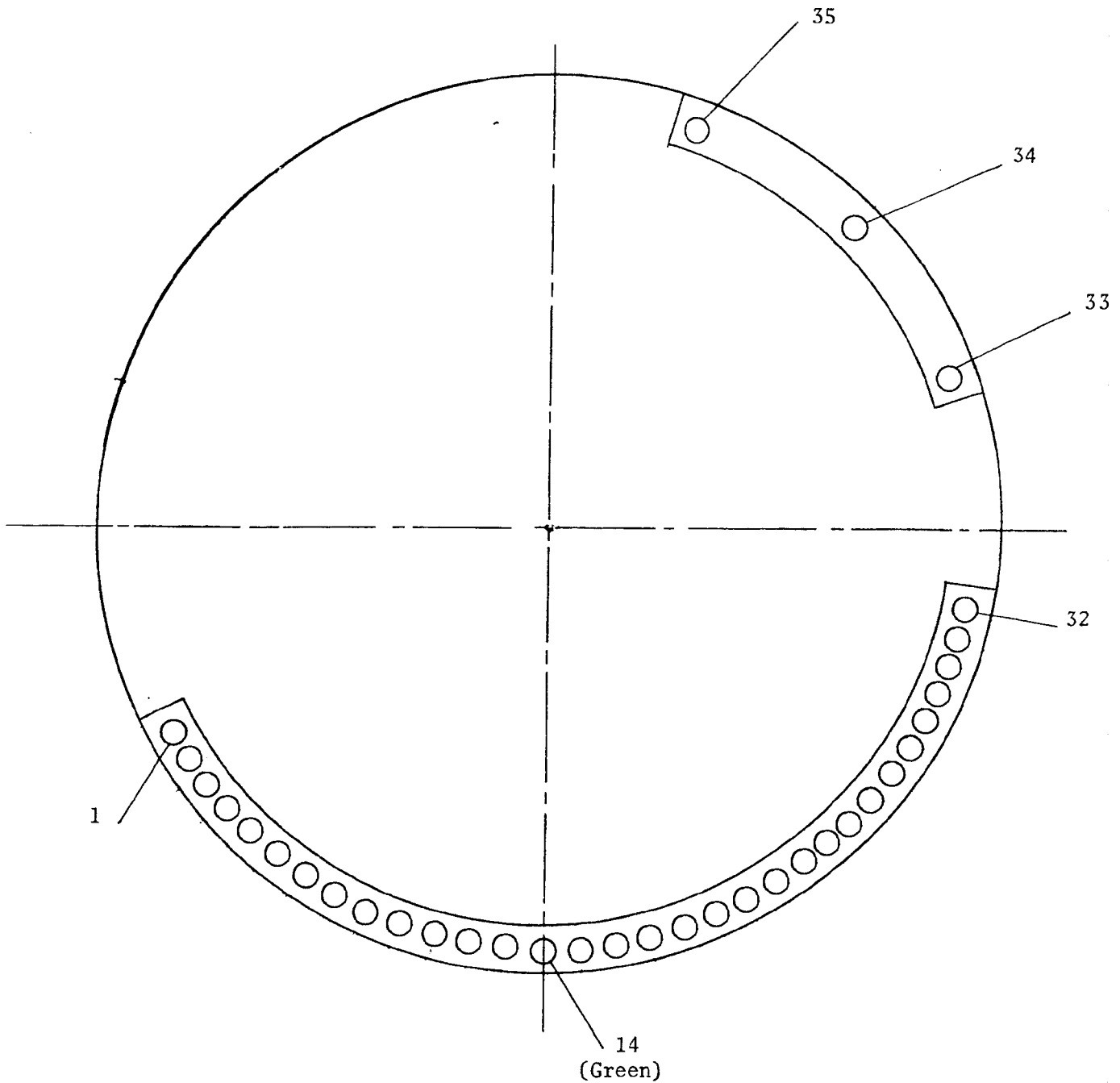


Figure 4.3-10. Auxiliary Data Display

4-87
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Handle via **BYEMAN**
Control System Only

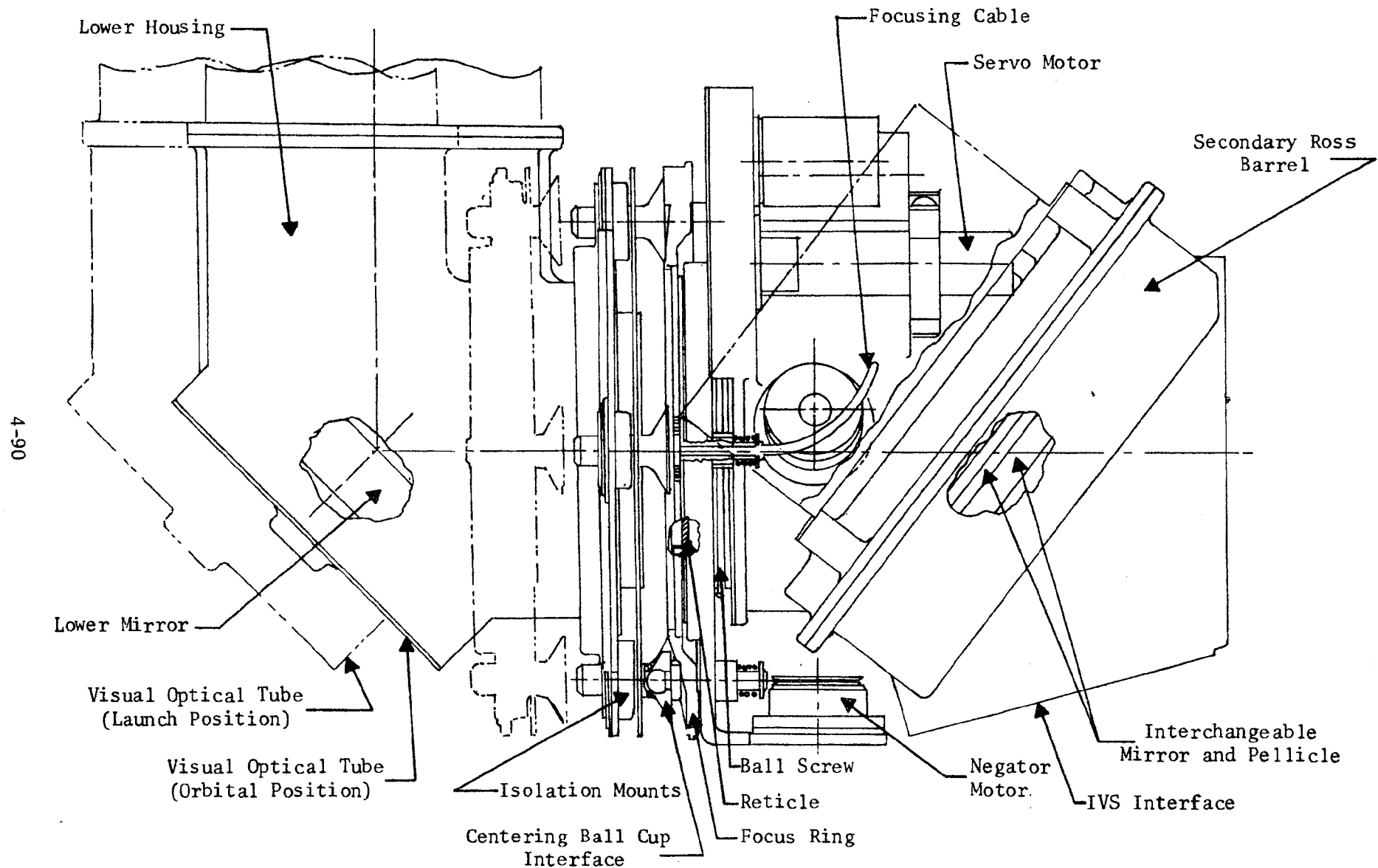
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(Control Number)

Figure 4.3-11. Retractable Interface Mount, VOA to Secondary Ross Barrel

Handle via **BYEMAN**
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NRO APPROVED FOR RELEASE 10 JUNE 2014

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(Control Number)

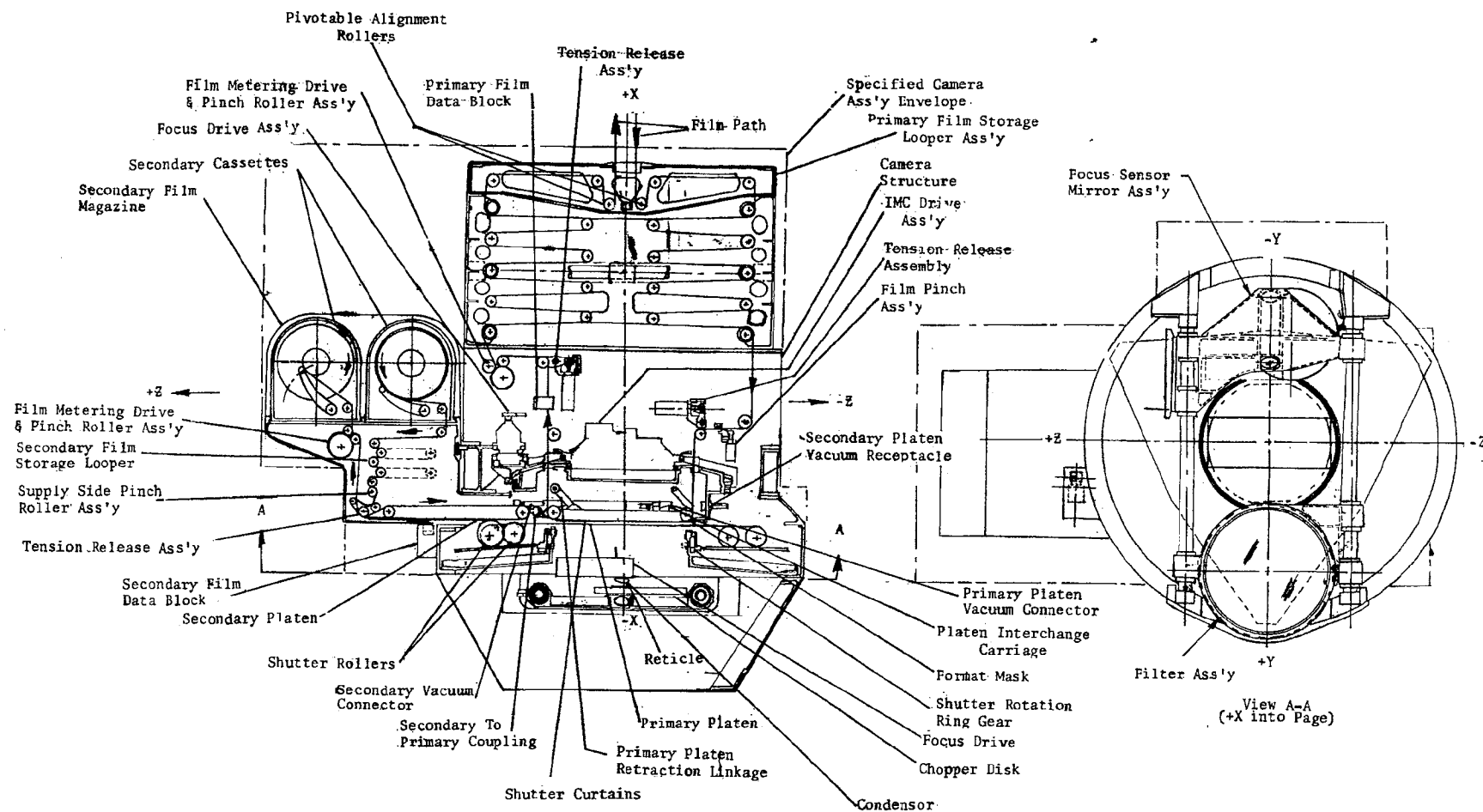


Figure 4.4-1. Camera Assembly

Handle via BYEMAN
Control System Only

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(Control Number)

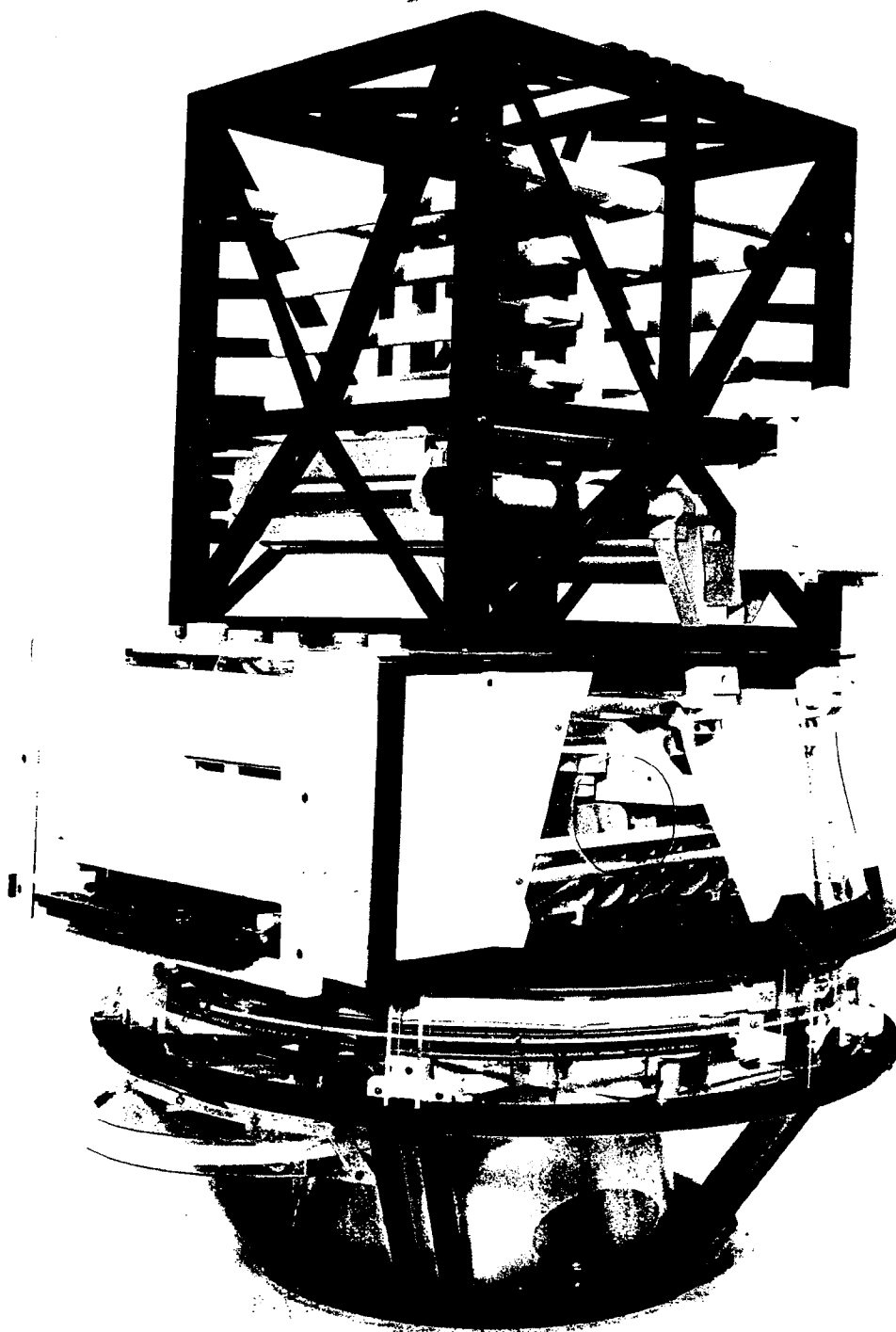


Figure 4.4-2. Camera Simulation Model

4-107

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Control System Only

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BIF-008- F-035080-RH -68
(Control Number)

4-109

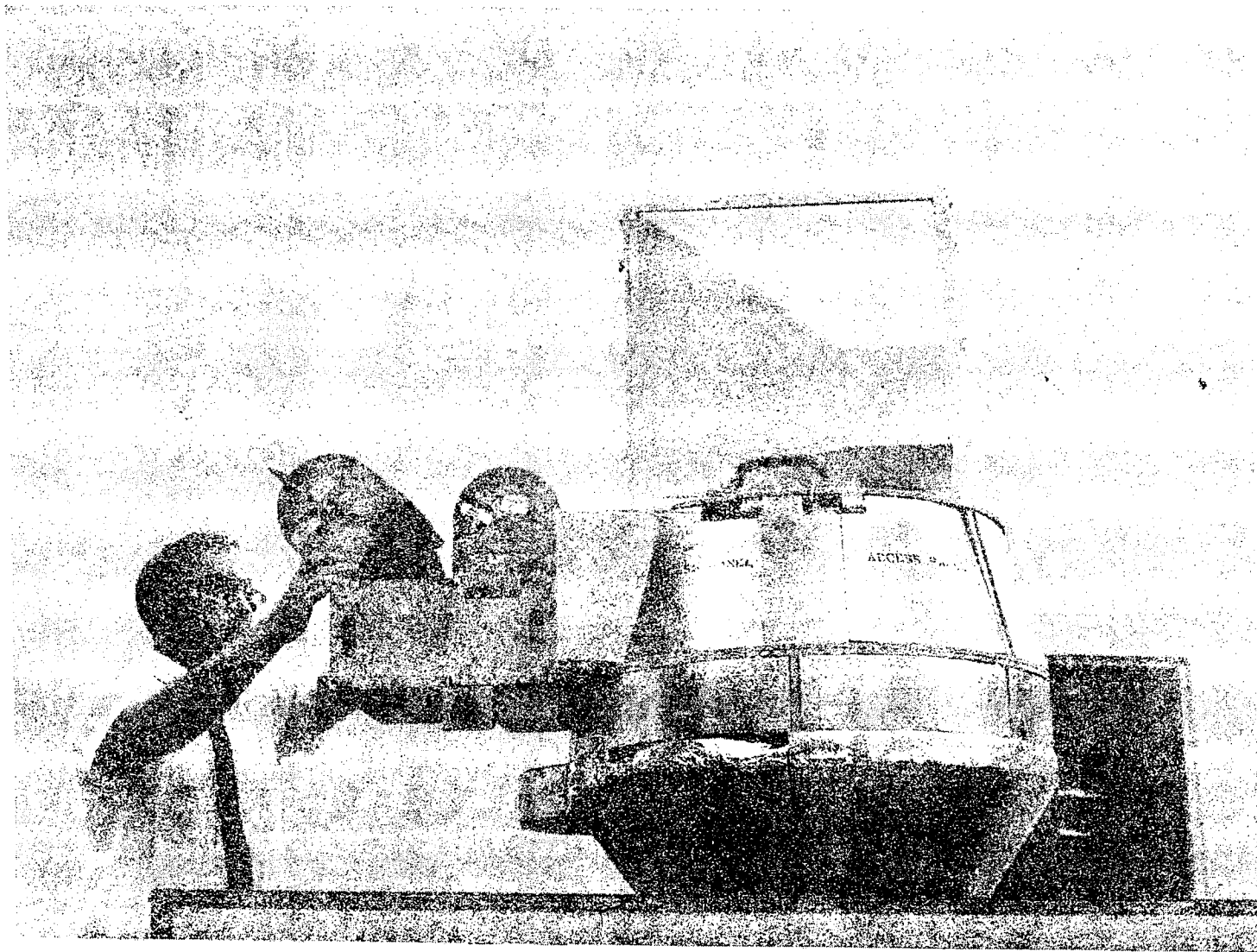


Figure 4.4-3. Camera Mock-up

Handle via BYEMAN
Control System Only

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~~SECRET~~ DBIF-008- F-035080-RH -68
(Control Number)Legend

→ Direction In Curtain Drive Operation

--→ Direction In Slit Width Drive Operation

D - Drive Rolls

Torsion Spring
For Tension On
Tapes and Curtains

Curtain

Smear
Slits

Slit Opening

Curtain

Curtain Rollers

Curtain

Tension Tapes

Output Shafts From
Gearbox to Anti-Backlash
Friction ClutchInput Shafts to
Curtain Carriage Figure 4.4-4. Shutter-Curtain Drive Tape SystemHandle via BYEMAN
Control System Only~~SECRET~~ D

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BIF-008- F-035080-RH -68
(Control Number)

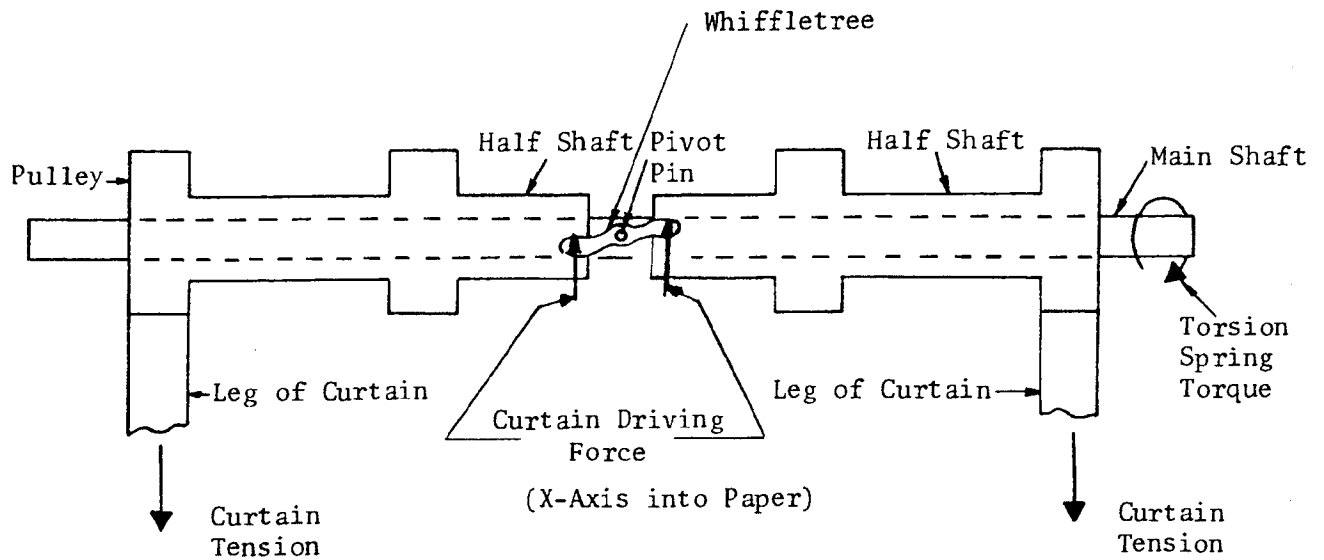


Figure 4.4-5. Whiffletree Assembly

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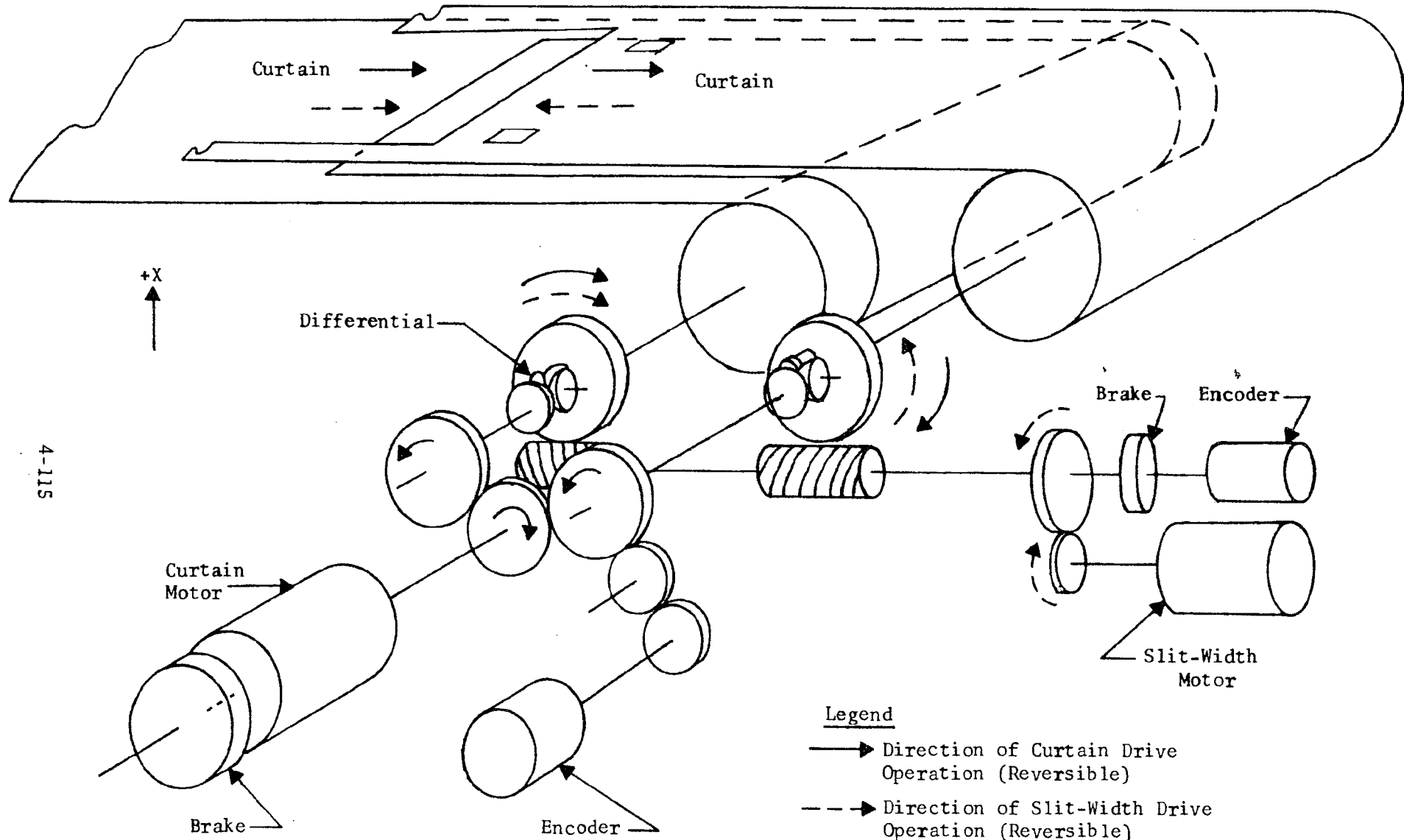
~~SECRET~~ DBIF-008- F-035080-RH -68
(Control Number)

Figure 4.4-6. Curtain and Slit-Width Drive

Handle via **BYEMAN**
Control System Only~~SECRET~~ D

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BIF-008- F-035080-RH -68
(Control Number)

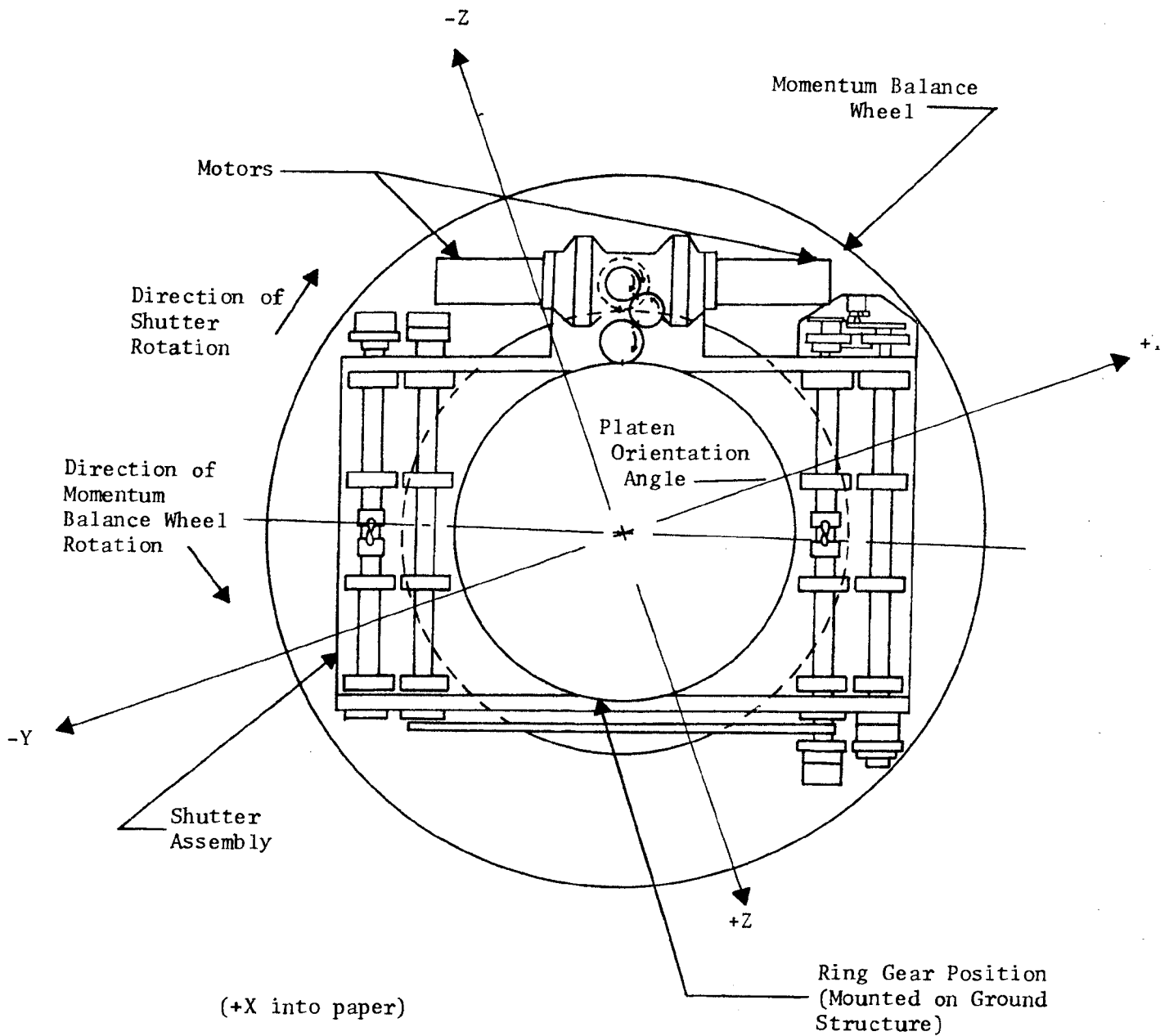


Figure 4.4-7. Shutter Rotation Drive

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Handle via **BYEMAN**
Control System Only

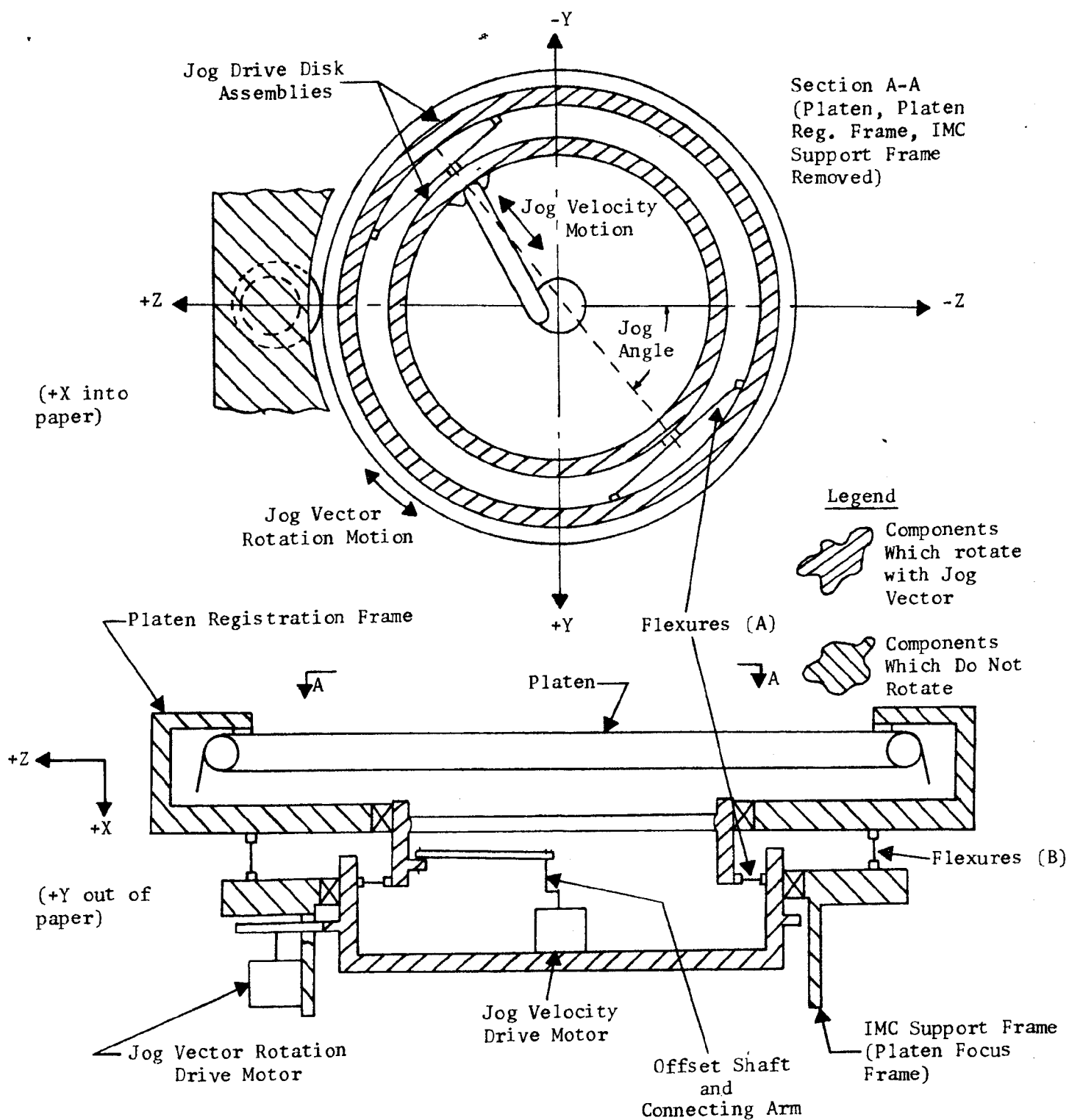
~~SECRET~~ DBIF-008- F-035080-RH -68
(Control Number)

Figure 4.4-8. Image Motion Compensation Schematic

4-120

~~SECRET~~ DHandle via BYEMAN
Control System Only

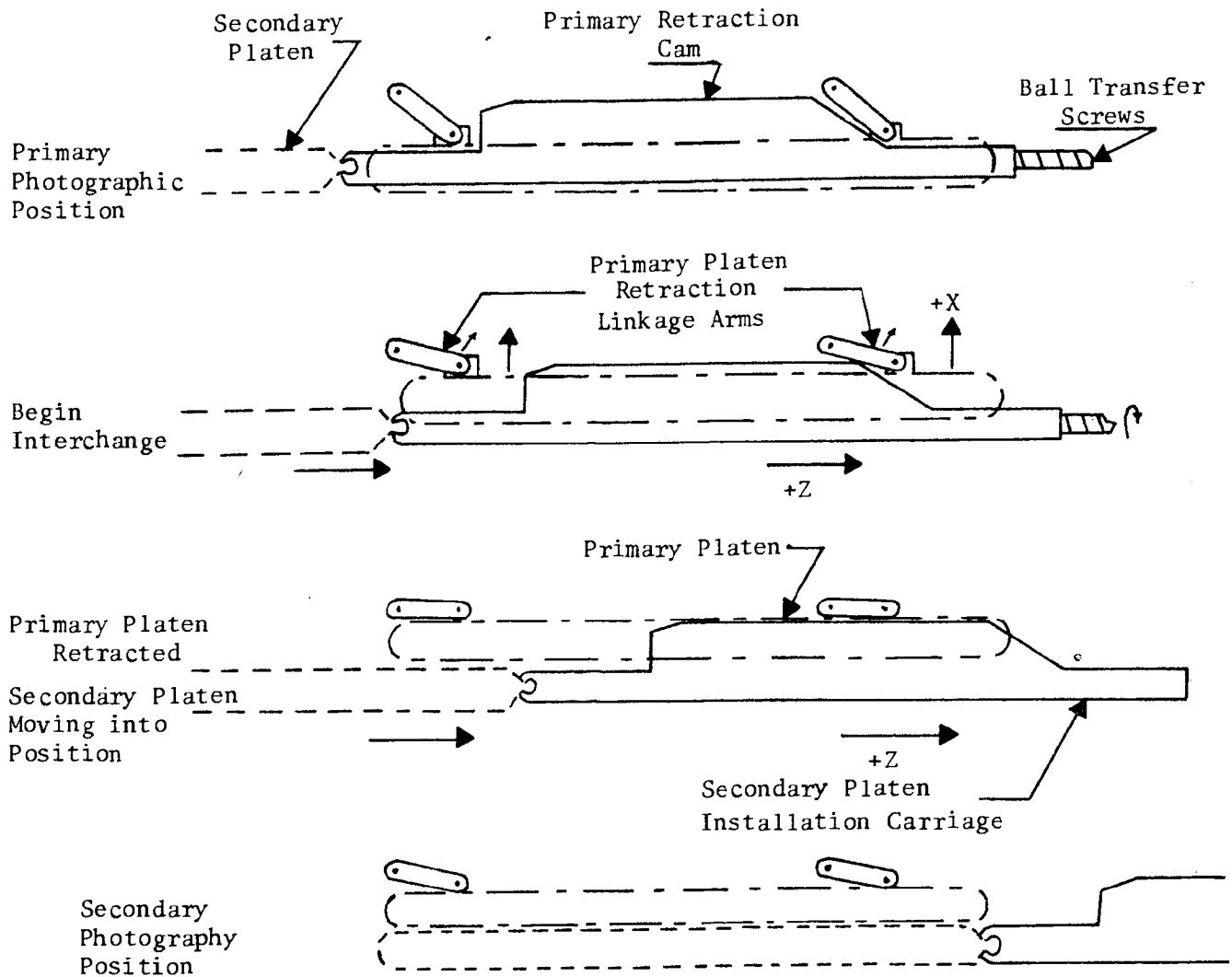
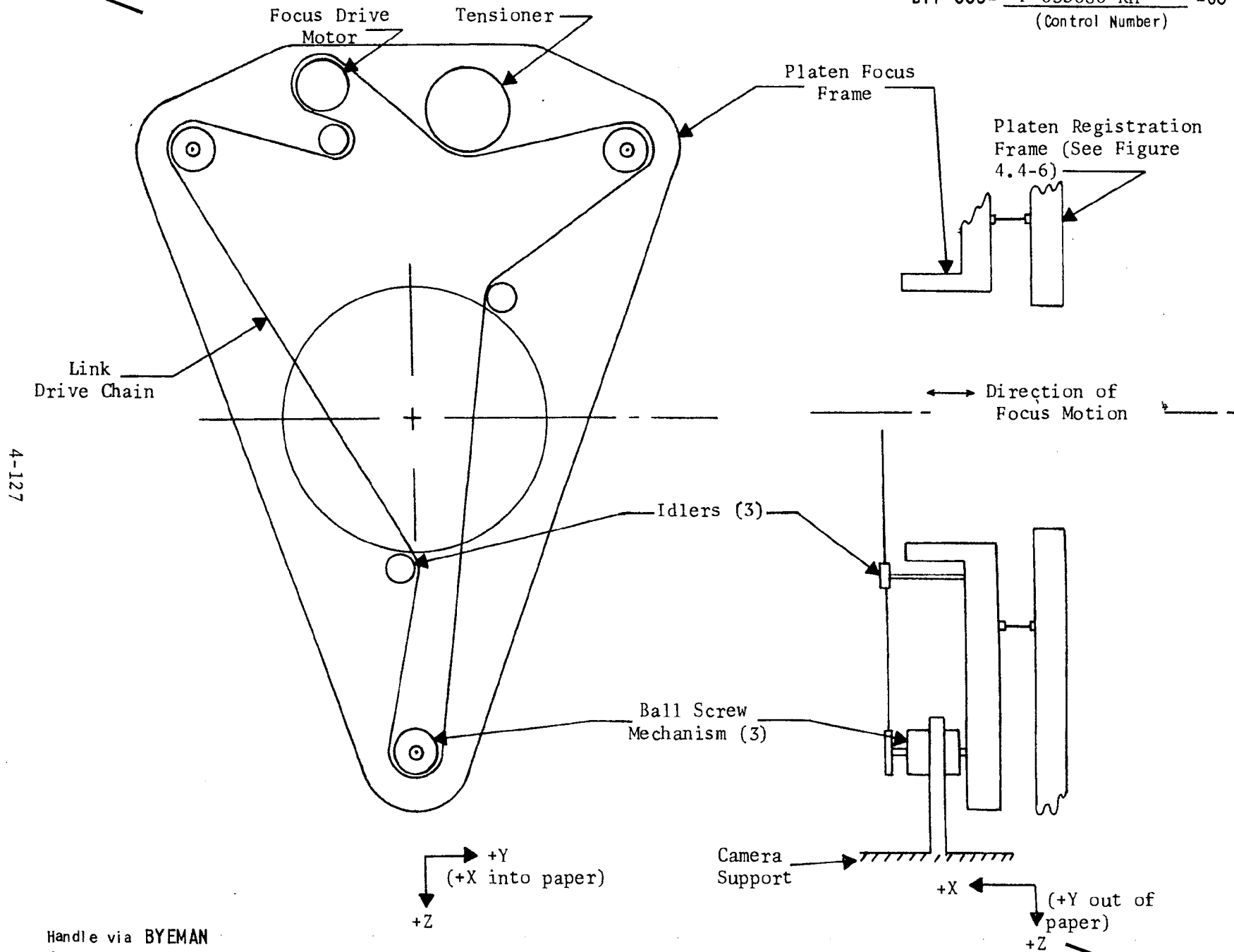
~~SECRET~~ DBIF-008- F-035080-RH -68
(Control Number)

Figure 4.4-9. Schematic Diagram of Platen Interchange Mechanism Sequence

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BIF-008- F-035080-RH -68
(Control Number)



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Handle via BYEMAN
Control System Only

Figure 4.4-10. Focus Drive Schematic

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D

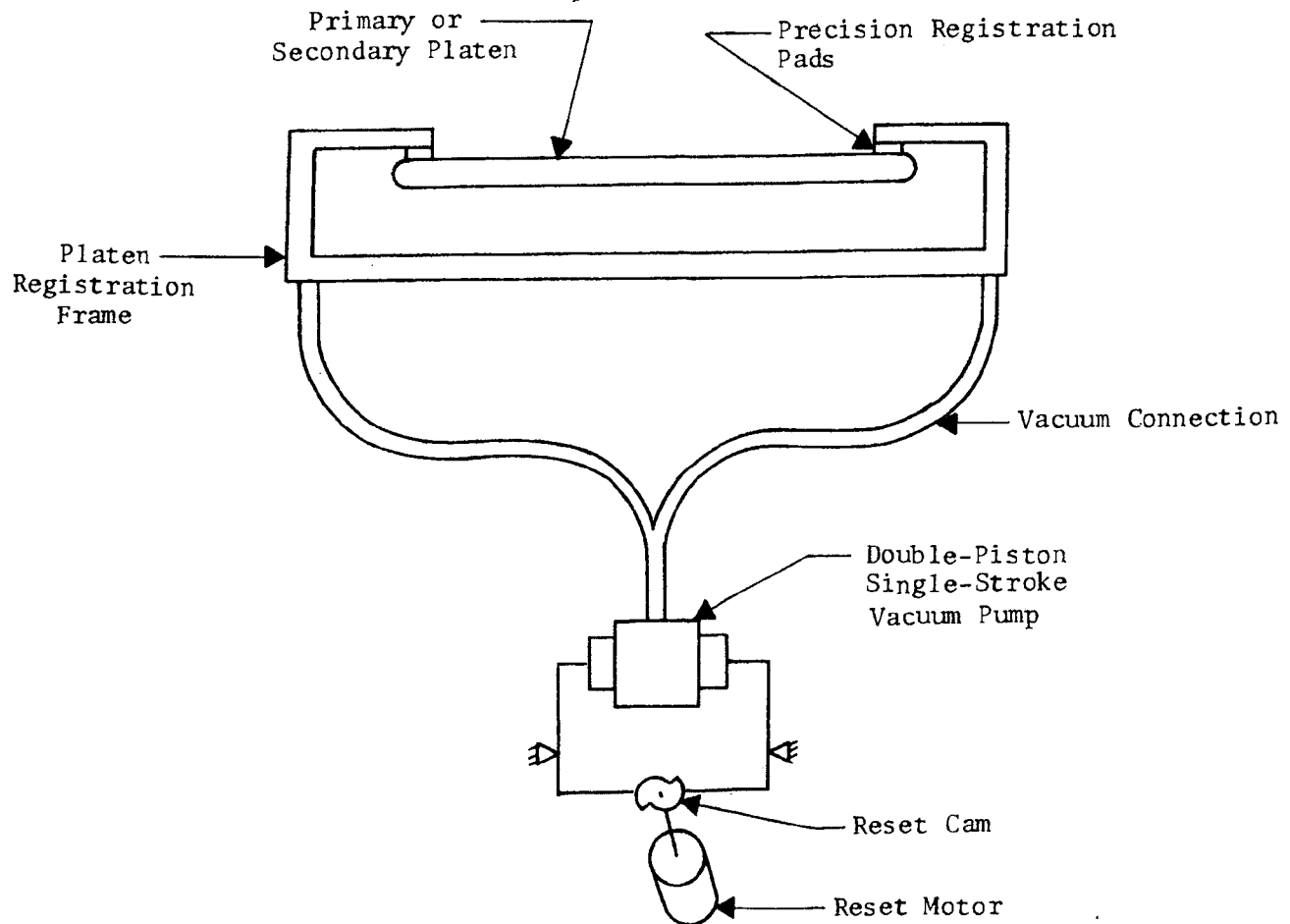
BIF-008- F-035080-RH -68
(Control Number)

Figure 4.4-11. Vacuum System Schematic

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Handle via BYEMAN
Control System Only

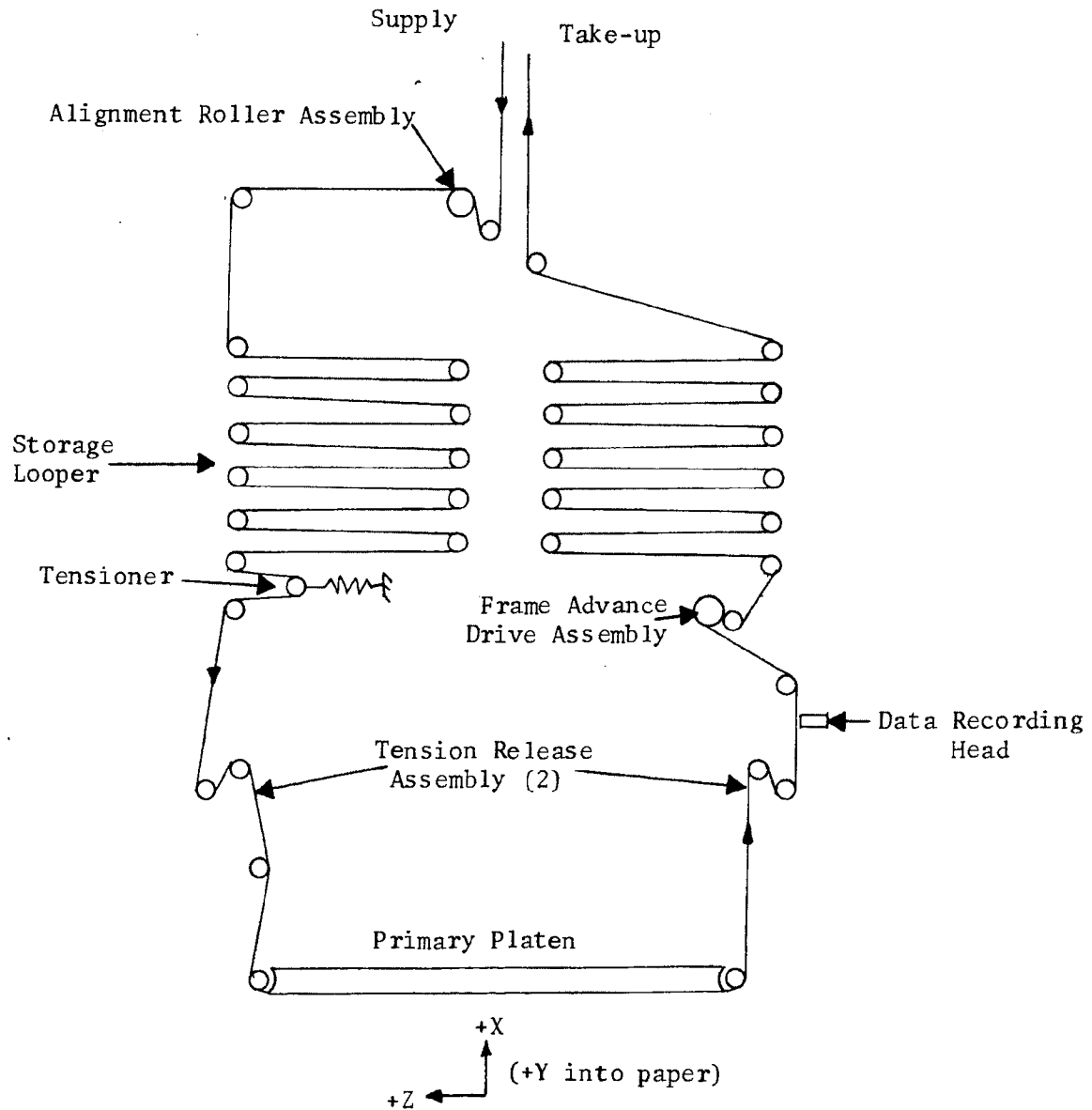
~~SECRET~~ DBIF-008- F-035080-RH -68
(Control Number)

Figure 4.4-12. Primary Film Handling Assembly Schematic

4-131

~~SECRET~~ DHandle via **BYEMAN**
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(Control Number)

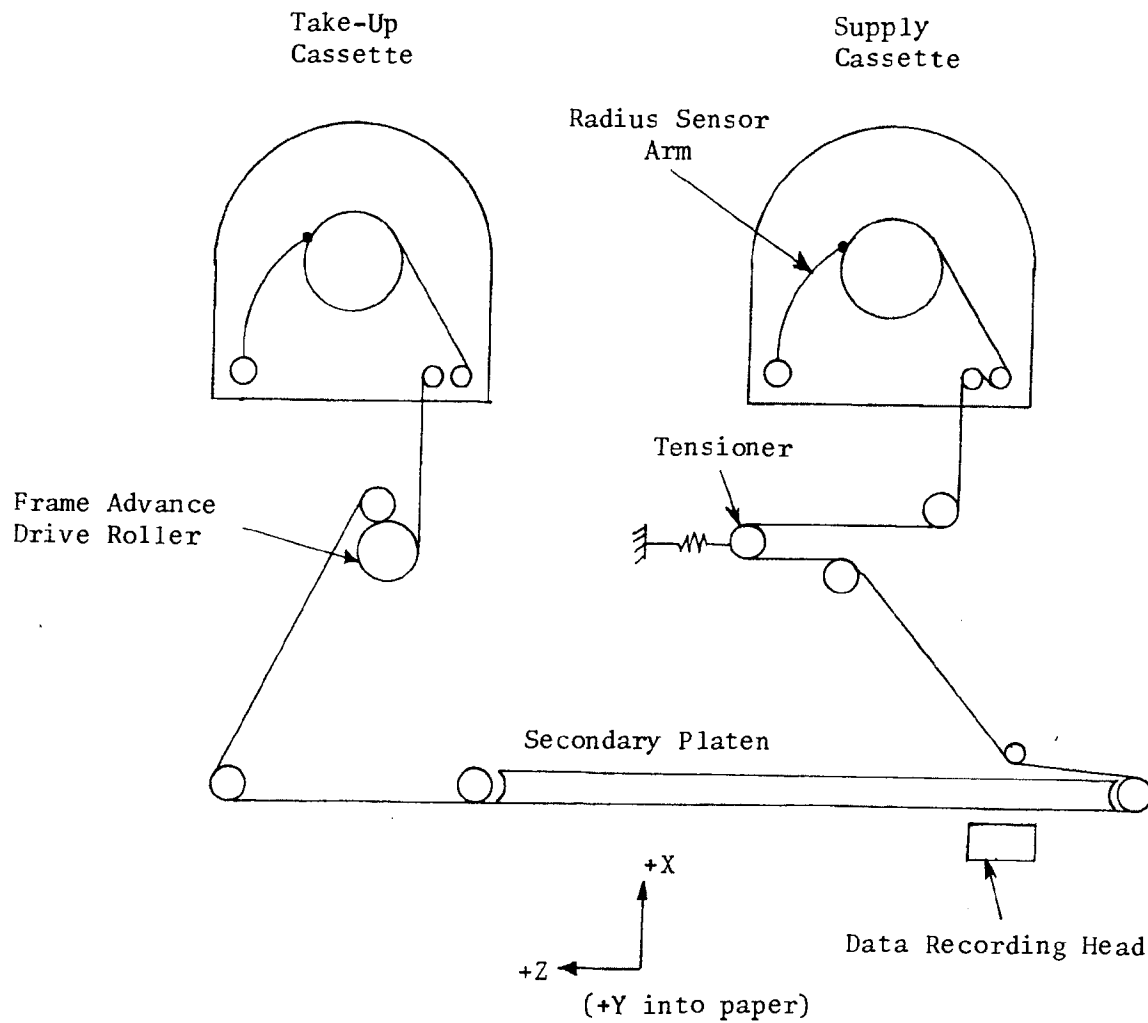


Figure 4.4-13. Secondary Film Handling Assembly Schematic

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Handle via **BYEMAN**
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BIF-008- F-035080-RH -68
(Control Number)

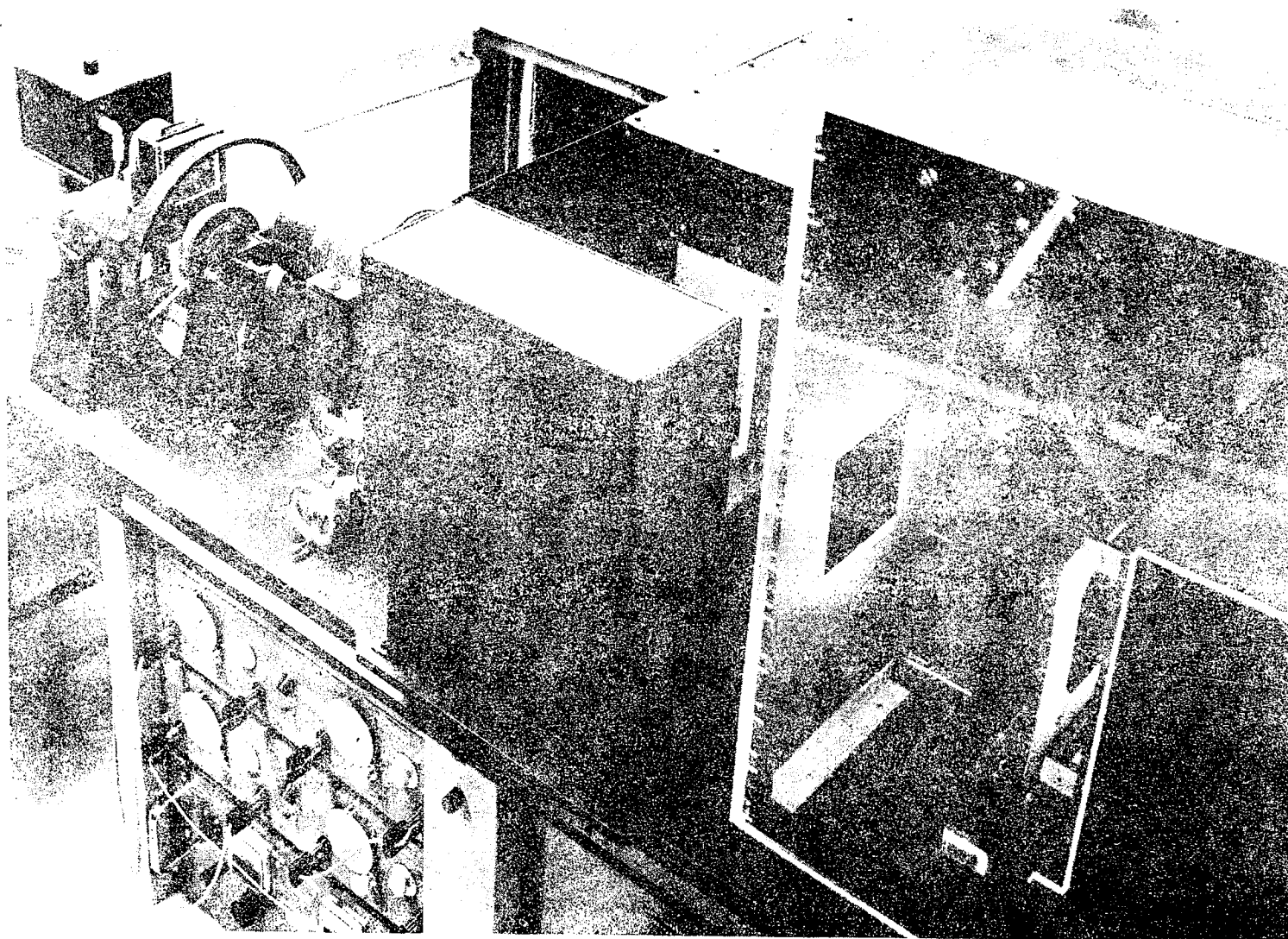


Figure 4.4-13(a). Focus Sensor Breadboard

Handle via BYEMAN
Control System Only

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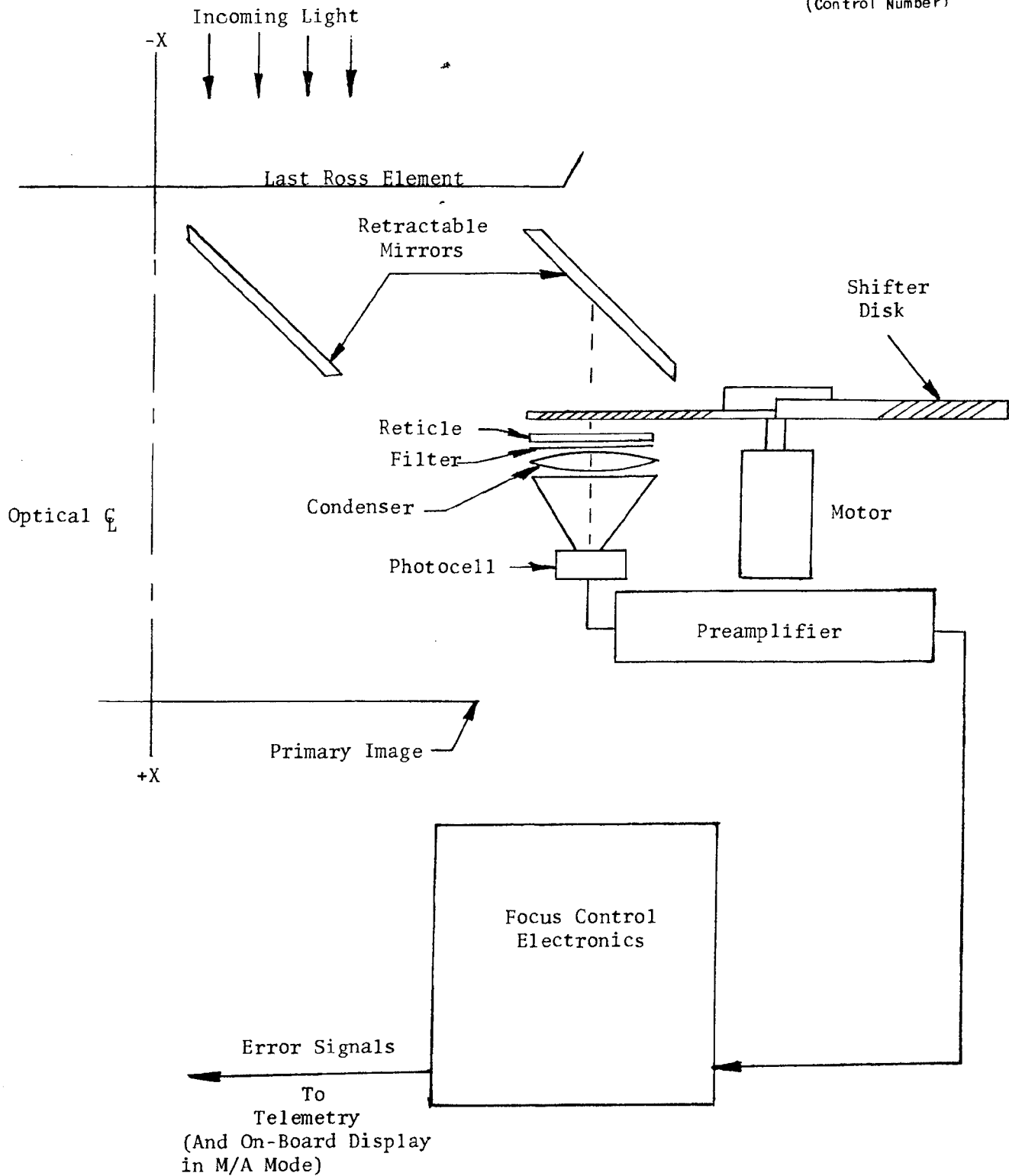
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(Control Number)

Figure 4.4-14. Focus Sensor Schematic Block Diagram

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Control System Only

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(Control Number)

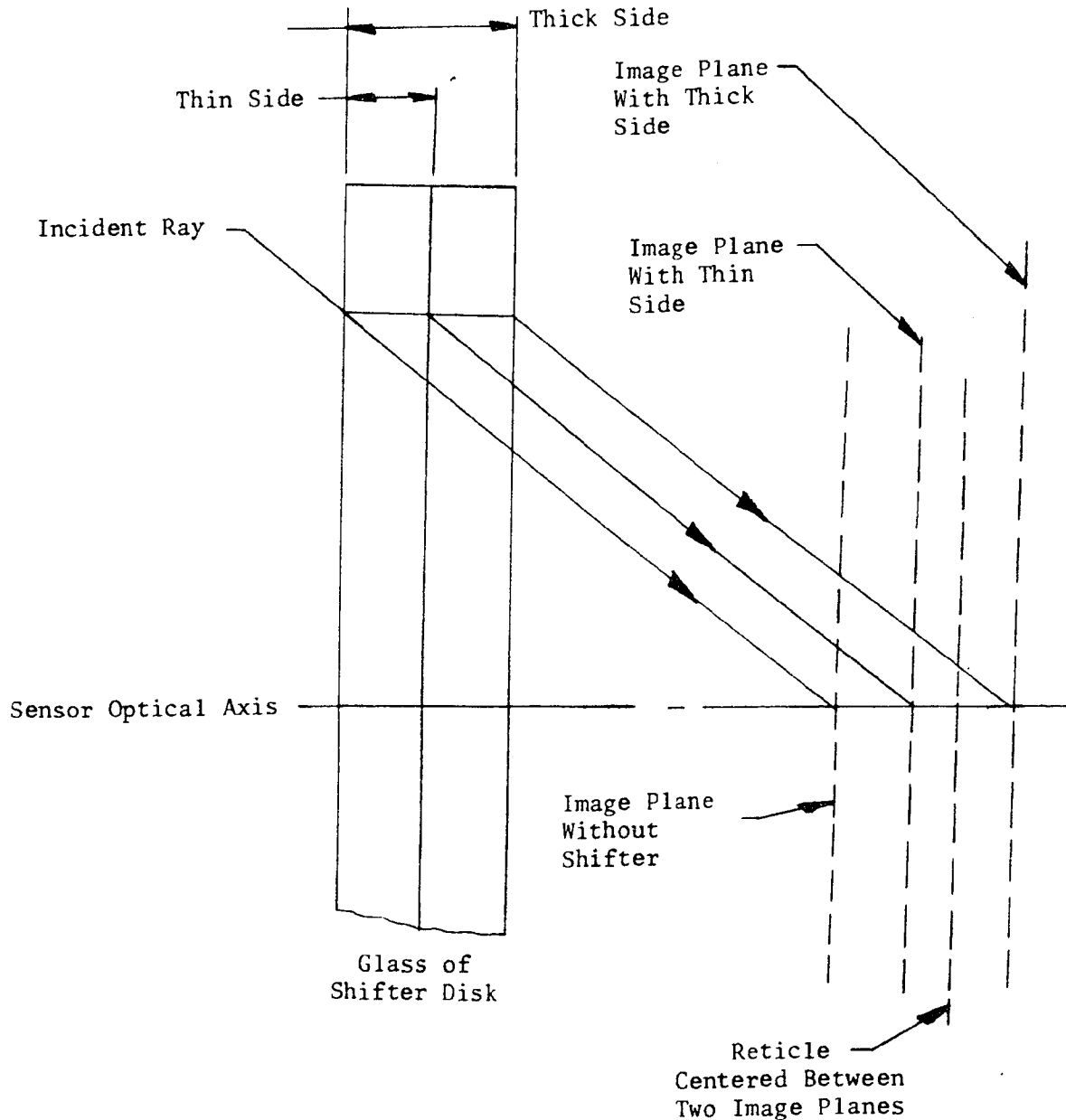


Figure 4.4-15. Focus Sensor Image Planes

4-139
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Handle via **BYEMAN**
Control System Only

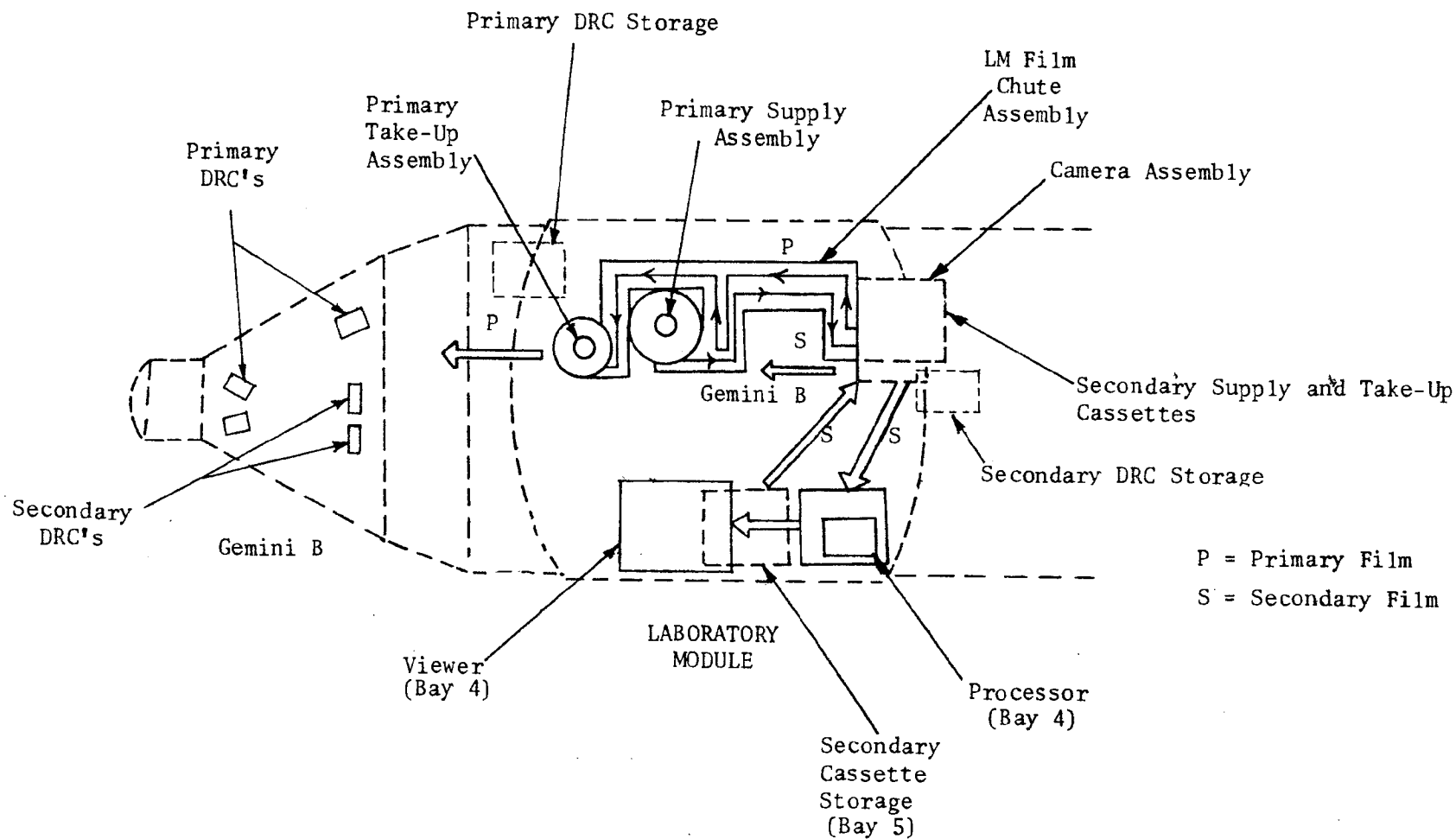


Figure 4.5-2. LM Film Handling Concept - M/A Mode

Handle via BYEMAN
Control System Only

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(Control Number)

4-146

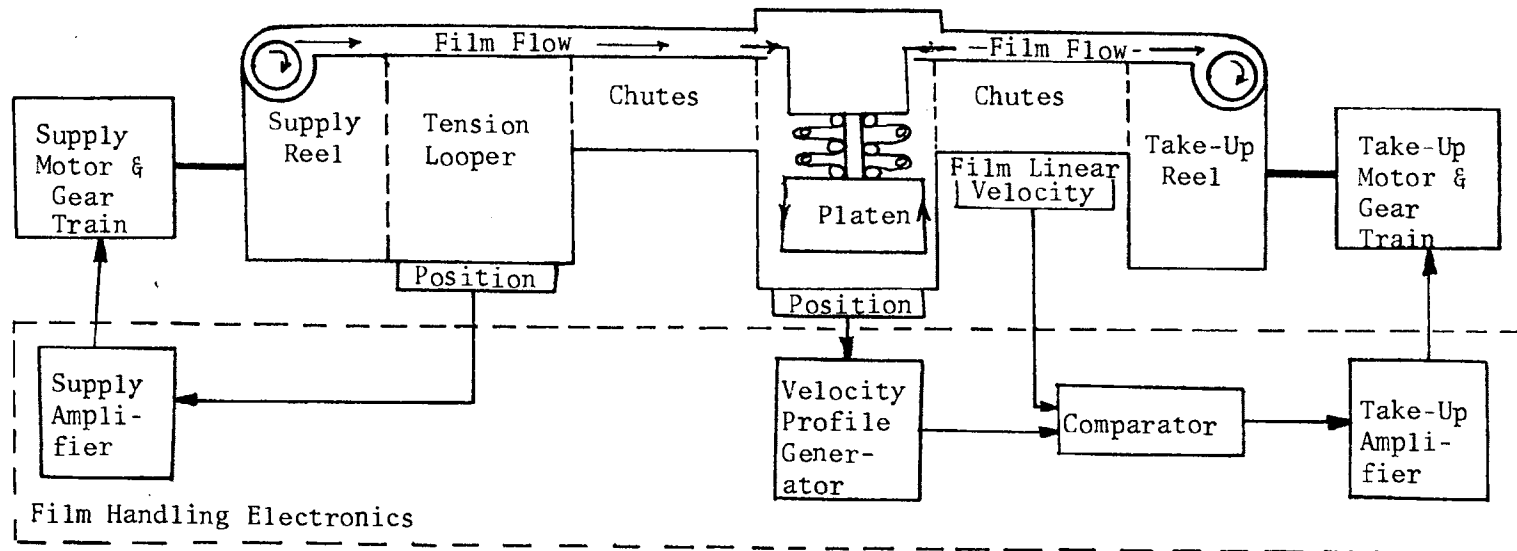


Figure 4.5-3. Block Diagram Primary Film Handling Control - Manned/Automatic Mode

Handle via BYEMAN
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BIF-008- F-035085-RH -68
(Control Number)

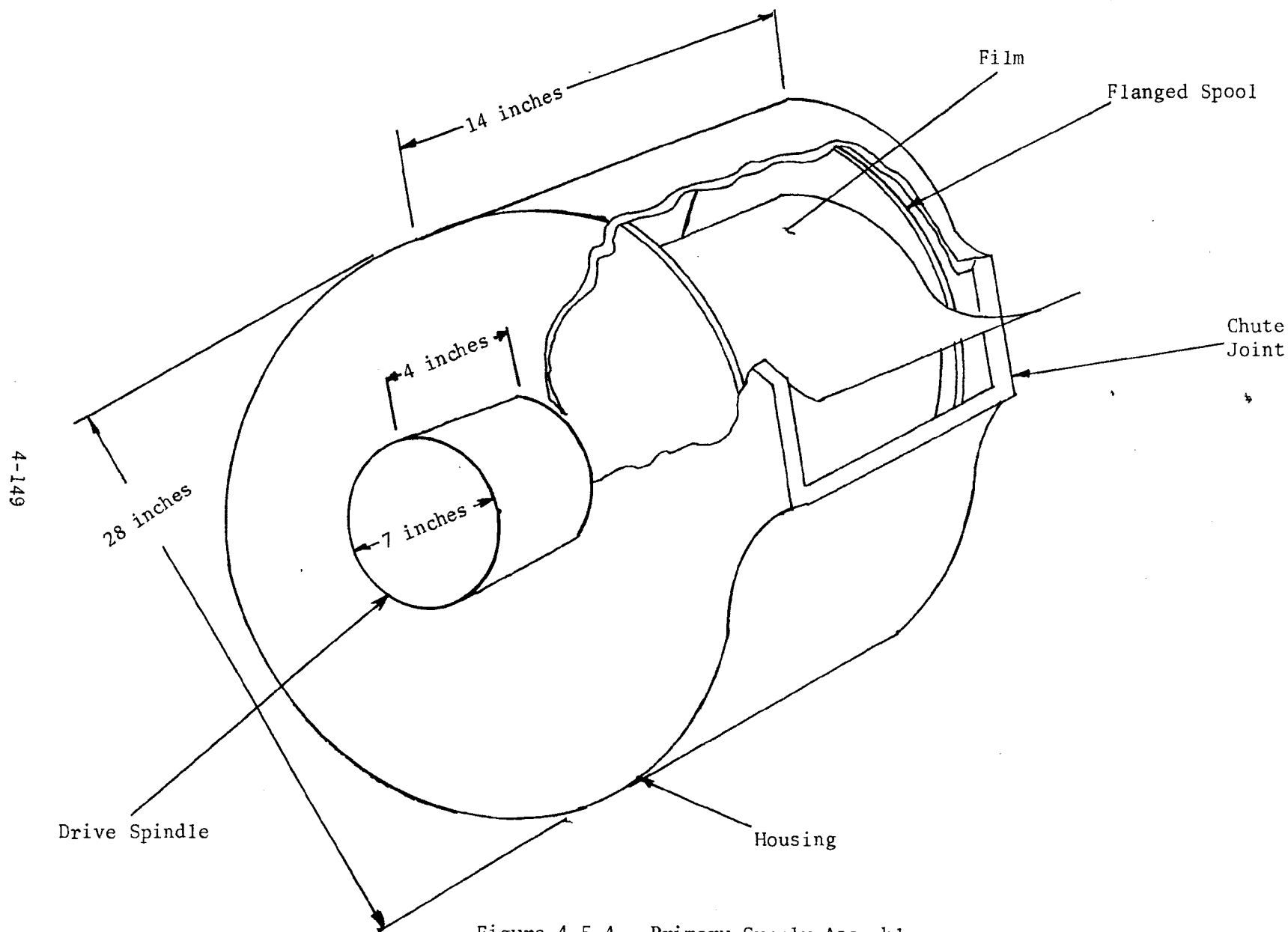


Figure 4.5-4. Primary Supply Assembly

Handle via **BYEMAN**
Control System Only

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BIF-008- F-035080-RH -68
(Control Number)

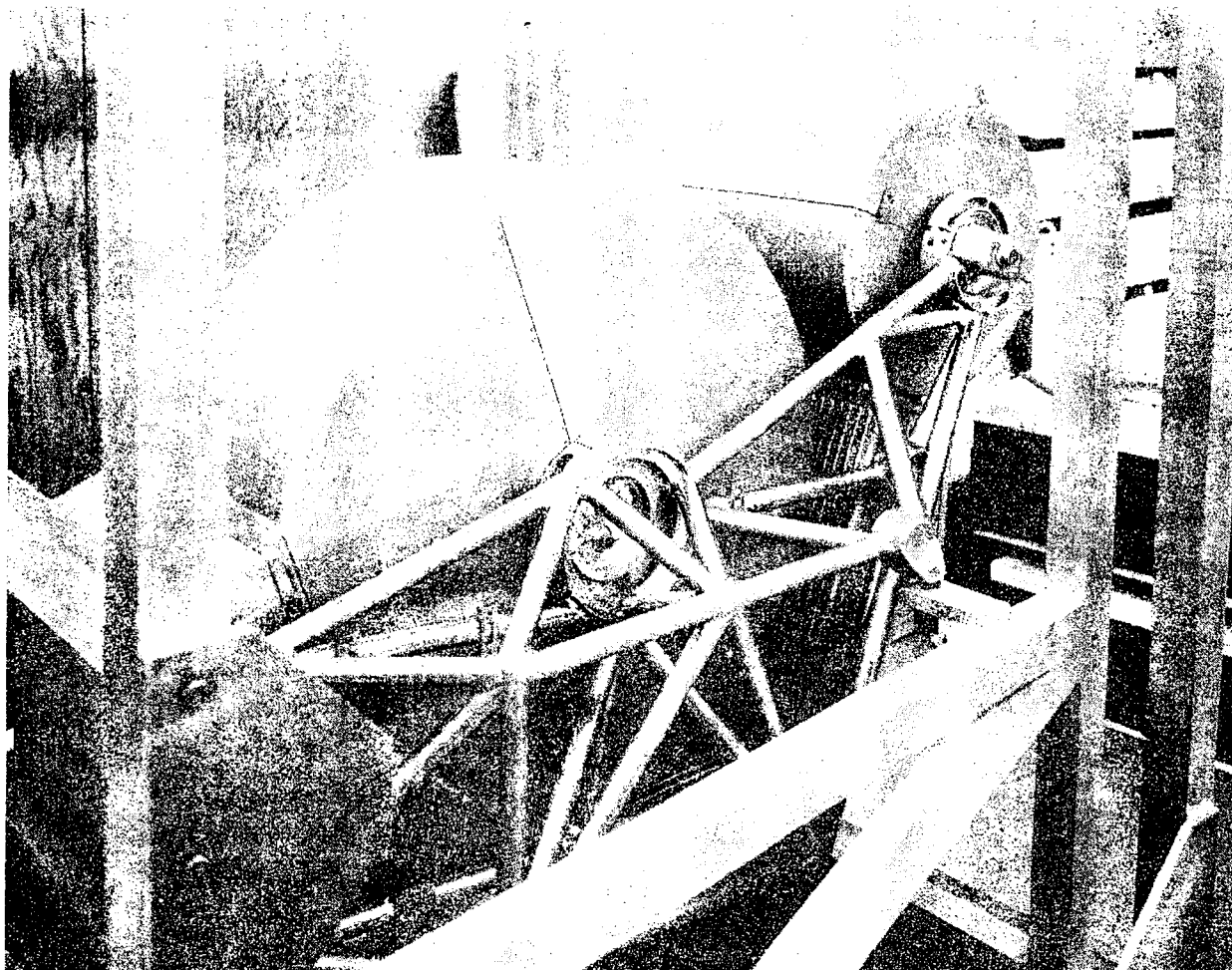


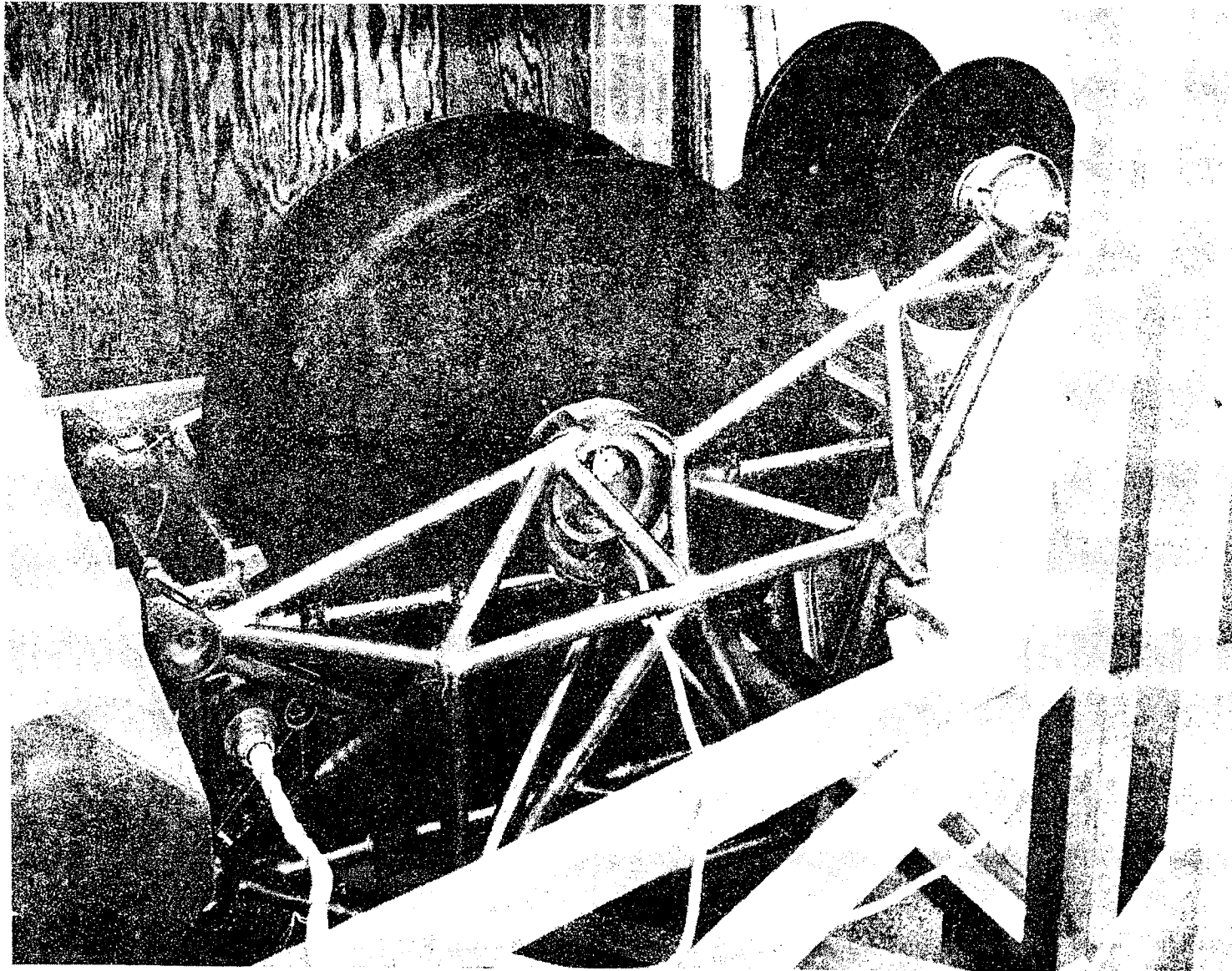
Figure 4.5-5. Primary Supply Assembly Engineering Model

4-150
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Handle via BYEMAN
Control System Only

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(Control Number)



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Handle via **BYEMAN**
Control System Only

Figure 4.5-6. Film Transport System Supply Spool and Take-Up Reel

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(Control Number)

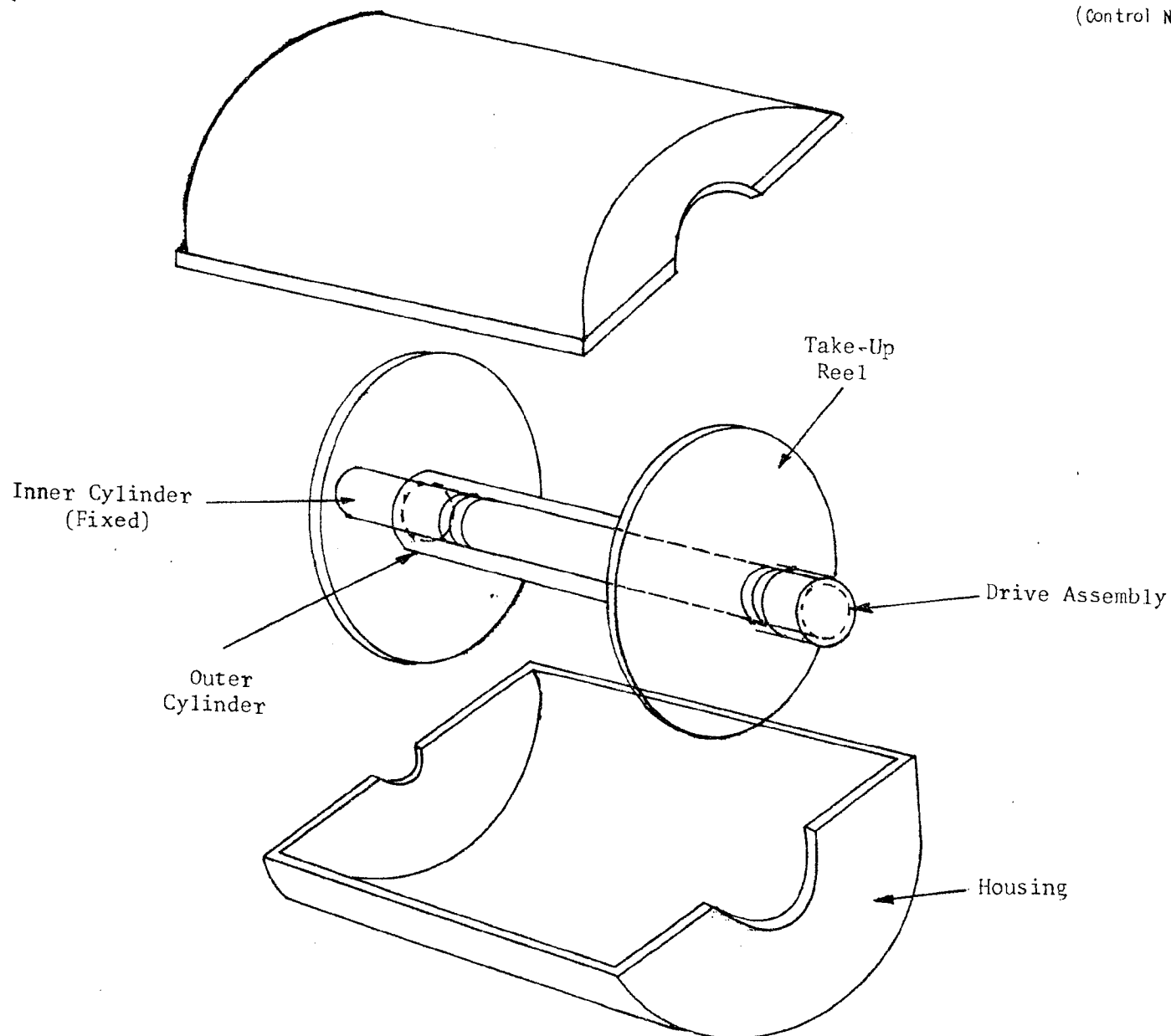


Figure 4.5-7. Primary Take-Up Assembly Concept

Handle via BYEMAN
Control System Only

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4-153

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BIF-008- F-035080-RH -68
(Control Number)

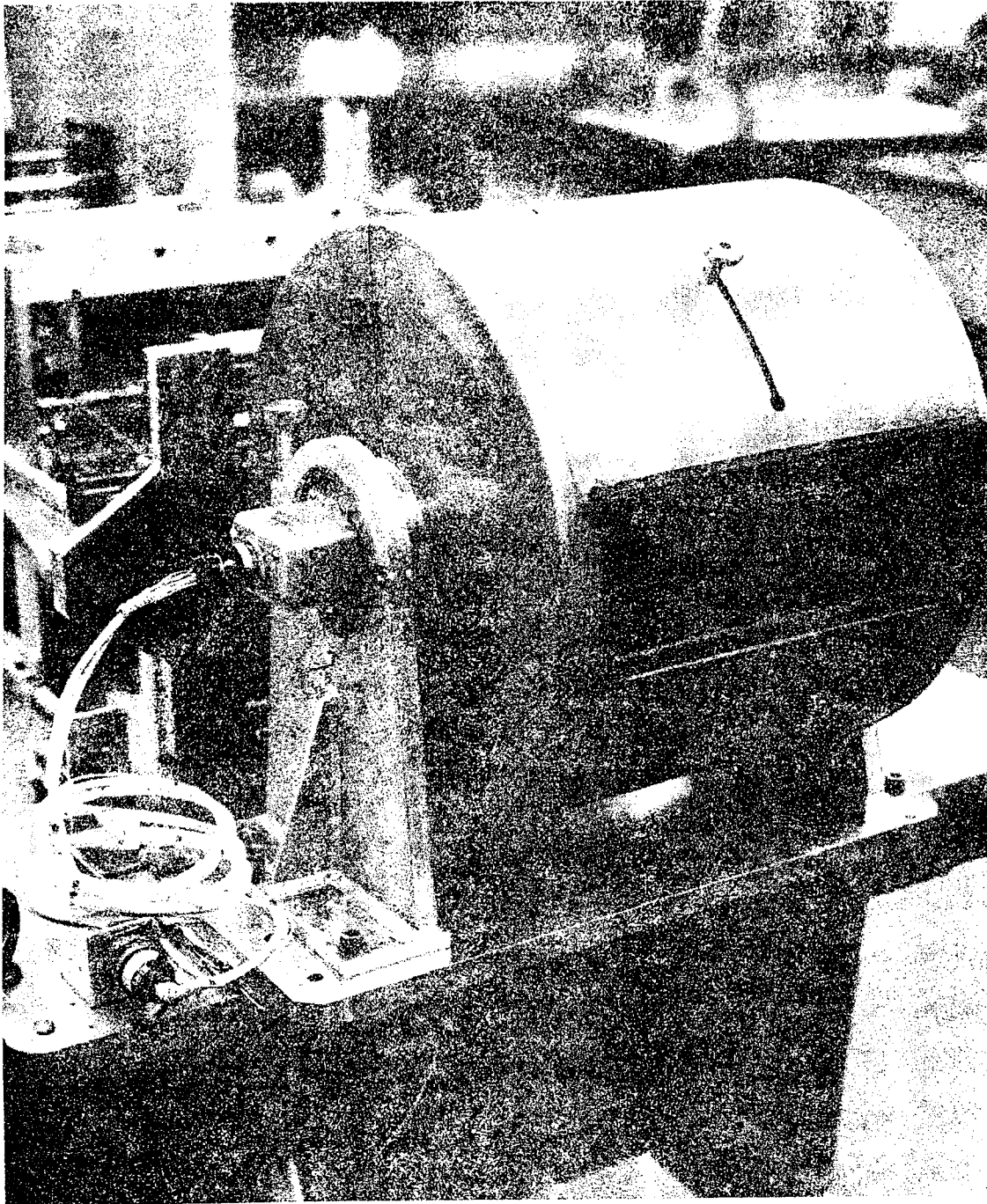


Figure 4.5-8. Film Take-Up Assembly

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(Control Number)

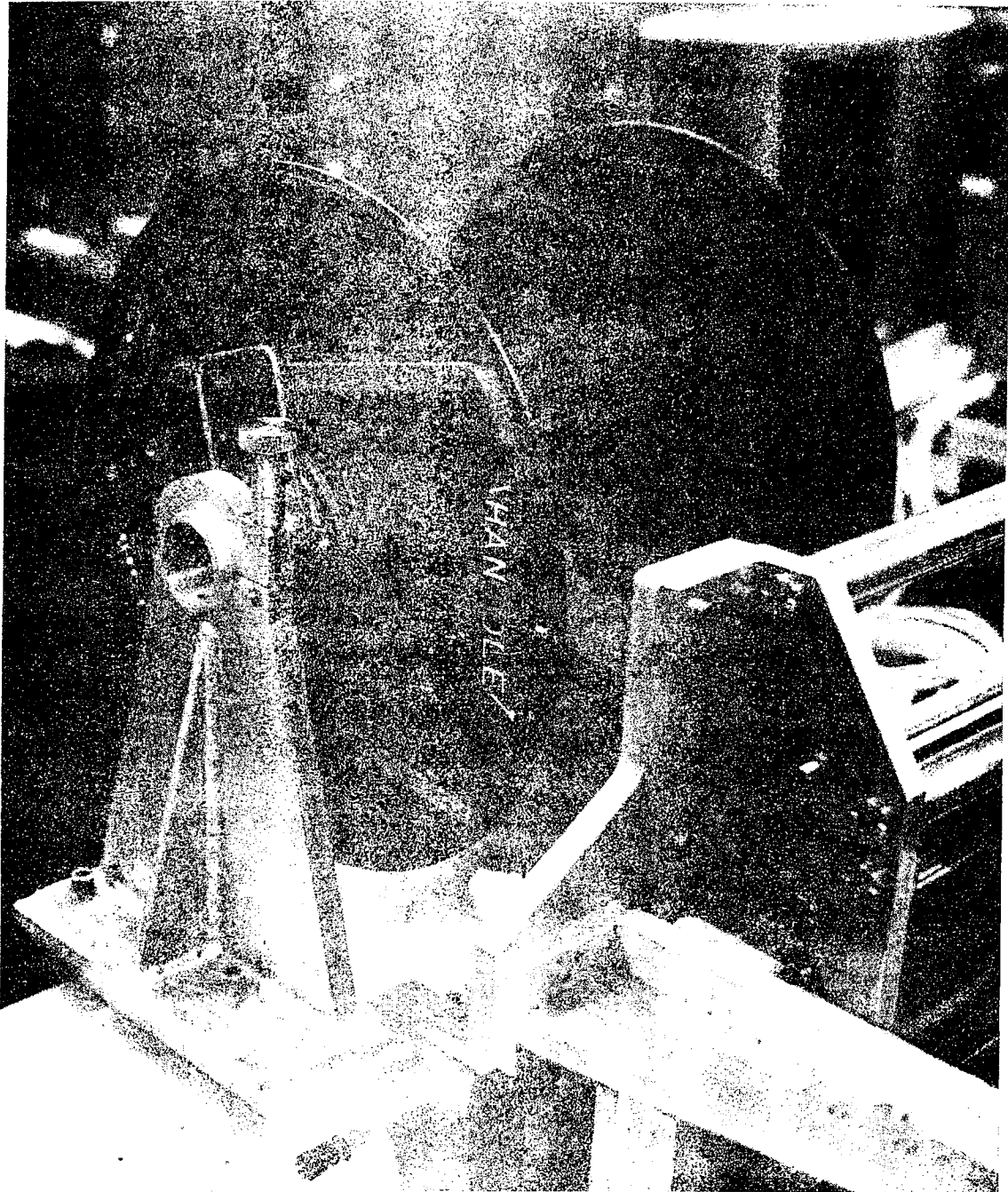


Figure 4.5-9. Film Take-Up Assembly - Spool
and BIC Mounting Flange

4-155

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Control System Only

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BIF-008- F-035080-RH -68
(Control Number)

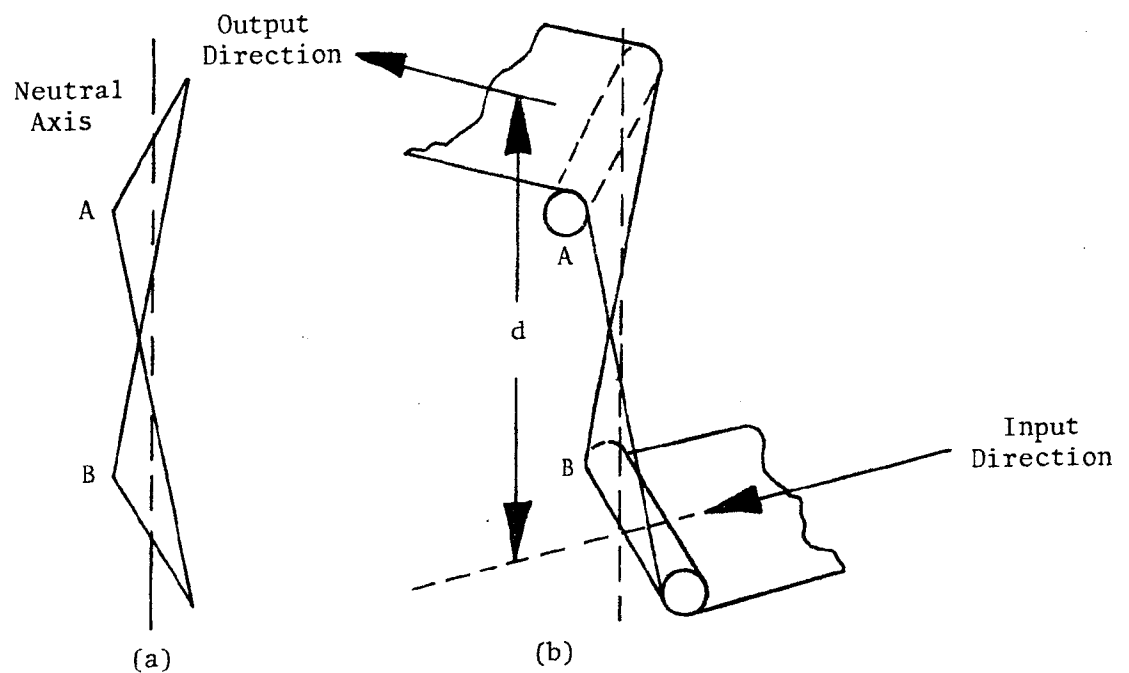
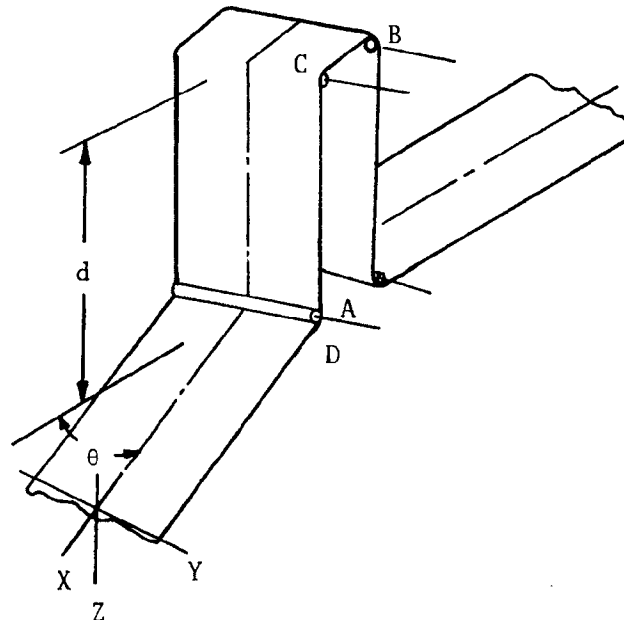


Figure 4.5-10. Film Neutral Axis

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(Control Number)Limitation:

$$\theta = \frac{2 \text{ degrees} \times 2d}{\text{Foot}}$$

Ground Rules:

All rollers must lie in planes parallel to the XY plane.

Rollers B and C must be parallel to each other.

Figure 4.5-11. Neutral Axis Rotation Concept

Handle via BYEMAN
Control System Only

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(Control Number)

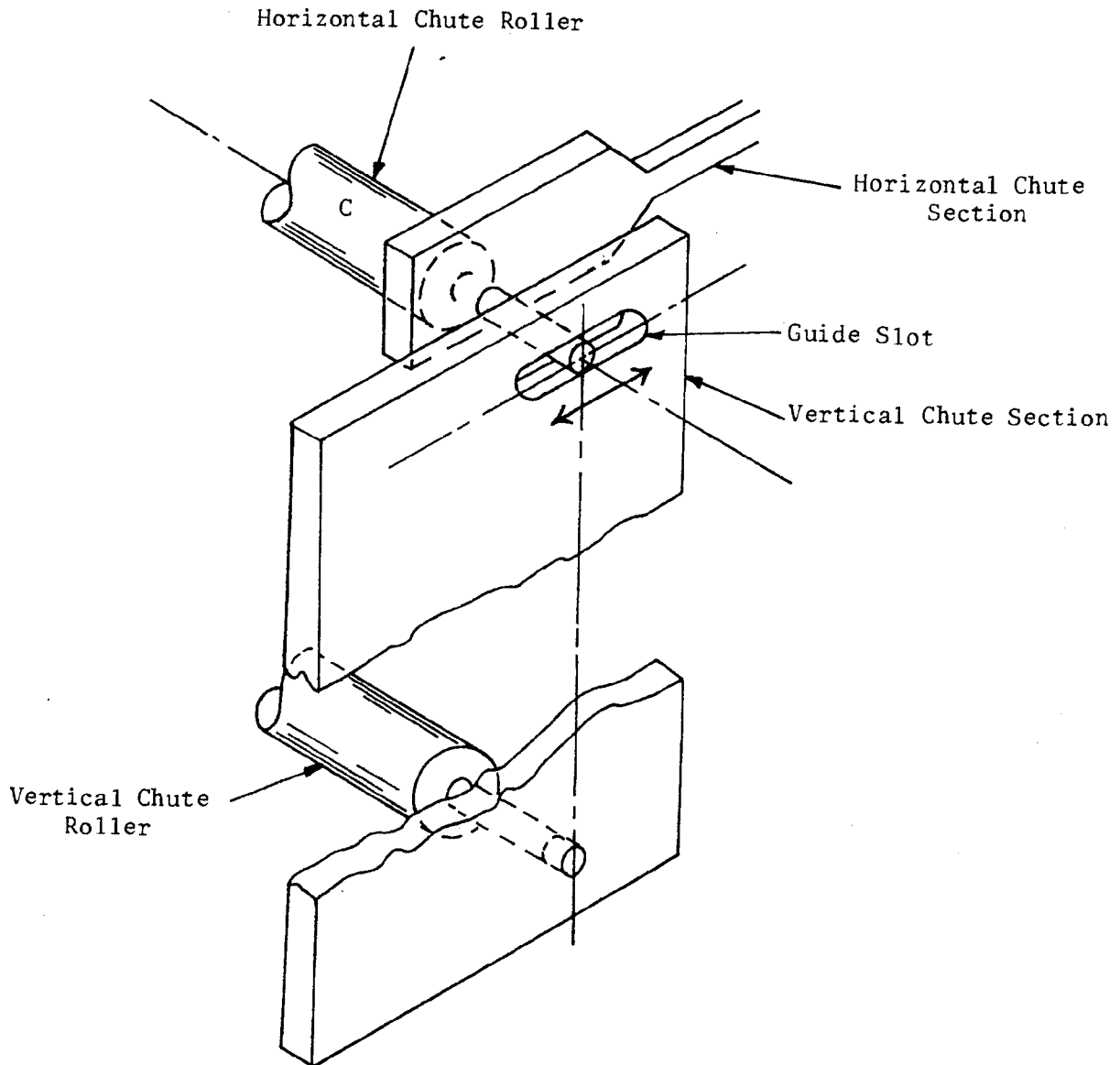


Figure 4.5-12. Horizontal Chute Support

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BIF-008- F-035080-RH -68
(Control Number)

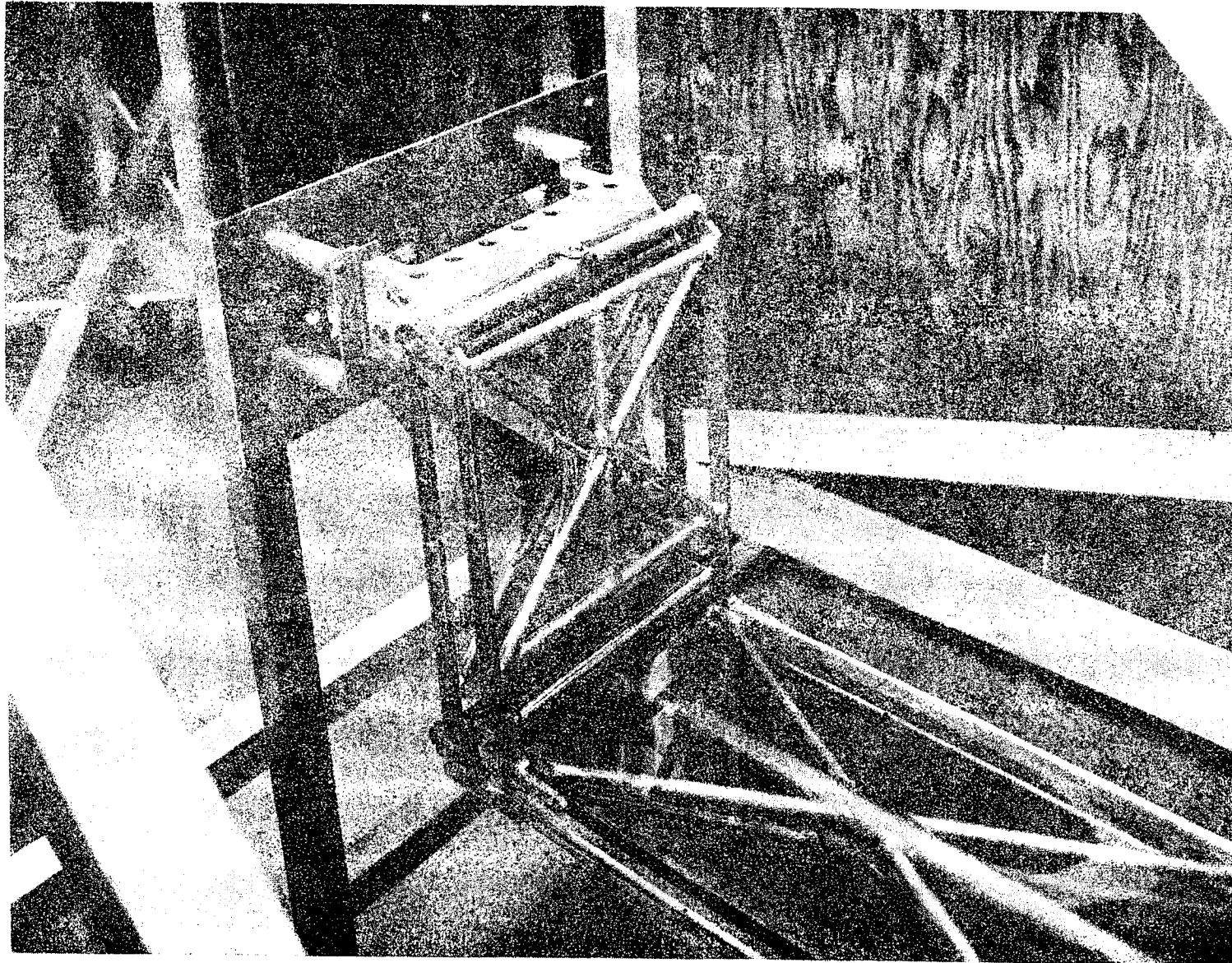


Figure 4.5-13. Roller Pivots and Guide Slots

Handle via BYEMAN
Control System Only

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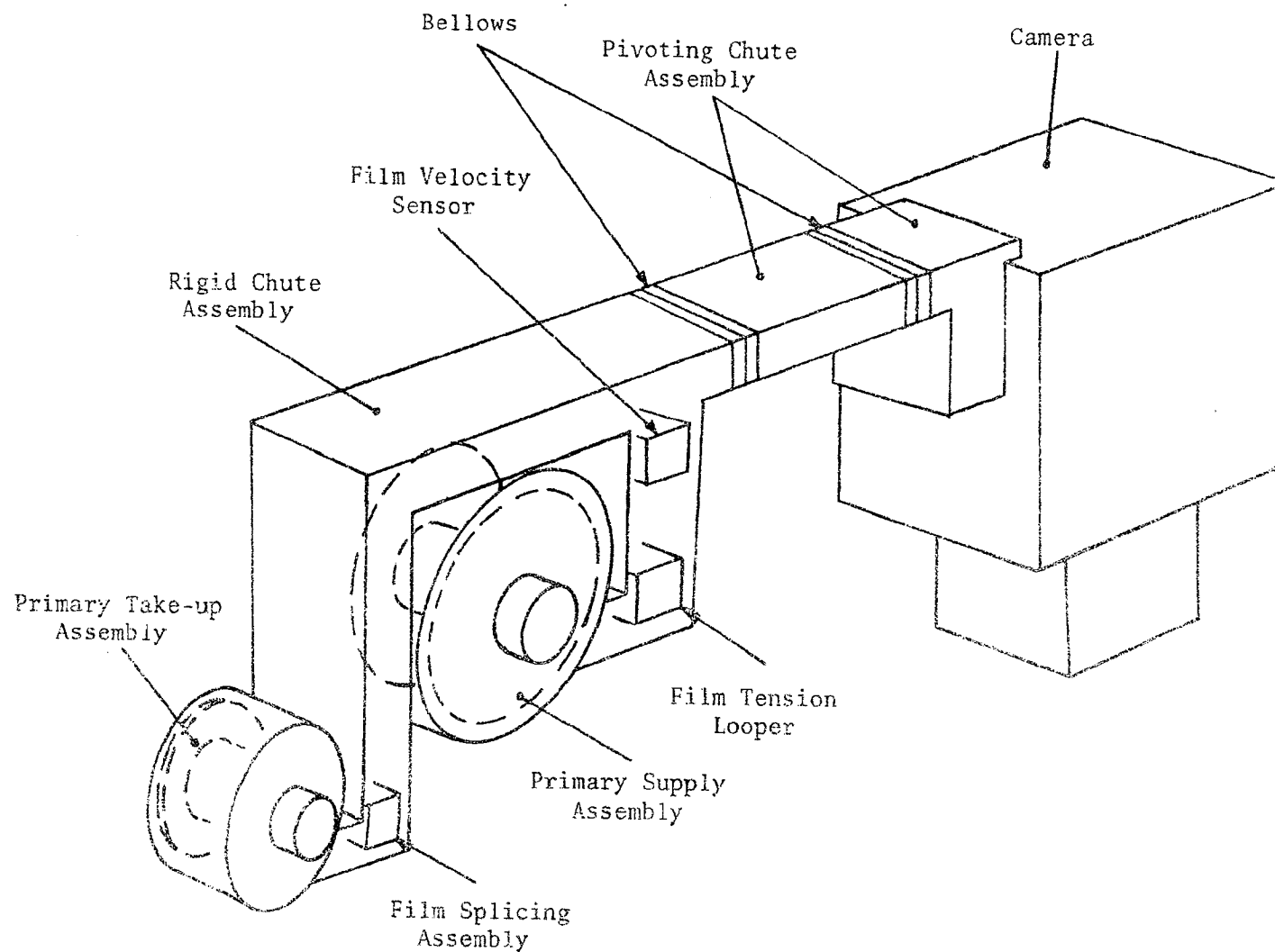


Figure 4.5-14. LM Chute Assembly Concept

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Control System Only

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(Control Number)

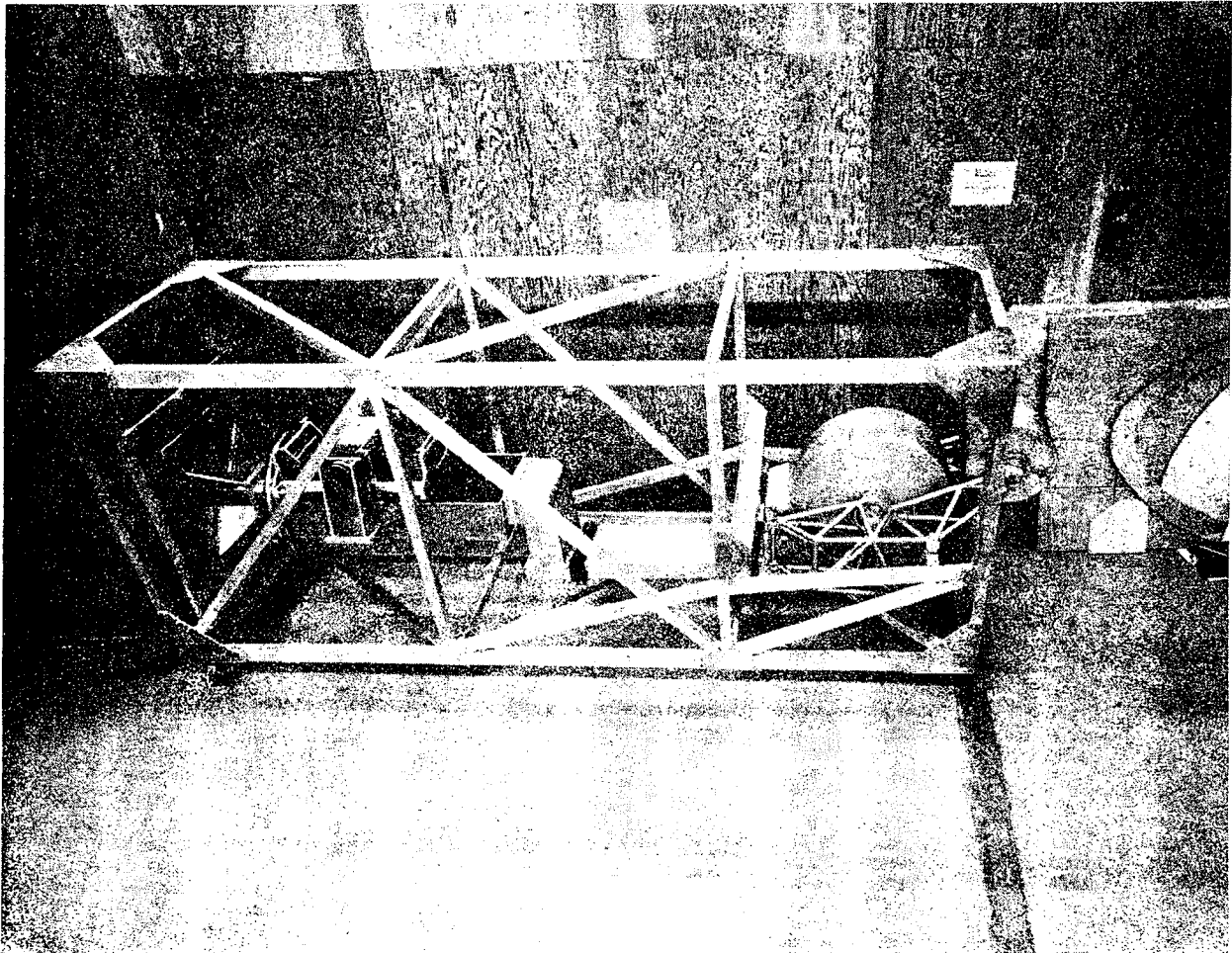


Figure 4.5-15. Film Transport System Engineering Model

4-165

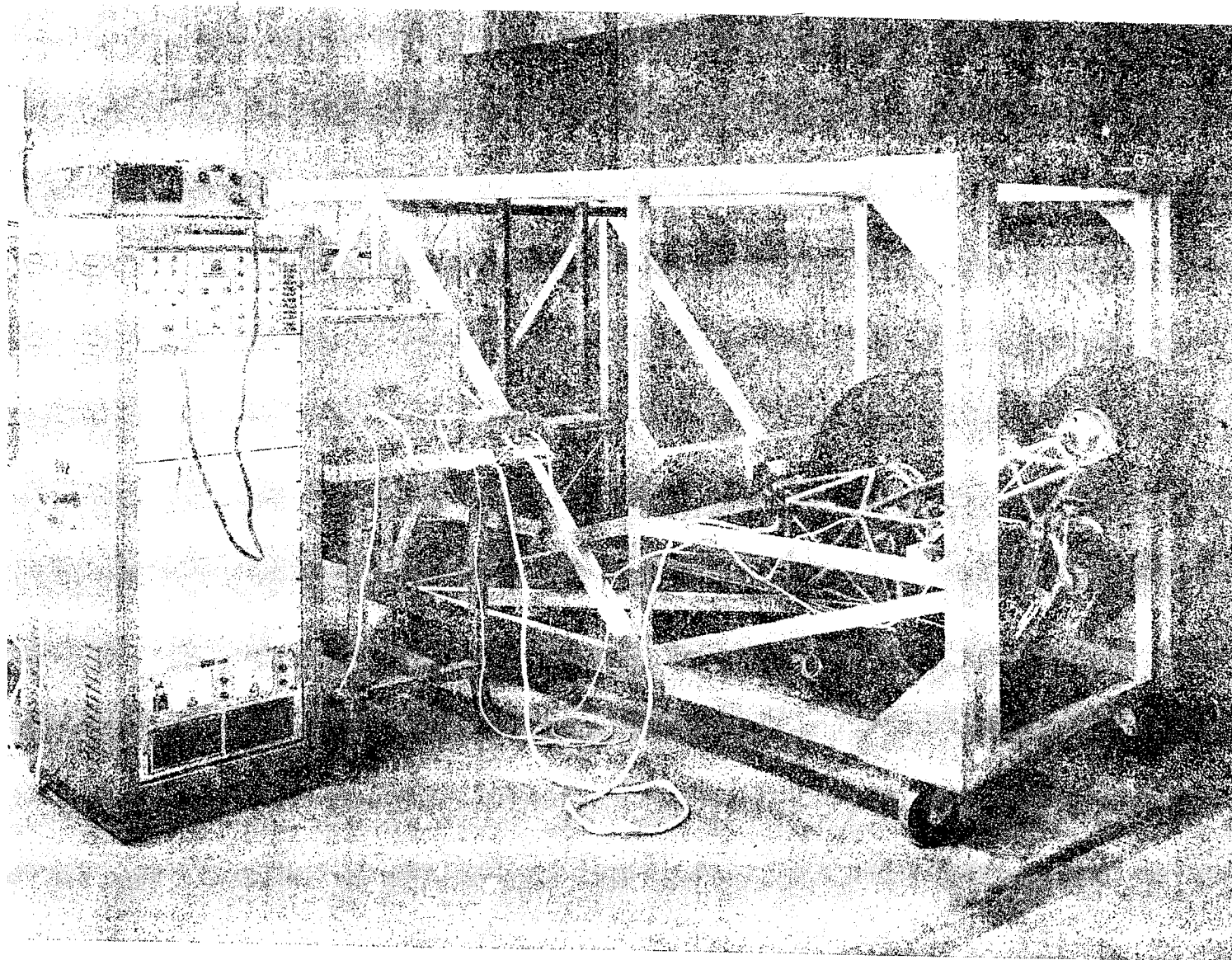
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(Control Number)



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Handle via BYEMAN
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Figure 4.5-16. Film Transport System Test Setup

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(Control Number)

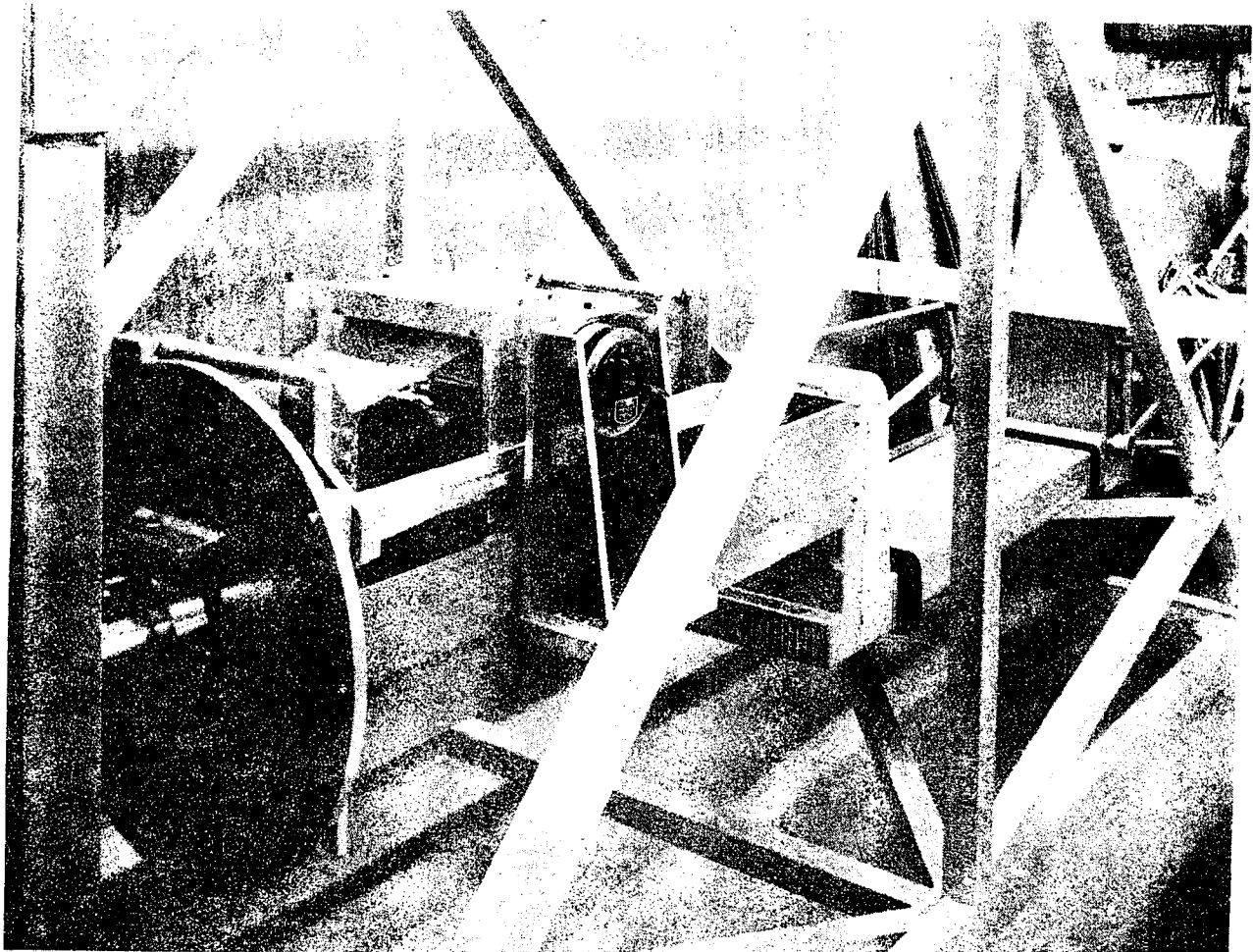


Figure 4.5-17. Simulated Camera

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Handle via BYEMAN
Control System Only

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BIF-008- F-035080-RH -68
(Control Number)

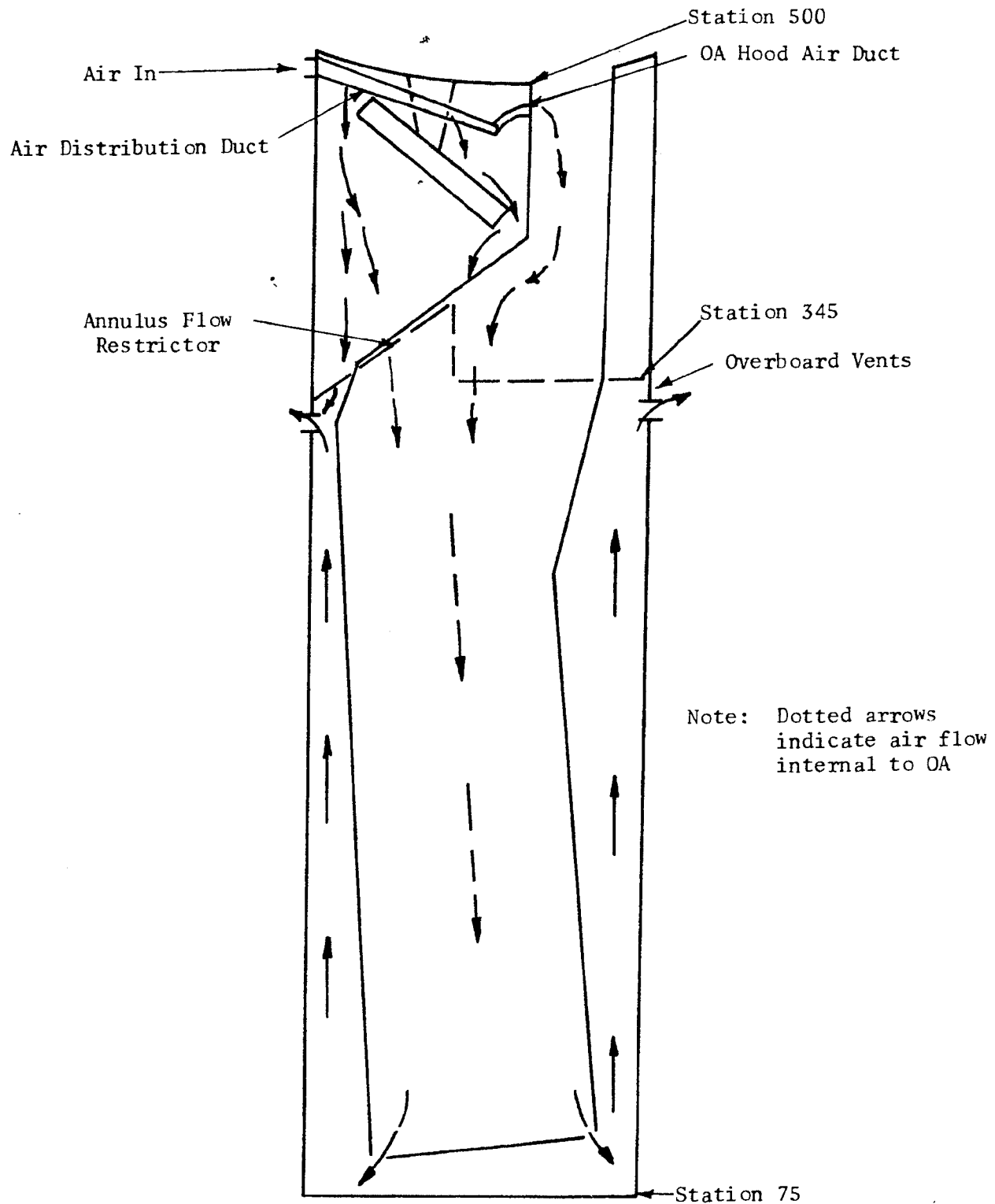
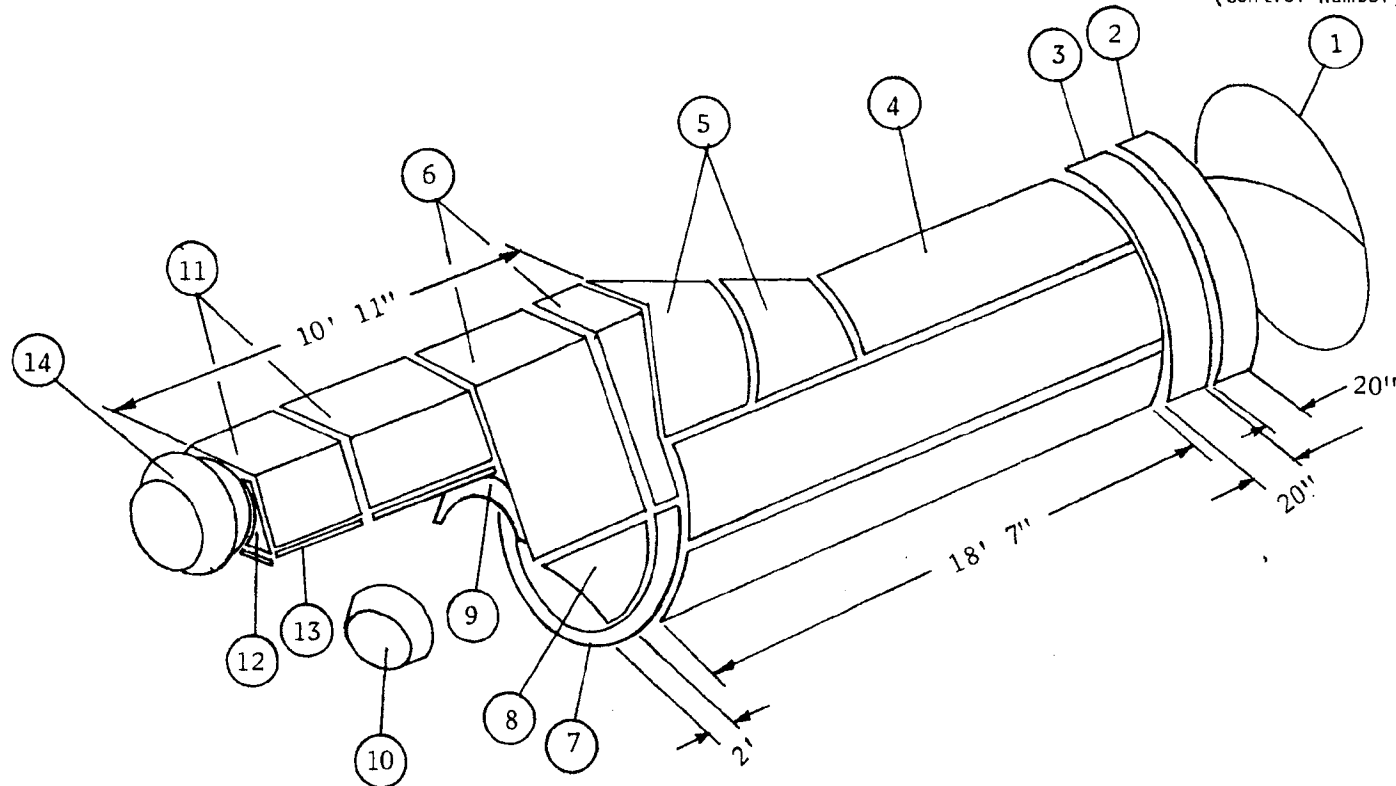


Figure 4.6-1. Ground Conditioning System

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Major Blanket Assemblies

COA Bay Bkts (1) (2) (3) (4) (5)
Ross Corrector Bkts (6) (11) (12) (13) (14)
Mirror Support Bkts (7) (8) (9) (10)

- 1. End Cap Bkt*
- 2. Primary Mirror Barrel Bkts
- 3. Primary Mirror Transition Bkt
- 4. Barrel Bkts
- 5. Hood Bkts

- 6. Ross Corrector Transition Bkts
- 7. COA Transition Bkt to Mirror Support
- 8. Mirror Support Barrel Bkts
- 9. Mirror Support Cap Bkt
- 10. Newtonian Mirror Bkts

- 11. Corrector Bkts
- 12. Corrector End-Cap Bkts
- 13. Corrector Underpanel Bkt
- 14. Corrector Bellows Bkt

* Bkt = Blanket

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Figure 4.6-7. Blanket Assembly Configuration

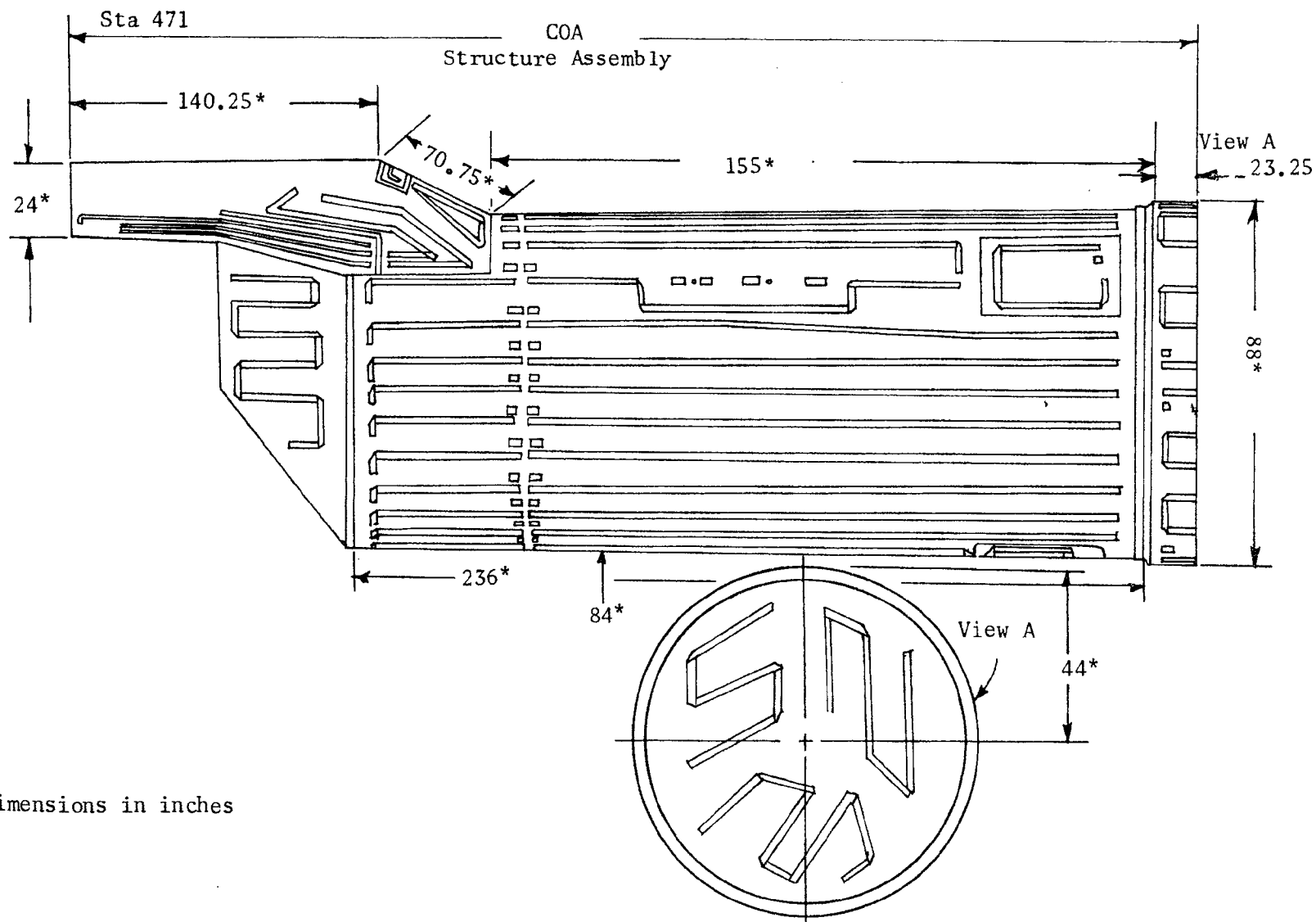


Figure 4.6-8. Heater Strips in Close Contact with the OA

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(Control Number)

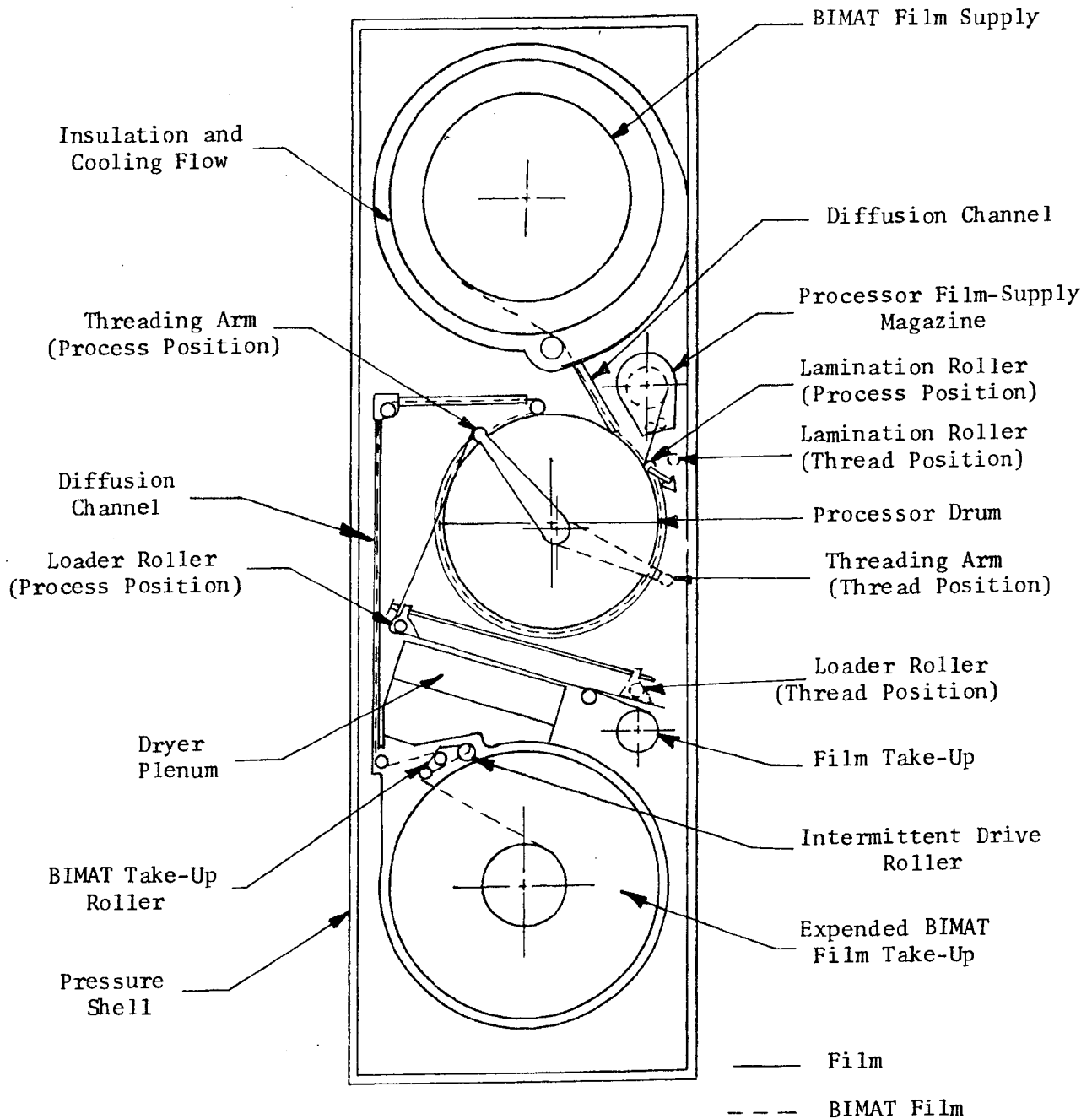


Figure 4.7-1. Side View Schematic of On-Board Processor

4-199

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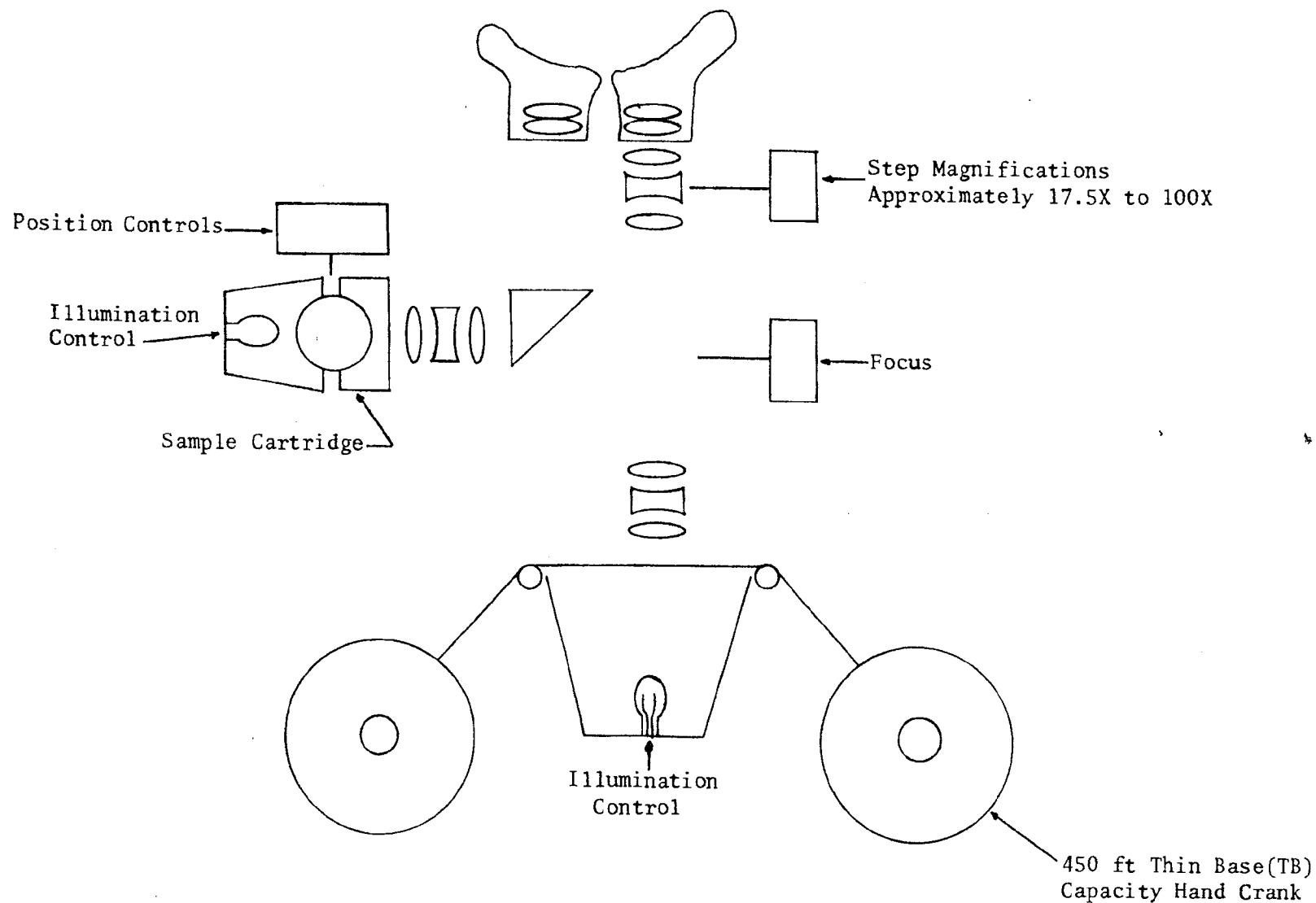


Figure 4.8-1. Concept - Viewer Schematic

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(Control Number)

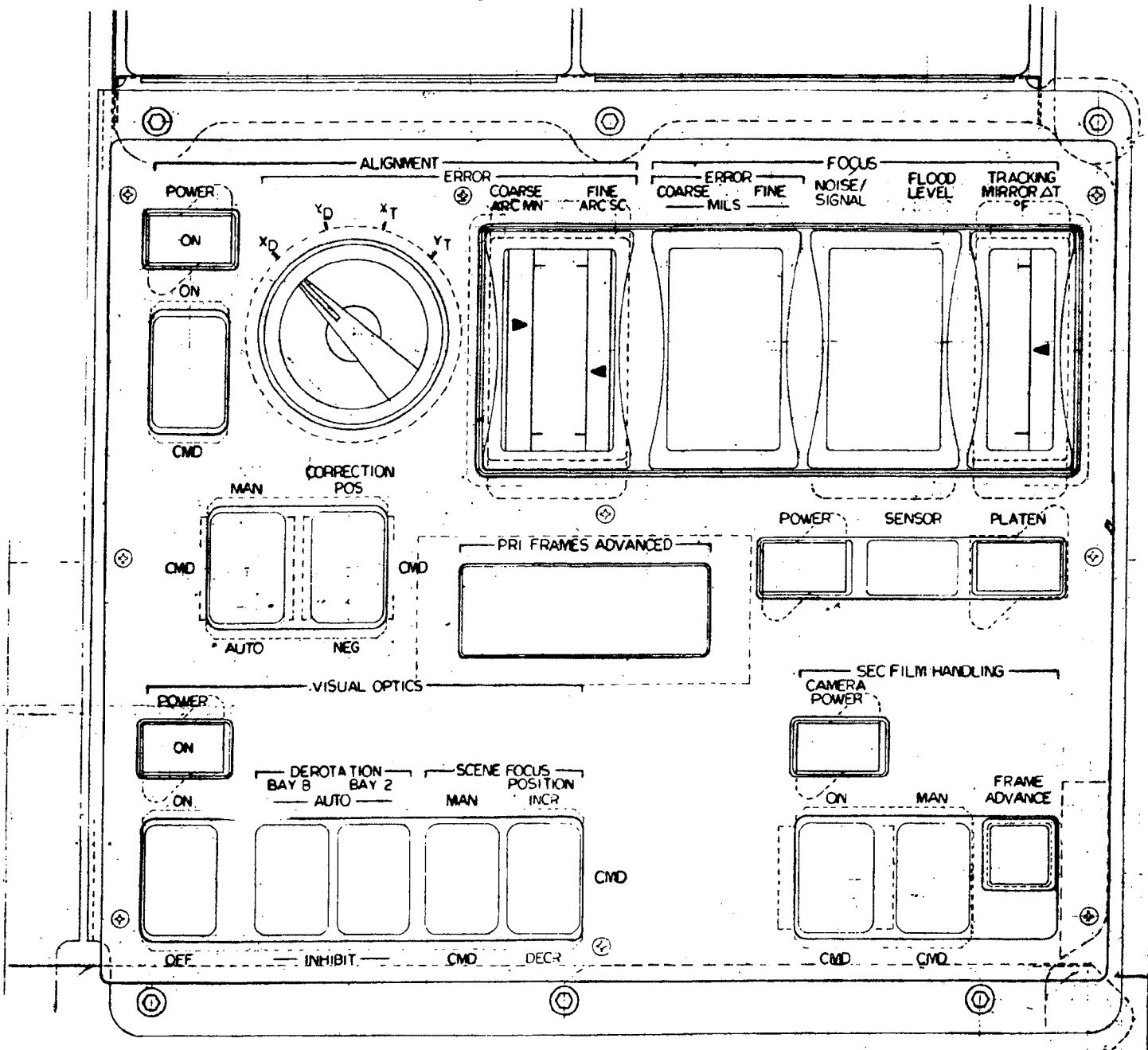


Figure 4.9-3. Panel 1-C

4-219
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(Control Number)

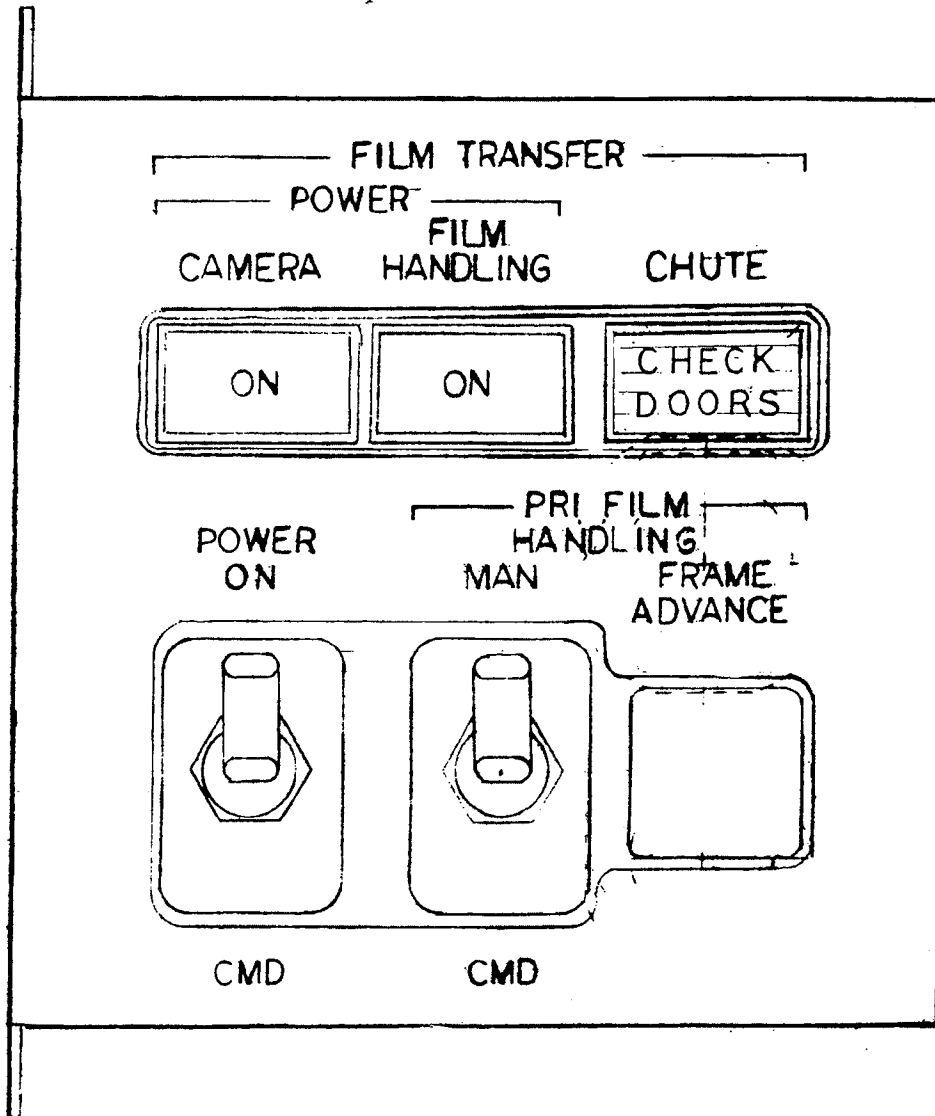


Figure 4.9-4. Film Transfer Panel

4-220

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