

Kodak Retina Service Manuals

...Retina IIIS

...Retina Reflex

...Retina Reflex S

...Retina Reflex III

...Retina Reflex IV

Corrected to DECEMBER 1959

PARTS LIST No. 5525

KODAK RETINA IIIS CAMERA

**WITH
SYNCHRO COMPUR SHUTTER**

**AND
Kodak Retina Field Case
Models C and D**



KODAK RETINA III S CAMERA

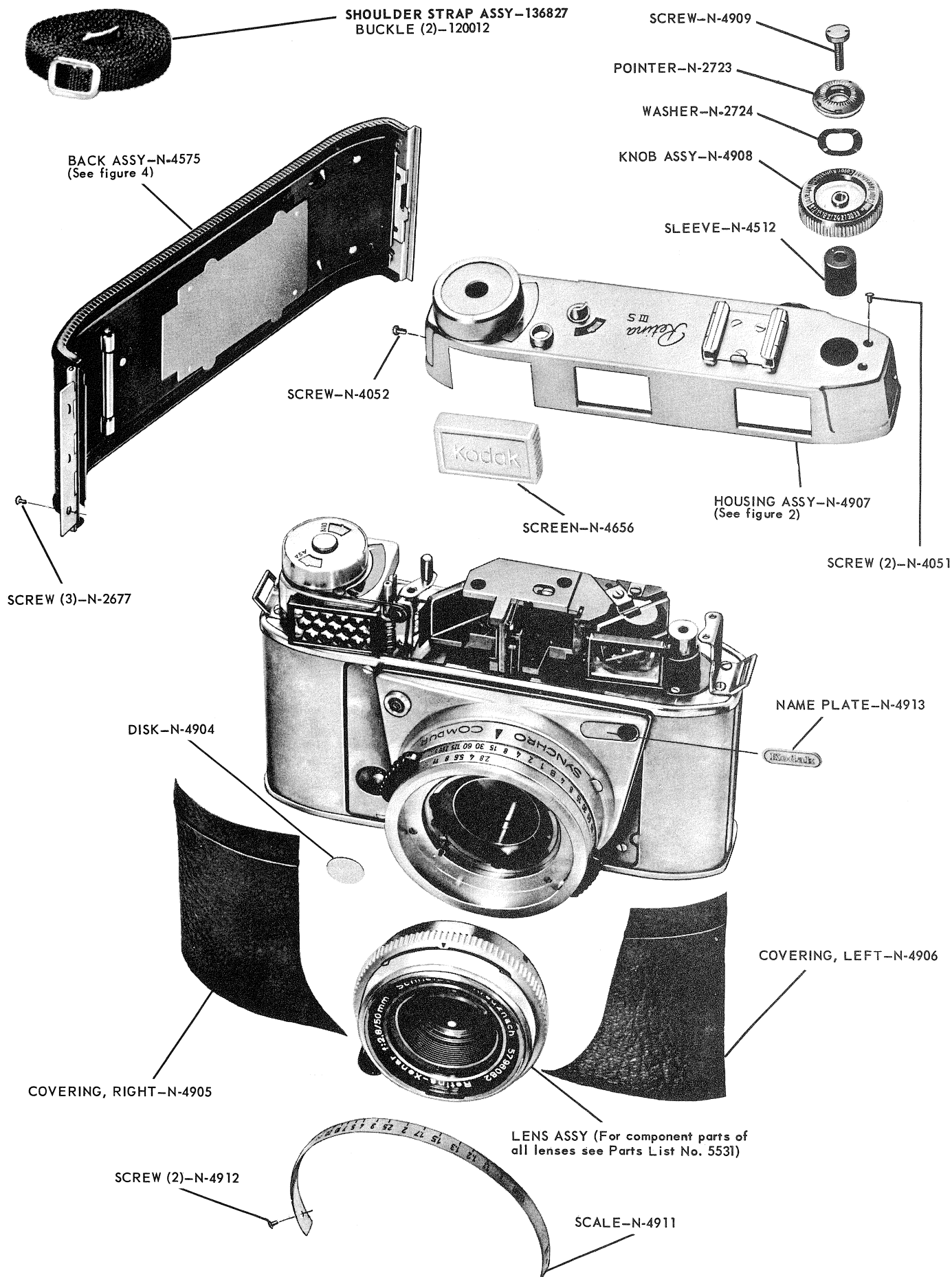


FIGURE 1

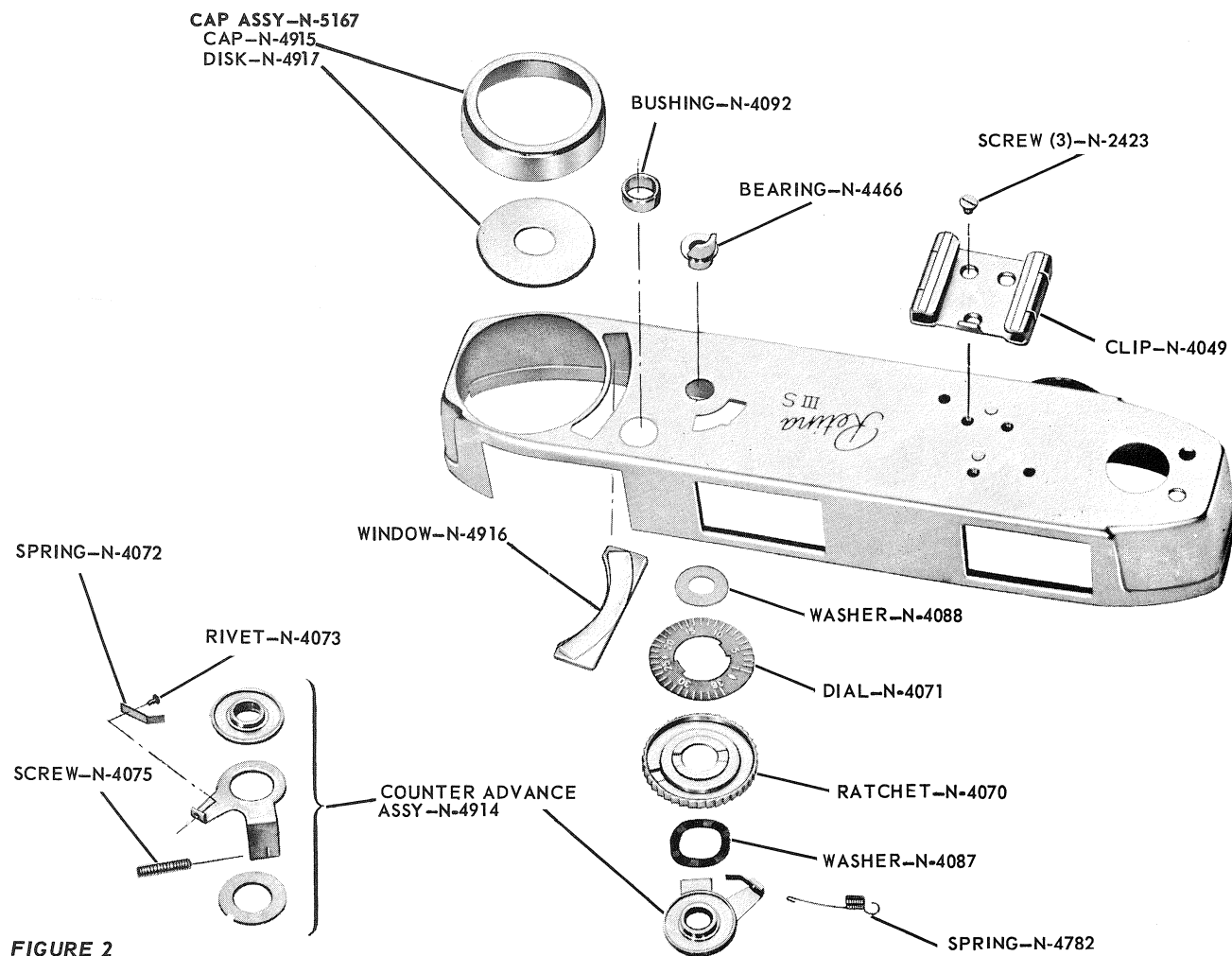


FIGURE 2

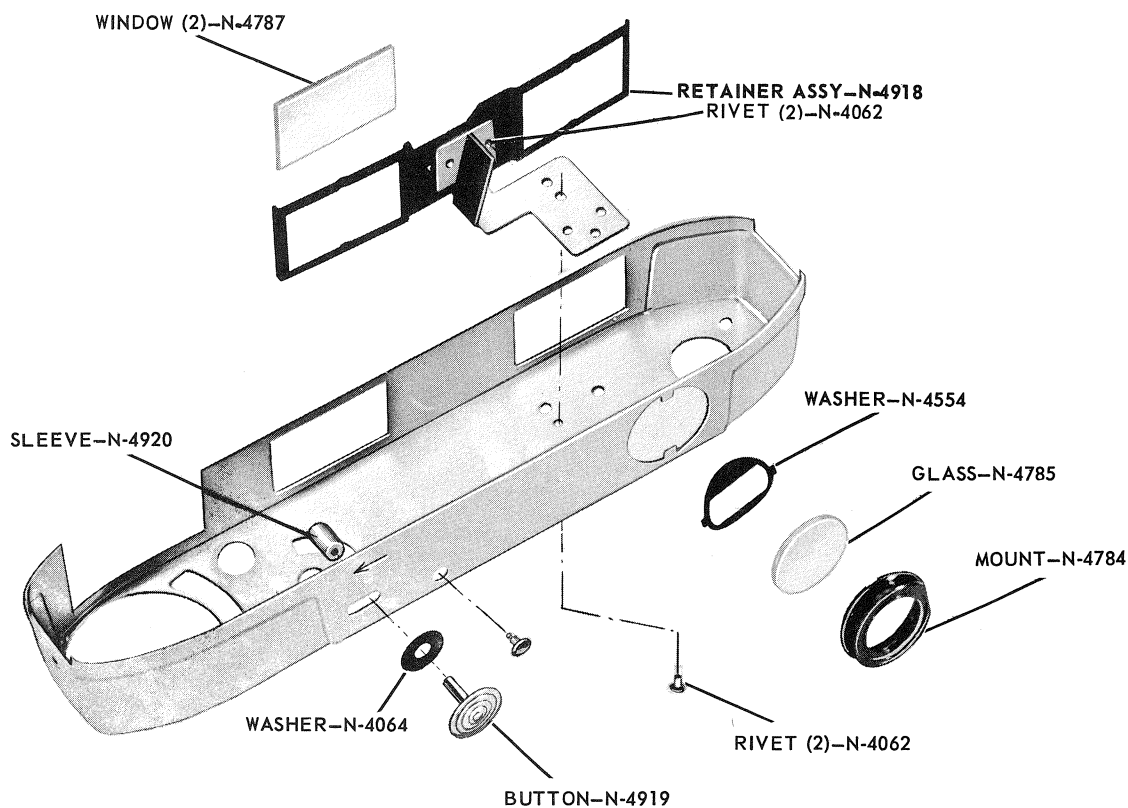


FIGURE 3

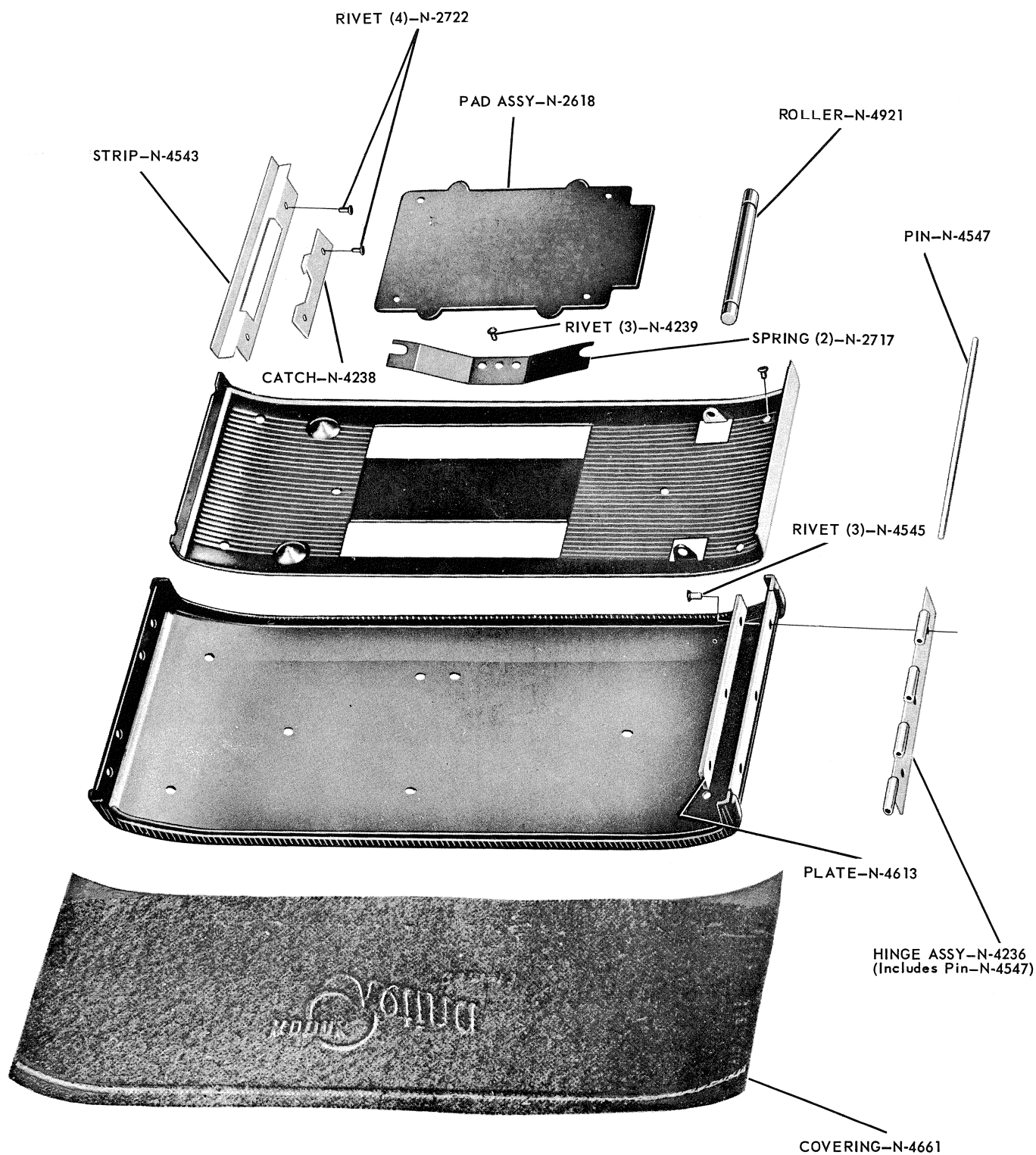


FIGURE 4

KODAK RETINA III S CAMERA

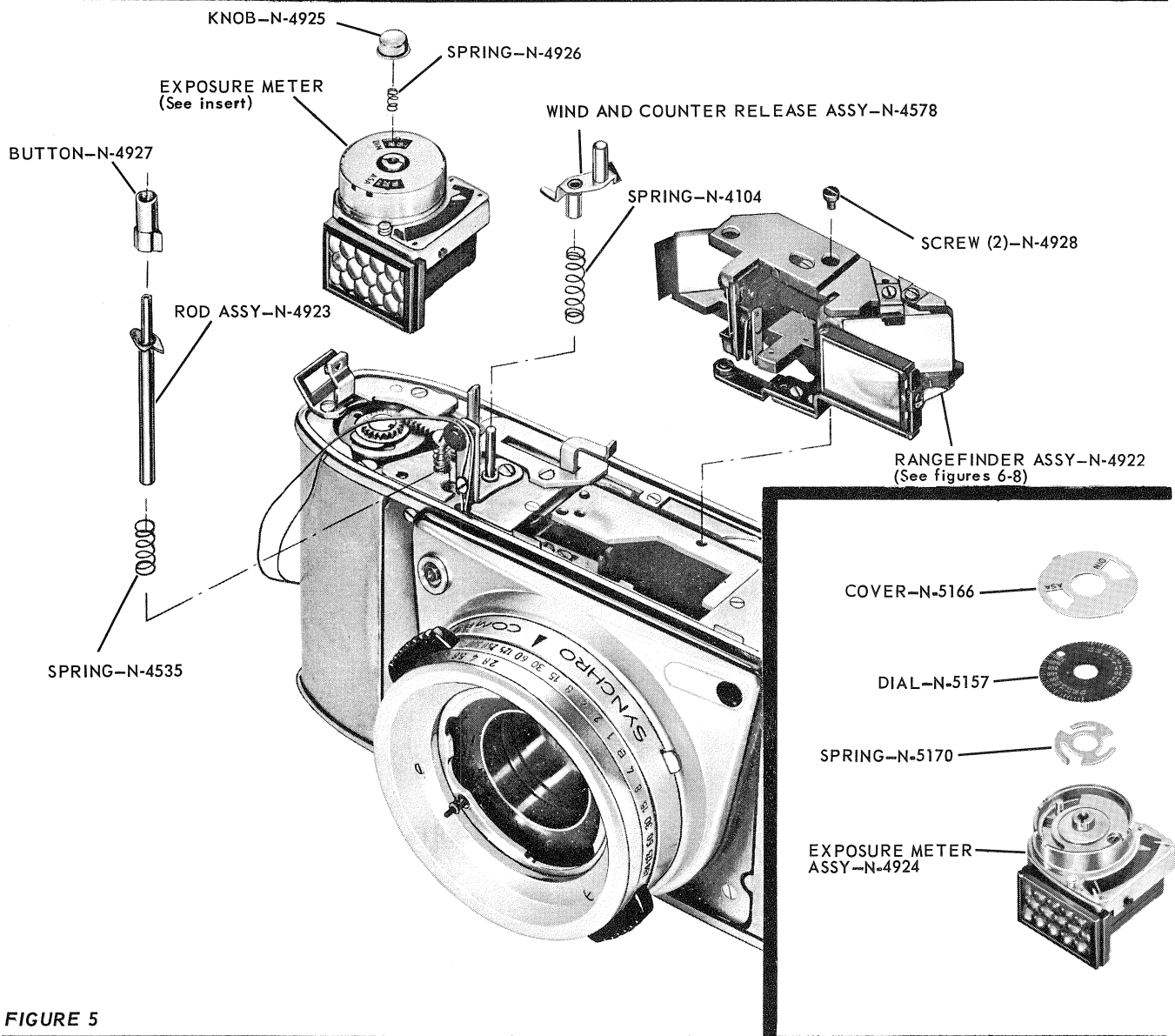


FIGURE 5

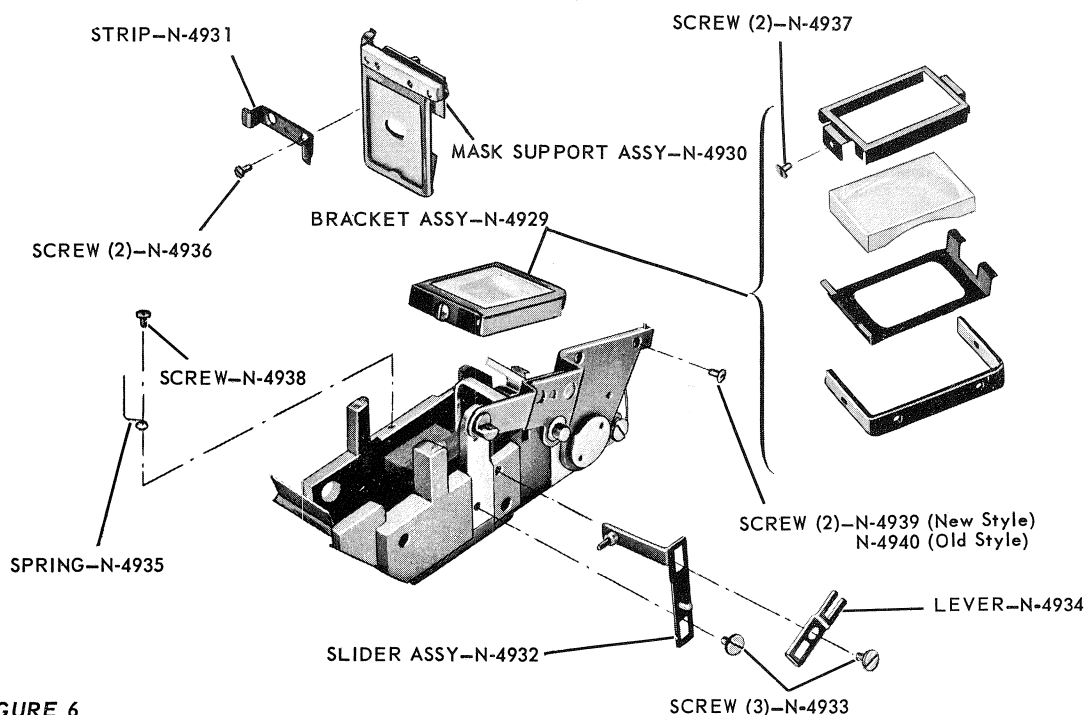


FIGURE 6

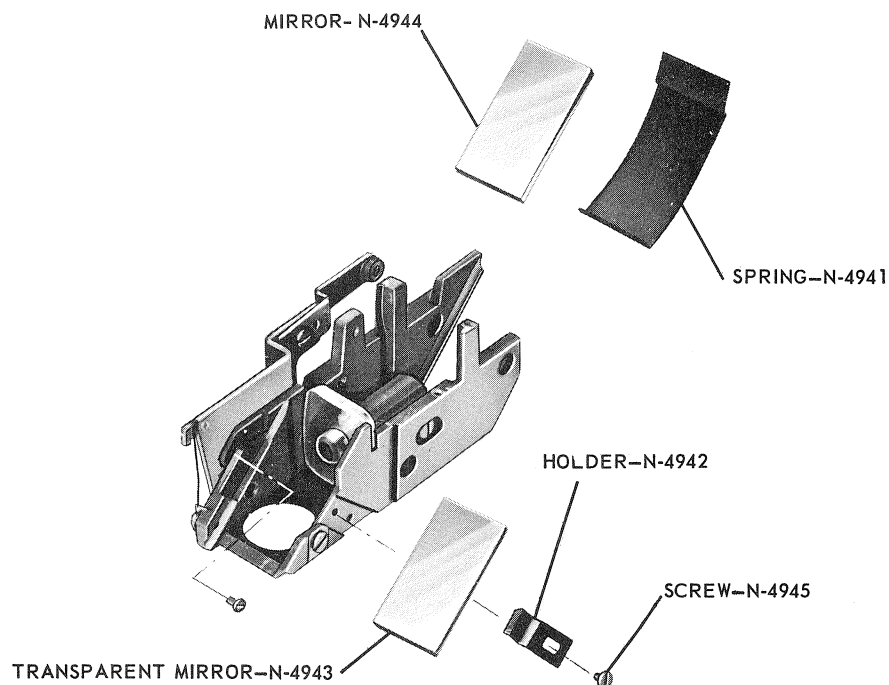


FIGURE 7

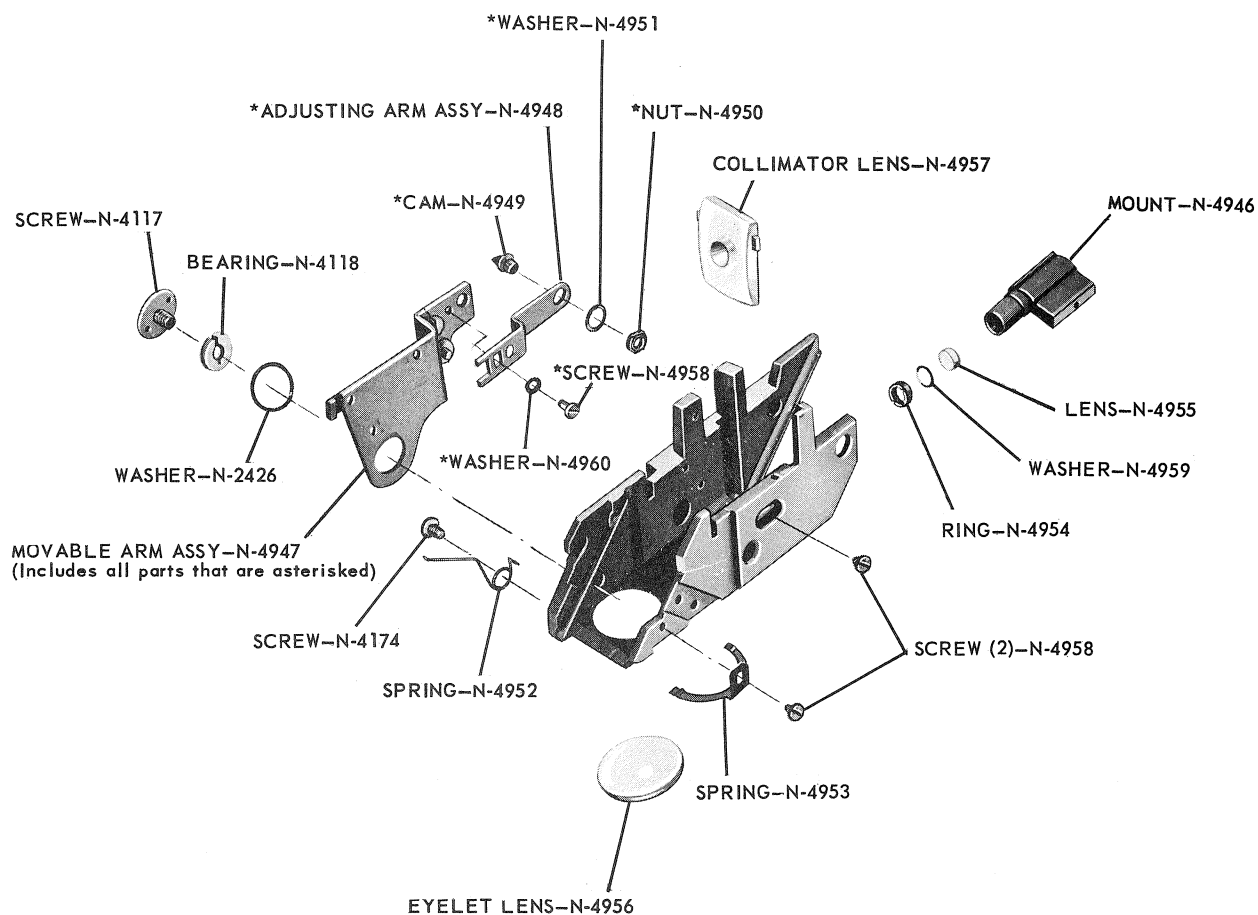


FIGURE 8

KODAK RETINA III S CAMERA

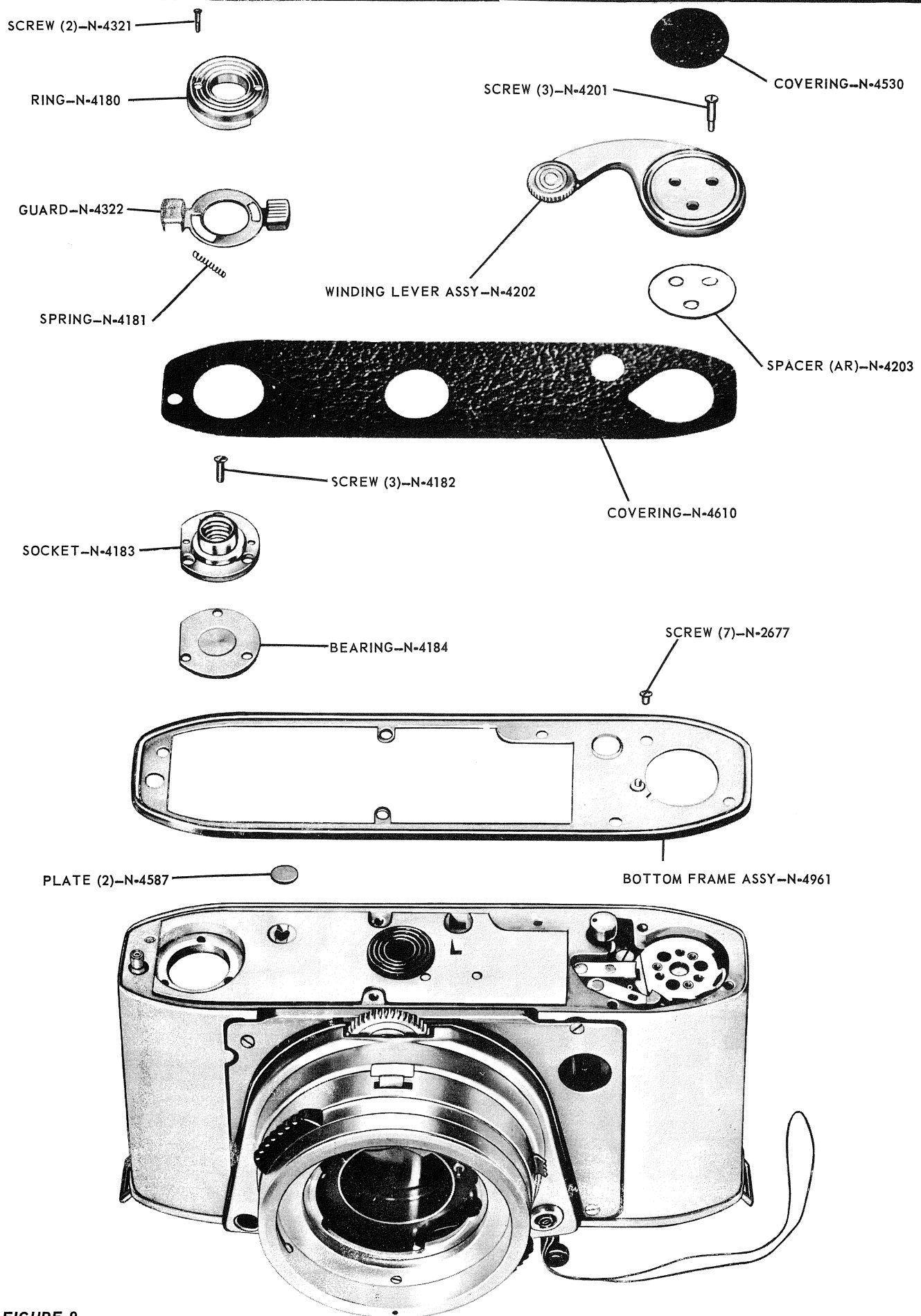


FIGURE 9

Always give PART NUMBER and NAME when ordering parts

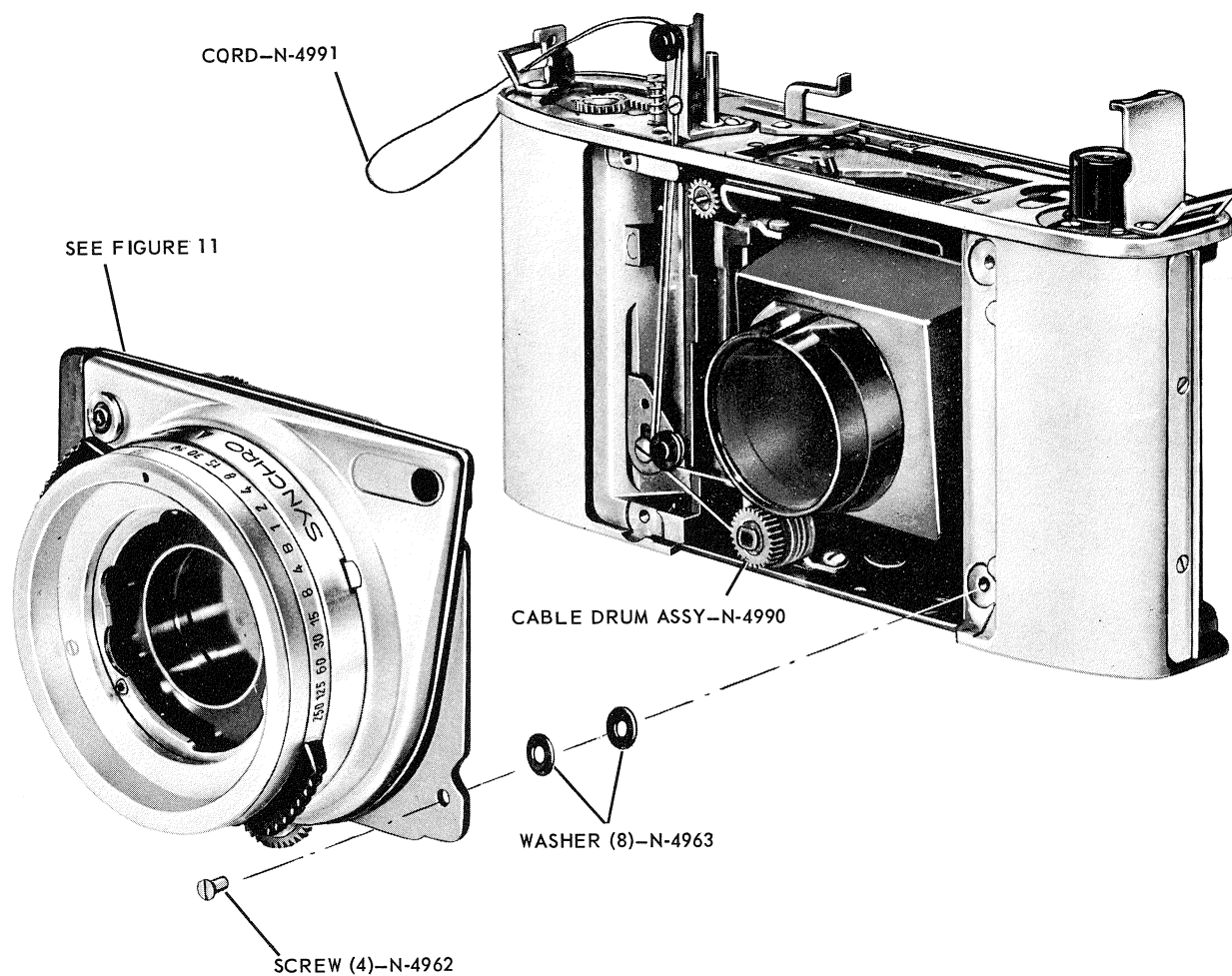


FIGURE 10

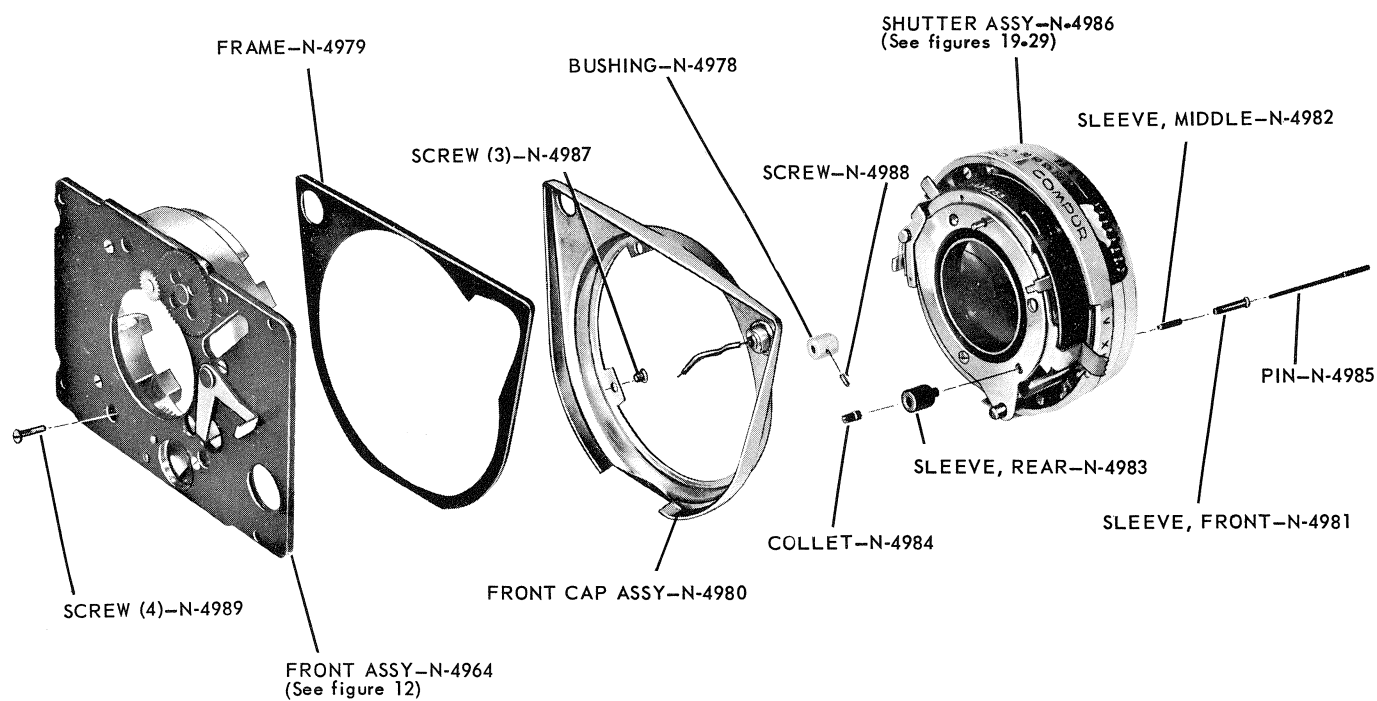


FIGURE 11

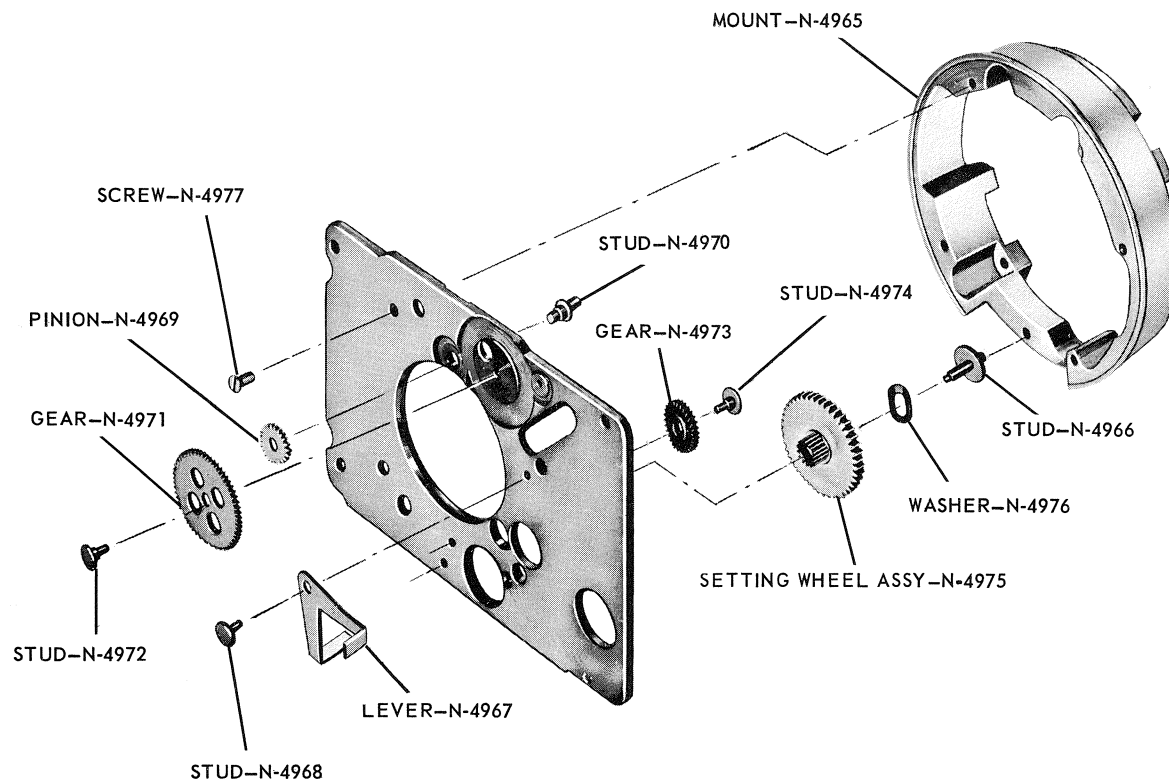


FIGURE 12

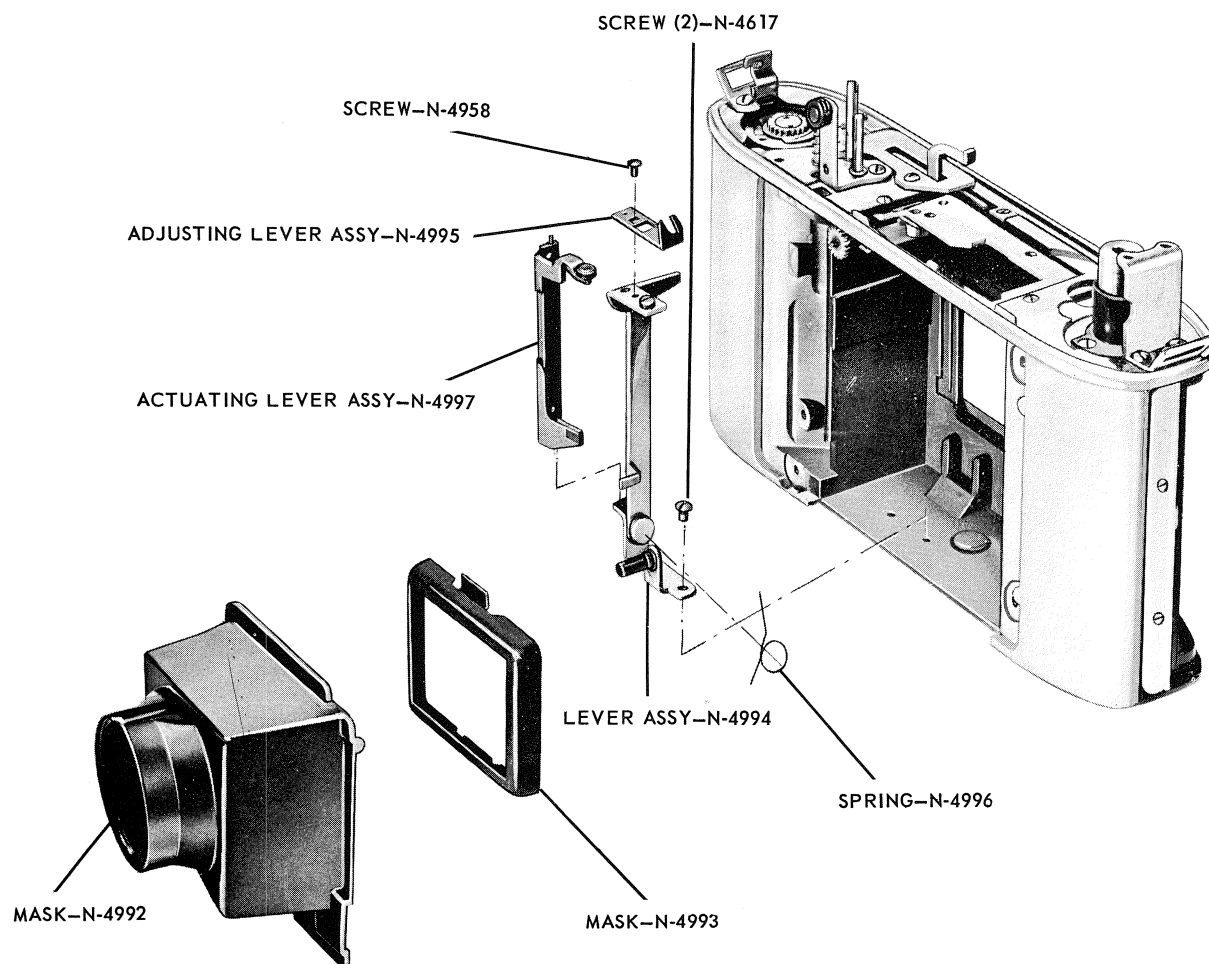


FIGURE 13

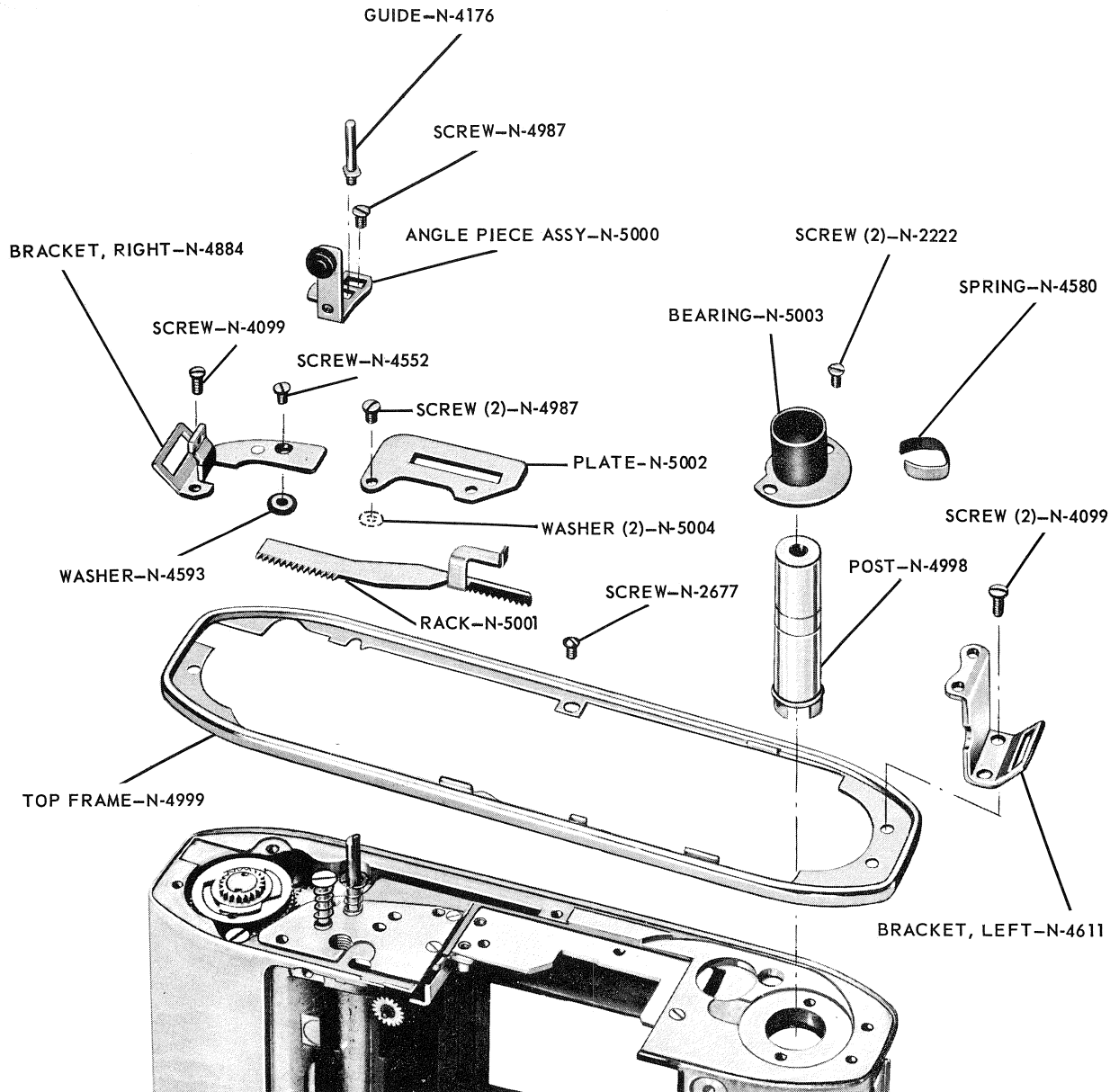


FIGURE 14

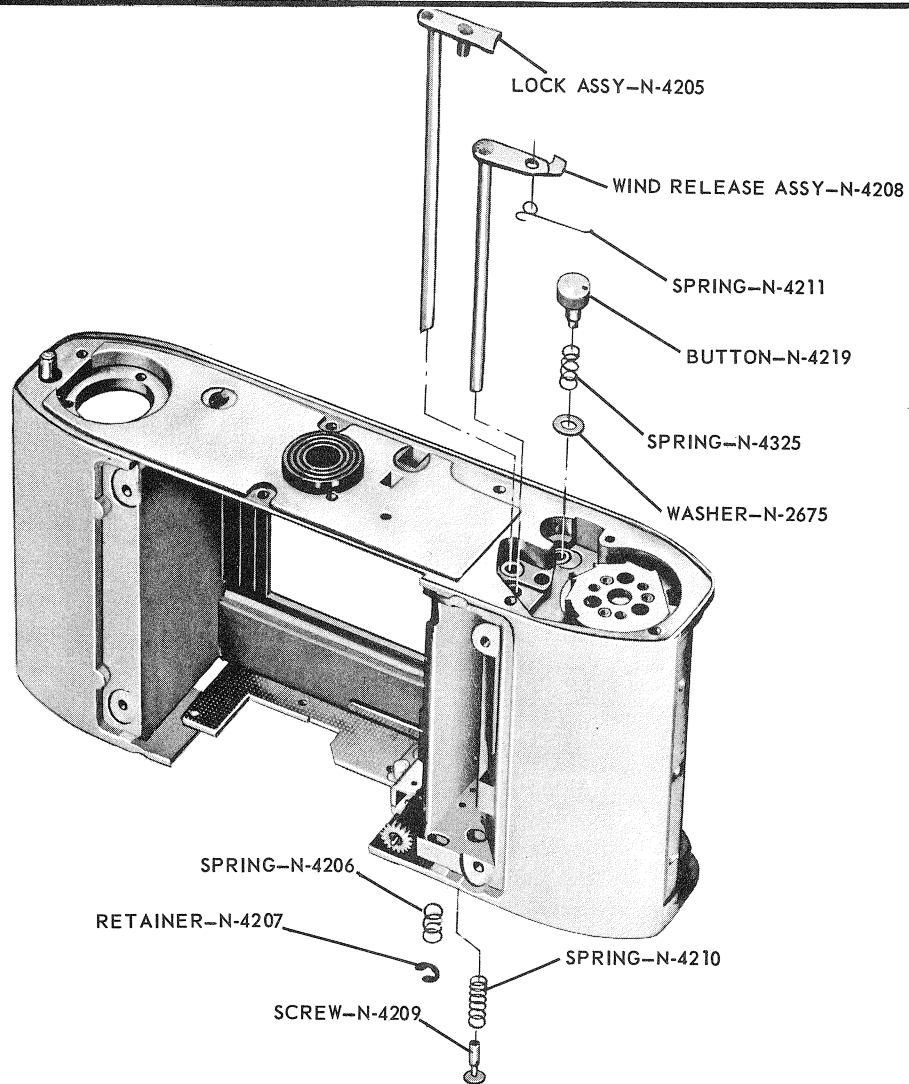


FIGURE 15

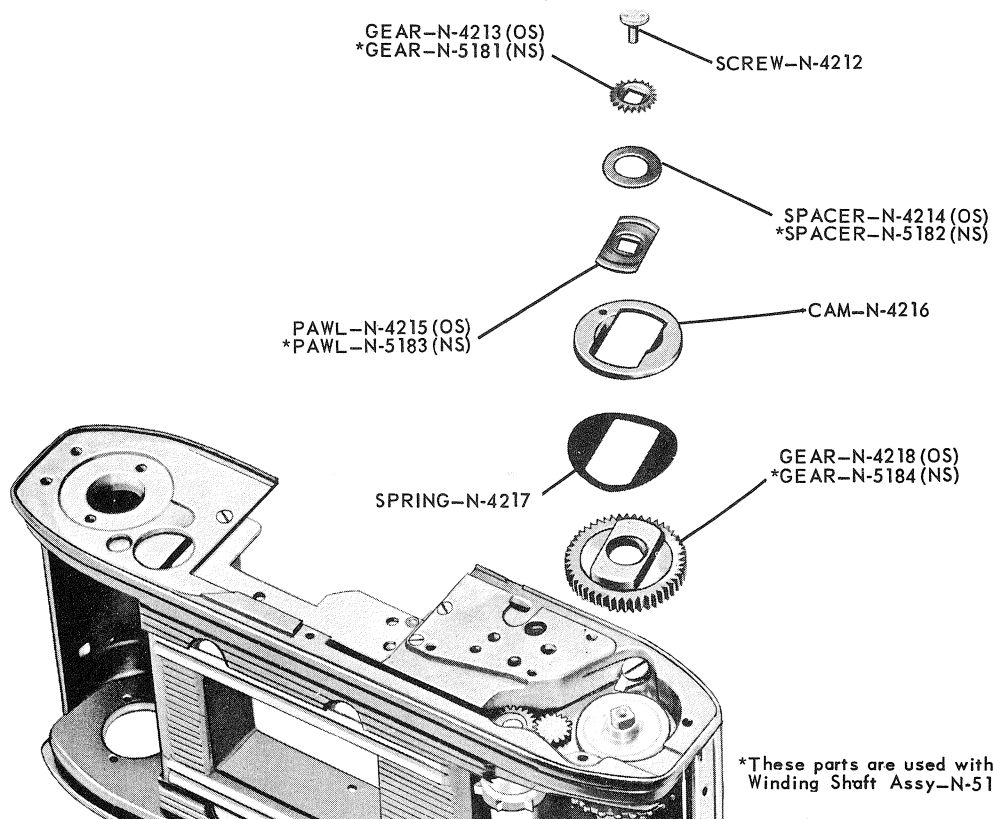


FIGURE 16

*See figure 16 for parts used with this assembly.

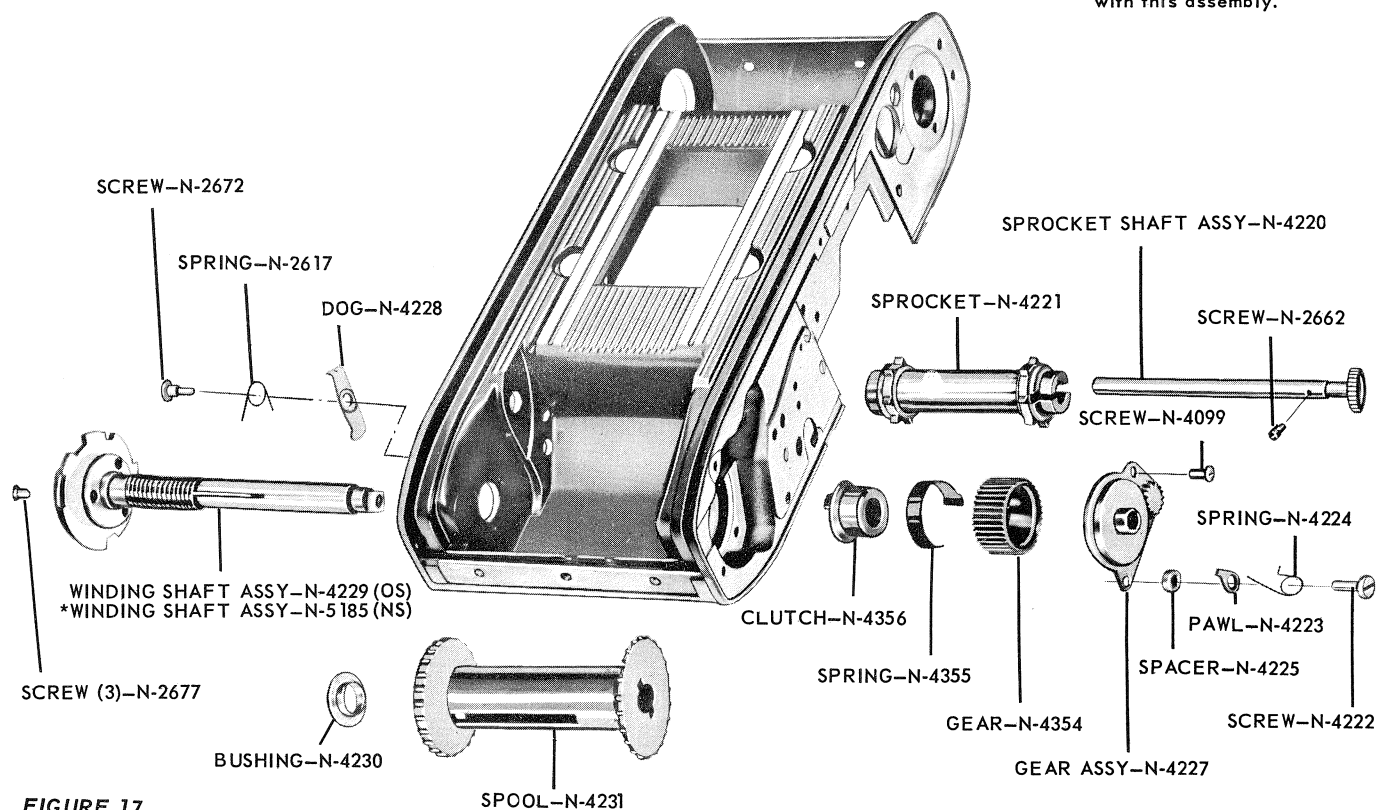


FIGURE 17

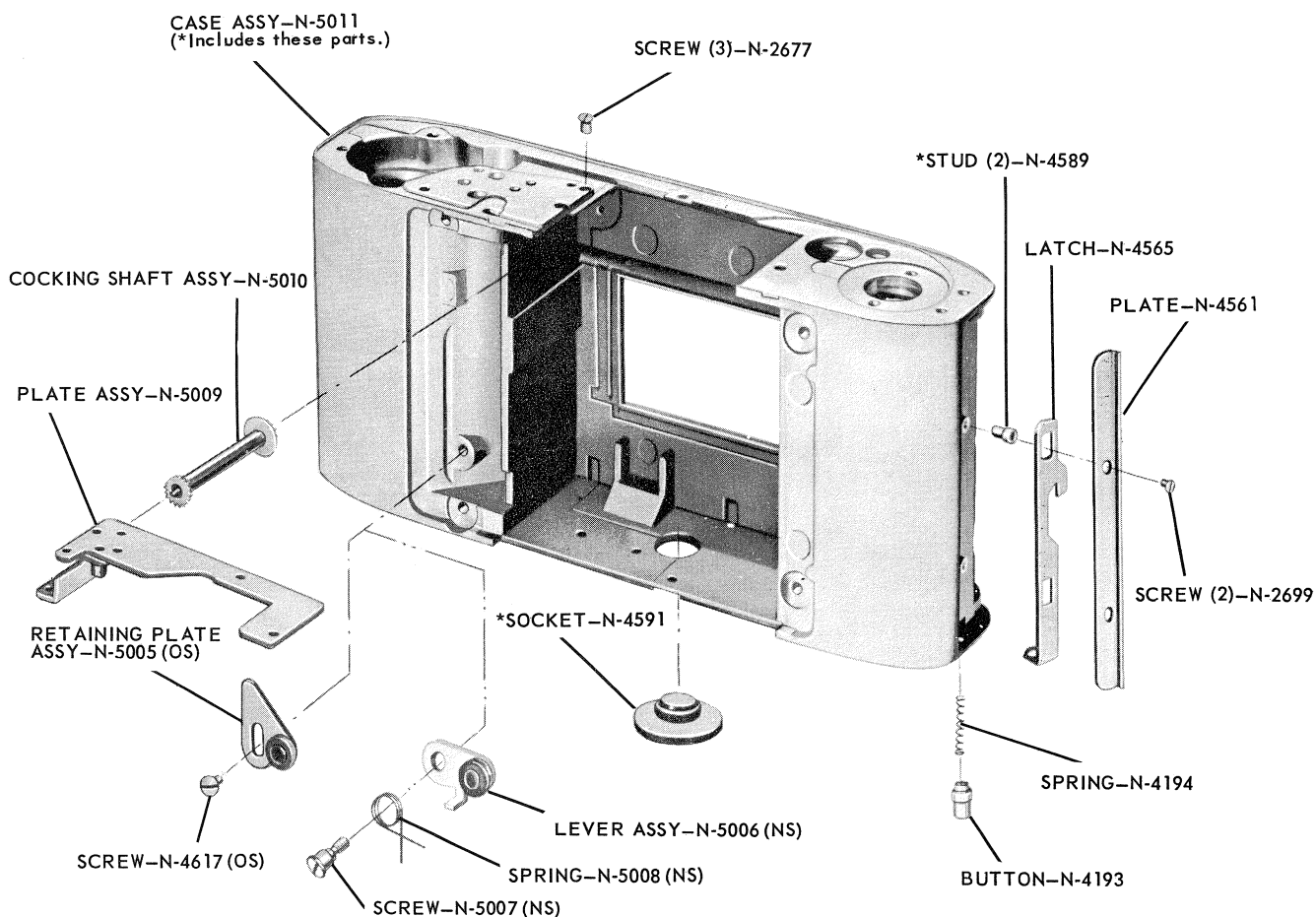


FIGURE 18

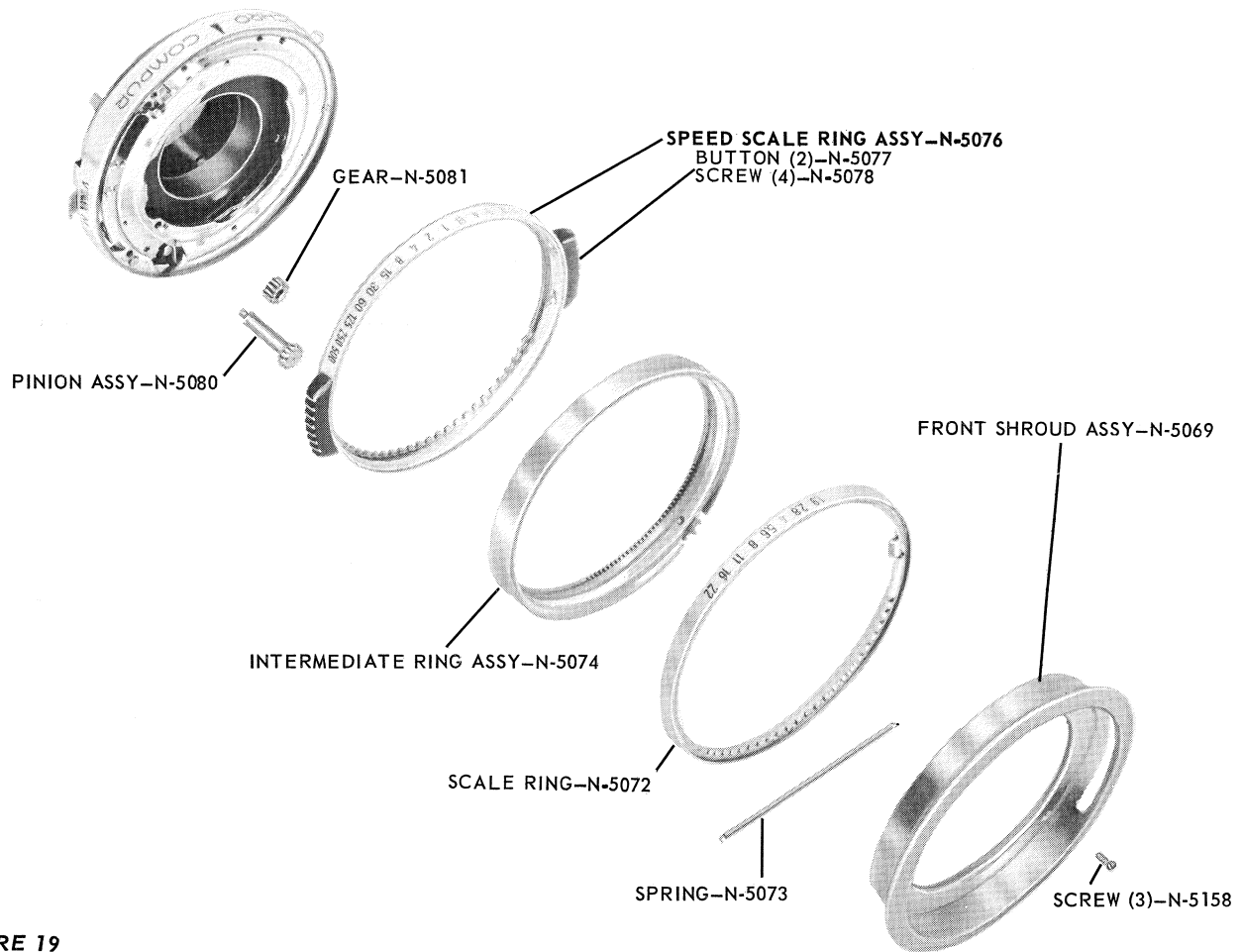


FIGURE 19

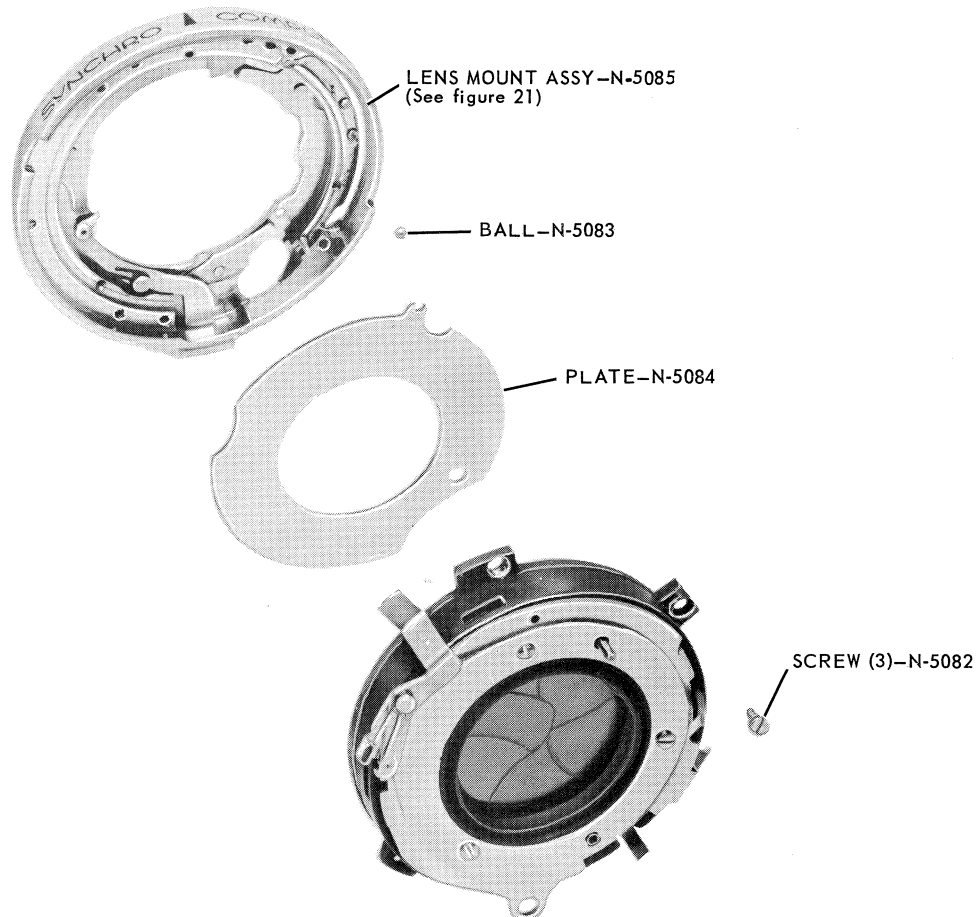


FIGURE 20

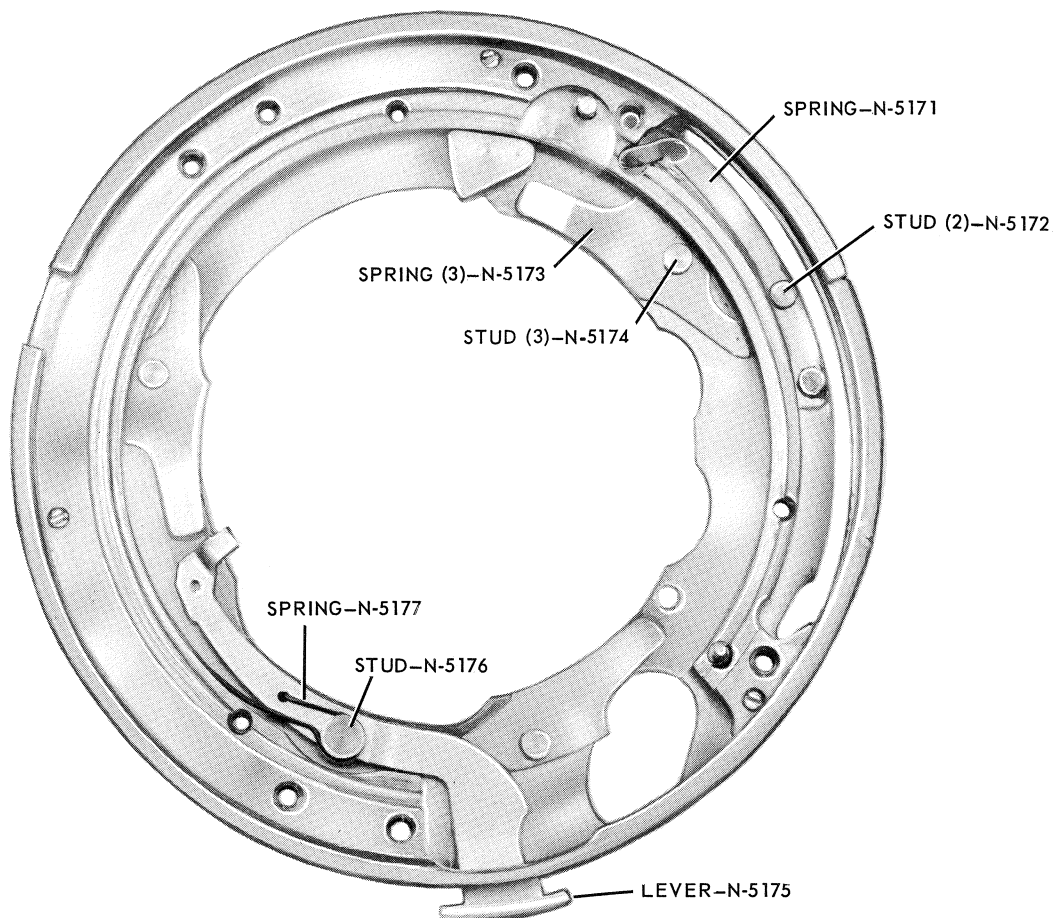


FIGURE 21

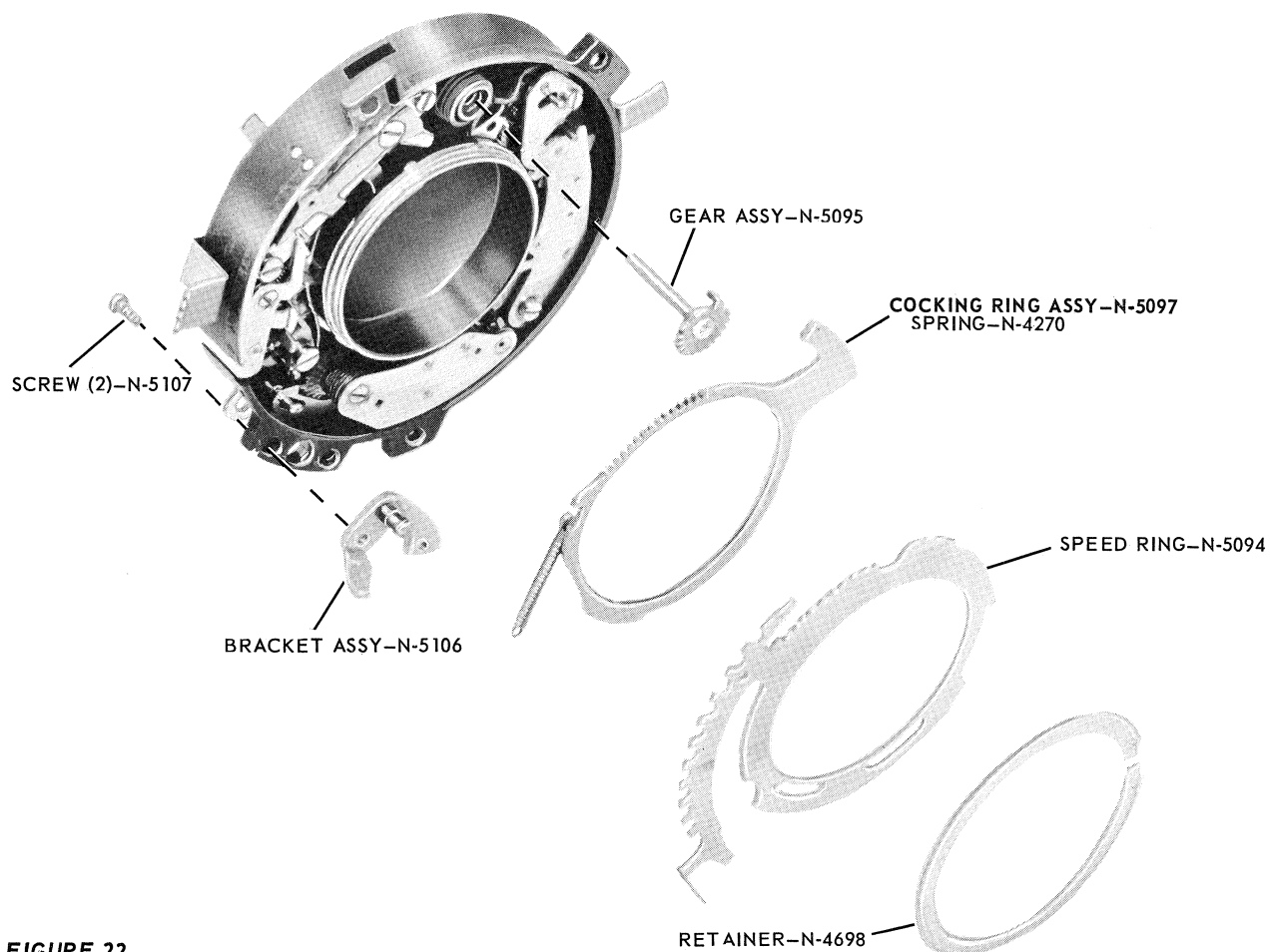


FIGURE 22

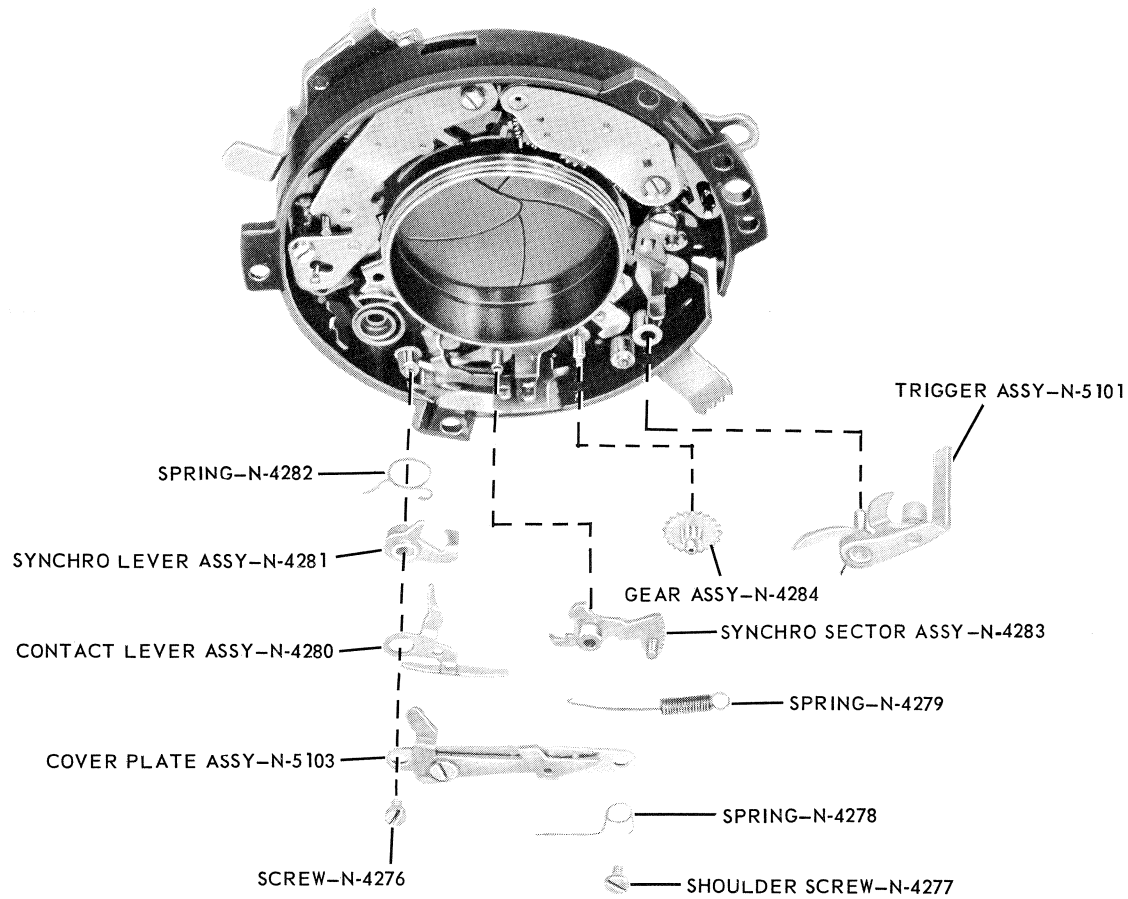


FIGURE 23

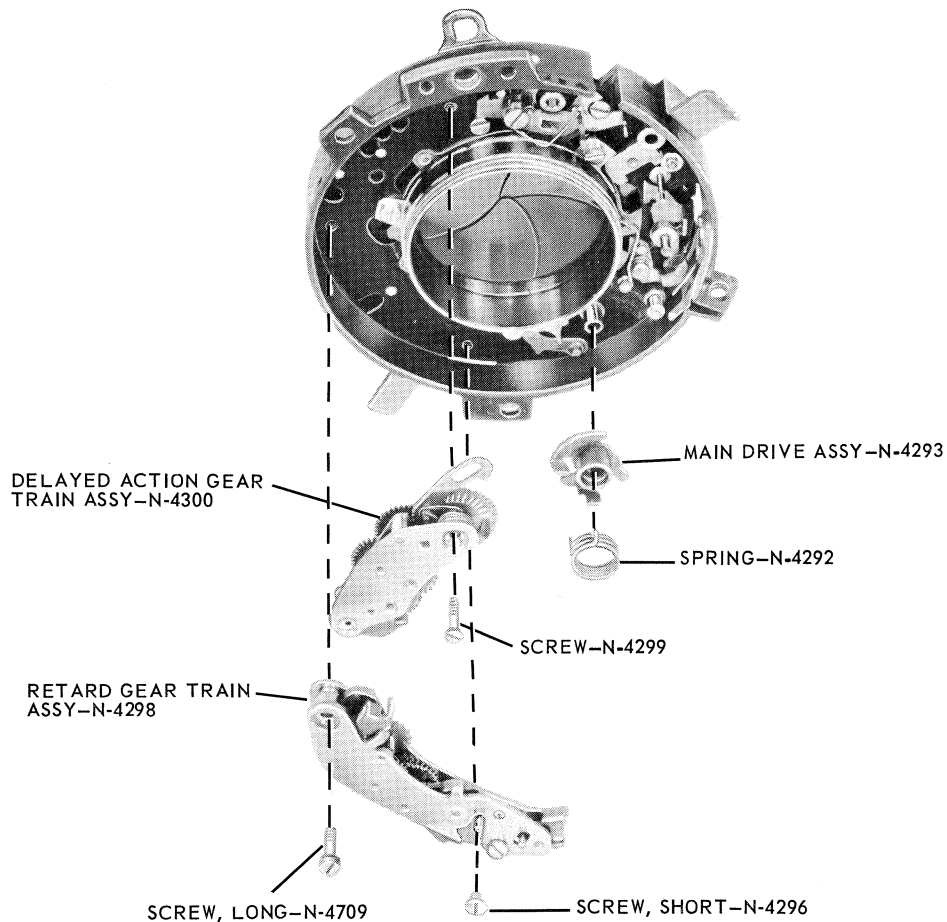


FIGURE 24

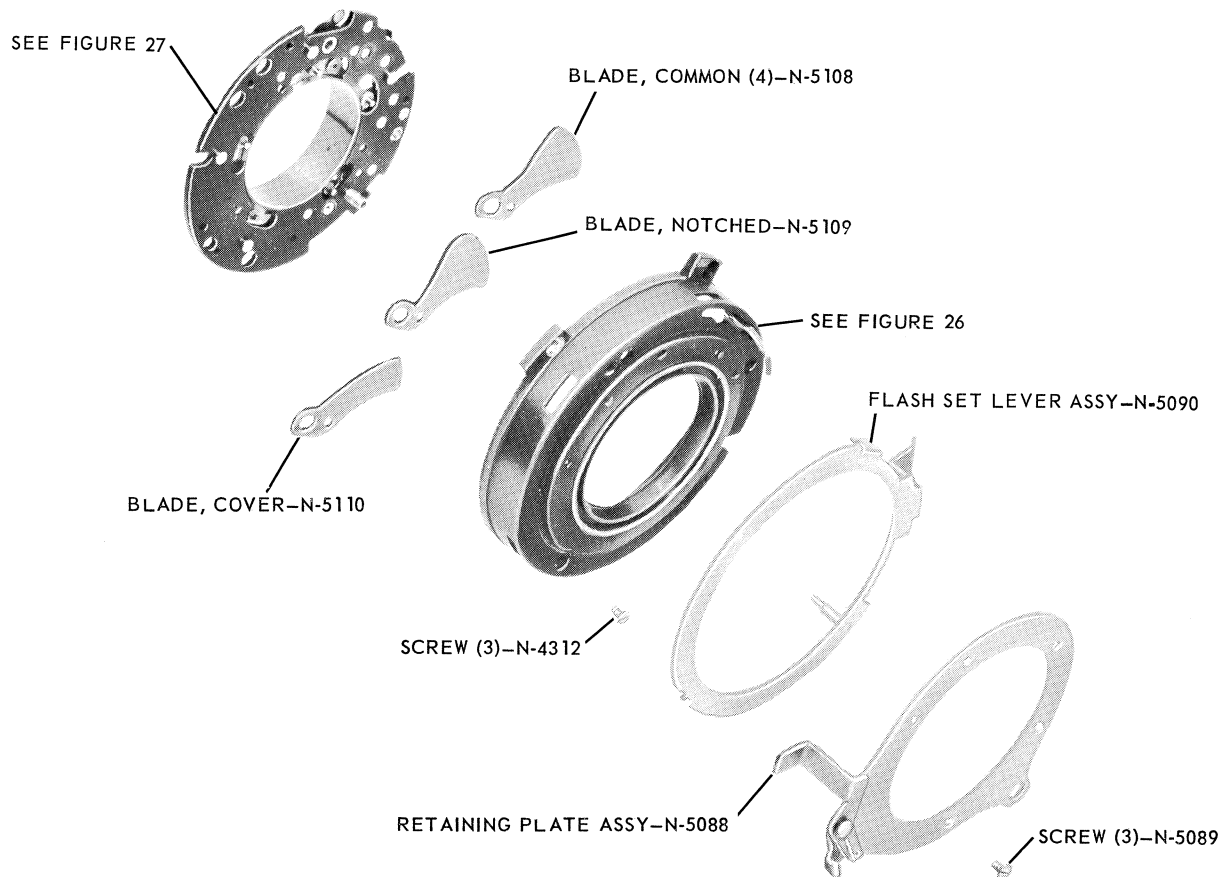


FIGURE 25

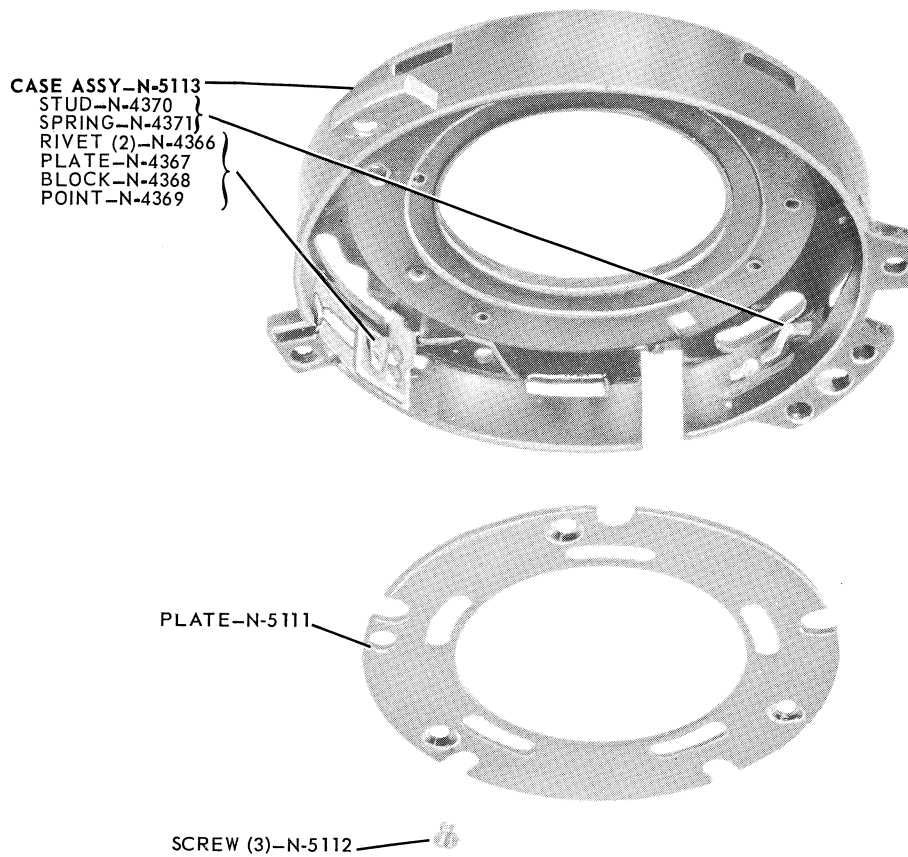


FIGURE 26

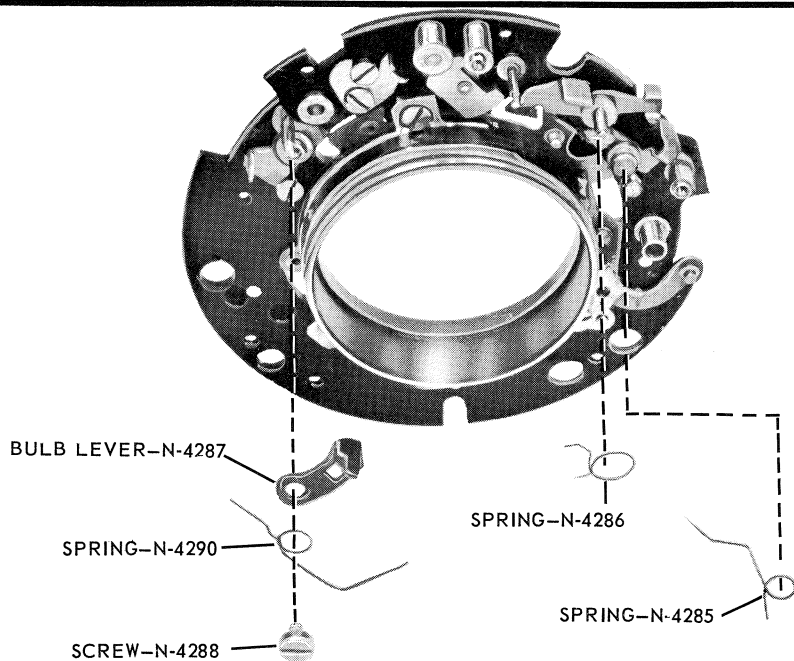


FIGURE 27

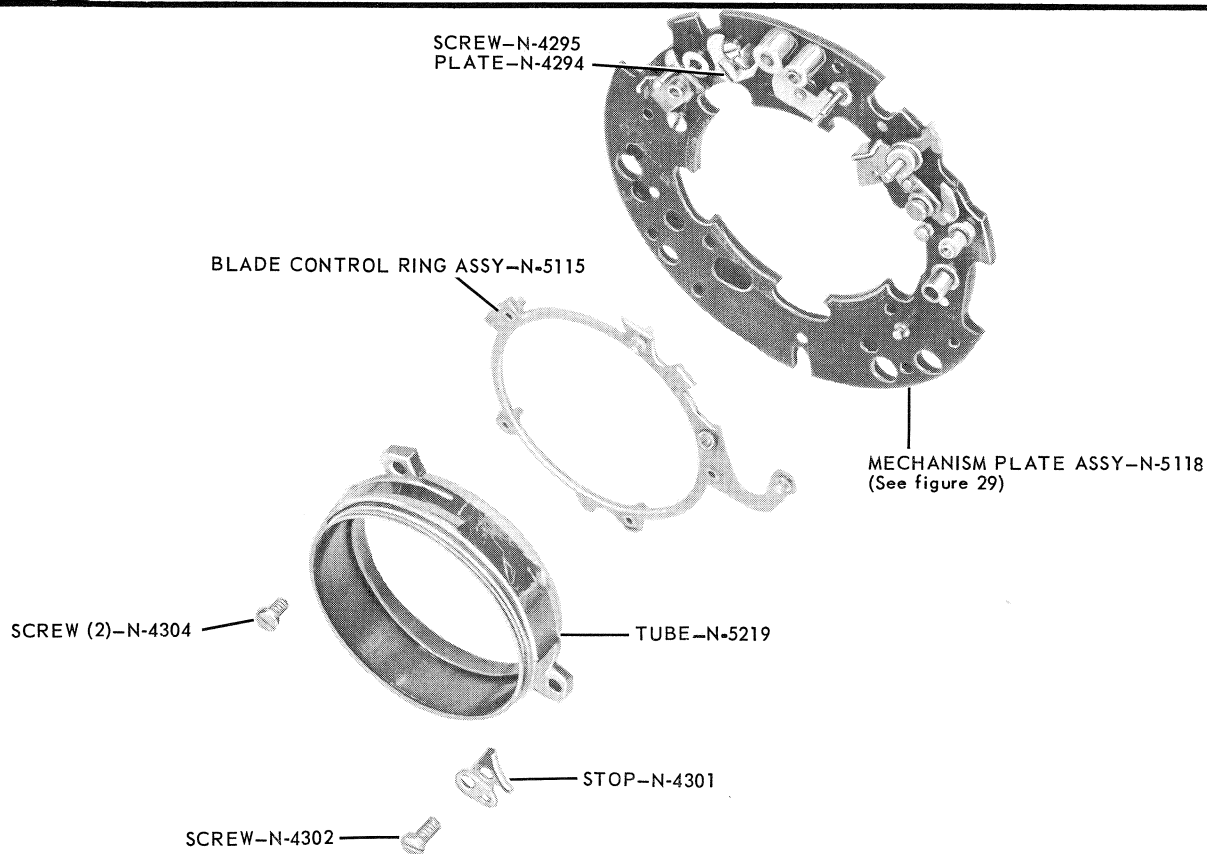


FIGURE 28

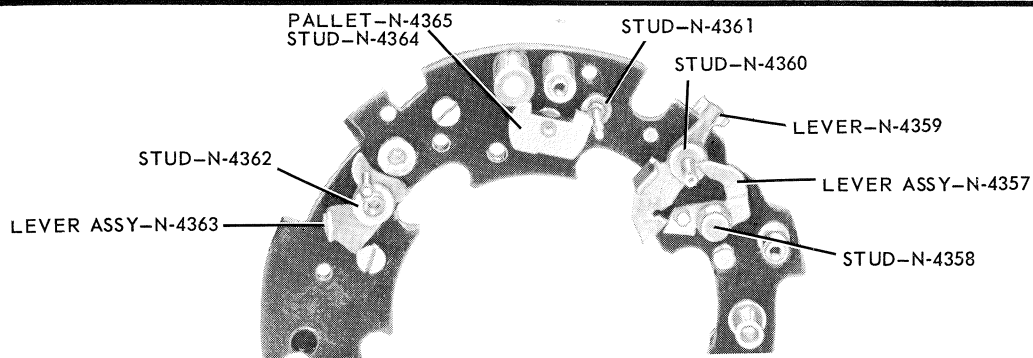


FIGURE 29



FIGURE 30. KODAK RETINA FIELD CASE, MODELS C and D

KODAK RETINA III S CAMERA

FIG.	U.S.	PART NO. German	PART NAME	REQD.
14	N-2222	G-2467/1	Screw - Rewind post bearing	2
2	N-2423	G-2036/6	Screw - Accessory clip	3
8	N-2426	G-011568	Washer - Movable arm screw tension	1
17	N-2617	G-016086	Spring - Rewind release dog	1
4	N-2618	G-016334/1	Film Tension Pad Assy	1
17	N-2662	G-2533/1	Screw - Sprocket shaft	1
17	N-2672	G-016085	Screw - Rewind release dog	1
15	N-2675	G-4623/1	Washer - Rewind release button	1
1,9,14, 17,18	N-2677	G-2507/1	Screw - Back to case (3), Bottom frame to case (7), Top frame (1), Winding shaft assy (3), Support plate assy (3)	17
18	N-2699	G-2114/1	Screw - Back latch plate	2
4	N-2717	G-016302	Spring - Tension pad	2
4	N-2722	G-1357/4	Rivet - Back catch (2), finishing strip (2)	4
1	N-2723	G-016670	Pointer - Film indicator	1
1	N-2724	G-016623	Washer - Tension	1
2	N-4049	G-021738	Clip - Accessory	1
1	N-4051	G-2507/6	Screw - Housing to carrying strap bracket, left	2
1	N-4052	G-2538/6	Screw - Finder housing to carrying strap bracket, left	1
3	N-4062	G-1257/1	Rivet - Viewfinder reinforcement plate	4
3	N-4064	G-4048/0	Washer - Counter reset button	1
2	N-4070	G-021718	Ratchet - Counter	1
2	N-4071	G-021720	Dial - Counter	1
2	N-4072	G-021711	Spring - Counter actuating	1
2	N-4073	G-1366/1	Rivet - Counter actuating spring	1
2	N-4075	G-2544/1	Screw - Exposure counter adjusting	1
2	N-4087	G-021717	Washer - Counter ratchet tension	1
2	N-4088	G-4638/1	Washer - Counter ratchet spacing	1
2	N-4092	G-021706	Bushing - Body release	1
14,17	N-4099	G-2537/1	Screw - Carrying strap bracket, left (2), right (1), Bushing and gear assy (1)	4
5	N-4104	G-021624	Spring - Wind and counter release	1
8	N-4117	G-021427	Screw - Movable arm	1
8	N-4118	G-021425	Bearing - Movable arm	1
8	N-4174	G-021225	Screw - Arm assy actuating spring	1
14	N-4176	G-021617	Guide - Wind and counter release	1
9	N-4180	G-021612	Ring - Tripod socket outer	1
9	N-4181	G-021611	Spring - Back latch button guard	1
9	N-4182	G-2527/1	Screw - Tripod socket to case	3
9	N-4183	G-021595	Socket - Tripod	1
9	N-4184	G-021594	Bearing - Cassette	1
18	N-4193	G-021018	Button - Back latch	18
18	N-4194	G-021013	Spring - Back latch button	1
9	N-4201	G-2526/1	Screw - Winding lever	3
9	N-4202	G-021602/1	Winding Lever Assy	1
9	N-4203	G-021605	Spacer - Wind lever	AR
15	N-4205	G-021580/1	Film Advance Lock Assy	1
15	N-4206	G-021584	Spring - Film advance lock assy	1
15	N-4207	G-4984/4	Retainer - Film advance lock spring	1
15	N-4208	G-021570/1	Wind Release Assy	1
15	N-4209	G-021578	Screw - Wind release adjusting	1
15	N-4210	G-021577	Spring - Wind release	1
15	N-4211	G-021574	Spring - Wind release throw-out	1
16	N-4212	G-021550	Screw - Winding shaft	1
16	N-4213	G-021549	Gear - Winding shaft	1
16	N-4214	G-4630/0	Spacer - Winding shaft pinion	1
16	N-4215	G-021545	Pawl - Winding shaft	1
16	N-4216	G-021544	Cam - Winding shaft	1
16	N-4217	G-021543	Spring - Tension	1
16	N-4218	G-021532	Gear - Film advance drive	1
15	N-4219	G-021564	Button - Rewind release	1
17	N-4220	G-021555/1	Sprocket Shaft Assy	1
17	N-4221	G-021560	Sprocket	1
17	N-4222	G-021540	Screw - Drive gear pawl	1

Always give PART NUMBER and NAME when ordering parts

KODAK RETINA III S CAMERA

FIG.	PART NO.		PART NAME	REQD.
	U.S.	German		
17	N-4223	G-021538	Pawl - Drive gear	1
17	N-4224	G-021539	Spring - Drive gear pawl.	1
17	N-4225	G-021536	Spacer - Drive gear pawl.	1
17	N-4227	G-021527/1	Bushing and Gear Assy	1
17	N-4228	G-021567	Dog - Rewind release	1
17	N-4229	G-021500/1	Winding Shaft Assy.	1
17	N-4230	G-021516	Bushing - Take-up spool	1
17	N-4231	G-021518/1	Spool - Take-up.	1
4	N-4236	G-021321/1	Hinge - Back.	1
4	N-4238	G-021104	Catch - Back.	1
4	N-4239	G-1371/1	Rivet - Film tension pad spring	3
9	N-4321	G-2528/6	Screw - Tripod socket outer ring	2
9	N-4322	G-021610	Guard - Back latch button	1
15	N-4325	G-021563	Spring - Rewind release button.	1
17	N-4354	G-021524	Gear - Clutch	1
17	N-4355	G-016540	Spring - Clutch pressure.	1
17	N-4356	G-021522	Clutch	1
2	N-4466	G-021721	Bearing - Release and counter	1
1	N-4512	G-023761	Sleeve - Rewind post.	1
9	N-4530	G-025607	Covering - Winding lever.	1
5	N-4535	G-023628	Spring - Body release trip.	1
4	N-4543	G-023293	Strip - Back finishing	1
4	N-4545	G-1379/1	Rivet - Hinge to back	3
4	N-4547	G-7050/1	Pin - Hinge.	1
14	N-4552	G-023637	Screw - Carrying strap bracket, right	1
3	N-4554	G-025728	Washer - Eyepiece.	1
18	N-4561	G-023015	Plate - Back latch	1
18	N-4565	G-023010	Latch - Back.	1
1	N-4575	G-025290/2	Back Assy.	1
5	N-4578	G-023620/1	Wind and Counter Release Assy	1
14	N-4580	G-021635	Spring - Clutch pressure.	1
9	N-4587	G-023350	Plate - Closing	2
18	N-4589	G-023014	Stud - Back latch guide	1
18	N-4591	G-023004	Socket - Positioning	1
14	N-4593	G-023639	Washer - Setting rack guide.	1
9	N-4610	G-023356	Covering - Case, bottom	1
14	N-4611	G-023636	Bracket - Carrying strap, left	1
4	N-4613	G-021295	Plate - Reinforcement.	1
13,18	N-4617	G-2224/1	Screw - Lens frame lever to case (2), Retaining plate assy (1).	3
1	N-4656	G-025673	Screen - Diffusing	1
4	N-4661	G-025355	Covering - Back.	1
2	N-4782	G-028724	Spring - Counter advance.	1
3	N-4784	G-028725	Mount - Eyepiece.	1
3	N-4785	G-0191/0	Glass - Eyepiece	1
3	N-4787	G-0194/0	Window - Viewfinder.	2
14	N-4884	G-025638	Bracket - Carrying strap, right	1
1	N-4904	G-027348	Disk.	1
1	N-4905	G-027357	Covering - Right side	1
1	N-4906	G-027358	Covering - Left side.	1
1	N-4907	G-027700/2	Housing Assy.	1
1	N-4908	G-027765/1	Rewind Knob Assy	1
1	N-4909	G-027774	Screw - Rewind knob.	1
1	N-4911	G-027910/9	Scale - Distance.	1
1	N-4912	G-2615/0	Screw - Distance scale	2
1	N-4913	G-9003/0	Plate - Name	1
2	N-4914	G-027710/1	Counter Advance Assy.	1
2	N-4915	G-027740	Cap - Exposure meter.	1
2	N-4916	G-0225/0	Window - Exposure meter	1
2	N-4917	G-0226/0	Disk - Plexiglass.	1
3	N-4918	G-027730/1	Retainer Assy	1
3	N-4919	G-028704	Button - Counter setting	1
3	N-4920	G-028705	Sleeve - Counter setting button.	1
4	N-4921	G-021309	Roller Film.	1

KODAK RETINA III S CAMERA

FIG.	PART NO.		PART NAME	REQD.
	U.S.	German		
5	N-4922	G-027401/2	Rangefinder Assy.	1
5	N-4923	G-027625/1	Body Release Push Rod Assy	1
5	N-4924	G-027643/2	Exposure Meter Assy	1
5	N-4925	G-027685	Knob - Exposure meter	1
5	N-4926	G-027686	Spring - Exposure meter	1
5	N-4927	G-027927	Button - Body release	1
5	N-4928	G-2595/4	Screw - Rangefinder assy to case	2
6	N-4929	G-027420/1	Bracket Assy	1
6	N-4930	G-027430/1	Mask Support Assy	1
6	N-4931	G-027450	Strip - Mask support.	1
6	N-4932	G-027460/1	Slider Assy	1
6	N-4933	G-027464	Screw - Slider lever	3
6	N-4934	G-027465	Lever - Slider	1
6	N-4935	G-027475	Spring - Mask support.	1
6	N-4936	G-2114/4	Screw - Mask support strip	2
6	N-4937	G-2171/4	Screw - Mask to bracket	2
6	N-4938	G-2487/4	Screw - Mask support spring	1
6	N-4939	G-2588/1	Screw - Mask assy to movable arm (New style, fillister head).	2
6	N-4940	G-2597/4	Screw - Mask assy to movable arm (Old style, countersunk) . . .	2
7	N-4941	G-027473	Spring - Mirror	1
7	N-4942	G-028440	Holder - Mirror	1
7	N-4943	G-0195/9	Mirror - Transparent	1
7	N-4944	G-0222/9	Mirror	1
7	N-4945	G-2596/4	Screw - Mirror holder	1
8	N-4946	G-027402	Mount - Rangefinder lens.	1
8	N-4947	G-027410/1	Movable Arm Assy	1
8	N-4948	G-027413/1	Adjusting Arm Assy	1
8	N-4949	G-027415	Cam - Rate adjusting	1
8	N-4950	G-027416	Nut - Wind and counter release pin	1
8	N-4951	G-027418	Washer - Wind and counter release pin	1
8	N-4952	G-027428	Spring - Movable arm	1
8	N-4953	G-027470	Spring - Eylet glass retaining.	1
8	N-4954	G-028405	Ring - Rangefinder lens retaining	1
8	N-4955	G-0193/0	Lens - Rangefinder	1
8	N-4956	G-0196/0	Lens - Eyelet	1
8	N-4957	G-0221/0	Lens - Collimator	1
8,13	N-4958	G-2042/4	Screw - Rangefinder lens mount (2), Adjusting arm (1)	3
8	N-4959	G-4051/0	Washer - Rangefinder lens.	1
8	N-4960	G-4654/4	Washer - Adjusting arm to movable arm screw	1
9	N-4961	G-027025/1	Bottom Frame Assy	1
10	N-4962	G-2610/1	Screw - Front to case	4
10	N-4963	G-4988/4	Washer - Spring.	8
11	N-4964	G-027202/2	Front Assy	1
12	N-4965	G-027202	Mount - Shutter	1
12	N-4966	G-027208	Stud - Setting wheel	1
12	N-4967	G-027212	Lever - Body release	1
12	N-4968	G-027214	Stud - Body release lever	1
12	N-4969	G-027216	Gear - Shutter setting coupler pinion	1
12	N-4970	G-027217	Stud - Coupler	1
12	N-4971	G-027220	Gear - Shutter setting idler	1
12	N-4972	G-027222	Stud - Shutter setting idler gear	1
12	N-4973	G-027225	Gear - Setting wheel idler	1
12	N-4974	G-027226	Stud - Setting wheel idler.	1
12	N-4975	G-027240/1	Setting Wheel Assy	1
12	N-4976	G-027245	Washer - Setting wheel tension.	1
12	N-4977	G-2027/1	Screw - Shutter mount to front	4
11	N-4978	G-022755	Bushing - Insulating	1
11	N-4979	G-027250	Frame - Ornamental.	1
11	N-4980	G-027255/1	Front Cover Assy.	1
11	N-4981	G-027265	Sleeve - Guide, front.	1
11	N-4982	G-027266	Sleeve - Guide, middle	1
11	N-4983	G-027267	Sleeve - Guide, rear	1
11	N-4984	G-027269	Collet - Rangefinder guide pin	1

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KODAK RETINA III S CAMERA

FIG.	PART NO.		PART NAME	REQD.
	U.S.	German		
11	N-4985	G-027270	Pin - Guide	1
11	N-4986	G-027805	Shutter Complete Assy	1
11,14	N-4987	G-2509/1	Screw - Front cover assy to front (3) Angle piece assy to case (1), Setting rack guide plate to case (2).	6
11	N-4988	G-2570/1	Screw - Insulating bushing	1
11	N-4989	G-2600/1	Screw - Shutter to shutter mount.	4
10	N-4990	G-027260/1	Cable Drum Assy.	1
10	N-4991	G-027263	Cord - Transmission	1
13	N-4992	G-027091	Mask - Light tunnel	1
13	N-4993	G-027092	Mask	1
13	N-4994	G-027095/1	Accessory Lens Frame Lever Assy.	1
13	N-4995	G-027105/1	Accessory Lens Frame Adjusting Lever Assy.	1
13	N-4996	G-027117	Spring - Lens frame lever	1
13	N-4997	G-027130/1	Rangefinder Actuating Lever Assy.	1
14	N-4998	G-026630	Post - Rewind	1
14	N-4999	G-027028	Frame - Top	1
14	N-5000	G-027150/1	Angle Piece Assy.	1
14	N-5001	G-027615	Rack - Setting	1
14	N-5002	G-027616	Plate - Setting rack guide	1
14	N-5003	G-027632	Bearing - Rewind post.	1
14	N-5004	G-4626/1	Washer - Setting rack guide plate screw.	2
18	N-5005	G-027020/1	Retaining Plate Assy.	1
18	N-5006	G-027030/1	Lever - Tensioning.	1
18	N-5007	G-027032	Screw - Tensioning lever.	1
18	N-5008	G-027033	Spring - Tensioning lever	1
18	N-5009	G-027125/1	Support Plate Assy.	1
18	N-5010	G-027140/1	Shutter Cocking Shaft Assy.	1
18	N-5011	G-027002/2	Case Assembly	1
5	N-5157	G-027680	Dial - Film speed.	1
5	N-5166	G-027682	Cover - Film speed dial	1
2	N-5167	G-027740/1	Film Speed Window Cap Assy.	1
5	N-5170	G-027668	Spring - Film speed dial tension.	1
16	N-5181	G-034549	Gear - Winding shaft (New style).	1
16	N-5182	G-4663/0	Spacer - Winding shaft pinion (New style).	1
16	N-5183	G-035545	Pawl - Winding shaft (New style).	1
16	N-5184	G-034532	Gear - Film advance drive (New style).	1
17	N-5185	G-034500/1	Winding Shaft Assy (New style).	1
1	120012		Buckle - Camera shoulder strap.	2
1	136827		Camera Shoulder Strap Assy	1

SYNCHRO COMPUR SHUTTER FOR THE KODAK RETINA III S CAMERA

FIG.	PART NO.		PART NAME	REQD.
22	N-4270		Spring - Cocking ring	1
23	N-4276		Screw - Synchro cover plate.	1
23	N-4277		Screw - Synchro cover plate, shoulder	1
23	N-4278		Spring - Main drive lock	1
23	N-4279		Spring - Synchro gear	1
23	N-4280		Contact Lever Assy	1
23	N-4281		Synchro Lever Assy	1
23	N-4282		Spring - Synchro lever	1
23	N-4283		Synchro Sector Assy.	1
23	N-4284		Synchro Gear Assy.	1
27	N-4285		Spring - Blade operating check.	1
27	N-4286		Spring - Synchro lock	1
27	N-4287		Lever - Bulb	1
27	N-4288		Screw - Bulb lever	1
27	N-4290		Spring - Self timer	1
24	N-4292		Spring - Main drive	1
24	N-4293		Main Drive Assy	1
28	N-4294		Plate - Synchro gear spring anchor	1
28	N-4295		Screw - Synchro gear spring anchor plate.	1

SYNCHRO COMPUR SHUTTER FOR THE KODAK RETINA III S CAMERA

FIG.	PART NO.	PART NAME	REQD.
24	N-4296	Screw - Retard gear train, short.	1
24	N-4298	Retard Gear Train Assy	1
24	N-4299	Screw - Delayed action gear train.	1
24	N-4300	Delayed Action Gear Train Assy.	1
28	N-4301	Stop - Main drive gear	1
28	N-4302	Screw - Main drive stop	1
28	N-4304	Screw - Shutter tube retaining	2
25	N-4312	Screw - Case to mechanism plate	1
29	N-4357	Lever - Synchro lock	1
29	N-4358	Stud - Synchro lock lever.	1
29	N-4359	Lever - Synchro.	1
29	N-4360	Stud - Synchro lever.	1
29	N-4361	Stud - Synchro gear	1
29	N-4362	Stud - Time release lever	1
29	N-4363	Lever - Time release.	1
29	N-4364	Stud - Pallet	1
29	N-4365	Pallet.	1
26	N-4366	Rivet - Contact plate.	2
26	N-4367	Plate - Contact block retaining.	1
26	N-4368	Block - Contact	1
26	N-4369	Point - Contact	1
26	N-4370	Stud - Synchro selector tension spring.	1
26	N-4371	Spring - Synchro selector tension	1
22	N-4698	Retainer - Speed ring	1
24	N-4709	Screw - Retard gear train, long	1
19	N-5069	Front Shroud Assy	1
19	N-5072	Ring - Diaphragm scale.	1
19	N-5073	Spring - Diaphragm scale ring	1
19	N-5074	Intermediate Brass Ring Assy	1
19	N-5076	Speed Scale Ring Assy.	1
19	N-5077	Button - Speed scale ring.	2
19	N-5078	Screw - Speed scale ring button	4
19	N-5080	Coupler Shaft and Pinion Assy	1
19	N-5081	Gear - Coupler shaft idler.	1
20	N-5082	Screw - Shutter to lens mount.	3
20	N-5083	Ball - Speed scale ring	1
20	N-5084	Plate - Dust cover	1
20	N-5085	Lens Mount Assy	1
25	N-5088	Flash Ring Retaining Plate Assy.	1
25	N-5089	Screw - Flash ring retaining plate.	3
25	N-5090	Flash Set Lever Assy	1
22	N-5094	Ring - Speed	1
22	N-5095	Cocking Ring Gear Assy	1
22	N-5097	Cocking Ring and Spring Assy.	1
23	N-5101	Trigger Assy.	1
23	N-5103	Synchro Cover Plate Assy	1
22	N-5106	Coupler Shaft Idler Gear Bearing Bracket Assy.	1
22	N-5107	Screw - Coupler idler gear bracket.	2
25	N-5108	Blade - Shutter, common.	4
25	N-5109	Blade - Shutter, notched	1
25	N-5110	Blade - Shutter, cover.	1
26	N-5111	Plate - Case filler	1
26	N-5112	Screw - Case filler plate.	3
26	N-5113	Shutter Case Assy	1
28	N-5115	Ring - Blade control.	1
28	N-5118	Mechanism Plate Assy	1
21	N-5171	Spring - Detent ball	1
21	N-5172	Stud - Detent ball spring	1
21	N-5173	Spring - Lens mount tension.	3
21	N-5174	Stud - Lens mount tension spring	3
21	N-5175	Lever - Lens lock	1
21	N-5176	Stud - Lens lock lever.	1
21	N-5177	Spring - Lens lock lever	1
28	N-5219	Tube - Shutter	1

Always give **PART NUMBER** and **NAME** when ordering parts

KODAK RETINA FIELD CASE, MODELS C AND D

FIG.	PART NO.	PART NAME	REQD.
30	N-4338	Shoulder Strap Assy	1
30	N-4392	Screw - Camera retaining	1
30	N-4393	Plate - Camera retaining screw	1
30	N-4394	Plate - Snap button stud catch.	1
30	N-4402	Cap - Snap button	1
30	N-4403	Socket - Snap button cap	1
30	N-4404	Post - Snap button	1
30	N-4405	Stud - Snap button post	1
30	N-4406	Sleeve - Snap button post sleeve	1
30	N-4767	Loop - Strap	2
30	N-5064	Field Case Cover Assy (f/1.9-50mm, Model C)	1
30	N-5065	Field Case Bottom Assy	1
30	N-5066	Field Case Cover Assy (f/2.8-50mm, Model D)	1
30	121934	Stud - Shoulder strap	2

Always give PART NUMBER and NAME when ordering parts

EASTMAN KODAK COMPANY • ROCHESTER 4, NEW YORK

SEPTEMBER 1959

NO. 913

Servicing the

KODAK RETINA IIIS CAMERA

EASTMAN KODAK COMPANY
Apparatus Service Department
ROCHESTER 4, N.Y.

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SERVICE INSTRUCTIONS
KODAK RETINA IIIS CAMERA

F I L M T R A N S P O R T

The film wind mechanism of the Retina IIIS Camera is identical with recent models except that the shutter is set through a transfer shaft similar to that used in the Kodak Retina Reflex Camera.

SPECIFICATIONS

1. The rewind post assembly should:
 - a) Be retained by detent action when flush with the top housing.
 - b) Not require excessive force to withdraw it from the detent position.
 - c) Rotate in both directions with a minimum of resistance.
2. The film type indicator inner ring should rotate with sufficient resistance to prevent accidental movement during normal use.
3. The film advance lever should:
 - a) Set the shutter.
 - b) Rotate the sprocket.
 - c) Rotate the take-up spool. (Clutch assembly should have sufficient torque to take up the film).
 - d) Advance the film counter one mark at the end of the stroke. (Index mark should fall within the semicircle on the top housing).
 - e) Be locked when the exposure dial indicates the final or No. 1 exposure.
4. The film take-up spool should be free of imperfections. (Take-up lug should be present).
5. The exposure release button should:
 - a) Be free of binds and have spring tension sufficient to return button to the up position.
 - b) Be threaded to accept a cable release.
 - c) When depressed:
 1. Trip the shutter.
 2. Release film transport mechanism at the same time or slightly in advance of tripping shutter.
 3. Have a slight amount of over-travel after tripping shutter.
6. The film release button should:
 - a) Be free of binds and have spring tension sufficient to return button to the up position.
 - b) When depressed:
 1. Release film transport mechanism for advancement to next exposure.
 2. Release a partially advanced film advance lever.
 3. Release the otherwise locked counter advance button to allow movement of counter dial.
7. The counter advance button should:
 - a) Actuate counter dial only when unlocked.
 - b) Be free of binds and have spring tension sufficient to return button toward the eyelet lens.
8. The rewind clutch button should:
 - a) When depressed, release film transport for rewinding of film.
 - b) Remain in depressed position until released on first actuation of film advance lever.
9. The pressure pad, back frame, film roller and film rails should be free of imperfections which can damage film detrimentally in the picture area.
10. In the event that the Exposure Meter is removed to facilitate repairs, it should be replaced and adjusted in accordance with Instruction 34 and 35.

F I L M T R A N S P O R T (Cont'd)

SERVICE HINTS

11. Disassembly and Reassembly

- a) Normal repairs to film wind mechanism will require the removal of meter assembly. (Instruction 33)
- b) Disassembly for replacement of shutter setting transfer shaft will require removal of the following components:
 1. Meter assembly (Instruction 33). For reassembly, see Instruction 34 and 35.
 2. Front complete (Instruction 46). For reassembly, see Instruction 47.
 3. Range finder (Instruction 26).
 4. Rack retainer plate.
 5. Light tunnel. Remove adjusting bracket at top of lens image control arm and swing arm out to allow removal of tunnel and frame.
 6. Range finder support plate assembly.

12. Trouble Shooting:

- | | |
|--|--|
| a) Film advance lever binds on return | Rack retainer plate may bind the rack - fit
spacing washers as required for free movement.
Bent winding shaft cam assembly
Loose shaft retaining screws |
| b) Film advance lever fails to set shutter | Incorrect timing between transfer shaft and
shutter setting idler gear |
| c) Film advance lever jammed | Broken teeth in rack or transfer shaft |

F I N D E R A N D R A N G E F I N D E R

The finder and range finder system of the Retina IIIS Camera is similar in some respects to the Retina IIIC, but has the added provision of automatic lens framing and parallax correction for any of the accessory lenses from 35 to 135mm. The 35mm wide angle frame, however, will be visible in the finder regardless of the lens fitted to the camera.

Framing for the 28mm wide angle lens is accomplished by a separate accessory finder mounted on the accessory clip.

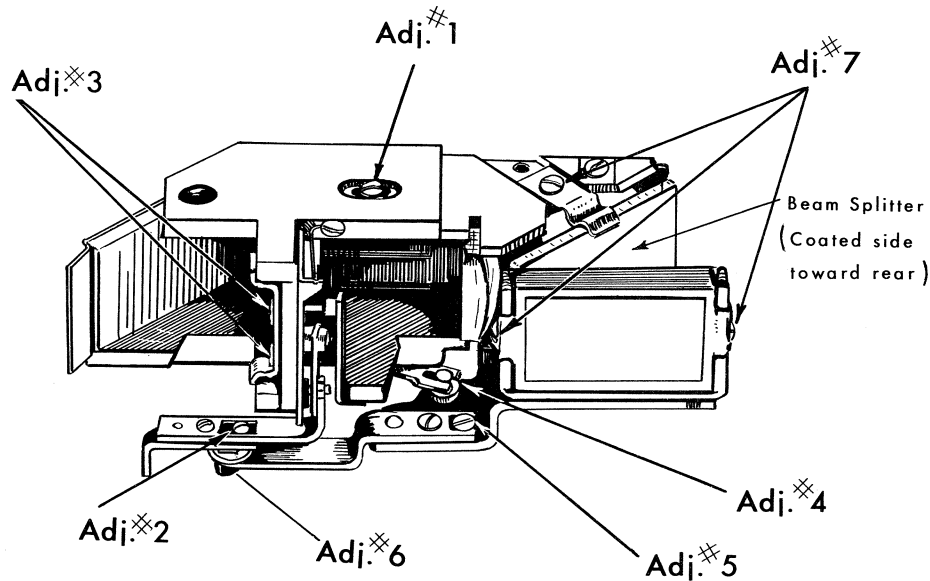
SPECIFICATIONS

13. Glass surfaces of finder and range finder assembly should be clean.
14. Taking lens focus and range finder alignment should be checked on an object or chart 15 feet from the film plane. (Approximately, the rear top edge of the top housing).
15. Maximum permissible focus scale error of range finder should be limited to the width of extended portion of knurled ring at focusing index arrow. ($f/2.8$)
16. The 50, 85 and 135mm lens image frames (individually) should:
 - a) Automatically and freely shift into position when the corresponding lens is attached.
 - b) Be clear and readily visible when in position.
 - c) Not be visible when 35mm lens is in position.
17. The 35mm lens frame should be clear and readily visible regardless of lens fitted.
18. The 35, 50, 85 and 135mm lens image frames should automatically and freely shift up or down to compensate for parallax when the focus ring of the corresponding lens is rotated.
19. When the finder image is aligned as in Instruction 25, # 3, the reflected 50mm lens image frame should intersect the chart frame at all four corners.
20. There should be no apparent shift of range finder image when the eye is moved in relation to eyelet lens.
21. There should be no binding or hesitation of movable image when the focus ring of any lens is rotated clockwise and counter-clockwise through its entire travel.
22. There should be no lag or hesitation of movable image when moved off of "infinity" position by the focus ring of any lens.
23. Stationary and movable images of a vertical line should be parallel.
24. Stationary and movable images of a horizontal line should be superimposed at any distance setting of any lens.

FINDER AND RANGE FINDER (Cont'd)

25. Adjustments

NOTE: All range finder adjustments or checks should be made with standard 50mm (f/2.8 or f/1.9) lens focused to, and attached to, the camera.



#1 - Range finder image (bright circle) focus control

Loosen lock screw and slide assembly to right or left. When properly adjusted, image should be at maximum brightness and focus and there should be little or no image shift by eye movement only.

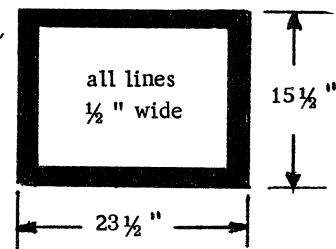
#2 - Reflected taking lens image frame control

Loosen lock screw and rotate eccentric stud. When properly adjusted, the reflected 50mm frame should be clearly visible. (35mm frame is always visible regardless of lens attached).

#3 - Horizontal parallax control (see note)

Loosen screws slightly and move mask laterally.

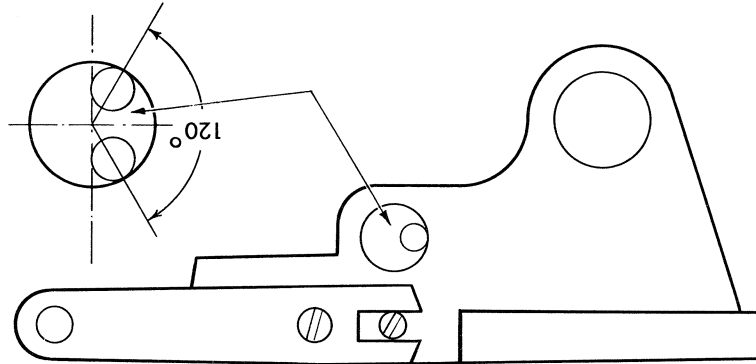
NOTE: To facilitate parallax adjustments #3 and #4, it is recommended that a chart (see sketch) be set up on the lens axis 3 feet from the film plane and aligned so the black frame is just within the edges of the back frame.



FINDER AND RANGE FINDER (Cont'd)

#4 - Vertical parallax control (see note under #3)

Remove range finder (Instruction 26) and rotate eccentric stud. It is important that any adjustment of this stud remain in the 120° area as shown:



#5 - Infinity control

Loosen lock screw and rotate eccentric stud. When properly adjusted at "infinity" position (at least 500 feet), finder images should coincide.

#6 - Close-up control (3.5 ft. from film plane)

Rotate the rate adjusting cam slightly. Re-check at "infinity" position and repeat adjustments until coincidence is obtained at "infinity" and 3.5 feet.

#7 - Horizontal alignment of range finder images

Loosen mirror hold down bracket screw slightly and move bracket forward or to the rear. In cases of severe misalignment it may be necessary to loosen the lens bracket assembly screws and re-position the lens. When properly adjusted, the two horizontal line images in the range finder must be in alignment.

26. Removal of Range Finder

To disassemble range finder complete from camera case, remove the two attaching screws, then hold movable arm toward the rear and slide the assembly off the case.

27. Trouble Shooting

a) No action when focusing

Guide pin bent or sticking
Actuating spring broken or detached
Movable arm binds or jams

b) Reflected lens image frame uneven or two frames visible

See Adjustment #2

c) Range finder aligns at "Inf." but not at 3.5 feet

See Adjustments #5 and #6

d) View finder image does not align with taking lens image

See Adjustments #3 and #4

e) Range finder image does not align horizontally

See Adjustment #7

E X P O S U R E M E T E R

Test Light Source: The light source referred to in this section is one which requires a diaphragm setting midway between $f/5.6$ and $f/8$ at ASA 10 with a shutter speed of $1/30$ second.

SPECIFICATIONS

28. ASA Scale Mechanism

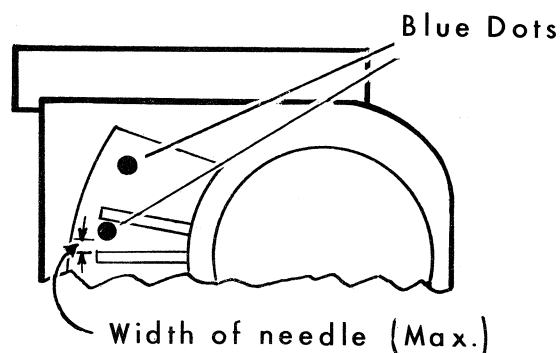
- The ASA scale setting should not change during normal operation of setting wheel.
- When lock button is depressed, ASA scale should be locked to permit rotating meter housing index to any desired ASA film speed.
- When released, lock button should have sufficient spring tension to return to "up" position and release the scale.

29. Zero Alignment

When all light is excluded from honeycomb lens, white needle should be aligned with first blue dot at rear of meter.

30. Meter Response

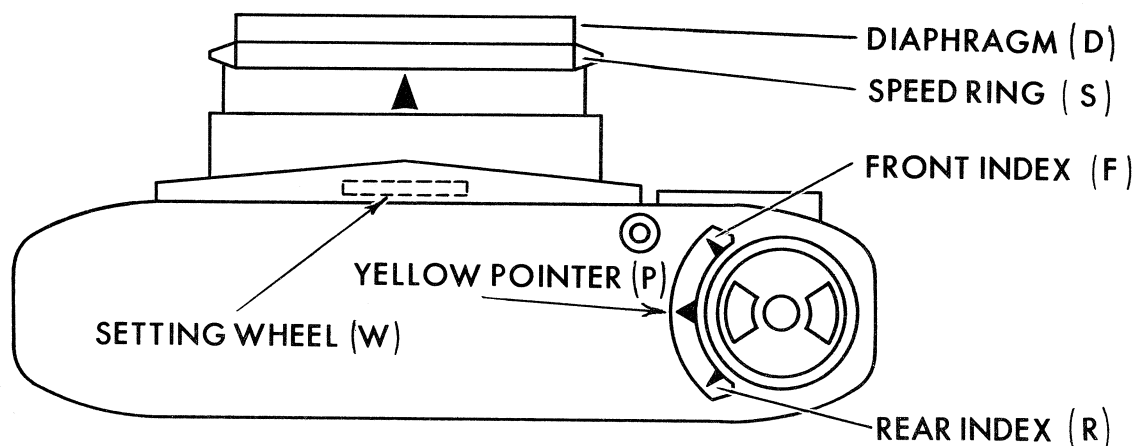
When meter is positioned in front of the test light source, white needle should be aligned within the limits shown:



31. Standard Exposure Indication

Set film speed to ASA #10, (S) at 30, position meter in front of the test light source and move (P) to coincide with white meter needle. (D) should read between 5,6 and 8. Indication at other speeds should be:

$1/4$ second	- between $f/22$ and $f/16$	$1/60$ second	- between $f/5.6$ and $f/4$
$1/15$ "	- between $f/16$ and $f/8$	$1/125$ "	- between $f/4$ and $f/2.8$



E X P O S U R E M E T E R (Cont'd)

32. Exposure Setting Mechanism

Remove lens, set film speed to ASA #10, (S) at "B", (D) at f/1.9. Mechanism should function as follows, smoothly, positively and without binds:

Rotate (W) to advance (D) to 22

(P) should stop when 3/16" to 1/4" from front index (F)

Continue rotation of (W)

(S) should advance towards 500, and

(P) should advance to (F) when (S) $\approx$ 60

Continue rotation of (W) to advance (S) to 500

(P) should remain stationary at, or just in front of, (F) while ASA disc rotates.

Return (D) to 5.6 by rotating (W)

(P) should begin to move when (D) $\approx$ 5.6

Continue rotation of (W)

(P) should have moved approximately 1/8" when (D) $\approx$ 1.9

(S) should then advance to "B", and (P) should advance to (R), simultaneously.

SERVICE HINTS

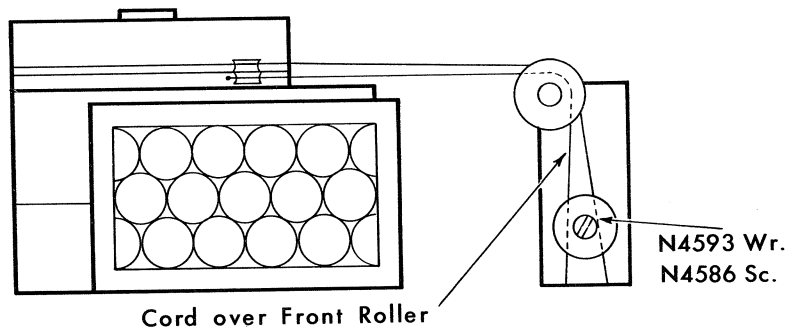
33. Meter Removal

- Remove lens assembly, set (S) at "B", and (D) at f/1.9.
- Remove top housing, ASA lock button and spring.

NOTE: Use caution, since meter may be dislodged prematurely and the transmission cord disengaged from lower roller assembly.

- Clamp transmission cord to upper roller bracket assembly as shown:

CAUTION: Avoid over-tightening the screw.



- Lift left end of meter slightly to disengage bosses, then remove the assembly. Using care, unwind cord from drum and disengage it from clamping lug.

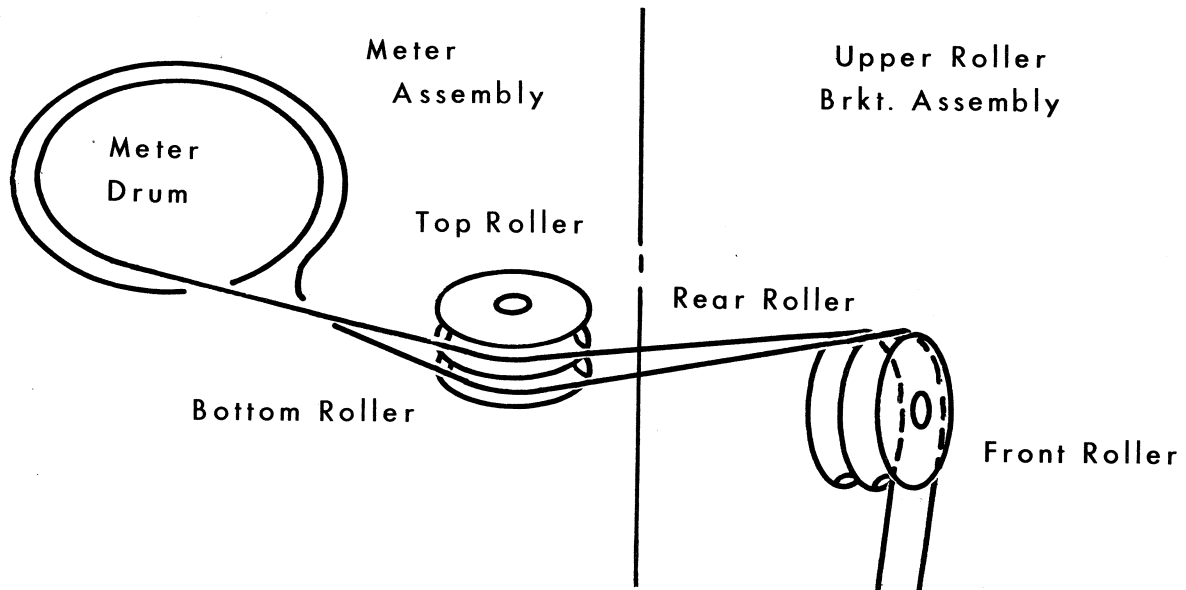
34. Meter Installation

- Check "Zero Alignment" (Instruction 29). If adjustment is required, rotate eccentric stud at right side of meter.
- Check "Meter Response" (Instruction 30). If out of tolerance, install replacement meter.

EXPOSURE METER (Cont'd)

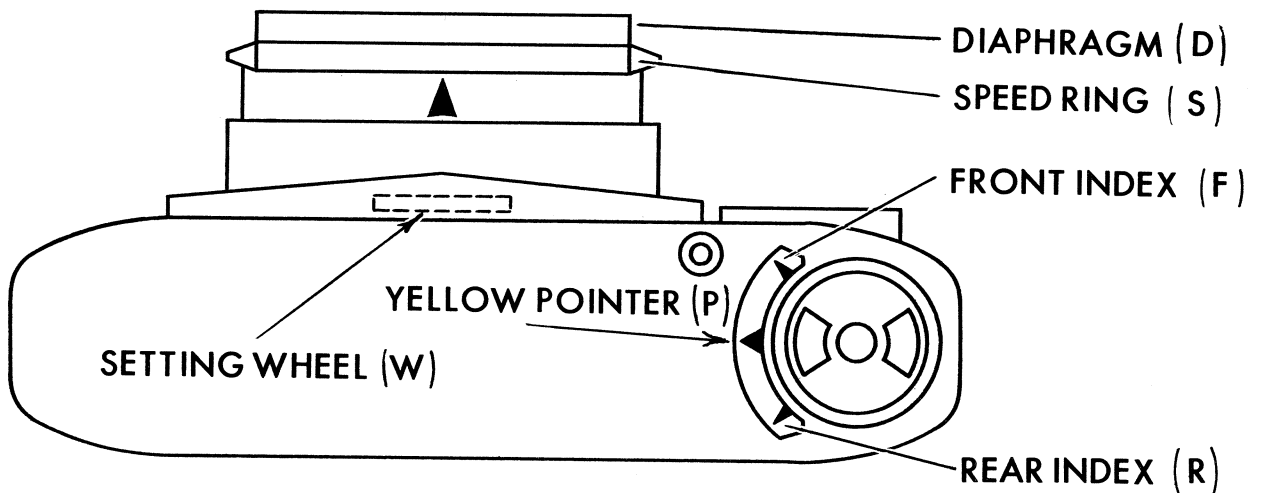
- c) Carefully rewind cord around meter drum as shown, either before or after replacing meter on the case.

NOTE: It is important that the cord be replaced exactly as shown below, or rotation of the drum will be reversed.



- d) Remove clamping screw and washer.

35. Final Adjustments



- a) Initial alignment of yellow pointer (P)

Settings

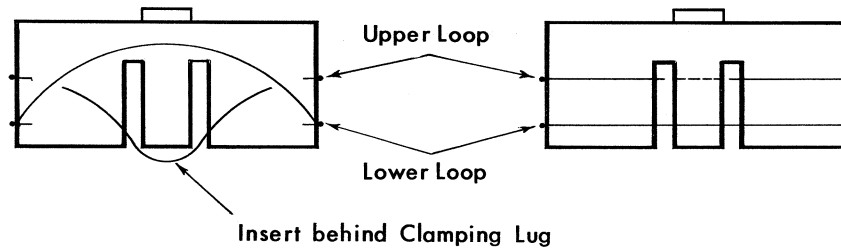
ASA #10, (S) at "B", (D) at f/1.9

Hold (W) and rotate meter drum until (P) is at (R)

- b) Check Standard Exposure Indication (Instruction 31). If incorrect, re-check Meter Response (Instruction 30) and alignment of pointer (P) (Instruction 35, a).
c) Check Exposure Setting Mechanism (Instruction 32).
If (P) does not travel as required, check installation of cord (Instruction 34, c).

EXPOSURE METER (Cont'd)

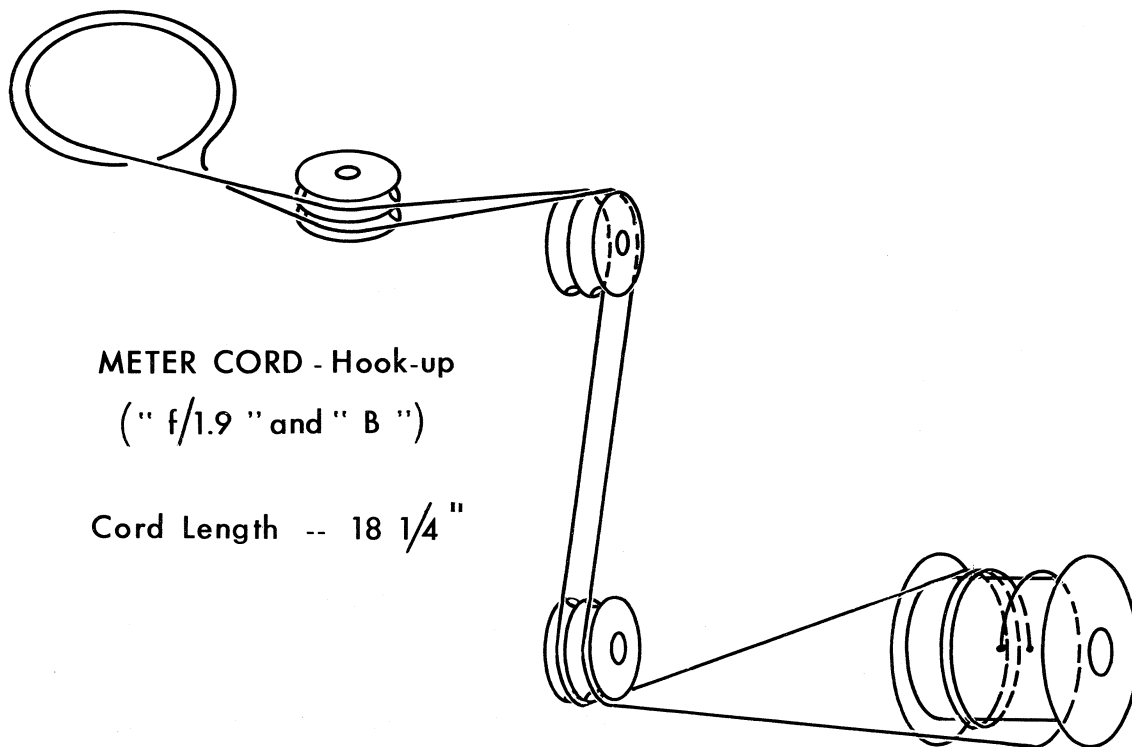
- d) If all checks prove satisfactory, rotate setting wheel until clamping lug on meter drum is above the clearance area at rear of meter.
- e) Insert upper loop around drum and into clamping lug as shown:



- f) Re-check as in b) and c).

36. Transmission Cord Replacement

- a) Replacement of transmission cord will require removal of the front mount and shutter assembly (Instruction 46), and the top housing.
- b) Sketch shows the complete transmission cord hook-up for replacement purposes. The cord wind-up on the actuating drum must be made exactly as shown, and setting of the shutter should be "B" and "f/1.9" before replacing front assembly (Instruction 47).
- c) After replacement of cord, meter must be adjusted in accordance with Instruction 35.



S H U T T E R

Repairs to the shutter mechanism, other than the speed or diaphragm ring, will require removal of the complete front mount assembly. Basic shutter design is similar to the previous Retina Cameras except that the shutter has no diaphragm wings and uses six shutter blades.

SPECIFICATIONS

37. Shutter speeds should be within the following total time tolerances:

1 second	800 to 1200 milliseconds	1/30 second	28 to 42 milliseconds
1/2 "	400 to 600 "	1/60 "	16 to 24 "
1/4 "	200 to 300 "	1/125 "	8 to 14 "
1/8 "	100 to 150 "	1/250 "	4.5 to 8 "
1/15 "	55 to 82 "	1/500 "	2.5 to 5 "

38. Flash contact should occur as follows:

- X - contact at full open shutter.
- M - 15 to 17 milliseconds from contact to full open shutter.

39. VXM lock lever should release selector lever and have spring tension sufficient to lock the lever when released.

40. VXM selector lever should:

- a) Operate without binds.
- b) Not move into the "V" position when shutter is not set.
- c) When set to "V", return to "X" position when shutter is tripped.

41. Self-timer should operate for approximately 8 to 10 seconds.

42. Rotation of speed selector ring (S) should (with lens removed):

- a) Rotate diaphragm ring in the opposite direction through the following ranges only:

<u>FROM</u>	<u>TO</u>
1/500, f/1.9	1/4, (midway between f/16 and f/22)
"B", f/22	1/60, f/1.9
"B", f/1.9	250, f/22

- b) Be free of excessive binds.
 - c) Have detent action at settings "B" through 500. (No detent action in green figure range except at "B").
43. Rotation of either the speed selector ring or the meter setting wheel should actuate depth of field pointers on any lens through full range of pointers.

44. Disassembly - Diaphragm and Speed Scale

- a) Remove lens.
- b) Set speed scale to "B" and diaphragm at f/1.9.
- c) Remove the three screws in retainer ring.

NOTE: Do not rotate meter setting wheel from this step on or alignment of meter and ring will be destroyed.

- d) Remove retainer and diaphragm scale.

NOTE: These two parts are coupled by a return spring and the lens diaphragm actuating lug, and disassembly can be accomplished by sliding the scale away from the retainer ring on the side opposite the diaphragm actuator lug.

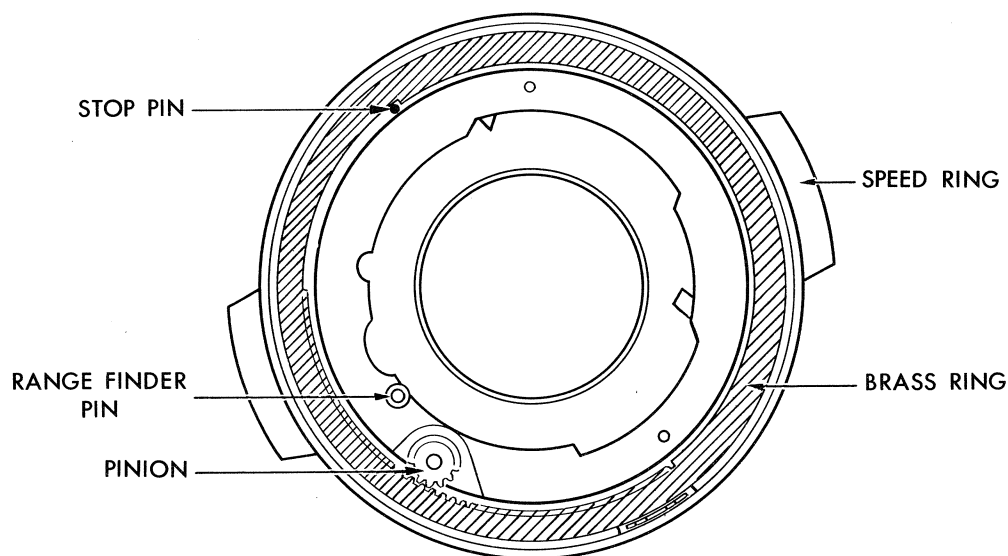
S H U T T E R (Cont'd)

- e) Remove brass ring.
- f) Remove speed ring, noting engagement of speed selector lug with ring.
- g) If necessary, the small (upper) pinion and the drive pinion and shaft can be removed for lubrication or replacement. Use caution, since any rotation of setting wheel will affect alignment of meter and ring.

45. Reassembly - Diaphragm and Speed Scale

The following parts and assemblies should be lubricated sparingly and assembled as indicated:

- a) Drive pinion shaft and stud for small pinion. Engage drive pinion shaft in meter actuating drum.
- b) All bearing surfaces of speed ring assembly. Be sure speed selector lug is engaged and that "B" is opposite the index mark. Ring should rotate smoothly, with detent action only from "B" through "500".
- c) All bearing surfaces of inner brass ring. Stop pin must be at right end of cut-out section as shown:



- d) All bearing surfaces of retainer and diaphragm rings. Assemble at setting of "B" and f/1.9 and secure with three screws.
- e) Final check - Set at "B" and f/1.9. Use (W) to rotate diaphragm to f/22. Continued rotation of (W) should advance (S) to 500 with only slight increase in "drag". Reverse rotation of (W) should first return diaphragm to f/1.9, then move (S) to "B" with only slight increase in "drag".

46. Disassembly - Front Mount and Shutter from Case

- a) Remove advance lever, tripod socket outer ring and latch guard, bottom covering, bottom high light plate, and lens assembly.
- b) Install special bottom plate (shortened to cover wind mechanism only) and film advance lever.
- c) Set speed ring at "B", diaphragm at f/1.9, and ASA scale at 10.
- d) Remove "KODAK SPOT" and turn back right and left front covering.
- e) Remove the four (4) front mount screws.
- f) With front of camera towards you, carefully insert a thin knife-like tool between mounting plate and case, just to the left of the meter setting wheel, to keep the meter actuating drum from moving forward on its stud.
- g) Lift bottom of mounting plate sufficiently to clear the actuating drum, then slide it down slightly to disengage top of plate from case.
- h) Remove the two spacing washers at each corner.
- i) Do not rotate meter actuating drum unless required, as this will require re-orientation of actuating drum (Instruction 36) before reassembly of front.

S H U T T E R (Cont'd)

47. Reassembly - Front Mount and Shutter to Case

- a) Reposition meter actuating drum (Instruction 36).
- b) Replace spacers (two at each location with concave surfaces toward each other).
- c) Set speed ring at "B" and diaphragm at f/1.9.
- d) Rotate shutter setting idler gear until setting resistance is encountered.
- e) Hold front assembly at approximately 30° angle and insert top edge under high light plate, then engage the transfer shaft and pinion with the idler gear and bearing. Finally, lower bottom edge of mount and engage diaphragm and speed scale pinion coupler shaft.

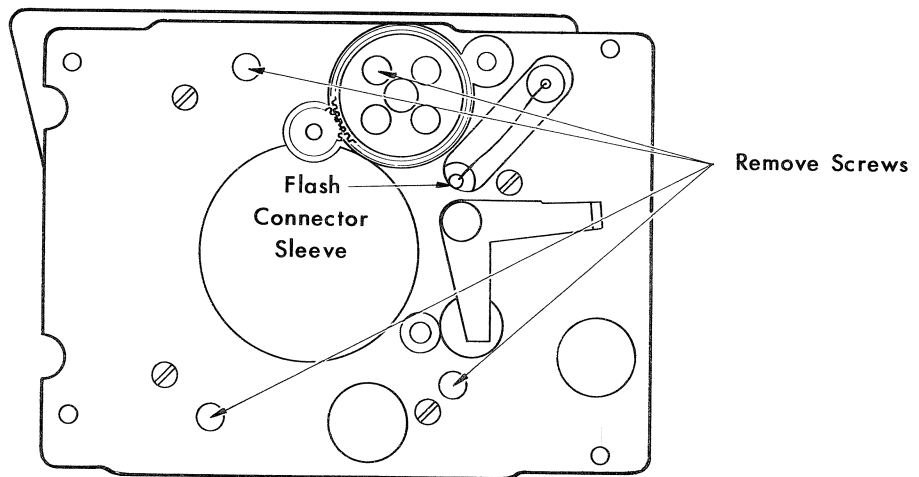
NOTE: The use of four N4201 winding lever screws inserted temporarily in the case will hold the washers in position.

- f) Hold front securely in position and check operation of film advance lever in setting shutter.
- g) When operating satisfactorily, fit the original front screws and adjust them (by compressing the concave spacers) to make lens seat parallel to the film plane and $1.874" \pm .001"$ from it.
- h) Replace the lens assembly and check range finder alignment.

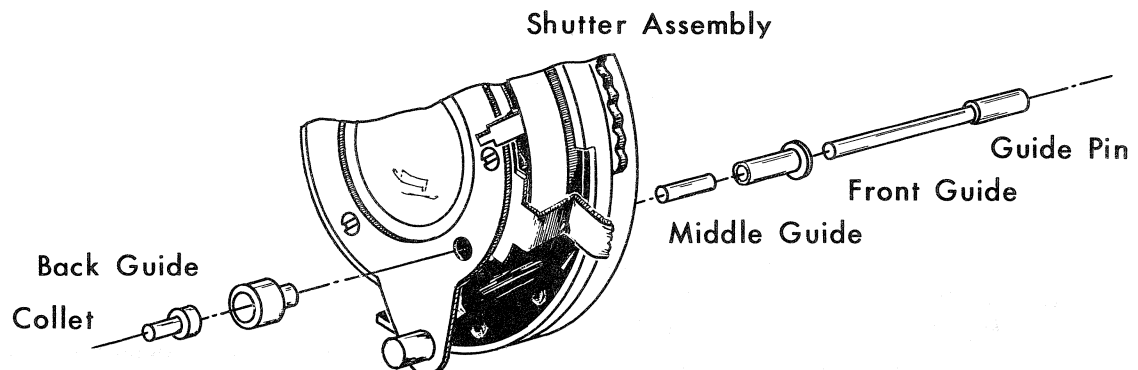
48. Disassembly - Shutter

- a) Remove mounting plate and shutter from case. (Instruction 46).
- b) Remove the four screws as indicated and loosen the set screw in the plastic sleeve connecting flash post to shutter terminal.

NOTE: For reassembly purposes it may be helpful to mark the alignment between the large idler gear and the shutter setting coupler gear.

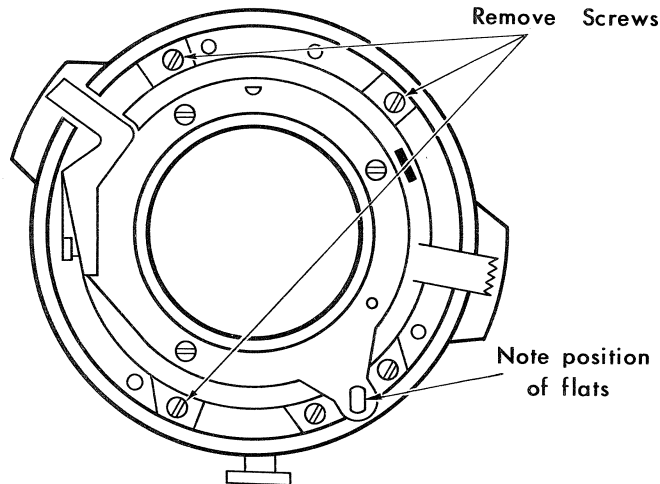


- c) Separate shutter assembly from mounting plate.
- d) Disassemble range finder actuating pin by first removing the split collet and back sleeve guide from the rear, and then withdrawing the pin and guides from the front.

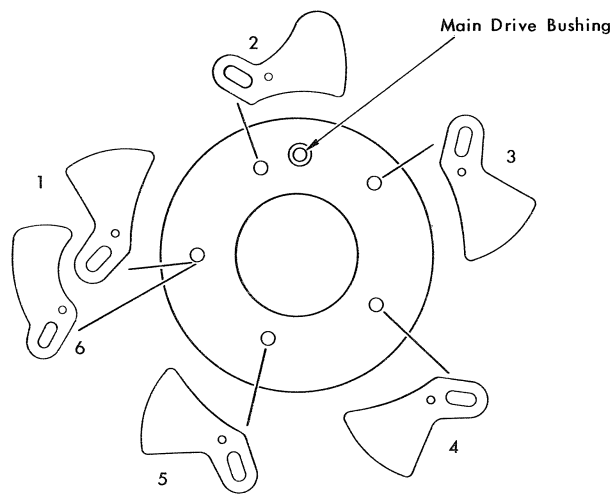


S H U T T E R (Cont'd)

- e) For reassembly purposes, set shutter at "B" and f/1.9 and carefully note the position of the flats on the shaft which connects to the meter actuating drum. Then remove the three screws indicated and separate shutter mechanism from the speed and diaphragm ring assembly.



- f) Disassembly of balance of shutter is similar to the previous Synchro Compur Shutter, with the exception that the pinion bracket must be removed before mechanism plate can be removed from shutter case for blade repairs or replacement.
g) Shutter blades and their location on the plate.



Rear View of Mechanism Plate
(Blades 1, 3, 4 and 5 are identical)

49. Trouble Shooting Shutter Speeds

Flash Synchronization

Shutter does not set

Disassemble as in Instruction 48. Speed adjustments are similar to those of the previous Synchro Compur Shutter used on the Retina IIIC & Reflex.
Disassemble as in Instruction 48. Flash synchronization adjustments are similar to those of the previous Synchro Compur Shutter used on the Retina IIIC & Reflex. (Increase or decrease the tension of the synchro sector assembly spring).
Defective rack or transfer shaft. Incorrect engagement of transfer shaft with rack or with shutter setting idler gear. (Instruction 47).

Corrected to MARCH 1959

PARTS LIST No. 5523

KODAK RETINA REFLEX CAMERA
WITH
SYNCHRO COMPUR SHUTTER
AND
Kodak Retina Reflex Field Case



KODAK RETINA REFLEX CAMERA

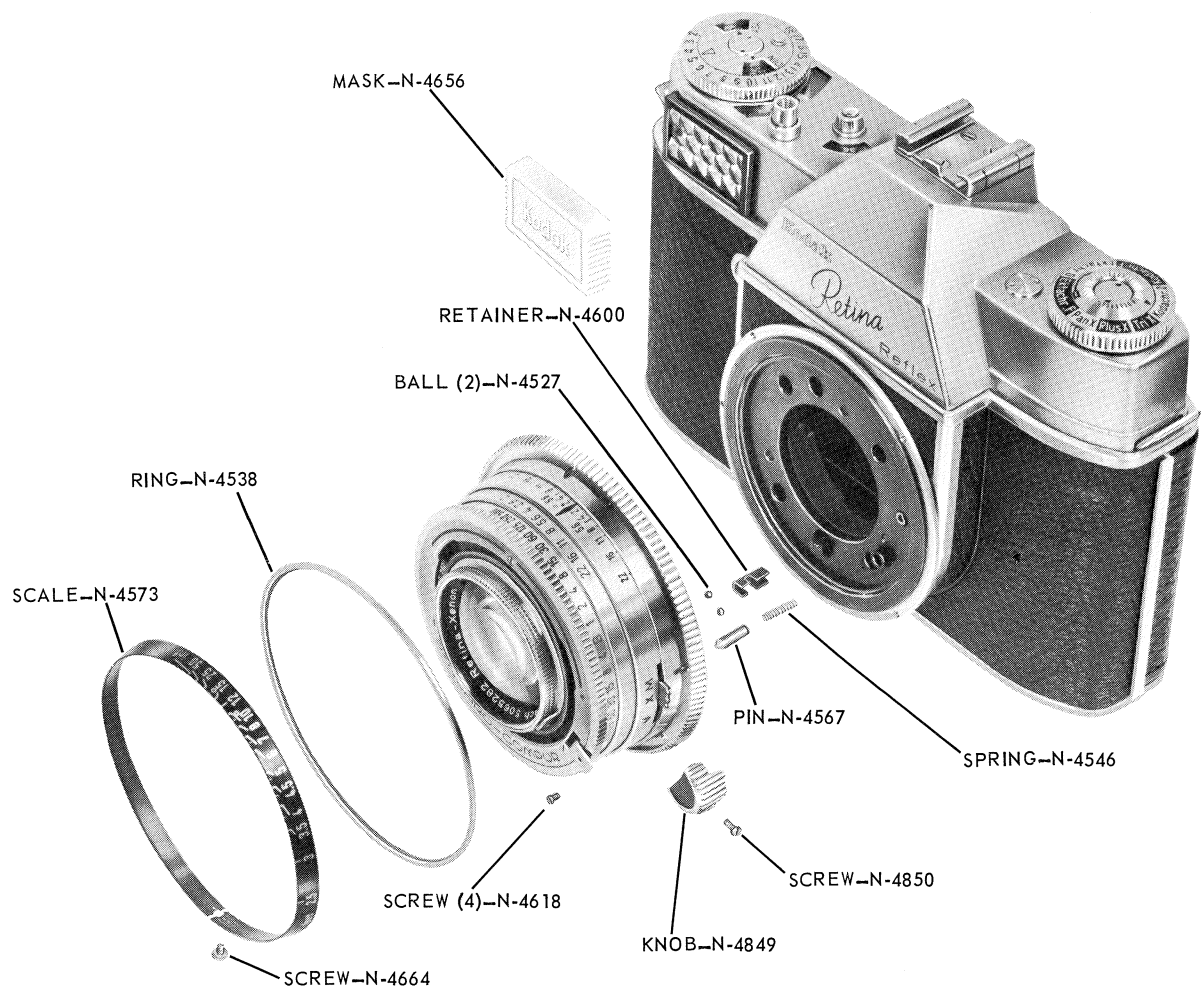


FIGURE 1

SHUTTER COMPLETE-N-4859
(See figures 24 thru 40)

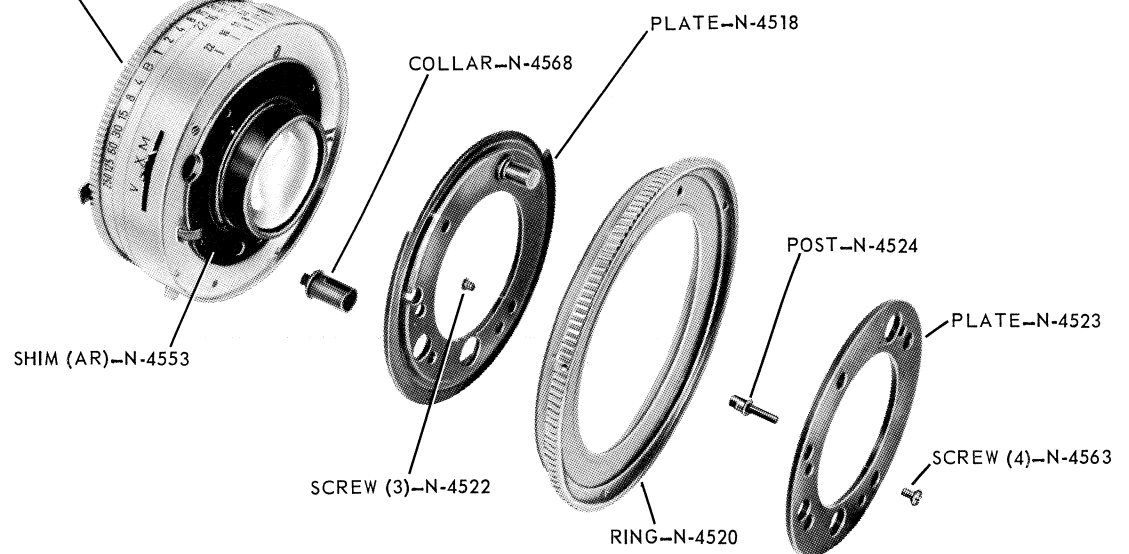


FIGURE 2

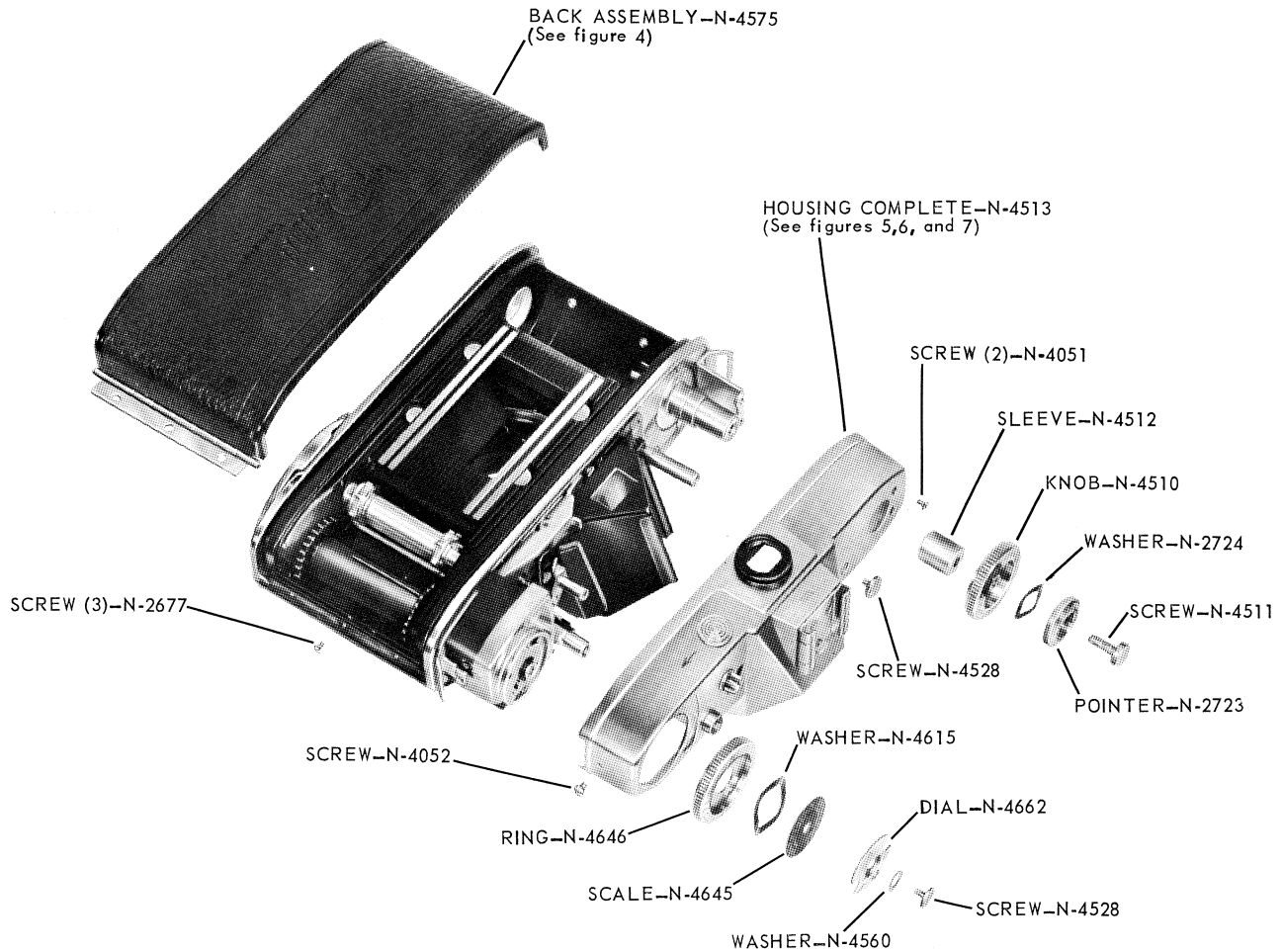


FIGURE 3

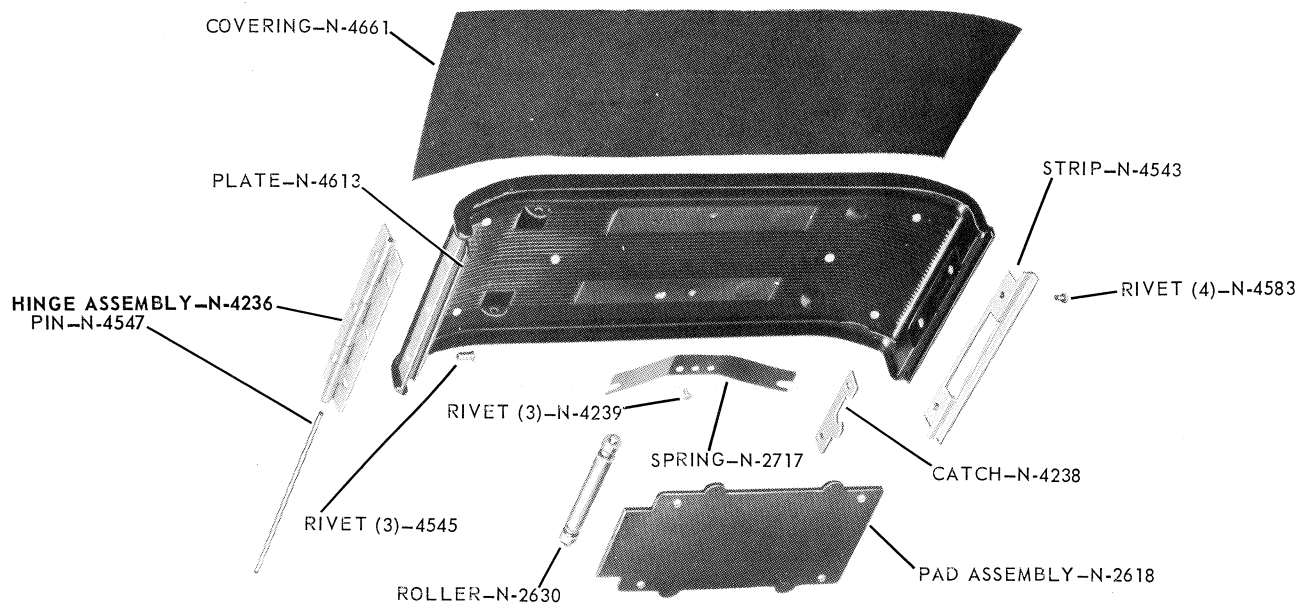


FIGURE 4. BACK ASSY-N-4575

KODAK RETINA REFLEX CAMERA

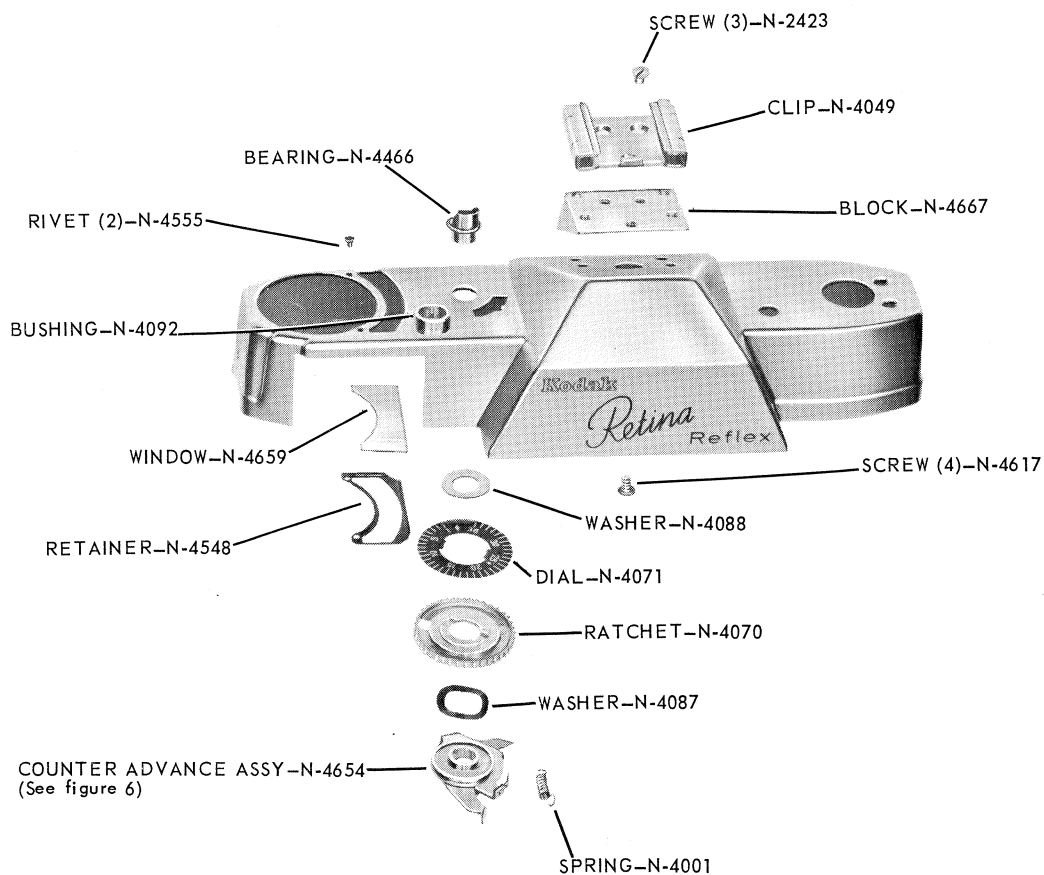


FIGURE 5

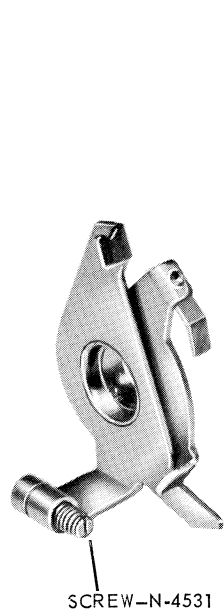


FIGURE 6. COUNTER ADVANCE ASSY-N-4654

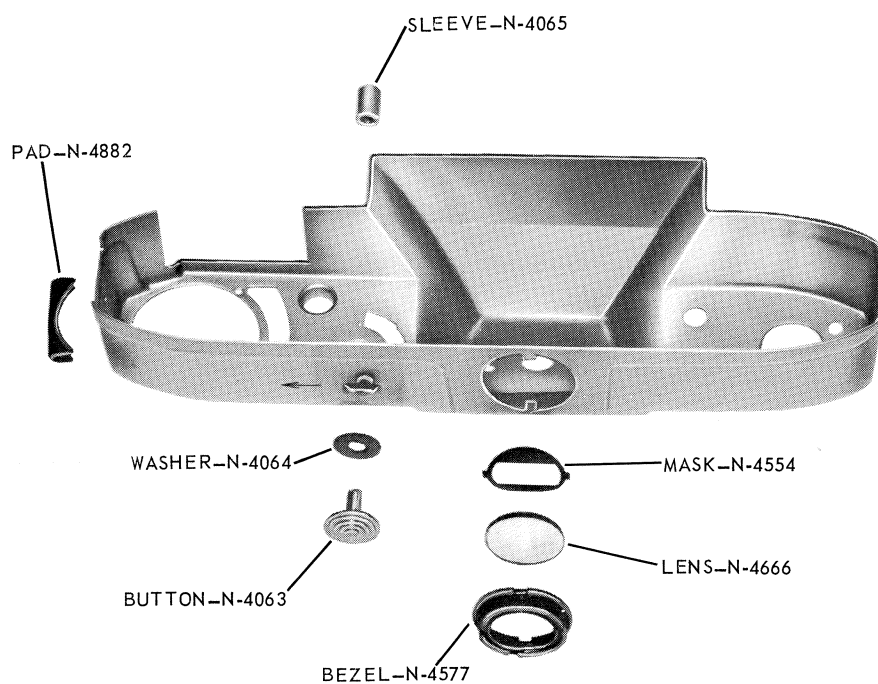


FIGURE 7

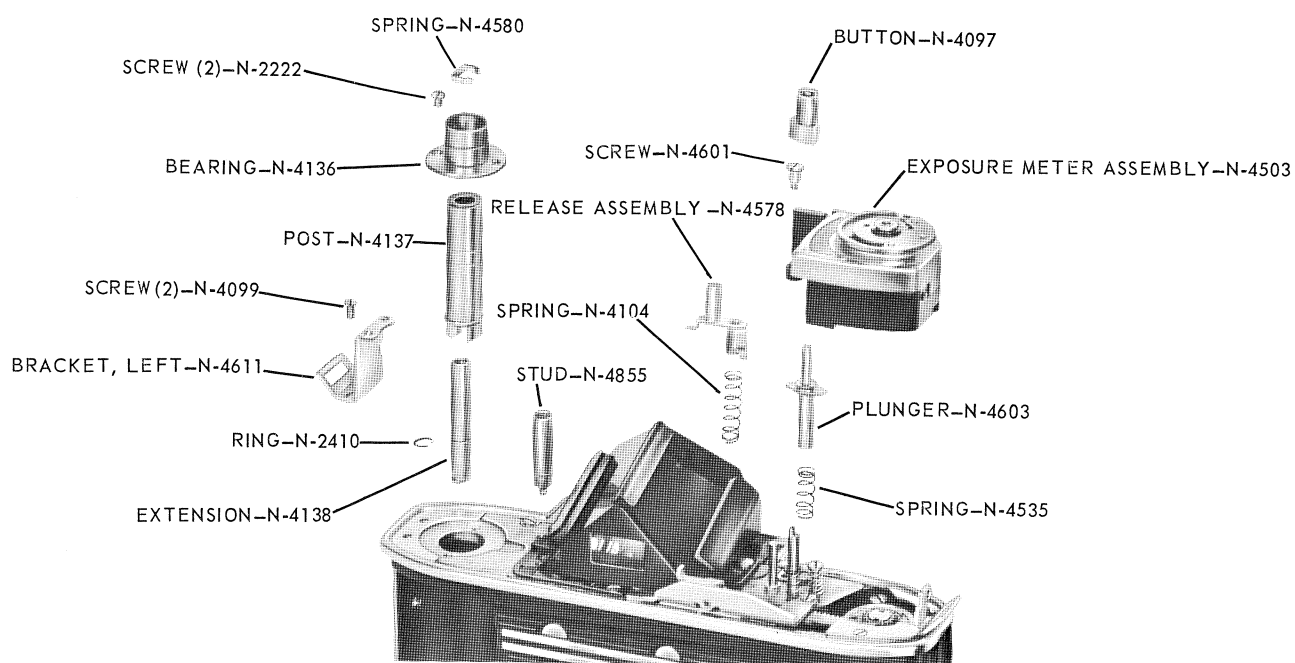


FIGURE 8

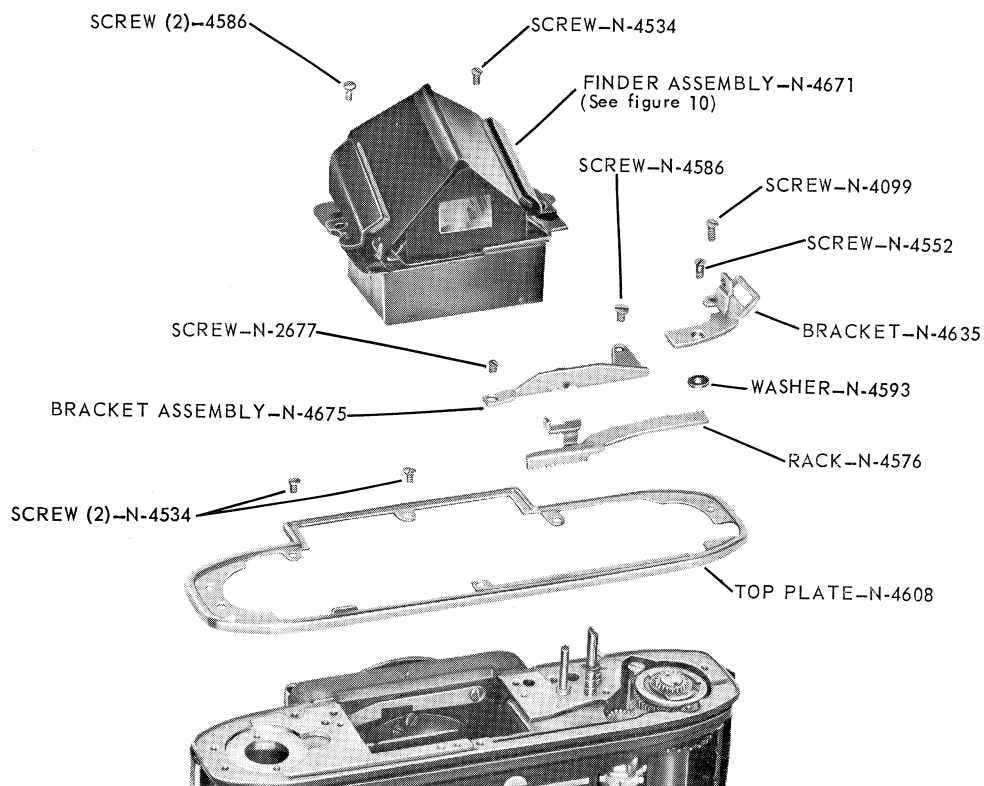


FIGURE 9

KODAK RETINA REFLEX CAMERA

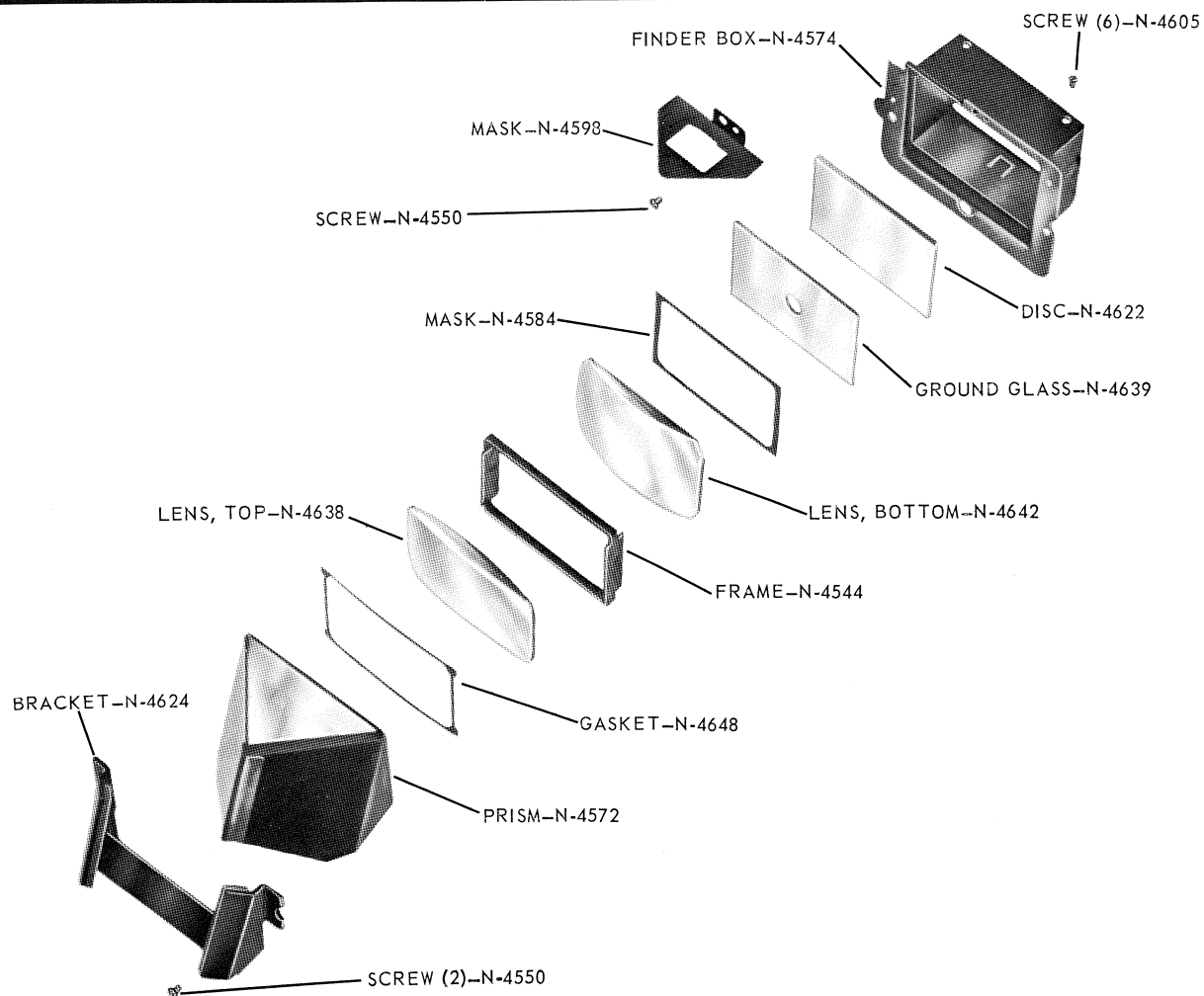


FIGURE 10

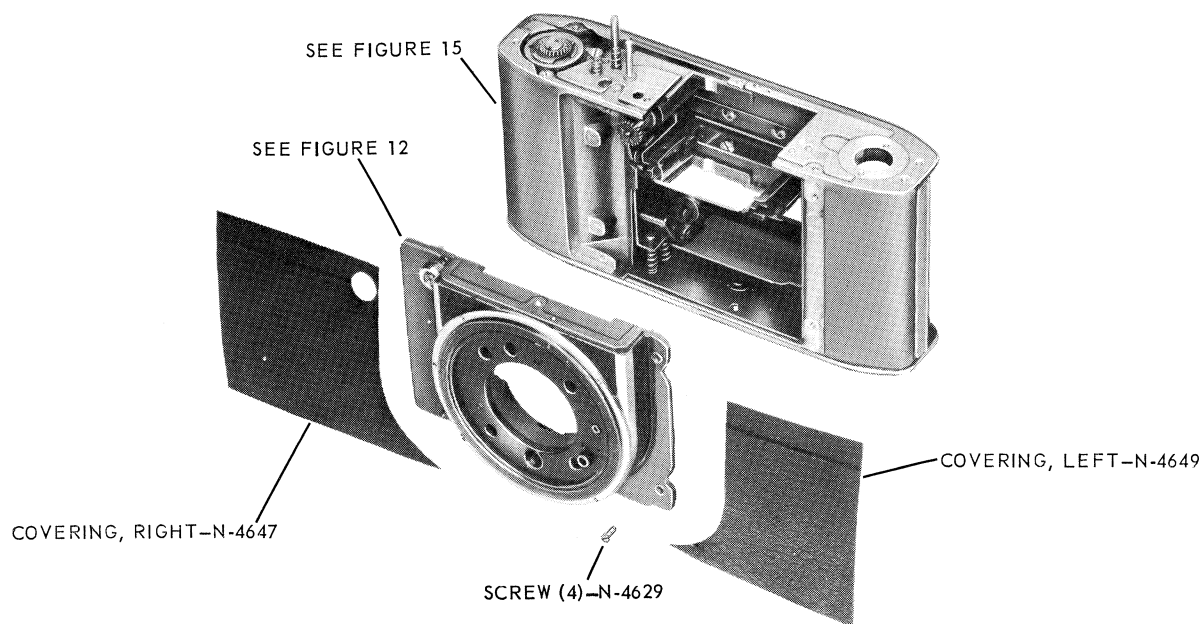


FIGURE 11

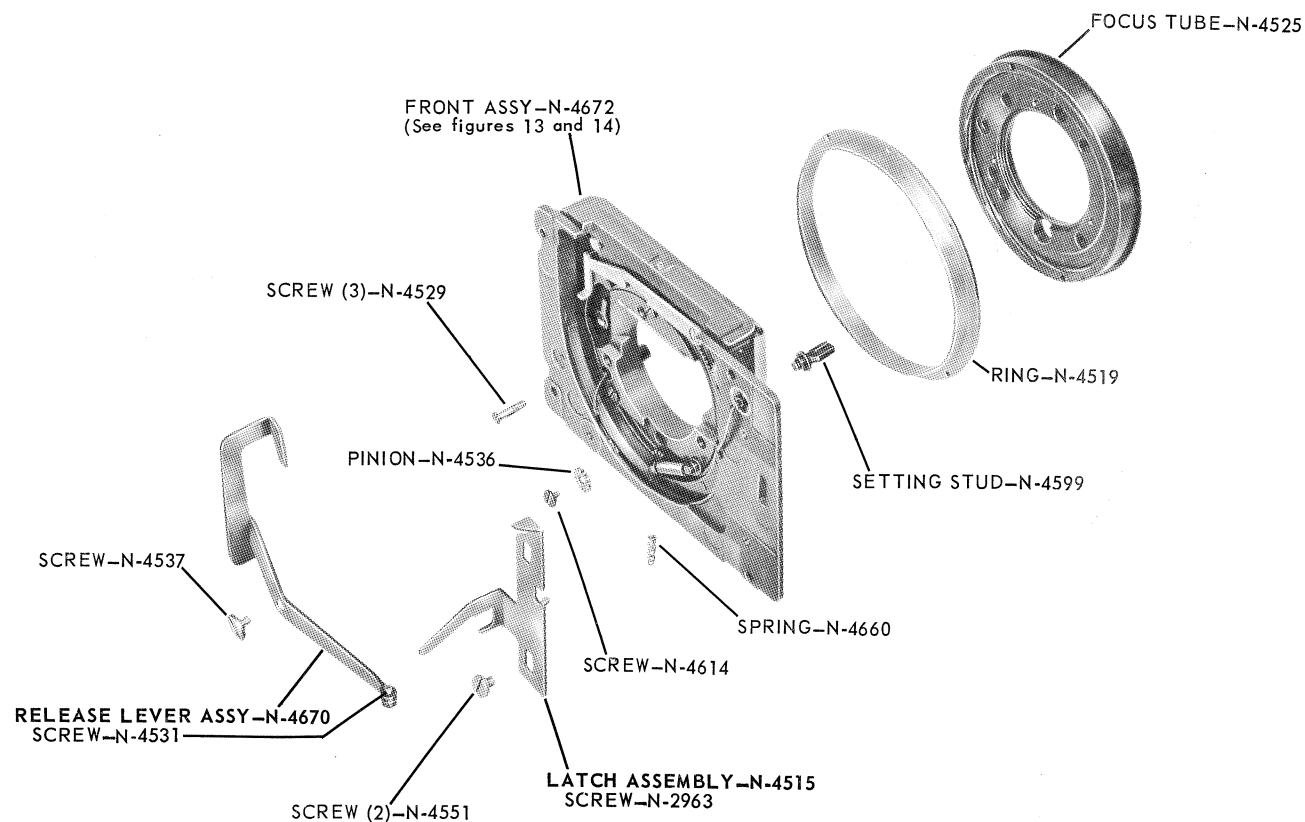


FIGURE 12

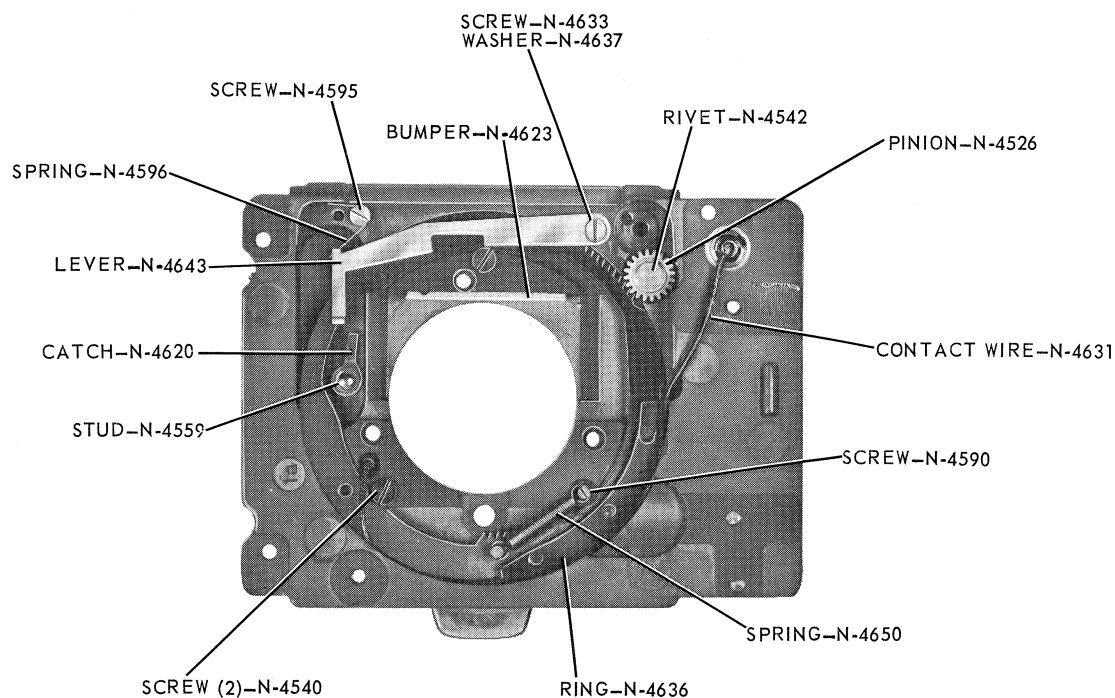


FIGURE 13. FRONT ASSY-N-4672

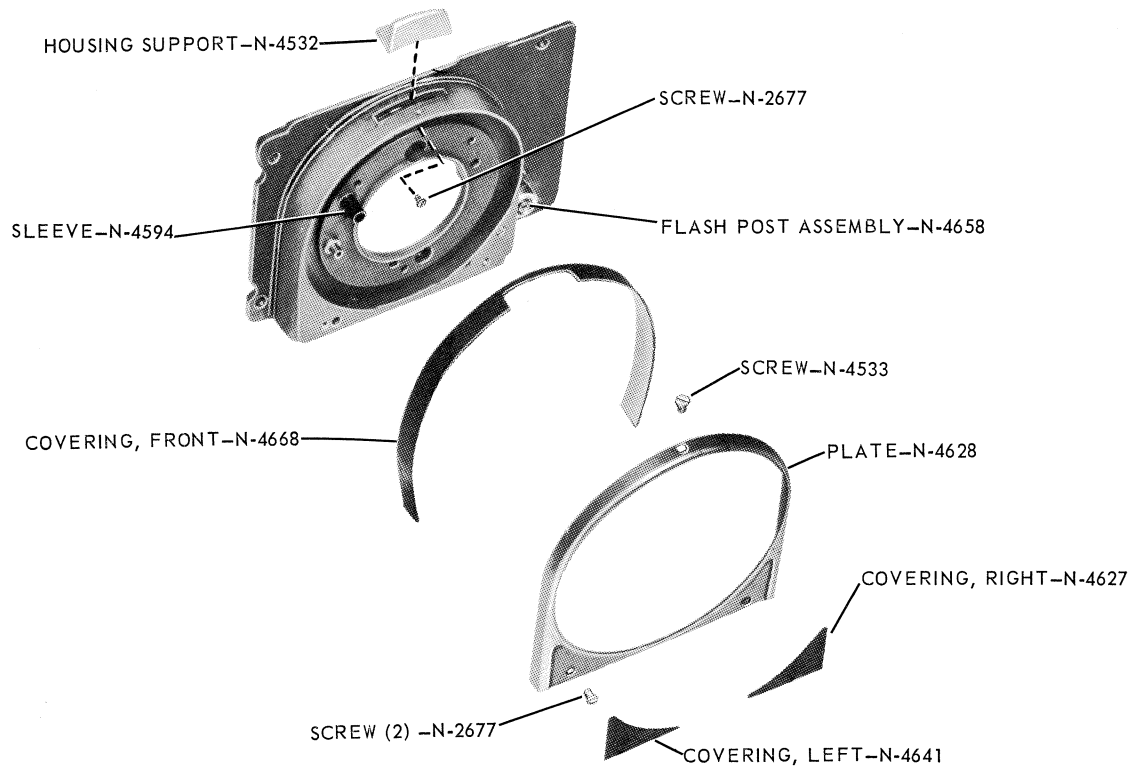


FIGURE 14. FRONT ASSY-N-4672 (Cont'd)

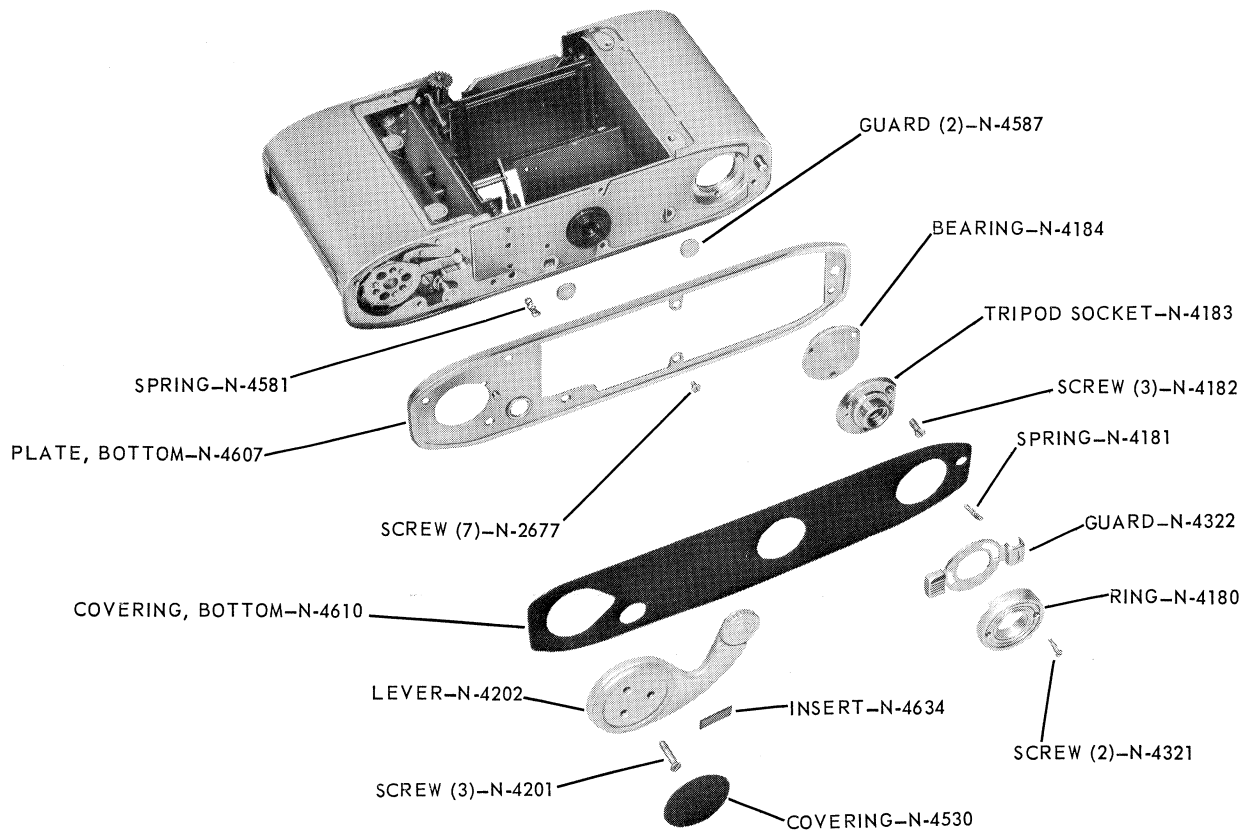


FIGURE 15

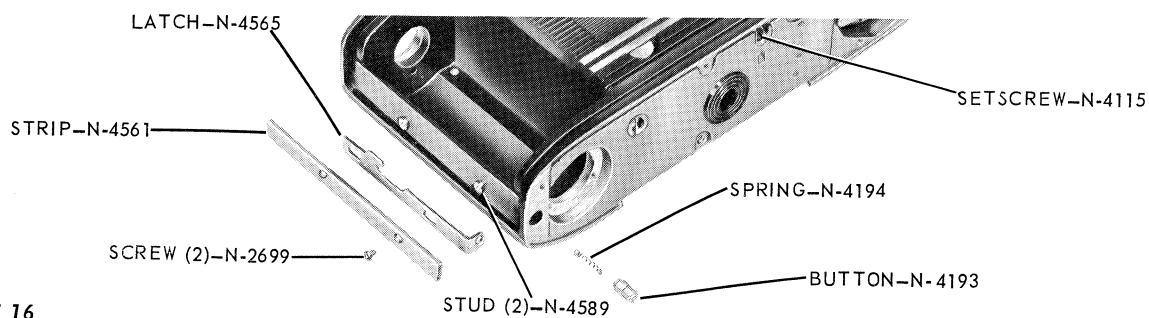


FIGURE 16

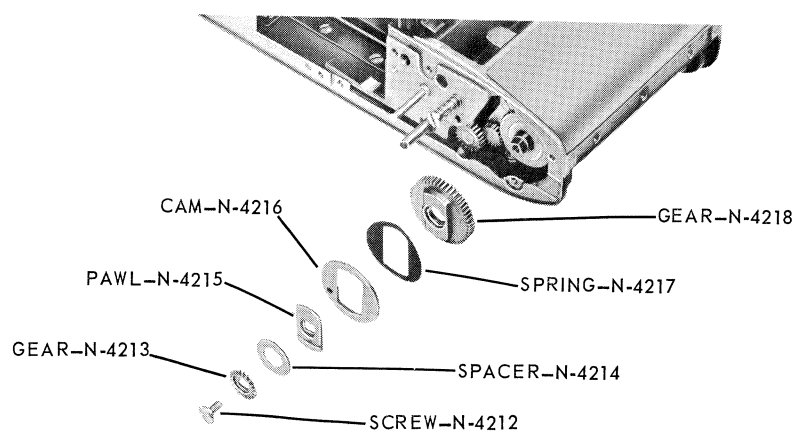


FIGURE 17

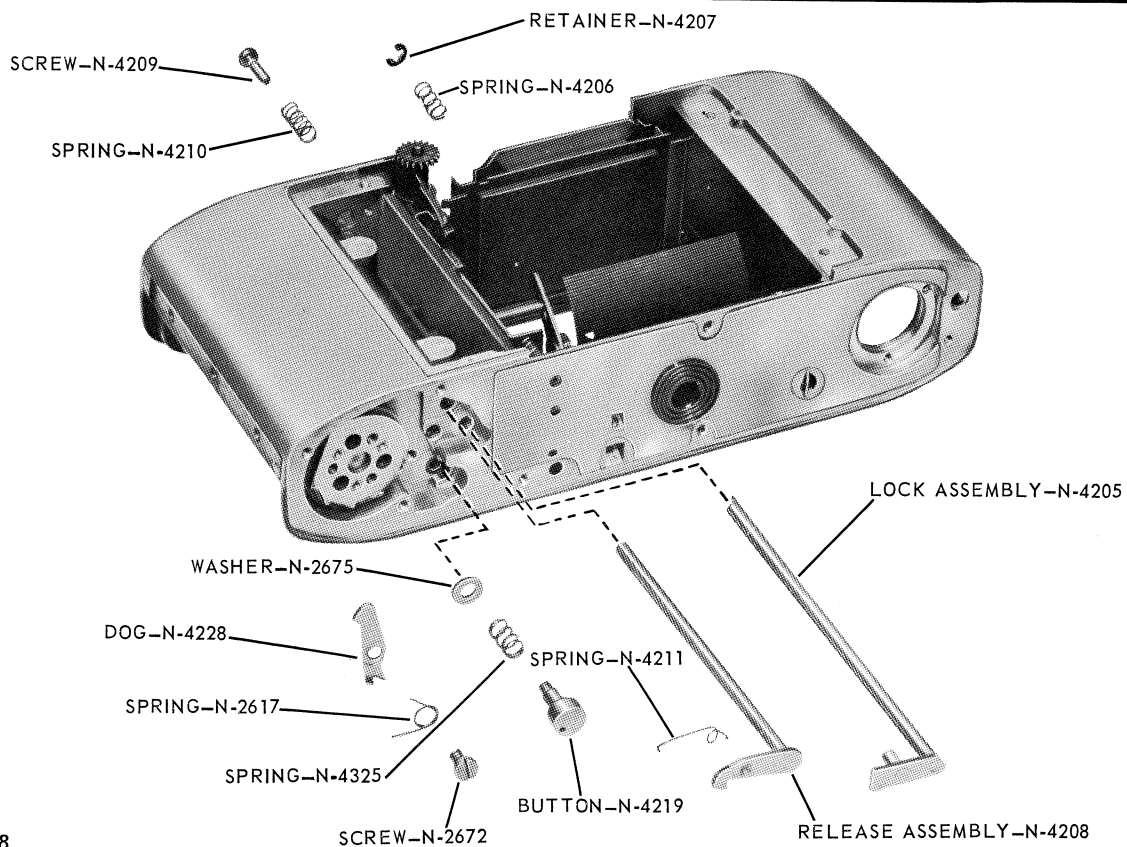


FIGURE 18

KODAK RETINA REFLEX CAMERA

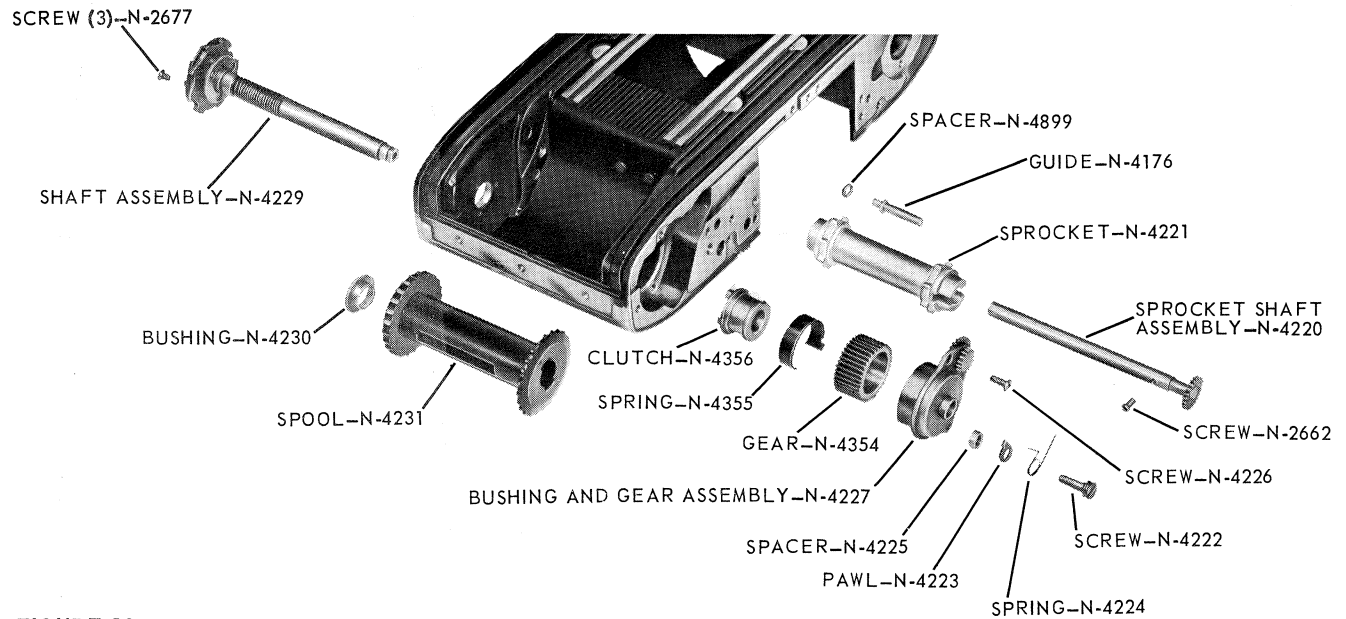


FIGURE 19

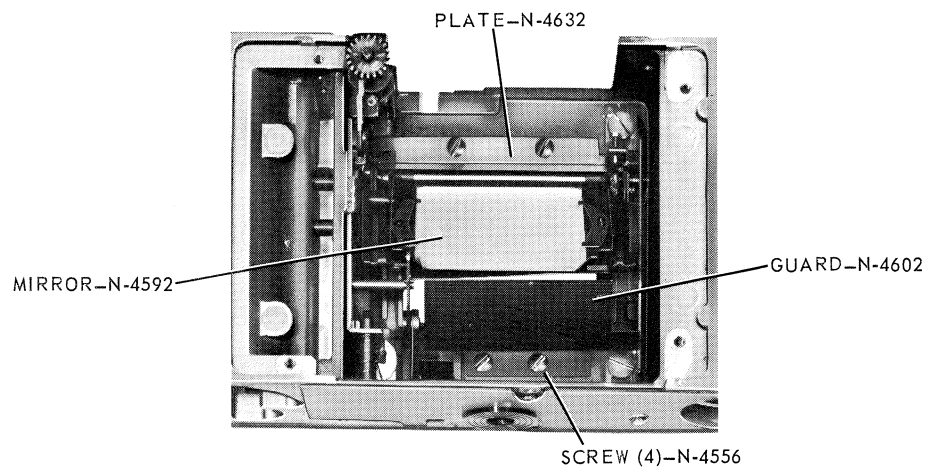


FIGURE 20

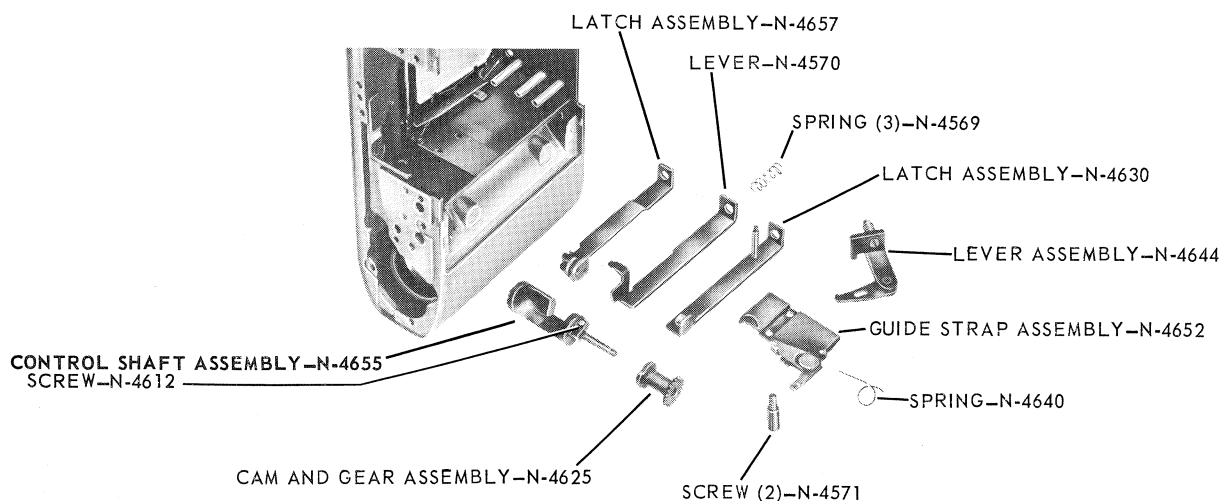


FIGURE 21

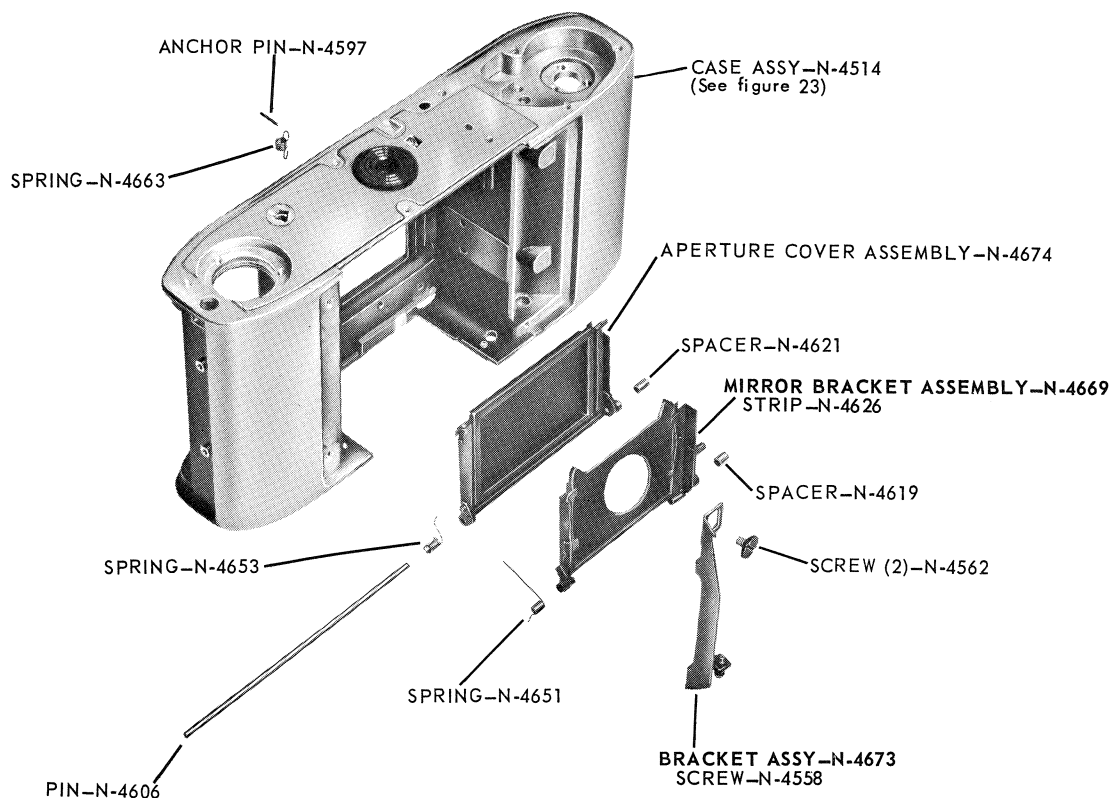


FIGURE 22

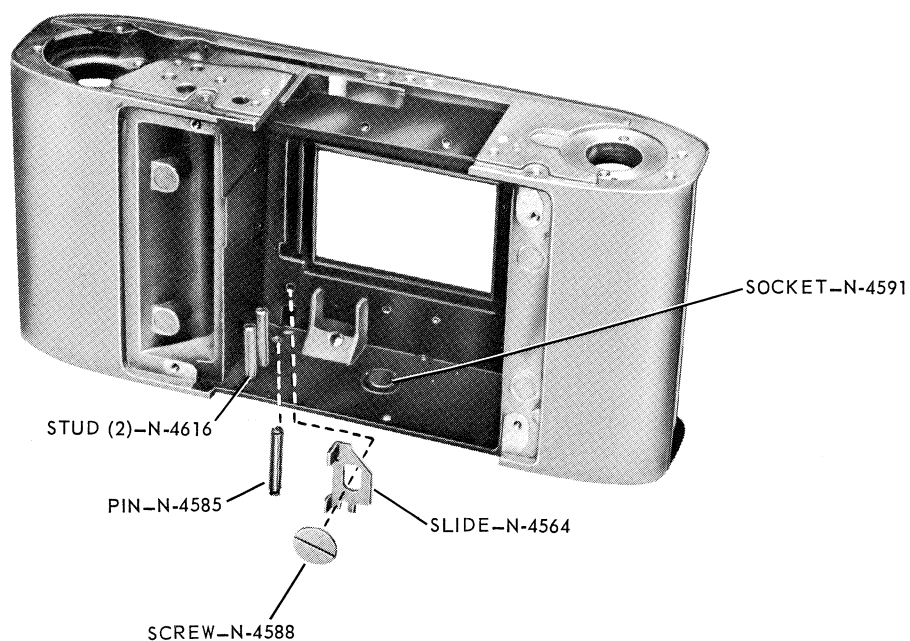
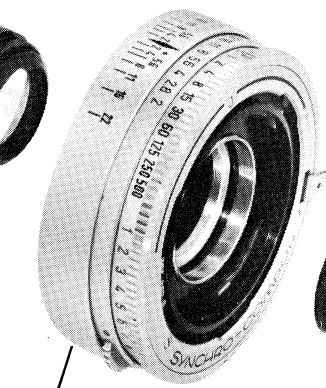


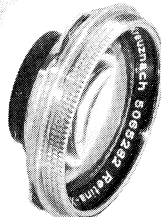
FIGURE 23. CASE ASSY-N-4514

SYNCHRO COMPUR SHUTTER for Kodak Retina Reflex Camera

REAR LENS ASSY—Return complete shutter to Rochester for replacement of this part.



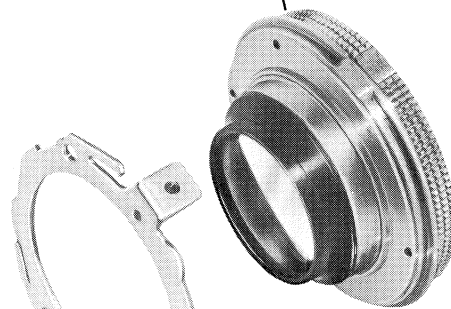
SEE FIGURE 25



SHUTTER ASSY—Available only as Shutter Complete—N-4859 (Refer to figure 2)

FIGURE 24

FRONT LENS ASSY—Return complete shutter to Rochester for replacement of this part.

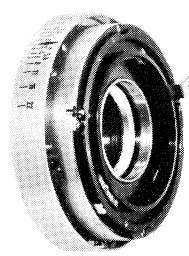


RING—N-4852

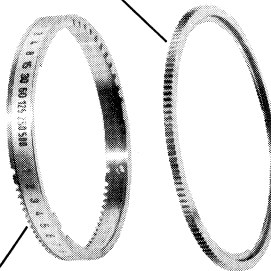
SCREW (3)—N-2739

FIGURE 25

DIAPHRAGM SET RING ASSY—N-4683



SET RING—N-4681



SCREW (3)—4676



NAME PLATE—N-4677

LIGHT VALUE SCALE AND RING ASSY—N-4682

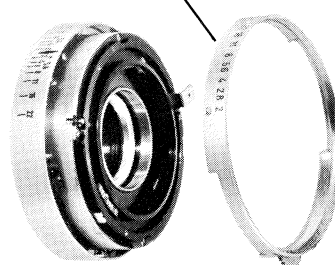
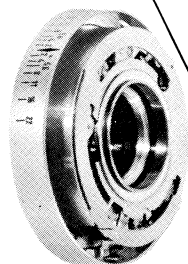


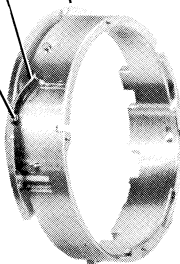
FIGURE 26

OUTER SHUTTER HOUSING ASSY—N-4694

SPRING (2)—N-4696
STUD (2)—N-4697



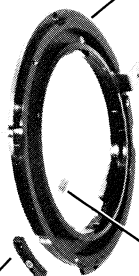
SCREW (4)—4695



DUST GUARD—N-4693



LENS MOUNTING PLATE ASSY—N-4691 (See figure 28)



SCREW (4)—4684

SCREW—N-4258

BLOCK (BLANK)—N-4257

FIGURE 27

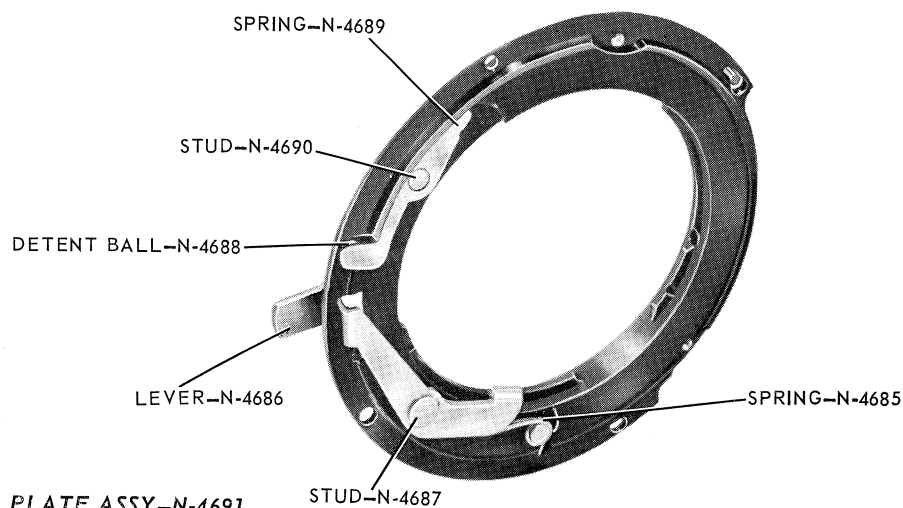


FIGURE 28. LENS MOUNTING PLATE ASSY-N-4691



FIGURE 29

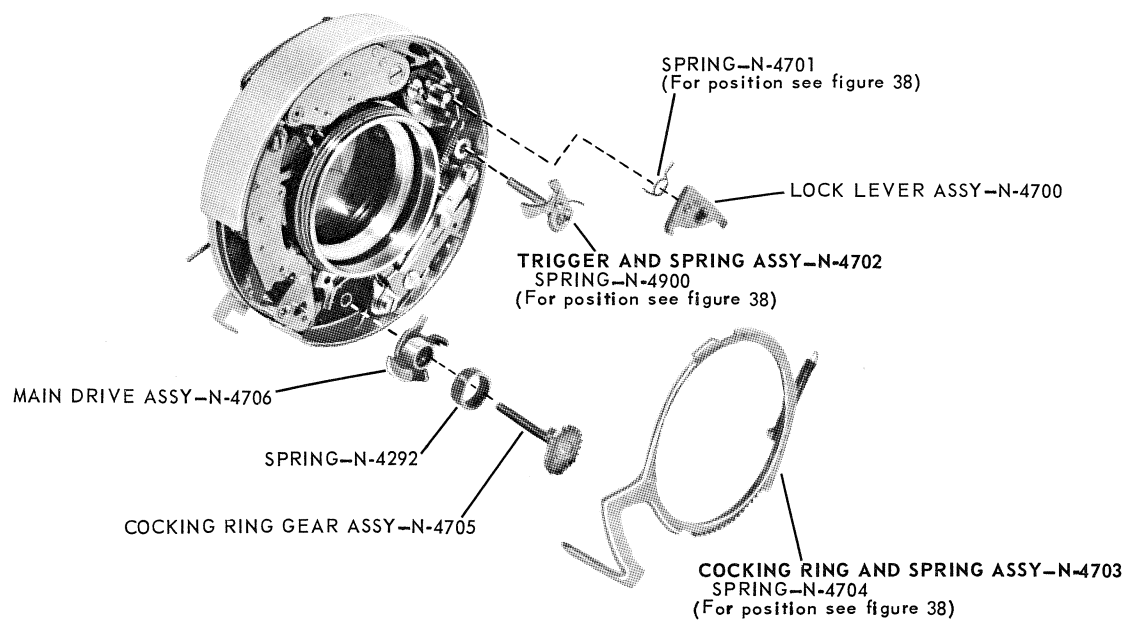


FIGURE 30

SYNCHRO COMPUR SHUTTER for Kodak Retina Reflex Camera

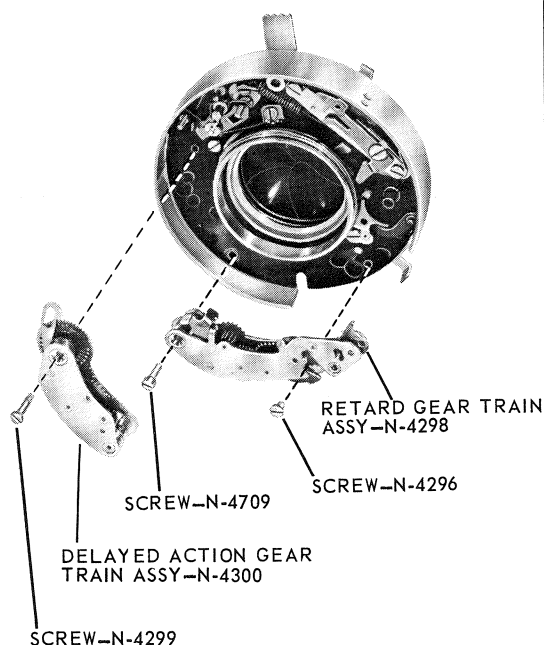


FIGURE 31

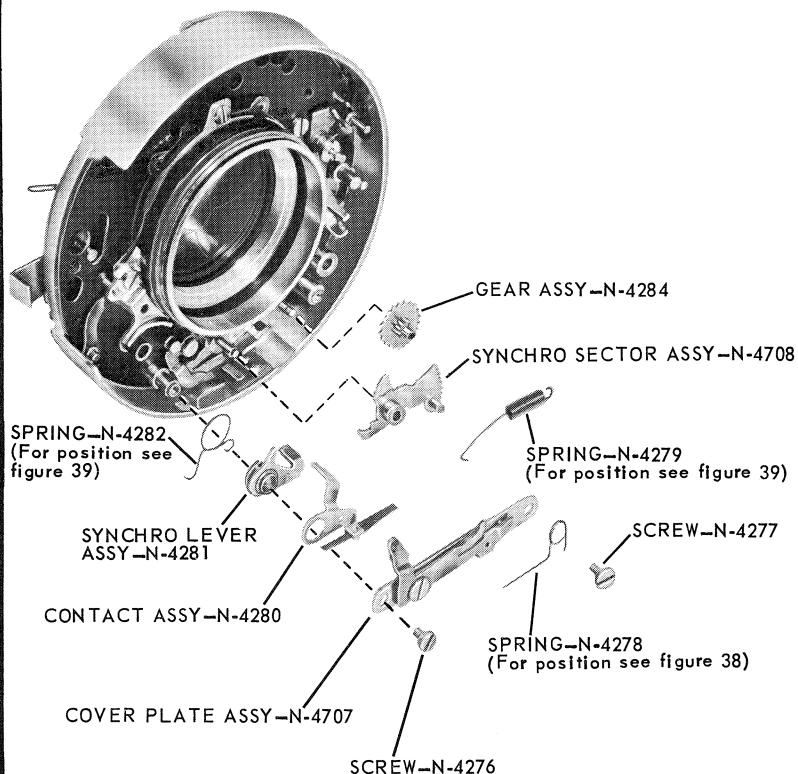


FIGURE 32

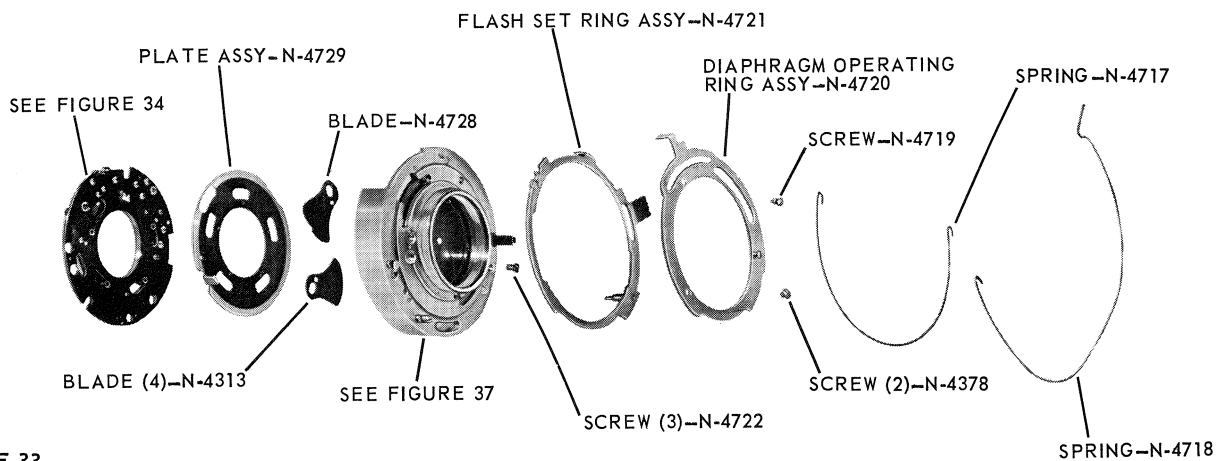


FIGURE 33

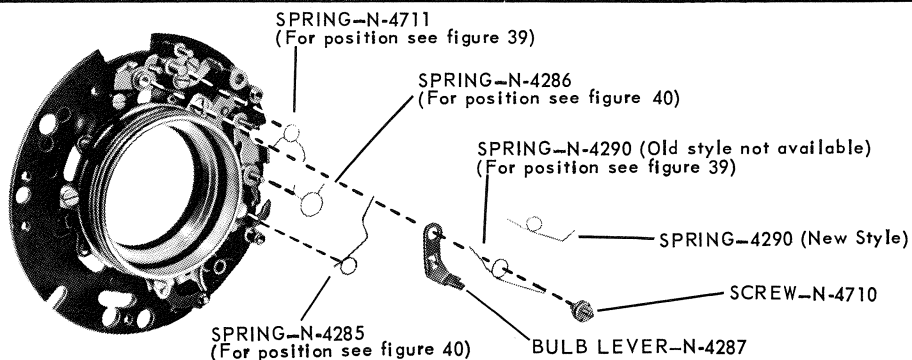


FIGURE 34

MECHANISM PLATE
ASSY-N-4733
(See figure 36)PLATE-N-4294
SCREW-N-4295

RING ASSY-N-4732

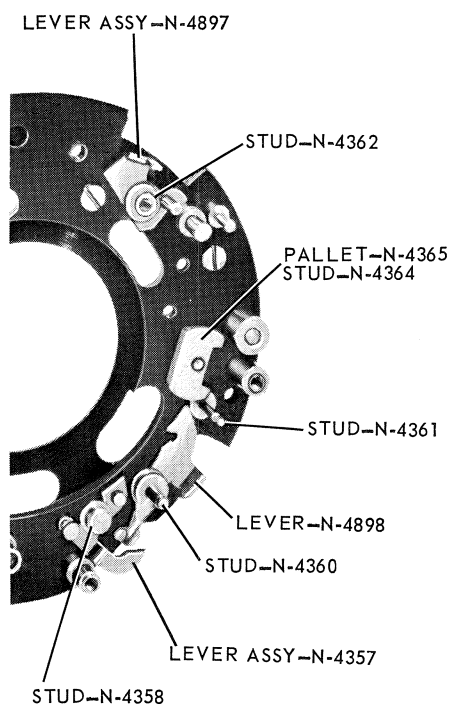
SCREW (2)-N-4304

STOP-N-4730

SCREW-N-4302

TUBE-Return complete
shutter to Rochester for
replacement of this part

FIGURE 35

CASE ASSY-N-4726
STUD-N-4370
SPRING-N-4371
RIVET (2)-N-4366
PLATE-N-4367
BLOCK-N-4727
POINT-N-4369

STUD-N-4723

OPERATING PLATE ASSY-N-4382

WING ASSY (5)-N-4380

PLATE ASSY-N-4725

SCREW (3)-N-4724

FIGURE 36. MECHANISM PLATE ASSY-N-4733

FIGURE 37

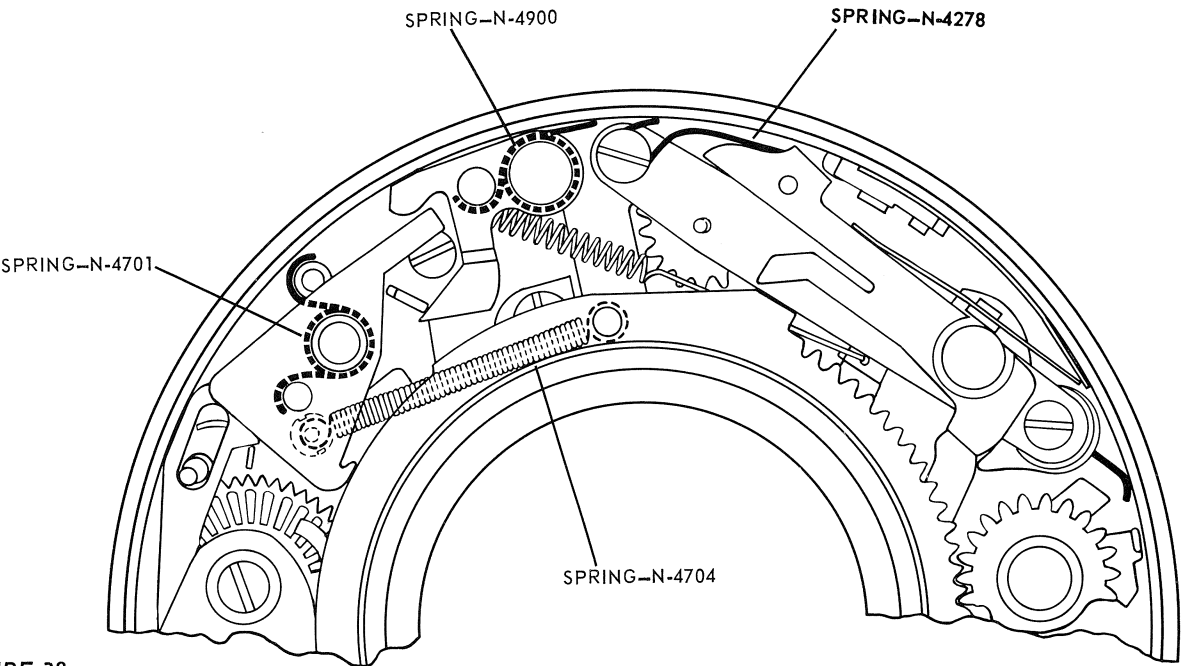


FIGURE 38

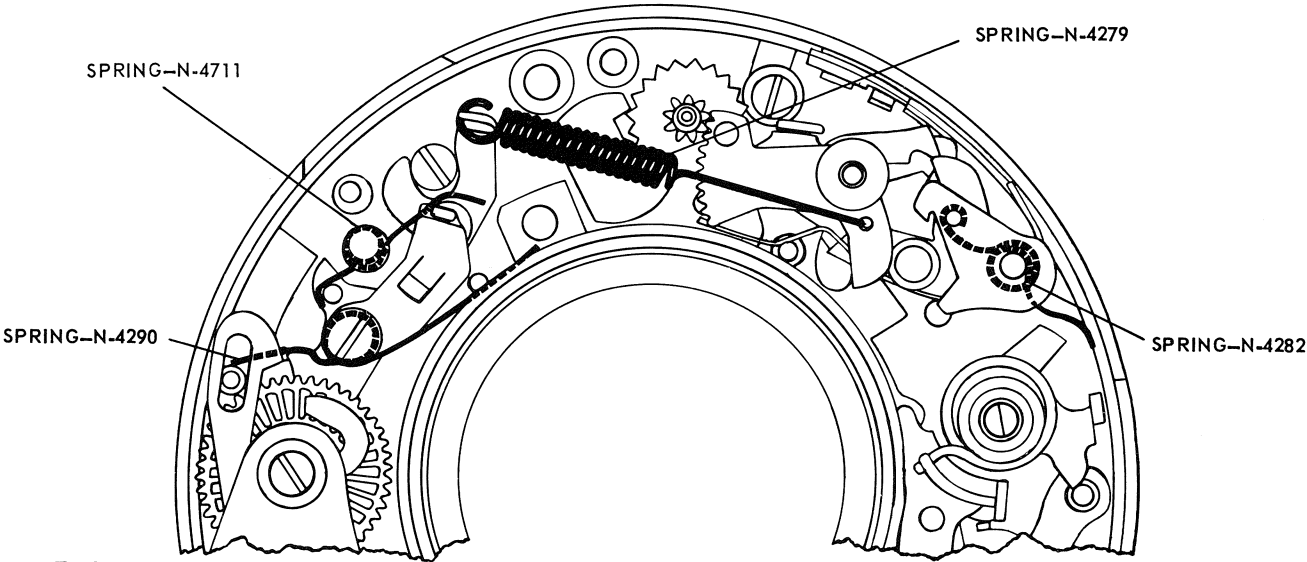


FIGURE 39

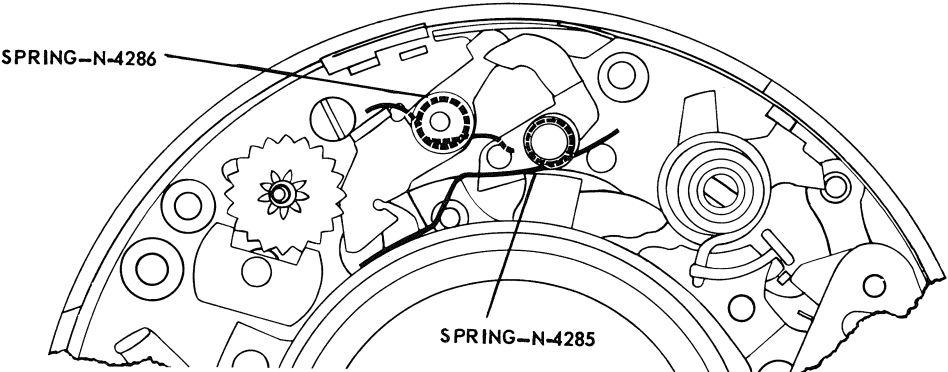


FIGURE 40



FIGURE 41. KODAK RETINA REFLEX FIELD CASE

KODAK RETINA REFLEX CAMERA

FIG.	PART NO.		PART NAME	REQD.
	U.S.	German		
8	N-2222	G-2467/1	Screw - Rewind post bearing	2
8	N-2410	G-011544	Ring - Rewind post extension retaining	1
5	N-2423	G-2036/6	Screw - Clip	3
18	N-2617	G-016086	Spring - Rewind release dog	1
4	N-2618	G-016334/1	Film Tension Pad Assembly	1
4	N-2630	G-016309	Roller - Film	1
19	N-2662	G-2508/1	Screw - Sprocket shaft	1
18	N-2672	G-016085	Screw - Rewind release dog	1
18	N-2675	G-4623/1	Washer - Rewind release, bottom	1
3,9	N-2677	G-2507/1	Screw - Back assembly (3), Roller thrust bearing	
14,15,19			assy (1), Front cover plate (2), Housing support (1),	
			Bottom frame (7), Winding shaft assy (3)	17
16	N-2699	G-2114/1	Screw - Back latch plate	2
4	N-2717	G-016302	Spring - Tension pad	2
3	N-2723	G-016670	Pointer - Film indicator	1
3	N-2724	G-016623	Washer - Film indicator pointer, tension	1
12	N-2963	G-2090/1	Screw - Release latch	1
5	N-4001	G-018724	Spring - Exposure counter	1
5	N-4049	G-021738	Clip	1
3	N-4051	G-2507/6	Screw - Finder housing, left	2
3	N-4052	G-2538/6	Screw - Finder housing, right	1
7	N-4063	G-025704	Button - Counter setting	1
7	N-4064	G-4048/0	Washer - Counter setting button	1
7	N-4065	G-028705	Sleeve - Counter setting button	1
5	N-4070	G-021718	Ratchet - Counter	1
5	N-4071	G-021720	Dial - Counter	1
5	N-4087	G-021717	Washer - Counter ratchet, tension	1
5	N-4088	G-4638/1	Washer - Counter ratchet, spacing	1
5	N-4092	G-021706	Bushing - Body release	1
8	N-4097	G-021927	Button - Body release	1
8,9	N-4099	G-2537/1	Screw - Strap bracket to case, left (2), right (1)	3
8	N-4104	G-021624	Spring - Wind and counter release	1
16	N-4115	G-2258/4	Setscrew - Mirror latch bracket	1
8	N-4136	G-021633	Bearing - Rewind post	1
8	N-4137	G-021630	Post - Rewind	1
8	N-4138	G-021631	Extension - Rewind post	1
19	N-4176	G-021617	Guide - Wind and counter release	1
15	N-4180	G-021612	Ring - Tripod socket, outer	1
15	N-4181	G-021611	Spring - Back latch button guard	1
15	N-4182	G-2527/1	Screw - Tripod socket to case	3
15	N-4183	G-021595	Socket - Tripod	1
15	N-4184	G-021594	Bearing - Cassette	1
16	N-4193	G-021018	Button - Back latch	1
16	N-4194	G-021013	Spring - Back latch button	1
15	N-4201	G-2526/1	Screw - Winding lever	3
15	N-4202	G-021602/1	Lever - Winding	1
18	N-4205	G-021580/1	Film Advance Lock Assembly	1
18	N-4206	G-021584	Spring - Film advance lock assembly	1
18	N-4207	G-4984/4	Retainer - Film advance lock spring	1
18	N-4208	G-021570/1	Wind Release Assembly	1
18	N-4209	G-021578	Screw - Wind release adjusting	1
18	N-4210	G-021557	Spring - Wind release	1
18	N-4211	G-021574	Spring - Wind release throw-out	1
17	N-4212	G-021550	Screw - Drive mechanism to wind shaft	1
17	N-4213	G-021549	Gear - Winding shaft	1
17	N-4214	G-4630/0	Spacer - Winding shaft pinion	1
17	N-4215	G-021545	Pawl - Winding shaft	1
17	N-4216	G-021544	Cam - Winding shaft	1
17	N-4217	G-021543	Spring - Wind shaft cam, tension	1
17	N-4218	G-021532	Gear - Film advance drive	1

FIG.	PART NO.		PART NAME	REQD.
	U.S.	German		
18	N-4219	G-021564	Button - Rewind release	1
19	N-4220	G-021555/1	Sprocket Shaft Assembly	1
19	N-4221	G-021560/1	Sprocket	1
19	N-4222	G-021540	Screw - Drive gear pawl	1
19	N-4223	G-021538	Pawl - Drive gear	1
19	N-4224	G-021539	Spring - Drive gear pawl	1
19	N-4225	G-021536	Spacer - Drive gear pawl	1
19	N-4226	G-021534	Screw - Bushing and gear assy to case	1
19	N-4227	G-021527/1	Bushing and Gear Assembly	1
18	N-4228	G-021567	Dog - Rewind release	1
19	N-4229	G-021500/1	Winding Shaft Assembly	1
19	N-4230	G-021516	Bushing - Take-up spool	1
19	N-4231	G-021518/1	Spool - Take-up	1
4	N-4236	G-021321/1	Back Hinge Assembly	1
4	N-4238	G-021104	Catch - Back	1
4	N-4239	G-1371/1	Rivet - Film tension pad spring	3
15	N-4321	G-2528/6	Screw - Tripod socket outer ring	2
15	N-4322	G-021610	Guard - Back latch button	1
18	N-4325	G-021563	Spring - Rewind release button	1
19	N-4354	G-021524	Gear - Clutch	1
19	N-4355	G-016540	Spring - Clutch, pressure	1
19	N-4356	G-021522	Clutch	1
5	N-4466	G-021721	Bearing - Release and counter	1
8	N-4503	G-025642/2	Exposure Meter Assembly	1
3	N-4510	G-023765/1	Knob - Rewind	1
3	N-4511	G-023774	Screw - Rewind knob	1
3	N-4512	G-023761	Sleeve - Rewind post	1
3	N-4513	G-025701/2	Housing - Complete	1
22	N-4514	G-025002/2	Case Assembly	1
12	N-4515	G-025208/1	Release Latch Assembly	1
2	N-4518	G-025265/1	Plate - Shutter mounting	1
12	N-4519	G-025266	Ring - Clamping	1
2	N-4520	G-025260/1	Ring - Adjusting	1
2	N-4522	G-2582/4	Screw - Clamping ring	3
2	N-4523	G-025225	Plate - Focus tube spacer	1
2	N-4524	G-025254	Post - Shutter setting	1
12	N-4525	G-025250/1	Tube - Focus	1
13	N-4526	G-023225	Pinion - Shutter set ring drive	1
1	N-4527	G-8901/0	Ball - Shutter trip lever	2
3	N-4528	G-025753	Screw - Meter dial (1), Film speed indicating dial (1) . .	2
12	N-4529	G-2586/4	Screw - Mounting plate to focus assy	3
15	N-4530	G-025607	Covering - Wind lever	1
6,12	N-4531	G-2564/1	Screw - Exposure counter adjusting (1), Shutter release lever adjusting (1)	2
14	N-4532	G-025245	Support - Housing	1
14	N-4533	G-2588/1	Screw - Lens board adjusting	1
9	N-4534	G-2509/1	Screw - Upper frame	3
8	N-4535	G-023628	Spring - Release plate pressure	1
12	N-4536	G-025217	Pinion - Shutter setting	1
12	N-4537	G-025229	Screw - Body release bell crank	1
1	N-4538	G-025267	Ring - Focus scale retainer	1
13	N-4540	G-2583/4	Screw - Ring retainer	2
13	N-4542	G-025227	Rivet - Idler gear	1
4	N-4543	G-023293	Strip - Back finishing	1
10	N-4544	G-025685	Frame - Spacing	1
4	N-4545	G-1379/1	Rivet - Hinge	3
1	N-4546	G-025286	Spring - Contact	1
4	N-4547	G-7050/1	Pin - Hinge	1
5	N-4548	G-025734	Retainer - Light meter window	1
10	N-4550	G-2487/4	Screw - Bracket to lens block (2), Prism mask (1)	3

KODAK RETINA REFLEX CAMERA

FIG.	PART NO.		PART NAME	REQD.
	U.S.	German		
12	N-4551	G-023212	Screw - Release latch assy	2
9	N-4552	G-023637	Screw	1
2	N-4553	G-025269	Shim	AR
7	N-4554	G-025728	Mask - Eyelet	1
5	N-4555	G-1388/1	Rivet - Light meter window retainer	2
20	N-4556	G-2079/4	Screw - Light guard retaining (2), Spring retaining plate (2)	4
22	N-4558	G-025033	Screw - Mirror adjusting	1
13	N-4559	G-025214	Stud - Shutter release coupling	1
3	N-4560	G-025752	Washer - Top dial tension	1
16	N-4561	G-023015	Strip - Case latch cover	1
22	N-4562	G-025035	Screw - Mirror adjusting bracket	2
2	N-4563	G-2581/1	Screw - Tube assy to shutter	4
23	N-4564	G-025024	Slide - Light blocking flap lock	1
16	N-4565	G-023010	Latch - Back	1
1	N-4567	G-025285	Pin - Flash contact to shutter	1
2	N-4568	G-025268	Collar - Shutter release coupling	1
21	N-4569	G-025130	Spring - Slider pressure	3
21	N-4570	G-025132	Lever - Mirror actuating	1
21	N-4571	G-025148	Screw - Mirror setting guide	2
10	N-4572	G-0187/5	Prism - Finder roof	1
1	N-4573	G-025262/9	Scale - Footage	1
10	N-4574	G-025682	Box - Finder	1
3	N-4575	G-025290/2	Back Assembly	1
9	N-4576	G-023615	Rack - Setting	1
7	N-4577	G-025724	Bezel - Eyelet	1
8	N-4578	G-023620/1	Wind Release Button Assembly	1
8	N-4580	G-021635	Spring - Rewind post friction	1
15	N-4581	G-025030	Spring - Aperture cover latch	1
4	N-4583	G-1357/4	Rivet - Latch and highlight plate to back	4
10	N-4584	G-025695	Mask - Penta prism	1
23	N-4585	G-025039	Pin - Aperture lever guide	1
9	N-4586	G-2532/1	Screw - Prism bracket (2), Roller thrust bearing assy (1)	3
15	N-4587	G-023350	Guard - Mirror bracket spring cover	2
23	N-4588	G-025027	Screw - Aperture cover lock	1
16	N-4589	G-023014	Stud - Latch guide	2
13	N-4590	G-025240	Screw - Set ring spring anchor	1
23	N-4591	G-023004	Socket - Flash bracket locating	1
20	N-4592	G-0182/9	Mirror	1
9	N-4593	G-023639	Washer - Rack guide	1
14	N-4594	G-025284	Sleeve - Flash contact insulating	1
13	N-4595	G-025212	Screw - Shutter control spring	1
13	N-4596	G-025211	Spring - Control lever	1
22	N-4597	G-025038	Pin - Mirror bracket spring anchor	1
10	N-4598	G-025693	Mask - Prism	1
12	N-4599	G-025215	Stud - Shutter setting	1
1	N-4600	G-025222	Retainer - Shutter setting stud ball	1
8	N-4601	G-2589/1	Screw - Exposure meter retaining	1
20	N-4602	G-025196	Guard - Light	1
8	N-4603	G-025625/1	Plunger - Body release	1
10	N-4605	G-2585/4	Screw - Prism clamping	6
22	N-4606	G-023150	Pin - Mirror and light blocking flap	1
15	N-4607	G-023025/1	Plate - Bottom frame assy	1
9	N-4608	G-025028	Top Frame Assembly	1
15	N-4610	G-023356	Covering - Case, bottom	1
8	N-4611	G-023636	Bracket - Carrying strap, left	1
21	N-4612	G-2490/1	Screw - Control shaft adjusting	1
4	N-4613	G-021295	Plate - Hinge reinforcing	1
12	N-4614	G-2587/4	Screw - Gear setting	1

PART NO.				
FIG.	U.S.	German	PART NAME	REQD.
3	N-4615	G-025747	Washer - Meter setting ring tension	1
23	N-4616	G-025040	Stud - Mirror setting and release guide	2
5	N-4617	G-2224/1	Screw - Serial block	4
1	N-4618	G-2301/1	Screw - Clamping ring	4
22	N-4619	G-025152	Spacer - Mirror and light blocking flap	1
13	N-4620	G-025213	Lever - Coupling release	1
22	N-4621	G-023153	Spacer - Housing and light flap	1
10	N-4622	G-0183/0	Disc - Wedge	1
13	N-4623	G-025247	Bumper - Mirror	1
10	N-4624	G-025690	Bracket - Prism mounting	1
21	N-4625	G-025191/1	Shutter Setting Cam and Gear Assembly	1
22	N-4626	G-025249	Strip - Mirror protective	1
14	N-4627	G-025282	Leather - Front plate, right	1
14	N-4628	G-025275	Plate - Front cover	1
11	N-4629	G-2027/6	Screw - Front to case	4
21	N-4630	G-025135/1	Mirror Release Latch Assembly	1
13	N-4631	G-025287/1	Wire - Contact	1
20	N-4632	G-025158	Plate - Spring retaining	1
13	N-4633	G-025216	Screw - Control lever	1
15	N-4634	G-021604	Insert - Winding lever assembly protective	1
9	N-4635	G-025638	Bracket - Carrying strap, right	1
13	N-4636	G-025231/1	Shutter Setting Ring Assembly	1
13	N-4637	G-4626/1	Washer - Control lever	1
10	N-4638	G-0186/0	Lens - Upper	1
10	N-4639	G-0184/0	Glass - Ground	1
21	N-4640	G-025146	Spring - Lock catch	1
14	N-4641	G-025280	Leather - Front plate, left	1
10	N-4642	G-0185/0	Lens - Finder, bottom	1
13	N-4643	G-025210	Lever - Control	1
21	N-4644	G-025160/1	Mirror Latch Assembly	1
3	N-4645	G-025748	Scale - Film rating	1
3	N-4646	G-025742	Ring - Meter rotating	1
11	N-4647	G-025354	Covering - Housing, right	1
10	N-4648	G-025697	Gasket - Prism clamp, rubber	2
11	N-4649	G-023352	Covering - Housing, left	1
13	N-4650	G-025242	Spring - Tension	1
22	N-4651	G-025157	Spring - Mirror	1
21	N-4652	G-025140/1	Latch Guide Strap Assembly	1
22	N-4653	G-025155	Spring - Light blocking flap	1
5	N-4654	G-025710/1	Counter Advance Assembly	1
21	N-4655	G-025170/1	Control Shaft Assembly	1
1	N-4656	G-025673	Mask - Light	1
21	N-4657	G-025125/1	Light Blocking Flap Latch Assembly	1
14	N-4658	G-025206/1	Flash Post Terminal Assembly	1
5	N-4659	G-0190/0	Window - Light meter	1
12	N-4660	G-025271	Spring - Pressure	1
4	N-4661	G-025355	Covering - Back	1
3	N-4662	G-025750/1	Dial - Light meter	1
22	N-4663	G-025037	Spring - Mirror adjusting bracket	1
1	N-4664	G-2561/6	Screw - Footage scale	1
7	N-4666	G-0188/0	Lens - Eyelet	1
5	N-4667	G-025737	Block - Clip	1
14	N-4668	G-025248	Leather - Front frame	1
22	N-4669	G-025110/1	Mirror Bracket Assembly	1
12	N-4670	G-025228/1	Shutter Release Lever Assembly	1
9	N-4671	G-025680/2	Finder Assembly	1
12	N-4672	G-025200/2	Front Assembly	1
22	N-4673	G-025032/1	Mirror Adjusting Bracket Assembly	1
22	N-4674	G-025100/1	Aperture Cover Assembly	1
9	N-4675	G-023675/1	Roller Thrust Bearing Assembly	1

KODAK RETINA REFLEX CAMERA

FIG.	PART NO.		PART NAME	REQD.
	U.S.	German		
1	N-4849	G-025261	Knob - Focus ring	1
1	N-4850	G-2196/2	Screw - Focus ring knob	1
8	N-4855	G-025660	Stud - Housing support	1
2	N-4859	G-025/865	Shutter Complete	1
7	N-4882	G-025730	Pad - Meter retainer	1
19	N-4899	G-4610/1	Spacer - Wind and counter release guide	1

SYNCHRO COMPUR SHUTTER FOR THE RETINA REFLEX CAMERA

FIG.	PART NO.		PART NAME	REQD.
	U.S.	German		
25	N-2739	G-230/1	Screw - Bayonet lock ring	3
27	N-4257	G-021773	Block - Lens serial number (blank)	1
27	N-4258	G-2546/1	Screw - Lens serial block	1
32	N-4276	G-CROO-418	Screw - Synchro cover plate	1
32	N-4277	G-CROO-418	Screw - Synchro cover plate, shoulder	1
32	N-4278	G-CROO-672	Spring - Main drive lock	1
32	N-4279	G-CROO-641	Spring - Synchro gear	1
32	N-4280	G-CROO-615	Synchro Contact Assembly	1
32	N-4281	G-CROO-612	Synchro Lever Assembly	1
32	N-4282	G-CROO-614	Spring - Synchro lever	1
32	N-4284	G-CROO-632	Synchro Gear Assembly	1
34	N-4285	G-CROO-249	Spring - Blade operating check	1
34	N-4286	G-CROO-619	Spring - Synchro lock	1
34	N-4287	G-CROO-669	Lever - Bulb	1
34	N-4290		Spring - Self timer (old style)	1
34	N-4290		Spring - Self timer (new style)	1
30	N-4292	G-CROO-515	Spring - Main drive	1
35	N-4294	G-CROO-616	Plate - Synchro spring anchor	1
35	N-4295	G-CROO-618	Screw - Synchro anchor plate retaining	1
31	N-4296	G-CROO-323	Screw - Retard gear train, short	1
31	N-4298	G-CROO-300	Retard Gear Train Assembly	1
31	N-4299	G-CROO-416	Screw - Delayed action gear train	1
31	N-4300	G-CROO-400	Delayed Action Gear Train Assembly	1
35	N-4302	G-CROO-260	Screw - Main drive gear stop	1
35	N-4304	G-CROO-261	Screw - Shutter tube retaining	2
33	N-4313	G-CROO-208	Blade - Shutter	4
36	N-4357	G-1110-664	Synchro Lock Lever Assembly	1
36	N-4358		Stud - Synchro lever	1
36	N-4360		Stud - Synchro lever	1
36	N-4361		Stud - Synchro gear	1
36	N-4362		Stud - Time release lever	1
36	N-4364		Stud - Pallet	1
36	N-4365		Pallet	1
37	N-4366	G-1110-153	Rivet - Flash contact	2
37	N-4367		Plate - Flash contact	1
37	N-4369		Point - Flash contact	1
37	N-4370		Rivet - Synchro set lever	1
37	N-4371		Spring - Synchro set lever	1
33	N-4378		Screw - Diaphragm operating ring	1

FIG.	PART NO.		PART NAME	REQD.
	U.S.	German		
37	N-4380		Diaphragm Wing Assembly	5
37	N-4382	G-1110-338/106	Diaphragm Operating Plate Assembly	1
26	N-4676	G-346/739	Screw - Name plate	3
26	N-4677	G-346/738	Name Plate	1
26	N-4681	G-020/539	Ring - Set	1
26	N-4682	G-346/163	Light Value Scale and Ring Assembly	1
26	N-4683	G-346/590	Diaphragm Set Ring Assembly	1
27	N-4684	G-020/743	Screw - Lens mounting	4
28	N-4685	G-030/735	Spring - Bayonet lock	1
28	N-4686		Lever - Bayonet lock	1
28	N-4687		Stud - Bayonet lock lever	1
28	N-4688		Ball - Detent	1
28	N-4689		Spring - Detent ball	1
28	N-4690		Stud - Detent ball spring	1
27	N-4691	G-346/730	Lens Mounting Plate Assembly	1
27	N-4693	G-346/540	Guard - Dust	1
27	N-4694	G-346/746	Outer Shutter Housing Assembly	1
27	N-4695	G-020/055	Screw - Outer case	4
27	N-4696		Spring - Diaphragm setting tension	2
27	N-4697		Stud - Dial set ring tension spring	2
29	N-4698	G-030/567	Retainer - Speed ring	1
29	N-4699	G-020/552	Ring - Speed	1
30	N-4700	G-346/569	Cocking Ring Lock Lever Assembly	1
30	N-4701	G-346/519	Spring - Lock lever	1
30	N-4702	G-346/508	Trigger and Spring Assembly	1
30	N-4703	G-346/528	Cocking Ring and Spring Assembly	1
30	N-4704	G-011/521	Spring - Cocking ring	1
30	N-4705	G-011/517	Cocking Ring Gear Assembly	1
30	N-4706	G-011/514	Main Drive Assembly	1
32	N-4707	G-011/621	Synchro Cover Plate Assembly	1
32	N-4708	G-010/635	Synchro Sector Assembly	1
31	N-4709	G-010/304	Screw - Retard gear train, long	1
34	N-4710	G-230/671	Screw - Bulb lever retainer	1
34	N-4711	G-1110/619	Spring - Bulb lever	1
29	N-4712	G-020/102	Collar - Retaining	1
29	N-4713	G-346/745	Shroud Assembly	1
29	N-4714		Lever - Flash back	1
29	N-4715		Stud - Flash back lever	1
29	N-4716	G-020/749	Spring - Flash back lever	1
33	N-4717	G-011/170	Spring - Diaphragm return	1
33	N-4718	G-011/264	Spring - Blade return	1
33	N-4719	G-011/120	Screw - Diaphragm operating ring anchor	1
33	N-4720	G-346/108	Diaphragm Operating Ring Assembly	1
33	N-4721	G-346/148	Flash Set Ring Assembly	1
33	N-4722	G-005/109	Screw - Case to mechanism plate	3
37	N-4723	G-020/115	Stud - Anchor	1
37	N-4724	G-1110/113	Screw - Diaphragm retainer plate	3
37	N-4725	G-005/116	Diaphragm Ring Retainer Plate Assembly	1
37	N-4726		Shutter Case Assembly	1
37	N-4727		Block - Flash contact	1
33	N-4728	G-011/267	Blade - Shutter, notched	1
33	N-4729	G-011/252	Shutter Blade Spacer Plate Assembly	1
35	N-4730	G-011/299	Stop - Main drive gear	1
35	N-4732	G-005/202	Blade Control Ring Assembly	1
35	N-4733	G-346/201	Mechanism Plate Assembly	1
25	N-4852		Ring - Bayonet lock	1
2	N-4859	G-025/865	Shutter Complete	1
36	N-4897		Time Release Lever Assembly	1
36	N-4898		Lever - Synchro	1
30	N-4900		Spring - Trigger	1

KODAK RETINA REFLEX FIELD CASE

FIG.	PART NO.	PART NAME	REQD.
38	N-4843	Cover Assembly	1
38	N-4402	Cap - Snap button	1
38	N-4403	Socket - Snap button cap	1
38	N-4404	Post - Snap button	1
38	N-4405	Stud - Snap button post	1
38	N-4406	Sleeve - Snap button post stud	1
38	N-4393	Plate - Camera retaining screw	1
38	N-4392	Screw - Camera retaining	1
38	N-4394	Plate - Snap button stud catch	1
38	N-4844	Case Bottom Assembly	1
38	N-4338	Shoulder Strap Assembly	1
38	N-4767	Loop - Strap	2
38	121934	Stud - Shoulder strap	2

Always give PART NUMBER and NAME when ordering parts

EASTMAN KODAK COMPANY • ROCHESTER 4, NEW YORK

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NO. 735

Servicing the

KODAK RETINA REFLEX CAMERA

EASTMAN KODAK COMPANY
Apparatus Service Department
ROCHESTER 4, N.Y.

KODAK RETINA REFLEX CAMERA

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KODAK RETINA REFLEX

1. GENERAL INFORMATION

1.1 MECHANISM TYPES

Two distinct types of shutter release mechanisms will be found in the Retina Reflex Cameras. These are the "sequential" action (new type) and the "parallel" action (original type) mechanisms.

The basic difference between the sequential action and the parallel action mechanisms is the shutter release lever of the sequential type, which stops the shutter action after the initial closing of the blades. This prevents the shutter blades from opening and closing for the exposure until the opening action of the aperture cover trips the shutter release lever and allows the shutter action to continue for the exposure.

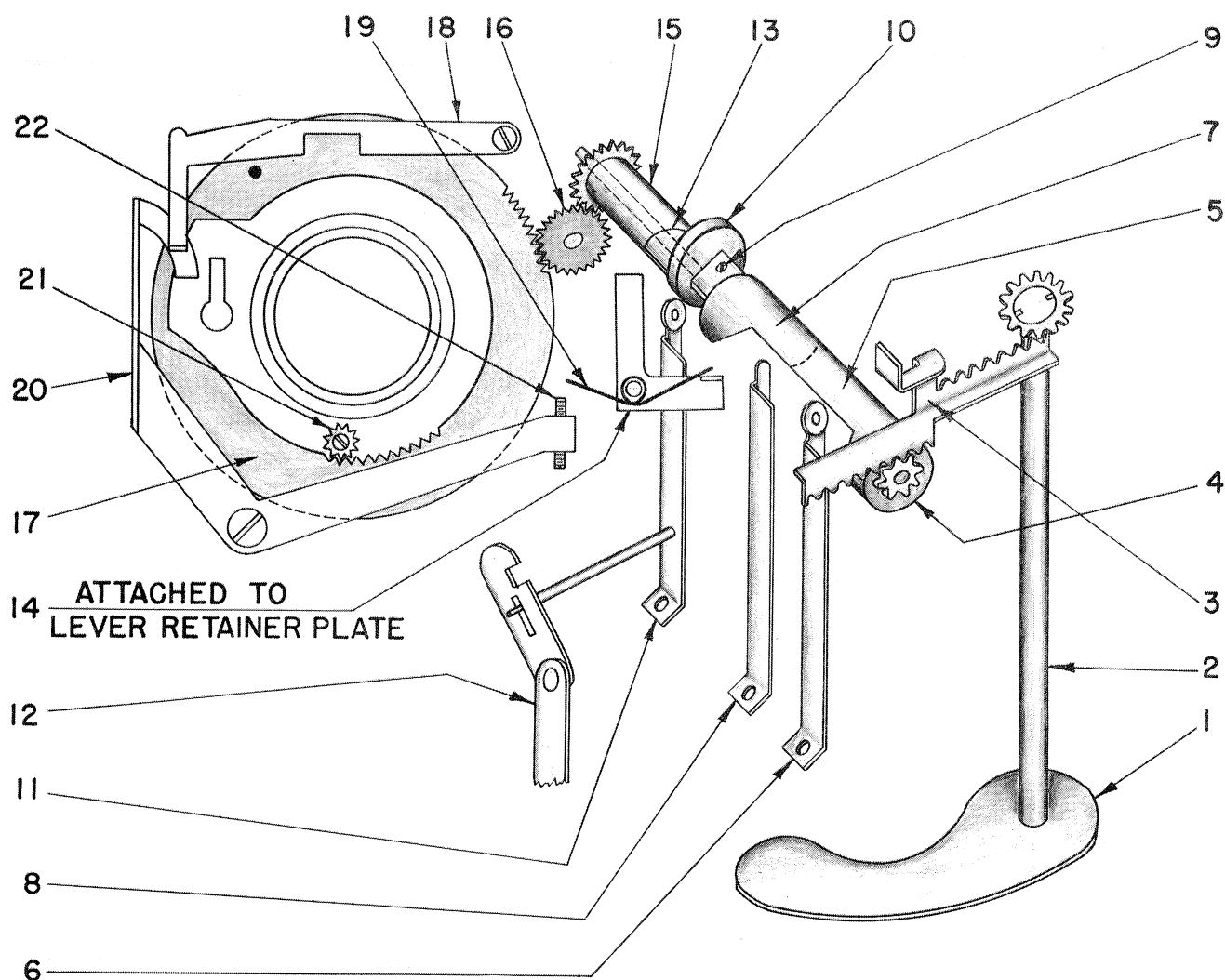
In the parallel action mechanism there is no provision for arresting the shutter action once it is started. Therefore, the mirror and aperture cover must clear the film aperture in the instant the shutter blades are initially closed and before they open and close for the exposure.

Note:

1. All Kodak imports are of the sequential type action and these instructions refer only to this type. However, basic disassembly and reassembly methods are similar on both types.
2. In the following instructions it should be understood that, unless otherwise specified, the right side referred to is the one to a serviceman's right when the camera or assembly is in picture-taking position.
3. Parts referred to in the text and identified by a number in parentheses can be located in Instruction 1.2 (Schematic of Setting Mechanism).

1. GENERAL INFORMATION

1.2 SCHEMATIC OF SETTING MECHANISM



1. Film Advance Lever
2. Winding Shaft and Pinion
3. Setting Rack
4. Rear Transfer Shaft
5. Aperture Cover Cam
6. Aperture Cover Actuating Lever
7. Mirror Actuating Cam
8. Mirror Actuating Lever
9. Adjusting Screw on Transfer Shaft
10. Mirror Release Lever Cam
11. Mirror Release Lever

12. Mirror Latch Assembly
13. Latch Lug (on Front Transfer Shaft)
14. Latch Lever (for Front Transfer Shaft)
15. Front Transfer Shaft
16. Idler Pinion
17. Shutter Setting Ring
18. Shutter Release Lever
19. Latch Lever Spring
20. Body Release Bell Crank
21. Shutter Setting Pinion
22. Bell Crank Adjusting Screw

1. GENERAL INFORMATION

1.3 SEQUENCE OF ACTION - FILM ADVANCE LEVER

When the film advance lever is actuated, the aperture cover, the mirror, and the shutter are controlled in sequence by the cams and pinions on the two-section transfer shaft as follows:

- a) In approximately the first half of the Film Advance Lever (1) actuation, the aperture cover (not shown in sketch) is brought down by the Aperture Cover Cam (5) acting on the Aperture Cover Actuating Lever (6) which also depresses the cover safety latch (not shown) below the lower right corner of the aperture opening. At the same time the Shutter Setting Ring (17) is rotated to a point where the stud in the ring is drawn up to the start of the cut-out section in the Shutter Release Lever (18).
- b) In the second half of the film advance lever actuation, the mirror (not shown) is brought down into a latching position by the Mirror Actuating Cam (7) acting on the Mirror Actuating Lever (8). The movement of the mirror down into the latching position releases the aperture cover latch (not shown) on the left side and retains the cover in a closed position. Meanwhile, the shutter setting ring continues to rotate, setting the shutter and opening the blades and diaphragm.
- c) As the film advance lever nears the end of its stroke, the Mirror Release Lever Cam (10) depresses the Mirror Release Lever (11) which in turn depresses the Mirror Latch (12) and allows the mirror to pass the latch. At the end of the stroke the mirror release lever leaves the high point of the cam, thus releasing the mirror latch to hold the mirror down. At the same time the Latch Lug (13) passes the Latch Lever (14) and prevents any back rotation of the Front Transfer Shaft as the film advance lever is returned to its normal position.
- d) On the return stroke of the film advance lever only the Rear Transfer Shaft (4) rotates. This releases both the Mirror Actuating Lever (8) and the Aperture Cover Actuating Lever (6). As the aperture cover actuating lever returns to the up position it releases the aperture cover safety latch (lower right), thereby locking the cover closed at both lower corners.

1.4 SEQUENCE OF ACTION - BODY RELEASE

The sequential action of the mechanism when the body release is depressed is as follows:

- a) The body release plunger trips the film advance mechanism, then actuates the body release slide which in turn actuates the Body Release Bell Crank (20), which then unlocks the shutter. However, the shutter setting ring does not rotate at this time; it remains locked by the Idler Pinion (16) and the Front Transfer Shaft (15).
- b) Simultaneously, the arm on the body release slide depresses the safety latch (not shown) for the aperture cover. At the instant this safety latch clears the cover, the small adjustment screw on the body release slide contacts the Mirror Latch (12) and releases the mirror.
- c) When the mirror is approximately half closed it contacts the aperture cover latch on the left side and releases the aperture cover. The mirror continues to close and the stud on the right side of its frame strikes the Latch Lever (14) to unlock the front transfer shaft. This allows the shutter setting ring to rotate until its stud stops against the left side of the cut-out in the shutter release lever. During this limited rotation of the shutter setting ring the shutter blades close and the diaphragm contracts to the pre-selected setting. The shutter then "waits" for the aperture cover to complete its opening travel and strike the lug on the shutter release lever, when it then opens and closes normally to make the exposure.

1. GENERAL INFORMATION

1.5 RANGEFINDER OPERATION

The Retina Reflex rangefinder is an optically coupled split-field type using optical wedges in the pentaprism assembly with no moving parts other than the complete lens assembly.

In focusing on an object through the inner circular area, the rays of light from the right side of the lens are picked up by the lower wedge and those from the left side by the upper wedge in the pentaprism assembly. These rays are bent or deviated so that when an object is out of focus on the film plane, the images formed by the upper and lower wedges are not in alignment. Moving the lens assembly in or out changes the angle at which these rays are picked up by the wedges, thereby bringing the images into alignment in the circular area. When this occurs, the image of the object formed by the taking lens is correctly focused at the film plane.

1.6 FILM WIND MECHANISM

The film wind mechanism in the Retina Reflex Camera is basically the same as that used in the Retina Ib, IB, IIC, IIC, IIIC and IIIC Cameras.

1.7 SHUTTER

The shutter used in the Retina Reflex Camera is basically the same as that used in the Retina Ib, IB, IIC, IIC, IIIC and IIIC Cameras. However, it contains an added mechanism for fully opening the blades and diaphragm for viewing purposes.

2. DISASSEMBLY AND REASSEMBLY

2.1 METER SETTING RING FROM METER

a) Disassembly

1. To facilitate reassembly, set the film speed indicator dial to ASA 20 and then rotate the meter setting ring counter-clockwise to its limit and note the exact location of the index mark of the film speed indicator dial in relation to the #2 value on the meter setting ring.
2. Using Tool #971, remove the dial assembly retaining screw and lift off the dial assembly.

b) Reassembly

1. Replace the meter setting ring assembly, making certain the two studs on the meter cam are engaged in the two holes in the setting ring.
2. Rotate the setting ring counter-clockwise to its full extent.
3. Replace the dial tension washer and the film speed dial, locating the dial so that the white index mark on the outer circumference above the 1300 figure is near the #3 on the setting ring.
4. Replace the film speed indicator dial so that the exposure value index lines up with the #2 on the setting ring and the ASA index mark lines up with the #20 on the ASA scale.
5. Hold the dials in this position and replace the small tension washer and the retaining screw. Before tightening the screw securely, relocate the film speed indicator dial according to the original position as noted in Instruction 2.1 a) 1. above. (If the meter is replaced, set the ASA film speed dial to read exactly #20 when the outer ring indicates #2).

2.2 TOP HOUSING FROM CASE

a) Disassembly

1. Remove meter setting ring (Instruction 2.1 a) and rewind knob (insert suitable tool in post slot and rotate knob counter-clockwise).
2. Remove cover retaining screws (one on right end, two on top left end) and cover support stud screw (top left end, using Tool #971), then lift top housing from case.

b) Reassembly

1. Reverse the order of disassembly.
2. Refer to Instruction 2.1 b) for reassembly of the meter setting ring.

2.3 PENTAPRISM FROM CASE

a) Disassembly

1. Disassemble as in Instructions 2.1 a) and 2.2 a).
2. Remove the three prism assembly retaining screws. These are the larger screws located at the right, left and rear of the prism assembly.
3. Remove the housing support stud at the left side of the prism and, using care, lift the assembly out of the case.

b) Reassembly

1. Reverse the order of disassembly.
2. Refer to Instructions 2.2 b) and 2.1 b) for reassembly of top housing and meter, respectively.

2. DISASSEMBLY AND REASSEMBLY

2.4 SHUTTER AND FOCUS RING

a) Disassembly

1. Trip the shutter mechanism.
2. Rotate the focus ring to the "Inf." position.
3. Remove the focus ring knob and the focus scale.
4. Lift out the focus scale retainer ring and remove the four clamping ring screws.
5. Carefully separate the complete assembly from the camera, paying particular attention to the flash contact plunger (spring loaded) and the shutter setting linkage (consisting of a brass ball-retainer sleeve and two small ball bearings).
6. Mark the orientation of the inner and outer focus barrel threaded sections to facilitate replacement and proper focusing.

b) Reassembly

1. Replace the brass ball-retainer sleeve on the shutter setting post with the longer section in and the open side toward the flash terminal.
2. Apply a slight amount of #7101 grease to the ball grooves in the shutter setting post and replace the bearings, one on the top side and one on the bottom.
3. Replace the flash contact spring and plunger in the insulated socket.
4. Align the orientation marks of the focus barrel assembly and rotate the focus ring on the shutter assembly to the "Inf." position and rotate the clamping ring so that the unthreaded hole is at the center between the top and bottom at the right side.
5. Hold the shutter assembly at a slight angle to the front of the case, engage the shutter trigger post in the trigger post socket, rotate the shutter assembly slightly to engage the shutter setting post and then press the assembly into position. (Use care, since the bearings can be dislodged easily).
6. With the focusing ring at the "Inf." position align the five holes of the inner clamping ring with those of the focus ring.
7. Replace the four clamping screws, the scale retainer ring (shoulder side up), and the focus scale.
8. Check the focus and readjust if required.

Note: No screw is used in the center location at the right side.

2.5 FOCUSING RING FROM SHUTTER ASSEMBLY

a) Disassembly

1. Disassemble as in Instruction 2.4 a).
2. Remove the four screws on the rear of the assembly and separate the ring from the shutter.

b) Reassembly

1. Reverse the order of disassembly.
2. Refer to Instruction 2.4 b) for reassembly of shutter and ring to camera.

2.6 FOCUS RING ASSEMBLY

a) Disassembly

1. Disassemble as in Instructions 2.4 a) and 2.5 a).
2. Indicate, by a light scratch-mark on the inner circumference, the orientation between the focus ring stop plate on the front and the spacer plate on the rear.
3. Remove the three flat head screws on the front side and carefully separate the assembly, noting the location of the shutter release extension bearing.

b) Reassembly

1. Reverse the order of disassembly.
2. Refer to Instruction 2.4 b) for reassembly of shutter and ring to camera.

2. DISASSEMBLY AND REASSEMBLY

2.7 FOCUS TUBE (INTERNALLY THREADED RING) FROM CASE

a) Disassembly

1. Disassemble as in Instruction 2.4 a).
2. Indicate, by a light mark, the "Inf." orientation of the outer ring of the focus barrel with the inner stationary mount.
3. Rotate the outer ring counter-clockwise until the ring just leaves the thread of the stationary mount. At this point indicate, by a light mark on the stationary mount, the starting thread for reassembly purposes.

b) Reassembly

1. Lubricate the threaded sections sparingly with #7101 grease.
2. Reverse the order of disassembly.
3. Replace the shutter and ring assembly (refer to Instruction 2.4 b).

2.8 SHUTTER COMPLETE (WITH FOCUS BARREL AND FRONT MOUNT) FROM CASE

a) Disassembly

1. Disassemble as in Instructions 2.2 a) and 2.3 a).
2. Remove the meter, the body release plunger assembly, and the film wind release button assembly.
3. Remove the high light plate retaining screws at the top front center and at the top left side of the prism cavity.
4. Carefully peel back the front covering, starting at the bottom center and working up and out toward both the latch and hinge ends until the front mount is fully exposed.
5. At this point it is advisable, for reassembly purposes, to indicate by a light scratch mark the orientation of the shutter setting ring and the transfer shaft assembly. The shutter setting ring can be marked in relation to the front mount at any convenient location. The transfer shaft assembly (front and rear sections) can be marked along the top right edge of the prism cavity in the case.
6. Remove the four screws, one at each corner of the front mount.
7. Lift the front of the high light plate to clear the top of the front mount and carefully (to avoid disengaging the rear pinion of the transfer shaft from the setting rack) withdraw the top of the front mount by pivoting it on the bottom high light plate and then lifting the assembly clear of the case.

b) Reassembly

1. The engagement of the rack with the pinion gear on the winding shaft should be such that the two end teeth of the rack are engaged when the film advance lever is at rest.
2. The rear pinion of the transfer shaft should be engaged in the Rack (3) in such a manner that the alignment mark (previously indicated) coincides with the edge of the prism cavity. If no mark is present, the shaft pinion should be located so that just prior to engagement with the rack teeth a slight counter-clockwise rotation (facing the mechanism) will start to depress the aperture cover.

When the front mount is completely installed, this will position the straight edge of the camming section of the Rear Transfer Shaft (4) approximately 1/16" from the top of the lug on the Mirror Actuating Lever (8).

3. The Front Transfer Shaft (15) should be installed so that the cam contacts the roller on the Mirror Release Lever (11) and is rotated clockwise (facing mechanism) to its full limit of movement.

When the front mount is completely installed this will position the Latch Lug (13) on the front transfer shaft so that approximately 1/32" to 1/16" of the lug is visible along the edge of the prism cavity.

4. Insert the lower edge of the front mount in the lower high-light plate and rotate the top edge back under the top high-light plate until the mirror prevents further movement.
5. Depress the mirror and aperture cover so as to clear the mirror shock absorber pad and the Shutter Release Lever (18) on the front casting. Then depress the complete transfer shaft so as to clear the casting and allow the top of the front mount to be pressed back until the complete transfer shaft is in position to engage the Idler Pinion (16).

At this point rotate the Shutter Setting Ring (17) clockwise to align the positioning marks (previously indicated), then keep the front transfer shaft rotated counter-clockwise and engage the two by pressing the front mount back completely. If no alignment mark is present on the shutter setting ring and front mount, it will be necessary to locate the proper engagement by trial and error. Normally the setting ring will have to be advanced clockwise approximately

2. DISASSEMBLY AND REASSEMBLY

b) Reassembly (continued)

1/16" to 1/8" from its full counter-clockwise position before engaging the idler pinion.

When properly engaged the shutter will set, and remain fully open, slightly before the stud in the setting ring reaches the right side of the cut-out section in the shutter release lever when the film advance is fully actuated.

6. Check the action of the mirror and aperture cover by depressing the mirror with a suitable tool. If the action is blocked, the lug on the Shutter Release Lever (18) is below the aperture cover instead of above it.
7. Check the setting action of the shutter, mirror, and the aperture cover by actuating the film advance lever. DO NOT FORCE. Refer to Instruction 1.3 for sequence of action. If the aperture and/or the mirror does not remain latched or if the shutter does not open fully or if it closes on the return stroke of the advance lever, it is probable that the setting rack is improperly meshed with its mating pinions. If the advance lever does not travel its full stroke or does not return to its rest position and there is no binding, look for improper meshing between the setting rack and the winding shaft pinion.
8. Check the tripping action of the body release button. The mechanism should trip the film wind mechanism first, then the Body Release Bell Crank (20) adjustment screw should unlock the shutter just prior to, or at the same time as, the release of the mirror by the small adjusting screw on the body release slide (refer to Instruction 1.4 for sequence of action).

2.9 COMPLETE SHUTTER AND FOCUS BARREL FROM FRONT MOUNT

a) Disassembly

1. Disassemble as in Instruction 2.7 a).
2. Remove the three flat head screws on the rear of the assembly.
3. Carefully separate the complete shutter and focus barrel from the front mount, paying particular attention to the flash terminal plunger and the shutter setting linkage.
4. If further disassembly is required it is advisable to indicate the orientation between the inner teeth of the shutter setting ring and the setting ring pinion.

b) Reassembly

1. Replace the shutter setting linkage and the flash contact (refer to Instruction 2.4 b) 1 - 3).
2. Replace the shutter assembly by first engaging the setting linkage, then the shutter tripping post and then replace the screws.
3. Refer to Instruction 2.8 b) for reassembly of the complete front to the camera.

2.10 MIRROR AND APERTURE COVER ACTUATING LEVERS 6, 8, AND 12 FROM CASE

a) Disassembly

1. Disassemble as in Instruction 2.8 a).
2. Lift off the Front Transfer Shaft (15) and then depress the Aperture Cover Actuating Lever (6) and the Mirror Actuating Lever (8) to remove the Rear Transfer Shaft (4).
3. Remove the following parts to allow access to the lever retaining plate screws directly beneath the sprocket:
 - a) Shoulder strap bracket (right side).
 - b) Rack retainer plate and rack.
 - c) Rewind release button, spring and washer.
 - d) Sprocket drive screw, sprocket shaft and sprocket.

Note: In some instances it may be necessary to loosen the bushing and gear assembly retaining screws slightly to allow the sprocket shaft to pass the small pinion gear on the bushing.

4. Remove the light guard at the bottom of the aperture.
5. Carefully disengage the Mirror Latch Assembly (12) from the stud in the Mirror Release Lever (11) by springing the latch assembly toward the latch end of the camera.
6. Remove the lever retainer plate screws and the plate.
7. Remove the levers and actuating springs.

2. DISASSEMBLY AND REASSEMBLY

b) Reassembly

1. Reverse the order of disassembly, making sure the stud on the mirror bracket is below the lug on the Latch Lever (14).
2. Refer to Instruction 2.8 b) for replacement of the shutter and front assembly to the case.

2.11 APERTURE COVER AND MIRROR PLATE FROM CASE

a) Disassembly

1. Disassemble as in Instruction 2.8 a).
2. Remove the light guard at the bottom and the plate directly above the hinge pin.
Note: This plate retains one end of the mirror bracket spring at the left side of the mirror bracket.
3. With a suitable pin punch placed on the end of the hinge pin at the upper sprocket teeth, drive the pin toward the latch end of the camera sufficiently to grasp with pliers and carefully withdraw the pin until only the mirror bracket spring is retained.
4. Remove the mirror bracket, noting (1) the location of the spacer sleeve (short) between the mirror bracket and the aperture cover at the right side and (2) the anchorage of the long end of the mirror bracket spring under the aperture cover release ramp and the lug on the right side of the mirror bracket.
5. Withdraw the hinge pin sufficiently and remove the aperture cover, noting (1) the location of the spacer sleeve (long) between the aperture cover and the case at the right side and (2) the anchorage of the long end of the aperture cover spring on the stud attached to the left side of the cover.
6. Remove the aperture cover spring and hinge pin.

b) Reassembly

1. Insert the hinge pin from the latch end of the camera at the upper film rail sufficiently to retain the spring and replace the cover actuating spring with the longer end toward the top of the camera and adjacent to the cover.
2. Place the long spacer sleeve in alignment with the hinge pin hole at the right side of the camera.
3. Depress both the right and left cover latches, lock the cover in a closed position, and replace the longer end of the spring under the anchor stud on the left side of the cover.
4. Press the hinge pin in sufficiently to retain the mirror bracket spring, and replace the spring with the short end adjacent to the lip of the aperture cover and the longer end pointing toward the front of the camera.
5. Place the short spacer sleeve in alignment with the hinge pin hole at the right side of the aperture cover.
6. Insert the mirror bracket on the hinge pin, engaging the long end of the spring under the aperture cover release latch ramp and into the lug at the left side of the mirror bracket, then press the hinge pin into position making sure the sleeves and springs remain in their correct location.
7. Grasp the short end of the mirror bracket spring and rotate it up and around the pin and back to the case. At this point replace the top plate which retains the spring.
8. Replace the light guard bracket and reassemble the balance of camera (refer to Instruction 2.8 b).

2.12 FILM WIND MECHANISM

a) Disassembly

1. Disassemble as in Instruction 2.1 a), 2.2 a), and 2.3 a).
2. Remove the following parts: body release button, meter assembly, body release plunger and the film wind release button assembly.
3. At this point it is advisable for reassembly purposes to indicate, by a light scratch mark, the alignment of the Front (15) and Rear (4) Transfer Shaft in relation to the top right edge of the prism cavity and note the meshing between the setting rack and the winding shaft pinion.
4. Remove the following parts:
 - a) Shoulder strap bracket (right side).
 - b) Rack retainer plate and rack.
 - c) Film advance lever and backlatch guard.
 - d) Bottom covering.
 - e) Bottom high light plate.

Note: The bottom high light plate retains a small coil spring at the bottom rear approximately midway between the rewind release button and the mirror adjustment screws.

2. DISASSEMBLY AND REASSEMBLY

a) Disassembly (Continued)

5. Release the spring return tension on the film wind assembly by depressing the film lock assembly and the wind release assembly. (Assembly will rotate counter-clockwise approximately one full revolution).
6. Remove the following parts:
 - a) Rewind release button, spring and washer.
 - b) Sprocket shaft and sprocket.
 - c) Drive pinion retainer screw on the wind shaft, bushing and gear retainer screws, and related parts.
 - d) Rewind release dog spring.
 - e) Shaft assembly retaining screws and the shaft assembly.

b) Reassembly

1. Assemble the shaft assembly to the case, and replace the bushing and gear assembly. In its free position (no tension) the larger cut-out section should engage the lock assembly lever.
2. Depress the release lever assembly and the lock assembly sufficiently to disengage them from cam assembly, then rotate the cam clockwise one complete revolution and allow the lock assembly to engage the larger cut-out of the cam.
3. Replace the sprocket, sprocket shaft, sprocket drive stud, rewind release dog spring, and the release button washer, spring and button.
4. Replace the aperture cover safety latch actuating spring (at the rear of bottom, midway between mirror adjusting screw and the rewind release button), bottom high-light plate, bottom covering, and the film advance lever.
5. Replace the drive gear and related parts on the top of the winding shaft.
6. Engage the rack (normally the two end teeth are engaged) in the pinion on the wind shaft and replace the rack alignment washer and the shoulder strap bracket.
7. Lift the left end of the rack slightly and align the transfer shaft alignment marks with the edge of the prism cavity and then engage the rack in the rear transfer shaft pinion.

Note: If no alignment marks are visible, refer to Instruction 2.8 b) 2.

8. Replace the rack retainer bracket and the balance of the mechanism, referring to Instructions 2.3 b), 2.2 b), and 2.1 b).

3. SERVICE HINTS

3.1 TROUBLE-SHOOTING

BODY RELEASE trips mirror and aperture cover, and shutter closes, but does not open and close for the exposure.

BODY RELEASE trips the mirror and aperture cover, but shutter remains fully open.

BODY RELEASE, when depressed very slowly, trips mirror and aperture cover but shutter remains fully open until further actuation of the body release unlocks shutter and allows it to complete its normal cycle.

FILM ADVANCE LEVER latches mirror down and sets shutter but aperture cover fails to latch and returns to rest against mirror on return stroke of lever.

FILM ADVANCE LEVER latches aperture cover down and sets shutter, but mirror fails to latch and returns to rest on return stroke of lever.

FILM ADVANCE LEVER can not be actuated.

FOCUS RING cannot be rotated to "Inf." position.

RANGEFINDER circles not concentric.

FLASH CIRCUIT open.

SHUTTER BLADES do not open fully when advance lever is actuated.

Shutter release lever may bind on front mount to the extent that the aperture cover tension is not sufficient to lift lever and allow setting ring to rotate.

Shutter setting ring binding due to rust, corrosion or excessive lubrication.

1. Bell crank may not unlock shutter at the instant mirror is released. (Readjust screw on bell crank).
2. Body release slide (Mirror release screw) may trip mirror in advance of shutter unlocking. (Readjust small screws on body release slide).

Aperture cover may not be depressed sufficiently by actuating lever to permit safety latch to retain cover. (Readjust spring finger on actuating lever).

Front transfer shaft may not rotate far enough for mirror release lever to pass high point of cam on front transfer shaft. (Check for misalignment in setting mechanism, refer to Instruction 2.8 b). If alignment appears correct, readjust front transfer shaft Adjusting Screw (9) on rear transfer shaft. (An access hole is provided in case directly above the screw).

Mirror and aperture cover hinge pin may have worked loose from case and interferes with rotation of sprocket.

Set screw in pentaprism assembly may be lodged between sections of focus barrel assembly.

A shift in either the ground screen or the wedge disc plate in pentaprism may result in this condition. (Readjust small set screws at the bottom of the assembly and seal with an appropriate cement).

Corrosion or lacquer present where flash post assembly is staked to front mount. (Restake at several points around hub with a pin punch).

Incorrect timing between shutter setting ring and transfer shaft assembly. (Refer to Instruction 2.9 b) for correct alignment). In a few cases trouble may be traced to blade and diaphragm actuating plates in shutter.

3. SERVICE HINTS

3.2 CLEANING SHUTTER SETTING RING

- a) Disassemble as in Instruction 2.8 a).
- b) Remove the Shutter Release Lever (18).
- c) Remove the Body Release Bell Crank (20).
- d) Remove the shutter setting return spring.
- e) Indicate the alignment of the Shutter Setting Pinion (21) and the inner teeth of the Setting Ring (17). The alignment of the Idler Pinion (16) with the external teeth of the setting ring does not require marking.
- f) Remove the two setting ring retainer screws and the anchor stud for the return spring.
- g) Using care to avoid damaging or disconnecting the flash contact lead, lift the setting ring from the front section and thoroughly clean all bearing surfaces of the steel ring and the casting. The use of an erasure stick will facilitate the cleaning operation.

Note: Do not remove the black finish on the brass ring used on the late models.

- h) Lubricate all bearing surfaces of the ring and the front section with dry graphite rubbed thoroughly into the surface with hard felt. Remove all excess lubrication.
- i) Reassemble the ring to the front section, being careful to maintain the correct alignment between the shutter setting pinion and the inner teeth of the ring. Replace shutter release lever (if fitted) and the body release bell crank.
- j) Check the setting action of the shutter by inserting a screwdriver in the retaining screw for the shutter setting pinion at the bottom and rotating it clockwise. The shutter should set slightly before the stud in the setting ring reaches the right side of the cut-out section in the shutter release lever, and the blades should then remain fully open.
- k) Check the tripping action of the shutter by depressing the body release slide at the right side of the assembly. The stud in the ring should move from the right to the left side of the cut-out section of the shutter release lever, the shutter blades should close, and the diaphragm should close to any preset value. At this point in a fully assembled camera the aperture cover strikes the shutter release lever and pushes it out of contact with the stud in the setting ring. The ring then rotates counter-clockwise, and the shutter opens and closes for the exposure. Push the release lever up and observe the action. Any binds or hesitation of the ring in its movement may prevent the shutter from operating normally.

On the early models without the shutter release lever, the action of the shutter setting ring must be completely free since, in the initial movement of the ring, the mirror and aperture cover must clear the film aperture before the shutter opens and closes for the exposure.

- l) Reassemble as in Instruction 2.8 b).

3.3 LENS FOCUS

The lens focus should be checked on a focus analyzer or ground glass at an accurately measured distance (preferably 15 feet) from the film plane (the rear of the top housing). Since the basic front lens combination is the 50mm component, any adjustment or checking should be done with this lens. If a correction is required, remove the focus scale and the scale retainer ring, then loosen the four clamping ring screws and carefully rotate the focus ring the required amount and tighten the screws. Reassemble the scale to the ring and recheck the lens focus.

3.4 RANGEFINDER ADJUSTMENTS

Before attempting an adjustment of the rangefinder, the lens focus should be checked (see Instruction 3.3). Only one adjustment of the rangefinder is possible; this is in the mirror latching assembly, which to a certain degree can affect the finder pointing. Minor corrections can be made by carefully skiving the bottom covering from the rear edge of the bottom high-light plate toward the front at a point approximately 1/8" to the right of the accessory locating socket. Turning back the covering will then allow access to the mirror latch adjustment screw.

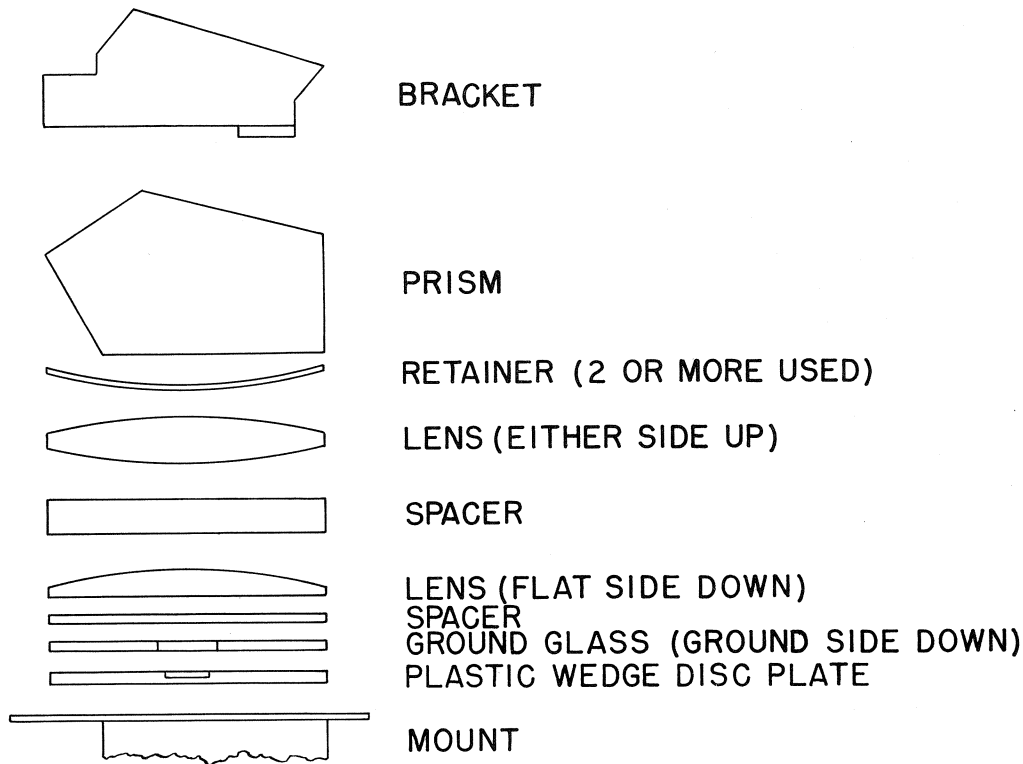
Loosen the small set screw locking the large adjustment screw. Carefully rotate the larger screw until the images formed in the finder are in alignment at an accurately measured distance from the film plane. When the alignment is correct, tighten the set screw and trip and set the mechanism several times to be sure the adjustment remains constant; if satisfactory, recement the covering. If the adjustment will not remain stable, it may be caused by a mirror latch adjusting screw, which is not properly staked to the latch assembly. If excessive adjustment is required, look for a bent mirror bracket or incorrect assembly of the pentaprism assembly.

3. SERVICE HINTS

3.5 CLEANING PENTAPRISM ASSEMBLY

Due to the extreme magnification in the pentaprism assembly the removal of minor dust is very difficult without the aid of some type of suction apparatus in a dust free area.

If it is necessary to disassemble the unit, the following diagram may be helpful in replacing the components in their proper order. Care must be used in cleaning the plastic wedge disc plate since cleaners other than Kodak Lens Cleaner or plain water may affect the surface of the plastic plate.



3.6 EXPOSURE METER

The exposure meter is basically the same unit as used on the late Model IIIC and the IIIC. However, three different methods have been used to retain the meter on the camera case. These are:

- Fastened securely with a standard fillister head screw.
- Fastened loosely with a shoulder screw and retained at the other end by a pad in the top housing.
- Located by a stud in place of the screw and retained at the other end by a pad in the housing.

When replacing a meter of the first type, do not tighten the retaining screw too much, or the meter housing lug may be damaged.

Excessive lubrication on the body release plunger should be avoided since some types of grease or oil will affect the plastic meter case.

Inoperative or erratic meters should be exchanged; repairs should not be attempted. Zero adjustment of the meter can be made in the following manner:

- Remove the meter setting dial assembly and the top housing.
- Cover the front glass of the meter to prevent any stray light from striking the meter.
- Turn the cam on the top of the meter counter-clockwise as far as possible.
- Hold the meter in a horizontal position and adjust by rotating the eccentric adjustment stud at the right side to align the "white" needle with the "yellow" pointer.

3. SERVICE HINTS

3.7 SERVICING THE SHUTTER

Several repairs or adjustments to the shutter mechanism can be performed without removal of the shutter assembly from the camera. The shutter must be removed from the camera only when diaphragm or shutter blade repairs are necessary. (See Instruction 3.7 e).

a) Disassembly - Front of Shutter

1. Remove the front lens combination.
2. Remove the three nameplate screws and loosen the number block set screw.
3. Lift the shutter nameplate approximately 1/4" opposite the lens lock lever, then lift the speed ring and at the same time slide it slightly toward the lens lock lever. Then remove the nameplate and the speed ring by lifting the nameplate to release it from the lens lock lever.
4. Remove the speed and diaphragm index scale and the diaphragm setting ring.
5. Remove the bayonet mount and hub assembly by removing the four screws at the base of the hub.

Note: It is not necessary to remove the four bayonet mount screws at the top of the hub.

6. Remove the black dust plate, the speed plate retainer ring, and the speed plate.

Disassembly of the balance of the mechanism on the front of the plate is similar to that of the Retina IIIc shutters, but the following parts and spring anchorages contain major changes:

Synchro plate assembly.

Cocking ring and cocking ring pinion.

Cocking ring latch (new part) and trigger.

Anchorage of cocking ring spring to a special retainer stud for the bulb lever.

Anchorage of the bulb lever spring to the stud on the time release lever.

Main drive assembly.

b) Sequence of Action - Setting the Shutter

As the shutter mechanism is set by the Shutter Setting Ring (17) through the Shutter Setting Pinion (21), the long lug on the cocking ring performs two functions: (1) it contacts the diaphragm-opening lever to open the diaphragm fully, and (2) it contacts the blade-opening spring tip at the lower left (facing the shutter) to open the blades fully. It is then held in this full-rotated position by the latch at the upper right; the shutter setting ring, meanwhile, is locked by the Front Transfer Shaft (15). (Refer to Instruction 1.3 for complete sequence of setting action).

c) Sequence of Action - Tripping the Shutter

When the shutter is tripped, the Body Release Bell Crank (20) actuates the cocking ring latch in the shutter and unlocks the cocking ring. (Blades and diaphragm may close slightly but the shutter setting ring remains locked by the front transfer shaft). The body release action then trips the mirror which in moving upward strikes the Latch Lever (14) which releases the Front Transfer Shaft (15), thus allowing the shutter setting ring and cocking ring to rotate until blocked by the Shutter Release Lever (18). During this limited rotation, the shutter blades close and the diaphragm contracts to the predetermined setting. The shutter then "waits" for the aperture cover to complete its opening travel before making the exposure. When the aperture cover strikes the lug on the shutter release lever, the shutter setting ring and the cocking ring rotate. The cocking ring then releases the main drive latch on the synchro plate assembly, thus tripping the shutter for the exposure. (Refer to Instruction 1.4 for complete sequence of tripping action).

d) Slow Shutter Speeds and Blades Failing To Close

Generally, slow shutter speeds are caused by a sticking retard gear assembly. In most cases a thorough cleaning of the retard assembly and the limited use of graphite to lubricate the assembly will correct the trouble. Occasionally, a weak main drive spring may be the cause of the trouble.

In a few instances in which the camera has been dropped or damaged the carrier plate for the shutter blades may bind and cause a similar condition. If this condition is encountered, it will be necessary to remove the shutter assembly from the camera for further disassembly.

e) Disassembly - Rear of Shutter for Blade Repairs

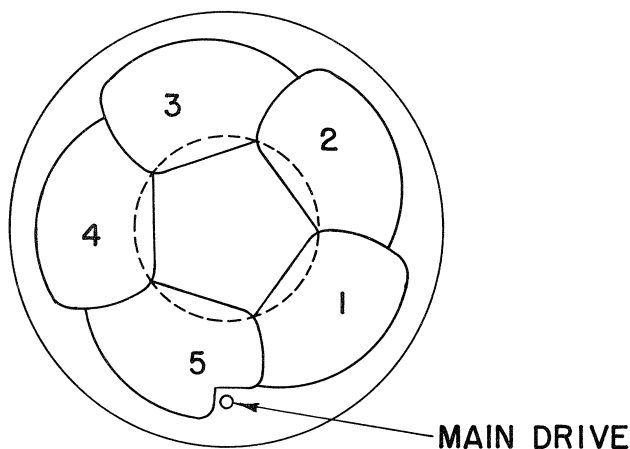
1. Remove the shutter and focus ring (Instruction 2.4 a).

3. SERVICE HINTS

2. Remove the focusing ring from shutter assembly (Instruction 2.5 a).
3. Remove the shutter setting post, the rear lens and the retainer collar and the rear shroud from the shutter.
4. Remove the blade and diaphragm closing springs on the rear of the shutter case.
5. Remove the diaphragm control ring retainer screws (note the location of the one screw stud which serves as an anchorage point for the diaphragm closing spring), and control ring, then the synchro selector ring.
6. Remove the three case-to-mechanism plate screws and separate the case from the plate.
7. Remove the five blades, noting the position of the one cut-out blade, and the carrier plate.

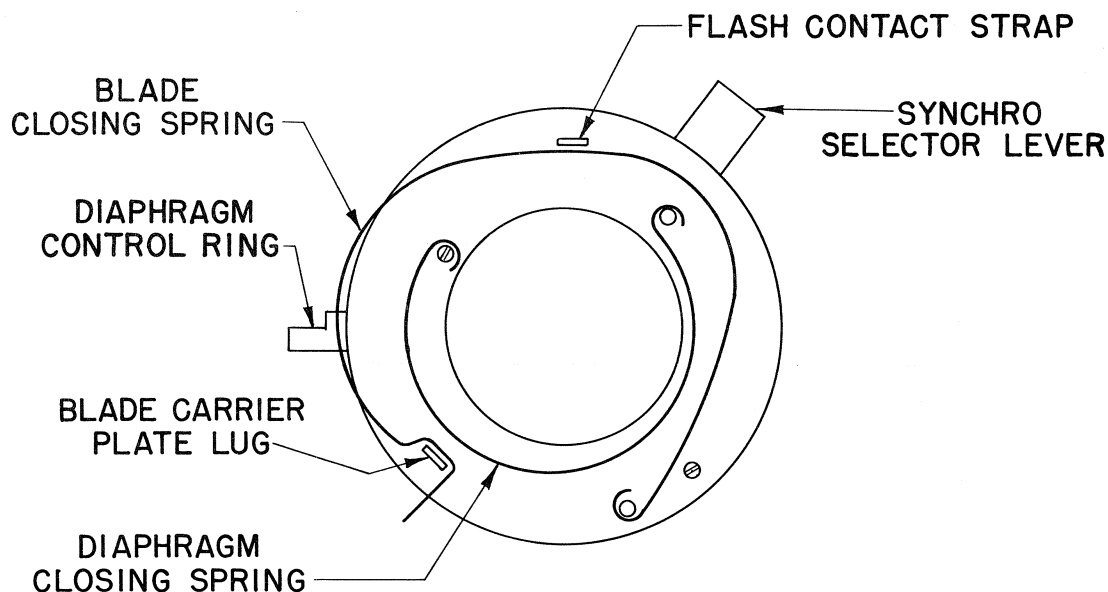
f) Reassembly - Rear of Shutter

Clean all bearing surfaces of the blade carrier plate and the case, and lubricate sparingly with dry graphite. The blades should be replaced starting with one of the four similar blades at the right of the main drive bearing and working counter-clockwise. The one cut-out blade should be the last blade replaced. (See Sketch).



REAR OF MECHANISM PLATE
BLADE LOCATION

The following sketch shows the proper anchorage points for the blade and diaphragm closing springs.



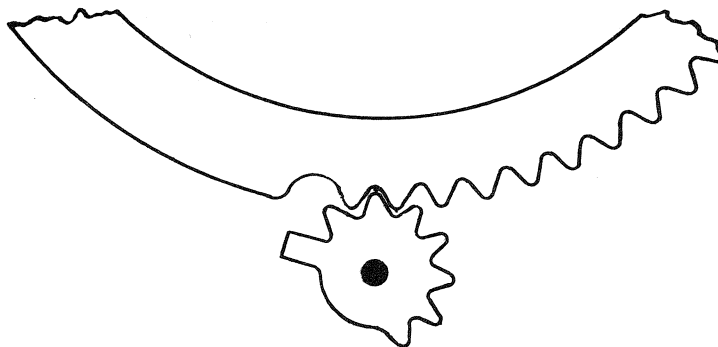
REAR VIEW

3. SERVICE HINTS

f) Reassembly - Rear of Shutter (continued)

When replacing the rear shroud on the shutter case be sure the synchro selector lock lever is depressed to allow the shutter case to seat properly in the shroud before securely tightening the retaining collar.

In replacing the balance of the shutter mechanism the engagement of the cocking ring pinion gear (with the cocking ring rotated completely counter-clockwise) the first tooth of the ring should be between the first and second teeth near the setting lug on the pinion. (See Sketch)



g) Flash Synchronization

X - Contact when blades are fully open.

M - 15 to 17 milliseconds from electrical contact to full-open shutter.

Adjustment of the M synchronization is made by increasing or decreasing the spring tension on the synchro sector spring anchor.

h) Shutter Speeds

Shutter speeds should be within the following tolerances:

Total Time

1 second	-	800 to 1200 milliseconds
1/2 "	-	400 to 600 "
1/4 "	-	200 to 300 "
1/8 "	-	100 to 150 "
1/15 "	-	55 to 82 "
1/30 "	-	28 to 42 "
1/60 "	-	16 to 24 "
1/125 "	-	8.0 to 14 "
1/250 "	-	4.5 to 8.0 "
1/500 "	-	2.5 to 5.0 "

Equivalent Exposure

1 second through 1/60	-	± 20%
1/125 " "	1/500	- ± 30%

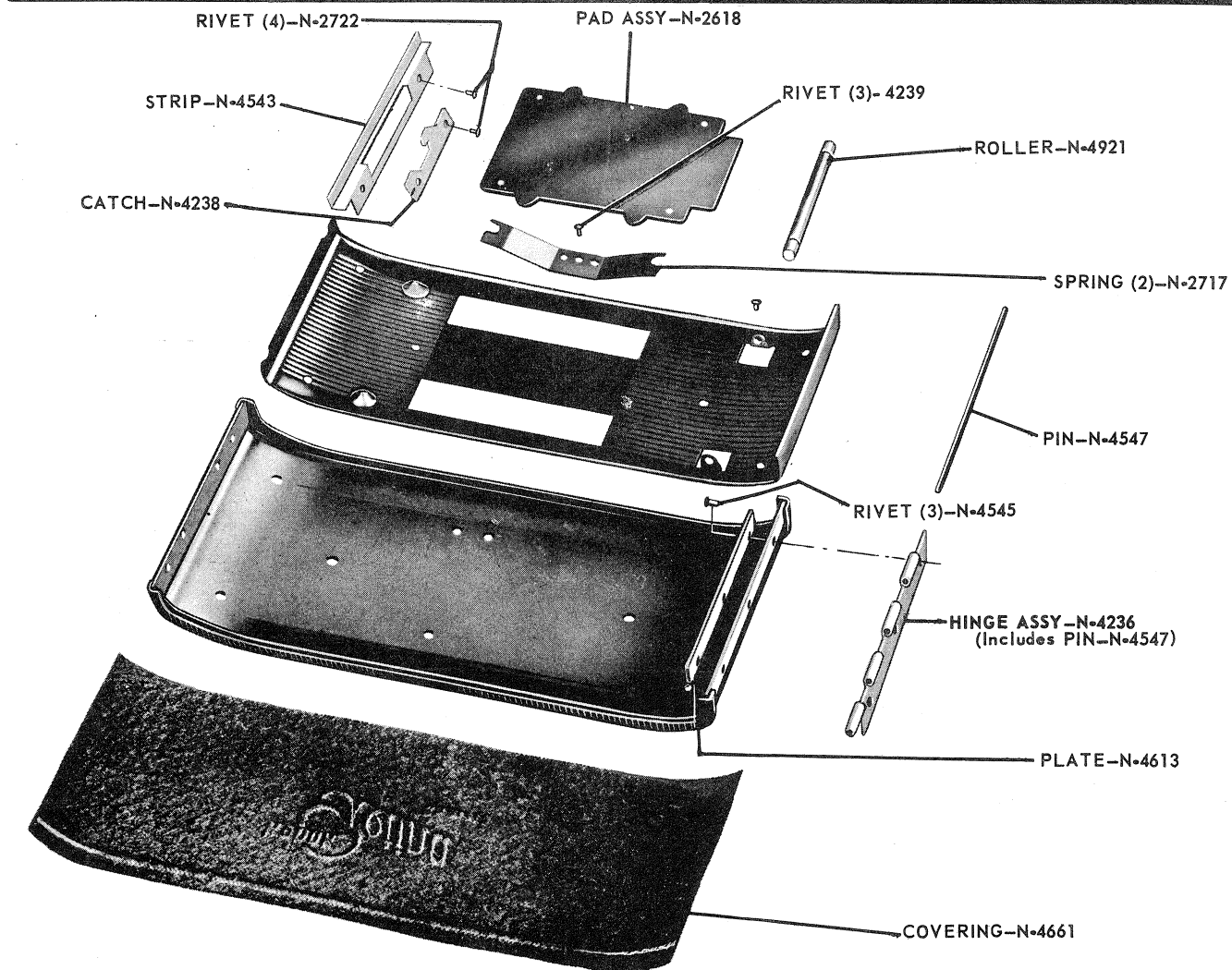
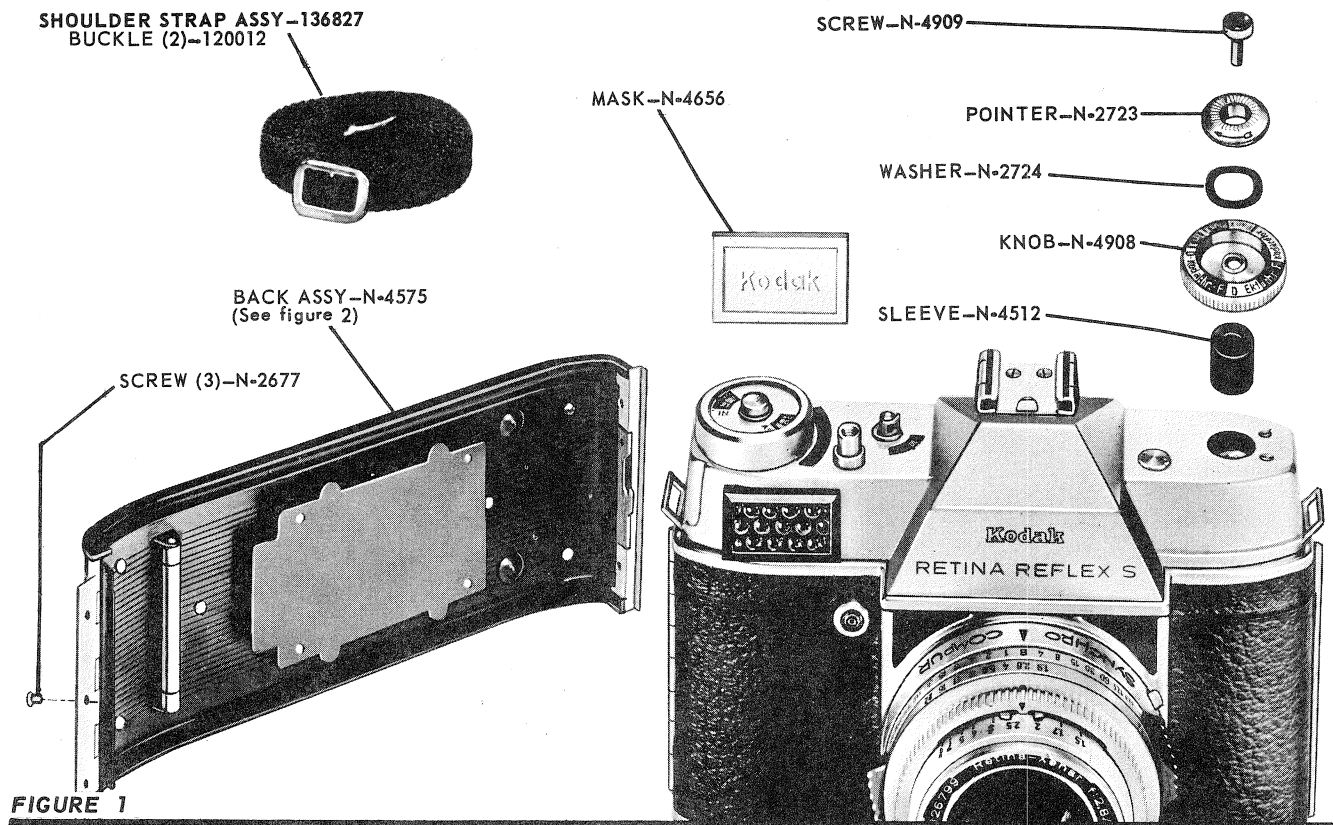
Corrected to NOVEMBER 1959

PARTS LIST No. 5524

KODAK RETINA REFLEX S CAMERA
WITH
SYNCHRO COMPUR SHUTTER
AND
Kodak Retina Field Case
Models C and D



KODAK RETINA REFLEX S CAMERA PARTS LIST



KODAK RETINA REFLEX S CAMERA PARTS LIST

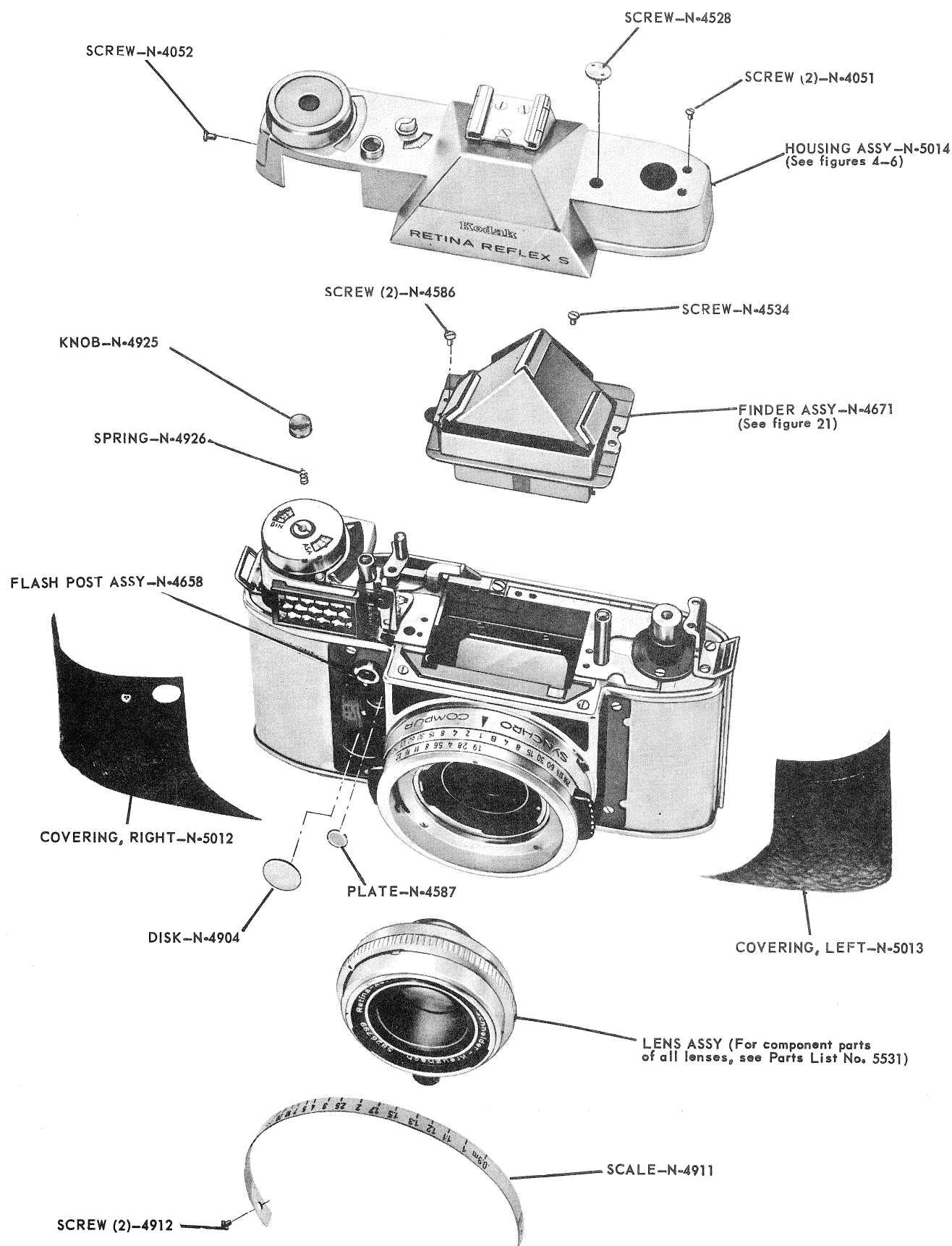


FIGURE 3

Always give **PART NUMBER** and **NAME** when ordering parts

KODAK RETINA REFLEX S CAMERA PARTS LIST

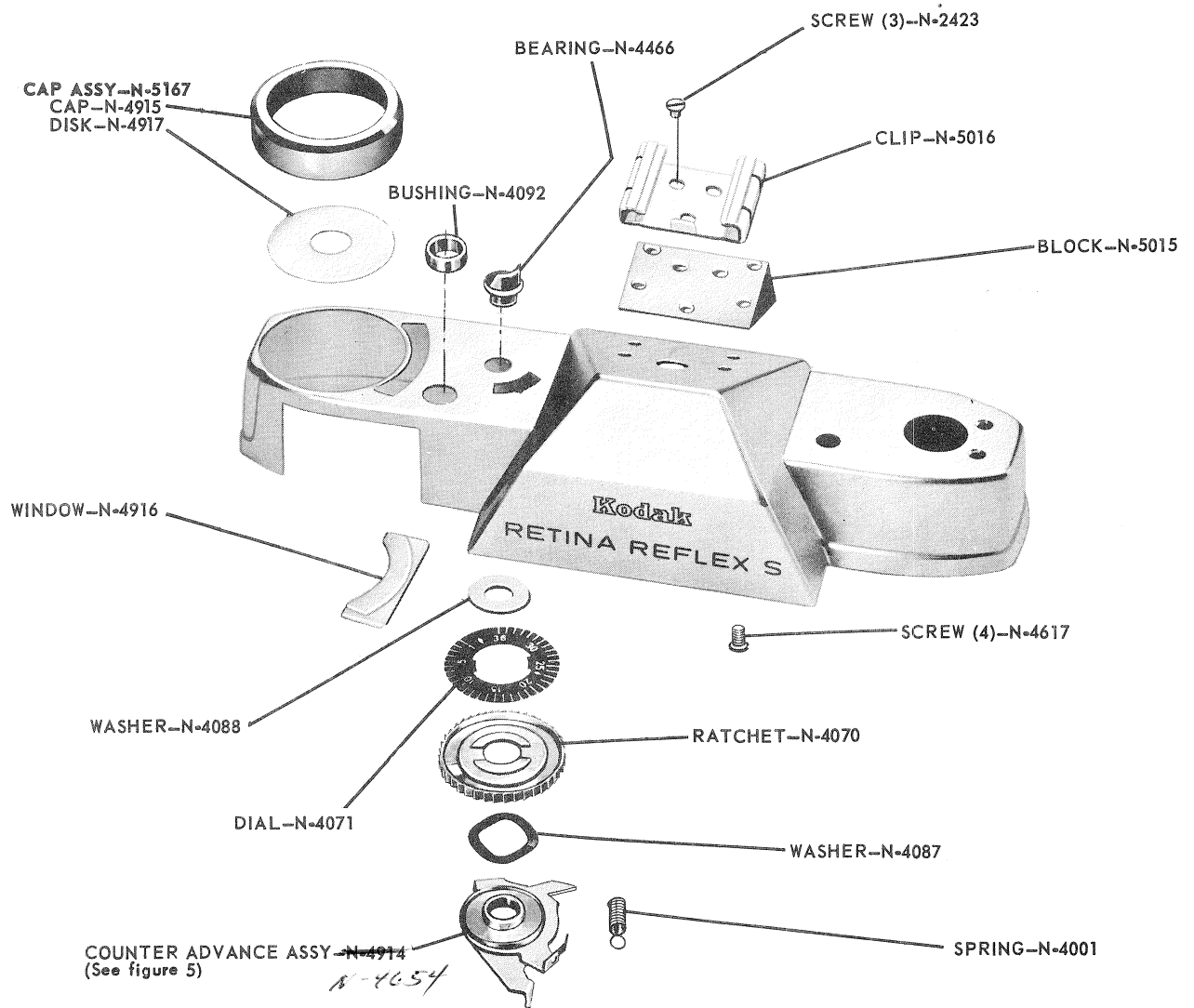


FIGURE 4

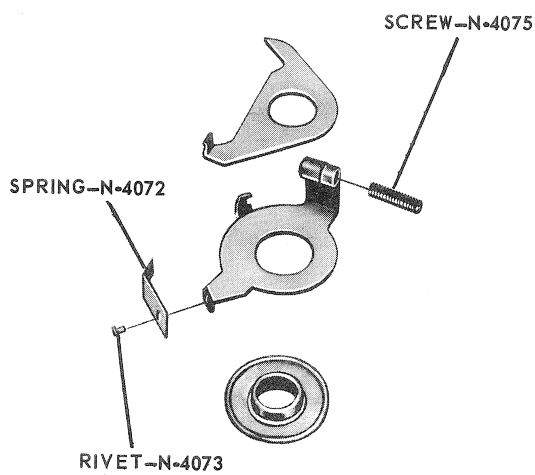


FIGURE 5

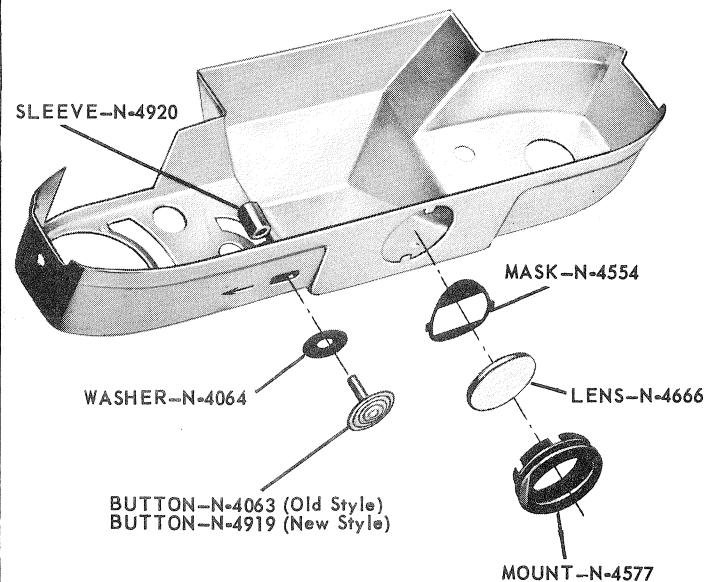


FIGURE 6

KODAK RETINA REFLEX S CAMERA PARTS LIST

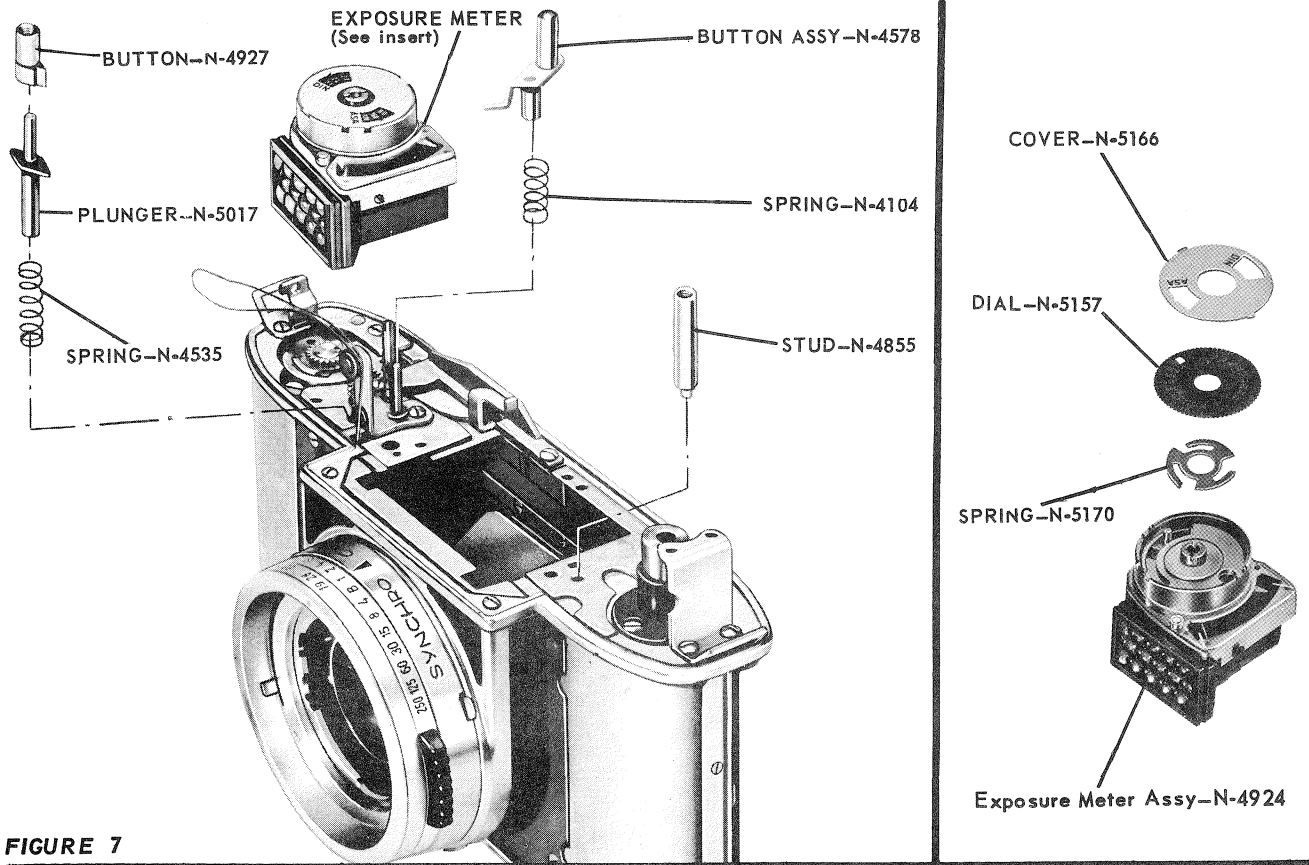


FIGURE 7

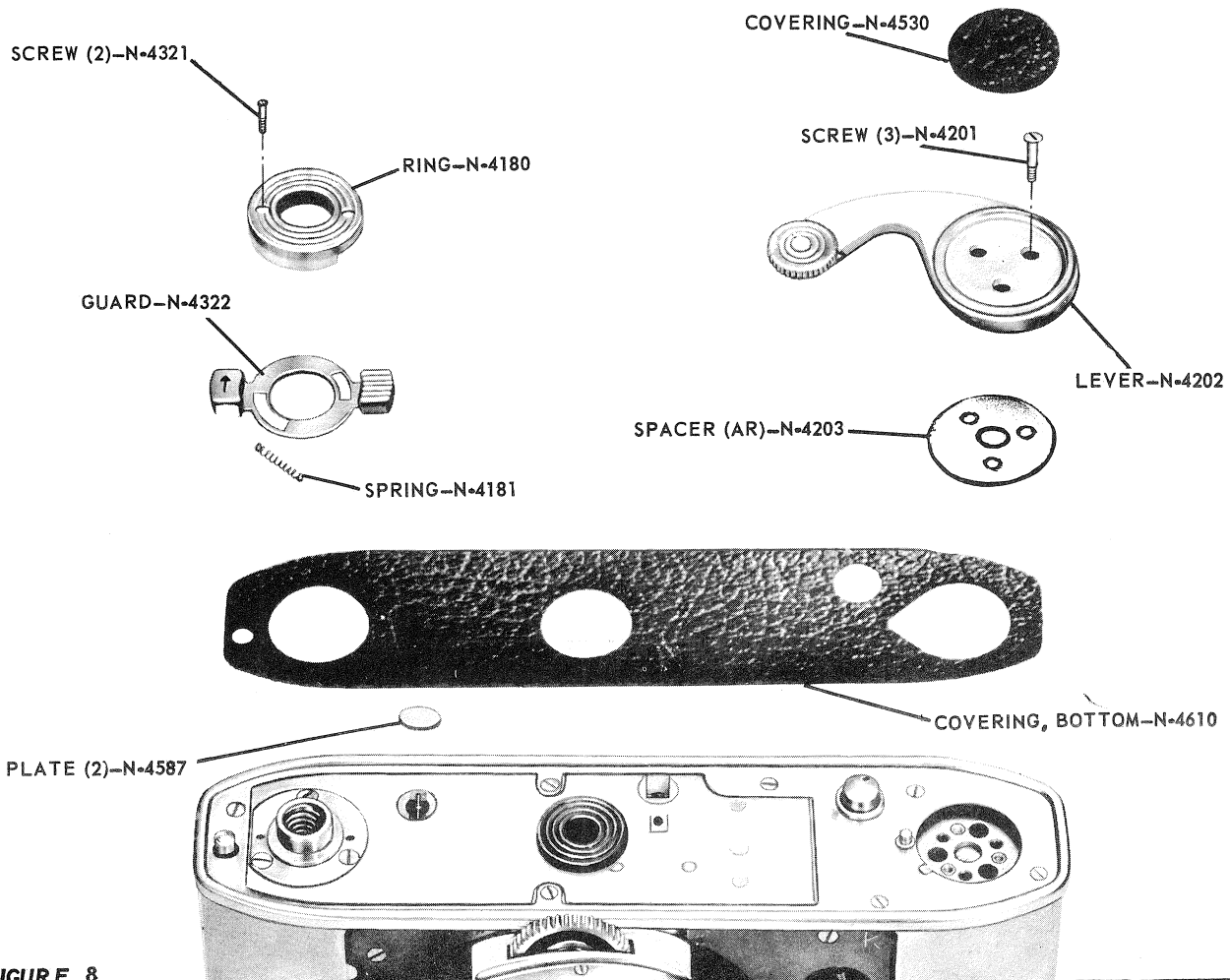


FIGURE 8

Always give PART NUMBER and NAME when ordering parts

KODAK RETINA REFLEX S CAMERA PARTS LIST

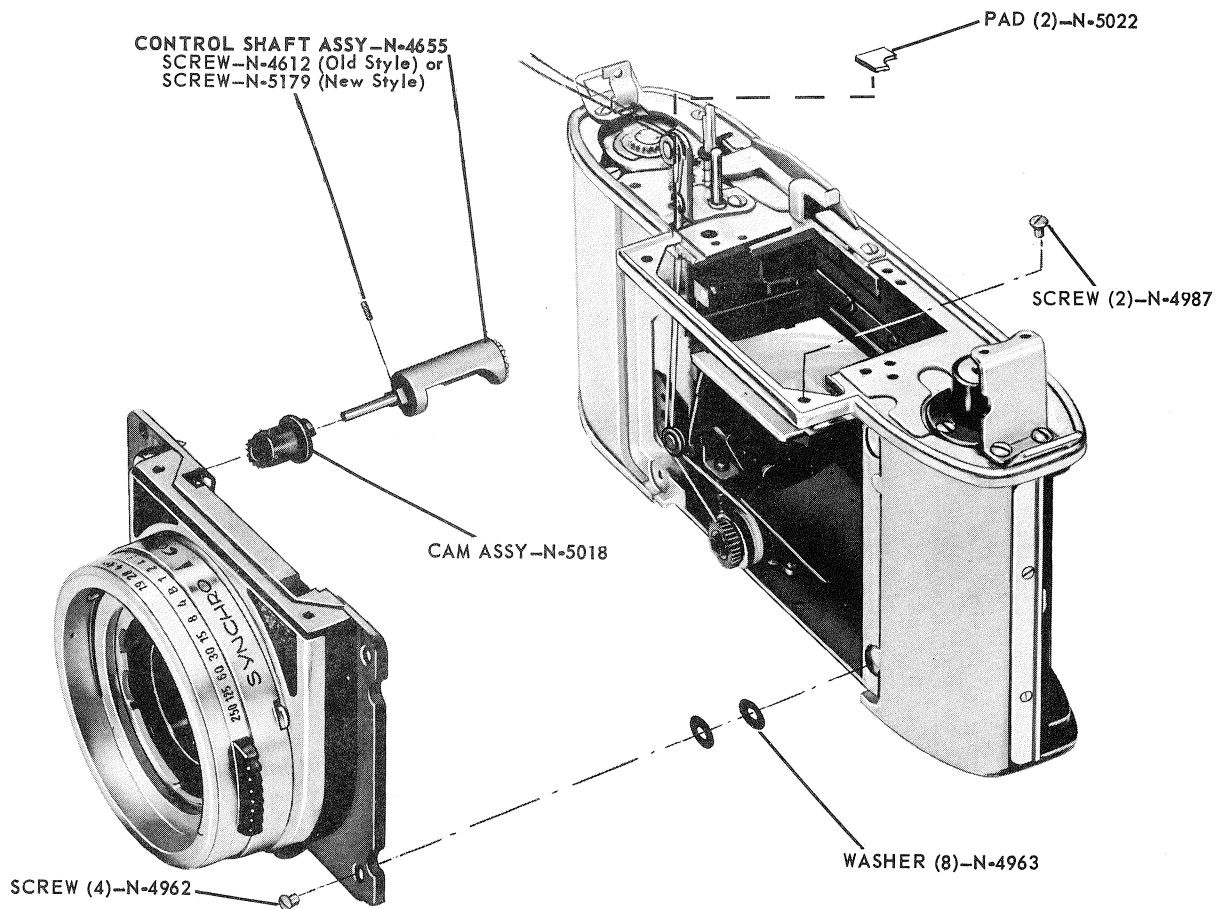


FIGURE 9

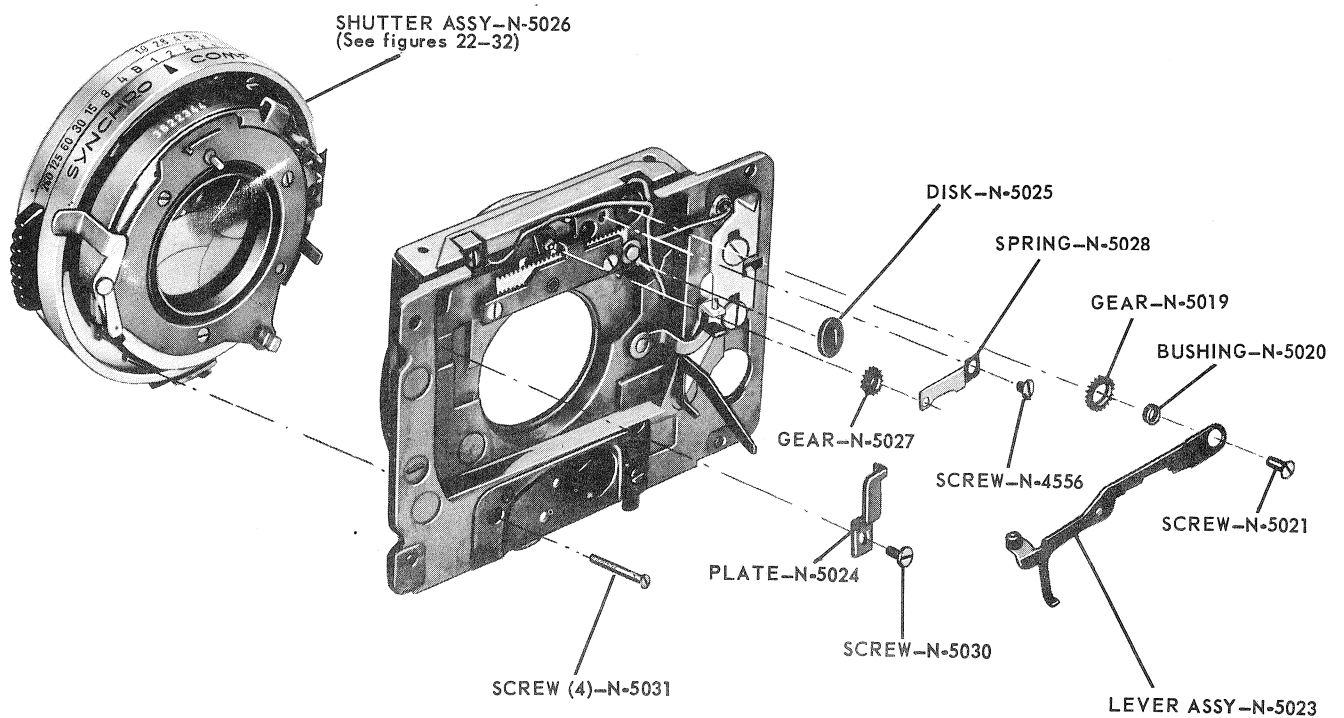


FIGURE 10

KODAK RETINA REFLEX S CAMERA PARTS LIST

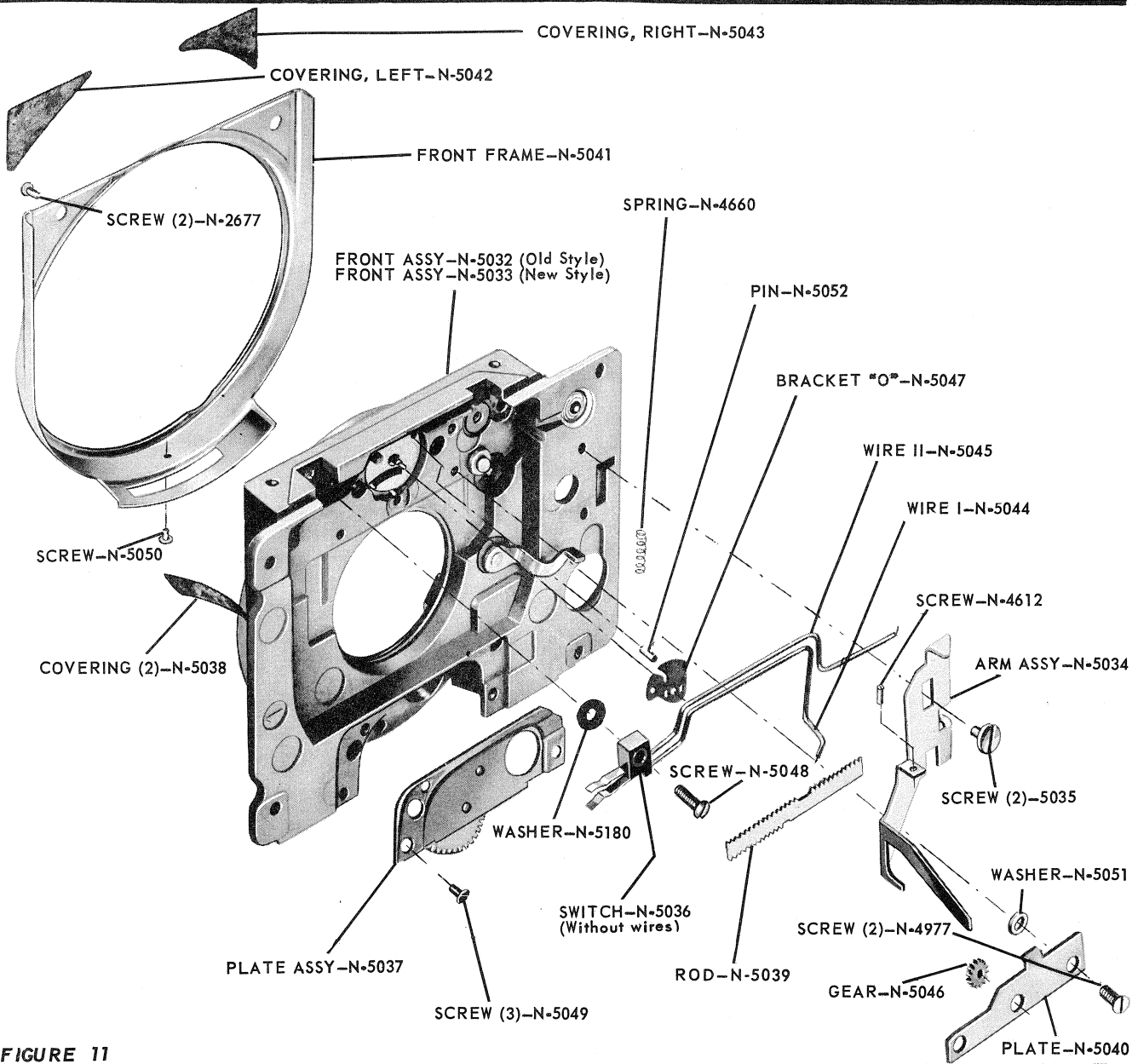


FIGURE 11

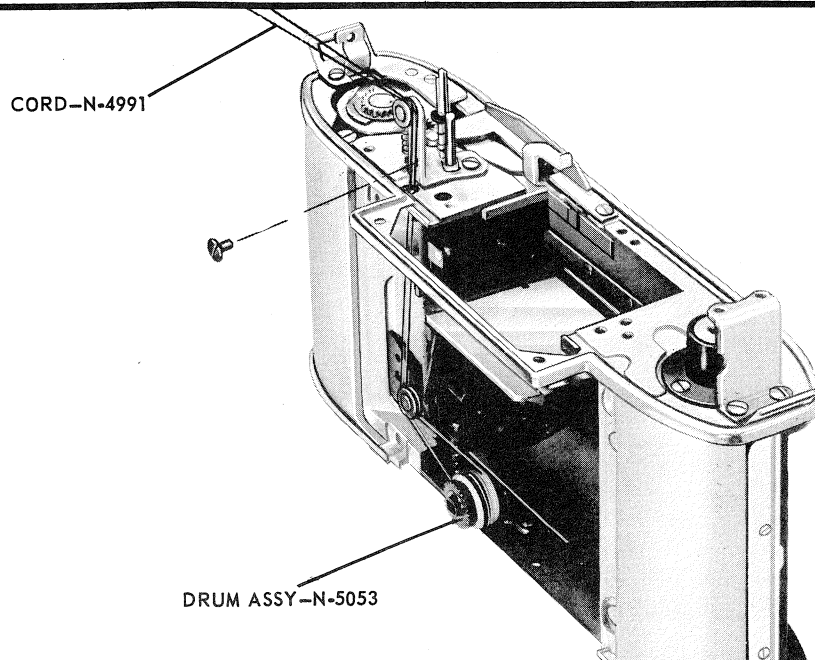
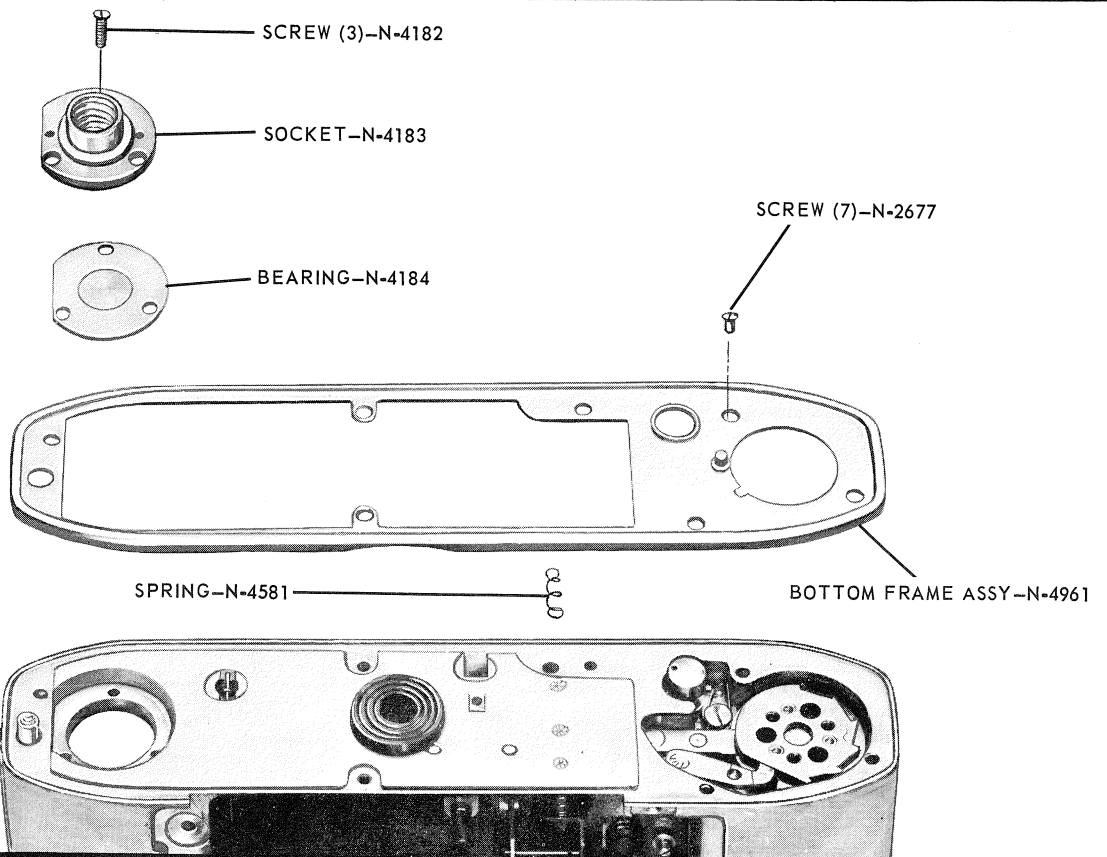
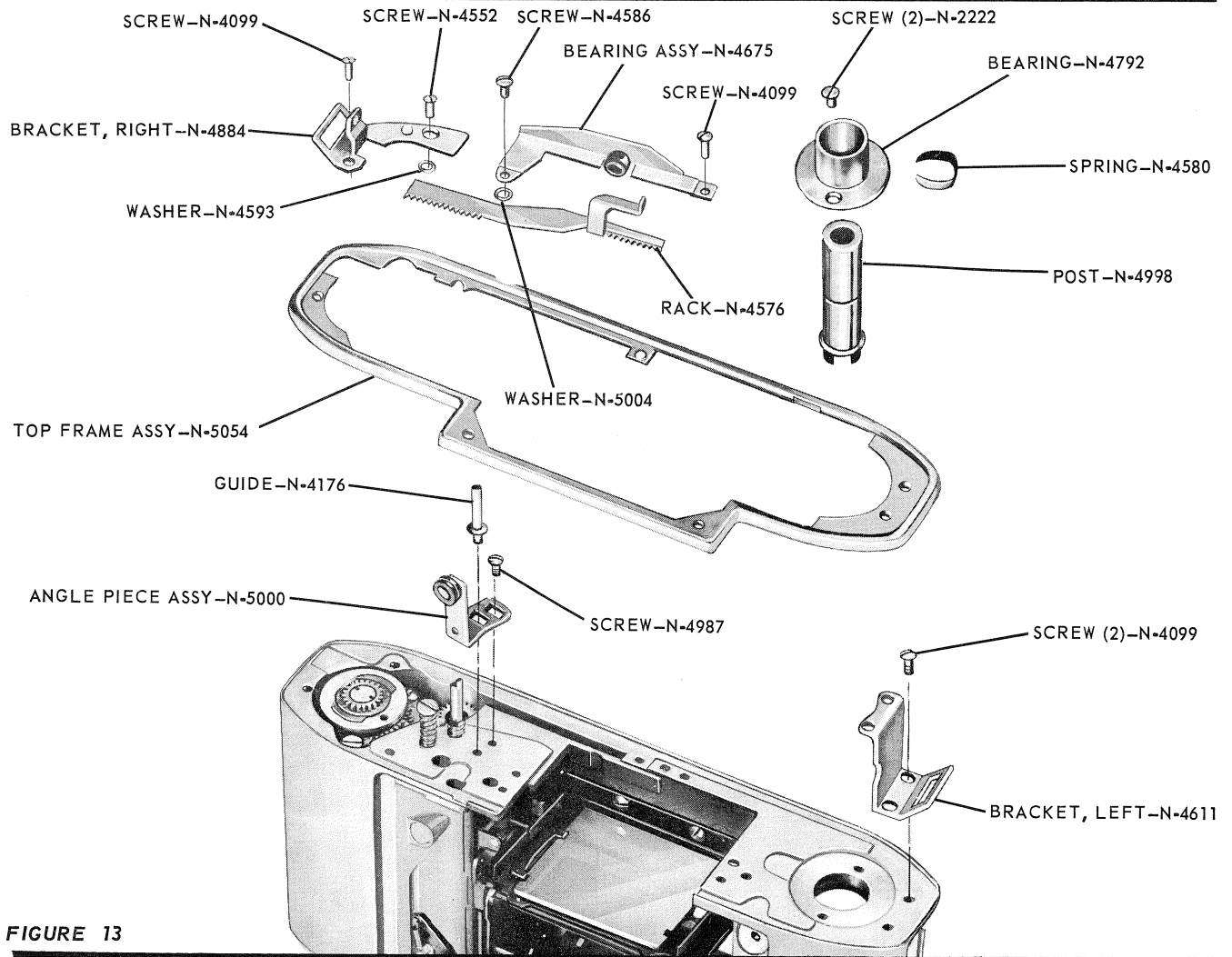


FIGURE 12

Always give PART NUMBER and NAME when ordering parts

KODAK RETINA REFLEX S CAMERA PARTS LIST



KODAK RETINA REFLEX S CAMERA PARTS LIST

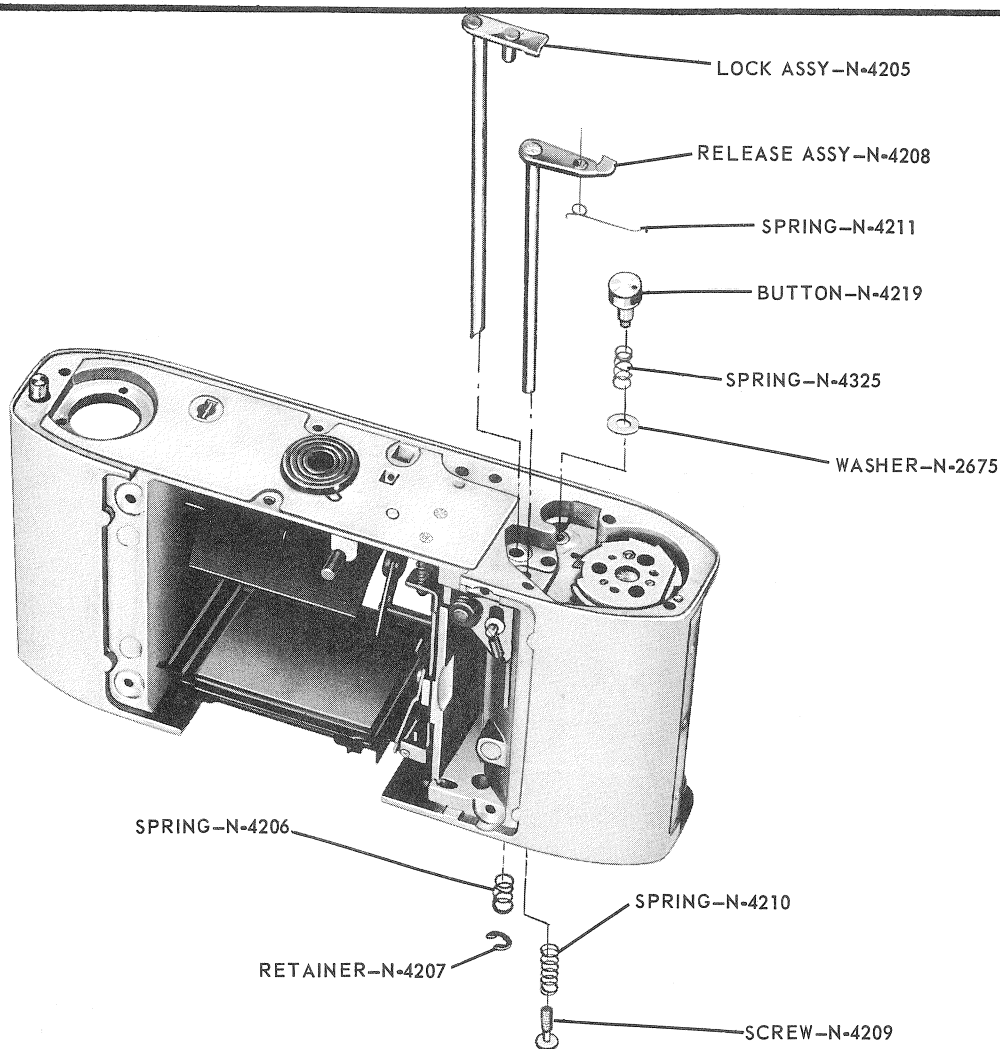


FIGURE 15

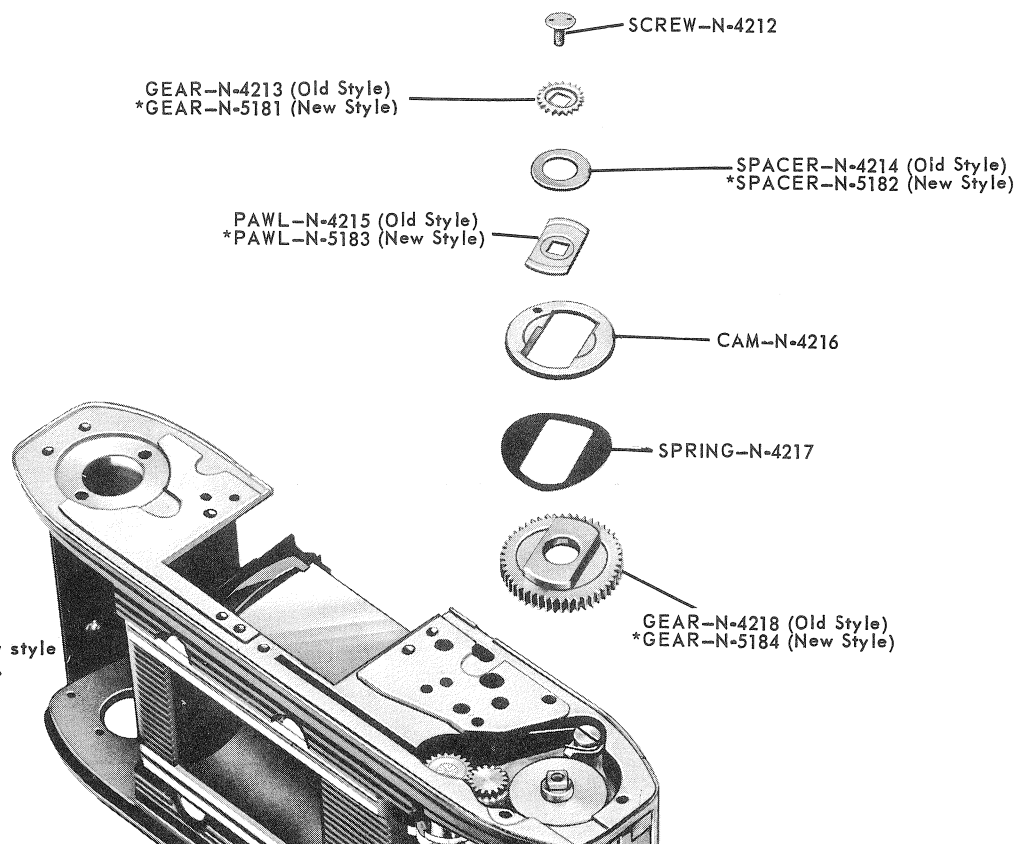


FIGURE 16

KODAK RETINA REFLEX S CAMERA PARTS LIST

*See figure 16 for parts used with this assembly.

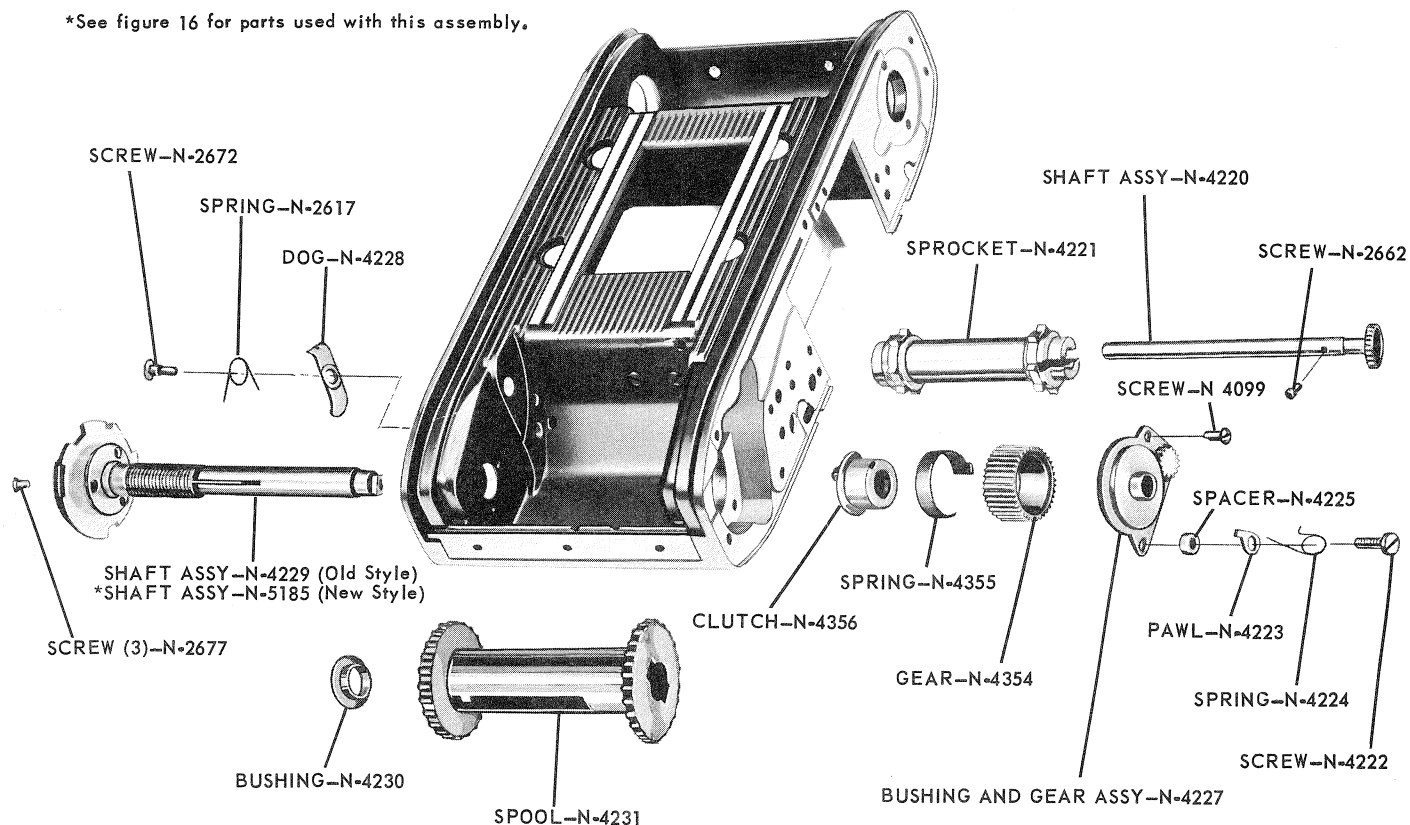


FIGURE 17

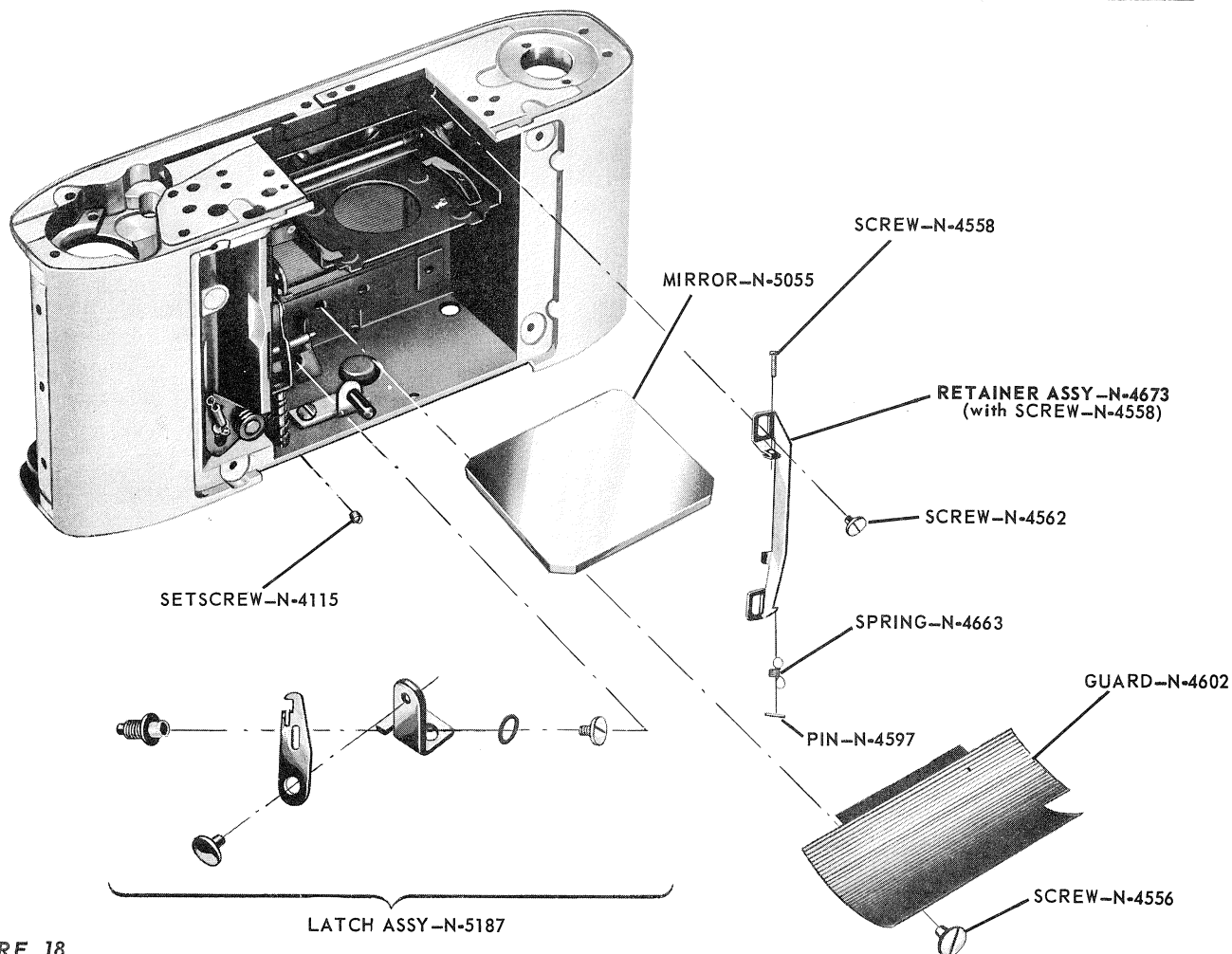


FIGURE 18

KODAK RETINA REFLEX S CAMERA PARTS LIST

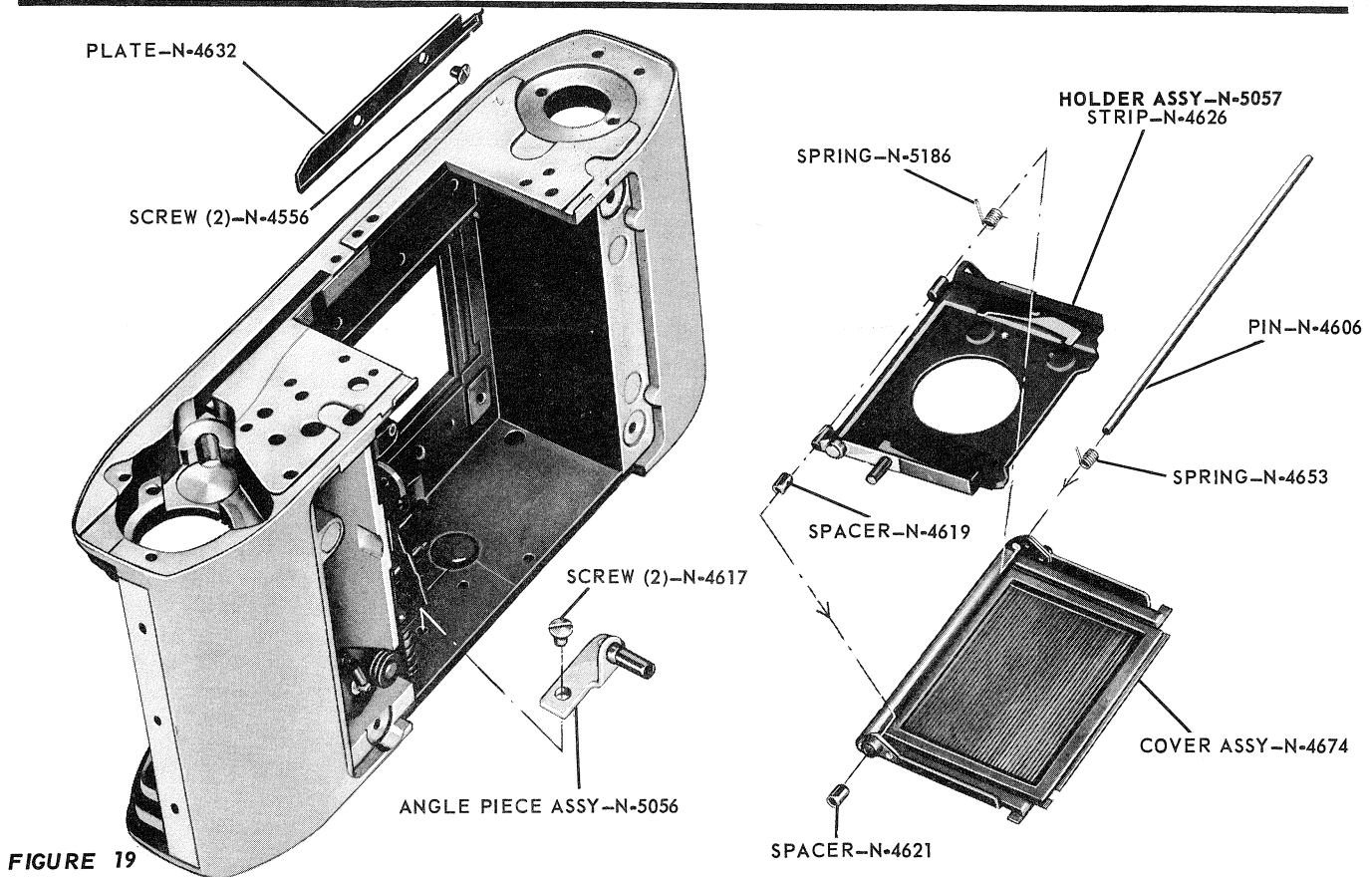


FIGURE 19

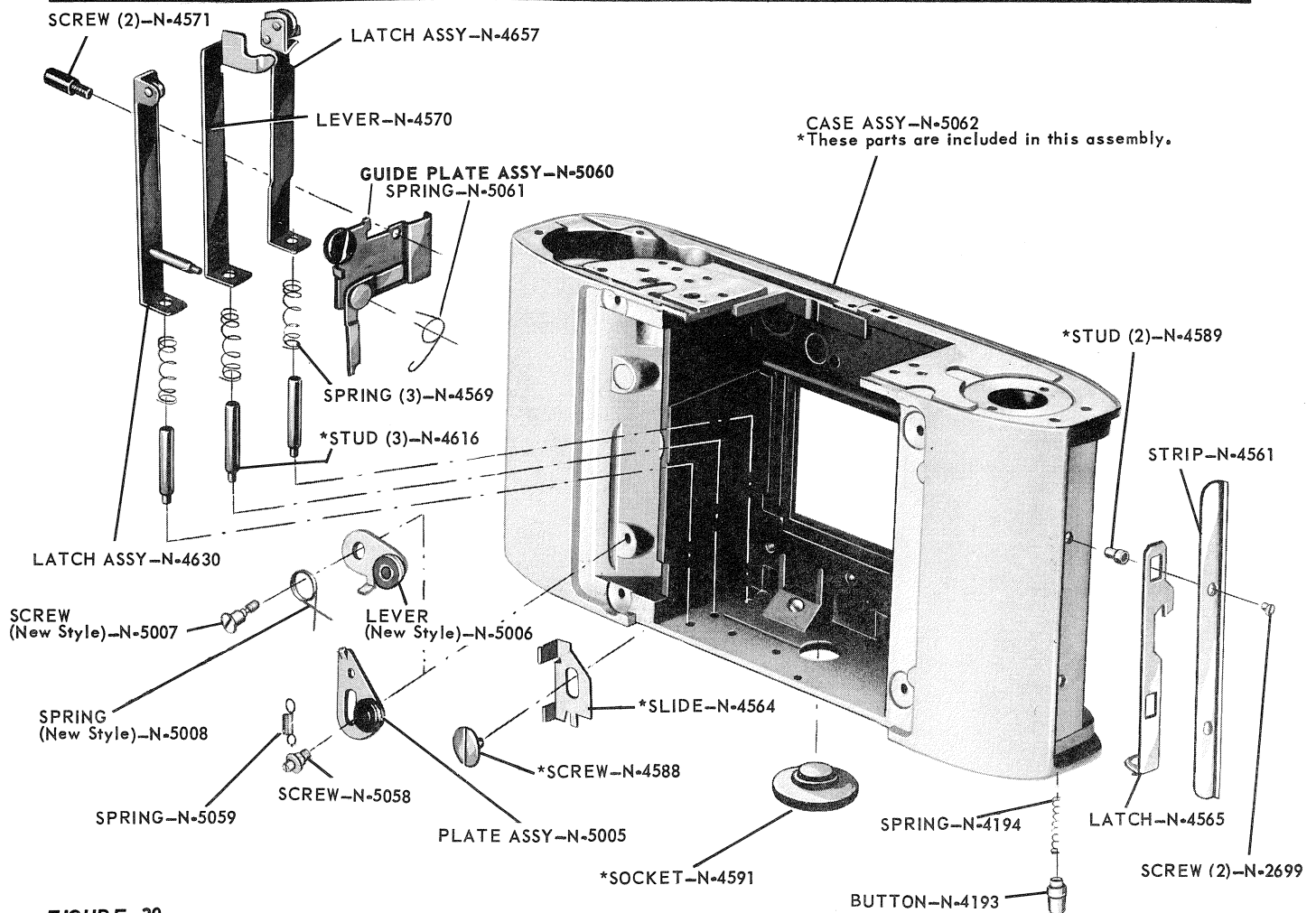


FIGURE 20

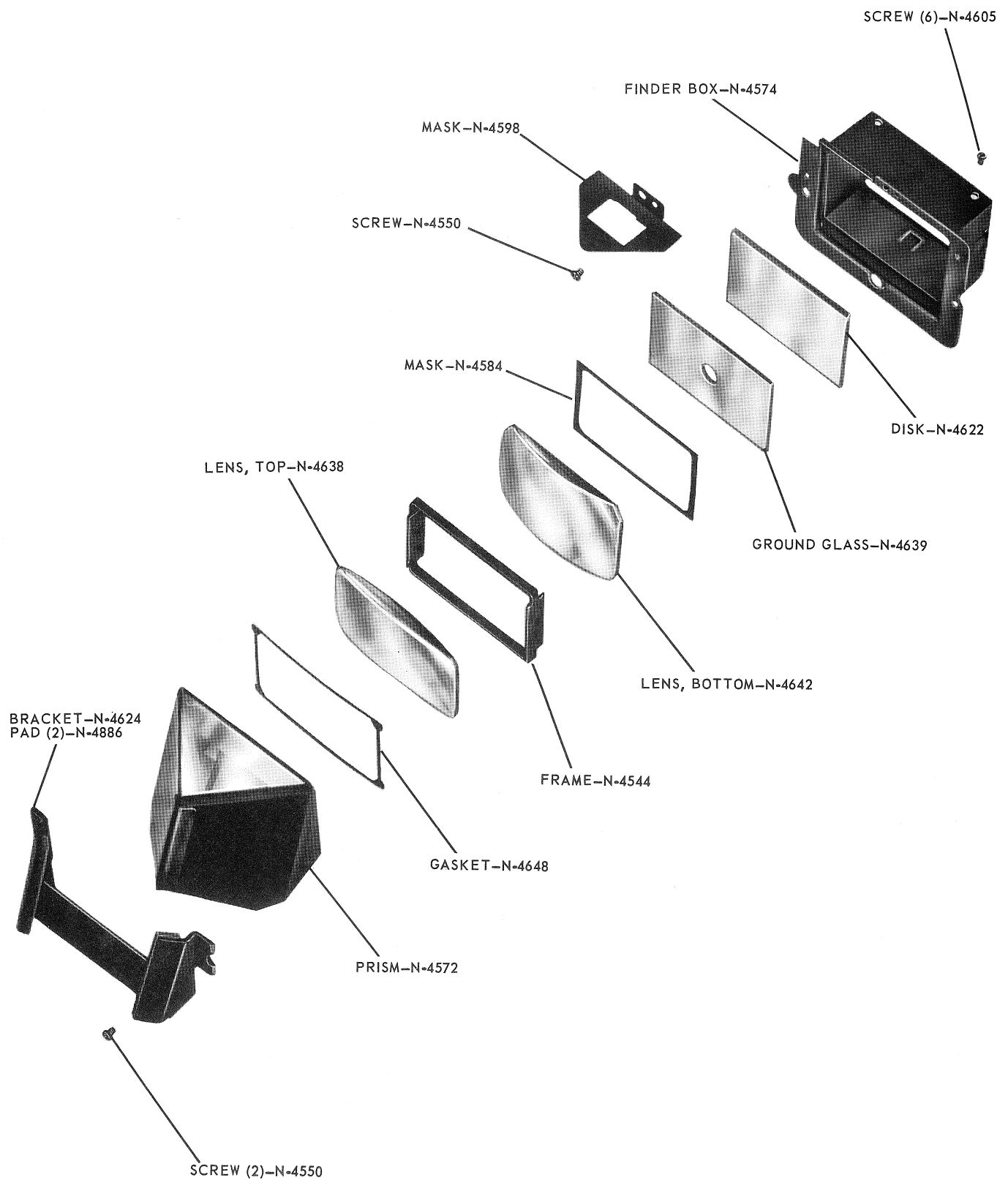


FIGURE 21

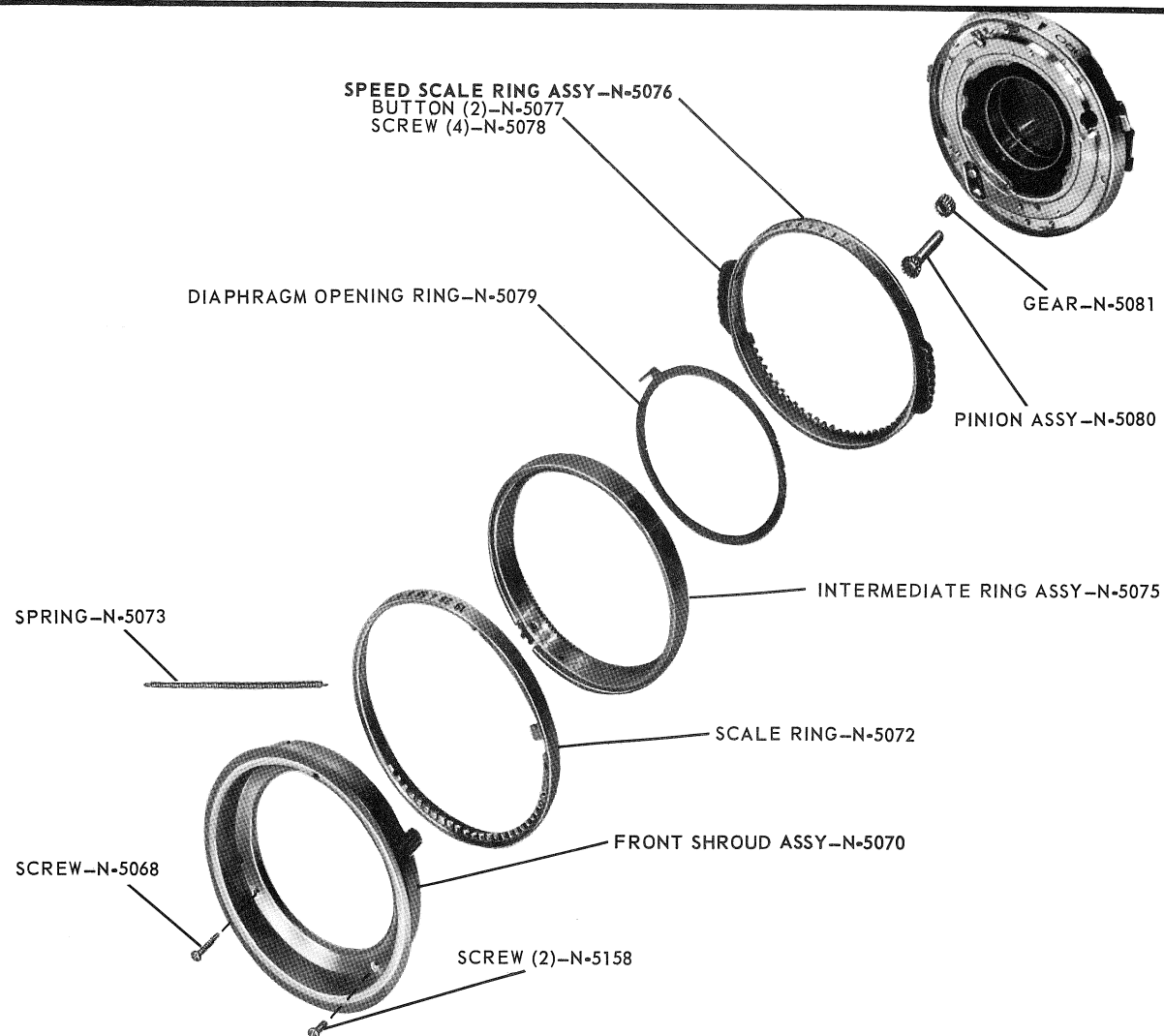


FIGURE 22

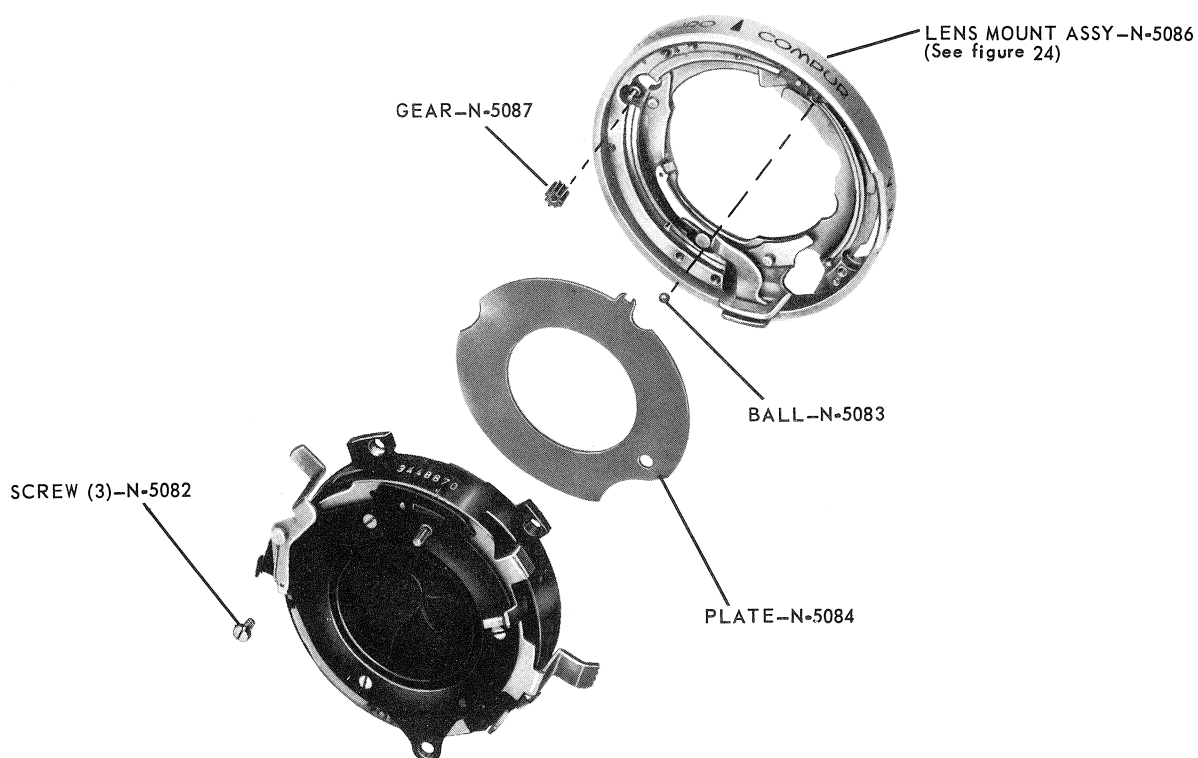


FIGURE 23

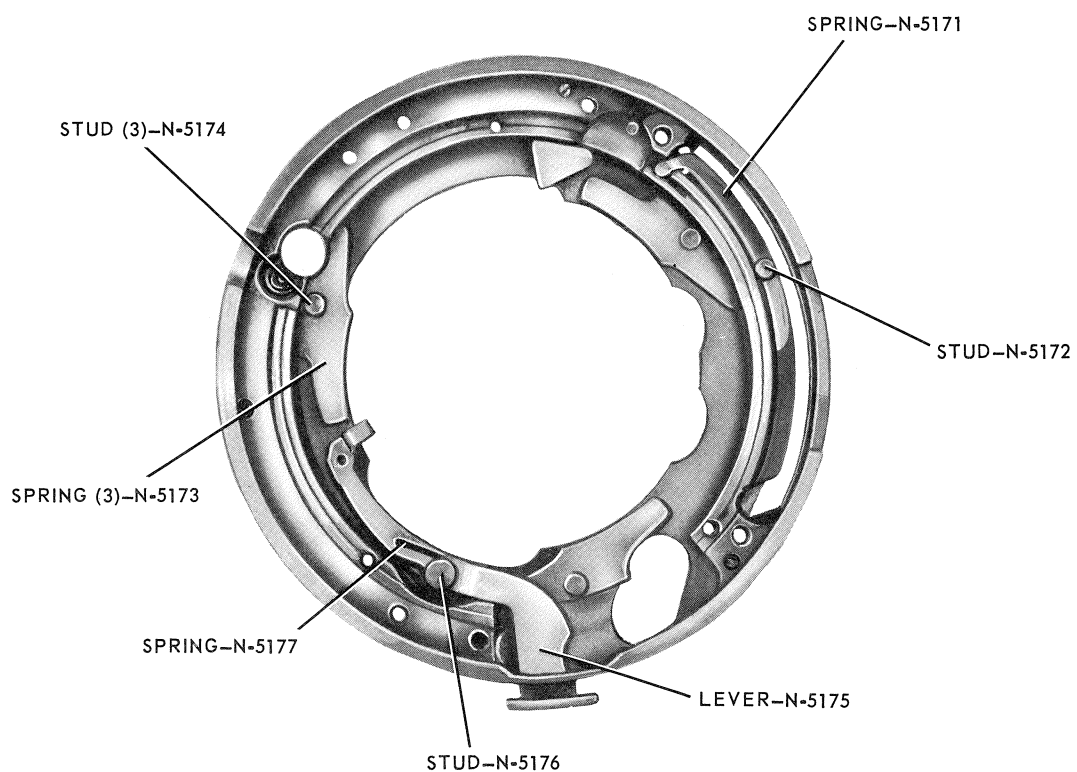


FIGURE 24

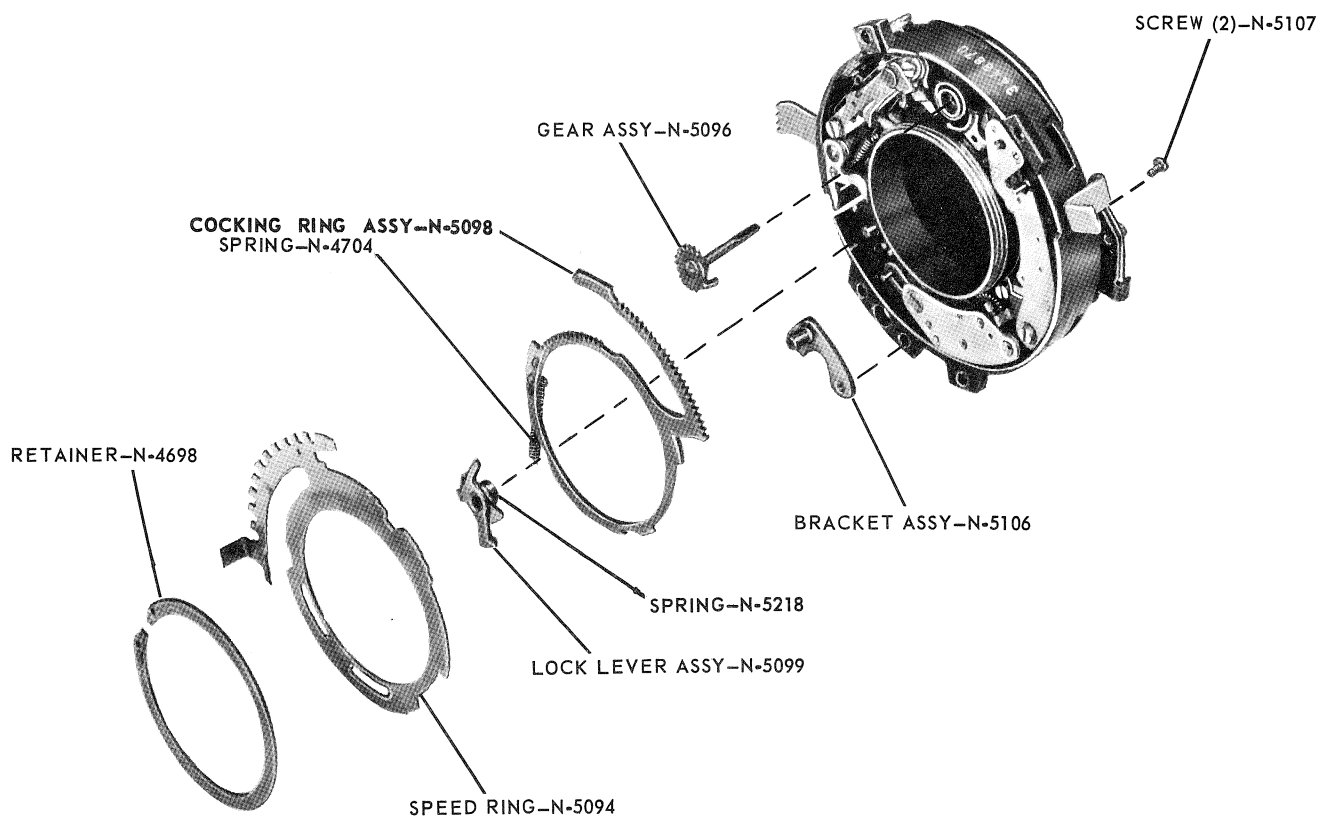


FIGURE 25

KODAK RETINA REFLEX S CAMERA PARTS LIST

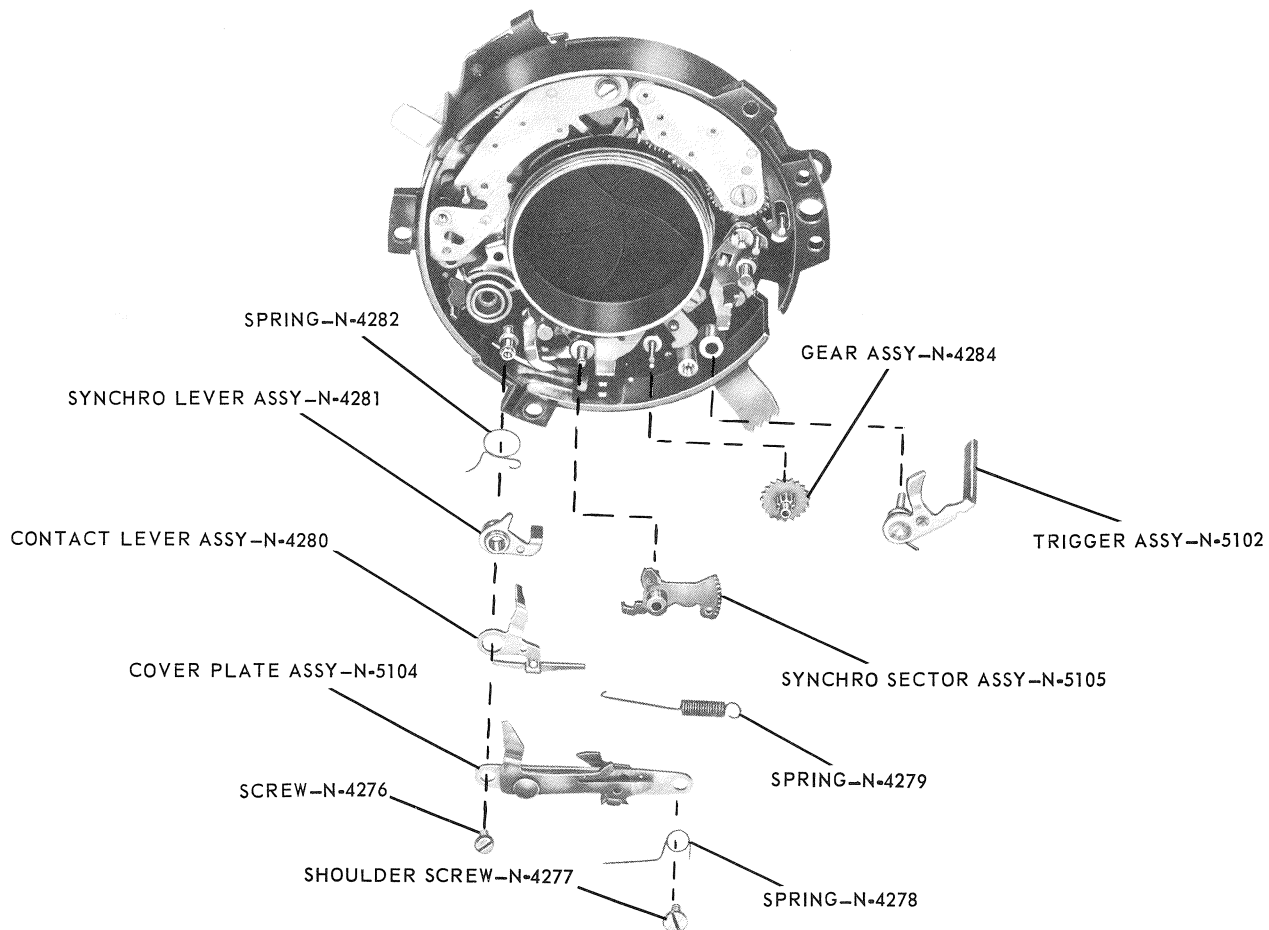


FIGURE 26

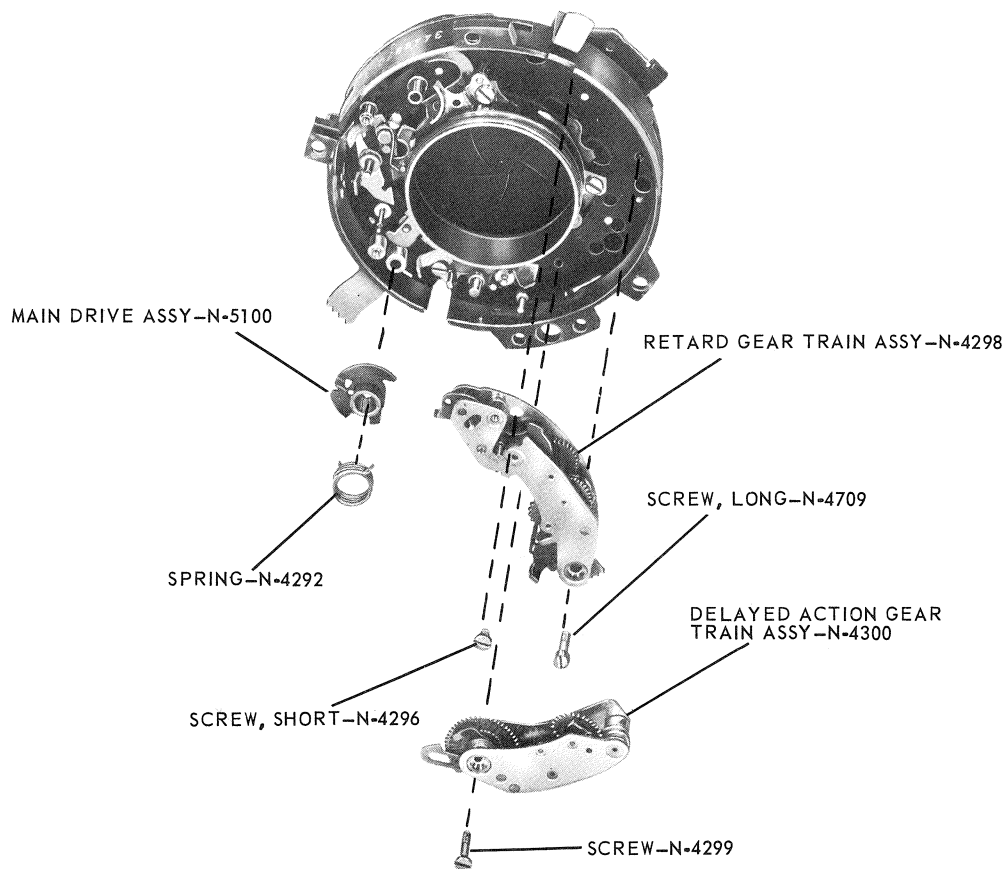


FIGURE 27

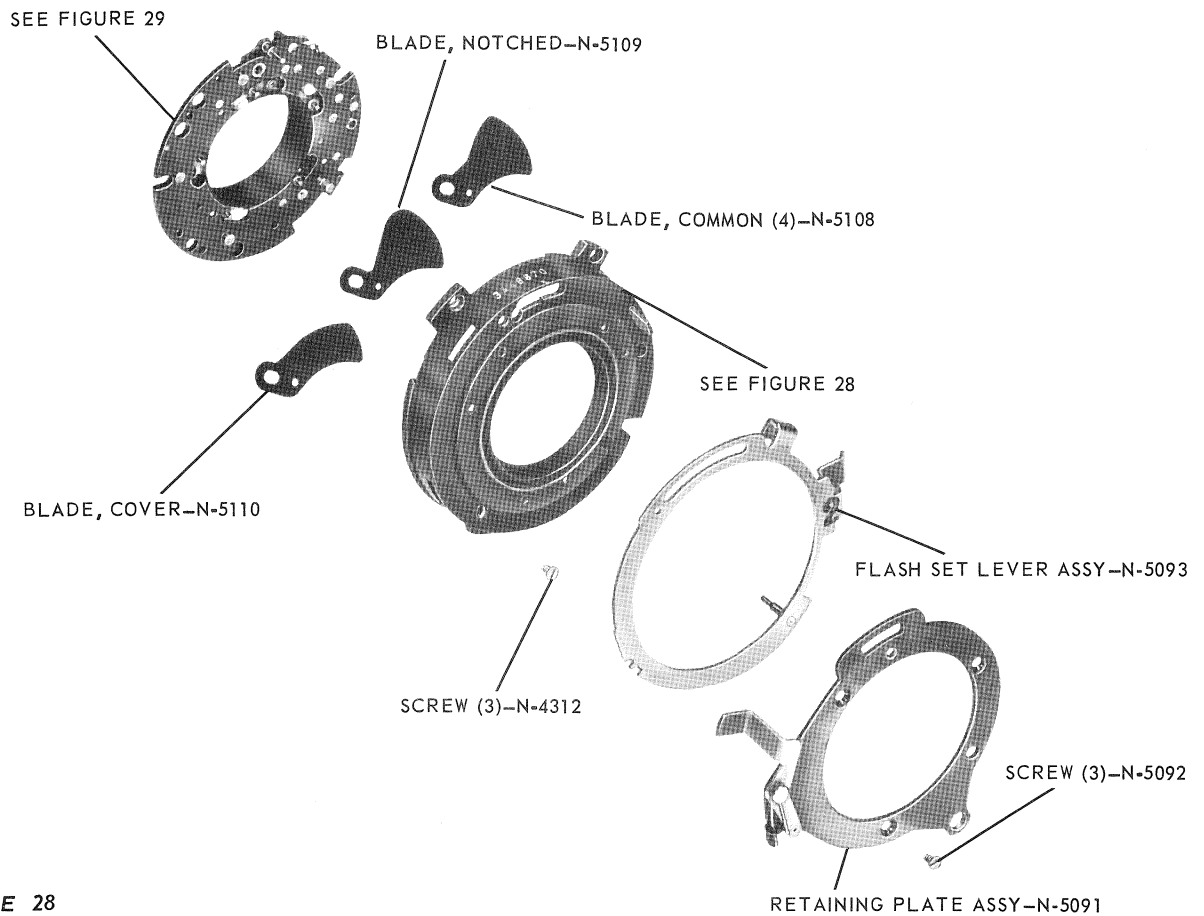


FIGURE 28

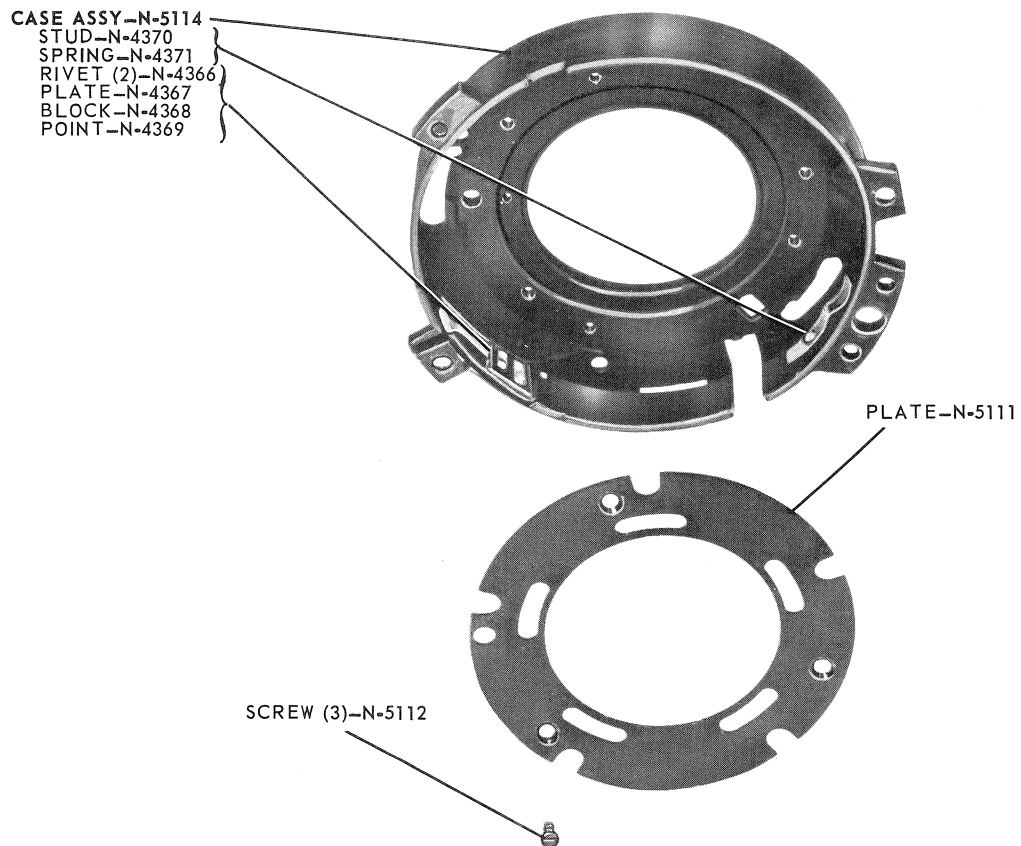


FIGURE 29

KODAK RETINA REFLEX S CAMERA PARTS LIST

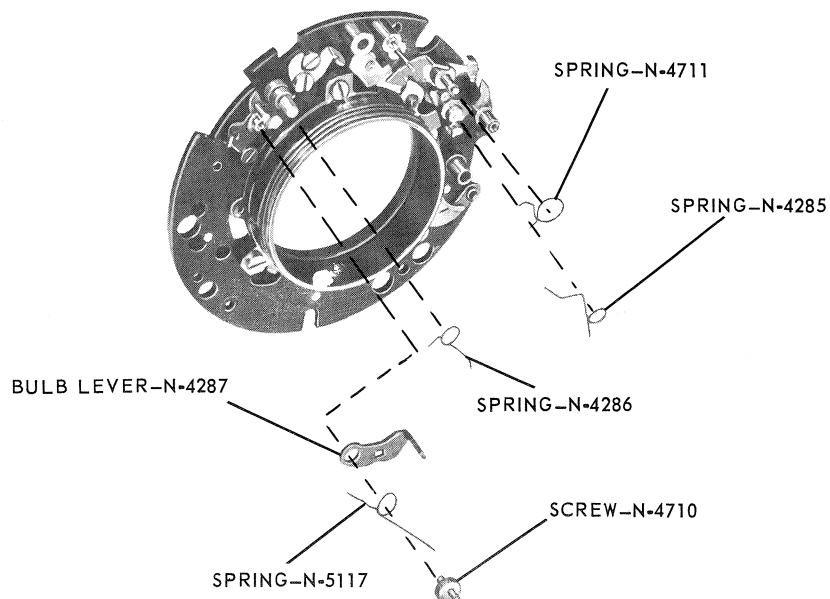


FIGURE 30

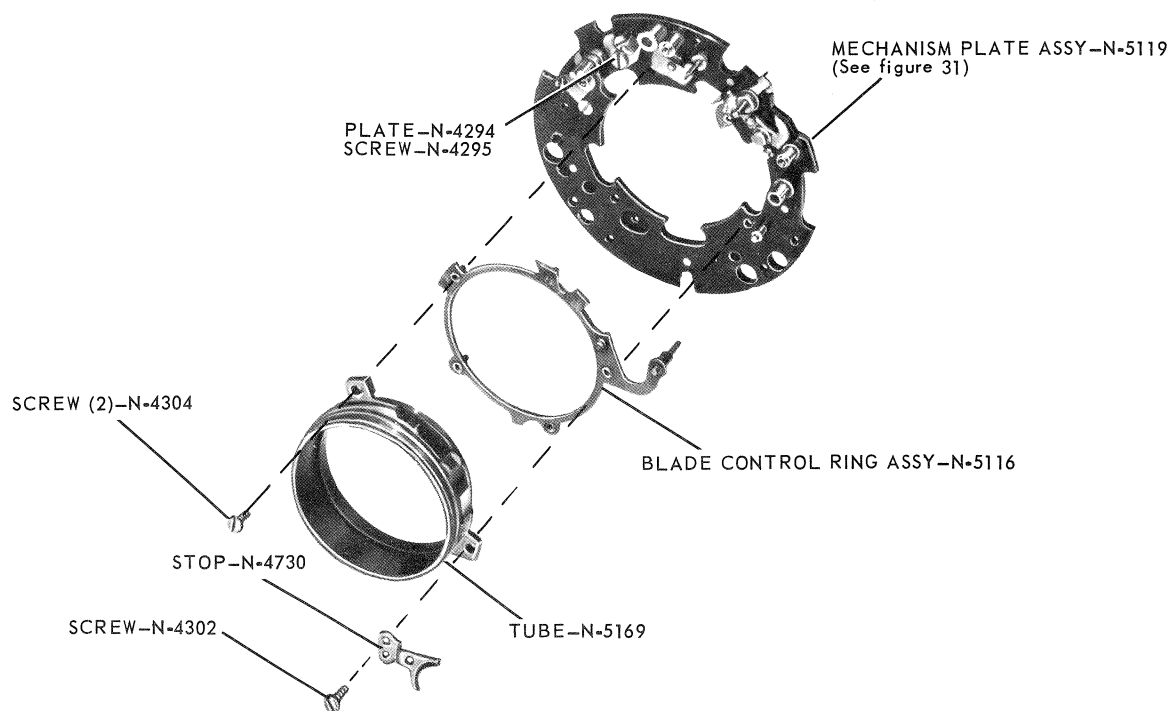


FIGURE 31

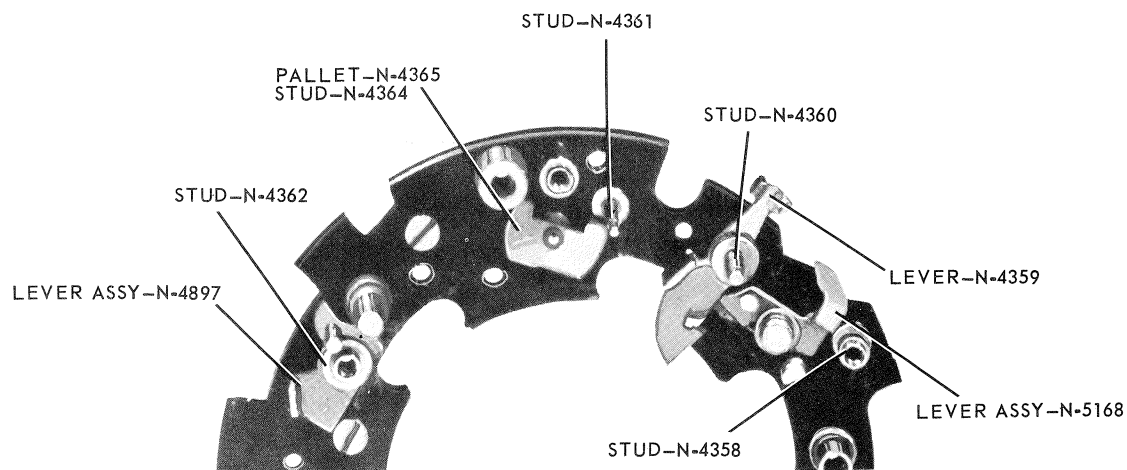


FIGURE 32

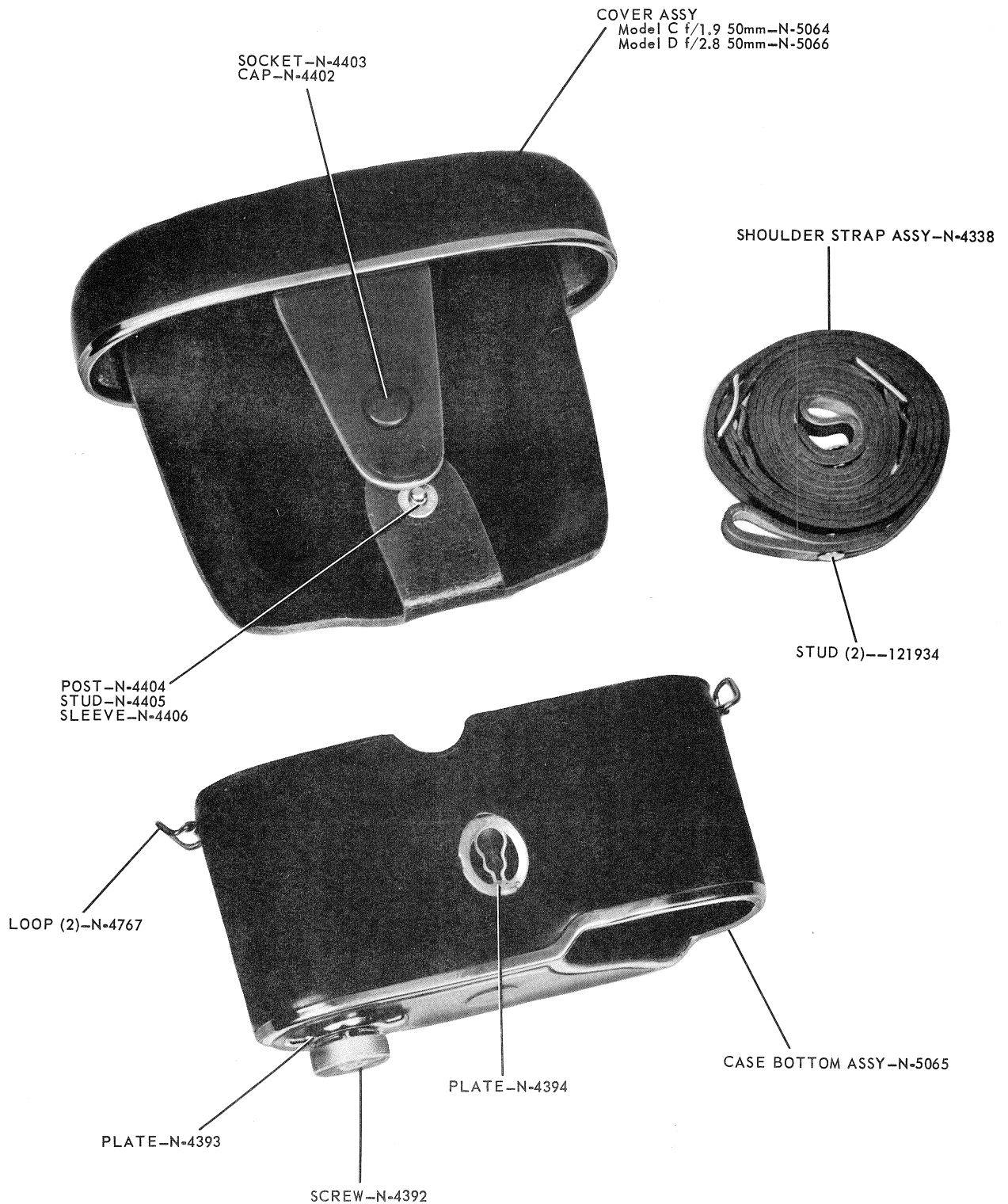


FIGURE 33. KODAK RETINA FIELD CASE, Models C and D

KODAK RETINA REFLEX S

FIG.	PART NO.		PART NAME	REQD.
	U.S.	German		
13	N-2222	G-2467/1	Screw - Rewind post bearing	2
4	N-2423	G-2036/6	Screw - Clip	3
17	N-2617	G-016086	Spring - Rewind release dog	1
2	N-2618	G-016334/1	Film Tension Pad Assy.	1
17	N-2662	G-2533/1	Screw - Sprocket shaft	1
17	N-2672	G-016085	Screw - Rewind release dog.	1
15	N-2675	G-4623/1	Washer - Rewind release button	1
1,11	N-2677	G-2507/1	Screw - Back Assy (3), Front cover plate (2), Bottom frame (7), Winding shaft assy (3)	15
14,17				
20	N-2699	G-2114/1	Screw - Back latch plate	2
2	N-2717	G-016302	Spring - Tension pad	2
2	N-2722	G-1357/4	Rivet	4
1	N-2723	G-016670	Pointer - Film indicator	1
1	N-2724	G-016623	Washer - Tension.	1
4	N-4001	G-018724	Spring - Exposure counter.	1
3	N-4051	G-2507/6	Screw - Finder housing to carrying strap bracket, left	2
3	N-4052	G-2538/6	Screw - Finder housing to carrying strap bracket, right	1
6	N-4063	G-025704	Button - Counter setting	1
6	N-4064	G-4048/0	Washer - Counter setting button	1
4	N-4070	G-021718	Ratchet - Counter	1
4	N-4071	G-021720	Dial - Counter	1
5	N-4072	G-021711	Spring - Counter actuating.	1
5	N-4073	G-1366/1	Rivet - Counter actuating spring.	1
5	N-4075	G-2544/1	Screw - Exposure counter adjusting.	1
4	N-4087	G-021717	Washer - Counter ratchet tension	1
4	N-4088	G-4638/1	Washer - Counter ratchet spacing.	1
4	N-4092	G-021706	Bushing - Body release.	1
13,17	N-4099	G-2537/1	Screw - Roller thrust bearing assy (1), Carrying strap bracket, left (2), right (1), Bushing and gear assy (1).	5
7	N-4104	G-021624	Spring - Wind and counter release.	1
18	N-4115	G-2258/4	Setscrew - Mirror latch bracket.	1
13	N-4176	G-021617	Wind and counter release guide.	1
8	N-4180	G-021612	Ring - Tripod socket, outer	1
8	N-4181	G-021611	Spring - Back latch button guard.	1
14	N-4182	G-2527/1	Screw - Tripod socket.	3
14	N-4183	G-021595	Socket - Tripod	1
14	N-4184	G-021594	Bearing - Cassette.	1
20	N-4193	G-021018	Button - Back latch.	1
20	N-4194	G-021013	Spring - Back latch button	1
8	N-4201	G-2526/1	Screw - Winding lever.	3
8	N-4202	G-021602/1	Lever - Winding.	1
8	N-4203	G-021605	Spacer - Wind lever	AR
15	N-4205	G-021580/1	Film Advance Lock Assy.	1
15	N-4206	G-021584	Spring - Film advance lock assy.	1
15	N-4207	G-4984/4	Retainer - Film advance lock spring	1
15	N-4208	G-021570/1	Wind Release Assy.	1
15	N-4209	G-021578	Screw - Wind release adjusting.	1
15	N-4210	G-021577	Spring - Wind release.	1
15	N-4211	G-021574	Spring - Wind release throw-out.	1
16	N-4212	G-021550	Screw - Winding shaft.	1
16	N-4213	G-021549	Gear - Winding shaft (Old style)	1
16	N-4214	G-4630/0	Spacer - Winding shaft pinion (Old style)	1
16	N-4215	G-021545	Pawl - Winding shaft (Old style)	1
16	N-4216	G-021544	Cam - Winding shaft.	1
16	N-4217	G-021543	Spring - Tension	1
16	N-4218	G-021532	Gear - Film advance drive (Old style)	1
15	N-4219	G-021564	Button - Rewind release	1
17	N-4220	G-021555/1	Sprocket Shaft Assy	1
17	N-4221	G-021560	Sprocket.	1
17	N-4222	G-021540	Screw - Drive gear pawl	1
17	N-4223	G-021538	Pawl - Drive gear	1
17	N-4224	G-021539	Spring - Drive gear pawl.	1
17	N-4225	G-021536	Spacer - Drive gear pawl.	1

KODAK RETINA REFLEX S

FIG.	PART NO.		PART NAME	REQD.
	U.S.	German		
17	N-4227	G-021527/1	Bushing and Gear Assy	1
17	N-4228	G-021567	Dog - Rewind release	1
17	N-4229	G-021500/1	Winding Shaft Assy (Old style)	1
17	N-4230	G-021516	Bushing - Take-up spool	1
17	N-4231	G-021518/1	Take-Up Spool Assy	1
2	N-4236	G-021321/1	Back Hinge Assy	1
2	N-4238	G-021104	Catch - Back	1
2	N-4239	G-1371/1	Rivet - Film tension pad spring	3
8	N-4321	G-2528/6	Screw - Tripod socket outer ring	2
8	N-4322	G-021610	Guard - Back latch button	1
15	N-4325	G-021563	Spring - Rewind release button	1
17	N-4354	G-021524	Gear - Clutch	1
17	N-4355	G-016540	Spring - Clutch pressure	1
17	N-4356	G-021522	Clutch	1
4	N-4466	G-021721	Bearing - Release and counter	1
1	N-4512	G-023761	Sleeve - Rewind post.	1
3	N-4528	G-025753	Screw - Housing.	1
8	N-4530	G-025607	Covering - Winding lever.	1
3	N-4534	G-2509/1	Screw - Upper frame	1
7	N-4535	G-023628	Spring - Body release trip.	1
2	N-4543	G-023293	Strip - Back finishing	1
21	N-4544	G-025685	Frame - Spacing	1
2	N-4545	G-1379/1	Rivet - Hinge to back	3
2	N-4547	G-7050/1	Pin - Hinge.	1
21	N-4550	G-2487/4	Screw - Bracket to lens block (2), Prism mask (1).	3
13	N-4552	G-023637	Screw - Carrying strap bracket, right	1
6	N-4554	G-025728	Mask - Eyepiece	1
10,18,19	N-4556	G-2079/4	Screw - Leaf spring (1), Light guard retaining (2), Spring retaining plate (2).	5
18	N-4558	G-025033	Screw - Adjusting.	1
20	N-4561	G-023015	Plate - Back latch	1
18	N-4562	G-025035	Screw - Mirror adjusting bracket assy.	1
20	N-4564	G-025024	Lock - Slide	1
20	N-4565	G-023010	Latch - Back.	1
20	N-4569	G-025130	Spring - Slide pressure	1
20	N-4570	G-025132	Lever - Mirror actuating.	1
20	N-4571	G-025148	Screw - Mirror setting guide	2
21	N-4572	G-0187/5	Prism - Finder roof.	1
21	N-4574	G-025682	Box - Finder	1
1	N-4575	G-025290/2	Back Assy.	1
13	N-4576	G-023615	Rack - Setting	1
6	N-4577	G-025724	Mount - Eye	1
7	N-4578	G-023620/1	Wind Release Button Assy	1
13	N-4580	G-021635	Spring - Clutch pressure	1
14	N-4581	G-025030	Spring - Slide lock pressure.	1
21	N-4584	G-025695	Mask - Penta prism	1
3,13	N-4586	G-2532/1	Screw - Prism bracket (2), Roller thrust bearing assy (1).	3
3,8	N-4587	G-023350	Plate - Closing	3
20	N-4588	G-025027	Screw - Aperture cover lock	1
20	N-4589	G-023014	Stud - Back latch guide	2
20	N-4591	G-023004	Socket - Flash bracket locating.	1
13	N-4593	G-023639	Washer - Setting rack guide.	1
18	N-4597	G-025038	Pin - Mirror bracket spring anchor.	1
21	N-4598	G-025693	Mask - Prism	1
18	N-4602	G-025196	Guard - Light	1
21	N-4605	G-2585/4	Screw - Prism clamping	6
19	N-4606	G-023150	Pin - Mirror and light blocking flap.	1
8	N-4610	G-023356	Covering - Bottom	1
13	N-4611	G-023636	Bracket - Carrying strap, left	1
9,11	N-4612	G-2490/1	Screw - Control shaft adjusting (1) Body release arm assy (1)	2
2	N-4613	G-021295	Plate - Hinge reinforcing.	1
20	N-4616	G-025040	Stud - Mirror setting (1), Release guide (1) Aperture lever guide (1).	3
4,19	N-4617	G-2224/1	Screw - Accessory shoe base (4), Support angle piece assy to case (2)	6

KODAK RETINA REFLEX S

FIG.	PART NO.		PART NAME	REQD.
	U.S.	German		
19	N-4619	G-025152	Spacer - Mirror and light blocking flap	1
19	N-4621	G-023153	Spacer - Housing and light flap.	1
21	N-4622	G-0183/0	Disk - Wedge.	1
21	N-4624	G-025690/1	Bracket - Prism mounting.	1
19	N-4626	G-025249	Strip - Mirror protective.	1
20	N-4630	G-025135/1	Mirror Release Latch Assy	1
19	N-4632	G-025158	Plate - Spring retaining.	1
21	N-4638	G-0186/0	Lens - Upper finder	1
21	N-4639	G-0184/0	Glass - Ground	1
21	N-4642	G-0185/0	Lens - Finder, bottom.	1
21	N-4648	G-025697	Gasket - Prism clamp, rubber	1
19	N-4653	G-025155	Spring - Light blocking flap	1
9	N-4655	G-025170/1	Control Shaft Assy	1
1	N-4656	G-025673	Mask - Light.	1
20	N-4657	G-025125/1	Light Blocking Flap Latch Assy	1
3	N-4658	G-025206/1	Flash Post Assy.	1
11	N-4660	G-025271	Spring - Pressure	1
2	N-4661	G-025355	Covering - Back.	1
18	N-4663	G-025037	Spring - Slide retainer tension	1
6	N-4666	G-0188/0	Lens - Eyepiece.	1
3	N-4671	G-025680/2	Viewfinder Assy.	1
18	N-4673	G-025032/1	Mirror Adjusting Bracket Assy.	1
19	N-4674	G-025100/1	Aperture Cover Assy	1
13	N-4675	G-023675/1	Bearing - Roller thrust	1
13	N-4792	G-021632	Bearing - Rewind post.	1
7	N-4855	G-025660	Stud - Housing support	1
13	N-4884	G-025638	Bracket - Carrying strap, right	1
21	N-4886	G-025691	Pad - Clamp bracket.	2
3	N-4904	G-025753	Disk.	1
1	N-4908	G-027765/1	Rewind Knob Assy	1
1	N-4909	G-027774	Screw - Rewind knob.	1
3	N-4911	G-027910/9	Scale - Distance, feet	1
3	N-4912	G-2615/0	Screw - Distance scale	2
4	N-4914	G-025710/1	Counter Advance Assy.	1
4	N-4915	G-027740	Cap - Exposure meter.	1
4	N-4916	G-0225/0	Window - Exposure meter	1
4	N-4917	G-0226/0	Disk - Plexiglass	1
6	N-4919	G-028704	Button - Counter setting (Late model housing).	1
6	N-4920	G-028705	Sleeve - Counter setting button.	1
2	N-4921	G-021309	Roller - Film	1
7	N-4924	G-027643/2	Exposure Meter Assy	1
3	N-4925	G-027685	Knob - Exposure meter.	1
3	N-4926	G-027686	Spring - Exposure Meter	1
7	N-4927	G-027927	Button - Body release.	1
14	N-4961	G-027025/1	Bottom Frame Assy	1
9	N-4962	G-2610/1	Screw - Front to Case.	4
9	N-4963	G-4988/4	Washer - Spring.	8
11	N-4977	G-2027/1	Screw - Bearing plate.	2
9,13	N-4987	G-2509/1	Screw - Top frame to front frame (2), Angle piece (1).	3
12	N-4991	G-027263	Cord - Transmission	1
13	N-4998	G-026630	Post - Rewind	1
13	N-5000	G-027150/1	Angle Piece Assy.	1
13	N-5004	G-4626/1	Washer - Roller thrust bearing assy	1
20	N-5005	G-027020/1	Retaining Plate Assy.	1
20	N-5006	G-027030/1	Lever - Tensioning.	1
20	N-5007	G-027032	Screw - Tensioning lever.	1
20	N-5008	G-027033	Spring - Tensioning lever	1
3	N-5012	G-034357	Covering - Right side	1
3	N-5013	G-034358	Covering - Left side.	1
3	N-5014	G-034700/2	Housing	1
4	N-5015	G-034737	Base - Accessory shoe	1
4	N-5016	G-034738	Clip.	1
7	N-5017	G-034625/1	Plunger - Body release.	1

Always give PART NUMBER and NAME when ordering parts

KODAK RETINA REFLEX S

FIG.	PART NO.		PART NAME	REQD.
	U.S.	German		
9	N-5018	G-034191/1	Cam Assy.	1
10	N-5019	G-034230	Gear	1
10	N-5020	G-034231	Bushing	1
10	N-5021	G-034232	Screw - Shutter release control lever	1
9	N-5022	G-034638	Pad - Leather	2
10	N-5023	G-034265/1	Shutter Release Control Lever Assy	1
10	N-5024	G-034270	Plate - Cover	1
10	N-5025	G-034286	Disk - Insulating	1
10	N-5026	G-034805	Shutter	1
10	N-5027	G-034942	Gear	1
10	N-5028	G-034945	Spring - Leaf.	1
10	N-5030	G-2509/4	Screw - Cover plate to front assy.	1
10	N-5031	G-2611/4	Screw - Shutter to front assy.	4
11	N-5032	G-034202/1	Front Assy (Old style).	1
11	N-5033	G-034204/1	Front Assy (New style)	1
11	N-5034	G-034208/1	Body Release Arm Assy	1
11	N-5035	G-034212	Screw - Arm assy to front assy	2
11	N-5036	G-034242/1	Switch	1
11	N-5037	G-034245/1	Setting Knob Plate Assy.	1
11	N-5038	G-034249	Covering - Front frame.	2
11	N-5039	G-034252	Rod - Toothed	1
11	N-5040	G-034263	Plate - Bearing	1
11	N-5041	G-034275	Frame - Front.	1
11	N-5042	G-034280	Covering - Front frame, left	1
11	N-5043	G-034282	Covering - Front frame, right	1
11	N-5044	G-034287	Wire I	1
11	N-5045	G-034288	Wire II.	1
11	N-5046	G-034289	Gear	1
11	N-5047	G-034928	Bracket - Control "O".	1
11	N-5048	G-2613/4	Screw - Switch.	1
11	N-5049	G-2614/4	Screw - Setting knob plate assy.	3
11	N-5050	G-2622/6	Screw - Front frame.	1
11	N-5051	G-4662/1	Washer.	2
11	N-5052	G-7159/0	Pin - Grooved	1
12	N-5053	G-034260/1	Cable Drum Assy.	1
13	N-5054	G-034028	Top Frame Assy	1
18	N-5055	G-0227/9	Mirror.	1
19	N-5056	G-034095/1	Support Angle Piece Assy	1
19	N-5057	G-034110/1	Mirror Holder Assy	1
20	N-5058	G-027023	Screw - Retaining plate	1
20	N-5059	G-027026	Spring - Tensioning	1
20	N-5060	G-034140/1	Slider Guide Plate Assy.	1
20	N-5061	G-034146	Spring - Lock catch	1
20	N-5062	G-034002/2	Case Assy.	1
7	N-5157	G-027680	Dial - Film speed.	1
7	N-5166	G-027682	Cover - Film speed dial	1
4	N-5167	G-027740/1	Film Speed Window Cap Assy.	1
7	N-5170	G-027668	Spring - Film speed dial tension.	1
9	N-5179	G-2623/1	Screw - Control shaft adjusting (New style).	1
11	N-5180	G-4053/0	Washer - Switch mounting	1
16	N-5181	G-034549	Gear - Winding shaft (New style).	1
16	N-5182	G-4663/0	Spacer - Winding shaft pinion (New style).	1
16	N-5183	G-035545	Pawl - Winding shaft (New style).	1
16	N-5184	G-034532	Gear - Film advance drive (New style).	1
17	N-5185	G-034500/1	Winding Shaft Assy (New style).	1
19	N-5186	G-034157	Spring - Mirror	1
18	N-5187	G-025161/1	Mirror Latch Assy.	1
1	120012		Buckle - Shoulder strap.	2
1	136827		Shoulder Strap Assy	1

SYNCHRO COMPUR SHUTTER FOR THE KODAK RETINA REFLEX S

FIG.	PART NO.	PART NAME	REQD.
26	N-4276	Screw - Synchro cover plate.	1
26	N-4277	Screw - Synchro cover plate, shoulder	1
26	N-4278	Spring - Main drive lock	1
26	N-4279	Spring - Synchro gear	1
26	N-4280	Contact Lever Assy	1
26	N-4281	Synchro Lever Assy	1
26	N-4282	Spring - Synchro lever	1
26	N-4284	Synchro Gear Assy	1
30	N-4285	Spring - Blade operating check	1
30	N-4286	Spring - Synchro lock	1
30	N-4287	Lever - Bulb	1
27	N-4292	Spring - Main drive	1
31	N-4294	Plate - Synchro gear spring anchor	1
31	N-4295	Screw - Synchro gear spring anchor plate	1
27	N-4296	Screw - Retard gear train, short	1
27	N-4298	Retard Gear Train Assy	1
27	N-4299	Screw - Delayed action gear train	1
27	N-4300	Delayed Action Gear Train Assy	1
31	N-4302	Screw - Main drive stop	1
31	N-4304	Screw - Shutter tube retaining	2
28	N-4312	Screw - Case to mechanism plate	1
32	N-4358	Stud - Synchro lock lever	1
32	N-4359	Lever - Synchro	1
32	N-4360	Stud - Synchro lever	1
32	N-4361	Stud - Synchro gear	1
32	N-4362	Stud - Time release lever	1
32	N-4364	Stud - Pallet	1
32	N-4365	Pallet	1
29	N-4366	Rivet - Contact plate	2
29	N-4367	Plate - Contact block retaining	1
29	N-4368	Block - Contact	1
29	N-4369	Point - Contact	1
29	N-4370	Stud - Synchro selector tension spring	1
29	N-4371	Spring - Synchro selector tension	1
25	N-4698	Retainer - Speed ring	1
25	N-4704	Spring - Cocking ring	1
27	N-4709	Screw - Retard gear train, long	1
30	N-4710	Screw - Bulb lever	1
30	N-4711	Spring - Bulb lever	1
31	N-4730	Stop - Main drive gear	1
32	N-4897	Lever - Time release	1
22	N-5068	Screw - Front shroud retainer, long	1
22	N-5070	Front Shroud Assy	1
22	N-5072	Ring - Diaphragm scale	1
22	N-5073	Spring - Diaphragm scale ring	1
22	N-5075	Intermediate Brass Ring Assy	1
22	N-5076	Speed Scale Ring Assy	1
22	N-5077	Button - Speed scale ring	2
22	N-5078	Screw - Speed scale ring button	4
22	N-5079	Ring - Lens diaphragm opening	1
22	N-5080	Coupler Shaft and Pinion Assy	1
22	N-5081	Gear - Coupler shaft idler	1
23	N-5082	Screw - Shutter to lens mount	3
23	N-5083	Ball - Speed scale ring	1
23	N-5084	Plate - Dust cover	1
23	N-5086	Lens Mount Assy	1
23	N-5087	Gear - Lens diaphragm ring idler	1
28	N-5091	Flash Ring Retaining Plate Assy	1
28	N-5092	Screw - Flash ring retaining plate	3
28	N-5093	Lever - Flash set	1
25	N-5094	Ring - Speed	1

SYNCHRO COMPUR SHUTTER FOR THE KODAK RETINA REFLEX S

FIG.	PART NO.	PART NAME	REQD.
25	N-5096	Cocking Ring Gear Assy	1
25	N-5098	Cocking Ring and Spring Assy.	1
25	N-5099	Lock Lever Assy	1
27	N-5100	Main Drive Assy	1
26	N-5102	Trigger Assy.	1
26	N-5104	Synchro Cover Plate Assy	1
26	N-5105	Synchro Sector Assy.	1
25	N-5106	Coupler Shaft Idler Gear Bearing Bracket Assy.	1
25	N-5107	Screw - Coupler idler gear bracket.	2
28	N-5108	Blade - Shutter, common.	4
28	N-5109	Blade - Shutter, notched	1
28	N-5110	Blade - Shutter, cover.	1
29	N-5111	Plate - Case filler	1
29	N-5112	Screw - Case filler plate	3
29	N-5114	Shutter Case Assy	1
31	N-5116	Ring - Blade control.	1
30	N-5117	Spring - Self timer.	1
31	N-5119	Mechanism Plate Assy	1
22	N-5158	Screw - Front shroud retainer	2
32	N-5168	Synchro Lock Lever Assy	1
31	N-5169	Tube - Shutter	1
24	N-5171	Spring - Detent ball.	1
24	N-5172	Stud - Detent ball spring	1
24	N-5173	Spring - Lens mount tension.	3
24	N-5174	Stud - Lens mount tension spring	3
24	N-5175	Lever - Lens lock	1
24	N-5176	Stud - Lens lock lever.	1
24	N-5177	Spring - Lens lock lever	1
25	N-5218	Spring - Cocking ring lock lever.	1

KODAK RETINA FIELD CASE MODELS C AND D

33	N-4338	Shoulder Strap Assy	1
33	N-4392	Screw - Camera retaining	1
33	N-4393	Plate - Camera retaining screw	1
33	N-4394	Plate - Snap button stud catch.	1
33	N-4402	Cap - Snap button.	1
33	N-4403	Socket - Snap button cap	1
33	N-4404	Post - Snap button	1
33	N-4405	Stud - Snap button post	1
33	N-4406	Sleeve - Snap button post sleeve	1
33	N-4767	Loop - Strap	2
33	N-5064	Field Case Cover Assy (Model C, f/1.9-50mm)	1
33	N-5065	Field Case Bottom Assy	1
33	N-5066	Field Case Cover Assy (Model D, f/2.8-50mm)	1
33	121934	Stud - Shoulder strap	2

Always give PART NUMBER and NAME when ordering parts

EASTMAN KODAK COMPANY • ROCHESTER 4, NEW YORK

NOVEMBER 1959

NO. 935

Servicing the

Kodak Retina Reflex S Camera

**EASTMAN KODAK COMPANY
Apparatus Service Department
ROCHESTER 4, N.Y.**

SERVICE INSTRUCTIONS
RETINA REFLEX S CAMERA

1. GENERAL INFORMATION

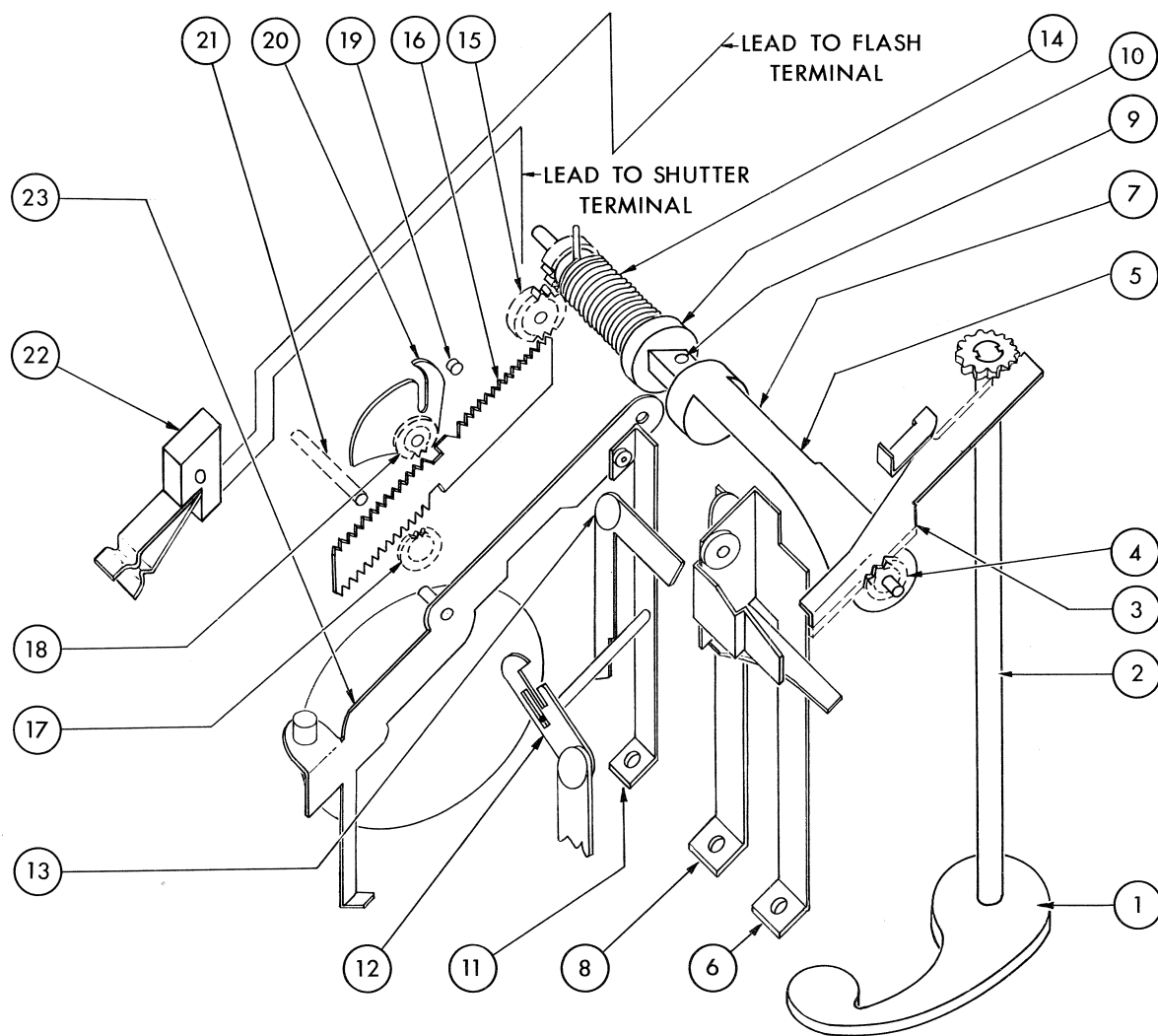
1.1 INTRODUCTION

It is presupposed that servicemen familiar with the previous RETINA REFLEX, RETINA III C and III S CAMERAS will be required to service this model. Therefore only those service problems which are peculiar to this model will be covered in this manual. Basically this will cover the shutter operation and a few other conditions. It should be understood that the Exposure Meter and its Linkage and the Film Wind Mechanism are identical with that used in the RETINA III S and are covered completely in the Service Manual No. 913.

The shutter setting and release mechanisms have been completely re-designed to accommodate a slightly different shutter. The large setting ring of the RETINA REFLEX has been eliminated and in its place is a rack connecting the new spring-loaded front section of the transfer shaft to the shutter.

The discussions on the sequence of action (1.3 and 1.4) when the film advance lever or exposure release button is actuated may be helpful when service problems are encountered.

1.2 SCHEMATIC OF SETTING MECHANISM



- 1 FILM ADVANCE LEVER
- 2 WINDING SHAFT AND PINION
- 3 SETTING RACK
- 4 REAR TRANSFER SHAFT
- 5 APERTURE COVER CAM
- 6 APERTURE COVER ACTUATING LEVER
- 7 MIRROR ACTUATING CAM
- 8 MIRROR ACTUATING LEVER
- 9 ADJUSTING SCREW - SHUTTER OPENING AND LATCHING
- 10 MIRROR RELEASE LEVER CAM
- 11 MIRROR RELEASE LEVER
- 12 MIRROR LATCH ASSEMBLY

- 13 LATCH LEVER FOR MIRROR RELEASE LEVER (ATTACHED TO LEVER RETAINER PLATE)
- 14 FRONT TRANSFER SHAFT AND SPRING
- 15 IDLER PINION
- 16 SHUTTER OPENING AND SETTING RACK
- 17 SHUTTER SETTING PINION
- 18 SHUTTER OPENING CONTROL DISC PINION
- 19 SHUTTER BLADE OPENING CONTROL DISC STOP STUD
- 20 SHUTTER BLADE OPENING CONTROL DISC
- 21 SHUTTER BLADE CONTROL PICK-UP PIN (PART OF SHUTTER)
- 22 FLASH CIRCUIT SWITCH

23 SHUTTER RELEASE CONTROL ASSEMBLY

1. GENERAL INFORMATION (Continued)

1.3 SEQUENCE OF ACTION - FILM ADVANCE LEVER

When the film advance lever is actuated, the aperture cover, the mirror and the shutter are controlled in sequence by the cams, pinions and rack connected to the two-section transfer shaft as follows:

- a) In the first half actuation of the LEVER (1) the APERTURE COVER is closed by the REAR CAM (5) of the REAR TRANSFER SHAFT (4) depressing the APERTURE ACTUATING LEVER (6); this also depresses the SAFETY LATCH at the lower right. At the same time the spring-loaded FRONT TRANSFER SHAFT (14) draws the RACK (16) toward the right and allows the SHUTTER RELEASE CONTROL LEVER (23) to release the FLASH CIRCUIT SWITCH (22) to break the continuity to the FLASH TERMINAL. This action of the RACK (16) rotates the SHUTTER OPENING CONTROL DISC (20) into a position where the shutter blades are opened during the balance of the lever actuation.
- b) In the second half of the lever actuation the MIRROR BRACKET is brought down by the FRONT CAM (7) of the REAR TRANSFER SHAFT (4) depressing the MIRROR ACTUATING LEVER (8). The movement of the MIRROR BRACKET down into the latching position releases the APERTURE COVER LATCH on the left side and retains the cover in the closed position. Meanwhile the LATCH LEVER (13) holds the MIRROR RELEASE LEVER (11) in a depressed position (so as to clear the mirror bracket) until the rotation of the CAM (10) reaches the drop off point for the MIRROR RELEASE LEVER (11). At the instant the MIRROR BRACKET reaches the latching position the STUD on the right side depresses the LATCH LEVER (13) which then releases the MIRROR RELEASE LEVER (11) and allows the MIRROR LATCH (12) to engage the MIRROR BRACKET.

During this action the RACK (16) continues to rotate the SHUTTER OPENING CONTROL DISC (20) which is engaged with the SHUTTER BLADE CONTROL RING (in shutter proper) by the SHAFT (21) and opens the shutter blades. At the same time the shutter mechanism is set, which in turn locks the FRONT TRANSFER SHAFT (14).

- c) On the return stroke of the FILM ADVANCE LEVER (1) only the REAR TRANSFER SHAFT (4) rotates. This releases both the MIRROR ACTUATING LEVER (8) and APERTURE ACTUATING LEVER (6) which in turn releases the APERTURE COVER SAFETY LATCH, thus locking the APERTURE COVER at both lower corners to complete the setting cycle.

1.4 SEQUENCE OF ACTION - EXPOSURE RELEASE BUTTON

The sequential action of the mechanism when the exposure release is depressed is as follows:

- a) Actuation of the exposure release button releases the film advance mechanism and actuates the BODY RELEASE ARM, which depresses the APERTURE COVER SAFETY LATCH and at the same time contacts the SHUTTER RELEASE and unlocks the shutter.
- b) At the instant the shutter is unlocked, the spring-loaded FRONT TRANSFER SHAFT (14) rotates and drives the RACK (16) which then actuates the SHUTTER OPENING DISC (20) to close the shutter blades. Further action of the RACK (16) is then temporarily blocked by the STUD on the SHUTTER RELEASE CONTROL LEVER (23). At the same time the CAM (10) on the FRONT TRANSFER SHAFT (14) depresses the MIRROR RELEASE LEVER (11), which releases the MIRROR BRACKET.
- c) The MIRROR BRACKET in moving up releases first the LATCH LEVER (13), which then engages the MIRROR RELEASE LEVER (11) and holds the MIRROR LATCH (12) down in readiness for latching the mirror bracket on the next actuation of advance lever. The MIRROR BRACKET then release the APERTURE COVER which in turn strikes the SHUTTER RELEASE CONTROL LEVER (23), which then closes the FLASH CIRCUIT SWITCH (22) and releases the RACK (16). At this instant the spring-loaded FRONT TRANSFER SHAFT (14) drives the RACK (16) toward the left to rotate the SHUTTER SETTING RING (in the shutter proper) to cam off the trigger and release the shutter for the exposure.

1.5 SHUTTER

This shutter mechanism has been modified in a number of ways which make it different from the mechanism used in the Retina Reflex Camera:

- a) Shutter setting mechanism
- b) Mechanism for opening and closing the shutter blades for viewing.
- c) Coupling mechanism for opening lens diaphragm for viewing.
- d) Addition of a flash circuit switch to break continuity to flash terminal when shutter blades are open for viewing.
- e) Shutter repairs, other than lens diaphragm opening control or faulty operation of the speed or diaphragm rings, will require removal of the complete front mount.

Shutter design and operation after the viewing cycle is similar to the shutter on the Retina III S.

It is recommended that the basic setting of "B" and f/1.9 as used on the Retina III S be made before disassembly and reassembly of the front mount or meter assembly.

2. DISSASSEMBLY AND REASSEMBLY

2.1 DIAPHRAGM AND SPEED SCALE

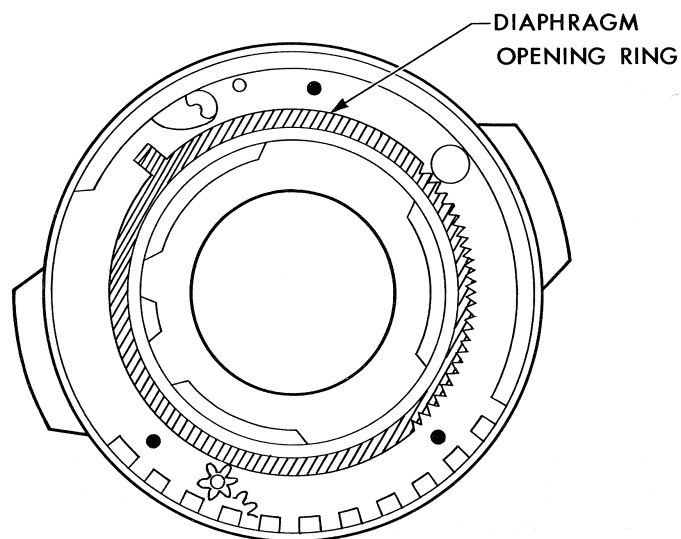
Disassembly

Remove three screws (one long, two short) and separate the diaphragm ring assembly from the lens seat.

NOTE: To separate this assembly, first remove the brass ring by rotating it until the clearance slot is in alignment with the coupler pinion. The remaining parts are coupled in the same way as in the Retina III S.

Reassembly

- a) Replace speed ring.
- b) Position the diaphragm opening ring as shown in the following figure:



2. D I S A S S E M B L Y A N D R E A S S E M B L Y (Continued)

- c) Replace the retainer, diaphragm scale and brass ring assembly, engaging the coupler pinion with the diaphragm ring so that the lug protrudes through the retainer at the top of slot.
- d) Replace the three screws, fitting the long one adjacent to the meter control pinion shaft.

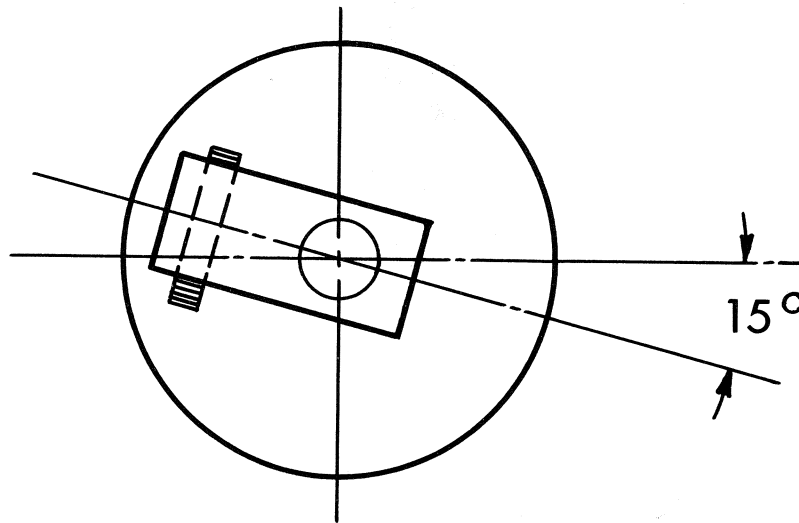
2.2 SHUTTER (COMPLETE WITH FRONT MOUNT) FROM CASE

Disassembly

Disassembly of the shutter and front mount is similar to the method recommended in the Service Manual #913 for the Retina III S. However in addition to the parts normally removed (front, covering, bottom panel and related parts) the top housing and pentaprism should be removed.

Reassembly

- a) The rear transfer shaft assembly should be engaged with the setting rack so that the end view of shaft is as shown in the following figure:



- b) Replace spacing washers (concave surfaces toward each other).
- c) Position the front transfer shaft assembly on rear shaft and wind up the spring one revolution, retaining it during installation of front.
- d) Replace front mount, engaging pinion shaft with meter actuating drum, and engage the spring on side of casting. Fit long screw to retain washers.
- e) Depress mirror and aperture cover to allow front to drop into position and engage transfer shaft with idler gear.
- f) Check operation with winding lever; if correct, replace long screws with originals and draw front down until the distance between lens seat and film plane is $1.874" \pm .001"$.

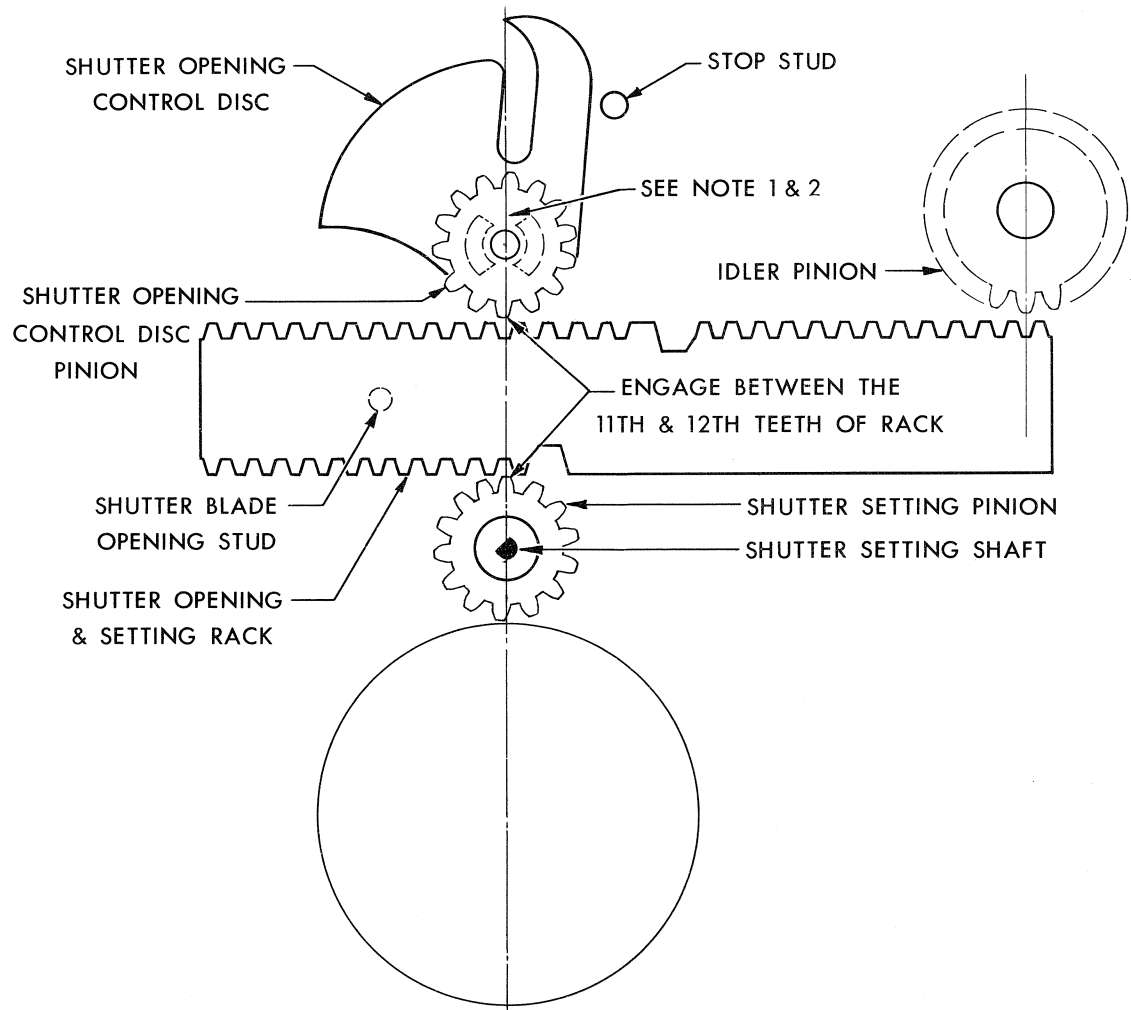
2.3 SHUTTER FROM FRONT MOUNT

Disassembly

- a) Disassemble as in Instruction 2.2.
- b) Remove shutter release control lever and the flat spring retaining the shutter opening control disc pinion.
- c) Remove two screws directly above rack and two screws accessible through the holes in the setting wheel cover plate and unsolder the lead between flash switch and flash terminal on shutter.
- d) Separate shutter assembly from mount.
- e) Separate the shutter from the assembly in the same manner as the Retina III S.

Reassembly

- a) Reassemble shutter to diaphragm and speed scale assembly in the same manner as the Retina III S.
- b) Reassemble shutter assembly to front mount.
- c) Lubricate sparingly: rack, pinions and shutter control disc.
- d) The following figure illustrates the position and timing of the shutter setting mechanism:



2. D I S A S S E M B L Y A N D R E A S S E M B L Y (Continued)

NOTE: There are several slightly different types of mechanism used at this point.
The following notes pertain to the late style versions.

- #1 - When the pinion with small lugs is properly engaged with the disc and rack, there should be approximately 1/16" play between the edge of disc and stop stud.
- #2 - When the pinion with wide lugs is properly engaged with the disc and rack, there should be little or no play between disc and stop stud.

3. SERVICE HINTS

3.1 CHECKING SYNCHRONIZATION OF MIRROR, APERTURE COVER AND SHUTTER

- a) Attach lens and set speed at 1/500 and diaphragm at f/1.9 or f/2.8.
- b) When shutter is tripped a full circular lens opening should be visible.
- c) Re-check at 1/500 and f/22.

3.2 ADJUSTING SYNCHRONIZATION OF MIRROR, APERTURE COVER AND SHUTTER

- a) Adjust initial release or closing of shutter blades (prior to release of mirror) with set screw on body release slide. This can best be adjusted with the front mount in place and with an appropriate screw driver through the meter cord hole in the top of the casting. The small cover plate directly below the flash terminal can be removed to facilitate this adjustment.
- b) Adjust release of aperture cover by mirror, using adjusting screw on cover retainer slide. Aperture cover should be released when mirror is approximately 3/4 of the way up.

3.3 MIRROR AND APERTURE COVER FAIL TO RELEASE

Jamming of the mirror and aperture cover in the down position (aperture cover open approximately 3/8") is caused when the camera receives a severe jar on the bottom. When this happens, the stud on the right side of the mirror bracket slips off the LATCH LEVER (13) and locks behind it, thereby jamming both the mirror and cover.

To release the assemblies, remove the top housing and pentaprism and carefully press the latch lever forward and at the same time depress the mirror latch.

NOTE: Cameras above serial number 805300 are fitted with modified parts designed to prevent the jamming condition. These parts are: (1) the Mirror Latch Lever Assembly (N5187) which has been altered to provide an adjustable lug to prevent mirror from passing the latch and (2) the Lever Guide Strap Assembly (N5060) which has been altered by the addition of a stud to control the excess downward travel of the mirror release lever.

It is recommended that these two parts be fitted to all cameras with serial number below 805300 which are received with jammed mirrors or which require the removal of the front mount for any reason.

3.4 MIRROR BRACKET FAILS TO LATCH

The MIRROR RELEASE LEVER (11) may bind.

The LATCH LEVER (13) may bind or fail to engage LEVER (11).

The latch lever spring may be disengaged or missing.

The mirror bracket may have excessive side play. Correct by installing a new 9 1/2 coil actuating spring (N5186).

3.5 APERTURE COVER FAILS TO CATCH

The aperture cover latch on left side may bind.

The aperture cover latch actuating spring may be disengaged.

3. S E R V I C E H I N T S (Continued)

3.6 SHUTTER FAILS TO SET OR OPEN FOR THE EXPOSURE

The RACK (16) may not travel fully in either direction. Correct with ADJUSTMENT SCREW (14) on rear transfer shaft.

3.7 SHUTTER BLADES REMAIN PARTLY OPEN

This is generally caused when the lugs on the SHUTTER OPENING CONTROL DISC PINION (18) slip out of contact with the slots in the SHUTTER OPENING CONTROL DISC (20).

The trouble can be caused by a bind in the shutter proper or insufficient tension of the flat spring retaining the pinion.

Corrected to JANUARY 1962

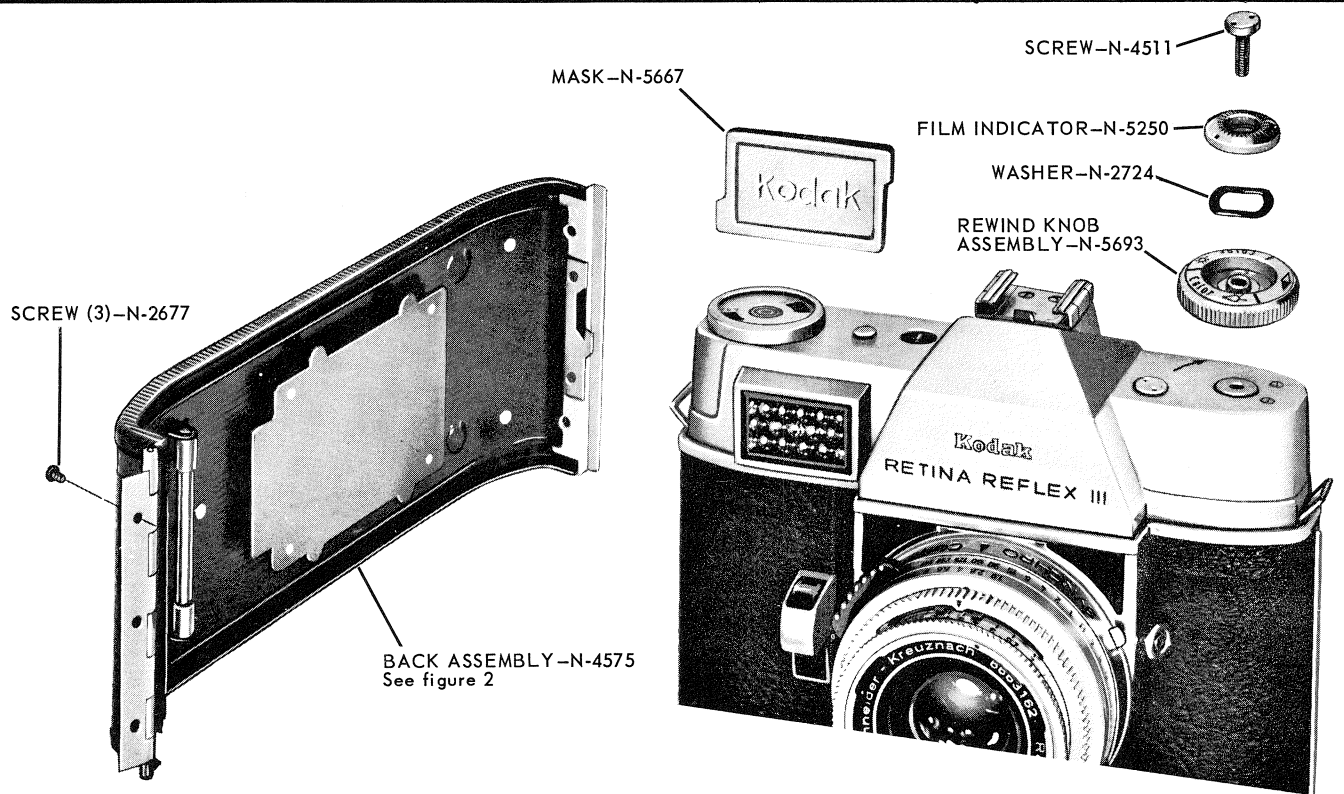
Parts List No. 5542

KODAK RETINA REFLEX III CAMERA

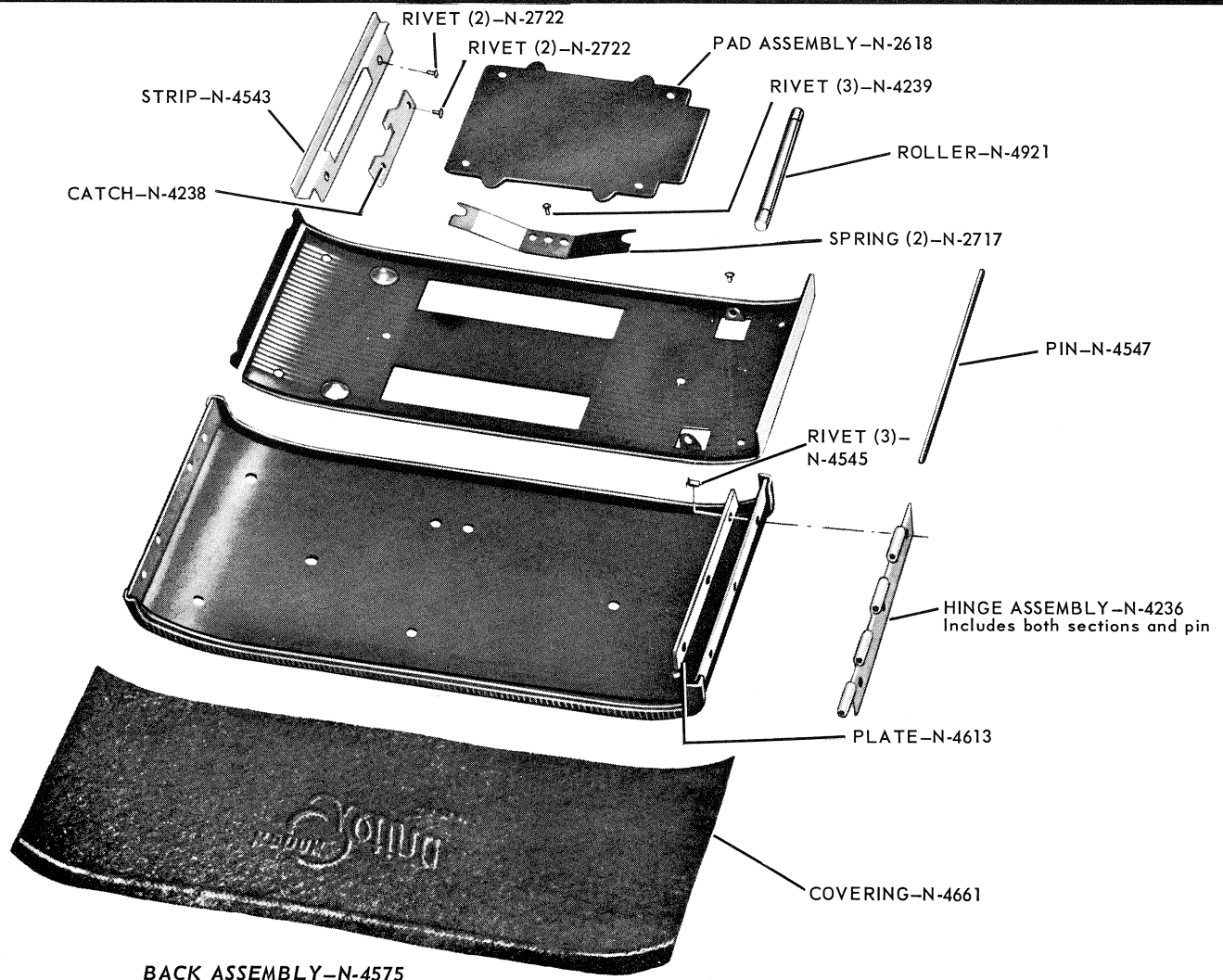
KODAK RETINA FIELD CASE, MODELS F AND G



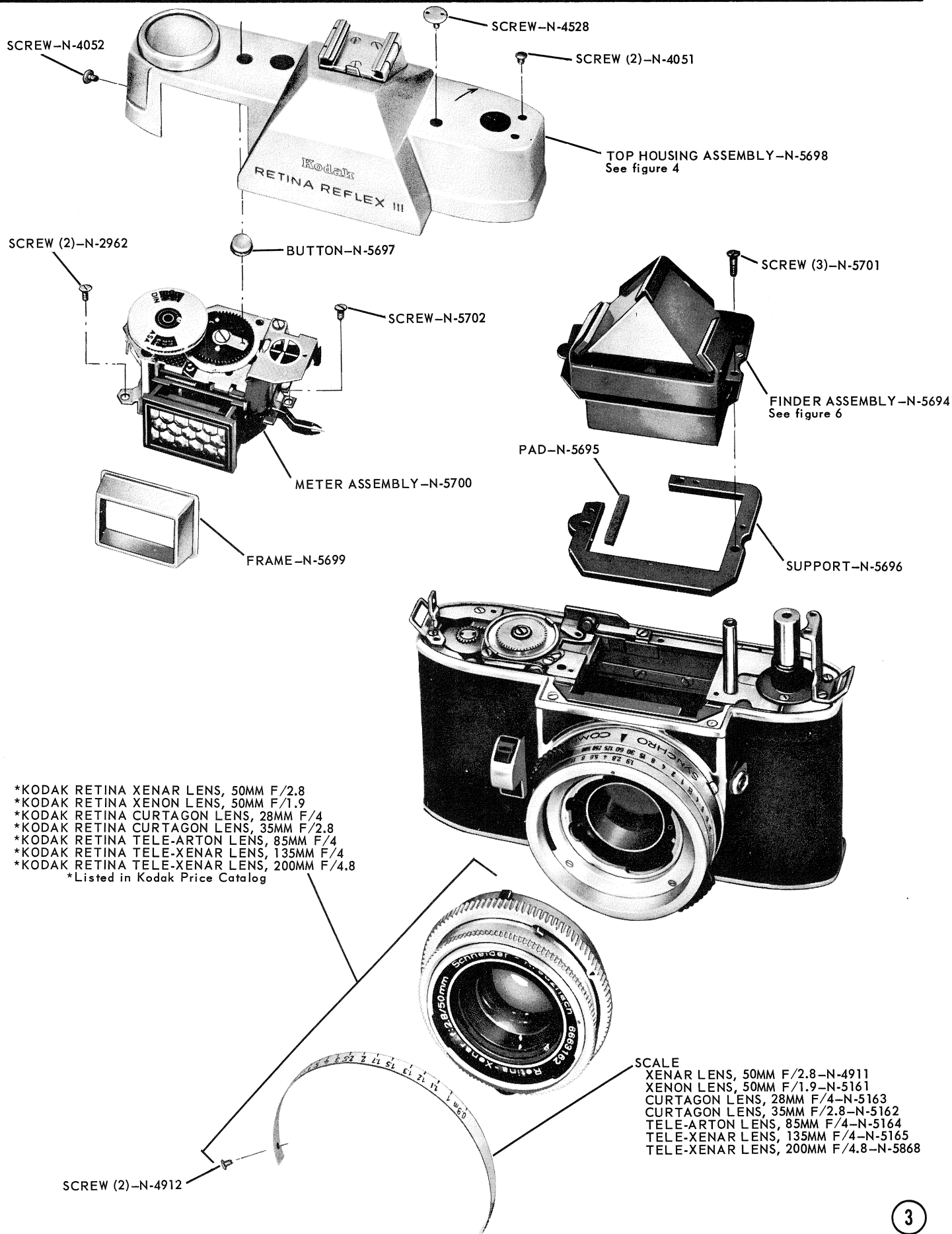
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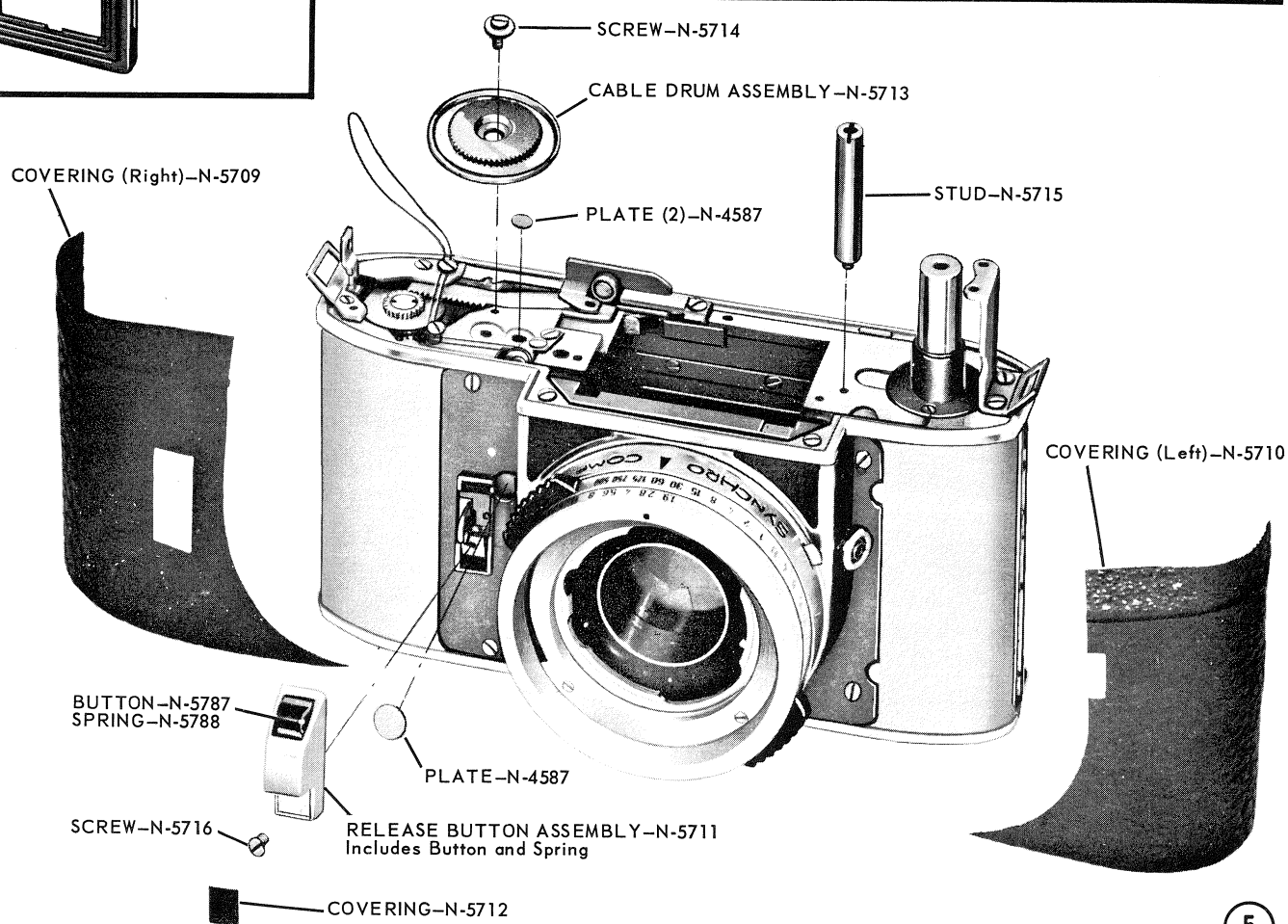
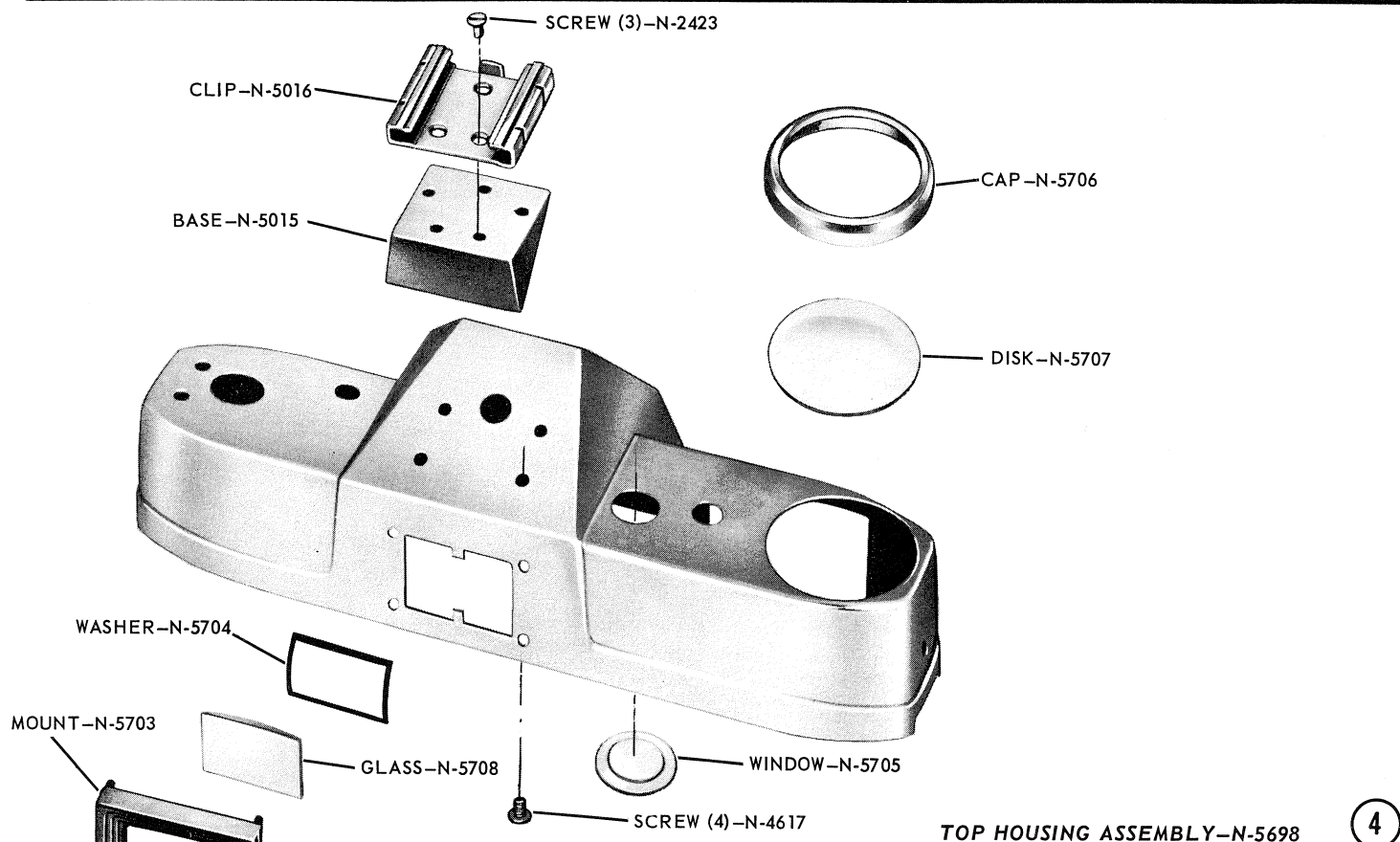


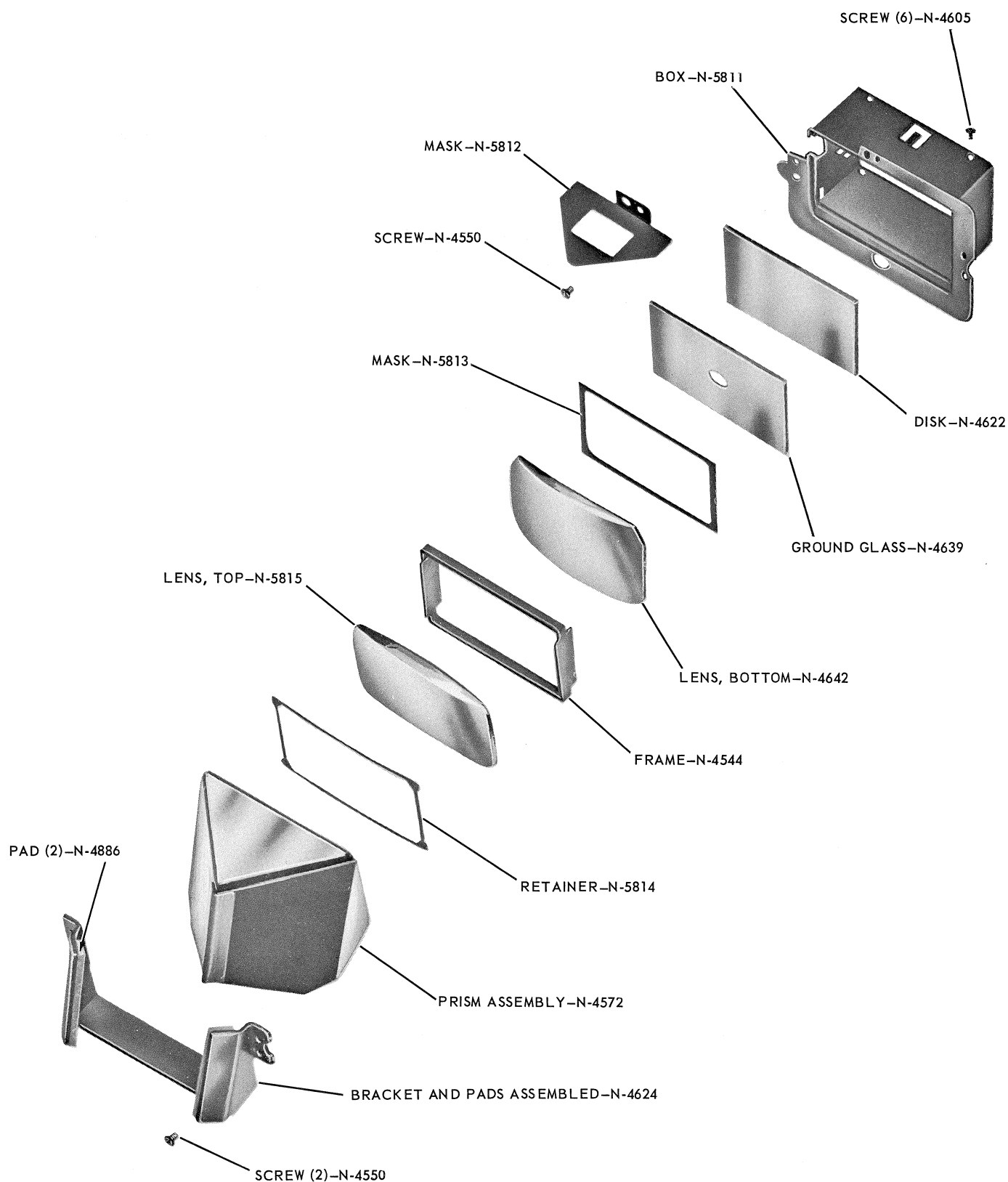
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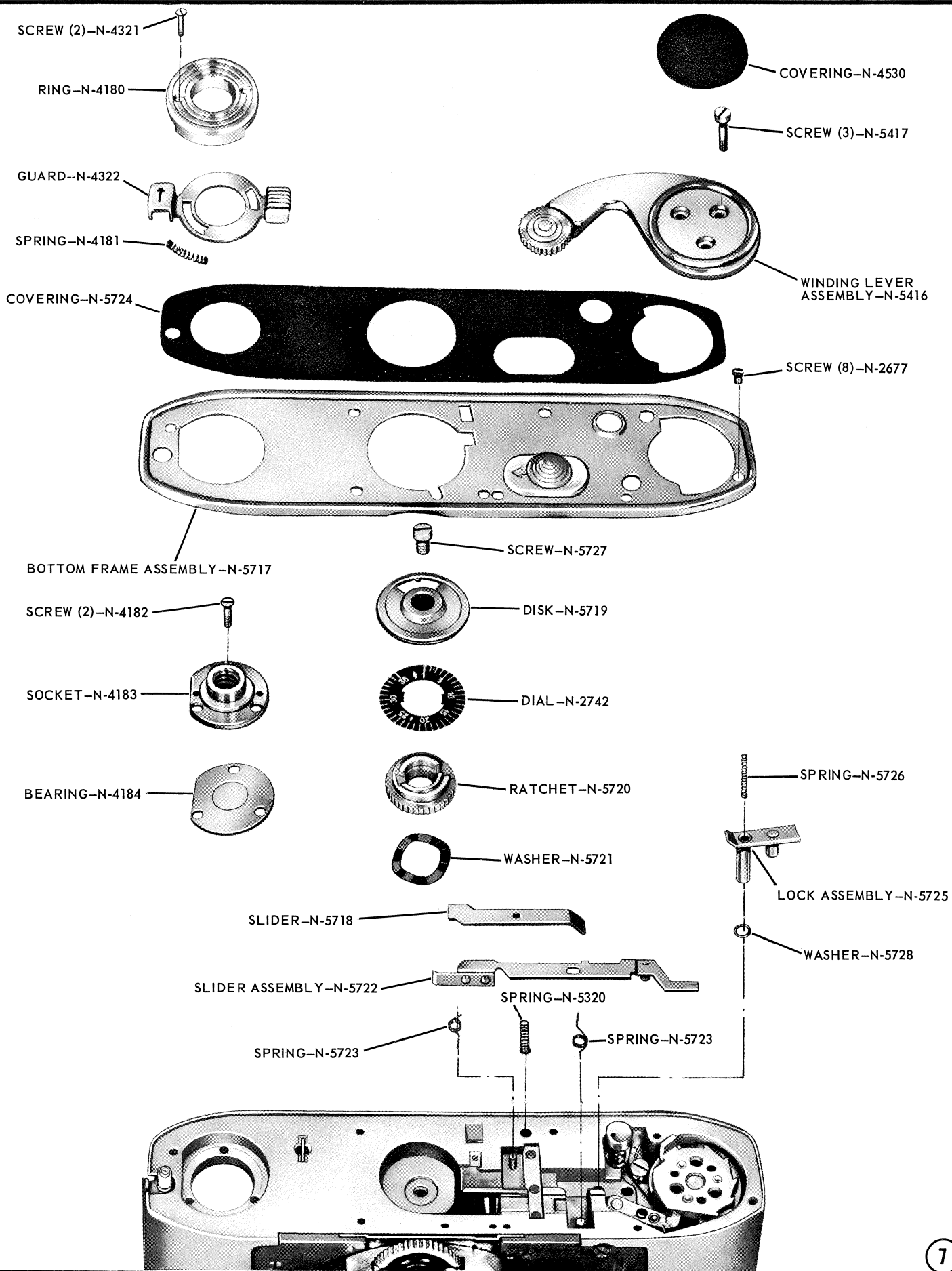


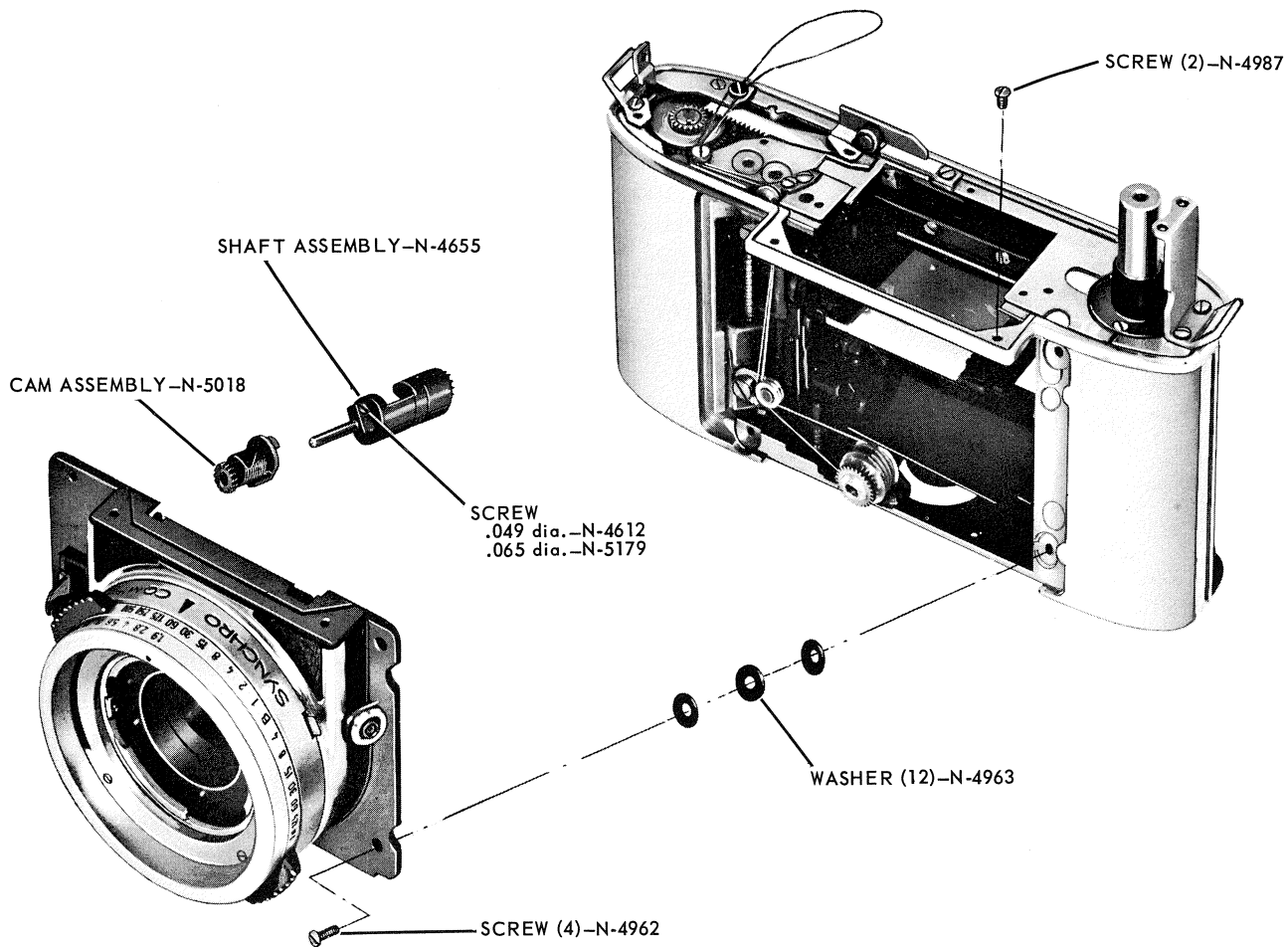




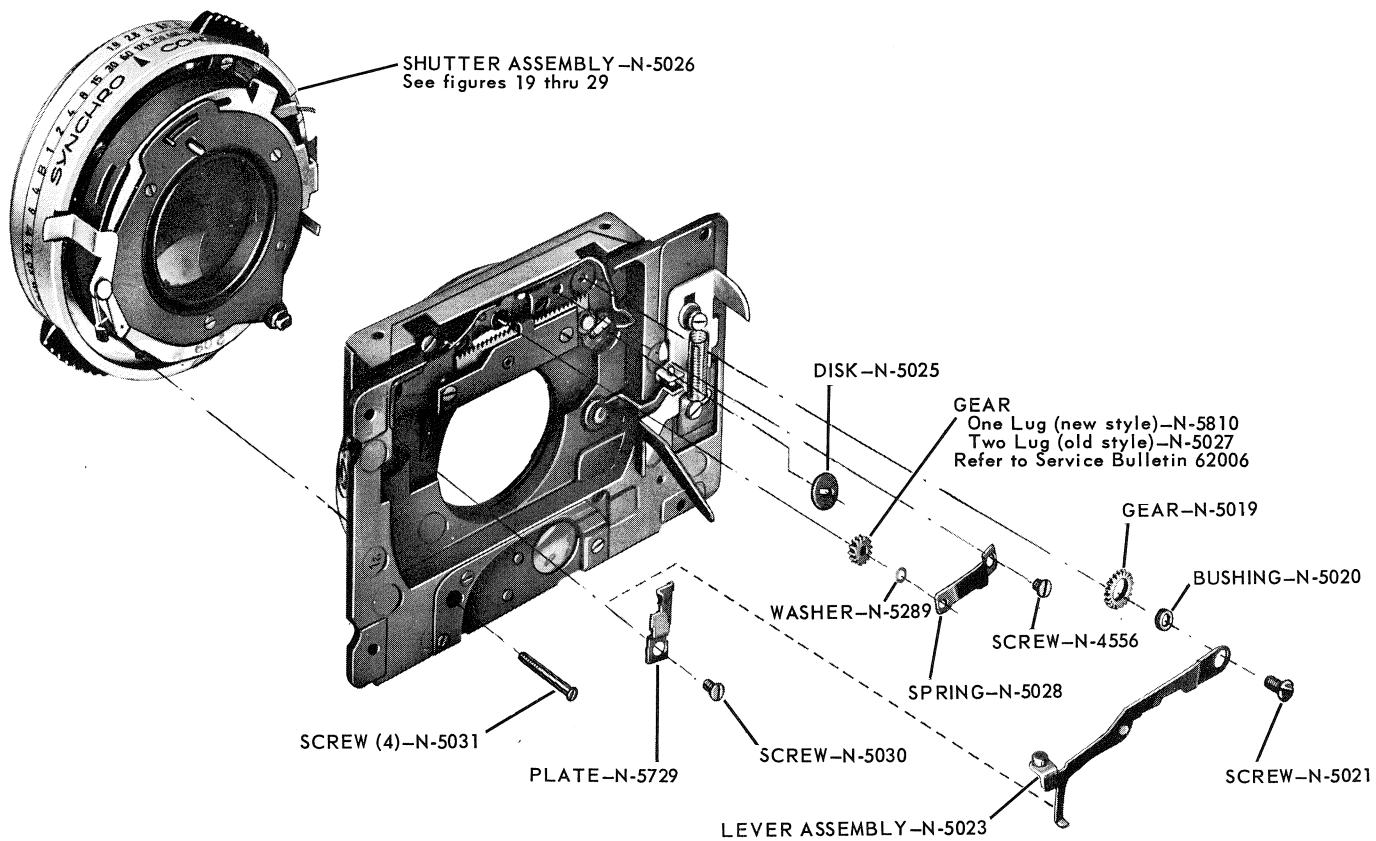
FINDER ASSEMBLY-N-5694

Always give PART NUMBER and NAME when ordering parts

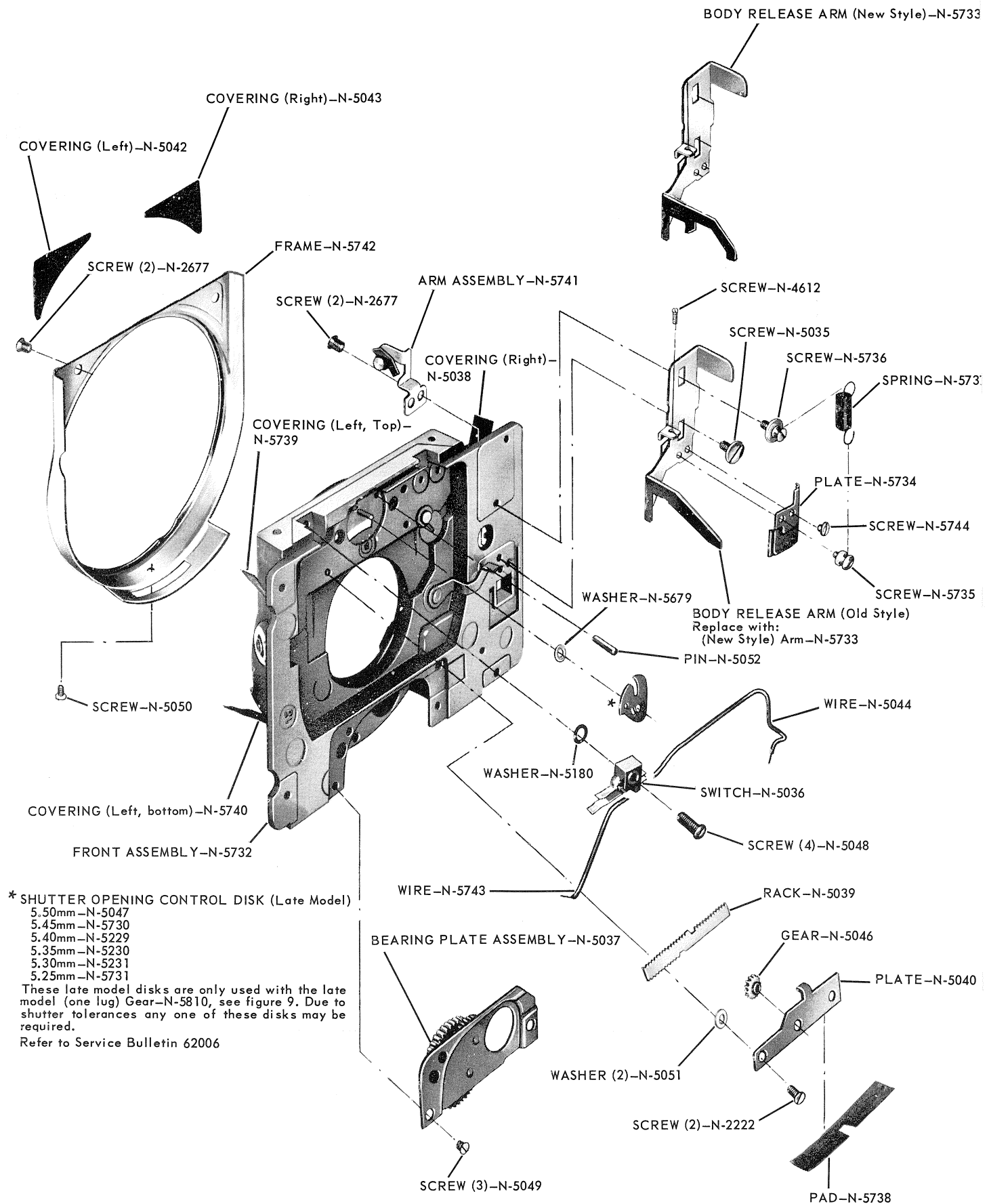




8



9



CLAMP SCREW-N-4540
(To facilitate repairs)

CABLE DRIVE DRUM ASSEMBLY-N-5053

11

SCREW-N-4977

SCREW-N-4552

BEARING-N-4792

BEARING ASSEMBLY-N-5754

SCREW-N-5702

SPRING-N-5411

SCREW (2)-N-2222

SPRING-N-4580

BRACKET (Right)-N-5750

WASHER-N-4593

RACK-N-5747

POST-N-5748

SCREW (2)-N-4099

CORD-N-5746
Refer to Service Manual No. 1192

SCREW-N-5752

ROLLER (2)-N-5751

SCREW (2)-N-4987

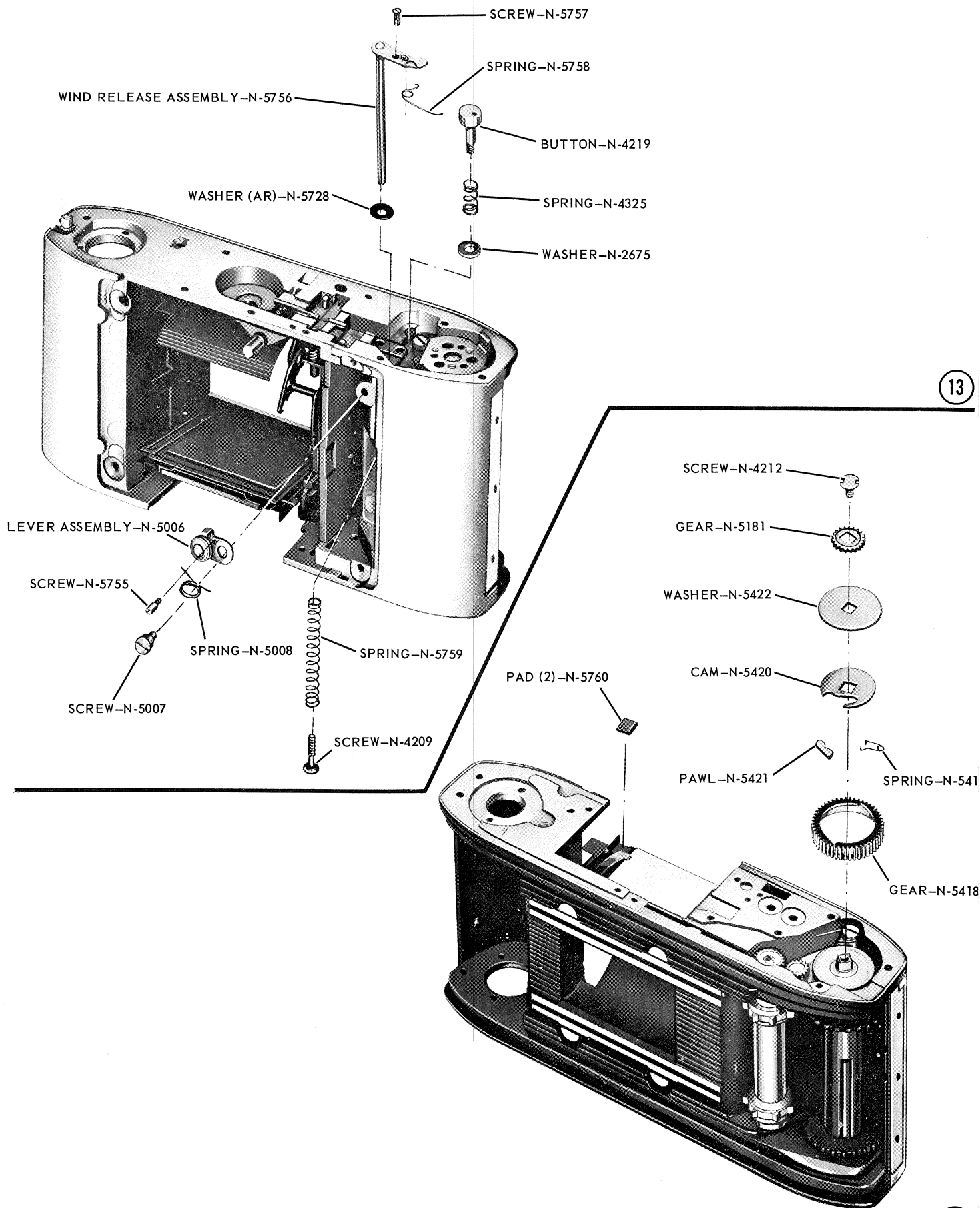
BEARING ASSEMBLY-N-5745

BRACKET (Left)-N-5749

FRAME-N-5054

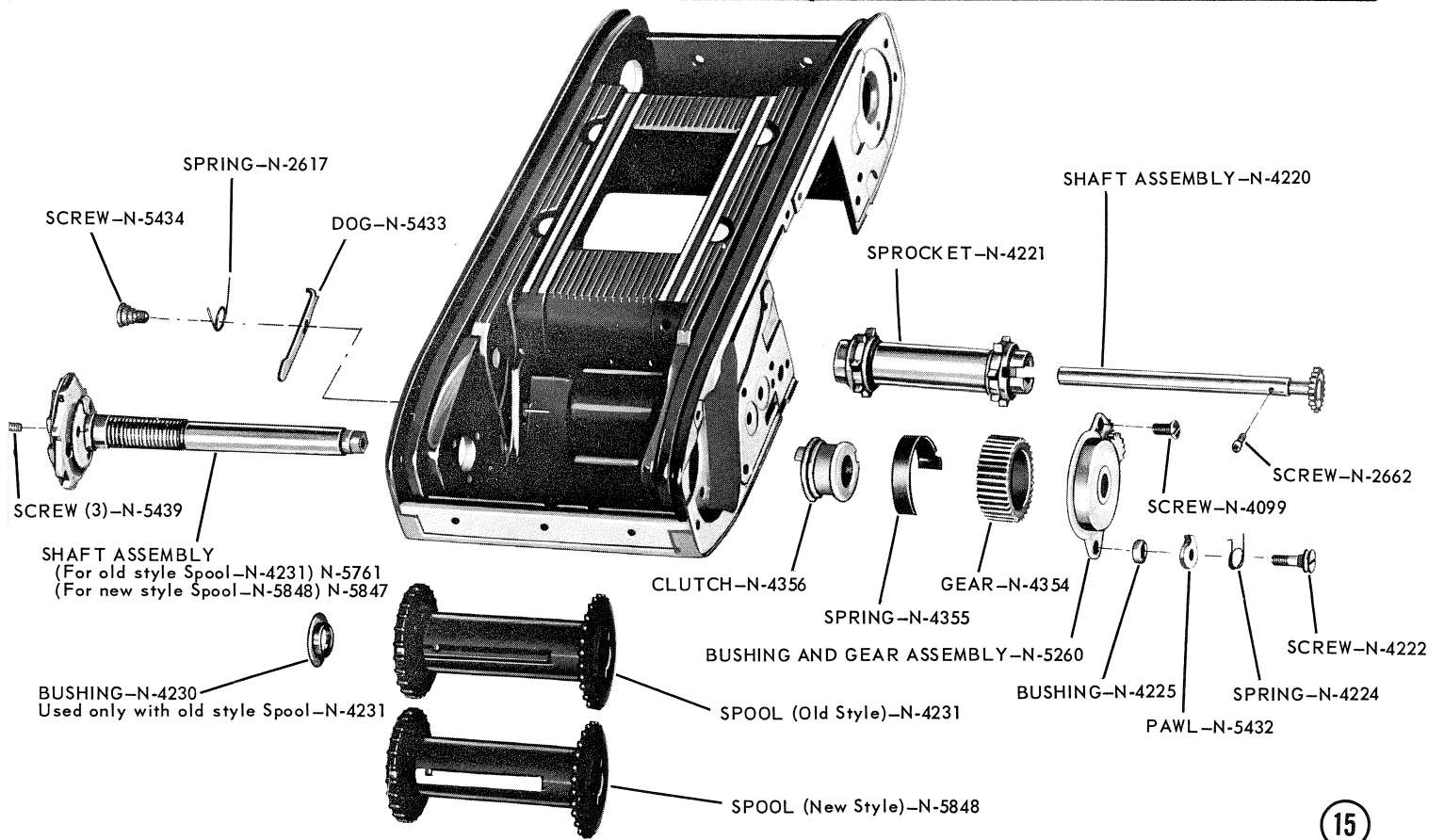
DUST
GUARD-N-5753

12

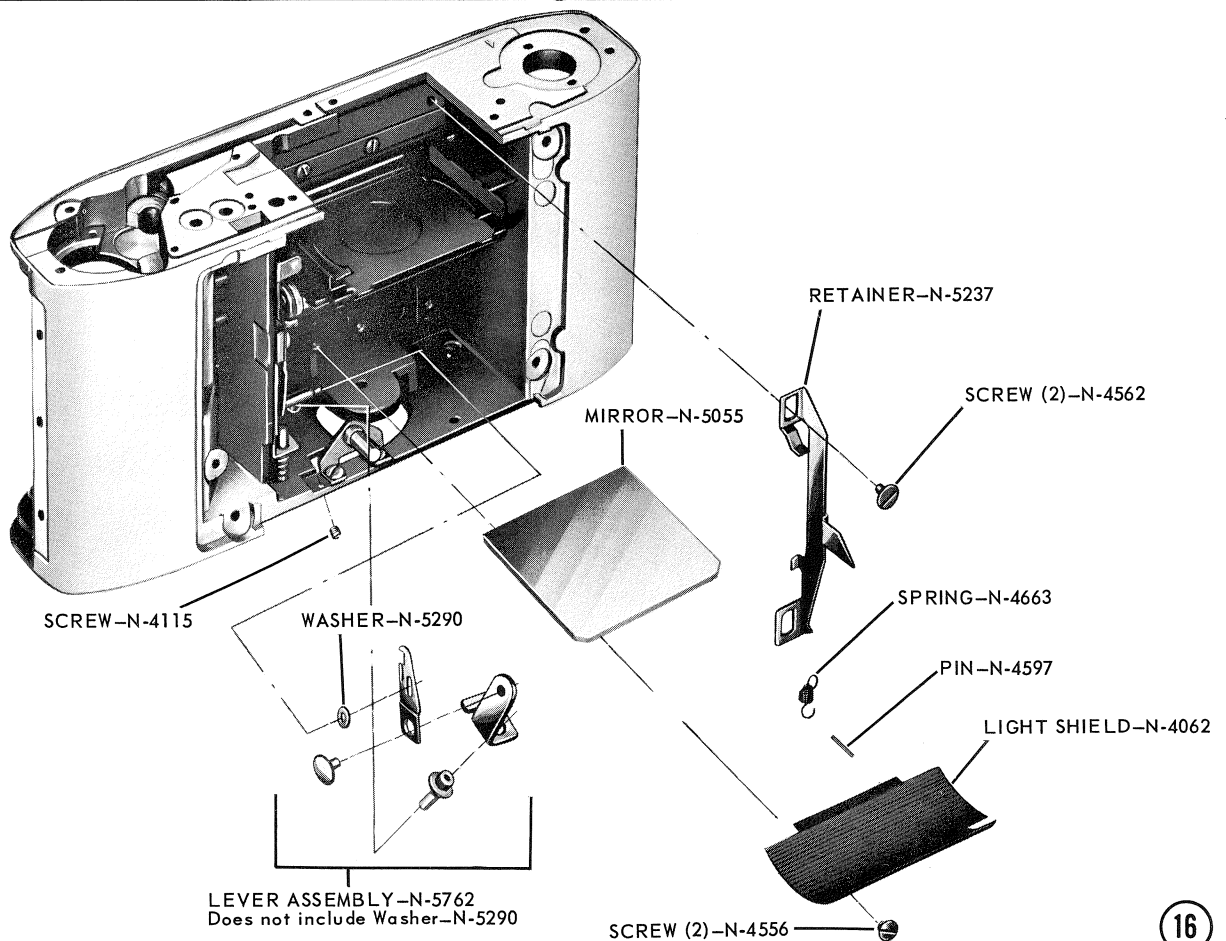


13

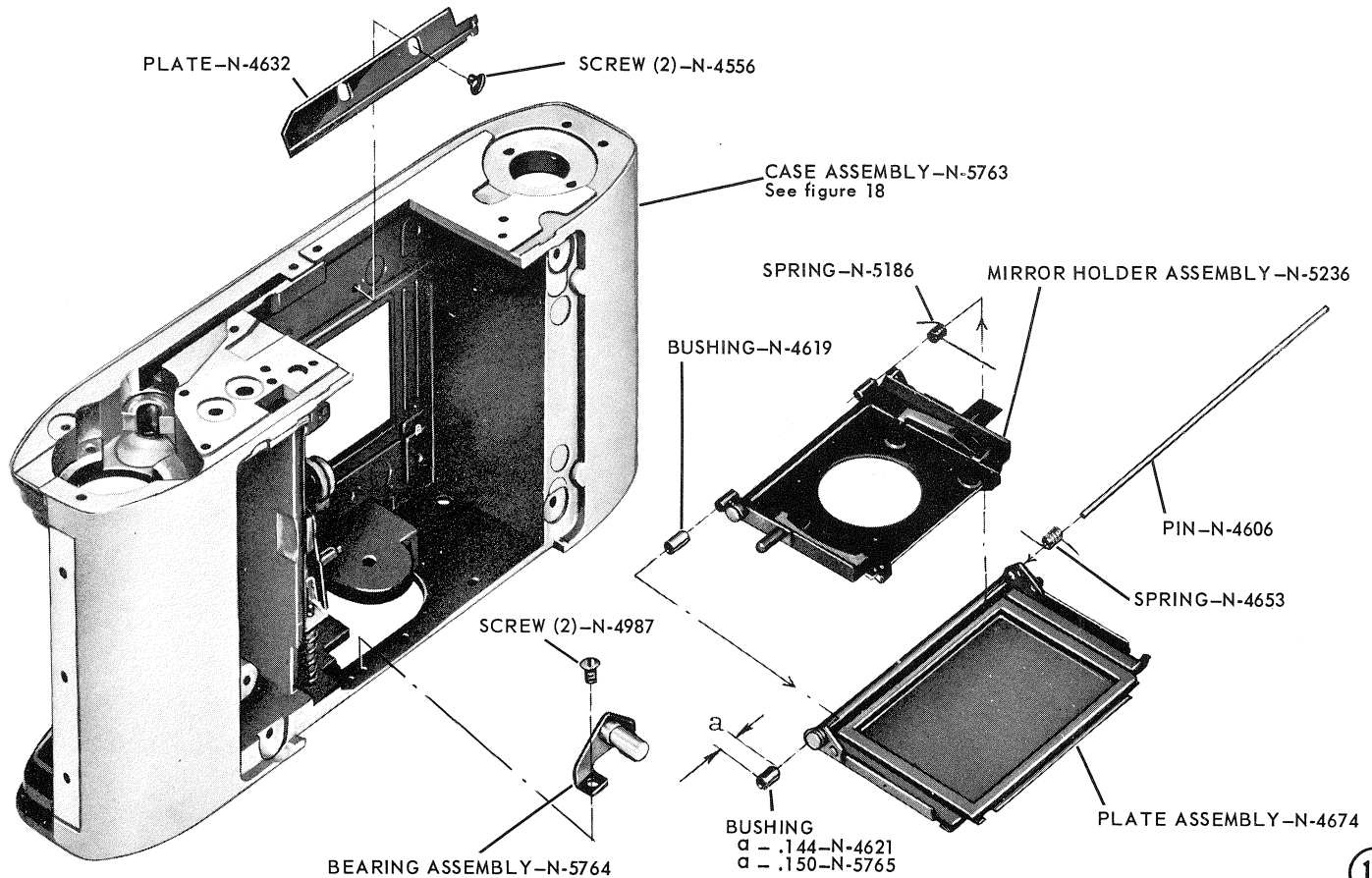
14



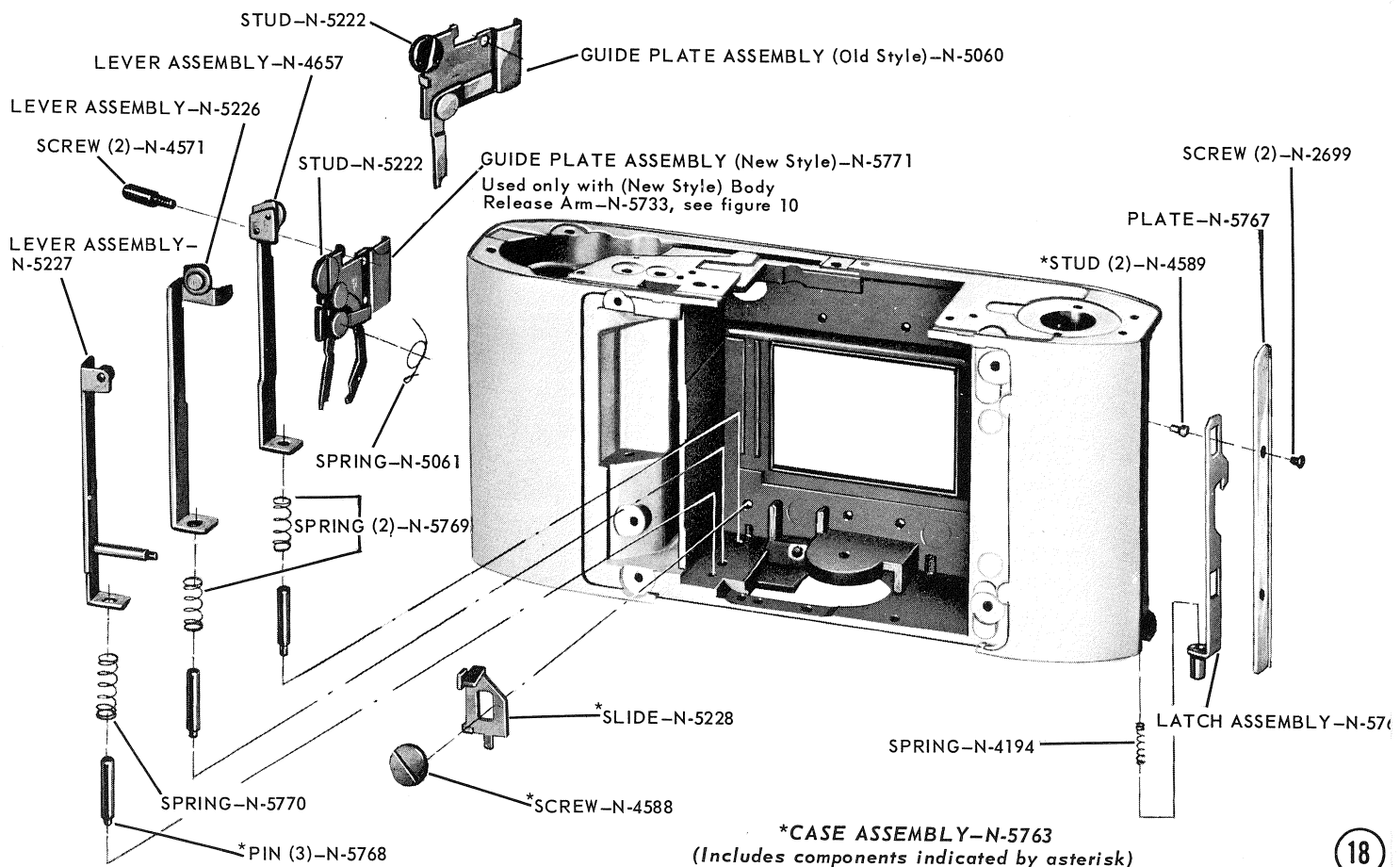
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16

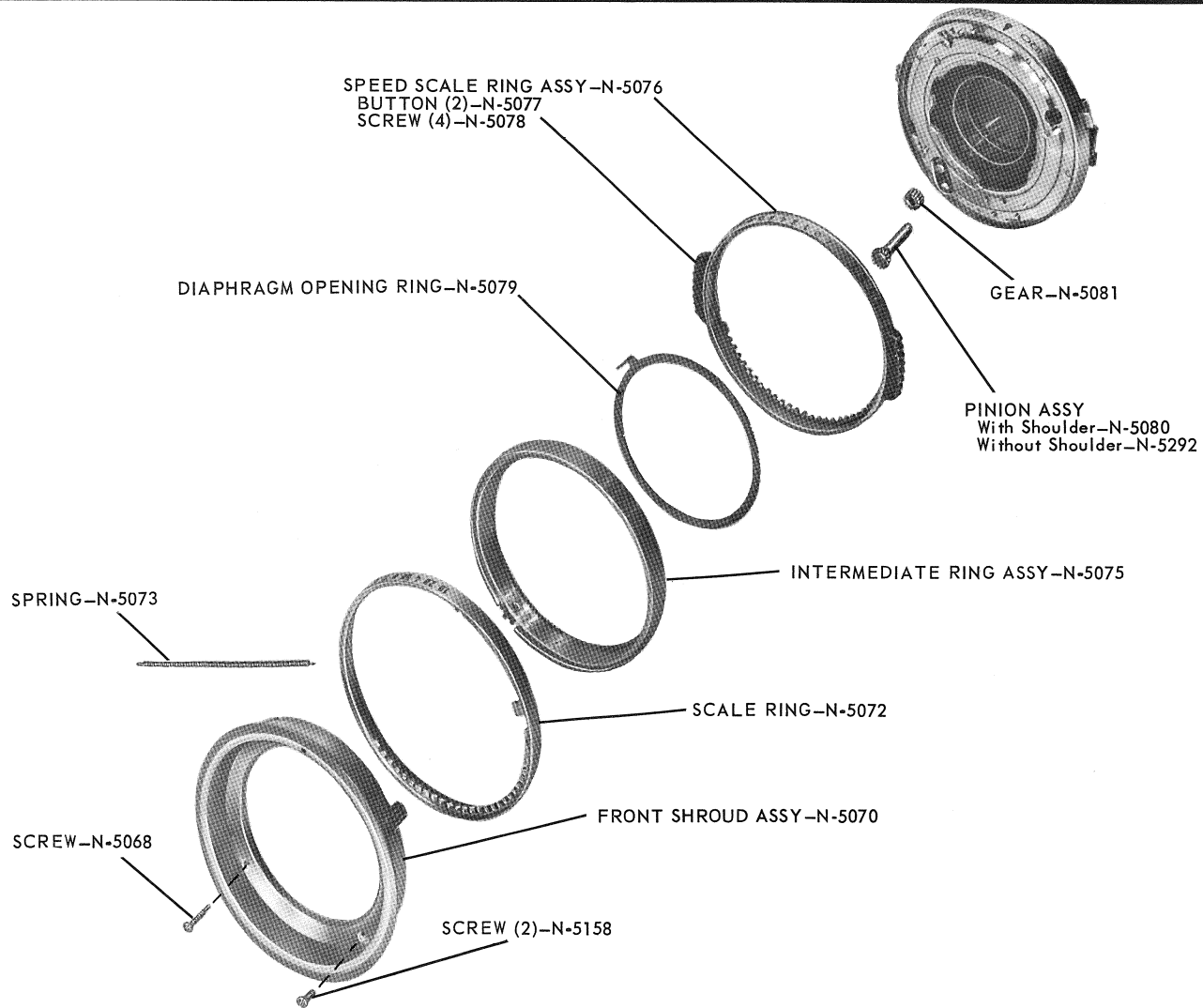


17

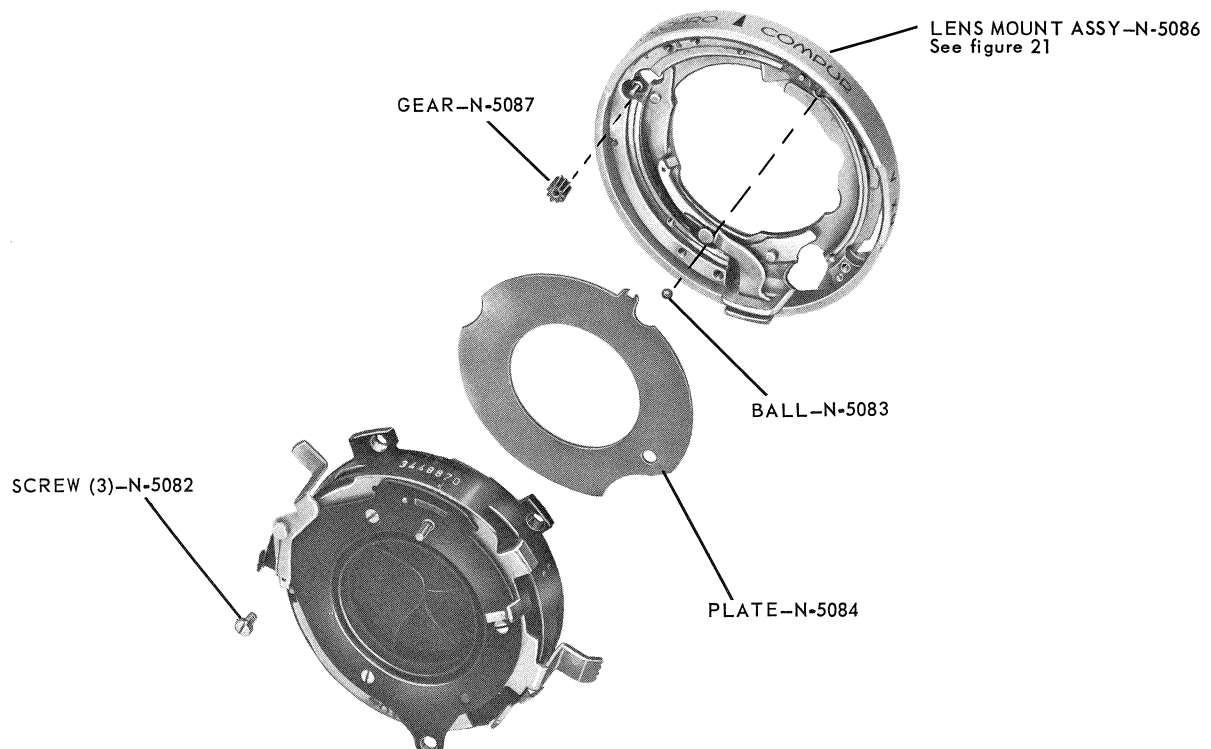


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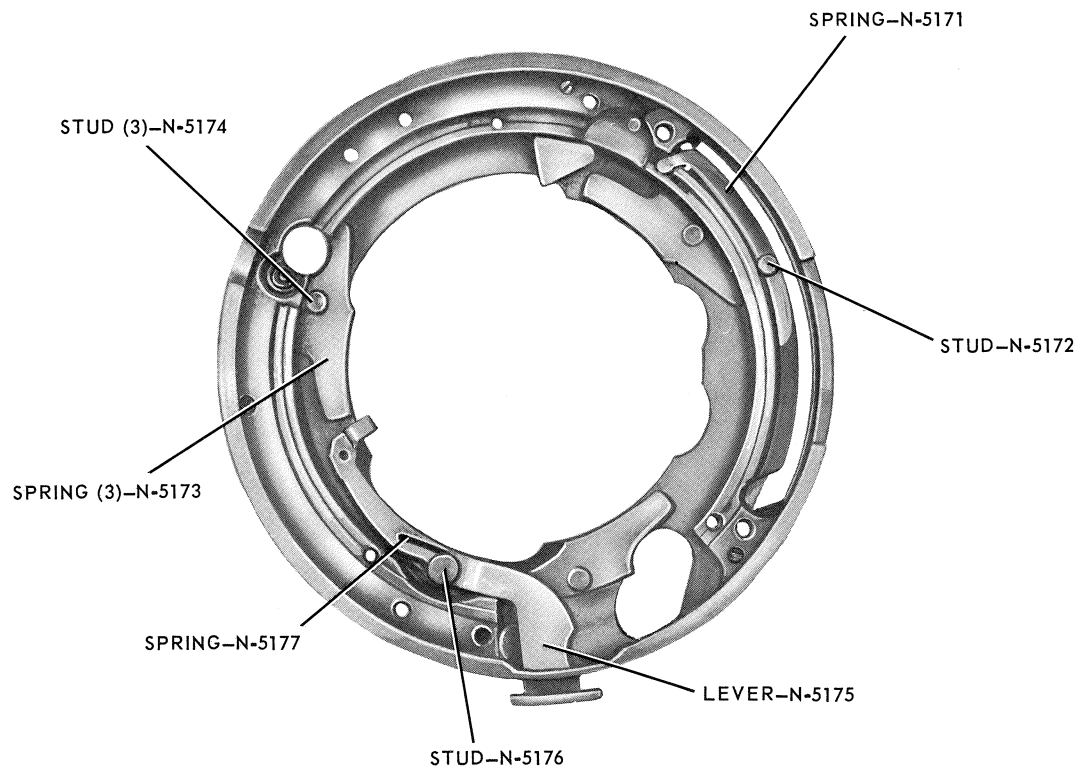
SYNCHRO COMPUR SHUTTER



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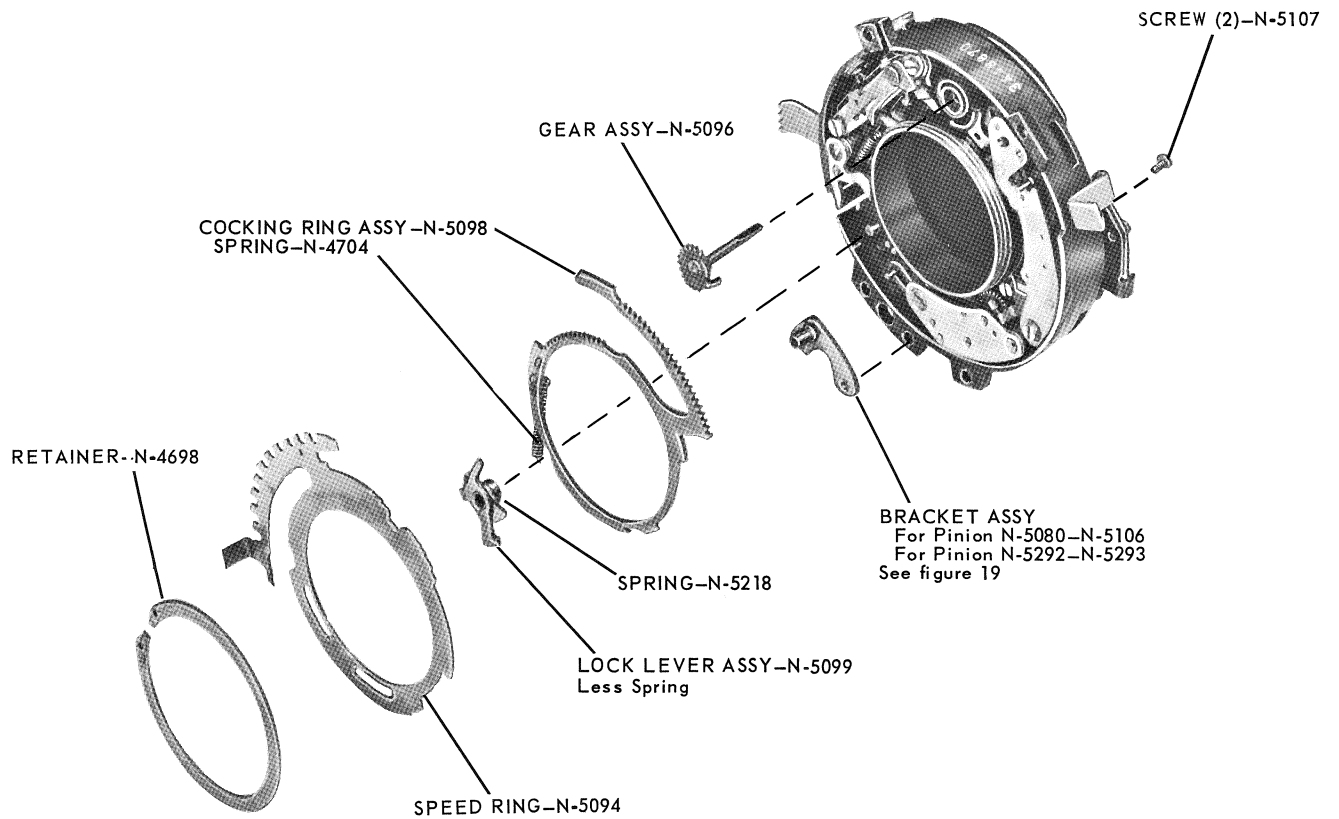


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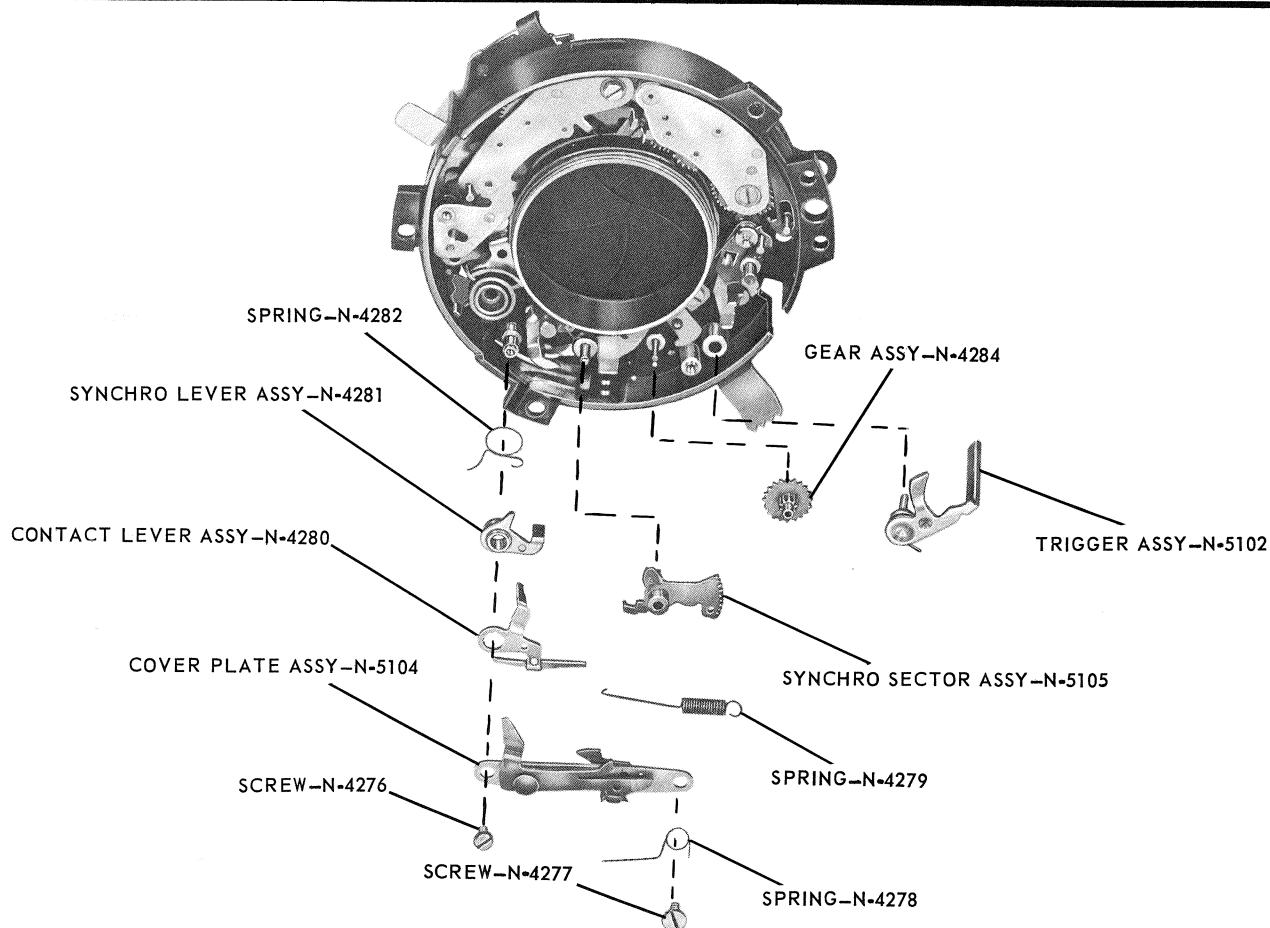


LENS MOUNT ASSEMBLY-N-5086

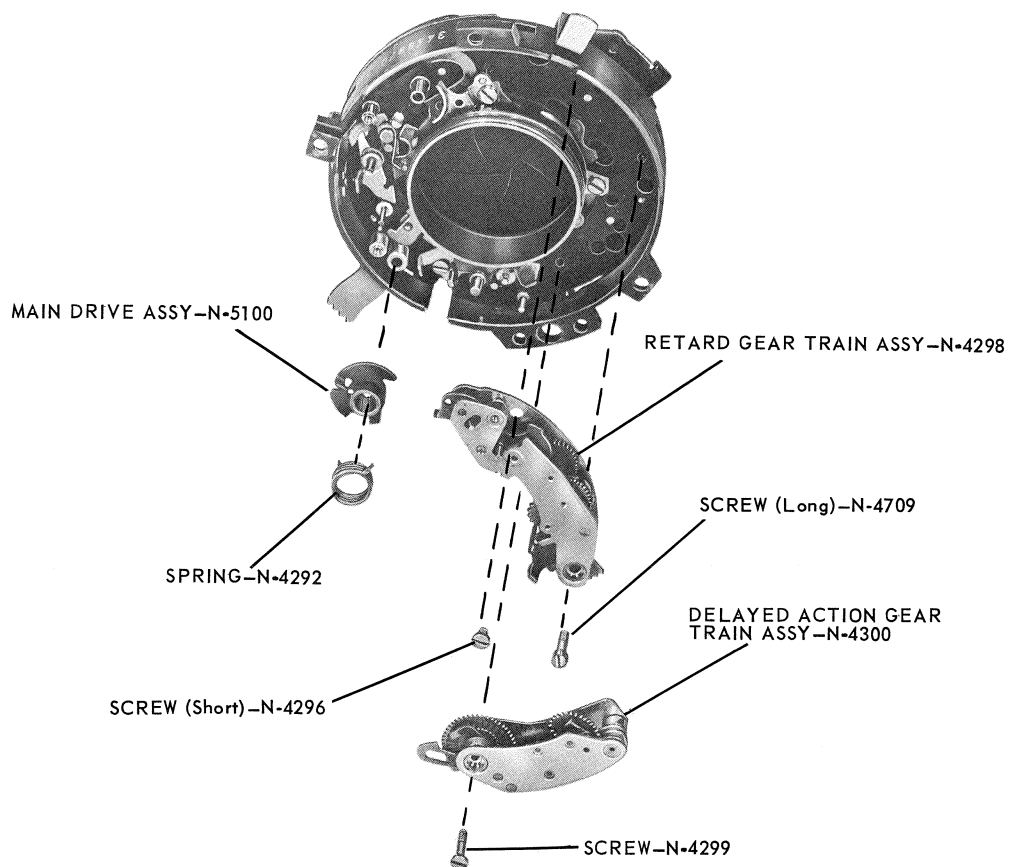
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22

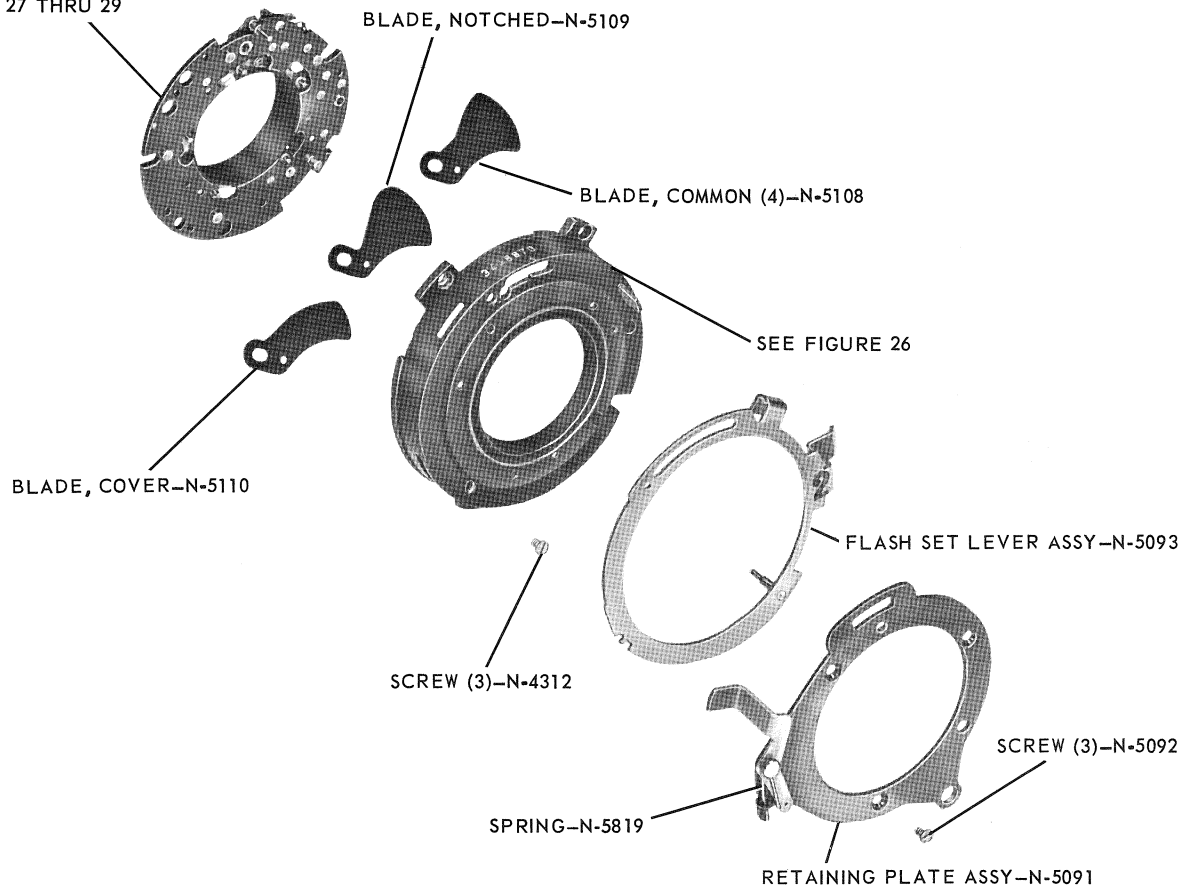


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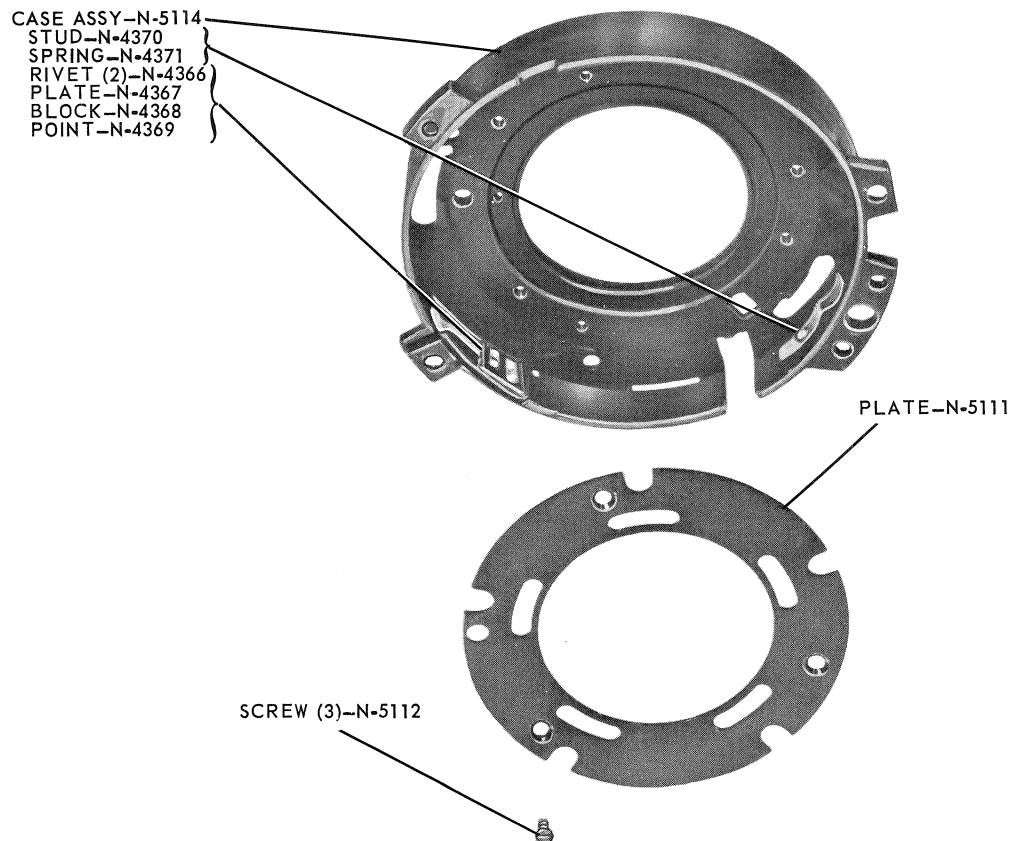


24

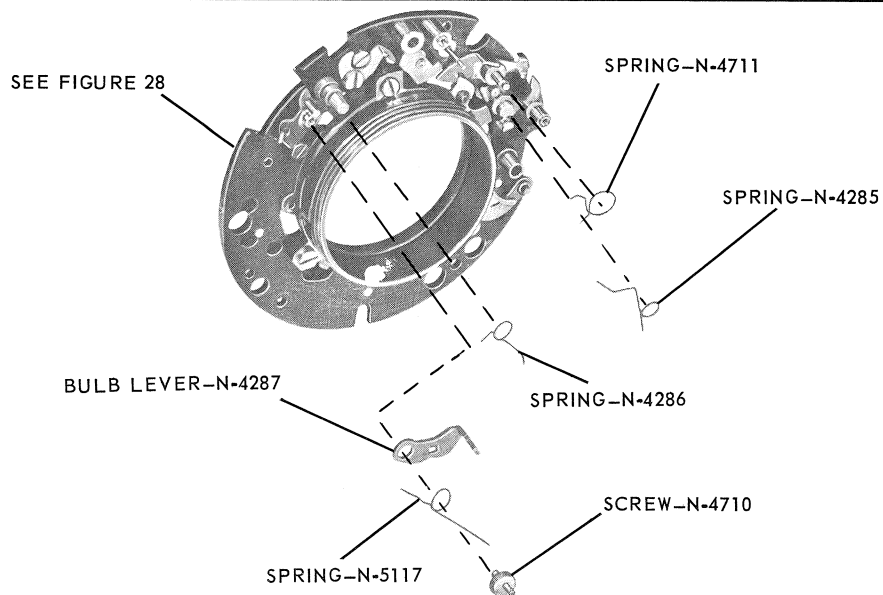
SEE FIGURES 27 THRU 29



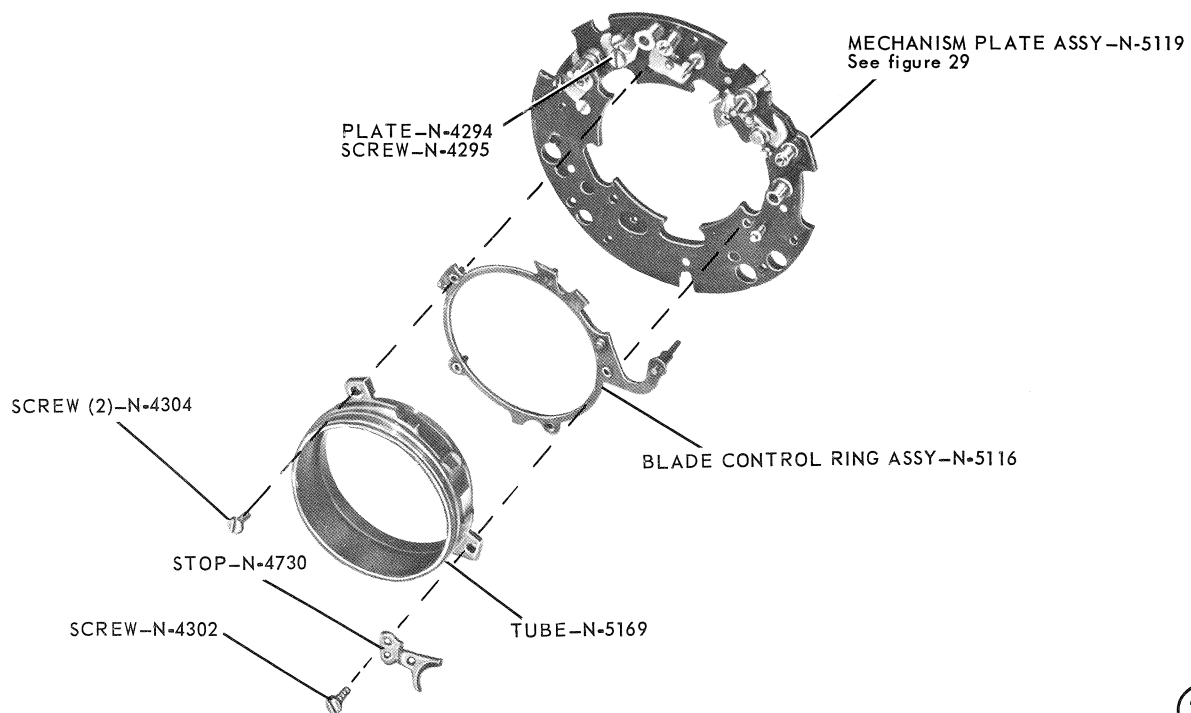
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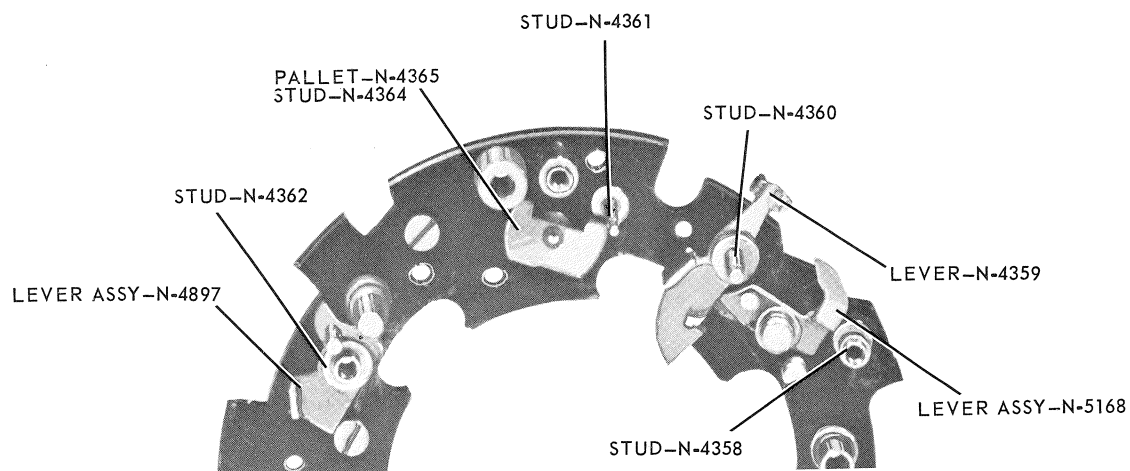
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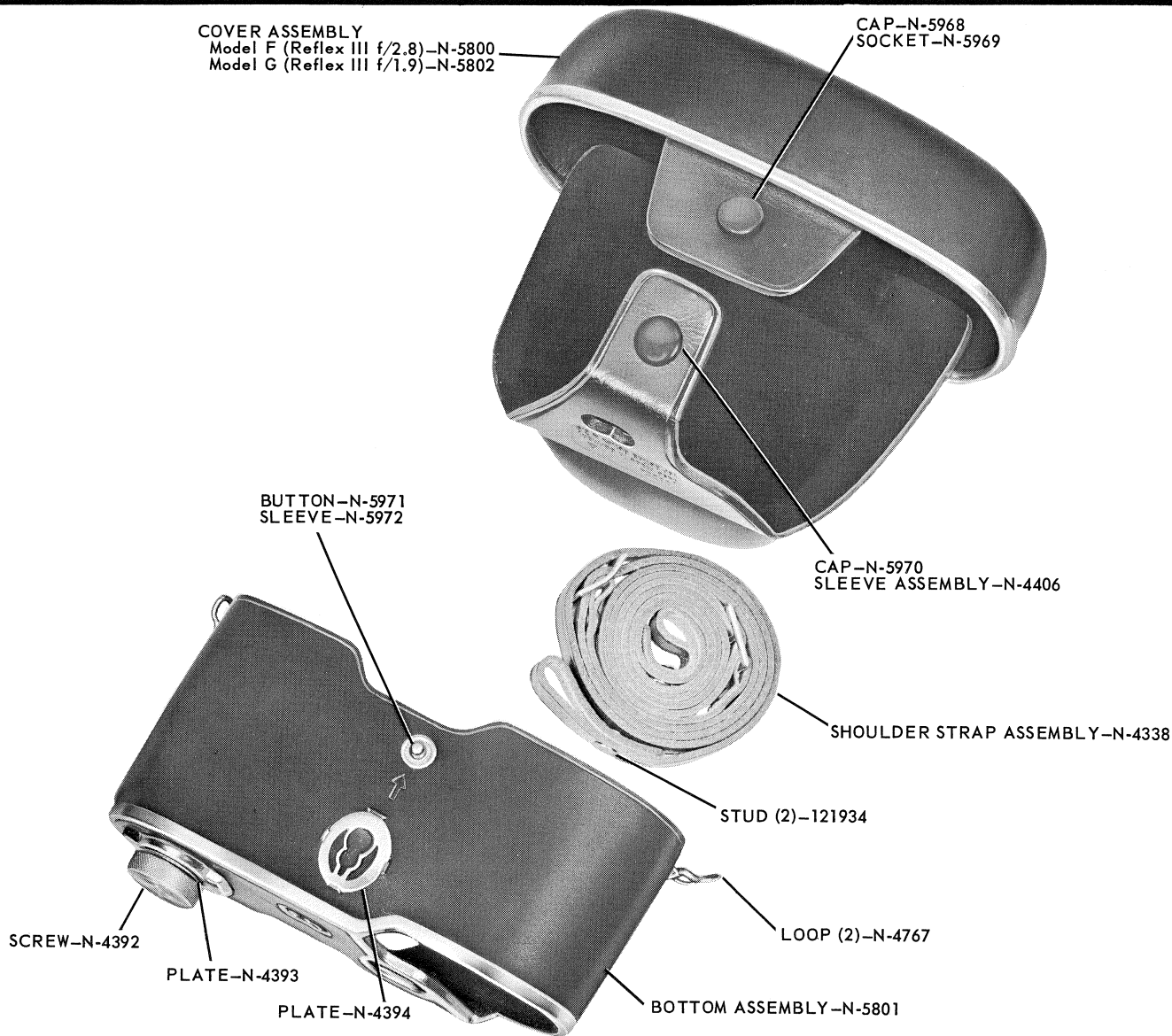
27



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29



KODAK RETINA FIELD CASE, Models F and G

30

KODAK RETINA FIELD CASE, MODELS F and G

PART NO.	PART NAME	FIG.
N-4338	Shoulder Strap Assembly	30
N-4392	Screw - Camera	30
N-4393	Plate - Camera screw retaining	30
N-4394	Plate - Cover stud catch	30
N-4406	Sleeve Assembly	30
N-4767	Loop - Shoulder strap	30
N-5800	Cover Assembly (Model F)	30
N-5801	Bottom Assembly	30
N-5802	Cover Assembly (Model G)	30
N-5968	Cap	30
N-5969	Socket	30
N-5970	Cap	30
N-5971	Button	30
N-5972	Sleeve	30
121934	Stud - Shoulder strap	30

PART NO.	PART NAME	FIG.
	*Kodak Retina Curtagon Lens, 28mm f/4	3
	*Kodak Retina Curtagon Lens, 35mm f/2.8	3
	*Kodak Retina Tele-Arton Lens, 85mm f/4.	3
	*Kodak Retina Xenon Lens, 50mm f/1.9.	3
	*Kodak Retina Xenar Lens, 50mm f/2.8	3
	*Kodak Retina Tele-Xenar Lens, 135mm f/4.	3
	*Kodak Retina Tele-Xenar Lens, 200mm f/4.8	3
N-2222	Screw.	10
N-2423	Screw.	4
N-2617	Spring	15
N-2618	Pressure Pad Assembly	2
N-2662	Screw.	15
N-2675	Washer.	13
N-2677	Screw.	1
N-2699	Screw.	18
N-2717	Spring	2
N-2722	Rivet	2
N-2724	Washer.	1
N-2742	Dial - Film Counter	7
N-2962	Screw.	3
N-4051	Screw.	3
N-4052	Screw.	3
N-4099	Screw.	12
N-4115	Screw.	16
N-4180	Ring - Tripod Socket.	7
N-4181	Spring - Back Latch Button Guard.	7
N-4182	Screw.	7
N-4183	Socket - Tripod	7
N-4184	Bearing - Film Casette.	7
N-4194	Spring	18
N-4209	Screw.	13
N-4212	Screw.	14
N-4219	Button - Rewind Release	13
N-4220	Sprocket Shaft Assembly	15
N-4221	Sprocket - Film.	15
N-4222	Screw.	15
N-4224	Spring	15
N-4225	Bushing	15
N-4230	Bushing	15
N-4231	Spool	15
N-4236	Hinge Assembly.	2
N-4238	Catch - Back.	2
N-4239	Rivet	2
N-4321	Screw.	7
N-4322	Guard - Back Catch Button.	7
N-4325	Spring	13
N-4354	Gear - Clutch	15
N-4355	Spring - Clutch	15
N-4356	Clutch	15
N-4511	Screw.	1
N-4528	Screw.	3
N-4530	Covering - Winding Lever	7
N-4540	Screw.	11
N-4543	Strip - Back	2
N-4544	Frame - Finder.	6
N-4545	Rivet	2
N-4547	Pin - Hinge.	2
N-4550	Screw.	6
N-4552	Screw.	12
N-4556	Screw.	9
N-4562	Screw.	16

*Listed in Kodak Price Catalog

Always give PART NUMBER and NAME when ordering parts

PART NO.	PART NAME	FIG.
N-4571	Screw.	18
N-4572	Prism - Finder	6
N-4575	Back Assembly	1
N-4580	Spring	12
N-4587	Plate	5
N-4588	Screw.	18
N-4589	Stud.	18
N-4593	Washer.	12
N-4597	Pin - Mirror Bracket Spring	16
N-4602	Shield - Light	16
N-4605	Screw.	6
N-4606	Pin	17
N-4612	Screw - .047 dia.	8
N-4613	Plate	2
N-4617	Screw.	4
N-4619	Bushing	17
N-4621	Bushing - .144.	17
N-4622	Disk - Finder	6
N-4624	Finder Bracket and Pads Assembled	6
N-4632	Plate	17
N-4639	Glass - Finder Ground	6
N-4642	Lens - Finder, Bottom	6
N-4653	Spring	17
N-4655	Shaft Assembly	8
N-4657	Lever Assembly.	18
N-4661	Covering - Back.	2
N-4663	Spring	16
N-4674	Plate Assembly	17
N-4792	Bearing - Rewind Post	12
N-4886	Pad - Finder Bracket	6
N-4911	Scale - Kodak Retina Xenar Lens, 50mm f/2.8.	3
N-4912	Screw.	3
N-4921	Roller - Film	2
N-4962	Screw.	8
N-4963	Washer.	8
N-4977	Screw.	12
N-4987	Screw.	8
N-5006	Lever Assembly.	13
N-5007	Screw.	13
N-5008	Spring	13
N-5015	Base - Clip.	4
N-5016	Clip.	4
N-5018	Cam Assembly.	8
N-5019	Gear	9
N-5020	Bushing	9
N-5021	Screw.	9
N-5023	Lever Assembly.	9
N-5025	Disk.	9
N-5026	Synchro Compur Shutter Assembly	9
N-5027	Gear - Two Lug.	9
N-5028	Spring	9
N-5030	Screw.	9
N-5031	Screw.	9
N-5035	Screw.	10
N-5036	Switch	10
N-5037	Bearing Plate Assembly	10
N-5038	Covering - Front, Right.	10
N-5039	Rack	10
N-5040	Plate	10
N-5042	Covering - Front Frame, Left	10
N-5043	Covering - Front Frame, Right.	10

PART NO.	PART NAME	FIG.
N-5044	Wire - Switch	10
N-5046	Gear	10
N-5047	Disk - Shutter opening control, 5.50mm	10
N-5048	Screw.	10
N-5049	Screw.	10
N-5050	Screw.	10
N-5051	Washer.	10
N-5052	Pin	10
N-5053	Cable Drum Assembly.	11
N-5054	Frame - Top.	12
N-5055	Mirror.	16
N-5060	Guide Plate Assembly (Old Style)	18
N-5061	Spring	18
N-5161	Scale - Kodak Retina Xenon Lens, 50mm f/1.9.	3
N-5162	Scale - Kodak Retina Curtagon Lens, 35mm f/2.8.	3
N-5163	Scale - Kodak Retina Curtagon Lens, 28mm f/4.	3
N-5164	Scale - Kodak Retina Tele-Arton Lens, 85mm f/4	3
N-5165	Scale - Kodak Retina Tele-Xenar Lens, 135mm f/4	3
N-5179	Screw - .065 dia.	8
N-5180	Washer.	10
N-5181	Gear - Winding Shaft.	14
N-5186	Spring	17
N-5222	Stud.	18
N-5226	Lever Assembly.	18
N-5227	Lever Assembly.	18
N-5228	Slide	18
N-5229	Disk - Shutter opening control, 5.40mm	10
N-5230	Disk - Shutter opening control, 5.35mm	10
N-5231	Disk - Shutter opening control, 5.30mm	10
N-5236	Mirror Holder Assembly.	17
N-5237	Retainer.	16
N-5250	Indicator - Film.	1
N-5260	Bushing and Gear Assembly.	15
N-5289	Washer.	9
N-5290	Washer.	16
N-5320	Spring	7
N-5411	Spring	12
N-5416	Winding Lever Assembly.	7
N-5417	Screw.	7
N-5418	Gear	14
N-5419	Spring	14
N-5420	Cam.	14
N-5421	Pawl	14
N-5422	Washer.	14
N-5432	Pawl	15
N-5433	Dog - Rewind Release.	15
N-5434	Screw.	15
N-5439	Screw.	15
N-5667	Mask - Meter	1
N-5679	Washer.	10
N-5693	Rewind Knob Assembly	1
N-5694	Finder Assembly	3
N-5695	Pad	3
N-5696	Support - Finder	3
N-5697	Button	3
N-5698	Top Housing Assembly	3
N-5699	Frame - Meter	3
N-5700	Meter Assembly.	3
N-5701	Screw.	3
N-5702	Screw.	3
N-5703	Mount.	4

PART NO.	PART NAME	FIG.
N-5704	Washer.	4
N-5705	Window.	4
N-5706	Cap	4
N-5707	Disk.	4
N-5708	Glass - Eyepiece	4
N-5709	Covering - Case, Right	5
N-5710	Covering - Case, Left	5
N-5711	Release Button Assembly.	5
N-5712	Covering - Release Button.	5
N-5713	Cable Drum Assembly.	5
N-5714	Screw.	5
N-5715	Stud.	5
N-5716	Screw.	5
N-5717	Bottom Frame Assembly.	7
N-5718	Slider - Lock.	7
N-5719	Disk - Counter Index.	7
N-5720	Ratchet.	7
N-5721	Washer.	7
N-5722	Slider Assembly.	7
N-5723	Spring	7
N-5724	Covering - Bottom	7
N-5725	Lock Assembly	7
N-5726	Spring	7
N-5727	Screw.	7
N-5728	Washer.	7
N-5729	Plate	9
N-5730	Disk - Shutter opening control, 5.45mm	10
N-5731	Disk - Shutter opening control, 5.25mm	10
N-5732	Front Assembly.	10
N-5733	Arm - Body release (New Style)	10
N-5734	Plate	10
N-5735	Screw.	10
N-5736	Screw.	10
N-5737	Spring	10
N-5738	Pad	10
N-5739	Covering - Front, top left	10
N-5740	Covering - Front, bottom left.	10
N-5741	Arm Assembly.	10
N-5742	Frame - Front.	10
N-5743	Wire - Switch	10
N-5744	Screw.	10
N-5745	Bearing Assembly	12
N-5746	Cord - Transmission	12
N-5747	Rack	12
N-5748	Post - Rewind	12
N-5749	Bracket - Carrying strap, left	12
N-5750	Bracket - Carrying strap, right	12
N-5751	Roller	12
N-5752	Screw.	12
N-5753	Guard - Dust.	12
N-5754	Bearing Assembly	12
N-5755	Screw.	13
N-5756	Wind Release Assembly.	13
N-5757	Screw.	13
N-5758	Spring	13
N-5759	Spring	13
N-5760	Pad	14
N-5761	Shaft Assembly	15
N-5762	Mirror Retaining Lever Assembly.	16
N-5763	Case Assembly	17
N-5764	Bearing Assembly	17

PART NO.	PART NAME	FIG.
N-5765	Bushing - .150	17
N-5766	Back Latch Assembly	18
N-5767	Plate	18
N-5768	Pin	18
N-5769	Spring	18
N-5770	Spring	18
N-5771	Guide Plate Assembly (New Style)	18
N-5787	Button	5
N-5788	Spring	5
N-5810	Gear - One Lug	9
N-5811	Box - Finder	6
N-5812	Mask - Finder	6
N-5813	Mask - Finder	6
N-5814	Retainer - Finder Lens	6
N-5815	Lens - Finder, top	6
N-5868	Scale - Kodak Retina Tele-Xenar Lens, 200mm f/4.8	3

SYNCHRO COMPUR SHUTTER

N-4276	Screw - Synchro cover plate.	23
N-4277	Screw - Synchro cover plate, shoulder	23
N-4278	Spring - Main drive lock	23
N-4279	Spring - Synchro gear	23
N-4280	Contact Lever Assembly	23
N-4281	Synchro Lever Assembly	23
N-4282	Spring - Synchro lever	23
N-4284	Synchro Gear Assembly	23
N-4285	Spring - Blade operating check	27
N-4286	Spring - Synchro lock	27
N-4287	Lever - Bulb	27
N-4292	Spring - Main drive	24
N-4294	Plate - Synchro gear spring anchor	28
N-4295	Screw - Synchro gear spring anchor plate	28
N-4296	Screw - Retard gear train, short	24
N-4298	Retard Gear Train Assembly	24
N-4299	Screw - Delayed action gear train	24
N-4300	Delayed Action Gear Train Assembly	24
N-4302	Screw - Main drive stop	28
N-4304	Screw - Shutter tube retaining	28
N-4312	Screw - Case to mechanism plate	25
N-4358	Stud - Synchro lock lever	29
N-4359	Lever - Synchro	29
N-4360	Stud - Synchro lever	29
N-4361	Stud - Synchro gear	29
N-4362	Stud - Time release lever	29
N-4364	Stud - Pallet	29
N-4365	Pallet	29
N-4366	Rivet - Contact plate	26
N-4367	Plate - Contact block retaining	26
N-4368	Block - Contact	26
N-4369	Point - Contact	26
N-4370	Stud - Synchro selector tension spring	26
N-4371	Spring - Synchro selector tension	26
N-4698	Retainer - Speed ring	22
N-4704	Spring - Cocking ring	22
N-4709	Screw - Retard gear train, long	24
N-4710	Screw - Bulb lever	27
N-4711	Spring - Bulb lever	27
N-4730	Stop - Main drive gear	28

PART NO.	PART NAME	FIG.
N-4897	Lever - Time release	29
N-5068	Screw - Front shroud retainer, long	19
N-5070	Front Shroud Assembly	19
N-5072	Ring - Diaphragm scale.	19
N-5073	Spring - Diaphragm scale ring	19
N-5075	Intermediate Brass Ring Assembly	19
N-5076	Speed Scale Ring Assembly	19
N-5077	Button - Speed scale ring.	19
N-5078	Screw - Speed scale ring button	19
N-5079	Ring - Lens diaphragm opening.	19
N-5080	Coupler Shaft and Pinion Assembly	19
N-5081	Gear - Coupler shaft idler	19
N-5082	Screw - Shutter to lens mount.	20
N-5083	Ball - Speed scale ring	20
N-5084	Plate - Dust cover	20
N-5086	Lens Mount Assembly	20
N-5087	Gear - Lens diaphragm ring idler	20
N-5091	Flash Ring Retaining Plate Assembly.	25
N-5092	Screw - Flash ring retaining plate.	25
N-5093	Lever - Flash set.	25
N-5094	Ring - Speed	22
N-5096	Cocking Ring Gear Assembly	22
N-5098	Cocking Ring and Spring Assembly	22
N-5099	Lock Lever Assembly	22
N-5100	Main Drive Assembly	24
N-5102	Trigger Assembly	23
N-5104	Synchro Cover Plate Assembly	23
N-5105	Synchro Sector Assembly.	23
N-5106	Coupler Shaft Idler Gear Bearing Bracket Assembly.	22
N-5107	Screw - Coupler idler gear bracket.	22
N-5108	Blade - Shutter, common.	25
N-5109	Blade - Shutter, notched	25
N-5110	Blade - Shutter, cover.	25
N-5111	Plate - Case filler	26
N-5112	Screw - Case filler plate.	26
N-5114	Shutter Case Assembly	26
N-5116	Ring - Blade control.	28
N-5117	Spring - Self timer.	27
N-5119	Mechanism Plate Assembly	28
N-5158	Screw - Front shroud retainer	19
N-5168	Synchro Lock Lever Assembly	29
N-5169	Tube - Shutter.	28
N-5171	Spring - Detent ball	21
N-5172	Stud - Detent ball spring	21
N-5173	Spring - Lens mount tension.	21
N-5174	Stud - Lens mount tension spring	21
N-5175	Lever - Lens lock	21
N-5176	Stud - Lens lock lever.	21
N-5177	Spring - Lens lock lever	21
N-5218	Spring - Cocking ring lock lever.	22
N-5292	Pinion Assembly (Late model without shoulder).	19
N-5293	Bracket Assembly (Late model for use with Pinion—N-5292)	22
N-5819	Spring - Flash synchro lock lever	25

EASTMAN KODAK COMPANY • ROCHESTER 4, NEW YORK

Corrected to DECEMBER 1962

Supplement No. 2 to Parts List No. 5542

KODAK RETINA REFLEX III CAMERA

Two versions of this camera have been made, but with no change in name. Basically they are the same, except that the late model has a larger exposure meter and the ASA setting button is located on the rear of the top housing. For repair purposes, the original model will be known as Type A and the later model as Type B. Parts List No. 5542 covers both cameras except those parts listed in this supplement. Illustrations in this supplement replace the corresponding illustrations in Parts List No. 5542.

Type A



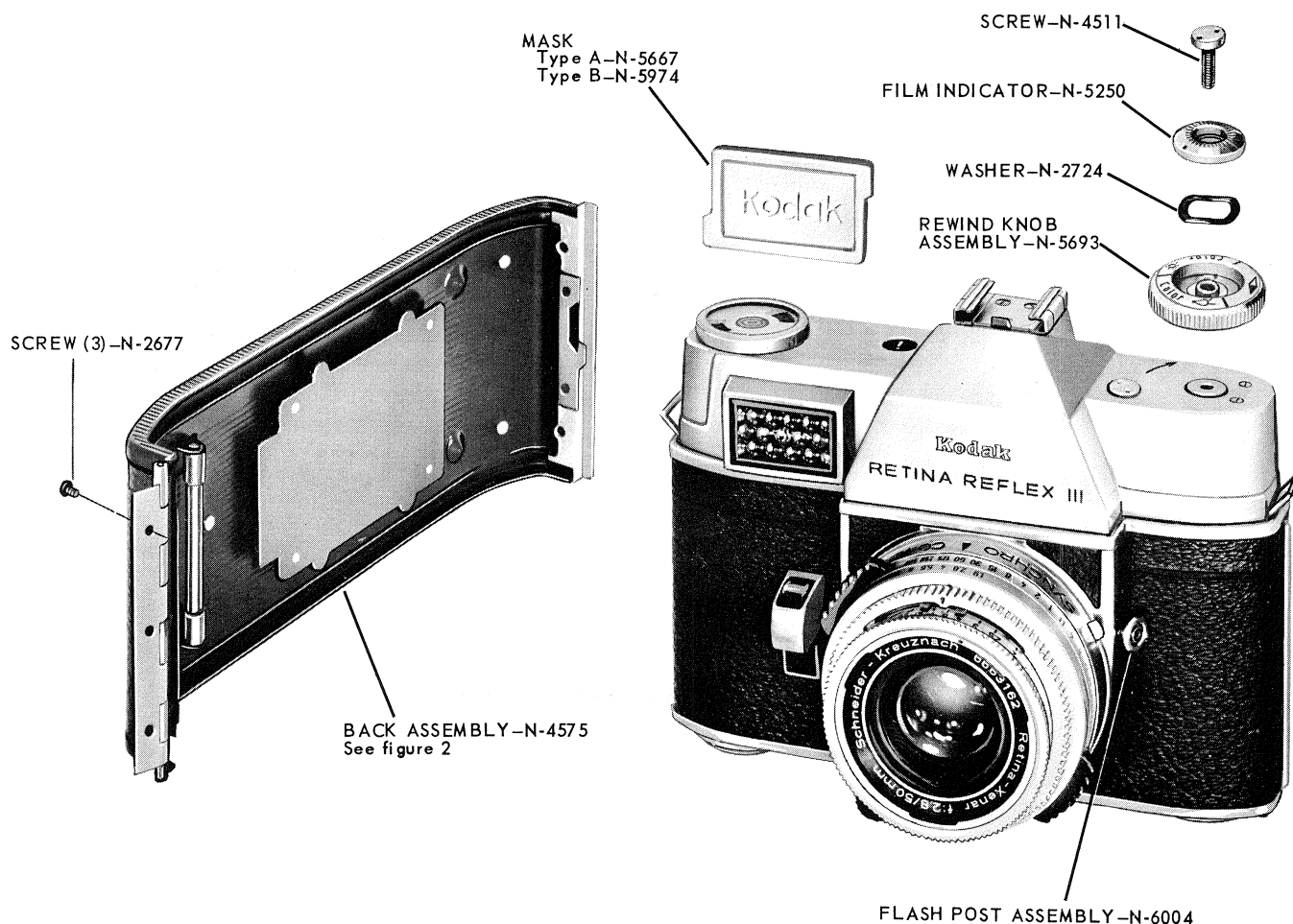
Type B

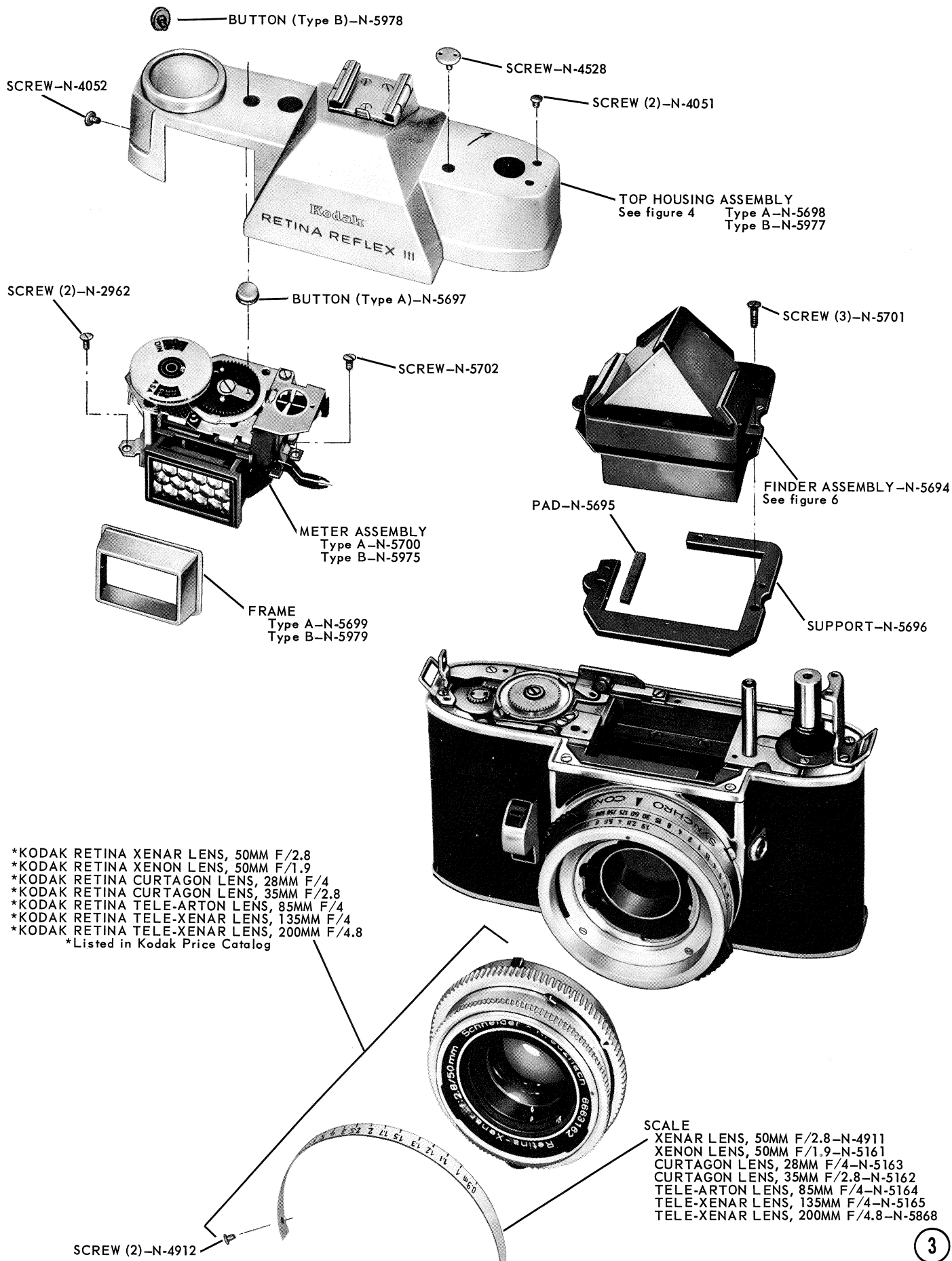


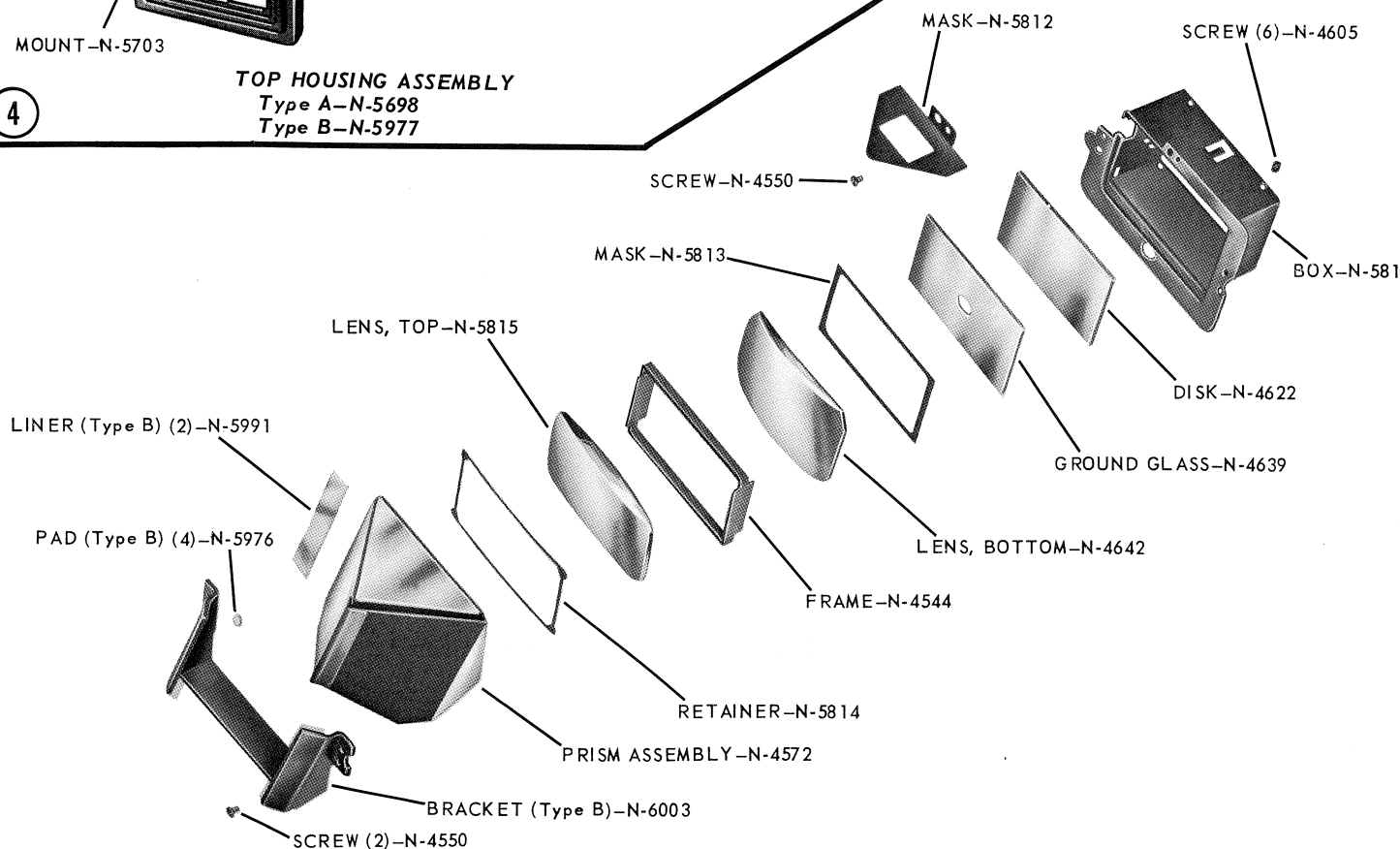
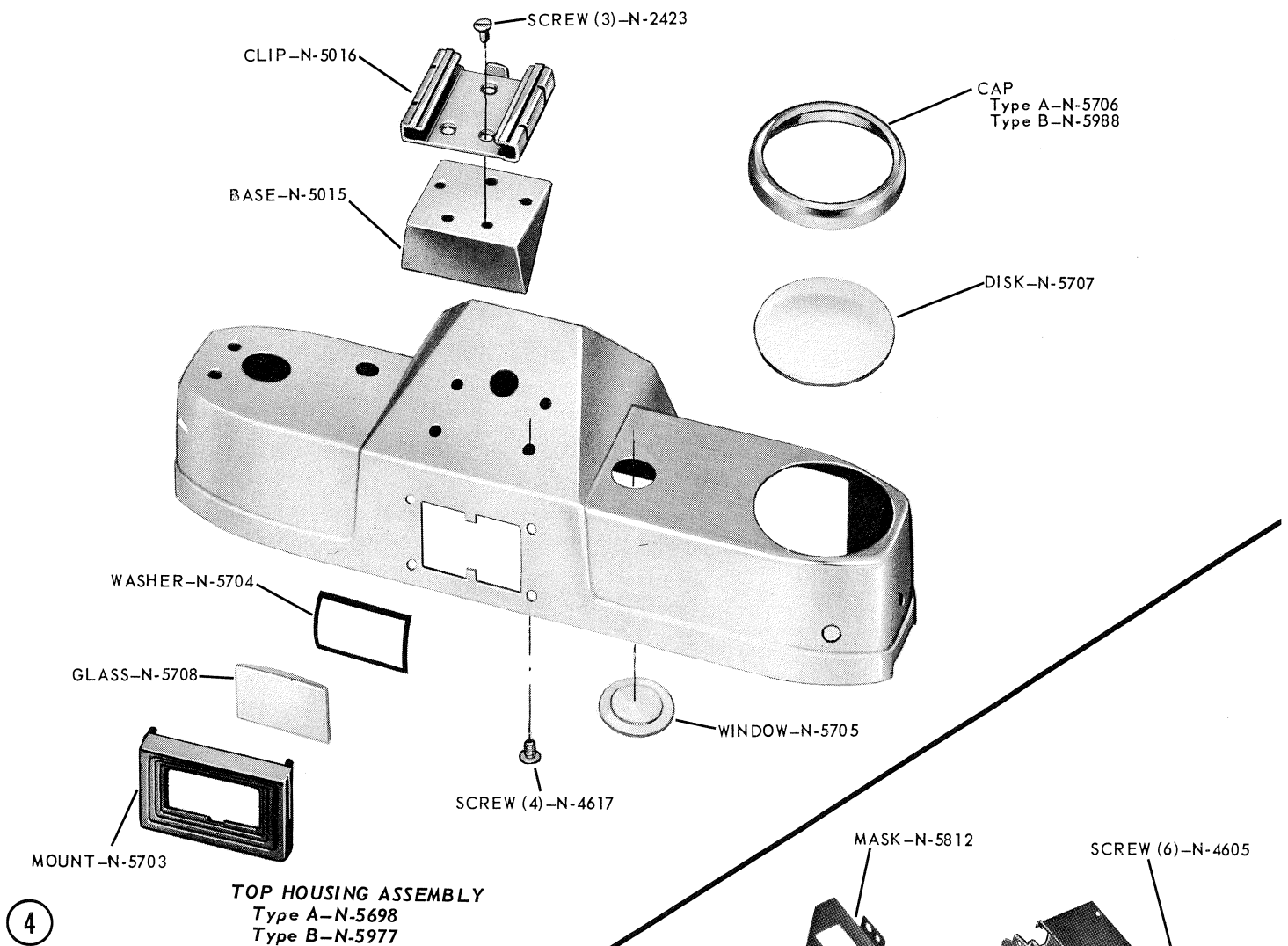
PART NAME	PART NO.		FIGURE
	TYPE A	TYPE B	
Bracket - Finder	N-4624	*N-6003	6
Button - ASA setting	N-5697	N-5978	3
Cap - Meter disk	N-5706	N-5988	4
Flash Post Assembly	N-6004	N-6004	1
Frame - Meter	N-5699	N-5979	3
Liner (2) - Finder bracket.		**N-5991	6
Mask - Meter	N-5667	N-5974	1
Meter Assembly.	N-5700	N-5975	3
Pad (4) - Finder bracket (plastic)		**N-5976	6
Top Housing Assembly	N-5698	N-5977	3,4

*Finder Bracket—N-6003 is the same as Bracket Assembly—N-4624 with the rubber pads removed. See Service Bulletin No. 62019.

**These parts should be installed on Type A cameras. See Service Bulletin No. 62019.







EASTMAN KODAK COMPANY • ROCHESTER 4, NEW YORK

OCTOBER 1961

Servicing the

Kodak Retina Reflex III Camera



EASTMAN KODAK COMPANY

Apparatus Service Department

ROCHESTER 4, N. Y.

SERVICE INSTRUCTIONS
RETINA REFLEX III CAMERA

1. FILM TRANSPORT

SPECIFICATIONS

1. The rewind post assembly should:
 - a) Be retained by detent action when flush with top housing.
 - b) Not require excessive force to withdraw it from detent position.
 - c) Rotate in both directions with a minimum of resistance when flush with top.
2. Film type indicator inner ring should rotate with sufficient resistance to prevent accidental movement during normal use.
3. Film advance lever should:
 - a) Close aperture cover, lower mirror assembly, open shutter blades, set shutter, and open diaphragm blades of lens assembly to full aperture.
 - b) Rotate sprocket and take-up spool. (Clutch assembly should have sufficient torque to take up film).
 - c) Advance film counter one mark at end of stroke. (Accuracy - $\pm 1/3$ of a division).
 - d) Be locked when the exposure dial indicates the final or No.1 exposure.
4. Film take-up spool should not be cracked or broken and must have both take-up lugs.
5. Exposure release button should:
 - a) Be free of binds and have spring tension sufficient to return button to up position.
 - b) Be threaded to accept a cable release.
 - c) Be locked by safety catch insert until catch is depressed.
 - d) When depressed:
 1. Trip shutter, aperture cover, and mirror.
 2. Release film transport mechanism at the same time or slightly in advance of tripping shutter.
 3. Have a slight amount of overtravel after tripping shutter.
6. Safety catch insert should:
 - a) Lock exposure release button until depressed.
 - b) Be free of binds and have sufficient spring tension to return to the lock position after depressing.
7. Counter advance button should:
 - a) Be free of binds and have sufficient spring tension to return to right end of its travel.
 - b) When actuated:
 1. Rotate the exposure counter dial a maximum of two divisions.
 2. Release a partially advanced film advance lever.
 3. Release the film advance lever when locked by exposure counter dial in the No.1 position.
8. Rewind clutch button should:
 - a) When depressed, release film transport for rewinding of film.
 - b) Remain in depressed position until released on first actuation of film advance lever.

9. Pressure pad, back frame, film roller, and film rails should be free of imperfections which can damage film detrimentally in the picture area.
10. Back should be free of dents and imperfections sufficient to cause difficult film advance.
11. Camera should wind and rewind film smoothly.

DISASSEMBLY WITH REASSEMBLY NOTES

When the film advance lever and body release are actuated, the sequence of action of the basic film wind and shutter setting mechanisms is practically the same as in the Retina Reflex S Model, except that:

- a) Exposure release (with lock button) is on front of camera.
- b) There is no separate film wind release button.
- c) Exposure counter and actuating mechanisms are on the bottom of camera.

12. Clamping Transmission Cord

Certain repairs (such as replacement of winding mechanism components, adjustments of the wind release, or adjustment of the shutter release in relation to the mirror release) will require clamping the transmission cord. To prevent loss of the cord over the lower roller set (and subsequent removal of the entire front to replace the cord) the following method is recommended.

Disassembly

- a) Remove top housing, meter assembly (Instruction 26.1) and pentaprism assembly.
- b) Loosen (by approximately $1\frac{1}{2}$ turns) the screw retaining the vertically stacked rollers at the front of the meter drive drum.
- c) Place lower cord under lower roller and upper cord between the two rollers. Tighten screw sufficiently to hold cord, using care to prevent cutting cord, then remove cord from drum.

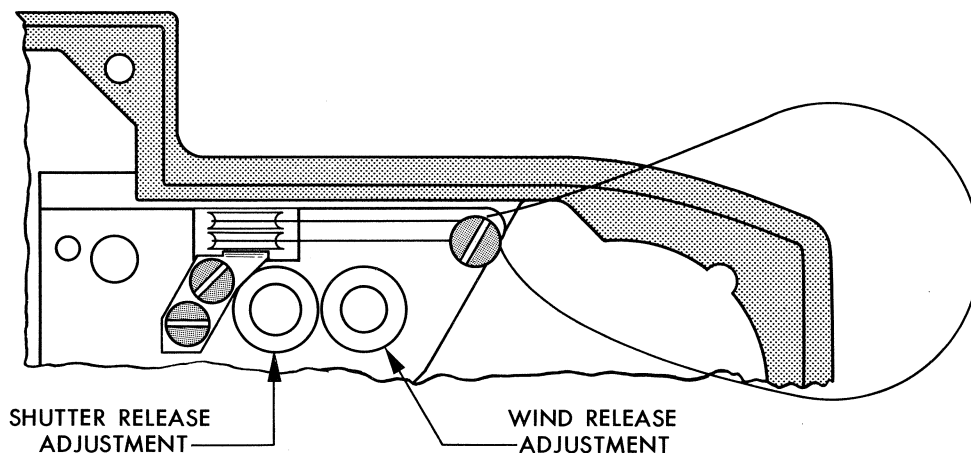
Reassembly

- a) Refer to Instruction 27, for installation of cord and Instruction 26.2 meter alignment.
- b) Assemble balance of camera.

13. Adjustment - Wind Release or Shutter Release

Disassembly

- a) Disassemble and clamp cord as suggested in Instruction 12.
- b) Remove cover discs as shown:



- c) If shutter release adjustment is required it is necessary to peel back cover on front and also remove cover disc on front to allow visible contact with adjustment screw.
- d) Wind release adjustment; rotate screw counterclockwise to trip wind release in advance of shutter release.
- e) Shutter release adjustment; remove cement on screw visible thru front, then rotate counterclockwise to delay shutter tripping in relation to mirror release. Re-seal screw after adjustment.

Reassembly

- a) Replace cord (Instruction 12.2).
- b) Replace meter and align (Instruction 26.2).

14. Adjustment - Exposure Counter

- a) Loosen screw in center of counter assembly.
- b) Rotate cutout disc in either direction to place index mark in alignment with pointer.

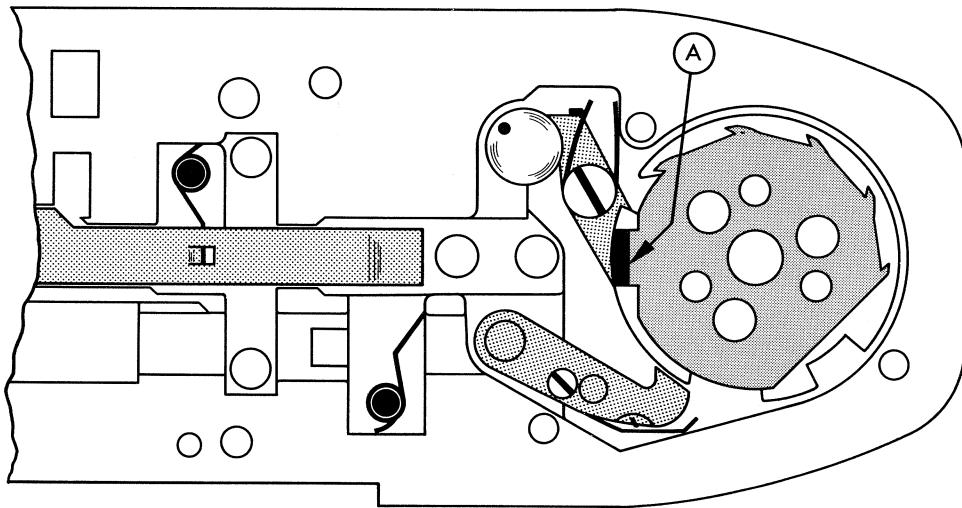
15. Winding Shaft Assembly

Disassembly

- a) Disassemble and clamp cord (Instruction 12.1).
- b) Remove advance lever and bottom panel.
- c) Remove counter advance slide and film advance lock.
- d) Set exposure counter at # 1.
- e) Remove setting rack and shaft assembly in the usual manner.

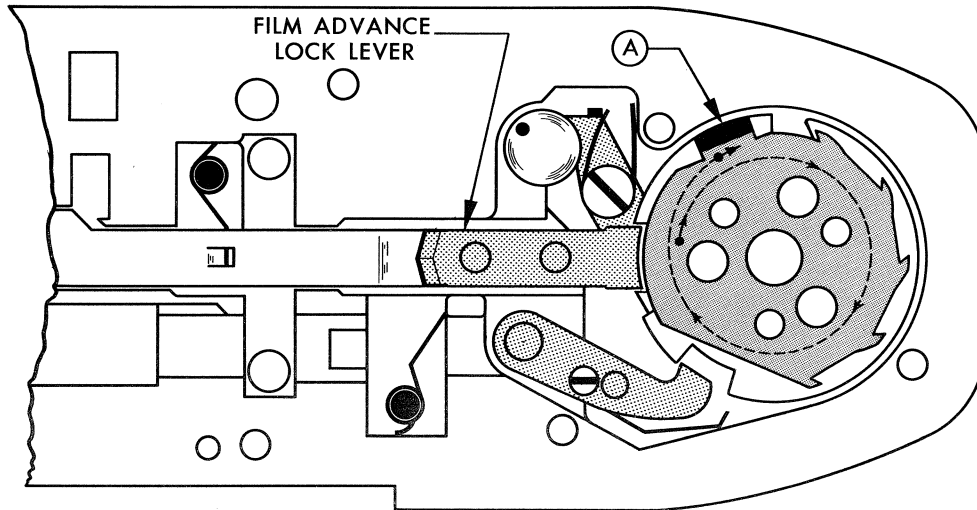
Reassembly

- a) Insert shaft assembly so that lug "A" is in the position shown. Replace screws and tighten securely.



- b) Replace bushing and gear assembly and balance of components with exception of setting rack.

- c) Pretension wind shaft by rotating lug "A" clockwise $1 \frac{1}{3}$ turns to the position shown. Then insert the "Film Advance Lock Assembly".



- d) Replace counter advance slide, rehook slide actuating spring, film advance lock lever spring, aperture cover slide lock spring, bottom panel and advance lever.
e) Reposition transfer shaft and replace setting rack, hold down bracket and cord drum.
f) Replace cord (Instruction 12.2) and meter (Instruction 26.2) and reassemble balance of camera.

II. R A N G E F I N D E R S P E C I F I C A T I O N S

16. Taking lens focus and rangefinder alignment should be checked on an object or chart 15-feet from film plane approximately the rear top edge of top housing.
17. Maximum permissible focus scale error of rangefinder should be limited to width of extended portion of knurled ring at focusing index arrow (50mm, f/2.8 and f/1.9).
18. Rangefinder circles should be concentric.

DISASSEMBLY WITH REASSEMBLY NOTES

19. Pentaprism

Disassembly

CAUTION: Never remove pentaprism before meter assembly.

- a) Remove top housing.
- b) Remove meter (Instruction 26.1).
- c) Remove pentaprism assembly.

Reassembly

- a) Replace pentaprism.
- b) Replace and align meter (Instruction 26.2).
- c) Replace top housing.

20. Adjustment - Rangefinder

Rangefinder adjustments using the standard 50mm lens are made in the same manner (i.e., on mirror bracket assembly) as on the Reflex S model. If the adjustment is made at Inf. position, the subject distance must be at least 165 yards from the film plane.

III. EXPOSURE METER LINKAGE

SPECIFICATIONS

21. ASA scale lock button should:

- a) When depressed permit changing film speed indication as desired (with setting wheel) from 3 to 3200.

NOTE: Resistance may be encountered in setting the film speed. Continue to turn the setting wheel if possible; this changes the shutter speed setting automatically. However, if the shutter speed and lens opening scales have both reached the limit of their travel, it will be necessary to release the lock button, rotate the setting wheel until the lens opening scale is at its opposite extreme; then again press down the lock button and rotate the setting wheel to reach the desired film speed.

- b) Have spring tension sufficient to return button to up position.

22. ASA scale of meter should hold its position at any setting within its range.

23. Meter setting wheel should (with lens assembly removed):

- a) Rotate diaphragm ring from f/1.9 through f/22 and back to f/1.9 at any speed from "B" to "500" without binds or locking.
- b) When speed ring is at "500" and diaphragm ring is set to f/1.9 and extra force is applied, rotate speed ring from "500" to "B" and stop.
- c) When speed ring is at "B" and diaphragm is at f/22 and extra force is applied, rotate speed ring from "B" to "500" and stop.
- d) Movie meter needle as follows: (initial settings - ASA10, "B", f/1.9 and all light excluded from cell) rotation of diaphragm ring (with wheel) toward f/2.8 should immediately move needle from alignment with top of rear yellow pointer (top window) into alignment with top of front yellow pointer. Further rotation of diaphragm ring to f/8 should then move meter needle toward rear of window until it comes to an abrupt stop at approximately midpoint of the rear pointer. Completion of the rotation to f/22 should cause no further movement of the needle.

NOTE: When extra force is applied to setting wheel at this position, it will rotate speed ring from "B" to "500", but no further movement of the needle should occur.

- e) Rotation of the setting wheel in opposite direction from "500" and f/22 position (with cell covered) should cause no action of needle until after 1/8 second position is reached. Continued rotation should then move the needle back to its original position of alignment with tip of rear yellow pointer.

24. Meter setting wheel should (with either lens in position) actuate the depth of field pointer of the lens.

25. Centering the meter needles within the limiting index pointers in both the finder and top housing window should indicate a diaphragm opening according to the following table when camera is set to ASA10 and exposed to a brightness of 520 foot-lamberts (Exposure Meter Tester, Tool #991, set at 100 volts). Normally, a test at 1/30 second will be sufficient.

1/4 second	-	between f/22 and f/16	1/60 second	-	between f/5.6 and f/4
1/15 "	-	between f/16 and f/8	1/125 "	-	between f/4 and f/2.8
1/30 "	-	between f/8 and f/5.6			

DISASSEMBLY WITH REASSEMBLY NOTES

26. Meter

Disassembly

- a) Remove lens assembly and set camera to "B", f/1.9 and "ASA10".

- b) Remove top housing and meter retaining screws.

CAUTION: Never remove pentaprism assembly in advance of meter removal.

- c) Remove meter by carefully (to avoid bending lower needle) lifting dial end slightly and sliding toward hinge end.

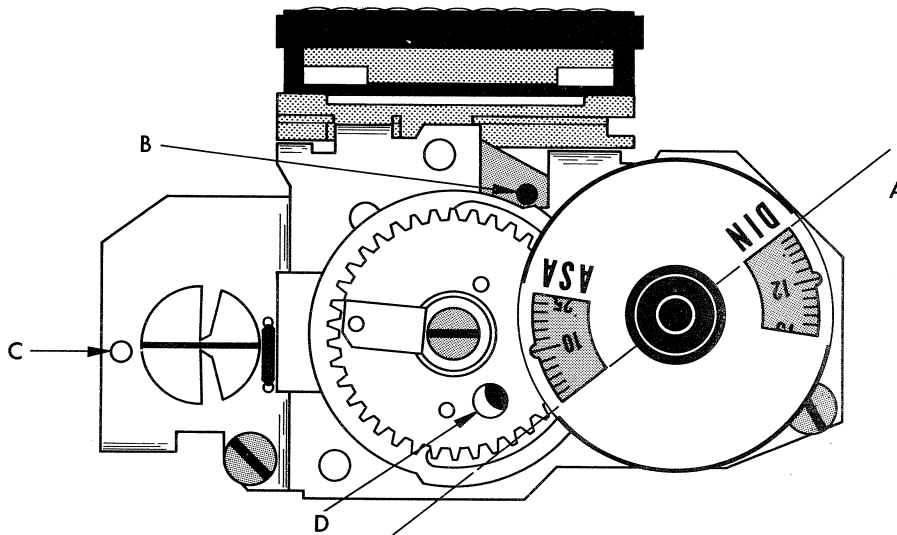
CAUTION: Do not operate film advance lever unless a short screw is fitted in rack hold down bracket.

Reassembly

- a) Set camera to "B" and "f/1.9" and remove transmission cord from locking lug of meter drive drum.

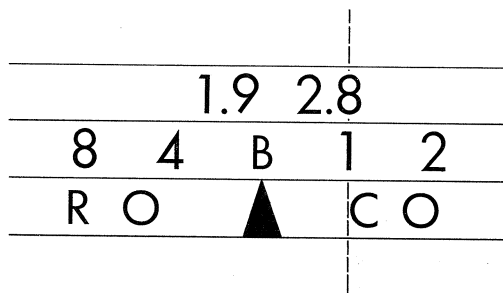
NOTE: In some cases it will not be necessary to remove the cord from locking lug of drum if the same meter is fitted. It is also important that the locking lugs (see Instruction 27) be centered between the two sets of rollers at the front of camera.

- b) Set meter at "ASA10" (hold top gear and rotate bottom gear), then position ASA dial as shown:



Note the following:

- An imaginary line "A" as shown should be tangent to the outside diameter of the gear teeth.
 - Stud "B" should be off the high point of cam. This allows the short circuit switch to close and short out meter cell.
 - When cell is shorted out the meter needle "C" should be at "zero position" and be visible in the small opening.
 - Alignment hole "D" in gear should show a half moon shape below gear.
- c) Grasp meter by ASA dial and carefully insert the lower needle and mask into pentaprism assembly and engage the bottom gear of meter with gear of meter drive drum.
- d) Insert meter retaining screws and check out meter linkage as follows:
- With settings "B", "f/1.9" and "ASA10" the meter needle should be visible in the small opening (zero position). Slight discrepancies can be adjusted by inserting a suitable tool into the small slot of the black moveable meter housing (rotate meter housing with setting wheel to expose the slot at rear of meter and moving the small lever).
 - Slowly move the diaphragm ring (with setting wheel) toward "f/2.8". Meter needle should jump from "zero position" toward front of meter before the diaphragm ring reaches the position shown. ("8" of "f/2.8" in alignment with the 1 second index).



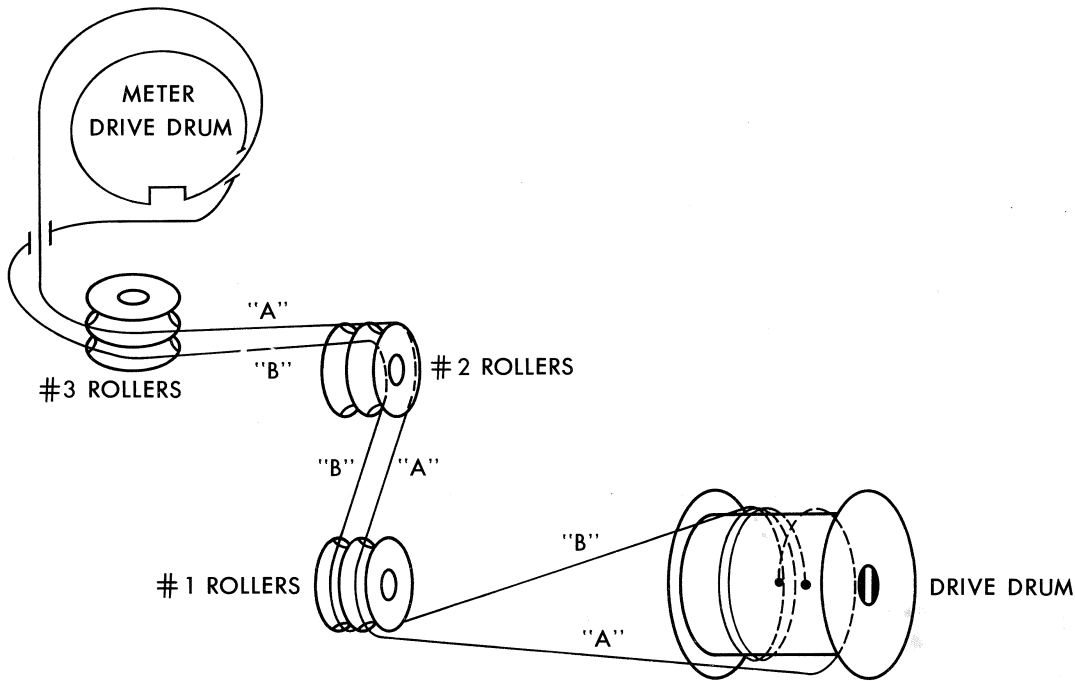
- e) Temporarily fit the meter bezel and top housing and check the meter control in the following manner:
1. Position camera in front of standard light source (see Instruction 25).
 2. Set shutter at 1/30 second and align meter needle (with setting wheel) between the two yellow pointers on top housing. At this setting the diaphragm ring must indicate a reading between f/5.6 and f/8.
- f) If adjustment is required, remove top housing and with a suitable tool, block the rotation of the meter drive drum (to slip cord on drum) while rotating the diaphragm ring with the setting wheel into the tolerance (f/5.6 and f/8).
- g) Recheck for zero position (d - 1).
- h) When meter reads correctly, rotate meter drive drum (with setting wheel) until the two slots (of locking lug) are at the rear. Then carefully insert the upper turn of cord (Type A installation) into the slots.
- i) Recheck all settings and the position of the lower meter needle, with top housing fitted, by observing its location under the controlled light source. When the top needle is between the yellow pointers, the lower needle must indicate the same position. Adjustment of the lower needle can be accomplished by slight re-forming with tweezers.

27. Transmission Cord

NOTE: Two types of cord installations have been used on the Reflex III Camera. These are identified as shown in the following sketches. It is recommended that if the front assembly of the camera is removed for any reason, all Type A installations should be replaced with the Type B.

Type A Cord Installation

The following sketch illustrates the complete cord installation with camera set at "B", "f/1.9" and "ASA10". Note that the alignment of the cord from the drive drum and over roller sets #1 and #2 is identical with the "S" models of the Retina Cameras. The installation over the #3 rollers and around the meter drive drum is somewhat different from the previous models. Some meter drive drums carry two sets of anchoring slots but only the straight slots are used for this purpose on this type.



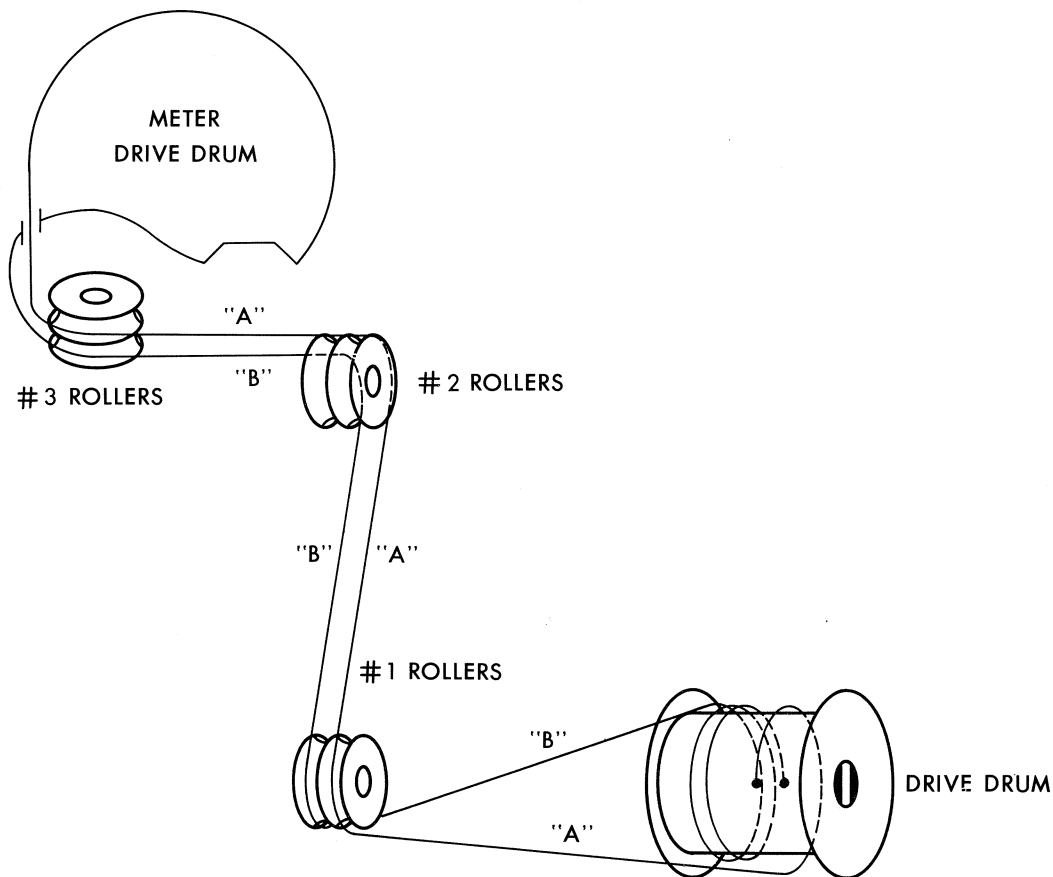
NOTE:

Disassembly of front from camera will not require bottom panel removal if the following method is used:

- a) Peel back bottom covering at front edge and remove three panel to case screws.
- b) Carefully force bottom panel away from case and insert a thin piece of metal at each side of front mount and remove front in usual manner.

Type B Cord Installation (preferred)

The following sketch illustrates the complete cord installation with the camera set at "B", "f/1.9" and "ASA10". Note that the cord from the drive drum over roller sets #1 and #2 is identical with the "S" models of the Retina Cameras. The installation over the #3 rollers and around the meter drive drum is somewhat different from the previous models. Some meter drive drums carry two sets of anchoring slots but only the angle slots are used for this purpose on this type. When readjustment or replacement of the linkage is completed it is suggested that the cord be cemented in position at the locking lug.



IV. HOUSING SPECIFICATIONS

28. Depressing exposure release should release film transport system at same time or slightly before tripping shutter.
29. Finder image should be discernible at low room illumination.
30. Tripod socket and exposure button should be threaded.
31. Back release button guard should open with a minimum of force and return with spring action.
32. Back latch should open with a minimum of force and return with spring action.
33. Back should fit case with a minimum of interference, latch securely and open partially under film pad pressure. It should be free of dents or imperfections sufficient to cause difficult film advance.
34. Film type indicator inner ring should rotate with sufficient resistance to prevent accidental movement during normal use.

V. SHUTTER SPECIFICATIONS

35. Shutter speeds should be within the following total time tolerances:

1 second	- 800 to 1200 milliseconds	1/30 second	- 28 to 42 milliseconds
1/2 second	- 400 to 600 milliseconds	1/60 second	- 16 to 24 milliseconds
1/4 second	- 200 to 300 milliseconds	1/125 second	- 8 to 14 milliseconds
1/8 second	- 100 to 150 milliseconds	1/250 second	- 4.5 to 8 milliseconds
1/15 second	- 55 to 82 milliseconds	1/500 second	- 2.5 to 5 milliseconds

36. Flash contact should occur as follows:

NOTE: Contact efficiency at least 75%.

- X - contact at full open shutter.
- M - 18 to 21 milliseconds from contact to full open shutter.

37. VXM lock lever should release selector lever and have spring tension sufficient to lock selector lever when released.

38. VXM selector lever should:

- a) Operate without binds.
- b) Not move into the "V" position when shutter is not set.
- c) When set to "V" returns to "X" position when the shutter is tripped.

39. Self-timer should operate for approximately 8 to 10 seconds.

40. Rotation of speed selector ring (black handles) should have detent action at each speed index and rotate diaphragm ring in opposite direction, without excessive binds or jamming, throughout the following ranges (check with lens removed):

NOTE: Make all initial settings with knurled wheel beneath shutter, and all rotation with black handles.

- a) from 1/500 second and f/1.9 to 1/4 second and midway between f/1.6 and f/22.
- b) from "B" and f/22 to 1/60 second and f/1.9.
- * c) from "B" and f/1.9 to 250 second and f/22.

* No detent action through green figure range except at "B".

41. Electrical circuit should be free of short or erratic continuity.

42. Shutter blades should be free of grease, oil or rust spots.

43. Lens lock lever should:

- a) Be free of binds or rough action and have spring tension sufficient to prevent accidental release of lens assembly.
- b) Retain the lens assembly securely.

44. Diaphragm controls should:

- a) Open the diaphragm blades fully.
- b) Allow diaphragm blades to close to any pre-selected opening.

45. Shutter

Since the shutter and all operating controls are identical with the Reflex S, service problems, disassembly (see note under Instruction 27) and reassembly are also identical.

Corrected to SEPTEMBER 1965

Parts List No. 769207

KODAK RETINA REFLEX IV CAMERA

Field Case, Models F and G



Order parts from

**Eastman Kodak Company, Apparatus Parts Service
800 Lee Road, Rochester, New York 14650**

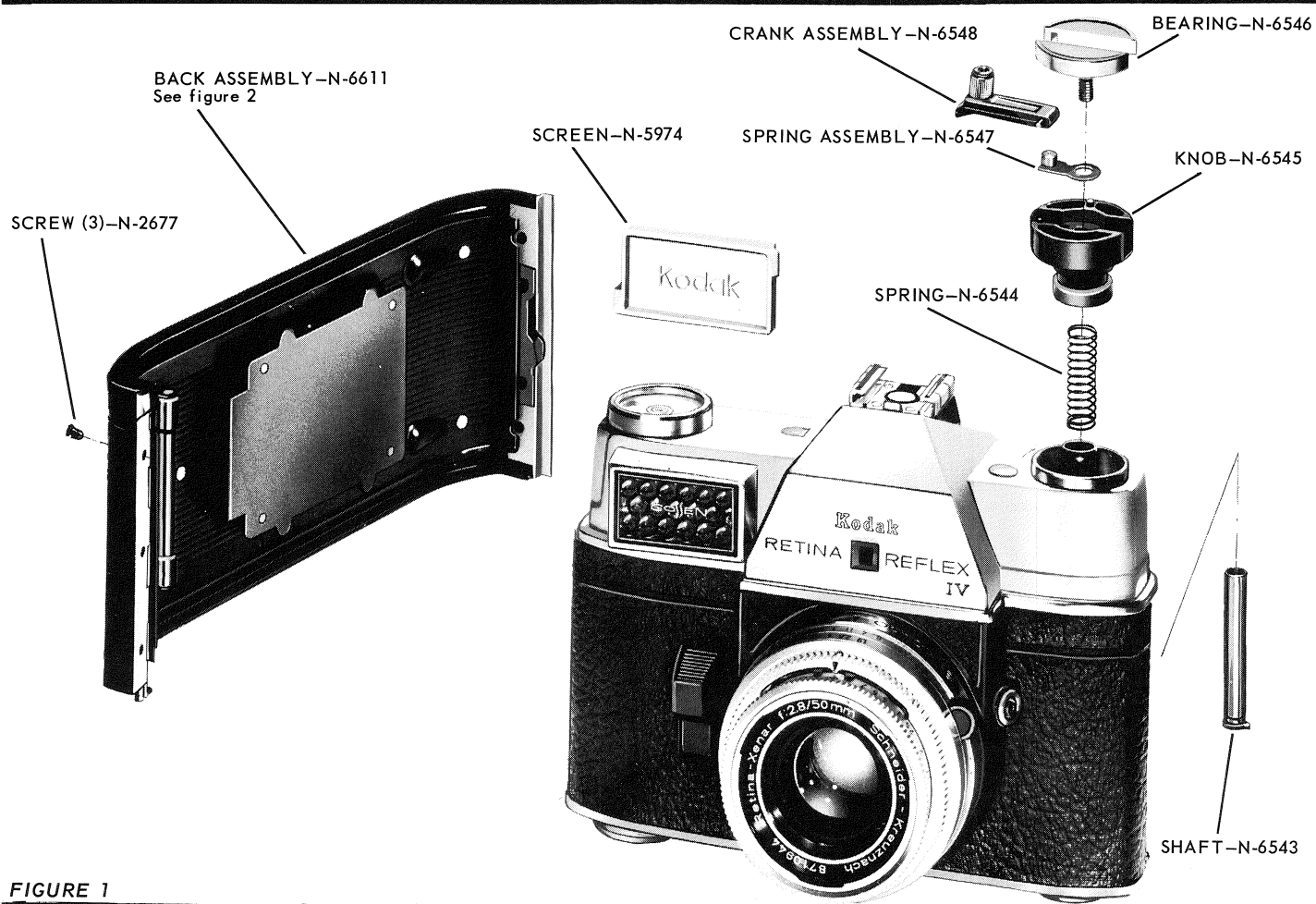


FIGURE 1

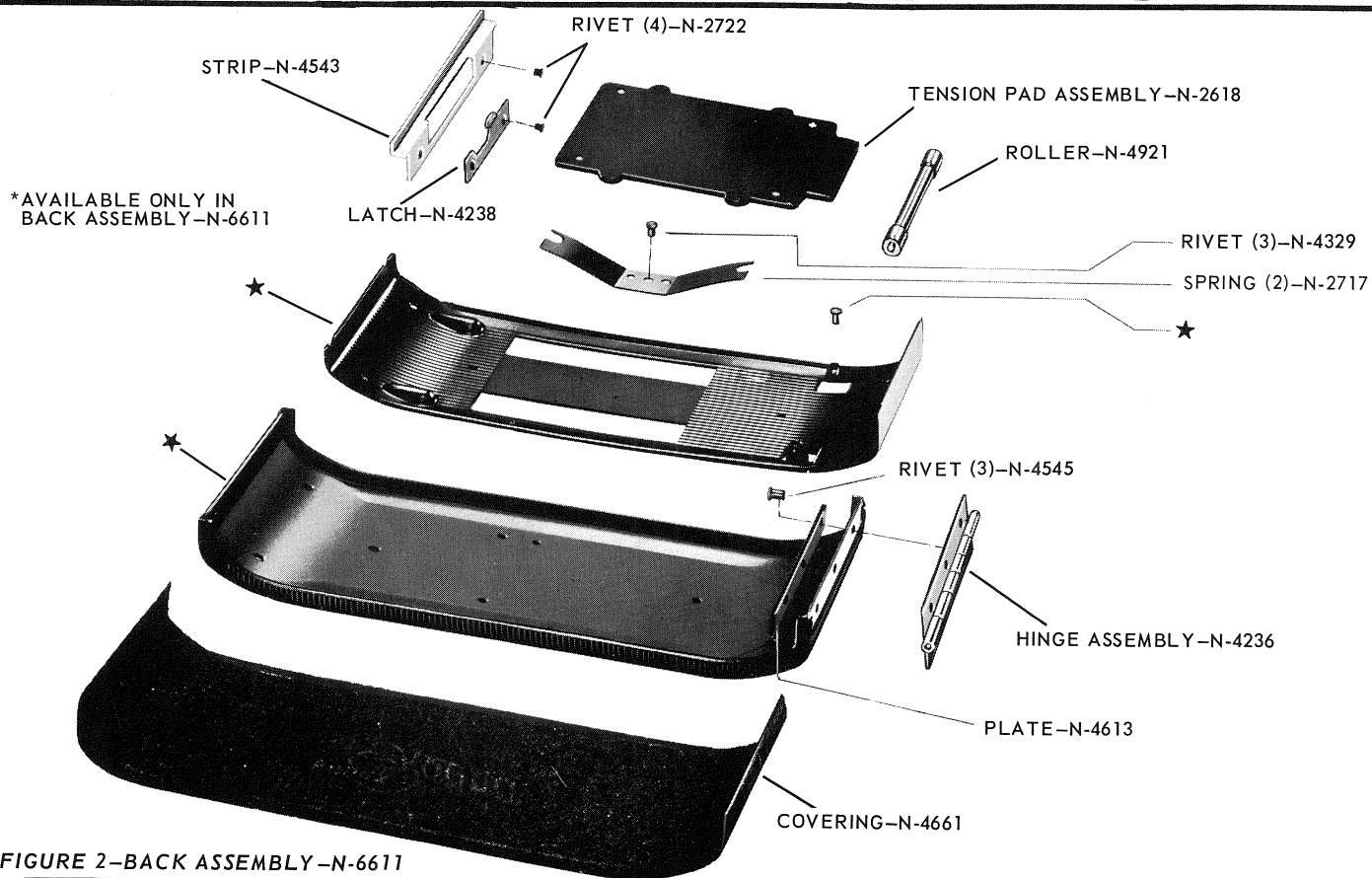


FIGURE 2-BACK ASSEMBLY-N-6611

Corrected to SEPTEMBER 1965

Parts List Supplement No. 769217

KODAK RETINA REFLEX IV CAMERA

Field Case, Models F and G

This supplement is for Parts List No. 769207

The following corrections should be made:

Parts List

Page 18 – Change part number N-5591 to N-5991

Page 19 – Add part number N-6778 Scale – Xenon Lens, 50mm f1.9 . . . Fig 3

Page 2

Figure 2 – Change part Number N4329 to N4239

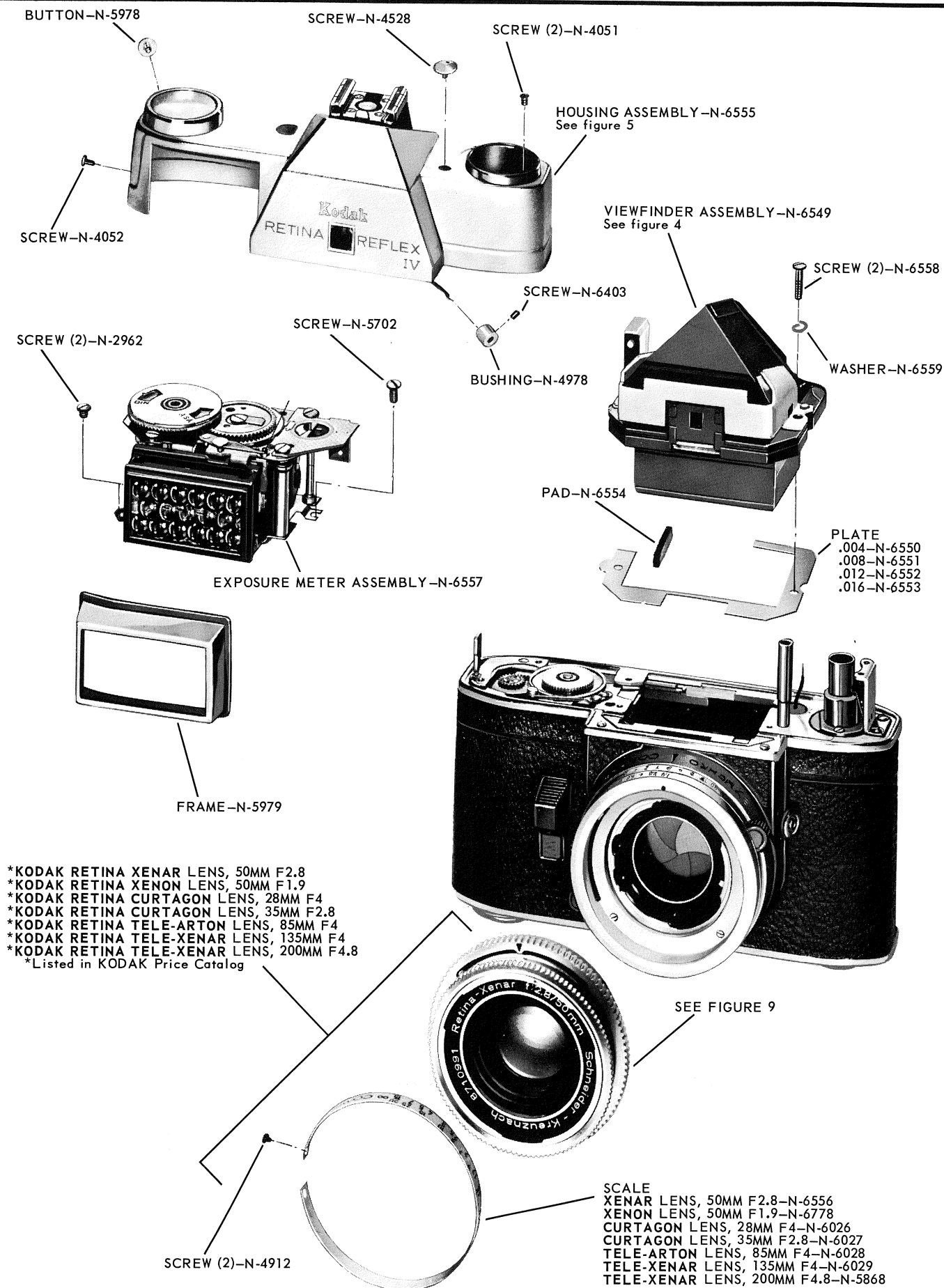


FIGURE 3

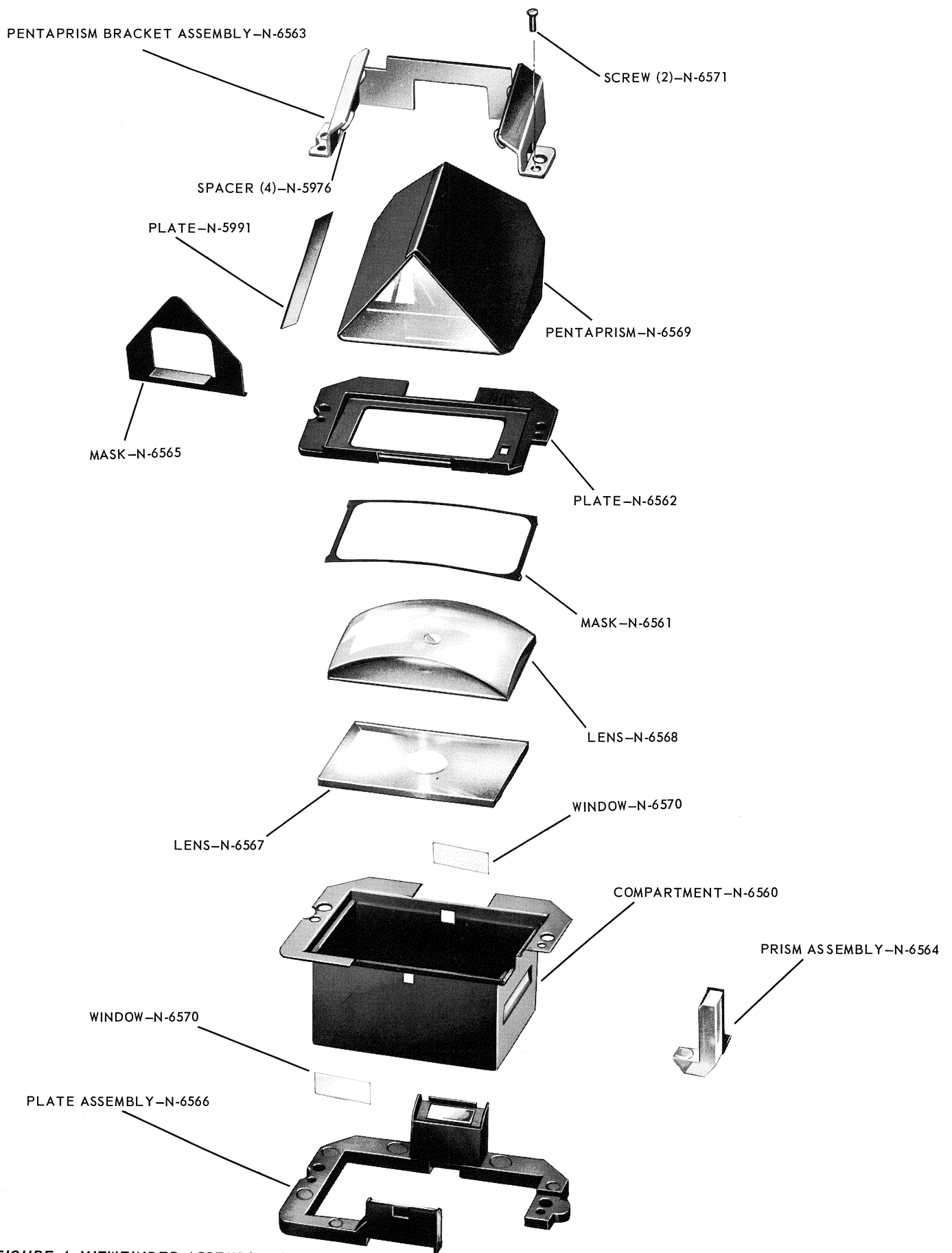
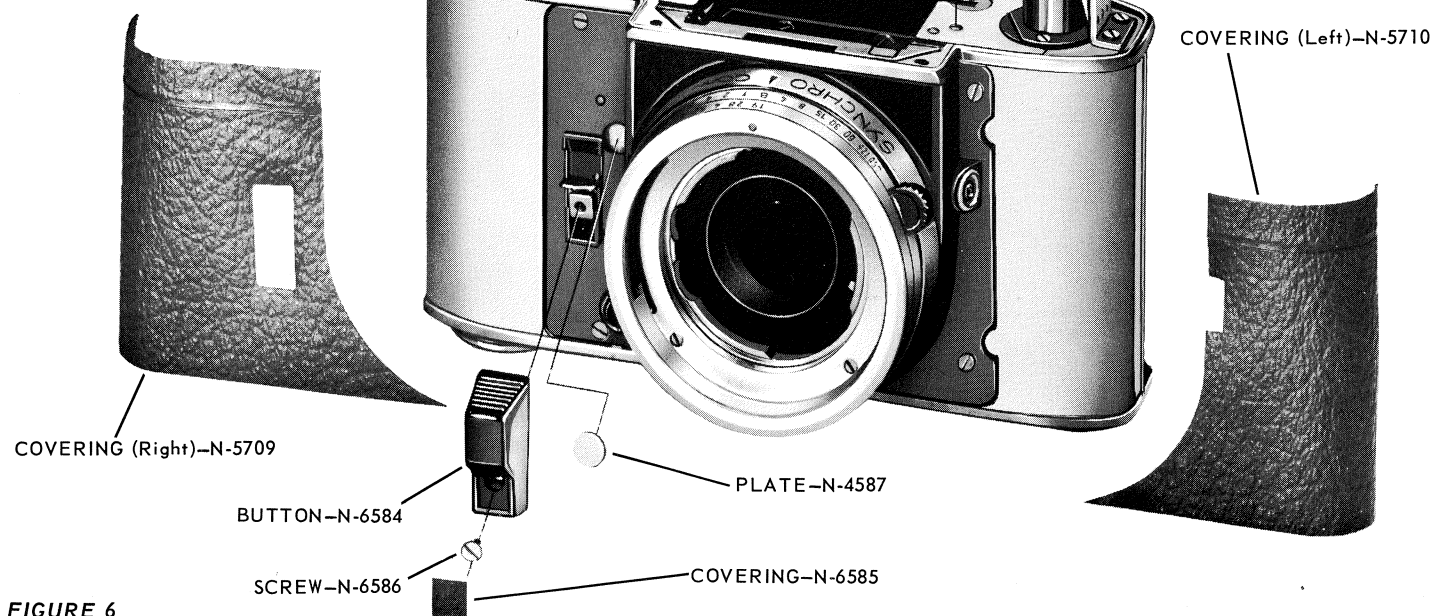
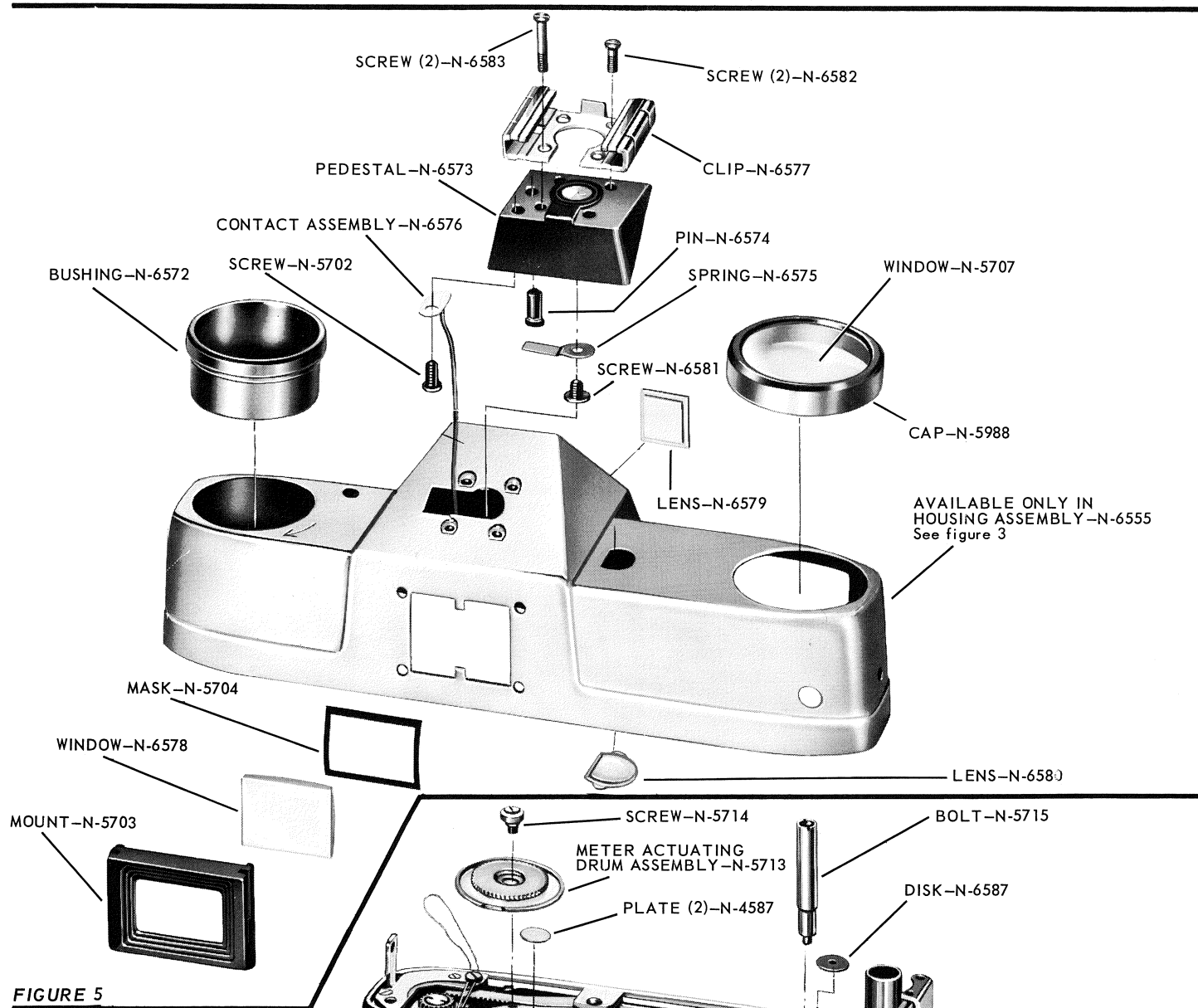


FIGURE 4-VIEWFINDER ASSEMBLY-N-6549



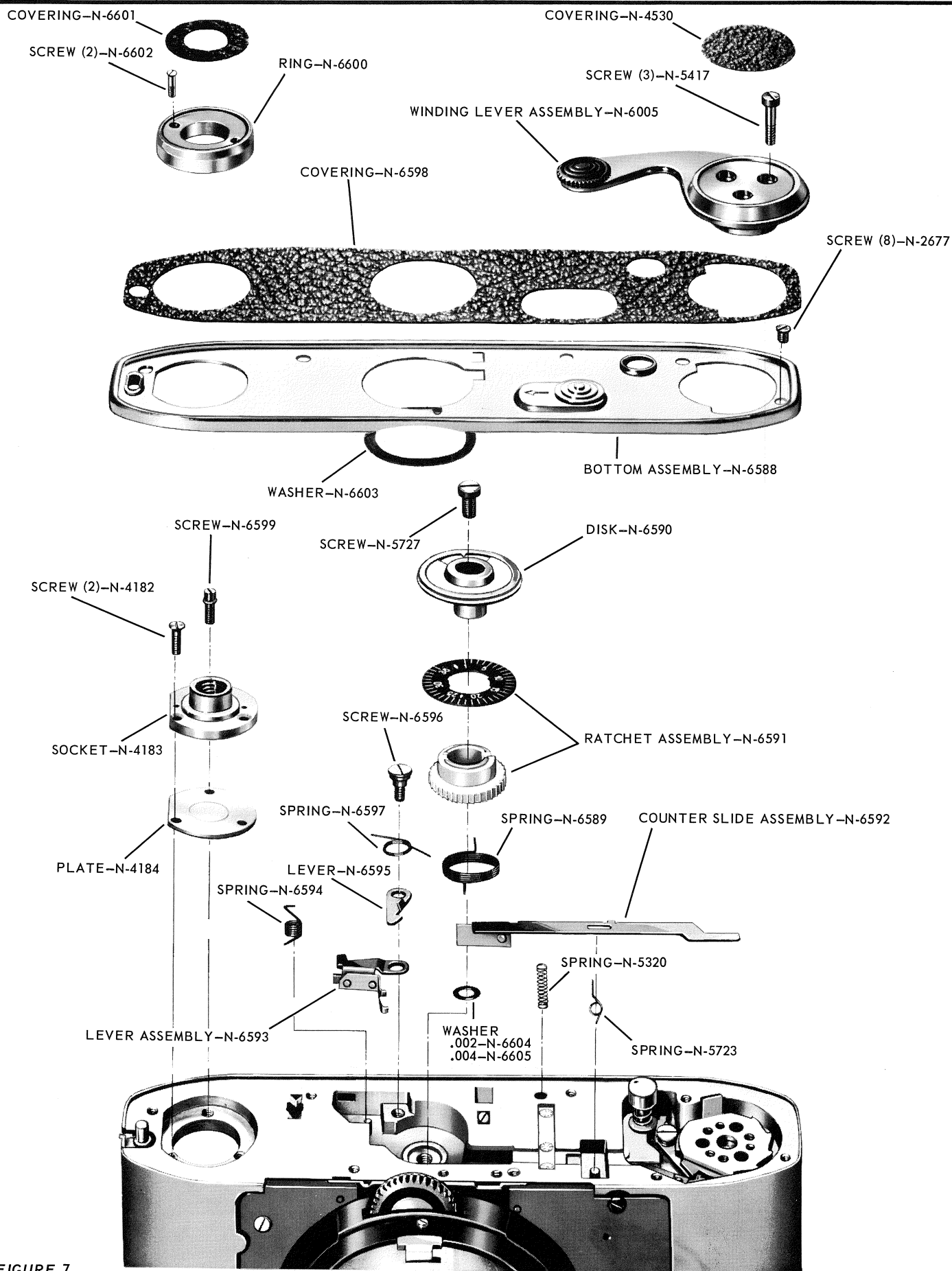


FIGURE 7

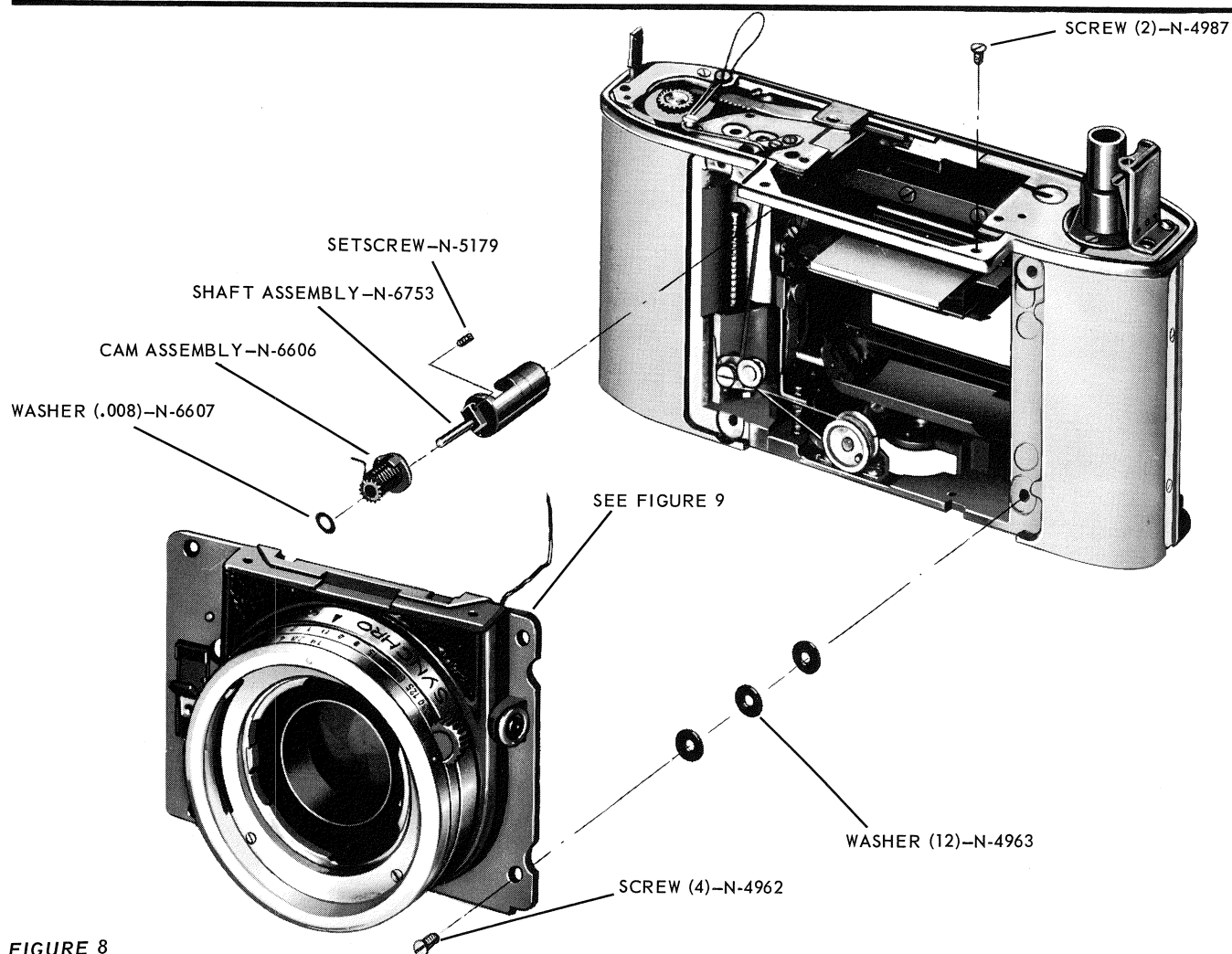


FIGURE 8

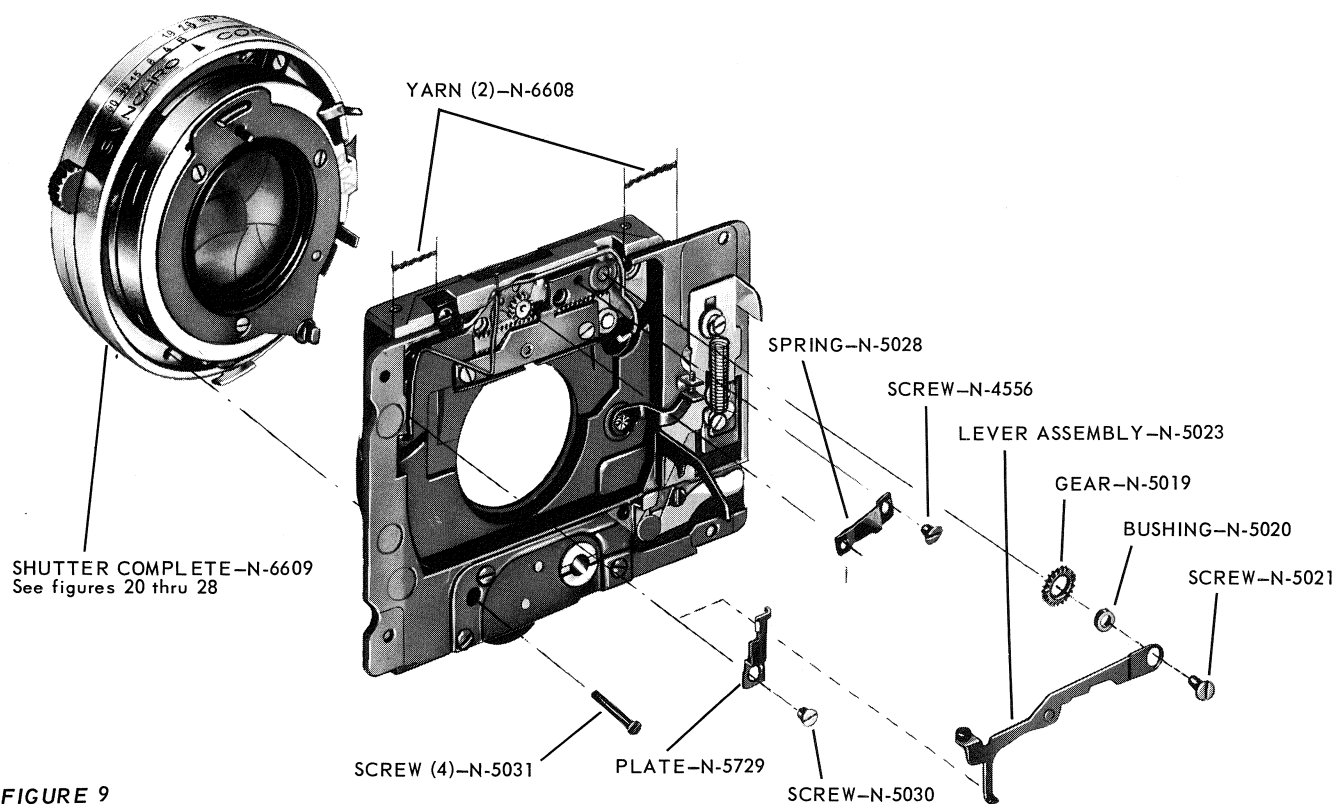


FIGURE 9

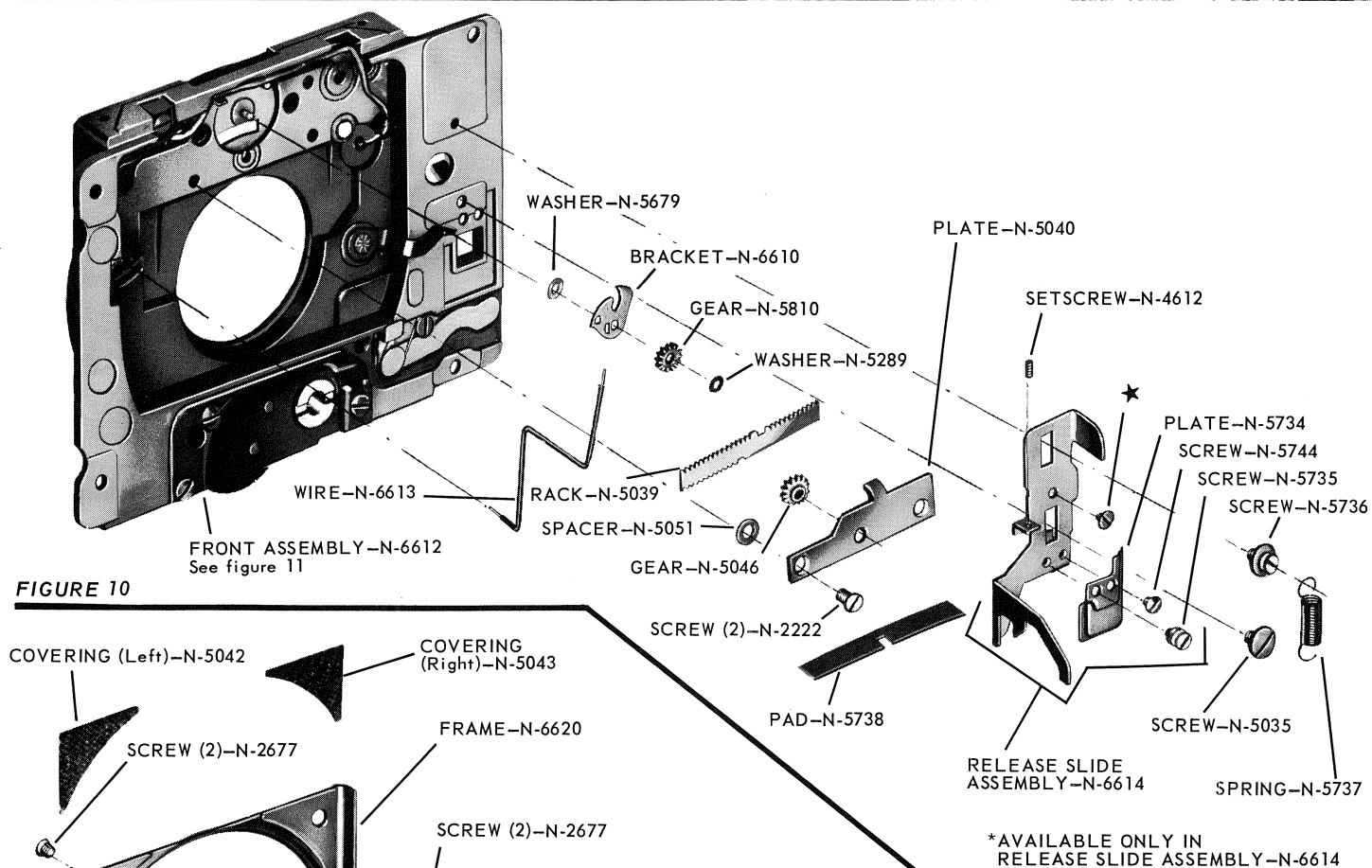


FIGURE 10

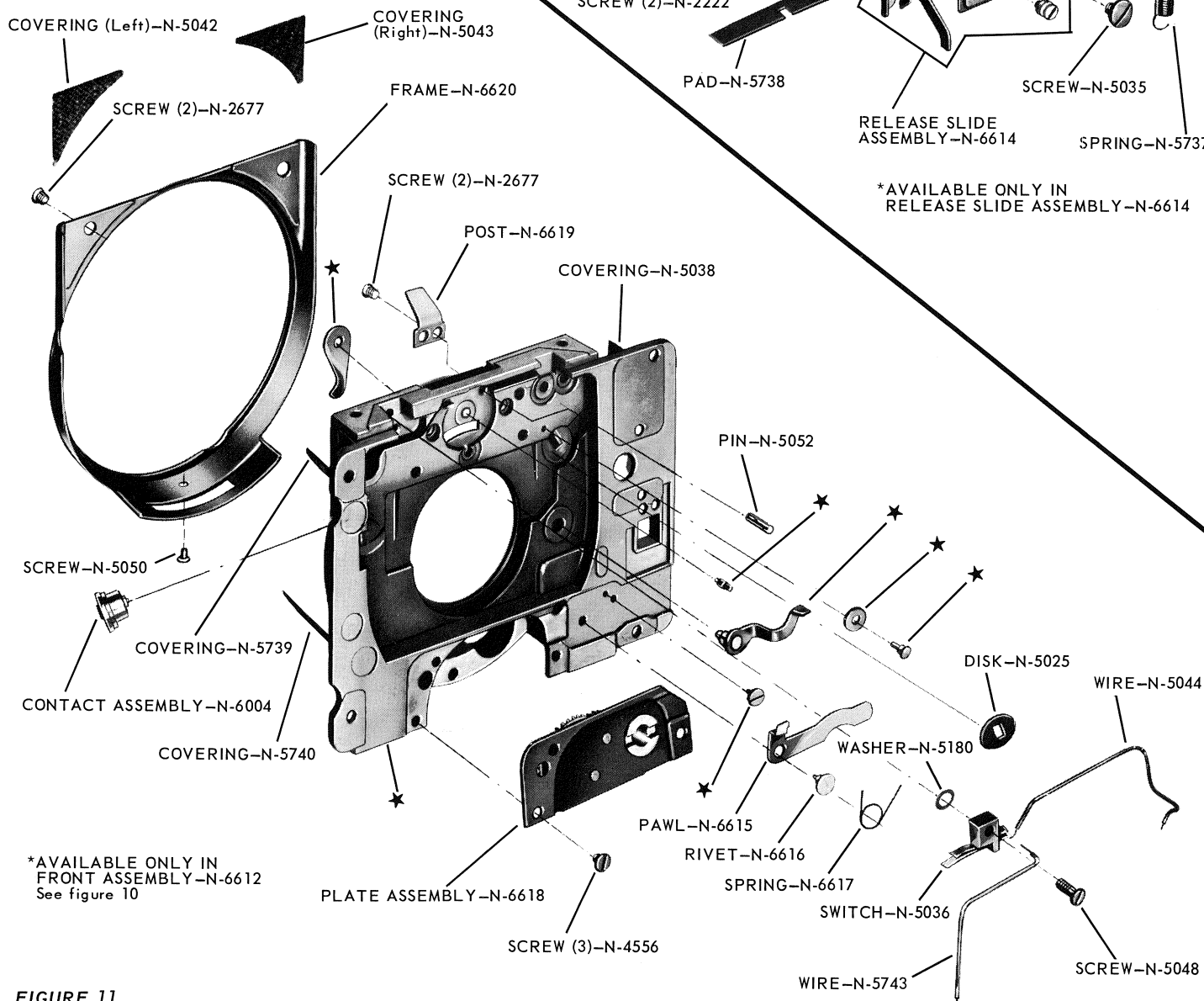


FIGURE 11

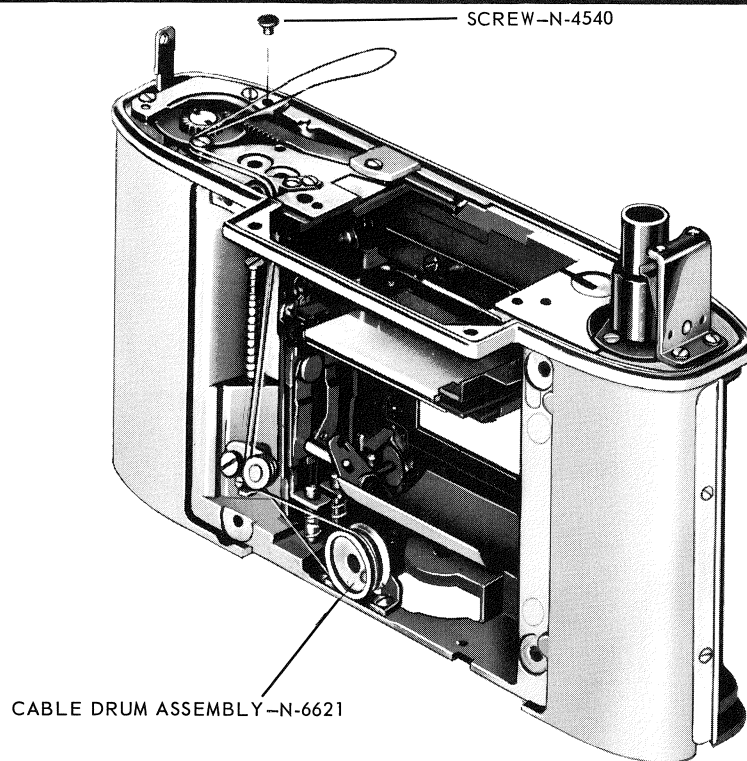


FIGURE 12

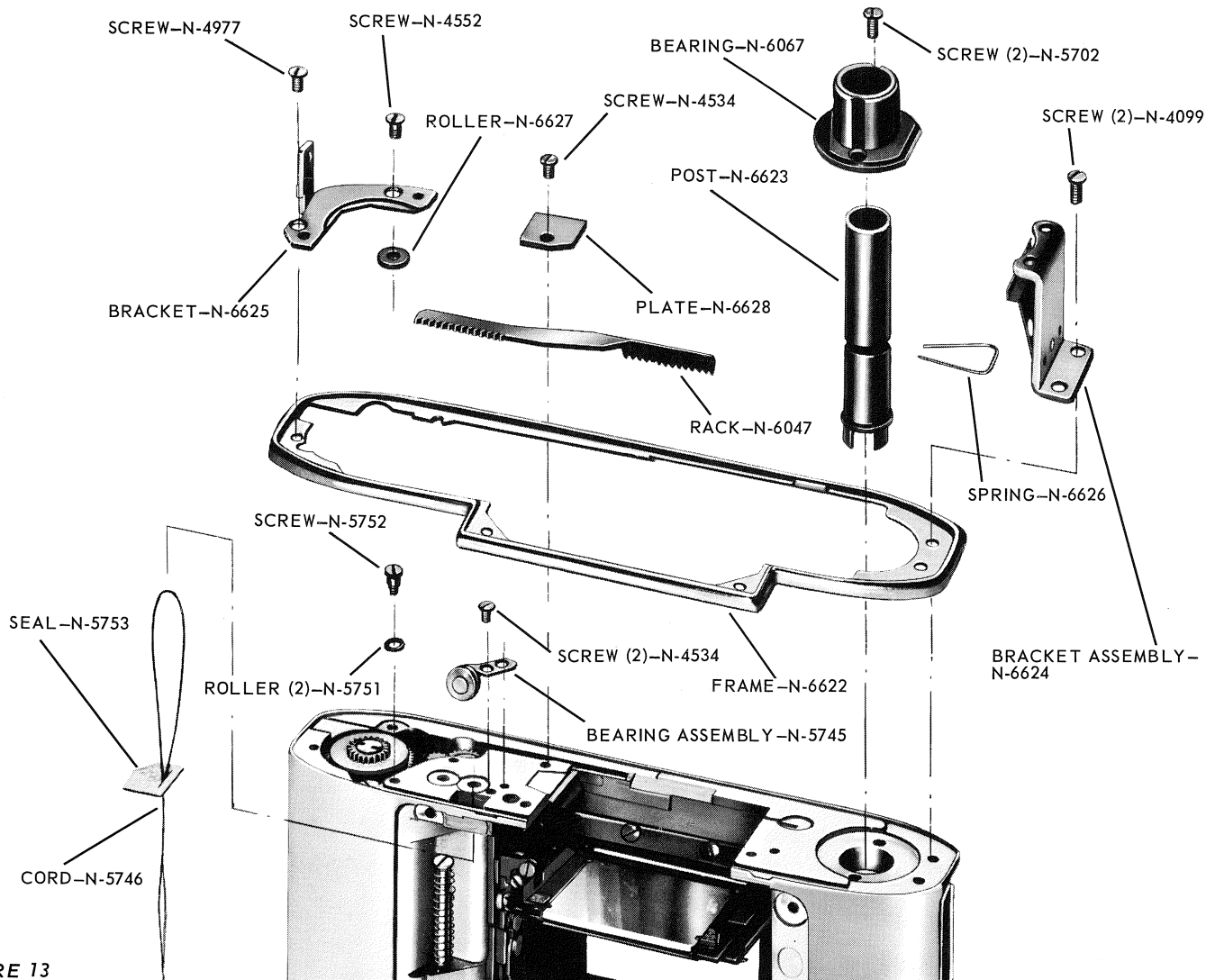


FIGURE 13

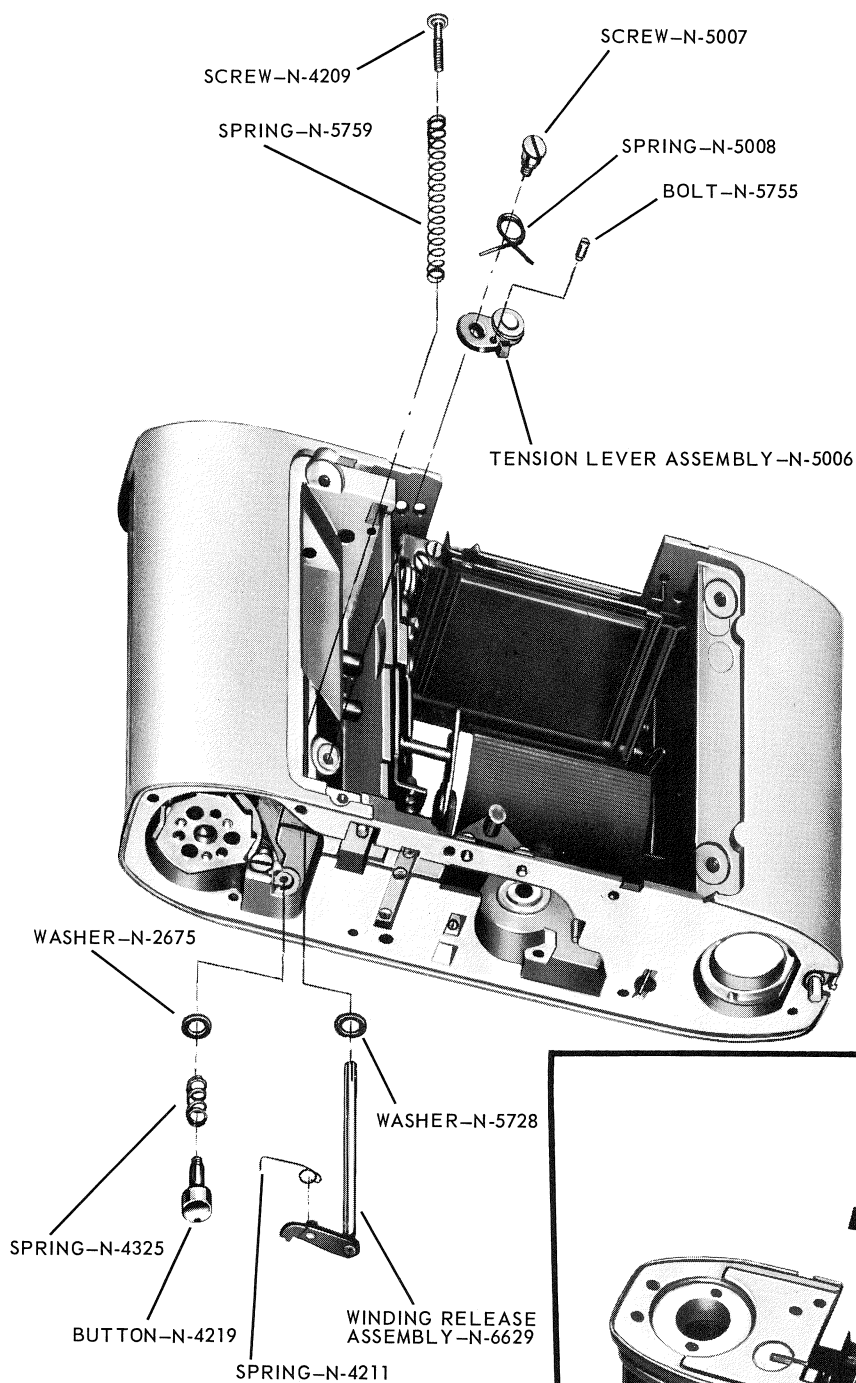


FIGURE 14

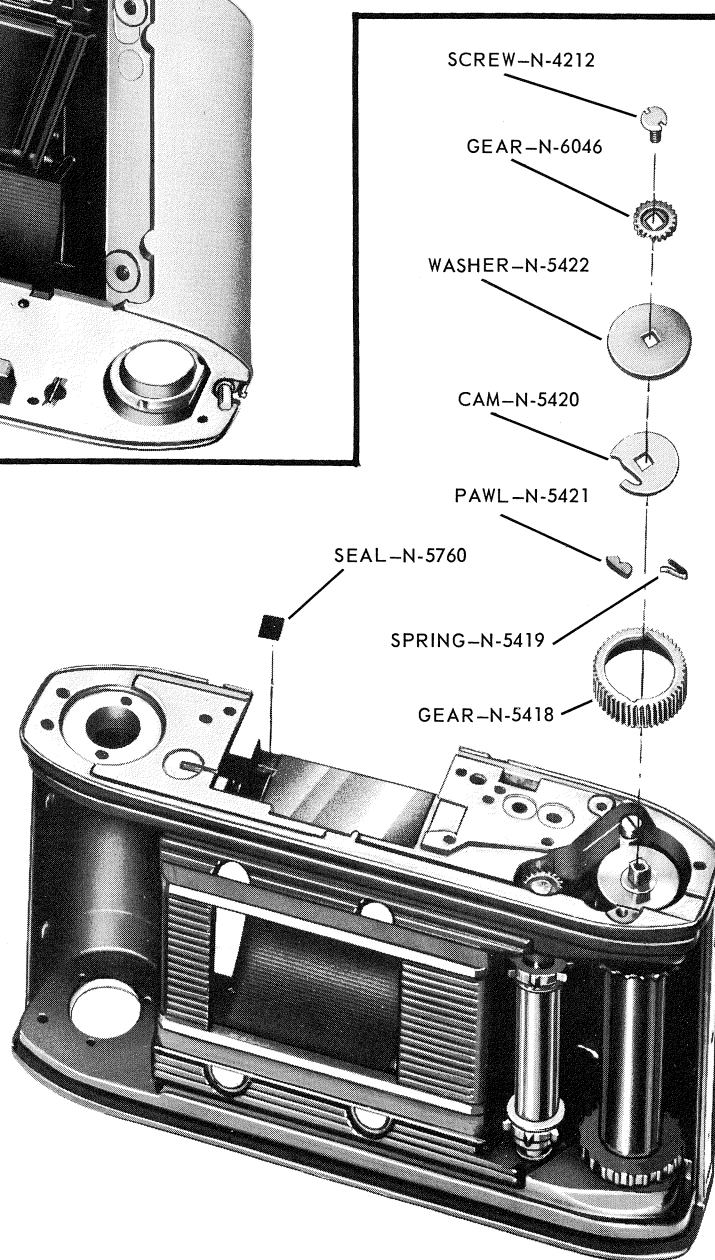


FIGURE 15

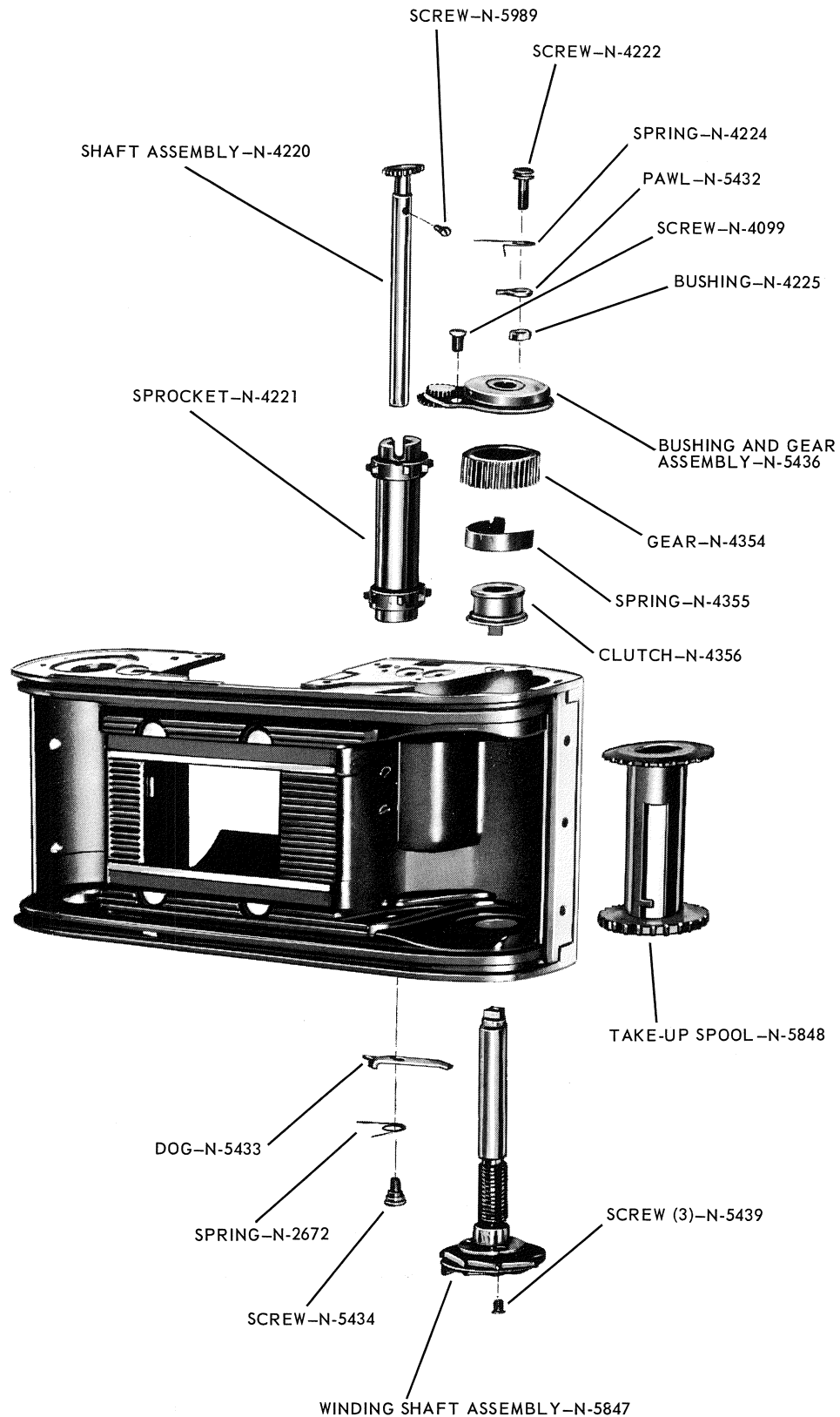


FIGURE 16

*AVAILABLE ONLY IN
LEVER ASSEMBLY-N-5762

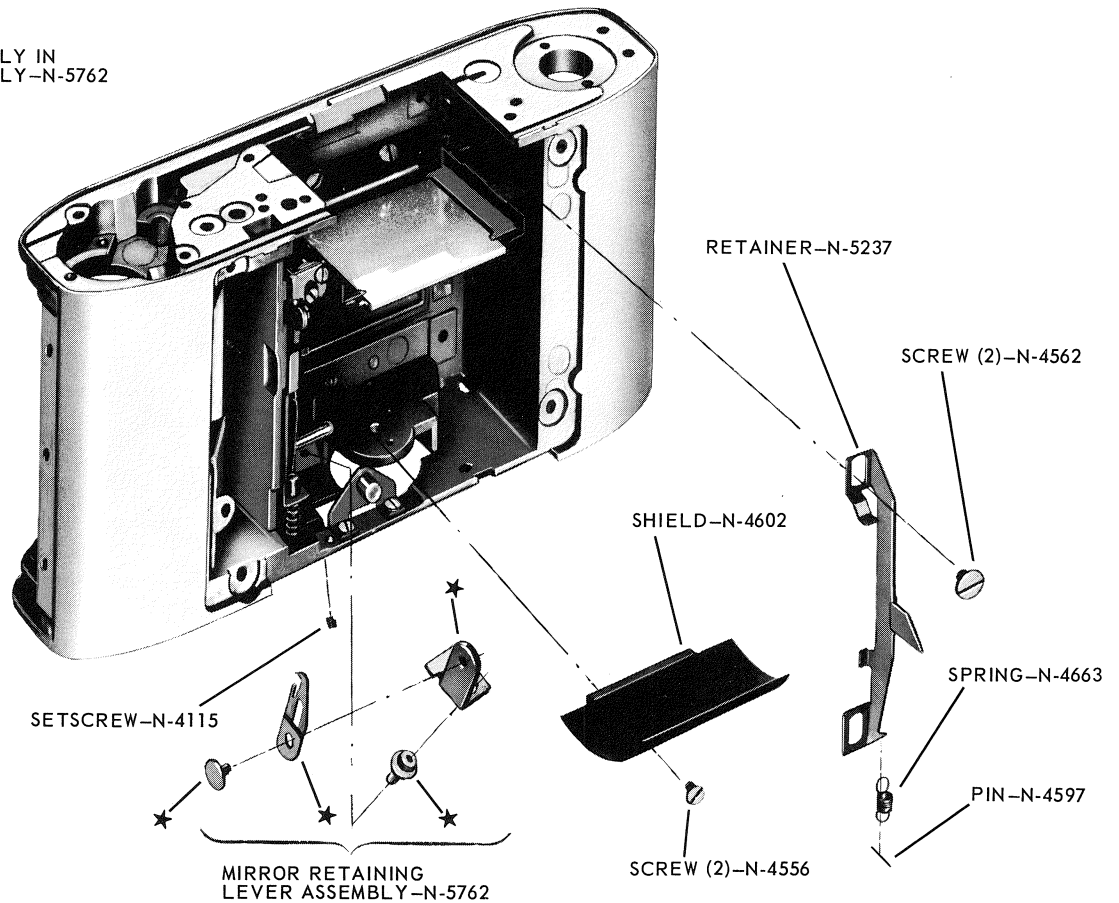


FIGURE 17

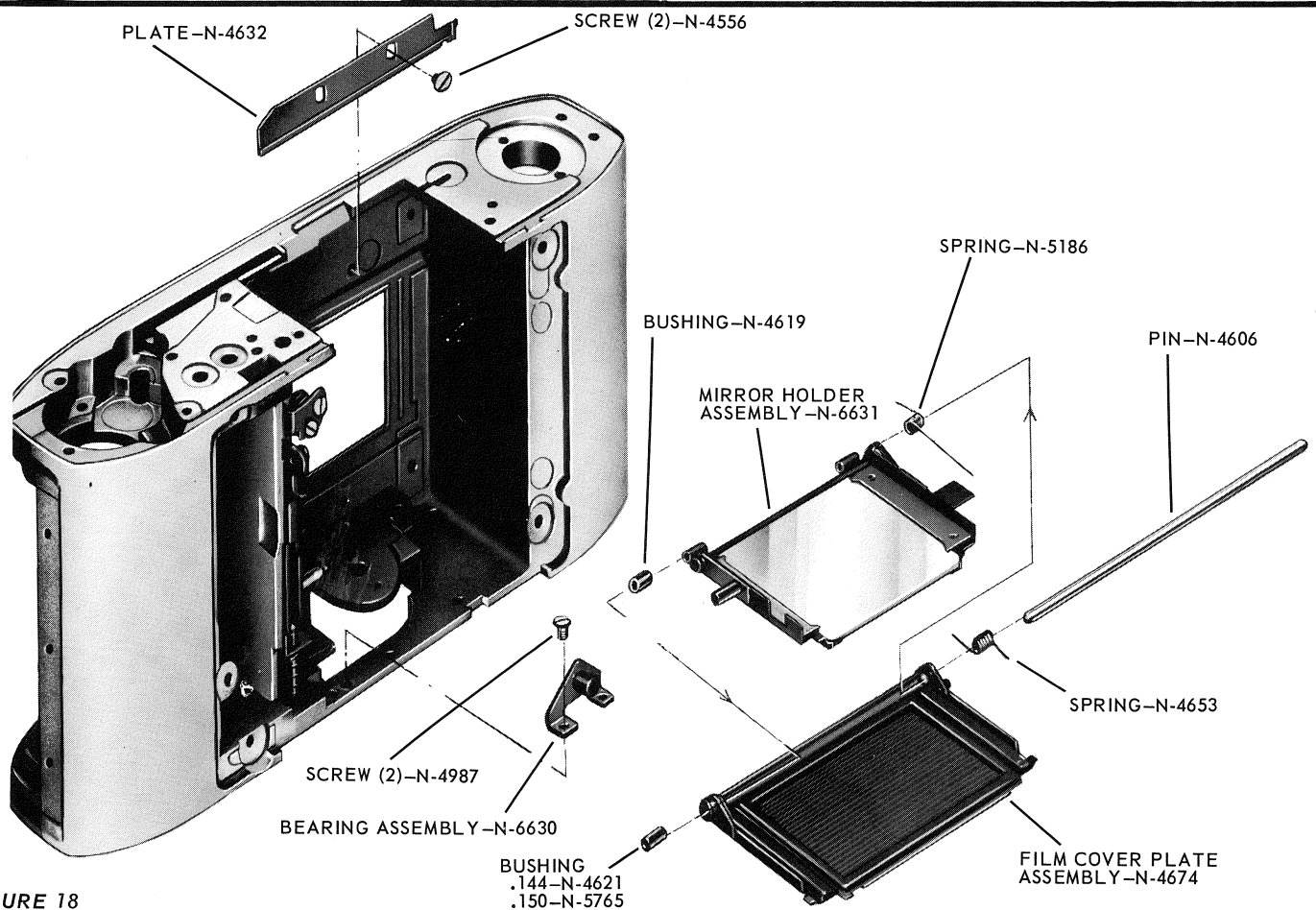
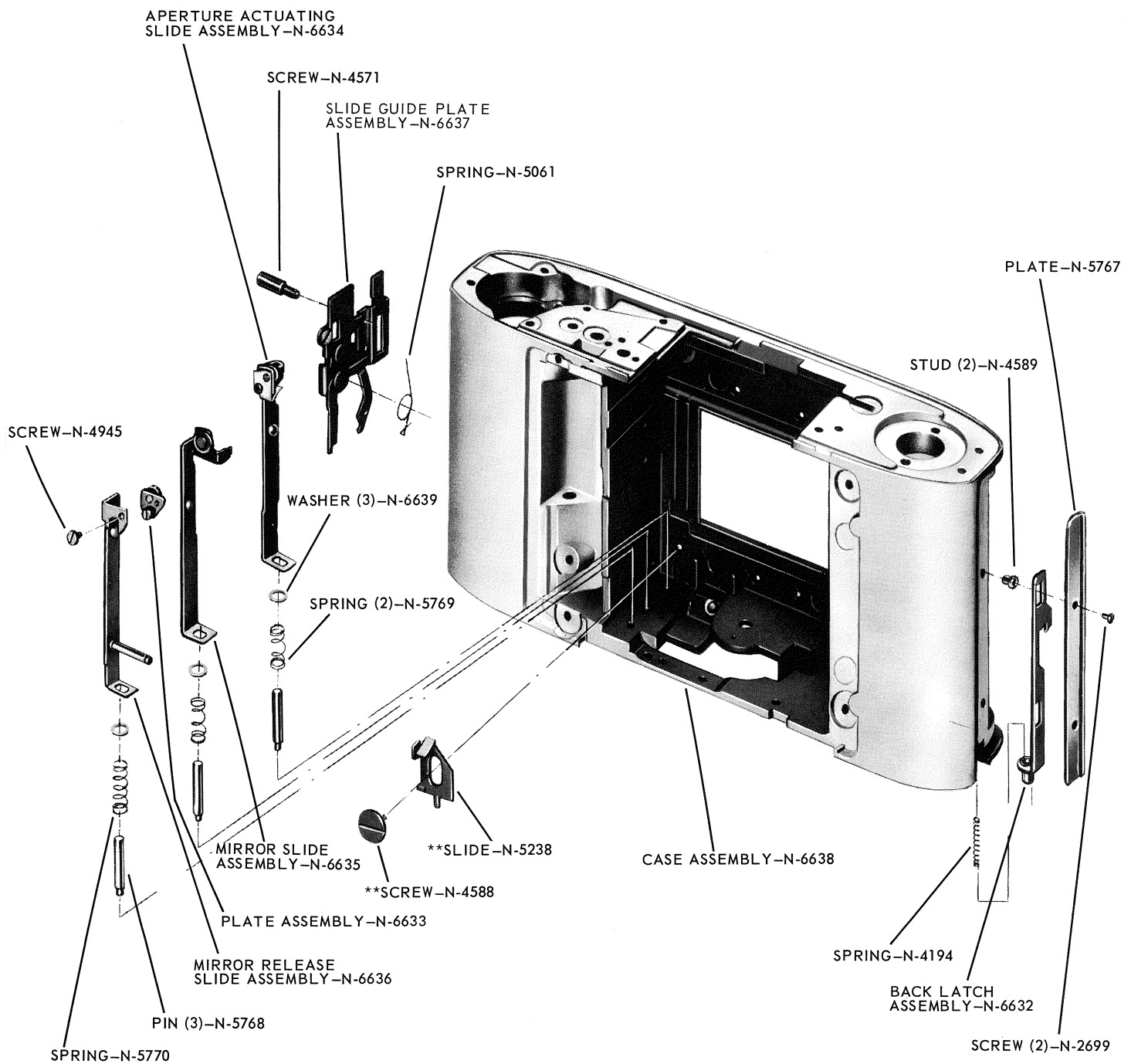


FIGURE 18



**INCLUDED IN CASE ASSEMBLY-N-6638

FIGURE 19

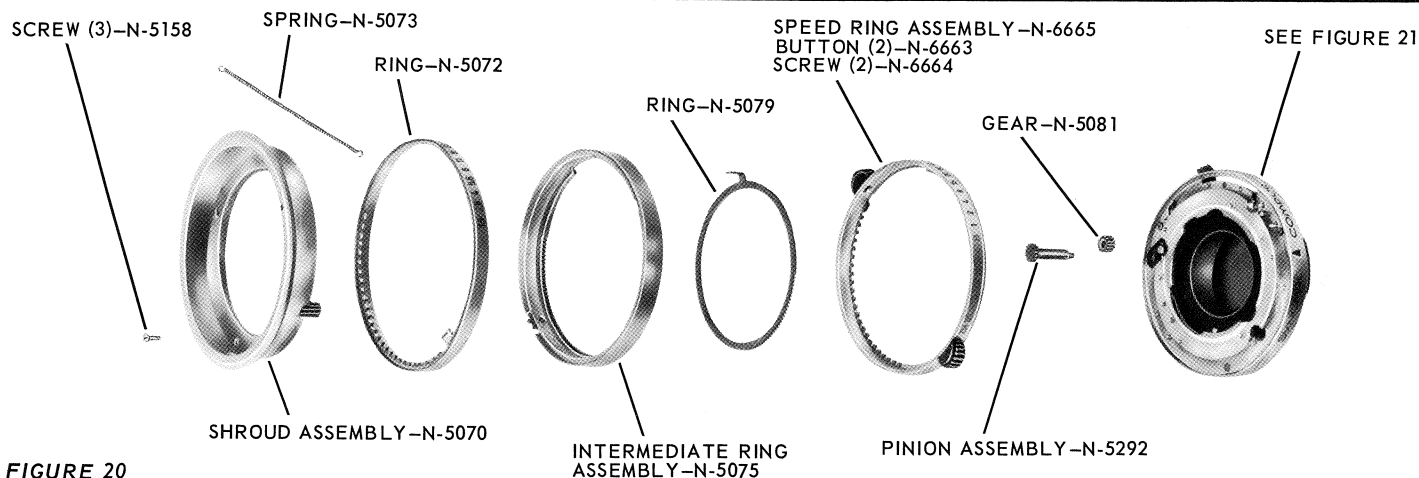


FIGURE 20

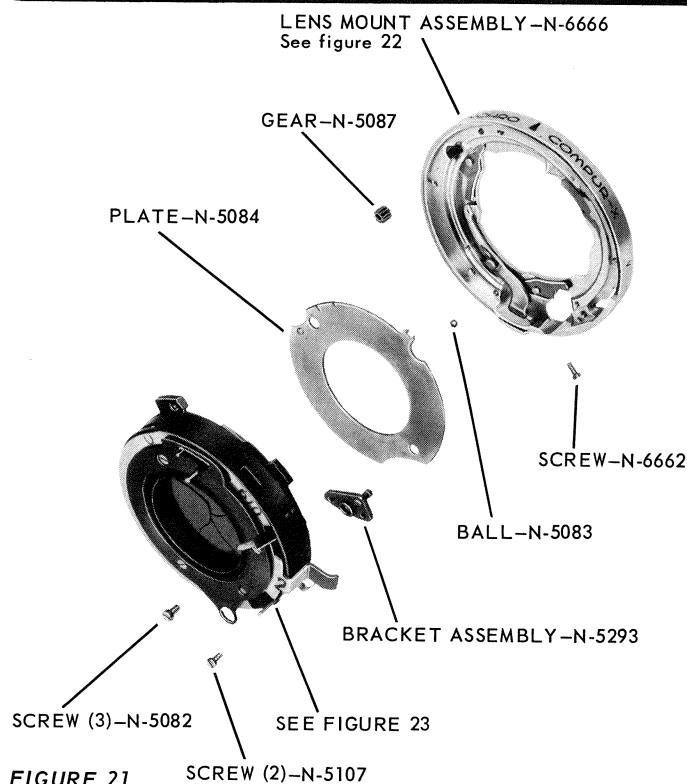


FIGURE 21

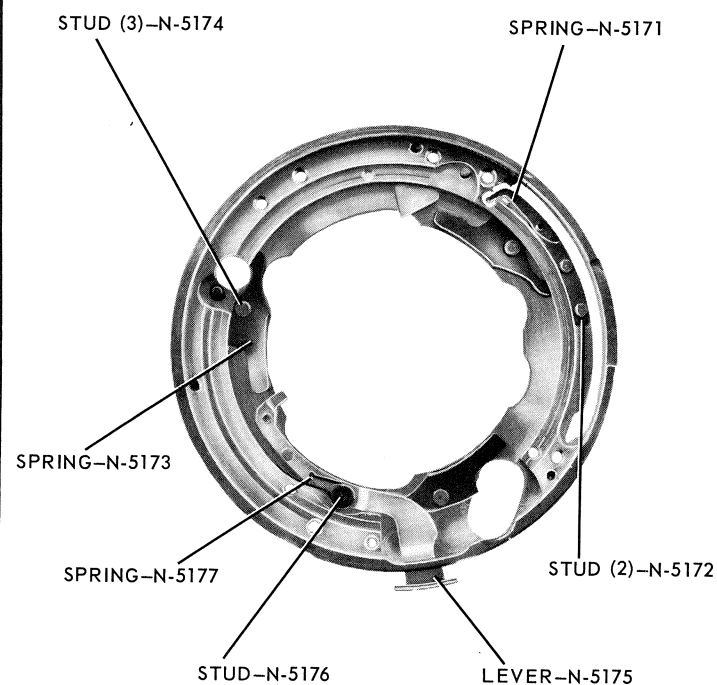


FIGURE 22-LENS MOUNT ASSEMBLY-N-6666

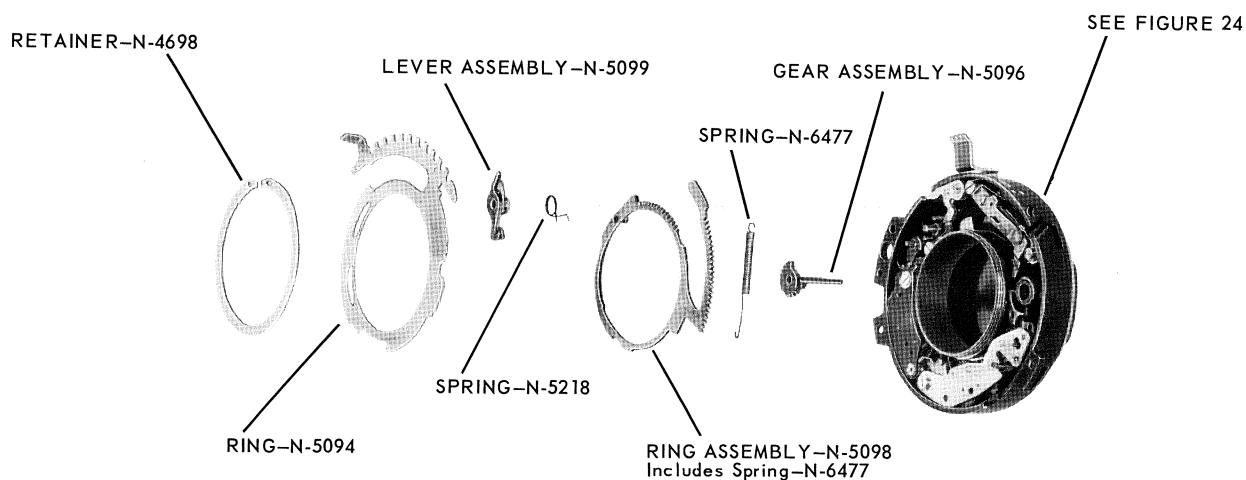


FIGURE 23

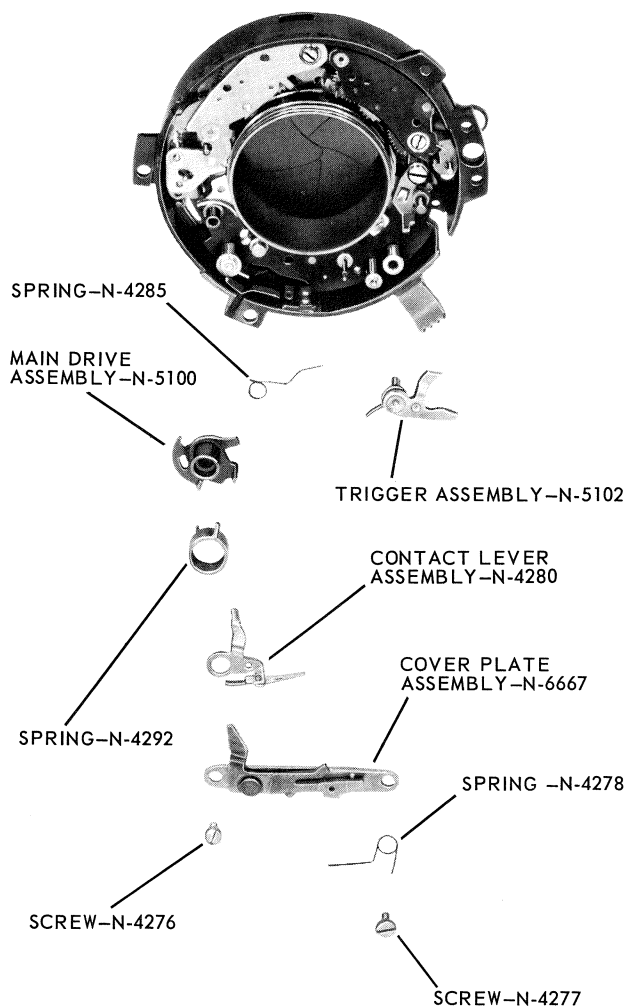


FIGURE 24

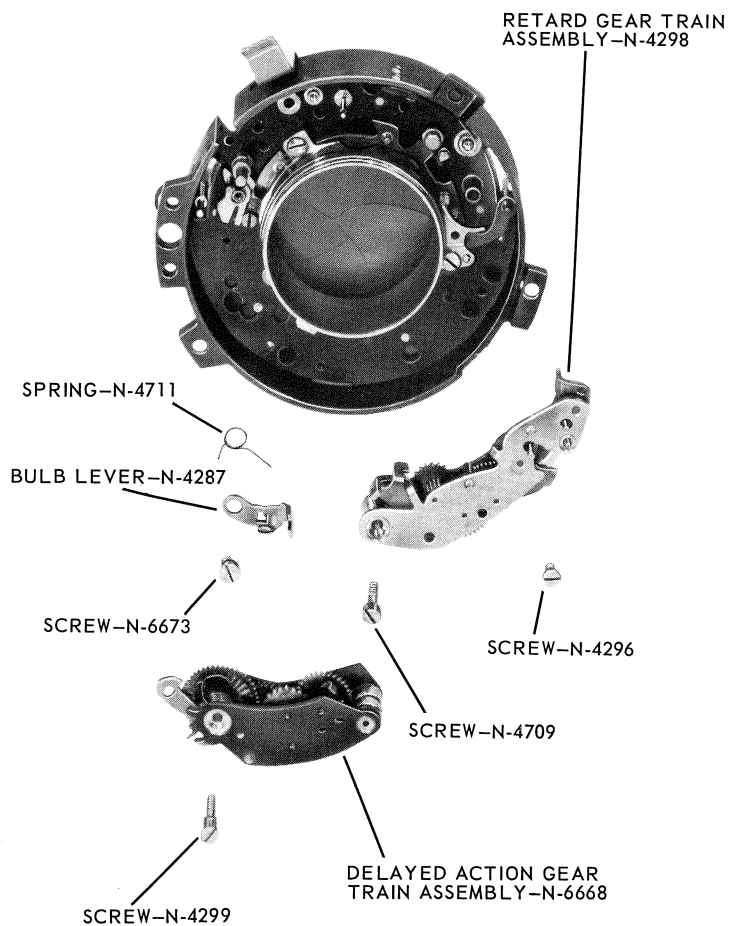


FIGURE 25

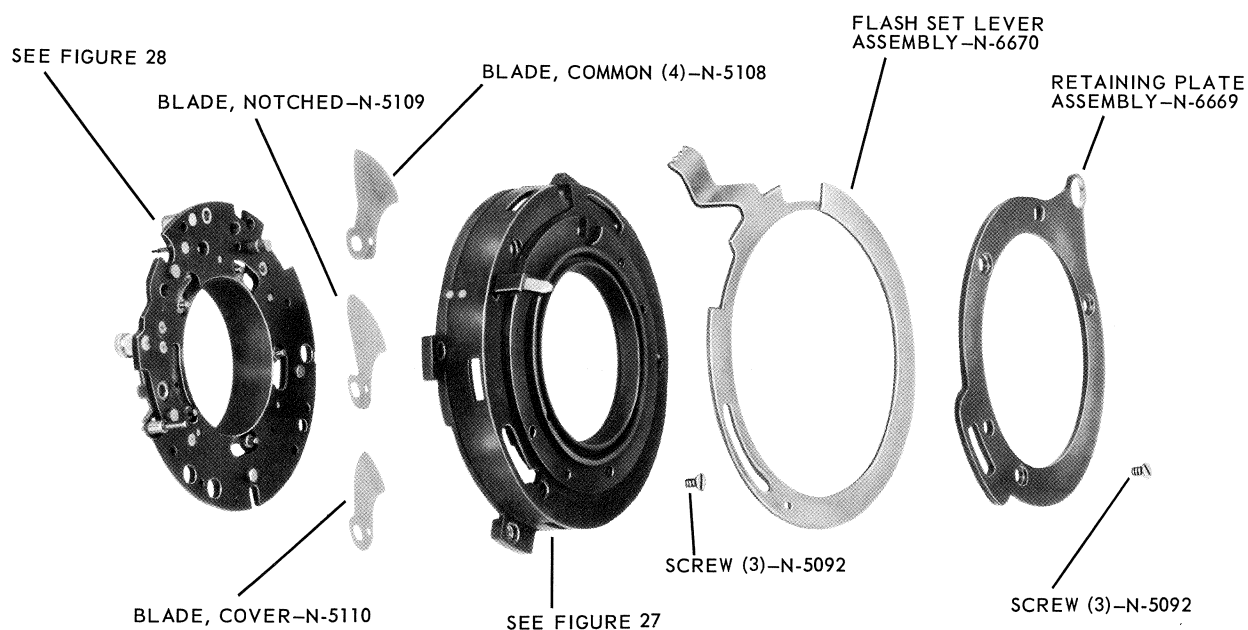


FIGURE 26

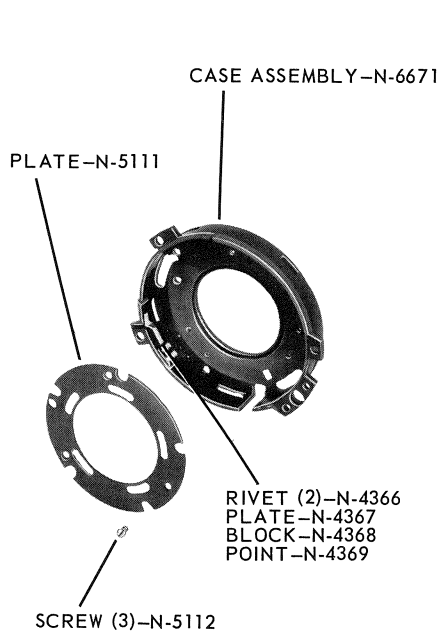


FIGURE 27

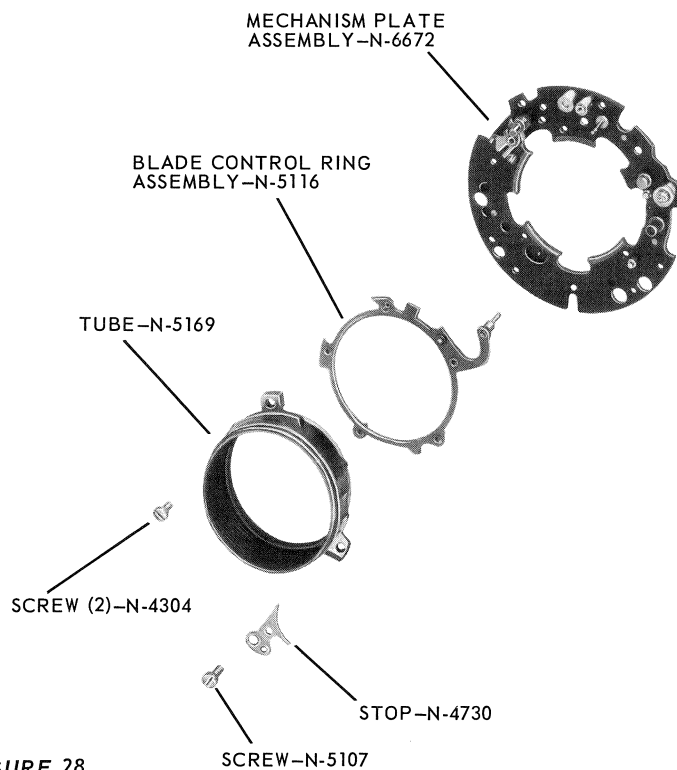


FIGURE 28

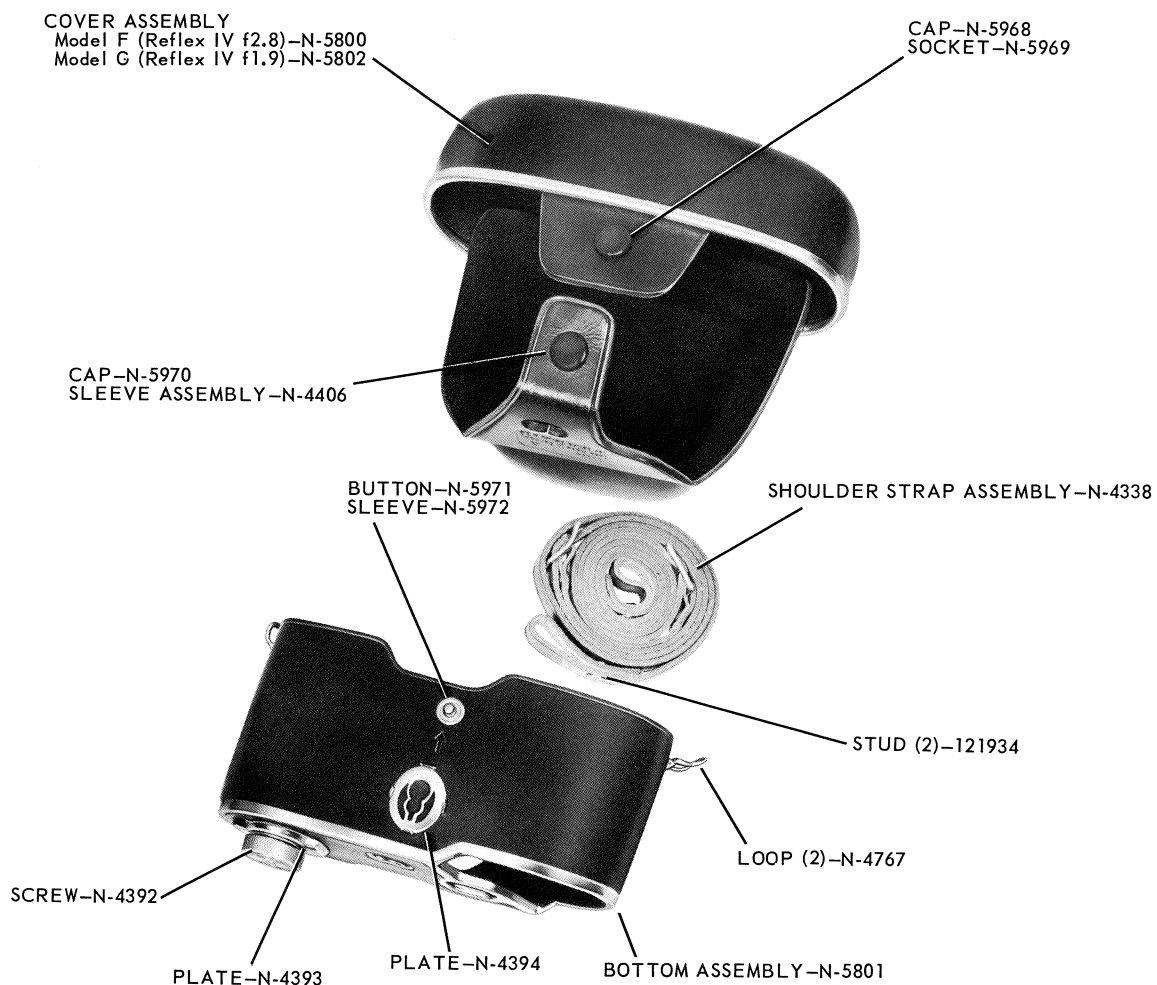


FIGURE 29-KODAK RETINA FIELD CASE, Models F and G

PART NO.	PART NAME	FIG.	PART NO.	PART NAME	FIG.
N-2222	Screw - Bearing plate	10	N-4621	Bushing - Film cover plate assembly (.144).	18
N-2618	Film Tension Pad Assembly.	2	N-4632	Plate - Retaining	18
N-2672	Spring - Rewind release dog.	16	N-4653	Spring - Hinge pin	18
N-2675	Washer - Rewind release button . .	14	N-4661	Covering - Back assembly.	2
N-2677	Screw - Back hinge to case	1	N-4663	Spring - Slide retainer tension . .	17
N-2699	Screw - Back latch plate to case . .	19	N-4674	Film Cover Plate Assembly.	18
N-2717	Spring - Tension pad.	2	N-4912	Screw - Distance scale	3
N-2722	Rivet - Closing strip to back	2	N-4921	Roller - Film	2
N-2962	Screw - Exposure meter to case . .	3	N-4945	Screw - Mirror release slide assembly to adjusting plate assembly.	19
N-4051	Screw - Top housing to left bracket	3	N-4962	Screw - Front to case.	8
N-4052	Screw - Top housing to right bracket	3	N-4963	Washer - Front to case spacer. . .	8
N-4099	Screw - Bracket to case (Left) . . .	13	N-4977	Screw - Top bracket (Right).	13
N-4115	Setscrew - Prism retaining	17	N-4978	Bushing - Insulating	3
N-4182	Screw - Tripod socket.	7	N-4987	Screw - Case to front assembly . .	8
N-4183	Socket - Tripod	7	N-5006	Tension Lever Assembly.	14
N-4184	Plate - Tripod socket	7	N-5007	Screw - Tension lever assembly. .	14
N-4194	Spring - Back latch assembly. . . .	19	N-5008	Spring - Tension lever assembly. .	14
N-4209	Screw - Pressure spring.	14	N-5019	Gear - Shutter release	9
N-4211	Spring - Winding release assembly	14	N-5020	Bushing - Shutter release	9
N-4212	Screw - Winding shaft.	15	N-5021	Screw - Shutter release.	9
N-4219	Button - Rewind release	14	N-5023	Shutter Release Lever Assembly. .	9
N-4220	Sprocket Shaft Assembly	16	N-5025	Disk - Insulating	11
N-4221	Sprocket - Film.	16	N-5028	Spring - Front assembly leaf	9
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N-4224	Spring - Winding shaft assembly pawl	16	N-5031	Screw - Shutter to front assembly.	9
N-4225	Bushing - Winding shaft assembly pawl	16	N-5035	Screw - Release slide assembly . .	10
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N-4325	Spring - Rewind release button. . .	14	N-5040	Plate - Bearing	10
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N-4355	Spring - Winding shaft assembly clutch	16	N-5043	Covering - Frame (Right)	11
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N-4530	Covering - Winding lever assembly.	7	N-5048	Screw - Switch to front	11
N-4534	Screw - Hold down plate and bearing assembly	13	N-5050	Screw - Frame to front assembly .	11
N-4540	Screw - Cable	12	N-5051	Spacer - Bearing plate	10
N-4543	Strip - Closing.	2	N-5052	Pin - Grooved	11
N-4545	Rivet - Hinge.	2	N-5061	Spring - Slide guide plate assembly	19
N-4552	Screw - Bracket to case (Right) . .	13	N-5179	Setscrew - Governing shaft assembly.	8
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N-4562	Screw - Slide retainer.	17	N-5186	Spring - Mirror holder assembly .	18
N-4571	Screw - Slide guide plate assembly	19	N-5237	Retainer - Slide.	17
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N-4588	Screw - Locking slide.	19	N-5289	Washer - Control bracket gear. . .	10
N-4589	Stud - Back latch plate	19	N-5320	Spring - Tension	7
N-4597	Pin - Slide retainer tension spring	17	N-5417	Screw - Winding lever assembly. .	7
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N-4606	Pin - Film cover plate assembly hinge.	18	N-5419	Spring - Film advance gear	15
N-4612	Setscrew - Release slide assembly	10	N-5420	Cam - Winding shaft assembly . .	15
N-4613	Plate - Hinge assembly.	2	N-5421	Pawl - Winding shaft assembly. . .	15
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			N-5434	Screw - Rewind release dog.	16
			N-5436	Bushing and Gear Assembly.	16

PART NO.	PART NAME	FIG.	PART NO.	PART NAME	FIG.
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N-5679	Washer - Control bracket	10	N-6027	Scale - Curtagon Lens, 25mm f2.8.	3
N-5702	Screw - Exposure meter to case. .	3	N-6028	Scale - Tele-Arton Lens, 85mm f4	3
N-5703	Mount - Top housing eyepiece. . .	5	N-6029	Scale - Tele-Xenar Lens, 135mm	
N-5704	Mask - Top housing eyepiece	5		f4.	3
N-5707	Window - Meter.	5	N-6046	Gear - Shutter setting rack	15
N-5709	Covering - Side (Right).	6	N-6047	Rack - Setting	13
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N-5713	Meter Actuating Drum Assembly. .	6	N-6403	Setscrew - Insulating bushing. . . .	3
N-5714	Screw - Cable drum assembly . . .	6	N-6543	Shaft - Rewind.	1
N-5715	Bolt - Distance	6	N-6544	Spring - Rewind knob	1
N-5723	Spring - Counter slide assembly. .	7	N-6545	Knob - Rewind.	1
N-5727	Screw - Ratchet assembly	7	N-6546	Bearing - Rewind crank.	1
N-5728	Washer - Wind release assembly .	14	N-6547	Rewind Spring Assembly	1
N-5729	Plate - Cover	9	N-6548	Rewind Crank Assembly	1
N-5734	Plate - Release slide assembly. . .	10	N-6549	Viewfinder Assembly	3
N-5735	Screw - Release slide assembly		N-6550	Plate - Viewfinder support (.004) .	3
	plate.	10	N-6551	Plate - Viewfinder support (.008) .	3
N-5736	Screw - Bearing.	10	N-6552	Plate - Viewfinder support (.012) .	3
N-5737	Spring - Tension	10	N-6553	Plate - Viewfinder support (.016) .	3
N-5738	Pad - Bearing plate	10	N-6554	Pad - Rubber.	3
N-5739	Covering - Front assembly (Left,		N-6555	Top Housing Assembly	3
	top).	11	N-6556	Scale - KODAK RETINA XENAR	
N-5740	Covering - Front assembly (Left,			Lens, 50mm f2.8.	3
	bottom)	11	N-6557	Exposure Meter Assembly.	3
N-5743	Wire - Switch (No. 2)	11	N-6558	Screw - Viewfinder mounting	3
N-5744	Screw - Release slide assembly		N-6559	Washer - Viewfinder mounting	
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N-5745	Cord Transmission Bearing		N-6560	Compartment - Viewfinder.	4
	Assembly.	13	N-6561	Mask - Viewfinder	4
N-5746	Cord - Transmission	13	N-6562	Plate - Pentaprism seperator. . . .	4
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N-5752	Screw - Cable bearing.	13	N-6564	Viewfinder Prism Assembly.	4
N-5753	Seal - Transmission cord dust . . .	13	N-6565	Mask - Pentaprism.	4
N-5755	Bolt - Tension lever assembly . . .	14	N-6566	Viewfinder Bearing Plate Assembly	4
N-5758	Pin - Slide assembly guide.	19	N-6567	Lens - Viewfinder (Flat).	4
N-5759	Spring - Tension	14	N-6568	Lens - Viewfinder (Curved).	4
N-5760	Seal - Dust	15	N-6569	Pentaprism.	4
N-5762	Mirror Retaining Lever Assembly.	17	N-6570	Window - Viewfinder compartment	4
N-5765	Bushing - Film cover plate		N-6571	Screw - Pentaprism bracket	
	assembly (.150).	18		assembly.	4
N-5767	Plate - Back latch assembly.	19	N-6572	Bushing - Winding knob	5
N-5768	Pin - Slide assembly.	19	N-6573	Pedestal - Flashholder.	5
N-5769	Spring - Aperture actuating slide		N-6574	Pin - Contact.	5
	assembly.	19	N-6575	Spring - Contact pin	5
N-5770	Spring - Mirror release slide		N-6576	Flashholder Contact Spring	
	assembly.	19		Assembly.	5
N-5810	Gear - Control bracket	10	N-6577	Clip - Flashholder.	5
N-5847	Winding Shaft Assembly.	16	N-6578	Window - Top housing eyepiece. . .	5
N-5848	Spool - Film take-up.	16	N-6579	Lens - Top housing eyepiece	5
N-5868	Scale - Tele-Xenar Lens, 200mm		N-6580	Lens - Top housing magnifying. . .	5
	f4.8.	3	N-6581	Screw - Contact pin spring.	5
N-5974	Screen - Diffusing	1	N-6582	Screw - Flashholder clip (Short). . .	5
N-5976	Spacer - Prism bracket assembly.	4	N-6583	Screw - Flashholder clip (Long). . .	5
N-5978	Button - Lock	3	N-6584	Button - Release	6
N-5979	Frame - Exposure meter.	3	N-6585	Covering - Release button	6
N-5988	Cap - Meter window	5	N-6586	Screw - Release button	6
N-5989	Screw - Sprocket shaft assembly. .	16	N-6587	Disk - Insulating	6
N-5591	Plate - Prism protective.	4	N-6588	Bottom Frame Assembly.	7
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N-6005	Winding Lever Assembly.	7	N-6590	Disk - Index	7

PART NO.	PART NAME	FIG.	PART NO.	PART NAME	FIG.
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N-6593	Ratchet Lever Assembly	7	N-6617	Spring - Pawl	11
N-6594	Spring - Ratchet lever assembly . .	7	N-6618	Bearing Plate Assembly	11
N-6595	Lever - Stop	7	N-6619	Post - Angular	11
N-6596	Screw - Ratchet spring lever assembly	7	N-6620	Frame - Front	11
N-6597	Spring - Stop lever	7	N-6621	Cable Drum Assembly	12
N-6598	Covering - Bottom Assembly	7	N-6622	Frame - Top	13
N-6599	Screw - Tripod socket locating . .	7	N-6623	Post - Rewind	13
N-6600	Ring - Tripod socket	7	N-6624	Top Bracket Assembly	13
N-6601	Covering - Tripod socket ring . .	7	N-6625	Bracket - Top	13
N-6602	Screw - Tripod socket ring	7	N-6626	Spring - Rewind post	13
N-6603	Washer - Disk friction	7	N-6627	Roller - Top bracket (Right)	13
N-6604	Washer - Counter Slide Assembly (.002)	7	N-6628	Plate - Hold down	13
N-6605	Washer - Counter Slide Assembly (.004)	7	N-6629	Winding Release Assembly	14
N-6606	Cam Assembly	8	N-6630	Bearing Angle Assembly	18
N-6607	Washer - Cam Assembly (.008) . .	8	N-6631	Mirror Holder Assembly	18
N-6608	Yarn - Front Assembly	9	N-6632	Back Latch Assembly	19
N-6609	Shutter Complete	9	N-6633	Adjusting Plate Assembly	19
N-6610	Bracket Control	10	N-6634	Aperture Actuating Slide Assembly	19
N-6611	Back Assembly	1	N-6635	Mirror Slide Assembly	19
N-6612	Front Assembly	10	N-6636	Mirror Release Slide Assembly . .	19
N-6613	Wire - Contact	10	N-6637	Slide Guide Plate Assembly	19
N-6614	Release Slide Assembly	10	N-6638	Case Assembly	19
			N-6639	Washer - Slide assembly	19
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SYNCHRO COMPUR-X SHUTTER

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N-4277	Screw - Cover plate assembly (Right)	24	N-5084	Plate - Dust cover	21
N-4278	Spring - Main drive lock	24	N-5087	Gear - Diaphragm ring idler	21
N-4280	Contact Lever Assembly	24			
N-4285	Spring - Blade operating check . .	24	N-5092	Screw - Case assembly to mechanism plate assembly	26
N-4287	Lever - Bulb	25	N-5094	Ring - Speed	23
N-4292	Spring - Main drive	24	N-5096	Cocking Ring Gear Assembly	23
N-4296	Screw - Retard gear train assembly	25	N-5098	Cocking Ring Assembly	23
N-4298	Retard Gear Train Assembly	25	N-5099	Lock Lever Assembly	23
N-4299	Screw - Delayed action gear train assembly	25	N-5100	Main Drive Assembly	24
N-4304	Screw - Shutter tube retaining . .	28	N-5102	Trigger Assembly	24
N-4366	Rivet - Contact block retaining plate	27	N-5107	Screw - Coupler idler gear	21
N-4367	Plate - Contact block retaining . .	27	N-5108	Blade - Shutter, common	26
N-4368	Block - Contact	27	N-5109	Blade - Shutter, notched	26
N-4369	Point - Contact	27	N-5110	Blade - Shutter, cover	26
N-4698	Retainer - Speed ring	23	N-5111	Plate - Case assembly filler	27
N-4709	Screw - Retard gear train assembly	25	N-5112	Screw - Case filler to case assembly	27
N-4711	Spring - Bulb lever	25	N-5116	Blade Control Ring Assembly	28
N-4730	Stop - Main drive gear	28	N-5158	Screw - Shroud retaining	20
N-5070	Shroud Assembly	20	N-5169	Tube - Shutter	28
N-5072	Ring - Diaphragm scale	20	N-5171	Spring - Detent ball	22
N-5073	Spring - Diaphragm scale	20	N-5172	Stud - Detent ball spring	22
N-5075	Intermediate Ring Assembly	20	N-5173	Spring - Lens mount tension	22
N-5079	Ring - Lens diaphragm opening . .	20	N-5174	Stud - Lens mount tension spring .	22
N-5081	Gear - Coupler idler	20	N-5175	Lever - Lens lock	22
N-5082	Screw - Shutter to lens mount . . .	21	N-5176	Stud - Lens lock lever	22
			N-5177	Spring - Lens lock lever	22

PART NO.	PART NAME	FIG.	PART NO.	PART NAME	FIG.
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N-5292	Pinion Assembly	20	N-6666	Lens Mount Assembly	21
N-5293	Coupler Idler Gear Bracket Assembly.	21	N-6667	Cover Plate Assembly.	24
N-6477	Spring - Cocking ring assembly . .	23	N-6668	Delayed Action Gear Train Assembly.	25
N-6662	Screw - Lens mount assembly to idler gear assembly.	21	N-6669	Retaining Plate Assembly	26
N-6663	Button - Speed ring assembly. . . .	20	N-6670	Flash Set Lever Assembly.	26
N-6664	Screw - Speed ring assembly button	20	N-6671	Case Assembly	27
			N-6672	Mechanism Plate Assembly	28
			N-6673	Screw - Bulb lever.	25

KODAK RETINA FIELD CASE, MODELS F and G

N-4338	Shoulder Strap Assembly.	29	N-5801	Bottom Assembly.	29
N-4392	Screw - Camera holding	29	N-5802	Cover Assembly Model G (Reflex IV f1.9)	29
N-4393	Plate - Camera holding screw retaining	29	N-5968	Cap	29
N-4394	Plate - Cover stud catch	29	N-5969	Socket	29
N-4406	Sleeve Assembly	29	N-5970	Cap	29
N-4767	Loop - Shoulder strap.	29	N-5971	Button	29
N-5972	Sleeve	29	121934	Stud - Shoulder strap	29
N-5800	Cover Assembly Model F (Reflex IV f2.8)	29			

EASTMAN KODAK COMPANY • ROCHESTER, NEW YORK 14650

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Servicing the

KODAK RETINA REFLEX IV CAMERA



EASTMAN KODAK COMPANY
Apparatus Service Department
ROCHESTER, NEW YORK 14650

FORWARD

The *KODAK RETINA REFLEX IV* Camera is quite similar to the previous *KODAK RETINA REFLEX S* and *III* Cameras. Therefore, this manual is intended to supplement the knowledge and skills of servicemen already familiar with the earlier models.

Closely similar features are touched upon briefly, but new or extensively modified features (such as meter, meter linkage, finder assembly, and exposure counter) have been covered in greater detail. It is probable that some of the material will also be useful in servicing the earlier models.

Reference:

Service Manual No. 935 - *KODAK RETINA REFLEX S* Camera
Service Manual No. 1192 - *KODAK RETINA REFLEX III* Camera

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LUBRICANTS AND SEALER

<u>Lubricant</u>	<u>Use</u>
A&O 60-3354 or A&O 61-3663 Grease (Silicone)	Rewind Assembly
A&O 61-3686 Oil	Rollers on Slide N6634, 35 or 36 Pinion on N5070 Front Shroud Springs N4653 & N5186 (Aperture Cover & Mirror Bracket)
A&O 61-3627	Various Racks, Bearings, Intermediate ring, Wind shaft, Control shaft and other bearing surfaces.
A&O 61-3778 Dry Molycote	Wind pawl and various surfaces requiring a dry lubricant.
RGP 7056 Insulating Sealer	Insulating Washer N6587 on top of case and Insulating Washer N5025 on rear of front mount. Around N6618 Setting Wheel Bearing Plate on rear of front mount.

I. FILM TRANSPORT

SPECIFICATIONS

1. Rewind assembly should:

- 1.1 Be retained flush with top housing by a double detent action.
- 1.2 Have crank arm retained flush with rewind knob by spring action.
- 1.3 When crank arm is unfolded 180°, be withdrawn only from its second detent position and move upward by spring action approximately 1/4" into rewind position.
- 1.4 Be retained in rewind position (1.3) by its first detent position.
- 1.5 Not require excessive vertical force to extend or retract into either rewind, reload or load positions.
- 1.6 Rotate in either direction with a minimum of resistance.
- 1.7 Rewind film smoothly and without requiring excessive force.

2. Rewind clutch button should:

- 2.1 When depressed, release film transport for rewind action.
- 2.2 Remain in a depressed position until released on first actuation of film advance lever.

3. Film advance lever actuation should:

- 3.1 Have forward action locked against return action at any intermediate position.
- 3.2 Have return action locked against forward action at any intermediate position.
- 3.3 Close aperture cover, lower mirror, open shutter blades, set shutter and open diaphragm blades of any lens to full aperture.
- 3.4 Rotate sprocket and take-up spool (clutch assembly should have sufficient torque to take-up film).
- 3.5 Be locked against further actuation until shutter release button is depressed.
- 3.6 Be free of binds or rough action in either its forward or return action.
- 3.7 Advance film smoothly and without requiring excessive force.

4. Exposure release button should:

- 4.1 Be free of binds and have sufficient spring tension to return to its upper position.
- 4.2 Release film transport mechanism slightly before release of shutter.
- 4.3 Have a slight amount of overtravel after release of shutter.

5. Exposure counter mechanism should:

- 5.1 When back is closed, be actuated one index mark ($\pm 1/3$ division) for each actuation of advance lever or counter advance button.
- 5.2 Not be actuated beyond #1 position either by the advance lever or counter advance button.
- 5.3 When back is opened, return to "zero position" (midway between #1 and diamond) from any index number without binds or hesitation.
- 5.4 Have counter advance button action free of binds and with sufficient spring tension to return fully to next advance of dial.

6. Pressure pad, back frame, film roller back and film rails should be free of imperfections which can damage film.

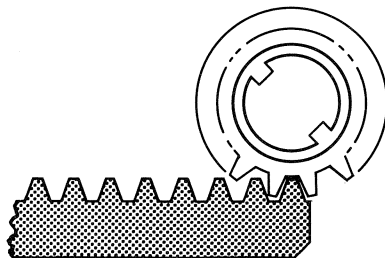
I. FILM TRANSPORT

7. In the event that exposure meter was removed to facilitate repairs, it should:
 - 7.1 Be reset to indicate correct exposure.
 - 7.2 Have cord locked to meter pulley.
8. In the event that front mount assembly was removed to facilitate repairs, the lens seats must be aligned using Tool #998.
9. In the event that finder assembly was removed to facilitate repairs, it must be aligned using Tool #1131 or by comparison with back frame image.

SERVICE HINTS

Service requirements to the film transport mechanism will be similar to those encountered in previous models. Basic differences are the exposure counter mechanism (self resetting) and the elimination of the lock-up feature when the counter reaches #1.

10. Rewind Assembly
 - 10.1 Knob and crank assembly unscrews from post in same manner as previous models. In reassembly, it is important that the extension post be oriented in the rewind post properly: If not properly assembled, the double detent positioning will be missing and rewind of the film will be impossible since unfolding of the crank will raise the complete post out of contact with the spool of cassette.
 - 10.2 The type of lubrication used on the post and bearing is important. Do not use petroleum base lubricants; they will destroy the plastic. A plastic lubricant such as A&O 60-3354 (Dow Corning #4) or A&O 61-3663 is recommended.
11. Rack and Gear Engagement
 - 11.1 To facilitate reassembly (if the same components are used), indicate the mesh or engagement of the rack and gear. The N6046 Gear has 21 teeth and a rotational change in position of 1/4, 1/2 or 3/4 of a turn can affect the shutter setting adjustment.
 - 11.2 If a new gear (N6046) is fitted, the position for setting the shutter will have to be found by the trial and error method.
 - 11.3 Regardless of the final position of the gear on wind shaft, it must be engaged with the rack as shown.



I. FILM TRANSPORT

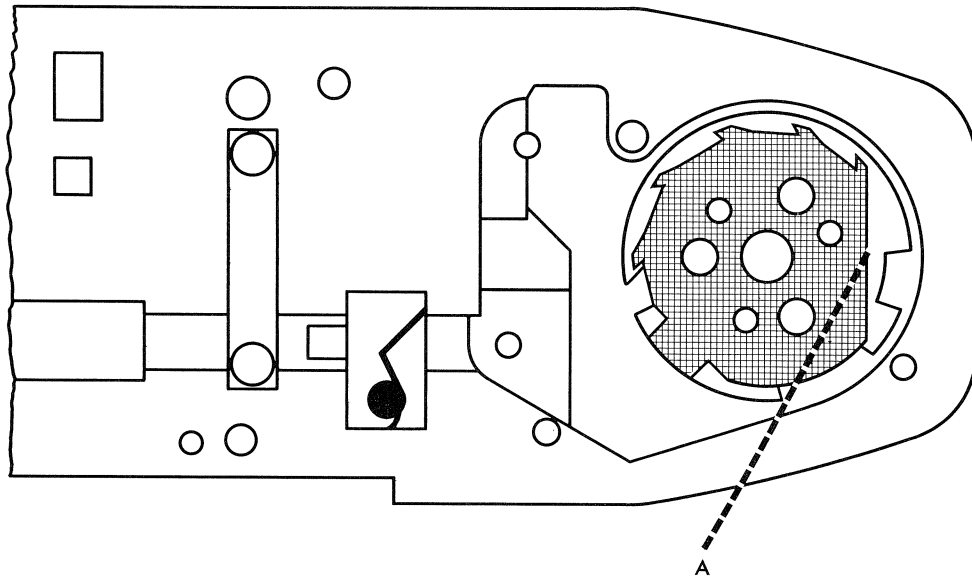
12. Erratic or chronic overlapping of negatives is generally caused by an excess of heavy grease on the N5421 Wind Shaft Pawl and its driving area.

If trouble of this type is encountered, the area should be thoroughly cleaned and relubricated as follows:

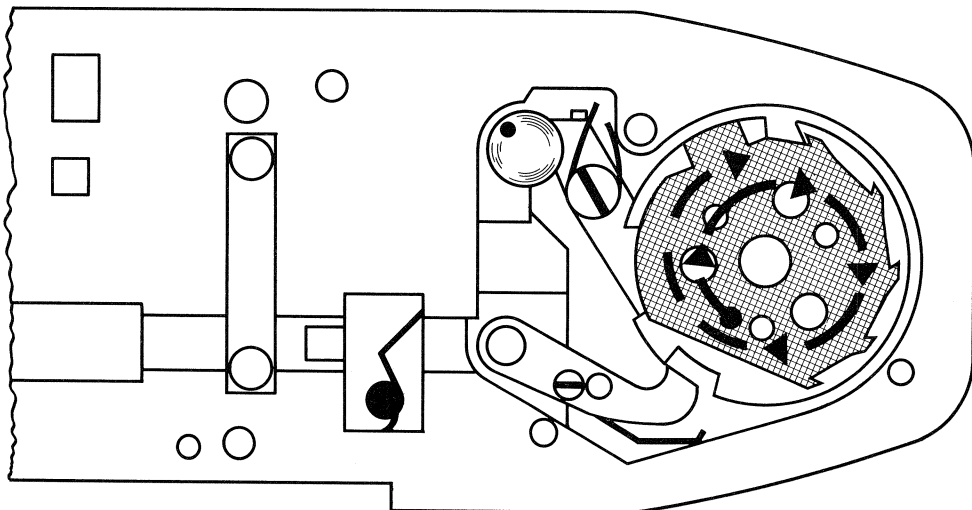
- a) Lubricate inner bearing surfaces of N5418 Gear sparingly with #3627 Grease.
- b) Lubricate with dry graphite or dry molycote the balance of the area and the components.
- c) Care should be used in assembling the pawl; the squared corner should engage the gear. If the rounded corner engages, it can cause erratic failure to advance film.

13. Wind Shaft - Tension

- 13.1 Install wind shaft with flated side A next to and parallel to end of case as shown.



- 13.2 Pretension shaft by rotating 1 1/3 turns from its original position as shown. Let wind release engage to maintain position during balance of assembly.



II. FINDER AND RANGEFINDER

14. Exposure Counter

Early production cameras were fitted with a two-piece mechanism consisting of a dial and a ratchet wheel. If trouble (jamming) is encountered, it will be necessary to install the new style assembly N6591.

Care should be used in alignment of the spring finger on N6592 Counter Slide Assembly. If the tip of the finger is too far toward the rear of the camera, the dial assembly may start the second rotation (after reaching #1). If this occurs, the return spring may be forced out of its anchorage in the case.

II. FINDER AND RANGEFINDER

SPECIFICATIONS

15. Lens seats must be aligned with back frame using Tool #998 or #1005.

NOTE: Tool #1005 Gauge requires the use of a surface plate and a universal height indicator.

16. Taking lens focus should be checked at a subject distance of 15' from film plane (approximately the top rear edge of top housing) with ground glass on back frame (ground side in).
17. Rangefinder accuracy should be checked at 15' and infinity settings of lens received with camera, or by using an f/2.8 or f/1.9 master lens. Tolerance: focus ring index mark should be within extended area which carries stationary index mark.
18. Fresnel lens ring must be clearly discernible and must show maximum sharpness at top and bottom in finder.
19. Rangefinder circles may show a slight misalignment in concentricity.
20. Finder accuracy in relation to back frame should be checked and adjusted as required either by visually comparing back frame (ground glass) and finder images or by using Tool #1131. Tolerance, using Tool #1131 Finder Alignment Fixture: two lines at side, top and bottom must be clearly visible in finder with lens (of tool) set at infinity and maximum aperture (midway between f/8 and f/11).
21. Any combination of speed and diaphragm ring indexes must be clearly visible at bottom of finder.
22. Exposure meter needle, pointers and red signal images must be clearly visible at left side of finder.

NOTE: A slight discrepancy between the needle alignment on the top housing and its image in the finder is allowable provided both are within the $\pm 1/2$ stop tolerance of the meter.

23. (OMITTED)

24. (OMITTED)

II. FINDER AND RANGEFINDER

SERVICE HINTS

25. Lens Seats

Tools #998 and #1005 and methods of adjustment are identical with previous models.

NOTE: Tool #1005 Gauge requires the use of a surface plate and a universal height indicator. It is not required if Tool #998 is available.

26. Fresnel Lens (in finder assembly).

26.1 For adjustment of sharpness of lines near bottom, interchange spacers under finder assembly.

26.2 For adjustment of sharpness of lines near top, displace mirror latch assembly.

27. Rangefinder

27.1 For major adjustments, interchange spacers under finder assembly.

NOTE: Use care, excessive adjustment can affect sharpness of fresnel lens. Refer to Instruction 26.1.

27.2 For minor adjustments, shift position of mirror latch position.

NOTE: Use care, excessive adjustments can affect sharpness of fresnel lens (Instruction 26.1) and may also affect the mirror latch release point (Instruction 73.3).

28. Rangefinder Circles

No adjustment is provided to control concentricity of circles.

29. Finder Alignment

NOTE: Finder alignment with back frame must be adjusted by either comparing images or using Tool #1131 whenever the finder assembly is removed and replaced. The following method describes the use of Tool #1131.

29.1 Check and adjust lens seats.

29.2 Fit Tool #1131 Finder Alignment Fixture in place of lens.

29.3 Set diaphragm at maximum aperture allowable with tool (midway between f/8 and f/11) and lens at infinity.

29.4 Set shutter, point lens toward a bright area or light and observe image in finder. Two shorter lines (on slide) should be visible at each side and top and bottom in finder.

NOTE: The longer third line at each side on slide indicates the edges of the back frame. It is automatically aligned when the tool is attached.

29.5 Corrections in alignment can be made by removing top housing, loosening the large screw at each side of finder and shifting finder assembly.

III. EXPOSURE METER LINKAGE

NOTE: Early production cameras should be fitted with N6599 Lock Washers on the finder retaining screws.

30. Speed and Diaphragm Ring Indication

No adjustment is provided; generally if trouble is encountered, one of the small mirrors will be loose.

31. Exposure Meter Needle Image

Some adjustment is provided by displacing the N6564 Prism Assembly at the right side of the finder assembly. Loosening the two screws at right side will allow movement of the assembly.

NOTE: Use care; adequate clearance between prism assembly and the rotating body of the meter must be maintained. Cleaning should be done with an antistatic cloth to help eliminate needle attraction.

III. EXPOSURE METER LINKAGE

SPECIFICATIONS

32. Actuation of ASA button upward should permit changing film speed indication as desired (with setting wheel) from 10 to 1250.

NOTE: Resistance may be encountered in setting film speed. Continue to turn setting wheel if possible; this changes the shutter speed automatically. However, if the shutter speed and lens opening scale have both reached the limit of travel it will be necessary to release the lock button, rotate the setting wheel until the lens opening scale is at its opposite extreme, then again press down the lock button and rotate the setting wheel to reach the desired film speed.

33. ASA scale of meter should hold its position at any setting within its range.

34. Meter setting wheel should (with lens assembly removed):

34.1 Rotate diaphragm ring from f/1.9 through f/22 and back to f/1.9 at any speed from "B" to "500" without binds or locking. (Check at "B" and 1/400 only).

34.2 When speed ring is at "500" and diaphragm ring is set to f/1.9 and extra force is applied, rotate speed ring from "500" to "B" and stop.

34.3 When speed ring is at "B" and diaphragm is at f/22 and extra force is applied, rotate speed ring from "B" to "500" and stop.

35. Exposure control signal (red flag) should be actuated as follows at an ASA setting of one index mark above 32 or (DIN. 17).

Start of Movement			End of Movement	
Speed	Diaphragm	Tolerance	Diaphragm	Tolerance
B	f/4	± 1/2 stop	f/2.8	± 1/2 stop
250	f/11	± 1/2 stop	f/1.6	± 1/2 stop

III. EXPOSURE METER LINKAGE

36. Meter setting wheel should (with any lens attached) actuate depth of field pointers through their full range.
37. With all light excluded from meter cell and camera set at ASA 10, B and f/1.9, needle should indicate the "zero position" when it aligns (within its own width) with the tip of the forward yellow pointer.
38. Centering meter needle within the index pointers on top or in finder should indicate a diaphragm setting of $f/5.6 \pm 1/2$ stop with camera settings of ASA 25 and shutter speed of 1/125 at a light source equal to 560 ft. lamberts (Tool #991 Exposure Meter Tester set at 100 volts).
39. A slight discrepancy between the needle alignment on top and its image in the finder is allowable provided both are within the 1/2 stop tolerance of the meter.
40. Meter needle sticking in either extreme position (low or high light) is allowable provided it breaks loose under a light jar or shock.
41. In the event front mount is removed to facilitate repairs, the lens seats must be aligned with Tool #998.
42. In the event the finder assembly was removed to facilitate repairs, it must be aligned using Tool #1131 or by comparison with back frame image.

SERVICE HINTS

Different timing and orientation procedures may be used in disassembly and reassembly. The following is one suggested method:

43. Removal - Exposure Meter

43.1 Settings

- a) ASA dial at 10.
- b) Speed ring at B or 1/60.
- c) Diaphragm ring f/1.9.

43.2 Remove top housing (Instruction 10).

43.3 Loosen meter and rack retainer plate screw and remove two screws at right side of meter.

43.4 Remove meter assembly.

NOTE: Use care to maintain dial and gearing position if the same meter is to be fitted. If the position is lost or a new meter is to be fitted, refer to Instruction 44.

43.5 Tighten rack retainer plate screw to prevent damage if advance lever is actuated.

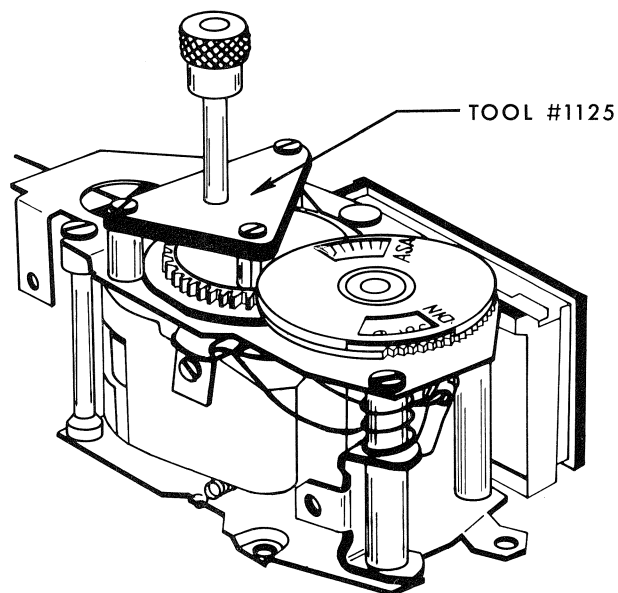
44. Refitting - Exposure Meter

44.1 Set meter and camera at:

ASA dial at one index above 32 or (DIN. 17).
Speed ring at 1 second.
Diaphragm ring at "8" of f/2.8.

III. EXPOSURE METER LINKAGE

- 44.2 Engage Tool #1125 on meter as shown.
- 44.3 Rotate dial as required and be sure the three posts are seated.
- 44.4 Loosen meter and rack retainer screw.
- 44.5 Slide meter into position making sure gearing is meshed.
- 44.6 Replace all screws, tighten securely and remove Tool #1125.
- 44.7 Check all meter specifications.



45. Adjustment - Zero position

- 45.1 Remove top housing (Inst. 10).
- 45.2 Set camera as in Instruction 37.
- 45.3 Exclude all light on cell with Tool #1124 and observe position of needle from directly above.
- 45.4 Rotate setting wheel to position access hole in rotating body of meter toward rear.
- 45.5 Insert a suitable tool and reposition fork. Return to original position (Instruction 37) and recheck position of needle.

46. Adjustment - Red Flag

Control of the range of indication is provided by the eccentric on the flag lever. The eccentric does not extend or reduce the travel, it merely shifts the movement.

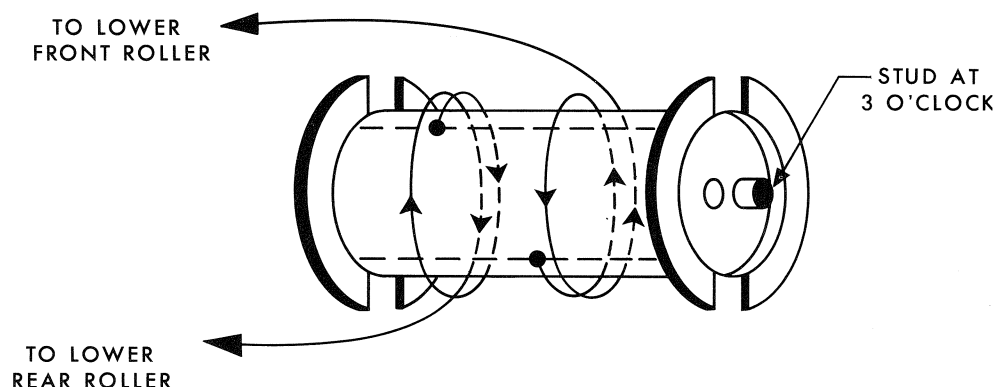
47. Adjustment - Meter Deflection

- 47.1 Remove top housing.
- 47.2 Check zero reading and adjust as required (Instruction 45).
- 47.3 Change mesh of gearing between meter and cable pulley (1 tooth = 1/2 stop) or slip cable on pulley. Reseal cord position on pulley.
- 47.4 Recheck all adjustments and specifications.

48. Meter Linkage

The following sketches illustrate the meter linkage alignment as used on the *KODAK RETINA REFLEX IV* Camera.

- 48.1 Cable Drum Assembly (positioned for shutter settings of f/1.9 and 1/60 sec.)

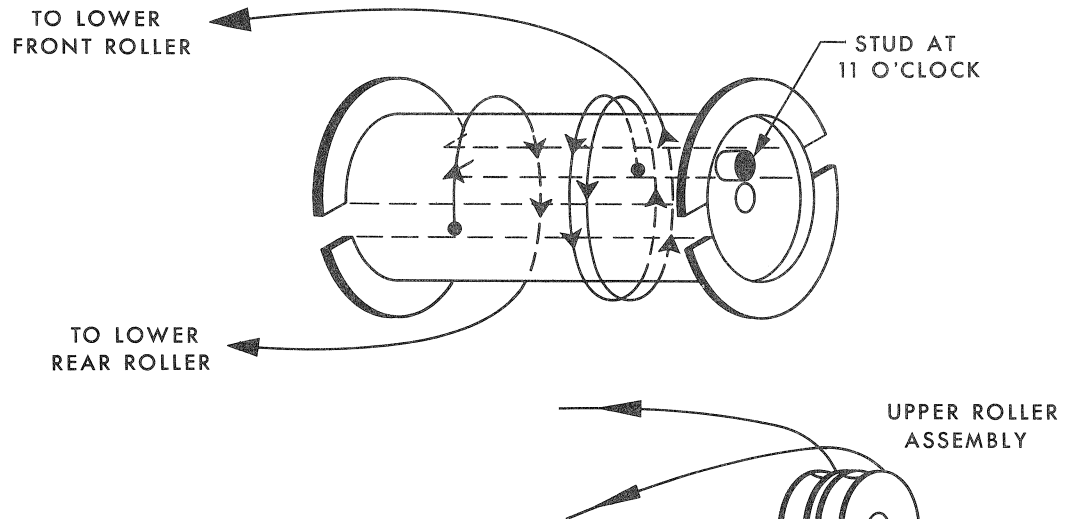


III. EXPOSURE METER LINKAGE

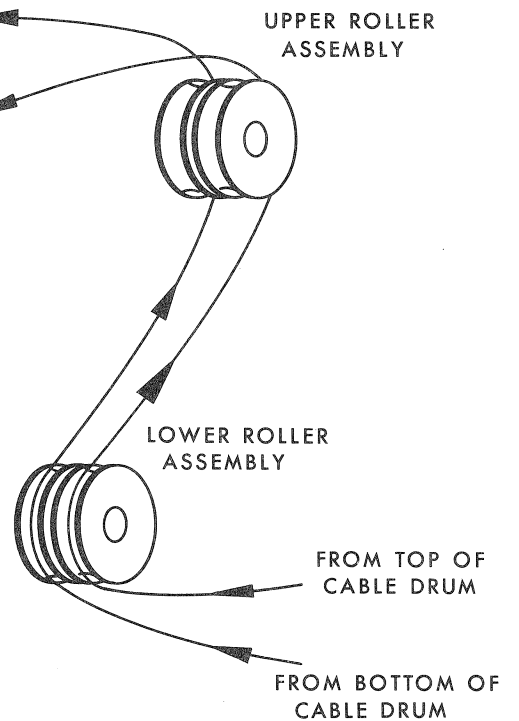
48. Meter Linkage (continued)

- a) Insert end of cord in lower notch and wind 1 1/2 turns in a counterclockwise direction toward the front.
- b) Insert other end of cord in upper notch and wind 1 1/2 turns in a counterclockwise direction toward the rear.

48.2 Cable Drum Assembly (positioned for shutter settings of f/1.9 and B)

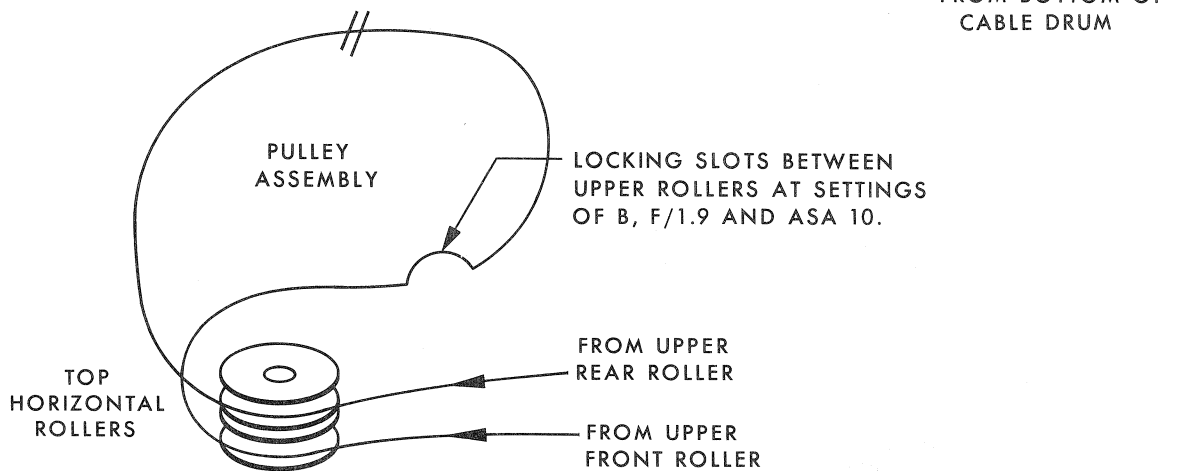


48.2 Upper and Lower Roller Assembly



48.4 Meter Pulley Assembly

Do not insert cord in locking slot of pulley until after meter is adjusted.



IV. HOUSING

SPECIFICATIONS

49. Depressing exposure release should release film transport system at same time or slightly before tripping shutter.
50. Finder image should be discernible at low room illumination.
51. Tripod socket and exposure button should be threaded (check visually).
52. Back latch should open with a minimum of force and return with spring action.
53. Back should fit case with a minimum of interference, latch securely and open partially under film pad pressure. It should be free of dents or imperfections sufficient to cause difficult film advance.
54. ASA scale lock button should:
 - 54.1 When pressed upward, permit changing film speed indication as desired.
 - 54.2 Have spring tension sufficient to return button to down position.
55. Rewind Assembly should:
 - 55.1 Be retained flush with top housing by double detent action.
 - 55.2 Have crank arm retained flush with rewind knob by spring action.
 - 55.3 When crank arm is unfolded 180°, be withdrawn only from its second detent position and move upward by spring action approximately 1/4".
 - 55.4 Be retained in rewind position (Instruction 11.3) by its first detent position.
 - 55.5 Not require excessive vertical force to extend or retract into either the rewind, reload or load positions.
 - 55.6 Rotate in either direction with a minimum of resistance.
 - 55.7 Rewind film smoothly and without requiring excessive force.
56. Electrical continuity to the accessory shoe center contact should be completed when an appropriate flashholder (*KODABLITZ*) is attached.

SERVICE HINTS

57. Shutter and Wind Release

Access to the shutter and wind release adjustments can be made by removing the top housing, meter, meter pulley and two small cover plates.

58. Accessory Shoe Contact

Failure in continuity at shoe is occasionally caused by poor contact of the leaf spring inside the top housing when the flashholder is attached.

V. SHUTTER

59. Shutter speeds should be within the following Total Time tolerances:

1 second	800 to 1200 milliseconds	1/30 second	26 to 39 milliseconds
1/2 "	400 to 600 "	1/60 "	13 to 20 "
1/4 "	200 to 300 "	1/125 "	7 to 11 "
1/8 "	100 to 150 "	1/250 "	3.5 to 7 "
1/15 "	51 to 76 "	1/500 "	2.5 to 5 "

60. Flash contact should occur as follows:

Contact Efficiency = at least 75%
X = contact at full open shutter

61. VX selector lever should:

- 61.1 Operate without binds.
- 61.2 Not move into the "V" position when shutter is not set.
- 61.3 When set at "V", return to "X" position when the shutter is tripped.

62. Self-timer should operate for approximately 8 to 10 seconds.

63. Rotation of speed selector ring (black handles) should:

- 63.1 Have detent action at each speed index.
- 63.2 Rotate diaphragm ring in opposite direction, and without excessive binds or jamming throughout the following ranges (check with lens removed).

NOTE: Make all initial settings with knurled wheel
beneath shutter, and all rotation with black handles.

- a) From 1/60 second and f/1.9 to 1/4 second and midway between f/16 and f/22.
- b) From "B" and f/22 to 1/60 second and f/1.9.
- c) From "B" and f/1.9 to 250 second and f/22. (No detent action through green figure range except at "B").

64. Electrical circuit should be free of shorts or erratic continuity.

65. Shutter blades should be free of grease, oil or rust spots.

66. Lens assembly at infinity position should not protrude into the shutter assembly to the extent that blade action is blocked.

67. Lens lock lever should:

- 67.1 Be free of binds or rough action and have spring tension sufficient to prevent accidental release of lens assembly.
- 67.2 Retain the lens assembly securely.

68. Diaphragm controls should:

- 68.1 Open the diaphragm blades fully.
- 68.2 Allow diaphragm blades to close to any preselected opening.

69. In the event that the front mount assembly is removed to facilitate repairs, the lens seats must be aligned using Tool #998.

V. SHUTTER

70. In the event that finder assembly was removed to facilitate repairs, it must be aligned using Tool #1131 or by comparison with back frame image.

SERVICE HINTS

71. Speed and Diaphragm Rings

Removal and refitting of these components without disturbing the balance of the camera can be performed in the following manner:

Removal:

- 71.1 Remove lens assembly.
- 71.2 Settings: ASA 10, shutter speed at B and diaphragm at f/1.9.
- 71.3 Remove the three screws. (These screws are now the same length).
- 71.4 Grasp rings and remove.
- 71.5 To remove intermediate ring from diaphragm ring, rotate it counter-clockwise to position semi-circular cut-out in alignment with small pinion. Then lift out ring.

Refitting:

71.6 Clean and relubricate sparingly:

- a) Rear bearing surface of speed ring.
- b) Front bearing surfaces of lens mount assembly.

- 71.7 Engage speed ring on speed control lug and reposition at B.
- 71.8 Clean bearing surfaces of diaphragm opening ring and the mating surfaces on lens mount assembly. Relubricate only with dry graphite or molycote.
- 71.9 Position ring on lens mount so that lug will protrude through upper end of slot in front shroud assembly.
- 71.10 Lubricate pinion on front shroud with dry molycote or apply oil sparingly and work in well.

NOTE: This pinion must be free of binds or stickiness to prevent shutter tripping failure.

- 71.11 Clean bearing surfaces of intermediate ring and lubricate very sparingly with a good grade of grease.
- 71.12 Install intermediate ring in rear of front shroud assembly and rotate clockwise to position right end of short bearing surface into alignment with the left edge of the notch (in shroud) directly below the f/8 of diaphragm ring.
- 71.13 Grasp assembly to hold ring in position and assemble to lens mount. "Jiggle" assembly and diaphragm opening ring to engage pinions and seat securely on mount.
- 71.14 Check position of diaphragm opening ring lug; it should be approximately 1/16" from the top of the slot.
- 71.15 Replace screws and tighten securely.

72. Front and Shutter

Removal:

Different basic settings can be used in disassembly, which is similar to that used for the *KODAK RETINA REFLEX III* Camera. The following are suggested settings.

V. SHUTTER

72. Front and Shutter (continued)

- 72.1 Set ASA dial at 10, shutter speed at B and diaphragm ring at f/1.9. This setting positions the cable drum assembly as shown in Instruction 47.2 and the mating component (on front) as shown in Instruction 72.1 a).

Using the same settings but a shutter speed of 1/60 (in place of B) positions the drum as shown in Instruction 47.1 and the mating component as shown in Instruction 72.1 b).

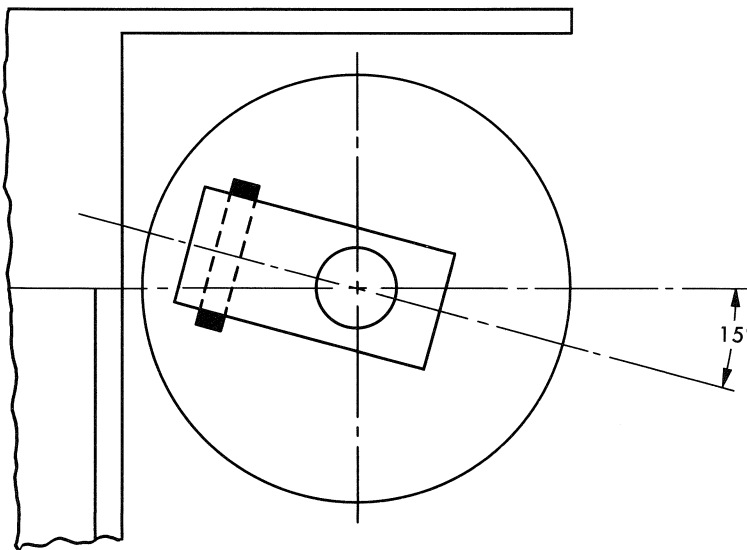
- 72.2 Remove top housing, meter, finder, and bottom panel. Break sealer for wire lead to accessory shoe contact and remove front in the usual manner.

73. Aperture Cover and Mirror

The following adjustments and settings cover the control of the aperture cover and mirror assembly in both the setting and tripping actions.

73.1 Control Shaft

- a) Replace bottom panel or use a shortened plate and refit advance lever temporarily.
- b) Align front of shaft as shown by changing engagement with rack.



- c) Adjustment screw (for shutter setting) in its final setting should not protrude excessively (more than 2 threads visible) at this driving end. A sealer must be used to retain the screw in its final position.
- d) Install Tool #1059 on top of case and refit front cam section of contact shaft, pretension spring by 1 1/4 turns clockwise and anchor on tool.
- e) Install Tool #1060 on front of case.

73.2 Aperture Cover

- a) Actuate advance lever. Cover must clear tip of mirror latch and close securely against back frame and be retained in position to prevent a light leak condition.
- b) Adjust small tab on mirror latch for proper clearance in closing and adjust tabs at each corner of cover for secure locking when cover is completely closed.

V. SHUTTER

73. Aperture Cover and Mirror (continued)

73.3 Mirror Bracket Assembly

- a) Actuate advance lever. Mirror bracket must clear tip of latch by .002" to .006" and latch must be released by stud on mirror bracket contacting stop pawl (lower lever) on guide plate when latch area on bracket has reached the midpoint of recess in latch lever.
- b) Adjust stop pawl by forming section which extends toward rear with Tool #1057.

73.4 Stop Pawl and Stop Lever on Guide Plate

- a) Stop Pawl (lower lever on guide plate) must engage freely on upper side of mirror latch lever stud when aperture cover and mirror are up.
- b) Stop lever (upper lever on guide plate) must engage freely on bottom side of mirror latch lever stud when aperture cover and mirror are down.
- c) Adjustment of a) should be made by eccentric on guide plate and must provide .004" to .006" clearance between stop lug on front side and eccentric.
- d) Adjustment of b) can best be made by actuating and holding advance lever, then adjust eccentric at upper end of front slide to provide .004" to .006" clearance between cam of front section of control shaft and eccentric.

NOTE: Generally, these two adjustments c) and d) must be made in conjunction with each other, since an improper adjustment of one can cause a failure in the other.

74. Shutter

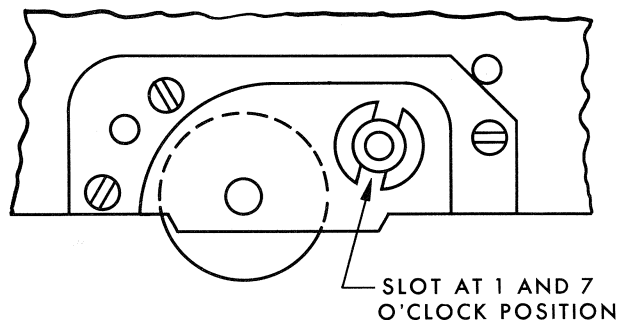
Removal:

Disassembly of the shutter from the front mount is identical with the *KODAK RETINA REFLEX III*.

74.1 Setting Wheel Alignment

The following sketches show the correct alignment of the cable drum connection of setting wheel when disassembling using the different shutter speed settings:

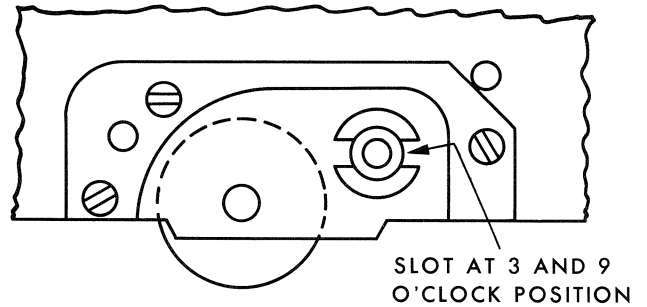
- a) B and f/1.9



V. SHUTTER

74.1 Setting Wheel Alignment (continued)

b) 1/60 and f/1.9

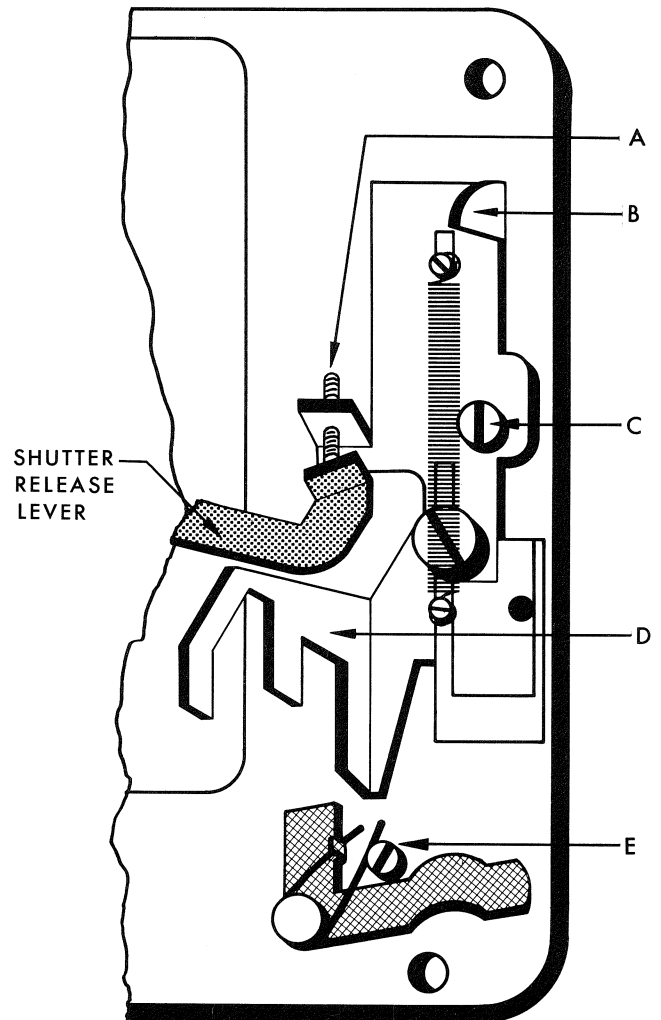


74.2 Shutter Release Assembly

Five adjustment points (a-e) below and in adjoining figure) are provided for the shutter release assembly. These are shown in the sketch and must be checked and adjustments made as required whenever the front is encountered with the shutter release. A setting of shutter speed at "B" is suggested for checking operation.

- a) Play or free movement between the setscrew and shutter release lever must be at least .012". Reseal after adjustment.

NOTE: Temporarily fit release button and recheck. In some instances, the upward movement of the button is restricted by the cable release bracket covered by the button



Reform bracket to allow full upward movement.

- b) Upper lug on release slide must be formed in toward center of mount slightly to insure positive contact with wind release adjustment screw.
- c) Eccentric (on slide) must be adjusted to provide at least .024" over travel of slide after shutter has been unlocked and blade closed.
- d) Arm must be at right angles to balance slide or tipped very slightly away from center of mount to provide positive contact with lock slide for aperture cover. Excessive adjustment can cause trouble since the arm can bind on the case.
- e) Eccentric (on mount) must be adjusted so tip of shock guard lever just clears release slide when depressed.

VI. USEFUL SPECIAL TOOLS

74. 74.3 Flash Terminal

Failure of electronic flash units can be traced to a very slight leakage in flash terminal. This can be checked on the complete camera and should be checked before reassembly if the camera is disassembled for any reason.

Any good ohm meter can be used with appropriate probes.

In most cases, careful removal of the flux on the rear of the terminal at the point where the wire is attached will correct the condition.

74.4 Servicing Shutter

Repairs to shutter follow the same procedure as the previous model except for the lack of M synchronization.

VI. USEFUL SPECIAL TOOLS

#249	Bit-Wind shaft gear retaining screw (Use with #30 screwdriver)
#971	Bit-Tophousing screw (Use with #30 screwdriver)
#998	Fixture-Lens seat alignment
#1005	Gauge-Lens seat alignment (Use with Universal Type Indicator)
#1022	Clearance Gauge-Checking back focus protrusion on all lenses.
#1042	Pliers-ASA setting button
#1056	Wrench-Positioning governing shaft assembly
#1057	Wrench-Adjusting bell crank on guide plate
#1059	Fixture-Control shaft alignment
#1060	Fixture-Adjusting mirror and aperture cover
#1061	Adjusting Tool-Mirror latch
#1124	Meter Cap-Zero adjustment of meter
#1125	Fixture-Zero adjustment and installation of meter
#1131	Fixture-Finder alignment

Kodak