

Film-Tech

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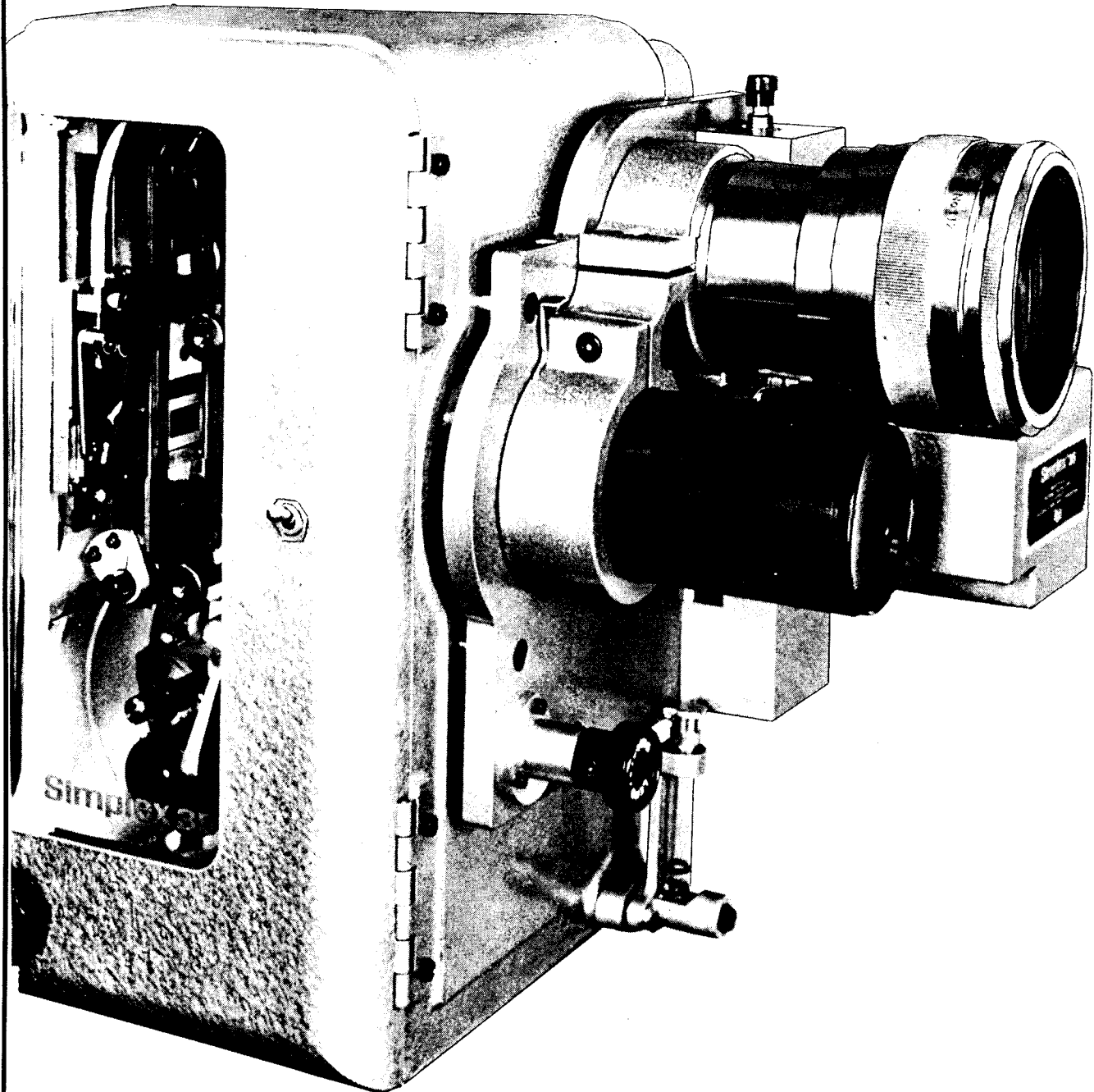
These manuals are designed to facilitate the exchange of information related to cinema projection and film handling, with no warranties nor obligations from the authors, for qualified field service engineers.

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Simplex® AUTO-TURRET and APERTURE CHANGER

Model 1000

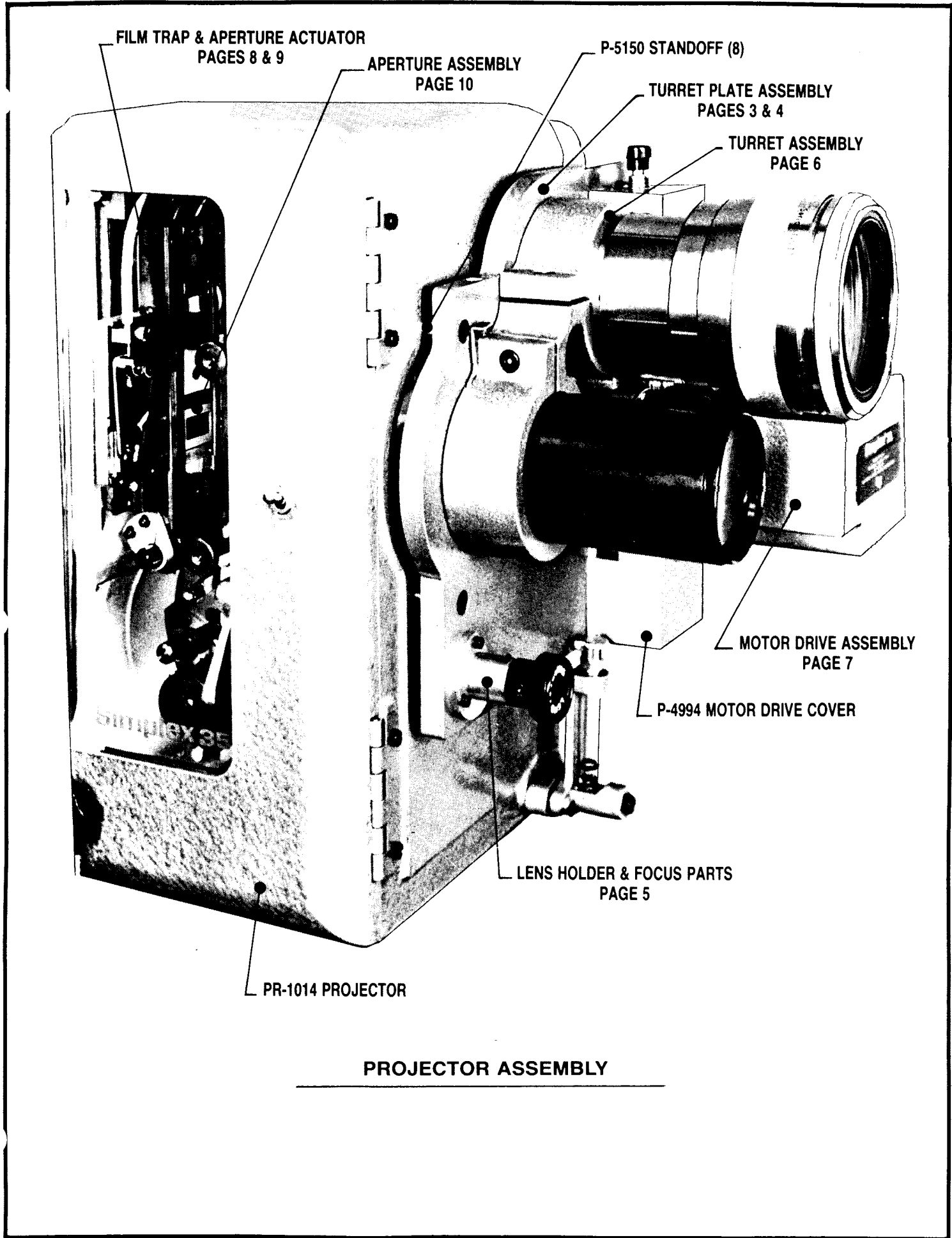


BALLANTYNE 
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FILM TRAP & APERTURE ACTUATOR
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APERTURE ASSEMBLY
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P-5150 STANDOFF (8)

TURRET PLATE ASSEMBLY
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TURRET ASSEMBLY
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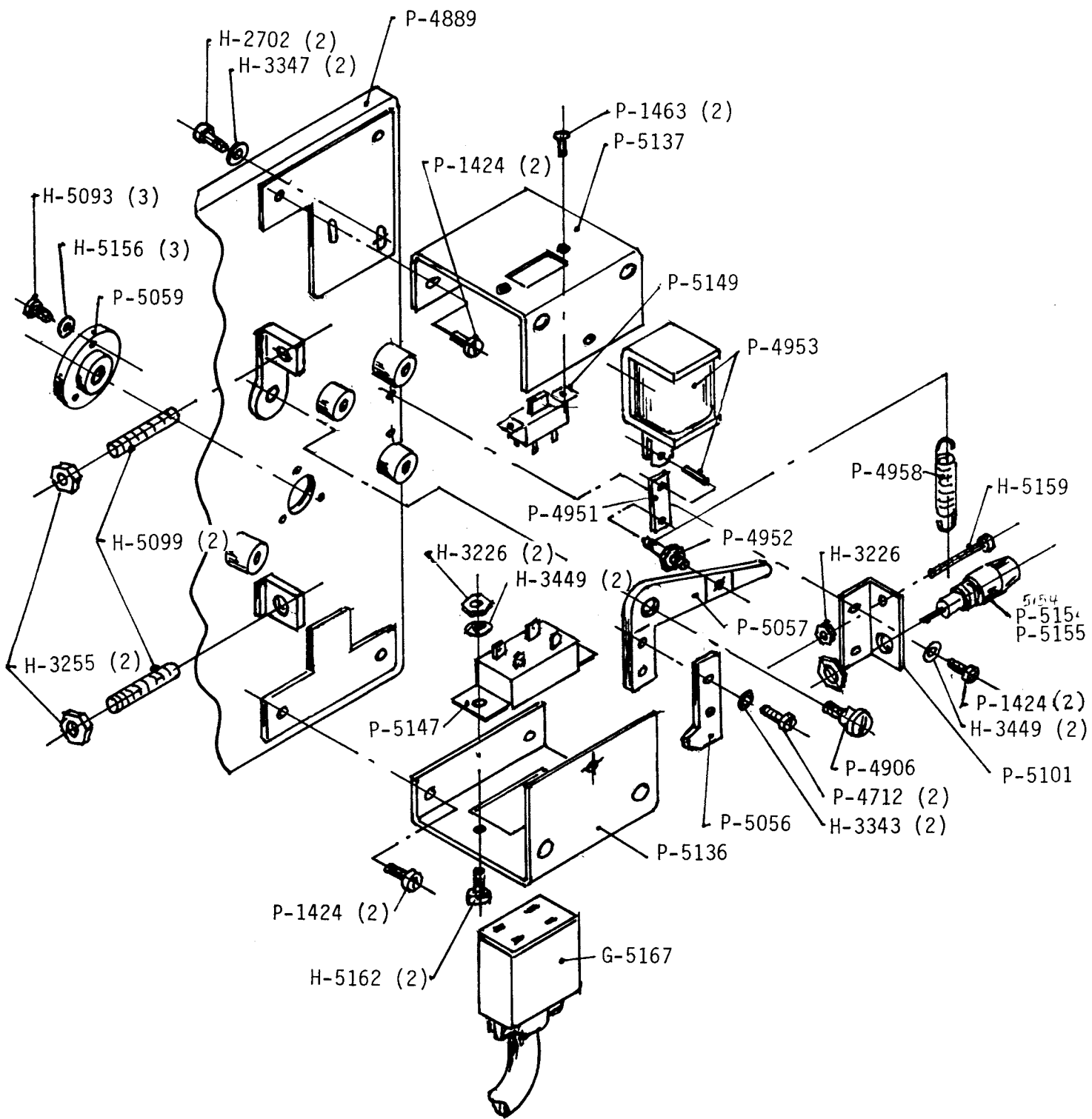
MOTOR DRIVE ASSEMBLY
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P-4994 MOTOR DRIVE COVER

LENS HOLDER & FOCUS PARTS
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PR-1014 PROJECTOR

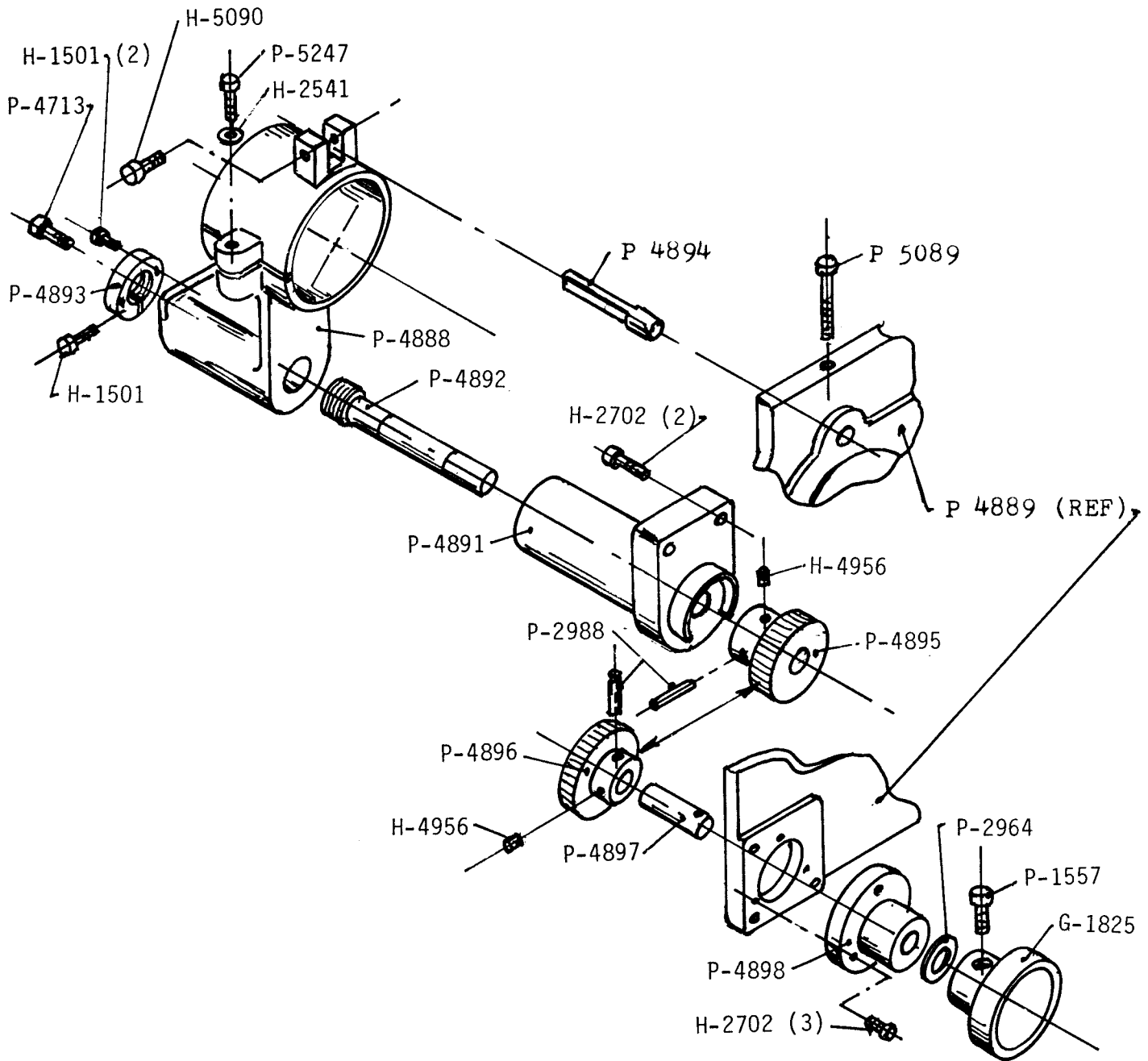
PROJECTOR ASSEMBLY



TURRET PLATE ASSEMBLY

TURRET PLATE ASSEMBLY

G-5167	Cable Assembly	P-4889	Plate
H-2702	Screw (2)	P-4906	Shoulder Screw
H-3226	Nut (2)	P-4951	Link
H-3246	Nut	P-4952	Stud
H-3255	Nut (2)	P-4953	Solenoid
H-3343	Washer (6)	P-4958	Spring
H-3347	Washer (2)	P-5056	Arm
H-3349	Washer (8)	P-5057	Pawl
H-5093	Screw (4)	P-5059	Bearing Plate
H-5099	Set Screw (2)	P-5101	Bracket
H-5156	Lockwasher (5)	P-5136	Bracket
H-5159	Screw	P-5137	Bracket
H-5162	Screw (2)	P-5147	Connector
P-1424	Screw (6)	P-5148	Connector
P-1463	Screw (2)	P-5149	Switch
P-4712	Washer (2)	P-5154	Fuse Holder
		P-5155	Fuse
		P-5173	Wire



LENS HOLDER AND FOCUS MECHANISM

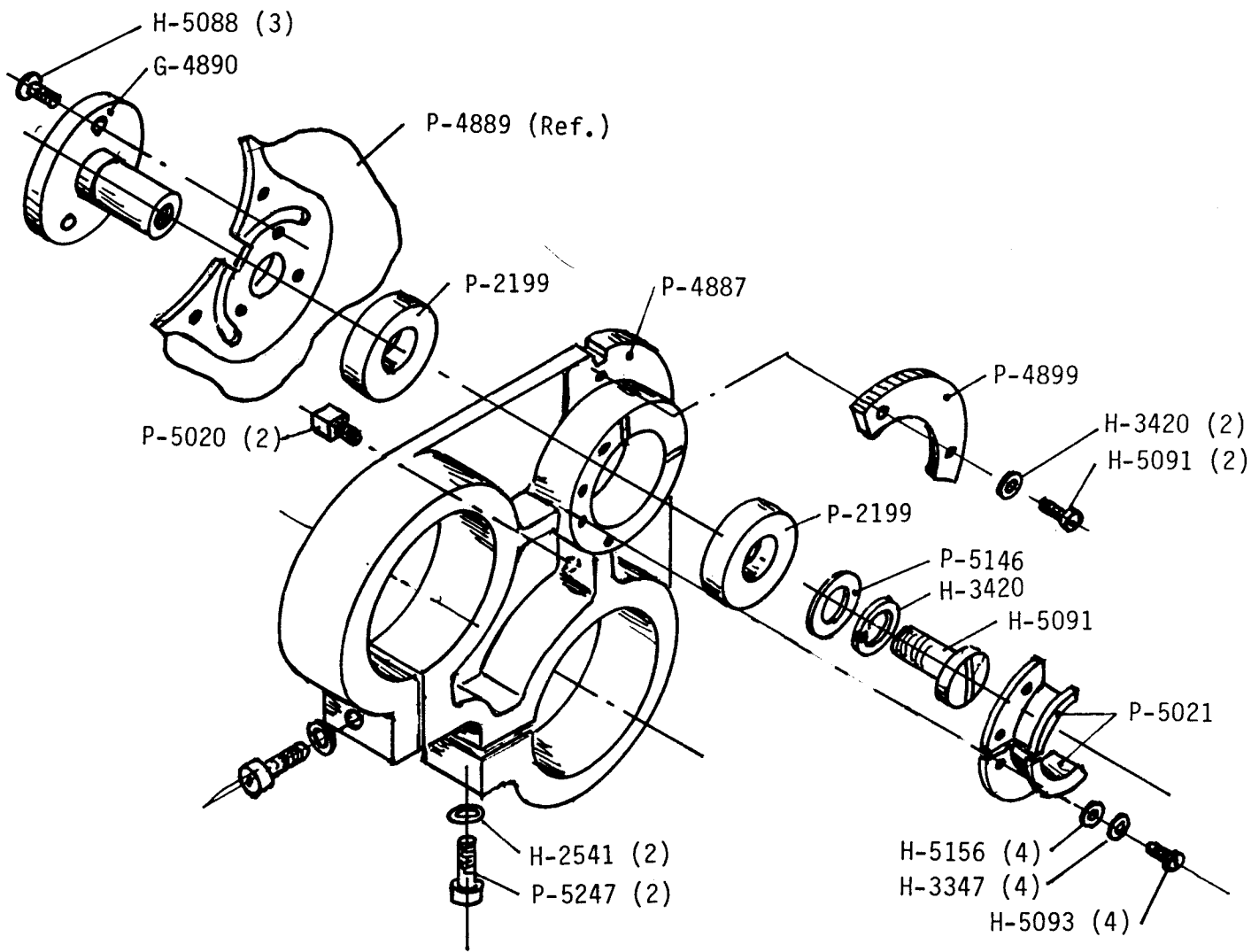
G-1825 Focus Knob
 G-5055 Gear and Shaft Assembly
 G-5096 Lens Holder Assembly

H-1501 Screw (3)
 H-2541 Retaining Ring
 H-2702 Screw (2)
 H-4956 Screw (2) * **
 H-5090 Screw

P-1557 Screw
 P-2964 Washer, Bowed
 P-2988 Roll Pin * **
 P-4713 Screw
 P-4894 Guide

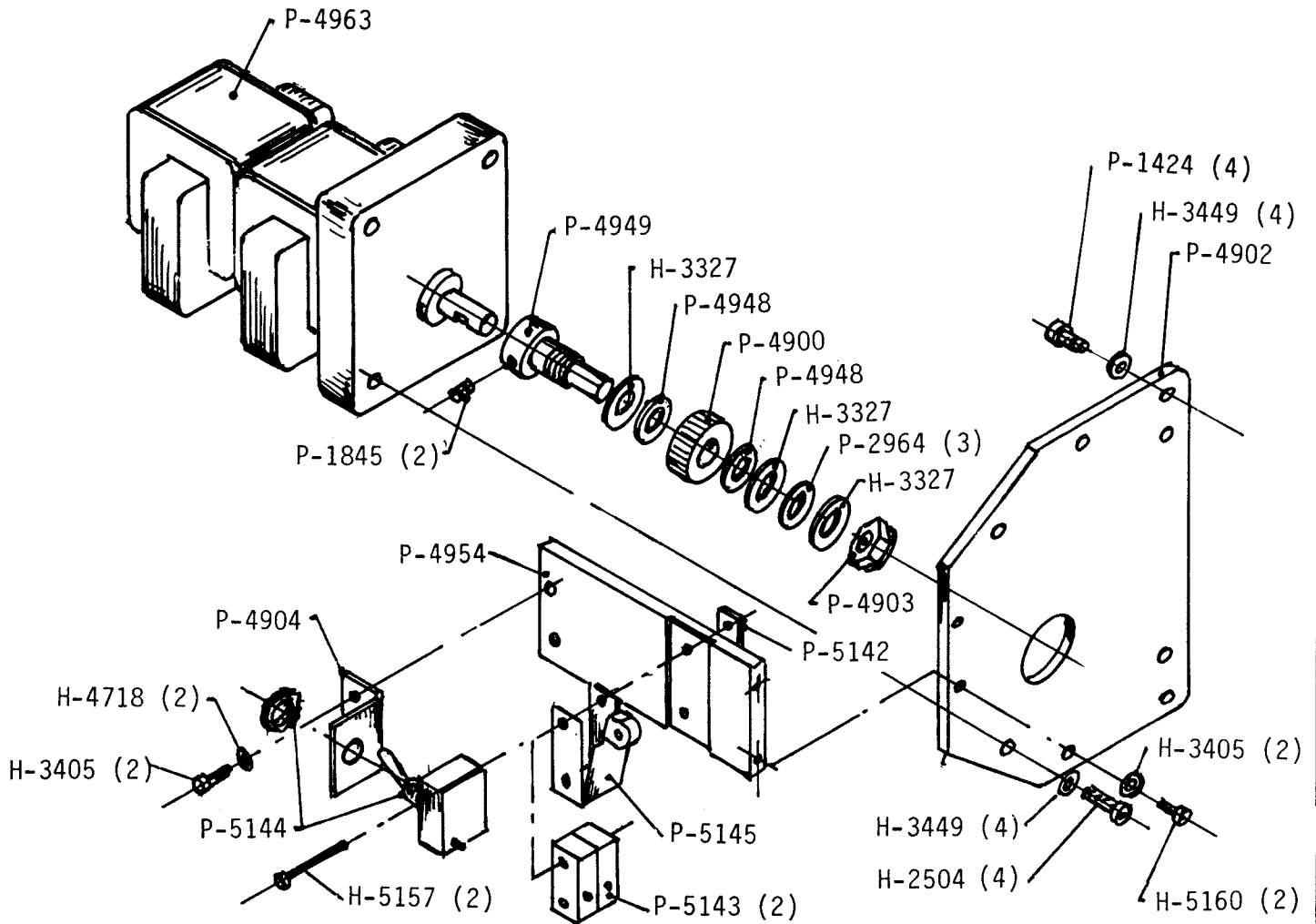
P-4888 Lens Mount
 P-4891 Shaft **
 P-4892 Screw, Focus **
 P-4893 Nut, Focus
 P-4894 Guide
 P-4895 Pinion Gear **
 P-4896 Gear *
 P-4897 Shaft *
 P-4898 Bearing Block
 P-5089 Screw
 P-5247 Screw, Modified
 P-5089 Screw

* Part of G-5055
 ** Part of G-5096



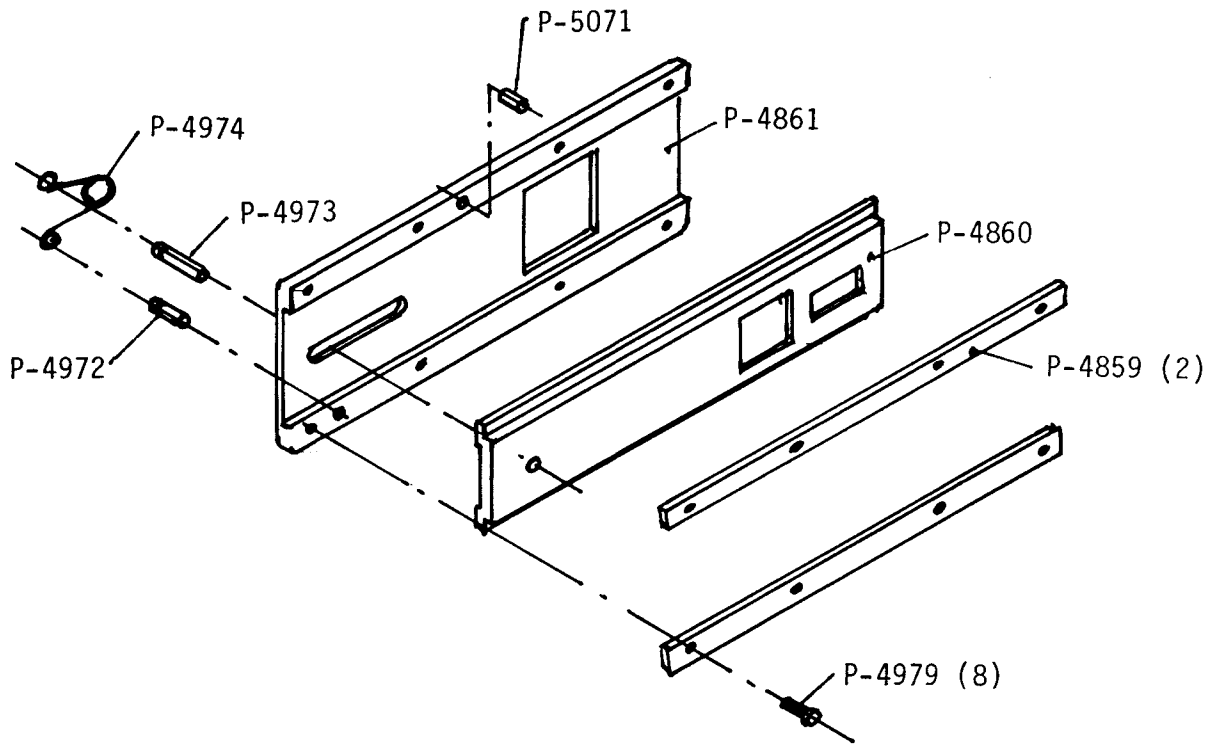
TURRET PARTS

H-2541	Retaining Ring (2)	P-4887	Turret
H-3347	Flatwasher (4)	P-4899	Gear Sector
H-3420	Lockwasher (3)	P-5020	Drive Pin (2)
H-5091	Screw (3)	P-5021	Actuator (2 Halves)
H-5093	Screw (4)	P-5146	Washer
H-5156	Lockwasher (4)	P-5247	Screw, Special (2)
		P-2199	Ball Bearing (2)



MOTOR DRIVE & SWITCH ASSEMBLY

H-2504	Screw (4)	P-4902	Motor Plate
H-3327	Washer (3)	P-4903	Locknut
H-3405	Washer (2)	P-4904	Bracket
H-3449	Washer (4)	P-4948	Washer (2)
H-4718	Screw (2)	P-4949	Shaft
H-5157	Screw (2)	P-4954	Block
H-5160	Screw (2)	P-4963	Motor
		P-5142	Strap Nut
P-1424	Screw (4)	P-5143	Switch (2)
P-1845	Set Screw (2)	P-5144	Switch
P-2964	Washer (3)	P-5145	Actuator
P-4900	Gear	P-5161	Washer

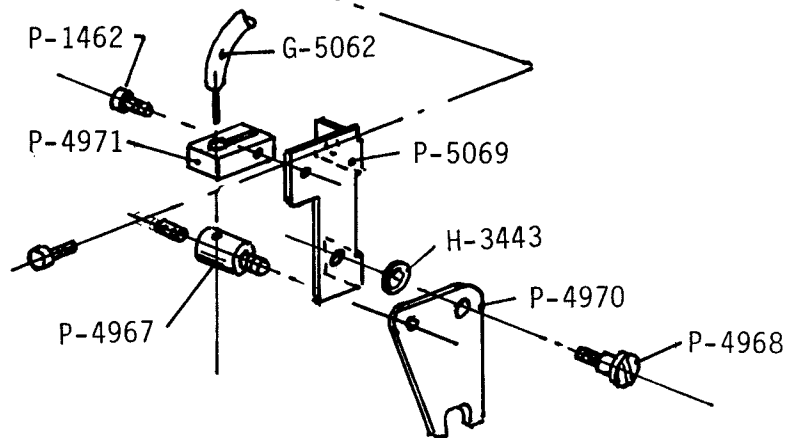
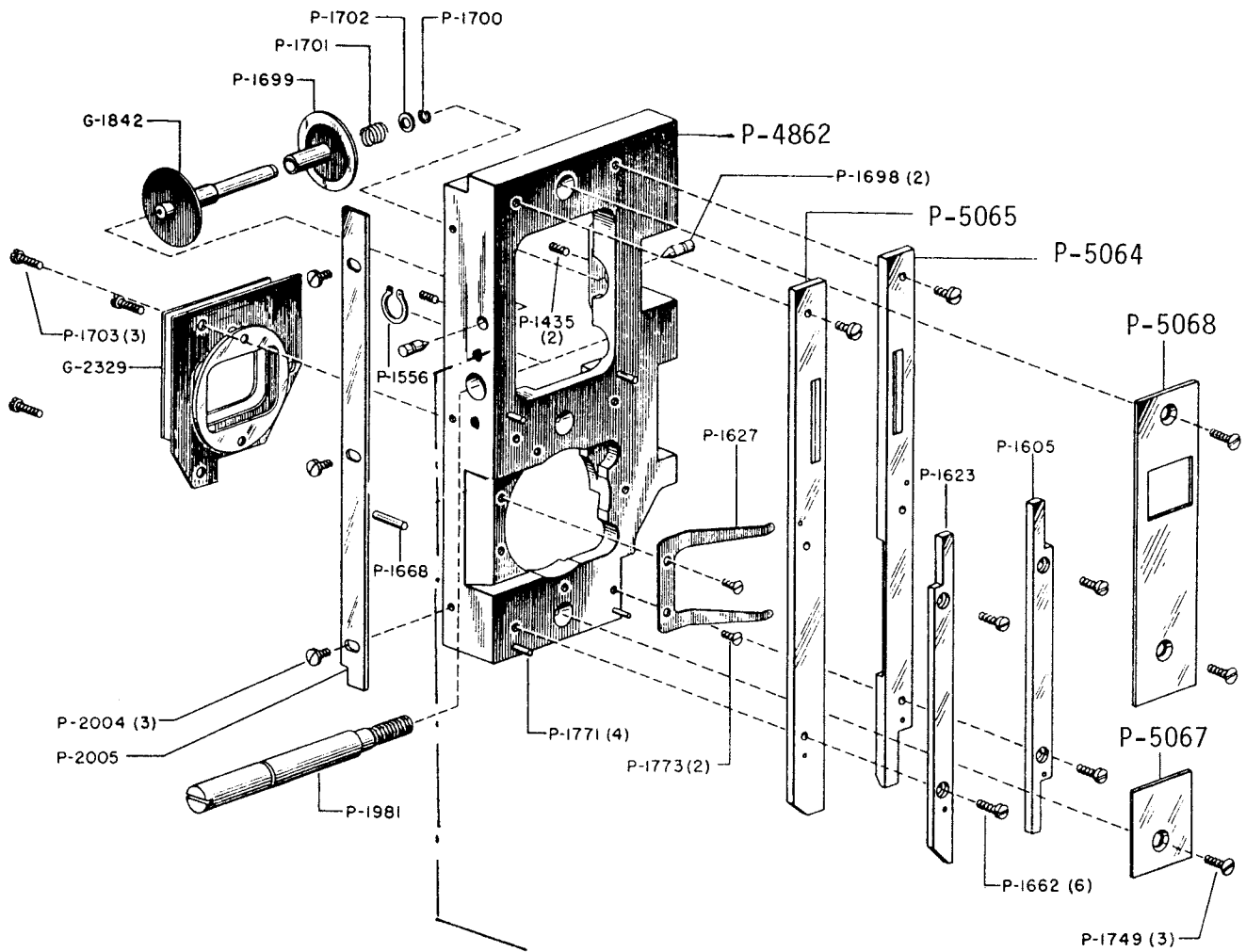


G-5070 APERTURE SLIDE ASSEMBLY

G-6113 Plate Assembly

- P-4859 Gib (2)
- P-4860 Aperture Plate*
- P-4861 Aperture Slide Plate
- P-4972 Pin, Spring
- P-4973 Pin, Drive*
- P-4974 Spring
- P-4979 Screw (8)
- P-5071 Pin, Limit Stop

* Part of G-6113



G-5063 G-6104
FILM TRAP & BRACKET ASSEMBLY

G-5063 FILM TRAP

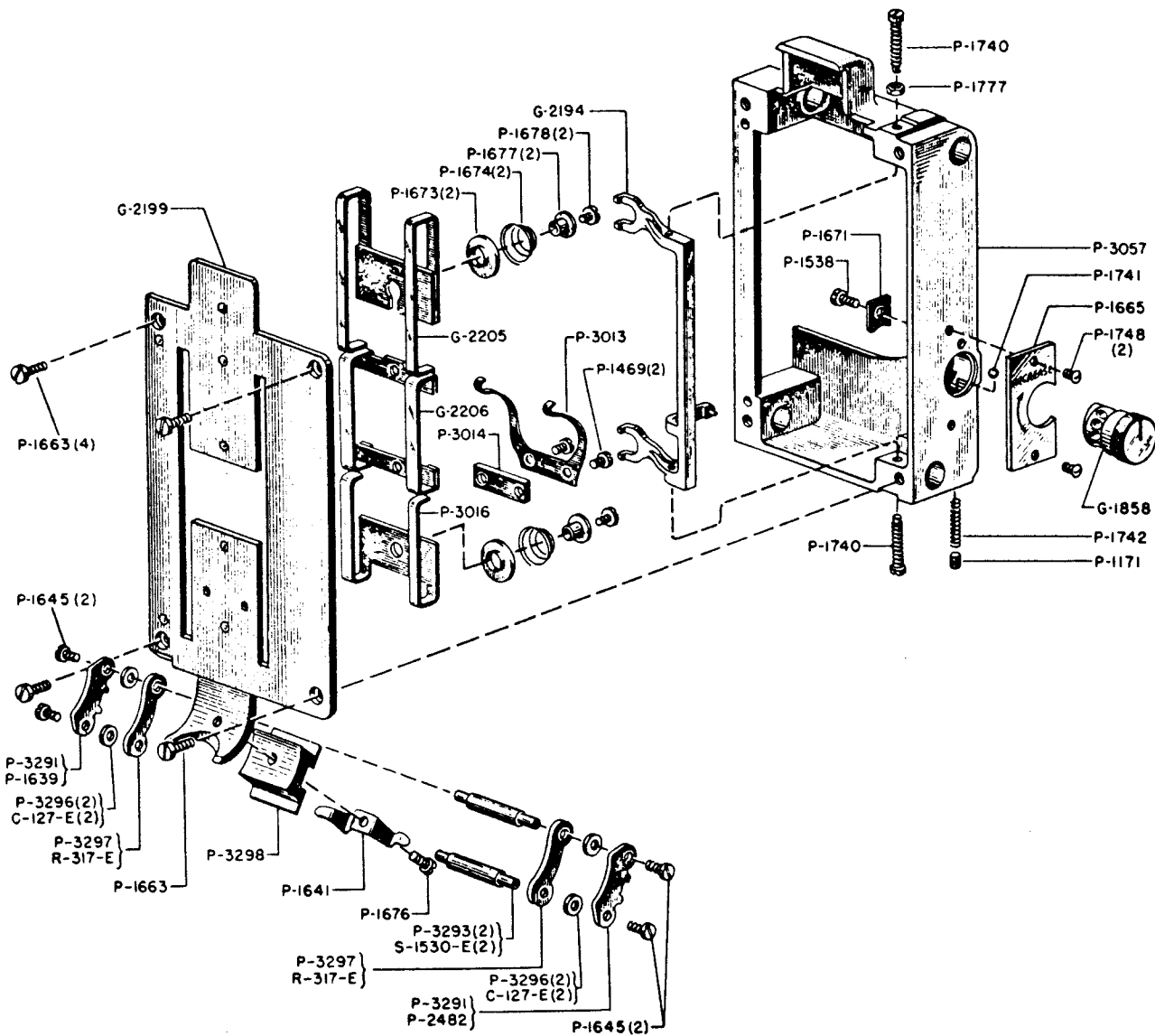
G-1842	Guide Roller and Shaft **	P-1702	Washer **
G-2329	Heat Shield	P-1703	Screw (3)
G-5062	Push Pull Cable	P-1749	Screw (3)
G-5066	Film Trap and Pins	P-1771	Dowel Pin (4) *
G-5189	Guide Roller Assembly	P-1773	Screw (2)
		P-1981	Screw
H-4956	Set Screw	P-2004	Screw (3)
		P-2005	Light Shield
P-1435	Screw (2)	P-4712	Screw (2)
P-1462	Screw	P-4862	Film Trap *
P-1556	Retaining Ring	P-4967	Pivot
P-1605	Right Film Guide	P-4968	Shoulder Screw
P-1623	Left Film Guide	P-4970	Actuator
P-1627	Aperture Spring	P-4971	Block
P-1662	Screw	P-5064	Right Film Shoe
P-1668	Stop Pin	P-5065	Left Film Shoe
P-1698	Guide Roller Pivot	P-5067	Lower Guide
P-1699	Movable Guide Roller **	P-5068	Upper Guide
P-1700	Retaining Ring **	P-5069	Bracket
P-1701	Spring **		

* Part of G-5066

** Part of G-5189

G-6104 BRACKET ASSEMBLY

H-3443	Washer
P-1428	Screw
P-1462	Screw
P-4967	Pivot, Cable
P-4968	Pivot, Link
P-4970	Link, Aperture
P-4971	Block, Clamp
P-5069	Bracket

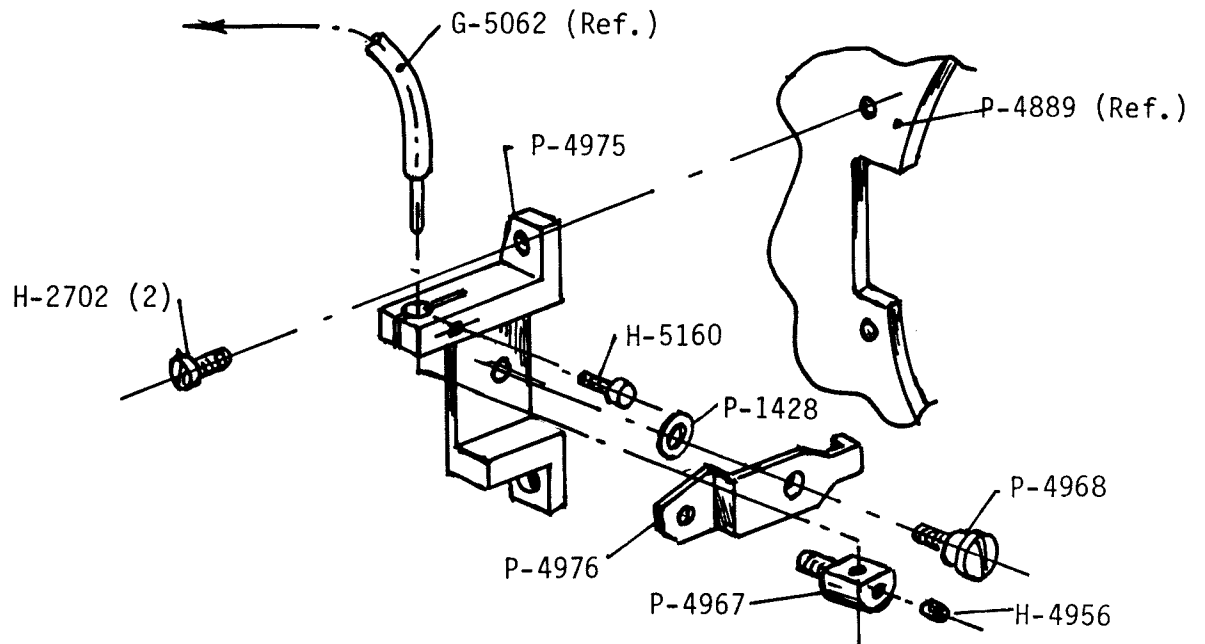


G-2411 FILM TRAP DOOR (Studio Type)

***G-2411 FILM TRAP DOOR (Studio Type) PARTS**

G-1858 Pressure Adjusting Knob and Pin
G-2194 Pressure Adjusting Yoke and Pin
G-2199 Plate and Pins
G-2205 Upper Pressure Pad
G-2206 Center Pressure Pad

P-1171 Detent Pressure Adjusting Screw
P-1469 Tension Spring Fastening Screw (2)
P-1538 Retainer Plate Fastening Screw
P-1641 Tension Shoe Pressure Spring
P-1645 Tension Shoe Stud Fastening Screw (4)
P-1663 Plate Fastening Screw (4)
P-1665 Pressure Adjusting Knob Dial Plate
P-1671 Detent Adjusting Knob Retainer Plate
P-1673 Pressure Pad Spring Retaining Washer (2)
P-1674 Pressure Pad Spring (2)
P-1676 Tension Shoe Spring Fastening Screw
P-1677 Pressure Pad Spring Retaining Bushing (2)
P-1678 Pressure Pad Spring Retaining Screw (2)
P-1740 Pressure Adjusting Yoke Pivot Screw (2)
P-1741 Pressure Adjusting Knob Detent Ball
P-1742 Pressure Adjusting Knob Detent Spring
P-1748 Dial Plate Fastening Screw (2)
P-1777 Pivot Screw Lock Nut
P-3013 Center Pressure Pad Tension Spring
P-3014 Tension Spring Spacer
P-3016 Lower Pressure Pad
P-3057 Cover
P-3291 Outer Tension Shoe (2)
P-3293 Tension Shoe Stud (2)
P-3296 Tension Shoe Spacer (4)
P-3297 Inner Tension Shoe (2)
P-3298 Tension Shoe Spacer Block



CRANK ASSEMBLY

G-5062 Cable Assembly

H-2702 Screw (2)

H-4956 Set Screw

H-5160 Screw

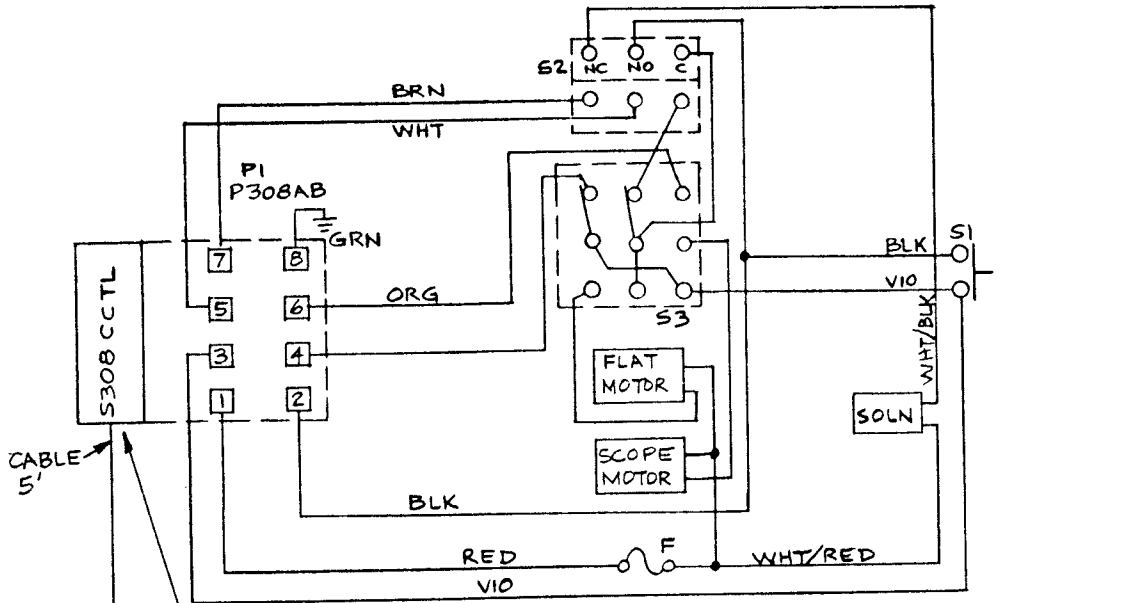
P-1428 Washer

P-4967 Pivot, Cable

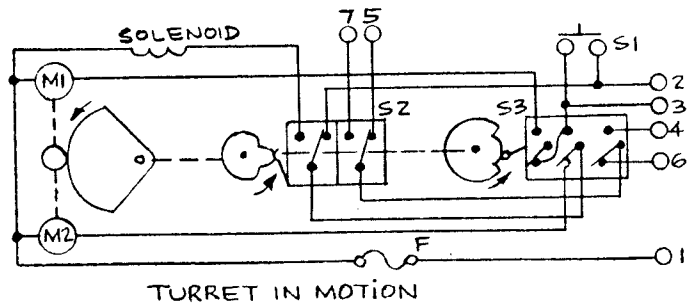
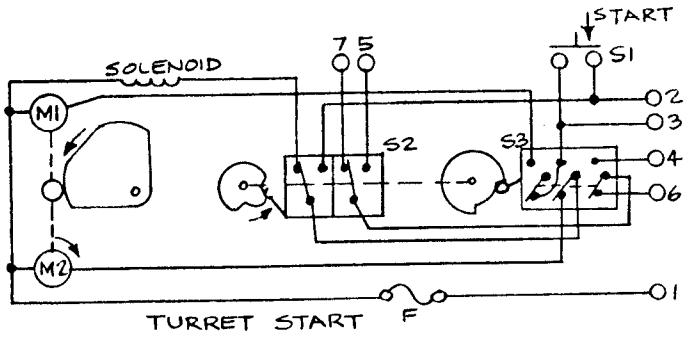
P-4968 Pivot, Link

P-4975 Block

P-4976 Crank



- | | | | | | | |
|-----|---|----------------------|-----|-----|---|--|
| RED | 1 | 117 VAC HI | --- | --- | ○ | REMOTE SWT
NOTE: IF AUTOMATION IS USED TO
CUE TURRET, [2] & [3] MUST
BE MAINTAINED FOR 1 SEC.(MIN.) |
| BLK | 2 | 117 VAC LO | --- | --- | ○ | |
| VIO | 3 | START SW | | | | |
| BLU | 4 | MASK LOGIC FLAT OUT | | | | |
| WHT | 5 | MASK LOGIC COM OUT | | | | |
| ORN | 6 | MASK LOGIC SCOPE OUT | | | | |
| BRN | 7 | SPARE LOGIC | | | | |
| GRN | 8 | GROUND | | | | |



WIRING DIAGRAM

INSTALLATION INSTRUCTIONS FOR AUTO-TURRET AND APERTURE CHANGER ON
SIMPLEX 35 PROJECTOR MECHANISM

LIST OF PARTS REQUIRED:

1. G-4980 Lens Turret Assembly
2. G-5063 Film Trap Assembly
3. G-5070 Aperture Slide Assembly
4. G-5072 Accessory Kit
5. G-2411 Turret Straight Gate Assembly (For Reversible - G-5048)

NOTE: To be supplied for all installations other than Sabre Units.

6. Lenses:

- a) Anamorphic
- b) Magnacom
- c) Back-Up Lens

NOTE: Lens sizes to be determined by theatre specifications, and not supplied with Turret.

PARTS TO BE REMOVED FROM PROJECTOR PRIOR TO INSTALLATION:

1. G-2613 Curved Film Trap
2. G-4318 Curved Film Trap Gate

NOTE: If projector is equipped with straight gate parts, remove also.

3. G-4400 Water Cooled Heat Shield
4. P-2008 Lens Holder, Upper Guide (and associated parts)
5. G-2143 Lens Holder, Lower Guide (and associated parts)
6. Remove (3) P-1423 Screw (Page 1-6 Parts Book) to drop G-1850 Assy., also remove P-1424 Screw, (Page 1-6 Parts Book), push rod to rear of Mech.
7. Remove P-1550 Lens Holder. Replace Screws in G-1850 Assy. and P-1424 in P-1617 Guide Rod.

INSTALLATION PROCEDURE:

1. Assemble G-4980, Lens Turret, to front of main frame, using (4) H-2748, Screws.

CAUTION: Make sure G-5062, flexible cable does not kink or deform when assembling.

2. Turn projector by hand 1/2 of a pull down of the intermittent sprocket to provide clearance for installing gate.
3. Install G-5063, Trap Assy., using care to prevent damage to intermittent sprocket teeth.

4. Slide G-5080, Aperture Assy., into slot in trap. Position Aperture Assy. so that the drive spring is toward the rear of the projector. Make sure the lock pin engages to secure assy. Check slide mechanism for freedom of movement by moving drive pin in slot. The aperture plate should snap freely from one position to the other without hesitation.
5. Install P-5069, Bracket, on trap using (2) H-5093, Screws. Slot in cam should engage drive pin on aperture plate.

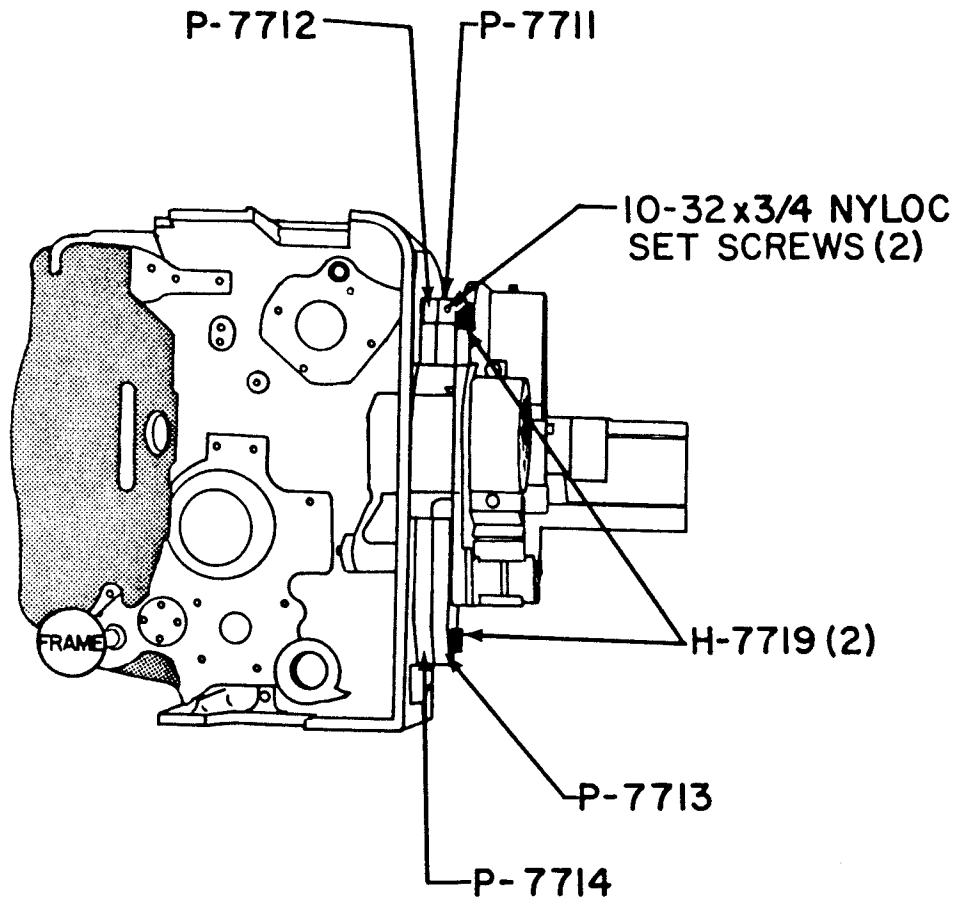
NOTE: Make sure aperture is oriented properly relative to position of turret (see sketch) (when magnacom is in position, .446 x .800 aperture should be in the focal plane, or position slide in the out position).

Tuck flexible cable up against the top wall of main frame, and back far enough to clear film path. To prevent possible damage to mechanism, operate turret manually by lifting release lever on side of motor cover, and rotate turret. Observe action of aperture to make sure it functions freely. A slight adjustment on P-5069, Bracket, may be necessary.

6. LENS INSTALLATION: Position turret in down position (anamorphic station, note that this position has no locating shoulder to position lenses, but does have a sliding stop tab for this purpose. To install back-up lens open stop tab and loosen clamping screws in both turret and focus mount. Slide back-up lens thru turret and position in focus mount. Make sure front of lens is clear of rear surface of turret. Return stop tab to closed position and insert anamorphic lens against stop lock lenses in position. Install magnacom lens against locating shoulder in turret and lock in place. Final positioning of lenses must be done with lighted aperture on screen (no film).
7. Wire loose end of control cable to automation unit per P-5153, Wiring Diagram.
8. Remount P-1885, Oil Gauge Assy., using P-5169 Spacer, P-1892, Gaskets, and H-5172, Mounting Screws.
9. When long focal length back-up lens is required, it is necessary to space turret away from main frame. P-5150, Spacers, are supplied in accessory kit.

MOUNTING TU-1000 ON 35/70 PROJECTORS

Bolt P-7714 and P-7712 to the front of the projector using the (6) 1/4-20 hexhead screws. Bolt P-7711 and P-7713 to the auto turret with (4) 1/4-20 hex head screws. Mount the turret to the projector with (2) H-7719 pivot screws. Adjust the nyloc set screws to 35/70 as required.



PARTS LIST

Nyloc Set Screw, 10-32 x 3/4"

(Order No. 51-50125)

Hex Head Screw, 1/4-20 x 1/2"

(Order No. 00687000)

P-7711	Spacer Plate
P-7712	Spacer Plate
P-7713	Spacer Plate
P-7714	Spacer Plate
H-7719	Pivot Screw