43rd Bombardment Wing
Carswell Air Force Base, Texas
25 August 1960

ANNEX "E"
COMPETITION MAINTENANCE PLAN 31-62

DETAILED TASKS OF THE SUPPLY OFFICER

1. The Supply Officer is responsible to the Maintenance Project Officer for acquiring, retaining and accounting for all spare parts, and material as required by the various agencies of this plan.

2. He has at his disposal, TSGT Belden L. Douglas as NCOIC and two other enlisted personnel as indicated in ANNEX "H" of this plan.

3. He will coordinate with Base Supply, Convair, and other agencies that may be necessary in procuring the parts and material as required.

4. He will establish a supply office at the competition site to adequately account for and issue parts as required.

5. He will coordinate with the Maintenance Project Officer and the Logistics Officer as to mode of travel and dates of departure, both to and from the competition site, of all personnel under his jurisdiction. He will further coordinate with above officers as to mode of travel and dates of departure of all supplies and equipment.

6. He will insure that all enlisted personnel under his jurisdiction have indorsed travel orders and SAC Security Badges before departing home station.

7. He is responsible for the safe keeping of all equipment listed on his account records while at the competition site.

43rd Bombardment Wing
Carswell Air Force Base, Texas
25 August 1960

ANNEX "F"
COMPETITION MAINTENANCE PLAN 31-61

DETAILED TASK OF LOGISTICS AND ADMINISTRATIVE OFFICER

1. The Logistics and Administrative Officer is responsible directly to the Maintenance Project Officer for all troop and equipment movements and maintenance administrative matters while at the competition site.

2. He will acquire the necessary motor vehicle transportation and military air transportation to comply with the schedule in ANNEX "C" of this plan.

3. He will supervise the loading and unloading of all equipment.

4. He will assume the responsibilities of Class "B" Finance Officer while at the competition site.

5. He will attempt to load and move the following major items of equipment on the dates indicated:

31 August 1960

1½ Ton Truck: 1 MA-1 Blower for Fuel Cell Repair
2 Generators EA 526
20 Wheels & Tires

1½ Ton Truck: 1 MDS Cart
1 Diesel Power Supply
3 Entrance ladders

1½ Ton Truck: Portion of 2 entrance stands
Model of B-58 (Convair)

3 Ton Flat Bed: 1 Compressor "Blue Brute"
Portion of 2 entrance stands

6 September 1960

1 C-123 Aircraft: 1 Built-up engine on dolly
1 spare dolly

8 September 1960:

5 Flat Bed Trucks:	2 Air Conditioner Unit
	2 Solar Air Units
	2 MD-3 Power Carts
	2 Hydraulic Mules SE 2940
	1 Mobile Doppler Trailer
	10 Nitrogen bottles
	1 Aircraft Towbar
1 Covered Van:	Ornite
	GSE Spare Parts
	Instrument Shop Spares
	Structural Repairs Shop
	Electrical Shop
	Fuel Tank Repair Kit
	Propulsion Shop
	Parachute Shop
	Mechanical Accessories
	Hydraulic Shop
	Repair and Reclamation
	Flight Control Test
	Doppler Radar
	Astro Tracker
	Radio/Altimeter
	Inflight Printer
	Navigation Computer
	Navigation GSE
	Photo Shop
	Communications
	Navigation Equipment APG
	Ground Servicing Equipment

9 September 1960:

1 C-123 Aircraft:	1 PCLA
	1 Search Radar Antennae
	Search Radar equipment
	DECM Equipment

ANNEX "F"
COMPETITION MAINTENANCE PLAN 31-61
25 August 1960

43d Bombardment Wing
Carswell Air Force Base, Texas
25 August 1960

ANNEX "G"
COMPETITION MAINTENANCE PLAN 32-61

SCHEDULE OF EVENTS

30 August 1960

Equipment as outlined in ANNEX "F" of this plan will be loaded on 3 1½ ton trucks and 1 flat bed truck. Field Maintenance will assist in loading.

31 August 1960

Four trucks will depart for competition site.

Three Airmen will be designated by Organizational Maintenance Squadron to accompany trucks to site. They will assemble equipment as required and store same in a dock. They will contact Captain Berthuame, the Competition Supply Officer at Bergstrom AFB for storing instructions. Airmen are to return on a C-123 aircraft on 6 September 1960.

1 September 1960

On covered van will be turned over to the Competition Supply Officer for loading as required.

5 September 1960

One engine and spare dolly will be loaded on C-123 Base Flight Aircraft. Propulsion branch will assist in loading aircraft.

6 September 1960

C-123 aircraft proceeds to Bergstrom Air Force Base and returns.

7 September 1960

Five flat bed trucks are to be loaded in accordance with ANNEX "F" of this plan. Organizational Maintenance Squadron will supply three enlisted personnel to assist. Field Maintenance Squadron will supply three enlisted personnel to

assist. Armament & Electronics Squadron will supply three enlisted personnel to assist.

8 September 1960

Five flat bed trucks and one covered van will depart for the competition site.

9 September 1960

Tactical aircraft will depart for competition site. Equipment and remaining personnel will depart on C-123 aircraft for competition site.

10 September 1960

Maintenance briefing at competition site at 10:00 hrs.

12 September 1960

Tactical flight crews briefed.

13-14 September 1960

Competition flights as directed.

15 September 1960

Make-up missions if required.

16 September 1960

Awards ceremony.

Tactical aircraft depart if visual flight weather conditions exist.

5 flat bed trucks arrive from home station. Immediate loading begins.

1 C-123 aircraft arrives from home station.

17 September 1960

Tactical aircraft depart if inclement weather on 16th September 1960.

All trucks and vans return to home station when loaded.

C-123 departs for home station.

ANNEX "C"
COMPETITION MAINTENANCE PLAN 31-61
25 August 1960

OJH

459

18 September 1960

C-123 aircraft arrives, loads, and departs for home station with remaining personnel and equipment.

PCH

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43rd Bombardment Wing
Carswell Air Force Base, Tex
25 August 1960

ANNEX "H"
COMPETITION MAINTENANCE PLAN 31-61

NAME	RANK	SERIAL NUMBER	DUTY	DEPT CARSWELL	DEPT BERGSTROM	MODE OF TRAVEL
DOOM, RICHARD C.	Major	(b) (6)	Maintenance Officer	9	18	TPA
ADAMS, ROBERT L.	Captain		Supply Officer	8	18	PA
DUBOSE, ABNER W.	Captain		A&E Officer	8	18	TPA
PLATT, WILLIAM	Captain		FM Officer	8	18	TPA
PATRICK, EDDIE L.	Captain		A&E Officer	8	18	PA
SIMPSON, PHILLIP Y. JR.	Captain		OMS Officer	8	18	TPA
YOUNGER, DALE J.	Captain		Logistics/Admn Off	9	18	TPA
HYDAK, ALEXANDER F	SMSGT		OMS Line Chief	9 1200	17	C123
RAY, HARRY E.	MSGT		OMS Crew Chief	9 1200	17	C123
WHEELER, WARREN C.	MSGT		OMS Crew Chief	8	18	TPA
EVERAGE, JAMES R.	TSGT		OMS	8	18	TPA
BECK, CHRISTIAN C.	SSGT		OMS	8	18	TPA
BRUSH, MORRIS	SSGT		OMS	9 1200	17	C123
DUPLER, DANIEL L.	SSGT		OMS	8	18	TPA
GAY, HOWARD R.	SSGT		OMS	8	18	TPA
PAYNE, HUBERT H.	SSGT		OMS	9 1200	17	C123

NAME	RANK	SERIAL NUMBER	DUTY	DEPT CARSWELL	DEPT BERGSTROM	MODE OF TRAVEL
SHELLHORSE, RANKY JR	MSGT	(b) (6)	FMS NCOIC	8	17	PA
CRAIG, BILLY J	TSGT		Electric Shop	8	17	TPA
DAVIS, HERBERT G.	TSGT		Electric Shop	8	17	TPA
JOHNSON, ROBERT E.	TSGT		Repair & Reclam	8	17	PA
WILLIAMS, WESLEY A.	TSGT		Instrument Shop	8	16	TPA
BLACKWELL, NOBLE W.	SSGT		Ground Servicing	8	16	TPA
CLAY, ORWIN E.	SSGT		Ground Service Eqpt	8	16	TPA
FETTERLY, ALBERT A.	SSGT		Propulsion	8	16	TPA
JEAN, JIMMY W.	SSGT		Propulsion	9	18	MyPrc
LEE, DONALD E.	SSGT		Instrument Shop	8	17	PA
MARRIN, CARLOS	SSGT		Machine Shop	8	17	TPA
NELMS, SANDY C.	SSGT		Hydraulic Shop	8	16	PA
RODRIQUEZ, EARNEST JR.	SSGT		Mechanical Access	8	16	TPA
SANDOVAL, JOSEPH	SSGT		Fuel System	8	16	PA
~~THOMAS, RAYBURN E.~~ GUERRERO	SSGT		Sheet Metal Shop	8	17	TPA
WIGTALL, EDDIE JR	SSGT		Parachute Shop	8	17	PA
WILLINGHAM, ANDREWS	SSGT		Repair & Reclam	8	17	PA
RYDER, JOHN Y.	A1C		Hydraulic Shop	8	17	PA
WOODALL, ELBERT H	A1C		Propulsion Shop	9	16	MyPrc

NAME	RANK	SERIAL NUMBER	DUTY	DEPT CARSWELL	DEPT HERGSTROM	MODE OF TRAVEL
GANT, EDWIN L	SMSGT	(b)(6)	NCOIC A&E	8	18	TPA
CRIPPEN, LAWRENCE A	TSGT		NCOIC Bomb Nav	8	18	TA
JEFFERIES, AUBREY C	TSGT		Comm Nav	8	18	PA
LITTLE, THOMAS C	TSGT		Comm Nav	8	18	PA
MAIER, JULIUS W JR	TSGT		Flight Control	8	18	TPA
MOSLEY, BILLY S	TSGT		Bomb Nav	8	18	PA
CABALLERO, JOSE A	SSGT		Flight Control	8	18	PA
CASTEEN, WILLIAM H	SSGT		DECM	8	18	TPA
CHASTEEN, DONALD W	SSGT		Bomb Nav	8	18	TPA
FRICKER, ROBERT H	SSGT		Bomb Nav	8	18	TA
KINNEY, DEGAR V JR	SSGT		Comm Nav	8	18	TPA
OWENS, WATSON K	SSGT		Photo	8	18	TPA
MCCOY, JAMES L	SSGT		Weapons Shop	8	18	TPA
GURGANUS, JOHN C	A1C		Flight Control	8	18	TPA
TOXE, JAMES E	A1C		DECM	8	18	PA
DOUGLAS, HEIDON L	TSGT		Supply NCOIC	8	18	TPA
KEENAGHAN, JOHN J	A2C		Supply	9	18	C123
TALBOTT, JOSHUA W	SSGT		Supply	9	17	C123

PJH

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~~SECRET~~

~~SECRET~~

EJH

JOINT MESSAGEFORM

SECURITY CLASSIFICATION: UNCLASSIFIED

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

PRECEDENCE	TYPE MSG (Check)	ACCOUNTING SYMBOL	ORIG. OR REFERENCE TO	CLASSIFICATION OF REFERENCE
ACTION ROUTINE	ECCM MULTI SINGLE		SAC MESSAGE	
INFO	Y	AF	D017288	UNCL

FROM:

10ATROTV, CARSWELL AFB, TEXAS

SPECIAL INSTRUCTIONS

TO:

2AF, BARKSDALE AFB, LA

INFO:

SAC, OFFUTT AFB, NEBR

UNCLAS L3DCOT 306, FOR 2AF DOT. INFO SAC HQ DOMT.

SUBJECT: TOUCH AND GO LANDINGS IN THE TR-58 AIRCRAFT. REFERENCE SAC MESSAGE DO 17288, SUBJECT SAME AS ABOVE, 26 AUG 60. TO DATE 17 FLIGHTS, 29 LANDINGS AND 15 AIR REFUELING HOOKUPS HAVE BEEN MADE IN THE TR-58. EVALUATIONS HAVE BEEN MADE BY FIVE B-58 CDTS INSTRUCTOR PILOTS INCLUDING THE WING COMMANDER. ALL PILOTS AGREE THAT VISIBILITY FROM THE INSTRUCTOR POSITION (SECOND STATION) IS ADEQUATE TO ALLOW THE AIRCRAFT TO BE FLOWN AS THE B-58 WITH NO ADDITIONAL RESTRICTIONS OR PROCEDURES NECESSARY. DUE TO COCK PIT CONFIGURATION AND ABSENCE OF SOME CONTROLS IN INSTRUCTOR POSITION, THE 43RW DOES NOT PLAN TO ALLOW ANY INDIVIDUAL TO FLY FROM THE PILOT POSITION (FIRST STATION) UNTIL HE HAS COMPLETED APPROPRIATE ACADEMIC AND SYNTHETIC TRAINING. RECOMMEND TR-58 BE RELEASED FOR FULL CDTS USE WITHOUT RESTRICTIONS.

DATE: MONTH SEP YEAR 60

TIME:

WRITER

SYMBOL: L3DCOT

TYPED NAME AND TITLE (Signature, if required): Lt Col, Brownlee

PHONE 752

PAGE NO. 1

NR OF PAGES 1

SECURITY CLASSIFICATION: UNCLASSIFIED

RELEASER

SIGNATURE

TYPED (or stamped) NAME AND TITLE:
JACOB A. HUTCHISON
Colonel, USAF
Deputy Commander for Operations

DD FORM 1 MAY 58 173 REPLACES DD FORM 173, 1 OCT 48, WHICH WILL BE USED UNTIL EXHAUSTED

JJH

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43DCOTA 9 August 1960

Staff Visit, SAC, 5 August 1960

19 Air Div (DO)
THRU: 43RW (DCO)
43RW (C)

1. A one day visit to SAC was made by the undersigned on Friday, 5 August 1960 to attend a conference.

2. Personnel attending the conference were:
Colonel J. W. Little, DOS/FT - HQ ATC
Lt Colonel B. B. Knutson, DOTP - SAC
Lt Colonel B. M. Campbell, AFMS - HQ SAC
Major I. P. Kirschman, DOTPS - SAC
Major J. Schreiber, DCOT - 43RW
Major F. M. Millsap, DOT - 2AF
Major W. A. Smith, DOS/FT - HQ ATC
Major R. G. Ochs, DOTOP - SAC
Major A. R. Grimm, DPOPS - SAC
Major R. F. Hegenberger, DORQA - SAC
Major J. R. Robinette, DPOC - SAC
Captain S. M. Spileeth, DPOC - SAC
Technical Sergeant R. W. Berger, DPOPS - SAC

3. Purpose of the visit was to coordinate between SAC and ATC for an instrument and transition course in TF-102 aircraft. Reference unclassified TWX SAC, DOTPS-7-11002A, 3 August 1960, Subject: Instrument Training for B-58 pilots. (See atch 1)

4. Colonel Little, Chief of Advanced Flying Training ATC and Major Smith of his office were completely agreeable and helpful. The idea they created in my mind was one of "What can we do for you." SAC and ATC will coordinate on the final plan and then independently submit these plans to the Air Staff for approval. It means generall that ATC must adjust their training effort to produce pilots from out input and for assignment to the B-58 program. The plan would be to assign all pilots coming to Carswell, TDY to Perrin for a course of instruction immediately subsequent to their reporting date for CCTS in the 43rd BW.

5. Following is the general course outline to be followed.

(TRUE COPIES)
Alfred J. Nelson

2 of 4

a. Length of course - 20 Academic days

b. Course breakdown.

(1) Instrument training in the T-33 - 3 Academic days

(a) Six (6) hours academic.

(b) Four (4) link sorties.

(c) Nine (9) instrument training sorties. These sorties will be the first nine lessons given to IPTS students at James Connally Air Force Base.

c. F/TF-102 training.

(1) PTD (27½ hours). 4½ Academic days

(2) F/TF-102 Simulator course 7½ hours - 2½ Academic days (plus briefings etc.)

d. F/TF-102 flying.

(1) 10 Sorties - general breakdown by sortie:

(a) Mission #1 TF-102 transition.

(b) Mission #2 TF-102 transition.

(c) Mission #3 F-102 checkout/with IP chase.

(d) Mission #4 F-102 Solo.

(e) Mission #5 TF-102 IP instrument practice.

(f) Mission #6 F-102 instrument flying with IP chase.

(g) Mission #7 F-102 instrument flying with IP chase.

(h) Mission #8 F-102 instrument flying with IP chase.

(i) Mission #9 TF-102 night transition.

(j) Mission #10 F-102 night transition.

5 Academic days

TOTAL: 20 Academic days

e. Breakout of 10 F/TF-102 mission is :

(1) TF-102	3 transition (1 night) 1 instrument
(2) F-102	3 instrument (w/chase) 3 transition (1 night)
TOTAL:	10

6. This course will be numbered and be considered an advanced flying school. SAC representatives have stated they will rewrite SACR 51-19 Annex XIII (TF-102) to indicate that completion of this school will be accepted as the prerequisite for a 51-4 standboard. When the student arrives at this station, a 51-4 standboard will qualify him as completely checked out. Whether he can maintain currency with our limited sorties is another matter. Basically however we have designed this course for our line B-58 pilots and have never assumed they will be kept current. This training however should reduce our TF-102 sortie requirement in CCTS from 10 to approximately four or five sorties.

7. This conference was unofficial and was so stressed by the SAC people. Training Command was certain the package could be sold and based their opinion on the fact that ADC who is their best customer has decreased their requirement for trained interceptor pilots.

8. The course looks very satisfactory in that we get three basic things from it.

a. A good basic instrument course.

b. Delta wing characteristic flying.

c. A tremendous confidence builder for our incoming B-58 pilots. Probably for the first time in many years they will fly a single cockpit airplane without any help from other crew members.

JOSEPH SCHREIBER
Major, USAF
Chief, Air Training Branch
43rd Bombardment Wing

TJH

SK011CTFA315AOYMA737
MM RJWFSK
DE RJWXBR 572
M 031720Z
FM SAC OFFUTT AFB NEBR
TO RJWFBS/COMATC RAND LPH AFB TEX
RJFBKP/2AF BARKSDALE AFB LA
INFO RJWFSK/19AIR DIV CARSWELL AFB TEX
RJWFSK/43BOMWG CARSWELL AFB TEX
BT
UNCLAS DOTPS-7-1 10024/ACTION FOR 2AF, ATTN: DOTP AND
ATC, ATTN: ATFTA. SUBJECT: INSTRUMENT TRAINING FOR B-58 PILOTS.
REFERENCE SAC MESSAGE DPOPS 09169, 30 JULY 1960: ATC MESSAGE ATFTA-I
51906, 1 AUG 60; AND TELECON MAJOR KIRSCHMAN, THIS HEADQUARTERS AND
MAJOR MILLSAP, 2AF, 2 AUG 60. THIS MESSAGE IN TWO PARTS. PART II
FOR ATC. VOQ RESERVATIONS HAVE BEEN MADE FOR COL LITTLE AND MAJOR
SMITH FOR THE NIGHT OF 4 AUG 60. MEETING WILL CONVENE IN ROOM 1C11,
SAC HEADQUARTERS BUILDING, AT 0900, 5 AUG 60. PART II. FOR 2AF.
REQUEST 2AF AND 43RD BW REPRESENTATION AT MEETING REFERENCED IN PART
I. REPRESENTATIVES SHOULD BE PREPARED TO DISCUSS DESIRED COURSE

PAGE TWO RJWXBR 572
CONTENT, LENGTH, ENTRY DATES AND FLOW REQUIREMENTS. VOQ RESERVATIONS
HAVE BEEN MADE FOR ONE OFFICER FROM 2AF (TENTATIVELY MAJOR MILLSAP)
AND ONE FOR 43RD BW (TENTATIVELY LT COL BROWNLEE). THIS CONFIRMS
REFERENCED TELECON
BT
03/1734Z AUG RJWXBR

HEADQUARTERS
43RD BOMBARDMENT WING (MEDIUM)
United States Air Force
Carswell Air Force Base, Texas

REPLY TO
ATTN OF: 43DCOT 21 September 1960

SUBJECT: Report of Conference

TO: 10DO

THRU: 43DCOT
43DCO
43C

Place of Conference: Reflectone Electronics Inc., Stamford, Connecticut

Date of Conference: 12 Thru 16 September 1960

Purpose of Conference: To participate and witness engineering acceptance testing of the Defensive Systems Operators Trainer AN /ASQ-T1

Personnel attending conference:

NAME	SYMBOL	ACTIVITY
E.P. Fitzgerald	LMSP	Wright-Patterson AFB
R. Hogh	WWBNTS	Wright-Patterson/AFB
D.M. Young	WADD	Wright-Patterson AFB
R. Stone	INSMAT	Boston, Mass.
Major W.A. Ingram	DCOTE	43RW, Carswell AFB,Tex
Capt E.L. Schureman		65BS, Carswell AFB, Tex
S/Sgt E.E. Biggs	DOTPA	HQ SAC
R.S. Pluskey	CONTRACTS	Convair
N.G. Hartwell	TRAINING DEV.	Convair
C.H. Zimmerman	PROJECT OFF.	Convair
H.C. Card, Jr.	TRAINING DEV.	Convair
J.K. Spencer	QUALITY CONT.	Convair
W.L. Johnson	SUB-SYSTEMS	Convair
	PROCUREMENTS	Convair
J.R. Thaler	SECRETARY	Reflectone
J. Vargo	PROJECT ENG.	Reflectone
F.W. Brown	PROJECT ENG.	Reflectone

Summary:
1. The first test mission was conducted with a Convair engineer as the instructor and a Convair, 3rd station operator as student. The mission was not completed due to a minor parts failure. Two missions were attempted by Major Ingram as instructor and Capt Schureman as student and completed with minor discrepancies.

(True Copies
Alfred Nelson

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a. A record was made of all discrepancies and those not corrected were discussed at a meeting of Air Force representatives, Convair and the Reflectone Corp. At this time, these discrepancies were entered into various categories as indicated in the attached minutes of the meeting.

2. Additional Comments:

a. Certain Air Force recommendations were made and considered at the above mentioned conference as indicated in the attached minutes. Favorable consideration has been given these items and indications are that they will be utilized depending upon the expense to the Reflectone Corp. It is certain that some of the recommended changes will be made at the expense of the Air Force.

b. It was reaffirmed by Reflectone that all plans and contracts had been completed for the DSO maintenance school to be conducted at Carswell AFB as soon as practical after the installation of the first DSO trainer.

c. It is believed that considerable more training will be required to train the DSO instructor personnel than earlier anticipated. To be proficient, the instructor must have a knowledge of all aircrew positions and coordination items in order to assume their relative positions during the independant mode of operation. He must be proficient in all ground communication networks in order to answer and comply with instructions from the aircraft in simulator training missions. Further, he must have complete knowledge of more than 110 switches and controls on the instructors panel. To accomplish the necessary training it will be necessary for each instructor to complete at least ten simulated missions as instructor.

d. Under the terms of the contract with Convair and Reflectone, the vendor (Reflectone) must demonstrate a 100 hour acceptance test. This was not completed and as such the Air Force can demand that a 100 hour inspection be demonstrated at the time of installation.

e. I have notified Reflectone and Convair that we will elect to have this 100 hour test run at Carswell AFB. Unofficial coordination has been made with a Mr. Zimmerman, Convair project office for a Mr. Hugh Card, project engineer for the DSO simulator to conduct this test. Further, he has agreed that Mr. Card will be available for instructor check out training during this period of testing. It is believed this will solve out instructor problem while saving the Air Force the expense of a contracted school of instruction.

f. It is anticipated that the DSO simulator will be received at Carswell AFB on or about the 20th of October 1960. According to the present plans, number two simulator will arrive the latter part of December 1960 followed in 60 days by number three and number four to be ready for delivery in late March 1961.

3. Recommendations:

a. That a member of the DSO Simulator Section be present at Reflectone for the acceptance of number three simulator. This simulator will include the installation of the 3rd station fuel readouts and the additional ALQ-16 track breakers.

b. That a period of 45 days be allowed after installation of the DSO simulator to train instructor and maintenance personnel. This time will include the 100 hour inspection time.

WAYNE A. INGRAM
Major, USAF
Electronic Warfare Officer

1 Atch
n/a

MINUTES OF MEETING

16 September 1960

Opening remarks were made by Mr. Edward P. Fitzgerald, B-58 WSPO, setting forth the purpose of the meeting by explaining that the acceptance of the DSO Simulator, No. 1, by the Air Force was to be a conditional acceptance. The first order of business was a discussion of Air Force recommended changes which are over the specification requirements and for which the Air Force would favorable consider the receipt of RFPs for their incorporation.

AIR FORCE RECOMMENDED CHANGES:

1. Bomber Position Counters--they are very dificult to read in their present location. The Air Force would like them relocated, lighted, and covered by a closed window. It is further recommended that the window use a magnifying material.

2. Radar Station Position Switches--these presently are small circular dials which are very difficult to read and set. It is recommended that we use a digital read out or larger dials similar to that used in the Bomber Position Counter.

3. Tape Recorder--the third recommendation is to move the tape recorder from its position in the lower right hand side of the Instructor's Console, exclusive of the amplifier package, to an external position in a cabinet which includes tape storage and provide a 5 mimute warning of tape run-out.

4. General Recommendation--consider gun fire noise in audio system of Flight Simulator. To accomplish this would require triggering of noise simulator from the DSO Simulator.

5. Contractor Investigate--Showing of chaff on radarscope during delayed chaff opening mode.

6. Pending further investigation the Air Force recommends that concurrent with the relocation of the bomber position indicator and radar position indicator that consideration be given to incorporate a two inch area from the top of the table to the bottom of the panel.

PRESENT DISCREPANCIES AND DISPOSITIONS:

The following discrepancies are categorized to be disposed of as follows:

Category I	Contractor Discrepancies	Correct before shipment
Category II	Contractor Discrepancies	Correct during Installation
Category III	Contractor Discrepancies	Not requireing correction
Category IV	Contractor Discrepancies	Deferred
Category V	REcord Purposes	

Category	Page	Para	Item
I	327	2.3.2.1.8	Power interrupt sequence Chaff System.
I	470	-	Get jettision ammo count-down with J-5 blown.
I	-	-	No. 2 target insertion switch has pins sticking
I	391	2.5.6.18	Requires both triggers to actuate seat thumb.
I	-	2.5.6.12	Green apple lanyard operation not free.
I	-	-	Chaff does not freeze.
I	-	-	Put knobs on chaff reset -- Instructor's Console only.
I	-	-	Fuse malfunction selector switches are difficult to turn. Use same as top No. 1 (loose) one.

I	-	-	Fix 2nd window of range lock-on of No. 1 target -- does not show figure.
I	-	-	Bomber position drifts.
I	-	-	No. PIT ALR-12 on ground. Check Instructor. Coincidence on this also (Fixed).
I	-	-	At student station the FCS target warning light is not bright enough (Fixed).
I	-	-	Mark (wider) maximum tolerance lines on power indicators at Instructor station.
I	-	-	Retest intermittent release of transmit light at instructor station.
I	-	-	Check elapse time clock for hanging-up Operating Time 7:30 Clock Time 61h
I	-	-	Instructor Platform requires safety rail to prevent instructor's chair from dropping off of edge.
I	-	-	Retest the lamp check of HACON, Instructor's station power light comes on and HACON control
I	-	-	Malfunction of Power Lights on Instructor's Console using clear filament bulb -- too much illimination. Request they be colored or frosted.
I	-	-	Instructor's Oxygen Indicator Switch -- Add index decal or paint in accordance with T.O. to show normal positioning in Student's Station.
I	-	-	Instructor's Radarscope presentation intensity is not calibrated to Student's. Specification requires that they be the same.
I	-	-	Kill time is too long-shorten to 1-1½ seconds.
I	67	1.2.9.6	Early configuration seat pins (remove before flight).
II	375	2.4.2.1.20	Switch on door missing.
	376	2.4.2.1.23	Item above when corrected will fix this.
II	-	-	Lock seat in forward position to same as Air Plane.

II	-	-	No Q-15 transmit light path stations during ground track.
II	-	-	Seat disconnect plug flimsy and cable too short. Also oxygen hose.
II	-	-	With same target card in the same target run (repeat run) starting azimuth varies approximately 5-10°
II	-	-	100 hour reliability test was not performed as required per FSS-4-126.
II			The five (5) unprotected switches at the base of the Instructor's Console panel could be inadvertently actuated by the instructor. The contractor shall install switch guards on all affected switches
III	7	1.2.1.8.3	FCS Master has standard switch.
III	10	1.2.3.5	Q-15 panels used rather than closeout.
	10	1.2.3.6	Q-15 panels used rather than closeout.
	14	1.2.3.11	Q-15 panels used rather than closeout.
	14	1.2.3.12	Q-15 panels used rather than closeout.
	14	1.2.3.13	Q-15 panels used rather than closeout.
III	94	1.3.2.3.3	Switch changed to switch light.
III	95	1.3.2.5.3	Deleted "OFF" position.
III	97	1.3.2.11.2	No panel indicator light control.
III	330-331	2.3.2.2	Chaff sequence not latest Aircraft data.
III	372	2.4.2.1.4	H.F. Communication has no warm up.
III	390	2.5.6.11	Intertial reel to tight in unlock position.
III	-	-	Target Oscillations in azimuth at close ranges (Acceptable).
IV	5	1.2.1.3	No detents on HADON control at time of ECP 75V and 75AD Kit Installed.
IV	147	-	Test not run due to having only one pair Synchros-substitute test used.

IV	1.2	2.1.2	Interconnect minimum airspeed is 260K until interconnect is demonstrated.
IV	-	-	Table is flush mounted with bottom switches which hold course books, paper, etc. on table to inadvertently abort mission by throwing switches. Recommend that a 2" edge above table line be provided.
V	-	-	Hi-density
V	-	-	28 volt Rectifier-Filter not accessible for service and replacement of parts without removal from rack by removing mounting bolts. Such removal is not practical because of its great weight (over 200 lbs).
V	-	-	Plate Supply Power Unit located behind door #11 does not permit satisfactory access for servicing.
V	-	-	Eight Channel Motorized Tape Punch (Friden) The contractor has designed a special keyboard for operation of this Friden Model 2 Eight Channel Motorized Punch. The operational concept of the trainer requires this punch and key-board to be provided as an integral part of the trainer. This is evident in that manual programming of training missions would require two men in addition to the instructor (according to Mr. Vargo of Reflectone) to provide timely insertion of required actions, indications and effects. This is not practical and is not desired. The programming by tape, the design intent of the trainer, simplifies the program procedure and makes it sensible and practical. Since the motorized punch and key-board are essential to the tape program function, they are essential to operation of the trainer and are accordingly required as an integral part of the trainer.
V	-	-	Storage within Trainer for Special Tools (4860C) The drawer space provided in the trainer is not adequate for storing the lever type multiple punch approved as a special tool item.

V — ALQ-16 operates against tracking signals from the rear of the airplane. This condition is acceptable in order to detect AI radar which will be lost if this feature was eliminated.

Separate correspondence from WADD to OOAMA explaining the reasons for the above action will be forwarded.

V — Audio quality is minimum but acceptable. This is to be monitored during use against deterioration.

IV — The spare fuses being provided consist of 10 simulated fuses and 12½ dummy fuses with different markings for each. The AF position is that all spare fuses should be simulated. No ready resolution of this problem is apparent, and further action is required to resolve this problem.

I — Both simulated fuses and dummy fuses should be marked for safety reasons as training items. Contractor is to mark/identify all training fuses to avoid their possible use in airplanes.

VI — The inertial reel "G" force lock is not incorporated in the trainer student section as per aircraft seat.

HEADQUARTERS
43rd BOMBARDMENT WING (HEAVY)
United States Air Force
Carswell Air Force Base, Texas

REPLY TO
ATTN OF: 6SRGA/Lt Col Dunn/3566 31 Aug 1960

SUBJECT: Request for Authorization and Special Modification of T-29 Aircraft

TO: 19AD(C)

1. It is urgently requested that two suitably equipped T-29 aircraft be authorized for supplemental B-58 navigator training. It is at present impossible to give operational training on ASQ-42 Bomb/Nav equipment prior to flying in B-58 aircraft, and the training status of 43d Bombardment Wing navigators reflects this deficiency.

2. Five currently assigned navigators began their B-58 flying training prior to the initiation of CCTS training in October 1959, but of these five, only three are even now considered SAC R 51-19 qualified. The other two, plus six navigators who completed their academic training in December 1959, have accomplished an average of only 35% of SAC R 51-19 requirements. The three navigators of the 30 June 1960 class have not begun their flight training and in all probability will not for some time to come. The deficient training status is due in large part to shortage of tactical B-58 sorties but can be partly blamed on inefficient utilization of sortie time due to unfamiliarity with the ASQ-42 equipment. It is becoming increasingly evident that classroom instruction is an inadequate substitute for actual operation of the equipment. Had supplemental inflight training been available, it is most probable that eleven of the currently assigned navigators would have been completely qualified on ASQ-42 equipment even though B-58 sorties were limited.

3. A simulator is being built by Curtiss-Wright Corporation which will be a valuable training and evaluation aid, but it cannot equal inflight training. The CCTS navigator training program is designed to utilize this simulator, but as yet it is not available and the earliest foreseeable delivery date is January 1961.

4. A request was submitted early in the B-58 Program for authorization to use the JC-97- ASQ-42 Test-Bed aircraft in the B-58 Navigator Training Program. It is admitted that the JC-97 aircraft was not the most desireable vehicle, but it was considered the most feasible solution to our training needs at that time. The Convair T-29 is a much more desirable aircraft from every standpoint.

(TRUE COPIES)
Alfred J. Dunn
Lt Col, USAF

PT 4

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5. Sperry Gyroscope Company has indicated that they can modify and equip two T-29 aircraft with AC-42 equipment for an estimated cost of $2,965,000. The value of additional training that will accrue cannot be estimated. It is requested that two T-29's be procured and necessary contracts be negotiated at the earliest possible date.

6. Your attention is invited to the attached cost study and other supporting documents.

JAMES E. JOHNSON
Colonel, USAF
Commander

2Atch
1. L3PM Summary
2. Sperry Summary w/5 Atch

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1. COST ESTIMATE:

The estimated cost of $2,965,000 includes the total cost of complete modification, equipping and testing of two T-29 aircraft as AN/ASQ-42 trainers. The cost also includes certain non-standard spare parts. It does not include the cost of the basic aircraft which are presumably available from Air Force inventory:

	(From Air Force Inventory)
Two T-29 Aircraft	
Two Primary Nav System Packages	$2,110,000
Two Free Fall Bombing Equipment Packages	61,000
Modification of Two T-29 Aircraft	366,000
Engineering (Malfunction Panel, Test, Check-out, etc.)	64,000
Turbine Generator	32,000
Installation Spares	10,000
Non-standard Spares	7,000
Flight Test	25,000

The Primary Nave System and Free Fall Bombing Equipment packages would be production equipment for B-52 tactical aircraft and completely interchangeable with tactical equipment. As can be seen in the preceding table, these two items make up approximately 73% of the total cost.

2. DELIVERY SCHEDULE:

The proposed delivery schedule is based on notification fo approval of modification project and a high priority. The Bomb/Nav systems must come from production sources and will have some effect on B-52 installations. It is estimated that removal of two Bomb/Nav systems from the B-52 channels will delay B-52 delivery approximately two weeks. This estimate is probably on the pessimistic side, but is a factor to be considered.

a. First Aircraft: Eight months after approval of project. Aircraft should be made available to Sperry no more than two months after approval, but will not be needed immediately. It is estimated that the Bomb/Nav system will be available within three months after approval.

b. Second Aircraft: Ten months after approval. Aircraft must be delivered to Sperry no more than four months after approval.

3. [illegible]

The proposed modification is intended primarily for B-52 navigator training, but additional benefits will increase the value of the T-29 aircraft to the B-52 organization.

a. The proposed configuration will lend itself readily to the development and testing of ASQ-42 navigation and bombing procedures for tactical utilization.

b. The T-29 will provide a continuing training capability after completion of the formal ASQ-42 training phases. Non-crew navigators can maintain their proficiency and crew navigators can be given any additional instruction or training as indicated by past performance.

c. The modified T-29 will retain its basic celestial capability and it will be possible and practical for navigators and defensive system operators to perform celestial navigation.

d. The T-29 would help solve an existing problem in scheduling non-crew pilots, in addition to navigators and DSO's, for AFM 60-2 requirements. The multi-crewmember capability and extended sortie time can be efficiently utilized by scheduling AFM 60-2 requirements in conjunction with ASQ-42 training missions.

4. PROBLEMS:

Possession of T-29 aircraft will present numerous problems, but none that cannot be overcome. In essence, the following areas should be considered:

a. All T-29 support, supply maintenance, and manning should be on an equal basis with tactical aircraft to insure maximum training capability.

b. Manning: Additional maintenance technicians will be needed since the normal authorization of a B-52 organization is for jet qualified individuals. It is possible to secure some Base support, but this is not particularly desirable. There will be a definite need for crew chief assignment.

c. Supply: The supply support for the basic aircraft should be available through normal supply channels. Support for the complete Comb/Nav


(b)(1)(A)

SPERRY SUMMARY

Description of Modification of Two T-29B Aircraft
As AN /ASQ-42V Trainers

A. General:

The modifications contemplated would have as the objective an operational trainer for the Hustler Bomb/Nav system with instructor-selected maljunction capabilities. The modifications would consist of five main areas of effort:

1. Removal of T-29B equipment.

2. Installation of AN/ASQ-42V components.

3. Installation of supporting systems and equipment.

4. Stress Analysis of Aircraft Modifications and Weight and Balance.

5. Flight test to rpove modifications and systems.

The resulting trainer would in no way compromise the ASQ-42 system utilization since supporting systems such as the 30 KVA turbine driven alternator, the hydraulic supply, the high voltage power supplies and cooling systems would all be proven systems using aircraft quality components. Easy maintenance would be a guiding principle in the design. A further design objective would be to simulate the B-58 Position 2 environment to the extent this can be done at reasonable cost.

NOTE: The T-29B aircraft were selected on the basis of probable availability in the current Air Force inventory. The C-131B type was not considered since these aircraft are assigned only to ARDC. However, selection of the C-131E type of T-29C or D probably would affect the installation only in relatively minor detail.

Attachment #5 shows a suggested layout of the Bomb-Nav units and supporting systems in the T-29B.

B. Suggested Specifications:

Since this would not be a production type contract, it is suggested that WADC Regulation 83-10, Attachment #4, covering Aircraft Class II Modifications for Projects and Tests, be used as a guide for this program. This regulation covers general workmanship standards and references a

number of applicable MIL specifications such as MIL-W-5088(ASG) - Wiring, Aircraft, Installation of; MIL-E-7080 - Electrical Equipment, Piloted Aircraft, Installation of, and AEDCM 80-1 - Handbook of Instructions for Aircraft Designers.

C. Removal of Equipment:

All tables, benches, radar equipment and other equipment not necessary for the intended use of the aircraft would be removed. If there is no intention of restoring the aircraft to its original configuration, the attendant wiring would also be removed. Any equipment or components such as interphone boxes, oxygen regulators, etc., which could be used in the modification would be retained. The balance of the equipment would be returned to the Air Force through normal Sperry channels.

D. Installation of AN/ASQ-42V Units:

1. System equipment would be installed in the approximate locations shown on Attachment #5.

2. The identification of the wires in the aircraft harness will follow the B-58 system to facilitate maintenance; the applicability of all T.O.'s pertaining to the system will be maintained.

3. Some of the problem areas that exist and their suggested solutions are as follows:

a. Search Radar: The antenna and radome installation is probably the most extensive modification in the contemplated program. The B-58 radome is so large that if installed on the T-29, the pilot's downward and forward vision would be so obscured as to be operationally undesirable. The solution of the problem lies in the fabrication of a new radome which will fit the T-29 nose after modification in accordance with Convair Service Bulletin 340-153A. A K-band radome built on the same mold as Goodyear P/N 5702616-100 S-band radome would be satisfactory, if it were fabricated to MIL Specification MIL-R-7705, Type II (Directional Guidance).

Hydraulic power for the antenna would be furnished by a small electric driven variable-volume pump such as Vickers Model AA32302. This system was used very successfully on the Hustler JC-97 test bed. Boresighting of the antenna could be accomplished in a manner similar to that developed and proven satisfactory on the JC-97 flight test program.

b. Doppler Radar: It is proposed that the doppler antennas be mounted in a pod similar to the ones flown for over three years on the C-131B, Serial Number 53-7806, and on the JC-97 Hustler Flight Research programs. Drawings already exist for this pod. The standard B-58 radomes would be used. Units associated with the doppler system would be located in the rack inside the cabin immediately over the pod. Boresighting could be accomplished in a manner similar to that used on the JC-97.

c. Navigation Unit: Minor modification may be necessary to the Navigation Unit or the forward door of the T-29 in order to allow the passage of the unit through the door. Mounting structure design for the Navigation Unit as used in the JC-97 already exists, though some engineering effort would be needed to adapt it to the floor structure of the T-29.

d. Astro-Tracker and Primary Stabilization Unit: No difficulty is anticipated in mounting these units. It is proposed that the astrodome at Station 365 (close to the CG of the T-29) be skinned over, and the units be suspended from the surrounding structure. An opening would be made in the new skin with a pressure seal through which the sight head of the astro-tracker protrudes. Other units connected with these units would be in a rack close by. A modified boresight procedure, similar to that used on the JC-97, would be imployed to achieve alignment with the aircraft reference.

e. Auxiliary Reference Unit: No difficulty is anticipated in mounting or boresighting this unit.

f. Radio Altimeter: Design for a fairing to house the RTAR unit which was used successfully on the JC-97 Hustler program already exists and can be readily adapted to the T-29.

g. In-Flight Printer: Installation of an In-Flight Printer is recommended in order to provide a flight log that can be used in evaluation of the students' performance.

h. "A" Test Point Panel: An "A" test point break out panel (similar to that used in the JC-97) would be installed to permit greater flexibility in simulating system faults. It would be relatively easy to supplement the malfunction generator (or modify it) by utilization of the many break points which the "A" rack makes available.

4. Malfunction Generator: A small console type box will be mounted in such a manner as to be unseen by the student but easily seen and reached by the instructor. Switches on the console will give the instructor a means of generating various system malfunctions. The student will be able to correct the "fault" by entering the proper malfunction correction mode. A few of the many failures that could be simulated are: Heading servo, astro tracker, Air Data Computer Airspeed, 4 serve, PNSU, ARU, Doppler, etc. The simulation of these and other faults has been demonstrated to Air Force personnel JC-97 flights. The decision as to which malfunctions will be simulated can be made jointly between engineering and Air Force training personnel.

E. Supporting Systems:

1. System Power Supply - AC: During the JC-97 flight test program it was found to be highly advantageous to have power supplies which were completely independent from the aircraft system. A similar installation is suggested here. In addition standard connectors will be provided for external connection of ground power units to supply the system for maintenance and thus conserve turbine life. Several dirrecent possible units have been considered:

a. Air research GTP-70-10 Turbine as installed in FAA medium altitude navigational systems checking aircraft (C-131E).

b. Solar T-41M-19, which is a modification fo the T-41M-9 used in SAC KC-135's, which are equipped for Artic operations, but mounted in a capsule in the cabin.

c. The same unit less capsule, but mounted external to the aircraft in the rear fairing of the Doppler pod.

While this matter requires further engineering study, it is tentatively proposed that a solar T-41M-19 turbine driven alternator (30 KVA at Sea Level) be installed in the Doppler pod. The reasons for selection of this unit instead of the Airesearch GTP-70-10 are:

a. Spare parts should be available in the Air Force system. (Not true of GTP-70-10.)

b. Somewaht smaller size and lower power output, but sufficient for the system contemplated.

c. Installation simpler and less expensive than GTP-70-10 installation in cabin.

d. Less modification to basic airframe that GTP-70-10.

e. Less noise in the cabin.

2. DC Power: DC power would be supplied by means of a standard USAF Type Transformer Rectifier unit such as the GE. Model 6RS964F(1) supplying 100 amps at 28V. It is possible (at some sacrifice in simplicity and cost) to add three (3) additional TR units, install pilot operated bus tie relays and thus provide ground starting power for the aircraft's engines and aircraft emergency power in flight from the turbine source.

3. Component Cooling Systems:

a. It is proposed that the cooling system for the navigational unit be comprised of two axial-vane fans connected by ducting and a flow control valve to the outlet duct of the navigational unit. One fan would be for normal operationa and would pull air through the navigation and would blow air through the normal outlet. An electrical interlock will be provided to preclude operation of the system without adequate cooling. This system would, of course, use the aircraft cooling system cooling air as the heat sink. Preliminary figures indicate that the aircraft cooling system is more than adequate to handle the anticipated heat load. Ground cooling in hot weather could be accomplished by use of a ground air conditioning cart plugged into the normal external connection in the aircraft.

b. Provisions will also be made for using the "reverse flow" fan and ducting as a pressure source and manifold for tubing to be connected to the various LRU's. In this way maintenance procedures will be simplified because operation of the Navigation Unit will be possible with the cover off.

c. Other units such as the search radar, stabilization units, etc., which have much lower air flow demand would be cooled by individual fans or blowers. This is felt to be the more practical cooling system because it avoids running ducting from a central air source to the widely separated system components requiring cooling. A similar system proved to be trouble-free during over 2,000 hours of system operation (combined ground and airborne) on the JC-97 Hustler program.

OPH

4. Seating: A seat would be provided for the student in front of the Navigation Unit and one for the instructor behind and slightly to the right of the student. The malfunction simulator console would be positioned out of sight of the student but readily available to the instructor. Extra seats, which could be double airline type, would be provided for observers or alternate students. An alternative arrangement for the four observer/extra student seating would be to retain four or more of the standard T-29 student tables and seats.

F. Stress Analysis and Weight and Balance:

1. A stress analysis of the supporting structure such as racks, seat attachments, and other such items involving safety of flight or personnel would be made. It is proposed that the requirements of the MIL-S-5700 series specifications such as 16 G crash safety for seats and equipment in occupied compartments would be made good if possible. The only limitation which should be noted here is that the T-29 is essentially a civilian air transport and CAA regualtions only required "9 G forward" seat attachments. No formal investigation of proven structures such as the Doppler pod is contemplated.

2. Weight and balance preliminary figures indicate no particular problem. It is expected that the aircraft would be weighted after the extensive modifications and a new empty weight CG location computed.

G. Flight Test: A modest flight test program of seven (7) hours total duration per aircraft is proposed. This would consist of a one (1) hour maintenance flight with minimum crew to prove airworthiness and two (2) flights of approximately three (3) hours each to shake down the installed systems. Flight test and aircraft maintenance crews will be provided by Sperry.

H. Delivery Schedule: A tentative delivery schedule for the two aircraft is provided in the engineering letter of estimated cost.

I. Assumptions: The following conditions have been assumed in order to develop the foregoing general description of task, the schedule and the area estimate of cost:

1. Two systems will be allocated to the program approximately three and five months respectively after the date of authorization. Their replacement cost has been covered in the estimate and froms the major portion of this program cost.

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2. The systems provided will be of ASQ-42 configuration and will have previously passed the factory system test. USAF acceptance will be accomplished at that timein the Carle Place plant.

3. Acceptance of the systems after installation and preliminary flight testing will be informal and based on a specification to be negotiated.

4. Provisions are made to supply as spares those items of non-standard equipment purchased as spares for the aircraft (such as blowers, fans, hydraulic units, etc.) which are not expended during the flight test phase to the Air Force with the second aircraft.

5. No provisions are made to supply the following items because it is assumed that the T-29 trainers will be stationed at a base with B-58 aircraft and hence have these items available:

a. System test equipment.

b. System handling equipment.

c. System boresight equipment.

d. Ground power and cooling equipment.

e. System spare parts.

f. Engineering or Field Service Technical Representatives.

g. Handbooks, drawings, etc.

6. Estimated cost does not anticipate restoration of aircraft after completion of training program.

RR RJEZSA
DE RJWXBR 182
R 031700Z ZEX
FM SAC OFFUTT AFB NEBR
TO RJEZKY/2AF BARKSDALE AFB LA
INFO RJEZSA/19AIRDIV CARSWELL AFB TEX
RJEZSA/43BOMBWG CARSWELL AFB TEX
BT
UNCLAS DOTOB 20148.
SUBJ: B-58 NAVIGATION TRAINING LEGS. THIS MSG IN 2 PARTS. PART 1.
B-58 NAVIGATION TRAINING CONSISTS OF THE FOLLOWING REQUIREMENTS FOR
INTEGRATED SYSTEM (PRIMARY MODE) NAVIGATION TRAINING LEGS (DAY/NIGHT), I
N
T
EGRATED
STELLAR - TRANSVERSE NAVIGATION TRAINING LEGS (NIGHT) AND LOW
ALTITUDE NAVIGATION TRAINING LEGS: ALFA. INTEGRATED SYSTEM (PRI-
MARY MODE) NAVIGATION TRAINING LEG (DAY OR NIGHT). (1) MINIMUM
DURATION - 1 AND 1/2 HOURS. (2) MINIMUM OF FOUR CELESTIAL LOPS OF
WHICH TWO MUST BE ACCOMPLISHED PER HOUR, IN ANY COMB OPERATION OF

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FIXES AND/OR MMPPS. (3) AT LEAST ONE TH CHECK PER HOUR. (4) AUTH-
ORIZED NAVIGATION AIDS. (A) COMPLETE ASQ-42 SYSTEM. (B) PRESSURE
PATTERN. (C) , 6 CELESTIAL INFORMATION. (D) WINDS, DRIFTS, AND/OR
GS OBTAINED BY RADAR OR AUTOMATIC DOPPLER. (E) METRO WPHDS. (5)
METHOD OF SCORING - RADAR SCOPE PHOTO, GCI, AND RBS. BRAVO. INTE-
GRATED STELLAR NAVIGATION GAINING LEG (DAY OR NOGHT) (1) MINI-
MUM DURATION - 1 AND 1/2 HOURS. (2) MINIMUM OF FOUR CELESTICAL LOPS
OF WHICH TWO MUST BE ACCOMPLISHED PER HOUR, IN ANY COMBINATION OF
FIXES AND/OR MPPS USED IN ESTABLISHING THE AIRCRAFT'S POSITION.
(3) AT LEAST ONE TH CHECK PER HOUR. (4) AT LEAST ONE CELESTIAL
INFORMATION. (B) PRESSURE PATTERN. (C) WINDS, DRIFTS, AND/OR GS
OBTAINED BY RADAR OR AUTOMATIC DOPPLER. (SEARCH RADAR WILL NOT BE
USED FOR FIXING PURPOSES DURING STELLAR NAV LEG). (D) GPI AND
AUTOMATIC DOPPLER. (E) METRO WIND, (Y) METHOD OF SCORING - RADAR-
SCOPE PHOTO, GCI, OR RBS. CHARLIE. INTEGRATED STELLAR - TRANSVERSE
NAVIGATION TRAINING LEG (NIGHT). (1) MUST BE FLOWN A NIGHT TO
RECEIVE TRAINING CREDIT. (2) SAME REQUIREMENTS AS FOR INTEGRATED
STELLAR NAVIGATION TRAINING LEG, EXCEPT AS FOLLOWS: (A) TWO CELES-
TIAL HEADING CHECKS PER HOUR. (B) ALL CELESTIAL PLOTTING WILL BE

PAGE TWO RJWXBR 182
REFERENCED TO TRANVERSE (NIGHT). DELTA LOW ALTITUDE NAVIGATION
TRAINING LEG. (1) NAVIGATION REQUIREMENTS ARE AS ESTABLISHED IN
SACR 51-11 AND SACR 50-44. PART 2. PENDING FORTHCOMING CHANGE
TO SACR 51-11, THE ABOVE TRAINING REQUIREMENTS WILL APPLY TO ALL
B-58 NAVIGATION TRAINING LEGS FLOWN.
BT

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FM CINCSAC OFFUTT AFB NEBR
TO RJEDSO/ANC AERONAUTICAL SYS CEN WPAFB OHIO
INFO RJESKF/2AF BARKSDALE AFB LA
RJUFSS/43DOMBWG CARSWELL AFB TEX
RJUFRH/ATC RANDOLPH AFB TEX
ZI
UNCLAS/DN4DS 24A43. *LIMITED ATTN REQUIRED* BY LTED AT ANC-ASC.
INFO: DU6A, 2AF, AETC AT ASSC; ATTUN-AC AT ATC. SUBJECT: ASS-AR
BOMB/NAV TRAINING SUPPORT. THIS MSG IN 4 PARTS. PART I. THE
B-52 BOMB-NAV TRAINING IS IN JEOPARDY BECAUSE OF A SCHEDULED
MODIFICATION PERIOD OF FOUR MONTHS AT THE CARSWELL FTD STARTING
15 NOV. THIS IS NOT A REALISTIC PROGRAM. THIS PROGRAM WILL NOT
PERMIT TRAINING OF BOMB-NAV PERSONNEL TO SUPPORT PCS/ET REQUIRE-
MENTS. ATC HAS NOT SUCCEEDED IN NEGOTIATIONS WITH CONTRACTOR
TO REDUCE THE MODIFICATION PERIOD. PART II. THE REQUIREMENT TO
TRAIN 12 PERSONNEL ON BOMB-NAV GROUND SUPPORT MAINTENANCE CRS

PAGE TWO RJUFSS 91
NT BE MET BY ATC BECAUSE OF HARDWARE AVAILABILITY. THE PLAN TO
MAINTAIN COMPLICATED TEST EQUIPMENT BY CJT AS SUGGESTED BY THE
USPO IS NOT ACCEPTABLE. PART III. IF THIS MODIFICATION
SCHEDULE CANNOT BE CHANGED, SUGGEST CONTINUING PRESENT COURSES
UNTIL A REALISTIC MOD PROGRAM CAN BE ARRANGED. PART IV.
REQUEST YOUR ASSISTANCE BY TAKING NECESSARY ACTION TO MAKE
HARDWARE AVAILABLE FOR TCTE TRAINING AND ASSIST ATC IN PROVIDING
A MORE REALISTIC MODIFICATION PROGRAM FOR THE FTD AT CARSWELL.
REPLY NOT LATER THAN 5 SEPTEMBER IF REPROGRAMMING IS NECESSARY.
BT
2V/ 111CZ SEP RJUFSS

JOINT MESSAGEFORM

SECURITY CLASSIFICATION: UNCLASSIFIED

(SPACE BELOW THIS LINE RESERVED FOR COMMUNICATIONS CENTER)

PRECEDENCE	TYPE MSG (Check) BOOK	MULT	SINGLE	ACCOUNTING SYMBOL	DTG OF REFERS TO	CLASSIFICATION OF REFERENCE
ACTION: ROUTINE INFO:			X	AF		

FROM: 19ATRDIV CARSWELL AFB, TEX

SPECIAL INSTRUCTIONS

TO: 2AF BARKSDALE AFB, LA

/UNCLAS/43DCOT 239. SUBJECT: B-58 NAVIGATION TRAINING LEGS. THIS MESSAGE IS TWO PARTS. PART I. REFERENCE SAC MESSAGE DOTOR 20140 SAME SUBJECT, 3 SEPTEMBER 60, IT IS HEADQUARTERS REQUESTS CLARIFICATION AS FOLLOWS. ALPA. A CLEARER DELINEATION OF TYPES OF NAV LEGS AND AUTHORIZED AIDS. BRAVO. REQUEST A REVIEW OF AN/ ASQ-42 OPERATION BE MADE CONCERNING REQUIREMENT OF PROPOSED HOURLY HEADING CHECKS. NORMAL OPERATION OF THIS EQUIPMENT UTILIZES A CELESTIAL HEADING REFERENCE THROUGH THE ASTRO TRACKER UNIT THAT IS CONSTANTLY BE ING INTEGRATED INTO THE COMPUTER SYSTEM. THE ASTRO TRACKER IS THE ONLY SOURCE OF CELESTIAL AVAILABLE ON B-58 AIRCRAFT. COCA. REFERENCE PROPOSED REQUIREMENT OF CELESTIAL FIXING. THE ONLY AVAILABLE MEANS OF CELESTIAL FIXING IS BY ASTRO TRACKER WHICH, BEING AN INTEGRAL PART OF THE COMPUTER SYSTEM, IS RENDERED INOPERATIVE WHEN THE COMPUTERS ARE OUT; THUS NULLIFYING A CELESTIAL BACK UP POSSIBILITY AS USED ON PREVIOUS TYPES OF AIRCRAFT. DELTA. WITH OPERATIVE EQUIPMENT, CELESTIAL FIXING INFORMATION IS INTEGRATED

DATE	TIME
MONTH: SEP	YEAR: 1960

WRITER
SYMBOL: DCOT
TYPED NAME AND TITLE (Signature, if required)
PHONE | PAGE NO. 1 | NR OF PAGES 2
SECURITY CLASSIFICATION: UNCLASSIFIED

RELEASER
SIGNATURE
TYPED (or stamped) NAME AND TITLE
JACOB A. HUTCHISON
Colonel, USAF
Deputy Commander for Operations

DD FORM 1 MAY 58 173 REPLACES DD FORM 173, 1 OCT 48, WHICH WILL BE USED UNTIL EXHAUSTED

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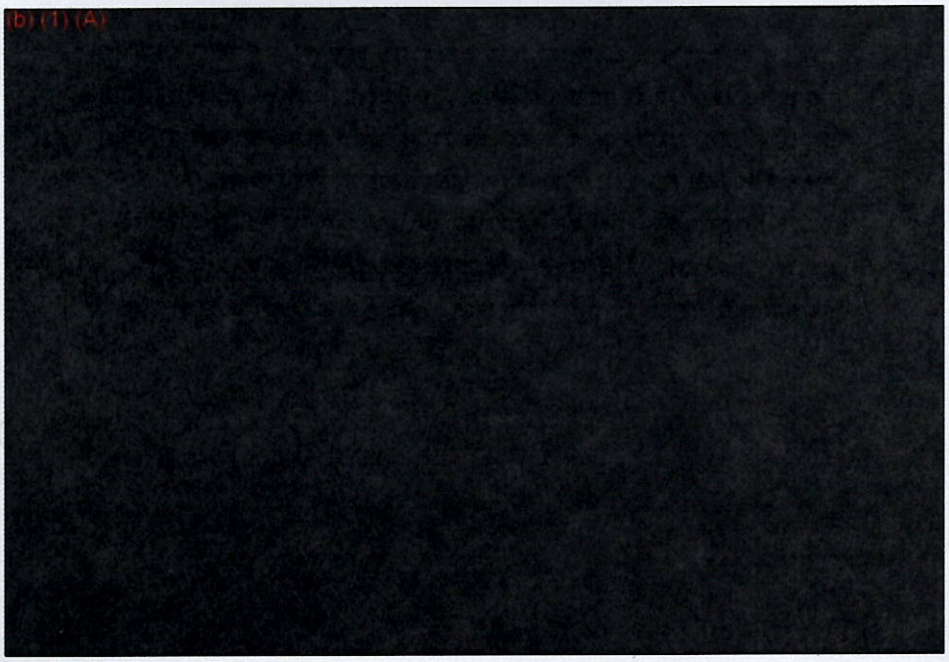
19AIRDIV CARSWELL AFB, TEX

INTO THE PRESENT POSITION CORRECTION CIRCUITRY CORRECTLY IN EITHER TRUE OR TRANSVERSE MODE. THIS PRECLUDES THE NECESSITY OF PLOTTING CELESTIAL LOPS ON CHARTS. DOPPLER - INERTIAL PRESENT POSITION DRIVE IS BY FAR MORE ACCURATE THAN CELESTIAL FIXING. IF MALFUNCTION CONDITIONS EXIST THAT RENDER DOPPLER - INERTIAL DRIVE INOPERATIVE, THEN CELESTIAL FIXING IS ALSO INOPERATIVE. PART II. MEMBERS OF 43BW STAFF WILL BE AVAILABLE AT BERGSTROM DURING THE COMPETITION TO FURTHER DISCUSS THE PROBLEMS INVOLVED IN B-58 NAVIGATION PROCEDURES. PARTIII. REQUEST THE 43BW BE PERMITTED TO CONTINUE USING NAVIGATION PROCEDURES OUTLINED IN THE CRAFT SACR 51-11 FOR B-58 WINGS SUBMITTED BY THIS WING.


(b) (1) (A)

UNCLAS EO 2317. IMMEDIATE ACTION REQUIRED.
ACTION SAC, INFO 19AD (ASDW). SUBJECT: B-58 SUPERSONIC
ACTIVITY ATLANTA. PART I OF II PARTS. SONIC BOOM
SURVEYINGS AT ATLANTA HAVE BEEN COMPLETED. REQUEST
YOUR ACTION TO SECURE APPROVAL FOR IMMEDIATE RESUMPTION
OF B-58 SUPERSONIC ACTIVITY ON ATLANTA RDS ITE.
PART II. ATLANTA CORRIDOR FOR INTERIM USE PENDING
UNRESTRICTED OPERATIONS IS THAT CORRIDOR TWENTY NAUTICAL
MILES EITHER SIDE OF THE CENTER LINE OWENSBORO, KENTUCKY
TO ATLANTA, GA.
ZI
02/1152Z SEP RJEBW

SKC727 EDG041
TZUKAF671
RR RJEBSK
DE RJEBKF 109
R 382233 ZZX
FM SAF
TO RJUXDR/SAC OFFUTT
RJEDSK/19AIRDIV CARSWELL
BT
UNCLAS DOT 2552.
ACTION: SAC, DOTPS, AND 19AD. SUBJECT: SAC REG 51-19 ANNEX XIII. THIS MESSAGEIN THREE PARTS. PART I. THE FOLLOWING 43DCOT 279 MESSAGE DATED 4 SEPT 63, SAME SUBJECT, IS QUOTED FOR YOUR INFORMATION. QUOTE. REQUEST WAIVER OF PARAGRAPH 5 C 2(A) 4 (ONE SUPERSONIC FLIGHT) FOR 51-19 CHECK OUT IN THE TF 102. ALL FLIGHT DAMPERS ON THE 43RD BOMB WING TF 102'S ARE INOPERATIVE AND ARE NOT PROGRAMMED TO BE MADE OPERATIVE. THE AIRCRAFT IS RESTRICTED TO SUBSONIC FLIGHT WITH DAMPERS INOPERATIVE. WITHOUT THIS WAIVER THE 43RD B. W. WILL NOT POSSESS THE CABILITY

PAGE TWO RJEBKF 109
TO QUALIFY A PILOT IAW SAC REG 51-19. UNQUOTE. PART II. FOR: SAC. REQUEST YOUR ACTION TO DELETE THE REQUIREMENT FOR SUPERSONIC TF 102 ACTIVITY. PART III. FOR: 43BW. PENDING SAC ACTION ON THIS SUBJECT THIS HEADQUARTERS WAIVERS THE REQUIREMENT OF ALL SUPERSONIC ACTIVITIES OF SAC REG 51-19 FOR TF-102 AIRCRAFT.
BT
31/2318Z SEP RJEDKF

1900-R
43DCO-(4)
43DMC

TOH

~~SECRET~~

[redacted] DOT 1652. ZIMUR ATTN ACQUIRED. ACTION DAT. INFO ASSW.
SUBJECT: (U) 3-5# SUPERSONIC ACTIVITY. USAF HQS ACCEPT ST SCTNS, 7
SEP 60, IS QUOTE:MFOR YOUR GUIDANCE AND COMPLIANCE. "TUTSHOSCHIN 2
PARTS. PART I. INFO TO DATE INDICATES THAT MANEUVERS OF 3-5# WHILE
IN SUPERSONIC FLIGHT HAS GREATEST EFFECT IN CREATING HIGH GROUND
OVERPRESSURES ASSOCIATED WITH SONIC BOOM NOISE. ACCORDINGLY PRE-
VIOUS RESTRICTIONS INCLUDED IN REFERENCED MESSAGES ARE CHANGED TO
FOLLOWING:

ALTITUDE	MACH	OVERPRESSURES	ACFT GROSS WT.
[redacted]	.99	[redacted]	N/A

PAGE TWO RJMXER 25R

[redacted]	1.01-1.03	2.0-1.0	140,000 LBS OR BELOW
[redacted]	1.05-2.0	1.0-1.5	N/A
[redacted] AND UP	2.0	1.5	N/A

MANEUVERS INCLUDING TURN, ACCELERATION AND DECELERATION WILL NOT BE PERFORMED OVER HEAVILY POPULATED AREAS. PART IV, THIS ANSWERS YOUR DOT 1591, 1 SEP 60, SUBJECT: SONIC BOOM OVERPRESSURES."
WT
8/1956Z SEP RJMXER

60-1450

~~SECRET~~

SECRET

ZK RJEBKL 14D
P 131602Z SEP
FM 24WEA SQ
TO RJEBKJ/DET 21 24WEASQ
RJEBSY/DET 24 24WEASQ
RJEDMJ/DET 26 24WEASQ
RJEBAN/DET 25 24WEASQ
GT
[redacted] FROM 24WSO 13-J-1. SUBJ: SONIC BOOM OVERPRESSURES. 3AF MESSAGE DOWE 1752, 9 SEP 62, SUBJECT AS ABOVE, IS QUOTED FOR YOUR IMMEDIATE ATTENTION. QUOTE. REF SAC DO 1391 AND DOT 1183 TO 3AF. THIS MSG IN FOUR PARTS. PART I. USAF HAS RESTRICTED SAC AIRCRAFT FROM FLYING FASTER THAN MACH 1 BELOW 30 THOUSAND FEET, MACH 2 BELOW 40 THOUSAND FEET AND TO LEVEL FLIGHT OVER POPULATED AREAS WHEN SUPERSONIC. USAF STATES, QUOTE: ADHERENCE TO ABOVE LIMITATIONS SHOULD PRECLUDE DAMAGING SONIC BOOM OVER-PRESSURES ON POPULATED AREAS PROVIDED UNUSUAL METEOROLOGICAL CONDITIONS DO NOT EXIST. UNQUOTE. TO BEST OF OUR KNOWLEDGE

60-1495

PAGE TWO RJEBKL 14D
QUANTITATIVE TESTS OF SONIC BOOM OVERPRESSURES HAVE BEEN MADE
ONLY WI HHHHHH ASSUMPTION OF S
REPEATINGPAGE TWO//
//REPEATING PAGE TWO

PAGE TWO RJEBKL 14D
QUANTITATIVE TESTS OF SONIC BOOM OVERPRESSURES HAVE BEEN MADE ONLY WITH ASSUMPTION OF STANDARD ATMOSPHERE AND NO WIND. PART II. THE FOLLOWING ARE QUALITATIVE ESTIMATES OF EFFECTS OF QUOTE UNUSUAL UNQUOTE METEOROLOGICAL CONDITIONS: (A) POSSIBILITY OF DAMAGING BOOM INCREASED BY (1) SHARP TEMPERATURE INVERSIONS, (2) STRONG TROPOPAUSE, (3) AIRCRAFT ABOVE TROPOPAUSE, (4) AIRCRAFT FLYING WITH TAILWIND, (5) AIRCRAFT FLYING IN REGION OF STRONG VERTICAL SHEAR WITH WIND SPEED INCREASING WITH ALTITUDE. (B) POSSIBILITY OF DAMAGING BOOM DECREASED BY (1) ATMOSPHERE WITHOUT INVERSIONS AND MORE UNSTABLETHAN STANDARD ATMOSPHERE, (2) WEAK TROPOPAUSE, (3) WEAK VERTICAL WIND SHEAR, (4) AIRCRAFT ENCOUNTERING HEAD WIND, (5) AIRCRAFT BELOW TROPOPAUSE. PART III. REQUEST YOU USE THESE AS BASIS FOR QUALITATIVE ESTIMATE OF METEOROLOGICAL INFLUENCES ON BOOM POSSIBILITIES, PARTICULARLY DURING THE COMING BOMB COMPETITIONS. PART IV. (NOT APPLICABLE TO YOUR OPERATION.) UNQUOTE.
BT
13/1600Z SEP RJEBKL

60-1495

SECRET

~~SECRET~~

5KC2796

Q/

ZSQ244ZF9027
RR RJEDSK
DE RJEBKF 11
R 301520Z ZEX
FM 2AF BARKSDALE AFB LA
TO TANGO
INFO SIERRA
BT

~~C O N F I D E N T I A L~~ FROM DOTN M-O-17741
ACTION: ROMEO; TANGO; 34ARFLGSQ; 4397ARFCSG. 4245ARFLGSQ;
INFO: SIERRA, 17AD, 42AD.SUBJECT: (U) NAVIGATION DEFICIENCIES.
THIS MESSAGE IN TWO PARTS. PART I. REFERENCE 2AF MESSAGE DOTN
M10450, 7 JUNE 1967, SUBJECT SAME, SAC MESSAGE DOT 2167 27 SEPT
67 IS QUOTED IN PART FOR NECSSARY ACTION. QUOTE. SUBJECT: (U)
NAVIGATION DEFICIENCIES. THIS MESSAGE IN THREE PARTS. PART I.
THERE HAS BEEN A DEFINITE IMPROVEMENT IN THE NUMBER OF NAVIGATION
VIOLATIONS ON WESTBOUND REFLEX OPERATIONS. HOWEVER, ALL CREWS
WILL BE APPRISED OF THE FORTHCOMING STRONG JET STREAMS AND

1-19C
1-1700
1-7000
1-43000
1-43C

PAGE TWO RJEBKF 11
UNEXPECTED WIND SHEARS AND ASSOCIATED PROBLEMS DURING THE NEXT
FEW MONTHS. STRONG EMPHASIS MUST CONTINUE TO BE PLACED ON
PROPER PRESSURE PATTERN/CELESTIAL NAVIGATION TECHNIQUES AND
CLOSE STAFF SUPERVISION/MONITORING TO PRECLUDE NAVIGATION
WEAKNESSES. SACM 55-13 WILL BE REVIEWED BY ALL NAVOGATORS PRIOR
TO REFLEX OPERATIONS. PART II. SSG REPORTS STILL REVEAL
DEFICIENCIES IN CELESTIAL GRID TECHNIQUES AND PROCEDURES.
STRONG BOMBEA/NAV STAFF EMPHASIS MUST BE LACED IN THIS AREA TO
ASSURE THAT SOUND NAVIGATION TECHNIQUES AND PROCEDURES ARE
PRACTIED AT ALL TIME. WHEN WEAKNESSES ARE DETECTED, IMMEDIATE
CORRECTIVE CTION WILL BE TAKEN. UNQUOE. PART II. 2AF
COMMENT. ITH THE APPOACHING WINTER MONTHS, STRONG AND
CONTINUED EMPHASIS MUST BE PLACED ON NAVIGATION PROCEDURES.
THE IMPROVEMENT CITED IN THE QUOTE SAC MESSAGE WILL NOT
CONTINUE UNLESS CREWS ARE WELL PREPARED TO MEET THE PROBLEMS
ENCOUNTERED WITH THE LESS FAVORABLE WINTER WEATHER CONDITIONS.
BT
30/1674Z SEP RJEBKF

60-1578

~~SECRET~~

C/Brig Gen Oiman, 297-Eg 21 September 1960

Facilities for 43d Bomb Wing Project No. Bc 111 2190

8C

1. The maintenance and training functions of the 43d Bomb Wing are being severely hampered by lack of action on certain work orders and projects which are needed for various reasons. I refer to the following:

a. Building modifications of T-164 and 165A. It appears to me that we started working a couple of years ago to have these buildings fixed up for the air training branch of the 65th Bomb Squadron, and progress seems to be very slow.

b. CRS 21-1 - modification of Building T-2-160 as Wing Headquarters.

c. Building T-2-121: Work order 128-61. Hoist urgently needed for maintenance of equipment. Project CRS 62-5 - refueling facility must be improved.

d. Work order request 723-60 (Building P-1050). Emergency lighting and illuminated fire exit signs are needed as a safety measure. Additionally, one elevator in this building has been out of commission for some time which hampers the Instrument, Electrical, Pneumatics, and Utility Shops in meeting work schedules, since movement of test equipment is slowed.

e. Project 141-6. Lack of equipment prevents operation of DC Heli Arc unit which in turn is required for welding J-79 engine components.

f. Project CRS 19-1. 440V and 220V power outlets are urgently needed in T-2-121. The completion date of February 1961 is unsatisfactory. This power is needed now.

g. Project CRS 141-6. Electrical outlets for Building P-1050 are urgently required for field maintenance test stands now.

2. Request you take a good hard look at what is holding these projects up and let me have a report advising what I personally can do to assist by 26 September 1960, or earlier if feasible.

3. Project No. BC 111 2190 is assigned. Suspense is as indicated.

MILS O. OIMAN, Brigadier General, USAF, Commander

C 02

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BDCE

Facilities for 43d Bomb Wing - Project No. BC 111 2190

C

1. Status of the various projects and work orders enumerated in your memorandum of 21 September 1960, subject as above, is given below. Overall project program and remarks concerning funding and manpower are given so that the overall work load and priorities facing the Base may be understood.

a. Requirement for modifications to Bldgs T2-164 and T2-164A were given to the Civil Engineer 18 August 1959. Hq 2AF accepted the responsibility for preperation of plans and specifications using its centralized A - E firm. That headquarters was not able to include these two projects in the A - E contract and responsibility for project preparation was returned to the base May 1960. The Civil Engineer was not able to immediately get to work on these projects due to such higher priority items as 7BW Command Post, revision to plans for modifications to Bldg 2[illegible], B-58 simulator building, and other projects which had 2AF command interest.

(1) Bids were opened on project CRS 100-0, Mod Bldg 2184 on 20 Sep 60. Low bid was $10,238, government estimate and funding was $9900, P458 funds. If project were to be awarded at the low bid figure of $10,238, P459.3 funds would be required. That type money is difficult to obtain, therefore we are making minor changes to specifications and are readvertising (minimum advertising period of 10 days) with the expectation that the low bid will be under $10,000.

(2) Bids on project CRS 101-0, Mod Bldg T2-164A, estimated cost $9900, were opened 23 Sep 60. Low bid received was $12,334 which is in the P459.3 category. The specifications for this project cannot be revised to any appreciable extent and still obtain the facility required for B-58 crew training. We are attempting to obtain necessary funding from 2AF.

b. CRS 21-1 modification of building T2-160, Wing Headquarters. The decision to use this building as 43BW Wing Headquarters was not reached until July 1960. Work Order Request was received 16 August 1960. Project Request, AF Form 754, was forwarded to Hq 2AF as a Class "B" (Repair) project 1 Sep 1960, estimated cost $27,500, P459.1 funds. A 2AF representative from the Command Post Section visited Carswell on 15 Sep 1960 to

verify the requirement for, and adequacy of, the proposed command post in Bldg 2160. This officer did not contact either my office or my Civil Engineer. We have not been advised by Hq 2AF whether or not this project will be approved and placed in the FY 61 O &M program and funded. Project [redacted] No work will be done on plans and specifications until project is determined essential. The fact that the project is a Class "B" repair type enhances the chances of its probability of being funded. Approximately five months delay in initiating this project was due to the reluctance of the 43BW to accept Bldg 2160 as Wing Headquarters.

c. Bldg 2-124. Work Order 128-61(sic) correct WO number is 667-61. Install hoists. This work is scheduled for accomplishment the week of 26 September. Hoists are being furnished by 43BW but probably will require modifications to fit rails. Lather work will be accomplished by 43B[illegible] in conjunction with Civil Engineering.

(1) Project CRS 62-6. This project was originally a 78W project in support of ground power equipment. It laid dormant for a considerable period of time due to non-resolution of siting by using agency and some technical difficulties with SAC. The basic design was completed about two years ago. The Engineer has nothing in writing in his files indicating that the 43BW has a requirement for this project though he is aware of the requirement. The siting is now adjacent to Bldg 2121 on southeast end between buildings 2121, 2240, and 2180. To place the fueling point in this location will be prohibitively expensive and place the project in the P341 category. That type of funds is very difficult to obtain, particularly since the need for this facility is not an unforeseen requirement. The location desired by 43BW would require the removal of concrete slab to install tank and run utility lines, and then repave. Two, regulations do not permit the burying of fuel tanks under pavement. Siting needs to be resolved so that cost can be kept under $5000. Aggressive action will be taken by the Civil Engineer to resolve this problem. The project was not submitted to 2AF for inclusion in the FY 61 O & M program (P458 category, estimated cost $4400) in either our original submission or as a "late starter" with other 43BW requirements.

d. Work Order Request 723-60 for emergency lighting in stairwells. This is a positive requirement. The estimated cost of project is $10,000 to cover increased scope requested by 43BW. Under 2AF regulations, since project is over $500, it must be done by contract. Due to workload in the Civil Engineer's Planning and Programming Branch, we have not submitted a project request, Form 734, to get the item into the program. Under current directives this project will have to be added to Project 141-0, Modification of Electrical System in Bldg 1056. This will be done very shortly.

(1) Comments on illuminated fire exits are included in "d" above.

(2) The elevator in Column 2 was recently out of service for four days awaiting an essential interlock switch. All elevators are currently in service. All elevators were out of service several weeks ago for approximately one week awaiting clean up of the pits by using agency. A word of explanation is in order. From time to time it is necessary to perform PM work on the hydraulically operated elevators in the pits. The service required at time in question was adding hydraulic fluid. The pits contained quite a bit of water which was pumped out by Civil Engineering personnel. The pits required cleaning by the using agency to rid them of a collection of debris such as dixie cups and other trash. Arrangements were made with the using agency to clean the pits, the elevators being elevated and safety secured during that period. When the using agency performed its clean-up work, the C.E.'s people promptly performed their servicing and elevators were returned to service.

e. and g. Project CRS 141-0, modification to electrical service, Bldg 1050, estimated cost $44,780. The approved plans and specifications which were prepared by 2AF's centralized A - E were delivered to us 20 September 1960. The plans and specifications will be forwarded to P & C when project is funded. Funds had not been received by 26 September but are expected momentarily. P & C will require approximately 60 days for advertising, forwarding contract to SAC for approval and award; construction time will be 120 days.

f. Project CRS 19-1. Modify Bldg 2-121 for Ground Power Equipment. This project carries #2 priority for engineering. 438W desired #1 priority for design to be project CRS 15-1, Repair to Bldg 1-133C to provide for 65 CCTS classrooms, essential modification to 7 A & E facilities, and modification to provide for 415 FTD classrooms. Plans and specifications for Project CRS 15-1 are approximately 60% complete.

2. The status of the current FY 61 O & M program by fund category in priority order as approved by 2AF is as follows:

P341 - Minor New Construction.

CRS 13-1. Construct Bomb Pod Storage on Base, Est Cost $118,000. Comment: HQ 2AF required resiting, provision for barricades, etc. Resiting was forwarded to 2AF 7 Sep 60. 2AF concurred in one of our siting proposals in a communication of 16 Sep 60, 1st Ind (USCOPL) 2AR and added other requirements. Insofar as we know, SAC has

not recv and determination of essentiality from Hq USAF. Design will be by 2AF's A - E if project is approved (or if job is not given to Corps of Engineers for design and construction).

P459.3 - Modification Type Projects.

CRS 12-1. Shop S & L, Est cost $42,800.
Comment: This project provides for raising the roof of a bay of Bldg 8508 in the SSF area to provide adequate clearance for B-58 pods. SAC has issued design directive to 2AF. 2AF is including the project preparation in its current centralized A - E contract.

CRS 14-1. Storage Igloo, SSF Area.
Comment: Project provides for modification of doors of eight igloos to accommodate pods. Estimated cost $29,200 P456 funds. (Each igloo is considered a separate project for funding purposes.) 2AF has funded in advance of project preparation apparently due to pressure from munitions people in SAC. We should design ahead of project CRS 19-1, Shop Ground Powered Equip, for this reason. A companion project to make igloos usable provides for new pavement in front of each igloo. This project, CRS 56-1, requires P341 funds. Necessary Form 784 to cover this project was forwarded 1 Sep 60, est cost $90,400. This project requires Hq USAF approval. The splitting of the project was directed by Hq USAF. We have done considerable design work on the pavement project. The additional pavement is required so that pods may be wheeled into the igloos.

CRS 19-1. Mod 2121 for Shop Ground Power Equipment.
Comment: No design work as yet. Using agency furnished basic criteria for preparation of Form 784 last spring. Predesign conference will be required to make firm current requirements.

CRS 9-1. Hq Wing. Est cost $84,000.
Comment: Project provides for air conditioning of Bldg 1550 including 75% Command Post. A revised Form 784 was prepared in accordance with Brig Gen Knapp's desires, and completed plans and specifications were forwarded to 2AF 1 September. Supplemental A/G program was forwarded to SAC 29 August 1960 by 2AF and AF Form 784 forwarded to SAC 29 September by 2AF. Brig Gen Knapp is to get this project into the FY 61 Air Conditioning Program; current status is unknown to us. We have been assured that 2AF will fund Command Post portion of project if our entire building. P459.3 funds were reserved for that purpose.

P459.1 - Repair Type Projects

CRS 15-1, Rev 1. Mod 1133C to provide for 65CCTS, 7 A&E Shops, 415 FTD classrooms.
Comment: This project originally provided only for modifications to the old 7 A & E portion of the building to provide for a portion of the 43AEMS. An emergency type contract in some $7400 was executed to provide basic power to the shop, primarily to correct severe deficiencies in the service to its power room. Troop labor provided interim special voltage circuitry which must all be replaced under this project to provide for tactical aircraft requirement. Another project was included in the program to provide for 65CCTS admin and training space. Under current directives all projects within a building must be incorporated into one project. Thus, project CRS 15-1 has grown from an original estimate of about $10,000 to $35,000 - 40,000. Approximately five weeks ago when we were able to start engineering work on this project, it took Civil Engineering approximately three weeks to obtain firm criteria from the using agencies as to just what were their requirements in the building. The preparation of this project is now well under way and engineering work should be completed within two weeks. We then will be faced with obtaining the necessary P459.1 funds from 2AF. The Directorate of Engineering is informally aware of the increased requirement.

a. 43BW established this project, CRS 15-1, as their number one for engineering.

CRS 21-1. Mod 2160 for 43BW Hq, Est cost $27,500. This project has been discussed above. The project request originally provided for a P458 type project to modify for 65CCTS.

P458 - Modification Type Projects. No design work has been accomplished on these projects.

CRS 16-1, Mod 2122, Est cost $7400. For 43BW organization supply.

CRS 17-1, Mod 2164B for 7BW Maintenance Control. Est cost $7400.

CRS 20-1, Mod 1055, Modifications in 43 A&E shops, Est cost $4500.

CRS 24-1, Mod 2-177. Provides for Base Educational Center, Est cost $8,400.

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CRS 32-1, Mod 2-178. Provides for Base Educational Center. Est cost $5,700.
Comments: These latter two projects provide facilities for IPT classrooms and testing, and on-base educational activities.

3. Those projects which have been funded in the FY 61 O & M program and are being advertised for bids, or are under contract, are as follows:

CRS 140-0 (Mod) Heating, Dock 4, $35,182.
CRS 141-0 (Mod) Heating, Dock 3, $35,183.
CRS 108-9, Repr South Apron, $91,721.
CRS 32-1, (Add) Security Alarm Sys, Bldg 7186, $2,000.
CRS 100-0, Mod 2164 for 65CCTS Academic classrooms, P458, Est cost $9,900. Low bid $10,238 (which would place it in P459.3 fund category. We have modified specifications slightly and are readvertising for 10-day period.
CRS 101-0, Mod 2164A for 65CCTS classrooms, Est cost P458 funds $9,900. This project discussed in paragraph 1a(2) above.
CRS 146A, B, & C-C, Mod Hosp, Est cost P478, $3900. Provides for vent hoods in a kitchen, tile on stairways, flood lighting exterior.
CRS 58-1, Painting exterior 2-196A (1st RBS Hq), Est cost $900.
CRS 172-0, Painting Exterior Qtrs 3263 (Crist), 3264 (Crouch), 3517 (Cosley) Est cost P456 $1200.
CRS 173-0, Painting Exterior Bldg 2-1928, C & D (yellow quonsets in rear of BK), Est cost $800.

In addition to the several projects listed above which are in the O & M program, there are a number of projects which were identified in either the P458 or P478 (Hosp) Fin Plans. We have not submitted Forms 734 covering these projects simply due to lack of sufficient engineering time.

a. The P458 modification projects within base approval which are deemed essential but which are not in program are:

CRS 159-0, Mod Shop Hvy Equip	$1,000
CRS 37-1, Mod Supply Equip Base	6,500
CRS 63-7, Mod (Air Cond) Air Police Control and I.D. Bldg (at main entrance). Plans complete and technically approved, but not in FY 61 Air Cond Program.	3,000

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CRS 28-1, Mod Admin Wg Maint Control (734) Bldg 2162 (Form 734 submitted)	$3,000
CRS 62-8, Stor Base Mogas (for support Gnd Pwr Equip) (discussed above)	4,400
CRS 98-9, Mod Maint Dock Large A/C	3,500
CRS 112-9, Mod Oper Mission Trg	3,200
CRS 133-9, Mod Search Radar	8,000
CRS 57-0, Mod Admin Office	7,300
CRS 58-0, Mod Cold Stor Base	3,500
CRS 96-0, Mod Pipeline, Liq Fuel	5,000
CRS 48-1, Mod Comm Receiver	1,500
CRS 105-0, Mod War Supply Stor	2,000
CRS 134-0, Mod War Supply Bldg	1,500
CRS 109-0, Mod Htg Plant	1,500
CRS 127-0, Misc Distr Line ON	1,400

P458 - Repair and maintenance type projects.

CRS 99-0, Repair Igloo Floors, SSF Area (will be added to CRS 14-1)	5,000
CRS 114-0, Repair Tower Special (Paint)	1,000
CRS 110-0, Paint Inter Bldg (Dorm)	4,500
CRS 143-0, Repair Base Roads	19,000
CRS 1-1, Repair Hangar Field Maint (Secure draft curtains hanging from roof of Bldg 1050. Suggested by higher headquarters and required as a safety measure)	11,500
CRS 35-1, Repair Veh Parking Lots	18,000

Not identified as projects are some 77 base buildings which need exterior painting, nor 247 Wherry houses which will have to have exterior painting provided from base funds, and also the interior painting of an undetermined number of units.

Hospital Fin Plan includes following P478 projects on which we have not submitted 734's.

CRS 1480-0, Mod Hosp. Mod Refrig Doors (Plans completed)	2,000
CRS 148-0, Relocate acrylic suction machine	500
Mod Exhaust System Machine Room.	2,100
Provide air circulation, Linen Room	1,500
Constr Stor Bldg (for Hosp Grounds Maint Equip)	4,500

	Mod Hosp Dental Lab	3,000
	Mod Hosp Instl Contract	1,000
	Mod Hosp Diet Kitchen	800
CRS 60-1,	Mod Dental Clinic Acoustical Tile	7,000

In addition to above P458 and P478 projects, there are a considerable number of modification projects within the $500 - $2000 category which are considered desirable, some even essential, on which no work of any kind has been done except identification by using agency.

P479.3 Funds

CRS 62-1, Underground sprinkler system for Hospital Grounds 15,400

The following P459.3, modification type, projects have had plans and specifications completed for some time, but have not been funded. Since they are relatively soft items there does not seem much likelihood of money being made available. They were not accepted in FY 61 O & M program. These are:

CRS 46-6, Air Cond and Mod Procurement Office (Bldg) 1262). (To provide new facility in lieu of present location in warehouse. Project is not in FY 61 Air Cond program. Building could be usable without air conditioning which is major portion of project) 24,800

CRS 42-9, Mod Post Office (to give modern facility and do away with unit mail rooms.) 24,900

CRS 17-9, Mod Whse Supply & Issue. (Provide mezzanine for office and admin space.) 36,200

4. In essence, our engineering effort in project preparation is being devoted primarily to 43BW projects. However, though we have five professional engineers and one captain assigned to our Engineering Division and Project Preparation Branch, and one civilian engineer and one lieutenant assigned to our Plans and Programming Branch of the Engineering Division, much less than 50% of their time can be devoted to pure project preparation and preparation of Form 734 (for programming purposes). The Civil Engineer is required to furnish engineering service and advice to all agencies on the

base. This effort takes a considerable amount of time and is only indirectly gainful. Too, once plans and specifications for a particular project have been prepared and forwarded to P & C, engineering effort on that project has not ended. Once a contractor has been awarded a contract, he will furnish the Contracting Officer with proposals of materials to be used. These proposals must be reviewed by engineering personnel, an action that is frequently very time consuming and involves considerable research. Inevitably there are changes to the contract which require engineering effort in preparing the changes and in negotiating with the contractor. In the case of the contract for the B-58 Flight Simulator Building, the plans for which were prepared by the 2AF centralized A - E firm, there were some 43 changes which required engineering on our part and lengthy negotiations with the contractor. These consumed some three weeks' time of virtually the entire professional engineer staff. The same contract required a very considerable amount of time on inspection by the electrical, mechanical, structural engineers and the Chief Engineer. In addition, there are a number of recurring and one-time reports imposed by Hq 2AC and USAF which must be answered, as well as changes to various portions of the Master Plan which require revision from time to time. In short, we are not the complete masters of our project preparation engineering effort due to the many outside factors which consume engineering time.

5. As you are aware the Civil Engineering Squadron received no increase in manning authorizations due to the B-58 test program nor due to the activation of the 458W. Rather, its authorized strength has regressed as is illustrated below (Base Department authorizations are excluded):

Authorizations	Officer	Airmen	Class Civilians	Wage Bd Civilians
UMD April 1959	5	202	21	104
UMD April 1960	5	192	22	104
UMD June 1960	5	168	26	95
UMD April 1961 (Planning)	5	173	27	94

a. The Management Division now has an adequate authorization.

b. The Engineering Division has an adequate authorization as to officers and professional engineers and inspectors, but there is an improportionate number of draftsmen and steno-clerical help. Eight professional engineers (civilian) are authorized, but only four draftsmen and one steno-typist. A more realistic proportion would be the eight engineers, ten draftsmen, preferably all civilians, and three stenographers. These ratios would be more in line with outside civilian engineering practice.

c. In the Repairs and Utilities Division we are faced with an overall backlog of 29.96 weeks work, including deferred maintenance. Excluding deferred maintenance we have a net balance of backlogged required and essential work in weeks as follows:

Carpenter - 6.8	Plumbing - 10.33
Paint - 16.5	Heating - 5.33
Metal Work - 17.30	Refrigeration - 3.30
Electric - 43.38	Roads and Grounds - 43.73

Although the Heating and Refrigeration Shops show an acceptable backlog, the heating shop is seriously undermanned (on UMD) to meet ordinary operational and maintenance requirements; the refrigeration shop is short assigned personnel (military and civilian) against authorizations - it has an insufficient number of people assigned to meet operational and maintenance requirements. These deficiencies will cause serious difficulties in the operation of the hospital plant as well as the base in general.

(1) The current UMD and April 60 planning UMD are based on standard criteria developed by 2AF. Personnel are authorized against base data, and apparently against an average base. No consideration is given to abnormal conditions such as may be imposed by utility maintenance and operation of our USAF Hospital, mission changes such as is imposed by activation of the 45SW, or condition and age of buildings. At the request of 2AF we must submit by 30 September our comments on the standard criteria. However, little relief is expected from that action since OPL is apparently interested only in average conditions and is operating under a manpower ceiling which reduces Civil Engineering manning to such an extent that only a mediocre operation may be expected. That is, all bases will be authorized fewer spaces than actually required.

(2) Another aspect of this problem is that the Civil Engineer UMD (excluding fire department) provides an inadequate number of civilian journeymen in the various shops, and an abnormally high number of unskilled airmen authorizations in the Construction and Utilities fields (74% of authorizations being for xxx30 level where virtually all should be xxx50 level if we are to adequately maintain our utility plants and systems and accomplish the vast amount of new work requested by using organizations).

(3) We have several vacancies in the Engineering Division of Civil Engineering which, if filled, would considerably increase our capability; however, we have not been able to recruit such a person as an acceptable electrical engineer nor a Real Property Officer.

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c. As to what we are doing specifically to meet our requirements.

a. I have again authorized overtime in the Engineering Division commencing 26 September. We have found that a great deal of work is accomplished in the evening when the engineers are not subjected to the numerous interruptions encountered during the day. This type work cannot, of course, be carried on indefinitely.

b. We understand that the 7BW has one, and the 43BW three, skilled airmen draftsmen (not illustrators) whose technical ability may be used to great advantage by the Civil Engineer. I will discuss the loan of these men with the Wing Commanders. If at least three of the men can be obtained for a 90 day period, it will materially assist our preparation of projects.

c. At present the Civil Engineering Squadron is authorized 126 civilian and has on the rolls 124. However, under the April 61 planning UMD which we have been directed to man against, we have 18 vacancies which we should fill in order to gain some benefit from that UMD. To do this we must RIF a number of people. In order to avoid this we have requested 2AF to immediately increase the Civil Engineer's UMD by 11 civilian spaces which, together with the RIF of seven unneeded people on board, will permit us to employ the people we need. This study and request was directed by Hq 2AF in a DFL letter of 21 July 1960. Pending the above actions, I am authorizing Civilian Personnel to hire as many people as possible into these 18 vacancies against overall vacancies existing base wide.

d. At each meeting of the Economy Priority Review Panel of the Facilities Utilization Board, which I chair, we have requested each organization to review their work order requests with the view of eliminating unnecessary items. At our most recent meeting less than 3% of the outstanding requests were determined to be no longer required. At that meeting work order requests totaling 2590 manhours of work were presented. After careful screening as to essentiality, the Panel found it necessary to approve 1858 hours of work, which accounts for the large backlog of work shown in 5c above. Wherever possible work was assigned to troop labor; however, skills required are above that available to most units and the Civil Engineer does not have sufficient supervisors to direct and inspect the work of others, so little help is available from so-called in-house capability except for painting and minor carpentry. No units are interested in performing the backlog of deferred maintenance.

e. I have directed my Deputy Commander for Material that the Civil Engineer Bench Stock and Work Order Requirements Branch of Consolidated Group Supply must give priority attention to the support of the Civil Engineer.

7. The specific areas in which I suggest that you may lend your personal assistance are these:

a. Impress upon Hq 2AF personnel responsible for manning authorizations that in situations such as Carswell AFB has faced for the past three or four years in changing missions A Civil Engineer UMD which provides only for normal, average base maintenance and operation is grossly inadequate. With the necessity to utilize World War II buildings and adapt them to the use of a wing such as the 43SW with its mass of equipment, and at the same time to support the 7SW, there is a requirement of a great deal of contract project work and work to be performed by Civil Engineer work forces which is beyond the capability of the current manning authorizations.

(1) In addition to the 11 additional civilian spaces referred to in paragraph 6c above, the Civil Engineer advises that the addition to the UMD of the following wage board civilian positions would enable him to reduce his backlog of work to an acceptable level, accomplish much needed deferred maintenance, and give improved service to using organizations: four carpenters, five painters, one sheet metal worker, six electricians, one heating specialist, one refrigeration/air conditioning specialist, and six roads and grounds specialists (total 24).

(2) The following classified civilian spaces should be added to the Engineering Division as essential to giving the proper balance in that activity: four draftsmen, one stenographer, and one clerk-typist.

(3) The difficulty encountered in manning is that Manpower will not accept a UMD prepared by us and in our recommended ratio of civilian to military authorizations, based on the requirements as we know them to exist at Carswell AFB. If you could persuade Col Bender, or have the Commander 2AF direct Col Bender, to accept and authorize immediately a reasonable UMD prepared by us, we know that we can support the two Bomb Wings and the Base to an acceptable standard. The UMD problem is that we do not have enough spaces, too few civilians, too many unskilled airmen of low rank, and AFSC alignments not in accordance with our requirements.

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8. Not mentioned in the foregoing is the fact that we are programmed to take over the 600-unit Wherry Housing Project on 1 October 1960. Hq 2AF has not honored our request to augment the Civil Engineering UMD by 45 spaces, the indication being that no new spaces will be provided and no funds for contract maintenance.

a. As you know, the maintenance of these units will fall primarily on the Civil Engineer and presumably from within his existing resources. Thus, there will be an immediate impact on his Repairs and Utilities Division. Too, we have already received instructions to proceed with action leading to the employment of an architect-engineer to prepare plans and specifications leading to eventual repairs and modifications to the housing. The net effect of the Wherry acquisition will be that the general maintenance and operation of the base, and particularly the accomplishment of new work order requests from the Bomb Wings and Base agencies, will receive even less attention than at present. Also extremely important is the fact that the Engineering Division will have a considerable amount of added work thrown on it, which must be accomplished under short suspenses imposed by SAC and USAF. This probably will be detrimental to the engineering effort required to prepare plans and specifications for projects in the O & M program.

9. However, we are endeavoring by careful planning to make maximum use of our available resources so that we may meet at least minimum acceptable standards.

ORIE O. SCHURTER
Colonel, USAF
Base Commander