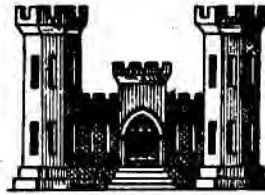


H.M. Neyland



THE CALIBRATION OF MILITARY
CARTOGRAPHIC CAMERAS

by

Robert M. Spriggs



W-PAFB, OHIO

FIELD OFFICE

U. S. ARMY ENGINEER GEODESY, INTELLIGENCE
AND MAPPING R. & D. AGENCY

Technical Note 66-2

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THE CALIBRATION OF MILITARY
CARTOGRAPHIC CAMERAS

by

Robert M. Spriggs

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WRIGHT-PATTERSON AIR FORCE BASE, OHIO

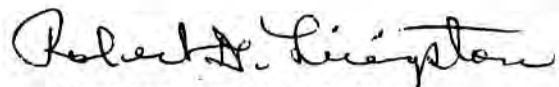
15 February 1966

PREFACE

The files of the GIMRADA Field Office contain calibration certificates for all military cartographic cameras developed by the U. S. Air Force. In this report, the author has extracted pertinent information from these certificates and has presented this information in a form which should be of a considerable value to personnel in map and chart production.

Mr. Robert Spriggs, who authored the report, and Mrs. Jerri Amos, who performed the typing, deserve much credit for the work involved in the extraction of data and in the preparation of the report.

This technical note is one of a series published internally by GIMRADA Field Office and disseminated to support military mapping development by the Department of Defense.



ROBERT G. LIVINGSTON
Chief, GIMRADA Field Office

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THE CALIBRATION OF MILITARY CARTOGRAPHIC CAMERAS

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I. Introduction:

The accuracy of photogrammetric mapping methods depends in part on the quality of the camera used. For this reason photography intended for photogrammetric mapping must be taken with a camera designed for this purpose.

II. Mapping Camera Characteristics:

The mapping camera must, (1) have a lens designed with definite distortion characteristics and, (2) be a rigid mechanical structure which holds the lens, fiducial marks and focal plane in a fixed orientation so that dimensional integrity will be maintained. A typical mapping camera (the Type KC-1) is shown in Figures 1 and 2.

III. Camera Calibration Requirements:

Cameras are calibrated to determine the precise value of the calibrated focal length, the magnitude of the radial and tangential distortion, the position of the fiducial markers and other dimensions. The manufacturer publishes calibration certificates for each camera. Cameras are recalibrated and new certificates issued whenever maintenance is required that will disturb the dimensional relationship of the lens, fiducial markers, focal plane, etc.

IV. Equivalent Focal Length, Calibrated Focal Length:

The equivalent focal length (EFL) is the distance from the rear node to the focal plane. It is computed by measuring the scale of the image produced by the lens at or near the axis.

The calibrated focal length (CFL) is the numerical value used to determine the scale of the photograph. It is computed from the EFL to obtain minimum distortion or to match the lens distortion to a predetermined curve. An increase in the value of the CFL will make the distortion more negative. For a distortion-free lens the CFL is equal to the EFL.

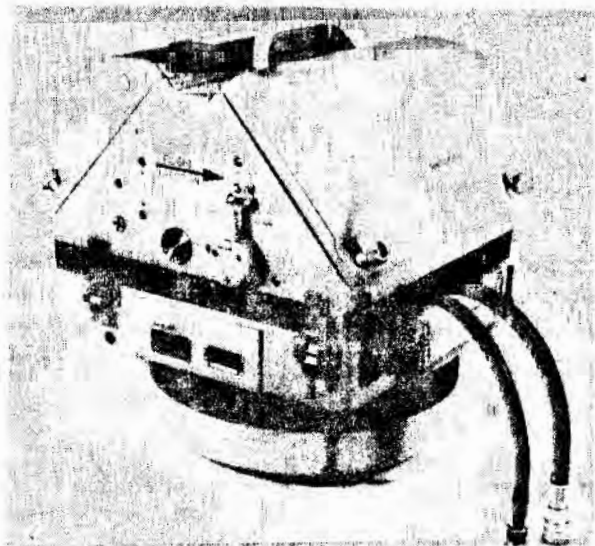


Fig. 1 The Type KC-1 Mapping Camera

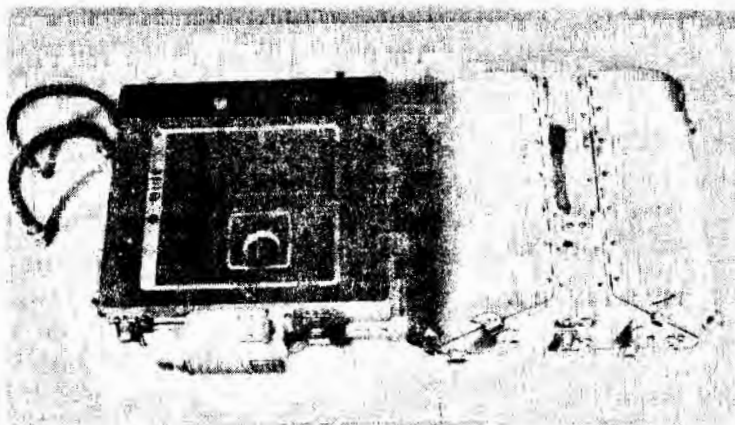


Fig. 2 KC-1 Camera with Film Magazine Removed

V. Distortion:

Distortion in a lens results in a change in scale over the picture area. Distortion generally is expressed in polar coordinates as radial or tangential distortion.

A. Radial distortion; often referred to as "distortion," is made up of two components, symmetrical and asymmetrical. Symmetrical distortion is a characteristic of the lens design; its effect can be minimized by corrector plates when the negatives are printed or by using cams on the stereoplotter. Asymmetrical distortion (often classified as prism effect) is a property of lens manufacture induced by the decentering of one or more of the lens elements, by irregularities in the surfaces of the lens elements, and by tipping of the focal plane with respect to the lens axis.

B. Tangential distortion is a function of lens manufacture and is caused by the prism effect. The axis of maximum tangential distortion usually will be 90° from the axis of maximum asymmetrical radial distortion.

VI. Camera Calibration Methods and Equipment:

Cameras are calibrated by either of two methods - photographic or visual.

A. The photographic method is the most desired and can be accomplished on a field range or by use of a multicollimator bank.

1. The Field Range Distortion Calibrator (See figure 3) is constructed by setting up targets in the object space in a plane perpendicular to the optical axis of the lens. The targets are placed at selected angles across the entire field of the lens and the angles are determined within 2 seconds of arc. The camera is mounted with the front nodal point placed over the vertex of the range with the center target on the axis of the lens.

2. The Multi-Collimator Bank Distortion Calibrator (See figure 4) is similar in principle to the field range except that collimators are used to image the targets at infinity. The collimators can be positioned to image the targets of both diagonals on one exposure.

3. Exposures are made on test plates with the image of the targets aligned with each diagonal of the camera format. The test plate is processed and the distance between the axial target

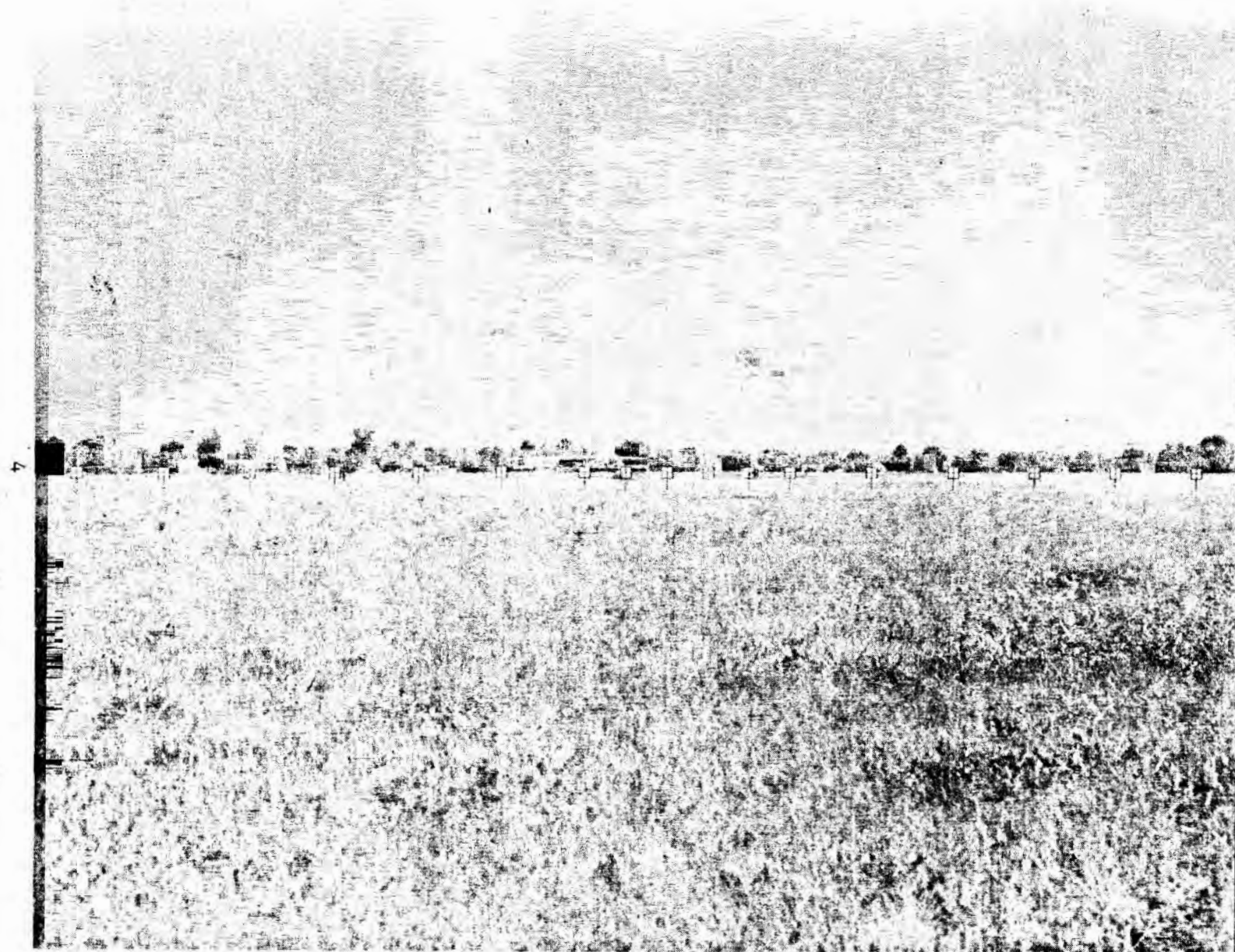


Fig. 3 Field Camera Calibration Range at Wright-Patterson AFB, Ohio.

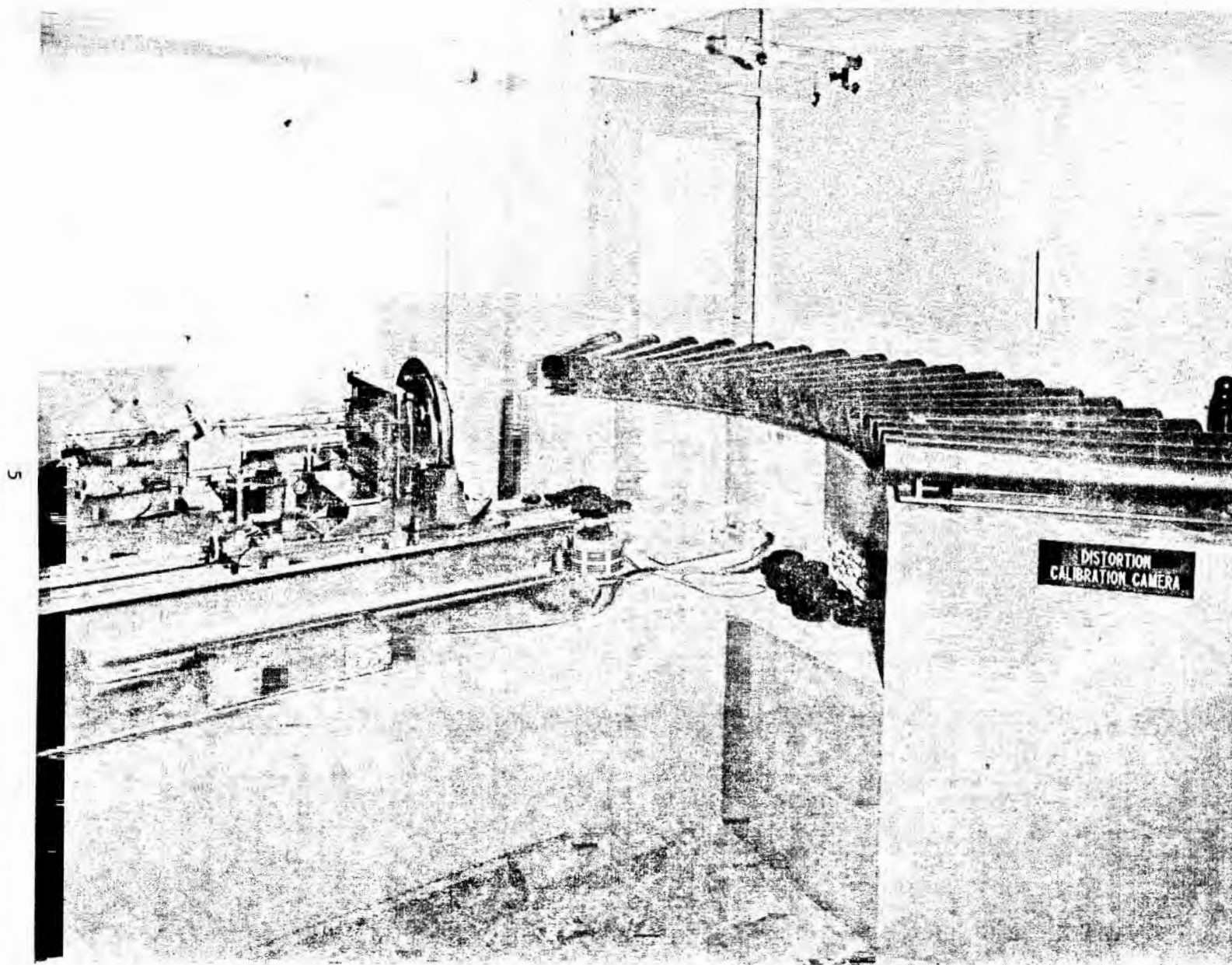


Fig. 4 Multi-Collimator Bank Distortion Calibrator (Perkin-Elmer)

image and the target image at each angle is measured with a comparator. Radial distortion is the difference between the computed distance and the measured distance to each target image. The point of symmetry is determined by making the distortion to the left and right of the axis symmetrical. The calibrated focal length is computed and the distortion is adjusted to the calibrated focal length.

4. The tangential distortion is measured for each diagonal on the test plate.

B. Visual methods may lead to distortions which are different in magnitude than the distortions recorded photographically because of lateral chromatic aberration in the camera lens. The proper light source and/or filters should be selected so that the spectral sensitivity of the eye is matched to that of photographic films.

1. Goniometer method: An accurately calibrated test object on glass is placed in the focal plane and illuminated in a direction toward the lens. The camera is set on the goniometer (See Figure 5) so that the axis about which the angles are measured passes through the center of the entrance pupil of the lens. The telescope of the goniometer is pointed at successive points on the test object and the field angles determined. From the focal length of the lens being tested and the calibration of the test object, the angles subtended by the various points on the test object can be computed. The distortion is computed from the difference in angles on the object side and image side of the lens and converted to the standard form.

C. Some work has been done on stellar calibration of ballistic cameras. The star field is photographed on a glass plate in the focal plane of the camera. The position of each star is measured in x-y coordinates. The true location of the stars are obtained from star tables. The radial and tangential distortion at each star image is determined. The calibrated focal length is computed. It has been suggested that the stellar method of camera calibration be adopted for aircraft mapping cameras.

VII. Resolution:

The resolving power of a camera lens is its ability to image closely spaced objects so that they are recognizable as individual objects. The resolving power, called resolution, is measured by photographing a test target made up of groups of parallel straight lines and spaces of equal width; it is expressed in lines per millimeter. Radial resolution is measured with the lines parallel to the

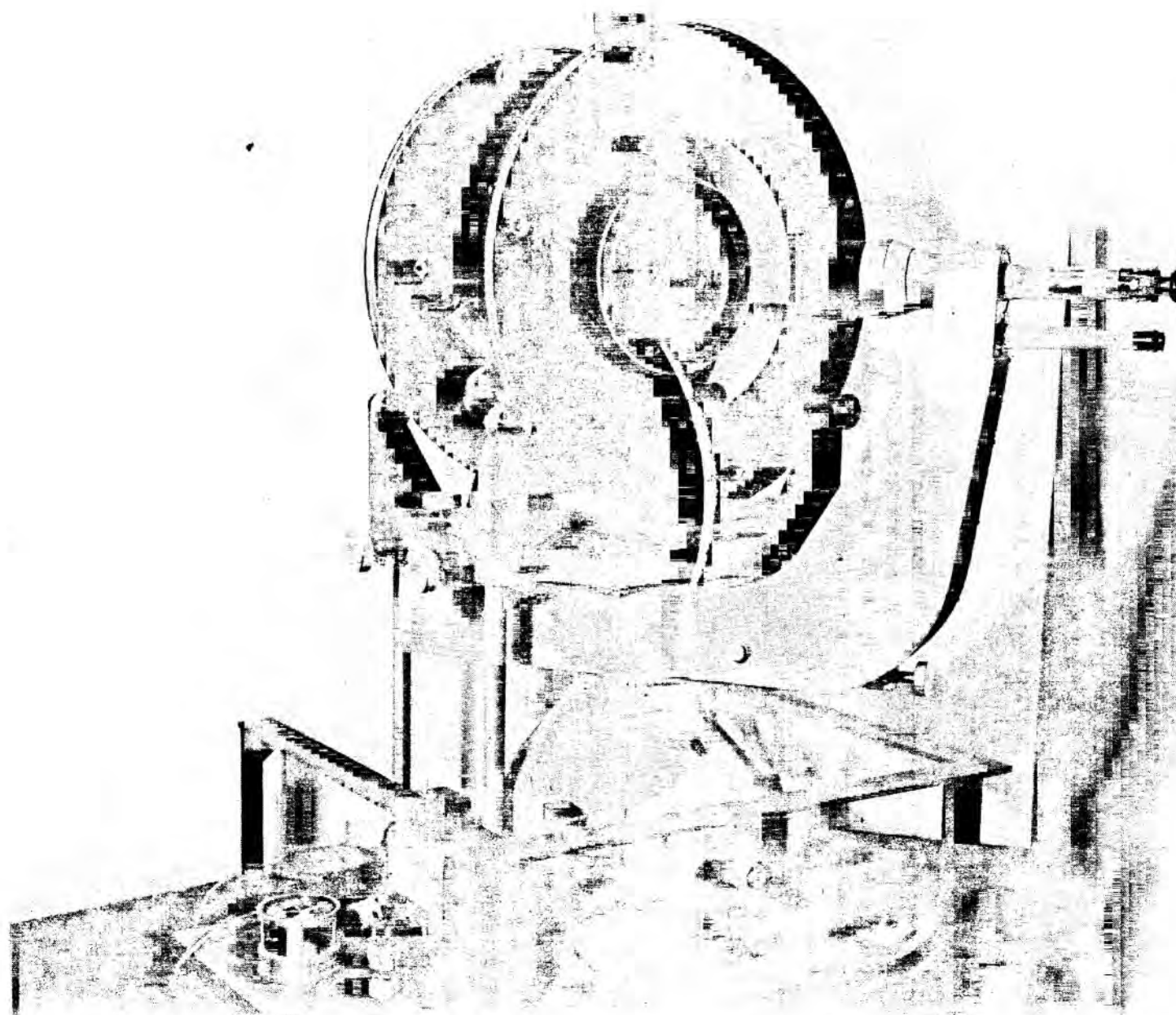


Fig. 5 Wild Type T-4 Stereometer

radius drawn from the center of the format and tangential resolution is measured with the lines perpendicular to the radius. A single average value for resolution is determined as the area-weighted average resolution (AWAR) by dividing the format into concentric annular zones. The area of each zone lying within the format is used in determining the weighting ratio. The square root of the product of the radial and tangential resolution is computed for each zone and multiplied by the zone ratio to obtain the zone-weighted resolution. The AWAR is the sum of the zone-weighted resolutions.

VIII. Calibration Data:

The calibration data for the mapping cameras, listed in the appendices, was extracted from the camera calibration certificates issued by the manufacturer. Some of the cameras have been overhauled and recalibrated and the data from each calibration certificate is listed.

The probable errors of the calibrated focal lengths are:

T-11	0.100 mm
KC-1	0.100 mm
T-12	0.100 mm
CA-14	0.100 mm
KC-1B	0.025 mm

The probable errors of the distortions are:

T-11	0.020 mm
CA-14	0.020 mm
KC-1	0.010 mm
T-12	0.010 mm
KC-1B	0.005 mm

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T-11

CAMERA	LENS & CONE	CFL #	AWAR	DATE	7.5°	15°	22.5°	30°	35°	40°	45°							CAMERA
51-001	SF242	151.50	19.4	2/26/51	.00	+.02	+.05	+.10	+.12	+.08	-.12							51-001
51-002	SF267	151.46	18.3	2/23/51	-.01	+.00	+.03	+.07	+.10	+.07	-.10							51-002
51-003	SF342	151.52	19.0	8/23/51	.00	+.01	+.05	+.10	+.12	+.08	-.12							51-003
51-004	SF263	150.90	20.0	3/9/51	.00	+.01	+.05	+.10	+.12	+.08	-.12							51-004
51-005	SF137	152.61	21.2	3/15/51	-.01	+.02	+.03	+.08	+.10	+.08	-.11							51-005
51-006	SF124	150.85	18.9	3/15/51	.00	+.01	+.05	+.10	+.12	+.07	-.13							51-006
51-007	SF240	151.41	20.3	3/31/51	-.01	+.01	+.05	+.10	+.11	+.07	-.11							51-007
51-008	SF272	151.97	23.8	5/29/51	-.01	+.01	+.04	+.09	+.11	+.10	-.11							51-008
51-009	SF133	152.06	19.6	2/21/51	-.01	000	+.04	+.08	+.11	+.08	-.11							51-009
51-010	SF138	150.80	22.6	3/2/51	.00	+.01	+.04	+.09	+.11	+.08	-.11							51-010
51-011	SF245	151.17	19.6	4/26/51	.00	+.02	+.06	+.10	+.11	+.07	-.12							51-011
51-012	SF130	152.84	20.4	5/4/51	.00	+.01	+.05	+.10	+.11	+.08	-.11							51-012
51-013	SF251	152.18	22.1	5/29/51	-.02	00	+.03	+.08	+.10	+.06	-.10							51-013
51-014	SF128	151.97	20.5	5/4/51	+.01	+.03	+.07	+.12	+.13	+.08	-.13							51-014
51-015	SF258	Camera Equipped with a Reseau																51-015
51-016	SF239	151.09	21.1	4/28/51	000	+.01	+.04	+.09	+.10	+.07	-.10							51-016
51-017	SF252	150.82	20.5	5/4/51	000	+.02	+.06	+.11	+.12	+.08	-.12							51-017
51-018	SF276	151.58	20.1	5/29/51	+.01	+.03	+.06	+.11	+.13	+.08	-.12							51-018
51-019	SF270	151.86	21.6	5/29/51	-.01	-.01	+.02	+.07	+.09	+.07	-.09							51-019
51-020	SF264	151.07	23.9	5/4/51	00	+.02	+.06	+.10	+.11	+.08	-.11							51-020
51-021	SF273	152.11	21.9	5/29/51	-.01	.00	+.04	+.08	+.10	+.08	-.10							51-021
51-022	SF241	153.44	21.0	5/28/51	-.01	.00	+.04	+.08	+.10	+.07	-.10							51-022
51-023	SF254	152.81	21.8	5/29/51	.00	+.02	+.05	+.09	+.11	+.08	-.11							51-023
51-024	SF243	150.58	21.4	5/29/51	+.01	+.03	+.07	+.11	+.12	+.08	-.12							51-024
51-025	SF281	150.62	19.3	5/29/51	.00	+.01	+.04	+.09	+.11	+.08	-.11							51-025
51-026	SF126	151.36	21.9	5/28/51	.00	+.02	+.06	+.11	+.12	+.08	-.12							51-026
51-027	SF123	151.92	20.2	5/29/51	.00	+.03	+.07	+.11	+.13	+.09	-.13							51-027
51-028	SF210	151.62	22.0	5/29/51	+.01	+.03	+.07	+.12	+.13	+.08	-.13							51-028
51-029	SF259	152.98	19.1	5/28/51	-.01	-.01	+.02	+.07	+.10	+.08	-.10							51-029
51-030	SF278	151.13	21.2	5/28/51	.00	+.02	+.06	+.11	+.12	+.07	-.12							51-030
51-031	SF274	152.99	20.2	5/24/51	-.01	00	+.03	+.08	+.10	+.07	-.10							51-031

A-1

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL	AWAR	DATE	7.5°	15°	22.5°	30°	35°	40°	45°	CAMERA
51-032	SF323	152.47	22.4	5/29/51	.00	+.02	+.05	+.10	+.11	+.07	-.11	51-032
51-033	SF202	151.77	20.8	5/28/51	-.01	-.01	+.02	+.07	+.09	+.07	-.09	51-033
51-034	SF249	151.85	21.0	7/31/51	-.01	-.01	+.03	+.07	+.10	+.08	-.10	51-034
51-035	SF206	150.77	18.6	7/30/51	-.01	.00	+.03	+.09	+.11	+.09	-.11	51-035
51-036	SF171	152.56	21.3	7/31/51	.00	+.01	+.04	+.10	+.12	+.08	-.12	51-036
51-037	SF339	151.25	21.3	7/30/51	-.02	-.01	+.02	+.07	+.10	+.08	-.10	51-037
51-038	SF231	151.96	19.4	7/28/51	-.01	.00	+.03	+.09	+.11	+.08	-.11	51-038
51-039	SF173	152.17	20.2	7/31/51	-.01	.00	+.03	+.08	+.11	+.08	-.11	51-039
51-040	SF136	151.89	21.2	9/31/51	.00	+.03	+.05	+.10	+.12	+.08	-.12	51-040
51-041	SF283	151.12	19.8	6/22/51	-.01	.00	+.03	+.08	+.10	+.08	-.10	51-041
51-042	SF-257	150.70	20.0	7/24/51	.00	+.01	+.05	+.10	+.11	+.07	-.11	51-042
51-043	SF-253	152.09	21.5	7/27/51	.00	+.02	+.06	+.10	+.12	+.08	-.12	51-043
51-044	SF347	150.75	19.6	7/30/51	-.01	+.01	+.04	+.09	+.11	+.08	-.11	51-044
51-045	SF-279	151.79	19.8	7/27/51	.00	+.02	+.05	+.10	+.12	+.08	-.12	51-045
51-046	SF-256	151.93	21.8	7/24/51	-.01	.00	+.04	+.09	+.11	+.08	-.11	51-046
51-047	SF-318	152.32	20.0	7/14/51	-.01	.00	+.03	+.08	+.10	+.07	-.10	51-047
51-048	SF-265	151.18	18.8	7/24/51	.00	+.02	+.05	+.11	+.13	+.09	-.13	51-048
51-049	SF-248	150.63	18.8	7/28/51	-.01	.00	+.03	+.09	+.11	+.09	-.11	51-049
51-050	SF340	152.42	23.1	7/27/51	.00	+.02	+.05	+.10	+.11	+.07	-.11	51-050
51-051	SF120	153.65	22.3	7/27/51	.00	+.01	+.05	+.09	+.11	+.08	-.11	51-051
51-052	SF275	151.01	20.9	7/11/51	.00	+.01	+.04	+.10	+.12	+.08	-.12	51-052
51-053	SF-261	154.03	20.5	7/30/51	-.01	-.01	+.03	+.07	+.09	+.08	-.09	51-053
51-054	SF135	151.48	19.6	7/27/51	-.01	.00	+.03	+.08	+.11	+.08	-.11	51-054
51-055	SF170	150.83	18.7	7/27/51	-.01	.00	+.03	+.09	+.11	+.08	-.11	51-055
51-056	SF260	151.46	20.3	8/1/51	.00	+.01	+.05	+.10	+.12	+.08	-.12	51-056
51-057	SF328	151.82	19.5	7/28/51	.00	+.02	+.06	+.11	+.12	+.08	-.12	51-057
51-058	SF286	151.86	20.2	7/30/51	.00	+.01	+.04	+.10	+.12	+.09	-.12	51-058
51-059	SF177	154.26	22.0	7/31/51	.00	+.02	+.06	+.10	+.11	+.07	-.11	51-059
51-060	SF319	150.82	22.1	8/2/51	.00	+.02	+.05	+.10	+.12	+.09	-.12	51-060
51-061	SF269	151.43	18.6	9/13/51	.00	+.01	+.05	+.10	+.12	+.08	-.12	51-061
51-062	SF142	152.25	20.0	9/13/51	.00	+.01	+.04	+.09	+.11	+.08	-.11	51-062

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL	AWAR	DATE	7.5°	15°	22.5°	30°	35°	40°	45°							CAMERA
51-063	SF127	153.35	21.8	9/13/51	-.01	-.01	+.03	+.08	+.10	+.09	-.10							51-063
51-064	SF314	152.53	19.0	9/13/51	-.01	.00	+.04	+.09	+.11	+.08	-.10							51-064
51-065	SF322	152.69	20.5	9/13/51	.00	.00	+.04	+.09	+.12	+.09	-.12							51-065
51-066	SF139	151.87	19.5	9/13/51	-.01	.00	+.03	+.09	+.11	+.09	-.11							51-066
51-067	SF309	152.21	20.2	9/13/51	-.01	-.01	+.02	+.08	+.10	+.08	+.10							51-067
51-068	SF-311	151.59	21.0	9/13/51	-.01	+.01	+.04	+.09	+.11	+.08	-.11							51-068
51-069	SF-306	151.49	22.2	8/24/51	.00	+.01	+.04	+.09	+.11	+.08	-.11							51-069
51-070	SF146	152.08	18.0	12/27/51	.00	+.02	+.06	+.11	+.12	+.09	-.12							51-070
51-071	SF180	152.02	18.8	12/27/51	.00	+.01	+.05	+.10	+.12	+.08	-.12							51-071
51-072	SF317	150.79	17.8	12/26/51	-.01	.00	+.03	+.08	+.10	+.08	-.10							51-072
51-073	SF141	151.83	20.2	12/20/51	.00	+.01	+.05	+.09	+.12	+.08	-.12							51-073
51-074	SF277	152.10	18.4	12/27/51	.00	+.02	+.06	+.11	+.12	+.09	-.12							51-074
51-075	SF336	151.80	20.4	8/28/51	.00	+.01	+.04	+.09	+.12	+.09	-.12							51-075
51-076	SF244	150.61	17.8	11/18/51	-.01	+.01	+.04	+.10	+.11	+.08	-.11							51-076
51-077	SF295	151.92	20.5	1/24/52	-.01	.00	+.04	+.08	+.11	+.08	-.11							51-077
51-078	SF151	152.25	21.4	12/17/51	+.01	+.01	+.04	+.09	+.11	+.09	-.11							51-078
51-079	SF165	152.82	20.6	12/17/51	.00	+.02	+.06	+.10	+.11	+.07	-.11							51-079
51-080	SF255	151.27	19.7	12/18/51	-.01	-.01	+.04	+.09	+.11	+.08	-.11							51-080
51-081	SF134	151.29	19.5	12/29/51	+.01	+.01	+.02	+.07	+.10	+.08	-.10							51-081
51-082	SF-333	151.73	18.6	1/26/52	-.01	.00	+.03	+.08	+.11	+.07	-.10							51-082
51-083	SF349	151.71	20.4	1/24/52	-.01	+.01	+.04	+.09	+.11	+.08	-.11							51-083
51-084	SF238	152.71	21.8	12/19/51	.00	+.02	+.05	+.10	+.11	+.08	-.11							51-084
51-085	SF325	152.00	18.2	11/16/51	.00	+.01	+.04	+.09	+.11	+.08	-.11							51-085
51-086	SF195	153.90	21.3	1/24/52	.00	+.01	+.04	+.09	+.11	+.08	-.11							51-086
51-087	SF250	151.10	18.6	1/26/52	.00	+.01	+.05	+.10	+.12	+.08	-.12							51-087
51-088	SF154	152.59	21.6	12/18/51	.00	+.03	+.07	+.11	+.12	+.08	-.12							51-088
51-089	SF197	152.03	20.8	1/29/52	-.01	+.01	+.04	+.09	+.11	+.08	-.11							51-089
51-090	SF271	152.48	21.4	12/18/51	-.01	-.01	+.01	+.07	+.10	+.08	-.10							51-090
51-091	SF334	150.91	17.4	12/18/51	.00	+.01	+.05	+.10	+.12	+.09	-.12							51-091
51-092	SF212	151.29	19.6	10/1/51	.00	+.02	+.06	+.11	+.12	+.07	-.12							51-092
51-093	SF298	152.15	17.3	12/18/51	-.01	.00	+.04	+.08	+.11	+.09	-.11							51-093

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CPL	AWAR	DATE	7.5°	15°	22.5°	30°	35°	40°	45°							CAMERA
51-094	SF350	152.29	21.2	1/30/52	-.01	.00	+.04	+.08	+.11	+.08	-.11							51-094
51-095	SF211	153.00	19.2	12/18/51	.00	+.01	+.04	+.10	+.12	+.08	-.12							51-095
51-096	SF296	151.07	20.1	12/20/51	-.01	+.01	+.04	+.09	+.11	+.08	-.11							51-096
51-097	SF288	151.47	20.6	11/4/51	.00	+.02	+.05	+.10	+.12	+.08	-.12							51-097
51-098	SF175	153.09	18.6	12/20/51	.00	+.01	+.05	+.10	+.12	+.09	-.12							51-098
51-099	SF301	151.11	20.6	12/18/51	-.01	.00	+.03	+.08	+.11	+.08	-.11							51-099
51-100	SF224	151.44	22.2	2/21/52	-.01	.00	+.04	+.09	+.11	+.08	-.11							51-100
51-101	SF236	150.81	17.5	12/18/51	.00	+.02	+.06	+.11	+.12	+.08	-.12							51-101
51-102	SF167	153.05	19.0	12/21/51	-.01	.00	+.03	+.08	+.10	+.08	-.11							51-102
51-103	SF303	152.29	18.6	11/17/51	-.01	+.01	+.04	+.09	+.11	+.08	-.11							51-103
51-104	SF338	151.02	16.8	12/17/51	-.01	+.01	+.04	+.09	+.12	+.08	-.12							51-104
51-105	SF222	152.01	20.6	12/19/51	.00	+.01	+.04	+.09	+.11	+.08	-.11							51-105
51-106	SF226	151.66	21.4	12/18/51	+.01	+.03	+.07	+.11	+.13	+.08	-.12							51-106
51-107	SF190	151.76	19.6	12/18/51	+.01	+.02	+.06	+.11	+.13	+.08	-.13							51-107
51-108	SF205	151.38	17.1	10/30/51	.00	+.01	+.04	+.09	+.11	+.08	-.11							51-108
51-109	SF233	151.30	19.6	12/18/51	.00	+.01	+.04	+.09	+.11	+.07	-.11							51-109
51-110	SF335	151.16	18.4	12/18/51	.00	+.02	+.06	+.11	+.12	+.08	-.12							51-110
51-111	SF232	151.04	17.8	12/18/51	.00	+.02	+.06	+.11	+.12	+.08	-.12							51-111
51-112	SF326	151.52	19.7	12/18/51	-.01	.00	+.03	+.07	+.10	+.07	-.10							51-112
51-113	SF132	151.89	19.2	12/26/51	.00	+.01	+.05	+.10	+.11	+.08	-.11							51-113
51-114	SF118	151.29	20.0	12/17/51	.00	+.01	+.05	+.10	+.12	+.08	-.12							51-114
51-115	SF166	152.03	16.7	12/17/51	-.01	.00	+.03	+.08	+.11	+.08	-.11							51-115
51-116	SF213	151.70	20.2	12/26/51	-.01	+.01	+.05	+.09	+.12	+.08	-.12							51-116
51-117	SF140	151.52	20.1	12/27/51	.00	+.02	+.05	+.10	+.12	+.08	-.12							51-117
51-118	SF316	152.52	18.2	12/31/51	.00	+.02	+.06	+.10	+.13	+.08	-.13							51-118
51-119	SF227	152.37	18.0	12/16/51	-.01	.00	+.04	+.09	+.11	+.08	-.11							51-119
51-120	SF324	150.77	17.9	12/18/51	.00	+.01	+.04	+.09	+.12	+.08	-.12							51-120
51-121	SF174	150.81	20.2	12/20/51	-.01	+.01	+.04	+.09	+.11	+.07	-.11							51-121
51-122	SF152	150.83	18.7	12/28/51	.00	+.01	+.04	+.09	+.11	+.08	-.11							51-122
51-123	SF149	152.78	19.5	12/26/51	-.01	.00	+.04	+.09	+.11	+.08	-.11							51-123
51-124	SF121	152.61	18.5	12/26/51	.00	+.01	+.05	+.09	+.11	+.08	-.11							51-124

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL*	AWAR	DATE	7.5°	15°	22.5°	30°	35°	40°	45°	CAMERA
51-125	SF155	153.99	22.1	12/18/51	.00	+.02	+.06	+.10	+.12	+.08	-.12	51-125
51-126	SF229	152.36	18.4	12/27/51	.00	+.02	+.05	+.10	+.12	+.08	-.12	51-126
51-127	SF178	151.73	19.5	12/20/51	.00	+.02	+.05	+.10	+.13	+.09	-.13	51-127
51-128	SF321	151.08	18.6	12/17/51	.00	+.02	+.06	+.11	+.13	+.08	-.13	51-128
51-129	KF252	151.65	19.7	12/17/51	.00	+.02	+.05	+.10	+.12	+.08	-.12	51-129
51-130	SF284	152.22	21.0	12/17/51	-.01	.00	+.04	+.09	+.11	+.08	-.11	51-130
51-131	SF216	152.99	19.0	12/27/51	.00	+.01	+.05	+.09	+.12	+.08	-.12	51-131
51-132	SF192	150.66	20.7	12/18/51	-.01	+.01	+.05	+.09	+.12	+.08	-.12	51-132
51-133	SF208	153.14	18.7	1/18/52	.00	+.01	+.05	+.10	+.12	+.09	-.12	51-133
51-134	SF312	151.84	22.3	1/16/52	-.01	+.01	+.04	+.10	+.13	+.10	-.13	51-134
51-135	SF161	151.82	19.9	1/24/52	-.01	.00	+.03	+.08	+.11	+.08	-.11	51-135
51-136	SF147	153.51	21.2	10/29/51	.00	+.02	+.05	+.10	+.11	+.08	-.11	51-136
51-137	SF157	151.23	18.6	11/16/51	.00	+.02	+.06	+.11	+.12	+.08	-.12	51-137
51-138	SF329	152.22	23.8	12/18/51	.00	+.01	+.05	+.10	+.11	+.08	-.11	51-138
51-139	SF198	152.84	20.4	11/17/51	-.01	+.01	+.04	+.09	+.11	+.08	-.11	51-139
51-140	SF145	151.74	20.3	12/18/51	-.01	-.01	+.03	+.08	+.11	+.08	-.11	51-140
51-141	SF119	151.17	18.6	12/18/51	+.01	+.03	+.07	+.12	+.13	+.08	-.13	51-141
51-142	SF344	151.76	20.5	11/17/51	.00	+.01	+.04	+.10	+.13	+.10	-.12	51-142
51-143	SF168	151.41	19.5	11/16/51	.00	+.01	+.05	+.10	+.12	+.08	-.12	51-143
51-144	SF162	151.07	21.0	12/18/51	.00	+.01	+.05	+.10	+.12	+.08	-.12	51-144
51-145	SF235	153.34	18.3	12/17/51	-.01	+.01	+.05	+.10	+.12	+.08	-.12	51-145
51-146	SF176	151.44	17.7	12/27/51	-.01	.00	+.03	+.08	+.10	+.08	-.10	51-146
51-147	SF218	152.44	20.4	11/17/51	.00	+.02	+.05	+.10	+.12	+.08	-.12	51-147
51-148	SF163	151.25	20.3	11/16/51	.00	+.01	+.04	+.09	+.12	+.09	-.12	51-148
51-149	SF280	152.88	17.6	12/27/51	-.01	.00	+.04	+.09	+.11	+.08	-.11	51-149
51-150	SF294	152.66	20.5	1/26/52	-.01	.00	+.03	+.08	+.11	+.08	-.11	51-150
51-151	SF291	151.67	18.6	1/26/52	.00	+.01	+.05	+.09	+.12	+.08	-.12	51-151
51-152	SF332	151.36	18.9	1/26/52	-.01	.00	+.04	+.09	+.11	+.08	-.11	51-152
51-153	SF299	152.28	20.0	2/28/52	.00	+.01	+.05	+.09	+.12	+.08	-.12	51-153
51-154	SF262	153.30	21.6	1/26/52	-.01	-.01	+.02	+.07	+.10	+.08	-.10	51-154
51-155	SF234	151.50	21.8	1/29/52	-.01	.00	+.03	+.09	+.11	+.08	-.11	51-155

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL	AWAR	DATE	7.5°	15°	22.5°	30°	35°	40°	45°							CAMERA
51-156	SF199	151.17	20.1	1/29/52	.00	+0.01	+0.05	+0.09	+0.12	+0.08	-0.12							51-156
51-157	SF285	152.24	24.2	1/29/52	+0.01	+0.03	+0.06	+0.11	+0.13	+0.06	-0.13							51-157
51-158	SF179	152.31	20.4	1/29/52	-0.01	.00	+0.04	+0.10	+0.13	+0.10	-0.13							51-158
51-159	SF164	150.82	21.4	1/29/52	-0.01	+0.01	+0.04	+0.09	+0.11	+0.08	-0.11							51-159
51-160	SF150	151.98	21.9	1/29/52	.00	+0.01	+0.05	+0.10	+0.12	+0.09	-0.12							51-160
51-161	SF185	152.04	21.7	1/29/52	-0.01	.00	+0.03	+0.08	+0.11	+0.08	-0.11							51-161
51-162	SF337	151.55	20.7	1/29/52	-0.01	.00	+0.04	+0.09	+0.11	+0.07	-0.11							51-162
51-163	SF158	151.70	21.3	1/30/52	.00	+0.01	+0.05	+0.10	+0.12	+0.08	-0.12							51-163
51-164	SF172	151.98	21.5	1/30/52	-0.01	+0.01	+0.04	+0.09	+0.10	+0.08	-0.10							51-164
51-165	SF148	151.73	20.4	1/31/52	+0.01	+0.03	+0.07	+0.12	+0.13	+0.08	-0.13							51-165
51-166	SF200	153.27	20.9	2/19/52	.00	+0.02	+0.06	+0.11	+0.13	+0.09	-0.13							51-166
51-167	SF183	150.98	20.4	2/19/52	.00	+0.01	+0.05	+0.09	+0.12	+0.08	-0.12							51-167
51-168	SF207	151.86	18.7	2/21/52	-0.01	+0.01	+0.04	+0.09	+0.11	+0.07	-0.11							51-168
51-169	SF345	152.79	21.2	2/21/52	.00	+0.01	+0.05	+0.09	+0.11	+0.07	-0.11							51-169
51-170	SF228	152.54	21.8	2/21/52	.00	+0.01	+0.05	+0.10	+0.12	+0.08	-0.12							51-170
51-171	SF209	151.92	19.3	2/21/52	-0.01	.00	+0.03	+0.08	+0.10	+0.07	-0.10							51-171
51-172	SF144	152.15	18.4	2/22/52	-0.01	+0.01	+0.04	+0.08	+0.11	+0.08	-0.11							51-172
51-173	SF-182	152.89	20.7	2/22/52	-0.01	.00	+0.03	+0.08	+0.10	+0.07	-0.10							51-173
51-174	SF308	151.98	19.9	2/22/52	-0.01	-0.01	+0.02	+0.07	+0.10	+0.07	-0.10							51-174
51-175	SF219	151.24	21.7	2/23/52	.00	+0.02	+0.06	+0.11	+0.12	+0.08	-0.12							51-175
51-176	SF187	150.93	21.5	2/22/52	-0.01	+0.01	+0.04	+0.09	+0.11	+0.07	-0.11							51-176
51-177	SF225	151.04	20.9	2/25/52	-0.01	.00	+0.04	+0.08	+0.11	+0.08	-0.11							51-177
51-178	SF230	151.70	20.7	2/26/52	+0.01	+0.04	+0.08	+0.12	+0.13	+0.08	-0.13							51-178
51-179	SF129	152.17	22.4	2/26/52	+0.01	+0.03	+0.07	+0.11	+0.12	+0.07	-0.12							51-179
51-180	SF302	152.49	22.0	2/28/52	.00	+0.01	+0.05	+0.10	+0.11	+0.07	-0.11							51-180
51-181	SF214	151.69	21.0	2/28/52	.00	+0.02	+0.06	+0.11	+0.12	+0.07	-0.12							51-181
51-182	SF346	151.32	19.7	2/28/52	.00	+0.02	+0.06	+0.10	+0.12	+0.08	-0.12							51-182
51-183	SF330	151.10	21.6	2/29/52	-0.01	.00	+0.03	+0.08	+0.11	+0.08	-0.11							51-183
51-184	SF156	152.02	20.5	2/29/52	.00	+0.01	+0.04	+0.09	+0.11	+0.07	-0.11							51-184
51-185	SF313	151.97	21.9	2/29/52	.00	+0.02	+0.05	+0.10	+0.12	+0.07	-0.12							51-185
51-186	SF247	151.15	21.7	2/29/52	-0.01	+0.01	+0.04	+0.09	+0.11	+0.08	-0.11							51-186

T-11 CAMERA (CONT'D)

CAMERA		LENS & CONE	CFL	AWAR	DATE	7.5°	15°	22.5°	30°	35°	40°	45°						CAMERA
51-187		SF194	152.56	23.7	3/25/52	-.01	-.01	+.02	+.07	+.10	+.07	-.10						51-187
51-188		SF159	152.54	20.5	3/25/52	-.01	.00	+.03	+.08	+.10	+.07	-.10						51-188
51-189		SF122	151.91	21.7	3/26/52	.00	+.02	+.05	+.10	+.12	+.08	-.12						51-189
51-190		SF153	152.43	22.7	3/26/52	.00	+.02	+.06	+.10	+.11	+.07	-.11						51-190
51-191		SF266	152.61	20.9	3/16/52	-.01	+.01	+.04	+.09	+.11	+.07	-.11						51-191
51-192		SF315	153.04	21.6	3/27/52	.00	+.02	+.05	+.10	+.12	+.08	-.12						51-192
51-193		SF220	153.21	21.5	3/27/52	.00	+.01	+.05	+.10	+.13	+.11	-.13						51-193
51-194		SF215	151.55	22.9	3/29/52	.00	+.01	+.05	+.09	+.11	+.07	-.11						51-194
51-195		SF181	151.17	18.9	4/19/52	.00	+.02	+.05	+.10	+.12	+.07	-.12						51-195
51-196		SF300	151.68	17.7	4/19/52	-.01	.00	+.04	+.08	+.11	+.07	-.11						51-196
51-197		KF258	151.52	19.0	4/19/52	-.01	.00	+.03	+.08	+.10	+.07	-.10						51-197
51-198		SF186	152.30	20.7	4/19/52	.00	+.01	+.04	+.09	+.11	+.07	-.11						51-198
51-199		KF263	152.05	19.7	4/21/52	-.01	+.01	+.04	+.09	+.11	+.08	-.11						51-199
51-200		SF193	152.82	21.7	4/22/52	.00	+.02	+.05	+.09	+.11	+.07	-.11						51-200
51-201		SF223	151.11	18.1	4/23/52	-.01	.00	+.04	+.08	+.11	+.07	-.11						51-201
51-202		SF290	152.44	20.7	4/24/52	-.01	.00	+.03	+.08	+.10	+.07	-.10						51-202
51-203		SF348	151.16	16.7	4/24/52	-.01	+.01	+.04	+.08	+.11	+.08	-.11						51-203
51-204		KF265	151.82	20.6	4/22/52	-.01	.00	+.04	+.08	+.11	+.07	-.11						51-204
51-205		SF327	152.79	20.8	4/26/52	.00	+.02	+.06	+.11	+.12	+.08	-.12						51-205
51-206		SF203	151.26	19.0	4/26/52	.00	+.01	+.05	+.09	+.12	+.08	-.11						51-206
51-207		SF287	152.76	22.4	4/26/52	.00	+.02	+.06	+.10	+.12	+.08	-.12						51-207
51-208		SF289	153.29	23.3	4/29/52	-.01	.00	+.03	+.07	+.10	+.07	-.10						51-208
51-209		SF125	152.15	20.0	4/23/52	-.01	.00	+.03	+.08	+.11	+.08	-.11						51-209
51-210		SF189	152.60	20.9	4/23/52	.00	+.02	+.06	+.11	+.12	+.07	-.12						51-210
51-211		KF241	152.10	20.6	4/28/52	-.01	+.01	+.04	+.09	+.11	+.08	-.11						51-211
51-212		SF292	152.20	19.7	2/24/52	.00	+.01	+.04	+.09	+.11	+.07	-.11						51-212
51-213		SF143	151.71	21.6	4/29/52	-.01	+.01	+.05	+.09	+.11	+.08	-.11						51-213
51-214		KF261	153.41	19.5	5/15/52	-.01	+.01	+.04	+.09	+.11	+.07	-.11						51-214
51-215		SF293	152.13	17.9	5/17/52	.00	+.02	+.05	+.10	+.12	+.08	-.12						51-215
51-216		SF217	152.16	19.7	5/16/52	-.01	.00	+.03	+.08	+.10	+.07	-.10						51-216
51-217		SF160	153.12	22.0	5/26/52	-.01	.00	+.03	+.08	+.10	+.07	-.10						51-217

T-11 CAMERA (CONT'D)

CAMERA	LENS CODE	CFL	AWAR	DATE	7.5°	15°	22.5°	30°	35°	40°	45°							CAMERA
51-218	KF256	153.33	22.5	5/27/52	.00	+01	+06	+09	+11	+07	-11							51-218
51-219	KF248	153.38	20.9	5/28/52	.00	+01	+05	+09	+11	+08	-11							51-219
51-220	KF243	150.82	19.0	5/28/52	.00	+02	+05	+10	+12	+08	-12							51-220
51-221	KF247	152.37	20.9	5/29/52	-.01	.00	+04	+08	+10	+07	-10							51-221
51-222	KF251	151.54	18.0	5/24/52	-.01	+01	+04	+09	+11	+07	-11							51-222
51-223	KF264	150.75	18.4	5/29/52	.00	+01	+04	+09	+11	+06	-11							51-223
51-224	KF249	152.64	19.9	5/29/52	.00	+01	+04	+09	+11	+07	-11							51-224
51-225	KF260	152.05	19.6	5/29/52	.00	+01	+04	+09	+12	+08	-12							51-225
51-226	KF266	152.04	20.4	5/29/52	-.01	.00	+03	+08	+10	+07	-10							51-226
51-227	KF262	152.39	21.1	6/2/52	.00	+02	+06	+09	+12	+08	-12							51-227
51-228	KF254	150.83	20.1	6/3/52	.00	+02	+05	+10	+12	+08	-12							51-228
51-229	KF245	151.51	21.5	6/4/52	.00	+01	+05	+09	+11	+07	-11							51-229
51-230	KF242	151.95	21.1	6/5/52	.00	+02	+06	+10	+12	+08	-12							51-230
51-231	KF259	152.89	19.9	6/6/52	.00	+01	+05	+09	+11	+07	-11							51-231
51-232	KF250	152.14	19.4	6/23/52	-.01	+01	+05	+09	+11	+08	-11							51-232
51-233	SF268	152.88	20.1	6/19/52	-.01	+01	+04	+09	+11	+08	-11							51-233
51-234	KF6135	152.34	20.1	6/23/52	.00	+01	+05	+09	+11	+07	-11							51-234
51-235	KF244	151.41	19.5	6/27/52	.00	+02	+06	+11	+12	+07	-12							51-235
51-236	KF6131	152.76	21.3	6/23/52	-.01	.00	+03	+07	+10	+07	-10							51-236
51-237	KF6105	154.04	21.6	6/23/52	.00	+02	+05	+09	+11	+08	-11							51-237
51-238	KF6145	153.77	21.0	6/23/52	-.01	+01	+04	+08	+10	+07	-10							51-238
51-239	SF304	151.07	19.2	6/23/52	-.01	+01	+04	+09	+11	+07	-11							51-239
51-240	KF6101	152.10	20.2	6/23/52	.00	+03	+06	+10	+12	+07	-12							51-240
51-241	KF289	152.64	18.8	6/23/52	-.01	+01	+05	+09	+12	+08	-12							51-241
51-242	KF6111	152.54	19.6	6/24/52	.00	+01	+05	+09	+11	+07	-11							51-242
51-243	KF6124	152.32	19.9	6/24/52	.00	+02	+05	+09	+11	+07	-11							51-243
51-244	SF131	151.87	19.5	6/24/52	.00	+01	+05	+09	+11	+07	-11							51-244
51-245	KF6088	152.16	19.8	6/24/52	.00	+02	+06	+10	+12	+07	-12							51-245
51-246	KF6125	152.87	20.0	6/24/52	-.01	+01	+04	+08	+10	+07	-10							51-246
51-247	KF6128	151.54	19.9	6/24/52	.00	+01	+05	+09	+11	+07	-11							51-247
51-248	KF6119	152.20	21.0	6/26/52	-.01	+01	+04	+08	+10	+07	-11							51-248

T-11 CAMERA (CONT'D)

CAMERA	LENS & CODE	CFL	AWAR	DATE	7.5°	15°	22.5°	30°	35°	40°	45°							CAMERA
51-249	KF6126	152.03	19.2	6/26/52	-.01	+.01	+.04	+.08	+.11	+.07	-.10							51-249
51-250	KF6113	151.98	22.2	6/26/52	-.01	+.01	+.04	+.09	+.11	+.07	-.10							51-250
51-251	SF297	154.05	19.1	6/26/52	.00	+.01	+.05	+.09	+.11	+.07	-.11							51-251
51-252	KF6116	154.19	21.5	6/23/52	-.01	+.01	+.04	+.08	+.11	+.08	-.11							51-252
51-253	KF6102	152.70	20.8	7/31/52	.00	+.01	+.05	+.09	+.11	+.08	-.11							51-253
51-254	KF6092	152.82	22.2	8/1/52	-.01	.00	+.03	+.07	+.10	+.07	-.10							51-254
51-255	KF6106	152.54	23.4	8/18/52	.00	+.03	+.06	+.10	+.12	+.07	-.12							51-255
51-256	SF191	151.29	20.3	8/19/52	.00	+.02	+.06	+.11	+.12	+.07	-.12							51-256
51-257	SF237	152.78	19.8	8/19/52	-.01	+.01	+.04	+.08	+.11	+.07	-.11							51-257
51-258	SF201	151.13	19.6	8/20/52	-.01	+.01	+.04	+.09	+.11	+.07	-.11							51-258
51-259	KF6098	150.93	18.8	8/19/52	-.01	+.01	+.04	+.08	+.11	+.07	-.11							51-259
51-260	SF310	150.74	19.5	8/19/52	.00	+.02	+.06	+.11	+.12	+.07	-.12							51-260
51-261	KF6103	152.28	22.0	8/21/52	+.01	+.02	+.06	+.11	+.12	+.07	-.12							51-261
51-262	SF221	152.21	19.0	8/21/52	.00	+.01	+.04	+.09	+.11	+.08	-.11							51-262
51-263	KF6089	152.76	22.5	8/21/52	.00	+.02	+.05	+.09	+.11	+.07	-.11							51-263
51-264	SF184	151.61	20.7	8/28/52	.00	+.02	+.05	+.10	+.11	+.07	-.11							51-264
51-265	KF6114	153.99	20.7	8/15/52	.00	+.01	+.04	+.08	+.10	+.07	-.10							51-265
51-266	SF343	151.86	21.4	8/30/52	-.01	+.01	+.04	+.09	+.11	+.07	-.11							51-266
51-267	KF257	153.27	21.0	8/30/52	-.01	+.01	+.04	+.08	+.11	+.08	-.11							51-267
51-268	KF6141	152.15	23.5	8/30/52	.00	+.03	+.06	+.10	+.12	+.08	-.12							51-268
51-269	SF169	150.82	18.5	8/30/52	.00	+.01	+.04	+.09	+.11	+.07	-.11							51-269
51-270	KF6121	153.14	25.8	9/16/52	-.01	+.01	+.04	+.08	+.11	+.08	-.11							51-270
51-271	KF6171	151.19	22.9	9/16/52	-.01	+.01	+.04	+.08	+.10	+.07	-.10							51-271
51-272	SF282	151.37	20.2	9/23/52	-.01	+.01	+.05	+.09	+.12	+.08	-.12							51-272
51-273	KF248	152.98	24.7	9/23/52	.00	+.02	+.05	+.10	+.12	+.08	-.12							51-273
51-274	KF356	152.45	23.2	9/23/52	.00	+.01	+.04	+.09	+.11	+.08	-.11							51-274
51-275	KF6165	151.48	23.4	9/4/52	.00	+.02	+.05	+.09	+.11	+.08	-.11							51-275
51-276	SF246	151.48	22.2	9/23/52	.00	+.02	+.05	+.10	+.11	+.07	-.11							51-276
52-001	KF7535	153.18	21.0	10/14/52	.00	+.02	+.05	+.09	+.11	+.07	-.11							52-001
52-002	KF6161	153.79	22.5	10/20/52	.00	+.01	+.04	+.09	+.11	+.08	-.11							52-002
52-003	SF341	151.36	19.5	10/20/52	.00	+.02	+.05	+.10	+.12	+.07	-.12							52-003

T-11 CAMERA (CONT'D)

CAMERA	LENS CODE	CFL	AWAR	DATE	7.5°	15°	22.5°	30°	35°	40°	45°							CAMERA
52-004	SF331	151.16	19.2	10/18/52	-.01	.00	+.03	+.08	+.11	+.08	-.11							52-004
52-005	XF258	153.11	19.8	10/18/52	-.01	.00	+.04	+.08	+.11	+.08	-.11							52-005
52-006	XF314	154.07	21.2	10/18/52	.00	+.01	+.04	+.09	+.11	+.08	-.11							52-006
52-007	XF276	154.96	19.6	10/18/52	-.01	.00	+.03	+.08	+.10	+.08	-.10							52-007
52-008	KF6166	153.52	22.9	10/20/52	.00	+.01	+.04	+.09	+.11	+.08	-.11							52-008
52-009	SF305	151.57	17.8	10/20/52	-.01	.00	+.03	+.08	+.11	+.08	-.11							52-009
52-010	XF321	152.43	21.6	10/20/52	.00	+.03	+.06	+.11	+.12	+.08	-.12							52-010
52-011	XF329	153.21	21.7	10/20/52	-.01	+.01	+.04	+.08	+.10	+.08	-.10							52-011
52-012	XF243	152.57	22.4	10/20/52	.01	+.03	+.06	+.11	+.13	+.08	-.13							52-012
52-013	XF308	154.12	20.2	10/21/52	.00	+.03	+.06	+.11	+.12	+.08	-.12							52-013
52-014	KF6134	154.72	23.4	10/21/52	-.01	+.01	+.04	+.08	+.10	+.07	-.10							52-014
52-015	SF204	152.63	21.3	10/21/52	.00	+.02	+.05	+.10	+.11	+.07	-.11							52-015
52-016	XF239	153.92	22.5	10/21/52	.00	+.01	+.04	+.09	+.11	+.08	-.11							52-016
52-017	XF295	152.84	23.2	10/21/52	-.01	+.01	+.04	+.09	+.11	+.08	-.11							52-017
52-018	XF7522	152.11	22.6	10/21/52	.00	+.01	+.04	+.09	+.11	+.08	-.11							52-018
52-019	KF7653	154.25	19.9	10/24/52	.00	+.02	+.05	+.10	+.12	+.08	-.12							52-019
52-020	XF290	154.17	23.2	10/24/52	.00	+.02	+.05	+.10	+.11	+.07	-.11							52-020
52-021	XF236	153.64	23.1	10/24/52	-.01	+.01	+.04	+.09	+.10	+.07	-.10							52-021
52-022	KF7534	154.61	22.7	10/24/52	.00	+.03	+.06	+.10	+.12	+.07	-.12							52-022
52-023	XF246	154.37	24.5	10/24/52	-.01	.00	+.03	+.08	+.10	+.08	-.10							52-023
52-024	XF339	152.69	21.9	10/24/52	.00	+.02	+.05	+.09	+.11	+.08	-.11							52-024
52-025	KF6160	154.05	18.7	10/29/52	.00	+.02	+.06	+.10	+.12	+.08	-.12							52-025
52-026	XF231	152.92	21.6	10/29/52	.00	+.02	+.05	+.10	+.12	+.08	-.12							52-026
52-027	XF256	152.88	18.8	10/29/52	.00	+.02	+.05	+.10	+.12	+.08	-.12							52-027
52-028	XF596	152.97	22.4	10/29/52	-.01	.00	+.03	+.07	+.10	+.08	-.10							52-028
52-029	XF313	153.70	21.1	10/30/52	-.01	+.01	+.04	+.09	+.11	+.08	-.11							52-029
52-030	XF317	154.25	21.8	10/30/52	.00	+.02	+.05	+.10	+.12	+.08	-.12							52-030
52-031	XF311	153.16	22.0	10/29/52	-.01	+.01	+.04	+.09	+.11	+.08	-.11							52-031
52-032	KF7649	153.26	22.0	10/30/52	.00	+.02	+.05	+.10	+.12	+.08	-.12							52-032
52-033	XF322	153.27	20.6	10/30/52	-.01	+.01	+.04	+.09	+.11	+.08	-.11							52-033
52-034	XF335	153.48	21.0	10/30/52	-.01	.00	+.04	+.08	+.11	+.09	-.11							52-034

T-11 CAMERA (CONT'D)

CAMERA		LENS & CONE	CFL		AWAR	DATE	7.5°	15°	22.5°	30°	35°	40°	45°						CAMERA
52-035		XF267	154.85		21.2	10/30/52	-.01	.00	+04	+08	+11	+08	-.10						52-035
52-036		XF277	154.36		22.8	10/30/52	-.01	.00	+04	+08	+10	+07	-.10						52-036
52-037		XF346	153.70		22.9	10/30/52	-.01	+01	+04	+09	+11	+08	-.11						52-037
52-038		XF603	155.18		21.5	10/30/52	.00	+01	+05	+10	+12	+09	-.12						52-038
52-039		XF309	154.94		21.2	10/30/52	.00	+01	+05	+09	+12	+08	-.11						52-039
52-040		XF294	154.54		22.0	10/30/52	.00	+01	+05	+09	+11	+08	-.11						52-040
52-041		XF241	154.13		21.6	10/30/52	-.01	.00	+04	+08	+11	+08	-.11						52-041
52-042		XF7660	153.34		21.9	10/30/52	.00	+01	+05	+09	+11	+07	-.11						52-042
52-043		XF271	153.90		21.3	10/30/52	.00	+01	+04	+09	+11	+08	-.11						52-043
52-044		XF328	153.50		19.9	10/30/52	.00	+02	+05	+10	+12	+08	-.12						52-044
52-045		XF337	153.96		21.0	10/30/52	-.01	.00	+03	+08	+10	+07	-.10						52-045
52-046		XF595	153.83		20.3	10/31/52	.00	+02	+05	+10	+12	+08	-.12						52-046
52-047		XF234	154.15		17.8	10/31/52	-.01	.00	+03	+09	+12	+10	-.12						52-047
52-048		XF630	155.46		21.4	10/31/52	.00	+01	+05	+10	+11	+08	-.11						52-048
52-049		XF599	153.55		22.7	10/30/52	.00	+02	+05	+10	+11	+08	-.12						52-049
52-050		XF349	155.50		21.7	10/30/52	-.01	.00	+03	+07	+10	+08	-.10						52-050
52-051		XF551	153.78		19.0	10/31/52	-.01	+01	+04	+09	+11	+08	-.11						52-051
52-052		XF6151	154.12		21.0	10/31/52	-.01	+01	+04	+09	+11	+08	-.11						52-052
52-053		XF275	154.47		21.2	10/31/52	-.01	+01	+04	+09	+11	+08	-.10						52-053
52-054		XF561	154.27		21.2	10/31/52	-.01	.00	+03	+08	+10	+07	-.10						52-054
52-055		XF323	153.13		21.6	10/31/52	.00	+01	+04	+09	+11	+08	-.11						52-055
52-056		XF361	153.01		21.7	10/31/52	-.01	-.01	+03	+07	+10	+07	-.10						52-056
52-057		XF254	155.33		20.6	10/31/52	.00	+01	+04	+09	+11	+08	-.11						52-057
52-058		XF305	152.95		20.2	11/12/52	.00	+02	+05	+10	+12	+08	-.12						52-058
52-059		XF242	153.11		21.7	11/12/52	.00	+01	+05	+09	+11	+08	-.11						52-059
52-060		XF282	154.26		22.9	11/12/52	-.01	+01	+04	+09	+11	+08	-.11						52-060
52-061		XF261	153.39		20.2	11/24/52	.00	+01	+04	+09	+12	+08	-.11						52-061
52-062		XF265	153.89		20.4	11/25/52	.00	+01	+05	+09	+12	+09	-.12						52-062
52-063		XF615	153.45		21.3	11/24/52	.00	+02	+06	+10	+12	+08	-.12						52-063
52-064		XF625	153.40		21.5	11/24/52	.00	+02	+06	+10	+12	+08	-.12						52-064
52-065		XF552	153.84		20.7	11/24/52	.00	+01	+05	+09	+11	+08	-.11						52-065

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T-11 CAMERA (CONT'D)

CAMERA	LENS CODE	CFL	AWAR	DATE	7.5°	15°	22.5°	30°	35°	40°	45°						CAMERA
52-066	KF2249	153.44	21.8	11/29/52	-.01	+.01	+.04	+.09	+.11	+.08	-.11						52-066
52-067	KF550	155.00	21.1	11/29/52	.00	+.01	+.04	+.09	+.11	+.08	-.11						52-067
52-068	KF353	153.89	20.7	11/29/52	.00	+.01	+.05	+.09	+.12	+.08	-.12						52-068
52-069	KF621	153.30	21.3	11/29/52	+.01	+.03	+.06	+.11	+.12	+.08	-.12						52-069
52-070	KF2159	154.56	20.4	11/29/52	-.01	.00	+.03	+.08	+.11	+.08	-.11						52-070
52-071	KF619	153.59	21.6	11/29/52	.00	+.02	+.05	+.10	+.12	+.08	-.12						52-071
52-072	KF547	153.41	21.6	11/29/52	.00	+.01	+.05	+.09	+.11	+.08	-.11						52-072
52-073	KF643	154.05	22.5	11/29/52	.00	+.01	+.05	+.09	+.11	+.08	-.11						52-073
52-074	KF2247	153.20	21.1	11/29/52	.00	+.01	+.04	+.09	+.11	+.08	-.11						52-074
52-075	KF278	153.51	21.8	11/30/52	.00	+.01	+.05	+.10	+.12	+.08	-.12						52-075
52-076	KF284	154.72	21.3	11/23/52	.00	+.01	+.05	+.10	+.12	+.08	-.12						52-076
52-077	KF2176	154.76	23.1	11/30/52	.00	+.01	+.04	+.09	+.11	+.08	-.11						52-077
52-078	KF245	154.14	21.2	11/23/52	.00	+.01	+.04	+.09	+.11	+.09	-.11						52-078
52-079	KF645	153.96	22.2	11/30/52	.00	+.02	+.06	+.10	+.12	+.08	-.12						52-079
52-080	KF2172	155.04	22.2	11/30/52	-.01	.00	+.03	+.08	+.10	+.08	-.10						52-080
52-081	KF609	153.91	21.7	11/30/52	-.01	.00	+.03	+.08	+.10	+.08	-.10						52-081
52-082	KF549	153.84	22.8	11/30/52	.00	+.02	+.05	+.10	+.12	+.08	-.12						52-082
52-083	KF642	154.43	22.2	11/30/52	.00	+.02	+.05	+.10	+.12	+.09	-.12						52-083
52-084	KF316	154.51	20.5	11/30/52	-.01	-.01	+.03	+.07	+.10	+.07	-.10						52-084
52-085	KF582	153.03	19.9	12/1/52	-.01	.00	+.04	+.08	+.11	+.07	-.11						52-085
52-086	KF577	154.61	22.7	12/1/52	-.01	.00	+.03	+.08	+.11	+.08	-.11						52-086
52-087	KF293	154.50	22.5	12/4/52	.00	+.02	+.05	+.10	+.12	+.09	-.12						52-087
52-088	KF589	153.89	22.2	12/4/52	.00	+.02	+.05	+.10	+.12	+.08	-.12						52-088
52-089	KF2184	155.06	22.4	12/4/52	-.01	.00	+.03	+.08	+.10	+.08	-.10						52-089
52-090	KF246	152.04	22.6	12/4/52	.00	+.02	+.05	+.10	+.12	+.08	-.12						52-090
52-091	KF269	152.82	23.1	12/11/52	-.01	+.01	+.04	+.09	+.11	+.08	-.11						52-091
(1) 52-092	KF605	154.57	22.3	5/10/57	.00	+.01	+.04	+.09	+.11	+.09	-.11						52-092
(2) 52-092	KF605	154.57	21.6	12/11/52	.00	+.01	+.04	+.09	+.11	+.09	-.11						52-092
52-093	KF556	152.87	24.1	12/13/52	-.01	+.01	+.04	+.09	+.11	+.07	-.11						52-093
52-094	KF2277	154.37	24.1	12/22/52	.00	+.02	+.05	+.10	+.12	+.08	-.12						52-094
52-095	KF2256	152.95	23.7	12/22/52	-.01	+.01	+.05	+.09	+.12	+.08	-.12						52-095

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL	AWAR	DATE	7.5°	15°	22.5°	30°	35°	40°	45°							CAMERA
52-096	XF2171	152.93	22.8	12/22/52	-.01	+.01	+.04	+.09	+.11	+.08	-.11							52-096
52-097	XF637	154.23	23.0	12/22/52	.00	+.01	+.05	+.10	+.12	+.08	-.12							52-097
52-098	XF288	154.17	23.9	12/22/52	-.01	.00	+.03	+.08	+.11	+.07	-.11							52-098
52-099	XF340	152.49	23.5	12/22/52	.00	+.02	+.05	+.10	+.12	+.08	-.12							52-099
52-100	XF351	152.61	22.6	12/22/52	-.01	+.01	+.04	+.08	+.11	+.08	-.11							52-100
52-101	XF6123	154.16	24.6	12/26/52	-.01	.00	+.03	+.07	+.10	+.08	-.10							52-101
52-102	XF2874	154.35	23.8	12/22/52	.00	+.02	+.05	+.10	+.12	+.08	-.12							52-102
52-103	XF2230	152.71	22.6	12/23/52	-.01	.00	+.03	+.08	+.10	+.08	-.10							52-103
52-104	XF2181	154.41	23.5	12/23/52	-.01	.00	+.03	+.08	+.11	+.08	-.10							52-104
52-105	XF2190	153.21	24.1	12/23/52	.00	+.01	+.05	+.09	+.11	+.08	-.11							52-105
52-106	XF618	153.78	23.7	12/23/52	.00	+.01	+.05	+.10	+.12	+.08	-.12							52-106
52-107	XF350	153.63	23.4	12/23/52	+.01	+.03	+.07	+.11	+.12	+.08	-.13							52-107
52-108	XF579	153.36	20.1	12/26/52	-.01	.00	+.03	+.08	+.11	+.08	-.11							52-108
52-109	XF2257	153.59	22.7	12/23/52	.00	+.01	+.05	+.09	+.12	+.08	-.12							52-109
52-110	XF593	153.98	22.8	12/23/52	-.01	-.01	+.02	+.07	+.09	+.08	-.09							52-110
52-111	XF255	151.36	21.7	12/20/52	-.01	+.01	+.04	+.09	+.11	+.08	-.11							52-111
52-112	XF2162	154.23	21.6	12/26/52	.00	+.01	+.04	+.09	+.11	+.08	-.11							52-112
52-113	XF2191	151.33	23.9	12/27/52	.00	+.02	+.05	+.10	+.12	+.08	-.12							52-113
52-114	XF2615	153.38	23.5	12/27/52	-.01	+.01	+.05	+.09	+.11	+.08	-.11							52-114
52-115	XF2143	153.18	23.0	12/27/52	-.01	+.01	+.04	+.09	+.11	+.08	-.11							52-115
52-116	XF2148	154.11	21.9	12/27/52	.00	+.02	+.05	+.10	+.12	+.09	-.12							52-116
52-117	XF2288	152.61	21.2	12/27/52	-.01	.00	+.03	+.08	+.11	+.08	-.11							52-117
52-118	XF573	154.05	23.1	12/26/52	.00	+.01	+.04	+.09	+.11	+.08	-.11							52-118
52-119	XF2225	154.02	24.0	12/26/52	-.01	.00	+.04	+.08	+.10	+.08	-.10							52-119
52-120	XF2265	152.51	20.7	12/27/52	-.01	+.01	+.04	+.09	+.11	+.08	-.11							52-120
52-121	XF568	153.09	22.6	12/26/52	-.01	+.01	+.05	+.09	+.11	+.08	-.11							52-121
52-122	XF591	154.39	23.9	12/26/52	.00	+.01	+.05	+.10	+.12	+.08	-.12							52-122
52-123	XF2179	152.91	22.3	12/27/52	.00	+.01	+.05	+.09	+.11	+.08	-.11							52-123
52-124	XF2276	154.70	23.8	1/13/53	.00	+.01	+.04	+.09	+.11	+.08	-.11							52-124
52-125	XF2246	153.39	24.8	1/13/53	-.01	.00	+.03	+.08	+.11	+.08	-.11							52-125
54-001																		54-001

A-13

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
54-002																	54-002
54-003																	54-003
54-004																	54-004
54-005																	54-005
54-006																	54-006
54-007																	54-007
54-008																	54-008
54-009																	54-009
54-010																	54-010
54-011																	54-011
54-012																	54-012
54-013																	54-013
54-014																	54-014
54-015																	54-015
54-016																	54-016
54-017																	54-017
54-018																	54-018
54-019																	54-019
54-020																	54-020
54-021																	54-021
54-022																	54-022
54-023																	54-023
54-024																	54-024
54-025																	54-025
54-026	XF2873	155.25	.005	23.7	2/19/54	-.01	.00	+.03	+.06	+.07	+.09	+.11	+.11	+.08	+.01	-.11	54-026
54-027	XF2229	155.03	.004	23.4	1/20/54	-.01	.00	+.03	+.07	+.08	+.10	+.11	+.12	+.08	+.04	-.12	54-027
54-028	XF2654	154.46	.005	26.2	2/19/54	-.01	.00	+.04	+.07	+.08	+.10	+.10	+.11	+.08	+.02	-.11	54-028
54-029	XF2244	152.81	.013	22.8	2/20/54	.00	+.01	+.05	+.08	+.09	+.10	+.11	+.11	+.07	+.01	-.11	54-029
54-030	XF2281	154.29	.008	23.5	2/19/54	-.01	.00	+.03	+.06	+.07	+.09	+.10	+.10	+.07	+.03	-.10	54-030
54-031	XF2643	153.88	.009	24.6	2/19/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.11	+.08	+.01	-.11	54-031
54-032	XF237	153.83	.007	23.2	2/19/54	+.01	+.02	+.06	+.09	+.10	+.12	+.12	+.12	+.08	+.02	-.12	54-032

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	GFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
54-033	XF2214	154.28	.004	23.6	2/20/54	.00	.00	+04	+07	+08	+10	+10	+10	+07	+02	-.11	54-033
54-034	XF2607	153.09	.012	22.7	2/19/54	-.01	.00	+04	+07	+08	+10	+11	+11	+08	+03	-.11	54-034
54-035	XF633	154.15	.004	26.2	2/20/54	-.01	.00	+04	+07	+08	+10	+11	+11	+08	+03	-.11	54-035
54-036	XF641	153.84	.005	23.0	2/20/54	.00	+02	+05	+08	+10	+11	+12	+11	+08	+01	-.12	54-036
54-037	XF2597	153.48	.008	21.4	2/19/54	.00	+01	+04	+07	+09	+10	+12	+10	+08	+01	-.12	54-037
54-038	XF2984	153.56	.002	23.5	2/19/54	-.01	+01	+04	+07	+08	+10	+11	+11	+08	+02	-.11	54-038
54-039	XF2206	154.19	.006	23.3	2/19/54	-.01	.00	+03	+06	+07	+09	+10	+10	+08	+02	-.10	54-039
54-040	XF2198	154.42	.003	23.4	2/20/54	.00	+01	+04	+07	+08	+10	+11	+10	+08	+01	-.11	54-040
54-041	XF2211	153.61	.008	24.2	2/23/54	-.01	+01	+04	+07	+09	+10	+11	+11	+08	+01	-.11	54-041
54-042	XF2213	152.69	.006	23.8	2/23/54	.00	+01	+05	+07	+09	+11	+12	+11	+08	+02	-.12	54-042
54-043	XF2282	154.38	.008	23.5	2/19/54	-.01	-.01	+02	+05	+07	+09	+10	+10	+08	+03	-.10	54-043
54-044	XF2175	154.80	.004	24.6	2/19/54	-.01	.00	+03	+06	+07	+10	+10	+11	+07	+03	-.11	54-044
54-045	XF2261	153.37	.008	25.0	2/19/54	-.01	+01	+04	+08	+09	+11	+11	+12	+07	+03	-.12	54-045
54-046	XF2255	153.45	.004	25.3	2/20/54	-.01	.00	+03	+06	+07	+10	+10	+11	+07	+02	-.11	54-046
54-047	XF2227	154.25	.009	23.9	2/18/54	-.01	+01	+04	+06	+09	+10	+11	+11	+08	+03	-.11	54-047
54-048	XF2631	154.84	.005	24.7	2/27/54	.00	+01	+04	+06	+08	+09	+11	+09	+08	+04	-.11	54-048
54-049	XF2648	152.45	.003	23.4	2/17/54	-.01	.00	+03	+06	+07	+09	+10	+10	+08	+02	-.10	54-049
54-050	XF2253	153.53	.006	21.4	2/20/54	-.01	.00	+03	+06	+07	+10	+10	+11	+07	+03	-.11	54-050
54-051	XF2621	154.23	.005	24.2	12/23/53	-.01	.00	+03	+06	+07	+10	+10	+11	+07	+03	-.11	54-051
54-052	XF318	153.84	.002	22.3	2/20/54	.00	+02	+06	+09	+10	+12	+12	+12	+08	+02	-.12	54-052
54-053	XF2634	153.90	.009	23.8	3/1/54	.00	+01	+05	+08	+09	+11	+12	+12	+08	+02	-.12	54-053
54-054	XF2662	155.30	.006	25.9	2/27/54	.00	+02	+05	+08	+10	+11	+12	+12	+08	+02	-.12	54-054
54-055	KF6144	151.63	.003	22.7	2/19/54	+01	+01	+04	+07	+09	+10	+11	+11	+07	+02	-.11	54-055
54-056	DF3762	153.50	.007	25.3	2/19/54	+01	+02	+06	+09	+11	+12	+13	+12	+08	+01	-.13	54-056
54-057	XF2656	154.60	.004	23.3	2/19/54	-.01	.00	+03	+06	+08	+10	+11	+11	+08	+01	-.11	54-057
54-058	XF2188	153.62	.010	20.8	2/19/54	-.01	+01	+04	+07	+08	+10	+11	+11	+08	+02	-.11	54-058
54-059	XF2144	153.35	.004	20.9	3/12/54	.00	+01	+04	+07	+08	+10	+11	+10	+07	+01	-.11	54-059
54-060	XF2990	154.07	.004	22.1	3/13/54	.00	+01	+05	+08	+09	+11	+12	+12	+08	+02	-.12	54-060
54-061	XF2973	154.31	.005	26.9	3/13/54	-.01	+01	+04	+07	+08	+11	+11	+11	+08	+03	-.11	54-061
54-062	XF2966	154.02	.009	21.3	2/27/54	.00	+02	+06	+09	+11	+12	+12	+10	+07	-.00	-.12	54-062
54-063	XF2203	154.13	.011	22.4	3/12/54	.00	+02	+05	+08	+10	+11	+12	+11	+08	+01	-.12	54-063

T-11 CAMERA (CONT'D)

CAMERA		LENS CODE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
54-064		XF2209	153.18	.005	25.1	3/12/54	.00	+01	+05	+08	+09	+11	+12	+11	+08	+02	-.12		54-064
54-065		XF2670	153.31	.003	26.9	3/13/54	.00	+02	+07	+10	+11	+13	+13	+13	+09	+03	-.13		54-065
54-066		XF2233	155.11	.005	26.6	3/12/54	.00	+02	+05	+08	+09	+10	+11	+10	+07	+01	-.11		54-066
54-067		XF2160	152.90	.005	21.0	3/12/54	-.01	.00	+03	+06	+08	+10	+11	+11	+07	+03	-.11		54-067
54-068		XF2178	154.16	.006	21.9	3/12/54	.00	+01	+04	+07	+09	+11	+12	+11	+08	+02	-.12		54-068
54-069		XF2632	154.49	.006	21.4	3/13/54	.00	+01	+05	+08	+09	+11	+11	+11	+08	+02	-.11		54-069
54-070		XF2149	154.45	.002	22.3	3/12/54	.00	+01	+05	+08	+09	+11	+11	+12	+07	+03	-.12		54-070
54-071		XF2995	153.77	.003	21.5	2/19/54	.00	+01	+04	+07	+09	+11	+12	+12	+08	+02	-.12		54-071
54-072		XF2278	154.11	.010	25.3	3/13/54	.00	+01	+04	+07	+08	+10	+11	+11	+08	+02	-.11		54-072
54-073		XF2594	154.38	.005	25.0	3/13/54	.00	+01	+04	+08	+08	+11	+11	+11	+07	+03	-.11		54-073
54-074		XF564	155.05	.005	21.1	2/20/54	-.01	.00	+03	+06	+07	+09	+11	+10	+08	+02	-.11		54-074
54-075		XF2205	153.38	.004	23.3	3/12/54	-.01	+01	+04	+07	+09	+11	+11	+11	+08	+02	-.11		54-075
54-076		XF2222	152.80	.008	21.7	3/12/54	.00	+01	+05	+08	+09	+11	+11	+11	+07	+02	-.11		54-076
54-077		XF2659	153.43	.003	24.8	3/13/54	.00	+01	+05	+08	+10	+12	+12	+12	+08	+02	-.12		54-077
54-078		XF2234	155.42	.003	22.3	3/12/54	.00	+02	+05	+08	+10	+11	+11	+12	+08	+03	-.12		54-078
54-079		XF2272	154.48	.007	21.8	3/12/54	-.01	.00	+04	+07	+08	+10	+10	+11	+08	+02	-.11		54-079
54-080		XF3002	155.04	.004	23.7	3/13/54	.00	+01	+05	+08	+09	+11	+12	+12	+08	+02	-.12		54-080
54-081		XF565	153.57	.006	21.4	3/12/54	-.01	+01	+04	+07	+08	+10	+11	+11	+08	+02	-.11		54-081
54-082		XF2283	152.66	.003	24.6	3/13/54	-.01	+01	+04	+07	+08	+10	+11	+11	+08	+02	-.11		54-082
54-083		SF188	152.64	.003	23.7	2/24/54	-.01	+01	+04	+07	+08	+10	+11	+11	+08	+02	-.11		54-083
54-084		XF2207	154.80	.005	25.1	3/12/54	-.01	.00	+04	+07	+07	+10	+10	+10	+08	+03	-.10		54-084
54-085		XF2187	155.11	.005	24.2	3/12/54	-.01	.00	+03	+06	+07	+09	+10	+10	+08	+02	-.11		54-085
54-086		XF2196	154.75	.007	22.7	3/12/54	.00	+01	+04	+07	+08	+10	+11	+10	+08	.00	-.11		54-086
54-087		SF307	150.89	.007	21.7	3/12/54	.00	+01	+05	+08	+09	+12	+12	+12	+08	+03	-.12		54-087
54-088		XF2975	154.44	.009	25.6	3/13/54	-.01	+01	+04	+08	+09	+11	+11	+11	+08	+03	-.11		54-088
54-089		XF2286	154.71	.004	24.5	3/13/54	-.01	.00	+04	+07	+08	+11	+11	+11	+08	+03	-.11		54-089
54-090		XF2664	153.37	.007	22.9	3/13/54	.00	+01	+05	+08	+09	+11	+11	+10	+07	+01	-.11		54-090
54-091																			54-091
54-092																			54-092
54-093																			54-093
54-094																			54-094

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
54-095																	54-095
54-096																	54-096
54-097																	54-097
54-098																	54-098
54-099																	54-099
54-100																	54-100
54-101																	54-101
54-102																	54-102
54-103																	54-103
54-104																	54-104
54-105																	54-105
54-106	DF5270	153.98	.005	22.1	6/2/54	.00	+0.01	+0.05	+0.08	+0.09	+0.12	+0.12	+0.12	+0.08	+0.03	-.12	54-106
54-107	DF5230	154.05	.004	22.3	6/2/54	.00	+0.01	+0.05	+0.08	+0.10	+0.11	+0.11	+0.10	+0.08	+0.02	-.11	54-107
54-108	DF3746	154.49	.005	22.2	5/21/54	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.11	+0.08	+0.01	-.12	54-108
54-109	DF3730	152.94	.004	23.7	6/9/54	.00	+0.02	+0.06	+0.10	+0.11	+0.13	+0.13	+0.12	+0.08	+0.02	-.13	54-109
54-110	DF5232	154.30	.005	22.0	6/9/54	.00	+0.02	+0.06	+0.09	+0.10	+0.12	+0.12	+0.12	+0.08	+0.01	-.12	54-110
54-111	DF7268	154.30	.006	21.5	6/9/54	.00	+0.01	+0.05	+0.08	+0.10	+0.11	+0.11	+0.11	+0.07	+0.01	-.11	54-111
54-112	DF5286	155.45	.005	23.2	6/9/54	.00	+0.02	+0.07	+0.09	+0.10	+0.12	+0.12	+0.11	+0.08	+0.01	-.12	54-112
54-113	DF5287	155.11	.002	21.6	6/9/54	+0.01	+0.03	+0.07	+0.10	+0.11	+0.12	+0.13	+0.12	+0.08	+0.01	-.13	54-113
54-114	DF5272	154.49	.005	25.0	6/9/54	.00	+0.02	+0.05	+0.09	+0.10	+0.12	+0.12	+0.12	+0.08	+0.02	-.12	54-114
54-115	DF9366	153.60	.006	22.5	6/9/54	.00	+0.02	+0.06	+0.08	+0.10	+0.11	+0.12	+0.11	+0.09	+0.02	-.12	54-115
54-116	DF9674	154.19	.007	24.2	6/9/54	.00	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.10	+0.07	+0.01	-.11	54-116
54-117	DS2325	153.14	.005	22.6	6/9/54	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.11	+0.08	+0.01	-.12	54-117
54-118	RF107	153.28	.006	22.4	6/9/54	-.01	+0.01	+0.05	+0.07	+0.09	+0.11	+0.11	+0.10	+0.07	+0.01	-.11	54-118
54-119	DF9639	154.41	.003	22.2	6/10/54	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.11	+0.07	+0.01	-.12	54-119
54-120	DS2161	154.78	.015	24.6	6/10/54	.00	+0.02	+0.06	+0.09	+0.11	+0.11	+0.12	+0.11	+0.08	+0.02	-.12	54-120
54-121	DF9347	153.54	.004	25.8	6/10/54	.00	+0.03	+0.07	+0.10	+0.11	+0.13	+0.12	+0.12	+0.08	+0.02	-.13	54-121
54-122	DF9316	154.74	.003	21.4	6/10/54	.00	+0.01	+0.06	+0.08	+0.10	+0.10	+0.11	+0.09	+0.07	-.01	-.11	54-122
54-123	DF9376	153.84	.002	23.6	6/10/54	.00	+0.02	+0.06	+0.09	+0.10	+0.12	+0.12	+0.11	+0.08	+0.02	-.12	54-123
54-124	DS2053	155.16	.009	22.9	6/10/54	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.12	+0.08	+0.02	-.12	54-124
54-125	DF5255	153.39	.003	21.6	6/10/54	-.01	+0.01	+0.04	+0.07	+0.09	+0.10	+0.10	+0.09	+0.07	.00	-.10	54-125

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
54-126	RF145	154.66	.003	25.5	8/14/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.10	+.07	+.01	-.11	54-126
54-127	DF9684	155.01	.006	26.0	8/21/54	.00	+.02	+.05	+.08	+.10	+.11	+.12	+.11	+.08	+.02	-.12	54-127
54-128	DF7334	154.41	.006	24.7	8/21/54	.00	+.02	+.06	+.09	+.10	+.12	+.11	+.11	+.07	+.02	-.12	54-128
54-129	DF5239	153.26	.005	24.3	9/20/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.07	+.01	-.12	54-129
54-130	DF7307	154.06	.006	24.2	8/21/54	.00	+.02	+.05	+.08	+.09	+.11	+.11	+.11	+.08	+.02	-.12	54-130
54-131	DS2142	154.23	.002	24.2	8/14/54	.00	+.01	+.06	+.10	+.10	+.11	+.11	+.10	+.07	.00	-.11	54-131
54-132	DS2305	155.25	.003	22.2	8/20/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.11	+.07	+.02	-.11	54-132
54-133	DF9346	153.75	.005	23.6	8/21/54	+.01	+.03	+.08	+.10	+.11	+.13	+.13	+.12	+.08	+.01	-.13	54-133
54-134	DF9297	153.91	.006	23.1	8/21/54	+.01	+.03	+.07	+.10	+.11	+.12	+.13	+.11	+.08	+.02	-.12	54-134
54-135	RF153	154.49	.006	23.2	8/14/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.08	+.02	-.12	54-135
54-136	RF124	154.76	.011	23.7	8/14/54	+.01	+.03	+.07	+.10	+.11	+.12	+.12	+.11	+.08	+.01	-.12	54-136
54-137	RF175	154.04	.004	22.9	8/14/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.07	.00	-.12	54-137
54-138	DF9671	154.42	.002	23.5	8/21/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.11	+.07	+.01	-.12	54-138
54-139	DS2303	155.37	.008	22.9	8/20/54	.00	+.01	+.05	+.07	+.09	+.09	+.11	+.09	+.07	.00	-.11	54-139
54-140	DS2283	154.83	.003	21.2	8/19/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.11	+.07	+.02	-.12	54-140
54-141	RF147	154.31	.004	20.9	8/14/54	.00	+.02	+.06	+.08	+.10	+.11	+.12	+.11	+.08	+.02	-.12	54-141
54-142	RF155	154.84	.009	21.8	8/14/54	.00	+.02	+.06	+.09	+.11	+.11	+.12	+.10	+.07	+.01	-.12	54-142
54-143	DS2281	154.00	.002	21.5	8/19/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.10	+.08	+.01	-.12	54-143
54-144	DS2050	154.77	.014	20.8	8/14/54	.00	+.02	+.06	+.09	+.10	+.11	+.11	+.11	+.07	+.01	-.11	54-144
54-145	DF7244	154.04	.004	20.3	8/21/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.10	+.07	+.01	-.11	54-145
54-146	DS2307	154.11	.006	22.8	8/20/54	.00	+.01	+.05	+.08	+.10	+.10	+.11	+.10	+.07	+.01	-.11	54-146
54-147	DS2179	154.11	.010	22.5	8/14/54	.00	+.02	+.05	+.08	+.09	+.10	+.11	+.09	+.07	-.01	-.11	54-147
54-148	DF5241	154.25	.004	21.3	8/20/54	.00	+.01	+.05	+.08	+.09	+.10	+.11	+.11	+.08	+.03	-.11	54-148
54-149	DS2195	153.78	.004	21.8	8/19/54	.00	+.02	+.06	+.09	+.10	+.11	+.11	+.10	+.07	+.01	-.11	54-149
54-150	DF5281	154.10	.005	20.7	8/21/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.10	+.07	+.01	-.11	54-150
54-151	DS2323	153.92	.006	22.8	8/20/54	.00	+.01	+.05	+.07	+.09	+.09	+.11	+.09	+.07	+.01	-.11	54-151
54-152	DS2246	153.52	.009	22.1	8/19/54	.00	+.02	+.05	+.08	+.10	+.11	+.12	+.11	+.08	+.02	-.12	54-152
54-153	DF5306	153.38	.015	21.2	8/21/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.12	+.08	+.01	-.12	54-153
54-154	DS2176	154.55	.005	21.7	8/14/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.12	+.08	+.03	-.12	54-154
54-155	DF5276	154.31	.010	21.5	8/21/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.10	+.07	+.01	-.11	54-155
54-156	DF9372	154.34	.008	24.4	8/21/54	-.01	.00	+.04	+.06	+.08	+.09	+.10	+.09	+.07	+.01	-.10	54-156

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
54-157	DF9549	153.99	.011	23.1	8/21/54	.00	+.01	+.05	+.07	+.09	+.10	+.11	+.10	+.08	.00	-.11	54-157
54-158	RF118	155.30	.013	22.1	8/12/54	+.01	+.02	+.07	+.10	+.11	+.12	+.13	+.12	+.09	+.02	-.13	54-158
54-159	DS2144	153.19	.007	22.5	8/26/54	-.01	+.01	+.05	+.08	+.09	+.10	+.11	+.09	+.07	+.01	-.11	54-159
54-160	DF5242	153.98	.005	26.6	8/21/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.08	+.01	-.12	54-160
54-161	RF160	153.86	.006	21.8	8/14/54	.00	+.02	+.06	+.08	+.10	+.11	+.12	+.10	+.07	+.01	-.12	54-161
54-162	DF9642	154.15	.003	22.7	8/21/54	.00	+.01	+.02	+.05	+.07	+.08	+.10	+.09	+.07	+.01	-.10	54-162
54-163	RF154	155.12	.008	21.4	8/14/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.11	+.07	+.01	-.11	54-163
54-164	DS2136	153.12	.002	21.7	8/14/54	.00	+.02	+.06	+.08	+.10	+.10	+.12	+.10	+.07	.00	-.12	54-164
54-165	DS2210	153.98	.009	24.7	8/19/54	-.01	.00	+.03	+.07	+.08	+.09	+.10	+.10	+.07	+.03	-.10	54-165
54-166	DS2221	155.09	.004	24.8	8/19/54	.00	.02	+.06	+.09	+.10	+.12	+.12	+.10	+.08	.00	-.12	54-166
54-167	DF106	153.66	.007	24.5	8/12/54	+.01	+.03	+.07	+.10	+.11	+.12	+.12	+.11	+.08	+.02	-.12	54-167
54-168	DS2295	153.97	.006	24.7	8/20/54	+.01	+.03	+.08	+.11	+.12	+.13	+.12	+.11	+.07	.00	-.13	54-168
54-169	DS2324	153.75	.008	22.0	8/20/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.12	+.08	+.02	-.12	54-169
54-170	DF9312	154.24	.010	25.4	8/21/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.07	+.01	-.12	54-170
54-171	DS2199	153.63	.003	25.7	8/19/54	-.01	+.01	+.05	+.08	+.09	+.10	+.10	+.10	+.07	+.02	-.10	54-171
54-172	DF3782	153.71	.003	26.9	8/20/54	.00	+.02	+.06	+.09	+.11	+.12	+.12	+.11	+.07	+.01	-.12	54-172
54-173	DS2233	154.02	.004	25.3	8/19/54	.00	+.02	+.05	+.09	+.10	+.11	+.11	+.11	+.08	+.02	-.11	54-173
54-174	DS2274	154.94	.015	25.5	8/19/54	.00	+.02	+.06	+.09	+.11	+.12	+.12	+.11	+.07	+.01	-.12	54-174
54-175	RF108	154.87	.004	23.6	8/12/54	.00	+.02	+.05	+.09	+.10	+.12	+.12	+.11	+.08	+.01	-.12	54-175
54-176	RF143	154.09	.008	27.3	8/14/54	-.01	.00	+.04	+.07	+.07	+.10	+.10	+.10	+.07	+.02	-.10	54-176
54-177	DS2140	155.37	.008	23.6	8/30/54	.00	+.02	+.05	+.09	+.10	+.12	+.12	+.12	+.08	+.02	-.12	54-177
54-178	RF141	154.28	.009	26.1	8/14/54	-.01	-.01	+.02	+.05	+.07	+.09	+.10	+.09	+.07	+.02	-.10	54-178
54-179	DS2286	153.55	.008	26.5	8/19/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.07	+.01	-.12	54-179
54-180	RF209	153.59	.003	24.5	8/14/54	-.01	.00	+.04	+.07	+.08	+.10	+.10	+.10	+.08	+.02	-.10	54-180
54-181	RF193	153.96	.007	21.4	9/16/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.08	+.01	-.12	54-181
54-182	DS2044	154.38	.006	23.4	9/16/54	.00	+.01	+.05	+.08	+.09	+.10	+.11	+.10	+.07	+.01	-.11	54-182
54-183	DS2031	154.84	.015	23.4	9/22/54	.00	+.02	+.05	+.08	+.10	+.11	+.11	+.10	+.08	+.01	-.11	54-183
54-184	DS2329	154.56	.003	24.0	9/16/54	.00	+.03	+.07	+.10	+.11	+.12	+.12	+.11	+.07	+.01	-.13	54-184
54-185	DS2046	154.66	.009	25.6	9/16/54	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.11	+.08	+.02	-.11	54-185
54-186	DS2098	154.66	.009	24.0	9/16/54	.00	+.01	+.05	+.09	+.10	+.11	+.11	+.11	+.08	+.02	-.11	54-186
54-187	DS2285	154.87	.008	23.2	9/16/54	.00	+.01	+.05	+.08	+.10	+.10	+.11	+.10	+.07	+.01	-.11	54-187

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
54-188	DS2331	153.48	.002	24.1	9/16/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.11	+.08	+.02	-.12	54-188
54-189	DF9349	154.60	.013	24.1	9/16/54	-.01	+.01	+.05	+.08	+.09	+.11	+.11	+.11	+.08	+.02	-.11	54-189
54-190	RF723	152.42	.009	24.5	9/16/54	.00	±.02	+.06	+.10	+.11	+.12	+.12	+.11	+.08	+.01	-.12	54-190
54-191	DF9551	155.28	.002	23.8	9/16/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.10	+.07	.00	-.11	54-191
54-192	RF664	154.67	.011	21.0	9/16/54	-.01	-.01	+.03	+.06	+.07	+.08	+.10	+.10	+.06	+.02	-.10	54-192
54-193	DS2326	154.29	.004	25.8	9/16/54	-.01	+.01	+.05	+.08	+.09	+.10	+.11	+.10	+.07	+.02	-.11	54-193
54-194	DS2334	154.16	.004	23.3	9/16/54	.00	+.01	+.05	+.08	+.09	+.10	+.11	+.09	+.07	-.01	-.11	54-194
54-195	RF626	153.93	.008	25.5	9/16/54	-.01	+.01	+.05	+.08	+.09	+.10	+.11	+.10	+.07	+.01	-.11	54-195
54-196	RF699	154.02	.004	24.9	9/22/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.10	+.07	+.01	-.11	54-196
54-197	RF711	154.95	.006	25.3	9/16/54	-.01	+.01	+.04	+.07	+.09	+.10	+.10	+.10	+.07	+.02	-.10	54-197
54-198	RF173	154.48	.007	25.4	9/16/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.11	+.07	+.02	-.11	54-198
54-199	RF647	153.94	.004	22.6	9/16/54	-.01	.00	+.04	+.07	+.08	+.09	+.10	+.08	+.07	.00	-.10	54-199
54-200	RF113	154.07	.007	25.9	9/16/54	.00	+.01	+.05	+.08	+.10	+.10	+.11	+.10	+.08	+.01	-.11	54-200
54-201	RF491	153.10	.005	24.8	9/16/54	-.01	+.01	+.04	+.07	+.09	+.10	+.11	+.10	+.07	+.02	-.11	54-201
54-202	RF652	154.89	.004	24.7	9/16/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.10	+.07	+.02	-.11	54-202
54-203	RF589	155.05	.007	25.2	9/16/54	.00	+.01	+.05	+.08	+.09	+.10	+.11	+.10	+.07	+.01	-.11	54-203
54-204	RF194	153.88	.010	24.2	9/22/54	.00	+.02	+.06	+.10	+.11	+.12	+.12	+.10	+.08	.00	-.12	54-204
54-205	RF720	154.82	.003	25.9	9/16/54	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.10	+.08	.00	-.11	54-205
54-206	RF653	153.60	.004	23.1	9/16/54	-.01	+.01	+.06	+.08	+.10	+.10	+.11	+.10	+.07	+.01	-.11	54-206
54-207	RF727	155.12	.013	23.7	9/16/54	.00	+.01	+.05	+.08	+.10	+.10	+.12	+.09	+.08	-.01	-.12	54-207
54-208	DS2220	153.02	.003	22.9	9/16/54	.00	+.01	+.05	+.07	+.09	+.09	+.11	+.09	+.07	.00	-.11	54-208
54-209	RF444	153.45	.009	24.3	9/16/54	-.01	.00	+.04	+.07	+.08	+.10	+.10	+.09	+.07	+.01	-.10	54-209
54-210	DS2277	154.65	.004	25.9	9/16/54	.00	+.02	+.06	+.09	+.11	+.12	+.12	+.11	+.08	+.01	-.12	54-210
54-211	DS2118	153.29	.003	24.2	10/28/54	.00	+.02	+.06	+.09	+.10	+.11	+.11	+.10	+.07	.00	-.11	54-211
54-212	RF726	154.78	.008	23.1	10/15/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.11	+.07	+.02	-.12	54-212
54-213	RF180	154.06	.002	24.7	9/16/54	-.01	+.01	+.04	+.07	+.09	+.10	+.11	+.09	+.07	+.01	-.11	54-213
54-214	RF126	154.97	.008	24.0	9/16/54	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.10	+.07	+.01	-.11	54-214
54-215	RF791	152.96	.001	22.2	9/16/54	.00	+.01	+.05	+.09	+.09	+.11	+.11	+.11	+.07	+.02	-.11	54-215
54-216	DF3667	154.81	.004	25.0	10/21/54	.00	+.02	+.07	+.10	+.11	+.12	+.13	+.11	+.08	.00	-.12	54-216
54-217	RF713	153.08	.012	21.9	10/15/54	.00	+.01	+.05	+.08	+.09	+.10	+.11	+.10	+.07	+.02	-.11	54-217
54-218	RF694	154.30	.002	25.5	9/16/54	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.10	+.07	+.01	-.11	54-218

T-11 CAMERA (CONT'D)

CAMERA	LENS & CODE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
54-219	RF429	153.63	.009	22.3	9/16/54	.00	+.02	+.06	+.09	+.10	+.11	+.11	+.10	+.07	+.02	-.11		54-219
54-220	RF162	153.61	.009	23.1	9/16/54	.00	+.01	+.05	+.09	+.09	+.11	+.11	+.11	+.07	+.02	-.11		54-220
54-221	RF204	153.88	.011	24.9	9/16/54	.00	+.02	+.06	+.09	+.11	+.12	+.12	+.11	+.08	+.01	-.12		54-221
54-222	DF7313	155.11	.007	24.6	10/21/54	-.01	.00	+.03	+.06	+.08	+.09	+.10	+.08	+.07	+.01	-.10		54-222
54-223	RF2459	153.47	.013	25.6		.00	+.03	+.07	+.10	+.11	+.12	+.12	+.11	+.08	.00	-.12		54-223
54-224	RF640	154.81	.005	26.5	9/30/54	-.01	+.01	+.05	+.08	+.09	+.10	+.11	+.11	+.07	+.02	-.11		54-224
54-225	DS2177	155.42	.004	26.8	10/15/54	.00	+.02	+.07	+.10	+.11	+.12	+.12	+.11	+.08	+.01	-.12		54-225
54-226	RF803	154.27	.004	23.5	10/15/54	.00	+.02	+.06	+.09	+.11	+.12	+.12	+.11	+.07	+.01	-.12		54-226
54-227	RF683	153.25	.010	23.3	10/15/54	.00	+.02	+.06	+.10	+.11	+.12	+.12	+.12	+.08	+.01	-.12		54-227
54-228	RF796	154.09	.003	25.3	10/21/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.10	+.08	.00	-.12		54-228
54-229	RF472	155.13	.004	25.2	9/30/54	.00	+.02	+.07	+.10	+.11	+.12	+.12	+.11	+.07	-.01	-.12		54-229
54-230	RF744	154.89	.003	26.4	10/15/54	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.11	+.07	+.03	-.11		54-230
54-231	RF486	153.95	.004	24.2	9/30/54	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.10	+.08	.00	-.11		54-231
54-232	RF835	155.24	.012	25.3	10/15/54	-.01	+.01	+.05	+.08	+.09	+.10	+.11	+.08	+.07	+.01	-.11		54-232
54-233	RF168	154.06	.013	25.3	10/15/54	.00	+.02	+.06	+.10	+.11	+.12	+.12	+.11	+.08	+.01	-.12		54-233
54-234	DF7335	155.33	.010	23.8	10/22/54	-.01	.00	+.04	+.07	+.08	+.09	+.10	+.08	+.07	.00	-.10		54-234
54-235	DF9660	155.08	.009	23.5	10/22/54	.00	+.02	+.06	+.09	+.10	+.12	+.11	+.11	+.08	+.01	-.12		54-235
54-236	DS2165	154.61	.014	25.3	10/28/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.10	+.08	.00	-.12		54-236
54-237	RF753	153.13	.007	25.5	10/21/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.10	+.08	.00	-.11		54-237
54-238	RF696	153.52	.012	23.2	10/21/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.10	+.08	.00	-.12		54-238
54-239	RF840	154.95	.007	22.1	10/28/54	.00	+.01	+.05	+.08	+.10	+.10	+.11	+.10	+.07	+.01	-.11		54-239
54-240	DF9335	153.24	.006	25.7	10/22/54	-.01	+.01	+.04	+.08	+.09	+.11	+.11	+.10	+.07	+.01	-.11		54-240
54-241	DS2168	153.67	.004	25.7	10/15/54	-.01	.00	+.04	+.07	+.08	+.09	+.10	+.10	+.07	+.02	-.10		54-241
54-242	DF7286	155.04	.002	23.2	10/22/54	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.10	+.07	+.01	-.11		54-242
54-243	DF9334	155.02	.011	22.9	10/22/54	-.01	.00	+.04	+.07	+.08	+.09	+.10	+.09	+.07	+.02	-.10		54-243
54-244	RF181	153.97	.005	24.5	9/20/54	-.01	+.01	+.04	+.07	+.09	+.10	+.10	+.10	+.07	+.01	-.10		54-244
54-245	DF9394	153.87	.010	23.8	10/22/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.11	+.07	+.01	-.11		54-245
54-246	DS2312	154.28	.006	22.7	10/28/54	-.01	+.01	+.04	+.07	+.08	+.10	+.10	+.10	+.08	+.01	-.10		54-246
54-247	DS2317	155.45	.009	25.0	10/21/54	-.01	.00	+.03	+.06	+.08	+.09	+.10	+.09	+.08	+.03	-.10		54-247
54-248	DS2223	153.90	.006	25.7	10/15/54	-.01	.00	+.04	+.07	+.08	+.10	+.11	+.09	+.07	+.02	-.11		54-248
54-249	RF788	153.93	.007	22.0	10/15/54	.00	+.01	+.05	+.08	+.09	+.10	+.11	+.10	+.07	+.01	-.11		54-249

T-11 CAMERA (CONT'D)

CAMERA		LENS & CONE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
54-250		DF5151	155.00	.009	25.5	10/28/54	.00	+01	+05	+08	+09	+11	+11	+10	+07	+01	-11		54-250
54-251		DF3755	154.47			9/28/59	.00	+02	+05	+08	+09	+10	+10	+09	+05	-02	-11		54-251
54-252		RF721	153.86	.002	24.9	10/15/54	.00	+01	+05	+08	+09	+11	+11	+10	+07	+01	-11		54-252
54-253		RF644	154.02	.009	25.4	10/15/54	-.01	+01	+04	+07	+09	+09	+11	+09	+08	.00	-11		54-253
54-254		RF779	154.55	.004	27.1	10/21/54	.00	+01	+05	+08	+09	+10	+11	+10	+07	+01	-11		54-254
54-255		RF203	154.17	.013	25.7	9/30/54	.00	+01	+05	+08	+10	+10	+11	+10	+07	.00	-11		54-255
54-256		RF157	153.51	.007	25.3	9/30/54	.00	+02	+05	+08	+10	+10	+11	+10	+08	.00	-11		54-256
54-257		RF198	155.06	.002	26.6	9/30/54	.00	+01	+05	+08	+10	+11	+11	+10	+07	+01	-11		54-257
54-258		DF5339	154.14	.002	26.0	10/29/54	.00	+02	+06	+09	+10	+11	+12	+10	+08	+01	-12		54-258
54-259		DF9336	154.21	.004	27.6	10/22/54	.00	+02	+06	+09	+10	+12	+12	+11	+07	+01	-12		54-259
54-260		DF5223	154.95	.003	27.3	10/28/54	-.01	+01	+04	+07	+09	+10	+11	+10	+07	+02	-11		54-260
54-261		DS2032	154.53	.015	24.2	11/24/54	.00	+01	+05	+08	+09	+10	+11	+10	+07	+02	-11		54-261
54-262		DS7303	154.02	.004	24.3	12/18/54	-.01	.00	+03	+06	+08	+08	+10	+08	+07	+01	-10		54-262
54-263		DF9322	155.34	.006	24.7	12/20/54	.00	+01	+05	+08	+09	+11	+11	+11	+07	+01	-11		54-263
54-264		DS2096	154.59	.003	23.7	11/24/54	.00	+02	+06	+09	+10	+12	+12	+11	+08	+02	-12		54-264
54-265		DF7237	153.32	.006	23.8	12/18/54	.00	+02	+06	+10	+11	+12	+12	+11	+08	+01	-12		54-265
54-266		DS2251	153.73	.013	23.9	11/26/54	-.01	+01	+04	+07	+09	+09	+10	+10	+07	+01	-10		54-266
54-267		DS2152	154.88	.004	24.0	11/26/54	.00	+01	+05	+08	+10	+11	+11	+10	+07	.00	-11		54-267
54-268		DF5148	154.72	.011	24.0	12/18/54	-.01	.00	+04	+07	+09	+10	+11	+10	+08	+02	-11		54-268
54-269		RF436	154.96	.007	23.2	11/4/54	.00	+02	+06	+10	+11	+12	+12	+10	+08	+01	-12		54-269
54-270		RF184	155.31	.004	22.4	10/21/54	-.01	+01	+04	+07	+08	+10	+10	+10	+07	+03	-10		54-270
54-271		RF689	154.70	.011	26.5	11/8/54	.00	+02	+06	+09	+10	+11	+12	+10	+07	.00	-12		54-271
54-272		RF740	154.45	.006	21.8	12/20/54	.00	+02	+06	+09	+11	+11	+12	+11	+08	.00	-12		54-272
54-273		RF2483	153.97	.009	23.0	12/18/54	.00	+02	+06	+09	+10	+11	+12	+10	+07	.00	-12		54-273
54-274		RF177	153.84	.008	24.7	11/1/54	-.01	+01	+05	+08	+10	+11	+11	+11	+08	.00	-11		54-274
54-275		DF3717	153.52	.001	22.4	11/27/54	.00	+01	+05	+08	+10	+11	+11	+10	+07	+01	-11		54-275
54-276		DF3727	154.24	.004	22.7	12/18/54	-.01	+01	+04	+07	+09	+09	+10	+10	+07	+01	-10		54-276
54-277		RF2433	155.08	.005	23.7	12/18/54	.00	+02	+06	+10	+11	+12	+12	+11	+08	+02	-12		54-277
54-278		RF982	154.96	.015	22.9	12/18/54	.00	+02	+06	+09	+11	+12	+12	+11	+07	+01	-12		54-278
54-279		RF2428	154.24	.008	23.6	11/26/54	.00	+02	+06	+09	+11	+12	+12	+11	+08	.00	-12		54-279
54-280		RF586	153.88	.015	23.0	11/4/54	.00	+01	+05	+08	+10	+11	+11	+10	+07	+01	-11		54-280

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
54-281	RF4251	154.57	.009	21.9	12/18/54	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.11	+0.10	+0.08	+0.00	-0.11	54-281
54-282	DS2091	153.83	.004	24.2	11/24/54	.00	+0.01	+0.05	+0.08	+0.09	+0.10	+0.11	+0.10	+0.07	+0.01	-0.11	54-282
54-283	RF675	154.29	.008	25.1	12/18/54	.00	+0.03	+0.07	+0.10	+0.11	+0.12	+0.12	+0.11	+0.07	.00	-0.12	54-283
54-284	RF961	154.40	.015	25.8	12/20/54	.00	+0.01	+0.05	+0.08	+0.10	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	54-284
54-285	RF2499	155.19	.003	24.9	12/18/54	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.10	+0.07	+0.01	-0.12	54-285
54-286	RF809	154.84	.015	25.0	11/9/54	.00	+0.02	+0.06	+0.09	+0.10	+0.12	+0.12	+0.11	+0.07	+0.01	-0.12	54-286
54-287	DS2243	154.37	.005	25.0	11/26/54	.00	+0.02	+0.06	+0.09	+0.11	+0.12	+0.12	+0.11	+0.08	.00	-0.12	54-287
54-288	RF4271	154.00	.011	24.0	12/20/54	.00	+0.02	+0.06	+0.09	+0.11	+0.11	+0.12	+0.10	+0.08	.00	-0.12	54-288
54-289	RF2508	154.13	.010	21.9	11/26/54	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.10	+0.08	+0.01	-0.12	54-289
54-290	DF3657	154.06	.011	22.4	11/27/54	-0.01	+0.01	+0.04	+0.07	+0.09	+0.10	+0.10	+0.09	+0.07	+0.01	-0.10	54-290
54-291	RF2423	155.16	.014	25.7	12/18/54	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	54-291
54-292	DS2157	153.52	.003	25.2	12/18/54	.00	+0.02	+0.06	+0.09	+0.10	+0.12	+0.11	+0.11	+0.07	+0.01	-0.12	54-292
54-293	RF2465	154.50	.002	26.1	12/18/54	-0.01	+0.01	+0.05	+0.08	+0.09	+0.10	+0.11	+0.11	+0.09	+0.02	-0.11	54-293
54-294	DF3708	154.20	.006	23.6	11/26/54	.00	+0.02	+0.06	+0.09	+0.11	+0.12	+0.13	+0.11	+0.09	+0.01	-0.13	54-294
54-295	RF902	154.53	.001	25.0	12/20/54	.00	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.11	+0.07	+0.02	-0.11	54-295
54-296	RF2153	154.70	.004	23.0	10/18/54	.00	+0.02	+0.06	+0.09	+0.11	+0.11	+0.12	+0.10	+0.07	.00	-0.12	54-296
54-297	RF737	153.04	.006	23.9	12/20/54	.00	+0.02	+0.06	+0.10	+0.11	+0.12	+0.12	+0.11	+0.08	.00	-0.12	54-297
54-298	RF446	154.81	.008	24.9	11/4/54	.00	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	54-298
54-299	RF2414	155.21	.009	24.5	12/18/54	.00	+0.01	+0.05	+0.09	+0.10	+0.11	+0.12	+0.10	+0.08	+0.01	-0.12	54-299
54-300	RF2495	154.12	.007	23.7	11/26/54	.00	+0.02	+0.05	+0.08	+0.10	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	54-300
54-301	RF2450	154.04	.003	25.7	11/26/54	-0.01	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.11	+0.09	+0.02	-0.11	54-301
54-302	RF9543	154.77	.007	25.0	12/18/54	.00	+0.02	+0.05	+0.09	+0.10	+0.11	+0.11	+0.11	+0.06	+0.02	-0.11	54-302
54-303	RF833	154.64	.015	25.4	11/12/54	+0.01	+0.01	+0.04	+0.07	+0.09	+0.10	+0.11	+0.10	+0.07	.00	-0.11	54-303
54-304	RF2165	153.90	.001	26.0	12/18/54	.00	+0.03	+0.07	+0.10	+0.11	+0.13	+0.12	+0.12	+0.07	+0.01	-0.12	54-304
54-305	RF2422	153.20	.015	24.1	12/18/54	-0.01	-0.01	+0.02	+0.06	+0.08	+0.09	+0.10	+0.09	+0.07	+0.02	-0.10	54-305
54-306	RF442	154.14	.005	25.0	11/4/54	.00	+0.02	+0.06	+0.10	+0.11	+0.12	+0.12	+0.10	+0.07	-0.00	-0.12	54-306
54-307	RF2148	155.13	.012	26.3	12/18/54	.00	+0.03	+0.07	+0.10	+0.11	+0.12	+0.12	+0.11	+0.07	+0.01	-0.12	54-307
54-308	RF494	154.70	.005	24.4	11/4/54	.00	+0.01	+0.05	+0.08	+0.10	+0.11	+0.11	+0.11	+0.08	+0.02	-0.11	54-308
54-309	RF2448	153.40	.006	24.1	12/18/54	.00	+0.02	+0.05	+0.08	+0.10	+0.10	+0.11	+0.10	+0.07	.00	-0.11	54-309
54-310	RF908	155.29	.004	24.4	12/20/54	.00	+0.02	+0.05	+0.08	+0.10	+0.09	+0.11	+0.10	+0.07	-0.01	-0.11	54-310
54-311	RF786	154.73	.007	23.9	12/18/54	-0.01	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.10	+0.07	+0.01	-0.10	54-311

T-11 CAMERA (CONT'D)

CAMERA		LENS & CONF	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
54-312		DF7233	154.04	.004	24.1	12/20/54	.00	+03	+07	+10	+11	+12	+13	+12	+08	+01	-.13		54-312
54-313		RF2443	155.11	.006	26.1	12/20/54	.00	+01	+05	+08	+10	+11	+11	+10	+07	.00	-.11		54-313
54-314		DS2214	154.78	.010	21.7	12/18/54	.00	+02	+06	+09	+10	+11	+12	+10	+07	+01	-.12		54-314
54-315		RF2453	154.31	.009	23.7	12/18/54	.00	+02	+07	+10	+11	+12	+12	+11	+07	.00	-.12		54-315
54-316		RF804	154.44	.005	25.2	11/8/54	.00	+02	+05	+09	+10	+11	+12	+11	+07	+01	-.12		54-316
54-317		DS2024	153.39	.006	23.1	11/9/54	.00	+02	+06	+10	+11	+12	+12	+11	+08	+01	-.12		54-317
54-318		RF410	154.73	.012	22.4	11/4/54	-.01	+01	+04	+07	+09	+10	+10	+10	+07	+01	-.10		54-318
54-319		DF9286	154.73	.008	22.1	12/20/54	.00	+02	+07	+09	+11	+12	+13	+11	+08	+01	-.13		54-319
54-320		DF5249	153.59	.003	26.0	12/18/54	.00	+01	+05	+08	+09	+11	+11	+10	+07	+01	-.11		54-320
54-321		RF4775	152.99	.003	26.0	12/20/54	-.01	+01	+04	+07	+09	+10	+10	+10	+07	+02	-.10		54-321
54-322		RF4814	153.54	.007	23.9	12/30/54	.00	+02	+06	+09	+11	+11	+12	+10	+07	-.01	-.12		54-322
54-323		RF4977	153.92	.005	23.7	12/27/54	-.01	.00	+02	+07	+08	+09	+10	+09	+07	+01	-.10		54-323
54-324		RF5705	153.93	.006	24.1	12/30/54	-.01	.00	+04	+07	+08	+09	+10	+09	+07	.00	-.10		54-324
54-325		RF4276	154.92	.007	23.9	12/27/54	-.01	+01	+04	+08	+09	+10	+11	+09	+07	.00	-.11		54-325
54-326		RF5606	155.01	.008	28.1	12/27/54	.00	+02	+06	+10	+10	+12	+12	+11	+07	+02	-.12		54-326
54-327		RF4940	155.28	.009	28.1	12/27/54	+01	+03	+07	+10	+11	+12	+13	+11	+08	+01	-.13		54-327
54-328		RF4937	154.67	.012	27.8	12/27/54	-.01	+01	+05	+08	+09	+10	+11	+10	+07	.00	-.11		54-328
54-329		RF810	154.83	.011	28.8	12/21/54	.00	+01	+05	+09	+10	+11	+11	+10	+07	+01	-.11		54-329
54-330		RF5607	153.91	.008	24.3	12/27/54	.00	+01	+05	+08	+09	+11	+11	+11	+07	+03	-.11		54-330
54-331		RF2580	155.24	.009	27.6	12/27/54	.00	+01	+05	+09	+10	+12	+11	+11	+07	+02	-.12		54-331
54-332		RF4821	153.10	.014	26.0	12/30/54	.00	+02	+06	+09	+10	+11	+11	+11	+08	+01	-.11		54-332
54-333		RF490	152.77	.007	26.3	12/21/54	.00	+01	+05	+09	+10	+11	+11	+11	+07	+01	-.11		54-333
54-334		RF5586	155.28	.006	22.4	12/30/54	.00	+02	+07	+10	+11	+12	+12	+11	+08	+01	-.12		54-334
54-335		RF4817	154.66	.007	27.3	12/30/54	-.01	.00	+04	+07	+08	+09	+10	+09	+07	.00	-.10		54-335
54-336		RF2562	153.38	.010	22.4	12/27/54	-.01	.00	+03	+06	+08	+09	+10	+10	+07	+02	-.10		54-336
54-337		RF4936	154.91	.006	22.1	12/27/54	.00	+01	+05	+08	+10	+11	+11	+10	+07	+01	-.11		54-337
54-338		RF5608	154.70	.007	25.9	12/30/54	.00	+02	+06	+10	+11	+12	+12	+10	+07	.00	-.12		54-338
54-339		RF4858	153.78	.004	25.8	12/27/54	+01	+03	+07	+10	+11	+12	+12	+10	+08	.00	-.12		54-339
54-340		RF709	154.03	.011	23.8	12/21/54	.00	+03	+07	+11	+12	+13	+13	+12	+08	+02	-.13		54-340
54-341		RF4303	155.32	.005	23.4	12/27/54	.00	+01	+05	+08	+10	+11	+11	+10	+08	+01	-.11		54-341
54-342		DF9626	153.33	.004	23.1	12/21/54	.00	+02	+06	+09	+11	+11	+12	+11	+08	+02	-.12		54-342

T-11 CAMERA

CAMERA	LENS & CONE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
54-343	RF4834	155.06	.005	23.7	12/28/54	.00	+0.01	+0.05	+0.08	+0.10	+0.11	+0.11	+0.11	+0.07	+0.01	-0.11	54-343
54-344	RF655	153.15	.003	22.0	12/21/54	.00	+0.01	+0.05	+0.08	+0.10	+0.11	+0.11	+0.10	+0.08	+0.01	-0.11	54-344
54-345	RF2403	155.09	.007	24.9	12/24/54	+0.01	+0.03	+0.07	+0.10	+0.11	+0.12	+0.12	+0.11	+0.08	+0.01	-0.12	54-345
54-346	RF5709	154.47	.015	24.8	12/30/54	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.11	+0.11	+0.08	+0.02	-0.12	54-346
54-347	RF4786	154.30	.003	23.6	12/30/54	-0.01	.00	+0.03	+0.06	+0.08	+0.09	+0.10	+0.09	+0.07	+0.01	-0.10	54-347
54-348	RF197	155.00	.005	25.4	12/21/54	.00	+0.02	+0.06	+0.10	+0.10	+0.12	+0.11	+0.11	+0.07	+0.02	-0.12	54-348
54-349	RF4280	155.10	.004	24.8	12/27/54	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.11	+0.08	+0.01	-0.12	54-349
54-350	RF2566	154.52	.005	23.7	12/27/54	-0.01	+0.01	+0.04	+0.07	+0.09	+0.10	+0.10	+0.10	+0.07	+0.01	-0.10	54-350
54-351	RF4294	154.96	.004	23.8	12/27/54	-0.01	.00	+0.04	+0.07	+0.08	+0.10	+0.10	+0.10	+0.07	+0.01	-0.10	54-351
54-352	RF5609	153.49	.006	22.7	12/30/54	-0.01	.00	+0.04	+0.07	+0.08	+0.09	+0.10	+0.09	+0.08	+0.02	-0.10	54-352
54-353	RF4261	154.55	.009	21.1	12/27/54	-0.01	+0.01	+0.05	+0.08	+0.10	+0.11	+0.11	+0.10	+0.08	+0.02	-0.11	54-353
54-354	RF4965	153.98	.012	22.1	12/27/54	-0.01	.00	+0.04	+0.06	+0.08	+0.09	+0.10	+0.09	+0.07	+0.01	-0.10	54-354
54-355	RF5598	154.43	.002	23.6	12/27/54	.00	+0.01	+0.05	+0.08	+0.10	+0.10	+0.11	+0.09	+0.08	.00	-0.11	54-355
54-356	RF4976	154.78	.007	21.6	12/27/54	.00	+0.02	+0.05	+0.08	+0.10	+0.10	+0.11	+0.09	+0.07	.00	-0.11	54-356
54-357	RF4973	153.81	.006	23.0	12/27/54	.00	+0.02	+0.07	+0.10	+0.11	+0.11	+0.12	+0.10	+0.07	-0.01	-0.12	54-357
54-358	RF489	154.37	.004	22.3	12/24/54	.00	+0.01	+0.05	+0.08	+0.10	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	54-358
54-359	RF4961	154.77	.006	23.4	2/1/55	-0.01	+0.01	+0.04	+0.07	+0.09	+0.10	+0.11	+0.09	+0.07	.00	-0.11	54-359
54-360	RF4852	153.16	.003	24.8	12/27/54	-0.01	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	54-360
54-361	RF674*	155.40	.007	21.4	12/21/54	.00	+0.01	+0.04	+0.07	+0.09	+0.10	+0.11	+0.10	+0.08	+0.01	-0.11	54-361
54-362	RF5721	153.96	.008	23.3	12/21/54	-0.01	+0.01	+0.04	+0.07	+0.09	+0.10	+0.10	+0.10	+0.07	+0.01	-0.10	54-362
54-363	RF4888	154.52	.006	22.8	12/27/54	.00	+0.01	+0.05	+0.09	+0.10	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	54-363
54-364	RF5712	155.18	.004	25.7	12/30/54	.00	+0.02	+0.06	+0.09	+0.11	+0.11	+0.12	+0.11	+0.07	+0.01	-0.12	54-364
54-365	RF669	154.63	.007	20.8	12/21/54	-0.01	.00	+0.03	+0.07	+0.08	+0.09	+0.10	+0.09	+0.07	+0.01	-0.10	54-365
54-366	RF4780	154.66	.015	21.4	12/30/54	.00	+0.02	+0.06	+0.10	+0.11	+0.12	+0.12	+0.11	+0.07	+0.01	-0.12	54-366
54-367	RF2519	154.45	.007	21.2	12/27/54	-0.01	+0.01	+0.05	+0.08	+0.09	+0.10	+0.11	+0.10	+0.08	+0.01	-0.11	54-367
54-368	RF2455	155.16	.012	27.3	12/24/54	.00	+0.02	+0.06	+0.09	+0.11	+0.12	+0.12	+0.10	+0.07	+0.01	-0.12	54-368
54-369	RF4333	154.75	.004	27.6	12/27/54	-0.01	+0.01	+0.05	+0.07	+0.09	+0.10	+0.11	+0.09	+0.07	.00	-0.10	54-369
54-370	RF2457	155.34	.007	27.3	12/27/54	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	54-370
54-371	RF2449	155.09	.002	26.7	12/24/54	-0.01	.00	+0.04	+0.07	+0.09	+0.10	+0.10	+0.09	+0.07	+0.01	-0.10	54-371
54-372	RF5592	154.48	.005	28.1	12/30/54	.00	+0.02	+0.06	+0.09	+0.11	+0.12	+0.12	+0.11	+0.08	.00	-0.12	54-372
54-373	RF987	154.11	.015	20.3	12/21/54	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.10	+0.07	.00	-0.12	54-373

T-11 CAMERA (CONT'D)

CAMERA		LENS CODE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
54-374		RF4253	154.23	.007	20.8	12/27/54	.00	+.01	+.05	+.08	+.10	+.11	+.12	+.10	+.08	+.01	-.11		54-374
54-375		RF2533	154.07	.013	26.8	12/27/54	+.01	+.03	+.08	+.11	+.12	+.13	+.12	+.12	+.08	+.02	-.13		54-375
54-376		DF9614	155.08	.004	23.7	12/21/54	.00	+.02	+.06	+.09	+.10	+.11	+.11	+.11	+.07	+.02	-.11		54-376
54-377		RF2594	155.38	.004	26.3	12/27/54	-.01	.00	+.04	+.07	+.08	+.09	+.10	+.09	+.07	+.01	-.10		54-377
54-378		RF714	153.42	.010	25.0	12/21/54	.00	+.02	+.06	+.09	+.11	+.12	+.12	+.10	+.08	+.01	-.12		54-378
54-379		RF5582	154.55	.010	27.5	12/27/54	.00	+.01	+.05	+.09	+.09	+.10	+.11	+.10	+.08	+.01	-.11		54-379
54-380		RF453	155.42	.007	26.1	12/21/54	.00	+.02	+.05	+.09	+.10	+.12	+.12	+.11	+.08	+.03	-.12		54-380
54-381		RF4837	154.31	.007	26.1	12/27/54	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.10	+.08	+.01	-.11		54-381
54-382		RF4319	155.30	.010	25.2	12/27/54	.00	+.02	+.05	+.08	+.10	+.11	+.11	+.11	+.07	+.01	-.11		54-382
54-383		RF451	152.98	.004	21.4	12/21/54	.00	+.01	+.05	+.08	+.10	+.11	+.12	+.11	+.08	+.01	-.12		54-383
54-384		RF4274	155.02	.005	24.3	12/27/54	.00	+.02	+.05	+.08	+.10	+.11	+.11	+.10	+.07	+.01	-.11		54-384
54-385		RF4787	153.92	.005	25.5	12/30/54	.00	+.02	+.07	+.10	+.11	+.12	+.12	+.11	+.08	+.01	-.12		54-385
54-386		RF834	155.40	.014	24.5	3/24/55	.00	+.01	+.05	+.08	+.09	+.10	+.11	+.10	+.08	+.01	-.11		54-386
54-387		RF2550	154.17	.002	24.5	3/24/55	.00	+.02	+.05	+.09	+.10	+.11	+.11	+.11	+.07	+.02	-.11		54-387
54-388		RF4843	154.08	.010	22.8	3/24/55	.00	+.03	+.07	+.11	+.12	+.13	+.13	+.11	+.08	+.01	-.13		54-388
54-389		RF4890	154.22	.002	24.4	3/24/55	-.01	+.01	+.04	+.07	+.09	+.10	+.11	+.10	+.08	+.02	-.11		54-389
54-390		RF847	154.33	.008	22.4	3/24/55	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.08	.00	-.12		54-390
54-391		RF671	155.17	.004	23.8	3/24/55	.00	+.01	+.05	+.08	+.09	+.10	+.11	+.10	+.07	+.01	-.11		54-391
54-392		RF620	153.79	.001	25.2	3/24/55	-.01	+.01	+.04	+.07	+.09	+.10	+.11	+.10	+.07	+.01	-.11		54-392
54-393		RF4866	154.78	.003	24.6	3/24/55	.00	+.02	+.06	+.09	+.10	+.11	+.11	+.10	+.08	.00	-.11		54-393
54-394		DF5236	155.23	.004	23.6	3/18/55	+.01	+.03	+.07	+.10	+.12	+.13	+.13	+.12	+.08	+.02	-.13		54-394
54-395		RF592	155.13	.010	25.5	3/24/55	.00	+.02	+.06	+.09	+.11	+.11	+.12	+.11	+.07	+.01	-.12		54-395
54-396		RF2421	155.24	.011	25.4	3/28/55	.00	+.02	+.05	+.08	+.10	+.11	+.11	+.10	+.07	.00	-.11		54-396
54-397		RF4260	154.19	.004	22.1	3/24/55	-.01	.00	+.03	+.07	+.08	+.10	+.11	+.10	+.08	+.01	-.11		54-397
54-398		RF633	153.71	.014	24.6	3/28/55	.00	+.02	+.05	+.09	+.10	+.11	+.11	+.10	+.07	.00	-.11		54-398
54-399		RF4316	154.65	.003	25.4	3/24/55	.00	+.02	+.06	+.09	+.10	+.11	+.11	+.10	+.08	+.01	-.11		54-399
54-400		RF2587	154.19	.014	28.9	3/24/55	-.01	+.01	+.04	+.07	+.09	+.10	+.11	+.10	+.08	+.01	-.11		54-400
54-401		RF2151	155.08	.011	28.6	3/28/55	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.10	+.08	+.01	-.11		54-401
54-402		RF4808	153.97	.011	24.5	3/24/55	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.07	+.01	-.12		54-402
54-403		RF2478	153.75	.010	24.5	3/24/55	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.08	+.01	-.12		54-403
54-404		RF4883	154.27	.003	26.8	3/24/55	.00	+.02	+.05	+.08	+.10	+.11	+.11	+.10	+.07	.00	-.11		54-404

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
54-405	RF4944	155.00	.004	26.4		.00	+02	+06	+09	+10	+11	+12	+11	+08	+02	-11	54-405
54-406	DF9401	154.75	.013	27.1	3/18/55	.00	+01	+05	+08	+10	+10	+10	+10	+08	+01	-10	54-406
54-407	RF738	154.51	.006	29.2	3/24/55	-.01	.00	+04	+07	+09	+10	+11	+10	+07	+01	-11	54-407
54-408	RF2542	154.80	.004	27.2	3/28/55	.00	+02	+07	+10	+11	+12	+12	+11	+08	+01	-12	54-408
54-409	RF404	155.16	.003	25.5	3/24/55	.00	+02	+07	+10	+11	+12	+12	+11	+08	+02	-12	54-409
54-410	RF4255	154.57	.004	24.9	3/24/55	.00	+02	+06	+09	+11	+12	+12	+11	+08	.00	-12	54-410
54-411	RF2554	153.27	.002	22.9	3/24/55	+01	+04	+08	+11	+13	+13	+14	+12	+08	-.01	-13	54-411
54-412	RF903	154.75	.008	21.2	3/24/55	-.01	+01	+05	+08	+10	+11	+11	+10	+08	+01	-11	54-412
54-413	RF2528	153.89	.007	26.6	3/28/55	.00	+02	+06	+09	+10	+11	+11	+10	+07	.00	-11	54-413
54-414	RF4307	154.41	.009	28.2	3/24/55	.00	+02	+05	+09	+10	+11	+11	+10	+07	.00	-11	54-414
54-415	RF4957	154.48	.004	23.4	3/18/55	.00	+02	+06	+10	+11	+12	+12	+11	+08	+01	-12	54-415
54-416	RF2418	154.42	.008	22.5	3/24/55	-.01	+01	+04	+07	+09	+10	+11	+10	+08	+01	-11	54-416
54-417	RF981	154.74	.009	23.8	3/24/55	.00	+01	+05	+08	+10	+11	+11	+10	+07	+02	-11	54-417
54-418	RF4974	155.00	.008	25.2	3/18/55	.00	+02	+06	+09	+10	+11	+11	+10	+07	+01	-11	54-418
54-419	RF2574	153.80	.009	26.2	3/24/55	-.01	+01	+05	+08	+10	+11	+11	+10	+08	+01	-11	54-419
54-420	DF9579	153.78	.006	22.5	3/18/55	-.01	+01	+04	+07	+09	+10	+11	+10	+07	+01	-11	54-420
54-421	RF5718	154.81	.003	28.3	3/18/55	-.01	.00	+04	+07	+09	+10	+11	+10	+07	+01	-11	54-421
54-422	RF2534	154.14	.001	27.9	3/28/55	+01	+03	+08	+11	+12	+13	+13	+11	+08	.00	-13	54-422
54-423	RF4289	155.01	.004	26.0	3/24/55	.00	+02	+06	+10	+11	+12	+12	+11	+08	+01	-12	54-423
54-424	RF4820	155.22	.006	26.9	3/24/55	.00	+02	+06	+09	+10	+11	+12	+10	+08	+01	-12	54-424
54-425	DF9598	154.64	.006	27.1	3/18/55	-.01	.00	+04	+07	+08	+10	+10	+09	+07	.00	-10	54-425
54-426	RF4795	154.57	.006	28.0	3/24/55	.00	+01	+05	+08	+09	+11	+11	+10	+07	+01	-11	54-426
54-427	RF2549	154.60	.005	22.7	3/28/55	.00	+02	+06	+09	+10	+11	+12	+10	+08	+01	-12	54-427
54-428	RF4920	155.25	.007	28.1	3/18/55	.00	+02	+06	+09	+10	+11	+12	+10	+08	.00	-12	54-428
54-429	DF9587	155.33	.006	27.9	3/18/55	-.01	+01	+04	+08	+09	+10	+11	+10	+08	+01	-11	54-429
54-430	DS2254	154.26	.009	27.6	3/28/55	-.01	.00	+03	+06	+08	+09	+10	+09	+07	+01	-10	54-430
54-431	RF4776	153.93	.008	27.3	3/24/55	.00	+01	+05	+08	+10	+11	+11	+10	+07	.00	-11	54-431
54-432	RF121	154.54	.004	28.1	3/24/55	.00	+02	+06	+09	+10	+12	+12	+11	+08	+02	-12	54-432
54-433	RF2559	155.19	.009	29.0	3/24/55	.00	+02	+06	+09	+11	+12	+12	+11	+07	+01	-12	54-433
54-434	RF5732	153.65	.005	26.7	3/18/55	.00	+01	+05	+08	+09	+10	+11	+10	+07	.00	-11	54-434
54-435	RF4967	153.86	.006	27.3	3/18/55	.00	+02	+06	+09	+10	+11	+12	+11	+07	+01	-12	54-435

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
54-436	RF5601	155.31	.007	28.3	3/18/55	.00	+01	+06	+08	+10	+11	+11	+10	+08	+02	-11	54-436
54-437	RF4767	153.84	.005	27.6	3/24/55	.00	+02	+06	+09	+11	+11	+12	+11	+08	+01	-12	54-437
54-438	RF5682	153.97	.005	28.6	3/18/55	.00	+02	+06	+09	+11	+12	+12	+10	+07	.00	-12	54-438
54-439	DF7259	154.35	.009	22.5	3/18/55	.00	+02	+06	+09	+11	+12	+12	+11	+08	+02	-12	54-439
54-440	RF4899	155.24	.003	28.6	3/18/55	.00	+02	+06	+09	+11	+12	+12	+11	+08	+01	-12	54-440
54-441	RF2493	154.99	.005	24.0	3/28/55	-.01	.00	+03	+07	+08	+09	+10	+09	+07	+01	-10	54-441
54-442	RF4923	154.72	.011	22.0	3/18/55	.00	+02	+07	+10	+11	+12	+12	+11	+08	+01	-13	54-442
54-443	RF792	154.49	.008	23.6	3/24/55	.00	+01	+05	+09	+10	+11	+12	+11	+08	+02	-12	54-443
54-444	RF4941	153.98	.004	26.6	3/18/55	-.01	+01	+04	+07	+08	+10	+10	+09	+07	+01	-10	54-444
54-445	DF3656	154.97	.010	27.7	3/24/55	.00	+02	+05	+08	+10	+11	+11	+10	+08	+02	-11	54-445
54-446	RF4910	154.16	.014	21.6	3/18/55	.00	+02	+06	+09	+10	+12	+11	+10	+07	.00	-12	54-446
54-447	RF4792	154.26	.004	22.0	3/24/55	.00	+01	+05	+08	+10	+11	+11	+10	+07	+01	-11	54-447
54-448	DF7289	154.80	.003	21.8	3/18/55	-.01	+01	+04	+08	+09	+10	+11	+10	+08	+01	-11	54-448
54-449	RF4345	154.25	.005	20.9	3/24/55	.00	+02	+06	+09	+11	+12	+12	+10	+08	.00	-12	54-449
54-450	RF4849	154.47	.008	22.3	3/24/55	.00	+02	+06	+09	+11	+12	+12	+11	+08	+01	-12	54-450
54-451	RF4913	154.70	.001	26.7	3/18/55	.00	+02	+06	+09	+10	+11	+12	+11	+07	+01	-12	54-451
54-452	RF596	153.83	.004	27.2	3/18/55	.00	+02	+06	+09	+11	+12	+12	+11	+08	+02	-12	54-452
54-453	RF2479	154.66	.009	25.4	3/18/55	.00	+03	+06	+09	+11	+12	+12	+10	+07	.00	-12	54-453
54-454	RF402	155.19	.006	22.2	3/28/55	.00	+02	+06	+10	+11	+12	+12	+10	+08	+01	-12	54-454
54-455	RF4827	153.69	.009	25.3	6/1/55	.00	+01	+05	+09	+10	+11	+11	+10	+08	+02	-11	54-455
54-456	RF2568	154.40	.007	23.2	6/1/55	-.01	+01	+05	+08	+10	+10	+11	+10	+08	+02	-11	54-456
54-457	RF5678	154.11	.007	26.5	5/27/55	.00	+01	+05	+08	+09	+10	+11	+10	+07	.00	-11	54-457
54-458	RF940	154.20	.015	22.6	6/3/55	.00	+02	+06	+09	+10	+11	+11	+10	+07	+03	-11	54-458
54-459	RF146	154.80	.011	25.0	6/2/55	.00	+02	+06	+10	+11	+12	+12	+11	+08	+02	-12	54-459
54-460	RF5727	154.52	.006	27.4	6/1/55	-.01	+01	+04	+08	+09	+10	+11	+10	+07	+02	-11	54-460
54-461	DF7338	154.02	.003	26.3	6/1/55	-.01	+01	+04	+08	+09	+10	+10	+10	+07	+01	-10	54-461
54-462	RF5681	152.76	.007	21.1	5/27/55	.00	+02	+06	+10	+11	+12	+12	+11	+08	+01	-12	54-462
54-463	RF4911	154.55	.005	26.7	5/26/55	-.01	+01	+04	+08	+09	+10	+11	+10	+07	+01	-11	54-463
54-464	RF440	154.79	.009	24.5	6/2/55	-.01	+01	+04	+08	+09	+10	+11	+10	+07	+01	-11	54-464
54-465	RF2447	153.87	.004	26.5	6/3/55	.00	+03	+07	+10	+11	+12	+12	+11	+08	+01	-12	54-465
54-466	RF4346	153.87	.012	27.0	5/27/55	-.01	.00	+03	+07	+08	+09	+10	+09	+07	+02	-10	54-466

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
54-467	DF9594	153.69	.004	21.3	6/3/55	.00	+0.02	+0.06	+0.09	+0.11	+0.11	+0.12	+0.10	+0.07	+0.01	-0.12	54-467
54-468	RF4804	154.35	.005	21.3	5/31/55	.00	+0.02	+0.06	+0.09	+0.11	+0.12	+0.12	+0.11	+0.08	+0.01	-0.12	54-468
54-469	RF6199	154.35	.010	22.4	5/27/55	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	54-469
54-470	RF6281	154.08	.008	21.9	5/31/55	.00	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.10	+0.08	+0.03	-0.11	54-470
54-471	DS2030	155.36	.006	28.3	6/2/55	.00	+0.01	+0.05	+0.08	+0.09	+0.10	+0.11	+0.10	+0.07	+0.01	-0.11	54-471
54-472	RF4986	155.13	.004	27.0	6/2/55	.00	+0.02	+0.07	+0.09	+0.10	+0.12	+0.12	+0.10	+0.07	-0.01	-0.12	54-472
54-473	DF5277	155.49	.004	25.0	5/28/55	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.11	+0.10	+0.07	.00	-0.11	54-473
54-474	RF6272	153.44	.010	22.8	5/31/55	+0.01	+0.02	+0.07	+0.10	+0.12	+0.12	+0.13	+0.11	+0.07	-0.01	-0.13	54-474
54-475	RF4781	153.98	.007	22.8	5/26/55	.00	+0.02	+0.07	+0.10	+0.11	+0.12	+0.12	+0.11	+0.08	+0.01	-0.12	54-475
54-476	RF5758	154.08	.008	23.5	5/2/55	.00	+0.02	+0.05	+0.09	+0.10	+0.11	+0.11	+0.10	+0.07	.00	-0.11	54-476
54-477	RF6413	153.88	.003	24.7	5/28/55	.00	+0.01	+0.05	+0.08	+0.10	+0.11	+0.11	+0.10	+0.07	.00	-0.11	54-477
54-478	RF4904	154.43	.009	26.2	6/1/55	+0.01	+0.03	+0.07	+0.10	+0.12	+0.13	+0.13	+0.11	+0.07	.00	-0.13	54-478
54-479	RF5789	154.96	.003	23.0	6/2/55	.00	+0.01	+0.06	+0.08	+0.10	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	54-479
54-480	RF6208	154.76	.005	24.8	5/26/55	.00	+0.02	+0.06	+0.09	+0.11	+0.12	+0.12	+0.11	+0.07	+0.01	-0.12	54-480
54-481	RF2160	154.73	.009	24.5	6/3/55	-0.01	.00	+0.03	+0.07	+0.08	+0.09	+0.10	+0.09	+0.07	+0.02	-0.10	54-481
54-482	RF2463	153.94	.004	25.5	6/2/55	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.10	+0.07	+0.01	-0.12	54-482
54-483	RF4773	154.11	.008	23.4	6/2/55	.00	+0.01	+0.05	+0.08	+0.09	+0.10	+0.11	+0.09	+0.07	.00	-0.11	54-483
54-484	RF6405	152.58	.006	22.3	5/31/55	.00	+0.02	+0.07	+0.10	+0.11	+0.12	+0.12	+0.11	+0.07	.00	-0.12	54-484
54-485	RF5784	153.71	.010	25.7	6/1/55	.00	+0.01	+0.04	+0.08	+0.09	+0.10	+0.11	+0.10	+0.08	+0.01	-0.11	54-485
54-486	RF4826	154.25	.004	25.3	6/1/55	.00	+0.02	+0.06	+0.09	+0.10	+0.12	+0.11	+0.11	+0.07	+0.01	-0.12	54-486
54-487	RF5623	153.45	.007	26.3	6/1/55	.00	+0.02	+0.06	+0.09	+0.10	+0.12	+0.11	+0.11	+0.07	+0.02	-0.12	54-487
54-488	RF904	154.47	.004	25.2	6/2/55	.00	+0.02	+0.07	+0.10	+0.12	+0.12	+0.12	+0.11	+0.07	.00	-0.12	54-488
54-489	RF5617	153.60	.004	25.7	5/27/55	.00	+0.02	+0.06	+0.09	+0.11	+0.12	+0.12	+0.11	+0.07	.00	-0.12	54-489
54-490	RF5652	153.16	.009	26.5	5/26/55	-0.01	.00	+0.03	+0.07	+0.08	+0.09	+0.10	+0.09	+0.07	+0.01	-0.10	54-490
54-491	RF5769	155.06	.005	24.3	6/2/55	-0.01	.00	+0.03	+0.07	+0.09	+0.10	+0.11	+0.10	+0.07	.00	-0.11	54-491
54-492	RF5626	154.08	.004	24.5	6/2/55	-0.01	.00	+0.03	+0.06	+0.07	+0.09	+0.10	+0.09	+0.07	+0.02	-0.10	54-492
54-493	RF4962	154.30	.006	24.8	6/1/55	.00	+0.01	+0.05	+0.08	+0.10	+0.10	+0.11	+0.09	+0.07	.00	-0.11	54-493
54-494	RF5815	154.89	.015	25.7	5/27/55	.00	+0.02	+0.06	+0.09	+0.10	+0.12	+0.12	+0.11	+0.07	.00	-0.12	54-494
54-495	RF6222	154.93	.004	23.6	5/28/55	.00	+0.01	+0.05	+0.08	+0.10	+0.12	+0.11	+0.09	+0.06	-0.01	-0.11	54-495
54-496	RF5762	153.02	.011	25.8	6/2/55	.00	+0.02	+0.06	+0.09	+0.11	+0.11	+0.12	+0.11	+0.07	.00	-0.12	54-496
54-497	RF6411	153.81	.010	23.2	6/1/55	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.11	+0.10	+0.07	.00	-0.11	54-497

T-11 CAMERA (CONT'D)

CAMERA	LENS & CODE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
54-498	RF5658	152.69	.005	21.7	6/2/55	.00	+02	+06	+09	+11	+12	+12	+11	+07	-01	-12	54-498
54-499	RF6275	153.57	.010	22.5	6/2/55	-.01	.00	+03	+06	+08	+09	+10	+10	+08	+03	-10	54-499
54-500	RF5777	154.78	.012	24.3	6/11/55	.00	+01	+05	+08	+10	+11	+11	+10	+07	+01	-11	54-500
54-501	RF5775	154.69	.006	24.8	5/26/55	-.01	+01	+05	+07	+09	+10	+11	+10	+07	+01	-11	54-501
54-502	RF6207	153.12	.008	24.4	6/1/55	+01	+03	+07	+10	+12	+13	+13	+11	+07	.00	-13	54-502
54-503	RF5668	153.09	.008	25.1	6/1/55	.00	+01	+05	+08	+09	+11	+11	+10	+07	.00	-11	54-503
54-504	RF5645	153.29	.007	24.3	5/26/55	.00	+02	+05	+09	+10	+11	+11	+11	+08	+02	-12	54-504
54-505	RF5646	153.14	.004	23.3	5/26/55	.00	+02	+06	+09	+10	+11	+11	+10	+07	.00	-11	54-505
54-506	RF6397	153.37	.006	24.9	5/28/55	.00	+01	+05	+08	+09	+10	+10	+09	+07	+01	-10	54-506
54-507	RF4847	154.18	.007	24.6	6/1/55	.00	+02	+06	+10	+11	+12	+12	+11	+07	+01	-12	54-507
54-508	RF4783	153.54	.015	22.9	6/20/55	.00	+02	+07	+10	+11	+12	+12	+11	+07	-.01	-12	54-508
54-509	RF6409	153.19	.003	23.0	6/11/55	.00	+02	+06	+09	+10	+11	+12	+10	+07	.00	-12	54-509
54-510	RF5817	152.95	.005	24.9	10/6/55	.00	+01	+05	+09	+10	+11	+11	+10	+06	-.01	-11	54-510
54-511	RF5763	153.13	.006	27.1	10/26/55	.00	+02	+06	+09	+11	+11	+12	+11	+07	.00	-12	54-511
54-512	RF821	155.31	.006	26.1	6/11/55	.00	+01	+05	+08	+09	+11	+11	+10	+07	+01	-11	54-512
54-513	RF6284	153.70	.004	23.3	10/19/55	.00	+01	+05	+08	+10	+11	+11	+11	+07	+02	-11	54-513
54-514	RF6283	153.30	.004	22.6	6/8/55	.00	+02	+06	+09	+10	+11	+11	+11	+08	+01	-12	54-514
54-515	RF6239	154.34	.009	24.2	6/17/55	+01	+03	+07	+11	+12	+13	+13	+11	+07	-.01	-13	54-515
54-516	RF5657	153.37	.006	22.7	8/9/55	.00	+02	+06	+09	+11	+12	+12	+11	+07	-.01	-12	54-516
54-517	RF6257	153.70	.004	25.3	6/7/55	-.01	.00	+04	+08	+09	+10	+11	+10	+07	+01	-11	54-517
54-518	RF5808	152.53	.009	23.0	9/6/55	.00	+02	+05	+08	+10	+11	+11	+10	+07	-.01	-11	54-518
54-519	RF5676	155.32	.004	23.5	10/4/55	.00	+01	+05	+08	+09	+11	+11	+10	+07	.00	-11	54-519
54-520	RF4828	154.55	.009	23.5	6/6/55	.00	+02	+05	+08	+10	+11	+11	+10	+07	.00	-11	54-520
54-521	DF9697	153.58	.005	21.9	6/7/54	.00	+02	+05	+08	+10	+11	+11	+11	+07	+01	-11	54-521
54-522	DF9574	154.32	.007	21.0	8/7/54	-.01	.00	+04	+06	+09	+10	+11	+10	+07	+01	-11	54-522
54-523	DF7247	154.55	.009	21.2	6/7/54	.00	+01	+05	+08	+09	+11	+11	+10	+07	.00	-11	54-523
54-524	DF5183	154.80	.003	22.3	6/7/54	-.01	.00	+04	+06	+08	+09	+11	+10	+08	+02	-10	54-524
54-525	DF3668	154.74	.014	22.3	6/7/54	-.01	-.01	+02	+05	+07	+08	+10	+09	+08	+02	-10	54-525
54-526	DF9314	153.84	.009	22.4	6/7/54	.00	+02	+05	+08	+10	+11	+12	+11	+08	+02	-12	54-526
54-527	DF5283	154.14	.002	20.5	6/7/54	.00	+01	+04	+08	+09	+11	+12	+11	+08	+02	-12	54-527
54-528	DF7266	153.64	.006	21.4	6/7/54	.01	+02	+07	+10	+11	+13	+13	+12	+08	+02	-13	54-528

T-11 CAMERA (CONT'D)

CAMERA		LENS & CONE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
54-529		DF7317	154.56	.002	20.8	6/29/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.12	+.08	+.02	-.12		54-529
54-530		DF9577	154.71	.003	21.3	6/7/54	.00	+.03	+.07	+.10	+.11	+.12	+.12	+.11	+.08	+.02	-.12		54-530
54-531		DF9315	153.28	.007	21.9	6/8/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.11	+.07	+.02	-.11		54-531
54-532		DF5298	155.07	.007	22.2	6/8/54	.00	+.01	+.05	+.08	+.09	+.11	+.12	+.11	+.08	+.02	-.12		54-532
54-533		XF2240	154.07	.000	20.5	5/17/54	.00	+.01	+.04	+.07	+.08	+.11	+.11	+.11	+.08	+.03	-.11		54-533
54-534		DF3688	155.18	.004	22.5	6/8/54	.00	+.01	+.04	+.08	+.09	+.10	+.11	+.10	+.07	+.02	-.11		54-534
54-535		DF9397	155.37	.004	22.8	6/9/54	.00	+.01	+.06	+.09	+.09	+.11	+.11	+.11	+.08	+.02	-.11		54-535
54-536		DS2284	154.22	.004	22.8	6/9/54	.00	+.02	+.06	+.09	+.10	+.11	+.11	+.11	+.07	+.01	-.12		54-536
54-537		DF9355	154.65	.005	25.1	6/9/54	.00	+.02	+.06	+.08	+.09	+.11	+.11	+.11	+.08	+.01	-.11		54-537
54-538		DF7274	154.58	.002	20.7	6/9/54	.00	+.01	+.05	+.07	+.09	+.10	+.11	+.10	+.07	+.01	-.11		54-538
54-539		DF9392	154.11	.002	20.7	6/29/54	+.01	+.03	+.07	+.09	+.11	+.12	+.12	+.11	+.07	+.01	-.12		54-539
54-540		DF5293	153.55	.009	21.4	6/9/54	.00	+.02	+.05	+.09	+.10	+.11	+.11	+.11	+.07	+.02	-.12		54-540
54-541		DF7276	155.01	.004	22.3	6/9/54	.00	+.02	+.05	+.09	+.10	+.11	+.11	+.10	+.07	+.01	-.11		54-541
54-542		DF7283	153.70	.004	23.4	6/7/54	.00	+.01	+.05	+.08	+.09	+.11	+.12	+.11	+.08	+.02	-.12		54-542
54-543		DF5191	154.28	.007	22.0	6/7/54	.00	+.01	+.05	+.08	+.10	+.10	+.11	+.10	+.08	+.01	-.11		54-543
54-544		DF5251	154.69	.010	22.8	6/7/54	-.01	.00	+.04	+.07	+.08	+.10	+.11	+.11	+.09	+.02	-.11		54-544
54-545		DF9428	154.64	.009	21.3	6/7/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.11	+.08	+.02	-.11		54-545
54-546		DF9311	153.73	.004	21.7	6/7/54	-.01	+.01	+.04	+.07	+.08	+.10	+.11	+.11	+.08	+.03	-.11		54-546
54-547		DF9306	154.43	.003	22.8	6/7/54	+.01	+.02	+.07	+.10	+.11	+.12	+.12	+.12	+.08	+.01	-.12		54-547
54-548		DF9383	154.16	.006	22.8	6/7/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.12	+.07	+.02	-.12		54-548
54-549		DS2130	152.70	.006	21.6	6/7/54	+.01	+.03	+.07	+.10	+.11	+.12	+.13	+.11	+.08	+.01	-.13		54-549
54-550		DF7255	154.07	.006	22.0	6/8/54	.00	+.01	+.05	+.07	+.09	+.10	+.11	+.10	+.07	+.01	-.11		54-550
54-551		DF5197	153.47	.012	21.9	6/8/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.11	+.07	+.02	-.12		54-551
54-552		DF3697	154.71	.005	21.9	6/7/54	.00	+.01	+.05	+.07	+.09	+.10	+.11	+.10	+.08	+.02	-.11		54-552
54-553		DF9597	154.41	.002	21.7	6/8/54	-.01	+.01	+.04	+.07	+.09	+.10	+.11	+.10	+.08	+.02	-.11		54-553
54-554		DF669	154.01	.005	21.9	6/8/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.11	+.08	+.01	-.12		54-554
54-555		DF5284	154.44	.004	20.1	6/17/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.12	+.08	+.02	-.12		54-555
54-556		DF607	155.18	.006	21.4	8/6/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.08	+.01	-.12		54-556
54-557		XF2613	153.06	.007	23.3	8/6/54	.00	+.01	+.05	+.08	+.09	+.12	+.12	+.12	+.08	+.03	-.12		54-557
54-558		XF2989	153.68	.006	22.4	8/10/54	.00	+.03	+.07	+.09	+.11	+.12	+.13	+.12	+.08	+.02	-.12		54-558
54-559		DF3395	153.75	.005	22.0	6/17/54	.00	+.02	+.06	+.08	+.10	+.11	+.12	+.10	+.08	.00	-.12		54-559

T-11 CAMERA (CONT'D)

CAMERA			LENS & CODE	CFL	ANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
54-560			DF3786	153.61	.006	21.8	6/5/54	.00	+01	+04	+07	+09	+10	+11	+10	+07	+01	-11		54-560
54-561			DF3716	154.11	.004	21.0	6/17/54	.00	+01	+05	+08	+10	+11	+11	+10	+07	.00	-11		54-561
54-562			DS2250	154.50	.008	22.5	8/6/54	.00	+02	+06	+08	+10	+11	+12	+10	+07	.00	-12		54-562
54-563			RF211	153.32	.005	22.6	8/6/54	.00	+02	+05	+09	+10	+11	+12	+10	+07	+01	-12		54-563
54-564			DS2185	154.29	.013	24.0	8/6/54	.00	+02	+06	+09	+10	+11	+11	+12	+08	+03	-12		54-564
54-565			DF5280	154.08	.008	21.5	8/10/54	.00	+02	+06	+08	+10	+11	+12	+11	+08	+01	-12		54-565
54-566			DS2173	154.93	.007	20.6	8/6/54	.00	+02	+06	+08	+10	+11	+12	+10	+08	.00	-12		54-566
54-567			RF131	155.22	.009	22.4	8/6/54	.00	+02	+06	+09	+11	+11	+12	+11	+08	+01	-12		54-567
54-568			DS2239	153.76	.009	21.5	8/6/54	.00	+01	+05	+08	+09	+11	+12	+11	+08	+02	-12		54-568
54-569			DS2041	154.96	.002	22.4	8/6/54	.00	+01	+05	+07	+09	+10	+11	+10	+07	+01	-11		54-569
54-570			DS2025	155.32	.001	23.2	8/6/54	.00	+02	+06	+09	+10	+12	+12	+11	+07	+02	-12		54-570
54-571			DF9589	154.93	.007	25.4	8/10/54	.00	+02	+06	+09	+10	+11	+12	+11	+08	+01	-12		54-571
54-572			DF9309	154.84	.007	25.1	8/10/54	.00	+02	+06	+09	+10	+12	+12	+11	+07	-01	-12		54-572
54-573			DF9696	153.81	.003	23.8	8/10/54	.00	+02	+05	+08	+10	+11	+12	+10	+07	+01	-11		54-573
54-574			DS2269	154.77	.011	25.1	8/6/54	.00	+02	+06	+09	+10	+12	+12	+12	+08	+03	-12		54-574
54-575			RF125	154.84	.004	25.0	8/6/54	.00	+01	+04	+08	+09	+11	+11	+11	+08	+03	-11		54-575
54-576			XF6288	155.15	.003	25.8	8/10/54	-01	+01	+04	+07	+08	+10	+10	+10	+08	+02	-10		54-576
54-577			DS2047	154.05	.008	22.8	8/6/54	.00	+02	+06	+09	+09	+11	+11	+11	+07	+02	-11		54-577
54-578			DF5324	155.05	.006	25.6	8/12/54	.00	+02	+06	+09	+10	+12	+12	+12	+08	+02	-12		54-578
54-579			DF5156	154.48	.004	21.6	6/12/54	.00	+01	+05	+08	+09	+11	+11	+11	+08	+02	-11		54-579
54-580			DF7258	153.77	.005	22.3	6/5/54	.00	+01	+05	+08	+09	+11	+11	+11	+08	+02	-11		54-580
54-581			DF3769	154.58	.003	23.8	6/5/54	.00	+01	+04	+07	+08	+10	+10	+10	+08	+03	-10		54-581
54-582			XF576	152.03	.005	21.4	5/17/54	.00	+01	+06	+08	+09	+10	+12	+11	+08	+01	-12		54-582
54-583			DF121	155.32	.003	22.1	6/17/54	.00	+01	+05	+08	+09	+10	+11	+10	+08	+01	-11		54-583
54-584			DF7296	155.21	.003	24.8	9/8/54	-01	.00	+04	+06	+08	+09	+10	+10	+08	+02	-10		54-584
54-585			DF5177	153.62	.013	25.4	4/21/54	.00	+02	+06	+09	+10	+12	+12	+11	+07	.00	-12		54-585
54-586			DF5291	154.12	.005	26.7	6/5/54	.00	+02	+06	+09	+10	+12	+12	+12	+08	+03	-12		54-586
54-587			DF7231	154.79	.011	23.9	6/5/54	.00	+02	+06	+10	+11	+12	+12	+11	+07	+01	-12		54-587
54-588			DF7271	153.60	.009	22.9	6/5/54	.00	+02	+05	+08	+10	+11	+12	+10	+08	+01	-11		54-588
54-589			DF3705	154.16	.006	24.4	6/17/54	.00	+03	+07	+10	+11	+12	+12	+10	+07	.00	-12		54-589
54-590			DF7256	153.29	.005	22.2	6/5/54	.00	+01	+05	+08	+09	+11	+11	+10	+07	+01	-11		54-590

T-11 CAMERA (CONT'D)

CAMERA		LENS & CODE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
54-591		DF7327	154.59	.006	24.6	6/2/54	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.11	+.08	+.03	-.11		54-591
54-592		DF7273	153.08	.005	23.1	6/17/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.12	+.07	+.01	-.12		54-592
54-593		DF3691	152.98	.008	23.2	6/17/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.10	+.07	+.02	-.11		54-593
54-594		XF2576	153.47	.008	22.9	6/5/54	-.01	.00	+.03	+.06	+.08	+.09	+.10	+.10	+.08	+.02	-.10		54-594
54-595		DF3756	153.86	.006	22.2	6/17/54	.00	+.01	+.04	+.07	+.09	+.10	+.12	+.11	+.08	+.02	-.12		54-595
54-596		DF5290	154.84	.003	22.7	6/5/54	-.01	.00	+.04	+.06	+.08	+.10	+.11	+.11	+.08	+.01	-.11		54-596
54-597		DF3271	153.73	.008	25.2	6/17/54	.00	+.01	+.05	+.08	+.10	+.11	+.12	+.11	+.08	+.02	-.12		54-597
54-598		DF635	154.78	.004	23.9	6/17/54	.00	+.02	+.06	+.10	+.11	+.12	+.12	+.10	+.07	+.01	-.12		54-598
54-599		RF5663	153.31	.005	22.8	10/26/55	.00	+.02	+.06	+.09	+.10	+.12	+.11	+.11	+.07	.00	-.12		54-599
54-600		RF5677	153.56	.007	21.8	10/14/55	-.01	+.01	+.04	+.08	+.09	+.10	+.10	+.10	+.07	+.01	-.10		54-600
54-601		RF2150	153.94	.005	24.0	6/6/55	.00	+.01	+.05	+.08	+.09	+.10	+.11	+.10	+.07	+.01	-.11		54-601
54-602		RF5665	153.39	.006	25.2	9/21/55	-.01	.00	+.03	+.06	+.08	+.09	+.10	+.09	+.07	+.02	-.10		54-602
54-603		RF6289	153.34	.003	23.8	10/5/55	.00	+.01	+.05	+.09	+.10	+.11	+.11	+.10	+.07	-.01	-.11		54-603
54-604		RF6282	153.04	.004	25.9	6/17/55	.00	+.02	+.06	+.09	+.11	+.12	+.12	+.11	+.07	+.01	-.12		54-604
54-605		RF5788	152.82	.009	22.7	6/20/55	.00	+.01	+.05	+.08	+.09	+.10	+.10	+.10	+.06	.00	-.10		54-605
54-606		RF5768	153.84	.007	22.4	6/16/55	.00	+.02	+.06	+.09	+.11	+.12	+.12	+.10	+.06	-.01	-.12		54-606
54-607		RF2159	154.29	.006	24.7	9/30/55	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.10	+.07	+.01	-.11		54-607
54-608		DS2219	154.11	.009	26.2	10/26/55	-.01	.00	+.04	+.07	+.08	+.10	+.10	+.10	+.06	+.01	-.10		54-608
54-609		RF6402	153.29	.005	26.3	6/10/55	.00	+.02	+.06	+.09	+.11	+.12	+.12	+.11	+.07	.00	-.12		54-609
54-610		DF5178	154.45	.006	23.8	6/16/55	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.10	+.07	+.01	-.11		54-610
54-611		RF6210	153.43	.006	23.7	6/20/55	-.01	.00	+.04	+.07	+.09	+.10	+.10	+.10	+.07	+.01	-.10		54-611
54-612		DF3741	155.16	.004	24.0	9/8/55	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.07	+.02	-.12		54-612
54-613		DF9624	154.59	.005	25.2	6/14/55	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.10	+.07	.00	-.11		54-613
54-614		RF5747	154.13	.005	23.2	9/9/55	-.01	.00	+.04	+.06	+.08	+.10	+.10	+.10	+.07	+.02	-.10		54-614
54-615		DF5181	153.18	.007	22.4	8/26/55	+.01	+.03	+.07	+.10	+.11	+.12	+.12	+.11	+.08	.00	-.12		54-615
54-616		DF9621	154.90	.009	24.5	6/8/55	.00	+.01	+.05	+.08	+.09	+.10	+.11	+.10	+.07	+.02	-.11		54-616
54-617		RF4304	153.28	.009	25.1	6/21/55	-.01	.00	+.04	+.07	+.08	+.10	+.10	+.09	+.06	+.01	-.10		54-617
54-618		RF5776	153.47	.007	24.7	6/15/55	.00	+.01	+.05	+.09	+.09	+.10	+.11	+.09	+.07	.00	-.11		54-618
54-619		RF814	153.50	.012	25.4	6/11/55	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.10	+.07	.00	-.11		54-619
54-620		RF5611	153.39	.004	25.5	9/9/55	-.01	+.01	+.04	+.08	+.09	+.11	+.11	+.10	+.07	+.01	-.11		54-620
54-621		DS2066	154.45	.004	24.9	6/27/55	-.01	.00	+.04	+.07	+.08	+.09	+.10	+.09	+.07	+.01	-.10		54-621

T-11 CAMERA (CONT'D)

CAMERA	LENS & CONE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
54-622	RF716	153.29	.011	23.0	6/27/55	.00	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	54-622
54-623	DS2119	155.25	.015	25.1	9/30/55	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	54-623
54-624	RF2475	154.32	.005	25.4	9/2/55	.00	+0.02	+0.05	+0.09	+0.10	+0.11	+0.11	+0.10	+0.07	.00	-0.11	54-624
54-625	RF4905	154.02	.003	24.2	6/17/55	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.11	+0.10	+0.07	.00	-0.11	54-625
54-626	RF6288	153.59	.004	23.9	9/30/55	.00	+0.03	+0.07	+0.10	+0.11	+0.12	+0.12	+0.11	+0.07	+0.01	-0.12	54-626
54-627	RF5805	153.06	.015	23.8	6/20/55	-0.01	+0.01	+0.05	+0.08	+0.09	+0.10	+0.10	+0.09	+0.06	-0.01	-0.10	54-627
54-628	RF6231	154.07	.003	24.8	10/18/55	.00	+0.01	+0.05	+0.08	+0.10	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	54-628
54-629	DF7291	153.57	.011	24.6	6/15/55	.00	+0.01	+0.05	+0.08	+0.09	+0.10	+0.11	+0.10	+0.07	.00	-0.11	54-629
54-630	RF5759	153.43	.003	25.6	10/5/55	-0.01	+0.01	+0.05	+0.08	+0.09	+0.10	+0.10	+0.10	+0.07	+0.01	-0.10	54-630
54-631	RF5641	154.19	.013	25.4	10/25/55	.00	+0.01	+0.05	+0.08	+0.09	+0.10	+0.11	+0.10	+0.07	-0.01	-0.11	54-631
54-632	RF5778	153.62	.013	23.1	10/25/55	.00	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.10	+0.08	+0.01	-0.11	54-632
54-633	RF6395	152.96	.005	23.8	10/25/55	.00	+0.02	+0.06	+0.10	+0.11	+0.12	+0.13	+0.12	+0.08	+0.03	-0.13	54-633
54-634	DF3299	155.02	.007	21.8	6/15/55	.00	+0.01	+0.04	+0.08	+0.09	+0.10	+0.11	+0.11	+0.08	+0.02	-0.11	54-634
54-635	DS2237	153.91	.003	23.8	10/25/55	-0.01	+0.01	+0.03	+0.07	+0.08	+0.09	+0.10	+0.09	+0.07	-0.01	-0.10	54-635
54-636	RF933	155.40	.004	24.3	10/4/55	-0.01	.00	+0.04	+0.07	+0.08	+0.09	+0.10	+0.09	+0.07	.00	-0.10	54-636
54-637	RF6280	154.33	.006	24.0	9/30/55	.00	+0.01	+0.05	+0.07	+0.09	+0.10	+0.10	+0.10	+0.07	.00	-0.10	54-637
54-638	RF6252	154.68	.005	23.5	6/17/55	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.11	+0.11	+0.07	+0.01	-0.11	54-638
54-639	DF7263	155.19	.013	24.9	6/15/55	-0.01	.00	+0.03	+0.06	+0.08	+0.09	+0.10	+0.09	+0.07	+0.02	-0.10	54-639
54-640	RF668	153.72	.011	24.1	7/22/55	.00	+0.01	+0.06	+0.09	+0.10	+0.11	+0.11	+0.10	+0.07	.00	-0.11	54-640
54-641	RF4263	155.29	.005	27.2	10/11/55	-0.01	+0.01	+0.04	+0.07	+0.08	+0.09	+0.10	+0.09	+0.07	.00	-0.10	54-641
54-642	RF6396	153.06	.004	25.1	10/11/55	-0.01	+0.01	+0.05	+0.08	+0.09	+0.10	+0.10	+0.10	+0.07	+0.01	-0.10	54-642
54-643	RF6399	153.87	.004	26.9	11/15/55	-0.01	+0.01	+0.04	+0.07	+0.09	+0.10	+0.11	+0.10	+0.07	+0.02	-0.11	54-643
54-644	RF6393	153.22	.007	24.8	11/9/55	.00	+0.02	+0.06	+0.09	+0.10	+0.12	+0.12	+0.11	+0.07	+0.01	-0.12	54-644
54-645	RF759	155.26	.005	24.3	11/15/55	.00	+0.02	+0.05	+0.08	+0.09	+0.10	+0.10	+0.09	+0.06	.00	-0.10	54-645
54-646	RF4762	154.43	.015	25.2	11/7/55	.00	+0.01	+0.04	+0.07	+0.09	+0.09	+0.10	+0.09	+0.06	.00	-0.10	54-646
54-647	RF5669	154.63	.005	26.4	11/14/55	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.11	+0.07	+0.01	-0.12	54-647
54-648	RF5756	152.52	.006	24.2	10/17/55	-0.01	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	54-648
54-649	RF5795	153.10	.002	24.1	10/21/55	.00	+0.02	+0.05	+0.08	+0.10	+0.11	+0.12	+0.11	+0.07	+0.01	-0.12	54-649
54-650	RF5752	152.68	.003	25.8	10/7/55	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.11	+0.08	+0.02	-0.12	54-650
54-651	RF5638	153.72	.006	26.3	10/19/55	-0.01	+0.01	+0.05	+0.08	+0.09	+0.10	+0.11	+0.10	+0.07	.00	-0.11	54-651
54-652	DF9571	155.00	.004	25.5	11/22/55	.00	+0.01	+0.05	+0.08	+0.09	+0.10	+0.11	+0.10	+0.07	+0.01	-0.11	54-652

A-35

CAMERA			LENS & CODE	CFL	RANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
54-653			RF6412	154.14	.005	26.5	10/11/55	.00	+02	+06	+09	+10	+11	+12	+11	+07	+01	-12		54-653
54-654			RF4841	153.31	.004	25.1	11/22/55	-01	.00	+04	+07	+08	+10	+10	+09	+07	+01	-10		54-654
54-655			DS2294	154.43	.008	26.0	11/22/55	.00	+01	+05	+08	+09	+11	+11	+10	+07	+01	-11		54-655
54-656			RF2532	153.83	.005	24.0	10/15/55	.00	+02	+06	+09	+10	+11	+11	+10	+07	+01	-11		54-656
54-657			DS2308	154.37	.003	25.9	11/15/55	-01	+01	+04	+07	+09	+10	+10	+10	+08	+02	-10		54-657
54-658			RF4224	153.45	.006	26.1	10/5/55	-01	+01	+04	+08	+09	+10	+11	+11	+08	+03	-11		54-658
54-659			RF2470	153.70	.006	26.6	11/21/55	.00	+01	+05	+09	+10	+11	+11	+10	+07	.00	-11		54-659
54-660			RF772	154.05	.006	27.2	11/15/55	-01	+01	+04	+08	+09	+10	+11	+10	+07	+01	-11		54-660
54-661			RF5813	153.72	.008	27.2	10/21/55	-01	.00	+04	+07	+09	+10	+10	+09	+07	+01	-10		54-661
54-662			RF5754	153.66	.007	26.6	11/15/55	.00	+02	+06	+09	+10	+11	+11	+10	+07	.00	-11		54-662
54-663			XF3010	155.45	.005	25.5	10/13/55	-01	+01	+04	+07	+09	+10	+11	+10	+08	+02	-11		54-663
54-664			RF6398	153.04	.006	26.6	10/7/55	-01	+01	+05	+08	+09	+10	+11	+10	+07	.00	-11		54-664
54-665			RF6403	152.91	.005	25.1	11/9/55	.00	+01	+05	+08	+10	+11	+11	+10	+07	+01	-11		54-665
54-666			RF4836	154.20	.004	26.6	11/9/55	.00	+02	+05	+08	+10	+11	+11	+11	+07	+01	-11		54-666
54-667			RF6227	153.81	.006	24.9	10/13/55	.00	+02	+06	+09	+10	+11	+11	+11	+07	+01	-11		54-667
54-668			DF9411	154.26	.003	22.9	11/8/55	-01	.00	+04	+07	+08	+09	+10	+10	+07	+01	-10		54-668
54-669			RF758	153.83	.008	20.5	11/16/55	.00	+02	+06	+09	+11	+11	+12	+10	+07	+01	-12		54-669
54-670			RF5659	153.33	.006	22.6	11/1/55	.00	+02	+06	+09	+11	+12	+12	+11	+07	-01	-12		54-670
54-671			RF4243	153.40	.004	21.7	6/2/55	-01	+01	+04	+07	+09	+10	+11	+10	+07	+01	-11		54-671
54-672			RF5751	153.69	.006	23.6	10/7/55	.00	+01	+05	+08	+10	+11	+11	+11	+07	+01	-11		54-672
54-673			DS2321	153.90	.006	23.0	11/16/55	.00	+02	+06	+09	+11	+11	+12	+11	+07	+01	-12		54-673
54-674			DF7308	153.89	.008	22.2	10/18/55	-01	+01	+04	+07	+09	+09	+10	+09	+07	.00	-10		54-674
54-675			DS2259	153.64	.004	27.7	10/4/55	-01	+01	+05	+07	+09	+10	+11	+10	+07	+01	-11		54-675
54-676			XF2264	155.24	.008	25.9	10/4/55	.00	+02	+06	+09	+10	+12	+12	+11	+07	.00	-12		54-676

KC-1 CAMERA

(1) Calibration Certificate Obsolete - New Certificate Issued.

(2) Recalibration Certificate - Previous Certificate Obsolete.

	CAMERA	LENS CONE	GFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
	53-001	019	153.254	.007	24.4	11/25/53	-.007	-.013	-.019	-.021	-.016	-.009	+.004	+.014	+.021	+.014	-.007	53-001
	53-002	XF4454	152.459	.005	24.4	10/30/53	+.004	+.004	-.004	-.012	-.010	-.010	-.002	+.001	+.011	+.011	-.006	53-002
	53-003	XF2922	151.458	.009	25.9	10/30/53	000	-.001	-.008	-.011	-.012	-.005	+.001	+.012	+.017	+.017	-.017	53-003
	53-004	XF4443	152.446	.008	23.1	10/30/53	-.002	-.008	-.015	-.016	-.019	-.006	-.008	+.008	+.009	+.018	-.008	53-004
	53-005	XF4455	152.008	.003	24.1	10/30/53	-.004	-.008	-.015	-.020	-.017	-.014	-.005	+.006	+.017	+.020	+.006	53-005
(1)	53-006	014	152.841	.007	21.0	10/30/53	-.008	-.015	-.025	-.024	-.023	-.014	-.008	+.011	+.015	+.023	-.015	53-006
(2)	53-006	014	152.841	.005	23.6	7/8/63	-.010	-.017	-.026	-.024	-.021	-.014	-.005	+.008	+.021	+.025	+.012	53-006
	53-007	009	152.638	.002	22.3	10/30/53	-.004	-.009	-.018	-.020	-.015	-.007	+.006	+.009	+.021	+.010	-.018	53-007
	53-008	XF4445	153.010	.003	23.9	10/30/53	+.004	+.002	-.008	-.016	-.016	-.012	-.007	+.004	+.008	+.015	-.009	53-008
	53-009	XF4453	151.545	.002	24.5	10/30/53	-.001	-.006	-.014	-.018	-.015	-.012	-.002	+.007	+.012	+.019	-.015	53-009
	53-010	XF4447	152.971	.004	26.6	4/20/54	+.001	-.001	-.008	-.012	-.010	-.007	-.002	+.003	+.008	+.012	-.012	53-010
(2)	53-011	XF4451	152.676	.002	27.6	4/20/54	+.005	+.007	+.001	-.006	-.006	-.003	+.004	+.009	+.013	+.014	-.014	53-011
(1)	53-011	XF4451	152.676	.002	27.6	10/30/53	+.005	+.007	+.001	-.002	-.010	+.001	-.001	+.014	+.008	+.019	-.019	53-011
(2)	53-012	018	152.889	.005	23.0	4/19/54	-.002	-.003	-.003	000	+.005	+.010	+.015	+.020	+.021	+.014	-.020	53-012
(1)	53-012	018	152.892	.005	23.0	11/25/53	-.003	-.004	-.005	-.004	+.005	+.006	+.014	+.014	+.019	+.008	-.020	53-012
B-1	53-013	008	152.210	.003	25.0	12/27/62	-.010	-.015	-.022	-.020	-.016	-.010	-.002	+.012	+.021	+.021	+.004	53-013
	53-014	011	152.610	.008	24.3	11/27/53	-.008	-.017	-.023	-.023	-.021	-.007	-.002	+.016	+.016	+.022	-.019	53-014
(1)	53-015	025	152.464	.004	24.5	11/25/53	-.011	-.021	-.023	-.024	-.018	-.007	-.002	+.017	+.013	+.025	-.025	53-015
(2)	53-015	025	152.461	.004	24.5	4/19/54	-.011	-.020	-.022	-.021	-.016	-.008	+.003	+.012	+.020	+.022	-.016	53-015
	53-016	XF4441	151.391	.004	24.8	10/30/53	-.002	-.005	-.015	-.016	-.016	-.011	-.005	+.008	+.013	+.017	-.003	53-016
(2)	53-017	017	153.404	.006	23.4	4/19/54	-.010	-.018	-.023	-.022	-.017	-.010	-.001	+.011	+.019	+.022	-.017	53-017
(1)	53-017	017	153.407	.006	23.4	11/30/53	-.010	-.018	-.024	-.021	-.023	-.009	-.006	+.017	+.010	+.025	-.025	53-017
	53-018	005	152.519	.005	24.2	11/27/53	-.002	-.002	-.002	-.001	-.004	+.009	+.011	+.025	+.021	+.019	-.025	53-018
	53-019	007	152.552	.005	23.6	11/25/53	-.007	-.014	-.018	-.021	-.021	-.013	+.003	+.007	+.021	+.019	-.006	53-019
	53-020	XF6782	152.978	.009	26.7	4/19/54	+.006	+.009	+.004	000	-.002	-.002	+.003	+.009	+.012	+.012	-.012	53-020
	53-021	XF4452	152.415	.006	24.0	11/25/53	-.001	-.005	-.015	-.018	-.020	-.014	-.008	+.003	+.011	+.020	000	53-021
(2)	53-022	XF6711	151.431	.008	25.9	4/19/54	+.001	-.001	-.009	-.011	-.009	-.004	+.002	+.009	+.014	+.009	-.014	53-022
(1)	53-022	XF6711	151.428	.008	25.9	11/30/53	-.001	-.001	-.008	-.007	-.008	+.001	+.001	+.013	+.013	+.014	-.015	53-022
	53-023	XF4442	151.738	.005	22.0	11/27/53	+.002	000	-.011	-.012	-.014	-.010	-.002	+.007	+.012	+.013	-.013	53-023
	53-024	024	152.730	.005	22.1	5/11/54	-.011	-.021	-.024	-.023	-.019	-.013	-.001	+.012	+.020	+.024	-.014	53-024
	53-025	XF6704	153.176	.007	26.7	2/20/54	000	-.006	-.016	-.020	-.020	-.015	-.008	+.004	+.014	+.019	+.007	53-025
	53-026	003	152.325	.009	24.3	2/25/54	-.006	-.012	-.014	-.015	-.011	-.003	+.008	+.019	+.025	+.016	-.025	53-026

KC-1 CAMERA (CONT'D)

CAMERA	LENS & COE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
53-027	038	153.744	.003	24.8	1/30/61	-.012	-.017	-.023	-.019	-.015	-.009	-.002	+.010	+.021	+.023	+.001	53-027
53-028	XF6741	153.275	.005	22.9	3/10/54	+.003	+.003	-.003	-.009	-.011	-.008	-.003	+.005	+.011	+.014	-.014	53-028
53-029	XF6779	153.061	.008	22.9	2/25/54	+.006	+.004	-.002	-.007	-.009	-.002	000	+.007	+.010	+.013	-.012	53-029
53-030	XF6786	152.956	.008	24.7	2/25/54	+.002	+.003	-.006	-.011	-.010	-.006	-.001	+.005	+.012	+.012	-.005	53-030
53-031	016	153.703	.003	22.9	2/25/54	-.009	-.016	-.017	-.017	-.014	-.007	+.005	+.017	+.021	+.017	-.022	53-031
53-032	031	153.687	.007	22.8	2/25/54	-.005	-.012	-.015	-.016	-.013	-.006	+.003	+.021	+.017	+.011	-.022	53-032
53-033	XF6794	151.851	.004	22.8	11/30/53	+.004	+.004	-.002	-.010	-.014	-.012	-.009	-.002	+.008	+.015	+.003	53-033
53-034	XF4456	152.724	.010	25.1	10/30/53	+.008	+.009	000	-.009	-.011	-.010	-.004	+.004	+.007	+.013	-.013	53-034
53-035	037	153.701	.006	20.8	3/8/54	-.012	-.023	-.020	-.018	-.014	-.006	+.007	+.015	+.022	+.020	-.002	53-035
53-036	XF6727	153.318	.007	23.4	4/23/54	+.003	+.001	-.003	-.010	-.005	-.004	-.001	+.003	+.010	+.012	-.012	53-036
53-037	026	153.618	.007	21.7	4/23/54	-.006	-.013	-.018	-.020	-.017	-.011	000	+.013	+.017	+.020	-.010	53-037
53-038	XF6757	152.648	.004	22.7	4/23/54	+.005	+.002	-.003	-.009	-.009	-.005	-.001	+.004	+.008	+.009	-.009	53-038
53-039	028	153.014	.003	20.2	4/23/54	-.006	-.010	-.012	-.012	-.007	+.001	+.011	+.018	+.021	+.016	-.020	53-039
53-040	033	152.873	.004	24.2	4/23/53	-.008	-.014	-.018	-.016	-.016	-.006	+.007	+.013	+.018	+.003	-.018	53-040
53-041	XF6813	151.576	.004	21.9	4/23/54	-.002	-.004	-.011	-.018	-.016	-.010	-.004	+.008	+.015	+.017	-.005	53-041
53-042	022	153.500	.007	22.2	4/23/54	-.006	-.011	-.012	-.013	-.007	+.001	+.010	+.019	+.023	+.014	-.022	53-042
53-043	XF6723	152.911	.006	22.1	4/23/54	+.002	+.002	-.003	-.009	-.010	-.006	-.001	+.005	+.010	+.011	-.011	53-043
53-044	XF6706	152.876	.007	21.2	4/23/54	+.006	+.006	+.005	-.002	-.001	+.003	+.007	+.012	+.016	+.016	-.016	53-044
53-045	041	153.020	.009	20.8	4/23/54	-.013	-.023	-.024	-.024	-.016	-.009	+.006	+.017	+.025	+.018	-.004	53-045
53-046	039	153.215	.007	21.3	4/23/54	-.009	-.018	-.020	-.019	-.011	-.002	+.012	+.020	+.019	+.019	-.017	53-046
53-047	012	152.259	.001	20.1	4/21/54	-.004	-.006	-.009	-.009	+.005	+.004	+.012	+.020	+.022	+.023	-.024	53-047
53-048	XF2918	153.178	.009	21.5	4/23/54	+.003	+.003	+.001	-.005	-.006	-.004	+.002	+.004	+.009	+.015	-.014	53-048
53-049	010	152.339	.004	22.4	4/21/54	-.007	-.014	-.020	-.021	-.018	-.010	+.003	+.013	+.020	+.016	-.020	53-049
53-050	029	153.193	.005	21.6	4/23/54	-.012	-.022	-.024	-.025	-.022	-.011	+.003	+.016	+.024	+.013	-.015	53-050
53-051	XF6768	151.853	.004	22.1	4/23/54	+.006	+.011	+.008	-.001	-.002	+.001	+.004	+.008	+.014	+.013	-.013	53-051
53-052	035	152.228	.004	20.7	4/23/54	-.011	-.019	-.020	-.020	-.015	-.007	+.006	+.015	+.021	+.016	-.011	53-052
53-053	XF6816	151.911	.004	23.8	4/23/54	+.008	+.010	+.007	-.002	-.005	-.001	+.004	+.011	+.016	+.012	-.015	53-053
53-054	006	152.810	.003	20.6	4/21/54	-.011	-.017	-.023	-.023	-.018	-.010	+.004	+.013	+.022	+.019	-.012	53-054
53-055	042	153.150	.004	21.2	4/23/54	-.012	-.020	-.022	-.016	-.010	-.001	+.008	+.018	+.021	+.017	-.020	53-055
53-056	XF6766	151.967	.003	28.8	2/3/61	000	-.004	-.015	-.018	-.017	-.013	-.009	+.003	+.017	+.015	+.006	53-056
53-057	046	153.039	.006	21.2	4/23/54	-.006	-.010	-.008	-.006	-.004	+.005	+.017	+.021	+.020	+.013	-.021	53-057

KC-1 CAMERA (CONT'D)

	CAMERA		LENS CODE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
	53-058		XF6747	151.875	.008	25.6	5/6/54	.000	-.005	-.012	-.015	-.019	-.012	-.005	+.005	+.013	+.020	-.003		53-058
	53-059		036	153.003	.006	21.2	5/5/54	-.010	-.015	-.017	-.017	-.013	-.007	+.006	+.013	+.020	+.013	-.020		53-059
(2)	53-060		XF6759	153.412	.008	26.7	2/3/61	-.001	-.002	-.016	-.019	-.018	-.016	-.009	+.001	+.015	+.019	+.010		53-060
	53-061		XF6805	152.960	.005	24.8	5/10/54	+.004	+.002	-.004	-.009	-.011	-.009	-.005	+.001	+.007	+.011	-.009		53-061
	53-062		XF6785	152.249	.003	27.6	2/2/61	-.001	-.006	-.018	-.020	-.020	-.016	-.010	+.003	+.014	+.020	+.004		53-062
(2)	53-063		047	153.710	.004	21.5	2/2/61	-.008	-.010	-.019	-.015	-.011	-.005	+.001	+.015	+.019	+.013	-.020		53-063
(2)	53-063		047	153.710	.004	23.3	7/8/63	-.008	-.011	-.016	-.013	-.009	-.003	+.004	+.011	+.016	+.008	-.017		53-063
	53-064		XF6739	152.436	.007	23.0	5/6/54	+.002	-.001	-.009	-.013	-.013	-.009	-.003	+.004	+.011	+.012	-.009		53-064
	53-065		032	153.025	.003	20.8	5/5/54	-.012	-.019	-.023	-.023	-.016	-.011	+.006	+.014	+.022	+.018	-.009		53-065
(2)	53-066		XF6808	152.589	.007	28.6	2/2/61	-.003	-.005	-.018	-.020	-.018	-.015	-.009	+.003	+.016	+.020	+.012		53-066
	53-067		XF6817	152.919	.010	20.7	5/11/54	+.005	+.006	+.002	-.001	-.002	+.002	+.006	+.009	+.011	+.005	-.011		53-067
	53-068		045	153.258	.007	22.6	5/5/54	-.012	-.019	-.022	-.018	-.015	-.006	+.006	+.014	+.019	+.023	-.005		53-068
	53-069		XF6789	152.421	.005	25.0	5/10/54	+.004	+.005	+.003	.000	-.001	+.003	+.008	+.012	+.014	+.014	-.014		53-069
(2)	53-070		044	152.940	.006	21.9	2/2/61	-.010	-.016	-.023	-.018	-.012	-.006	+.003	+.012	+.022	+.022	+.006		53-070
	53-071		XF6735	153.457	.007	21.7	6/8/54	.000	-.004	-.009	-.012	-.012	-.011	-.007	.000	+.008	+.012	-.004		53-071
	53-072		XF6716	152.818	.004	21.4	6/8/54	-.002	-.006	-.015	-.021	-.021	-.017	-.008	+.002	+.014	+.022	+.007		53-072
(1)	53-073		XF6767	152.433	.003	25.0	8/3/54	-.002	-.006	-.014	-.017	-.017	-.012	-.003	+.005	+.012	+.018	+.003		53-073
(2)	53-073		XF6767	152.433	.005	28.6	7/10/63	+.002	.000	-.007	-.012	-.011	-.007	-.002	+.006	+.012	+.010	-.009		53-073
	53-074		XF6708	151.156	.004	20.8	7/29/54	+.002	-.004	-.011	-.017	-.017	-.012	-.003	+.005	+.015	+.018	-.002		53-074
	53-075		XF6765	152.575	.006	22.4	8/3/54	+.001	+.002	-.002	-.008	-.010	-.005	.000	+.005	+.009	+.009	-.010		53-075
	53-076		XF6772	152.115	.008	21.6	8/3/54	.000	-.003	-.010	-.016	-.015	-.011	-.004	+.005	+.014	+.015	+.002		53-076
(1)	53-077		XF6705	151.433	.006	21.1	7/29/54	.000	-.002	-.008	-.014	-.014	-.011	-.005	+.003	+.013	+.015	-.002		53-077
(2)	53-077		XF6705	151.433	.007	25.7	7/10/63	.000	-.001	-.008	-.012	-.012	-.009	-.003	+.006	+.013	+.011	-.002		53-077
	53-078		XF6713	152.029	.005	21.0	8/3/54	+.003	+.002	-.002	-.007	-.007	-.004	+.001	+.006	+.012	+.014	-.015		53-078
	53-079		XF6726	153.134	.002	22.0	8/3/54	+.002	+.002	-.004	-.011	-.013	-.010	-.004	+.003	+.009	+.012	-.005		53-079
	53-080		XF6749	152.294	.010	20.9	6/31/54	-.003	-.007	-.014	-.019	-.018	-.016	-.012	-.001	+.010	+.019	+.002		53-080
	53-081		XF6732	152.760	.007	23.9	7/31/54	+.003	+.003	-.006	-.016	-.017	-.013	-.007	+.001	+.011	+.016	-.001		53-081
	53-082		XF6804	153.273	.008	21.4	8/3/54	+.003	+.004	-.005	-.012	-.014	-.010	-.004	+.005	+.013	+.014	-.007		53-082
	53-083		XF6733	152.737	.004	20.9	7/31/54	+.007	+.010	+.008	+.004	+.004	+.005	+.008	+.013	+.015	+.010	-.015		53-083
	53-084		049	152.993	.006	22.7	9/3/54	-.007	-.012	-.016	-.013	-.011	-.002	+.008	+.015	+.017	+.015	-.016		53-084
	53-085		004	152.593	.008	24.7	7/26/54	-.009	-.014	-.017	-.017	-.015	-.011	-.001	+.009	+.019	+.020	-.021		53-085

KC-1 CAMERA (CONT'D)

CAMERA			LENS & CODE	CFL	TANG DIST	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
53-086			XF6796	153.079	.005	22.0	9/16/54	+ .001	+ .003	000	- .006	- .007	- .008	- .004	+ .002	+ .009	+ .013	- .013		53-086
53-087			043	153.521	.006	21.7	9/3/54	- .011	- .018	- .018	- .015	- .011	- .007	+ .004	+ .014	+ .020	+ .017	- .020		53-087
(08) 53-088			XF6791	151.992	.005	26.9	12/26/62	000	- .003	- .010	- .012	- .011	- .009	- .005	+ .005	+ .013	+ .012	- .003		53-088
53-089			XF6769	152.145	.007	22.6	9/13/54	- .003	- .003	- .009	- .015	- .017	- .015	- .008	+ .004	+ .015	+ .017	+ .001		53-089
(02) 53-090			XF6724	152.842	.006	25.4	2/2/61	- .001	- .001	- .008	- .011	- .010	- .008	- .003	+ .004	+ .010	+ .010	+ .001		53-090
53-091			XF6758	153.406	.004	24.8	9/13/54	- .001	000	- .004	- .010	- .012	- .011	- .007	000	+ .009	+ .013	- .008		53-091
53-092			XF6787	152.074	.006	26.1	9/13/54	+ .003	+ .002	- .002	- .006	- .007	- .003	+ .003	+ .009	+ .013	+ .014	- .014		53-092
53-093			XF6801	152.851	.004	25.0	9/17/54	- .002	- .002	- .006	- .008	- .009	- .008	- .006	+ .001	+ .007	+ .010	- .011		53-093
53-094			XF6725	152.725	.007	24.7	9/13/54	- .002	- .004	- .010	- .013	- .014	- .011	- .007	000	+ .010	+ .014	- .012		53-094
53-095			XF6740	153.096	.006	28.3	9/13/54	+ .002	+ .003	- .006	- .013	- .015	- .014	- .009	- .002	+ .009	+ .015	.008		53-095
53-096			XF6722	151.898	.010	23.1	9/8/54	+ .003	+ .008	+ .001	- .003	- .003	000	+ .005	+ .013	+ .018	+ .015	- .019		53-096
53-097			XF6798	152.512	.003	26.7	9/16/54	- .002	- .002	- .010	- .015	- .016	- .014	- .008	+ .001	+ .012	+ .016	+ .001		53-097
53-098			XF4444	151.902	.009	25.0	9/3/54	- .001	+ .001	- .008	- .013	- .014	- .013	- .008	+ .002	+ .012	+ .014	- .011		53-098
53-099			XF6780	152.727	.003	25.5	10/25/54	- .002	- .003	- .008	- .013	- .014	- .013	- .008	000	+ .010	+ .013	- .010		53-099
53-100			XF6792	152.601	.004	23.0	11/27/54	+ .001	+ .002	- .001	- .007	- .009	- .009	- .006	- .001	+ .009	+ .005	- .009		53-100
53-101			XF6799	152.257	.007	26.9	10/25/54	- .001	- .003	- .010	- .013	- .016	- .013	- .007	+ .002	+ .015	+ .016	- .008		53-101
53-102			020	153.351	.006	20.2	10/22/54	- .011	- .016	- .019	- .017	- .015	- .009	- .001	+ .008	+ .017	+ .019	- .019		53-102
53-103			XF6707	153.057	.007	23.6	10/22/54	000	- .001	- .004	- .008	- .012	- .013	- .010	- .004	+ .005	+ .011	- .013		53-103
53-104			XF6761	152.243	.004	21.3	10/22/54	000	+ .002	- .005	- .009	- .009	- .008	- .003	+ .005	+ .013	+ .014	- .015		53-104
53-105			XF6781	152.936	.006	25.2	10/25/54	- .001	- .004	- .009	- .013	- .014	- .012	- .006	+ .004	+ .013	+ .015	- .003		53-105
53-106			034	153.062	.006	22.0	10/25/54	- .010	- .020	- .023	- .024	- .021	- .013	- .004	+ .007	+ .021	+ .023	- .004		53-106
53-107			XF6819	152.654	.004	23.1	10/25/54	000	+ .003	- .004	- .008	- .009	- .009	- .005	+ .002	+ .009	+ .011	- .011		53-107
53-108			XF6763	152.614	.002	23.7	11/27/54	- .001	+ .002	- .005	- .007	- .007	- .004	+ .001	+ .009	+ .016	+ .015	- .016		53-108
53-109			015	152.579	.004	22.7	10/25/54	- .011	- .017	- .019	- .016	- .012	- .007	000	+ .009	+ .021	+ .017	- .022		53-109
53-110			053	153.367	.004	21.9	10/25/54	- .011	- .017	- .017	- .016	- .012	- .007	+ .002	+ .012	+ .018	+ .018	- .008		53-110
53-111			XF6818	152.083	.005	23.8	10/25/54	000	+ .001	- .003	- .008	- .009	- .009	- .005	+ .002	+ .010	+ .010	- .010		53-111
53-112			XF6737	152.750	.009	21.0	11/27/54	- .003	- .002	- .011	- .013	- .013	- .011	- .005	+ .004	+ .012	+ .012	- .006		53-112

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[illegible]

C-1

KC-1B CAMERA (1) Certificate ~~Obsolete~~ - New Certificate Issued (2) Recalibration Certificate - Previous Cert. Obsolete (3) No Platen Calibration Certificate

	CAMERA	PLATEN	MAGAZINE	LENS & CORR. PLATE	CFL	LANG. DIST.	RESOL. AWAR.	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
	54-460	51-112		612/330	151.578	.008	27.0	11/2/62	+0.003	+0.004	-0.001	-0.006	-0.007	-0.006	-0.003	+0.002	+0.007	+0.002	-0.018		54-460
	59-001	52-101		410	151.308	.004	26.8	10/23/62	+0.001	+0.001	-0.003	-0.008	-0.007	-0.006	-0.005	000	+0.008	+0.007	-0.009		59-001
(3)	59-002			187	150.827	.009	26.7	12/29/59	+0.006	+0.006	-0.002	-0.007	-0.008	-0.007	-0.005	+0.001	+0.007	+0.006	-0.027		59-002
(3)	59-003			611	151.922	.003	23.0	8/16/61	+0.002	-0.001	-0.006	-0.008	-0.008	-0.008	-0.008	-0.002	+0.008	+0.006	-0.006		59-003
(3)	59-004			122	151.683	.007	25.6	11/10/59	+0.003	+0.003	-0.006	-0.010	-0.010	-0.009	-0.007	000	+0.009	+0.007	-0.010		59-004
(1)	59-005			484	152.566	.014	22.9	11/7/59	+0.002	+0.001	-0.003	-0.007	-0.009	-0.008	-0.006	-0.001	+0.008	+0.010	-0.012		59-005
(2)	59-005	52-598X		484	152.563	.006	31.1	10/22/62	+0.003	+0.005	+0.005	-0.004	-0.006	-0.005	-0.004	+0.002	+0.006	+0.002	-0.012		59-005
(3)	59-006			XP6718	153.035	.009	25.7	11/24/59	+0.004	+0.008	-0.001	-0.005	-0.007	-0.006	-0.005	-0.002	+0.006	+0.005	-0.012		59-006
	59-007	52-398		XP6743	152.099	.004	32.1	10/19/62	+0.001	+0.001	-0.006	-0.009	-0.009	-0.008	-0.006	+0.001	+0.009	+0.007	-0.008		59-007
	59-008	52-1302		402	152.509	.008	28.4	10/23/62	+0.002	000	-0.005	-0.009	-0.009	-0.008	-0.006	+0.002	+0.009	+0.005	-0.018		59-008
(3)	59-009			279	151.167	.007	26.9	11/10/59	+0.006	+0.008	000	-0.004	-0.005	-0.006	-0.007	-0.003	+0.002	000	-0.029		59-009
(3)	59-010			102	151.276	.003	28.1	8/17/61	+0.001	000	-0.004	-0.008	-0.010	-0.009	-0.007	-0.003	+0.007	+0.009	000		59-010
(3)	59-011			476	152.089	.006	28.6	8/17/61	+0.003	+0.006	+0.001	-0.005	-0.005	-0.005	-0.007	-0.003	+0.003	000	-0.012		59-011
	59-012	52-996		141	152.341	.007	28.3	10/25/62	+0.005	+0.006	+0.001	-0.005	-0.006	-0.007	-0.006	-0.001	+0.005	+0.003	-0.010		59-012
(3)	59-013			129	151.717	.009	28.7	12/2/59	+0.003	+0.006	000	-0.005	-0.006	-0.007	-0.006	-0.002	+0.007	+0.007	-0.014		59-013
(3)	59-014			111	151.926	.007	25.7	12/3/59	+0.002	+0.004	-0.003	-0.006	-0.007	-0.006	-0.004	+0.001	+0.007	+0.006	-0.014		59-014
(3)	59-015			498	151.830	.006	26.1	12/3/59	+0.001	+0.002	-0.005	-0.007	-0.007	-0.006	-0.004	000	+0.006	+0.005	-0.017		59-015
(3)	59-016			266	151.311	.006	22.7	11/24/59	+0.004	+0.006	-0.007	-0.006	-0.007	-0.009	-0.008	-0.002	+0.006	+0.008	-0.011		59-016
	59-017	52-475		475	151.306	.004	33.0	10/22/62	+0.003	+0.007	+0.002	-0.005	-0.007	-0.008	-0.007	-0.004	+0.002	-0.001	-0.012		59-017
(3)	59-018			202	151.425	.005	26.3	12/2/59	+0.004	+0.003	-0.004	-0.006	-0.006	-0.006	-0.005	-0.001	+0.007	+0.002	-0.020		59-018
(3)	59-019			614	151.260	.003	26.4	12/28/59	+0.001	+0.001	-0.007	-0.010	-0.009	-0.008	-0.005	-0.001	+0.009	+0.006	-0.012		59-019
	59-020																				59-020
(3)	59-021			325	151.446	.009	26.4	8/16/61	+0.001	+0.001	-0.006	-0.008	-0.008	-0.008	-0.007	000	+0.007	+0.002	-0.013		59-021
	59-022			543	151.941	.006	26.7	12/5/59	+0.002	+0.002	-0.006	-0.008	-0.009	-0.008	-0.005	000	+0.009	000	-0.019		59-022
	59-023																				59-023
	59-024																				59-024
	59-025																				59-025
	59-026																				59-026
	59-027																				59-027
	59-028																				59-028
	59-029																				59-029

KC-1B CAMERA (CONT'D)

CAMERA	PLATEN	MAGAZINE	COR. PLATE	COR.	CFL	TANG. DIST.	RESOL. AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
59-030																				59-030
59-031	52-211	52-490	126/584		151.413	.006	25.7	5/11/61	+0.001	+0.001	-0.004	-0.006	-0.006	-0.005	-0.004	+0.002	+0.006	+0.002	-0.020	59-031
59-032	52-462	53-087	513		152.169	.006	26.3	5/9/61	-0.001	-0.004	-0.008	-0.009	-0.009	-0.007	-0.004	+0.004	+0.009	+0.008	-0.009	59-032
59-033	52-218	52-488	600		151.331	.007	26.6	5/11/61	+0.002	000	-0.004	-0.007	-0.007	-0.007	-0.004	+0.001	+0.008	+0.007	-0.014	59-033
59-034	52-258	52-471	239		151.319	.005	25.8	5/9/61	-0.002	-0.003	-0.008	-0.010	-0.009	-0.008	-0.005	+0.002	+0.010	+0.006	-0.010	59-034
59-035	52-009	52-428	470/318		151.418	.005	27.5	5/9/61	+0.005	+0.006	+0.001	-0.005	-0.006	-0.006	-0.004	000	+0.004	000	-0.017	59-035
59-036	52-618X	53-230	232/613		150.834	.005	27.3	5/4/61	+0.003	+0.005	+0.001	-0.002	-0.002	-0.003	-0.003	+0.001	+0.007	-0.006	-0.029	59-036
59-037	52-134	52-463	549		152.217	.004	26.9	5/10/61	+0.002	000	-0.004	-0.006	-0.005	-0.006	-0.005	+0.001	+0.006	+0.002	-0.011	59-037
62-042	52-090		553		152.948	.004	24.3	8/1/62	+0.002	+0.001	-0.005	-0.010	-0.010	-0.009	-0.005	+0.002	+0.009	+0.008	-0.005	62-042
62-043	52-1363		560/493		151.680	.008	27.1	7/2/62	+0.009	+0.010	+0.008	-0.001	-0.004	-0.007	-0.009	-0.008	-0.007	-0.010	-0.036	62-043
62-044																				62-044
62-045																				62-045
62-046																				62-046
62-047	52-1067		570/523		152.405	.005	28.6	8/10/62	+0.007	+0.007	+0.005	000	-0.002	-0.003	-0.003	+0.001	000	-0.006	-0.026	62-047
62-048	52-1357		497/126		152.688	.008	29.2	7/30/62	+0.004	+0.004	-0.001	-0.006	-0.007	-0.007	-0.005	+0.001	+0.008	+0.006	-0.012	62-048
62-049	51-100		599/615		152.098	.010	27.2	8/2/62	+0.006	+0.005	000	-0.006	-0.008	-0.008	-0.006	+0.001	+0.007	+0.005	-0.007	62-049
62-050	51-096		544		153.169	.007	28.5	6/19/62	+0.006	+0.004	-0.002	-0.008	-0.009	-0.008	-0.005	+0.002	+0.008	+0.008	-0.003	62-050
62-051																				62-051
62-052	51-038		499/459		151.388	.006	25.6	7/31/62	+0.006	+0.007	+0.005	-0.004	-0.006	-0.006	-0.005	-0.001	+0.003	-0.001	-0.021	62-052
62-053																				62-053
62-054	52-1382		609/345		152.544	.004	28.3	8/20/62	+0.006	+0.006	000	-0.006	-0.008	-0.008	-0.005	+0.002	+0.008	+0.007	-0.005	62-054
62-055																				62-055
62-056	51-062		464/418		151.819	.008	26.0	8/20/62	+0.006	+0.008	+0.003	-0.006	-0.008	-0.008	-0.006	-0.002	000	-0.004	-0.018	62-056
62-057																				62-057
62-058	52-373		529/203		151.948	.003	28.4	8/2/62	+0.006	+0.007	+0.002	-0.005	-0.007	-0.008	-0.005	-0.001	+0.001	-0.004	-0.021	62-058
62-059	A51-070		590		151.732	.004	28.9	8/3/62	+0.003	+0.001	-0.006	-0.010	-0.010	-0.009	-0.005	+0.004	+0.010	+0.010	.000	62-059
62-060	52-1165		567		151.202	.005	25.1	8/10/62	+0.002	+0.002	-0.002	-0.006	-0.007	-0.007	-0.005	+0.001	+0.006	+0.006	-0.006	62-060
63-001	63-001		586		152.034	.005	26.7	2/21/63	+0.002	+0.003	-0.004	-0.009	-0.009	-0.007	-0.004	+0.003	+0.009	+0.006	-0.010	63-001
63-002	63-002		371		152.115	.004	24.1	2/21/63	+0.002	+0.003	.000	-0.004	-0.003	-0.001	-0.001	+0.002	+0.005	-0.001	-0.023	63-002
63-003	63-003		177		151.150	.004	25.5	2/21/63	+0.004	+0.006	+0.002	-0.004	-0.006	-0.006	-0.005	+0.001	+0.006	+0.002	-0.016	63-003
63-004	63-004		389		151.921	.003	25.1	2/21/63	+0.002	+0.003	-0.002	-0.007	-0.008	-0.006	-0.002	+0.003	+0.008	+0.004	-0.013	63-004

KG-1B CAMRA (CONT'D)

CAMERA	PLATEN	MAGAZINE	LENS / COR. PLATE	CFL	TANG. DIST.	RESOL. AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
63-005	63-005		604	151.372	.008	27.2	2/21/63	+0.002	+0.003	-0.004	-0.009	-0.009	-0.008	-0.005	+0.001	+0.008	+0.007	-0.011		63-005
63-006	63-006		411	151.754	.008	25.2	2/21/63	+0.003	+0.005	+0.002	-0.003	-0.004	-0.006	-0.005	-0.001	+0.006	.000	-0.019		63-006
63-007	63-007		163	151.293	.006	23.9	2/21/63	+0.002	+0.005	+0.001	-0.004	-0.005	-0.006	-0.005	-0.001	+0.005	-0.001	-0.022		63-007
63-008	63-008		566	152.363	.007	25.2	2/21/63	+0.002	+0.003	-0.001	-0.006	-0.007	-0.007	-0.005	+0.001	+0.007	+0.003	-0.010		63-008
63-009	63-034		494/540	151.503	.006	27.1	3/5/63	+0.004	+0.006	+0.002	-0.004	-0.005	-0.006	-0.004	.000	+0.003	-0.002	-0.020		63-009
63-010	63-020		247	151.887	.008	28.2	3/5/63	+0.001	-0.001	-0.004	-0.009	-0.010	-0.009	-0.005	+0.004	+0.010	+0.008	-0.005		63-010
63-011	63-011		347	151.225	.007	29.0	3/21/63	+0.002	+0.002	-0.003	-0.006	-0.007	-0.006	-0.004	+0.001	+0.007	+0.003	-0.014		63-011
63-012	63-012		295	151.126	.008	25.9	3/21/63	+0.002	+0.001	-0.005	-0.009	-0.008	-0.006	-0.002	+0.004	+0.009	+0.004	-0.021		63-012
63-013	63-010		168	151.091	.008	26.9	3/9/63	+0.004	+0.005	.000	-0.006	-0.007	-0.007	-0.005	+0.001	+0.006	+0.004	-0.010		63-013
63-014	63-009		285	151.939	.008	27.8	3/5/63	+0.003	.000	-0.005	-0.007	-0.006	-0.005	-0.003	+0.003	+0.008	+0.006	-0.010		63-014
63-015	63-015		221	152.933	-0.010	26.6	3/19/63	+0.003	+0.005	.000	-0.006	-0.007	-0.006	-0.004	+0.002	+0.006	+0.003	-0.005		63-015
63-016	63-016		406	151.800	.005	24.6	3/19/63	+0.003	+0.003	+0.001	-0.003	-0.005	-0.005	-0.005	.000	+0.005	+0.001	-0.022		63-016
63-017	63-017		196	150.997	.008	24.6	3/18/63	+0.005	+0.005	+0.001	-0.007	-0.008	-0.008	-0.005	+0.002	+0.009	+0.006	-0.006		63-017
63-018	63-018		335	151.991	.004	28.9	3/21/63	+0.001	-0.001	-0.006	-0.009	-0.009	-0.008	-0.006	+0.001	+0.008	+0.006	-0.006		63-018
63-019	63-019		362	152.252	.0033	30.5	3/21/63	+0.002	+0.001	-0.004	-0.009	-0.009	-0.006	-0.003	+0.002	+0.009	+0.009	-0.010		63-019
63-020	63-014		303	151.355	.004	26.2	3/21/63	-0.001	-0.003	-0.006	-0.010	-0.010	-0.008	-0.004	+0.003	+0.009	+0.008	-0.004		63-020
63-021	63-021		263	151.721	.004	27.4	3/21/63	.000	.000	-0.005	-0.009	-0.009	-0.007	-0.004	+0.003	+0.008	+0.006	-0.010		63-021
63-022	63-022		532	152.601	.010	23.8	3/29/63	.000	-0.001	-0.007	-0.009	-0.010	-0.009	-0.006	+0.001	+0.009	+0.008	-0.005		63-022
63-023	63-023		602	152.169	.007	26.0	3/18/63	+0.004	+0.004	-0.001	-0.008	-0.009	-0.009	-0.006	.000	+0.006	+0.008	-0.005		63-023
63-024	63-024		164	150.887	.004	25.9	3/21/63	+0.004	+0.006	+0.001	-0.005	-0.005	-0.005	-0.004	+0.002	+0.005	-0.002	-0.020		63-024
63-025	63-025		184	151.802	.005	24.4	3/18/63	+0.002	.000	-0.004	-0.008	-0.008	-0.007	-0.004	+0.002	+0.009	+0.006	-0.014		63-025
63-026	63-026		241	151.932	.004	25.7	3/30/63	+0.004	+0.006	+0.004	-0.005	-0.006	-0.007	-0.004	+0.002	+0.007	+0.004	-0.010		63-026
63-027	63-027		289	151.190	.006	25.6	3/21/63	+0.002	+0.003	-0.002	-0.008	-0.008	-0.006	-0.003	+0.003	+0.008	+0.005	-0.009		63-027
63-028	63-028		576/111	151.553	.006	26.2	3/21/63	+0.003	+0.007	+0.003	-0.004	-0.006	-0.006	-0.003	+0.001	+0.004	-0.001	-0.024		63-028
63-029																				63-029
63-030	63-030		605	151.501	.004	25.4	3/25/63	+0.003	+0.005	-0.001	-0.007	-0.009	-0.007	-0.004	+0.003	+0.009	+0.006	-0.006		63-030
63-031	63-031		132	151.848	.006	26.2	3/29/63	+0.001	+0.001	-0.004	-0.006	-0.006	-0.006	-0.002	+0.004	+0.007	+0.003	-0.018		63-031
63-032	63-032		286	151.848	.007	26.5	4/15/63	+0.003	+0.002	-0.003	-0.007	-0.008	-0.007	-0.004	+0.002	+0.008	+0.007	-0.009		63-032
63-033	63-033		395	151.754	.004	24.4	3/22/63	+0.002	+0.001	-0.005	-0.009	-0.009	-0.009	-0.005	+0.002	+0.009	+0.006	-0.010		63-033
63-034																				63-034
63-035	63-035		118	151.223	.008	25.8	3/26/63	.000	-0.001	-0.005	-0.008	-0.008	-0.007	-0.004	+0.004	+0.009	+0.006	-0.011		63-035

KC-1B CAMERA (CONT'D)

CAMERA	PLATEN	MAGAZINE	LENS & CONE	CPL	TANG DIST.	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
63-036	63-036		276	151.228	.004	26.6	4/3/63	000	-.003	-.007	-.010	-.010	-.007	-.003	+.004	+.009	+.008	-.004	63-036
63-037	63-037		311	152.311	.004	26.5	4/2/63	+.003	000	-.004	-.009	-.009	-.008	-.005	+.001	+.009	+.008	-.005	63-037
63-038	63-038		140	151.019	.006	26.6	4/15/63	000	-.002	-.007	-.010	-.010	-.008	-.006	+.002	+.010	+.009	-.008	63-038
63-039	63-039		467	151.489	.006	26.4	3/29/63	000	+.001	-.003	-.007	-.007	-.006	-.004	+.002	+.008	+.005	-.014	63-039
63-040																			63-040
63-041	63-043		291	151.237	.004	26.8	4/23/63	+.002	000	-.005	-.010	-.010	-.007	-.003	+.003	+.008	+.009	-.004	63-041
63-042	63-042		595	151.500	.008	27.8	3/26/63	+.002	+.001	-.003	-.008	-.008	-.006	-.001	+.004	+.009	+.004	-.016	63-042
63-043	63-041		218	151.788	.010	28.0	4/23/63	-.001	-.001	-.005	-.009	-.009	-.008	-.005	+.003	+.009	+.006	-.010	63-043
63-044	63-044		256	151.878	.004	26.4	4/4/63	+.004	+.005	+.001	-.007	-.008	-.008	-.003	+.003	+.008	+.007	-.009	63-044
63-045																			63-045
63-046	63-046		597	152.319	.007	29.9	6/10/63	+.004	+.005	+.001	-.007	-.008	-.008	-.004	+.003	+.007	+.004	-.008	63-046
63-047	63-047		338	151.863	.007	28.3	6/10/63	+.004	+.004	-.001	-.007	-.009	-.008	-.003	+.006	+.010	+.006	-.008	63-047
63-048	63-048		237/570	150.996	.008	26.5	4/23/63	+.005	+.006	+.004	-.003	-.004	-.004	-.002	+.001	+.003	-.005	-.031	63-048
63-049	63-049		392	152.632	.004	27.5	4/24/63	+.004	+.004	000	-.006	-.007	-.005	-.003	+.002	+.007	+.004	-.013	63-049
63-050	63-050		259	151.225	.007	27.2	4/24/63	+.002	+.003	-.001	-.007	-.009	-.007	-.002	+.004	+.008	+.006	-.004	63-050
63-051	63-051		307	151.778	.008	26.1	6/12/63	000	-.003	-.006	-.010	-.010	-.009	-.004	+.004	+.010	+.010	-.002	63-051
63-052	63-052		440	151.971	.005	25.7	4/24/63	+.005	+.006	+.001	-.006	-.006	-.005	-.004	+.001	+.003	-.003	-.023	63-052
63-053																			63-053
63-054	63-054		302	151.304	.006	26.3	6/4/63	+.004	+.004	+.002	-.005	-.006	-.005	-.002	+.003	+.006	-.001	-.022	63-054
63-055	63-055		173	152.045	.003	23.7	6/5/63	+.002	+.003	-.002	-.008	-.008	-.007	-.001	+.006	+.009	+.005	-.015	63-055
63-056	63-056		130	150.990	.007	27.3	6/7/63	+.001	+.001	-.004	-.010	-.010	-.009	-.003	+.005	+.010	+.010	-.001	63-056
63-057	63-057		333	151.365	.008	27.1	6/8/63	000	-.001	-.006	-.010	-.010	-.008	-.003	+.003	+.009	+.008	-.009	63-057
63-058	63-058		304	150.979	.006	27.3	6/7/63	-.003	+.001	-.006	-.010	-.010	-.008	-.004	+.004	+.010	+.010	-.002	63-058
63-059	63-059		607	150.889	.005	27.2	4/29/63	+.002	+.003	-.004	-.010	-.010	-.009	-.005	+.002	+.009	+.010	-.003	63-059
63-060	63-060		377	151.535	.003	28.6	6/8/63	+.004	+.006	+.001	-.007	-.008	-.006	-.003	+.003	+.008	+.003	-.018	63-060
63-061	63-061		454	151.471	.004	24.8	6/10/63	+.002	+.003	-.003	-.008	-.009	-.008	-.004	+.004	+.010	+.006	-.011	63-061
63-062	63-062		278	151.792	.007	23.9	6/11/63	-.001	-.004	-.009	-.010	-.010	-.009	-.003	+.004	+.010	+.008	-.010	63-062
63-063	63-063		332	151.477	.005	26.0	6/11/63	+.003	+.005	-.001	-.008	-.009	-.007	-.003	+.004	+.009	+.008	-.005	63-063
63-064	63-064		225	150.892	.004	26.5	6/18/63	+.004	+.005	+.002	-.004	-.005	-.004	-.001	+.003	+.005	-.002	-.028	63-064
63-065	63-065		280	151.670	.005	26.1	6/12/63	+.003	+.004	-.001	-.008	-.010	-.008	-.003	+.003	+.008	+.009	-.004	63-065
63-066	63-066		448	150.923	.006	27.5	6/14/63	+.002	+.001	-.004	-.010	-.010	-.007	-.003	+.003	+.010	+.009	-.004	63-066

KC-1B CAMERA (CONT'D)

CAMERA	PLATEN	MACAZINE	LINE & CONE/COM. PLATE	CFL	TANG DIST.	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
63-067	63-067		274	152.222	.004	25.2	6/17/63	+0.004	+0.005	.000	-.008	-.009	-.007	-.003	+0.003	+0.010	+0.007	-.006	63-067
63-068	63-068		124/548	151.019	.005	23.4	6/18/63	+0.005	+0.007	+0.004	-.004	-.006	-.006	-.004	-.001	+0.003	-.004	-.024	63-068
63-069	63-069		194	151.312	.008	25.1	6/14/63	+0.002	+0.001	-.004	-.009	-.010	-.008	-.004	+0.005	+0.010	+0.008	-.013	63-069
63-070	63-070		135	151.632	.003	29.3	6/14/63	+0.002	+0.002	-.002	-.008	-.008	-.006	-.002	+0.004	+0.009	+0.005	-.018	63-070
63-071	63-071		117	152.717	.004	29.8	6/17/63	+0.002	+0.002	-.004	-.009	-.009	-.008	-.004	+0.003	+0.010	+0.009	-.003	63-071
63-072	63-072		199	150.861	.007	27.7	6/19/63	+0.005	+0.006	+0.001	-.007	-.009	-.008	-.004	+0.002	+0.008	+0.005	-.014	63-072
63-073	63-073		294/342	151.203	.005	27.3	6/21/63	+0.004	+0.008	+0.004	-.004	-.007	-.005	-.004	-.001	-.001	-.008	-.032	63-073
63-074	63-074		149	151.119	.006	29.2	7/2/63	+0.004	+0.006	+0.002	-.006	-.006	-.005	-.001	+0.003	+0.004	-.004	-.029	63-074
63-075	63-075		375	152.326	.008	21.0	7/1/63	+0.003	+0.003	-.002	-.010	-.010	-.009	-.005	+0.003	+0.009	+0.008	-.007	63-075
63-076	63-076		109	151.519	.003	26.1	7/2/63	.000	-.003	-.007	-.010	-.010	-.008	-.003	+0.003	+0.010	+0.010	-.005	63-076
63-077	63-077		300/341	151.278	.009	25.9	9/13/63	+0.007	+0.010	+0.009	+0.002	.000	-.001	.000	+0.002	.000	-.010	-.041	63-077
63-078	63-078		192	151.267	.004	26.2	9/13/63	+0.006	+0.004	-.002	-.010	-.010	-.008	-.003	+0.004	+0.010	+0.010	+0.001	63-078
63-079	63-079		208	151.434	.005	23.4	9/13/63	-.003	-.004	-.008	-.010	-.010	-.008	-.004	+0.005	+0.010	+0.010	+0.003	63-079
63-080	63-081		619	151.419	.007	29.1	9/13/63	+0.002	+0.001	-.003	-.008	-.009	-.008	-.003	+0.003	+0.008	-.006	-.013	63-080
63-081	63-082		298	151.753	.006	27.8	9/13/63	+0.005	+0.005	+0.002	-.004	-.006	-.004	-.002	+0.003	+0.006	+0.003	-.019	63-081
63-082	63-083		282/606	151.689	.006	25.4	9/15/63	+0.007	+0.008	+0.003	-.005	-.007	-.007	-.005	-.003	-.001	-.009	-.032	63-082
63-083	63-084		334	152.210	.005	27.5	9/15/63	+0.002	+0.001	-.002	-.007	-.008	-.005	.000	+0.006	+0.008	+0.006	-.009	63-083
63-084	63-085		340	152.296	.006	26.6	9/16/63	+0.002	+0.001	-.004	-.008	-.009	-.007	-.001	+0.006	+0.010	+0.007	-.008	63-084
63-085	63-086		165	150.910	.006	27.2	9/14/63	+0.004	+0.004	-.002	-.008	-.008	-.006	-.002	+0.004	+0.009	+0.004	-.013	63-085
63-086	63-087		380	152.576	.004	25.1	9/14/63	+0.002	+0.002	-.003	-.009	-.010	-.008	-.003	+0.005	+0.010	+0.009	-.005	63-086
63-087	63-088		258	150.895	.004	26.0	9/16/63	+0.003	+0.003	-.002	-.007	-.009	-.007	-.002	+0.004	+0.009	+0.006	-.014	63-087
63-088	63-089		297	151.246	.009	26.7	9/16/63	+0.003	+0.004	-.001	-.008	-.008	-.005	-.002	+0.005	+0.009	+0.007	-.016	63-088
63-089	63-090		119	151.534	.010	26.3	9/16/63	-.001	-.003	-.008	-.010	-.010	-.009	-.005	+0.005	+0.010	+0.010	+0.004	63-089
63-090	63-091		504/463	151.325	.006	26.3	11/1/63	+0.004	+0.006	+0.002	-.004	-.006	-.005	-.001	+0.003	+0.007	+0.002	-.019	63-090
63-091	63-092		516	151.808	.010	28.1	12/2/63	.000	-.003	-.007	-.010	-.010	-.008	-.003	+0.004	+0.010	+0.010	-.004	63-091
63-092	63-093		305/435	151.468	.004	26.0	10/19/63	+0.006	+0.009	+0.005	-.002	-.004	-.004	-.001	+0.002	+0.003	-.007	-.030	63-092
63-093	63-094		324	151.338	.010	26.9	10/25/63	+0.001	.000	-.004	-.008	-.008	-.006	-.001	+0.005	+0.009	+0.004	-.018	63-093
63-094	63-095		433	151.708	.006	26.5	11/2/63	+0.002	+0.003	-.001	-.007	-.007	-.005	-.002	+0.004	+0.008	+0.004	-.015	63-094
63-095	63-096		487	151.355	.003	26.4	11/29/63	+0.001	-.006	-.008	-.010	-.010	-.008	-.005	+0.005	+0.010	+0.010	.000	63-095
63-096	63-097		578	152.216	.008	23.3	11/6/63	+0.001	.000	-.005	-.010	-.010	-.008	-.003	+0.004	+0.009	+0.006	-.011	63-096

KC-1B CAMERA (CONT'D)

CAMERA	PLATEN	MAGAZINE	LENS COR. PLATE	CPL	TANG DIST.	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
63-098	63-098		217	151.526	.004	25.9	9/17/63	+0.002	+0.002	-0.003	-0.008	-0.008	-0.007	-0.003	+0.004	+0.009	+0.007	-.019	63-098
63-099	63-099		581	150.865	.005	28.9	11/6/63	+0.001	+0.002	-0.004	-0.010	-0.010	-0.008	-0.002	+0.007	+0.010	+0.008	-.010	63-099
63-100	63-100		479	151.783	.008	27.6	11/7/63	+0.002	+0.002	-0.004	-0.010	-0.010	-0.009	-0.004	+0.004	+0.010	+0.010	-.008	63-100
63-101	63-101		401	151.541	.003	26.1	10/18/63	+0.003	+0.003	-0.002	-0.008	-0.009	-0.008	-0.004	+0.003	+0.009	+0.007	-.010	63-101
63-102	63-102		388/114	151.042	.006	27.7	10/14/63	+0.006	+0.008	+0.004	-0.003	-0.005	-0.004	-0.002	+0.001	+0.004	-0.007	-.029	63-102
63-103	63-103		316	151.031	.010	26.6	10/23/63	+0.001	.000	-0.006	-0.009	-0.009	-0.007	-0.002	+0.005	+0.009	+0.005	-.015	63-103
63-104	63-104		328/426	151.760	.003	27.3	10/28/63	+0.005	+0.008	+0.006	-0.001	-0.004	-0.004	-0.002	-0.002	-0.002	-0.008	-.029	63-104
63-105	63-105		233	151.752	.004	25.6	9/17/63	+0.003	+0.004	.000	-0.008	-0.009	-0.009	-0.005	+0.002	+0.009	+0.007	-.003	63-105
63-106	63-106		267	151.790	.004	27.0	10/22/63	+0.001	.000	-0.004	-0.010	-0.010	-0.008	-0.003	+0.004	+0.010	+0.008	-.008	63-106
63-107	63-107		482	151.711	.005	25.7	11/1/63	+0.005	+0.006	+0.001	-0.006	-0.006	-0.005	-0.002	+0.004	+0.006	+0.001	-.025	63-107
63-108	63-108		268	151.355	.008	25.8	10/23/63	+0.004	+0.005	.000	-0.006	-0.007	-0.006	-0.002	+0.004	+0.008	+0.005	-.008	63-108
63-109	63-109		593/277	151.238	.004	26.9	11/8/63	+0.004	+0.006	+0.002	-0.005	-0.006	-0.005	-0.002	+0.003	+0.006	-0.001	-.022	63-109
63-110	63-110		158	152.664	.005	25.8	9/17/63	+0.004	+0.006	+0.003	-0.004	-0.006	-0.005	-0.003	+0.003	+0.007	+0.004	-.015	63-110
63-111	63-111		522	152.263	.007	28.6	12/20/63	+0.004	+0.005	+0.001	-0.006	-0.009	-0.008	-0.004	+0.003	+0.008	+0.008	-.008	63-111
63-112	63-112		414	152.012	.007	26.4	10/28/63	+0.001	+0.001	-0.006	-0.009	-0.010	-0.009	-0.006	+0.004	+0.010	+0.010	-.002	63-112
63-113	63-113		432	151.478	.006	26.5	11/18/63	+0.002	+0.002	-0.002	-0.009	-0.009	-0.008	-0.002	+0.004	+0.008	+0.004	-.016	63-113
63-114	63-114		379	151.065	.010	28.0	11/1/63	-0.001	-0.002	-0.005	-0.009	-0.009	-0.006	-0.001	+0.005	+0.008	+0.002	-.025	63-114
63-115	63-115		376	152.059	.005	27.5	11/1/63	+0.003	+0.003	-0.001	-0.006	-0.008	-0.005	-0.002	+0.005	+0.009	+0.004	-.017	63-115
63-116	63-116		393	151.613		26.5	10/28/63	+0.003	+0.003	-0.002	-0.008	-0.009	-0.007	-0.003	+0.003	+0.008	+0.005	-.011	63-116
63-117	63-117		534	152.708	.007	27.1	11/22/63	+0.004	+0.005	+0.001	-0.006	-0.008	-0.007	-0.003	+0.004	+0.008	+0.005	-.014	63-117
63-118	63-118		428/343	151.113	.003	25.8	11/22/63	+0.007	+0.010	+0.006	-0.002	-0.005	-0.005	-0.004	-0.001	-0.001	-0.009	-.036	63-118
63-119	63-119		355	151.567	.005	27.5	11/1/63	+0.002	+0.001	-0.004	-0.009	-0.010	-0.009	-0.004	+0.003	+0.010	+0.009	-.006	63-119
63-120	63-120		613/424	150.642	.003	26.3	11/26/63	+0.005	+0.007	+0.002	-0.005	-0.006	-0.005	-0.002	+0.004	+0.007	+0.003	-.019	63-120
63-121	63-121		329	151.958	.003	25.1	11/29/63	+0.004	+0.004	-0.002	-0.009	-0.010	-0.008	-0.004	+0.004	+0.009	+0.009	-.001	63-121
63-122	63-122		110/610	152.724	.008	24.5	9/17/63	+0.003	+0.004	-0.001	-0.008	-0.009	-0.008	-0.005	+0.002	+0.008	+0.008	-.002	63-122
63-123	63-123		610/351	151.457	.007	25.0	11/23/63	+0.007	+0.009	+0.007	-0.001	-0.002	-0.004	-0.004	-0.003	-0.001	-0.010	-.030	63-123
63-124	63-124		546	152.145	.003	28.3	11/22/63	-0.001	-0.002	-0.005	-0.009	-0.010	-0.007	-0.001	+0.006	+0.010	+0.008	-.007	63-124
63-125	63-125		460	151.597	.007	32.3	11/22/63	+0.003	+0.003	-0.002	-0.008	-0.008	-0.006	-0.002	+0.005	+0.009	+0.006	-.011	63-125
63-141	63-141		103	151.246	.005	26.1	3/14/63	+0.004	+0.002	-0.002	-0.007	-0.007	-0.007	-0.004	+0.003	+0.007	+0.004	-.008	63-141
63-142	63-142		114	151.625	.005	26.8	3/7/63	+0.004	-0.003	-0.002	-0.005	-0.005	-0.004	-0.001	+0.004	+0.006	+0.002	-.024	63-142
63-143	63-143		279	151.151	.008	26.2	4/16/63	+0.004	+0.005	+0.002	-0.004	-0.005	-0.004	-0.003	+0.001	+0.004	-0.003	-.030	63-143

(1)	(1)	D-7
(2)	(2)	

(1)	(1)	D-7
(2)	(2)	

CA-14 CAMERA

CAMERA	LENS & CONE	CFL	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	CAMERA
1	KF6286	154.04	26.7	9/22/53	.00	+0.01	+0.04	+0.07	+0.09	+0.10	+0.11	+0.10	+0.08	+0.02	-0.11	1
2	KF6264	153.85	25.0	9/24/53	.00	+0.01	+0.05	+0.08	+0.09	+0.10	+0.11	+0.11	+0.08	+0.03	-0.11	2
3	KF6244	154.01	24.7	9/24/53	.00	+0.02	+0.05	+0.08	+0.10	+0.11	+0.11	+0.11	+0.08	+0.02	-0.12	3
4	KF6232	154.10	25.7	9/25/53	.00	+0.02	+0.05	+0.08	+0.09	+0.10	+0.11	+0.10	+0.07	+0.01	-0.11	4
5	KF6240	153.81	26.0	10/5/53	.00	+0.01	+0.05	+0.08	+0.09	+0.10	+0.11	+0.10	+0.08	+0.02	-0.11	5
6	KF6239	154.18	22.4	9/26/53	-0.01	+0.01	+0.04	+0.07	+0.09	+0.09	+0.10	+0.10	+0.07	+0.02	-0.10	6
7	DF3335	153.77	22.7	9/25/53	.00	+0.02	+0.05	+0.08	+0.09	+0.11	+0.11	+0.11	+0.07	+0.02	-0.11	7
8	KF6274	153.90	23.3	9/29/53	.00	+0.01	+0.05	+0.08	+0.09	+0.11	+0.12	+0.12	+0.08	+0.03	-0.12	8
9	DF724	154.68	26.4	9/29/53	.00	+0.02	+0.05	+0.08	+0.09	+0.11	+0.11	+0.10	+0.07	+0.01	-0.11	9
10	KF6270	153.94	26.1	9/29/53	-0.01	+0.01	+0.04	+0.07	+0.08	+0.10	+0.11	+0.10	+0.08	+0.01	-0.11	10
11	KF6282	154.42	27.0	9/29/53	.00	+0.02	+0.06	+0.09	+0.11	+0.11	+0.12	+0.10	+0.07	+0.01	-0.11	11
12	KF6280	153.52	24.9	9/29/53	.00	+0.01	+0.05	+0.07	+0.09	+0.10	+0.11	+0.10	+0.07	+0.01	-0.11	12
13	KF6267	153.06	25.3	9/29/53	.00	+0.01	+0.05	+0.08	+0.10	+0.11	+0.12	+0.11	+0.08	+0.01	-0.12	13
14	KF6255	153.42	25.3	9/29/53	.00	+0.02	+0.05	+0.08	+0.10	+0.11	+0.11	+0.10	+0.08	+0.01	-0.11	14
15	KF6281	153.80	26.1	9/29/53	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.11	+0.10	+0.07	.00	-0.11	15
16	KF6248	153.17	25.3	9/30/53	.00	+0.01	+0.05	+0.08	+0.09	+0.11	+0.12	+0.11	+0.08	+0.01	-0.12	16
17	KF6237	152.87	25.7	9/30/53	.00	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.11	+0.08	+0.02	-0.11	17
18	DF679	154.35	27.1	9/30/53	.00	+0.01	+0.04	+0.07	+0.09	+0.10	+0.11	+0.10	+0.07	+0.02	-0.11	18
19	KF6313	153.50	23.7	9/30/53	.00	+0.02	+0.05	+0.08	+0.10	+0.11	+0.12	+0.11	+0.08	+0.01	-0.12	19
20	KF6275	153.70	24.9	9/30/53	.00	+0.01	+0.05	+0.08	+0.10	+0.11	+0.11	+0.10	+0.07	+0.02	-0.11	20
21	KF6276	154.69	22.5	9/30/53	.00	+0.02	+0.05	+0.08	+0.10	+0.10	+0.11	+0.09	+0.07	.00	-0.11	21
22	DF666	153.68	21.3	9/30/53	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.12	+0.08	+0.02	-0.12	22
23	KF6263	153.35	22.2	9/30/53	.00	+0.02	+0.06	+0.09	+0.10	+0.12	+0.12	+0.12	+0.08	+0.01	-0.12	23
24	KF6317	154.29	23.2	9/30/53	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.11	+0.08	+0.02	-0.12	24
25	KF6250	153.01	25.4	9/30/53	.00	+0.02	+0.06	+0.09	+0.11	+0.12	+0.12	+0.11	+0.07	+0.01	-0.12	25
26	KF6252	153.82	26.0	10/1/53	.00	+0.02	+0.05	+0.08	+0.10	+0.11	+0.11	+0.11	+0.07	+0.02	-0.11	26
27																27
28	KF6287	154.02	21.9	10/1/53	-0.01	.00	+0.03	+0.06	+0.08	+0.09	+0.10	+0.10	+0.07	+0.01	-0.10	28
29	KF6273	153.89	27.0	10/1/53	.00	+0.02	+0.06	+0.08	+0.10	+0.10	+0.11	+0.10	+0.07	+0.01	-0.11	29
30	KF6283	154.99	26.6	10/1/53	.00	+0.01	+0.05	+0.08	+0.09	+0.10	+0.11	+0.11	+0.08	+0.02	-0.11	30
31	DF691	153.75	24.7	10/1/53	.00	+0.02	+0.05	+0.08	+0.09	+0.11	+0.12	+0.11	+0.08	+0.02	-0.12	31

CA-14 CAMERA (CONT'D)

CAMERA		LENS & CONE	CPL		AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5	35°	37.5°	40°	42.5°	45°		CAMERA
32		DF685	154.69		28.7	10/31/53	.00	+0.01	+0.05	+0.08	+0.10	+0.11	+0.12	+0.11	+0.08	+0.02	-0.12		32
33		DF739	155.18		28.9	10/31/53	.00	+0.01	+0.04	+0.07	+0.08	+0.10	+0.11	+0.11	+0.08	+0.02	-0.11		33
34		DF3654	153.38		26.8	10/31/53	.00	+0.02	+0.06	+0.09	+0.10	+0.12	+0.12	+0.12	+0.08	+0.02	-0.12		34
35		XF6293	152.93		20.8	11/3/53	.00	+0.01	+0.05	+0.07	+0.09	+0.10	+0.11	+0.10	+0.08	+0.01	-0.12		35
36		DF677	153.00		23.5	11/3/53	.00	+0.01	+0.05	+0.08	+0.10	+0.11	+0.12	+0.11	+0.08	+0.02	-0.12		36
37		DF3368	154.41		24.6	11/4/53	.00	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.12	+0.08	+0.03	-0.12		37
38		XF2285	154.24		25.7	11/5/53	-0.01	+0.00	+0.03	+0.06	+0.08	+0.09	+0.10	+0.10	+0.08	+0.02	-0.10		38
39		DF3309	152.76		23.4	11/5/53	.00	+0.02	+0.06	+0.09	+0.11	+0.11	+0.12	+0.11	+0.08	.00	-0.12		39
40		DF662	154.35		25.8	11/13/53	.00	+0.02	+0.05	+0.08	+0.10	+0.11	+0.12	+0.11	+0.08	+0.01	-0.12		40
41		DF3280	152.26		25.6	11/15/53	.00	+0.02	+0.05	+0.08	+0.10	+0.11	+0.12	+0.11	+0.08	+0.01	-0.12		41
42		DF3359	153.25		24.4	11/13/53	.00	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.11	+0.07	+0.01	-0.11		42
43		DF3321	153.37		22.9	11/13/53	.00	+0.02	+0.05	+0.08	+0.10	+0.11	+0.12	+0.11	+0.07	+0.01	-0.12		43
44		DF3276	154.32		22.2	11/13/53	.00	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.11	+0.08	+0.03	-0.11		44
45		DF112	151.80		22.8	11/16/53	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.11	+0.07	.00	-0.12		45
46		XF2271	153.26		26.1	11/16/53	.00	+0.01	+0.04	+0.07	+0.09	+0.10	+0.12	+0.11	+0.08	+0.01	-0.11		46
47		DF3391	154.29		23.4	11/17/53	.00	+0.02	+0.06	+0.09	+0.10	+0.11	+0.12	+0.11	+0.08	+0.02	-0.12		47
48		DF695	152.88		23.1	11/17/53	.01	+0.04	+0.08	+0.11	+0.12	+0.13	+0.13	+0.12	+0.08	+0.01	-0.13		48
49		DF3378	154.64		27.1	12/28/53	.00	+0.02	+0.06	+0.09	+0.10	+0.12	+0.13	+0.12	+0.09	+0.03	-0.12		49
50		XF6331	153.66		23.8	12/28/53	-0.01	.00	+0.04	+0.07	+0.08	+0.10	+0.11	+0.11	+0.08	+0.03	-0.11		50
51		DF3291	153.98		24.8	1/18/54	.00	+0.03	+0.06	+0.10	+0.11	+0.13	+0.12	+0.12	+0.08	+0.01	-0.13		51
52		DF3345	154.44		24.1	12/28/53	.00	+0.01	+0.04	+0.07	+0.08	+0.10	+0.11	+0.11	+0.08	+0.03	-0.11		52
53		DF3760	154.87		26.3	12/28/53	-0.01	.00	+0.03	+0.06	+0.08	+0.10	+0.10	+0.11	+0.08	+0.03	-0.11		53
54		DF3348	154.04		26.3	12/30/53	.00	+0.01	+0.04	+0.07	+0.09	+0.10	+0.11	+0.10	+0.08	+0.01	-0.11		54
55		DF3323	153.45		25.4	12/31/53	.00	+0.01	+0.05	+0.08	+0.09	+0.11	+0.12	+0.12	+0.08	+0.03	-0.12		55
56		DF3294	152.84		27.1	1/18/54	.00	+0.02	+0.06	+0.09	+0.10	+0.12	+0.13	+0.12	+0.09	+0.02	-0.13		56
57		DF3362	153.86		24.2	12/28/53	.00	+0.01	+0.05	+0.08	+0.09	+0.11	+0.11	+0.09	+0.08	+0.03	-0.11		57
58		DF3379	154.58		24.8	12/28/53	.00	+0.01	+0.04	+0.07	+0.09	+0.10	+0.11	+0.11	+0.08	+0.02	-0.11		58
59		DF688	154.16		25.0	1/18/54	-0.01	+0.01	+0.04	+0.07	+0.08	+0.10	+0.11	+0.11	+0.08	+0.02	-0.11		59
60		DF3367	153.76		24.8	12/28/53	.00	+0.01	+0.04	+0.07	+0.09	+0.11	+0.12	+0.12	+0.08	+0.02	-0.12		60
61		XF6335	154.21		24.9	1/18/54	.00	+0.01	+0.04	+0.08	+0.09	+0.11	+0.12	+0.12	+0.08	+0.02	-0.12		61
62		DF3665	153.98		25.2	12/28/53	.00	+0.01	+0.05	+0.08	+0.10	+0.12	+0.12	+0.11	+0.08	+0.01	-0.12		62

CA-14 CAMERA (CONT'D)

CAMERA		LENS CODE	GFL	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
63		DF579	154.26	24.7	1/17/54	.00	+02	+06	+08	+10	+11	+12	+11	+08	+01	-12		63
64		XF6251	153.52	21.9	12/28/53	-.01	.00	+03	+06	+07	+10	+10	+11	+07	+02	-11		64
65		DF723	153.82	24.3	12/28/53	.00	+02	+05	+08	+10	+11	+11	+11	+08	+02	-11		65
66		DF3330	154.14	24.7	4/24/54	.00	+02	+05	+08	+10	+11	+12	+11	+08	+01	-12		66
67		DF558	155.20	24.9	4/23/54	.00	+02	+05	+09	+09	+12	+12	+12	+08	+02	-12		67
68		DF5226	155.16	24.4	4/24/54	-.01	+01	+04	+07	+08	+09	+10	+10	+07	+02	-10		68
69		DF152	154.76	27.7	4/23/54	-.01	.00	+03	+06	+08	+09	+10	+10	+08	+01	-11		69
70		DF3783	154.87	24.2	4/27/54	.00	+02	+06	+09	+10	+12	+12	+12	+08	+03	-12		70
71		DF586	152.49	23.1	4/23/54	-.01	.00	+04	+07	+08	+10	+11	+10	+07	+01	-11		71
72		DF3388	153.42	24.4	5/6/54	-.01	+01	+04	+08	+09	+11	+11	+11	+08	+02	-11		72
73		DF736	153.58	23.4	4/29/54	.00	+02	+06	+10	+11	+12	+12	+11	+08	+01	-12		73
74		DF5212	155.06	23.3	5/1/54	.00	+01	+05	+07	+09	+10	+11	+10	+08	.00	-11		74
75		DF122	154.26	24.0	4/23/54	.00	+01	+05	+08	+09	+11	+12	+12	+08	+02	-12		75
76		DF559	154.10	21.8	4/30/54	.00	+01	+04	+07	+09	+11	+11	+10	+07	+01	-11		76
77		DF5155	153.99	22.1	5/1/54	.00	+02	+04	+09	+11	+12	+13	+11	+08	.00	-13		77
78		DF5190	154.38	22.4	4/27/54	-.01	+00	+04	+07	+08	+09	+11	+10	+08	+01	-11		78
79		DF3666	154.72	23.8	4/29/54	.00	+01	+05	+08	+10	+11	+12	+11	+08	+01	-12		79
80		DF5184	154.29	22.5	4/27/54	.00	+02	+06	+09	+10	+12	+12	+11	+08	+01	-12		80
81		DF5244	154.20	23.2	5/1/54	.00	+01	+04	+07	+09	+10	+11	+10	+08	+01	-11		81
82		DF3297	154.02	23.1	4/29/54	.00	+02	+05	+08	+09	+11	+12	+12	+08	+03	-12		82
83		DF3690	153.85	23.2	4/30/54	.00	+01	+05	+08	+09	+11	+11	+11	+08	+02	-11		83
84		DF3386	154.67	24.9	4/24/54	.00	+01	+05	+08	+09	+11	+11	+12	+08	+03	-12		84
85		DF5174	154.31	22.3	5/1/54	.00	+02	+06	+09	+10	+11	+12	+11	+08	+01	-12		85
86		DF639	153.69	22.0	4/29/54	.00	+01	+05	+08	+09	+11	+12	+11	+08	+01	-12		86
87		DF5188	154.02	22.5	5/1/54	+01	+03	+07	+10	+11	+12	+13	+11	+07	.00	-13		87
88		XF602	154.78	22.3	4/29/54	.00	+01	+05	+08	+09	+11	+12	+11	+08	+02	-12		88
89		DF3683	154.98	21.2	4/24/54	.00	+01	+04	+07	+09	+11	+11	+11	+08	+02	-12		89
90		DF5220	155.04	23.8	4/28/54	.00	+02	+05	+08	+10	+11	+12	+12	+08	+02	-12		90
91		DF5152	153.95	22.6	4/26/54	-.01	.00	+03	+06	+07	+09	+10	+10	+07	+02	-10		91
92		DF5216	154.45	21.3	4/27/54	.00	+01	+04	+07	+09	+11	+11	+11	+07	+01	-11		92
93		DF3733	154.15	22.4	5/1/54	-.01	.00	+04	+06	+08	+09	+11	+09	+08	+00	-11		93

CA-14 CAMERA (CONT'D)

CAMERA		LENS CODE	CFL	AWAR	DATE	7.5°	15°	22.5°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°		CAMERA
94		DF3283	154.02	22.3	4/29/54	.00	+.01	+.05	+.09	+.10	+.11	+.11	+.10	+.08	+.01	-.11		94
95		DF7234	153.90	22.7	5/1/54	-.01	.00	+.03	+.06	+.08	+.09	+.10	+.10	+.08	+.03	-.10		95
96		DF3788	154.37	23.3	5/1/54	.00	+.02	+.05	+.09	+.10	+.11	+.12	+.11	+.07	+.01	-.12		96
97		DF3640	154.08	23.5	4/29/54	.00	+.01	+.05	+.08	+.09	+.11	+.12	+.11	+.08	.00	-.12		97
98		DF3339	154.64	22.9	1/18/54	.00	+.01	+.05	+.08	+.10	+.11	+.11	+.10	+.08	+.02	-.11		98
99		XP6284	153.21	21.4	12/28/53	.00	+.01	+.04	+.08	+.09	+.12	+.12	+.12	+.08	+.02	-.12		99
100		DF3351	155.21	26.5	1/18/54	-.01	+.01	+.03	+.06	+.08	+.11	+.10	+.09	+.08	+.01	-.10		100
101		XP6290	153.57	24.3	12/28/53	.00	+.01	+.04	+.08	+.09	+.11	+.12	+.12	+.08	+.02	-.12		101
102		XP2284	153.22	20.6	12/28/53	-.01	-.01	+.02	+.05	+.07	+.09	+.10	+.10	+.07	+.02	-.11		102
103		DF3333	154.35	25.0	12/28/53	+.01	+.02	+.06	+.09	+.10	+.12	+.12	+.12	+.08	+.02	-.12		103
104		DF3360	153.92	21.9	12/28/53	.00	+.02	+.06	+.09	+.11	+.11	+.11	+.11	+.08	+.01	-.11		104
105		XP6233	154.52	24.2	12/28/53	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.11	+.08	+.02	-.11		105
106		DF3669	154.30	22.9	12/28/53	.00	+.02	+.06	+.09	+.11	+.12	+.13	+.12	+.09	+.02	-.13		106
107		XP6330	154.18	25.5	1/18/54	.00	+.01	+.04	+.07	+.09	+.11	+.12	+.12	+.08	+.02	-.12		107
108		DF5205	153.38	22.4	4/22/54	.00	+.01	+.05	+.08	+.09	+.11	+.11	+.11	+.08	+.01	-.12		108
109		DF5229	153.82	22.7	4/22/54	.00	+.02	+.06	+.09	+.11	+.12	+.13	+.11	+.09	+.01	-.13		109
110		DF3724	154.58	24.2	4/22/54	.00	+.01	+.04	+.07	+.08	+.10	+.11	+.11	+.08	+.02	-.11		110
111		DF3737	153.56	21.6	4/22/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.08	.00	-.12		111
112		DF3779	154.69	24.0	4/24/54	+.01	+.03	+.06	+.09	+.11	+.12	+.12	+.11	+.07	.00	-.12		112
113		DF3686	155.33	23.6	4/24/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.08	+.01	-.12		113
114		DF3641	153.71	23.3	4/24/54	-.01	.00	+.03	+.07	+.08	+.10	+.11	+.10	+.08	+.01	-.11		114
115		XP274	153.92	21.6	4/17/54	.00	+.02	+.05	+.09	+.09	+.11	+.12	+.12	+.09	+.02	-.12		115
116		DF5161	153.30	21.5	4/22/54	-.01	.00	+.03	+.06	+.08	+.09	+.10	+.09	+.07	+.01	-.10		116
117		DF599	154.16	21.9	4/22/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.12	+.08	+.02	-.12		117
118		DF642	154.70	24.1	4/22/54	+.01	+.03	+.07	+.11	+.11	+.13	+.13	+.13	+.09	+.03	-.13		118
119		DF5165	154.04	23.2	4/27/54	.00	+.02	+.06	+.09	+.10	+.11	+.12	+.11	+.08	+.01	-.12		119
120		DF5213	152.56	22.1	4/27/54	.00	+.01	+.05	+.08	+.09	+.11	+.12	+.11	+.08	+.01	-.12		120
121		DF3722	153.49	21.8	4/30/54	.00	+.02	+.06	+.09	+.10	+.12	+.12	+.11	+.08	+.01	-.12		121
122		DF5337	153.95	23.9	5/1/54	.00	+.01	+.04	+.07	+.09	+.09	+.10	+.09	+.07	.00	-.10		122
123		DF3672	153.35	22.3	4/29/54	.00	+.02	+.05	+.09	+.10	+.11	+.12	+.11	+.07	+.01	-.12		123
124		DF5168	153.44	24.0	5/1/54	.00	+.02	+.06	+.09	+.11	+.12	+.12	+.11	+.08	+.01	-.12		124

CA-14 CAMERA (CONT'D)

[illegible]

B-5



THE CALIBRATION OF MILITARY
CARTOGRAPHIC CAMERAS

TECHNICAL NOTE 66-2

ADDENDUM NUMBER 1

by

Robert M. Spriggs



W-PAFB, OHIO

FIELD OFFICE

**U. S. ARMY ENGINEER GEODESY, INTELLIGENCE
AND MAPPING R. & D. AGENCY**

TECHNICAL NOTE 66-2

ADDENDUM NUMBER 1

THE CALIBRATION OF MILITARY CARTOGRAPHIC CAMERAS

by

ROBERT M. SPRIGGS

WRIGHT-PATTERSON AIR FORCE BASE, OHIO

3 January 1967

ADDENDUM NUMBER 1

TO

"THE CALIBRATION OF MILITARY CARTOGRAPHIC CAMERAS"

TECHNICAL NOTE 65-2

1. Additional calibration certificates for cartographic cameras in the USAF inventory have been received by the GIMRADA Field Office. Some of these cameras were developed for research purposes; therefore, Appendix G is added to include cameras which are not made in production quantities. Many of these cameras were developed by modifying KC-1 cameras.

2. The KC-6A camera is designed and produced specifically for the USQ-28 mapping and geodetic subsystems. Two cameras are installed in each system. The cameras have many features that were not found in previous mapping cameras in the Air Force inventory:

- a. Platen reseau, 25 points
- b. Image motion compensation
- c. Verticality readout referenced to the Hipernas II Inertial Reference Unit
- d. Synchronous operation of two cameras
- e. Automatic Exposure Control

Present plans are for the purchase of 10 ea. KC-6A cameras and 24 ea. KC-6A magazines. The camera was designed for the USQ-28 system in the RC-135A aircraft and is not readily adaptable to other photographic systems.

3. Changes and additions to Appendices:

a. Appendix A:

Place (1) in front of T-11 cameras with serial numbers 51-211 and 51-212. Add the attached data.

b. Appendix B:

Add the attached data.

c. Appendix D:

Additional information on the KC-1B cameras is attached. The maximum asymmetry between 0° and $42\frac{1}{2}^\circ$ may be added in the unused column

to the right of the page. The maximum radial distortion in the format of each camera is included for your information.

d. Appendices F and G are new additions to the report.

R. M. Spriggs

APPENDIX "A"

ALP 2-211 54 100

APPENDIX "B"

<u>CAMERA</u>	<u>DATE</u>	
53-087	9/25/61	Deleted from Inventory - Modified to KC-3 camera.
	8/3/61	Deleted from Inventory - Modified to KC-3 camera.
53-059	3/27/63	Deleted from Inventory - Modified to KC-4 63-1001

APPENDIX D

<u>KC-1B</u>	<u>Maximum Asymmetry mm</u>	<u>Maximum Distortion mm</u>
54-460	.006	.008
59-001	.009	.011
002	.023	.016
003	.012	.010
004	.008	.012
005 (1)	.007	.015
005 (2)	.006	.007
006	.009	.010
007	.005	.010
008	.005	.010
009	.011	.012
010	.011	.010
011	.008	.008
012	.009	.008
013	.007	.011
014	.007	.010
015	.010	.0010
016	.007	.0010
017	.009	.008
018	.010	.009
019	.011	.012
020		
021	.010	.010
022	.011	.010
59-031	.006	.008
032	.006	.010
033	.010	.012
034	.009	.010
035	.010	.009
036	.006	.010
037	.009	.010
62-042	.006	.012
043	.005	.010
62-047	.008	.010
048	.009	.010
049	.009	.010
050	.005	.010
052	.006	.008
054	.005	.013
056	.010	.009

<u>KC-1B</u>	<u>Maximum</u> <u>Asymmetry mm</u>	<u>Maximum</u> <u>Distortion mm</u>
62-058	.010	.010
059	.005	.010
060	.005	.009
63-001	.003	.010
002	.008	.007
003	.011	.010
004	.005	.009
005	.006	.010
006	.010	.009
007	.009	.010
008	.005	.008
009	.008	.007
010	.006	.012
011	.007	.010
012	.004	.010
013	.005	.009
014	.003	.009
015	.007	.010
016	.005	.006
017	.006	.010
018	.007	.010
019	.004	.010
020	.005	.012
021	.009	.012
022	.006	.010
023	.006	.010
024	.010	.010
025	.006	.010
026	.005	.009
027	.008	.011
028	.009	.008
029		
030	.005	.010
031	.006	.009
032	.007	.009
033	.003	.010
034		
035	.007	.011
036	.006	.012
037	.005	.010
038	.006	.012
039	.005	.009
040		
041	.010	.014
042	.006	.011
043	.008	.011
044	.004	.009
045		
046	.009	.011
047	.009	.015

<u>KC-1B</u>	<u>Maximum</u> <u>Asymmetry mm</u>	<u>Maximum</u> <u>Distortion mm</u>
63-048	.008	.009
049	.010	.012
051	.006	.011
052	.009	.009
053		
054	.005	.009
055	.009	.012
056	.008	.014
057	.009	.013
058	.006	.013
059	.008	.015
060	.010	.013
061	.008	.012
062	.006	.013
063	.009	.013
064	.009	.010
065	.003	.010
066	.006	.012
067	.005	.011
068	.007	.009
069	.009	.012
070	.009	.012
071	.007	.012
072	.007	.010
073	.010	.010
074	.007	.008
075	.008	.013
076	.007	.013
077	.007	.012
078	.006	.012
079	.010	.013
080		
081	.004	.010
082	.010	.010
083	.009	.014
084	.010	.012
085	.006	.012
086	.009	.014
087	.009	.013
088	.007	.011
089	.010	.012
090	.005	.011
091	.009	.011
092	.010	.015
093	.005	.010
094	.006	.011
095	.009	.010
096	.007	.013
097	.004	.011
098	.005	.010
099	.004	.011
100	.010	.015

<u>KC-1B</u>	<u>Maximum Asymmetry mm</u>	<u>Maximum Distortion mm</u>
63-101	.009	.012
102	.003	.009
103	.010	.012
104	.006	.010
105	.010	.014
106	.010	.015
107	.006	.009
108	.009	.011
109	.005	.007
110	.006	.009
111	.005	.011
112	.006	.014
113	.009	.012
114	.010	.013
115	.006	.011
116	.007	.010
117	.010	.013
118	.003	.011
119	.008	.013
120	.009	.009
121	.009	.014
122	.004	.010
123	.007	.011
124	.008	.014
125	.007	.010
63-141	.009	.012
142	.008	.009
143	.009	.008
144	.007	.015
145 (2)	.006	.013
145 (1)	.006	.011
146	.005	.010
147	.007	.008
148	.009	.014
149	.007	.013
150	.007	.010
151	.009	.011
152	.009	.009
153 (2)	.011	.015
153 (1)	.009	.008
154	.008	.011
155	.009	.009
156	.010	.011
157	.007	.009

APPENDIX "F"

AF-107-5-JAN 64 200

APPENDIX "G"

AF-WP-3-JUL 64 200

DISTORTION & RESOLUTION CHARACTERISTICS OF CARTOGRAPHIC CAMERAS IN THE RC-135A/USQ-28 MAPPING SYSTEM

KC-6A Camera Serial Number	Geocon IV Lens No.	Filter Number	Max Tangential Distortion	Max Radial Distortion	Asymmetry	Photo Res. AWAR (lines/mm)
64-001	111	101	.006	.006	.005	41.3
64-002	110	103	.003	.008	.006	42.4
64-003	109	102	.006	.007	.005	41.8
64-004	113	107	.005	.007	.005	45.0
64-005	112	109	.008	.008	.005	41.9
64-006	105	111	.003	.008	.005	42.8
64-007	106	106	.003	.010	.012 High	38.3
64-008	102	110	.008	.010	.016 High	43.0
64-009 (spare body)	107	105	.007	.010	.007	42.4
64-010 (spare body)	108	104	.006	.008	.005	39.4
68-011 (spare body)	101	113	.007	.007	.004	39.1