



**35mm TURRET PROJECTOR**  
Types MSC/SA-TA, MSC/SA-TU  
Parts Catalog

Rev. 3/99

**STRONG INTERNATIONAL**

a division of Ballantyne of Omaha, Inc.

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## TABLE OF CONTENTS

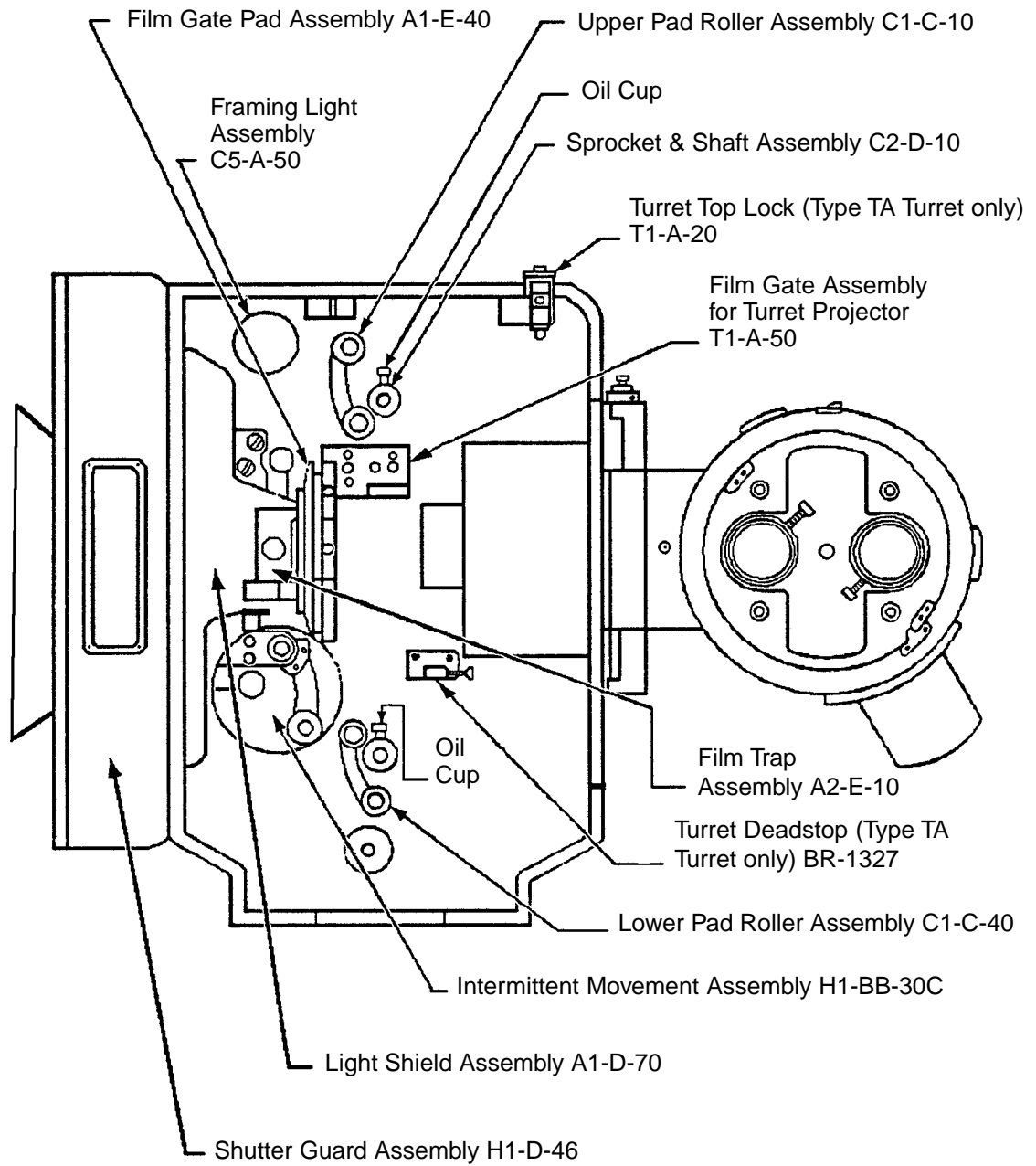
	<i>Assembly</i>	<i>Page</i>
Main Frame & Pin Assembly	T1-A-10	4
Intermittent Carriage & Shutter Adjustment Assembly	C2-A-31	6
Intermittent Carriage Assembly	C2-A-33	6
Shutter Adjustment Screw & Collar Assembly	V1-A-32	7
Framing Shaft Assembly	C1-A-20	7
Framing Shaft & Pinion Assembly	C1-A-21	7
Intermittent Movement Assembly	H1-BB-30C	9
Intermittent Movement, Cover Assembly	H1-BB-16	10
Inner Starwheel Bushing Assembly	H1-BB-35	10
Front Starwheel Bearing Bracket Assembly	H1-BB-34	10
Intermittent Movement, Case Assembly	H1-BB-17	10
Inner Cam Bushing with Ring Assembly	H1-BB-36	11
Intermittent Sprocket Pad & Arm Assembly	C1-BB-26	11
Intermittent Sprocket Pad, Stud, & Plate Assembly	C1-BB-27	11
Intermittent Sprocket Pad Assembly	C1-BB-28	11
Intermittent Sprocket Pad, Stud, & Bushing Assembly	C1-BB-29	12
Intermittent Sprocket Pad Stud Assembly	C1-BB-29A	12
Cam Thrust Ball Bearing & Bracket Assembly	H1-BB-31	12
Type "TA" Automatic Turret Assembly*	T1-A-30	14
AutoTurret Housing & Bushing Assembly, "TA" Turret	T1-A-31A	14
Focus Block & Bushing Assembly, Type "TA" Turret	T1-A-32	14
Turret Ring Assembly, Type "TA" Turret	T1-A-33	15
Ball Bearing & Bracket Assembly, Type "TA" Turret	T1-A-34	15
Lens Bushing Assembly, Type "TA" Turret	T1-A-36	17
Lens Focus Rod Assembly, Type "TA" Turret	T1-A-37A	17
Lens Focus Pivot Rod Assembly, Type "TA" Turret	T1-A-38	17
AutoTurret Motor & Bracket Assembly, Type "TA" Turret	T1-A-60	18
Gear & Slip Clutch, AutoTurret Motor, Type "TA" Turret	T1-A-59	18
Mounting Hinge Assembly, Type "TA" Turret	T1-A-11	20
Hinge Pin Assembly, Type "TA" Turret	T1-A-12	20
Top Lock Assembly, Type "TA" Turret	T1-A-20	20
Film Trap & Automatic Aperture Changer	LC-T-120A	22
Film Trap Assembly for Aperture Changer	A2-E-10	22
Lateral Guide Roller Assembly	A1-E-12	23
Film Trap Support Gib & Heat Shield	A1-E-70	23
Upper Pad Roller Arm Assembly	C1-C-10	23
Upper Pad Roller Arm, Stud, Knob, & Bushing Assembly	C1-C-13	24
Lower Pad Roller Arm Assembly	C1-C-40	24
Lower Pad Roller Arm, Stud, Knob, & Bushing Assembly	C1-C-41	24
Automatic Aperture Changer Assembly	AC-T-100A	26
Film Gate Assembly for Turret Projector	T1-A-50	28
Curved Pressure Pad Assembly, Film Gate	A1-E-40	28
Film Gate Slider Assembly	T1-A-56	28
Film Gate Locating Pin Assembly	T1-A-57	28
Gear Compartment Door Assembly	J1-A-13	29
Steel 100° Shutter & Shaft Assembly	H4-D-40X	31

\*See Century MSC/SA-TU Manual for TU2020C & TU2030C Turret Parts List.

## TABLE OF CONTENTS (continued)

	<i>Assembly</i>	<i>Page</i>
Large Diameter Shutter Blade (1/32" 100°) Assembly	C1-D-50S	31
Single Shutter Shaft & Bracket Assembly	H1-D-44X	31
Shutter Shaft Bracket & Ball Bearing Assembly	C2-D-42	32
Single Shutter Bracket & Ball Bearing Assembly	C1-D-45	32
Shutter Guard Assembly	H1-D-46	34
Fixed Shutter Guard Assembly	H1-D-43	34
Light Shield Assembly	A1-D-70	36
Framing Light Assembly	C5-A-50	36
Framing Light Shield Assembly	C3-A-53	36
Framing Light Socket & Wire Assembly	C5-A-54	36
Framing Light Socket Assembly	C3-A-55	36
Upper & Lower Sprocket Shaft Assembly	C2-D-10	37
Automatic Fire Shutter Assembly (Optional)	C1-D-60	37
Vertical Shaft Assembly, Single Shutter	M3-G-100B	39
Governor Weight Assembly (Optional)	C1-G-22	39
Vertical Shaft Ball Bearing & Bracket Assembly	C1-G-31	40
Vertical Shaft Upper Thrust Collar Assembly	C1-G-44	40
Vertical Shaft, Key, & Gear Assembly	C3-G-93	40
Intermittent Drive Bracket & Nut Assembly	C1-G-95	40
Vertical Shaft Intermittent Drive & Bracket Assembly	C1-G-23	41
Vertical Shaft Intermittent Drive Gear Nut Assembly	C1-G-24	41
Horizontal Drive Shaft & Ball Bearing Assembly	C2-G-112	41
Manual Turret Assembly, Type "TM"	T3-A-30	44
Manual Turret Ring & Matched Focus Rods Assembly	T3-A-31A	44
Focus Block & Bushing Assembly, Type "TM" Turret	T1-A-32	44
Outer Turret Housing Assembly, Type "TM" Turret	T3-A-33	44
Ball Bearing & Bracket Assembly, Type "TM" Turret	T1-A-34	45
Bearing & Shaft Assembly, Type "TM" Turret	T1-A-35	45
Lens Bushing Assembly, Type "TM" Turret	T1-A-36	47
Lens Focus Rod Assembly, Type "TM" Turret	T1-A-37A	47
Lens Focus Pivot Rod Assembly, Type "TM" Turret	T1-A-38A	47
Turret Locating Lock Assembly, Type "TM" Turret	T3-A-39	47
Film Trap Assembly with Manual Aperture Changer	A1-E-10T	49
Spring Retaining Block & Pin Assembly	A1-E-13	49
Lateral Guide Roller Assembly	A1-E-12	49
Double Shutter Shaft, Bracket, Gear & Blade Assembly	J4-D-50	50
Double Shutter Blade & Hub Assembly (Inner)	J8-D-51	50
Reverse Double Shutter Hub Assembly (Inner)	C2-D-56	50
Double Shutter Blade & Air Vane Assembly (Inner)	C2-D-59	50
Double Shutter Blade & Hub Assembly (Outer)	J8-D-52	51
Single & (Outer) Double Shutter Hub Assembly	C2-D-49	51
Double Shutter Intermediate Bracket, Gears, & Bearings	C2-D-55A	52
Direct Double Shutter Bracket & Ball Bearing Assembly	C2-D-53B	52
Gear & Ball Bearing Assembly, Double Shutter	C2-G-53A	53
Water-Cooled Film Trap Parts	A2-E-71	55
Picture Changeover Device	82-60218	54

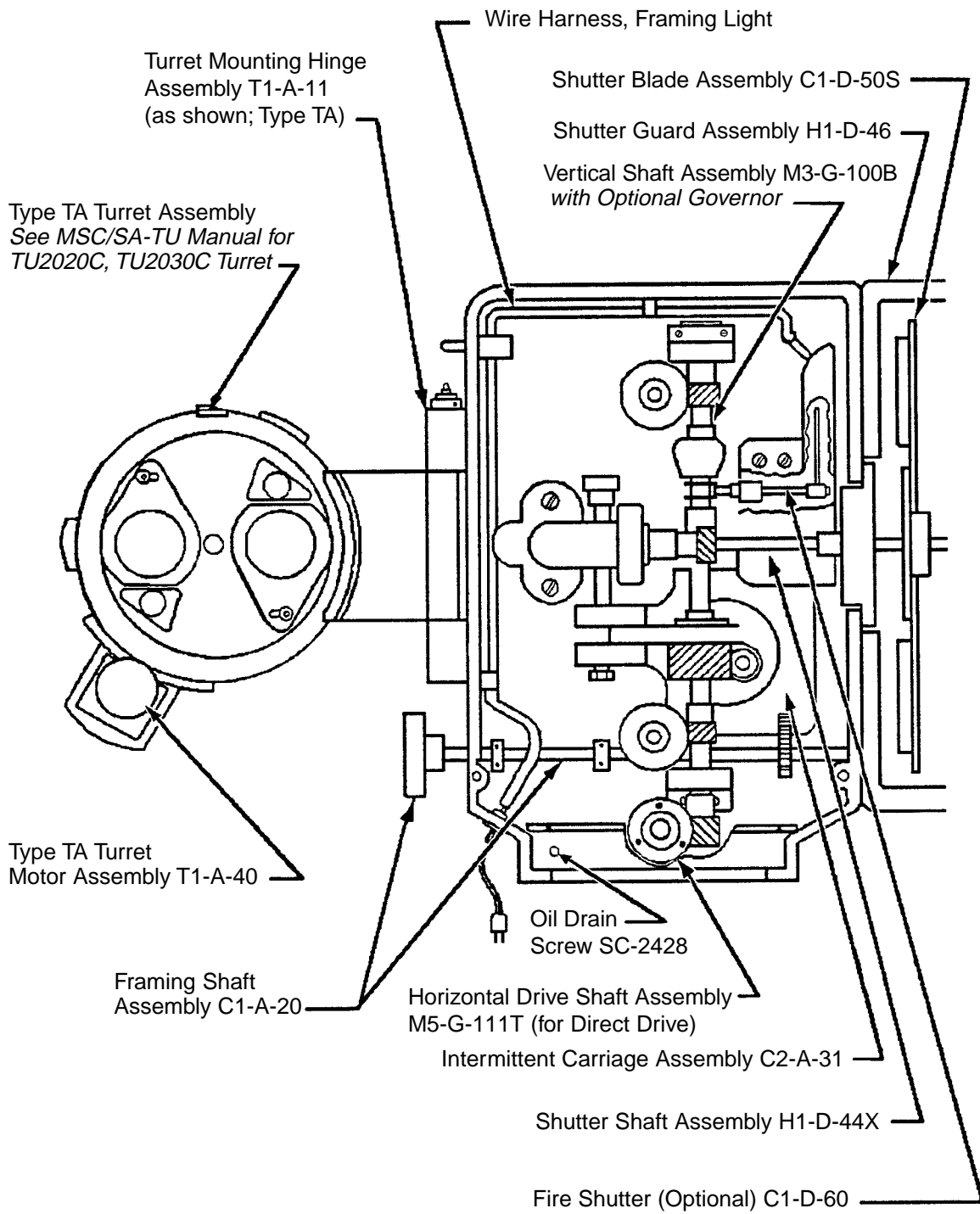
# MAJOR ASSEMBLIES



Note: Automatic Aperture Changer (AC-T-100A) not shown

OPERATING SIDE

# MAJOR ASSEMBLIES



NOTE: See Soundhead Book for Drive Belts & Pulleys

DRIVE SIDE

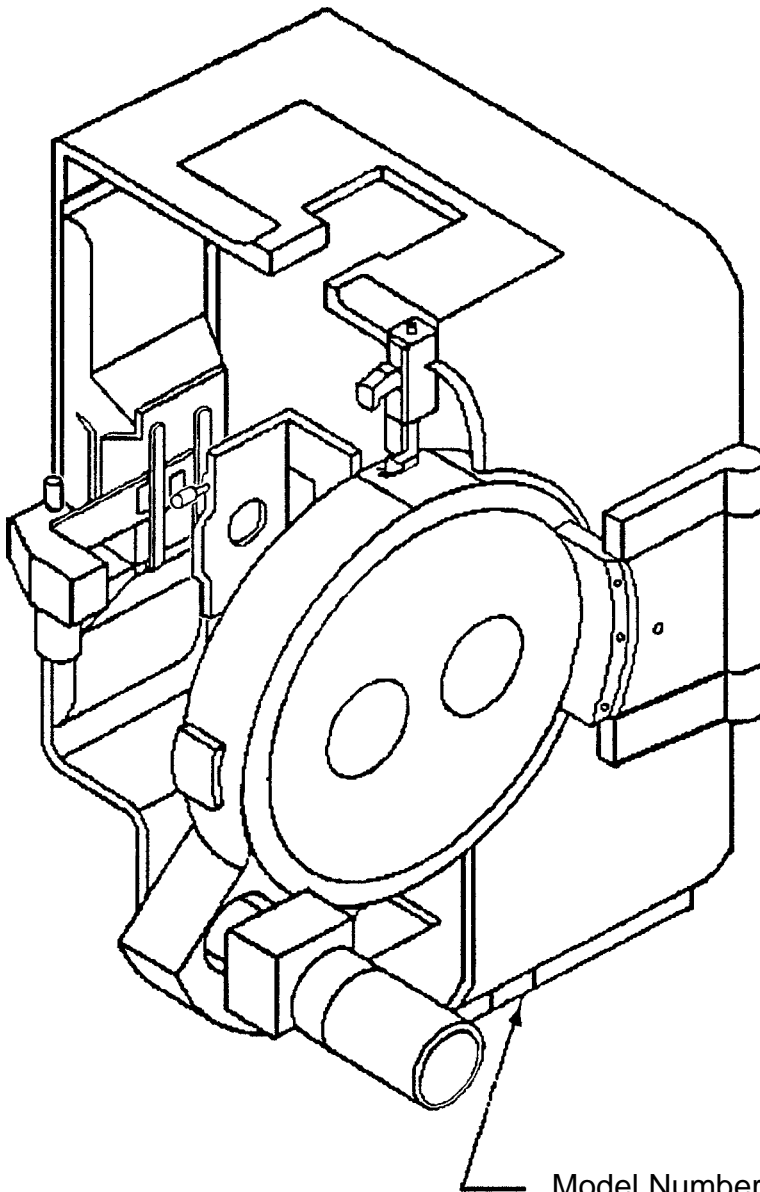
When ordering parts, include:

- MODEL NUMBER
- SERIAL NUMBER
- PART NUMBER

Century Replacement Parts are sold through authorized Strong International Dealers only.

See *Supplemental Parts List* in the MSC/SA-TU Manual for TU2020C and TU2030C Lens Turret Assemblies.

Film Trap & Film Gate for MSC/SA-TU are included in this catalog.



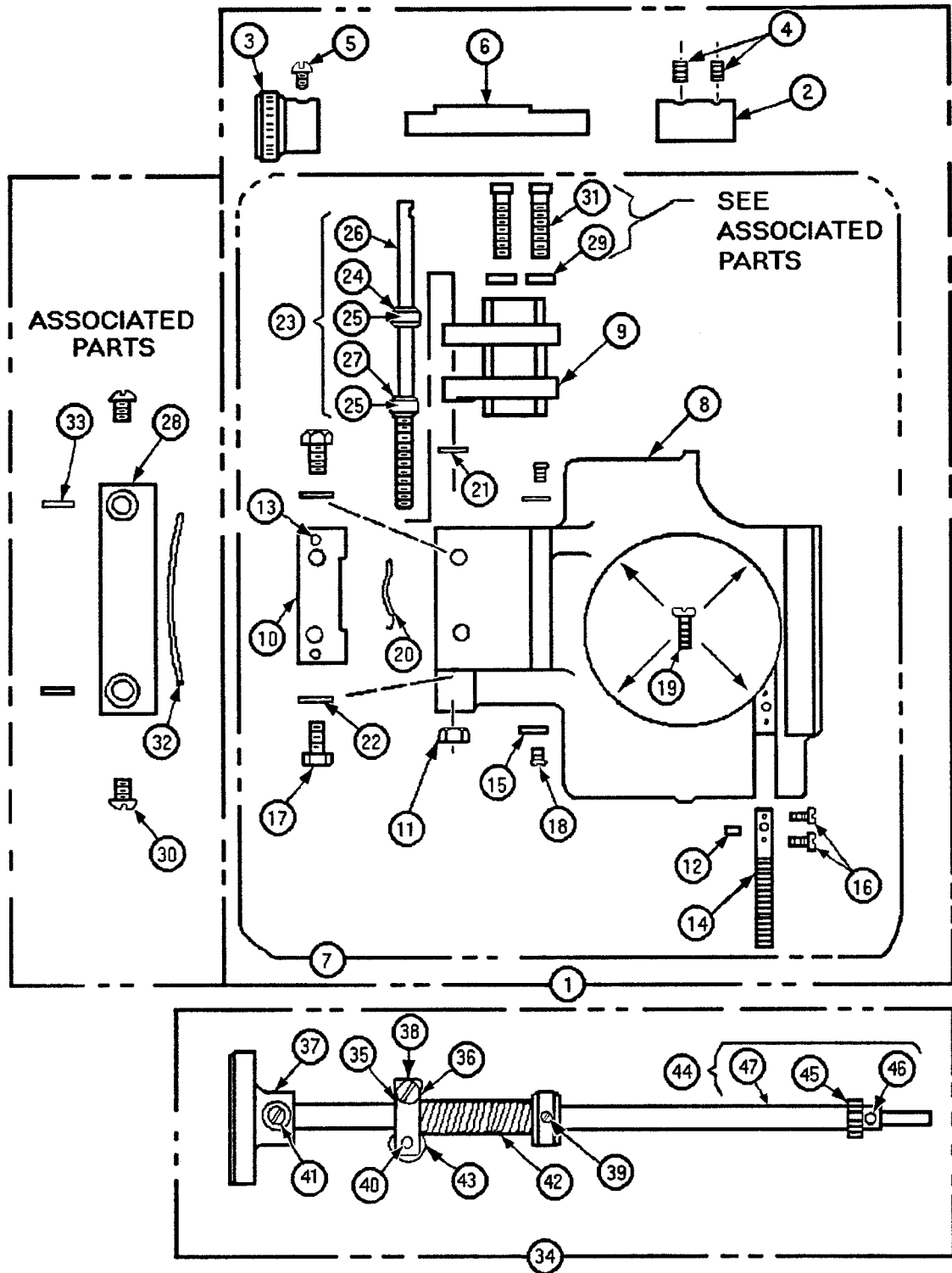
Model Number/Serial Number Plate (Type TA);  
Inside Film Compartment on MSC/SA-TU

MAIN FRAME & PIN ASSEMBLY (82-60207)

<u>Part No.</u>	<u>Description</u>
T1-A-10	Main Frame & Pin Assembly (for "TA" Turret Models)
A1-D-80	Douser Guide Assembly
BR-1327*	Turret Deadstop Bracket
BU-0029D	Sprocket Shaft Bearing Bushing (4 req'd.)
C1-A-11	Door Hinge (2 req'd.)
CR-0598	Lower Drive Side Cover
CR-0887	Grease Baffle Cover
CU-0022	Sprocket Shaft Oil Cup (2 req'd.)
FR-0070-T	Main Frame Casting, "TA" Models
10259	Main Frame Casting, MSC/SA-TU
J1-A-14	Quarter-Turn Door Lock
PE-0039	Nameplate
PN-0021	Shutter Bracket Locating Pin (2 req'd.)
PN-0028	Locating Pin, Trap Support & Shutter Bracket (3 req'd.)
PN-0247	Carriage & Gate Slide Stop Pin (3 req'd.)
PN-1300	Dowel Pin (2 req'd.)
RT-0002	Main Drive Retainer
SC-0070	Cover Fastener Screw (2 req'd.)
SC-0125	Nameplate Screw (2 req'd.)
SC-0127	Bearing Retaining Screw, Horizontal Drive (2 req'd.)
SC-0137	Lens Mount Screw (2 req'd.)
SC-0226	Screw, Door Link
SC-0519	Spring Screw, Gate Slider
41-51033	Door Catch Mounting Screw (2 req'd.)
SC-0661	Hinge Mounting Screw (4 req'd.)
3041	Changeover Mounting Screw (2 req'd.)
SC-0886	Socket Screw (4 req'd.)
41-51604	Horizontal Drive Retainer Screw
3052	Pad Roller Arm Retaining Screw (2 req'd.)
3072*	Deadstop Mounting Screw (2 req'd.)
SC-1374	Front Grease Plug Screw
SC-1874	Set Screw
SC-2425	Set Screw
SC-2437*	Deadstop Bumper Screw
SC-2443*	Deadstop Bumper Plunger Screw
SC-2510	Side Cover Screw (2 req'd.)
	* not used on MSC/SA-TU

*Associated Parts*

OL-0001	Century Projector Oil (Gallon)
OL-0004	Century Projector Oil, 4 oz.
TU-0380	Century Gear Lubricant



NOTE: Shutter Fine Adjustment (Items 1-6 & Item 23 with associated parts) *not used* after 1993.

INTERMITTENT CARRIAGE & SHORT SHUTTER ADJUSTMENT ASSEMBLY  
(82-60104)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	C2-A-31	Intermittent Carriage & Shutter Adjustment Assembly
	C2-A-33	Carriage Assembly
2	CG-0014	Coupling
3	KN-0043	Knob
4	2966	Coupler Set Screw, 10-32 x 1/8"
5	00254000	Knob Screw, 8-32 x 1/4" Fillister Head
6	ST-2378	Shutter Adjusting Shaft

INTERMITTENT CARRIAGE ASSEMBLY (82-60105)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
7	C2-A-33	Intermittent Carriage Assembly
	V1-A-32	Shutter Adjustment Screw
8	CA-0004	Carriage Casting
9	BR-0012	Bracket Casting
10	GI-0006	Gib Casting
11	NU-0070	Adjustment Nut
12	PN-0022	Rack Pin
13	PN-0811	Gib Pin (2 req'd.)
14	RK-0004	Framing Rack (Order 81-98152)
15	RT-0003	Spring Retainer (2 req'd.)
16	SC-0075	Rack Screw (2 req'd.)
17	00687000	Gib Screw, 1/4-20 x 1/2" Hex Head (2 req'd.)
18	41-51028	Spring Screw, 6-32 x 1/4" Pan Head (2 req'd.)
19	SC-0106	Intermittent Retaining Screw (4 req'd.)
20	SG-0100	Spring
21	WA-0011	Washer
22	WA-0132	Lockwasher

SHUTTER ADJUSTMENT SCREW & COLLAR ASSEMBLY (82-20357)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
23	V1-A-32	Screw & Collar Assembly
24*	CL-0007	Collar
25*	PN-0103	Pin (3 req'd.)
26*	SC-0061	Screw
27*	CL-0195	Collar
	* Order V1-A-32	

*Associated Parts*

28	GI-0001	Intermittent Carriage Gib
29	SA-0752	Bracket Screw Spacer (2 req'd.)
30	SC-0071	Gib Screw (2 req'd.)
31	SC-0751	Bracket Screw (2 req'd.)
32	SG-0928	Spring
33	WA-0132	Lockwasher

## FRAMING SHAFT ASSEMBLY (82-60095)

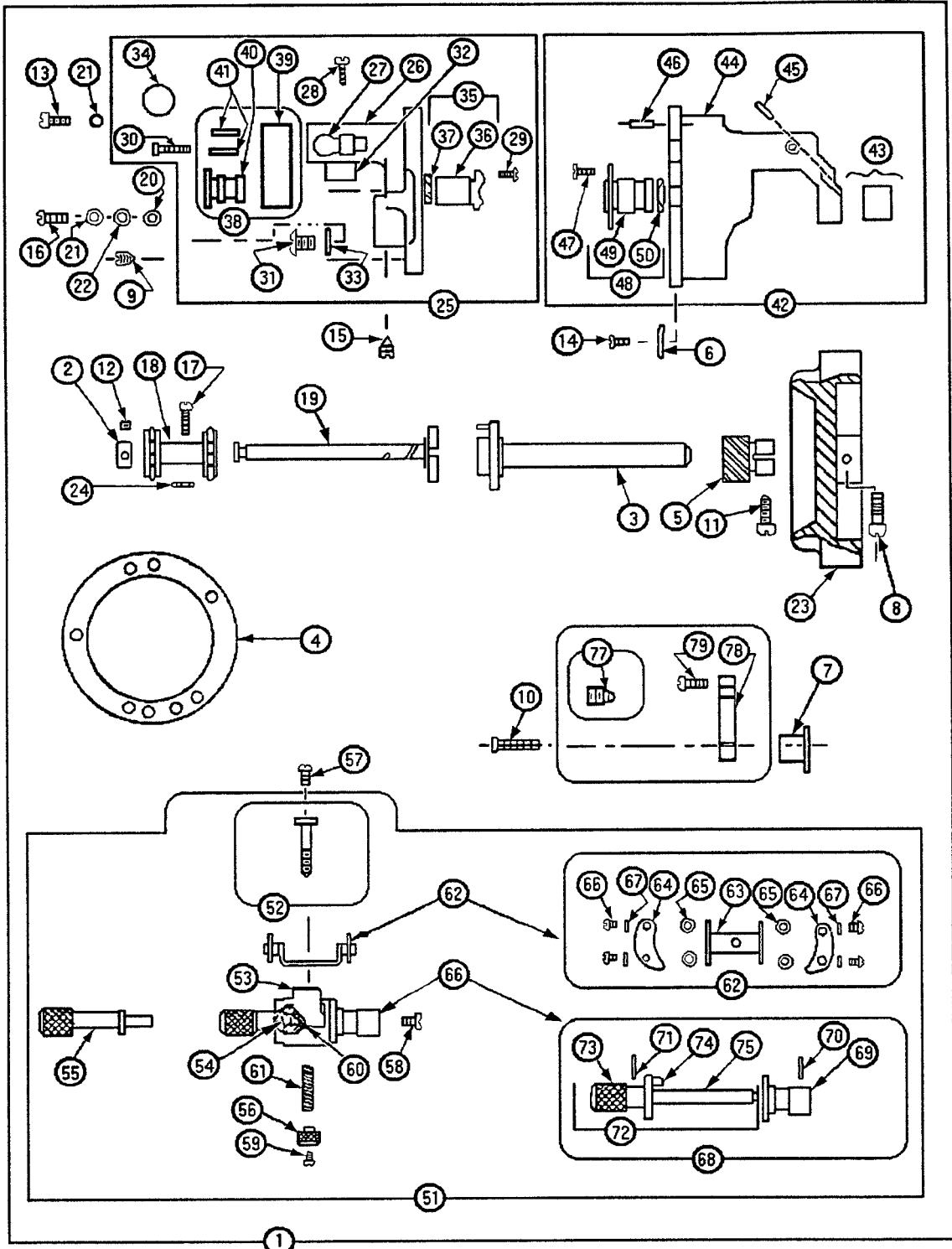
<u>Item</u>	<u>Part No.</u>	<u>Description</u>
34	C1-A-20	Framing Shaft Assembly
	C1-A-21	Shaft & Pinion Assembly
35	CL-0012	Collar
36	CP-0001	Clamp (2 req'd.)
37	KN-0044	Knob
38	41-51107	Screw, 10-32 x 7/8" Fillister Head
39	SC-0074	Screw, 1/4-20 x 1/4"
40	SC-0132	Screw, 10-32 x 1-1/8" Fillister Head
41	41-51365	Set Screw, 10-32 x 3/8"
42	SG-0041	Spring
43	WA-0011	Washer

## FRAMING SHAFT & PINION ASSEMBLY (C1-A-21)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
44	C1-A-21	Shaft & Pinion Assembly
45	PI-0004*	Pinion
46	PN-0029*	Pin
47	ST-0001*	Framing Shaft (as shown)
-	10260	Framing Shaft, MSC/SA-TU (not shown)
-	10342	Coupling Gear, 48 Tooth; for 10260 (not shown)

\* Order C1-A-21

See TU2020C, TU2030C Drawing in MSC/SA-TU Manual for MSC/SA-TU Framing Shaft Components.



## INTERMITTENT MOVEMENT ASSEMBLY (82-60006)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	H1-BB-30C	Intermittent Movement Assembly, 35mm
	H1-BB-16*	Intermittent Cover Assembly
	H1-BB-17*	Intermittent Case Assembly
	H1-BB-26*	Sprocket Pad Assembly
	H1-BB-31*	Cam Thrust Assembly
2	CL-0624	Outboard Collar, Starwheel Shaft
3	CM-0528	Camshaft **
4	GA-0181	Gasket
5	GR-0007	Camshaft Gear
6	PE-0038	Intermittent Stop Plate
7	SA-1321	Cam Thrust Spacer
8	41-51201	Flywheel Screw, 8-32 x 3/4" Socket Head
9	SC-0039	Adjusting Screw (2 req'd.)
10	SC-0069	Cam Thrust Screw
11	00259000	Gear Screw, 8-32 x 5/8" Fillister Head
12	SC-0579	Collar Screw (2 req'd.)
13	SC-1047	Cover Screw (4 req'd.)
14	SC-0134	Stop Plate Screw, 6-32 x 3/8" Hex Head
15	SC-0155	Pad Retaining Set Screw, 1/4-20 x 3/8" Cone Point
16	SC-1010	Oil Drain Screw, 8-32 x 1/2" Fillister Head
17	SC-1322	Sprocket Screw, 5-40 x .55"
18	SK-2205	Intermittent Sprocket, 35mm VKF®
19	SX-1323*	Starwheel Shaft **
20	WA-0012	Drain Seal Washer
21	41-70002	Cover Washer (5 req'd.)
22	WA-0126	Steel Washer
23	WH-0124	Flywheel
24	NU-0081	Lock Nut

\* Not Sold as Assembly - Replace Individual Components

\*\* Order Starwheel & Camshaft in *matched pairs*

Factory Rebuilt Century Intermittent Movements are available under a Repair/Exchange program. Contact an authorized Strong International Equipment Dealer for detailed information and a Return Authorization. Strong International assumes *no liability* for goods returned to the factory without prior authorization.

INTERMITTENT COVER ASSEMBLY (H1-BB-16\*)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
25	H1-BB-16	Intermittent Cover Assembly
	H1-BB-35	Inner Star Bushing & Ring
	H1-BB-34	Front Starwheel Bearing Bracket
26	CR-0297	Cover (Order H1-BB-16)
27	CU-0658	Oil Cup
28	SC-0094	Stripper Screw, 6-32 x 1/8" Bind Head
29	SC-0105	Inner Bushing Screw, 4-40 x 1/4" (3 req'd.)
30	41-51195	Outer Bracket Screw, 6-32 x 1/2" Soc. Head (2 req'd.)
31	SC-0217	Plug Screw
32	SP-1326	Film Stripper
33	WA-0028	Plug Screw Washer
34	GG-0019	Sight Glass
34A	GA-0020	Sight Glass Gasket
34B	NU-0010	Nut

INNER STAR BUSHING ASSEMBLY (82-60230)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
35	H1-BB-35	Inner Star Bushing
36	BU-1256	Bushing (Order H1-BB-35)
37	RI-0576	Seal Ring

FRONT STARWHEEL BEARING BRACKET ASSEMBLY (H1-BB-34\*)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
38	H1-BB-34*	Bearing Bracket Assembly
39		Outer Bracket
40	BU-0646N	Outer Bushing
41	PN-0665	Pin (Order H1-BB-34), 2 req'd.

INTERMITTENT CASE ASSEMBLY (H1-BB-17\*)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
42	H1-BB-17*	Case Assembly
	H1-BB-36	Inner Cam Bushing & Ring
43	BU-0040N	Outer Bushing
44	CS-0529	Case (Order H1-BB-17)
45	PG-0159	Felt Plug
46	PN-0032	Pivot Pin
47	41-51016	Cam Screw, 4-40 x 1/4" Bind Head

\* Not Sold as Assembly - Order Individual Components

INNER CAM BUSHING & RING ASSEMBLY (H1-BB-36)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
48	H1-BB-36	Bushing & Ring Assembly
49	BU-1257	Bushing (Order H1-BB-36)
50	RI-0577	Seal Ring

INTERMITTENT SPROCKET PAD & ARM ASSEMBLY (82-60004)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
51	C1-BB-26	Sprocket Pad & Arm Assembly
52	C1-BB-27	Stud & Plate Assembly
	C1-BB-28	Sprocket Pad
	C1-BB-29	Pad Stud
53	AR-0046	Arm Casting
54	BL-0018	Detent Ball (2 req'd.)
55	KN-0030	Knob
56	NU-0046	Knurled Nut
57	51-51032	Pad Screw, 6-32 x 1/4" Bind Head
58	41-51061	Knob Screw, 8-32 x 1/4" Bind Head
59	SC-0708	Nut Stop Screw, 3-48 x 1/8" Round Head
60	SG-0021	Ball Spring
61	SG-2511	Compression Spring

INTERMITTENT PAD SPRING STUD & PLATE ASSEMBLY (82-60054)

<u>Part No.</u>	<u>Description</u>
C1-BB-27	Stud & Plate Assembly
PE-0192	Plate (Order C1-BB-27)
SU-0702	Stud (Order C1-BB-27)

INTERMITTENT SPROCKET PAD ASSEMBLY (82-60005)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
62	C1-BB-28	Sprocket Pad Assembly
63	PA-0194	Inner Sprocket Pad
64	PA-0195	Outer Sprocket Pad (2 req'd.)
65	SA-0033	Spacer (4 req'd.)
66	41-51457	Screw, 4-40 x 5/16" Bind Head (4 req'd.)
67	41-70033	Washer, #4 (4 req'd.)

INTERMITTENT SPROCKET PAD, STUD & BUSHING ASSEMBLY (82-20058)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
68	C1-BB-29	Stud & Bushing Assembly
	C1-BB-29A	Pad Stud (Order C1-BB-29)
69	BU-0027	Bushing (Order C1-BB-29)
70	PN-0025	Pin
71	PN-0068	Lock Pin

INTERMITTENT SPROCKET PAD STUD ASSEMBLY (82-20254)

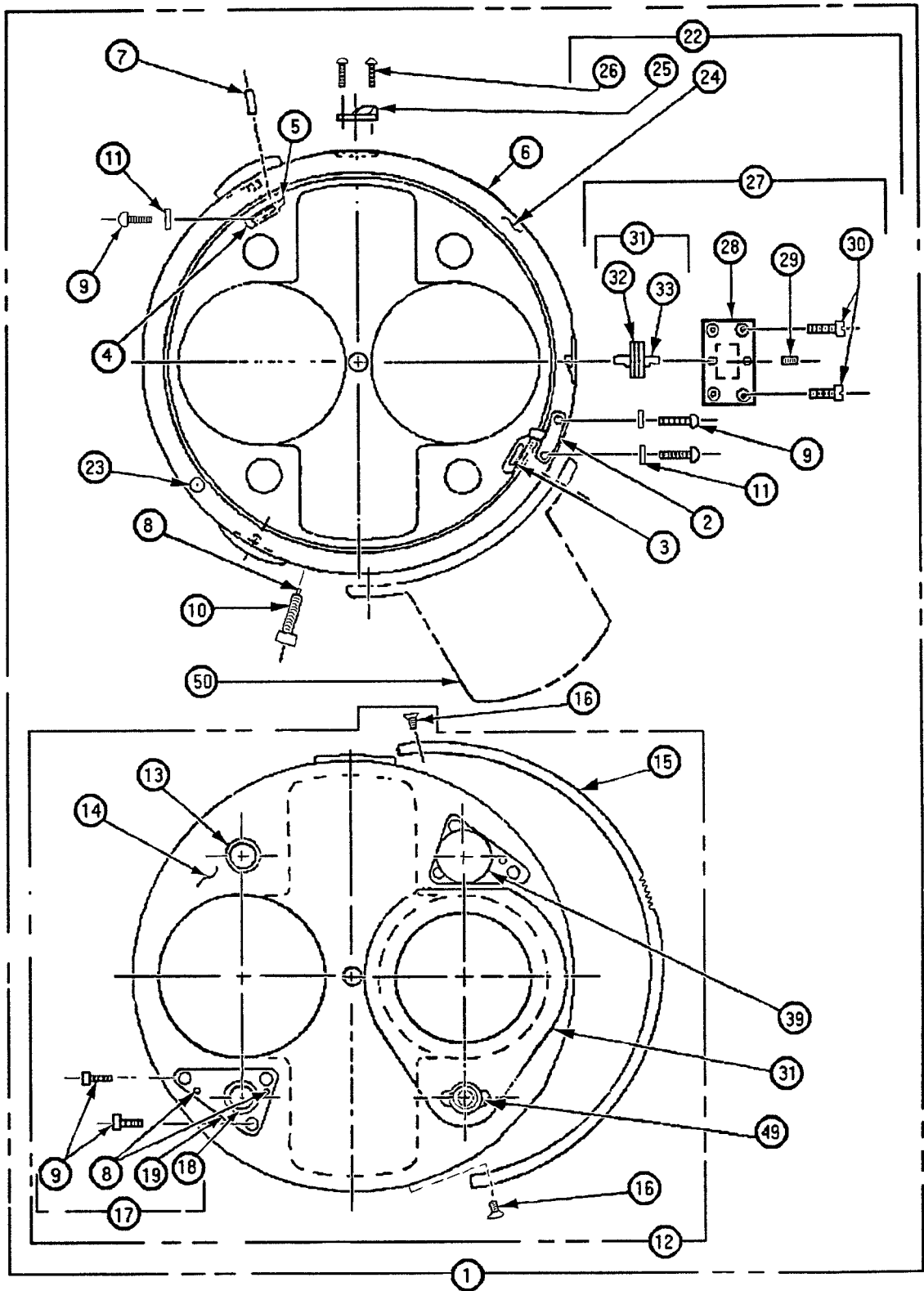
<u>Item</u>	<u>Part No.</u>	<u>Description</u>
72	C1-BB-29A*	Sprocket Pad Stud Assembly
73	KN-0024	Knob
74	PN-0036	Pin
75	SU-0004	Stud

\* Sold as Assembly only

CAM THRUST BEARING & BRACKET ASSEMBLY (H1-BB-31\*)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
76	H1-BB-31*	Bearing & Bracket Assembly
77	C1-BB-11	Ball Bearing Assembly
78	BR-0643	Bracket
79	SC-0085	Thrust Screw

\* Not Sold as Assembly - Order Individual Components



AUTOMATIC TURRET ASSEMBLY (82-60216), Type "TA"

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	T1-A-30	Automatic Turret Assembly
	T1-A-31A*	Turret Housing & Bushing
	T1-A-33*	Outer Ring & Bearing
	T1-A-36	Lens Bushing Assembly (2 req'd.)
	T1-A-37	Lens Focus Rod Assembly (2 req'd.)
	T1-A-38	Pivot Rod, Lens Focus (2 req'd.)
2	BP-1318	Adjustable Stop Bumper (2 req'd.)
3	BR-1308	Stop Bracket, Fixed Location
4	BR-1325	Adjustable Locating Stop Bracket
5	BR-1326	Adjustable Location Stop Bracket
6	DC-0141	Decal
7	PG-1264	Lock Screw Plug
8	4402	Locating Pin, 3/16 x 1/2" (2 req'd.)
9	SC-2413	Stop Mounting Screw, 10-32 x 3/4" (4 req'd.)
10	SC-2416	Turret Lock Screw, 1/4-20 x 1" Knurled Head
11	WA-0346	Lockwasher, #10 (4 req'd.)

TURRET HOUSING & BUSHING ASSEMBLY (T1-A-31A\*)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
12	T1-A-31A*	Housing & Bushing Assembly
	T1-A-32	Focus Block & Bushing Assembly
13	BU-1314	Bushing (4 req'd.)
14	HS-0146	Inner Ring Housing
15	RI-0615	Gear Sector (early models)
16	SC-1145	Screw (early models)

FOCUS BLOCK & BUSHING ASSEMBLY (T1-A-32)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
17	T1-A-32	Block & Bushing Assembly
18	BK-1315	Block
19	BU-1313	Bushing
20	4402	Dowel Pin, 3/16 x 1/2" (2 req'd.)
21	3041	Screw, 10-32 x 3/8" Socket Head (3 req'd.)

\* Not Sold as Assembly - Order Individual Components

NOTE: Type "TA" Turret replaced by Type TU2020C & TU2030C in April 1997.  
See MSC/SA-TU Manual for New Turret.

### TURRET RING ASSEMBLY (T1-A-33\*)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
22	T1-A-33*	Turret Ring Assembly
	T1-A-34	Ball Bearing Bracket (3 req'd.)
23	BN-1316	Back Stop Bumper Plug
24	HS-0149	Outer Ring
25	PE-1261	Latch Plate
26	SC-2472	Mounting Screw, 1/4-20 x 3/8" Button Head (2 req'd.)

### BALL BEARING & BRACKET ASSEMBLY (T1-A-34\*)

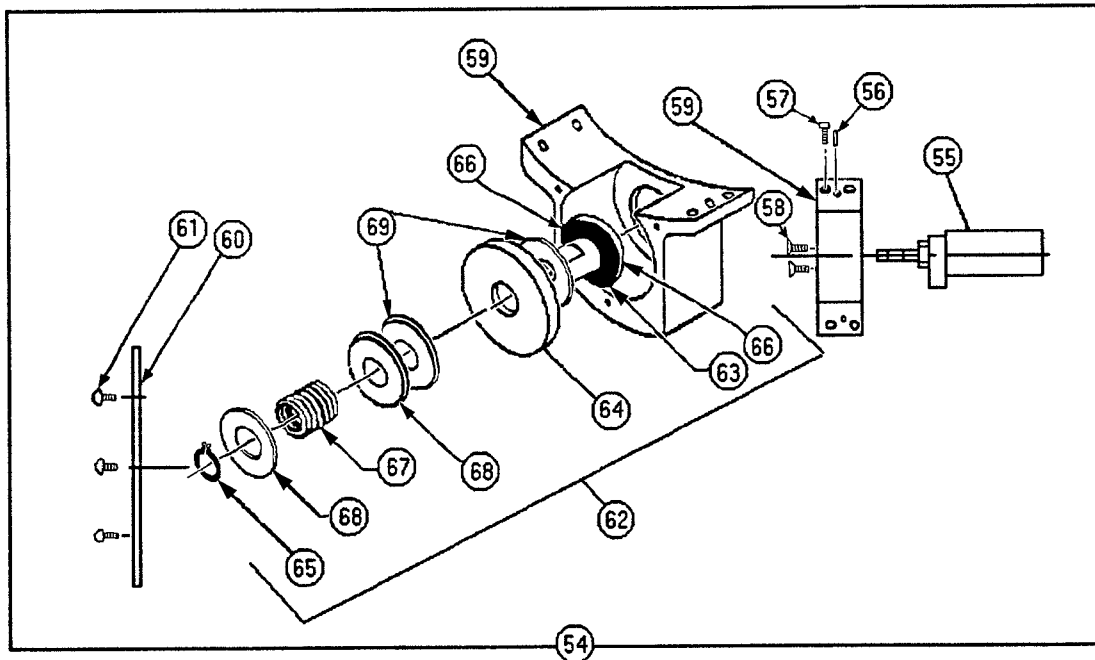
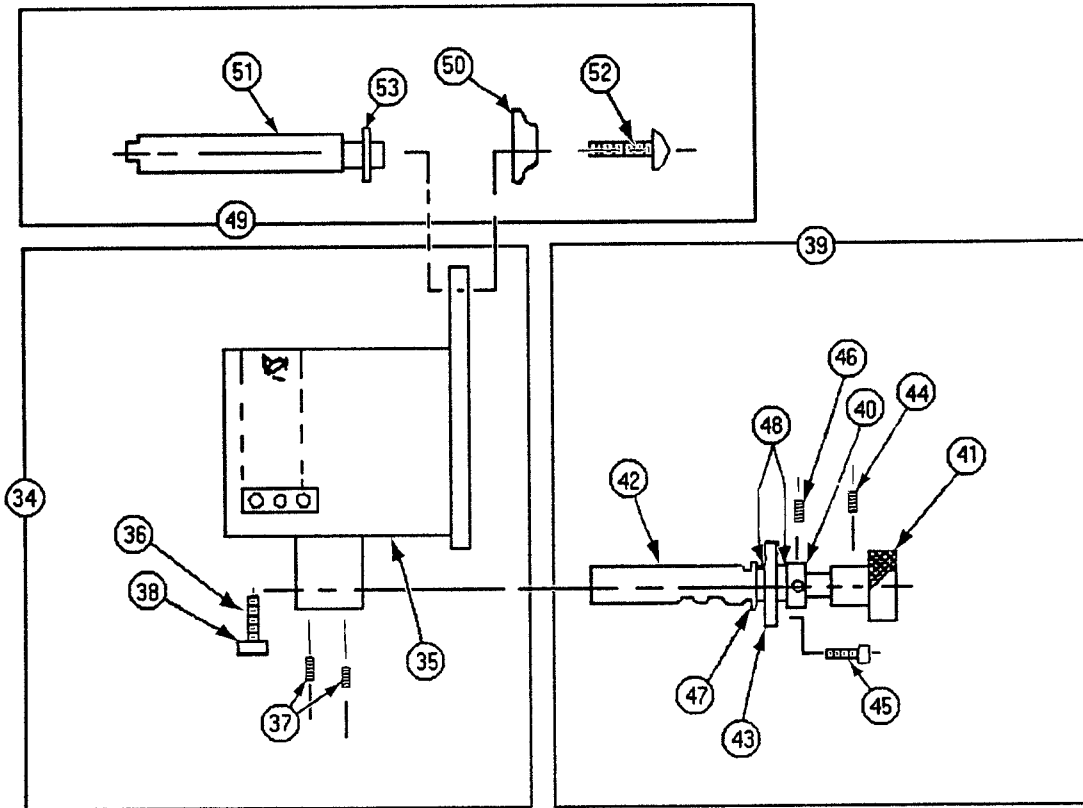
<u>Item</u>	<u>Part No.</u>	<u>Description</u>
27	T1-A-34*	Bearing & Bracket Assembly
	T1-A-35	Shaft & Bearing
28	BR-1312	Bearing Bracket
29	SC-0673	Adjustment Screw (2 req'd.)
30	41-51208	Mounting Screw, 10-32 x 1/2" Socket Head (4 req'd.)

### BEARING & SHAFT ASSEMBLY (82-60149)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
31	T1-A-35*	Bearing & Shaft Assembly ( <i>Sold as Assembly only</i> )
32	BG-1260A	Ball Bearing (3 req'd.)
33	RD-0609	Rod

\* Not Sold as Assembly - Order Individual Components

NOTE: Type "TA" Turret replaced by Type TU2020C & TU2030C in April 1997.  
See MSC/SA-TU Manual for New Turret.



## LENS BUSHING ASSEMBLY

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
34	T1-A-*36	Lens Bushing Assembly
35	BU-1305	Bushing, Lens Holder
36	PG-1264	Screw Plug
37	SC-0905	Focus Rod Set Screw, 1/4-20 x 1/4" (2 req'd.)
38	SC-2498	Lens Clamping Screw

## LENS FOCUS ROD ASSEMBLY

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
39	T1-A-37A	Focus Rod Assembly
40	CL-0554	Focus Collar
41	KN-0045	Knob
42	RD-0610	Focus Rod (Order T1-A-37A)
43	SA-1226	Spacer
44	41-51180	Knob Set Screw, 10-32 x 3/8"
45	SC-0105	Mounting Screw, 4-40 x 1/4" Fillister Head (3 req'd.)
46	SC-1236	Collar Set Screw, 10-32 x 3/16" (2 req'd.)
47	SC-1362	Focus Screw
48	WA-0163	Focus Washer

## LENS FOCUS PIVOT ROD ASSEMBLY (T1-A-38\*)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
49	T1-A-38*	Pivot Rod Assembly
50	CL-0866	Collar
51	RD-0611	Rod (Order T1-A-38)
52	41-51564	Fastening Screw, 10-32 x 1/2" Socket Head
53	WA-0135	Washer

\* Not Sold as Assembly - Order Individual Components

NOTE: Type "TA" Turret replaced by Type TU2020C & TU2030C in April 1997.  
See MSC/SA-TU Manual for New Turret.

TURRET MOTOR & BRACKET ASSEMBLY (T1-A-60), Type "TA" Turret

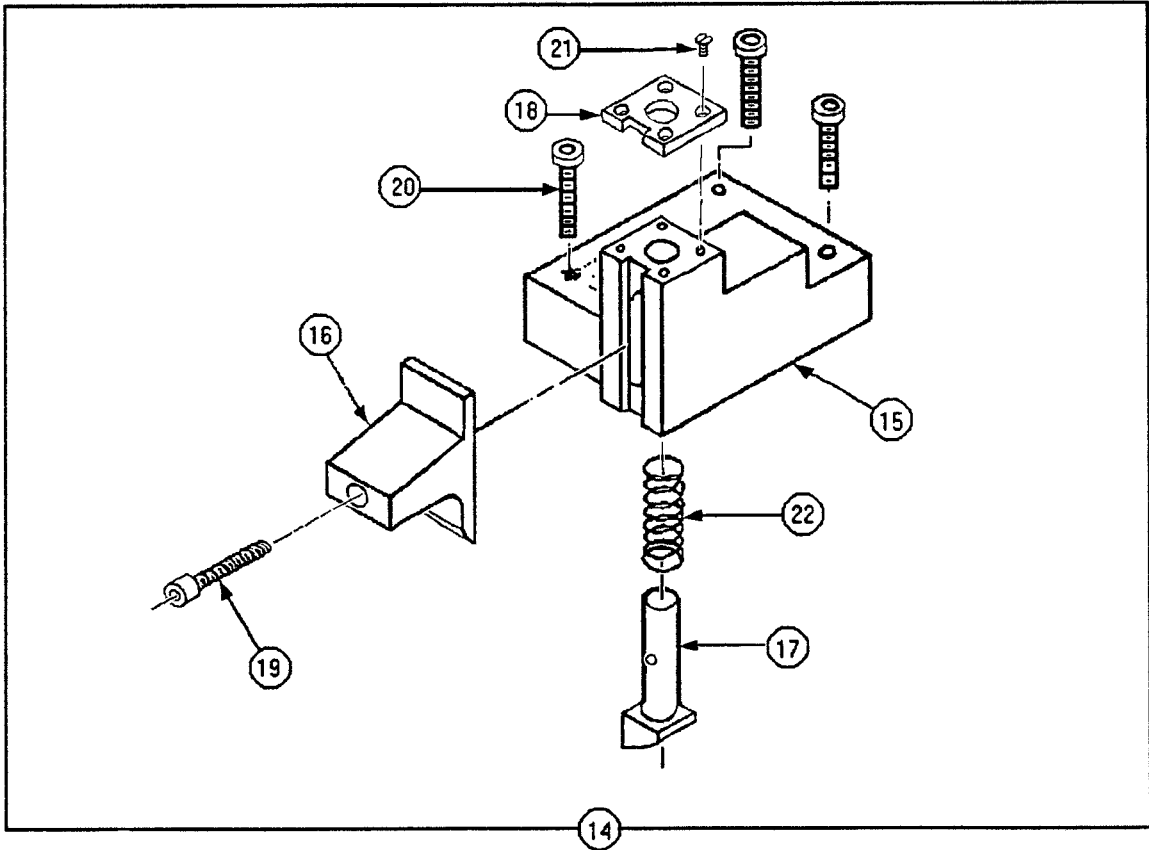
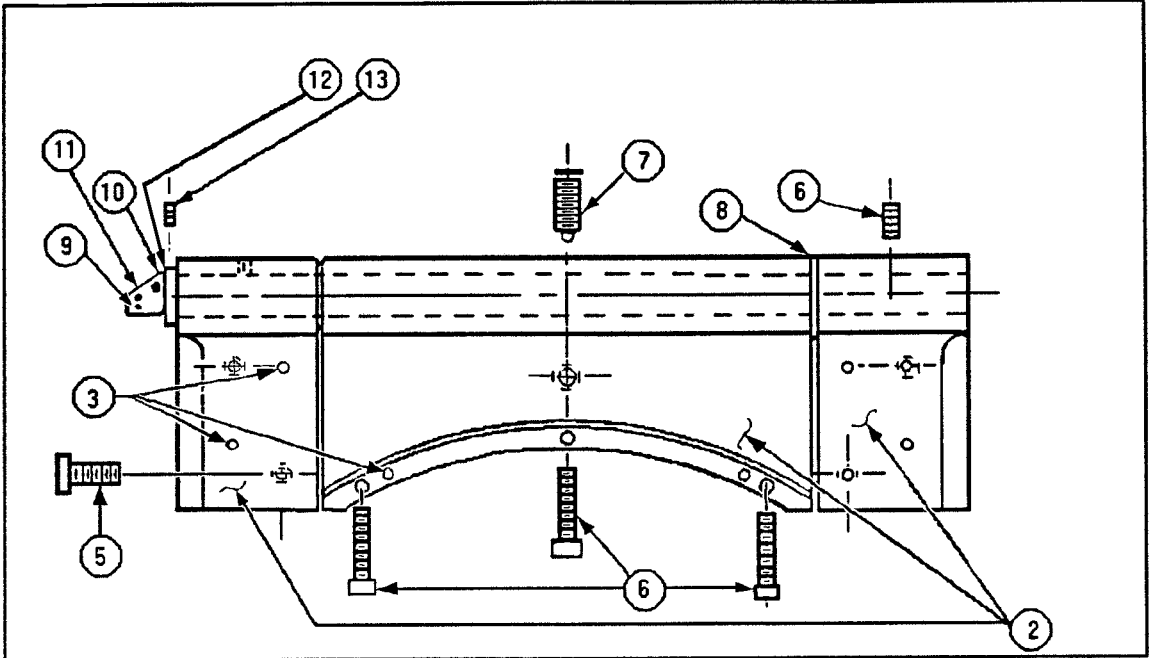
<u>Item</u>	<u>Part No.</u>	<u>Description</u>
54	T1-A-60	Turret Motor & Bracket Assembly
	T1-A-42	Bracket Housing
	T1-A-59	Gear & Clutch Assembly
55	MO-0134	Motor
56	PN-0786	Locating Pin (2 req'd.)
57	3069	Bracket Mounting Screw, 1/4-20 x 5/8" (4 req'd.)
58	SC-2414	Motor Mounting Screw, 10-32 x 1/2" (4 req'd.)
59	BR-1306*	Housing Bracket
60	PE-1263*	Bracket Cover (81-29011)
61	SC-2415*	Plate Screw (3 req'd.)

\* Order T1-A-60

GEAR & SLIP CLUTCH for AUTOMATIC TURRET MOTOR (T1-A-59)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
62	T1-A-59	Gear & Slip Clutch
63	FL-0189	Flange
64	GR-0332	Gear
65	RI-0643	Retaining Ring
66	SC-0673	Flange Set Screw, 8-32 x 3/8" (2 req'd.)
67	SG-2492	Compression Spring
68	WA-0382	Brake Washer (2 req'd.)
69	WA-0342	Brake Washer (2 req'd.)

NOTE: Type "TA" Turret replaced by Type TU2020C & TU2030C in April 1997.  
See MSC/SA-TU Manual for New Turret.



## TURRET MOUNTING HINGE ASSEMBLY (82-60208)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	T1-A-11	Turret Hinge Assembly
	T1-A-12*	Hinge Pin
2	T1-A-13	Hinge Bracket (Order T1-A-11)
3	PN-0786	Mounting Pin (6 req'd.)
4	3052	Lock Set Screw, 1/4-20 x 3/8" (2 req'd.)
5	SC-1689	Bracket Mounting Screw, 1/4-20 x 3/8" (4 req'd.)
6	2982	Turret Mounting Screw, 10-32 x 1-1/4" (3 req'd.)
7	SC-2436	Bumper Screw, 1/2-13 x 3/4"
8	WA-0349	Bearing Washer
9	BR-1333	Upper Stop Bracket
10	BR-1334	Lower Stop Bracket
11	SC-2472	Fastening Screw (4 req'd.)

## TURRET HINGE PIN ASSEMBLY (T1-A-12\*)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
	T1-A-12*	Hinge Pin
12	FT-0185	Grease Fitting
	PN-1260	Pin (Order T1-A-12*)
13	SC-0585	Set Screw, 10-32 x 3/16" (2 req'd.)

\* Not Sold as Assembly - Order Individual Components

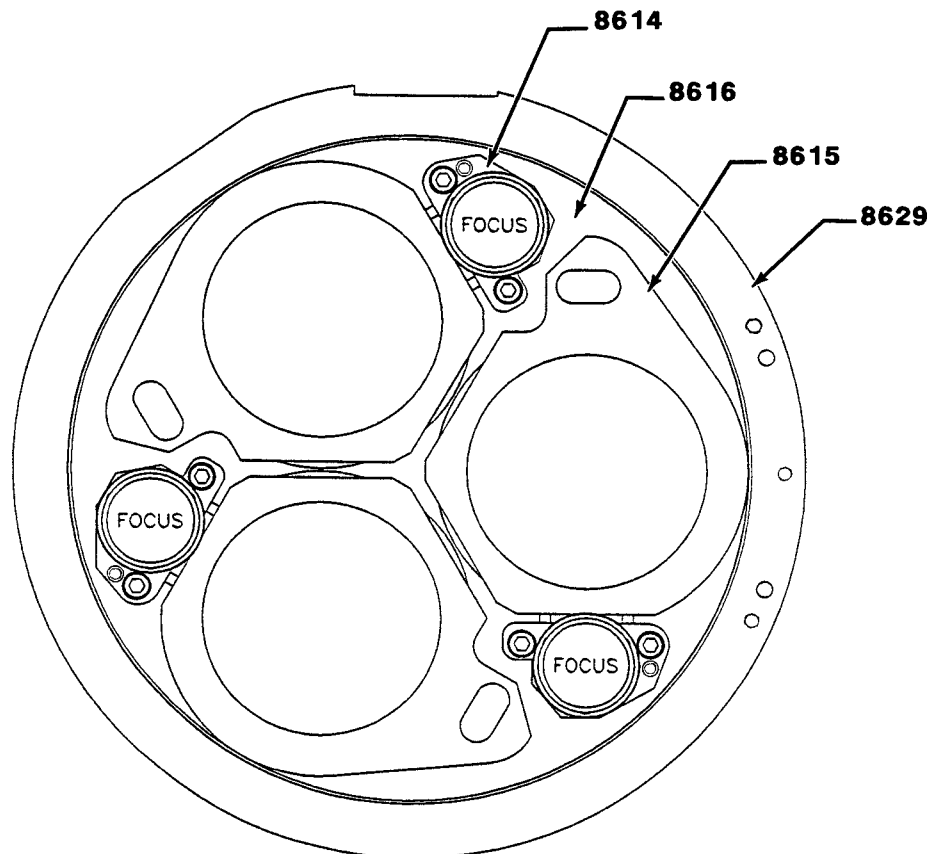
## TURRET TOP LOCK ASSEMBLY (T1-A-20)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
14	T1-A-20	Turret Top Lock
15	BK-1309	Housing Block
16	LA-0116	Latch
17	LO-0115	Lock Pin
18	PE-1259	Retaining Plate
19	SC-1045	Fastening Screw, 8-32 x 1" Socket Head
20	41-51208	Block Screw, 10-32 x 1/2" Socket Head (3 req'd.)
21	41-51591	Plate Screw, 6-32 x 3/8" Flat Head (4 req'd.)
22	SG-2403	Lock Spring

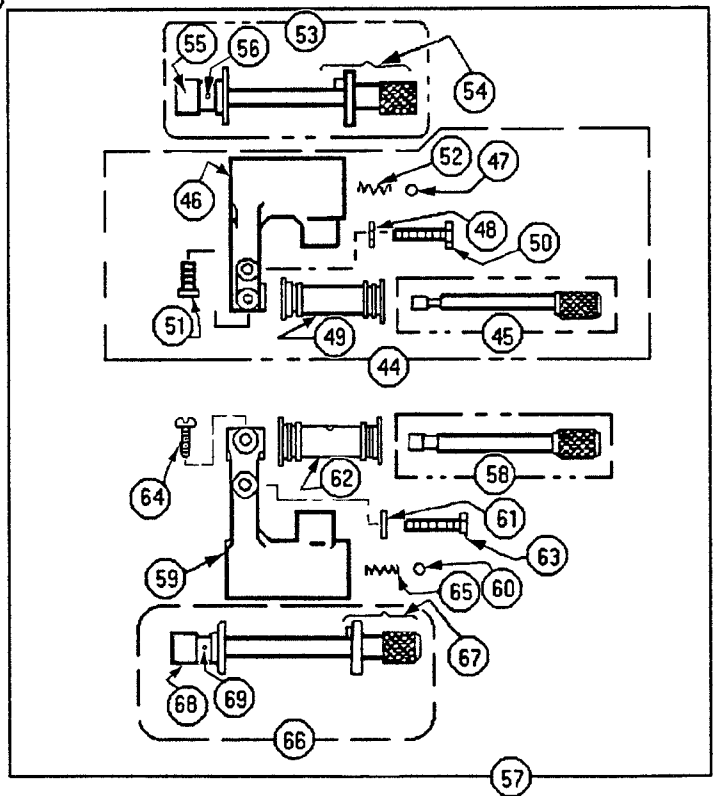
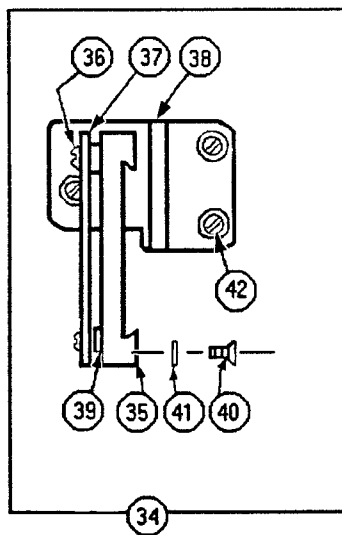
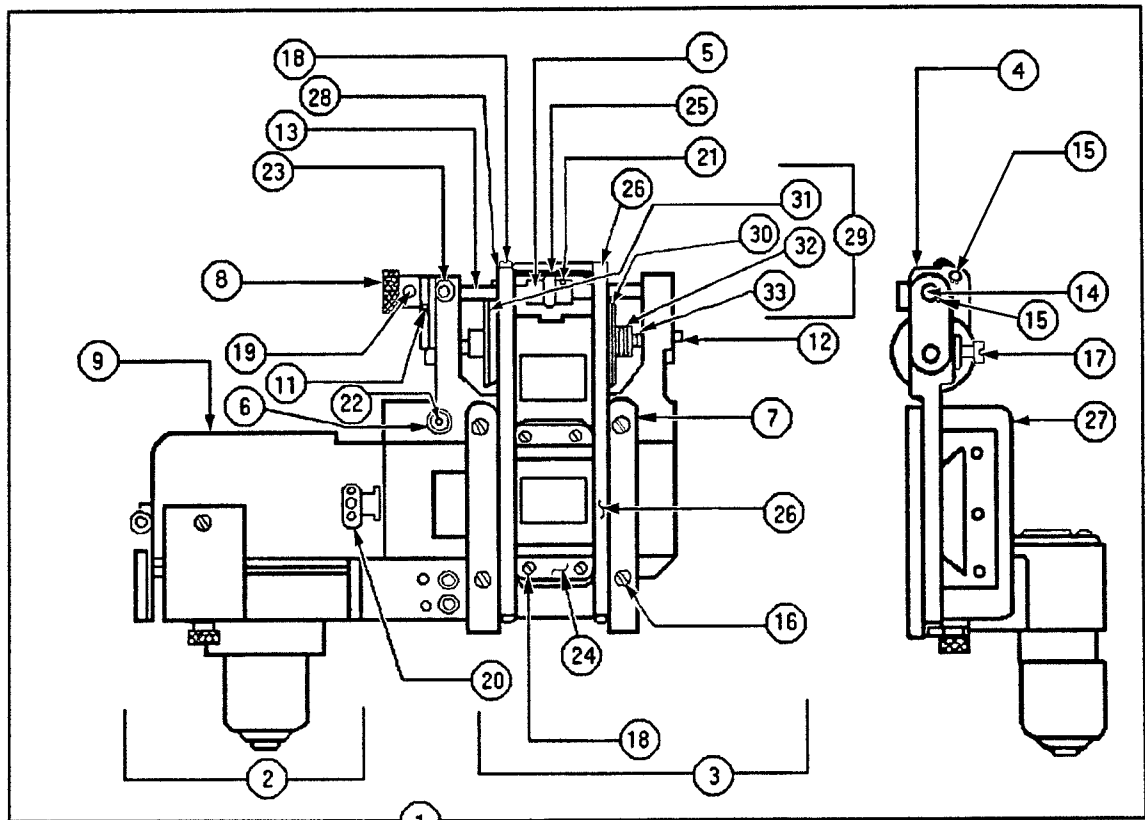
NOTE: Type "TA" Turret replaced by Type TU2020C & TU2030C in April 1997.  
See MSC/SA-TU Manual for New Turret.

MODIFIED PARTS for THREE-LENS TYPE "TA" TURRET (82-60076)

<u>Part No.</u>	<u>Description</u>
8614	Focus Rod Bushing (ref. Page 13, Item 19); 3 req'd.
8615	Lens Bushing (ref. Page 13, Item 35); 3 req'd.
8616	Inner Ring (ref. Page 13, Item 14)
9451	Turret Gear, Aluminum
8629	Outer Ring Housing (ref. Page 13, Item 24)
T1-A-40	Turret Motor & Bracket Assembly (ref. Page 13, Item 54)
MO-0107	Motor (ref. Page 13, Item 55)
9425	Tubular Solenoid Assembly, Index Stop
81-55001	Solenoid
51-17001	Diode, 1N4077
21-40011	Molex Plug
21-62036	Molex Pin (2 req'd.)
8627	Solenoid Pin, 1/2" Hardened Steel
8625	Solenoid Mounting Block
8620	Catch, Solenoid Pin (3 req'd.)







FILM TRAP & AUTOMATIC APERTURE CHANGER (82-60259)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	LC-T-120A	Film Trap & Automatic Aperture Changer
2	AC-T-100A	Automatic Aperture Changer (see Page 25)
	A2-E-10	Film Trap Assembly

FILM TRAP ASSEMBLY for APERTURE CHANGER (82-60093)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
3	A2-E-10	Film Trap Assembly
	A1-E-12	Lateral Guide Roller Assembly
4	A1-E-13	Spring Block & Pin Assembly (2 req'd.)
5	CM-0685	Shoe Tension Cam
6	EC-0030	Aperture Stop, Eccentric (2 req'd.)
7	GU-0315	Studio Guide (2 req'd.)
8	KN-0070	Knob, Tension Adjust
9	PE-1291-E8/15	Dual Aperture Plate
-	8648	Triple Aperture Plate (not shown)
10	PN-0519	Aperture Plate Stop Pin
11	PN-0824	Tension Stop Pin
12	PT-0033	Guide Roller Pivot (2 req'd.)
13	RD-0281	Spring Block Rod
14	RD-0282	Eccentric Cam Shaft
15	P-4089	Retaining Ring for .156" O.D. (3 req'd.)
16	SC-0128	Guide Screw (4 req'd.)
17	SC-0134	Pivot Retaining Screw (2 req'd.)
18	41-51271	Screw, Strap & Spring, 2-56 x 1/8" (8 req'd.)
19	P-1971	Knob Set Screw, 8-32 x 1/8"
20	SC-1800	Thumb Screw
21	P-1971	Cam Set Screw, 8-32 x 1/8"
22	SC-2118	Mounting Screw, Eccentric Bushing (2 req'd.)
23	SC-2431	Knob Screw
24	SG-1484	Aperture Plate Spring (2 req'd.)
25	SG-1802	Cam Spring
26	SH-1811	Trap Shoe (Tension Strap), 2 req'd.
27	TP-0171	Trap Casting
28	WA-0245	Strap Washer (2 req'd.)

LATERAL GUIDE ROLLER ASSEMBLY (A1-E-12)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
29	A1-E-12	Lateral Guide Roller Assembly
30	RO-0283	Inner Roller
31	RO-0284	Outer Roller
32	SG-0124	Compression Spring
33	2933	Retaining Ring for .250" O.D.

FILM TRAP SUPPORT GIB & HEAT SHIELD ASSEMBLY (82-60092)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
34	A1-E-70	Support Gib & Heat Shield Assembly
35	GI-0225	Gib Casting
36	SC-1842	Heat Shield Screw, 5-40 x 5/16" Bind Head (4 req'd.)
37	SD-1808	Heat Shield
38	SO-1804	Trap Support
39	SA-1942	Heat Shield Spacer (4 req'd.)
40	41-51016	Support Screw, 4-40 x 1/4" Bind Head (3 req'd.)
41	WA-0088	Washer (3 req'd.)

*Associated Parts*

42	SC-0137	Trap Support Mounting Screw, 1/4-20 x 1/2" (3 req'd.)
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*See Page 53 for Water Cooled Trap Support.*

UPPER PAD ROLLER ARM ASSEMBLY (82-60096)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
44	C1-C-10	Upper Pad Roller Arm Assembly
	C1-C-13	Pad Roller Stud
45	C1-C-21	Pad Roller Shaft & Knob
46	AR-0001	Arm Casting
47	2908	Detent Ball (2 req'd.)
48	NU-0008	Lock Nut
49	R3-400	Roller
50	SC-0087	Pad Roller Adjust Screw, 8-32 x 7/8" Hex Head
51	41-51416	Pad Roller Shaft Set Screw, 6-32 x 3/8" Hex Head
52	SG-0021	Spring

UPPER PAD ROLLER ARM STUD, KNOB, & BUSHING ASSEMBLY (82-20304)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
53	C1-C-13	Stud, Knob, & Bushing Assembly
54	C1-C-11*	Stud & Knob
55	BU-0027*	Bushing
56	PN-0025*	Pin

\* Order C1-C-13; *Sold as Assembly only*

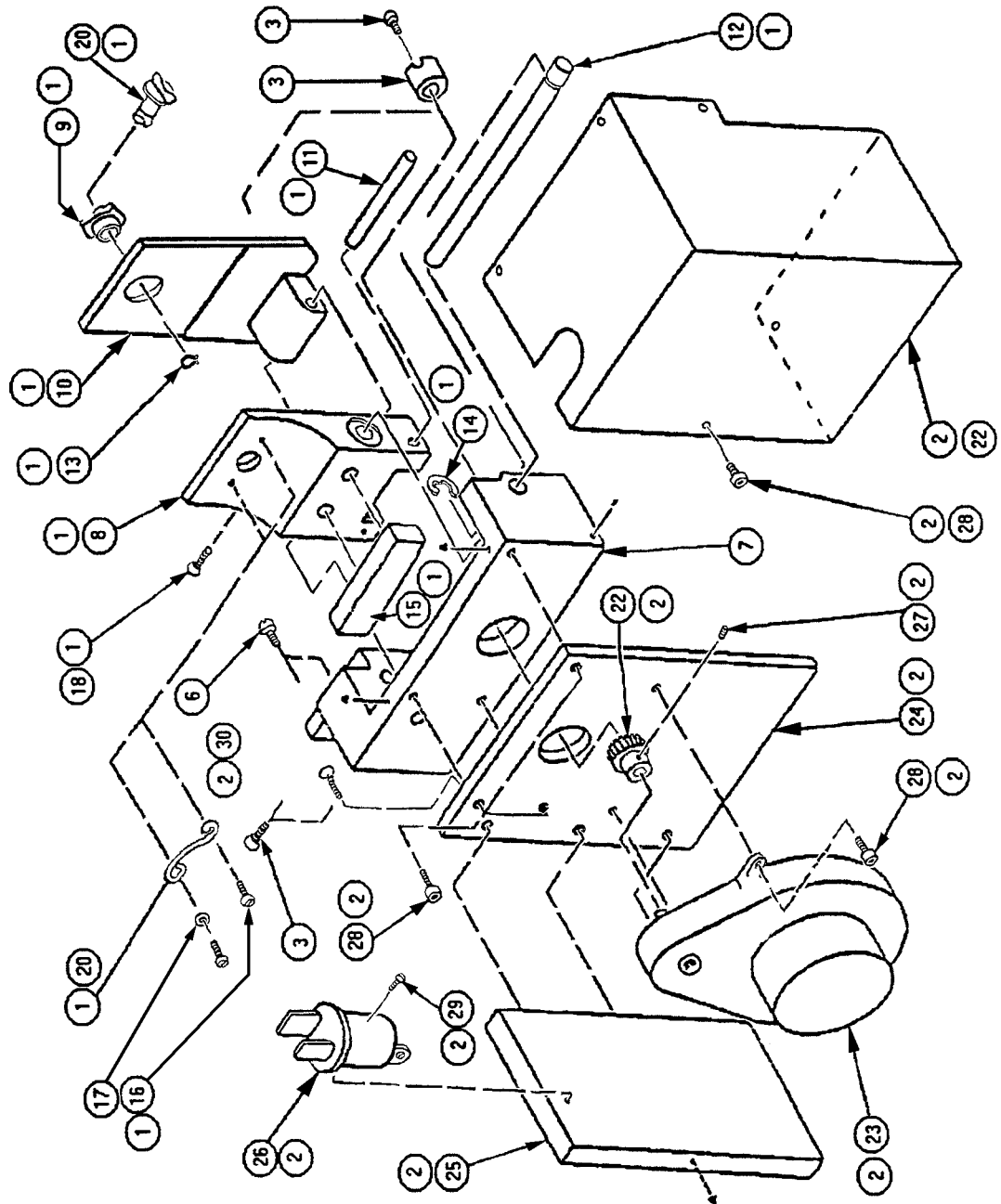
LOWER PAD ROLLER ARM ASSEMBLY (82-60097)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
57	C1-C-40	Lower Pad Roller Arm Assembly
58	C1-C-21	Shaft & Knob
	C1-C-41	Lower Pad Roller Assembly
59	AR-0021	Arm Casting
60	2908	Detent Ball (2 req'd.)
61	NU-0008	Lock Nut
62	R2-400	Roller
63	SC-0087	Pad Roller Adjust Screw, 8-32 x 7/8" Hex Head
64	41-51416	Pad Roller Shaft Set Screw, 6-32 x 3/8" Hex Head
65	SG-0021	Spring

LOWER PAD ROLLER ARM, STUD, KNOB, & BUSHING ASSEMBLY (82-20372)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
66	C1-C-41	Arm, Stud, Knob, & Bushing Assembly
67	C1-C-42*	Arm, Stud, & Knob
68	BU-0027*	Bushing
69	PN-0025*	Pin

\* Order C1-C-41; *Sold as Assembly only*



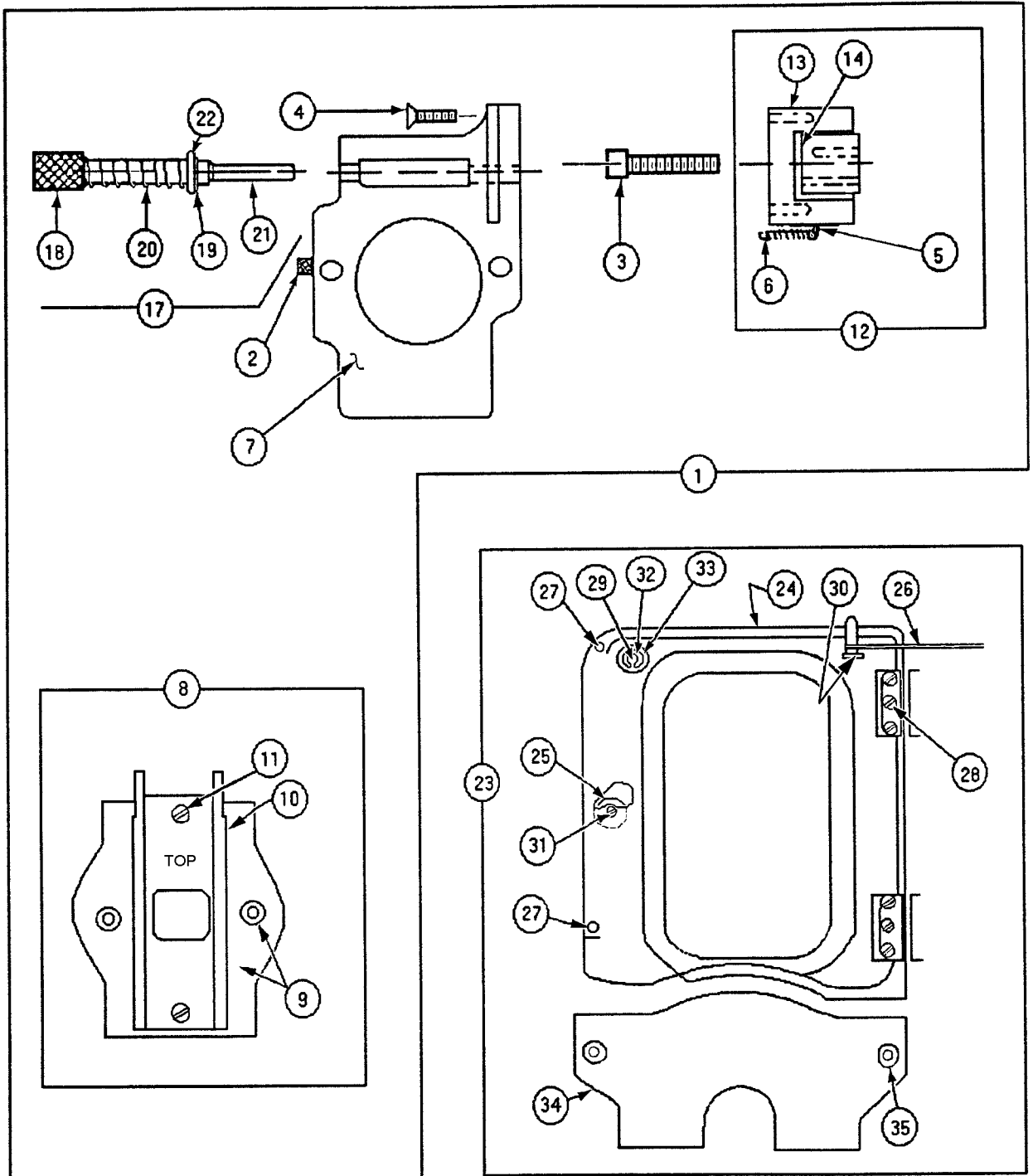
## AUTOMATIC APERTURE CHANGER ASSEMBLY (82-60094)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	AC-T-100*	Aperture Carriage Assembly
2	AC-T-120A*	Aperture Motor, Plate & Receptacle Assembly
3	EC-0030	Eccentric Bushing (2 req'd.)
		Aperture Plate PE-1291-E8/15 not shown
5	SC-2117	Screw, 4-40 x 3/8" Socket Head (4 req'd.)
6	P-1757	Screw, 4-40 x 1/4" Socket Head (2 req'd.)
7	SO-2473	Aperture Changer Support
	AC-T-110*	Aperture Carriage Assembly
8	BR-1371	Slider Bracket
9	BU-1366	Bushing
10	CP-0921	Clamp
11	PN-1294	Hinge Pin
12	RD-0626	Carriage Rod
13	RI-0627	Retaining Ring
14	RI-0828	Rod Retaining Ring
15	RK-0562	Rack Gear
16	SC-1638	Spring Mounting Screw, 3-48 x 3/16 Fillister Head (2 req'd.)
17	WA-0379	Washer (2 req'd.)
18	SC-2276	Rack Mounting Screw, 4-40 x 9/16" (2 req'd.) <i>not shown</i>
19	SG-2475	Spring
20	ST-2474	Latching Stud, Quarter-Turn
	SG-2475	Stud Catch Spring
	AC-T-120A*	Aperture Motor, Plate, & Receptacle Assembly
21	CR-0920	Motor Cover
22	GR-0304B	Pinion Gear
23	MO-0114	Motor, DC Drive
24	PE-1292	Motor Plate
25	PE-1293	Plug Plate
26	PG-1128	Plug, Two-Prong Male (as shown; Dual Aperture)
26	81-40018	Plug, Four-Pin Male (not shown; Triple Aperture)
27	SC-0578	Set Screw, 4-40 x 1/8"
28	P-1757	Screw, 4-40 x 1/4" Socket Head (10 req'd.)
29	SC-2234	Screw, 2-56 x 3/4" Round Head
30	81-71032	Motor Wire, Red (not shown; Order by foot)
31	81-71052	Motor Wire, Black (not shown; Order by foot)
32	SC-0865	Screw, 4-40 x 1/8" Round Head (5 req'd.)

\* Not Sold as Assembly - Order Individual Components

### *Associated Parts*

9423	Wire Harness Assembly (to Item 26 Plug), Dual Aperture
SF-2270	Socket, (2) Pin
21-71012	Cable, (2) Conductor (Order by foot)
9427	Wire Harness Assembly (to Item 26 Plug), Triple Aperture
81-40038	Socket, (4) Pin
51-71002	Cable, (4) Conductor (Order by foot)



### FILM GATE ASSEMBLY (82-60263)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	T1-A-50	Film Gate Assembly for Turret Projector
	A1-E-40	Pressure Pad & Plate Assembly
	T1-A-56	Slider Assembly
	T1-A-57	Locating Pin Assembly
2	SC-0144	Mounting Screw
3	SC-2408	Slider Mounting Screw (2 req'd.)
4	SC-2418	Support Mounting Screw (4 req'd.)
5	SC-2420	Spring Screw
6	SG-2405	Return Spring
7	SO-2409	Gate Support

### PRESSURE PAD & PLATE ASSEMBLY, CURVED (82-60049)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
8	A1-E-40	Pressure Pad & Plate
9	A1-E-41	Plate & Studs
10	PA-0853	Pressure Pad Runner, Curved
11	41-51034	Mounting Screw, 6-32 x 1/4" Flat Head (2 req'd.)

### GATE SLIDE ASSEMBLY (82-00061)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
12	T1-A-56	Slide Assembly
13	BR-1319*	Bracket
14	SL-2411*	Base

\* Order T1-A-56; Sold as Assembly only

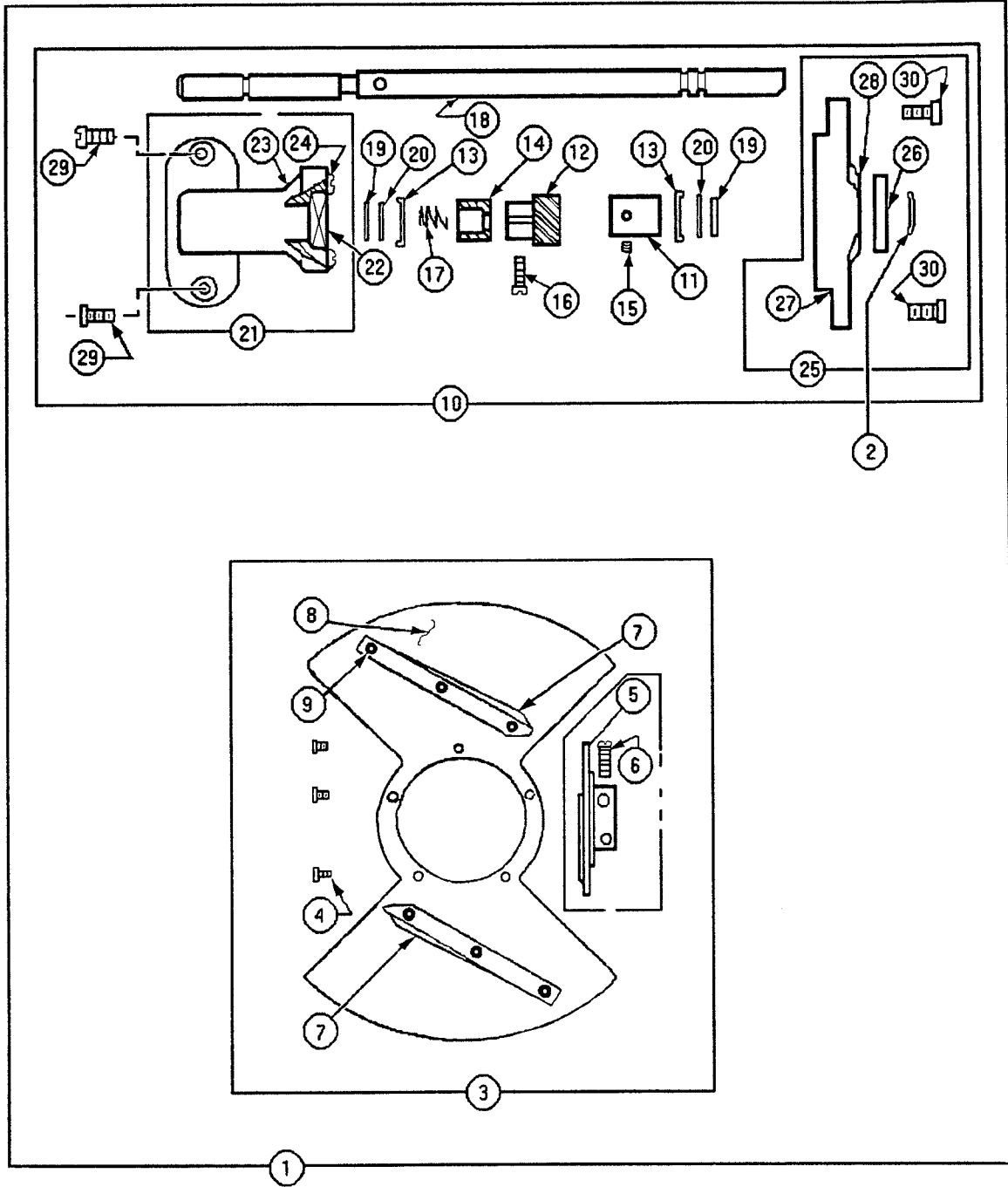
### GATE LOCATING PIN ASSEMBLY (T1-A-57)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
17	T1-A-57	Gate Locating Pin Assembly
18	KN-0010*	Knob
19	RI-0618	Spring Retaining Pin
20	SG-2406	Compression Spring
21	ST-2410*	Shaft
22	SA-2442	Spacer

\* Order T1-A-57

## GEAR COMPARTMENT DOOR ASSEMBLY (82-60053)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
23	J1-A-13	Gear Compartment Door Assembly
24	DO-0072	Door Casting
25	KN-0047	Pull Knob
26	LI-0007	Door Link
27	SB-0060	Felt Bumper (2 req'd.)
28	41-51061	Hinge Screw, 8-32 x 1/4" Bind Head (6 req'd.)
29	ST-2465	Door Fastening Stud, Quarter-Turn
30	SC-0226	Link Screw
31	41-51073	Knob Screw, 8-32 x 1/2" Bind Head
32	RI-0624	Retaining Ring
33	SG-2464	Door Fastening Spring



SHUTTER & SHAFT ASSEMBLY (H4-D-40X\*)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	H4-D-40X*	Shutter & Shaft Assembly, Complete
	C1-D-50S	Shutter Blade Assembly, 100° 1/32"
	H1-D-44X	Shutter Shaft Assembly
2	SG-0016	Shutter Hub Spacer Spring

\* Not Sold as Assembly - Order Individual Components

STEEL SHUTTER BLADE ASSEMBLY, LARGE DIAMETER, 100° (82-60001)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
3	C1-D-50S	Shutter Blade Assembly, 1/32" Steel
4	SC-0128	Shutter & Hub Screw (5 req'd.)
5	HB-0044	Hub
6	41-51201	Hub Clamp Screw, 8-32 x 3/4" Socket Head (2 req'd.)
7	BD-0026	Blade, Shutter Vane
8	BD-1465	Shutter Blade, 100°
9	RV-0647	Vane Rivet

SHUTTER SHAFT & BRACKET ASSEMBLY, SINGLE (82-60036)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
10	H1-D-44X	Shutter Shaft & Bracket Assembly
	C2-D-42	Front Shutter Bracket Assembly
	C1-D-45	Rear Shutter Bracket Assembly
11	CL-0128	Thrust Collar
12	GR-0007	Steel Gear
13	RT-0061	Bearing Retainer (2 req'd.)
14	RT-0062	Pressure Spring Retainer
15	41-51176	Collar Set Screw, 10-32 x 3/16"
16	00259000	Gear Screw, 8-32 x 5/8" Fillister Head
17	SG-2494	Pressure Spring
18	ST-1397X	Shutter Shaft
19	WA-0131	Thrust Washer (2 req'd.)
20	WA-0130	Thrust Washer (2 req'd.)

SHUTTER SHAFT BRACKET & BALL BEARING ASSEMBLY (82-60031)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
21	C2-D-42	Bracket & Bearing Assembly
22	BG-0009	Ball Bearing
23	BR-0186	Front Bracket
24	41-51061	Screw, 8-32 x 1/4" Bind Head

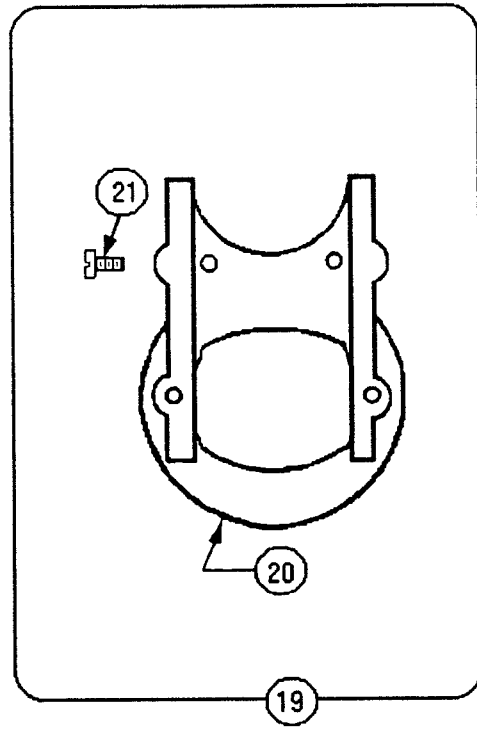
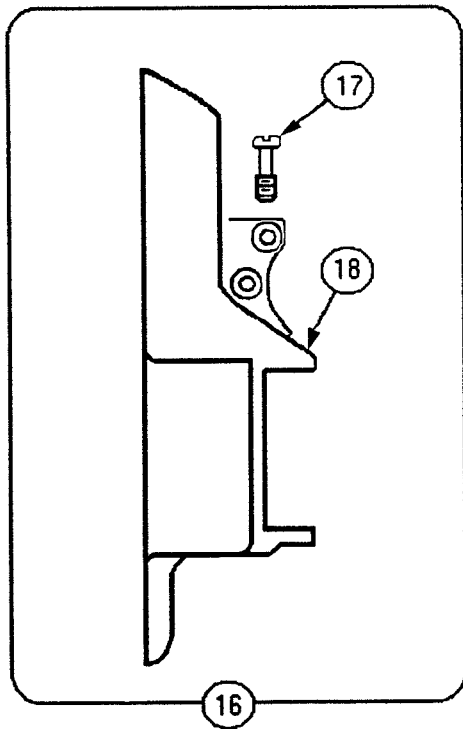
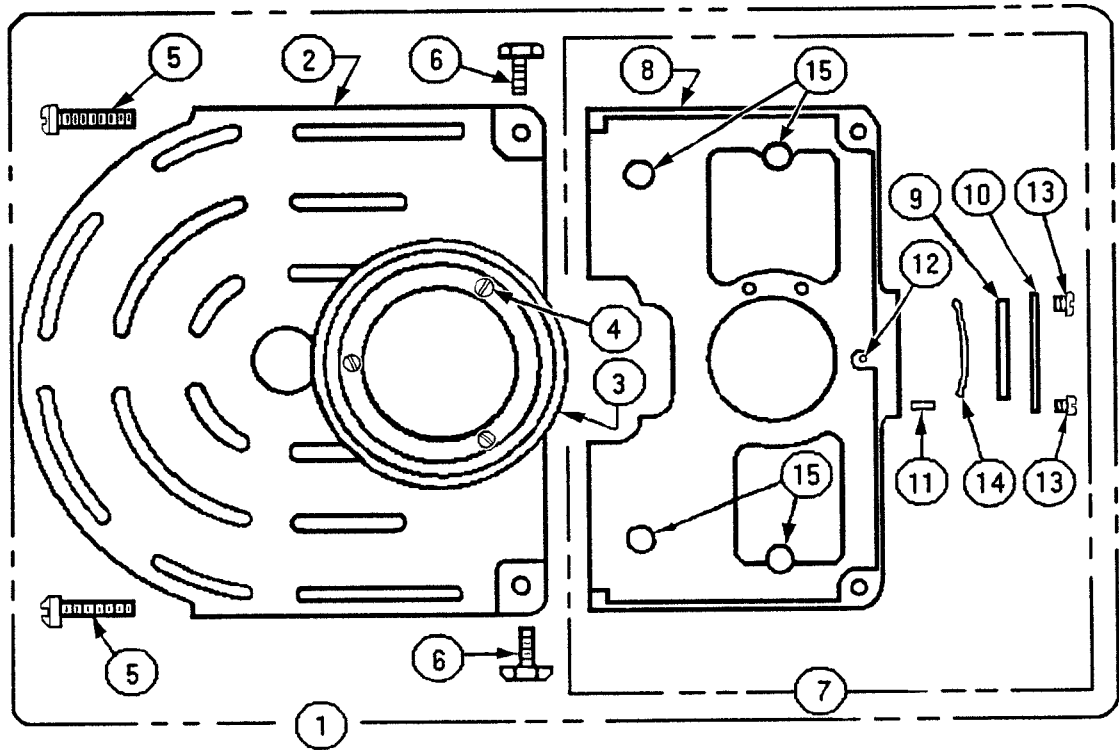
SINGLE SHUTTER BRACKET & BALL BEARING ASSEMBLY (82-60023)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
25	C1-D-45	Bracket & Bearing Assembly
26	BG-0009	Ball Bearing
27	BR-0014	Rear Bracket
28	41-51061	Screw, 8-32 x 1/4" Bind Head (4 req'd.)

*Associated Parts*

29	41-51521	Shutter Bracket Mounting Screw (2 req'd.)
30	3072	Shutter Bracket Mounting Screw (4 req'd.)

For *Optional* Double Shutter, See Page 50



## SHUTTER GUARD ASSEMBLY (82-60011)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	H1-D-46	Shutter Guard Assembly
	H1-D-43	Shutter Guard, Fixed
2	GD-0185	Shutter Guard, Removable <sup>1,2</sup>
3	HD-0076	Hood, Light Shield
4	SC-1265	Screw, 8-32 x 3/8" Fillister Head (3 req'd.)
5	41-51111	Screw, 10-32 x 1-1/4" Fillister Head (2 req'd.)
6	H-2655	Screw, 1/4-20 x 1/2" Hex Head (2 req'd.)

## FIXED SHUTTER GUARD ASSEMBLY (H1-D-43\*)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
7	H1-D-43*	Shutter Guard, Fixed
8	GD-0202	Shutter Guard (as shown) <sup>1</sup>
-	GD-0278	Shutter Guard (for use with optional Heat Shield) <sup>2</sup>
9	GL-0016	Sight Glass, Tinted
10	HO-0005	Sight Glass Holder
11	PN-0280	Spring Pin
12	PN-0647	Alignment Pin, Shutter Timing
13	41-51011	Glass Holder Screw, 3-48 x 1/4" Bind Head (4 req'd.)
14	SG-0044	Spring

\* Not Sold as Assembly - Order Individual Components

### *Associated Parts*

15 SC-1109 Mounting Screw (for GD-0202), 4 req'd.

<sup>1</sup> May be ordered as "Matched Pairs" (Order 82-20132)

<sup>2</sup> May be ordered as "Matched Pairs" (Order 82-20310)

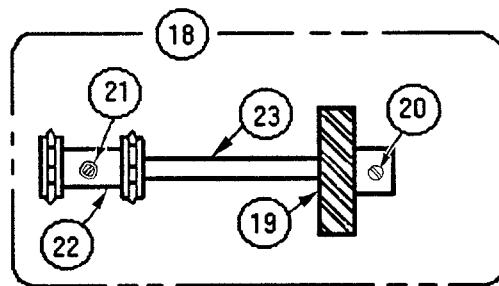
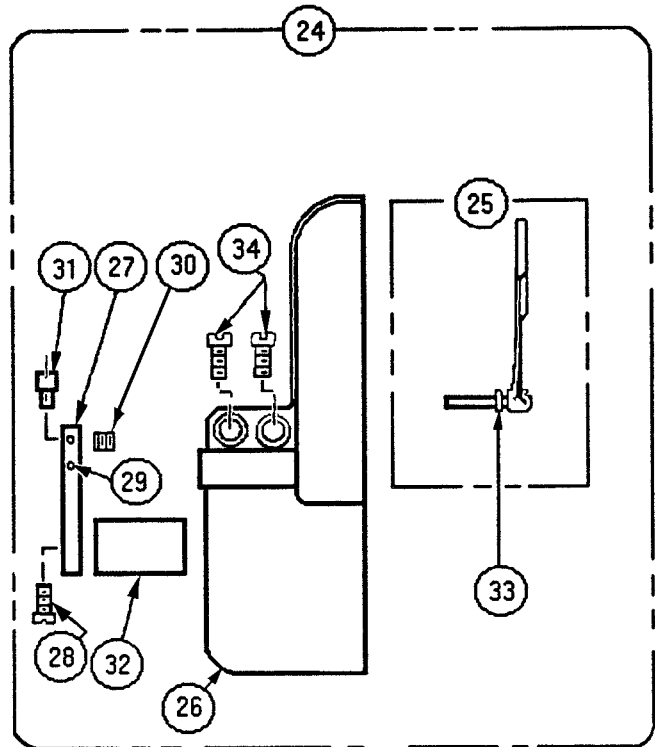
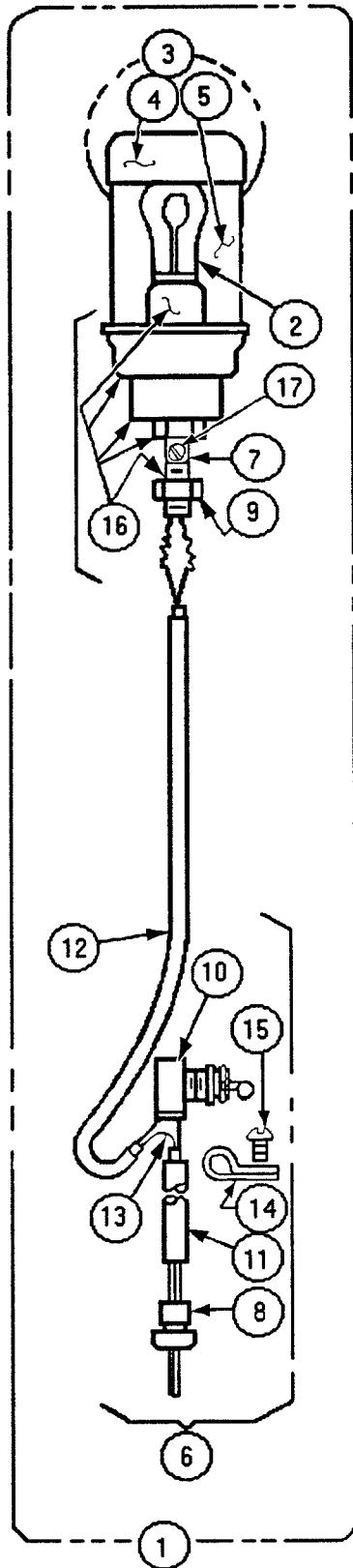
## LIGHT SHIELD ASSEMBLY (A1-D-70)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
16	A1-D-70	Light Shield Assembly
17	SC-0051	Mounting Screw (2 req'd.)
18	SD-1799	Shield Casting

### *Individual Parts*

19 A1-D-80 Douser Guide & Heat Shield  
 20 SD-1130 Heat Shield, Aluminum  
 21 00255000 Mounting Screw, 8-32 x 5/16" Fillister Head (2 req'd.)

Douser Plate 9402 included with Changeover Assembly - See Page 55



FRAMING LIGHT ASSEMBLY (82-70047)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	C5-A-50	Framing Light Assembly
	C3-A-53	Framing Light Shield
	C5-A-54	Socket Assembly
2	LP-0122	Bulb, 12 V.AC

FRAMING LIGHT SHIELD ASSEMBLY (82-70008)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
3	C3-A-53	Framing Light Shield Assembly
4	SD-1997	Cover
5	SD-2477	Glass

FRAMING LIGHT SOCKET & WIRE ASSEMBLY (C5-A-54)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
6	C5-A-54	Socket & Wire Assembly
	C3-A-55	Socket Assembly
7	WI-0356	Framing Light Cord
8	CP-0890	Cable Clamp
9	NU-0006	Nut
10	SW-0064	Toggle Switch
11	TU-0003	Insulator
12	TU-0004	Insulator
13	WI-0277	White Wire

*Associated Parts*

14	CP-0883	Cable Clamp
15	41-51032	Clamp Screw, 6-32 x 1/4" Bind Head
	PE-1299	Switch Plate (ON-OFF)
	21-40011	Molex Receptacle
	31-62006	Molex Pin (2 req'd.)
	TF-0368	Stepdown Transformer, 120-12 V.AC (not shown)

FRAMING LIGHT SOCKET ASSEMBLY (82-70030)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
16	C3-A-55	Socket Assembly
17	SC-0172	Screw

SPROCKET SHAFT ASSEMBLY, UPPER & LOWER (82-60030)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
18	C2-D-10	Sprocket Shaft Assembly (2 req'd.)
19	GR-0010	Fibre Gear
20	41-51195	Gear Screw, 6-32 x 1/2" Socket Head
21	41-51038	Sprocket Screw, 6-32 x 1/2" Fillister Head
22	SK-2204	Film Sprocket, 35mm VKF®
23	ST-0002	Sprocket Shaft

AUTOMATIC FIRE SHUTTER SHAFT, *OPTIONAL* (82-60258)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
24	C1-D-60	Fire Shutter Assembly
25	C1-D-64	Fire Shutter Arm & Shaft Assembly
26	BG-0017	Housing, Cast Aluminum
27	CK-0011	Crank
28	00256000	Screw, 8-32 x 3/8" Fillister Head
29	SC-2468	Set Screw, 8-40 x 1/4" Cone Point (2 req'd.)
30	41-51460	Set Screw, 8-40 x 3/16" Hardened
31	SU-0026	Stud
32	WT-0008	Counterweight
33	WA-0241	Washer
34	SC-0137	Mounting Screw, 1/4-20 x 1/2" Fillister Head (2 req'd.)



SINGLE SHUTTER VERTICAL SHAFT & GOVERNOR ASSEMBLY (82-60086)

Governor Assembly required with *optional* Fire Shutter only

SINGLE SHUTTER VERTICAL SHAFT ASSEMBLY, STANDARD (82-60088)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	M3-G-100A	Vertical Shaft & Governor Assembly
	M3-G-100B	Vertical Shaft Assembly, <i>less</i> Governor
	C1-G-22	Governor Weight Assembly
	C1-G-31	Ball Bearing Bracket (2 req'd.)
	C1-G-44	Upper Thrust Collar
	C3-G-93	Vertical Shaft, Key, & Gear Assembly
	C1-G-95	Intermittent Drive Bracket & Nut
2	CL-0028	Lower Collar (2 req'd.)
3	GR-0005	Sprocket Drive Gear (2 req'd.)
4	GR-0207R	Shutter Drive Gear
5	GR-0182	Vertical Shaft Driven Gear
6	RT-0061	Washer Retainer
7	SC-0668	Gear Screw
7A	00259000	Sprocket Gear Screw, 8-32 x 5/8" Fillister Head (2 req'd.)
8	41-51201	Shutter Gear Screw, 8-32 x 3/4" Socket Head
9	WA-0003	Fibre Thrust Washer (2 req'd.)
10	WA-0010	Steel Thrust Washer
11	WA-0014	Spring Washer (2 req'd.)
12	WA-0130	Neoprene Washer
13	WA-0131	Steel Thrust Washer

*Associated Parts*

14	3069	Vertical Shaft Mounting Screw, 1/4-20 x 5/8" (4 req'd.)
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GOVERNOR WEIGHT ASSEMBLY, *OPTIONAL* (82-60158)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
15	C1-G-22	Governor Weight Assembly
16	HO-0003	Link Holder
17	HO-0004	Link Holder
18	LI-0003	Link (4 req'd.)
19	SC-2468	Set Screw, 8-40 x 1/4"
20	SC-0135	Governor Link Screw (4 req'd.)
21	SC-0136	Screw, 5-40 x 5/64" Hardened (4 req'd.)
22	SV-0042	Sleeve
23	WT-0006	Weight (2 req'd.)
24	WA-0296	Washer (2 req'd.)

VERTICAL SHAFT BALL BEARING & BRACKET ASSEMBLY (82-60025)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
25	C1-G-31	Bearing & Bracket Assembly (2 req'd.)
26	BG-0009	Ball Bearing
27	BR-0020	Bracket Casting
28	41-51061	Bearing Retainer Screw, 8-32 x 1/4" (3 req'd.)

VERTICAL SHAFT UPPER THRUST COLLAR ASSEMBLY (82-60102)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
29	C1-G-44	Upper Thrust Collar Assembly
30	CL-0101*	Collar
31	PG-0013*	Plug (2 req'd.)
32	H-3719*	Collar Set Screw, 6-32 x 1/4" (2 req'd.)

\* Order C1-G-44; *Sold as Assembly only*

VERTICAL SHAFT, KEY, & GEAR ASSEMBLY (82-20256)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
33	C3-G-93	Vertical Shaft, Key, & Gear Assembly
34	ST-1796	Shaft
	KY-0053-J	Key (2 req'd.)
35	GR-0366R	Intermittent Drive Gear

INTERMITTENT DRIVE BRACKET & NUT ASSEMBLY (82-60103)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
36	C1-G-95	Drive Bracket & Nut Assembly
	C1-G-23	Ball Bearing & Bracket Assembly
	C1-G-24	Drive Gear Assembly

INTERMITTENT DRIVE & BRACKET ASSEMBLY (82-60101)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
38	C1-G-23	Ball Bearing & Bracket Assembly
39	BG-0006A	Ball Bearing
40	BR-0003*	Bracket Casting
41	41-51061	Screw, 8-32 x 1/4" Bind Head (as req'd.)
42	WA-0239	Washer (2 req'd.)

\* Order C1-G-23

## INTERMITTENT DRIVE GEAR NUT ASSEMBLY (C1-G-24)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
43	C1-G-24	Drive Gear Nut Assembly
44	NU-0001*	Nut
45	PG-0013*	Plug (2 req'd.)
46	SC-0063*	Screw (2 req'd.)

\* Order C1-G-24; *Sold as Assembly only*

## HORIZONTAL DRIVE SHAFT ASSEMBLY for DIRECT DRIVE (82-60181)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
47	M5-G-111T	Horizontal Drive Shaft Assembly
	C2-G-112	Drive Shaft & Bearings
48	BG-0006A	Ball Bearing
49	GR-0328	Main Drive Gear
50	SC-0074	Set Screw, 1/4-20 x 1/4" (2 req'd.)
51	ST-2154	Horizontal Drive Shaft
52	RI-0617	Oil Seal Ring

NOTE: Direct Drive = (1) Drive Belt

## HORIZONTAL DRIVE SHAFT ASSEMBLY for STANDARD DRIVE (82-60161)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
47	C2-G-111T	Horizontal Drive Shaft Assembly
	C2-G-112	Drive Shaft & Bearings
48	BG-0006A	Ball Bearing
49	GR-0302	Main Drive Gear
50	3052	Set Screw, 1/4-20 x 3/8" (2 req'd.)
51	ST-2154	Horizontal Drive Shaft
52	RI-0617	Oil Seal Ring

NOTE: Standard Drive = (2) Drive Belts

## HORIZONTAL DRIVE SHAFT & BEARINGS ASSEMBLY

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
	C2-G-112	Drive Shaft & Bearings
51	ST-2154	Horizontal Drive Shaft
48	BG-0006A	Ball Bearing (2 req'd.)

**CENTURY MODEL MSC-TM PROJECTOR**  
with 35mm Manual Lens Turret

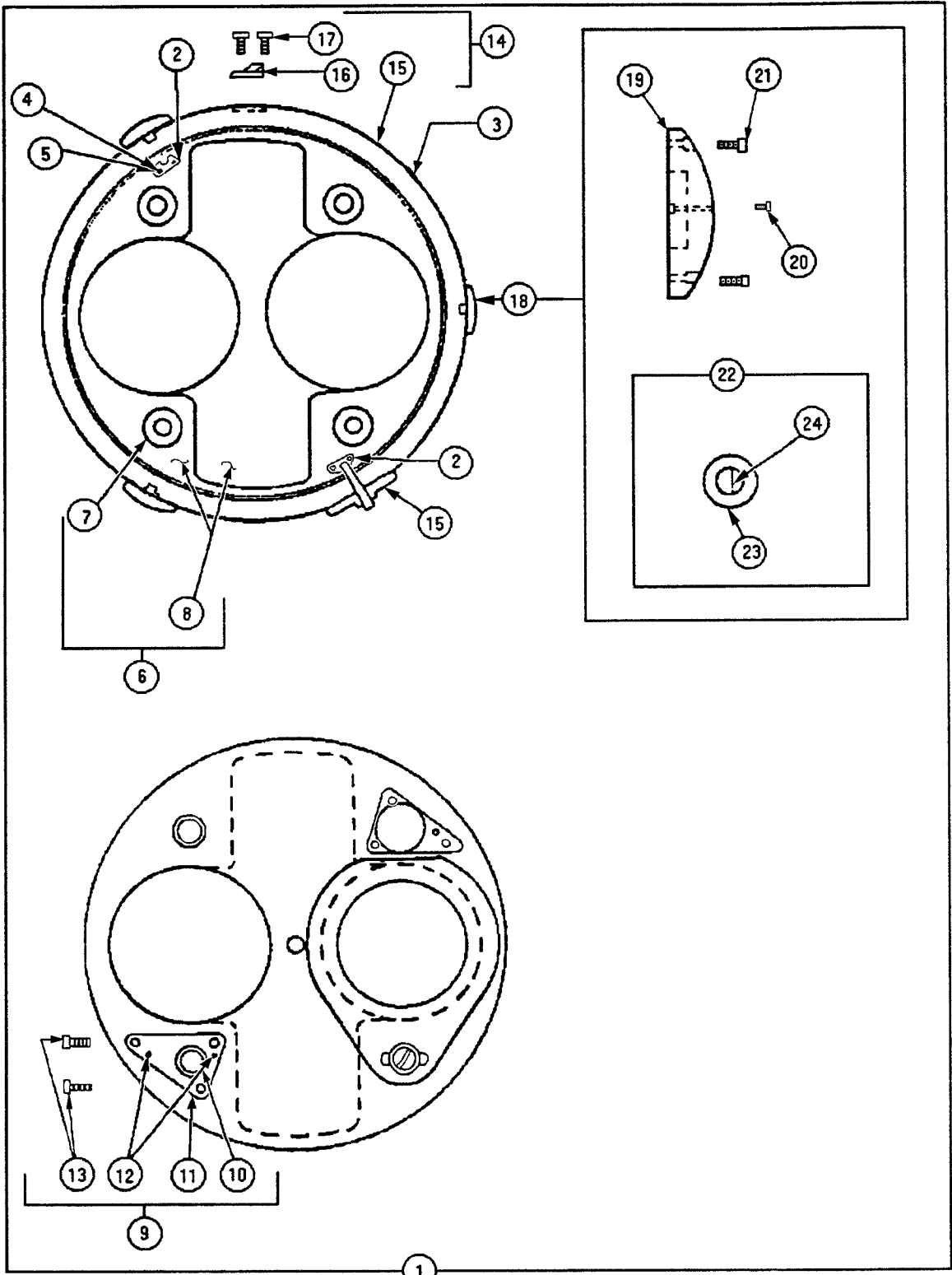
All Component Parts are the same as Model MSC-TA except as indicated in the Assemblies noted below:

***OMIT:***

T1-A-30	Automatic Turret Assembly
T1-A-40	Turret Motor Assembly
LC-T-120A	Automatic Aperture Changer & Trap Assembly
JRA-T-140	Plug & Wire Assembly, Film Trap

***ADD:***

T3-E-30	Manual Turret Assembly
A2-E-10T	Film Trap & Manual Aperture Changer



## MANUAL LENS TURRET ASSEMBLY (82-60231)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	T3-A-30	Manual Turret Assembly
	T3-A-31A	Ring & Matched Focus Rods Assembly
	T3-A-33*	Outer Turret Housing
	T1-A-36*	Lens Bushing Assembly (2 req'd.)
	T1-A-37A	Focus Rod Assembly (2 req'd.)
	T1-A-38A	Focus Pivot Rod Assembly (2 req'd.)
	T3-A-39	Turret Locating Lock
2	BR-1328	Adjust Bracket, Locating Stop (2 req'd.)
3	DC-0141	Decal
4	SC-2413	Mounting Screw (4 req'd.)
5	WA-0346	Washer (4 req'd.)

## TURRET RING & MATCHED FOCUS RODS ASSEMBLY (82-60210)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
6	T3-A-31A	Ring & Matched Focus Rods
	T1-A-32	Focus Block & Bushing (2 req'd.)
7	BU-1314	Bushing (6 req'd.)
8	HS-0146B	Housing, Inner Ring

## FOCUS BLOCK & BUSHING ASSEMBLY (T1-A-32)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
9	T1-A-32	Focus Block & Bushing Assembly (2 req'd.)
10	BU-1313	Focus Rod Bushing
11	BK-1315	Block, Focus Rod
12	P-1457	Locating Pin, 3/16 x 3/4" (2 req'd.)
13	3041	Screw, 10-32 x 3/4" Socket Head (3 req'd.)

## OUTER TURRET HOUSING ASSEMBLY (T3-A-33\*)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
14	T3-A-33*	Outer Housing Assembly
	T1-A-34*	Ball Bearing & Bracket Assembly (3 req'd.)
15	HS-0148	Outer Ring Housing
16	PE-1261	Latch Plate
17	41-51493	Plate Screw, 1/4-20 x 3/8" Button Head (2 req'd.)

\* Not Sold as Assembly - Order Individual Components

### BALL BEARING & BRACKET ASSEMBLY (T1-A-34\*)

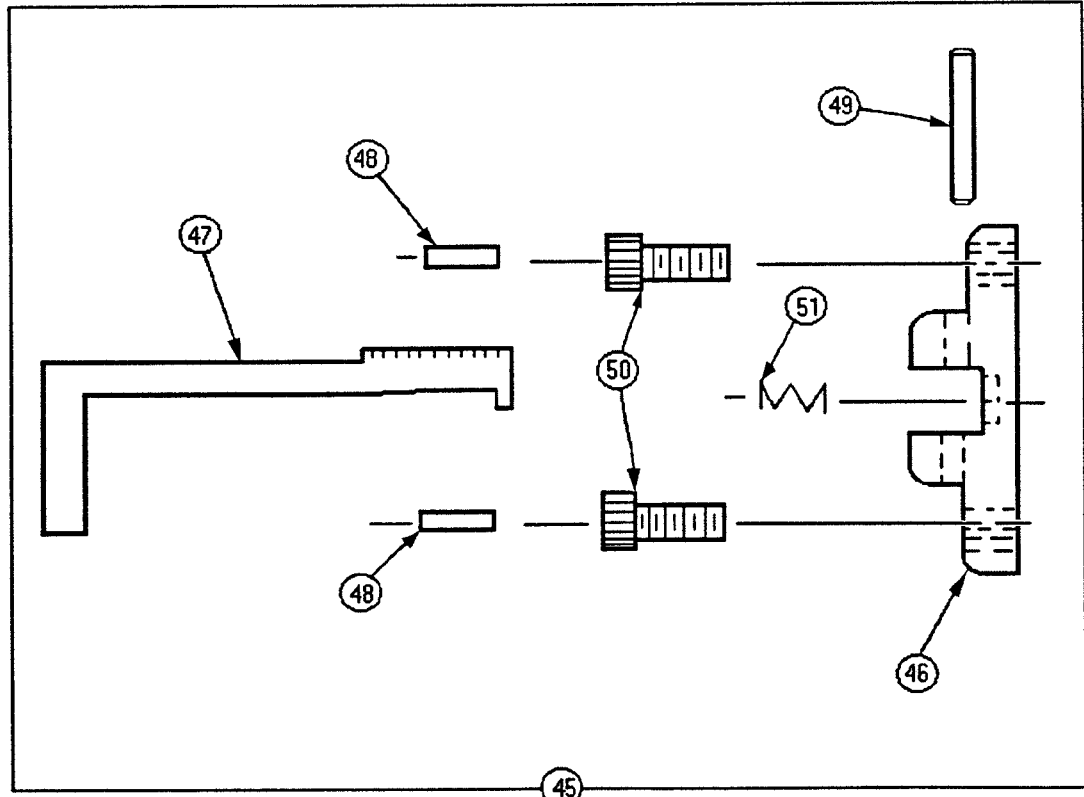
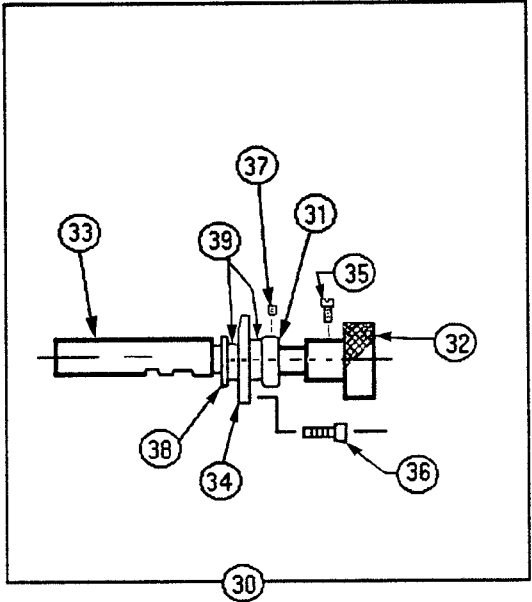
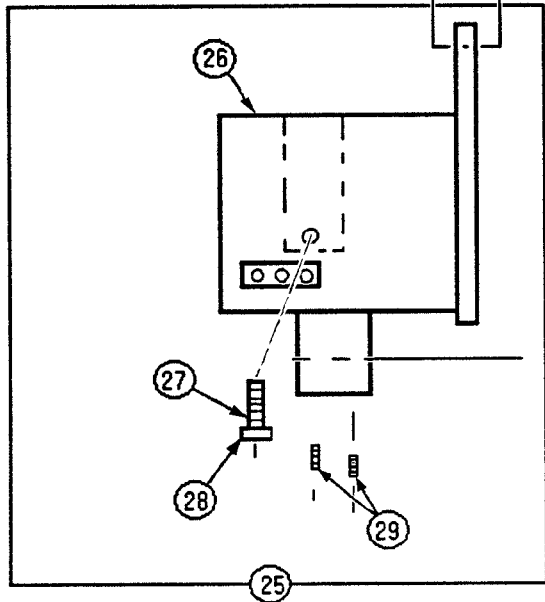
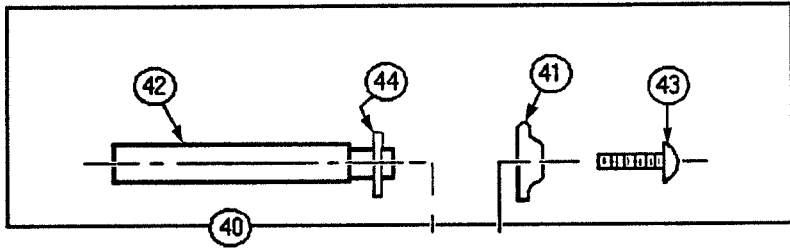
<u>Item</u>	<u>Part No.</u>	<u>Description</u>
18	T1-A-34*	Bearing & Bracket Assembly (3 req'd.)
	T1-A-35	Shaft & Bearing Assembly (3 req'd.)
19	BR-1312	Bracket
20	SC-0673	Adjustment Screw (2 req'd.)
21	41-51208	Mounting Screw, 10-32 x 1/2" Socket Head (4 req'd.)

\* Not Sold as Assembly - Order Individual Components

### SHAFT & BEARING ASSEMBLY (82-60149)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
22	T1-A-35	Shaft & Bearing Assembly
23	BG-1260A*	Ball Bearing
24	RD-0609*	Rod

\* Order T1-A-35; *Sold as Assembly only*



#### LENS BUSHING ASSEMBLY (82-60238)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
25	T1-A-36	Lens Bushing Assembly
26	BU-1305A	Lens Bushing
27	PG-1264	Plug Button
28	SC-2498	Lens Clamp Screw
29	SC-0074	Rod Clamp Set Screw, 1/4-20 x 1/4" (2 req'd.)

#### LENS FOCUS ROD ASSEMBLY (82-60077)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
30	T1-A-37A	Focus Rod Assembly (2 req'd.)
31	CL-0554	Collar
32	KN-0045	Focus Knob
33	RD-0610*	Focus Rod
34	SA-1226	Spacer
35	00256000	Knob Screw, 8-32 x 5/16" Fillister Head
36	41-51406	Screw, 4-40 x 3/16" Fillister Head (3 req'd.)
37	SC-1236	Collar Screw (2 req'd.)
38	SC-1362	Focus Screw
39	WA-0163	Washer

#### LENS FOCUS PIVOT ROD ASSEMBLY (T1-A-38A)

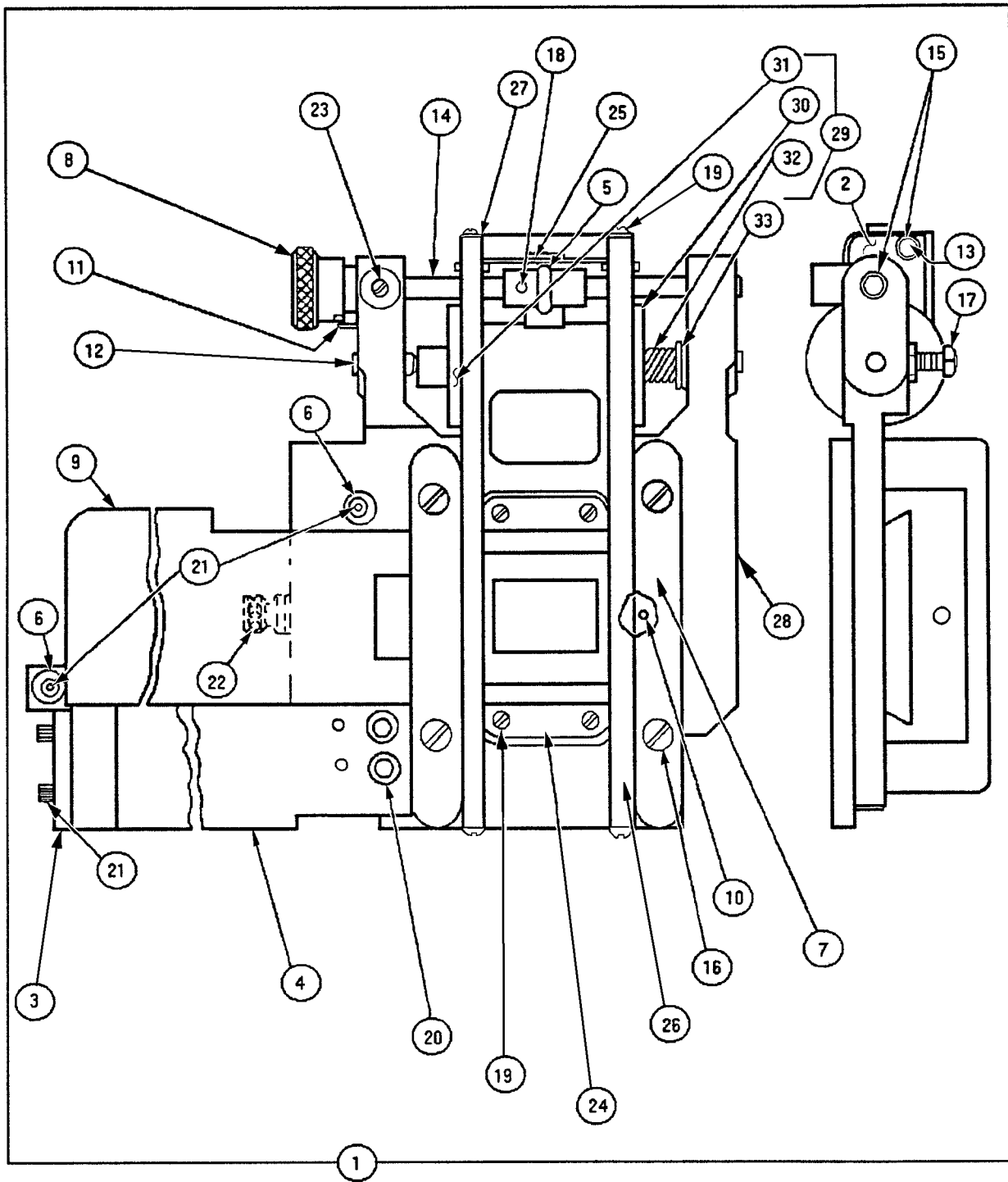
<u>Item</u>	<u>Part No.</u>	<u>Description</u>
40	T1-A-38A	Pivot Rod Assembly (2 req'd.)
41	CL-0886	Collar
42	RD-0611*	Pivot Rod
43	41-51208	Collar Screw, 10-32 x 1/2" Socket Head
44	WA-0135	Washer

\* Order T1-A-38A

#### TURRET LOCATING LOCK ASSEMBLY (T3-A-39)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
45	T3-A-39	Locating Lock Assembly
46	HO-0151*	Lock Holder
47	LO-0118*	Locating Lock
48	PN-0032	Mounting Pin (2 req'd.)
49	PN-1271	Locating Pin
50	41-51208	Mounting Screw, 10-32 x 1/2" Socket Head (2 req'd.)
51	SG-2439	Compression Spring

\* It is recommended to order Lock & Holder in *Matching Pairs*



FILM TRAP ASSEMBLY with MANUAL APERTURE CHANGER (82-60242)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	A2-E-10T	Film Trap Assembly
	A1-E-12	Lateral Guide Roller Assembly
	A1-E-13	Spring Retaining Block & Pin

SPRING RETAINING BLOCK & PIN ASSEMBLY (A1-E-13)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
2	A1-E-13	Spring Retaining Block & Pin
3	BR-1332	Eccentric Mounting Bracket
4	BR-1329	Limit Block Bracket
5	CM-0685	Cam, Strap Tension
6	EC-0030	Eccentric Bushing (2 req'd.)
7	GU-0315	Studio Guide (2 req'd.)
8	KN-0070	Knob, Tension Adjust
9	PE-1291E/15	Dual Aperture Plate
10	PN-0519	Stop Pin
11	PN-0824	Knob Stop Pin
12	PT-0033	Pivot Pin (2 req'd.)
13	RD-0281	Block Support Rod
14	RD-0282	Cam Shaft
15	P-4089	Retaining Ring for .156" O.D.
16	SC-0128	Fastening Screw (4 req'd.)
17	SC-0134	Pivot Retaining Screw (2 req'd.)
18	P-1971	Cam Set Screw, 6-32 x 1/8"
19	41-51271	Screw, Straps & Springs; 4-40 x 1/8" (8 req'd.)
20	SC-2117	Screw, Eccentric & Block (4 req'd.)
21	P-1757	Mounting Block Screw, 4-40 x 1/4" (2 req'd.)
22	SC-1800	Trap Mounting Screw
23	SC-2431	Detent Screw
24	SG-1484	Aperture Plate Spring
25	SG-1802	Trap Spring
26	SH-1811	Trap Shoe (Pressure Strap), 2 req'd.
27	WA-0245	Strap Washer (2 req'd.)
28	TP-0171	Trap Casting

LATERAL GUIDE ROLLER ASSEMBLY (82-60016)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
29	A1-E-12	Lateral Guide Roller Assembly
30	RO-0283	Inner Roller
31	RO-0284	Outer Roller
32	SG-0124	Compression Spring
33	2933	Retaining Ring for .250" O.D.

## DOUBLE SHUTTER PROJECTOR

### DOUBLE SHUTTER SHAFT, BRACKET, GEARS, & BLADE ASSEMBLY (82-60068)

<u>Part No.</u>	<u>Description</u>
J4-D-50	Double Shutter Shaft, Bracket, Gears, & Blade Assembly
J8-D-51	Double Shutter Blade & Hub, Inner
J8-D-52	Double Shutter Blade & Hub, Outer
H1-D-54*	Shutter Shaft Bracket & Ball Bearing
SG-0016	Shutter Spring
SA-2044	Shutter Spacer
3072	Socket Screw, 1/4-20 x 1/2"

\* Not Sold as Assembly - Order Individual Components

### INNER SHUTTER BLADE & HUB ASSEMBLY (82-60118)

<u>Part No.</u>	<u>Description</u>
J8-D-51	Inner Shutter Blade & Hub
C2-D-56	Hub & Clamp Screws
J8-D-59	Shutter Blade & Air Vanes
SC-0128	Fastening Screw (5 req'd.)

### INNER SHUTTER HUB ASSEMBLY (82-60108)

<u>Part No.</u>	<u>Description</u>
C2-D-56	Shutter Hub Assembly
HB-0045	Hub
41-51201	Clamping Screw, 8-32 x 3/4" Socket Head (2 req'd.)

### INNER SHUTTER BLADE & AIR VANES ASSEMBLY (82-60124)

<u>Part No.</u>	<u>Description</u>
J8-D-59	Shutter Blade Assembly
BD-0026	Air Vane (2 req'd.)
BD-1083	Shutter Blade, Inner
SC-0094	Vane Screw, 6-32 x 1/8" Bind Head (6 req'd.)

## OUTER SHUTTER BLADE & HUB ASSEMBLY (82-60123)

<u>Part No.</u>	<u>Description</u>
J8-D-52	Shutter Blade & Hub Assembly
C2-D-49	Hub & Clamp Screws
SC-0128	Fastening Screw (5 req'd.)
BD-1082	Shutter Blade, Outer

## OUTER SHUTTER HUB ASSEMBLY (82-60032)

<u>Part No.</u>	<u>Description</u>
C2-D-49	Shutter Hub Assembly
HB-0044	Hub
41-51201	Clamping Screw, 8-32 x 3/4" Socket Head (2 req'd.)

## DOUBLE SHUTTER SHAFT BRACKET & BALL BEARING ASSEMBLY (H1-D-54\*)

<u>Part No.</u>	<u>Description</u>
H1-D-54*	Double Shutter Shaft Bracket & Bearing Assembly
C2-D-42	Shutter Shaft Bracket & Bearing Assembly
C2-D-55A*	Double Shutter Intermittent Bracket Assembly
CL-0128	Shutter Shaft Thrust Collar
GR-0007	Intermittent & Shutter Drive Gear
RT-0061	Thrust Washer Retainer (2 req'd.)
RT-0062	Shutter Shaft Spring Retainer
SC-0023	Set Screw, 10-32 x 3/16"
P-1432	Screw, 8-32 x 5/8" Socket Head
ST-1397X	Shutter Shaft
WA-0130	Steel Washer (2 req'd.)
WA-0131	Spring Washer (2 req'd.)

\* Not Sold as Assembly - Order Individual Components

INTERMEDIATE BRACKET, GEARS, & BALL BEARING ASSEMBLY (C2-D-55A\*)  
for Double Shutter Projectors

<u>Part No.</u>	<u>Description</u>
C2-D-55A*	Intermediate Bracket, Gears, Bearing Assembly
C1-D-39	Intermediate Shutter Shaft & Bearing Assembly
C2-D-53B	Outer Rear Bracket, Gear, & Bearing Assembly
BG-0009B	Ball Bearing
BR-0016	Bracket Casting
CL-0035	Thrust Collar
GR-0007	Steel Gear
GR-0072	Reverse Shutter Gear
00259000	Screw, 8-32 x 5/8" Fillister Head
H-2525	Screw, Collar & Gear; 6-32 x 1/2" Fillister Head (2 req'd.)
SC-0112	Screw, Bearing Retaining (2 req'd.)
SC-0131	Screw, Reverse Gear & Bearing Retaining (2 req'd.)
SG-0086	Thrust Spring
WA-0005	Fibre Thrust Washer
WA-0017	Steel Thrust Washer (2 req'd.)
WA-0254	Thrust Washer

\* Not Sold as Assembly - Order Individual Components

*Associated Parts*

3072	Mounting Screw, Intermediate Bracket (4 req'd.)
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DIRECT DOUBLE SHUTTER BRACKET & BALL BEARING ASSEMBLY (82-60160)

<u>Part No.</u>	<u>Description</u>
C2-D-53B	Direct Double Shutter Bracket & Bearing Assembly
C2-D-53A	Bearing & Matched Gear Assembly
BR-0015	Bracket Casting
CL-0747	Inner Spacing Collar
SA-2043	Spacer
SC-0882	Collar Set Screw, 6-32 x 1/4"
WA-0009	Washer

GEAR & BALL BEARING ASSEMBLY for DOUBLE SHUTTER (C2-D-53A)

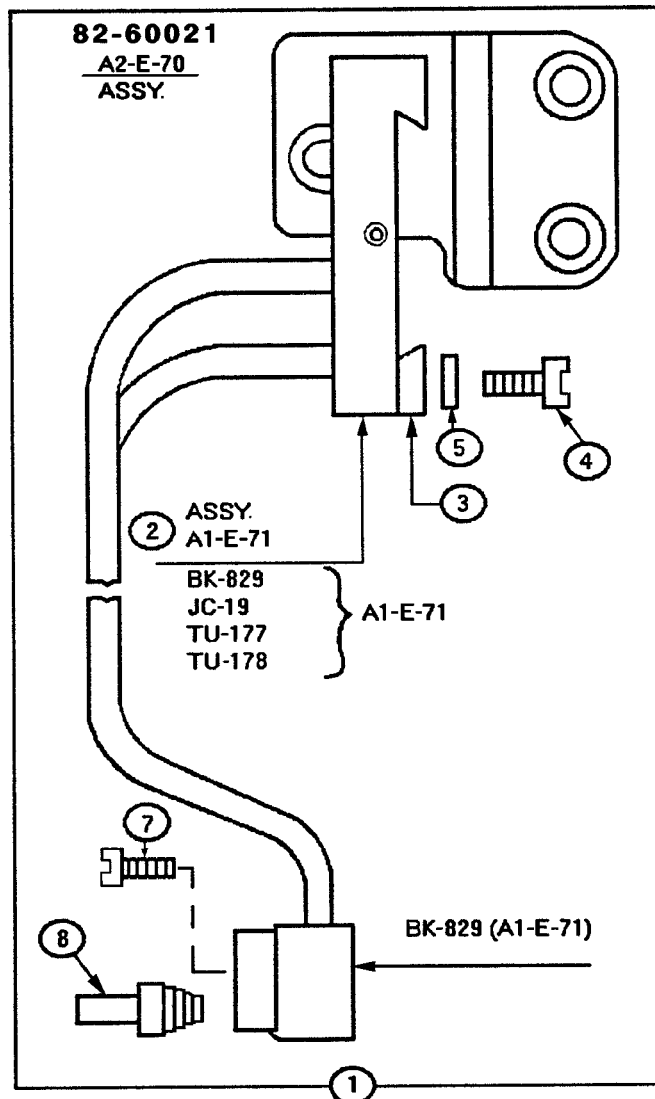
<u>Part No.</u>	<u>Description</u>
C2-D-53A	Gear & Ball Bearing Assembly
BG-0006A	Ball Bearing (2 req'd.)
BR-0015	Bracket Casting
GR-0013	Intermediate Shutter Gear (2 req'd.)

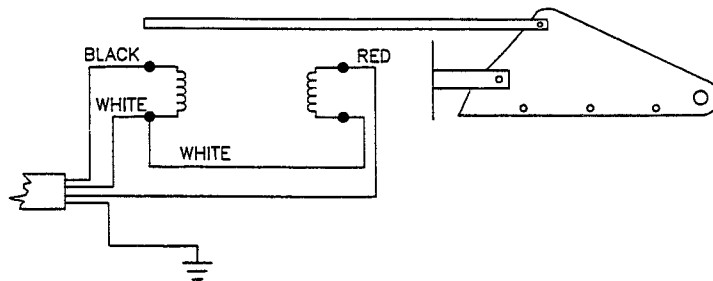
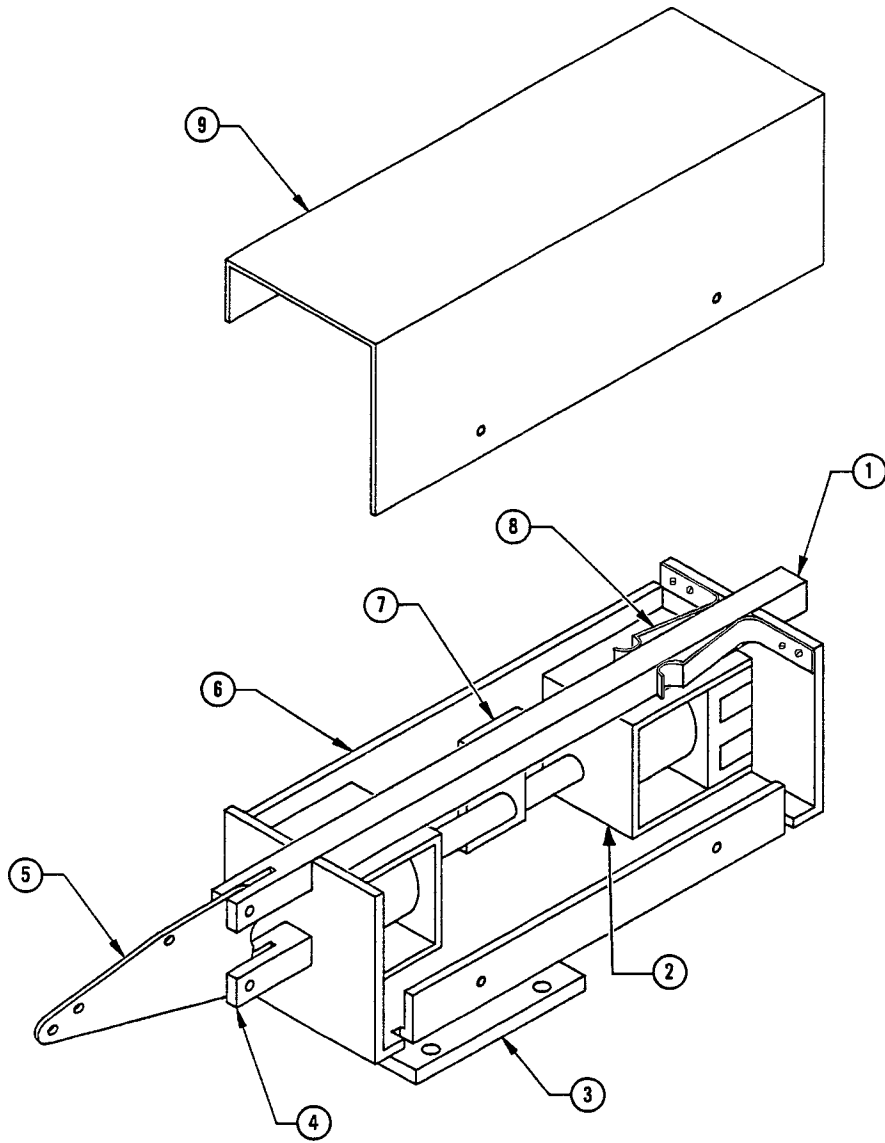
## ADDITIONAL PARTS for WATER-COOLED PROJECTORS

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	A2-E-70	Film Trap Support Gib, Water-Cooled (Complete)
2	A1-E-71	Support Gib/Water Cell with Tubes & Connector Block
3	GI-0255	Film Trap Support Gib with Water Cell
4	41-51016	Fastening Screw, 4-40 x 1/2 Bind Head (3 req'd.)
5	WA-0088	Washer (3 req'd.)
6	00259000	Fastening Screw, 8-32 x 5/8" Fillister Head
7	SC-0137	Mounting Screw, 1/4-20 x 1/2" Fillister Head (3 req'd.)
8	81-20001	Hose Connector, Nylon (2 req'd.)

### *Associated Parts*

01432000 Mounting Screw, 1/4-20 x 1/2" Allen Head (3 req'd.)





CENTURY PICTURE CHANGEOVER DEVICE, 115 V.AC (82-60218\*)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
1	P-7922	Push Rod
2	51-55005	Solenoid, 115 V.AC (2 req'd. for 82-60218)
-	51-55006	Solenoid, 230 V.AC (2 req'd. for 82-60219*)
-	81-55006	Solenoid, 24 V.AC (2 req'd. for 82-60283*)
-	00236000	Solenoid Mounting Screw, 8-32 x 5/16" Flat Head
3	P-7926	Base Plate
4	P-7923	Pivot Block, Bell Crank
-	P-7966	Clevis Pin, 1/8" Diameter
-	01704000	Cotter Pin, 1/16" Diameter
5	P-7892	Bell Crank
-	P-7966	Clevis Pin, 1/8" Diameter
-	01704000	Cotter Pin, 1/16" Diameter
6	P-7919	Bracket, Changeover Body
-	41-13008	Cable Clamp, 90°
7	P-7925	Connector Plate
-	41-51325	Screw, 6-32 x 3/8" Socket Head
-	P-7966	Clevis Pin, 1/8" Diameter (Plate to Solenoid Armature)
-	01704000	Cotter Pin, 1/16" Diameter
8	P-7920	Leaf Spring (2 req'd.)
-	41-51016	Spring Mounting Screw, 4-40 x 1/4" (4 req'd.)
9	P-7924	Cover
-	41-51412	Cover Mounting Screw, 6-32 x 1/4" Pan Head (Black)

*Associated Parts (not shown)*

9403	Linkage Rod, Changeover Douser Plate
9402	Douser Plate & Clamp Assembly
P-1676	Clamp Screw, Douser Plate to Linkage Rod; 6-32 x 1/4"
51-71007	Cable, (4) Conductor, Type SO (6 feet req'd.)

\* Order 82-60219 for 230 V.AC Changeover Assembly (Complete)  
 Order 82-60283 for 24 V.AC Changeover Assembly (Complete)

