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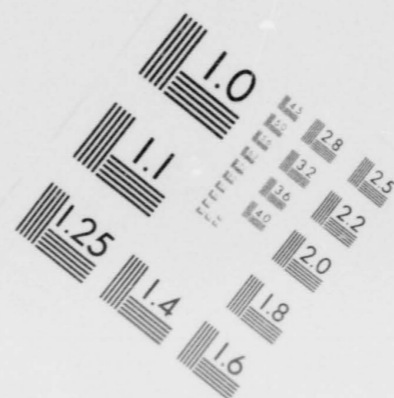
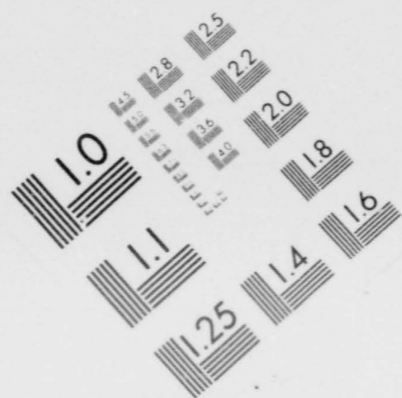
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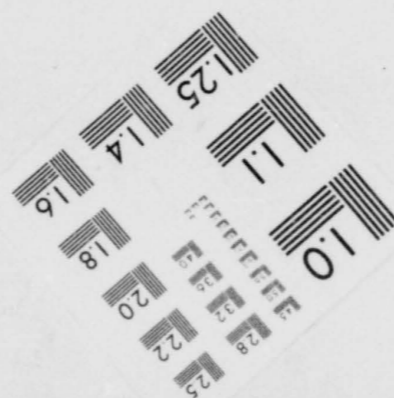
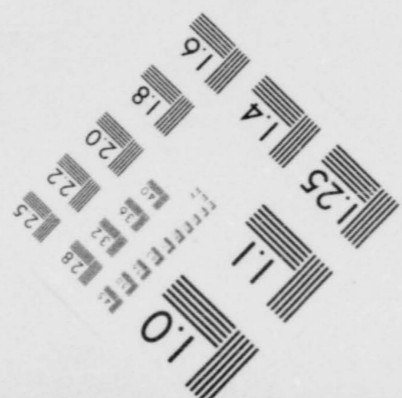
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TO BE RETURNED
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5445
FILE NO.
12-1-21

P-7 AIRPLANE

CLASSIFICATION CHANGED TO
[REDACTED]
By authority of the
Commanding General, [REDACTED]
By *AMC AIRPLANE dtd*
20 3/17/50
Date *26 3/17/50*

EB Stevenson
LT Col USAF

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Initials: CMT

Date: 29 DECEMBER 1945

CASE HISTORY

OF THE

F-7 AIRPLANE

F-7 is the designation given to the B-24 airplanes which were modified for photographic reconnaissance purposes. F-7 modifications included the following:

- XF-7 - a B-24H with 11 cameras
- F-7 - B-24H with 3 cameras in nose, 3 in rear bomb bay, ball and tail turrets installed.
- F-7A - B-24J with 3 cameras in nose, 3 in rear bomb bay, ball, tail and nose turrets installed.
- F-7B - B-24J with the same turrets as the F-7A all cameras in rear bomb bay.

This case history consists of (1) digest of significant documents available from the files of Air Technical Service Command, Wright Field, and (2) copies of the digested documents.

Classified documents are included herein and, therefore, compliance with pertinent sections of AR-380-5 is necessary.

Compiled by
Historical Office
Air Technical Service Command
Wright Field
August 1945

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SUMMARY

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SECRETSUMMARY OF THE F-7 AIRPLANE PROJECT

- Conferences held in February 1943 concerning the problem of providing adequate aerial photographic reconnaissance emphasized the need, especially in the Southwest Pacific area, for a long range photographic airplane capable of a high order of navigational ability. The B-24 appeared to be the best airplane available from the aircraft then on production lines and probably would, with sufficient modification, be adequate for all theatres except North Africa. A single B-24 was accordingly made available to the Materiel Command, Washington, for conversion to a photographic airplane. In the original directive of 12 February 1943 the Directorate of Photography, Washington, specified an 11 camera installation of varying focal lengths, increased armament, and numerous minor alterations designed to make the airplane more satisfactory for the accomplishment of aerial photographic missions.
- (1,2) (1)

- The director of Military Requirements, Washington, forwarded the B-24 (F-7) directive to the Materiel Command with the suggestion that the proposal be given thorough preliminary consideration and evaluation previous to the expenditure of much labor or material on the modification. He indicated that "at first glance" it would appear that an airplane modified according to the directive of 12 February 1943 would probably have both its range and service ceiling reduced appreciably rather than increased.
- (3) (3)

- Preliminary study by representatives of the Office, Director of Photography, and of the Materiel Command testified to the feasibility of the proposed modification, and on 5 March 1943 the Materiel Command issued CTI-1217 authorizing modification of the first B-24 on the project at the Materiel Center, Wright Field. Subsequent discussions, however, resulted in transfer of the prototype to Braniff Airways, Dallas, Texas.
- (4) (5,6,8)

- CTI-1217 had indicated that an additional 86 B-24 airplanes would probably be modified for photographic purposes following satisfactory tests on the first article. The Photographic Section, Requirements Division, Washington, suggested that this arrangement would unduly delay production and that with proper authority the modification center could immediately begin planning production and fabricating or purchasing necessary parts for the additional 86 airplanes. The Materiel Division, Washington, on 6 April 1943, "authorized but did not direct" the Materiel Command, Wright Field, to start modifications on the remaining 86 B-24 airplanes previous to completion and flight testing of the first article. Work was not actually begun on the airplanes, however, until some time after May 1943, when the project was transferred to the Lockheed modification Center, Dallas, Texas.
- (4) (8) (9,10) (13)

- On 26 April 1943, Photographic Requirements Section, Requirements Division, recommended that the prototype B-24 photographic airplane be sent to Eglin Field, Florida, for an accelerated service test of five days duration and to the Army Air Forces School of Applied Tactics, Orlando, Florida, for an additional three-day period. As a result of these tests and of further experience at the modification center the Braniff prototype was abandoned as impractical and work was commenced on a new prototype, which eventually evolved into a six camera installation.
- (11,12) (18,30) (32,33)

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(20,22,23)
(41)

After numerous delays resulting from parts and materials shortages, frequent engineering changes, the necessity for incorporating theatre modifications, and the lack of an adequate priority for the project, a prototype was finally completed at the Lockheed-Dallas Modification Center.

(32,38,41)

Four F-7's were completed at this locality, substantially in accordance with the directive of 2 August 1943, and were delivered to photographic squadrons. The original XF-7 was also made operational for training purposes only.

(40)
(Delivery
Chart Appen-
dix)

Emphasis at the Lockheed center on the P-38 range extension program resulted in reallocation of the F-7 project in September 1943, to the Northwest Airlines Modification Center, St. Paul, Minnesota, and the Consolidated Vultee Modification Center, Tucson, Arizona. It was hoped that the division of the work would enable the two centers to complete the modification of 76 airplanes by the last of November 1943. Delivery charts indicate the over-optimism of this figure, however.

(41)
(54)
(43,44)
(45)

When further tests indicated that nose turrets were necessary on the F-7 modification, Lt. Col. Madaeu, Operations Commitments and Requirements, Washington, arranged to trade B-24D's already assigned to the project for B-24J's which were equipped with the nose turrets. This airplane, with three cameras in the nose and three in the rear bomb bay, became the F-7A modification. Work progressed satisfactorily on the mockup at St. Paul where partial modification of all airplanes on the project was carried on concurrently. Photographic personnel of Requirements Division, OC&R, Washington indicated approval of the St. Paul F-7A mockup on 15 November 1943.

(40)
(51)

Although work at St. Paul was apparently going forward satisfactorily, the F-7 project was further divided in an effort to expedite deliveries, and a portion of the work was assigned to the Martin-Omaha Modification Center, Omaha Nebraska, approximately 10 January 1944. The Martin-Omaha project was shortlived, however, and included only 18 F-7 modifications, with termination announced 23 January 1944.

(48,50,53,55)
(52,60)
(54)

Further tests and service experience with the F-7 aircraft indicated the desirability of the additional alterations, removal of the tri-metrogon camera installation to the camera bay and additional waterproofing of the camera compartment. Approval for the former change, which would decrease necessary modification time, provide much-needed space for the navigator, and result in a camera installation easier to operate and maintain in flight, was granted 27 January 1944 with the stipulation that the change be accomplished with a minimum of interference with delivery schedules. The designation F-7B was assigned to B-24's incorporation this change, which constituted the last major alteration of the basic F-7 modification.

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(60) Air Service Command, Patterson Field, devised kits to facilitate the change of location of the tri-metrogon camera installation in F-7 aircraft already in service.

(67) On 16 October 1944 Requirements Division of OC&R, Washington, indicated that communications from the Far East Air Force included a request for F-7's equipped with AN/APS-15 radar and provisions for photographing an auxiliary radar scope. The Materiel Division was asked to undertake a study to determine the feasibility of this H2X installation, as it was called, in the F-7 and the length of time which would be required to complete a mockup.

(69, 72, 74) After Wright Field had issued TI-2007 dated 16 November 1944, authorizing the F-7 H2X mockup, and after the Northwest-St. Paul Modification Center had studied the problem and reported that a mockup could be completed by 1 February 1945, Aircraft Projects Branch, Materiel and Services, Washington, stated that all engineering data was already completed and that an H2X mockup would not be necessary. Five F-7's were made available immediately for H2X modification. At this time the major portion of the F-7 program had been scheduled into the Consolidated-Vultee-Tuscon Modification Center. However, delivery charts indicate that the seven F-7 airplanes which were actually converted to H2X were modified at St. Paul.

(Delivery)
Chart
(Appendix)

(84) The F-7 project experienced a decrease in 1945 compared to the previous year, and was scheduled to terminate 15 August 1945, a date which was expected to mark the end of the entire B-24 modification program. A total of 216 B-24 aircraft were converted and delivered as F-7's in the period from August 1943 to August 1945.

(Delivery)
Chart Appendix)

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DELIVERY CHART

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F-7 Airplane Deliveries
(B-24)

Year & Mod.Center	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
1943													
Dallas								1		4			5
St.Paul												11	11
1943 Totals	0	0	0	0	0	0	0	1	0	4	0	11	16
1944													
Omaha			2	7	7	2							18
St.Paul	27	32	2	1	16	13	12	4					107
Tucson		1										4	5
1944 Totals	27	33	4	8	23	15	12	4	0	0	0	4	130
1945													
Tucson	5	7	8	8	2		15	25					70
1945 Totals	5	7	8	8	2		15	25					70

Grand Total 216

Note 1:
Conversion From Straight "F-7" to "F-7 H2X"

1945
St.Paul 2 2 3

Note 2:
Tucson Aps. As Factory Deliveries From Above

TOTALS: -	1944 -	4
	1945 -	34
	Total	38

10-10-45
Chart prepared by
Mr. J.V.C. Gregory
Modification Control Unit
Production Section

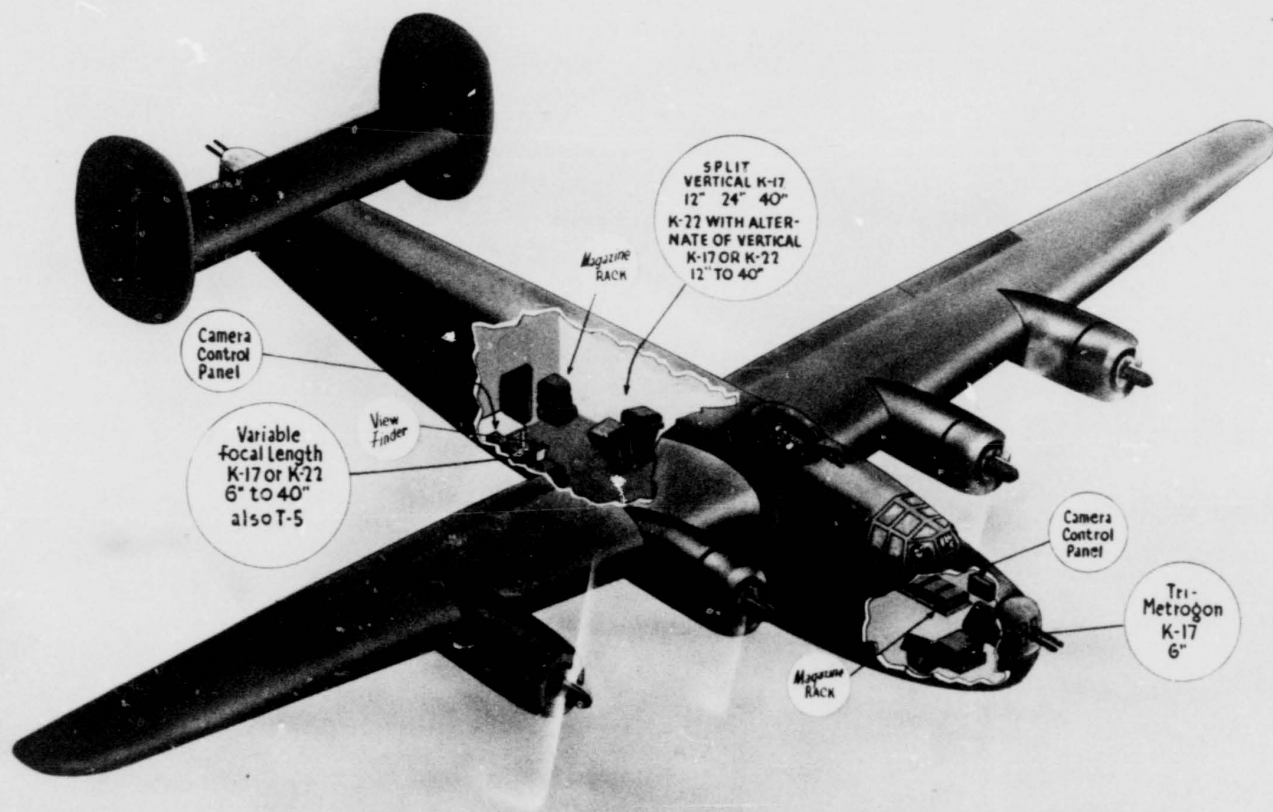
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PHOTOGRAPH

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F-7A PHOTOGRAPHIC AIRCRAFT

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DOCUMENT BRIEF

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1. (C) Ltr. 12 Feb. 1943
Fr: Col. Minton W. Kaye,
Dir. Photography, Wash.
To: CG, Mat. Com., Wash.
Thru: Dir. Mil. Req.
(File: Central Files)

Col. Kaye, Dir. Photography, stated that all Photo Reconnaissance Squadrons (Heavy), formerly Photo Reconnaissance Squadrons, Mapping, would be equipped with B-17 or B-24 type aircraft. One B-24 would be made available to WF for photographic modification according to characteristics which Col. Kaye outlined in detail.

A 6 inch tri-metrogon installation was specified, using three K-17 cameras with A-5 or A-9 magazines. A 24 inch tri-camera installation, 3 K-18's with 24 inch focal length lenses and A-7 or A-8 magazines, also was desired. The third tri-camera installation was to be 40 inch K-15A or K-22 cameras. In addition, Col. Kaye specified a single vertical camera installation which would accommodate variable focal lengths, and a flight-line orientation camera. The necessary intervalometers and other apparatus for operating the cameras were also specified in detail along with oxygen, armament and other standard installations. Armament was to be somewhat increased over the standard B-24. The entire project was accorded highest priority.
2. (S) R&R-1, 13 Feb. 1943
Fr: Col. Minton W. Kaye,
Dir. Photography, Wash.
To: Dir. Mil. Req., Wash.
Thru: Dir. Tech. Services
(File: M&S)

Conference on photo reconnaissance had revealed the fact that the B-24 airplane could perform satisfactory photo reconnaissance every place except N. Africa. Modified to include sufficient cameras and gasoline capacity it would be satisfactory for most long range missions. Range and operational ceiling were to be extended at the sacrifice of specialized bombing equipment. The Director of Photography suggested that conversion could be performed more efficiently on a single production line set up especially for the purpose.
3. (C) R&R-1, 20 Feb. 1943
Fr: Maj. Gen. Davenport Johnson
Dir. Mil. Req., Wash.
To: Mat. Com., Wash.
(File: Central Files)

Dir. Mil. Req. forwarded Dir. Photography's suggestions on the photographic B-24 to the Materiel Command. He suggested a careful consideration of the characteristics which "at first glance" would appear to reduce the range and service ceiling of the aircraft. The lack of thorough consideration of the proposed modification might result in the expenditure of much materiel and labor on an airplane which would fall short of requirements. B-25 airplanes modified for a like mission "a couple of years ago" were cited as an example of such a failure.

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9. (C) Ltr. 6 April 1943
Fr: Brig. Gen. B.W. Chidlaw,
Chief, Mat. Div.,
AC/AS, MM&D, Wash.
To: CG, Mat. Com., WF
Attn: Tech. Exec.
(File: Central Files)
- Mat. Div., (Wash.) "authorized but did not direct" WF to start modifications on the remaining 86 B-24 airplanes before completion of the prototype. Gen. Chidlaw stated that such action was "in accordance with policies followed since the reorganization of the Army Air Forces, "but that "the soundness of such procedure from an over-all engineering and production standpoint" was a matter for decision by the Materiel Command. The decision to request the step had been coordinated with all offices in Wash. interested in the project.
10. (C) CTI-1217, Add. 1,
19 April 1943
(File: Central Files)
- CTI-1217, Addendum No. 1 initiated action to start modification of the additional B-24 airplanes without waiting for the completion and flight testing of the first article. This action was taken in accordance with a letter from Chief, Mat. Div., AC/AS, MM&D (Wash).
11. (C) Ltr. 15 April 1943
Fr: Col. Dudley W. Watkins,
Chief, Proof Dept., AAFFGC,
Eglin Field, Valparaiso, Fla.
To: AC/AS, OC&R, Wash.
Attn: Req. Div., Liaison Br.
(File: Central Files)
- In view of the importance of the photo B-24 to the success of mapping and reconnaissance photography and in view of the large number of aircraft involved in the project the Proof Dept. suggested that the prototype be sent to Eglin Field for a five-day accelerated test.
12. (C) R&R-2, 26 April 1943
Fr: OAC/AS, Operations, Req.
Div., Photo. Req. Sect.,
Wash.
To: OAC/AS, MM&D, Wash.
(File: Central Files)
- Req. Div. (Wash) recommended that the prototype photo B-24 be sent to Eglin Field for accelerated 5-day technical tests and to AAFFSAT for 3-day tactical tests and a demonstration. Upon completion of the tests the airplane was to be returned to the control of the Materiel Command at Dallas, Texas.
13. (U) TT 29 April 1943
Fr: Mat. Com., WF
To: AAFFRR, Lockheed - Dallas
Mod. Center, Dallas, Texas
(File: Contract Files)
- Mat. Com. (WF) notified AAFFRR, Lockheed-Dallas, that the center would shortly be directed to modify 86 B-24 airplanes according to the Braniff Airways prototype. The center was directed to make such advance preparation as would be possible on the basis of information obtainable from Braniff.

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14. (U) R&R-1, 3 May 1943
 Fr: Photo Req. Sect., Req. Div., AC/AS, OC&R, Wash.
 To: Allocations and Programs Div., AC/AS, OC&R, Wash.
 (File: M&S)
- Photo Req. Sect. (Wash.) indicated that an additional B-24 would be needed at the Lockheed-Dallas Mod. Center to provide four photo B-24's for Flight A of the Eighteenth Photo. Squadron, and to still leave the prototype for future production. One additional airplane was accordingly requested from Peterson Army Air Field, Colorado Springs, Col.
15. (U) TT 17 May 1943
 Fr: AAFRR, Lockheed-Dallas Mod. Center
 To: CG, Mat. Com., WF
 (File: Contract Files)
- AAFRR indicated that work on the photo B-24 was being "seriously hampered" by refusal of North American and Consolidated-Vultee to furnish necessary parts. He stated that no schedule of production could be met unless parts were "forthcoming immediately."
16. (R) TT 19 May 1943
 Fr: Mat. Div., Wash.
 To: CG, Mat. Com., WF
 Attn: Prod. Div., Airc. Mod. Sect.
 (File: Central Files)
- Mat. Div. (Wash.) directed that, until the photo mock up of the B-24D was completed and fully approved, no more B-24's beyond the four then at Dallas were to be allocated to the project.
17. (C) R&R-1, 25 May 1943
 Fr: AC/AS, OC&R, Req. Div., Photo. Req. Sect., Wash.
 To: AC/AS, MM&D, Mat. Div., Wash.
 (File: Central Files)
- This detailed R&R superseded the original directive on B-24 photo modification dated 12 February 1943. The principal deviations from the original directive included:
- (1) The rear bomb bay was to be converted into a camera bay.
 - (2) Installation, deletion or relocation of standard equipment was permitted if it favorably affected the photographic performance of the airplane and did not adversely affect its structural or aerodynamic characteristics.
 - (3) An alternate 12 inch split vertical camera installation was specified in place of the 40 inch tri-camera installation if desired.
 - (4) More detailed specifications were given for the special tri-camera mounts.
18. (U) TT 31 May 1943
 Fr: AAFRR, Lockheed-Dallas Mod. Center
 To: CG, Mat. Com., WF
 Attn: Chief, Photo. Lab.
 (File: Central Files)
- The XP-7 contract with Braniff Airways was terminated and the airplane was to be moved to the Lockheed Mod. Center where it would be placed in the line at a later date. The F-7A farthest advanced at the Lockheed center now become the prototype. The following represented the status of this airplane:
- | | % Complete |
|---------------------------------------|------------|
| Design & Fabrication of camera mounts | 78% |
| Camera Bay | 50% |
| Ball turret installation | 10% |
| Oxygen installation | 80% |

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The Lockheed center estimated that the entire airplane would be completed by 15 July unless the B-17 was accorded higher priority.

19. (S) Ltr. 7 June 1943
Fr: Col. E.W. Napier, Chief,
Airc. Br., Op. Div.,
AC/AS, OC&R, Wash.
To: CG, ASC, Patterson Field
(File: Central Files)
- Operations Division of OC&R (Wash) indicated that photo B-24's were to have theater modification for Fifth and Thirteenth Air Forces. Movement of basically modified airplanes and of those completely modified was to be accomplished by Peterson Army Air Base, Colorado Springs, Colorado.
20. (C) CTI-1355, 8 June 1943
(File: Central Files)
- CTI-1355 initiated action to modify B-24 aircraft allocated to photographic squadrons in accordance with the latest directive. [See digest no. 17.]
21. (C) TT 14 June 1943
Fr: Airc. Mod. Sect., Mat.
Com., WF
To: AAFRR, Lockheed-Dallas
Mod. Center
(File: Central Files)
- The complete B-24 photo modification directive was forwarded by teletype to the AAFRR at the Lockheed Mod. Center. A Mat. Com. Photo. Lab. representative was to be available for consultation on the modification and the experience gained on the Braniff Airways prototype was to be made available. Material for the project would be shipped to Dallas in 20 ship lots in order to preclude accumulation of excess material.
22. (U) Ltr. 17 June 1943
Fr: Brig. Gen. F. O. Carroll,
Chief, Eng. Div., WF
To: Devel. Eng. Br., Mat. Div.,
AC/AS, MM&D, Wash.
(File: Central Files)
- Preliminary investigations appeared to indicate that only six M-46 photoflash bombs could be carried in the XF-7 modification rather than the proposed requirement of ten. The installation would also necessitate postponement of F-7 delivery dates. In view of the immediate need for the F-7 in combat theaters, the Eng. Div. suggested the employment, instead, of standard bombardment aircraft for night photographic missions.
23. (U) TT 21 June 1943
Fr: AAFRR, Lockheed-Dallas
Mod. Center
To: CG, Mat. Com., WF
Attn: Chief, Photo. Lab.
(File: Central Files)
- The AAFRR at the Lockheed Center stated that work on the F-7 had been delayed because of contractor's inability to secure materials and parts due to lack of a priority for the project. Requests for such priority had been made "repeatedly and insistently." The situation was termed critical and the representative stated that work would have to be suspended if immediate action was not forthcoming. The contractor stated that if all parts necessary could be delivered by 23 June the first aircraft could be completed by 15 July, the next two by 1 August and a fourth by 10 August.

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4. (C) CTI-1217, 5 March 1943
(File: Central Files)
- The Asst. C/S (E), Mat. Com. (Wash.) directed WF to take the action necessary to comply with the Dir. Photography's letter on the B-24 eleven-camera photographic modification. The preliminary study suggested by Dir. Mil. Req. had indicated that Col. Rave's proposed modifications were feasible. Verbal information from the Directorate of Photography indicated that a total of 86 B-24 airplanes might be "expected to be modified following satisfactory photographic flight tests of the first article."
5. (C) IOM 11 March 1943
Fr: Col. G.W. Goddard,
Chief, Photo. Lab., Eng.
Div., WF
To: Chief, Prod. Div., WF
Attn: Airc. Mod. Sect.
(File: Central Files)
- Col. Goddard, Chief of the Photo. Lab., (WF) suggested that the B-24 photo modification be accomplished at the Consolidated Modification Center, Ft. Worth, Texas, rather than at WF. In this way all engineering data would be in the hands of the mod. center, and some man-hours of labor could probably be saved by diverting a partially completed aircraft from the production line to the center.
6. (C) 1st Ind. 11 March 1943
Fr: Col. B. L. Boatner, Chief,
Airc. Mod. Sect., Prod.
Div., WF
To: Chief, Eng. Div., WF
(File: Central Files)
- Airc. Mod. Sect. (WF) expressed the opinion that the proposed photographic B-24 was too complicated for modification centers and would, if introduced in a center, seriously disarrange "present modification production commitments." Col. Boatner suggested that the center selected for the production project should be furnished advance engineering information as rapidly as possible, and that proper steps should be taken to order contractor's materials and GFE.
7. (C) TT 20 March 1943
Fr: Asst. C/S (E), Wash.
To: Chief, Eng. Div., WF
(File: Central Files)
- The Asst. C/S (E), (Wash.) informed the Eng. Div. (WF) that all airplanes for photographic modification on the F-7 project would be B-24-D's.
8. (C) R&R-1, 5 April 1943
Fr: Photo. Sect., Tactical
Serv. Br., Req. Div., Wash.
To: Mat. Div., AC/AS, MM&D, Wash.
(File: Central Files)
- Photo. Sect. of Req. Div. (Wash.) requested that Devel. Eng. Br. of Mat. Div. (Wash.) "issue necessary directives" to start photo modification of the remaining 86 B-24's without waiting for completion of flight tests on the prototype (being modified at Braniff Airways, Dallas, Tex.) as required in the original directive.

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24. (C) Ltr. 22 June 1943
 Fr: Brig. Gen. F. O. Carroll,
 Chief, Eng. Div., WF
 To: CG, ASC, Patterson Field
 (File: Central Files)
- Mat. Com. (WF) enumerated and requested the photographic equipment for the F-7 installation.
- | Quantity | Article |
|-------------------------------|-------------------------------|
| 3 | K-17 6 inch cameras |
| 6 | A-5A magazines |
| 3 | K-18 cameras |
| 6 | A-7 or A-8 magazines |
| 3 | K-22 40 inch cameras |
| alternate or
installations | |
| 3 | K-17 modified 40 inch cameras |
| 2 | K-17 12 inch cameras |
| 4 | A-5A magazines |
| 1 | T-5 camera |
| 2 | T-5 magazines |
| 1 | K-24 camera |
| 2 | K-24 magazines |
25. (U) TT 29 June 1943
 Fr: Mid-W. Proc. Dist.,
 Prod. Div., Mod. Sect.
 To: CG, Mat. Com., WF
 Attn: Chief, Mod. Sect.
 (File: Central Files)
- Midwestern Proc. Dist. suggested that the F-7 modified by Braniff Airways be removed from the F-7 project. It was felt that the work necessary to make the airplane suitable for modification would divert too much effort from other F-7 airplanes. The airplane had arrived at the Lockheed Mod. Center in "rather poor condition."
26. (C) IOM 2 July 1943
 Fr: Col. H. E. Baisley, Chief,
 Photo. Lab., WF
 To: Chief, Armament Lab., WF
 (File: Central Files)
- Photo. Lab. (WF) informed Armament Lab. (WF) that OC&R considered six photoflash bombs satisfactory for the F-7.
27. (U) Ltr. 3 July 1943
 Fr: Chief, Prod. Eng. Sect., WF
 To: Dist. Supvr.,
 Mid-W. Proc. Dist.
 (File: Central Files)
- The request of Midwestern Proc. Dist. for permission to remove the Braniff Airways XF-7 prototype from the F-7 project was denied by Mat. Com.

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28. (U) Ltr. 7 July 1943
 Fr: Asst Base Manager, Operationseffort would be made to complete the first F-7 by
 Lockheed Airc. Corp., 20 July. It was the contractor's opinion that the
 Dallas, Texas. changes from a production B-24 might alter the flight
 To: AAFRR, Lockheed Airc. Corp., characteristics to a "very great degree," and Army in-
 Love Field, Dallas, Texas spection should be made and an Army test pilot furnish-
 (File: Contract Files) ed for initial flights. Contractor also stated that
 freezing of the B-24 photo directive would be "of
 great assistance."
29. (U) TT 19 July 1943
 Fr: Prod. Div., WF
 To: Prod. Br., Mat. Div., Wash. WF advised that installation of armored photo flash
 (File: Central Files) bombs as an alternate to the bomb bay gas tank in the
 photo B-24 was feasible but not advisable. Such an
 installation would delay deliveries, add 1,000 lbs,
 fixed weight, make the catwalk in the bomb bay useless,
 render the bomb bay practically useless as a means of
 escape, and increase rear bomb bay camera compartment
 heating difficulties.
30. (U) 2nd Ind. 19 July 1943
 Fr: Chief, Prod. Eng. Sect.,
 Mat. Com., WF
 To: Dist. Supvr., Mid-W.
 Proc. Dist.
 (File: Contract Files)
 Mat. Com. (WF) stated that flight characteristics of
 the photo B-24 should not have been affected by changes
 to the extent suggested in contractor's letter. How-
 ever, Col. Baisley of the WF Photo. Lab had agreed
 to test fly the prototype. Mat. Com. also indicated
 that "freezing" the directive would not be advisable,
 since modification of four other airplanes was being
 accomplished concurrently with the prototype. The
 contractor was again reminded of the necessity of
 expediting work on all five airplanes.
31. (C) R&R-1, 24 July 1943
 Fr: Recon. Br., Req. Div.,
 AC/AS, OC&R, Wash.
 To: AC/AS, MM&D, Wash.
 (File: M&S)
 Recon. Br. (Wash.) stated that the B-24 with bomb bay
 gas tanks weighed 66,000 lbs. with full load. This
 was considered excessive for photo airplanes, and it
 was requested that bomb bay tanks be eliminated on
 all B-24's with auxiliary self-sealing wing-tip tanks.
 The latter tanks were considered sufficient for all
 photo missions contemplated.
32. (C) R&R-1, 2 Aug. 1943
 Fr: AC/AS, OC&R, Req. Div.,
 Wash.
 To: AC/AS, MM&D, Wash.
 (File: Central Files)
 This R&R superseded all previous B-24 photo modifi-
 cation directives. A six-camera installation was now
 specified, consisting of a 6 inch tri-metrogon install-
 ation, a single vertical installation, and a choice
 of a 12, 24, or 40 inch split vertical installation
 utilizing K-17 or K-22 cameras. The balance of the
 R&R was substantially the same as previous directives.

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33. (C) CTI-1355, Add. 1,
6 Aug. 1943
(File: Central Files)
- CTI-1355, Addendum No. 1 initiated the action necessary to comply with the latest directive on the photo B-24, contained in the R&R of 2 August 1943 which set forth detailed instructions on the 6-camera F-7 modification.
34. (U) Ltr. 17 Aug. 1943
Fr: E.L. Taylor, Representative,
Exp. Eng., Photo. Lab., WF
To: CG, Mat. Com., WF
Attn: Director of Photo Lab.,
Exp. Eng. Div.
(File: Central Files)
- A progress report on the F-7A aircraft being tested at Eglin Field indicated the following significant features:
1. The tri-metrogon mount in the nose of the airplane would have to be redesigned and would probably have to be moved from the nose to the camera bay.
 2. The camera control, vacuum and heater systems and armament installations were apparently satisfactory.
35. (U) R&R-1, 20 Aug. 1943
Fr: AC/AS, OC&R, Req.
Div., Wash.
To: AC/AS, MM&D, Wash.
(File: M&S)
- Eglin Field tests indicated that a nose turret was needed on the F-7 rather than the present nose gun installation. To expedite the modification, Req. Div. (Wash.) suggested the following:
- 1) 25 B-24's should be modified immediately at Dallas except for the tri-metrogon nose installation.
 - 2) The aircraft should next be sent to Oklahoma City for installation of nose turrets.
 - 3) The airplanes should then be returned to Dallas for final tri-metrogon installation.
 - 4) B-24's with nose turrets should be delivered to Dallas at the earliest possible date.
36. (U) R&R-2, 3 Sept. 1943
Fr: Prod. Br., Mat. Div., AC/AS,
MM&D, Wash.
To: Req. Div., AC/AS,
OC&R, Wash.
(File: M&S)
- WF was unwilling to proceed with the modification suggested in Comment 1 until a mock-up had been made. Prod. Br. (Wash.) requested information concerning the status of a complete mock-up of new F-7 requirements.

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37. (U) R&R-1, 3 Sept. 1943
 Fr: Recon. Br., Req. Div.,
 AC/AS, OC&R, Wash.
 To: Mat. Div., AC/AS,
 MM&D, Wash.
 (File: M&S)
- Col. Elliott Roosevelt, Recon. Br., OC&R (Wash.) stated that 15 to 18,000 man hours and 10 days to two weeks' time would be needed to make the Braniff prototype into an F-7 in accordance with the latest directive. He recommended that the airplane be made flyable (less auto-pilot) and assigned to PROTU for transition purposes.
38. (C) IOM 6 Sept. 1943
 Fr: Capt. E. H. Wynn
 Asst. Tech. Exec., WF
 To: Prod. Div., WF
 (File: Central Files)
- Prod. Div. (WF) was informed that three of the four B-24D airplanes at Dallas were to be modified in accordance with CTI-1355 Addendum No. 1. The Braniff prototype was to be modified sufficiently to make it flyable.
39. (U) TT 15 Sept. 1943
 Fr: Prod. Div., WF
 To: Prod. Br., Mat. Div., Wash.
 (File: Central Files)
- WF stated that no specific scheduling or planning could be accomplished until:
1. A specific and complete directive on all the latest requirements and recommendations was received.
 2. Information was received on which B-24's were to be converted to F-7's.
 3. Tuscon and/or the St. Paul Mod. Centers completed an approved F-7 mock-up.
40. (U) IOM 27 Sept. 1943
 Fr: Col. W. M. Morgan, Chief,
 Prod. Eng. Sect., WF
 To: Chief, Photo. Lab.,
 Eng. Div., WF
 (File: Central Files)
- A project for modifying 86 B-24J's to F-7's was assigned to the Northwest-St. Paul. Mod. Center and to the Consolidated-Vultee center at Tuscon. The division of work, with a prototype available at each location, was necessary to expedite the delivery schedule on this high priority project, 76 articles of which were to be completed by the last of November. [F-7 was moved from Lockheed to make room for the P-38 long range extension program there. Assignment to Tuscon center was a precaution against failures at St. Paul.]
41. (U) IOM 1 Oct. 1943
 Fr: Col. W. M. Morgan,
 Chief, Prod. Eng. Sect., WF
 To: Chief, Bomb. Br., Prod.
 Eng. Sect., WF
 (File: Contract Files)
- Chief, Prod. Eng. Sect. (WF) outlined the following significant points in connection with the B-24 photo. modification:
1. The XF-7-an 11 camera installation, 50% completed by Braniff, abandoned as a prototype because it had a hydraulic pilot.
 2. F-7, a new prototype modified by Lockheed-Dallas Mod. Center. Three additional airplanes were to be modified according to this prototype.
 3. The fifth airplane, the old XF-7, was to be made operational for training purposes only.
 4. B-24D's intended for the F-7 project were to be replaced with B-24J's because of the requirement

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for a nose turret.

5. The 11 camera installation was abandoned and six cameras were specified for the sixth and subsequent photo B-24's.

42. (C) IOM 7 Oct. 1943
Fr: Col. W. M. Morgan, Chief,
Prod. Eng. Sect., WF
To: Chief, Arm. Lab., WF
(File: Central Files)
- Prod. Eng. Sect. (WF) stated that a substitute for the Norden bomb sight would probably have to be installed in the 86 F-7A (B-24J) airplanes being modified at the Northwest-St. Paul Mod. Center. Substitution of the T-1 head was anticipated.
43. (U) TT 12 Oct. 1943
Fr: AAFRR, Northwest-St. Paul
Mod. Center, St. Paul, Minn.
To: CG, Mat. Com., WF
Attn: Airo. Mod. Sect.
(File: Contract Files)
- Partial modification of the 86 airplanes on the F-7A project was to start before completion of the mock-up, thereby saving approximately a month on overall modification time. Five or six B-24J's per day were requested for this partial modification.
44. (U) TT 18 Oct. 1943
Fr: AAFRR, Northwest-St. Paul
Mod. Center
To: CG, Mat. Com., WF
Attn: Chief, Photo. Lab.
(File: Central Files)
- AAFRR reported satisfactory progress on the F-7A prototype and anticipated the test flight by 4 November. Production line F-7's were paralleling the prototype to save delivery time.
45. (C) CTI-1355, Add. 2,
18 Oct. 1943
(File: Central Files)
- CTI-1355 Addendum No. 2 initiated action to incorporate communications equipment in all F-7 modifications in accordance with charts on communications requirements for the theaters received from Production Branch, Materiel Division, AC/AS MM&D.
46. (U) R&R-1, 15 Nov. 1943
Fr: Req. Div., AC/AS, OC&R, Wash.
To: AC/AS, MM&D, Wash.
(File: M&S)
- Req. Div. (Wash.) stated that the F-7 mock-up at St. Paul had been approved provided additional heavy braces were installed on the tri-metrogon mount to eliminate flexing of the mount.
47. (U) TT 9 Dec. 1943
Fr: Eng. Div., Mat. Com., WF
To: AAFRR, Consolidated-Vultee-
Tuscon Mod. Center, Tuscon,
Ariz.
(File: Central Files)
- Mat. Com. (WF) stated that all bombing equipment except the bombsight could be removed from photo B-24's, since flash bombs would not be used on the airplanes.

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48. (C) R&R-1, 7 Jan. 1944
 Fr: Req. Div., AC/AS, OC&R, Wash.
 To: Mat. Div., AC/AS, MM&D, Wash.
 (File: M&S)
- Req. Div. (Wash.) authorized change of tri-metrogon installation to the bomb bay of the F-7, specifying that the change be made without interfering with the production flow of the aircraft. Mat. Com. (WF) tests had indicated that the tri-metrogon would function properly in the bomb bay, and the change would also result in an appreciable reduction in man hours and material.
49. (U) IOM 10 Jan. 1944
 Fr: Chief, Prod. Eng. Sect., WF
 To: Chief, Photo. Lab., WF
 (File: Central Files)
- The modification of approximately 200 B-24J airplanes into F-7A's was divided and a portion of the work assigned to the Martin-Omaha Center. This was done to expedite the large amount of work involved in order to meet heavy delivery schedules. Assignment of photo technical personnel to the Omaha center was requested by Chief, Prod. Eng. Sect., WF.
50. (U) TT 14 Jan. 1944
 Fr: Eng. Div., WF
 To: Devel. Eng. Br.,
 Mat. Div., Wash.
 (File: Central Files)
- Mat. Com. (WF) requested authority to move the F-7A tri-metrogon installation from the nose to the camera bay. Vapor tests had indicated the feasibility of the installation and it was estimated that it would reduce modification time approximately 20% per airplane.
51. (U) TT 28 Jan. 1944
 Fr: Prod. Eng. Sect.,
 Mat. Com., WF
 To: AAFRR, Martin-Omaha
 Mod. Center, Omaha, Nebr.
 (File: Bom. Br., Proc. Div.)
- The F-7A project at Martin-Omaha was to be cancelled after the modification of 18 B-24J's. [B-29 program entered Martin-Omaha at about this time.]
52. (C) IOM 29 Jan. 1944
 Fr: Capt. E. H. Wynn, Asst.
 Tech. Exec., WF
 To: Prod. Div., WF
 (File: Central Files)
- AC/AS, MM&D (Wash.) approved installation of tri-metrogon camera in the bomb bay instead of the nose. The change was to be accomplished with a minimum of interference with delivery schedules.
53. (U) R&R-1, 31 Jan. 1944
 Fr: Recon. & Photo. Br., AC/AS,
 OC&R, Wash.
 To: Mat. Div., AC/AS, MM&D, Wash.
 (File: M&S)
- Third AF reported that the F-7 camera compartment leaked badly during rainstorms, thereby rendering cameras liable to damage. Immediate corrective action was recommended and protective camera covers were suggested as an interim measure.

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54. (U) IOM 29 Feb. 1944
Fr: Col. Carl Cover, Chief,
Airc. Mod. Br., Prod. Eng.
Sect., WF
To: Chief, Bomb. Br., Prod.
Eng. Sect., WF
(File: Bomb. Br., Proc. Div.)
- F-7 designation changes were outlined as follows:
- XP-7 - The B-24H with 11 cameras.
F-7 - B-24H with 3 cameras in nose, 3 in rear bomb bay, ball and tail turrets installed.
F-7A- B-24J with 3 cameras in nose, 3 in rear bomb bay, ball, tail and nose turrets installed.
F-7B- B-24J with the same turrets as the F-7A, all cameras in rear bomb bay.
55. (U) IOM 7 March 1944
Fr: Lt. Col. B. C. Powers, Actg.
Chief, Photo Lab., WF
To: Chief, Prod. Eng. Sect., WF
Attn: Airc. Mod. Br.
(File: Central Files)
- Unsatisfactory reports from using activities indicated need for an improved method for waterproofing the aft bomb bay of F-7A aircraft. Such an improved method had been developed at Northwest-St. Paul, and the Photo Lab. (WF) requested that information concerning the process be forwarded to Maintenance Division, ASC.
56. (U) TT 6 April 1944
Fr: Prod. Eng. Sect., Mat.
Com., WF
To: AAFRR's Lockheed-Dallas,
Martin-Omaha and Northwest-
St. Paul Mod. Centers
(File: Bomb. Br., Proc. Div.)
- AAFRR's were notified that cameras were not to be installed in reconnaissance airplanes for domestic projects unless specifically requested. Modifications already completed with cameras could be delivered unless a shortage of subject cameras existed.
57. (U) IOM 8 April 1944
Fr: Col. G. E. Price, Chief,
Prod. Eng. Sect., WF
To: Chief, Photo. Lab., WF
(File: Contract Files)
- Chief, Prod. Eng. Sect. (WF) informed Chief, Photo Lab. that F-7A's were ready for delivery from Martin-Omaha.
58. (C) CTI-1355, Add. 6,
10 April 1944
(File: M&S)
- CTI-1355, Addendum No. 6, initiated action to install SCR-718 radio altimeters in all production F-7 airplanes and all F-7's already delivered to service activities.
59. (U) TT 25 April 1944
Fr: AAFRR, Martin-Omaha Mod.
Center
To: CG, Mat. Com., WF
Attn: Airc. Br. Mod. Unit
(File: Contract Files)
- AAFRR's routine report indicated that no F-7A aircraft had been delivered by the Martin-Omaha Center.

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60. (C) Ltr. 11 May 1944
 Fr: Lt. Col. H. B. Benedict,
 Chief, Distrib. Sect., AC/AS,
 MM&D, Wash.
 To: CG, ASC, Patterson
 Field
 (File: M&S)
 Mat. Div. (Wash.) stated that the tri-metrogon bomb bay camera installation had been developed and tested. The installation provided more space for the navigator and facilitated operation and maintenance of cameras in flight. Mat. Div. requested that 75 modification kits be fabricated to accomplish the change in F-7's already in service.
61. (U) TT 17 May 1944
 Fr: AAFRR, Northwest-St. Paul
 Mod. Center
 To: CG, Mat. Com., WF,
 Attn: Mod. Control Sect.
 (File: Contract Files)
 AAFRR stated that faster clearance on shortage requests, permission to deviate from certain listed technical order compliance requirements, and no new required technical order compliance would be necessary if delivery schedules were to be met. A number of F-7B airplanes were complete at the center except for delays because of recent technical orders.
62. (U) TT 3 June 1944
 Fr: Mat. Com., WF
 To: AAFRR, Consolidated-Vultee-
 Tuscon Mod. Center
 (File: Contract Files)
 Mat. Com. (WF) informed the AAFRR at the Consolidated-Vultee-Tuscon Center that the F-7 program would continue for a longer period at St. Paul and could therefore begin at a later date at Tuscon. A number of B-24J's from San Diego could accordingly be diverted to St. Paul.
63. (U) TT 15 June 1944
 Fr: AAFRR, Consolidated-Vultee-
 Tuscon Mod. Center
 To: CG, Mat. Com., WF
 Attn: Chief, Bomb. Br.
 (File: Central Files)
 AAFRR at Tuscon stated that a directive was "urgently needed" on the F-7B in order that changes might be made and the mock-up accepted on schedule. Northwest-St. Paul drawings and engineering information were currently being used.
64. (U) TT 26 July 1944
 Fr: Mat. Com., WF
 To: AAFRR's, Consolidated-
 Vultee-Tuscon, Mod. Center
 Northwest-St. Paul. Mod.
 Center, and Consolidated-
 Vultee Airc. Corp.,
 San Diego, Calif.
 (File: Contract Files)
 Reports from Service activities indicated that water damage to cameras was being experienced while flying in rain. Mat. Com. requested that the entire camera bay be sealed and all cameras and-related equipment be supplied with waterproof covers.

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65. (C) TT 18 Aug. 1944
Fr: Col. (CS) Irvine (Chief,
Mod. Div., AC/AS, M&S,
Wash.)
To: CG, Mat. Com., WF
(File: M&S)
- Mod. Div. (Wash.) indicated that F-7B aircraft would utilize the same radio and radar equipment as the B-24 except that SCR-718 radio altimeter would be installed. AN/APN-4 Loran equipment (SCR-622) was to be installed in airplanes going to Fifth, Seventh, Tenth, Eleventh, Thirteenth, and Fourteenth Air Forces and the interrogator (SCR-729) to Fifth, Seventh, and Thirteenth Air Forces only.
66. (C) CTI-1355, Add. 7,
24 Aug. 1944
(File: Central Files)
- CTI-1355, Addendum No. 7 outlined radio and radar requirements for F-7 aircraft and initiated action necessary to comply with these requirements.
67. (C) R&R-1, 16 Oct. 1944
Fr: Req. Div., AC/AS, OC&R, Wash.
To: Devel. Eng. Br., Mat.
Div., AC/AS, M&S, Wash.
(File: M&S)
- Far East Air Force stated that it required F-7's equipped with AN/APS-15 radar equipment. Req. Div. (Wash.) requested that a study be made to answer the following:
1. Would it be easier to use standard F-7 plus AN/APS-15 or a standard H2X B-24J with necessary additional F-7 modifications?
 2. How much time would be needed to mock up one prototype?
68. (C) R&R-1, 30 Oct. 1944
Fr: Req. Div., AC/AS,
OC&R, Wash.
To: Commitments Div.,
AC/AS, OC&R, Wash.
(File: M&S)
- Req. Div. (Wash.) requested an F-7 for H2X mockup and stated that all F-7's would incorporate this installation.
69. (C) Ltr. 3 Nov. 1944
Fr: Col. R.C. Wilson, Chief,
Airc. Projects Br., Mat.
Div., AC/AS, M&S, Wash.
To: Director, ATSC, WF
(File: Central Files)
- Airc. Projects Br. (Wash.) directed ATSC (WF) to mock up an F-7 aircraft to include AN/APS-15 radar (H2X). The mock-up was to provide for photographing an auxiliary radar scope with a modified K-24 camera. Approximately 18 F-7 airplanes were to be so modified upon completion of the prototype, and in view of the "urgent and immediate requirement" for the modification the project was assigned a 1-A reconnaissance priority. TI-2007, dated 16 Nov. 1944, initiated action necessary to carry out the above directive.

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70. (C) R&R-2, 16 Nov. 1944
 Fr: Commitments Div.,
 AC/AS, OC&R, Wash.
 To: Requirements Div.,
 AC/AS, OC&R, Wash.
 (File: M&S)

Commitments Div. (Wash.) stated that one F-7B had been allocated to the F-7 H2X project. F-7 allocations for the Far East were:

Dec. - 3 20th Combat Mapping Sqdn.
 Dec. - 1 2nd & 4th Photo Charting Sqdn.
 Jan. - 2 20th Combat Mapping Sqdn.

Jan. - 2 2nd & 4th Photo Charting Sqdns.
 Information was requested as to whether all of these airplanes should be converted to H2X or only those intended for 20th Combat Mapping Sqdn.

71. (C) R&R-3, 21 Nov. 1944
 Fr: Req. Div., AC/AS,
 OC&R, Wash.
 To: Commitments Div.,
 AC/AS, OC&R, Wash.
 (File: M&S)

Req. Div. (Wash.) indicated that H2X would not be necessary for F-7's of the 2nd and 4th Photo Charting Sqdns. It was suggested that they draw their replacement aircraft from equipment already assigned the 20th Combat Mapping Sqdn. All new F-7's could then be equipped with H2X and conversion of the 20th Combat Mapping Sqdn. to H2X would be accelerated.

72. (U) TT 29 Nov. 1944
 Fr: AAFRR, Northwest-St. Paul
 Mod. Center
 To: Director, ATSC
 Attn: Bomb. Br., Prod. Eng.
 Sect.
 (File: Contract Files)

Northwest-St. Paul Mod. Center estimated that if sufficient information were received by 15 December a mock-up of H2X in the F-7 could be completed by 1 February 1945. The following estimates were also made:

1. Production could start 15 February.
2. Ten H2X F-7's could be completed by 1 April.
3. An eight/month schedule thereafter could be met.
4. 10,000 man hours would be required for first airplanes.
5. 6,500 man hours would be required after first six.

73. (S) R&R-1, 2 Dec. 1944
 Fr: Commitments Div.,
 AC/AS, OC&R, Wash.
 To: AC/AS, M&S, Wash.
 (File: M&S)

F-7 requirements were estimated as follows:

	H2X	Straight F-7
Nov.	--	5
Dec.	5*	6
Jan.	4	5
Feb.	5	6
Mar.	4	5
Apr.	5	6
May	2	5
June	2	6
July	2	5
Aug.	2	6
Sept.	2	5
Oct.	2	5

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*Includes mock-up.
H2X figures represented aircraft necessary to convert
the 20th Combat Mapping Squadron to H2X operations.

74. (S) Ltr. 4 Dec. 1944
Fr: Actg. Chief, Airc. Projects
Br., Mat. Div., AC/AS, M&S,
Wash.
To: Director, ATSC, WF
(File: Central Files)

Since engineering information was already complete,
the H2X mock-up in F-7 aircraft would not be necessary.
Consequently Airc. Projects Br. directed ATSC to
proceed with the H2X modification. A tentative tactical
availability schedule was established:

December	4
January	4
February	5
March-	4
April	5
May	2
2/month thereafter for attrition.	

75. (S) TI-2007, Add. 1, 12 Dec. 1944
(File: Central Files)

TI-2007, Addendum No. 1 initiated action to carry out
the modification of five F-7 aircraft to include
AN/APS-15 radar and provisions for photographing an
auxiliary radar scope with a modified K-24 camera, in
accordance with directive dated 4 December 1944 from
Airc. Projects Branch, Mat. Div., AC/AS, M&S, Eng.
Div. (WF) was to supply necessary data and modification
was to be accomplished by Maint. Div., ATSC.

76. (S) Ltr., 12 Dec. 1944
Fr: Actg. Chief, Airc. Proj.
Br., Mat. Div., AC/AS,
M&S, Wash.
To: Director, ATSC, WF
(File: Central Files)

Airc. Proj. Br. (Wash.) directed Mat. Com. (WF) to
modify four additional F-7's on the H2X project for the
20th Combat Mapping Squadron. TI-2007, Addendum No.
2, was issued to cover the additional modification.

77. (U) Ltr. 26 Feb. 1945
Fr: Col. D. C. Doubleday, Chief,
Eng. Br., Mat. Div., AC/AS
M&S, Wash.
To: Director, ATSC, WF
(File: Central Files)

Mat. Div. (Wash) authorized installation of AN/APS-15A
radar in two F-7 aircraft, installation to be accom-
plished at Will Rogers Field for the Third Air Force.
Mat. Div. requested that Airc. Radio Lab. (WF) for-
ward the necessary engineering data.

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78. (C) Ltr. 24 April 1945
Fr: Col. J. F. Phillips,
Chief, Mat. Div., AC/AS,
M&S, Wash.
To: Director, ATSC, WF
(File: Central Files)
- Mat. Div., (Wash.) directed that F-7 H2X airplanes carry an auxiliary gun mounting in the rear escape hatch in a manner similar to LAB H2X aircraft. The installation was to be accomplished without delivery delays.
79. (C) TI-2007, Add. 10,
30 April 1945
(File: Central Files)
- TI-2007, Addendum No. 10 initiated action necessary to carry out the gun-mount modification on F-7 H2X airplanes.
80. (U) TT 2 June 1945
Fr: Proc. Div., WF
To: Airc. Proj. Br., Mat.
Div., AC/AS, M&S, Wash.
(File: Central Files)
- The status of F-7 modification activities at Tuscon was summarized by Proc. Div. (WF) as follows:
1. Thirty San Diego B-24 aircraft (June output) were to be diverted to F-7 modification.
 2. Tuscon F-7 modifications were to cease after 31 July.
 3. Twenty-one F-7's remained unassigned to projects, and such assignment was requested.
81. (R) Modification Directive,
25 June 1945
(File: Mod. Control Unit Files)
- The latest F-7 directive included a detailed enumeration of modifications for photographic B-24's, including armament, radio and radar, special radio and radar, navigation, radar navigation, photo navigation, winterization and all photographic installations.
82. (U) TT 27 July 1945
Fr: Chief, Prod. Sect., ATSC, WF
To: AAFPR, Consolidated-Vultee-
Tuscon Mod. Center
(File: Contract Files)
- ATSC (WF) notified the Tuscon center that effective immediately no cameras were to be installed in B-24 F-7B airplanes delivered from that activity. Cameras on hand were to be returned to stock.
83. (U) TT 30 July 1945
Fr: Chief, Prod. Sect., ATSC, WF
To: AAFPR, Consolidated-Vultee-
Tuscon Mod. Center
(File: Contract Files)
- ATSC (WF) forwarded revised B-24 modification schedule to the Tuscon center. The schedule included:
- | | July | August |
|------------------------|------|--------|
| B-24 F-7B
San Diego | 21 | 18 |
| B-24 F-7B
Ford | 1 | -- |
- All B-24 modifications were to be complete by 15 August 1945.

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February 12, 1943

SUBJECT: Photographic Modification of B-24 Type of Airplane**TO:** Commanding General, Materiel Command, Washington, D. C.
THRU: Director of Military Requirements

1. At present, it is contemplated that all Photographic Reconnaissance Squadrons (Heavy), formerly known as Photographic Squadrons, Mapping, will be equipped with B-17 or B-24 type aircraft.

2. Action has been initiated to make available at Wright Field, one (1) B-24 airplane for modification as photographic aircraft. It is essential that the photographic possibilities of the airplane be exploited to the fullest. This requires an optimum combination of the following features: altitude, range, speed, armament and installation of cameras of various focal lengths with reserve magazines.

3. It is directed that work be begun at once by the Materiel Command to modify this B-24 airplane. Preliminary work on the mounts, etc., may be started before the airplane arrives. The airplane will be modified for and equipped with the following:

a. SIX INCH (6") TRI-METROGON CAMERA INSTALLATION

- (1) The tri-metrogon camera installation, consisting of three (3) K-17 cameras with 6" metrogon lenses and either an A-5 or A-9 magazine, will be installed as far forward in the nose of the aircraft as the structural characteristics of the airplane and accessibility permit. Employment of blisters will be kept at a minimum.
- (2) The three (3) cameras will be arranged laterally, one (1) right oblique, one (1) vertical, and one (1) left oblique.
- (3) The angular relationship of the cameras will be such that the optical axis and one pair of fiducial marks of each camera will lie in a plane, or planes, that are parallel to a lateral vertical plane.
- (4) The optical axis of the right oblique and left oblique cameras will be depressed at 30° from the horizontal.
- (5) The cameras will be mounted in a single compound mount. The complete camera assembly will be shock mounted to the fuselage.

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- (6) Provisions will be made to correct the camera mount assembly for "tip" resulting from the varying attitudes of the airplane.
- (7) Provisions will be made for easy installation of the cameras in the mount and for their positive alignment. For maintaining this alignment of angular relationship specified above, it is suggested that the camera trunions be removed and a coupling device be designed specifically for this purpose.
- (8) Provisions will be made for the easy accessibility to, and removal of, the camera windows in the fuselage from within the airplane in order that they may be inspected and cleaned during flight. Selected plate glass, as nearly optically flat as possible, will be used for the camera windows if possible. However, if substitute is required, selected plexiglass or any other suitable shatter-proof glass as nearly optically flat as possible will be used.
- (9) The magazine locks and the dark slide of each camera will be easily accessible when the cameras are in operating position in order that the magazines and dark slide can be easily removed.
- (10) Adequate heating will be provided to maintain satisfactory camera operation at extremely low temperatures. It is expected that temperatures of -60° Fahrenheit will be encountered.
- (11) Floor boards will be strengthened to permit heavy foot tread. They will be removable or hinged to provide free access to the cameras.

b. TWENTY-FOUR INCH (24") TRI-CAMERA INSTALLATION

- (1) The 24" tri-camera installation, consisting of three (3) K-18 cameras with 24" focal length lenses with an A-7 or A-8 magazine, will be installed aft of the rear bomb bay as far forward as the structural characteristics of the airplane and accessibility permit without blanketing camera coverage.
- (2) The three (3) cameras will be arranged laterally, one (1) right oblique, one (1) vertical, one (1) left oblique.
- (3) The angular relationship of the cameras will be such that the optical axis and one pair of fiducial marks of each camera will lie in a plane, or planes, that are parallel to a lateral vertical plane.

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- (4) The optical axis of the right oblique and the left oblique cameras will be depressed at $53^{\circ} 8'$ from the horizontal, ($36^{\circ} 52'$ from the vertical).
- (5) The cameras will be installed in a single compound mount if practical. If such a mount is not practical studies will be made for mounting the cameras individually. However, approval for individual mountings will be obtained from the Directorate of Photography before installations are made. The complete camera assembly will be shock mounted to the fuselage.
- (6) Provisions will be made to correct the camera mount assembly for "tip" resulting from the varying attitudes of the airplane.
- (7) Provisions will be made for easy installation of the cameras in the mount and for their positive alignment. For maintaining this alignment of angular relationship specified above, it is suggested that the camera trunnions be removed and a coupling device be designed specifically for this purpose.
- (8) Provisions will be made for the easy accessibility to, and removal of, the camera windows in the fuselage from within the airplane in order that they may be inspected and cleaned during flight. Selected plate glass, as nearly optically flat as possible, will be used for the camera windows if possible. However, if substitute is required, selected plexiglass or any other suitable shatter-proof glass as nearly optically flat as possible, will be used.
- (9) The magazine locks and the dark slide of each camera will be easily accessible when the cameras are in operating position in order that the magazines and dark slide can be easily removed.
- (10) Adequate heating will be provided to maintain satisfactory camera operation at extremely low temperatures. It is expected that temperatures of -60° Fahrenheit will be encountered.
- (11) Floor boards will be strengthened to permit heavy foot tread. They will be removable or hinged to provide free access to the cameras.

c. FOURTY INCH (40") TRI-CAMERA INSTALLATION

- (1) The 40" tri-camera installation, consisting of three (3) K-15A or K-22 cameras with 40" focal length lenses, will be installed wherever structural characteristics of the airplane and accessibility permit. However, it is desired

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that this installation be made just forward of the nose wheel. If such installation is not practicable, consideration will be given to the installation of two (2) K-15A or K-22 cameras with 40" focal length lenses in split vertical (with an overlap of approximately 2° of the angular coverage of the lenses) or one (1) K-15A or K-22 camera with 40" lenses in a single vertical all-purpose mount. However, approval of the split-vertical or single camera will be obtained from the Director of Photography before the installation is made. Employment of blisters will be kept at a minimum.

- (2) The three (3) cameras will be arranged laterally, one (1) right oblique, one (1) vertical, and one (1) left oblique.
- (3) The angular relationship of the cameras will be such that the optical axis and one pair of fiducial marks of each camera will lie in a plane, or planes, that are parallel to a lateral vertical plane.
- (4) The right oblique and left oblique cameras will be tilted so that the overlap of the pictures of each camera with the vertical camera will be approximately one inch (1").
- (5) The cameras will be installed in a single compound mount if practical. If such a mount is not practical studies will be made for mounting the cameras individually. However, approval for individual mountings will be obtained from the Directorate of Photography before installations are made. The complete camera assembly will be shock mounted to the fuselage.
- (6) Provisions will be made to correct the camera mount assembly for "tips" resulting from the varying attitudes of the airplane.
- (7) Provision will be made for easy installation of the cameras in the mount and for their positive alignment. For maintaining this alignment of angular relationship specified above, it is suggested that the camera trunnions be removed and a coupling device be designed specifically for this purpose.
- (8) Provisions will be made for the easy accessibility to, and removal of, the camera windows in the fuselage from within the airplane in order that they may be inspected and cleaned during flight. Selected plate glass, as nearly optically flat as possible, is desired for the camera windows. However if substitute is required, selected plexiglass or any other suitable shatterproof glass, as nearly optically flat as possible, will be used. If it is impractical to install glass or plexiglass windows, then, some suitable draft seal will be provided.

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- (9) Adequate heating will be provided to maintain satisfactory camera operation at extremely low temperatures. It is expected that freezing temperatures of 60° will be encountered.
- (10) Floor boards will be strengthened to permit heavy foot tread. They will be removable or hinged to provide free access to the cameras.

d. VARIABLE FOCAL LENGTH SINGLE VERTICAL CAMERA INSTALLATION

- (1) Provision will be made for a separate Single Vertical Camera station to take a K-17, K-18, K-19, K-22, K-23 and similar cameras in the standard camera mounts (A-8, A-11 and A-23) with an adapter, or adapters, to hold the camera mounts over the camera well.

e. FLIGHT-LINE ORIENTATION CAMERA

- (1) At most favorable location (probably tail) one (1) K-24 camera will be installed for shooting rearward only at an angle of approximately 45°.
- (2) Employment of blisters will be kept at a minimum.

f. CAMERA OPERATION

- (1) Intervalometers will be installed in the forward station of the airplane so that battery of cameras may be operated either separately or simultaneously.
- (2) Blinker lights will also be installed in this forward position to indicate whether cameras are operating satisfactorily.
- (3) The necessary vacuum lines and electrical outlets will be provided.
- (4) Maximum spare magazines for all cameras will be provided.
- (5) An A-2 viewfinder will be installed in the nose of the ship easily accessible to the camera operator.

g. ARMAMENT

- (1) It is desired to increase the armament so that the airplane will carry the maximum number of 50 caliber guns as follows:
 - (a) One forward nose gun.
 - (b) Forward (nose) waist guns, shooting left and right to cover areas in front of propellers. These guns should be staggered so that gunners will not interfere with one another while firing. Additional windows should be provided.

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- (c) Dorsal turret (no change).
- (d) Medial waist guns, shooting left and right. Additional window area should be provided.
- (e) Ventral turret (no change).
- (f) One flexible gun in escape hatch.
- (g) Tail guns (no change).

h. NAVIGATOR

- (1) Because of camera and armament installation in the nose it is desired to provide the navigator with working space on the flight deck. If possible the plexiglass navigator's celestial dome should be moved to a position more accessible to the navigator.

i. RANGE

- (1) Additional leak-proof gasoline tanks will be installed to provide for maximum range. In addition to extra wing tanks, it is desired to utilize forward bomb bays.

j. OXYGEN

- (1) Oxygen outlets with regulators of the "demand" type, where possible, will be installed as follows:
 - (a) Three (3) in the nose; one (1) each for the two (2) gunners and the cameraman-gunner.
 - (b) Four (4) in the flight deck; one (1) each for the pilot, co-pilot, radio operator and navigator.
 - (c) One (1) in the aft bomb bay over the Harrelson baggage rack on the right side (required by the engineer when transferring fuel).
 - (d) One (1) in the lower turret for the gunner.
 - (e) Two (2) for the waist gun installation; one (1) each just forward of each waist gun installation.
 - (f) One (1) for the escape hatch gunner on the right side of the escape hatch gun.
 - (g) One (1) for the tail gun installation (requires no change).
- (2) A bail-out bottle for the upper turret operator.

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- (3) Three (3) carry-around bottles should be provided; one (1) on the flight deck, one (1) in the nose and one (1) near the rear lower turret.
- (4) The normal crew will consist of ten (10) men. If the number of gun installations are increased or decreased, the provisions for oxygen regulators will be changed accordingly.
- (5) Sufficient oxygen will be supplied to accommodate the maximum range of the aircraft.

4. This project will be given highest priority.

By Command of Lieutenant General ARNOLD:

MINTON W. KAYE
Colonel, Air Corps
Director of Photography

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Photographic Reconnaissance Aircraft.

Director of Military Requirements
THRU: Director of Technical Services.
Director of Photography, Maps and Charts.

Feb. 13, 1943

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MFK:bbm 71711

With reference to conference on photographic reconnaissance held by the Director of Military Requirements on February 11, 1943:

I. Discussion:

1. Photographic reconnaissance is being performed by F-5 aircraft (modified P-38) and B-24's and B-17's modified for photographic use. The F-5 aircraft has proven satisfactory in the Southwest Pacific theater and so far as is known in the Far Eastern theater. The Commanding Officer of the 3rd Photographic Group, 12th Air Force, indicates that this aircraft has serious limitations for a photographic reconnaissance mission against the German Air Force. He further indicates that the DeHavilland Mosquito (Merlin 61) aircraft is a satisfactory aircraft in this theater.

a. The F-5 airplane has satisfactory performance, but it is limited in range, due to the fact that 80% of its gasoline is outside hung gasoline. This limits the operational range of the F-5 against the German Air Force to approximately 150-mile penetration. To adequately support heavy bombardment aviation in this theater requires an airplane with a better range than heavy bombardment aviation. The DeHavilland Mosquito (Merlin 61) aircraft contains approximately 2,400 miles of gasoline contained in self-sealed cells;

b. In theaters other than the European theater, there is a military requirement for a long-range photographic airplane capable of a high order of navigational ability. The density of fighter aircraft in these theaters, for instance the Southwest Pacific Area, is so light as to allow the operation of B-17 and B-24 single aircraft at maximum altitude. Logistics of supplies for the B-24 aircraft are satisfactory for all air theaters with the exception of the North African theater. The B-24 is the best airplane available at the present time for a long-range photographic reconnaissance airplane. To obtain necessary photographic reconnaissance of the Southwest Pacific Area, B-24 photographic reconnaissance aircraft must be made available:

(1) A B-24 airplane has been made available for modification into a photographic reconnaissance airplane. The necessary production drawings for this modification are in the process of being prepared;

(2) The modification necessary to convert the B-24 into a satisfactory long-range photographic reconnaissance airplane is extensive. It is believed that this conversion can be done more efficiently on a single production line set up for that purpose.

2. The airplanes discussed above are the most satisfactory photographic reconnaissance airplanes available from aircraft on production lines at the present time. To meet future requirements, it is required that aircraft now in the design stages be analyzed in view of their use as photographic reconnaissance aircraft. It is further believed

RESPONSIBLE OFFICER							
INTERNAL OFFICE COORDINATION							

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Photographic Reconnaissance Aircraft.

Feb. 13, 1943

Director of Military Requirements
 THRU: Director of Technical Services.
 Director of Photography, Maps and Charts.

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 (Continued)

that projects should be initiated to design a long-range, exceedingly high altitude, photographic reconnaissance airplane. A recent directive has been issued by the Adjutant General on the subject of photographic mapping. A copy of this directive is submitted herewith as Tab A.

II. Recommendations:

1. The Materiel Command open immediate negotiations with the British for sufficient DeHavilland Mosquitos (Merlin 61) to satisfy the requirements for the United States Army Air Forces in the Central European theater.

2. The Materiel Command convert the B-24 aircraft recently made available to a photographic reconnaissance aircraft containing sufficient cameras to do a photographic reconnaissance job, and gasoline capacity to get maximum range commensurate with maximum overload capacity of the airplane. The range and operational ceiling of this aircraft must be extended at the sacrifice of its specialized bombardment equipment. It is believed that sufficient equipment can be removed from this aircraft to materially increase its performance.

3. The Materiel Command examine experimental aircraft with a view toward providing an American airplane to replace the P-5. A rough analysis of the McDonald XP-67 indicates that this airplane will satisfy the medium-range photographic reconnaissance requirements. It is believed that this airplane will satisfy the requirements as set out by the Secretary of War in Tab A.

4. There is a military requirement for an extremely high altitude and long-range aircraft for deep penetration into enemy terrain to obtain strategical information regarding the enemy's industrial establishments. It is recommended that an airplane be developed that will satisfy this requirement.

5. It is urgently recommended that these projects be set up in the Materiel Command with high priority and that personnel, made available by the Director of Photography, confer with representatives of the Materiel Command on these projects.

MINTON W. KAYE
 Colonel, Air Corps

Incl.:
 AGO Dir. 1/25/43 (Tab A)

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Photographic Modification of B-24 Type Airplanes

Feb 20 1943

The Materiel Command

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MEG: vkt 3020

Dir. Military Requirements

1. The attached letter, above subject, is forwarded for action. Prior to taking the action requested by the Director of Photography, it is suggested that the various items set forth in the letter be discussed with the Directorate of Photography by appropriate photographic and engineering personnel of the Experimental Engineering Section at the Materiel Center, in order to arrive at a fairly definite conclusion as to the ability of the airplane, when so modified, being able to perform the desired mission. It is believed that this directive is based on the directive which was recently received from the Chief of Staff, requiring an airplane capable of taking photographs from about 30,000 feet. At first glance it would appear that the airplane modified and loaded as set forth in the attached letter would probably have both its range and service ceiling reduced.

2. To this office, this appears to be something other than just a simple modification, and unless thoroughly considered and evaluated might result in the expenditure of much labor and material, with the resulting airplane failing to meet the requirements of the primary mission—similar to the case of the B-25 airplanes modified a couple of years ago for a like mission.

DAVENPORT JOHNSON
Major General, U. S. Army

Incl: Ltr fr Dir Photo, 2-12
cc to Dir of Photography

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**ARMY AIR FORCES
HEADQUARTERS OF THE MATERIEL COMMAND**

WASHINGTON, D. C.

TECHNICAL INSTRUCTIONS

March 5, 1943.

Serial No.: CTI-1217.

11403

Subject: Modification of B-24 Type Aircraft
for Photographic Purposes.

Project MX-373

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3-10-43 - Dist. by Reg. Div.
Orig. - Bombardment Br. ✓
Cys. - Gen. Carroll
Tech. Staff
Airo. Proj. Sec.
Photographic Lab.
Airo. Lab. (2)

To: Technical Executive, Wright Field.

1. Problem Presented:

a. Letter of February 12, 1943 from the Director of Photography to the Commanding General, Materiel Command, subject "Photographic Modification of B-24 Type of Airplane" (copy attached), outlines the requirement for modification of one B-24 airplane to carry eleven (11) aerial cameras in addition to armament, a crew of ten (10), additional leak-proof gasoline tanks, and directs this project be given the highest priority.

b. Preliminary study to determine feasibility of these modifications was requested by the Director of Military Requirements (copy of R & R attached). General Carroll advises this study participated in at Wright Field by Colonel Kemmer, Colonel Putt, Lieutenant Colonel Eidson (Office, Director of Photography) indicates these modifications are feasible.

c. Verbal information from Office, Director of Photography has been received indicating that a total of eighty-six (86) B-24 airplanes may be expected to be modified following satisfactory photographic flight tests of the first airplane. The first article should be B-24 airplane No. 42-40113, now at the Materiel Center.

2. Authority:

Commanding General, Army Air Forces.

3. Action Desired:

That necessary to comply with attached copy of directive dated February 12, 1943. Deviation from this directive as requested by Lieutenant Colonel Eidson during modification of the first article is authorized, if concurred in by your office.

CENTRAL FILES
MX-373
2/10/43

2 Incl. #1 - Cy. ltr. dtd 2/12/43
Incl. #2 - Cy. RER dtd 2/20/43

Philip, Col, A.C.
B. W. CHILMAN, Jr.
Brig. Gen., U.S.A.,
Asst. Chief of Staff (E).

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MAR 11 1943

Chief, Production Division, Wright Field
Att: Aircraft Modification Section.

Modification of B-24 type aircraft for photographic purposes.

1. Attached is a copy of CTI-1217 dated March 5, 1943 concerning the modification of B-24 type aircraft for photographic purposes. It is requested that the modification directed be accomplished at the Consolidated Modification Center, Ft. Worth, Texas. It seems impractical to make the prototype modification at Wright Field since much of the engineering information would be lost, whereas, if the prototype modification is accomplished at the modification center, all engineering data would then be in possession of the modification center, where the remaining modifications will be done. It is also possible that an aircraft may be taken from the production line that is only partially completed, therefore, saving considerable man hours of labor.

2. The Photographic Laboratory of the Materiel Command will furnish sufficient personnel to supervise and assist in the subject mentioned modification. Assistant Director of Photography, Lt. Colonel E. E. Brown, will also be at the Modification Center for purpose of supervision and coordination of the modification for the Office of the Director of Photography.

W.S.
GEORGE W. COBURN,
Colonel, Air Corps,
Chief, Photographic Laboratory,
Engineering Division.

1 Att:
CTI-1217 dtd. 3-5-43

*not attached
3-11-43*

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Subs Mod. of B-24 Type Aircraft for Photographic Purposes

1st Ind.

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Chief, Aircraft Modification Section, Production Division, Wright Field
March 11, 1943. To: Chief, Engineering Division, Wright Field.

1. Study of the documents attached to basic communication indicates that mock-up for the modifications contemplated is of a magnitude and complication beyond the normal capacity of modification centers. Although the Production Division desires to lend every possible assistance in matters of this nature, it is believed that the introduction of this project cannot be made in existing modification centers without serious disarrangement of present modification production commitments.

2. It is requested that when this mock-up modification is accomplished complete engineering information be made available to the Aircraft Modification Section, Production Division, as rapidly as possible in order that the Modification Center eventually selected for the production project may be furnished advance engineering, and proper steps taken to order necessary G.P.E. and contractors materials.

B. L. BOATMAN,
Colonel, Air Corps,
Chief, Aircraft Modification Section

1 Incl.
with return

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Joint Bureau

Photographic Lab

Bombardment Branch

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Project MX-373

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SD-73
 CHIEF, ENGINEERING DIVISION
 ATTENTION: CHIEF, PHOTOGRAPHIC LABORATORY-59
 REFERENCE YOUR TELETYPE ENG- [unclear] DATED MARCH 18 1943 REGARDING B-24
 TYPE AIRPLANES TO BE MODIFIED. INFORMATION RECEIVED FROM DIRECTOR
 OF WAR COMMUNICATION AND MOVEMENT INDICATES SUBJECT AIRPLANES TO
 BE ASSIGNED THIS PROJECT WILL ALL BE B-24D TYPE AND THAT MODIFICA-
 TIONS CONDUCTED ON B-24 NO. 42-40113 SHOULD BE APPLICABLE TO ALL
 OTHERS. LT. COL. ^{KISSIN} HIBSON AFTOP HAS BEEN GIVEN THE ABOVE INFORMATION
 ASSISTANT CHIEF OF STAFF (E)

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File MX-373

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Modification of Airplanes for Photography

April 5, 1943

O.A.C.A.S., Materiel, Maintenance and Distribution-- Materiel Lt. Col. Eidson/bg
Division. 73051

O.A.C.A.S., Operations, Requirement Division, Tactical Serv. Br., 1
Photographic Section

1. The prototype B-24 now being modified for photography at Braniff Airways, Dallas, Texas, is approximately 30 percent completed. The plans for completion have all been approved as feasible by Consolidated Engineers and representatives from Wright Field Aircraft Projects and Structural Branches. The original directive requires total completion and flight test of prototype before starting production on remainder of eighty-seven (87) planes to be modified in Modification Center.

2. To hold up production for flight test will cause an undue delay. With proper authority, Modification Center could start immediately on planning production set up and fabricating or purchasing necessary parts. It is agreed by Photo Requirements and the Manager of Lockheed Modification Center at Dallas that what few changes might be required after the test flight would not materially affect production; also, that it is highly important for the purpose of speed that production start immediately.

3. It is requested that Materiel Division, Development Engineering Branch, issue necessary directives to cause B-24 airplanes to be delivered to Lockheed Modification Center and photographic modification production be started immediately in accordance with directive on B-24, No. 42-40113.

4. The above has been coordinated with Materiel Division, Development Engineering Branch.

MERVIN E. GROSS
Colonel, Air Corps

APR 11 1943
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ADDRESS REPLY TO
CHIEF OF THE ARMY AIR FORCES
WAR DEPARTMENT
WASHINGTON, D. C.

CONFIDENTIAL 34

WAR DEPARTMENT

IN REPLY REFER TO:

OFFICE OF THE CHIEF OF THE ARMY AIR FORCES
WASHINGTON

April 6, 1943

SUBJECT: CTI-1217 "Modification of B-24
Type Aircraft for Photographic
Purposes" dated March 5, 1943

TO: Commanding General
Materiel Command
Wright Field, Dayton, Ohio


Attention: Technical Executive

1. Above CTI directed photographic modifications on one (1) B-24 airplane and indicated a total of eighty-six (86) might be expected for modification following satisfactory photographic flight tests of the first article. Authorization was given to deviate from the above as requested by Lieutenant Colonel Eidsen during the modification of the first article if concurred in by your office. That authority was specifically concurred in by Colonel Putt and brought to the attention of General Carroll.

2. Upon the recommendation of Lieutenant Colonel Eidsen, concurred in by Office, Assistant Chief of Air Staff, Operations, Commitments and Requirements, authority is hereby transmitted for starting modifications of the additional B-24 airplanes without waiting for the completion and flight testing of the first article. This is based on the receipt by this office of assurances from Lieutenant Colonel Eidsen that he considers the installation and the performance of the first B-24 will be satisfactory. That belief has been concurred in by Chief of the Requirements Division and the Chief of the Photographic Section, Office of the Assistant Chief of Air Staff, Operations, Commitments and Requirements.

3. In accordance with policies followed since the reorganization of the Army Air Forces, this letter authorizes but does not direct the Materiel Command to start modifications on all remaining eighty-six (86) B-24 airplanes before the first one is completed. The soundness of such procedure from an over-all engineering and production standpoint is a matter for decision by your Command.

By command of General ARNOLD:


B. W. CHILCOW
Brig. General, U. S. A.
Chief, Materiel Division
Office, Asst. Chief of Air Staff
Materiel, Maintenance and Distribution

1 Incl.

Cpy R & R dtd 4-5-43, subj "Modi-
fication of Airplanes for Photography"

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CONFIDENTIALWAR DEPARTMENT
HEADQUARTERS, MATERIEL COMMANDWright Field, Dayton, Ohio
April 19, 1943

Serial No.: OTI-1217, Addendum No. 1

Subject: Modification of B-24 Type Aircraft for Photographic Purposes

To: Production Division

1. Problem Presented:

a. Letter of February 12, 1943 from the Director of Photography to the Commanding General, Materiel Command, subject "Photographic Modification of B-24 Type of Airplane" (copy which was attached to original OTI-1217), outlines the requirement for modification of one B-24 airplane to carry eleven (11) aerial cameras in addition to armament, a crew of ten (10), additional leak-proof gasoline tanks, and directs this project be given the highest priority.

b. The original OTI indicated that a total of eighty-six (86) B-24 airplanes may be expected to be modified following satisfactory photographic flight tests of the first article.

c. Authority is hereby transmitted to start modification of the additional B-24 airplanes without waiting for the completion and flight testing of the first article.

2. Factual Data:

a. Letter of authority from the Materiel Division dated April 6, 1943 stating that Lt. Colonel Midson considers that the installation and performance of the first B-24 airplane will be satisfactory and that this belief has been concurred in by the Chief of the Requirements Division and the Chief of the Photographic Section, Office of the Assistant Chief of Air Staff, Operations, Commitments, and Requirements.

b. Routing and Record Sheet dated April 5, 1943, subject: Modification of airplanes for Photography, copy attached.

c. The soundness of the modification of the remaining 86 B-24 airplanes has been checked with the Aircraft Modification Section and Bombardment Branch of Production Engineering Section and was found to be satisfactory.

3. Authority:

a. Commanding General, Army Air Forces. By letter dated April 6, 1943, subject: Modification of B-24 Type Aircraft for Photographic Purposes, from Chief, Materiel Division, Office, Assistant Chief of Air Staff, Materiel, Maintenance and Distribution.

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4. Action Desired:

a. That an additional eighty-six (86) B-24 airplanes be modified in accordance with the prototype B-24 airplane covered in basic CTI-1217. Engineering Division is to furnish such assistance and coordination in the accomplishment of this directive as may be requested by the Production Division.

By Command of Brigadier General Branshaw

[Signature]
C. L. MOORE
Colonel, Air Corps
Asst. Technical Executive

Att:
RAR Sheet, 4/5/43.
Mod. of Airplanes for Photography.

CC:
Engineering Division
Air Service Command

4/20/43 - Dist. by Prod. Div.
Orig. & cy. to Air. Modif. Sec. ✓
CC: Bombardment Branch
Aero. Equipment Branch
Prod. Control Section
Chief, Airplane Projects, PES
Prod. Div. Adm. Staff File

W. E. DONNELLY,
Chief, Administrative Staff
PRODUCTION DIVISION

100-100-57
7-22
[Handwritten initials]

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PROOF DEPARTMENT
ARMY AIR FORCES PROVENO GROUND COMMAND
HOLIN FIELD, FLA.

15 April 1943.

SUBJECT: Test of Camera Installation, B-24.

TO: Assistant Chief of Air Staff, Operations, Commitments and
Requirements, Attention: Requirements Division, Liaison
Branch, Army Air Forces, Washington, D. C.

1. Information has been received that a B-24 is now being modified for camera installation as a prototype from which a large number of B-24's are to be converted in production or modification center to photographic Photography by Lt. Colonel Harry T. Eldson of that office.
2. In view of the large number of aircraft committed to this project, and the import which the type of installation decided upon will have for the success of Air Corps Mapping and Reconnaissance Photography, it is considered advisable that this Command conduct an accelerated photography test on the prototype B-24 airplane.
3. It is recommended that immediately after the tentative installation has been made in the prototype B-24, the airplane be sent to this Station for the accelerated test, which is estimated to require no more than five (5) good flying days.

For the Commanding GENERAL:

DUDLEY W. WATKINS, /s/
Colonel, Air Corps,
Chief, Proof Department.

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Test of Camera Installation, B-24.

ACAS/OCR/Requirements Division/Tactical Services Branch

April 21, 1943

Lt. Col. R.O. Pickens/GS/6328

ACAS/OCR/Requirements Division/Liaison Branch

1

1. The attached correspondence dated April 15, 1943, subject as above, is forwarded for necessary action.

1 Incl. -
Ltr fr POC
dtd 4/15/43

CHARLES W. GLANZ
Lt. Col., Air Corps
Chief, Requirements Liaison Branch

TO: O.A.C.A.S., Materiel, Maintenance and Distribution

DATE: April 26, 1943

FROM: O.A.C.A.S., Operations, Requirements Division,
Photographic Requirements Section

Capt. W.A. Esniel/nw/5237

COMMENT NO. 2

1. Paragraph 3, basic communication, is concurred in.
2. This B-24 airplane is now at the Braniff Aircraft Factory, Dallas, Texas, and is undergoing modifications involving camera installations. The airplane is the prototype of a series of one hundred eight (108) B-24's to be photographic airplanes (heavy), committed for 1943. (C.T.I. - 1217)
3. In accordance with the policies of the Assistant Chief of the Air Staff, Operations, Commitments and Requirements, the Army Air Forces Proving Ground Command conducts tests, special studies, etc. of Army Air Forces equipment.
4. It is therefore recommended that upon completion of modification that orders be issued directing this B-24 prototype airplane to the Army Air Forces Proving Ground Command, Eglin Field, Florida, for an accelerated technical test of said airplane, for a period of not to exceed five (5) good flying days. Upon completion of the tests, it is requested that a full report and recommendation will immediately be made to the Materiel Command, thus enabling Materiel Command to quickly proceed with the modification of the remaining B-24's allotted this program.
5. Upon completion of the technical tests of the B-24 at Eglin Field, it is desired that tactical tests and a demonstration be conducted. In accordance with policies of the Assistant Chief of Air Staff, Operations, Commitments and Requirements, the Army Air Forces School of Applied Tactics, Orlando, Florida, conducts simulated combat operations as a basis of developing tactics and techniques, too.
6. It is further requested that orders above mentioned, paragraph 4, will also direct the prototype B-24 to proceed immediately from Eglin Field when

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their tests are completed, to Army Air Forces School of Applied Tactics, Orlando, Florida, for a period of not to exceed three (3) good flying days, for the purposes mentioned in Paragraph 5 above.

7. Upon completion of these tests a full report and recommendations will be given by Army Air Forces School of Applied Tactics to Assistant Chief of the Air Staff, Operations, Commitments and Requirements, with copies for Materiel Command and the Photographic Section, Requirements Division, Assistant Chief of the Air Staff, Operations, Commitments and Requirements.

8. When above tests are completed, it is desired that tested prototype B-24 airplane be returned to the control of the Materiel Command, Dallas, Texas, together with reports and recommendations, and that Materiel Command proceed immediately with the modification of the remaining nineteen (19) airplanes incorporating the recommendations received from Eglin Field and/or Orlando Florida., in such modifications.

9. It is further requested that an informal preliminary report from AAF Proving Ground Command, Eglin Field be submitted immediately thru the usual channels to Requirements Liaison Branch, Requirements Division, O.A.C.A.S. Such informal report is urgently necessary to expedite the modification of the additional airplanes.

10. First priority orders are necessary to conduct the tests at AAF Proving Ground and AAF School of Applied Tactics, because this prototype B-24 must be satisfactorily completed before work can start on additional airplanes, twenty (20) of which are committed to Photographic Squadrons (heavy) for July 1st delivery.

11. Attached copy of R & R to Movement and Operations Division, Aircraft Section is for your information.

2 Incl

1 R & R
Photographic Requirements Section _____
Photographic Service Section _____

MERVIN E. GROSS
Colonel, Air Corps

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April 27, 1943

AWC-M-221

Army Air Forces Materiel Command, Wright Field
Dayton, Ohio

A.A.F. RESERVE REPRESENTATIVE
LOCKHEED-DALLAS MODIFICATION CENTER
LOVE FIELD
DALLAS, TEXAS

26297

COM. GEN.	
TECH. EXC.	X
ADM. EXC.	
OFF. FILE-70-7	
BWD GEN.	
EXP. ENG.	
CONTRACT	
INSPECTION	
PROD. DIV.	<i>Sec</i>
PROD. ENG.	<i>Hilton</i>
SUCH	
PROD. CONT.	
WILL BE	
WORK ON	
INTERFERE	
TECH. DATA	
FOR THE USE	
SYSTEMS	
OTHERS	

YOU WILL SOON RECEIVE A DIRECTIVE TO MODIFY EIGHTY-SIX (86) B-24 AIRPLANES IN THE SAME MANNER AS THE PROTOTYPE NOW BEING DONE BY BRANTLEY AIRWAYS, LOVE FIELD, DALLAS, TEXAS.

IT IS THE UNDERSTANDING OF THIS OFFICE THAT YOU HAVE HAD PERSONNEL ON HAND IN THE PREPARATION OF THIS PROTOTYPE AIRPLANE, WHICH IS SAID TO BE APPROXIMATELY FORTY PER CENT COMPLETED. YOU ARE DIRECTED TO MAKE PREPARATIONS AND MAKE ADVANCE FOR MATERIAL AND EQUIPMENT BASED UPON INFORMATION OBTAINED ON PROTOTYPE INSTALLATION WHEN SUCH ITEMS ARE KNOWN TO BE NEEDED FOR MODIFICATION AND INFORMATION HAS BEEN RELEASED TO YOU. IN ORDER FOR THIS OFFICE TO INITIATE SHIPMENTS OF G.F.R., IT IS NECESSARY THAT WE BE FURNISHED A LIST OF THE G.F.R. ITEMS REQUIRED AS SOON AS SUCH LIST BECOMES AVAILABLE.

THE REQUIREMENTS WILL INCLUDE THEATRE MODIFICATIONS AT YOUR ACTIVITY AND YOU WILL BE ADVISED OF SPECIFIC REQUIREMENTS. AFTER STUDY OF THEATRE REQUIREMENTS AND AFTER CAMERA MODIFICATIONS, INFORMATION SHOULD BE REQUESTED AS TO WHAT ACTION IS DESIRED IF IT IS DETERMINED THAT THE CAMERA INSTALLATION AND THEATRE MODIFICATIONS INTERFERE WITH EACH OTHER.

PROJECT NUMBERS AND PRIORITIES WILL BE FORWARDED AS SOON AS AVAILABLE. FOR THE PURPOSE OF PLANNING AND BECAUSE OF THE DIFFICULTY IN HANDLING AIRPLANES OF THIS TYPE IT WILL BE NECESSARY FOR YOU TO HAVE PROJECT NUMBERS, PRIORITIES, AND SERIAL

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CONFIDENTIAL 104

SUBJECT: Orders (Movement of B-24, Prototype)
TO: Movement and Operations Division, Airplane Section
FROM: O.A.C.A.S., Operations, Requirements Division,
 Photographic Requirements Section.

DATE: Apr 27, 1943
 Capt. M.A. Esnilo/lw/5237
 1

1. It is desired that the B-24 prototype airplane now undergoing modification, to make it a photographic airplane (heavy), at Dallas, Texas, will be tested at Eglin Field and Orlando, Florida. Materiel Command has been advised of the above tests to be conducted before additional airplanes will be modified as a result of this prototype.

2. It is, therefore, requested that adequate orders be issued to promptly effect the delivery of the B-24 prototype, project # C.T.I. - 1217 upon completion of the modification at the Braniff Factory, Dallas, Texas, to AAF Proving Ground Command, Eglin Field, Florida. In addition, orders should effect delivery of said prototype B-24 from Eglin Field, Florida, when tests are completed, to AAF School of Applied Tactics, Orlando, Florida. Orders should then effect delivery of the B-24 prototype, when tests are concluded from Orlando, Florida to Materiel Command, Dallas, Texas.

3. Tests at Eglin Field, should be concluded in five (5) good flying days and at Orlando in three (3) good flying days. Time B-24 prototype will be available to move from Dallas will be given you as soon as possible. Further movement dates are dependent on conclusion of tests.

Photographic Requirements Section

MERVIN E. GROSS
 Colonel, Air Corps

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Page -2-

April 29, 1943

AV3-M-221

A. A. F. R. R.
LOCKHEED-DALLAS MODIFICATION CENTER
LOVE FIELD
DALLAS, TEXAS

APPLICABLE TO SPECIFIC PROJECTS BEFORE YOUR LINE IS STARTED IN THE MARGAR.
AS SOON AS NECESSARY INFORMATION IS AVAILABLE, YOU WILL BE FURNISHED A DIRECTIVE
COVERING ALL THE WORK REQUIRED ON THE ABOVE AIRPLANES.

cc-W. W. Distr. Superv.

BRANSHAW, MATERIAL COMMAND

H. L. Boatner
B. L. BOATNER
Colonel, Air Corps

File: Contract AC-26299
Dallas - B-24 - U.S.A.A.F.

COM. GEN.	
TECH. EXC.	
ADM. EXC.	
C. O.	
BUD. OFF.	
ENG.	
CONTRACT	
INSP.	
PROD. DIV.	
PROD. ENG.	
PROD. CONT.	
I. P. S.	
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0-452.1-87
 35
 HEADQUARTERS ARMY AIR FORCES
 ROUTING AND RECORD SHEET

TALLY NO.	
FILE NO.	

SUBJECT: Photographic Modifications of B-24 Type Aircraft.

TO: O.A.C.A.S., Operations, Commitments, & Requirements
 Allocations and Programs Division, Att: Capt Engelbrecht
 FROM: O.A.C.A.S., Operations, Requirements Division,
 Photographic Requirements Section

DATE May 5, 1943
 COMMENT NO. 1

1. There are three (3) B-24 type airplanes (in addition to the prototype) at Lockheed Modification Center at Dallas, Texas. Lockheed is starting work on these three airplanes today. From the work done on the prototype, it has been found advisable to make certain minor changes in the photographic installations for the production models. Therefore, to provide four (4) airplanes for Flight A of the Eighteenth Photographic Squadron, and to leave the prototype for future production it will be necessary to have another B-24 airplane sent to Dallas.

2. It is requested that one (1) additional B-24 type airplane be moved from Peterson Army Air Field, Colorado Springs, Colorado, to Dallas, Texas, to be modified along with the three mentioned above to complete the four (4) airplanes necessary for Flight A of the Eighteenth Photographic Squadron.

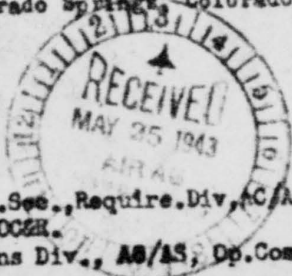
Photographic Requirements Section
 Photographic Requirements Unit

MERVIN E. GROSS
 Colonel, Air Corps

TO: AC/AS, OC&R, Movements & Operations Division
 (Aircraft Branch)
 FROM: AC/AS, OC&R, Allocations & Programs Division,
 (Allocations Branch)

Date May 6th, 1943
 Comment # 2
 JHE/av/ 72556

It is requested that orders be issued moving 1 B-24, airplane from Peterson Army Air Field, Colorado Springs, Colorado to Modification Center, Dallas, Texas.



RHX
 R. H. KELLY
 Colonel, Air Corps

MAY - 6 1943 - 39

TO: Photographic Require. Sec., Require. Div., AC/AS, OC&R THRU Allocations & Programs Div., AC/AS, OC&R.
 FROM: Movements & Operations Div., AS/AS, Dp. Com. & Req.

May 7, 1943.
 Comment 3.
 JFF:knh 71050

1. Air Service Command has advised this Division that instructions have been issued by them to Major Cooley of the Lockheed Modification Center at Dallas and to Colonel Wallace at PROTU authorizing direct contact between these two officers to facilitate the delivery of aircraft between their stations to meet the requirements of the modification program.

2. In view of the above instructions, it is not believed that any further orders from this Division are necessary to accomplish the delivery of aircraft to the modification center.

F. W. EVANS,
 Brigadier General, U. S. A.,
 Chief, Movements & Operations Div.

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3
S. H. WOODS & REPORT
BRANCH
W. E. H. I. F.

A3

FROM AAFRR LOCKHEED MODIFICATION CENTER DALLAS TEXAS 1943 MAY 17 PM 6:30
MAY 17 1943 MF

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TO COMMANDING GENERAL
AAF MATERIEL COMMAND
WRIGHT FIELD OHIO

CONTRACT FILE
26299
10-43

ATTENTION AIRCRAFT MODIFICATION SECTION

DMC-T-1563....CONTRACT W535-AC-26299....SUBJECT COLON B-24 CAMERA AIR-
PLANES....WORK ON THIS PROJECT IS SERIOUSLY HAMPED BY REFUSAL OF
NORTH AMERICAN AVIATION AND CONSOLIDATED VULTEE AIRCRAFT CORPORATION
TO FURNISH PARTS VITAL TO CONTINUED PROGRESS IN MODIFICATION. UNLESS
THESE PARTS ARE FORTHCOMING IMMEDIATELY, NO SCHEDULE OF PRODUCTION
CAN BE MET.

COOLEY, AAFR

END..172211Z LCT PLS ACK AND TNKS..
WI WRIGHT NV 407 ALM AT 2217Z

1st Priority was given
with [unclear] to DMC,
RECEIVED
ENGINEERING
MAY 21 1943
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Project MX-373

AFDMA-4D-210

RESTRICTED

5-19-43

C. G., MATERIEL COMMAND

ATTN: PRODUCTION DIVISION, AIRCRAFT MODIFICATION SECTION

UNTIL THE MOCK-UP OF THE B-24D PHOTOGRAPHIC AIRPLANE IS FULLY APPROVED,
IT IS DIRECTED THAT NO B-24D AIRPLANES BEYOND THE FOUR NOW ON HAND AT
DALLAS BE ORDERED IN FOR MODIFICATION ON THIS PROJECT.

ARNOLD

CB

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Ham
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U.S. AIR FORCE
ENGINE CENTER
WRIGHT-PATTERSON AFB, OHIO

Eric Mod

CENTRAL FILES

5-25-43

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ADDRESS REPLY TO
HEADQUARTERS OF THE ARMY AIR FORCES
WAR DEPARTMENT
WASHINGTON, D. C.

n/c

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(AFDMA-4D)

WAR DEPARTMENT

HEADQUARTERS OF THE ARMY AIR FORCES
WASHINGTON

June 4, 1943

SUBJECT: Photographic Modifications
of B-24 Type Airplane

TO: Commanding General, Materiel Command
Wright Field, Dayton, Ohio

Attention: Technical Executive

1. It is directed that all B-24 aircraft allocated for Photographic Squadrons (Heavy) be modified in accordance with modifications listed in copy of attached Routing & Record Sheet, above subject, dated May 25, 1943.
2. This confirms an information letter sent to Aircraft Modification Section which contained a list of the photographic modifications for B-24 type airplanes.

By Command of General ARNOLD:

J. E. Millera
for JOHN E. MILLERA,
Colonel, Air Corps,
Actg. Chief, Prod.Br., Mat.Div.,
Office, Asst. Chief of Air Staff,
Materiel, Maintenance & Distribution.

1 Incl.
Cy R&R to Mat Div frm Require
Div, Photo Require Sec, abv
subj, dtd May 25, 1943.



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13A CONFIDENTIAL

SUBJECT: Photographic Modifications of E-2^B Type Aircraft.

(Continued)

of the oblique cameras tilted equally from the vertical such that the image of each oblique camera will overlap the image of the vertical camera approximately one inch (1").

(4) APPROXIMATE TWELVE INCH (12") SPREAD VERTICAL CAMERA INSTALLATION

Provisions will be made in the "camera bay" in the place of the FORTY INCH (40") SINGLE CAMERA INSTALLATION, for the installation of two (2) K-17 or K-17 cameras, with seven inch (7") lenses, and A-3 or A-5 magazines, mounted in a single vertical, with one (1) right oblique, and one (1) left oblique, with the optical axis tilted equally from the vertical such that the overlap in the image between the two (2) cameras will be approximately one inch (1").

(5) VARIABLE FOCAL LENGTH SINGLE VERTICAL CAMERA INSTALLATION

Provisions will be made in the "camera bay" for the installation of a single vertical F-5, K-17, K-18, K-19, K-20, or similar camera, with focal lengths from six inches (6") to forty-eight inches (48"), in the standard camera mounts A-4, A-11, A-23).

(6) FLIGHT LINE ORIENTATION CAMERA INSTALLATION

Provisions will be made at the most favorable location in the tail of the aircraft for the installation of one (1) E-2^B camera with seven inch (7") lenses, mounted obliquely rearward with the optical axis depressed approximately 45° from the horizontal.

2. SPARE MAGAZINES:

Provisions will be made for the storage of one (1) spare magazine for each camera as near the corresponding camera as possible.

3. CAMERA MOUNTS:**(1) STANDARD MOUNTS:**

Provisions will be made for installing the standard A-4, A-11, A-23 mounts at the VARIABLE FOCAL LENGTH SINGLE VERTICAL CAMERA INSTALLATION with an adapter or adjuster to accommodate focal length lenses from six inches (6") to forty-eight inches (48").

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12 **CONFIDENTIAL****HEADQUARTERS AAF
ROUTING & RECORD SECT****SUBJECT:** Photographic Modifications of B-24 Type Airplane.**FOR:** AGAS, MCD, Material Division.

May 25, 1943.

FROM: AGAS, OGR, Requirements Division
(Photographic Requirements Section)Comment No. 1
Capt Coltharp/min/74550

1. This R & R supersedes the directive on this same subject, to Commanding General, Materiel Command, Washington, D. C., through Director of Military Requirements, dated February 12, 1943, copy of which is attached.

2. It is desired that all B-24 aircraft allocated for Photographic Squadrons (Heavy) be modified as follows:

A- GENERAL:

The rear bomb bay will be converted to a "camera bay." The installation, deletion, or re-location of any of the standard equipment in the airplane, which will not adversely affect the structural or aerodynamic characteristics of the airplane, but which will improve the photographic performance of the airplane, will be permitted.

B- CAMERAS:**(1) SIX INCH (6") TRI-NITROGEN CAMERA INSTALLATION:**

Provisions will be made in the nose of the aircraft for the installation of three (3) K-22, K-17B or K-17 cameras, with six inch (6") nitrogon lenses and A-5 or A-9 magazines, mounted in tri-nitrogon arrangement, with one (1) right oblique, one (1) vertical, and one (1) left oblique, with the optical axis of the oblique cameras depressed 30° from the horizontal.

(2) TWENTY FOUR INCH (24") TRI-CAMERA INSTALLATION:

Provisions will be made in the "camera bay" for the installation of three (3) K-15 cameras with twenty-four inch (24") focal length lenses and A-7 or A-8 magazines mounted in tri-camera arrangement, with one (1) right oblique, one (1) vertical, and one (1) left oblique, with the optical axis of the oblique cameras depressed 53° 5' from the horizontal.

(3) FORTY INCH (40") TRI-CAMERA INSTALLATION:

Provisions will be made in the "camera bay" for the installation of three (3) K-22 or K-17 cameras with forty inch (40") focal length lenses and A-5 or A-9 magazines mounted in tri-camera arrangement, with one right oblique, one (1) vertical, and one (1) left oblique, with the optical axis.

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CONFIDENTIAL**SUBJECT: Photographic Modifications of B-24 Type Airplane.****(Continued)****(2) SPECIAL MOUNTS:**

Each multi-camera installation will be mounted in a single integral mount, shock mounted to the fuselage. The angular relationship of the cameras will be such that the optical axis, and one pair of fiducial marks of each camera will lie in a plane of planes that are parallel to a lateral vertical plane. Provisions will be made for maintaining the positive alignment and angular relationship of the cameras. Provisions will be made for adjusting the entire mount assembly for "tip" (fore and aft direction), resulting from the variation in the attitude of the airplane. The mounts will be designed so they can be easily removed from or installed in the airplanes, and so the cameras can be easily removed from or installed in the mount. The magazine locks and the dark slides of each camera will be easily accessible when the camera is in operating position, in order that the magazines and dark slides can be easily removed. The devices for attaching the mount for the TWELVE INCH (12") SPLIT VERTICAL CAMERAS to the airplane should be the same type and the same spacing as the standard camera mounts. (This twelve inch (12") split vertical mount should be the same as for the B-17 airplane.)

g. VIEW FINDER:

Provisions will be made for the A-2 View Finder in the "camera bay" convenient to the camera operator.

f. CAMERA CONTROL:**(1) STANDARD INTERVALOMETERS:**

Provisions will be made for the installation of B-7 or B-4 intervalometers at the SINGLE VERTICAL CAMERA STATION, to operate the K-19 camera.

(2) MULTI-CAMERA CONTROL:

A multi-camera control will be installed in the "camera bay" convenient to the camera operator, which will operate all cameras, collectively or individually, either automatically with 60% overlap in line of flight, manually, or

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15a CONFIDENTIAL

SUBJECT: Photographic Modifications of B-24 Type Airplane.

(Continued)

runway, with blinker lights to indicate the operation of each camera. Remote diaphragm control will be provided for all cameras except the T-5 and the K-19.

(3) SIGNAL SYSTEM:

Start-and-stop signal system will be provided between the pilot, navigator, and photographer, permitting the navigator to indicate the beginning and ending of photography. Signal lamps will be installed on the pilot's panel to indicate when the cameras are ready to "shoot".

4. CAMERA ELECTRICAL SYSTEM:

All necessary electric wiring for cameras and auxiliary equipment will be provided with A.W. connections.

5. VACUUM:

Vacuum lines will be run to all camera stations where required. Sufficient vacuum will be provided to maintain at the focal plane back, the maximum differential pressure available at various altitudes. A safety valve, or adjusting valve will be provided for low altitude.

6. DRAFT SEAL:

Selected, shatterproof plate glass, as nearly optically flat as possible, will be used for the camera windows. Provisions will be made for the easy accessibility to, and removability of the camera windows from within the airplane, in order that they may be inspected, cleaned, and replaced when broken. Provisions will be made for the storage of one (1) spare glass for each camera window, as near the corresponding camera window as possible. In addition to the above, an alternate "cleave" type draft seal will be provided for the T-5 camera.

7. DEFROSTERS:

Defrosters with sufficient heat shall be provided for each camera window, except the B-24 window. An electrical outlet will be provided at the K-19 camera station for electrically heated jacket.

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SUBJECT: Photographic Modifications of B-24 Type Airplane.**(Continued)****FLOOR BOARDS:**

Floor boards will be provided where necessary and will be removable or hinged to permit free access to the cameras.

HEAT:

The cabin and camera compartments will be insulated as much as possible, and, sufficient heat will be provided to maintain a minimum temperature of 35° Fahrenheit (60° Fahrenheit desired) in the cabin and camera compartments, with a free air temperature of -60° Fahrenheit.

FLASH BOMBS:

Special provisions will be made for carrying ten (10) photo flash bombs.

ARMOR:

All current armor, bulletproof glass, and leakproof tanks will be retained.

ARMAMENT:

All current existing armament will be retained, except that the gun in the rear escape hatch will be deleted, and a standard ball type lower turret will be installed at the most favorable location.

NAVIGATIONAL EQUIPMENT:

All current existing navigational equipment will be retained. The bomb sight will be tied into the automatic pilot.

RADIO EQUIPMENT:

All current existing radio equipment will be retained.

CAMOUFLAGE:

Present camouflage will be satisfactorily removed and the approved "base paint" for photographic airplanes will be applied.

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CONFIDENTIAL**SUBJECT: Photographic Modifications of B-24 Type Airplane.****(Continued)****2. FUEL:**

Maximum gas (in leakproof tanks) and oil will be provided.

3. CREW:

The crew will consist of one (1) pilot, one (1) co-pilot, one (1) navigator-gunner, one (1) radio-gunner, one (1) flight engineer-gunner, two (2) photographer-gunners, two (2) gunners.

4. OXYGEN:

The "standard type" oxygen system will be provided in accordance with Army Air Force specifications. Sufficient oxygen will be provided for maximum range at maximum altitude, allowing for take-off and landing.

5. BOMBING EQUIPMENT:

All bombing equipment, except that which may be necessary for flash bombs, will be removed.

6. CAMERA REPAIR KIT:

Provisions will be made in the "camera bay" if practicable, for storage of a small, lightweight, camera repair kit (G-4 Type).

7. FLIGHT TESTS:

Each aircraft will be flight tested to insure that all installations called for above will perform satisfactorily.

1 Incl.
by ltr to CG, HQ, dtd Feb 12, 1943/s/ MERVIN E. CROSS
Colonel, Air Corpsphotographic requirements section _____
photographic requirements unit _____

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A2
 FROM AAFRE LOCKHEED MODIFICATION CENTER DALLAS TEXAS MAY 31, 1943 JS
 TO COMMANDING GENERAL
 AAF MATERIAL COMMAND
 EXPERIMENTAL ENGINEERING DIVISION
 WRIGHT FIELD, OHIO
 ATTENTION CHIEF OF PHOTOGRAPHIC LABORATORY
 COPY TO BOMBARDMENT BRANCH
 SUBJECT WEEKLY REPORT FOR WEEK ENDING MAY 29, 1943.

DMC-T-1782...IN ACCORDANCE WITH AUTHORITY GRANTED IN TWX ENG-168 DATED
 MAY 22, 1943, CONTRACT ON THE X-F7 WITH BRANIFF AIRWAYS WAS TERMINATED
 MAY 29 AND THIS AIRCRAFT WILL BE MOVED TO THE LOCKHEED MODIFICATION CENTER
 AND PLACED IN THE PRODUCTION LINE AT SOME LATER DATE.

F-7A AIRCRAFT NO. 42-4068, THE AIRCRAFT FARTHEST ADVANCED AT THE LOCKHEED
 MODIFICATION CENTER NOW BECOMES THE PROTOTYPE AND INSTRUCTIONS HAVE BEEN
 RECEIVED TO RUSH THIS SHIP TO COMPLETION AT THE EARLIEST POSSIBLE DATE
 FOR TESTS AT EGLIN FIELD AND ORLANDO, FLORIDA. DESIGN AND FABRICATION
 OF CAMERA MOUNTS IN THE F-7A ARE APPROXIMATELY 75 PER CENT COMPLETE SEMI-
 COLON THE CAMERA BAY IS APPROXIMATELY 50 PER CENT COMPLETE. THE BALL
 TURNST INSTALLATION ISXIS APPROXIMATELY 10 PER CENT COMPLETE. DELAY
 IN THE RECEIPT OF PARTS IS HOLDING UP THIS INSTALLATION AT PRESENT. THE
 OXYGEN INSTALLATION IS APPROXIMATELY 80 PER CENT COMPLETE. ESTIMATED
 DATE OF COMPLETION FOR THIS AIRCRAFT IS JULY 15, UNLESS HIGHER PRIORITY
 IS GIVEN TO THE B-17 AIRCRAFT.
 W. E. HARRISON

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SECRETPES-5076
June 7, 1943

SUBJECT: Modification & Assignment of Heavy Bombardment Aircraft for
Photographic Purposes.

TO: Commanding General
Air Service Command
Patterson Field
Fairfield, Ohio

ATTN: Major C. A. Glover.

1. Confirming unrestricted information transmitted by telephone June 5th, Major Fletcher to Mr. Carroll, all B-17 type aircraft modified for photographic use will be delivered with proper modifications for operation in the Eighth Air Force prior to further modification for photographic purposes and all B-24 type aircraft will be modified for operation in the Fifth and Thirteenth Air Forces prior to further modifications for photographic purposes.

2. Upon completion of basic modification on the above mentioned aircraft, they will be delivered to Peterson Army Air Base, Colorado Springs, Colorado pending further modification if facilities are not available at the time of completion of basic modification to immediately include the proper photographic installations. Movement to and from photographic modification centers and Peterson Army Air Base may be effected by direct contact between the modification center concerned and Commanding Officer, Peterson Army Air Base.

3. Upon completion of all modification, subject aircraft will be stationed at Peterson Army Air Base until such time as initial or replacement equipment is desired in the theatre at which time orders will be issued by this Headquarters directing such movement and Commanding Officer, Peterson Army Air Base will be instructed to notify the Aircraft Section, Movements & Records Branch, Air Service Command, Patterson Field, Fairfield, Ohio the serial numbers of the airplanes assigned for these purposes.

4. All previous assignments which conflict with the above instructions are rescinded and further instructions will be issued on the reassignment of the aircraft being delivered to Peterson Army Air Base.

By command of General ARNOLD:

1943 JUN 14 8:15
E. W. NAPIER
Colonel, A. C.
Chief, Aircraft Branch
Operations Division
Office, Assistant Chief of Air Staff
Operations, Commitments & Requirements

43-106334

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Wright Field, Dayton, Ohio.
June 8, 1943.

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WAR DEPARTMENT
HEADQUARTERS, MATERIEL COMMAND

Serial No.: CTI-1355

Subject: Photographic Modifications of B-24 Type Airplanes

To: Production Division.

1. Problem Presented:

a. To modify B-24 aircraft allocated for photographic squadrons (heavy) in accordance with the list contained in Paragraph 4 below.

2. Factual Data:

a. This CTI confirms an information letter sent to Aircraft Modification Section which contained a list of photographic modifications of B-24 type airplane.

3. Authority:

a. Commanding General, Army Air Forces. By letter dated June 4, 1943, subject: Photographic Modifications of B-24 Type Airplanes from Chief, Production Branch, Materiel Division, Office, Assistant Chief of Air Staff, Materiel, Maintenance and Distribution, Washington, D. C.

4. Action Desired:

a. That all B-24 aircraft allocated for Photographic Squadrons (Heavy) be modified as follows:

(1) (a) GENERAL:

The rear bomb bay will be converted to a "camera bay." The installation, deletion, or re-location of any of the standard equipment in the airplane, which will not adversely affect the structural or aerodynamic characteristics of the airplane, but which will improve the photographic performances of the airplane, will be permitted.

(b) CAMERAS:1. SIX INCH (6") TRI-METROGON CAMERA INSTALLATION:

Provisions will be made in the nose of the aircraft for the installation of three (3) K-22,

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K-17B or K-17 cameras, with six inch (6") metrogon lenses and A-5 or A-9 magazines, mounted in tri-metrogon arrangement, with one (1) right oblique, one (1) vertical, and one (1) left oblique, with the optical axis of the oblique cameras depressed 30° from the horizontal.

2. TWENTY FOUR INCH (24") TRI-CAMERA INSTALLATION:

Provisions will be made in the "camera Bay" for the installation of three (3) K-18 cameras with twenty-four inch (24") focal length lenses and A-7 or A-8 magazines mounted in tri-camera arrangement, with one (1) right oblique, one (1) vertical, and one (1) left oblique, with the optical axis of the oblique cameras depressed 33° 8" from the horizontal.

3. FORTY INCH (40") TRI-CAMERA INSTALLATION:

Provisions will be made in the "Camera Bay" for the installation of three (3) K-22 or K-17 cameras with forty-inch (40") focal length lenses and A-5, or A-9 magazines mounted in tri-camera arrangement, with one right oblique, one (1) vertical, and one (1) left oblique, with the optical axis of the oblique cameras tilted equally from the vertical such that the image of each oblique camera will overlap the image of the vertical camera approximately one inch (1").

4. ALTERNATE TWELVE INCH (12") SPLIT VERTICAL CAMERA INSTALLATION:

Provisions will be made in the "camera bay" in the place of the FORTY INCH (40") TRI-CAMERA INSTALLATION, for the installation of two (2) K-22 or K-17 cameras, with twelve inch (12") lenses, and A-9 or A-5 magazines, mounted in split vertical, with one (1) right oblique, and one (1) left oblique with the optical axes tilted equally from the vertical such that the overlap in the image between the two (2) cameras will be approximately one inch (1").

5. VARIABLE FOCAL LENGTH SINGLE VERTICAL CAMERA INSTALLATION:

Provisions will be made in the "camera bay" for the installation of a single vertical T-5, K-17, K-18, K-19, K-22, or similar camera, with focal lengths from six inches (6") to forty-eight inches (48")

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in the standard camera mounts A-8, A-11, A-23.

6. FLIGHT LINE ORIENTATION CAMERA INSTALLATION:

Provisions will be made at the most favorable location in the tail of the aircraft for the installation of one (1) K-24 camera with seven inch (7") lenses, mounted obliquely rearward with the optical axis depressed approximately 45° from the horizontal.

(c) SPARE MAGAZINES:

Provisions will be made for the stowage of one (1) spare magazine for each camera as near the corresponding camera as possible.

(d) CAMERA MOUNTS:1. STANDARD MOUNTS:

Provisions will be made for installing the standard A-8, A-11, A-23 mounts at the VARIABLE FOCAL LENGTH SINGLE VERTICAL STATION with an adapter or adjusters to accommodate focal length lenses from six inches (6") to forty-eight inches (48").

2. SPECIAL MOUNTS:

Each multi-camera installation will be mounted in a single integral mount, shock mounted to the fuselage. The angular relationship of the cameras will be such that the optical axis, and one pair of fiducial marks of each camera will lie in a plane of planes that are parallel to a lateral vertical plane. Provisions will be made for maintaining the positive alignment and angular relationship of the cameras. Provisions will be made for adjusting the entire mount assembly for "tip" (fore and aft direction), resulting from the variation in the attitude of the airplane. The mounts will be designed so that they can be easily removed from or installed in the airplane, and so the cameras can be easily removed from or installed in the mount. The magazine locks and the dark slides of each camera will be easily accessible when the camera is in operating position, in order that the magazines and dark slides can be easily removed. The devices for attaching the mount

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For the twelve inch (12") SPLIT VERTICAL CAMERAS to the airplane should be the same type and the same spacing as the standard camera mounts. (This twelve inch (12") split vertical mount should be the same as for the B-17 airplane.)

(e) VIEW FINDERS:

Provisions will be made for the A-2 View Finder in the "camera bay" convenient to the camera operator.

(f) CAMERA CONTROL:1. STANDARD INTERVALOMETERS:

Provisions will be made for the installation of B-7 or B-4 intervalometers at the SINGLE VERTICAL CAMERA STATION, to operate the K-19 camera.

2. MULTI-CAMERA CONTROL:

A multi-camera control will be installed in the "camera bay" convenient to the camera operator, which will operate all cameras, collectively or individually either automatically with 50% overlap in line of flight, manually, or runaway, with blinker lights to indicate the operation of each camera. Remote diaphragm control will be provided for all cameras except the T-5 and the K-19.

3. SIGNAL SYSTEM:

Start-and-stop signal system will be provided between the pilot, navigator, and photographer permitting the navigator to indicate the beginning and ending of photography. Signal lamps will be installed on the pilot's panel to indicate when the cameras are ready to "shoot".

(g) CAMERA ELECTRICAL SYSTEM:

All necessary electric wiring for cameras and auxiliary equipment will be provided with A.N. connections.

(h) VACUUM:

Vacuum lines will be run to all camera stations where required. Sufficient vacuum will be provided to maintain at the focal plane back the maximum differential pressure available at maximum altitude.

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a safety valve, or adjusting valve will be provided for low altitude.

(i) DRAFT SEAL:

Selected, shatterproof plate glass, as nearly optically flat as possible, will be used for the camera windows. Provisions will be made for the easy accessibility to, and removability of the camera windows from within the airplane, in order that they may be inspected, cleaned, and replaced when broken. Provisions will be made for the stowage of one (1) spare glass for each camera window, as near the corresponding camera window as possible. In addition to the above, an alternate "sleeve" type draft seal will be provided for the T-5 camera.

(j) DEFROSTERS:

Defrosters with sufficient heat shall be provided for each camera window, except the K-24 window. An electrical outlet will be provided at the K-24 camera station for electrically heated jacket.

(k) FLOOR BOARDS:

Floor boards will be provided where necessary and will be removable or hinged to permit free access to the cameras.

(l) HEAT:

The cabin and camera compartments will be insulated as much as possible, and, sufficient heat will be provided to maintain a minimum temperature of 35° Fahrenheit (60° Fahrenheit desired) in the cabin and camera compartments, with a free air temperature of -60° Fahrenheit.

(m) FLASH BOMBS:

Special provisions will be made for carrying ten (10) photo flash bombs.

(n) ARMOR:

All current armor, bulletproof glass, and breakproof tanks will be retained.

(o) ARMAMENT:

All current existing armament will be retained, except that the gun in the rear escape hatch will be deleted, and a standard ball type lower turret will be installed in the most favorable location.

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CONFIDENTIAL(p) NAVIGATIONAL EQUIPMENT:

All current existing navigational equipment will be retained. The bomb sight will be tied into the automatic pilot.

(q) RADIO EQUIPMENT:

All current existing radio equipment will be retained.

(r) CAMOUFLAGE:

Present camouflage will be satisfactorily removed and the approved "haze paint" for photographic airplanes will be applied.

(s) RANGE:

Maximum gas (in leakproof tanks) and oil will be provided.

(t) CREW:

The crew will consist of one (1) pilot, one (1) co-pilot, one (1) navigator-gunner, one (1) radio-man-gunner, one (1) flight engineer-gunner, two (2) photographer-gunners, two (2) gunners.

(u) OXYGEN:

The "Demand type" oxygen system will be provided in accordance with Army Air Force specifications. Sufficient oxygen will be provided for maximum range at maximum altitude, allowing for take-off and landing.

(v) BOMBING EQUIPMENT:

All bombing equipment, except that which may be necessary for flash bombs, will be removed.

CAMERA REPAIR KIT:

Provisions will be made in the "camera bay" if practicable, for stowage of a small, lightweight camera repair kit (G-1 Type).

Each aircraft will be flight tested to insure that all installations called for above will perform satisfactorily.

By Command of Brigadier General Branchaw:

CONFIDENTIAL T. A. SIMS,
Colonel, Air Corps
Technical Executive.

- 6 -

Distribution:
Air Service Command
Engineering Division
Aircraft Radio Lab(w)

DEST. BY ENGIN. DIV. 6-10-43:

Cys: General Carroll
Tech. Staff
Airc. Projects Section
Flight Res. Lia. Br. (2)
Flight Data Unit,
Tech. Data Lab.
All Labs. (except Shops)

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June 14, 1943

WSP-4-917

Army Air Forces Materiel Command, Wright Field
Dayton, Ohio

Army Air Forces Resident Representative
Inland - Dallas Modification Center
Love Field
Dallas, Texas

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IN OUR AM-4-221, DATED 4/29/43, YOU WERE AUTHORIZED TO PROCEED WITH THE PROVISIONS TO MODIFY APPROXIMATELY EIGHTY-SIX (86) B-24 SERIES AIRPLANES FOR PHOTOGRAPHIC PURPOSES, ACCORDING TO THE DEVELOPMENTS INCURRED UPON DURING THE PROTOTYPING OF B-24 SERIAL 42-40133 BY BRANIFF AIRWAYS, AT LOVE FIELD, DALLAS, TEXAS. COMPLETE INFORMATION HAS SINCE BEEN MADE AVAILABLE AND YOU ARE DIRECTED TO COMPLETE THESE MODIFICATIONS ON ALL OF THE B-24 AIRPLANES DELIVERED TO YOU FOR PHOTOGRAPHIC PURPOSES AS FOLLOWS:

A. GENERAL:
 THE MAIN ENGINE BAY WILL BE CONVERTED TO A "CAMERA BAY." THE INSTALLATION THEREIN, OR RELOCATION OF ANY OF THE STANDARD EQUIPMENT IN THE AIRPLANE WHICH WILL NOT ADVERSELY AFFECT THE STRUCTURAL OR AERODYNAMIC CHARACTERISTICS OF THE AIRPLANE, NOR WHICH WILL IMPROVE THE PHOTOGRAPHIC PERFORMANCE OF THE AIRPLANE, WILL BE PERMITTED.

B. CAMERA:
 (1) THE INCH (6") TRI-MENSION CAMERA INSTALLATION:
 PROVISIONS WILL BE MADE IN THE NOSE OF THE AIRCRAFT FOR THE INSTALLATION OF THREE (3) 1-1/2", 2-1/2" or 3-1/2" CAMERAS, WITH SIX INCH (6") FOCUS LENGTH AND 1-5 OR 2-5 MAGNIFICATION, MOUNTED IN TRI-MENSION ARRANGEMENT, WITH ONE (1) RIGHT OBLIQUE, ONE (1) VERTICAL, AND ONE (1) LEFT OBLIQUE, WITH THE OPTIC AXIS OF THE OBLIQUE CAMERAS

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DEPRESSED 30° FROM THE HORIZONTAL.

(2) TWENTY-FOUR INCH (24") TRI-CAMERA INSTALLATION:

PROVISIONS WILL BE MADE IN THE "CAMERA BAY" FOR THE INSTALLATION OF THREE (3) K-18 CAMERAS WITH TWENTY-FOUR INCH (24") FOCAL LENGTH LENSES AND A-7 OR A-8 MAGAZINES MOUNTED IN TRI-CAMERA ARRANGEMENT, WITH ONE (1) RIGHT OBLIQUE, ONE (1) VERTICAL, AND ONE (1) LEFT OBLIQUE, WITH THE OPTICAL AXIS OF THE OBLIQUE CAMERAS DEPRESSED 5° 8" FROM THE HORIZONTAL.

(3) FORTY INCH (40") TRI-CAMERA INSTALLATION:

PROVISIONS WILL BE MADE IN THE "CAMERA BAY" FOR THE INSTALLATION OF THREE (3) K-22 OR K-17 CAMERAS WITH FORTY INCH (40") FOCAL LENGTH LENSES AND A-5, OR A-9 MAGAZINES MOUNTED IN TRI-CAMERA ARRANGEMENT, WITH ONE (1) RIGHT OBLIQUE, ONE (1) VERTICAL, AND ONE (1) LEFT OBLIQUE, WITH THE OPTICAL AXIS OF THE OBLIQUE CAMERAS TILTED EQUALLY FROM THE VERTICAL SUCH THAT THE IMAGE OF EACH OBLIQUE CAMERA WILL OVNELAP THE IMAGE OF THE VERTICAL CAMERA APPROXIMATELY ONE INCH (1").

(4) ALTERNATE TWELVE INCH (12") SPLIT VERTICAL CAMERA INSTALLATION:

PROVISIONS WILL BE MADE IN THE "CAMERA BAY" IN THE PLACE OF THE FORTY INCH (40") TRI-CAMERA INSTALLATION, FOR THE INSTALLATION OF TWO (2)

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June 14, 1943

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K-22 OR K-17 CAMERAS, WITH TWELVE INCH (12") LENSES, AND A-9 OR A-10 MAGAZINES, MOUNTED IN SPLIT VERTICAL, WITH ONE (1) RIGHT OBLIQUE, AND ONE (1) LEFT OBLIQUE, WITH THE OPTICAL AXES TILTED EQUALLY FROM THE VERTICAL SUCH THAT THE OVERLAP IN THE IMAGE BETWEEN THE TWO (2) CAMERAS WILL BE APPROXIMATELY ONE INCH (1").

(5) VARIABLE FOCAL LENGTH SINGLE VERTICAL CAMERA INSTALLATION:

PROVISIONS WILL BE MADE IN THE "CAMERA BAY" FOR THE INSTALLATION OF A SINGLE VERTICAL T-5, K-17, K-18, K-19, K-22, OR SIMILAR CAMERA, WITH FOCAL LENGTHS FROM SIX INCHES (6") TO FORTY-EIGHT INCHES (48") IN THE STANDARD CAMERA MOUNTS A-8, A-11, A-23.

(6) FLIGHT LINE ORIENTATION CAMERA INSTALLATION:

PROVISIONS WILL BE MADE AT THE MOST FAVORABLE LOCATION IN THE TAIL OF THE AIRCRAFT FOR THE INSTALLATION OF ONE (1) K-24 CAMERA WITH SEVEN INCH (7") LENSES, MOUNTED OBLIQUELY REARWARD WITH THE OPTICAL AXIS DEPRESSED APPROXIMATELY 45° FROM THE HORIZONTAL.

C. SPARE MAGAZINES:

PROVISIONS WILL BE MADE FOR THE STORAGE OF ONE (1) SPARE MAGAZINE FOR EACH CAMERA AS NEAR THE CORRESPONDING CAMERA AS POSSIBLE.

(D) CAMERA MOUNTS:

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(1) STANDARD MOUNTS:

PROVISIONS WILL BE MADE FOR INSTALLING THE STANDARD A-8, A-11, A-12 MOUNTS AT THE VARIABLE FOCAL LENGTH SINGLE VERTICAL STATION WITH AN ADAPTER OR ADJUSTERS TO ACCOMMODATE FOCAL LENGTH LENSES FROM SIX INCHES (6") TO FORTY-EIGHT INCHES (48").

(2) SPECIAL MOUNTS:

EACH MULTI-CAMERA INSTALLATION WILL BE MOUNTED IN A SINGLE INTEGRAL MOUNT, SHOCK MOUNTED TO THE FUSELAGE. THE ANGULAR RELATIONSHIP OF THE CAMERAS WILL BE SUCH THAT THE OPTICAL AXES, AND ONE PAIR OF VISUAL MARKS OF EACH CAMERA WILL LIE IN A PLANE OF PLANES THAT ARE PARALLEL TO A LATERAL VERTICAL PLANE. PROVISIONS WILL BE MADE FOR MAINTAINING THE POSITIVE ALIGNMENT AND ANGULAR RELATIONSHIP OF THE CAMERAS. PROVISIONS WILL BE MADE FOR ADJUSTING THE ENTIRE MOUNT ASSEMBLY FOR "TIP" (FORW AND AFT DIRECTION), RESULTING FROM THE VARIATION IN THE ATTITUDE OF THE AIRPLANE. THE MOUNTS WILL BE DESIGNED SO THEY CAN BE EASILY REMOVED FROM OR INSTALLED IN THE AIRPLANE, AND SO THE CAMERAS CAN BE EASILY REMOVED FROM OR INSTALLED IN THE MOUNT. THE MAGAZINE LOGS AND THE DARK SLIDES OF EACH CAMERA WILL BE EASILY ACCESSIBLE WHEN THE CAMERA IS IN OPERATING POSITION, IN ORDER THAT

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THE SIGNALING AND MARK SLIDES CAN BE EASILY REMOVED. THE DEVICES ATTACHING THE MOUNT FOR THE TWELVE INCH (12") SPLIT VERTICAL CAMERAS TO THE AIRPLANE SHOULD BE THE SAME TYPE AND THE SAME SPACING AS THE STANDARD CAMERA MOUNTS. (THIS TWELVE INCH (12") SPLIT VERTICAL MOUNT SHOULD BE THE SAME AS FOR THE B-17 AIRPLANE.)

E. VIEW FINDER:

PROVISIONS WILL BE MADE FOR THE A-2 VIEW FINDER IN THE "CAMERA RAY" CONTROL UNIT TO THE CAMERA OPERATOR.

F. CAMERA CONTROL:

(1) STANDARD INTERVALMETERS:

PROVISIONS WILL BE MADE FOR THE INSTALLATION OF B-7 OR B-4 INTERVALMETERS AT THE SINGLE VERTICAL CAMERA STATION, TO OPERATE THE K-19 CAMERA.

(2) MULTI-CAMERA CONTROL:

A MULTI-CAMERA CONTROL WILL BE INSTALLED IN THE "CAMERA RAY" CONTROL UNIT TO THE CAMERA OPERATOR, WHICH WILL OPERATE ALL CAMERAS, COLLECTIVELY OR INDIVIDUALLY, EITHER AUTOMATICALLY WITH 60% OVERLAP IN LINE OF FLIGHT, MANUALLY, OR MURMAY, WITH BLINKER LIGHTS TO INDICATE

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THE OPERATION OF EACH CAMERA. REMOGE DIAPHRAGM CONTROL WILL BE PROVIDED FOR ALL CAMERAS EXCEPT THE T-5 AND THE K-19.

(3) SIGNAL SYSTEM:

START-AND-STOP SIGNAL SYSTEM WILL BE PROVIDED BETWEEN THE PILOT, NAVIGATOR, AND PHOTOGRAPHER, PERMITTING THE NAVIGATOR TO INDICATE THE BEGINNING AND ENDING OF PHOTOGRAPHY. SIGNAL LAMP'S WILL BE INSTALLED ON THE PILOT'S PANEL TO INDICATE WHEN THE CAMERAS ARE READY TO "SHOOT".

G. CAMERA ELECTRICAL SYSTEM:

ALL NECESSARY ELECTRIC WIRING FOR CAMERAS AND AUXILIARY EQUIPMENT WILL BE PROVIDED WITH A.H. CONNECTIONS.

H. VACUUM:

VACUUM LINES WILL BE RUN TO ALL CAMERA STATIONS WHERE REQUIRED. SUFFICIENT VACUUM WILL BE PROVIDED TO MAINTAIN AT THE FOCAL PLANE BACK, THE MAXIMUM DIFFERENTIAL PRESSURE AVAILABLE AT MAXIMUM ALTITUDE, A SAFETY VALVE, OR ADJUSTING VALVE WILL BE PROVIDED FOR LOW ALTITUDE.

I. DRAFT SEAL

SELECTED, SPATTERPROOF PLATE GLASS, AS NEARLY OPTICALLY FLAT AS POSSIBLE WILL BE USED FOR THE CAMERA WINDOWS. PROVISIONS WILL BE MADE FOR THE

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EASY ACCESSIBILITY TO, AND REMOVABILITY OF THE CAMERA WINDOWS FROM WITHIN THE AIRPLANE, IN ORDER THAT THEY MAY BE INSPECTED, CLEANED, AND REPLACED WHEN BROKEN. PROVISIONS WILL BE MADE FOR THE STOWAGE OF ONE (1) SPARE GLASS FOR EACH CAMERA WINDOW, AS NEAR THE CORRESPONDING CAMERA WINDOW AS POSSIBLE. IN ADDITION TO THE ABOVE, AN ALTERNATE "SLEEVE" TYPE DRAFT SEAL WILL BE PROVIDED FOR THE T-5 CAMERA.

J. DEFROSTERS:

DEFROSTERS WITH SUFFICIENT HEAT SHALL BE PROVIDED FOR EACH CAMERA WINDOW, EXCEPT THE K-24 WINDOW. AN ELECTRICAL OUTLET WILL BE PROVIDED AT THE CAMERA STATION FOR ELECTRICALLY HEATED JACKET.

K. FLOOR BOARDS:

FLOOR BOARDS WILL BE PROVIDED WHERE NECESSARY AND WILL BE REMOVABLE OR HINGED TO PERMIT FREE ACCESS TO THE CAMERAS.

L. HEAT:

THE CABIN AND CAMERA COMPARTMENTS WILL BE INSULATED AS MUCH AS POSSIBLE AND, SUFFICIENT HEAT WILL BE PROVIDED TO MAINTAIN A MINIMUM TEMPERATURE OF 35° FAHRENHEIT (60° FAHRENHEIT DESIRED) IN THE CABIN AND CAMERA COMPARTMENTS, WITH A FREE AIR TEMPERATURE OF -60° FAHRENHEIT.

M. FLASH BOMBS:

SPECIAL PROVISIONS WILL BE MADE FOR CARRYING TEN (10) PHOTO FLASH BOMBS.

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June 14, 1943

AMS-4-917

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N. ARMOR:

ALL CURRENT ARMOR, BULLETPROOF GLASS, AND LEAKPROOF TANKS WILL BE RETAINED.

O. ARMAMENT:

ALL CURRENT EXISTING ARMAMENT WILL BE RETAINED, EXCEPT THAT THE GUN IN THE REAR ESCAPE HATCH WILL BE DELETED, AND A STANDARD BALL TYPE LOWER TURRET WILL BE INSTALLED AT THE MOST FAVORABLE LOCATION.

P. NAVIGATIONAL EQUIPMENT:

ALL CURRENT EXISTING NAVIGATIONAL EQUIPMENT WILL BE RETAINED. THE BOMB SIGHT WILL BE TIED INTO THE AUTOMATIC PILOT.

Q. RADIO EQUIPMENT:

ALL CURRENT EXISTING RADIO EQUIPMENT WILL BE RETAINED.

R. CAMOUFLAGE:

PRESENT CAMOUFLAGE WILL BE SATISFACTORILY REMOVED AND THE APPROVED "HOUSE" PAINT FOR PHOTOGRAPHIC AIRPLANES WILL BE APPLIED.

S. FUEL:

MAXIMUM GAS (IN LEAKPROOF TANKS) AND OIL WILL BE PROVIDED.

T. CREW:

THE CREW WILL CONSIST OF ONE (1) PILOT, ONE (1) CO-PILOT, ONE (1) NAVIGATOR-GUNNER, ONE (1) RADIO-GUNNER, ONE (1) FLIGHT ENGINEER-GUNNER,

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CONFIDENTIAL

June 14, 1943

AMS-4-917

A.A.F.R.R.
Dallas, Texas

TWO (2) PHOTOGRAPHER-GUNNERS, TWO (2) GUNNERS.

IV. OXYGEN:

THE "DEMAND TYPE" OXYGEN SYSTEM WILL BE PROVIDED IN ACCORDANCE WITH ARMY AIR FORCE SPECIFICATIONS. SUFFICIENT OXYGEN WILL BE PROVIDED FOR MAXIMUM RANGE AT MAXIMUM ALTITUDE, ALLOWING FOR TAKE-OFF AND LANDING.

V. BOMBING EQUIPMENT:

ALL BOMBING EQUIPMENT, EXCEPT THAT WHICH MAY BE NECESSARY FOR FLASH BOMBING, WILL BE REMOVED.

VI. CAMERA REPAIR KIT:

PROVISIONS WILL BE MADE IN THE "CAMERA BAY" IF PRACTICABLE, FOR STORAGE OF A SMALL, LIGHTWEIGHT, CAMERA REPAIR KIT (G-1 TYPE).

VII. FLIGHT TESTS:

EACH AIRCRAFT WILL BE FLIGHT TESTED TO INSURE THAT ALL INSTALLATIONS CALLED FOR ABOVE WILL PERFORM SATISFACTORILY.

A MEMBER OF THE WRIGHT FIELD PHOTOGRAPHIC LABORATORY WILL BE ON DUTY AT YOUR ACTIVITY, AND HE HAS BEEN AUTHORIZED TO ACT IN THE CAPACITY OF LIAISON OFFICER. FROM THIS SOURCE AND FROM THE EXPERIENCE GAINED BY CONTRACTOR PERSONNEL WHO HAVE BEEN ON HAND AT BRANIFF AIRWAYS DURING THE PROTOTYPING OF THE B-24 AT THAT PLACE, YOU WILL RECEIVE SUFFICIENT INFORMATION TO ENABLE

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June 14, 1943

AMS-M-917

A.A.F.R.H.
Dallas, Texas

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YOU TO ORDER ALL C.F.E. AND G.J.E. NECESSARY.

IN ORDER TO PRECLUDE THE POSSIBILITY OF ACCUMULATING EXCESS MATERIAL INCIDENT TO UNFORESEEN CHANGES AFTER THE PROJECT HAS BEEN STARTED, ORDERS FOR TWENTY (20) SHIPS' WORTH OF MATERIAL WILL BE SHIPPED AT A TIME. ADDITIONAL SHIPMENTS WILL BE ROUTED TO YOU AS NEEDED, BASED ON TWENTY (20) SHIP LOTS.

REQUESTS FOR AIRPLANES WILL BE MADE IN THE USUAL MANNER THROUGH THIS OFFICE. INFORMATION IS REQUESTED AS TO HOW MANY SHIPS YOU WILL BE ABLE TO WORK ON AT A TIME.

ARRANGEMENTS SHOULD BE MADE TO COMPLETE A MAN HOUR STUDY OF THE ENTIRE PROJECT AS SOON AS POSSIBLE. END APAMG

cc-H/V. Dist. Suprv.

BRANDEN, MATTHEW COMMAND

E. W. Hook
EARL W. HOOK
Lt. Col., Air Corps
Acting Chief
Aircraft Modification Section

File: Contract AC-26299
Dallas - B-24 - U.S.A.A.F.

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MX-373

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~~XXXXXXXX~~ COMMAND

Wright Field, Dayton, Ohio
1117 17 1941

Inclusion of Photoflash Bombs in XP-7 Modification.

Commanding General, Army Air Forces,
Development Engineering Branch, Material Division,
Asst. C/AS, M. M. & D.,
Washington, D. C.

*Wright Field
Commanding Gen. 240
X 4521*

1. Representatives of your office have informed the Photographic Laboratory, Wright Field, of a proposed requirement that ten (10) photoflash bombs be included as standard installation on the XP-7 photographic aircraft now nearing completion at the Lockheed Modification Center, Dallas, Texas.
2. Preliminary investigation of the problems arising from such an installation indicate that the only available space in the aircraft where bombs can be supported is on the wing between the inboard engines and the fuselage. A total of six (6) M-46 photoflash bombs may be mounted in this location.
3. The inclusion of this installation on the XP-7 with other required modifications will undoubtedly set back the delivery date on production F-7 aircraft due to the late date upon which the requirement was presented.
4. It is suggested that consideration be given to the employment of standard bombardment aircraft for night photographic missions when this type of photography is required. The B-17, B-24, B-25, and B-26 aircraft have camera stations and bomb equipment in a standard installation that may be used for night photo work without any additional modifications. In view of the apparent immediate need for photographic aircraft such as the XP-7 in combat theaters, it would appear inadvisable to hold up production on F-7 aircraft for the installation of photoflash bombing equipment when this function is served by standard bombardment aircraft.
5. Since the modification of the XP-7 aircraft is nearing completion, it is requested that an immediate decision be made regarding the above.

For the Commanding General: *MM*

TC
F. O. CARROLL,
Brig. General, U.S.A.,
Chief, Engineering Division.

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FROM AAFPR LOCKHEED MODIFICATION CENTER DALLAS TEXAS 21 JUNE 1943 LCT

TO COMMANDING GENERAL
 AAF MATERIEL COMMAND
 EXPERIMENTAL ENGINEERING DIVISION
 WRIGHT FIELD, OHIO
 ATTENTION CHIEF OF PHOTOGRAPHIC LABORATORY COPY TO BOMBARDMENT BRANCH
 SUBJECT F-7 AND F-5A AIRCRAFT FOR THE PERIOD JUNE 6 TO JUNE 19.

DWG-T-2119...LT. TRIMBLE OF WRIGHT FIELD ARRIVED AT THE MODIFICATION CENTER JUNE 11 IN AIRCRAFT NO. 42-13079 EQUIPPED WITH THE S-5 AIRCRAFT CAMERA. SINCE THIS AIRCRAFT COULD NOT BE MODIFIED IN TIME TO BE INCLUDED IN THE PROJECT TO WHICH THE S-5 CAMERA WAS COMMITTED, THE CAMERA WAS REMOVED AND INSTALLED IN ANOTHER AIRCRAFT IN THIS PROJECT. THE CAMERA WILL BE TESTED AND UPON SATISFACTORY COMPLETION OF THESE TESTS, RELEASED FOR DELIVERY. AIRCRAFT NO. 42-13079 WAS RETURNED TO WRIGHT FIELD BY LT. TRIMBLE.

MR. MARKEY OF THE AUTOMATIC ELECTRIC COMPANY AND MR. HABIG OF WRIGHT FIELD ARRIVED DURING THIS PERIOD FOR THE PURPOSE OF OBTAINING INSTALLATION DETAILS OF THE A-2 CAMERA CONTROL FOR BOTH THE F-5 TYPE AND F-7 TYPE AIRCRAFT. THEY WERE ABLE TO SECURE SUFFICIENT DETAILS AND HAVE PROMISED DELIVERY OF THE FIRST CONTROL FOR THE F-7 AIRCRAFT NOT LATER THAN JULY 1. THIS DELIVERY DATE WILL ALLOW SUFFICIENT TIME FOR INSTALLATION OF THE CONTROL IN THE FIRST F-7 AIRCRAFT. THERE ARE SEVERAL MARKED IMPROVEMENTS IN THIS CONTROL OVER THE A-1, THE MOST PRONOUNCED OF THESE BEING 50 PERCENT REDUCTION IN THE AMOUNT OF ELECTRICAL WIRE NECESSARY AND ALMOST AN EQUAL AMOUNT OF SAVING IN INSTALLATION TIME. ALSO, THE CONTROL IS MORE READILY ACCESSIBLE AND EASIER TO SERVICE.

THE WORK ON THE F-7 HAS BEEN CONSIDERABLY DELAYED DUE TO THE INABILITY OF THE CONTRACTOR TO SECURE NECESSARY MATERIALS AND PARTS. THIS INABILITY IS DIRECTLY CONTRIBUTED TO THE FACT THAT NO PRIORITY HAS EVER BEEN FURNISHED THIS MODIFICATION CENTER FOR THE F-7 PROJECT, ALTHOUGH IT HAS BEEN REPEATEDLY AND INSISTENTLY REQUESTED. THIS SITUATION HAS NOW REACHED A CRITICAL POINT AND IF IMMEDIATE ACTION IS NOT FORTHCOMING THE CONTRACTOR WILL BE FORCED TO VIRTUALLY SUSPEND WORK. VERBAL INFORMATION HAS BEEN

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RECEIVED THAT MIDWESTERN PROCUREMENT DISTRICT IS TAKING THE NECESSARY ACTION TO FURNISH PRIORITY, BUT TO DATE NO RESULTS ARE EVIDENT. EVERY EFFORT POSSIBLE HAS BEEN MADE TO BRING TO THE ATTENTION OF THE PROPER AUTHORITY BY BOTH THE CONTRACTOR AND THE WRIGHT FIELD REPRESENTATIVE AT THE MODIFICATION CENTER, THE LACK OF PRIORITY FOR THIS PROJECT, WITHOUT RESULTS. AS PREVIOUSLY STATED, UNLESS ADEQUATE PRIORITY AND ONLY AAA-1 PRIORITY IS CONSIDERED ADEQUATE AT THIS TIME, IS FURNISHED IMMEDIATELY, FURTHER AND CONTINUED DELAYS WILL RESULT.

MAJOR PORTER OF THE PHOTOGRAPHIC GROUP IN WASHINGTON CALLED ON JUNE 18 REQUESTING FULL DETAILS REGARDING THE PARTS PROCUREMENT SITUATION AND DETAILS OF THE LENGTH OF TIME SHIPS HAS BEEN IN WORK. THIS INFORMATION WAS ASSEMBLED AND RELAYED TO HIM BY TELEPHONE. FOR MAJOR PORTER'S INFORMATION THE CONTRACTOR STATED THAT IF ALL PARTS NECESSARY COULD BE DELIVERED BY JUNE 23, THE FIRST AIRCRAFT COULD BE COMPLETED BY JULY 15, NEXT TWO BY AUGUST 1 AND A FOURTH AND LAST BY AUGUST 10. THESE DELIVERY DATES ARE ENTIRELY DEPENDENT UPON THE JUNE 23 DATE HOWEVER. THE CONTRACTOR ALSO ESTIMATED THAT IF THE PROPER PRIORITY HAD BEEN ISSUED AT THE BEGINNING OF THE FIRST MODIFICATION, THE FIRST AIRCRAFT COULD HAVE BEEN DELIVERED BY JULY 1.

THE FOLLOWING IS THE PRESENT STATUS OF THE FIRST F-7 AIRCRAFT COLON NOSE GUN INSTALLATION 85 PERCENT COMPLETE ONE PART REMAINING SHORT BOMB SIGHT INSTALLATION COMPLETE

OXYGEN SYSTEM 60 PER CENT COMPLETE WITH PARTS STILL SHORT

VACUUM SYSTEM 40 PER CENT COMPLETE WITH PARTS STILL SHORT

HEATERS 60 PER CENT COMPLETE WITH PARTS STILL SHORT

BALL TURRET 80 PERCENT COMPLETE WITH PARTS STILL SHORT COLON HOWEVER THESE PARTS ARE EXPECTED TO BE DELIVERED ALMOST IMMEDIATELY.

CAMERA INSTALLATIONS, BOTH ENGINEERING AND INSTALLATION APPROXIMATELY 60 PER CENT COMPLETE.

THE PRODUCTION DIRECTIVE FILE AMS-M-917* FOR THE F-7 TYPE AIRCRAFT WAS RECEIVED JUNE 15. A FEW INACCURACIES ARE NOTES IN THIS DIRECTIVE AND A LETTER IS BEING

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PREPARED REQUESTING THE CORRECTION OF THESE INACCURACIES. IT IS NOTED THAT THE DIRECTIVE AGAIN REQUESTS PROVISIONS FOR THE INSTALLATION OF THE K-22 CAMERA. REPEATED REQUESTS HAVE BEEN MADE TO THE AIR SERVICE COMMAND FOR A K-22 CAMERA FOR MOCK UP PURPOSES. UNLESS THIS K-22 CAMERA IS FURNISHED IMMEDIATELY, PROPER PROVISIONS FOR ITS INSTALLATION CANNOT BE MADE.

COLONEL POLIFKA VISITED THE MODIFICATION CENTER FOR A SHORT TIME JUNE 15 AND INSPECTED THE PROGRESS OF THE F-7 AIRCRAFT. HE APPROVED THE BOMB SIGHT AND THE NOSE GUN INSTALLATIONS AND, CONSIDERING THE PRIORITY DIFFICULTIES SET FORTH HEREIN, CONSIDERED THE PROGRESS SATISFACTORY. W. E. HARRISON.

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ARMY AIR FORCES
MATERIEL ENGINEERING COMMAND

ELT:map:59

Wright Field, Dayton, Ohio
JUN 22 1943

Subject: Photographic Equipment to be Installed in XP-7 Aircraft.

To: Commanding General,
Air Service Command,
Patterson Field,
Fairfield, Ohio.

1. The following equipment will be installed in standard installations in F-7 aircraft, the prototype of which is undergoing modifications at present in the Lockheed Modification Center, Dallas, Texas.

- Three (3) K-17 6" cameras.
- Six (6) A-5A magazines -
- Three (3) K-18 cameras -
- Six (6) A-7 or A-8 magazines -
- Three (3) K-22 40" cameras or
- Three (3) K-17 modified 40" cameras, alternate with this installation is two (2) K-17 12" camera installation with four (4) A-5A magazines.
- One (1) T-5 camera -
- Two (2) Type T-5 magazines.
- One (1) K-24 camera -
- Two (2) K-24 magazines.

2. In a single vertical installation for T-5 camera provisions are being made for the installation of a single K-19B, K-18, K-22 or K-23 camera, if the need arises.

3. The above camera installations are outlined in CTI-1355.

4. It is requested that the above cameras, magazines, and photographic equipment be made available in the quantities noted for this installation.

For the Commanding General:

SECTION
DIVISION
I. C. DUNGAN, MAJ., A.C.
FOR Lt. O. CARROLL,
Brig. General, U.S.A.,
Chief, Engineering Division.

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INTER-OFFICE MEMORANDUM
ARMY AIR FORCES
MATRIEL CENTER
Office of The Commanding General

LEQ:mep:59

Wright Field, Dayton, Ohio
Date 2 July, 1943

TO: Chief, Armament Laboratory, Wright Field.
Att: Mr. Neff, Bombing Unit

mx-373

SUBJECT: Installation of Photoflash Bombs on F-7 Type Airplanes
(C. T. I. 1355)

1. Reference Inter-Office Memorandum dated 22 June, 1943, from Chief, Technical Staff, Engineering Division, Wright Field, to your office, according to verbal instructions of Col. George G. Northrup, Operations, Commitments and Requirements, Washington, D. C., this Laboratory has been advised that six (6) photoflash bombs will be sufficient installation on the F-7 long range photographic airplanes.

H. K. Baisley
for H. K. BAISLEY,
Colonel, Air Corps,
Chief, Photographic Laboratory,
Engineering Division.

Cy. to:
Lt. Buren, Bombardment Br.
Eng. Div.

CENTRAL FILES
7-10-43

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MESSAGEFORM		Date	29 JUNE 1943
File No.	170	Office of origin	MIDWEST PROC. DIST., PRODUCTION DIVISION, MODIFICATION SECTION
Address	MUNICIPAL AIRPORT, P.O. BOX 117, WICHITA, KANSAS		
To:	PRECEDENCE		
	WIRE or RADIO	ESSENTIAL MILITARY MAIL	
	Urgent	Airmail	X
	Priority	Special delivery	
	Routine	Ordinary	
	Deferred	Registered	
	Week end		
COMMANDING GENERAL AAF MATERIEL COMMAND WRIGHT FIELD DAYTON, OHIO		Any message not X'd for precedence will be sent "Deferred."	
ATTN: CHIEF, MODIFICATION SECTION		Initial JFS:ld	

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In Reply Cite: MPD-MAF -17G-502

B-24 AIRPLANE SERIAL NO. 42-40113 WAS ASSIGNED TO THE BRANIFF AIRWAYS AT DALLAS, TEXAS, FOR THE PURPOSE OF CONDUCTING EXPERIMENTAL WORK IN CONNECTION WITH THE PHOTOGRAPHIC SECTION FOR THE PURPOSE OF DEVELOPING THE MOCK-UP AND SUBSEQUENT DIRECTIVES FOR THE P-7 MODIFICATION PROJECT NOW IN WORK AT THE LOCKHEED MODIFICATION CENTER, DALLAS, TEXAS. THIS SUBJECT AIRPLANE DURING THE PERIOD IT WAS AT BRANIFF UNDERWENT CONSIDERABLE ALTERATIONS AND WHEN DELIVERED TO THE LOCKHEED MODIFICATION CENTER WAS DISCOVERED TO BE IN RATHER POOR CONDITION. CONSIDERABLE WORK WILL BE REQUIRED TO MAKE THIS AIRPLANE SUITABLE FOR MODIFICATION AND IT IS BELIEVED THAT THE WORK INVOLVED IS CONSIDERABLY MORE THAN THE CENTER WILL BE ABLE TO PERFORM AND AT THE SAME TIME CONTINUE WORK ON THE OTHER AIRPLANES ASSIGNED TO THE P-7 PROJECT. IT IS REQUESTED THAT SUBJECT AIRPLANE BE REMOVED FROM ASSIGNMENT TO THE P-7 PROJECT AND THAT ARRANGEMENTS BE MADE WITH THE 24TH SUB-DEPOT, AIR SERVICE COMMAND AT DALLAS TO PERFORM WHATEVER WORK IS NECESSARY TO MAKE THIS AIRPLANE FLYABLE AND THAT THIS AIRPLANE BE MADE AVAILABLE TO THE OTU FOR TRAINING PURPOSES, AS IT IS FELT THAT THE WORK NECESSARY TO RE-BUILD AND MODIFY THIS PLANE TO MAKE IT FULLY OPERATIONAL WOULD INVOLVE MORE EFFORT THAN IS WARRANTED AT THIS TIME.

HARRIS

Authentication *[Signature]*

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Address Reply to:
Commanding General
AAF Materiel Command
Ref: GW:jlm - 70-7

Wright Field, Dayton, Ohio
3 July 1945

XP-7 Photographic Prototype

AIRMAIL

District Supervisor
Midwestern Procurement District
AAF Materiel Command
Wichita, Kansas

mx-373

1. This refers to **MFB-MAF-170-502**, dated 29 June 1945, concerning disposition of the Photographic Prototype XP-7 airplane, serial **42-40113**, which was partly dismantled by Braniff Airways.

2. The request contained in the subject communication cannot be granted for the following reasons:

- a. The airplane was reported to be operational when it was delivered to the Braniff Airways.
- b. The items reported missing in the A.A.F.R.R. letter from the Dallas Modification Center, dated 29 June 1943, were removed at Braniff Airways and should be available for replacement.
- c. Since the airplane was reported to be 40 or 50 per cent complete as a Photographic Prototype, it appears that there would be less effort and work expended in completing it as an XP-7 than to rebuild it as a B-24.
- d. It cannot be deleted from the present assignment because no replacements are available.
- e. It has the theatre modifications that are required for this Project.
- f. Higher authority directs that the airplane be delivered on this Project even though it will have a hydraulic pilot.
- g. As soon as the airplane is made flyable, it can be used for transition training purposes at the Modification Center, thereby releasing one complete B-24 airplane so that it can be put in the Modification

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XP-7 Photographic Prototype

District Supervisor
Wichita, Kansas

Line, and this 42-40113 could be gradually completed
and be one of the last delivered.

By Command of Brigadier General Branshaw

S. R. Brewhall
S. R. BREWHALL
for Colonel, Air Corps
Chief, Production Engineering Section

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LOCKHEED
Aircraft Corporation
Dallas, Texas

July 7, 1943

In reply refer to:
MC/40621 2MC:nn

Subject: B-24 Photographic Airplanes

To: Army Air Forces Resident Representative
Lockheed Aircraft Corporation
Love Field
Dallas, Texas

- References:
- (a) (MC/38493) A MS-41-917 to Army Air Forces Resident Representative, Lockheed - Dallas Modification Center, signed Branshaw, Materiel Command, dated June 14, 1943
 - (b) (MC/40116) AMS-T-39 to Army Air Forces Resident Representative, Lockheed-Dallas Modification Center, signed Branshaw, Materiel Command, dated July 1, 1943
 - (c) (MC/40213) MPD-MAF-170-503 to Army Air Forces Representative, Lockheed Modification Center, signed Harris, dated June 29, 1943
 - (d) (MC/40574) AMS-T-113 to Army Air Forces Resident Representative, Lockheed Dallas Modification Center, signed Branshaw, Materiel Command, dated July 6, 1943

1. The B-24 project in its present phase is strictly experimental and will remain so until the first ship is approved, and in view of the fact that changes and additions are still being made, Contractor cannot forecast a definite date for completion of the first ship. Every effort will be made, however, to complete the first ship by July 20.

2. The prototype is being built in accordance with Reference (a), and when finished, will represent a considerable change over a normal production B-24 airplane. These changes are so extensive that it is the Contractor's opinion that the flight characteristics of the airplane may be altered a very great degree. For this reason, the Contractor is hesitant to assume the responsibility for the initial flights on the prototype, and recommends the following:

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MC/40621

- (a) That Engineers from Wright Field inspect the completed Prototype and determine its center of gravity location independently of our Engineers.
- (b) That Wright Field supply an Army test pilot for the initial series of flights on the prototype, who is thoroughly familiar with B-24 airplanes. It is felt that though Contractor pilots are competent to fly the B-24, their experience on this airplane has not been specific enough to warrant their testing the first experimental airplane of this type.

3. It is further requested that a definite test procedure be worked out through which the initial B-24 will be required to proceed before leaving this activity.

4. It will be of great assistance to the Contractor if the directive covering the modification of the B-24, Reference (a), could be frozen in its present state until completion of the prototype has been accomplished. Recent communications have been a help along this line. Reference (b), the installation of SCR-518 radio, has been countermanded, and Reference (c) has deleted the requirement for haze paints. Reference (d) delayed the installation of flash bombs until the third production airplane. With reference to the installation of flash bombs, please clarify the term "third production Airplane". Does this mean the third airplane presently being built, or the third airplane when production actually begins on this project? The four B-24's presently being worked on will necessarily have to be considered experimental until such time as the prototype is completed and accepted.

LOCKHEED AIRCRAFT CORPORATION

C. M. Crawford, Jr.
Assistant Base Manager
Operations

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TELETYPE MESSAGE

DATE: 19 July 1943

FROM: Prod. Engrg. Sect.

ATTENTION: MATERIEL DIVISION
PRODUCTION BRANCH

S. R. BRETNALL
Colonel, Air Corps

PES-3719.....REF: AFDMA-1D-515, DATED 12 JULY 1943. INSTALLATION OF ARMORED PHOTO FLASH BOMBS AS AN ALTERNATE TO BOMB BAY GAS TANK, IS FEASIBLE, BUT NOT ADVISABLE, FOR THE FOLLOWING REASONS:

- A. PRESENT COMMITMENTS ON ARMOR PLATE UNDER HIGHEST PRIORITY WOULD MAKE DELIVERIES AS LATE AS TWO OR THREE MONTHS, MINIMUM.
- B. ARMOR WOULD ADD APPROXIMATELY 1,000 LBS. OF ADDITIONAL FIXED WEIGHT.
- C. ENGINEERING NECESSARY WOULD ENTAIL AN EXTENDED DELAY.
- D. ARMAMENT BRANCH ADVISES THAT DIVISION OF BOMB BAY INTO TWO COMPARTMENTS BY ADDITION OF ARMOR PLATE WOULD MAKE CATWALK IN BOMB BAY SO NARROW THAT CREW MEMBERS COULD NOT USE IT.
- E. THE BOMB BAY WOULD BE MADE PRACTICALLY USELESS AS A MEANS OF ESCAPE.
- F. OPERATION OF THE FRONT BOMB BAY DOOR WOULD INCREASE THE REAR BOMB BAY CAMERA COMPARTMENT HEATING DIFFICULTIES IN FRIGID OPERATION DUE TO CLIMATIC CONDITIONS OF ALTITUDE.

413.77 photo flash bombs
452.812 bomb bay gas tank
452.1 Consolidated P-7 (B-24 photos)

PRODUCTION DIVISION

X'd from 413.77 Photoflash Bomb-Restr.

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District Supervisor, Midwestern Procurement District, AAF Materiel Command, Municipal Airport, P.O. Box 117, Wichita, Kansas, Modification Section. 14 July 1943.

TO: Commanding General, AAF Materiel Command, Wright Field, Dayton, Ohio
Attention: Aircraft Modification Branch, Production Engineering Section.

1. Basic communication is forwarded and it is requested that this Office be advised of action taken on request made.

For the District Supervisor:

FRANK J. MURPHY
Lt. Colonel, Air Corps
Chief, Production Division

Encl:
Lockheed Letters

cc-26299

2nd Ind.

OLW:jlm - 70-7

War Department, AAF Materiel Command, Wright Field, Dayton, Ohio. 19 July 1943.

TO: District Supervisor, Midwestern Procurement District, AAF Materiel Command, Municipal Airport, P.O. Box 117, Wichita, Kansas, Modification Section.

1. There are no experimental airplanes in the Dallas Modification Center. One prototype airplane, B-24 Serial 42-40113, was moved over from Braziff Airways to the Dallas Modification Center, and later given up entirely because it did not compare with the B-24 airplanes that were to be made available for the project. AAG-100, dated 29 May 1943, authorized them to drop that particular airplane and substitute the most advanced one of the four (4) then on hand at the Dallas Center. This airplane was B-24 Serial 42-40488. The Army Air Forces Resident Representative at Dallas and the Contractor have been told not to refer to the aircraft as experimental in reference to delivery schedules or "forecast" of a definite date of completion for the first ship, IAG-1-2119, dated 21 June 1943, written by Mr. W. E. Harrison, Photographic Liaison Representative, to the Chief, Photographic Lab. and copy to Bombardment Branch, Wright Field, and signed by Major Cooley, states the Major Porter of the Photographic Group from Washington, called at that station on 18 June 1943, and was informed by the Contractor that if all necessary parts could be delivered by 23 June 1943, the first aircraft could be completed by 15 July 1943, next two (2) by 1 August 1943, and a fourth, 10 August 1943. No such information has been given to this

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F-7 Airplanes

19 July 1943

Midwestern Procurement District
Wichita, Kansas

office. During numerous telephone conversations with the Army Air Forces Resident Representative at Dallas and his assistants, a fly-away date of 20 July 1943, has been set for the prototype airplane. Mr. Harrison, the Liaison Representative, at the request of this office, gave the Contractor a list of work that had been definitely decided upon as acceptable to the Photographic Section, and the Contractor was instructed to bring the remaining four (4) airplanes up to date in the same manner. The remaining four (4) airplanes are considered the 2nd, 3rd, and 4th articles, and are not experimental or prototype airplanes.

2. Mr. Harrison, Photographic Liaison Representative, advised Major O. L. Wallace by telephone on 15 July 1943, that he had made arrangements for weight and balance engineers to come from Wright Field to Dallas for the purpose of determining whether the airplane, when critically loaded to its maximum forward and aft conditions, is within the approved limits of the M. A. C. This amounts to nothing less than a check by the Government against the calculation prepared by the Contractor's weight and balance engineering staff. Attention is called to the fact that no alterations have been authorized on the control system of the airplane and that the contour of external surface has not been changed. The changes that have been authorized should not affect the flight characteristics of the airplane, unless the center of gravity shift is critical. Information is requested as to whether the Contractor considers his engineers competent to make this decision. Concerning the Flight Testing of the prototype airplane, Mr. Harrison states that Colonel Bailey of the Photographic Laboratory has expressed a desire to, and has agreed to test fly the airplane when it is completed.

3. Instructions as to extent of the flight test of prototype airplane are the responsibility of this office and all arrangements will be made. You will be notified of results of such arrangements. All changes to be accomplished on prototype aircraft after flight test will also be a responsibility of this office, and all requests for changes will be cleared through Aircraft Modification Branch and directives issued to Dallas Modification Center concerning such changes.

4. To freeze the directive covering the modification of the subject airplane in its present state, would defeat the purpose of the instructions from this office to the Army Air Forces Resident Representative to make every effort to bring the remaining four (4) airplanes as near as is practicable to completion behind the prototype. Our efforts along this line have already been referred to in the instructions giving the Army Air Forces Resident Representative authority to proceed with as much work as was decided upon. Such installations as were in doubt and such installations as were subject to change as a result of the flight test of the prototype airplane, have been left inactive by this arrangement. It is felt that by close liaison connection during the flight test of the airplane, Dallas Modification Center will, as directed, be able to proceed as early as possible

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F-7 Airplanes

15 July 1943

Midwestern Procurement District
Wichita, Kansas

with the completions of the items that the test indicates are satisfactory. AMS-39, dated 5 July 1943, rescinds the instructions contained in AMS-39, dated 1 July 1943, (installation of SCR-518 radio in the airplanes then on hand at Dallas) and directed that they be installed in the airplanes for the 24th Mapping Group only. The Army Air Forces Resident Representative was advised that airplanes for this group would start with the 15th or 16th article arriving at Dallas for this project, and advised that serial numbers would be furnished him when available. Requirements for camouflaging, described in "R" of the current directive, have not been changed. The Midwestern Procurement District made an effort to have the Tulsa Modification Center do this work, but MPD-T-170-580, dated 13 July 1943, from the Midwestern Procurement District to Lt. Colonel Cook, stated that since Tulsa had been requested to modify a definite number of B-17F airplanes, they could not undertake the camouflaging of the F-7 airplanes being modified at Dallas, and requested this office make arrangements for the Air Service Command to perform this work. Since this requirement is a part of the regular directive, and the obligation of the Modification Center, an extensive investigation was made by this office to determine the feasibility of doing the work outside at Dallas. All available Technical Orders pertaining to painting and camouflaging were reviewed. It was brought out that such work as camouflaging or painting could be done outside if the climatic conditions permitted. It was agreed that because of the heat at this time of the year and because of the moisture and wind at other times, that provisions should be made to do the camouflaging inside. Major O. L. Wallace of the Aircraft Modification Branch, took the matter of facilities up with Lt. Colonel Winston, Chief, Resources and Contract Unit, A.M.B. It was obviously of no use to attempt the construction of a modern dope house adequate for the work even if the space and funds had been available. The Army Air Forces Resident Representative was requested to discuss with the Contractor the matter of partitioning sufficient space at one end of the hangar by the installation of canvas partitions and blowers as a temporary expedient. He was also advised that the Contract Section would approve such an expenditure. To date this office has not been furnished with results of such discussions or reasons why the Contractor will not comply with the camouflage instructions. AMS-113, dated 6 July 1943, directed that installation of the photo flash bomb would begin with the third airplane to be modified and does not refer to the third airplane being built. The prototype airplane, when accepted, will constitute the first article, falling under the category of these instructions. The Contractor is again reminded of the urgent necessity of doing everything possible that will result in the delivery of the other four (4) airplanes as soon as possible after the prototype is accepted.

By Command of Major General Branchant

S. R. Breyfuss
S. R. BREYFUSS
Colonel, Air Corps
Chief, Production Engineering Section

1 Incl. a/c.

cc-AAFER, Dallas, Texas
100-WF-5 Photographic Lab.

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HEADQUARTERS ARMY AIR FORCES

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ROUTING AND RECORD SHEET

TALLY NO.	
FILE NO.	

SUBJECT: Bomb Bay Tanks

TO: Asst C/AS, M M and D

DATE 24 July 1945

FROM: Asst C/AS, O C and R (Requirements Division, Reconnaissance Branch)

COMMENT NO. 1
Capt. Essick/Lg 8237

1. The B-24 aircraft delivered to Lockheed Modification Center, Dallas, Texas, for photographic modification (Project 96035) had self-sealing bomb bay tanks, as previously requested. When this airplane was weighed with its full load, including gasoline, it was found to have a gross weight of sixty-six thousand (66,000) pounds. This is considered to be excessive weight for photographic purposes.

2. The request that bomb bay tanks be furnished with B-24 aircraft to be modified as F-7 is hereby waived, in view of the fact that subject aircraft are now being delivered equipped with auxiliary self-sealing wing-tip tanks which provide sufficient gasoline for contemplated photographic missions.

3. On all future B-24 aircraft delivered for above project, which are equipped with wing-tip tanks, it will not be necessary to supply bomb bay tanks. However, if aircraft are delivered without the wing-tip tanks, it will be required that bomb bay tanks be included.

Photo Req Sec

William E. Barnes
WILLIAM E. BARNES
Colonel, Air Corps

452.22 Paul Hanks

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ADDRESS REPLY TO
HEADQUARTERS OF THE ARMY AIR FORCES
WAR DEPARTMENT
WASHINGTON, D. C.

WAR DEPARTMENT
HEADQUARTERS OF THE ARMY AIR FORCES
WASHINGTON 3 August 1943

SUBJECT: Photographic Modification of B-24 Type Aircraft Allocated
to Photographic Squadrons.

TO: Commanding General
Headquarters Materiel Command
Wright Field, Dayton, Ohio

mx-373

Att'n: Technical Executive

1. It is directed that all B-24 type airplanes allocated to Photographic Squadrons will be modified in accordance with the modifications contained in the attached copy of an R & R from the Requirements Division, AC/AS, OC&R dated 2 August, 1943, subject same as above.
2. This list of modifications supersedes all previous directives concerning the modifications for B-24 type photographic airplanes.
3. Items contained in this directive which are not at present possible for installation will be reported to this office as soon as possible together with possibilities for future installation.
4. A copy of the R&R noted in Paragraph 1 has been forwarded to the Aircraft Modification Branch for their information.

By Command of General ARNOLD:

1 Incl.
Cpy R & R frm. Reqs. Div.
AC/AS, OC&R dated 2 August
1943, subj. as above.
(Tech Exec)

J. W. Sessums, Jr.
J. W. SESSUMS, JR.
Colonel, Air Corps
Chief, Production Br., Materiel Div.
Office Assistant Chief of Air Staff
Materiel, Maintenance & Distribution



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Photographic Modification of B-24 Type Aircraft Allocated to Photographic Squadrons.

2 AUG 1943

Asst C/AS, MKD

Asst C/AS, OGR, Requirements Division.

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Capt Colthary/alm/74550

ACAS/CCR

1. This R & R supersedes all previous R & R's on the "Modification of B-24 Type Aircraft."

2. It is requested that all B-24 Type Aircraft allocated to photographic squadrons (except those which have been or are being modified at present) be modified as follows:

a. GENERAL:

In addition to the Tri-Nitrogen installation in the nose of the airplane, provisions will be made in the most favorable location, considering accessibility, structural characteristics, and balance, for a "camera bay" to take the cameras indicated below. All cameras will be installed such that there will be no masking of the photographic image by the camera windows or any objects inside the fuselage, and such that the masking of the photographic image by any structure of the airplane outside the fuselage will be held to an absolute minimum. The installation, deletion, or relocation of any of the standard equipment in the airplane, which will not adversely affect the structural or aerodynamic characteristics of the airplane, but which will improve the photographic performances of the airplane, will be permitted.

b. CAMERAS:(1) SIX INCH (6") TRI-NITROGEN CAMERA INSTALLATION:

Provisions will be made in the nose of the aircraft for the installation of three (3) K-17 B or L-17 cameras, with six inch (6") nitrogen lenses and A-5 or A-9 magazines, mounted in tri-nitrogen arrangement, with one (1) right oblique, one (1) vertical, and one (1) left oblique, with the optical axes of the oblique cameras depressed thirty degrees (30°) from the horizontal.

(2) VARIABLE FOCAL LENGTH SINGLE VERTICAL CAMERA INSTALLATION:

Provisions will be made in the "camera bay" for the installation of a single vertical T-5, L-17, L-18, K-19, L-22 or similar camera, with focal lengths from six inches (6") to forty-eight inches (48"), in the standard camera mounts (A-8, A-11, A-23).

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CONFIDENTIAL**Photographic Modification of B-24 Type Aircraft Allocated to Photographic Squadrons.****(3) TWELVE INCH (12") SPLIT VERTICAL CAMERA INSTALLATION:**

Provisions will be made in the "camera bay" for the installation of two (2) K-17 cameras with twelve inch (12") lenses and A-9 or A-5 magazines, mounted in split vertical, with the long axis of the combined image areas oriented laterally, and with one (1) right oblique and one (1) left oblique, with the optical axes tilted equally from the vertical such that the overlap in the image between the two cameras will be approximately one inch (1").

(4) ALTERNATE TWENTY-FOUR INCH (24") SPLIT VERTICAL CAMERA INSTALLATION:

Provisions will be made in the "camera bay" in the place of the TWELVE INCH (12") SPLIT VERTICAL CAMERA INSTALLATION for the installation of two (2) K-22 cameras with twenty-four inch (24") lenses and A-9 or A-5 magazines, mounted in split vertical, with the long axis of the combined image areas oriented laterally, and with one (1) right oblique and one (1) left oblique, with the optical axes tilted equally from the vertical such that the overlap in the image between the two cameras will be approximately one inch (1").

(5) ALTERNATE FORTY INCH (40") SPLIT VERTICAL CAMERA INSTALLATION:

Provisions will be made in the "camera bay" in the place of the TWELVE INCH (12") SPLIT VERTICAL CAMERA INSTALLATION for the installation of two (2) K-22 cameras with forty inch (40") lenses and A-9 or A-5 magazines mounted in split vertical with the long axis of the combined image areas oriented laterally, and with one (1) right oblique and one (1) left oblique, with the optical axes tilted equally from the vertical such that the overlap in the image between the two cameras will be approximately one inch (1").

c. SPARE MAGAZINES:

Provisions will be made for the storage of one (1) spare magazine for each camera as near the corresponding camera as possible.

d. CAMERA MOUNTS:**(1) STANDARD MOUNTS:**

Provisions will be made for installing the standard A-5, A-11, A-25 mounts at the VARIABLE FOCAL LENGTH SINGLE VERTICAL STATION and at the TWELVE INCH (12") SPLIT VERTICAL CAMERA STATION, with an adapter or adapters to accommodate focal length lenses from six inches (6") to forty-eight inches (48").

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Photographic Modification of B-24 Type Aircraft Allocated to Photographic Squadrons.**(2) SPECIAL MOUNTS:**

Each multi-camera installation will be mounted in a single integral mount, shock mounted to the fuselage. The angular relationship of the cameras will be such that the optical axis and one pair of fiducial marks of each camera will lie in a plane or planes that are parallel to a lateral vertical plane. Provisions will be made for aligning and maintaining the angular relationship of the cameras. If practical, all cameras will be arranged so that the film will progress in the same direction. Provisions will be made for adjusting the entire mount assembly for "tip" (fore and aft direction), resulting from the variation in the attitude of the airplane. The mounts will be designed so they can be easily removed from or installed in the airplane, and so the cameras can be easily removed from or installed in the mount. The magazine locks and dark slides of each camera will be easily accessible when the camera is in operating position in order that the magazines, and if practical, the dark slides, can be easily removed. The devices for attaching the mount for the TWELVE INCH (12") SPLIT VERTICAL CAMERAS to the airplane should be the same type and the same spacing as the standard camera mounts. (This twelve inch (12") split vertical mount should be the same as for the B-17 airplane.)

c. CAMERA CONTROL:**(1) STANDARD INTERVALOMETERS:**

Provisions will be made for the installation of the B-2B Intervalometer on the standard wedge plate in the nose of the aircraft to operate the tri-magazine installation when all cameras are not being operated from the "camera bay."

(2) SOLE-CAMERA CONTROL:

A multi-camera control will be installed in the "camera bay," convenient to the camera operator, which will operate all cameras collectively or individually, either automatically with 60% overlap in line of flight, normally or runway. Blinker lights at the camera operator's station to indicate operation of each camera, and an interval warning light in the pilot cockpit will be provided.

(3) SIGNAL SYSTEM:

Start-and-stop signal system will be provided between the pilot, navigator, and photographer, permitting the navigator to indicate the beginning and ending of photography. Signal lamps will be installed on the pilot's panel to indicate when the cameras are ready to "shoot."

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Photographic Modification of B-24 Type Aircraft Allocated to Photographic Squadrons.

f. CAMERA ELECTRICAL SYSTEM:

All necessary electric wiring for cameras and auxiliary equipment will be provided with A.W. connectors.

g. VACUUM:

Vacuum lines will be run to all camera stations where required. Sufficient vacuum (volume and pressure) will be provided to maintain at the focal plane back, the maximum differential pressure available at maximum altitude. If necessary, a safety valve will be provided for lower altitudes.

h. VIEW FINDER:

Provisions will be made for the installation of the A-2 View Finder in the nose of the aircraft and in the "camera bay" convenient to the camera operators.

i. DRAFT SEAL:

Selected plate glass, as nearly optically flat as possible, will be used for the camera windows. If the camera windows are located such that they may become dirty or broken in taking off or landing, or such that when opened they will not cause too serious a draft, they will be installed so that they can be easily removed from within the airplane in order that they may be inspected, cleaned, and replaced when broken. Provisions will be made for storage of one (1) spare glass for each such camera window. If the camera windows are located such that they will not become dirty or broken in taking off or landing, or such that they will cause a severe draft when opened, they will be installed so that they can be easily inspected and cleaned in flight through auxiliary perches. In addition, an alternate "sleeve" type draft seal will be provided for the T-5 camera.

j. DEFROSTERS:

Defrosters shall be provided for each camera window.

k. HEAT:

The cabin and camera compartments will be insulated as much as possible, and sufficient heat will be provided to maintain a minimum temperature of thirty-five degrees Fahrenheit (35°F) (sixty degrees Fahrenheit (60°F) desired) in the cabin and camera compartments, with a free air temperature of minus sixty degrees (-60°) Fahrenheit.

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Photographic Modification of B-24 Type Aircraft Allocated to Photographic Squadrons.

1. FLOOR BOARDS:

Floor boards will be provided where necessary and will be removable or hinged to permit free access to the camera.

m. CAMERA REPAIR KIT:

Provisions will be made in the "camera bay" if practicable, for storage of a small, light weight, camera repair kit (Q-1 Type).

n. FLASH BOMBS:

Special provisions will be made for carrying six (6) photo flash bombs, armed. (This item will be deleted until engineering is complete and parts are available.)

o. ARMOR:

All current armor, bulletproof glass, and leakproof tanks will be retained.

p. ARMAMENT:

All current existing armament will be retained, except that the gun in the rear escape hatch will be deleted, and a standard ball type lower turret will be installed at the most favorable location.

q. BOMBING EQUIPMENT:

All bombing equipment, except the bomb sight and that which may be necessary for flash bombs, will be removed.

r. RADIO EQUIPMENT:

All current existing radio equipment will be retained.

s. NAVIGATIONAL EQUIPMENT:

All current existing navigational equipment will be retained. The bombight will be tied into the automatic pilot.

t. CAMOUFLAGE:

The approved "base paint" for photographic airplanes will be applied. All other camouflage will be satisfactorily removed before applying the "base paint".

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Photographic Modification of B-24 Type Aircraft Allocated to Photographic Squadrons.

u. RANGE:

Maximum gas (in leakproof tanks) and oil will be provided.

v. CREW:

The crew will consist of one (1) pilot, one (1) co-pilot, one (1) navigator-gunner, one (1) radio-man-gunner, one (1) flight engineer-gunner, two (2) photographer-gunners, two (2) gunners.

w. OXYGEN:

Sufficient oxygen will be provided for minimum of six hours endurance at thirty thousand feet (30,000').

x. FLIGHT TESTS:

Each aircraft will be flight tested to insure that all installations called for above will perform satisfactorily.

H. H. McCLELLAND
Brigadier General, U.S.A.

Requirements Division _____
Reconnaissance Branch _____
Material and Equipment Section _____

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WRIGHT FIELD, Dayton, Ohio.
6 August 1945

MX-373

OFFICE MEMORANDUM

Photographic Modifications of B-24 Type Aircraft Allocated to Photographic Squadrons.

Production Division

1. Reason Requested:

a. To establish modification requirements for all B-24 type airplanes allocated to photographic squadrons.

2. Actual Data:

a. This list of modifications supersedes all previous directives concerning the modifications for B-24 type photographic airplanes.

3. Authority:

a. Commanding General, Army Air Forces. By letter dated 1 August 1945, subject: "Photographic Modification of B-24 Type Aircraft Allocated to Photographic Squadrons", from Chief, Production Branch, Material Division, Office Assistant Chief of Air Staff, Material, Maintenance & Distribution, Washington, D. C.

4. Action Requested:

a. That all B-24 type airplanes allocated to Photographic Squadrons be modified as follows:

(1) (a) General:

In addition to the Freon-12 system installation in the nose of the airplane, provisions will be made in the most favorable location, considering accessibility, structural characteristics, and balance, for a "gunner tray" to take the covers indicated below.

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Wright Field, Dayton, Ohio
6 August 1944

OSI-1377, Addendum 1

Photographic Modifications of B-24 Type
Aircraft Allocated to Photographic Squadrons.

Production Division (Cont'd)

All cameras will be installed such that there will be no masking of the photographic image by the window or any objects inside the fuselage, and such that the masking of the photographic image by any structure of the airplane outside the fuselage will be held to an absolute minimum. The installation, deletion, or relocation of any of the standard equipment in the airplane, which will not adversely affect the structural or aerodynamic characteristics of the airplane, but which will improve the photographic performance of the airplane, will be permitted.

(2) CAMERAS:

1. SIX INCH (6") FIVE-NEUTRON CAMERA INSTALLATION

Provisions will be made in the nose of the aircraft for the installation of three (3) K-17 or K-17 cameras, with six inch (6") neutrons lenses and A-5 or A-9 magazines, mounted in the neutrons arrangement, with one (1) right oblique, one (1) vertical, and one (1) left oblique, with the optical axes of the oblique cameras depressed thirty degrees (30°) from the horizontal.

2. VARIABLE FOCAL LENGTH STEERABLE VERTICAL CAMERA INSTALLATION

Provisions will be made in the "camera bay" for the installation of a single vertical K-5, K-11, K-18, K-19, K-21 or similar camera, with focal lengths from six inches (6") to forty-eight inches (48"), in the standard camera mounts (A-4, A-11, A-13).

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REPLACEMENT
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Wright Field, Dayton, Ohio
6 August 1955

OWI-1355, Addendum I

Photographic Modifications of E-24 Type
Aircraft Allocated to Photographic Squadrons.

Production Division (Cont'd)

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3. TWELVE INCH (12") SPLIT VERTICAL CAMERA INSTALLATION

Provisions will be made in the "camera bay" for the installation of two (2) E-17 cameras with twelve-inch (12") lenses and A-3 or A-5 magnifiers, mounted in split vertical, with the long axis of the combined image areas oriented laterally, and with one (1) right oblique and one (1) left oblique, with the optical axes tilted equally from the vertical such that the overlap in the image between the two cameras will be approximately one inch (1").

4. ALTERNATE TWENTY-FOUR INCH (24") SPLIT VERTICAL CAMERA INSTALLATION

Provisions will be made in the "camera bay" in the place of the TWELVE INCH (12") SPLIT VERTICAL CAMERA INSTALLATION for the installation of two (2) E-22 cameras with twenty-four inch (24") lenses and A-3 or A-5 magnifiers, mounted in split vertical, with the long axis of the combined image areas oriented laterally, and with one (1) right oblique and one (1) left oblique, with the optical axes tilted equally from the vertical such that the overlap in the image between the two cameras will be approximately one inch (1").

5. ALTERNATE FORTY INCH (40") SPLIT VERTICAL CAMERA INSTALLATION

Provisions will be made in the "camera bay" in the place of the TWELVE INCH (12") SPLIT VERTICAL CAMERA INSTALLATION for the installation of two (2) E-22 cameras with forty inch (40") lenses and A-3 or A-5 magnifiers, mounted in split vertical with the long axis of the combined image areas oriented laterally, and with one

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OTI-1355, Addendum I

Photographic Modifications of B-24 Type
Aircraft Allocated to Photographic Squadrons.

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(1) right oblique and one (1) left oblique, with the optical axes tilted equally from the vertical such that the overlap in the image between the two cameras will be approximately one inch (1").

(c) SPARE MAGAZINES:

Provisions will be made for the storage of one (1) spare magazine for each camera as near the corresponding camera as possible.

(d) CAMERA MOUNTS:

1. STANDARD MOUNTS:

Provisions will be made for installing the standard A-5, A-11, A-23 mounts at the VARIABLE FOCAL LENGTH SINGLE VERTICAL STATION and at the TWELVE INCH (12") SPLIT VERTICAL CAMERA STATION, with an adapter or adapters to accommodate focal length lenses from six inches (6") to forty-eight inches (48").

2. SPECIAL MOUNTS:

Each multi-camera installation will be mounted in a single integral mount, shock mounted to the fuselage. The angular relationship of the cameras will be such that the optical axis and one pair of fiducial marks of each camera will lie in a plane or planes that are parallel to a lateral vertical plane. Provisions will be made for aligning and maintaining the angular relationship of the cameras. If practical, all cameras will be arranged so that the film will progress in the same direction. Provisions will be made for adjusting the entire mount

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REVISIONS
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Wright Field, Dayton, Ohio
6 August 1943

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OPI-1355, Addendum I

Photographic Modifications of B-24 Type
Aircraft Allocated to Photographic Squadrons.

Production Division (Cont'd)

3. SIGNAL SYSTEM:

Start-and-stop signal system will be provided between the pilot, navigator, and photographer, permitting the navigator to indicate the beginning and ending of photography. Signal lamps will be installed on the pilot's panel to indicate when the cameras are ready to "shoot."

(f) CAMERA ELECTRICAL SYSTEM:

All necessary electric wiring for cameras and auxiliary equipment will be provided with A.N. connectors.

(g) VACUUM:

Vacuum lines will be run to all camera stations where required. Sufficient vacuum (volume and pressure) will be provided to maintain at the focal plane back, the maximum differential pressure available at maximum altitude. If necessary, a safety valve will be provided for lower altitudes.

(h) VIEW FINDER:

Provisions will be made for the installation of the A-2 View Finder in the nose of the aircraft and in the "camera bay" convenient to the camera operators.

(i) DRAFT SEAL:

Selected plate glass, as nearly optically flat as possible, will be used for the camera windows. If the camera windows are located such that they may become dirty or broken in taking off or landing, or such that when opened they will

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WRIGHT FIELD, Dayton, Ohio
6 August 1943

OTI-1355, Attachment I

Photographic Modifications of B-24 Type
Aircraft Allocated to Photographic Squadrons.

Production Division (Cont'd)

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not cause too serious a draft, they will be installed so that they can be easily removed from within the airplane in order that they may be inspected, cleaned, and replaced when broken. Provisions will be made for storage of one (1) spare glass for each camera window. If the camera windows are located such that they will not become dirty or broken in taking off or landing, or such that they will cause a severe draft when opened, they will be installed so that they can be easily inspected and cleaned in flight through auxiliary portholes. In addition, an alternate "alove" type draft seal will be provided for the B-5 camera.

(j) DEFLECTORS:

Deflectors shall be provided for each camera window.

(k) HEAT:

The cabin and camera compartments will be insulated as much as possible, and sufficient heat will be provided to maintain a minimum temperature of thirty-three degrees Fahrenheit (33°F) sixty degrees Fahrenheit (60°F) desired in the cabin and camera compartments, with a free air temperature of minus sixty degrees (-60°) Fahrenheit.

(l) FLOOR BOARDS:

Floor boards will be provided where necessary and will be removable or hinged to permit free access to the camera.

(m) CAMERA REPAIR KIT:

Provisions will be made in the "camera bay" if practicable for storage of a small, light weight, camera repair kit (B-1 type).

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RECEIVED
Wright Field, Dayton, Ohio
6 August 1943

WD-1795, Attachment I

Photographic Modifications of B-24 Type Aircraft Allotted to Photographic Squadrons.

Production Division (Cont'd)

(a) FLASH BOMBS:

Special provisions will be made for carrying six (6) photo flash bombs, removed. (This item will be deleted until engineering is complete and parts are available).

(c) ARMOR:

All current armor, bulletproof glass, and leadproof tanks will be retained.

(d) ARMAMENT:

All current existing armament will be retained, except that the gun in the rear escape hatch will be deleted, and a standard ball type lower turret will be installed at the most favorable location.

(e) BOMBING EQUIPMENT:

All bombing equipment, except the bomb sight and that which may be necessary for flash bombs, will be removed.

(f) RADIO EQUIPMENT:

All current existing radio equipment will be retained.

(g) NAVIGATIONAL EQUIPMENT:

All current existing navigational equipment will be retained. The heading will be tied into the automatic pilot.

(h) COUPLERS:

The couplers for the photographic airplanes

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NO. 100000

Page 9

Wright Field, Dayton, Ohio
6 August 1945

OS-335, Revision 1

Photographic Notifications of B-24 Type
Aircraft Allocated to Photographic Squadrons.

Production Division (Stat 'C)

(a) ~~None~~

Nothing new (in subsequent tasks) and all will be provided.

(v) ~~None~~

The crew will consist of one (1) pilot, one (1) co-pilot, one (1) navigator-gunner, one (1) radio operator, one (1) flight engineer-gunner, two (2) photographic gunners, two (2) gunners.

(w) ~~None~~

Sufficient oxygen will be provided for minimum of six hours duration at thirty thousand feet (30,000').

b. That each aircraft to flight tested to insure that all installations of that type shown will perform satisfactorily.

c. That items mentioned in this directive which are not at present possible for installation be reported to the Chief, Production Branch, Technical Division, as soon as possible together with possibilities for future installation.

By Command of Major General BRADMAN:

T. A. SMO,
Colonel, Air Corps,
Deputy Chief of Staff.

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AAFPC-254-WF-16-22-48-550M

2

ARMY AIR FORCES
MATERIEL COMMAND

Liaison Office,
Eglin Field, Florida
17 August 1943.

Subject: Progress of Proving Ground Tests on F-7A Aircraft.

To: Commanding General, AAF Materiel Command, Wright Field, Dayton, Ohio
Attn: Director of Photographic Laboratory, Experimental Engineering Division.

1. In the absence of a complete test report from AAF Proving Ground the following observations are provided for the guidance of the Photographic Laboratory. It is anticipated that the trimetrogon camera mount in the nose of the aircraft will have to be redesigned to permit easier removal of the vertical six-inch camera magazine and that four (4) degrees additional fore and aft tilt will have to be provided in order to allow the cameras to be leveled at critical altitude.
2. It appears likely that the entire camera mount in the nose of the aircraft will have to be moved to the camera bay in order to provide sufficient room in the nose when the nose gun turret is installed.
3. Machine gun and ball turret firing tests indicated the need for either heavier camera windows in the camera bay (3/8" Libby-Owens-Ford glass in preference to 1/4") or a cut-out relay to prevent the ball turret from firing directly forward within five (5) degrees of horizontal.
4. Camera control, vacuum system, heater system, and armament installation are apparently all satisfactory as they are.
5. Aircraft was weighed at this station and found to weigh 37,000 pounds or approximately 20,000 pounds less than true weight. On the basis of this weight the center of gravity was found to be forty (40) inches aft of correct location. The aircraft was thereupon grounded for forty-eight (48) hours by the Proving Ground Group pending reweighing. The second weighing determined the center of gravity at 30.3 inches, and the weight at 57,000 pounds.
6. Camouflage of aircraft (haze paint) was tested at 25,000 feet and indications are that this camouflage is no better than standard camouflage. Finish on the aircraft was sanded down and waxed prior to a low altitude speed test. Sanding and waxing increased the speed approximately eight (8) miles per hour.

-1-

CENTRAL FILES
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Ltr AAF Mat Cmd Liaison Office dtd 8/17/43 to CG Mat Cmd
subj Progress of Proving Ground Tests on F-7A Aircraft. (Cont'd.).

7. On the most recent flight test at 25,000 feet a leak in the hydraulic system caused the nose wheel to remain in the retracted position. Pilot and crew were not acquainted with the emergency nose wheel lowering system and prepared for a crash landing. On the final approach after lowering the flaps, the nose wheel came down and locked into place.

8. It is recommended that immediate steps be taken to procure 3/8 inch 60 second wedge 10 second definition glass of correct sizes from Libby-Owens-Ford for inclusion in subsequent F-7 aircraft.

9. Aircraft is scheduled to leave for Orlando for balance of test 17 August 1943 with a crew from Colorado Springs, Major Donald Surles as pilot.

Eston L. Taylor

ESTON L. TAYLOR,
Representative Experimental Engineering
Photographic Laboratory.

PHOTOGRAPHIC LABORATORY
WRIGHT FIELD
AUG 20 8 18 AM '43

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0-452.1-17
 CFAAF HEADQUARTERS ARMY AIR FORCES
 29 (1/4) ROUTING AND RECORD SHEET

TALLY NO.	
FILE NO.	

SUBJECT: Modification of F-7 (B-24) Aircraft		DATE 20 Aug 43
TO: Asst C/AS, MCD		COMMENT NO. 1
FROM: Asst C/AS, OGR, Requirements Division		Lt Col Nadeau/vml/72056

1. In view of Eglin Field Proving Ground Command findings, it is considered necessary to install nose turrets on the Type F-7 (B-24) photographic airplanes in place of the present nose gun installation.

2. A preliminary investigation indicates that nose turrets are now being installed on B-24 aircraft by the A.S.C. at Oklahoma City and Middletown. However, facilities will not be available for additional work prior to the 10th to 15th of September.

3. In connection with the above and with due consideration given to the limited time available for modification of the B-24 aircraft, the following recommendations and suggestions are submitted:

a. That the twenty-five (25) B-24 airplanes now at Colorado Springs be modified immediately at Dallas, Texas in accordance with latest modification directive with the exception of the tri-metrogon installation in the nose.

b. That upon completion of the above modifications the aircraft will be sent to Oklahoma City for the nose turret installation by the Air Service Command.

c. That the final tri-metrogon modification be accomplished at Dallas upon completion of the nose turret installation at Oklahoma City. It is understood that the rate of flow of aircraft on the nose turret installation will be approximately one (1) airplane per day.

d. That at the earliest practicable date the nose turret be installed in B-24 aircraft prior to delivery at Dallas for photographic modifications.

Reconnaissance by *W.E. Gross*
 M & E Sect *A.K. Nadeau*

Homer A. Boushey
 For: MERVIN E. GROSS
 Colonel, Air Corps

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HEADQUARTERS ARMY AIR FORCES

ROUTING AND RECORD SHEET

VX 452 plane
P. Kern

FILED
SEP 1943

4347

TALLY NO.	
FILE NO.	

SUBJECT: B-24 Braniff Prototype Aircraft, Serial No. 42-40113.

TO: Asst C/AS, M&E, Materiel Division DATE 3 Sep 1943

FROM: Asst C/AS, O&R, Requirements Division (Reconnaissance Br) COMMENT NO. 1
Lt Col Nadesau/mlm/73056

1. Information at hand indicates that from 15,000 to 18,000 man hours will be required to convert the Braniff Prototype B-24 Aircraft, Serial No. 42-40113 to an F-7 airplane in accordance with latest directive.
2. From ten (10) days to two (2) weeks will be required to place the aircraft in flying condition less the automatic pilot installation. The installation of the automatic pilot would entail building a complete new instrument panel in addition to the installation of the necessary allied plumbing.
3. In view of the above, it is recommended that the necessary work to place the airplane in flyable condition (less automatic pilot) be accomplished at the Lockheed-Dallas Modification Center, Dallas, Texas, and upon completion subject aircraft be assigned to PROTU for transition purposes only.

Materiel & Equipment Section
 T & P *[Signature]*

ELLIOTT ROOSEVELT
 Colonel, Air Corps



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 Madesau
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O-452.1-57 HEADQUARTERS ARMY AIR FORCES 44
C.F. 1007
29 (2/27/43)
ROUTING AND RECORD SHEET

23977

TALBY NO.	
FILE NO.	

SUBJECT: Modification of F-7 (B-24) Aircraft

TO: Asst. C/AS, OASD, Requirements Division. DATE 3 September 1943

FROM: Asst. C/AS, M&D, Material Division. COMMENT NO. 2
 CRG:llg:3601

1. Action on this work was held up pending outcome of conference between Lt. Col. Nadeau and Lt. Col. I. V. Cook, at Wright Field.
2. The above conference has been held and Lt. Col. Cook will not proceed with the modification until a mock-up has been made of the new F-7.
3. It is requested that this office be advised concerning the status of a complete mock-up of the new F-7 requirements.

J. W. Sessums, Jr.
 J. W. SESSUMS, JR.
 Colonel, Air Corps
 Chief, Production Branch
 WBS

*File
 further action
 requested on this MTR.
 AM*



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INTER-OFFICE MEMORANDUM
ARMY AIR FORCES
MATERIEL CENTER
Office of The Commanding General

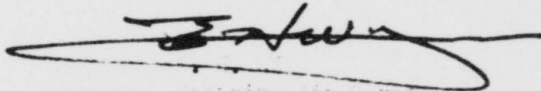
Wright Field, Dayton, Ohio
Date 3 September, 1943

TO: Production Division

SUBJECT: Modification of P-40's airplanes to P-7 Type Aircraft

1. In accordance with confidential teletype A-14-43-11 dated 4 September, 1943, three (3) of the four (4) P-40 airplanes now at Materiel Modification Center will be modified to P-7 type aircraft in accordance with CFI-1366, Addendum No. 1 which was based on letter from Office, Assistant Chief of Air Staff dated 2 August, 1943. Subject: Photographic Modification of P-40 Type Aircraft Allotted to the photographic missions.
2. These airplanes are not to have the nose turret installed. Aircraft prototype P-7 airplane, serial number 43-1014 is in modification center at Dallas will have modifications only such work as is necessary to make the airplane in flight condition. Has an acoustic pilot.
3. The above teletype and CFI teletype conversation between Captain George D. Selvis.

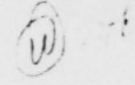
M X - 373


Captain, Air Corps
Asst. Commander

cc: Engineering Division
Air Service Command
Aircraft Radio Laboratory

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W. E. DONNELLY
Asst to Chief,
Production Division



Signature

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MDAC-1-WY-1-642-800M

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TELETYPE MESSAGE

gmca

BK:lv-70-7
DATE: 15 September 1943
11:30 a.m.
FROM: Production Engineering
Section.

ATTENTION: Production Branch,
Materiel Division,
Washington, D. C.

452-1

W. M. Morgan, 2nd Lt. A.C.
W. M. MORGAN
Colonel, Air Corps

PES - 4048. . . . RE F-7 MODIFICATIONS. NO SPECIFIC SCHEDULING OR PLANNING
ON ANY REASONABLE BASIS CAN BE EFFECTIVE UNTIL: (1) A COMPLETE CORRECTED
AND SPECIFIC DIRECTIVE IS RECEIVED CONTAINING ALL LATEST REQUIREMENTS AND RECO-
MMENDATIONS, (2) COMPLETE INFORMATION IS RECEIVED ON WHICH B-24 AIRPLANES
ARE TO BE CONVERTED TO F-7 AIRPLANES, (3) TUCSON AND/OR ST. PAUL MODIFICATION
CENTERS CAN COMPLETE AND APPROVE F-7 MOCK UP. END. AFAMC.

PRODUCTION DIVISION

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AFMC-265-WF-9-2-42-600M

5
INTER-OFFICE MEMORANDUM

ARMY AIR FORCES
MATERIEL ~~COMMAND~~ Command
Office of The Commanding General

O.L.W.
OLW:jlm - 70-7

Wright Field, Dayton, Ohio

Date 27 September 1943

TO: Chief, Photographic Laboratory
Engineering Division

SUBJECT: F-7 Photographic Aircraft.

45-2.1

1. The modification of approximately eighty-six (86) B-24J air-planes to F-7 airplanes for photographic purposes will be done by the Northwest-St. Paul Modification Center at St. Paul, Minnesota, and the Consolidated Vultee-Tucson Modification Center at Tucson, Arizona.
2. Present commitments call for delivery of seventy-six (76) completely modified airplanes by the end of November.
3. Because of the large amount of work involved on each air-
plane, and in order to meet the heavy delivery schedule, it was necessary to divide the work between the two (2) activities mentioned above. This made it necessary to prototype an airplane at each place.
4. For these reasons it is requested that Photographic Technical Personnel be made available at St. Paul and Tucson. It is believed that part time assistance would be satisfactory at each place. Most of the information now being requested has to do with electrical and wiring installations. Tucson advises that they are now at a virtual stand-still until they can get some help on wiring. As a temporary expedient, Major O. L. Wallace, Project Officer for the F-7 modification, suggested to the Army Air Forces Resident Representative at Tucson that they get in touch with the Photographic Personnel at Dallas by telephone until arrangements could be made to have someone go out there for a few days.
5. This Project will enjoy the highest priority.
6. If any additional information is necessary, this office will attempt to furnish it upon request.

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PHOTOGRAPHIC SECTION

W. M. Morgan
W. M. MORGAN
Colonel, Air Corps
Chief, Production Engineering Section

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9
INTER-OFFICE MEMORANDUMARMY AIR FORCES
MATERIEL CENTER
Office of The Commanding General

OLW:jlm - 70-7

Wright Field, Dayton, Ohio
Date 1 October 1943TO: Chief, Bombardment Branch
Production Engineering Section

SUBJECT: Change of Designation for Photographic Aircraft.

1. Reference is made to approximately eighty-six (86) B-24 airplanes which are being modified for photographic purposes.
2. The first airplane to be done was covered by OTI-1217, dated 5 March 1943, and was to be equipped with eleven (11) cameras. This airplane was serial number 42-40113, and was started by the Braniff Airways at Love Field, Dallas, Texas. Its designation was XF-7, but when the work was approximately fifty percent (50%) complete at Braniff Airways, this airplane was moved across the road to the Lockheed-Dallas Modification Center. Because it was equipped with a hydraulic pilot, and not considered desirable in other respects, it was abandoned and a new prototype was started by the Lockheed-Dallas Modification Center on a B-24 series airplane that had an electric pilot. Three (3) other B-24 series airplanes were started at the same time in accordance with instructions from higher authority.
3. At this time OTI-1217, Addendum I, dated 18 April 1943, directed the work be started on the entire project and the designation became F-7 on the production airplanes from the Modification Center. Flight tests of the prototype airplane made by the Lockheed-Dallas Modification Center indicated the necessity of reducing the camera installation from eleven (11) to six (6) cameras. AFIMA-46-84, dated 4 September 1943, directed that four (4) of these F-7 airplanes in work be completed as such and be delivered to Photographic Squadrons. The fifth airplane, which was serial number 42-40113 (the abandoned XF-7 airplane), is to be made operational for training purposes only, and delivered without the automatic pilot.
4. Because nose turrets were considered necessary, a trade was arranged by Lt. Colonel Madean whereby sixty-five (65) B-24's deficient in this respect, at Colorado Springs, for this project for some time, are to be replaced by B-24's having nose turrets. OTI-1355, Addendum I, dated 6 August 1943, directs that all airplanes allocated to Photographic

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Chief, Bombardment Branch

1 October 1947

Change of Designation.

Squadrons be modified and equipped with six (6) cameras. Since they will be an entirely different airplane from the KF-7 airplane and the four (4) F-7 airplanes, information is requested as to the necessity or advisability of preparing a Form 278 for a change of designation of these six (6) camera airplanes.

W. M. MORAN Capt TTE

W. M. MORAN
Colonel, Air Corps
Chief, Production Engineering Section

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INTER-OFFICE MEMORANDUM
ARMY AIR FORCES
MATERIEL CENTER
Office of The Commanding General

OLW
CMA: Jm - 70-7

Wright Field, Dayton, Ohio

Date 7 October 1943

TO: Chief, Armament Laboratory
Engineering Division

SUBJECT: Personnel for Photographic Project.

1. Because it will be necessary to install a substitute for the Norden bomb sight in eighty-six (86) B-7A (B-24C) airplanes being modified by the Northwest-St. Paul Modification Center at St. Paul, Minnesota, it is requested that adequate personnel from your activity be on hand at St. Paul for the purpose of prototyping the installation.

2. It is anticipated that the T-1 head will be used in lieu of the Norden sight.

3. Captain Quarterman of the Photographic Laboratory is now at St. Paul. Other personnel are scheduled to arrive there immediately. Arrival of personnel from your branch at the earliest possible date is requested.

4. The Army Air Forces Resident Representative at St. Paul Modification Center is Captain A. B. Horner. The Modification Center is located at the Municode Airport, telephone number is Cedar 0211. The contract under which the work is being done is AC-3171. The Project Officer at Wright Field is Major J. L. Wallace, Aircraft Modification Branch, telephone number 2-3135.

J. M. Moran
J. M. MORAN
Colonel, Air Corps
Chief, Production Engineering Section

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STP 49 AAF NW ST PAUL M C ~~ST PAUL MINN~~ OCT 1943 122015Z

AC-35714

CG, MC, WF, DAYTON, O

ATTN AIRCRAFT MODIFICATION SEC

MAJOR O. L. WALLACE

DY-61-77

STP-430-282.....REFERENCE TWX-PES-3846, IT IS INTENDED THAT ALL 86 AIRPLANES INCLUDED ON THE F-7A PROJECT WILL RECEIVE PARTIAL MODIFICATION AT ONCE, CONSISTING OF ABOUT 900 MAN HOURS PER AIRPLANE OUT OF THE ESTIMATED 4,000 MAN HOURS PER AIRPLANE NEEDED TO MODIFY B-24J,S TO F-7A,S. THIS WORK IS INTENDED TO START AT ONCE AND IT IS REQUESTED THAT ABOUT 5 OR 6 B-24J,S A DAY BE DELIVERED TO THIS MODIFICATION CENTER FOR PARTIAL MODIFICATION.

2. OBVIOUSLY THIS MEANS THAT THE INDIVIDUAL AIRPLANES WILL BE AT THE MODIFICATION CENTER FOR A PERIOD RANGING FROM A MONTH TO 2 1/2 MONTHS BUT IT IS BELIEVED THAT OVERALL MODIFICATION TIME WILL BE REDUCED BY APPROXIMATELY 1 MONTH IF THE ORIGINAL APPROXIMATELY 80,000 MAN HOURS IS ACCOMPLISHED ON AIRPLANES BEFORE THE MOCK-UP IF COMPLETED.

HORNER, AAFRR, NW ST PAUL M C
GDB

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WEST SIGNAL OFFICE TELEGRAM TELETYPE
STP 49 AAF NW ST PAUL M C ST PAUL MINN OCT 1943 18 830Z

CG, MC WF DAYTON O

ATTN-- CHIEF PHOTOGRAPHIC LABORATORY DEPT 59

Eng. Engineering Sec

SUBJECT-- F-7A WEEKLY REPORT

STP-430-407..... F-7A PROTOTYPE 42-73020 IS PROGRESSING SATISFACTORYLY. NOSE MOUNT IS BEING FABRICATED, VERTICAL AND SPLIT VERTICAL MOUNT ARE COMPLETED, CAMERA BAY IS APPROXIMATELY 60 O/O COMPLETE. VACUUM PUMPS AND HEATERS HAVE BEEN INSTALLED. IT IS ANTICIPATED THAT THIS AIRCRAFT WILL BE COMPLETED AND READY FOR TEST FLIGHT 4 NOVEMBER 1943. PRODUCTION LINE F-7,S ARE PARALELLING PROTOTYPE IN ORDER TO SAVE DELIVERY TIME.

F-7 42-40488 ARRIVED THIS STATION 16 SEPTEMBER 1943 FROM PROTU . THIS IS AN ELEVEN CAMERA AIRCRAFT AND IS USELESS HERE. IT IS REQUESTED THAT THIS AIRPLANE BE RETURNED TO PROTU AND 42-40433 FROM DALLAS BE DELIVERED HERE. FROM E. L. TAYLOR.

HORNER, AAFRR, NW ST PAUL M C

XXX LINE 5 LAST WD SHD BE NOVEMBER

GDB END PLS K GA

ROD ONE OK THANKS

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Wright Field, Dayton, Ohio
15 October 1943

CGI-1775, Attachment No. 2

mx-373

Photographic Modifications of B-24 Type Aircraft Allocated to Photographic Squadrons

Production Division

1. Problem Presented:

a. To outline communications equipment requirements for all B-7 (B-24) type reconnaissance airplanes to be modified in accordance with the inclosed charts of communication requirements for each theater.

2. Actual Data:

a. This directive amends letter dated 7 August 1943, subject: Photographic Modification of B-24 Type Aircraft Allocated to Photographic Squadrons, which was the basis for CGI-1775, No. 1.

3. Authority:

a. Commanding General, Army Air Forces. By letter dated 11 September 1943, subject: Communication Requirements for the B-24 (B-24) and B-9 (B-17) Type Reconnaissance Aircraft, the Chief, Production Branch, Material Division, Office, Assistant Chief of Air Staff, Material, Maintenance and Distribution.

4. Action Desired:

a. To install communications equipment requirements in all B-7 (B-24) type reconnaissance airplanes in accordance with the inclosed charts of communication requirements for each theater.

By Command of Major General Hatchcock

Incl: Chart desc. above.

Distribution:
Engineering Division
Aircraft Radio Laboratory
Air Service Command (2)

F. A. SUDS
Colonel, Air Corps
Deputy Chief of Staff

COM. GEN.
TECH. GEN.
ADM. GEN.
C. O.
SUB. OFF.
EXP. GEN.
CONTRACT
PROD. GEN.
I. P. S.
TECH. DATA
REV. FUND.
OTHER

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COMMUNICATION REQUIREMENTS FOR THE
F-7 (B-24) and F-9 (B-17) Type Reconnaissance Aircraft

12 October 1943

	Air Force												
	1st 3rd	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th U.S. Army	
1. Install SCR-274 Radio Complete	AC	BC	AC	AC	BC	BC	BC	AC	BC	BC	BC	AC (1	
2. Install SCR-522 Radio Complete	NO	NO	Nec	Nec	Nec	Nec	Ho	Nec	Nec	Nec	No	No (2	
3. Install SCR-287 (Tuning unit in accordance with CFI 1419 13 August 1943)	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	
4. Install SCR-2698 Radio Compass Complete with visual indicator	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	
5. Install RC-43 Marker Beacon Complete	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	
6. Install SCR-595/695 radio complete	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	
7. Install SCR-718 Radio Altimeter Complete (SCR-518 will be installed if SCR-718 is not available)	No	No	No	No	No	No	Nec	No	No	No	Nec	No (2	
8. Install RC-103 Group A Parts	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	
* 9. Install RC-103 Group B Parts	Nec	Nec	No	No	No	No	Nec	No	No	No	Nec	Nec	
10. Install SCR-578 Radio Complete	No	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	Nec	No (
11. Install EB Adapter Complete	No	Nec	No	Nec	No	No	Nec	Nec	No	Nec	Nec	No (

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The following SCR-274 Radio Components (Transmitters and Receivers will be installed.)

- A. BC-457 and BC-459
- B. BC-457 and BC-458
- C. BC-453, BC-454 and BC-455

NOTES:

- (1) SCR-274 components will be in accordance with theater requirements.
- (2) Will be installed in accordance with theater requirements.

*Theaters to be equipped in accordance with schedule indicated in CFI-1346, Addenda No. 4, dated 16 August 1943.

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Approval of F-7 Mock-Up.

Asst C/AS, NMB

Asst C/AS, OGR (Requirements Division)

FILED
AAF +7

15 Nov 43

Maj Wilson/ah/74553

It is requested that Materiel Command be advised that the F-7 Mock-Up at St. Paul Modification Center is approved provided additional heavy braces be installed on the tri-nitrogen mount to eliminate flexing of the mount. This was discussed between Lt. Colonel H. L. Madson and Mr. Taylor of the Materiel Command.

Recon Branch
Aircraft Section

MORRIS E. NELSON
Colonel, Air Corps



(1) 452.1 F-7 Plans

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MDAG-4-WP-4-28-41-300M

MATERIAL COMMAND TELETYPE NET

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TELETYPE MESSAGE

ROUTINE

DATE: 9 December 1943 - 1:30 p.m.

FROM Engineering Division

ATTENTION: AAF Resident Representative
Consolidated-Vultee Tuscon Modification
Center,
Municipal Airport #2,
Tuscon, Arizona.

mk-373
confid
James P. ...
K. RAISLEY,
Colonel, Air Corps.

20253
tel
20307

ENG-9517 -- REFERENCE YOUR TELETYPE CVAC 6499 DATED 1 DECEMBER 1943, ALL BOMBING EQUIPMENT EXCEPT BOMBSIGHT MAY BE REMOVED FROM B-24 CAMERA PROJECT AIRCRAFT IN ACCORDANCE WITH PARAGRAPHS 1n AND 1q OTI 1355 ADDENDUM 1. FLASH BOMBS ARE NOT TO BE USED WITH THESE AIRCRAFT THEREFORE ALL BOMBING EQUIPMENT EXCEPT BOMBSIGHT MAY BE REMOVED.

BEANSHAW, MATERIEL COMMAND

12:38

Cy. to:
Aircraft Modification Br.,
Prod. Eng. Sec.

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MATERIEL COMMAND
DEC 9 1943

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O452.12 Structural Parts - 17 16
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HEADQUARTERS ARMY AIR FORCES
ROUTING AND RECORD SHEET

CONFIDENTIAL
Quintrell
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TALLY NO.	
FILE NO.	

SUBJECT: Installation of Tri-Nitrogen in Bomb Bay of the P-7 Type Aircraft

TO: Asst C/AS, I&M (Material Division)
FROM: Asst C/AS, OCR (Requirements Division)

DATE	7 Jan 1944
COMMENT NO.	1 (3)
By	Wilson/vml 74553
Plan/AS	
Dist. Rec.	
A. Dist.	
Dist. 2.	
Field	
Photo. M&P.	
Tech. Insp.	
Pub. Rel.	
Dir. Pers.	
Off. Pers.	
Gen. Pers.	
Comp.	
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Budget	
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Regul. Com.	
Ad. Com.	
Dep. Pl.	
Dist. Pl.	
Log. Pl.	
Int. Sec.	
Ext. Sec.	
Gen. Sec.	

1. Recent tests completed by the Photographic Laboratory, Materiel Command, indicate that the Tri-Nitrogen installation will function properly in the bomb bay of the P-7 Type Aircraft.

2. The tri-nitrogen installation in the bomb bay instead of in the nose as is presently installed is authorized and desired when change may be accomplished without interfering with the production flow of the aircraft.

3. The bomb bay installation will result in an approximate reduction in man hours and materiel, however, this change is not desired until it can be accomplished without slowing down the completion of the project.

Rec. & Photog. Branch *W. Smith*
Aircraft Sec. *W. Smith*
AFRGA-M *R. Mason*

Norman D. Stillin
NORMAN D. STILLIN
Colonel, Air Corps

O452.12 Structural Parts

3/10

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AAFMCM-246-WF-9-2-42-500M

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INTER-OFFICE MEMORANDUM
ARMY AIR FORCES
MATERIEL CENTER
Office of The Commanding General

AFG: jlm - 70-7

Wright Field, Dayton, Ohio
Date 10 January 1944

TO: Chief, Photographic Laboratory
Engineering Division
Wright Field

SUBJECT: F-7A Photographic Aircraft

1. The modification of approximately two hundred (200) B-24J airplanes to F-7A airplanes for photographic purposes now being accomplished at the Northwest - St. Paul Modification Center, St. Paul, Minnesota, has been divided because of the large amount of work involved and in order to meet heavy delivery schedules, and the same modification will be accomplished at the Martin - Omaha Modification Center, Omaha, Nebraska.
2. Twenty-four (24) B-24J airplanes have been ordered delivered to the Martin-Omaha Modification Center from St. Paul. The first one (1) has already arrived at that destination, and one (1) complete set of modification parts is expected to arrive at Omaha today. A prototype airplane already modified into an F-7A is also on hand at the Martin-Omaha Modification Center for their inspection and guidance.
3. For these reasons it is requested that photographic technical personnel be made available at the Martin-Omaha Modification Center to aid and assist the subject activity in receiving full cooperation and early completion of their first article. The requested personnel is required immediately as prints, drawings, technical information, equipment, and parts necessary should be on hand at Omaha upon arrival of requested photographic technical personnel.

W. M. Morgan
W. M. MORGAN
Colonel, Air Corps
Chief, Production Engineering Section

CENTRAL FILE

1-19-44

Signature

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3x

ELT:vl:59

January 14, 1944
12:25 PM
Engineering Division

G.H. WINDSOR Capt. A.C.
For F.O. CARROLL,
Brig. General, U.S.A.

ATTN: Development Engineering Branch,
Material Division

ENG-9602.....IT IS REQUESTED THAT THIS INFORMATION BE TRANSMITTED TO ASST.C/AS OC&R IN ACCORDANCE WITH RECOMMENDATIONS IN MEMORANDUM REPORT ENG-59-125-32 "TEST OF B-24D HIGH ALTITUDE VAPOR TRAIL", DATED 7 JANUARY 1944. IT IS REQUESTED THAT AUTHORITY BE TELETYPED TO MATERIAL COMMAND TO MOVE TRI-METROGON INSTALLATION OF P-7A AIRCRAFT FROM NOSE TO CAMERA BAY. VAPOR TRAIL TESTS IN B-24D INDICATED FEASIBILITY OF THIS INSTALLATION. IT IS ESTIMATED THAT SUCH A CHANGE WILL REDUCE MODIFICATION TIME APPROXIMATELY 20% PER AIRPLANE. REQUEST IMMEDIATE TELETYPE CONFIRMATION OF ABOVE DIRECTIVE CHANGE END. AFAMC.

ENGINEERING DIVISION

X'd from 413.53 - Tri-Metrogon Camera

452.1 - P-7 Consolidated

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MATERIEL COMMAND TELETYPE NETWORK

A. H. Galvin:jlm - 70-7
J135

ROUTINE

26 January 1944

Production Engineering Section

ARMY AIR FORCES RESIDENT REPRESENTATIVE
MARTIN - OMAHA MODIFICATION CENTER
FORT CROOK RESERVATION
OMAHA, NEBRASKA

W. M. MORGAN

PES - 3715 THE F-7A PROJECT WILL BE TERMINATED AT YOUR ACTIVITY WHEN A TOTAL OF NINETEEN (19) B-24J AIRPLANES RECEIVED, OR BEING RECEIVED, ARE COMPLETED AND DELIVERED. REFERENCE PES-3606, DATED 25 JANUARY 1944. PRIORITY FOUR (4) CANCELLED, LEAVING PROJECT FOR YOUR ACTIVITY TOTALING NINETEEN (19) AIRPLANES, WHICH WILL BE ADJUSTED IN NEAR FUTURE WITH TOTAL SPECIFIED TO BE ACCOMPLISHED AT YOUR ACTIVITY. END AFAMC

BRANSHAW, MATERIEL COMMAND

cc-W/W. Hst. Superv.

File: Contract AC-25348
Omaha - F-7A - U.S.A.A.F.

*Omaha
F-7A*

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AAFMC-245-WF-2-26-43-500M

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INTER-OFFICE MEMORANDUM
ARMY AIR FORCES
MATERIEL ~~ENGINEER~~ COMMAND
Office of The Commanding General

EHW:cjt:HQP
Wright Field, Dayton, Ohio
Date 29 January 1944

TO: Production Division



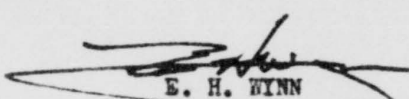
SUBJECT: CTI-1355, Addendum No. 1

1. Reference is made to paragraph 4.g.l.b.l. of CTI-1355, Addendum No. 1 concerning installation of Tri-metragon Camera in the nose of B-24 (F-7) airplanes.

2. The Office, Assistant Chief of Air Staff, Materiel, Maintenance and Distribution has approved the change in the installation of the Tri-metragon Camera from the nose to bomb bay in F-7 airplanes. This change over should be made so that there is a minimum of interference with the delivery of F-7 aircraft from the Modification Centers. It is requested that the Production Division take necessary action to make this change in the camera installation and to modify CTI-1355, Addendum No. 1 accordingly.

3. These instructions were furnished to the Materiel Command by AFDMA-4G 6707, dated 27 January 1944.

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E. H. WINN
Captain, Air Corps
Asst. Technical Executive

cc: Aircraft Radio Laboratory
Air Service Command
Engineering Division

2 Feb 44 - Dist by Prod Div
Orig copy to Aircraft Mod Branch ✓
cc: Bombardment Branch
Aero. Equip. Branch (2)
Resources Cont. Section
Chief, Air Projects
Prod. Division File

W. E. DONNELLY
Asst. to Chief,
Production Division

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Signature

Huc
✓

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C/O - 452.1
 C/J ag J
 26 (2/2/44)

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Unsatisfactory Condition of Camera Compartment, F-7 Type Aircraft.

Asst C/AS, MMD (Materiel Division)

31 Jan 1944

Asst C/AS, OGR (Reconnaissance & Photographic Branch)

Comment No. 1
 Lt. Col. Nadeau/vml/74553

1. The Third Air Force reports that the camera compartment in the F-7 Type aircraft leaks badly when aircraft is flown through heavy rainstorms. After recent movement of F-7 aircraft from Will Rogers Field to Hunter Field through intermittent rainstorms, it was found necessary to remove all cameras for cleaning and inspection. The extent of the damage, if any, is unknown at this time as the cameras are now in the process of being cleaned and inspected by technical personnel.
2. It is recommended that corrective action be taken immediately and that necessary action be taken to incorporate indicated changes in the production line of modification centers at the earliest practicable date.
3. It is further recommended that necessary instructions, covering indicated changes, be disseminated to units having F-7 aircraft in their possession when corrective measures are determined.
4. In the interim, to assure theater arrival of cameras in good condition, protective covers will be made and installed on cameras by the Third Air Force at the staging area.

Aircraft Sec _____

JAMES G. HALL
 Colonel, Air Corps

Air Services Division
 Attention: Captain Zachary
 AC/AS, MMD, Materiel Division (Production Branch)

2 February 1944

Comment No. 2
 JGG:cs:6235

1. Aircraft Modification Branch at Wright Field has been instructed to take immediate corrective action requested in paragraph 2 above.
2. Aircraft Modification Branch has further been requested to furnish Air Service Command information necessary for compliance with paragraph 3.
3. This R & R is forwarded for your immediate action on paragraph 4 above.

S. R. BRENTWALL
 Colonel, Air Corps
 Chief, Production Branch

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AAFCM-266A-WF-2-20-43-600M

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INTER-OFFICE MEMORANDUMARMY AIR FORCES
MATERIEL CENTER
Office of The Commanding GeneralLt. A. S. Gelvin:jlm - 70-7
2-7135

Wright Field, Dayton, Ohio

Date 29 February 1944

C
TO: Chief, Bombardment Branch
Production Engineering Section
Attn: Lt. W. L. FultonSUBJECT: Request for Designation of New Type B-24J
Photographic Reconnaissance Airplane.

1. The following history of the F-7 series airplane is furnished to substantiate a request for change of designation as a result of OPI-1355, Addendum I, dated 29 January 1944, directing modification that will place subsequent F-7 airplanes in an entirely different class than those modified to date.

- a. XF-7 - A B-24H airplane having eleven (11) cameras installed as follows: One (1) in tail, for orientation purposes, seven (7) in rear bomb bay, and three (3) in the nose. This airplane has ball and tail turrets installed.
- b. F-7 - A B-24H airplane having three (3) cameras in nose, and three (3) cameras in rear bomb bay. Ball and tail turrets installed.
- c. F-7A - A B-24J airplane having three (3) cameras in the nose, three (3) cameras in the rear bomb bay. Ball turret, tail turret, and nose turret installed.

2. The following designation is requested because of the camera arrangement required by OPI-1355, Addendum I, dated 29 January 1944, and is described as follows:

- a. F-7B - A B-24J airplane having no cameras in the nose and six (6) cameras in the rear bomb bay. Nose turret, tail turret, and ball turret installed.

CARL A. COVER
Colonel, Air Corps
Chief, Aircraft Modification Branch
Production Engineering Section

Signature

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XXXXXX COMMAND

F. L. Taylor
bse:59 20263

7 MAR 1947

Chief, Production Engineering Section, Wright Field.
Att: Aircraft Modification Branch.

Water-proofing of Camera Bay in F-7A Aircraft. 4521

1. Recent unsatisfactory reports from Will Rogers Field, Oklahoma City, Oklahoma have shown the need for an improved method of water-proofing the aft bomb bay of F-7A aircraft in order to prevent the draining of water into the camera positions during the time that the aircraft is in flight. Recently an improved method of water-proofing was developed and applied to such aircraft at the Northwest Modification Center, St. Paul, Minnesota.

2. It is requested that installation information in the form of drawings, photographs, and material lists covering this water-proofing procedure be forwarded at your earliest convenience to the Associated Equipment Section, Maintenance Division, Air Service Command, Att: Major Bowie. It is further requested that the serial numbers of the F-7A's that have not been modified in this manner also be submitted.

3. The above requested information and data will be used to produce a Technical Order or information pamphlet that will allow sub-depot maintenance to incorporate the water-proofing procedure in service aircraft.

BARRON C. POWERS,
Lt. Colonel, Air Corps,
Actg. Chief, Photographic Laboratory,
Engineering Division.

MAR 1 1 1947

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MATERIEL COMMAND TELETYPE NETWORK

A. H. Galvin: Jlm - 70-7
-0135

ROUTINE

DATE: 6 April 1944
TIME: 11:00 A. M.
FROM: Production Engineering Section

TO: ARMY AIR FORCES RESIDENT REPRESENTATIVE
LOCKHEED - DALLAS MODIFICATION CENTER
LOVE FIELD
DALLAS, TEXAS

GEORGE E. PRICE
Colonel, Air Corps

ARMY AIR FORCES RESIDENT REPRESENTATIVE
MARTIN - OMAHA MODIFICATION CENTER
FORT CROOK RESERVATION
OMAHA, NEBRASKA

ARMY AIR FORCES RESIDENT REPRESENTATIVE
NORTHWEST - ST. PAUL MODIFICATION CENTER
MUNICIPAL AIRPORT
ST. PAUL, MINNESOTA

PES - 4035 REF: OUR LETTER, AEG: JLM, DATED 19 FEBRUARY 1944, SUBJECT: CAMERAS FOR
AIRCRAFT MODIFIED AS PHOTOGRAPHIC RECONNAISSANCE AIRPLANES. THE FOLLOWING DEVIATION IS MADE
TO INSTRUCTIONS CONTAINED IN REFERENCE LETTER:

AERIAL CAMERAS ARE NOT, REPEAT ARE NOT, TO BE INSTALLED IN PHOTOGRAPHIC RECONNAISSANCE
AIRPLANES ASSIGNED TO DOMESTIC PROJECTS AT THE MODIFICATION CENTERS UNLESS SPECIFICALLY
REQUESTED OR DIRECTED BY THIS OFFICE. ANY AIRPLANES ASSIGNED TO DOMESTIC PROJECTS WHICH
ALREADY HAVE CAMERAS INSTALLED MAY BE DELIVERED WITHOUT REMOVAL OF CAMERAS UNLESS THERE
IS A SHORTAGE OF SUBJECT CAMERAS WHICH ARE REQUIRED FOR OTHER PROJECTS. END AFAMC

BRANSHAW, MATERIEL COMMAND

cc-M/W. Dist. Superv.
M/C. Dist. Superv.

File: Contract AC-26299 - Dallas -
Contract AC-25848 - Omaha -
Contract AC-35714 - St. Paul -
F-7A, F-7B, F-5 - U.S.A.A.F.

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INTER-OFFICE MEMORANDUM
ARMY AIR FORCES
MATERIEL CENTER
Office of The Commanding General

A. H. Galvin

Lt. A. H. Galvin: jlm - 70-7
2-0135

Wright Field, Dayton, Ohio

Date 8 April 1944

TO: Chief, Photographic Laboratory
Engineering Division
Wright Field

SUBJECT: F-7A Photographic Reconnaissance Airplanes -
Martin - Omaha Modification Center

1. F-7A Photographic Airplanes being modified at the Martin-Omaha Modification Center are now ready for deliver on Domestic Projects.
2. Request that competent personnel from your Branch be sent to Omaha to inspect and check the installation for satisfactory operation.
3. Subject airplanes are ready for delivery this date, and the arrival of personnel from your Branch at subject Modification Center as soon as possible will expedite deliveries.

GEORGE E. PRICE
Colonel, Air Corps
Chief, Production Engineering Section

1st Ind.

Engineering Division, Wright Field, Dayton, Ohio
To: Chief, Production Engineering Section,
Production Division,
Wright Field, Dayton, Ohio.

TJM:bl:53-3

10 APR 1944

1. An engineer from the Photographic Laboratory, Engineering Division, departed this station 11 April 1944 for the Martin-Omaha Modification Center to inspect and check the F-7A photographic airplanes and camera installation in accordance with above request.

(W)

H. K. Baisley
H. K. BAISLEY, Lt. Colonel
Colonel, Air Corps,
Chief, Photographic Laboratory,
Engineering Division.

Signature

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AAFMC-432-A-WF-2-22-46-10M

Confidential - Dir Serv - Prod Div 17
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ARMY AIR FORCES
HEADQUARTERS OF THE MATERIEL COMMAND SAC, *14th, 13J*
Wright Field, Dayton, Ohio
10 April 1944

TECHNICAL INSTRUCTIONS

Serial No.: **OTL-135, Addendum No. 6**

Subject: **Photographic Modification of B-24 Type (P-7) Aircraft
Allocated to Photographic Squadrons.**

To: **Production Division**

1. Problem Presented:

The Communications Equipment Officer, Office, Assistant Chief of Air Staff has directed that SCR-716 radio altimeters be installed in all photographic B-24 airplanes (P-7) allocated to photographic squadrons.

2. Factual Data:

This Technical Instruction amends and supplements OTL-135, Addendum No. 5.

3. Authority:

Commanding General, Army Air Forces by letter dated 24 March 1944, subject: "Radio Altimeters for Type P-7 Airplanes" from the Communications Equipment Officer, Office of the Assistant Chief of Air Staff, Materiel, Maintenance and Distribution.

4. Action Desired:

That the Production Division take necessary action to install SCR-716 Radio Altimeters in all production B-24 (P-7) airplanes.

That the Air Service Command take necessary action to install SCR-716 Radio Altimeters in all P-7 type aircraft already delivered to service activation.

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AFHQ-420-A-WF-2-11-1944

*Carbon - Air Service
Prod. Div
#9 (3/4 pp)*

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ARMY AIR FORCES

HEADQUARTERS OF THE MATERIEL COMMAND

**Wright Field, Dayton, Ohio
20 April 1944**

TECHNICAL INSTRUCTIONS

Serial No.: AT-1775, Attachment No. 5

**Subject: Photographic Modification of B-24 Type (B-7) Aircraft
Allocated to Photographic Squadron**

To: Production Division

These Technical Instructions supplement and amend AT-1775, Attachment No. 5 dated 1 April 1944 and it will be noted that it amends the list which forms an attachment, changing item 25 page 12 (dated 12 March 1944) to "Install SCWIS Radio Altimeter" in all not just certain Air Force airplanes.

1. This is a Special Modification.

By Command of Major General [Signature]

**F. A. SIMS
Colonel, Air Corps
Deputy Chief of Staff**

**cc: Engineering Division
Air Service Command (3)
Aircraft Radio Laboratory**

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2. AAFR MARTIN OMARA MOD. CENTER WRIGHT FIELD, OHIO, 1944 APR 25 AM 17 1136

C.G., M.C., WRIGHT FIELD, DAYTON, OHIO
ATTN - ECS, AIRCRAFT BRANCH, MODIFICATION UNIT 90-A-3

AAF FORM-T-269... DAILY SHORTAGE REPORT 24 APRIL 1944 F.O. 13-401

AC-25848 MODEL B-25 AND J MARTIN OMARA MOD. CENTER
ALL AIRCRAFT DELIVERED COMPLETE

AC-25848 MODEL B-25 MARTIN OMARA MOD. CENTER
NO AIRCRAFT DELIVERED

AC-25848 MODEL F-7A MARTIN OMARA MOD. CENTER
NO AIRCRAFT DELIVERED

GRAMM, AAFR MARTIN OMARA MOD. CENTER

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APR 25 1944

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CONFIDENTIAL
COMMANDING GENERAL, ARMY AIR FORCES
WASHINGTON 25, D.C.

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ATTENTION:
DES/349 413.53 (108)

HEADQUARTERS, ARMY AIR FORCES
WASHINGTON



AEDRS-4-3A

11 MAY 1944

SUBJECT: Tri-netrogon Bomb Bay Kits, P-7 Aircraft.

TO: The Commanding General,
Air Service Command,
Patterson Field, Ohio

1. The tri-netrogon bomb bay camera installation has been engineered, developed and tested in the P-7 type aircraft. Such installation provides badly needed space for the navigator and results in a greatly improved camera installation especially from the standpoint of operation and maintenance in flight.

2. It is requested that seventy-five (75) bomb bay tri-netrogon kits be fabricated and distributed to units now equipped with P-7 type aircraft with the tri-netrogon nose installation. Necessary drawings and instruct ons for installation of the tri-netrogon arrangement in the rear bomb bay camera compartment in the vicinity of the present split vertical and single camera stations must be included in each kit.

3. It has been ascertained that the necessary work may readily be accomplished in the field by using units.

By command of General ARNOLD:

George E. Bierack *Capt A*
for W. B. BENNETT
Lt. Colonel, Air Corps
Chief, Distribution Section
Office of the Asst. C/ S, A.S.F.D.

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C.F. 11/7
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CONFIDENTIAL *37 21 (3)*

BASIC: Ltr. from Hqs. Washington dtd 11 May 1944. Subject: Tri-Nitrogen Bomb Bay Kits, P-7 Aircraft.

413.53 1st Ind. **ASCWG-3A**

MAY 27 1944

AAF Hqs ASC Patterson Field, Ohio.

TO: Commanding General, Army Air Forces, Washington 25, D.C.

1. Seventy-five (75) Bomb Bay Tri-Nitrogen Kits will be fabricated as requested. Required modification drawings for Type P-7B Aircraft were received 25 May 1944 from the North West Modification Center, St. Paul, Minnesota through the Materiel Command.

For the Commanding General:

F. E. Shanahan
F. E. SHANAHAN,
 Colonel, Air Corps,
 Ch., Assoc. Equip. Section,
 Maintenance Division.

413.5-3 Photo Equip

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WF V CR 33
FT HORNBY AAFB NH FT HORNBY CTY CT FALL RIVER MAY 1944 1700Z

CC AAF N C MOBIL CONTROL SECT WRIGHT FIELD BRTON OHIO

ATTN: D-24 PROJECT OFFICER *ac 3571*

IT IS REQUESTED THAT IMMEDIATE RELIEF BE GIVEN THIS MOBIL CENTER IN THE FORM OF SPEEDY CLEARANCE ON SHORTAGE DEVIATIONS AND DEVIATIONS FROM TECHNICAL ORDER COMPLIANCE REQUIREMENTS AS ESTABLISHED IN LETTER LVC.RJW. 70-7 DATED 4 APR 1944 IN ORDER TO ENABLE THIS CENTER TO APPROACH ITS QUOTA OF REQUIRED MONTHLY DELIVERY OF N2X AND F-7E AIRCRAFT. SPECIFIC REQUESTS ARE:

1. IMMEDIATE CLEARANCE OF SHORTAGE OR BLANKET SHORTAGE AUTHORIZATION ON SHORTAGE FOR WHICH AUTHORIZATION HAS BEEN PREVIOUSLY GIVEN ON OTHER AIRPLANE.
2. DEVIATION FROM AIRCRAFT DELIVER ORDER OFFICE NEW. 142-150, PARAGRAPH 22 1/2 AND 23 TO PERMIT THIS CENTER TO COMPLY WITH TECHNICAL ORDER BY SHIP NUMBER IN PRODUCTION ORDER RATHER THAN BY DATE OF DELIVERY. THAT IS BY THE BLOCK SYSTEM.
3. DELIVER REQUIRED TECHNICAL ORDER COMPLIANCE UNTIL SERIALS OF TECHNICAL ORDER SPECIFICALLY NOTICED FOR COMPLIANCE HAVE BEEN ASSIGNED IN PRODUCTION.

UNLESS THIS RELIEF IS GIVEN AT ONCE AND IF THE SITUATION ON TECHNICAL ORDER DURING THE FIRST HALF OF MAY IS ALLOWED TO CONTINUE UNTIL THE SECOND HALF IT IS DUBIOUS THAT THIS CENTER CAN DELIVER MORE THAN FIFTY PERCENT OF ITS QUOTA FOR THE MONTH. SIGNIFICANTLY IS NOT SO MUCH OF SPECIFIC TECHNICAL ORDER BUT RATHER OF CUMULATIVE EFFECT WHICH CAUSES CONFUSION-REWORKING AND A LARGE AMOUNT OF ADMINISTRATIVE CONFLICT. AT THE PRESENT TIME THE CENTER HAS REQUESTED BUT NOT RECEIVED AUTHORIZED SHORTAGE ON FLEET AIRPLANE INCLUDING SHORTAGE ON TWO AIRPLANES WHICH HAVE BEEN OUTSTANDING FOR FOUR DAYS. THESE ARE THE N2X AIRPLANE AND FOUR F-7E AIRPLANE COMPLIANT AT THIS CENTER AND READY FOR DELIVERY EXCEPT FOR DELAY CAUSED BY TECHNICAL COMPLIANCE. ALSO ELEVEN NEW AIRPLANE AND 2 F-7E AIRPLANE WHICH ARE AWAITING TECHNICAL ORDER COMPLIANCE BEFORE TEST WOP. THREE OTHER N2X AIRPLANE WHICH WERE READY FOR DELIVERY AND HELD AT THE LAST MINUTE FOR A MAINTENANCE DIFFICULTY, WILL BE DELAYED CONSIDERABLY LONGER THAN THE TIME REQUIRED TO CLEAR UP THE MAINTENANCE DIFFICULTY DUE TO TECHNICAL ORDER COMPLIANCE, WHICH HAVE COME DUE IN THE INTERIM.

IF THIS RELIEF IS GIVEN AT ONCE THE PROBABILITY OF THE CENTER MEETING ITS QUOTA FOR MAY IS STILL GOOD. DUE TO THE IMPORTANCE OF N2X AND F-7E AIRPLANE IT IS HOPE THAT THIS REQUEST WILL RECEIVE IMMEDIATE FAVORABLE CONSIDERATION.

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MATERIAL COMMAND TELETYPE NETWORK

TELEGRAM

OFFICIAL/BUSINESS//GOVERNMENT/RATES

Maj. P. Winsey, Jr.
es. Tel: 2-8140

FROM: WAR DEPARTMENT

BUREAU

3 June 1944
9:30 A.M.
Prod. Engrs. Section

To: AAF Resident Representative *W 25848*
Consolidated-Walters-Tucson Modification Center
Municipal Airport #2
Tucson, Arizona

GEORGE E. HARRIS
Colonel, Air Corps

PSS - 3595. . . . IN VIEW OF THE FACT THAT THE F-7 PROGRAM WILL BE CARRIED ON AT ST. PAUL FOR A LONGER PERIOD AND THAT YOUR ACTIVITY WILL NOT BE REQUIRED TO PICK UP THIS PROGRAM AS SOON AS ORIGINALLY SCHEDULED, IT WILL BE NECESSARY TO DIVERT TWELVE (12) ADDITIONAL SAN DIEGO B-24J AIRPLANES TO ST. PAUL MODIFICATION CENTER. ST. PAUL WILL REQUIRE THESE AIRPLANES AT THE RATE OF TWO (2) EVERY THREE (3) DAYS STARTING 10 JUNE. IT IS THEREFORE REQUESTED THAT YOU REPORT TO THE AIRCRAFT DISTRIBUTION OFFICE FOR DELIVERY TO ST. PAUL MODIFICATION CENTER TWELVE (12) UNMODIFIED SAN DIEGO B-24J AIRPLANES IN ACCORDANCE WITH THE ABOVE SCHEDULE. THE FIRST TWO (2) AIRPLANES ARE TO BE AVAILABLE AT TUCSON NOT LATER THAN 10 JUNE. END AFAMC.

CARROLL, MATERIAL COMMAND

cc: West. Proc. Dist.
St. Paul Mod. Center

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RF V L 234
TO SAC SAN FRANCISCO, AIRCRAFT ENGINEERING DIVISION, AND
TO SAC SAN FRANCISCO, AIRCRAFT ENGINEERING DIVISION, AND
TO SAC SAN FRANCISCO, AIRCRAFT ENGINEERING DIVISION, AND

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HEADQUARTERS
INSF-T-4387....AGAIN IT IS MATERIAL THAT A DIRECTION IS REQUIRED
NEEDED ON THE F75 PHOTOGRAPHIC PHOTOGRAPH/THIS INFORMATION WAS RECEIVED
ON MAY 27, 1944. IN ORDER THAT WE MAY INCORPORATE ANY CHANGES MADE
ON THE DUCK UP AIRPLANE, AND SO THAT WORKSPACE WILL NOT BE USED UP
DUE TO DESIRED CHANGES AT THE LAST MOMENT. ALL ARE PRESIDENTY WORKING
FROM ENGINEERING ON NORTH WEST AIRPLANE DRAWINGS. SEND APPRO.

CL
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CENTRAL FILE



JUN 16 1944

W. Z. Jackson
17 June
G. R. Pihl



JUN 17 1944

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FROM: WAR DEPARTMENT

BUREAU _____

J. M. Patterson
sb:7-2 Tel. 2-0116

26 July 1944

Prod. Engrg. Sec.

J. T. Schmitt Capt. H.

for GEORGE E. FRIED
Colonel, Air Corps

TELEGRAM

OFFICIAL BUSINESS—GOVERNMENT RATES

AAF Resident Representative
Consolidated-Vultee Tucson Mod. Center
Municipal Airport #2
Tucson, Arizona

AAF Resident Representative
Consolidated Vultee Aircraft Corporation
San Diego, California

AAF Resident Representative
Northwest-St. Paul Modification Center
Municipal Airport
St. Paul, Minnesota

40033
AC-35714
mp

PES - 6668-P SERVICE ACTIVITIES REPORT DAMAGE TO CAMERAS IN P-7B AIRPLANES DURING RAIN. IT IS THEREFORE REQUESTED THAT P-7B DIRECTIVE ITEM I, LEAKPROOFING OF CAMERA BAY BE CHANGED TO READ AS FOLLOWS: *THE ENTIRE CAMERA BAY IS TO BE EFFECTIVELY SEALED AGAINST LEAKING CONDITIONS DURING FLIGHTS THROUGH RAIN STORMS. IN ADDITION ALL CAMERAS AND OTHER RELATED EQUIPMENT SUBJECT TO WATER DAMAGE ARE TO HAVE SUITABLE WATER PROOF COVERS INSTALLED PRIOR TO DELIVERY. THE ABOVE CHANGE IS TO BE MADE AS SOON AS POSSIBLE WITHOUT DELAY IN DELIVERING.
END AFAMO

WOLFS, MATERIEL COMMAND

File: Contract AC-10033, 35714

cc: AAF West. Dist. Supvr.
AAF Mide. Dist. Supvr.

COORDINATION

Adm.	Budget	Contract	Exp. Eng.	A. F. S.	Insp.	I. P. S.	Prod. Eng.	Exec.
							<i>J. M. Patterson</i>	
							<i>R. G. S.</i>	

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O. Murphy
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WAR DEPARTMENT
CLASSIFIED MESSAGE CENTER
OUTGOING CLASSIFIED MESSAGE

UNITED STATES DEPARTMENT OF THE ARMY
CLASSIFIED MESSAGE CENTER
WASHINGTON, D. C.

18 August 1948

Com, 1st Air Force
Air Materiel Command
Wright Field
Dayton, Ohio

Subject: *AF 2307*

Reference is made to *Witcham's* descriptive from *Form* signed
dated *2307* per *AF 2307* dated August 17, 1948.

Equipment for B-7 type aircraft. B-7 aircraft will have
same radio and radar equipment as for B-24 airplanes, with
the exception that radio altimeter (RCA-718) will be in-
stead of in all aircraft. This includes B7/CX-4 Local
(RCA-127) to the 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th,
and 19th Air Forces and the Interceptor (RCA-718) to
the 11th, 12th, and 13th Air Forces only. Captain
Halchick, *2307*, *2307*, *2307*, will be fur-
nished this information as soon as possible.

Encl.
AF 2307

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AAF
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ACO

OPERATOR OF AAF

CLASSIFIED MESSAGE CENTER (23 Aug 48) 2150Z 1948

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WBS:ajt:HCW
Wright Field, Dayton, Ohio
24 August 1944

CTI-1355, ADDENDUM NO. 7

Radio and Radar Equipment for P-7 (B-24) Aircraft

Production Division

MX-373

1. Problem Presented:

a. The Assistant Chief of Air Staff, Materiel and Services has directed that P-7 type aircraft will have radio and radar equipment installed similar to that on regular B-24 aircraft with the following exceptions:

(1) Radio altimeter SCR-718 will be installed in P-7 aircraft.

(2) Interrogator (SCR-729) will be installed on aircraft for the 5th, 7th and 13th Air Forces only.

2. Factual Data:

a. Loren equipment AN/APN-4 (SCR-622) was directed in Addendum No. 4 for installation in P-7 to the 5th, 7th, 10th, 11th, 13th, and 14th Air Forces.

b. Reference is made to PWS-6790-6, dated 14 August 1944.

3. Authority:

a. Commanding General, Army Air Forces, by teletype WAR-83507, dated 19 August 1944, from, Chief, Modification Office, Assistant Chief of Air Staff, Materiel and Services.

4. Action Desired:

a. That the Production Division take the necessary action to install radio and radar equipment in P-7 aircraft as outlined under Problem Presented.

By Command of Brigadier General WOLFE:

~~CONFIDENTIAL~~

cc: Engineering Division
Inspection Division
Procurement Division
Air Service Command

AAFMC-190-WF-5-1

CENTRAL FILES

T. A. SINS
Colonel, Air Corps
Deputy Chief of Staff

COM. GEN.
CH. STAFF
DEP. CH. STAFF
EXEC. ADJ.
ADJ. GEN.
EXEC. PROC.
AIR. INSP.
INTELL.
COMPTROLLER
C. O.
Sub. Sec.
ENG. DIV.
PROD. DIV.
DIV.
OTHERS

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O-413,44 *Walter - F-7*
HEADQUARTERS ARMY AIR FORCES
ROUTING AND RECORD SHEET
37

DMX-2

TALLY NO	15-10/16
FILE NO	(3)

SUBJECT: Request for Study of F-7 Equipped with AN/APS-15.

TO: Asst C/AS, M&S, Materiel Division (Devel. Engr. Branch) DATE 15 Oct 1961

FROM: Asst C/AS, OCR, Requirements Division COMMENT No. Mr. Foster/wal/1061

1. Cable just received from the Far East Air Force states a definite requirement for F-7 aircraft equipped with AN/APS-15.
2. It is requested that a study be made to determine the following:
 - a. Whether it would be easier to use a standard F-7 and equip it with AN/APS-15, or whether it would be simpler to take a standard H-2X B-24J and complete necessary F-7 modifications on that type.
 - b. Approximately what length of time would be required to complete initial mock-up of one prototype after definite word to go ahead was given.
3. It is requested that this study carry a 1A priority. It is further requested that the above information be furnished as soon as possible as it must be sent to the Far East Air Force for consideration.

Clare W. Bunch, Col USA
 MERVIN E. GROSS
 Brigadier General, USA

Asst. for Mat. & Equip. *[Signature]*
 Reconnaissance Branch *[Signature]*
 Equipment Section *[Signature]*
 Aircraft Unit *[Signature]*

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HEADQUARTERS ARMY AIR FORCES

ROUTING AND RECORD SHEET

TALLY NO.	<i>[Handwritten]</i>
FILE NO.	<i>[Handwritten]</i>

SUBJECT: F-7 Aircraft

TO: Asst C/AS, OC&R, Commitments Division

DATE 30 Oct 1944

FROM: Asst C/AS, OC&R, Requirements Division

COMMENT No. 1
Maj Bishop/dm/73056

1. It is requested that the one (1) F-7 aircraft on Project 96477R be deferred for shipment on this project.
2. Complying with request from theater, all F-7's are to have H2X installed and it is desired to make such installation in this aircraft.

Reconnaissance Br *[Signature]*
Org & Tactics Sec *[Signature]*

[Signature]
MERVIN E. GROSS
Brigadier General, USA

TO: AC/AS, OCB, Requirements Division

DATE 16 NOV 1944

FROM: AC/AS, OCB, Commitments Division

COMMENT NO. 2
JBS/blg/72856

1. One (1) F-7B on Project 96477R, serial number 42-64256, scheduled for shipment to PCA has been detained at Hunter Field, Georgia per above request. When modification facilities have been determined, this project will be cancelled and delivery of the airplane to the designated modification center for mock-up purposes will be made.

2. It is understood that the theater referred to in paragraph 2, comment 1, is the Far East. At this time we have allocated to the Far East four (4) F-7's from December availabilities (three for 20th Combat Mapping Squadron and one for 2nd and 4th Photo Charting Squadrons) and four from January availabilities (two for the 20th Combat Mapping Squadron and two for the 2nd and 4th Photo Charting Squadrons).

3. Information is desired as to whether all aircraft allocated to the Far East should be modified for H₂X or only those intended for the 20th Combat Mapping Squadron. It is pointed out that if all are modified for H₂X (provided modification center facilities permit) conversion of the 20th Combat Mapping Squadron to H₂X will be accelerated and at the same time, replacement F-7's required by the 2nd and 4th Photo Charting Squadrons may be furnished from the present F-7 stock on hand in the 20th Combat Mapping Squadron. Through this action, F-7 type allocations to the Far East for the next eight to ten months would be confined to H₂X type.

[Signature]
T. L. MOSELY
Colonel, Air Corps

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ADDRESS REPLY TO
COMMANDING GENERAL, ARMY AIR FORCES
WASHINGTON, D. C.

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WAR DEPARTMENT
HEADQUARTERS OF THE ARMY AIR FORCES
WASHINGTON, D. C. 25

3 November 1944
AFDWA-4M

SUBJECT: H2X Mock-Up in F-7 Aircraft

TO: Director, AAF Air Technical Service Command
Wright Field, Dayton, Ohio
Attention: TSTEX

1. F-7 aircraft number 42-64256 now at Hunter Field, Savannah, Georgia, is available for mock-up of H2X radar.
2. It is directed that above F-7 aircraft be modified to include installation of AN/APS-15 radar. Provisions will also be made for photographing an auxiliary radar scope with the modified K-24 camera.
3. Upon completion and approval of subject prototype aircraft it is estimated that approximately eighteen (18) F-7 airplanes, at present allocated on future projects, will have the above H2X modification.
4. This project will be assigned a photographic reconnaissance 1-A priority in view of the urgent and immediate requirement for this type aircraft in the theater.
5. It is requested that this office be advised at the earliest possible date as to what facility will accomplish subject mock-up and who will be the responsible officer in charge.

By Command of General ARNOLD:

A. C. Wilson

A. C. WILSON
Colonel, Air Corps
Chief, Aircraft Projects Branch
Materiel Division
Office, Asst Chief of Air Staff
Materiel and Services

1355
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Y-86200

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ATSC Form No. 88-205 (8 NOV 44)
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12

Capt. Jon H. Ober
oes/TSTEX (5-6147)

ARMY AIR FORCES
HEADQUARTERS
AIR TECHNICAL SERVICE COMMAND

TECHNICAL INSTRUCTIONS

Wright Field, Dayton, Ohio
16 November 1944

SERIAL NO: TI-2007.
SUBJECT: F-7 - H2X Mock-Up in F-7 Aircraft.
TO: Engineering Division.

MX-373

1. Problem Presented:

a. To accomplish H2X mock-up in F-7 aircraft.

2. Factual Data:

a. F-7 aircraft number 42-64255 now at Hunter Field, Savannah, Georgia, is available for mock-up of H2X radar.

b. Upon completion and approval of subject prototype aircraft it is estimated that approximately eighteen (18) F-7 airplanes, at present allocated on future projects, will have the H2X modification.

3. Authority:

a. CG, AAF. By letter dated 3 November 1944 with regard to the above subject, received from Chief, Aircraft Projects Branch, Materiel Division, AC/AS, I&S.

4. Action Desired:

a. The F-7 aircraft mentioned above is to be modified to include AN/APN-15 radar. Provisions will also be made for photographing an auxiliary radar scope with the modified K-24 camera.

b. Chief, Aircraft Projects Branch, Materiel Division, Office of the Assistant Chief of Air Staff, Materiel and Services, is to be advised at the earliest possible date as

12-20

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SERIAL NO: TI-2007 (continued).

SUBJECT: F-7 - H2X Mock-Up in F-7 Aircraft.

TO: Engineering Division.

to what facility will accomplish the subject mock-up and who will be the responsible officer in charge.

c. This project has a 1-A priority.

By command of Lt. General KNUDSEN:

T. A. Sims

T. A. SIMS,
Colonel, Air Corps,
Chief of Administration.

cc: Procurement Division
Supply Division
Maintenance Division.

*Info sent for CF
Jan 13, 1944 (H) y-16-200*

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*O-452.1 68-F-7
5-11-44
BJ, dat*

HEADQUARTERS ARMY AIR FORCES **CONFIDENTIAL**

ROUTING AND RECORD SHEET

TALLY NO	<i>RCM</i>
FILE NO	<i>(C)</i>

SUBJECT: F-7 Aircraft

TO: Asst C/AS, OCR, Commitments Division DATE: 21 Nov 1944.

FROM: Asst C/AS, OCR, Requirements Division COMMENT No. 3
Major Foster/vml/6848

1. Reference is made to Paragraph 3, Comment 3. The 2nd and 4th Photo Charting Squadrons will continue to conduct their operations in F-7 aircraft not H2X equipped. It is possible that an arrangement can be made whereby the 2nd and 4th Photo Charting Squadrons will draw their attrition aircraft from the F-7 Unit Equipment now assigned to the 20th Combat Mapping Squadron. This would be desirable because it would accelerate the conversion of the 20th Combat Mapping Squadron to H2X equipped F-7 aircraft. In that all F-7's previously allocated for the 20th Combat Mapping Squadron, 2nd and 4th Photo Charting Squadrons, would then be made available for the 20th Combat Mapping Squadron.

APPROVED: *RCM*
Reconnaissance Br. *RCM*
Aircraft Section *RCM*

M. E. Cross
MARVIN E. CROSS
Brigadier General, USA

452.1 Photo Reconnaissance

TO CENTRAL FILES:

Action Completed!

J. B. Shaver
J. B. SHAVER, Capt., A. C. 23 Apr 1945 Date

Robert A. Elliot
Lt. Colonel, Air Corps

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**WAR DEPARTMENT
MESSAGEFORM**

Date 29 November 1944

File No. AC-35714 Telephone No. Cedar 6644
Ext. 230

Office of origin AAAF, NY-St. Paul Modification Center
(Arm or service) (Division) (Branch) (Section) (Symbol)

Address Municipal Airport, St. Paul 1, Minnesota

To:	PRECEDENCE	
	WIRE OR RADIO	ESSENTIAL MILITARY MAIL
Director Air Technical Service Command Production Engineering Section Bombardment Branch Wright Field Dayton, Ohio Att: B-24 Proj. Logr.	Urgent..... Priority..... Routine..... Deferred..... Week end.....	Air mail..... <input checked="" type="checkbox"/> Special delivery..... Ordinary..... Registered.....
Any message not X'd for precedence will be sent "Deferred."		Initial of officer assigning precedence <u>ABH:vt</u>

MESSAGE:

SUBJECT: B-24 F-7 H2X Airplanes

1. Reference directive contained in TXK TSBPR 314-10-356 dated 31 October 1944, a study has been made on the proposed production of F-7B aircraft equipped with AN/APS-15.

2. It is estimated that if sufficient information is received by approximately 15 December, the mock up can be completed by 1 February 1945.

3. Production could start approximately 15 February 1945 and ten specially modified aircraft could be produced by 1 April 1945 with eight per month thereafter in addition to the present schedule of 88 H2X airplanes per month.

4. The estimated total man hours required would amount to 10,000 for the first airplanes modified and approximately 6500 after the first six.

5. The above estimates are based on present engineering loads of known and contemplated mock ups, on minimum information available on F-7B and the AN/APS-15 combination, together with the contemplated total of production personnel.

ABH
A. B. HOBBS, Jr.
Captain, Air Corps
AAF Resident Representative
NY-St. Paul Modification Center

35714
ST. Paul
CONTRACT FILES
2-14-44

R
St. Paul

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HEADQUARTERS ARMY AIR FORCES

ROUTING AND RECORD SHEET

TALLY NO.
FILE NO.

SUBJECT requirements for F-7 (B-24) H2X Aircraft for 73AF

TO: AC/AS, Materiel and Services

DATE: 2/1/57

COMMENT NO.

FROM: AC/AS, OCS, Commitments Division

PRIORITY

1. In compliance with the verbal request of Major Quartermaster, Materiel Division, Production Branch, the following is established as the requirement for H2X installations in F-7 (B-24) aircraft needed to convert the 24th Combat Mapping Squadron to H2X operations:

Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
-	5*	4	5	4	3	2	1	1	1	1	1

*kock-up included.

2. Above figures should be considered as part of the present straight F-7 (B-24) requirements, which are as follows:

Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
5	6	5	6	5	6	5	6	5	6	5	6

3. Request that future tactical availability estimates reflect separation between H2X F-7 (B-24's) and straight F-7 (B-24's).

AFRRR *[Signature]*

[Signature]
GEORGE MCCOY, JR.
Brig. General, U. S. Army
1/32

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ADDRESS REPLY TO
COMMANDING GENERAL, ARMY AIR FORCES
WASHINGTON, D. C.**SECRET**WAR DEPARTMENT
HEADQUARTERS OF THE ARMY AIR FORCES
WASHINGTON, D. C. 25

AFDMA-4M

SUBJECT: H2X in F-7 Aircraft

TO: Director, AAF Air Technical Service Command
Wright Field, Dayton, Ohio

Attention: TSTEX

1. Reference letter from this headquarters dated 3 November 1944, subject "H2X Mock-Up in F-7 Aircraft".
2. Information received in this office indicates a mock-up aircraft will not be required for the H2X installation. This is evident due to the feasibility of the job and to the fact all engineering data is already completed.
3. Consequently, it is directed that five (5) F-7 aircraft be modified to include AN/APS-15 radar and provisions for photographing an auxiliary radar scope with the modified K-24 camera. Modifications of these five (5) aircraft will have a photographic reconnaissance 1-A priority in view of the urgent and immediate requirement for this type aircraft in the theater.
4. F-7 aircraft #44-41177, on November Tactical Availability List, now at Tucson Modification Center, Tucson, Arizona, is available as first production airplane. The tactical availability schedule of H2X in F-7 aircraft for the next few months will be as follows:

December	(4)	on project number	96904R
January	(4)	on project number	96960R
February	(5)		
March	(4)		
April	(5)		
May	(2)		

 and two per month thereafter for attrition.
5. This information is to be brought to the attention of Captain Ober at the earliest possible date.

By Command of General ARNOLD:



[Signature]
 W. A. GIBBS
 Lt. Colonel, Air Corps
 Acting Chief, Aircraft Projects Branch

SECRETMateriel Division
AC/AS, M&S

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ARMY AIR FORCES
HEADQUARTERS
AIR TECHNICAL SERVICE COMMAND

EX
Capt. Burbank:aac
6-8189
WMB
Wright Field, Dayton, Ohio
12 December 1944
SECRET

TECHNICAL INSTRUCTIONS

SERIAL NO.: TI-2007, ADDENDUM 1

Wright Field, Dayton, Ohio
12 December 1944

SUBJECT: H2X in F-7 Aircraft

TO: Maintenance Division
Engineering Division

mx-373

BY Authority of
Director, ATSC

Date: 12/12/44

Initials: [Signature]

1. Problem Presented:

a. To modify five (5) F-7 aircraft (one (1) F-7 aircraft number 44-41477 and four (4) aircraft on Project 96904R) to include AN/APS-15 radar and provisions for photographing an auxiliary radar scope with the modified K-24 camera.

2. Factual Data:

a. It is understood that engineering information necessary to install radar sets AN/APS-15 or AN/APS-15A in a B-24 aircraft is available at Northwest - St. Paul Modification Center, St. Paul, Minnesota, and that this installation is readily adaptable to F-7 airplanes.

b. It is understood that the installation of provisions for photographing the auxiliary scope is a minor modification to the installation.

c. F-7 aircraft 44-41477, on November Tactical Availability List, now at Tucson Modification Center, Tucson, Arizona is available as first production airplane. The tactical availability schedule of H2X in F-7 aircraft for the next few months will be as follows:

- (1) December (4) on Project number 96904R
- (2) January (4) on Project number 96960R
- (3) February (5)
- (4) March (4)
- (5) April (5)
- (6) May (2)

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SERIAL NO.: TI-2007, ADDENDUM 1

SUBJECT: H2X in F-7 Aircraft

TO: Maintenance Division
Engineering Division

and two per month thereafter for attrition. However, only the modification outlined in Problem Presented is directed.

d. It is understood that the first airplanes will be modified at Warner Robins, Air Technical Service Command.

e. These F-7 airplanes modified to incorporate H2X equipment are for the Southwest Pacific Theater and the theater requests they have priority over B-24 H2X aircraft allocated to them.

f. Reference is made to Basic TI-2007, directing mock-up of H2X in a F-7 aircraft.

3. Authority:

a. Commanding General, Army Air Forces. By letter dated 4 December 1944, subject as above, from Acting Chief, Aircraft Projects Branch, Material Division, Assistant Chief of Air Staff, Material and Services.

4. Action Desired:

a. That the Engineering Division take the following action:

(1) Furnish the Maintenance Division with the available engineering data and provide the necessary engineering personnel to complete the modification as outlined in Problem Presented.

(2) Furnish the necessary engineering data and specifications for future installation to the Maintenance Division.

b. That the Maintenance Division take action to:

(1) Modify the five (5) F-7 aircraft as outlined in Problem Presented and to call on the Engineering Division for the necessary engineering personnel to accomplish the modification until the required engineering data and specifications are received.

By Command of Lt. General KNUDSEN:

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SERIAL NO.: TI-2007, ADDENDUM 1

SUBJECT: H2X in F-7 Aircraft

TO: Maintenance Division
Engineering Division

T. W. Sims
T. W. SIMS
Colonel, Air Corps
Chief of Administration

cc: Procurement Division
Supply Division

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ADDRESS REPLY TO
COMMANDING GENERAL, ARMY AIR FORCES
WASHINGTON, D. C.¹⁸
SECRET

SECRET	
By Authority of	
The Commanding General Army Air Forces	
Date	12 DEC '44
Initials	<i>[Signature]</i>

WAR DEPARTMENT
HEADQUARTERS OF THE ARMY AIR FORCES
WASHINGTON, D. C.

12 December 1944

SUBJECT: Modification of H2X in F-7 Aircraft

TO: Director, AAF Air Technical Service Command
Wright Field
Dayton, Ohio

Attention: TSTEX

1. Reference letter from this headquarters dated 4 December 1944, subject "H2X in F-7 Aircraft".
2. Referenced letter directed modification of five (5) F-7 aircraft to include H2X on Project No. 96904R. This included F-7 Airplane No. 44-41477 for the first production modification, since a mockup is not required.
3. It is directed that necessary action be taken to modify four (4) additional F-7 aircraft on Project No. 96960R in accordance with directive dated 3 November 1944, subject "H2X Mockup in F-7 Aircraft". Theater cable dated 20 October 1944 has established priority installation of H2X in F-7 aircraft for the 20th Combat Mapping Squadron over H2X B-24 High Altitude Flying Bombing Program for the Southwest Pacific Area.
4. This information is to be brought to the attention of Captain Burbank at the earliest possible date.

By command of General ARNOLD:

[Signature]
A. A. GIBBS
Lt Colonel, Air Corps
Acting Chief, Aircraft Projects
Branch
Materiel Division
Office of Asst Chief of Air Staff
Materiel and Services



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ARMY AIR FORCES
HEADQUARTERS
AIR TECHNICAL SERVICE COMMAND

TSTEX	COPIES	INITIALS
Capt. Barbanksaac (5-6109)		<i>[Signature]</i>
SECRET		SEEK CARE
By Authority of:		PROPERTY <input type="checkbox"/>

TECHNICAL INSTRUCTIONS. 19 December 1944

SERIAL NO.: TI-2007, ADDENDUM 2 *MS*

SUBJECT: H2X in F-7 Aircraft

MX-373

Director, ATSC

TO: Maintenance Division

Date: 17 DEC 44
Initials: UB

1. Problem Presented:

a. To modify four (4) additional F-7 aircraft, on Project 96960-R, to include AN/APS-15 radar and provisions for photographing an auxiliary radar scope with the modified K-24 camera.

2. Factual Data:

a. Reference is made to TI-2007, Addendum 1, directing the modification of the first five (5) F-7 aircraft.

b. These aircraft are for the southwest Pacific area.

3. Authority:

a. Commanding General, Army Air Forces: By letter dated 12 December 1944, subject, "Modification of H2X in F-7 Aircraft", from Acting Chief, Aircraft Projects Branch, Materiel Division, Office, Assistant Chief of Air Staff, Materiel and Services.

3. Action Desired:

a. That the Maintenance Division accomplish the modification outlined in Problem Presented.

By Command of Lt. General KNUDSEN:

[Signature]
T. A. SIMS, *1st Lt.*
Colonel, Air Corps
Chief of Administration

cc: Supply Division
Engineering Division
Procurement Division

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P 413.44 AN/APS-15 HEADQUARTERS, ARMY AIR FORCES
Y Washington D C AFMDA-2F/4

26 February 1945

SUBJECT: Installation of AN/APS-15A in Two P-7 Aircraft for Third Air Force

TO: Director
AAF Air Technical Service Command
Wright Field
Dayton, Ohio

Attention: TSTEX

1. In response to a request made by Commanding General, Third Air Force, this Headquarters has authorized the installation of AN/APS-15A in two (2) P-7 aircraft to be accomplished by personnel at Will Rogers Field. The Commanding General, Third Air Force, has been requested to enter their requisition through normal channels for the necessary equipment which has been authorized by this Headquarters.

2. It is requested that the Aircraft Radio Laboratory forward to Will Rogers Field, marked for the attention of Signal Supply Officer for P-7 installation, complete engineering drawings, photographs, etc. covering the installation of the AN/APS-15A in P-7 aircraft. It is believed that this installation has been made by the Air Technical Service Command at Middletown Air Depot.

3. In the event that the Third Air Force requests technical assistance in making this installation, they have been asked to contact Maj Post of the Aircraft Radio Laboratory. Supply of personnel for this technical assistance may either be made by the Aircraft Radio Laboratory or the Maintenance Division of Air Technical Service Command as you see fit.

By command of General ARNOLD:

/s/ H. E. Yarbrough
Major Air Corps
for D. C. DOUBLEDAY
Colonel, Air Corps
Chief, Engineering Branch
Material Division
Office, AC/AS, Materiel & Services

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ADDRESS REPLY TO
COMMANDING GENERAL, ARMY AIR FORCES
WASHINGTON 25, D. C.

ATTENTION:

HEADQUARTERS, ARMY AIR FORCES
WASHINGTON

AFDMA-4M

24 April 1945



SUBJECT: Modification of F-7 H2X Aircraft

TO: Director, AF Air Technical Service Command
Wright Field
Dayton, Ohio

Attention: TSTMA

1. It is directed that requirements for F-7 H2X airplanes be amended to include installation of an auxiliary gun mounting in the rear escape hatch in a similar manner as LAB H2X aircraft.

2. The above installation will be accomplished at such time as not to delay delivery of the aircraft from the modification facility.

By command of General ARNOLD:

W. E. Phillips U.S.A.
Gen. W. E. PHILLIPS

Colonel, Air Corps
Chief, Materiel Division
Office of Asst Chief of Air
Staff
Materiel and Services

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ARMY AIR FORCES
Headquarters
AIR TECHNICAL SERVICES COMMAND
TECHNICAL INSTRUCTIONS

Capt. F. H. Carney
ser: TSTX:6-2183

E

Wright Field, Ohio
30 April 1945

Serial No.: TI-2007, ADDENDUM NO. 10

Subject: H2X - F-7 Aircraft

To: Procurement Division

1. Problem Presented:

a. To install an auxiliary gun mounting in the rear escape hatch of F-7 H2X Airplanes on a no delay basis.

2. Factual Data:

a. Subject installation will be accomplished similarly to the LAB-H2X installation.

b. Reference is made to TI-2007, Addenda 1, 2, 4 and 8, which direct the modification of F-7 Aircraft by installation of H2X equipment.

3. Authority:

a. CG, AAF by letter dated 24 April 1945, subject: "Modification of F-7 H2X Aircraft", from Chief, Material Division, 10/45/45

4. Action Desired:

a. That the Procurement Division install an auxiliary gun mount in the rear escape hatch in F-7 H2X Airplanes on a no delay basis.

b. These Technical Instructions amend TI-2007, Addenda 1, 2, 4 and 8.

c. This project has been assigned a 3-0 priority.

By Command of Lt. General KROUSE,

F. H. Carney, Capt. A.C.
3rd Lt. A. Sims
Colonel, Air Corps
Chief of Administration
Wright

cc: Engineering Division
Supply Division
Maintenance Division
Aircraft Test Control
Tech. Liaison Office
Air Communications Office

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ATSC

2 June 1945

TSBPR323/B K/ee

Commanding General, Army Air Forces
Washington 25, D.C.
Att: AC/AS, Materiel and Services
Materiel Division
Aircraft Projects Branch
Major J.G. Good

H. A. SHEPARD
Colonel, Air Corps

TSBPR323-6-1.....IN AN EFFORT TO PROVIDE F-7 (B-24) AIRCRAFT TO MEET FUTURE REQUIREMENTS THE FOLLOWING PLAN REGARDING THE MODIFICATION OF SUBJECT AIRCRAFT IS BEING PUT INTO OPERATION: THIRTY (30) SAN DIEGO B-24 AIRCRAFT ARE BEING DIVERTED FROM TUCSON JUNE OUTPUT ON PROJECT DOM 175B AND WILL BE HELD AT TUCSON FOR F-7 MODIFICATION. IT IS PROBABLE THAT TUCSON FACILITY WILL CEASE ALL MODIFICATIONS APPROXIMATELY 31 JULY AND THEREFORE NO F-7 MODIFICATIONS AFTER THAT DATE ARE PLANNED. THE CURRENTLY SCHEDULED F-7 PROGRAM WILL FILL PROJECT 97123R, PROJECT 97153R, PROJECT 97236R AND WILL LEAVE TWENTY-ONE (21) AIRPLANES ON WHICH THERE IS NO PRESENT PROJECT ASSIGNMENT. IT IS REQUESTED THAT THE ABOVE PLANS BE APPROVED, AND THAT PROJECT ASSIGNMENTS FOR THE LAST TWENTY-ONE (21) AIRPLANES BE FURNISHED IMMEDIATELY, SIGNED, PROCUREMENT DIVISION.

cc: BPR324 - Maj. Witter

45211-F-7-Shepherd and Good 12/1/45

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PAGE NO. 1

MODIFICATION DIRECTIVE

F-7B (B-24) AIRPLANE
 F-7C RADAR (B-24) AIRPLANE
 REVISED 25 JUNE 1945

MODIFICATION PROJECT ENGINEER
 CAPT. T. T. GILCHRIST WF KIT. 20146

PROJECT DESIGNATIONS

2 UCIP	6 BADE	14 DOM
3 OBEY	8 IRON	15
5 ALASKA	11 DAUB	16

MCR NO.	ITEM NO.	MODIFICATION DETAILS	APPLICABLE DESIGNATIONS
		<p>THE M.H. (MAN HOURS) - a, b, c, d OR e AS USED AFTER DIRECTIVE ITEMS INDICATES CLASSIFICATION FOR CHARGING MAN HOURS AS REQUIRED BY ATSC REGULATION NO. 152-1 DATED 13 NOVEMBER 1944.</p> <p>* INDICATES WORK IS TO BE DONE IN MODIFICATION UNTIL THE ITEM IS ACCOMPLISHED IN AIRPLANE FACTORY.</p> <p><u>A - ARMAMENT</u></p>	
	33	<p>a. INSTALL INSTRUMENT ARMOR PLATE. (NOT REQUIRED ON RADAR AIRPLANES.) (M.H.-a)</p> <p>b. INSTALL PILOT'S ARMOR PLATE. (NOT REQUIRED ON RADAR AIRPLANES.) (M.H.-a)</p>	11
		<u>RA - RADAR ARMAMENT</u>	
	2	<p>INSTALL .50 CAL. MACHINE GUN IN MAIN ENTRANCE HATCH. (M.H.-a) F-7B RADAR F-7B</p>	NONE ALL
		<u>PA - PHOTOGRAPHIC ARMAMENT</u>	
	1	<p>a. REMOVE ALL BOMBING EQUIPMENT EXCEPT THAT NECESSARY FOR PROPER INSTALLATION OF DROPPABLE FUEL TANKS AND FLASH BOMB INSTALLATION. (M.H.-c)</p> <p>b. INSTALL BOMB ARMING CONTROLS FOR FLASH BOMB. (M.H.-c)</p>	ALL
		<u>B - RADIO AND RADAR</u>	
	5	<p>b. INSTALL CRYSTALS FOR "C" AND "D" BANDS IN SCR-522 (AN/ARC-3.) (M.H.-b)</p>	ALL

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F-7B		- RESTRICTED -		PAGE NO. 2
MCR NO.	ITEM NO.	MODIFICATION DETAILS		APPLICABLE DESIGNATIONS
		<u>B - RADIO AND RADAR (CON'T)</u>		
	16	REQUIREMENTS FOR SCR-274N COMMAND RADIO SET.* b. INSTALL EC-459A TRANSMITTER. NOTE: EC-453, 454, 455, 457, AND 458 TO REMAIN IN ALL AIRPLANES.	(M.H.-b)	11
M656	19	a. PROVIDE SPACE AND WEIGHT PROVISIONS ONLY FOR SCR-622 (AN/APN-4). FACTORY EFFECTIVE POINT: S.D. 44-49752 10-28-44 FORD 44-49752 10-28-44	(M.H.-d)	ALL
		b. INSTALL AN/APN-4 OR AN/APN-9 RADIO COMPLETE.	(M.H.-d)	2,3,5,8,11
	21	INSTALL SCR-729 OR AN/APN-12 RADIO SET.	(M.H.-b)	2,3,8
	22	a. INSTALL AN/APN-1. (IT IS ESSENTIAL THAT DIAL BE EASILY VISIBLE TO THE PILOT.)	(M.H.-d)	5,6,11
		b. INSTALL SCR-718 RADIO ALTIMETER.	(M.H.-d)	ALL
	23	INSTALL ZB ADAPTER (AN/ARR-1 RADIO.)	(M.H.-d)	2,3
	29	CHANGES IN TUNING UNITS OF THE SCR-287 RADIO. (NOTE: ALL AIRPLANES REQUIRE TU-5,6,7,8,9,10 & 26 EXCEPT AS NOTED BELOW.)	(M.H.-b)	
		a. REMOVE UNIT NUMBER 10.		8,11
		b. STOW LOOSE UNIT NUMBER 5.		11
28W	36	CONVERT RC-36 INTERPHONE SYSTEM TO AN/AIC-2.* FACTORY EFFECTIVE POINT: S.D. 44-41808 10-24-44 FORD	(M.H.-b)	ALL
	11	INSTALL TYPE A-1 CHAFF DISPENSER.	(M.H.-b)	ALL
	12	INSTALL LORAN COUPLER CU-92/APN.	(M.H.-d)	2,3,5,8,11
		<u>RB - SPECIAL RADIO AND RADAR</u>		
	1	a. INSTALL RADAR OPERATOR'S COMPARTMENT ON FLIGHT DECK BACK OF PILOT. (INSTALL AIR SPEED INDICATOR, ALTIMETER, CLOCK AND FREE AIR TEMPERATURE GAUGE.) F-7B RADAR F-7B	(M.H.-b)	ALL NONE

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F-7b MCR NO.	ITEM NO.	- RESTRICTED - MODIFICATION DETAILS	PAGE NO. 3 APPLICABLE DESIGNATIONS
		<u>RB - SPECIAL RADIO AND RADAR (CON'T)</u>	
	3	a. INSTALL AN/APB-15A COMPLETE, WITH AUXILIARY SCOPE FOR NAVIGATOR. (M.H.-b) F-7B RADAR F-7B	ALL NONE
		<u>C - NAVIGATION</u>	
590	13	a. RELOCATE PILOT'S REMOTE INDICATING COMPASS ON INSTRUMENT PANEL WITHIN FLIGHT INSTRUMENTS GROUP OR ADJACENT, BUT NOT TO IMPAIR VISIBILITY.* FACTORY EFFECTIVE POINT: S.D. FORD 44-51052 2-15-45 (M.H.-e)	ALL
		<u>RC - RADAR NAVIGATION</u>	
	3	a. INSTALL FLUX GATE COMPASS IN PLACE OF PRESENT REMOTE READING COMPASS. INSTALL INDICATORS FOR NAVIGATOR AND PILOT. (M.H.-d) F-7B RADAR F-7B	ALL NONE
		b. INSTALL INDICATOR FOR RADAR OPERATOR. (M.H.-d) F-7B RADAR F-7B	ALL NONE
	7	INSTALL FLEXIBLE MAP LAMP WITH BRILLIANCE CONTROL. (M.H.-d) F-7B RADAR F-7B	ALL NONE
		<u>FC - PHOTOGRAPHIC NAVIGATION</u>	
	1	INSTALL 60-8005 DRIFT METER, TYPE B-3 IN LIEU OF B-5. (M.H.-d)	ALL
		<u>D - MISCELLANEOUS</u>	
	4	b. INSTALL TWO (2) SELF SEALING FUEL TANKS IN FRONT BOMB BAY. (M.H.-d)	ALL
		d. INSTALL MOUNTING PROVISIONS AND STOW HAND FUEL PUMP WITH ATTACHING FITTINGS. (M.H.-d)	2,3,8
	36	b. INSTALL AN ADDITIONAL LIFE RAFT RELEASE MECHANISM IN ACCORDANCE WITH H.A.D. DRAWINGS. (M.H.-e)	8
	45	INSTALL TOILET FACILITIES. (M.H.-e)	8

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F-7B		- RESTRICTED -		PAGE NO. 4
MCR NO.	ITEM NO.	MODIFICATION DETAILS		APPLICABLE DESIGNATIONS
		<u>D - MISCELLANEOUS (CON'T)</u>		
132U	48	REWORK NOSE OXYGEN SYSTEM.* FACTORY EFFECTIVE POINT: S.D. 44-42249 1-25-45 FORD	(M.H.-e)	ALL
		PT.W 44-10354 4-16-44 DOUG. 42-51094 3-23-44		
	49	MODIFY TAIL BUMPER GEAR.*	(M.H.-e)	2,3,8
	50	INSTALL LONGER WINDOW CHANNEL, AIR SPOILER AND BLISTER WINDOWS FOR PILOT AND CO-PILOT. (NOT REQUIRED WHEN MCR-590-1 HAS BEEN ACCOMPLISHED.)	(M.H.-e)	8
	52	INSTALL WAIST GUN CRASH BELT.	(M.H.-e)	8
	53	PROVIDE STORAGE FOR EXTRA LIFE RAFT.	(M.H.-e)	2,3,8
594A	58	PROVIDE MEANS OF CALIBRATING FUEL SIGHT GAUGES TO GIVE CORRECT STATUS OF FUEL SUPPLY AT VARIOUS FLIGHT ATTITUDES.* FACTORY EFFECTIVE POINT: S.D. 44-41649 10-17-44 FORD 44-50662 1-17-45	(M.H.-e)	ALL
	63	a. REMOVE ALL A-4 WALK AROUND BOTTLES AND BRACKETS.	(M.H.-e)	ALL
		b. INSTALL D-2 WALK AROUND ASSEMBLY UNTIL A-6 IS AVAILABLE.	(M.H.-e)	ALL
		c. INSTALL A-6 CYLINDER WITH A-15 REGULATOR WHEN AVAILABLE.*	(M.H.-e)	ALL
	65	INSTALL STOWAGE CONTAINER FOR CHEST TYPE PARACHUTES AT EACH CREW STATION.	(M.H.-e)	ALL
	66	a. INSTALL INERTIA SHOULDER HARNESS STRAP TAKE-UP REEL FOR PILOT AND CO-PILOT.*	(M.H.-e)	ALL
		b. INSTALL B-14 SAFETY BELT FOR PILOT AND CO-PILOT.*	(M.H.-e)	ALL
		<u>RD - RADAR MISCELLANEOUS</u>		
	2	INSTALL ONE (1) ADDITIONAL OXYGEN OUTLET, SUIT HEATER RHEOSTAT AND RADIO JACKBOX FOR RADAR OPERATOR. F-7B RADAR F-7B	(M.H.-e)	ALL NONE
	3	INSTALL 42-6050 AUXILIARY POWER PLANT (TYPE D-2) IN LIEU OF 42-6025. F-7B RADAR F-7B	(M.H.-e)	ALL NONE

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APPLICABLE DESIGNATIONS

F-7B

MCR NO. ITEM NO.

MODIFICATION DETAILS

RD - RADAR MISCELLANEOUS (CON'T)

4	REWORK ELECTRICAL SYSTEM.	F-7B RADAR F-7B	(M.H.-d)	ALL NONE
5	INSTALL TURN CONTROL FOR C-1 AUTOMATIC PILOT (64-2302).	F-7B RADAR F-7B	(M.H.-e)	ALL NONE
28	INSTALL AC BUS SYSTEM EMPLOYING TWO (2) PU-7 INVERTERS.	F-7B RADAR F-7B	(M.H.-d)	ALL NONE

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F-7B MCR NO.	ITEM NO.	MODIFICATION DETAILS	APPLICABLE DESIGNATIONS
		<u>F - WINTERIZATION</u>	
		WINTERIZATION ITEMS WHICH ARE CRITICALLY SHORT ARE TO BE INSTALLED ON "FIRST PRIORITY PROJECTS."	
	2	FUEL AND OIL TANK DRAINS: (M.H.-e)	5
		d. INSTALL OIL RADIATOR DRAIN VALVES ON FIRST PRIORITY AIRPLANES ON INDICATED PROJECTS. (SATISFACTORY TO INSTALL IN ELBOW AS FORD DESIGN.)	
	13	b. INSTALL AN-VV-O-366B FLUID IN LINE BETWEEN AUTOSYN TRANSMITTER AND ENGINE. (M.H.-e)	5
	14	LUBRICATION AND HYDRAULIC FLUIDS TO BE OF APPROVED QUALITY. (M.H.-e)	ALL
	16	b. WHERE SUFFICIENT HANGAR SPACE IS NOT AVAILABLE ALL AIRPLANES EXPOSED TO ICE AND SNOW TO BE COVERED, INCLUDING ENGINE AND PROPELLERS. (M.H.-e)	ALL
	25	a. INSTALL GUN BREACH HEATERS ON ALL GUNS.* (M.H.-e)	ALL
	27	INSTALL PAMPHLETS FOR COLD WEATHER OPERATION.* (M.H.-e)	5
	29	REMOVE READILY ACCESSIBLE PARTS OF PROPELLER DE-ICING EQUIPMENT. (M.H.-e)	2,3,8
		<u>G - PHOTOGRAPHIC</u>	
	1	INSTALL TRI-METROGON MOUNT FOR THREE (3) K-17 SIX INCH (6") CAMERAS. (M.H.-c)	ALL
	2	INSTALL SINGLE VERTICAL CAMERA MOUNT FOR K-17, K-18, K-19, OR K-22 CAMERAS WITH FOCAL LENGTHS RANGING FROM SIX INCHES (6") TO FORTY INCHES (40"). (M.H.-e)	ALL
	3	INSTALL SPLIT VERTICAL MOUNT TO ACCOMMODATE TWELVE INCH (12") K-17 OR TWENTY-FOUR INCH (24") AND FORTY INCH (40") K-22 CAMERAS. (M.H.-c)	ALL
	4	INSTALL PROVISIONS FOR THE STOWAGE OF THE SPARE MAGAZINE FOR EACH CAMERA. (M.H.-c)	ALL
	5	INSTALL A STANDARD A-8 OR A-11 MOUNT AT THE VARIABLE FOCAL LENGTH SINGLE VERTICAL STATION TO ACCOMMODATE SIX INCH (6") TO FORTY INCH (40") CAMERAS. (M.H.-c)	ALL
	6	INSTALL PROVISIONS FOR STANDARD A-8 OR A-11 MOUNT AT THE SPLIT VERTICAL CAMERA STATION. (M.H.-c)	ALL

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F-7B	MCR NO.	ITEM NO.	MODIFICATION DETAILS	APPLICABLE DESIGNATIONS
			<u>G - PHOTOGRAPHIC (CON'T)</u>	
		7	INSTALL PROVISIONS FOR B-3B INTERVALOMETER IN THE NOSE OF THE AIRCRAFT.	(M.H.-c) ALL
		8	INSTALL MULTI-CAMERA CONTROL IN THE CAMERA BAY CONVENIENT TO THE CAMERA OPERATOR.	(M.H.-c) ALL
		9	INSTALL START AND STOP SIGNAL SYSTEM FOR PILOT, NAVIGATOR AND PHOTOGRAPHER.	(M.H.-c) ALL
		10	INSTALL VACUUM CONNECTION AT EACH CAMERA STATION.	(M.H.-c) ALL
		11	INSTALL A-2 VIEW FINDER IN THE CAMERA BAY.	(M.H.-c) ALL
		12	INSTALL GLASS FOR EACH CAMERA WINDOW AND STOW ONE SPARE FOR EACH WINDOW.	(M.H.-c) ALL
		13	INSTALL DEFROSTERS FOR EACH CAMERA WINDOW.	(M.H.-c) ALL
		14	INSTALL INSULATION IN THE CABIN AND CAMERA COMPARTMENTS AND PROVIDE SUFFICIENT HEAT FOR EFFICIENT OPERATION OF CAMERAS AT 30,000 FEET.	(M.H.-d) ALL
		15	INSTALL REMOVABLE OR HINGED FLOOR BOARDS TO PERMIT FREE ACCESS TO THE CAMERAS.	(M.H.-c) ALL
		16	INSTALL PROVISIONS IN CAMERA BAY FOR STORAGE OF CAMERA REPAIR KIT (G-1 TYPE).	(M.H.-c) ALL
		17	INSTALL PROVISIONS FOR CARRYING SIX (6) PHOTO FLASH BOMBS.	(M.H.-c) ALL
		18	INSTALL AN OUTSIDE FREE AIR TEMPERATURE GAUGE UNIT TYPE C-13b OR EQUAL IN NOSE SECTION.	(M.H.-e) ALL
		19	INSTALL OXYGEN SUPPLY TO PROVIDE FOR MINIMUM OF SIX (6) HOURS ENDURANCE AT 30,000 FEET.	(M.H.-d) ALL
		20	SEAL ENTIRE CAMERA BAY.	(M.H.-e) ALL
		21	INSTALL WATER-PROOF COVERS FOR ALL CAMERAS AND OTHER RELATED EQUIPMENT SUBJECT TO WATER DAMAGE.	(M.H.-c) ALL
		22	INSTALL CAMERA EQUIPMENT IN ACCORDANCE WITH DIRECTIVES FURNISHED ON EACH PROJECT.	(M.H.-c) (BY SPECIAL DIRECTIVE)

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Mr. E. S. Fedrick
Rm/ 2-014
WPAJ

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ATSC

27 July 1945

H. A. SHEPARD
Colonel, Air Corps
Chief, Production Section

AAP Flight Representative
Consolidated Vultee Tucson Modification
Municipal Airport #2
Tucson, Arizona
Center

XXXXX

WPAJ-7-316 CONTRACT NO-11072. SUBJECT: CAMERA REQUIREMENTS
F-7B B-24 AIRCRAFT. EFFECTIVE IMMEDIATELY NO CAMERAS ARE TO BE INSTALLED IN ANY B-24
F-7B AIRCRAFT DELIVERED FROM YOUR ACTIVITY. CAMERAS NOW ON HAND ARE TO BE RETURNED TO
ATSC STOCK THROUGH REGULAR CHANNELS EXCEPT CAMERAS NEEDED FOR MODIFICATION OF SUBJECT
AIRCRAFT, SIGNED, PROCUREMENT DIVISION.

cc: West. Dist., ATSC

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WAW/rr 2-214
WAW/214

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30 July 1945

AF Plant Representative
Consolidated Tulse Tucson
Modification Center
Municipal Airport #2
Tucson, Arizona

H. A. RICHARD
Colonel, Air Corps
Chief, Production Section

WAW/rr 7-150 CONTRACT AC-11072. SUBJECT: B-24 MODIFICATION

PLANNING SCHEDULE. THE MONTHLY INDIVIDUAL PLANNING SCHEDULE IS SUBMITTED YOUR ACTIVELY AS FOLLOWS:

CONTRACT FILES - ISSUED

	<u>JULY</u>	<u>AUGUST</u>
B-24 P-72 S&S D1500	28	18
B-24 P-72 FORD	1	-
B-24 P. 4. 1.	5	12
ARRIVAL APPROX	6	-
B-24 FORD STANDARD	23	-

IT IS TO BE NOTED THAT B-24, P-72 MODIFICATION HAS BEEN CHANGED IN ACCORDANCE WITH QUARTER MONTHLY DELIVERY SCHEDULE AS OF 23 JULY, WHICH IS A REDUCTION OF 5 SUBJECT AIRPLANES FOR MONTH OF JULY WHICH HAVE BEEN ADDED TO AUGUST SCHEDULE. FURTHER CORRECT TRAINING SCHEDULE IS ALSO SUBMITTED IN ACCORDANCE WITH QUARTER MONTHLY SCHEDULE AS OF 23 JULY. AS PREVIOUSLY STATED IN OTHER CORRESPONDENCE AND IN ACCORDANCE WITH AFAC PLANNING, IT IS REQUESTED THAT YOU MAKE EFFORT BE MADE TO COMPLETE ENTIRE MODIFICATION OF B-24 AIRPLANES BY 15 AUGUST 1945. IT IS FURTHER REQUESTED THAT YOU BE ADVISED IF IT IS POSSIBLE TO COMPLETE ABOVE SCHEDULE BY EARLIER DATE. SIGNED, PROGRESSIVE DIVISION.

cc: WAW, Dist., AFAC, Prods. Div.

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~~C.B. ATSC
CMT
29 DECEMBER 1945~~

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Date: 29 DECEMBER 1945

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