

order for some 2000 items, which were on hand several weeks before the arrival of the aircraft itself. Base Supply was admittedly overstocked in some respects, but this was better than having the plane out of commission, especially when there would be more F-104's coming along later to use up any excess.⁴⁰

By and large the most critical maintenance problem at Holloman has not been parts but rather the shortage of maintenance manpower. This shortage has been severe only intermittently in the case of tenant units, and back in October 1954 the base maintenance organization led the entire command in number of maintenance people per aircraft possessed. There were slightly over ten per aircraft. Yet even then the backload of work in the base maintenance shops was causing concern, and since that time the aircraft inventory has increased by one-third while the number of maintenance people has inched up far more slowly. By February 1955 Holloman had the lowest ratio of maintenance people to aircraft in the command, with eight per aircraft; in April 1956 Holloman was still lowest with only six per aircraft. The fact that many of the newly-arrived planes were complex, high-performance models made matters worse.⁴¹

The shortage of manpower spaces was admitted and deplored at command headquarters, but little was done about it. Usually new manpower spaces were assigned after, rather than before, a

new plane, if any additional spaces were assigned at all. The people to fill them came later still, were likely to be specialists in the wrong skills, and then might be ordered overseas just as soon as they were retrained.⁴² One interesting case occurred following the assignment to Holloman of a role in Project Sidewinder. The Directorate of Manpower and Organization of Air Research and Development Command explained late in 1955 that the resulting aircraft maintenance requirements should be met by diverting three officer and forty-one airman spaces out of a group of sixty-two spaces that were to become available to Holloman as of April 1956. General Davis promptly wrote back that these sixty-two spaces had been granted earlier on the recommendation of a review team from command headquarters that found a valid need for 115 more spaces simply to handle the current workload, with no Sidewinder included. To which command headquarters replied in turn that Holloman must use the three officers and forty-one airmen as indicated, diverting them "at the expense" of other (unspecified) activities.⁴³

The command was not being arbitrary in its treatment of Holloman, but was doing the best it could in the face of command-wide, in fact Air Force-wide, manpower ceilings. Military mechanics were in short supply throughout the armed services, which found it hard to compete with civilian wages and working

conditions; uniformed maintenance people tended to be either beginners serving their apprenticeship or older men approaching retirement. Moreover, Air Research and Development Command had a military maintenance manpower priority of only twenty-second in the Air Force as a whole, on a scale ranging from one to twenty-six.⁴⁴ Civilian mechanics were more plentiful, but their hiring was restricted by government manpower ceilings, and their usefulness was limited, up to a point, by inflexible civil service regulations on such matters as overtime work.

The February 1955 reorganization that combined all levels of aircraft maintenance at Holloman in the 6580th Field Maintenance Squadron (above, p.29) was some slight help, in view of the scattered spaces saved by ending unnecessary duplication of services.⁴⁵ But this was more than offset by the impact upon the Holloman maintenance function of Project Home Front, the Air Force-wide manpower conversion program launched in September 1955 to replace military with civilians. Command headquarters ordered 152 such conversions in the 6580th Field Maintenance Squadron, which was hard put to find civilian technicians within a reasonable period because of local isolation and similar factors. Even when these difficulties were duly explained to higher echelons, the command agreed to re-establish only eight of the abolished airman spaces.⁴⁶ Hence the Center had to struggle merely to hold its own in maintenance

manpower, let alone obtain all the spaces that were needed. To be exact, the Field Maintenance Squadron as of 30 June 1956 had 354 spaces authorized and 409 persons assigned. These totals (which include administrative overhead) contrasted with the figure of 517 people required for maintenance activities if Air Research and Development Command manning standards were to be followed in practice.⁴⁷

The situation was critical enough to call for drastic measures. Accordingly, on 1 August 1956 eleven base aircraft were put in temporary storage on the ground that Holloman was unable to maintain its entire inventory in flyable condition. These aircraft included one F-100, one F-94, two B-26's, three C-45's, two L-20's, one T-33, and one H-19. The F-100 and F-94 categories were cut much less proportionately than the others, since as of 31 July Holloman possessed eleven F-94's--the outgoing basic chase type--and six F-100's--the basic chase plane that was just then being phased in.⁴⁸ The cuts were thus designed to interfere as little as possible with the Center mission, and of course the planes were to return to flyable status as soon as practicable. Even so, the cuts were felt. Among other things, this retrenchment temporarily shelved Holloman's plan to establish a military airlift schedule between the main base area and north-range installations, and paved the way for the unsuccessful scheme of Felix Flying Service to meet

the same requirement by means of an exclusive private charter service (above, p. 44).⁴⁹ At the same time, despite the optimistic prediction of Lieutenant General Thomas S. Power, head of Air Research and Development Command, that this "expeditious action ... should contribute materially in alleviating your aircraft maintenance problems,"⁵⁰ these problems did not cease overnight by any means. At one point in mid-August the jet-aircraft available for mission support consisted of one F-94B.⁵¹ Retrenchment even added one new problem, the considerable drain of manhours required merely to process eleven aircraft into storage. However, by the end of August the overall in-commission rate did show a slight though definite improvement.⁵²

The storage policy was really just a beginning. For some time, in fact, officers at Holloman and at command headquarters had been thoroughly convinced that in view of the Center's maintenance difficulties it was essential to reduce the aircraft inventory, and in particular the number of aircraft types. Hence from July 1956 to January 1957 there was a net reduction of nine planes, including all of Holloman's F-86H's, and F-94B's, as well as a lone B-50A. In addition, two out of three B-50D's were lost, as a further step toward excessing all B-50 aircraft. Three new types were added in the same period, but of these the T-29 was basically similar to the C-131's already on base, the B-47 was essentially a replacement for the B-50, and the H-21 was a

replacement for the H-19, which was also slated to be phased out entirely.⁵³

The result of these measures was to cut the aircraft inventory well below the total actually needed for mission support. As Colonel Baron put it, "We're operating by the skin of our teeth,"⁵⁴ and numerous suggestions were made to the effect that the mission itself should be cut back for want of aircraft maintenance people. During a visit by General Power to Holloman in July 1956 one of his staff observed that this was the only apparent solution,⁵⁵ and Holloman was quite willing to explore it further. Colonel Richard C. Gibson, Deputy Chief of Staff for Operations, subsequently outlined a possible "Aircraft Support Austerity Program" that among other things would cancel Project Crossbow and eliminate all drone fighter escort. Later still, a letter signed by General Davis recommended outright the elimination of Rascal Project--which Holloman officials were anxious to abandon on other grounds as well--and redirection and/or reduction of several others as a means of lightening the air support workload.⁵⁶

The campaign to reduce aircraft numbers and types led General Davis to suspend Holloman's earlier request for a VC-54 especially for use of the commanding officer,⁵⁷ and it caused a reconsideration of bailment agreements specifying full or partial base maintenance of bailed aircraft. Holloman officials

objected to the action of Air Materiel Command in extending the 75% base-maintenance clause in Lockheed's B-29 bailment contract "without ascertaining our present maintenance capability," and also in bailing a C-45 to the Martin Company for use on the Army's Lacrosse Project at White Sands. In the latter case, as it finally turned out, the plane was not technically bailed but rather loaned to the Army for use by Martin; even so, Holloman was expected to provide maintenance, at the same time as the Center was grounding and then excessing all three of its own C-45's. However, Holloman protests did have some effect: in the end arrangements were made for maintenance by Martin employees, with "very limited field maintenance support" from Holloman.⁵⁸ Similarly Lockheed, which had been using B-50's as well as B-29's with partial base maintenance, began building up its own maintenance capabilities in preparation for the day when Holloman would finally succeed in divesting itself of responsibility for either type.⁵⁹

Fortunately, the measures adopted or considered for improving the maintenance situation were not solely designed to cut back Center activities. Impelled in part, at least, by the sudden storage of eleven aircraft on 1 August, command headquarters granted the first substantial increase in maintenance manpower spaces since the shortage became critical. In September 1956 six additional airman spaces were granted outright by the command,

and eighty-four more were provided indirectly from Home Front conversions--i.e., new civilian spaces were created to replace eighty-four airmen elsewhere at Holloman, releasing that number of military spaces for maintenance activity. Thanks to these and other changes, including reshuffling of local resources, the total spaces authorized in the Field Maintenance Squadron rose from 354 in June 1956 to 487 in January 1957, and the persons actually assigned from 409 to 466. These figures indicate, to be sure, that assignments did not keep pace with authorizations. Nor were the latter sufficient even now according to command ⁶⁰manning standards.

Command headquarters had hoped at first to make still more ⁶¹spaces available. However, this hope was soon abandoned, and instead command headquarters urged Holloman more and more forcefully to consider contract maintenance as a way out. ⁶²The suggestion appeared attractive at first glance, since funds with which to pay a private contractor were readily obtainable while funds and manpower to do the same job properly with Air Force resources were not. This possibility had been mentioned occasionally by command officials before, and had been the subject of a serious study begun at Holloman late in 1955, when various private parties were invited to prepare rough estimates of what they would charge to provide maintenance on a contractual basis. Six separate estimates were received. Nothing further was done

at the time, but on 1 November 1956. General Davis did request authority, in general terms, to "employ contractual services of one qualified firm to perform pre-flight, post-flight, periodic and field maintenance, exclusive of shop support ... on all assigned aircraft and subsequent gradual integration of test aircraft [i.e., including those currently bailed] into this centralized maintenance concept."⁶³

What General Davis had in mind in the last part of this proposal was that bailment to the various mission contractors should be largely discontinued, all aircraft normally flown by Air Force pilots, and all maintained by a single maintenance contractor. The Air Force would thus be relieved of paying for the duplicate maintenance facilities currently operated by different contractor companies; it would also cease paying for contractor pilots who sometimes flew as little as once a week yet collected full pay the year around.⁶⁴ Even without the "integration" of bailed aircraft--which could be counted on to arouse considerable opposition among the companies not using them--a maintenance contractor would have the advantage of immunity both from levies for overseas service and from sudden hiring freezes of the sort so annoyingly common in Civil Service. Finally, although civilian mechanics were not as scarce at the present time as they had sometimes been earlier, a maintenance contractor (like the contractor companies already

operating at Holloman) would be able to attract more and better-qualified applicants by holding out the possibility of incentive and dislocation pay and other extras that Civil Service could not give.⁶⁵

Unfortunately, all these extras would constitute a major additional expense on aircraft now maintained by the base. It was even taken for granted that this added expense would more than outweigh any savings on other aircraft that might be effected by including them in a "centralized maintenance concept" as proposed by General Davis. Some bailment contractors were now paying aircraft mechanics as much as \$10 a day over and above their basic wage scale.⁶⁶ A single maintenance contractor, thanks to his monopolistic hiring position, presumably would not pay as much, but he could be expected to offer more than Civil Service, and far more than military wages. He would be easily tempted, like many of the present bailment contractors, to establish a more lavish organization than was really needed and pass the cost along to the government. He would also want a comfortable profit for himself. Cost, therefore, was the main objection raised against contract maintenance. The belief that it was necessary to preserve Air Force technical skills posed still another objection, and it was thus with considerable misgivings that General Davis asked authority to contract for aircraft maintenance in November 1956. Indeed Holloman was

frankly hoping that this would be done only as a last resort; and even after Air Research and Development Command clearly indicated that it would approve any reasonable contractual arrangements, Holloman officials were reluctant to take the final plunge. Colonel Gregorio P. Martinez, Jr., Deputy Chief of Staff for Materiel, was willing to go ahead, but among his fellow officers there were many who basically preferred stalling for time. One compromise proposal was to contract for only the maintenance on newly-assigned aircraft.⁶⁷ Such an arrangement did not appeal to command headquarters, although it might conceivably be tied in with still another proposal that was receiving separate study from both Holloman and Air Materiel Command, the final authority on bailed aircraft: namely, to set up a central maintenance pool in the hands of a single contractor for all bailed planes at Holloman, but without necessarily ending the control of the present bailment contractors over them. Such a scheme would affect base-assigned planes only if some were added to the pool by special agreement, but it could save great sums of money for the Air Force, and it was under very serious consideration as of June 1957.⁶⁸

The policy of stalling on contract maintenance was justified, up to a point, by some remarkable signs of improved effectiveness in the 6580th Field Maintenance Squadron, which resulted in turn from a thorough reorganization of that unit

begun back in September 1956. It was generally agreed, in fact, that poor performance in the maintenance area had been due at least in part to poor management and inefficient organization. The vague functional relationship among different sections of the squadron and lack of clearly defined lines of authority meant that workers were being approached for job assignments by several different supervisors and even by outside agencies. They might be pulled off one job before it was finished in order to accomplish another, less important task. The overall result was a certain amount of confusion, which aggravated (and was aggravated by) a related condition of low morale. There were honorable exceptions, yet a standard complaint was that the maintenance organization all too often lacked a sufficient sense of urgency to keep right on working on a plane until it was ready to fly the next day. Not even a full eight-hour day was being turned in according to some accounts, with workers putting up their tools ahead of time for lack of both proper "motivation" and adequate supervision.⁶⁹

The first step toward a radical reform of these conditions was the appointment of Lieutenant Colonel William F. Haizlip, as of 1 September 1956, to command the 6580th Field Maintenance Squadron. This assignment was in addition to Colonel Haizlip's normal duties as Holloman's Inspector General, and was for the express purpose of carrying out a needed reorganization.

Colonel Haizlip sought first and foremost to streamline the arrangement of sections and subsections within the squadron, eliminating duplicate functions in some cases and in others defining with more precision the mission of a particular unit. For instance, periodic inspections were henceforth entrusted to separate docks that were to do nothing else, whereas previously there had been no one section responsible and mechanics might be unpredictably drawn in from almost anywhere to lend a hand. To make sure that his reforms were being effectively carried out, Colonel Haizlip held weekly meetings with both his staff officers and senior non-commissioned officers. In addition, he ordered the first tool crib inventory in four years; and to tie the various units more closely and quickly together, he had a PBX telephone switchboard set up especially for the Field Maintenance Squadron. This last measure allowed instructions to be dispatched without first waiting for an extension of the overburdened base telephone service to become available. A direct line from the new maintenance switchboard to the flight operations building was a further help in giving immediate attention to minor difficulties that developed just before a mission takeoff.⁷⁰

The effect of these and other changes could be seen in the reduction of periodic inspection time from an average of ten or twelve working days to an average of five or six. The overall

in-commission rate rose from 34.2 in August to an acceptable 62.1 in December. Naturally all such improvements were also due in large part to the increase in squadron personnel and reduction of the aircraft inventory; but the work accomplished by Colonel Haizlip was enough to earn him a Commendation Ribbon after he stepped down from command of the squadron on 2 January 1957.⁷¹ There was still much to be done, and fortunately the work of reform did not stop on 2 January. It continued under the new regime of Major Hubert S. Williams as squadron commander and Captain (soon Major) Freddy L. Steadman as Maintenance Control Officer. Periodic inspections were speeded up still further by an improved scheduling system; a Tire Shop was set up in order to have a stock of built-up tires always on hand for all assigned aircraft, cutting the down-time due to delays in repairing tires by about 40 per cent; and the first steps were taken toward obtaining jet engine minor repair and test facilities for the Field Maintenance Squadron. In order to fulfill a long-felt requirement for greater supervision and coordination of the maintenance function at Center staff level, Captain Arthur G. Miller took on the duties of Staff Maintenance Officer, in the office of the Deputy Chief of Staff for Materiel. And the in-commission rate continued to rise, over the December level.⁷² , on the December level.

Flying Safety

Closely connected with the rash of maintenance difficulties that beset Holloman was a very poor showing in flying safety. This situation had developed gradually. The accident rate for the entire first half of 1953 was zero, but it rose sharply in the third quarter. In 1954 the accident rate was slightly--and in 1955 very definitely--above that of the command as a whole. Then, in 1956 (with seven reported accidents, all major), the accident rate per 100,000 flying hours was 62.3, giving Holloman undisputed possession of last place in Air Research and Development Command. The rate for "avoidable" accidents only was 26.7. The number of nonreportable "incidents" was exceptionally high, and the need for some radical improvement was thus dramatized in much the same way as the storing of eleven aircraft called attention to the Center's maintenance problem.⁷³ It should be noted, however, that this poor showing in flying safety was based on flying done by the Center itself rather than by tenant units or mission contractors. Army aviation at Holloman flew roughly the same number of hours as the Center in 1956 with no accident at all; and the 3225th Drone Squadron, though it had some fairly serious trouble when first getting started, has built up a generally excellent record in recent years.⁷⁴ To be sure, there is one variety of "accident" affecting the Drone Squadron

that the squadron has no control over and thus cannot properly be charged against its flying safety performance: namely, when a project schedules a near miss in order to save a drone for further use and hits it broadside by mistake.

Some of the accidents, incidents, and related troubles affecting base-assigned aircraft are also due, in part at least, to the peculiar conditions of test operation. In 1953 an F-86 was damaged in flight by the explosion of a violet smoke cannister attached to the plane's wing,⁷⁵ while in September 1956 a Holloman H-19 landing on the range beside a missile impact point accidentally inflated the missile parachute, which in turn struck the rotor blades and did serious damage to the plane although not to either pilot or crew.⁷⁶ Balloon missions take Holloman aircraft into out-of-the-way and often hazardous locations: much the worst accident of recent years was the crash of an L-20 into an Arizona mountainside killing all three persons aboard, which occurred on a balloon chase in 1955.⁷⁷ And certainly the most bizarre accident was on a balloon mission, on 7 December 1956, when another Holloman L-20 collided with an automobile while taking off from a New Mexico highway.⁷⁸ And yet the Holloman mission has never been the primary factor in determining the accident rate. There are hazards in other operations too; and at one point it was brought out that in Air Research and Development Command as

a whole "personnel error" in accidents had been far more frequent during combat readiness training than in mission flying.⁷⁹ It is also interesting to note that whereas on one occasion a B-50 launch aircraft was seriously damaged by a missile explosion on the ground during pre-launch preparations, some time later a missile attached to an airborne B-50 caught fire prior to launch and the pilot still brought the plane back undamaged, with missile attached.⁸⁰ This appears to suggest that many of the special hazards that do exist can be successfully offset by pilot skill--just as the H-19/parachute and L-20/automobile accidents noted above are attributable in considerable part precisely to error in pilot judgment.⁸¹

The maintenance difficulties already described were naturally another contributing factor. This point was made both by General Davis and by Major Raymond V. Latham, Chief of the Flying Safety Branch at command headquarters; and it was not merely aircraft maintenance that was faulty, since one cause of a rash of blown tires on Holloman aircraft was the littered condition of Holloman runways.⁸² Then, too, part of the trouble may have been plain bad luck. It just happened, for instance, that the first two times an F-100 turbine blade broke off it had to be at Holloman; yet a special F-100 survey team from Air Force flying safety headquarters at Norton Air Force Base could find nothing in what Holloman was

doing with its F-100's that would have caused the turbine blade mishaps.⁸³ Finally, one source of trouble at Holloman was probably a lack of sufficient emphasis placed upon flying safety. There is conceivably some significance in the fact that during July-September 1956, when Holloman was having three major accidents with base-assigned aircraft and untold "incidents," the attendance at flying safety meetings was 61%, apparently the lowest figure on record.⁸⁴

Whatever the precise causes of Holloman's flying safety record, that record was bad enough to call for energetic action. The L-20 and automobile crash above all attracted attention to the problem, not only because the accident was so unusual in itself but also because of the controversy resulting from indications that supervisory error had played a part--i.e., failure to lay down clear instructions in advance for the type of situation that the pilot faced.⁸⁵ However, the reaction really started even before this one famous accident. The officer primarily in charge of carrying out needed reforms was Captain Jack H. Patterson, a helicopter pilot, who took over the Flying Safety Office provisionally on 1 October 1956 and permanently from 1 November 1956 until 22 April 1957. And the Center's desire to emphasize flying safety was clearly indicated by an organizational change, as of 20 December 1956, shifting the Flying Safety

Office from Air Base Group to Center staff level. Henceforth it was administratively attached to the Operations Division of the Deputy Chief of Staff for Operations, but with the special privilege of free access at all times to the Deputy Center Commander, Colonel Hubert S. Judy, Jr.⁸⁶ The organizational move--which had long been recommended by higher headquarters⁸⁷--was accompanied by a physical move, from the base operations building to Center headquarters. Both moves gave the Flying Safety Officer greater independence in making recommendations and greater prestige for seeing them carried out.

Captain Patterson managed to revitalize the Flight Safety Council, which was required to meet regularly by command regulations but in practice had held its first meeting on 26 July 1956 and then had not met again. It is now meeting every month, with representatives from every unit directly concerned with flying safety problems (such as Hospital, Drone Squadron, Air Installations). Over and above these meetings, General Davis on his own initiative began a series of more or less informal weekly conferences, with higher-ranking officers primarily, to discuss long-range problems influencing flying safety. Captain Patterson also instituted regular meetings with the civilian pilots flying for the mission contractor companies, in order to coordinate

their activities more closely with those of Air Force pilots and to draw on their accumulated experience for the benefit of all flight operations at Holloman.⁸⁸

One amusing--but effective--aspect of the new emphasis on flying safety was the posting of Flying Safety magazine as reading matter in the officers' lavatory at Center headquarters, on the special initiative of Captain Patterson. Another aspect was the introduction of monthly flying safety awards as a means of granting positive recognition to superior flying instead of merely reprimanding deficiencies. Finally, certain additions have been made to base facilities for the sake of increasing flying safety, such as new crash barriers and jet runway overruns. All these measures taken together brought a distinct improvement: in the first five months of 1957 Holloman had not one reportable accident, nor even an "incident," despite a definite increase in flying time.⁸⁹ That record was finally spoiled in June; but at least the worst is past.

Pilot Strength

Although pilot strength has never been an air support problem in quite the same way as maintenance and flying safety, with the growth of flight operations in recent years it can no longer be taken for granted. The Air Force Sidewinder program, for instance, which was wholly operated by the Air Force itself and thus used

no contractor pilots, was handicapped by a shortage of project officer pilots who were both qualified to fly century-series jets and qualified to monitor the program as it developed at Holloman and China Lake.⁹⁰ Moreover, as of mid-April 1957 the Bomber-Cargo Section of Flight Test Division was left with no assigned duty pilots as compared with an authorized total of seven. This was less serious than the same condition would have been in the Jet Flight Section, as it was easier to recruit bomber-cargo pilots from among the non-duty pilots stationed at Holloman. But with more mission flying requiring jet than non-jet aircraft, the seven jet duty pilots (out of nine then authorized) were distinctly overburdened.⁹¹ On a slightly different level, when a new H-21B was recently assigned to Holloman it was necessary to borrow a crew from Air Force Special Weapons Center to pick it up from Middletown Air Materiel Area, since Holloman was momentarily down to only one helicopter pilot--the same Captain Patterson who was also serving as Flying Safety Officer.⁹²

One factor that made it more difficult to take full advantage of pilots present at Holloman, whether duty or non-duty, was inadequate training facilities. In the first quarter of 1957, with one of the Center's two T-33's away for depot inspection and repair, Holloman had a jet pilot to jet trainer ratio of fifty-to-one, as against a desired ratio of ten- or eight-to-one. This was only one example of a shortage of trainer aircraft that

has been a constant source of complaint, while the fact that Holloman possessed only one operator for its two Link trainers made it difficult for pilots to obtain the required amount of instrument training.⁹³

There was a direct connection between the maintenance problem from which Holloman had suffered and at least some aspects of the training problem. For instance, the notoriously poor in-commission rate of F-100 aircraft in the early days of that one type at Holloman was an obvious handicap in checking out pilots to fly it.⁹⁴ Similarly, although two RF-80C's were promised to Holloman in May 1956 for combat readiness training, they had to be given to another Center instead since Holloman's maintenance difficulties made it doubtful they could be kept in flyable status. Only in the second quarter of 1957, when the maintenance situation was already much improved, were two TF-80's actually delivered for this purpose.⁹⁵ There may also have been, conceivably, some connection between the inadequacies of the training program and Holloman's poor flying safety record through the end of 1956. In any case, it is clear that while pilot strength and pilot training never became truly critical at Holloman, there has often been (and there still is) room for improvement.

Administrative Weaknesses

Something has been said already concerning defects in

organization within the various units concerned with air support, and the steps taken to remedy those defects. However, a broader problem area--and one in which remedies are generally harder to find and carry out--is that of poor coordination and/or cooperation among the various units themselves. Many of the loudest complaints over the quality of air support have in fact centered upon the seemingly excessive number of agencies that share responsibilities in this area, and the apparent misunderstandings and failures of communication that occur among them. Such complaints have come from outside observers, including staff visitors from command headquarters,⁹⁶ as well as from the users of air support services.

A Navy spokesman at White Sands Proving Ground complains that he must see twelve or more people at Holloman to obtain action on a single request, e.g., for a chaff dispenser on a Drone Squadron B-17. He adds that everyone is anxious to help, and usually in the end a good job is turned out; but he would much prefer to deal with a single agency on all air support matters. One solution is sometimes to go direct to the lower-echelon personnel who will do the actual work, but in such a case higher-echelon feelings may get hurt.⁹⁷ An Army range official, in a similar vein, complains that conflicting lists of aircraft in commission have been submitted on the same day to the Air Force scheduling officer at Holloman; that a mission has even been cancelled because the driver of a fuel truck was eating lunch when he should have been

servicing the mission aircraft; and so forth. A certain number of such human errors are inevitable, but the official in question feels they would be less common if a single person possessed final responsibility for all air support operations and had either to assure maximum performance from everyone else or tell the reason why.⁹⁸

Air Force officers at Holloman have also complained of poor coordination. Colonel Baron, head of the Flight Test Division, reports that he has taken off to give photo coverage for the F-102 Project only to discover once he was airborne that the contractor company (Convair) had sent up one of its own pilots to do the same.⁹⁹ On another occasion, 30 August 1956, Colonel Baron got ready to fly support on a Falcon mission, sat in the cockpit for twenty minutes past scheduled takeoff, and then was informed that the project [bailed] aircraft "had just landed" from a previous flight. He quite naturally concluded that project and range operations personnel in the Directorate of Aircraft Missile Test must have known in advance that the mission would be delayed and could just as well have told him earlier. In Colonel Baron's words, "Not meeting the scheduled take-offs is a daily habit, but today was the straw that broke the camel's back...."¹⁰⁰ He further implied that the project had not even intended to meet its assigned schedule--a charge heatedly denied by Colonel Leonidas Baker, head of the Directorate of Aircraft Missile Test.

Colonel Baker might also have pointed out that Mission Control, the particular sub-unit of his Directorate's Operations and Plans Office that could have saved Colonel Baron from mounting the cockpit when he did, was currently understaffed.¹⁰¹

One of Colonel Baker's favorite suggestions for improving coordination between his own organization and Flight Test Division has been for pilots to become better acquainted with the complexities of the projects for which they fly. He would actually prefer to see Air Force project officers assigned to his Directorate do more of the support flying for their own projects; and, short of this ideal solution, has repeatedly urged the Flight Test Division's duty pilots to pay more attention to pre-mission briefings.

Yet briefings have been another sore point between Division and Directorate. Colonel Baron not only doubts the wisdom of project officers regularly flying support for their own projects, but considers briefings all too often a mere waste of time. Indeed, no one denies that a pilot can sometimes learn all he needs to know without attending, and that it would be physically impossible, for lack of time, for all pilots to attend all briefings. The question is simply where to draw the line, and so far the only thing everyone agrees on is that the present system is unsatisfactory. A third party, Deputy Chief of Staff for Operations Colonel Richard C. Gibson, has aptly described

present pilot briefings as consisting of "numerous individual communications passing out third-hand and incomplete information."¹⁰² The system is especially unsatisfactory when for some reason there is a later change made in the original requirements. In such a case the pilot may well find himself airborne without pressure suit on a mission supposed to exceed 50,000 feet, or otherwise unable to do the job expected.¹⁰³

The occasionally strained relations between Flight Test Division and Directorate of Aircraft Missile Test have their parallels in difficulties that have arisen between Flight Test Division and the 6580th Field Maintenance Squadron, or between Field Maintenance and Base Supply. Even with a sincere desire to cooperate on the part of all concerned, it will be impossible at times to understand one another's problems, and there is no one officer who can hand down a decision binding on everyone save the Center Commander himself, who normally would not be expected to monitor daily operations.

However, some improvements in coordination have been effected over the past year simply by the institution of daily (rather than weekly) mission scheduling, which involves a complete rechecking of everyone's capabilities and intentions just a day before the mission itself, and by the publication of daily mission summary reports, which make it easier to define responsibility for failures. Past experience had shown that constant

pestering to find the cause of mission delays and cancellations is a salutary influence, but this policy has not always been consistently followed through.¹⁰⁴

For a long-range solution some officials have favored the creation of a single organization at Holloman, paralleling the Integrated Range Mission at White Sands Proving Ground, with final control over all operations directly affecting air support. The head of such an agency would command flight operations, organisational maintenance, mission control, the Air Force role in range scheduling, and possibly also such specialized functions as the preparation and servicing of parachute targets. The Drone Squadron would obviously need liaison representation.¹⁰⁴ There is at present no intention to undertake anything quite so drastic, but a somewhat reduced version of the same scheme has received approval of the Center Commander, General Davis, and will apparently be attempted.

The present plan is to give the Flight Test Division its own organisational maintenance capability for test support aircraft--just as the Air Support Squadron had formerly--and then move it organisationally and physically to Holloman's "West Area" to become a part of the Directorate of Aircraft Missile Test. The combination of these three elements offers certain obvious advantages. Scheduling and briefing problems should be simplified, with duty pilots, project officers, and range

operations people all located close together and belonging to the same Directorate. It will be easier to cross-train Air Force officers in both missile and aircraft specialties, and with organizational maintenance under the same head as flight operations there will be less excuse than ever for misunderstandings as to in-commission status or job priorities. The Field Maintenance Squadron, on its part, can again become basically what its name implies, although it will still perform organizational maintenance for non-test aircraft.¹⁰⁵

The main disadvantage of the proposed arrangements is that they would be more costly. There would actually be a small saving in aviation fuel, since the "West Area" is closer to the main jet runway and less taxiing would be required, but additional facilities must be provided on the west side of the present airfield, and more personnel will be needed, chiefly in the maintenance area. These drawbacks are enough to insure that implementation of the proposal will be gradual, extending over a year or more. It has not yet even started, pending completion of detailed plans by the Plans and Programs Division of the Deputy Chief of Staff for Operations.¹⁰⁶

The Present Outlook

Even without the pending move of Flight Test Division, measures already taken have brought a decided improvement in the

air support picture. With few if any exceptions, Army, Navy, and Air Force spokesmen agree that air support, after hitting bottom in the second half of 1956 has been getting steadily better.¹⁰⁷ With range missions and flying time at a high rate, with aircraft maintenance satisfactory or better, and with flying safety distinctly improved thus far in 1957 over the previous year, the number one problem facing the integrated range is no longer air support but range instrumentation.

To be sure, there is still ample room for improvement, and there are likely to be new problems constantly arising. As already noted, Holloman was prepared well in advance for the arrival of its first F-104, but there is no guarantee that the ultimate changeover from F-100 to F-104 or F-101 as basic chase aircraft may not bring a rash of special problems just as did the advent of the F-100. For one thing, both F-104's and F-101's require more maintenance spaces per aircraft than the F-100, and maintenance spaces are still hard to get.¹⁰⁸ Then, too, the first B-52 is tentatively scheduled to start work at Holloman later in the year, and though it would be bailed to a contractor for operation and maintenance, Holloman runways and taxiways must still be improved if it is to operate to best advantage.¹⁰⁹

The trend toward increasing use of the north end of the integrated range has also compelled Holloman officials to

consider basing at least a few recovery aircraft at uprange airstrips and establishing daily personnel flights to the planned uprange control center, in view of the "enormous loss of valuable technical manpower if slow surface transportation were employed."¹¹⁰ This is one reason why Holloman welcomed feelers from White Sands on the possibility of the Army reassuming control of Condon Field, for Holloman might then concentrate on improving the auxiliary airstrips uprange.¹¹¹ Thought has also been given to ways of increasing the year-round use of the range; with additional runway lighting, radar surveillance, and the like, missions could be flown twenty-four hours a day, without regard to weather. Such measures are out of the question for the moment, because of limited funds and manpower, but they are perfectly feasible, and if adopted would have an obvious impact on the scale of air support operations.

However, the immediate problem is simply to maintain the present level of air support and continue improving its quality little by little. This requires constant attention to all the factors that affect support flying--maintenance, parts supply, flight safety, scheduling, and the rest--since past experience has shown that innumerable things can go wrong in all these areas. As experience has also shown, things sometimes appear to go wrong in all areas at once; and there

obviously is no single cure for all the problems that can befall so complex an operation as Holloman air support. There is in fact no complete cure for any one problem taken separately, so long as human beings remain fallible. Even so, the worst troubles that have occurred can be attributed in large part to the unusually rapid growth in air operations that took place during 1954-56. That Holloman suffered from growing pains in this period was only to be expected, and not merely in air support. By the same token, with growth now proceeding at a somewhat calmer pace, one may confidently expect the worst is over. Certainly the history of air support at Holloman since 1946 is, on the whole, a history of very great and significant service rendered; and if another period of breakneck expansion should come upon Holloman in the future, the lessons of past difficulties may be of some help in keeping the very same failures from occurring again.

NOTES

CHAPTER III

- 1.. Ltr., Brig. (now Maj.) Gen. Leighton I. Davis, Cmdr., HADC, to Cmdr., ARDC, subj.: "Special Report on Test Support Aircraft," 10 February 1955.
2. Lt. Col. Anthony J. Mony, Operations Research Office, HADC, "Report on Air Support Operations," 1955, p. 2, Tab B.
3. DCS/O, Operations Division, "Historical Data ... 1 September 1955 through 31 October 1955."
4. Cf. memo, Maj. John J. Anderson, Chief, Operations Division, to DCS/O, subj.: "Operations Research Report," n.d. but about October 1955.
5. Recovery Systems Division, HADC, "Semi-annual Progress Report," 9 January 1956.
6. Ltr., Col. Richard C. Gibson, DCS/O, HADC, to Cmdr., ARDC, subj.: "Aircraft Maintenance Problems at HADC," 9 November 1956, incl. 3.
7. Ltr., Gen. Davis to Cmdr., ARDC, subj.: "Contractual Services for Aircraft Maintenance," 1 November 1956, incl. 3.
8. Recovery Systems Branch, HADC, "Historical Data ... 1 October - 31 December 1956."
9. Ltrs., Lt. Col. James P. Hamill, Chief, Ordnance Mission, WSPG, to Cmdr., HADC, subj.: "Non-availability of Drone Support," 10 September 1956 and 4 March 1957. Yet the same Drone Squadron received nothing but praise from Dr. Anthony J. Wilk, an Army technician representing the Range Instrumentation Development Division of Integrated Range Mission. He regretted there were not more drones, to supply tracking missions of the various types needed by his organization, but stressed the consistently high quality of service received (interview, Dr. Wilk by Dr. David Bushnell, HADC Historian, 9 April 1957).

10. 1st ind. by Col. Gibson, to basic ltr., Col. Hamill to Cmdr., HADC, subj.: "Nonavailability of Drone Support," 19 October 1956.
11. DFs, Maj. James E. Knight, Operations Officer, 3225th Drone Sq., to Maj. Anderson, subj.: "Drone Support," 7 December 1956 and 3 January 1957; 1st ind., Hq., HADC, to CG, WSPG, to basic ltr., Col. Hamill to Cmdr., HADC, subj.: "Nonavailability of Drone Support," 10 September 1956; DF, Col. Gibson to Dir. of Aircraft Missile Test, subj.: "Drone Support," 1 November 1956.
12. Operations Division, "Historical Data ... 1 January 1957 through 31 March 1957." Persons in the Nike project office at White Sands had no idea why such confusion should have existed at higher echelons.
13. Interview, Mr. G. Harry Stine, General Engineer, NOMTF, WSPG, by Dr. Bushnell, 26 March 1957; interview, Cmdr. T. C. Buell, Executive Officer, NOMTF, WSPG, by Dr. Bushnell, 29 April 1957. Commander Buell did observe (probably with slight exaggeration) that drones were "always late," but this was not the primary air support problem in his opinion.
14. Memo, Cmdr. Buell to Lt. Col. Wilbur D. Pritchard, Deputy for AF, IRM, WSPG, subj.: [Air Support], 17 September 1956.
15. Memo, Mr. Stewart Bean to Cmdr. Buell, subj.: "Pogo Low Aircraft Scheduling Difficulties 12/21/56," 21 December 1956.
16. Interviews, Mr. Stine by Dr. Bushnell, 19 and 26 March, 20 April 1957.
17. Interview, Mr. F. D. Moore, Chief, Range Facilities Control Office, WSPG, by Dr. Bushnell, 21 March 1957; interview, Mr. Samuel R. Cooper, Chief, Scheduling Section, Systems Test Division, WSPG, by Dr. Bushnell, 20 April 1957; and interviews with other WSPG personnel cited above.
18. Memo, Col. B. R. Inczak, Chief, IRM, WSPG, subj.: "Summarized Operations Log of the IRM for the Month of December 1956," 7 January 1957.
19. Operations and Plans Division, Dir. of Aircraft Missile Test, "Historical Data ... 1 October - 31 December 1956."
20. Operations Division, "Historical Data ... 1 January 1957 through 31 March 1957."

21. Interview, Maj. David G. Simons, Chief, HADC Space Biology Laboratory, 4 May 1957.
22. DF, Col. John P. Stapp, Chief, Aero Medical Field Laboratory, to Col. Thomas C. Kelly, Cmdr., HAFB, subj.: "Request for Aircraft," 25 January 1957, and Comment 2 to the same by Col. Gibson, 5 February 1957.
23. 2nd ind., Col. Gibson to CO, NOMTF, WSPG, 26 October 1956, to basic ltr., Col. Gibson to Cmdr., ARDC, subj.: "F-100C Aircraft Support for Pogo-Lo Target Development," 2 October 1956; ARDC Reference Book, 31 October 1956.
24. Ltr., Gen. Davis to Cmdr., ARDC, subj.: "Reduction of Aircraft Inventory," 4 March 1957.
25. Interview, Lt. Col. Pritchard by Dr. Bushnell, 21 March 1957; interview, Lt. Col. Baron by Dr. Bushnell, 22 April 1957.
26. Ltr., Gen. Davis to Cmdr., ARDC, subj.: "Reduction of the Aircraft Inventory," 4 March 1957.
27. DCS/O, HADC, Operations Policy Guidance Number 1, 3 January 1957; interview, Maj. Archer W. Kinny, Jr., Asst. Dep. Dir. of Aircraft Missile Test, by Dr. Bushnell, 19 March 1957.
28. Interview, Lt. James M. Shoemaker, Historical Officer, 3225th Drone Sq., by Dr. Bushnell, 20 March 1957.
29. Chart in "C.O. Notebook F.Y. '53," in HADC Historical Archives. The chart does not specify whether both test and non-test aircraft are used as a basis; presumably both categories are used.
30. ARDC Reference Book, passim.
31. HADC Reference Book, 11 June 1956, p. 14.
32. ARDC Reference Book, 31 August 1956.
33. Lt. Col. Mony, "Report on Air Support Operations," p. 2-5, Tab L; ltr., Col. Otto R. Haney, DCS/O, HADC, to Cmdr., ARDC, subj.: "Request for F-100 Type Aircraft," 29 December 1955, Appendix F, subj.: "F-100C Supply Support Requirements."

34. Interview, Lt. Col. Baron by Dr. Bushnell, 22 April 1957; DF, Lt. Col. Baron to Col. Kelly and Col. Gibson in turn, subj.: "F-100 Support," 26 March 1957.
35. See ARDC Reference Book, passim.
36. Interview, Capt. Arthur G. Miller, Staff Maintenance Officer, by Dr. Bushnell, 8 April 1957.
37. HADC Reference Book, passim; ARDC Reference Book, July 1954 to June 1955.
38. Interview, Capt. Robert L. Hardie, Accountable Supply Officer, by Dr. Bushnell, 29 May 1957; HADC Reference Book, December 1954, p. 50; Lt. Col. Mony, "Report on Air Support Operations," p. 6.
39. HADC Reference Book, 11 June 1956, p. 14; ltr., Col. Haney to Cmdr., ARDC, subj.: "Request for Aircraft," 26 January 1956; circular DF, Lt. Eugene A. Prince, Asst. Chief of Transportation, subj.: "Scheduled Domestic Flights by Military Aircraft," 23 April 1956; DF, M/Sgt. James W. Hall, Chief, Priority and Special Projects, 6580th Supply Sq., to HDBV [? identity not certain], subj.: "Justification for Log-Air Feeder Service," 24 April 1956; telephone interview, Capt. Hardie by Dr. Bushnell, 23 April 1957.
40. DF, Base Supply Section to Cmdr., HAFB, subj.: "Accomplishment Record," 4 January 1957; interview, Capt. Hardie by Dr. Bushnell, 29 May 1957.
41. Operations Division, "Report on Aircraft Maintenance Manpower Requirements at HADC," n.d., Tab G; ltr., Col. Clarence L. Elder, DCS/O, HADC, to Cmdr., ARDC, subj.: "Manpower Requirements for Aircraft Field Maintenance," 18 November 1954, and 4th ind. to the same, Col. Elder to Cmdr., ARDC, 16 February 1955.
42. Interview, Maj. John C. May, Chief, M & O Division, HADC, by Dr. Bushnell, 12 April 1957.
43. Ltr., Mr. Harry E. Roberts, Acting Director, Dir. of M & O, ARDC, to Cmdr., HADC, subj.: "HADC Support Requirements for Project Sidewinder," 5 December 1955; 1st ind. to same, Gen. Davis to Cmdr., ARDC, 23 December 1955; interview, Maj. May by Dr. Bushnell, 12 April 1957. See also Appendix J for a list of manpower requests made by HADC.

44. Interview, Capt. Byron F. Knolle, Jr., Chief, GAM-67/Q-4 Branch, 3 April 1957; interview, Lt. Col. Ulysses W. Hess, DCS/P, HADC, 23 April 1957.
45. 4th ind., Col. Elder to Cmdr., ARDC, 16 February 1955.
46. The role of Holloman in Project Home Front, including the impact on maintenance manpower, is treated at length in Book Two of Volume I, History of Holloman Air Development Center, 1 July - 31 December 1956.
47. M & O Division, Tentative Manpower Status Report, 30 June 1956; Operations Division, "Report on Aircraft Maintenance Manpower Requirements," Tab I. The figure given in the text for requirements may not be wholly comparable with the others cited; e.g., it may include certain maintenance spaces existing outside the Field Maintenance Squadron itself. However, such discrepancies would not seriously affect the total picture.
48. Operations Division, "Historical Data ... 1 April through 30 September 1956;" ARDC Reference Book, July 1956.
49. Capt. Jacob J. Quintis, Chief, Operations and Training Branch, Operations Division, "Study on Light and Civil Aircraft Operation at HADC," draft as of March 1957.
50. Ltr., Lt. Gen. Thomas S. Power, Cmdr., ARDC, to Gen. Davis, subj.: [Current HADC Activities], n.d. but about mid-August 1956.
51. DF, Maj. Archer W. Kinny, Jr., Chief, Operations and Plans Division, Dir. of Aircraft Missile Test, to DCS/O, subj.: "Air Support," 22 August 1952.
52. DF Comment 4, Lt. Col. William F. Haizlip, Cmdr., 6580th Field Maintenance Sq., to Col. Gregorio P. Martinez, Jr., DCS/M, subj.: "Air Support," 10 September 1956.
53. Operations Division, "Historical Data ... 1 October 1956 through 31 December 1956."
54. Notes taken by Dr. Bushnell, during a conference on aircraft reduction at HADC, 1 March 1957.
55. DF, Col. Kelly to Col. Haney, DCS/O, subj.: "Maintenance Capabilities," 16 July 1956.

56. Ltr., Col. Gibson to Cmdr., ARDC, subj.: "Aircraft Maintenance Problems at HADC," 9 November 1956, incl. 2; ltr., Gen. Davis to Cmdr., ARDC, subj.: "Reduction of the Aircraft Inventory," 4 March 1957.
57. DF, Col. Hubert S. Judy, Jr., Dep. Cmdr., HADC, to DCS/O, subj.: "Commander's VC-54 Aircraft," n.d.
58. Operations Division, "Historical Data ... 1 April 1956 through 30 September 1956," and "Historical Data ... 1 January 1957 through 31 March 1957;" TWX, Cmdr., HADC, to Cmdr., ARDC, subj.: [C-45 Maintenance], November 1956.
59. Interviews, Mr. Eugene E. Crowther, Test Director, Lockheed Aircraft Corporation, by Dr. Bushnell, 2 April and 18 June 1957.
60. DF, Maj. May, to Col. Haney, Chief of Staff, HADC, and Lt. Col. Hess, DCS/P, subj.: "Manpower Authorization for Aircraft Maintenance," 6 September 1956; interview, Maj. May by Dr. Bushnell, 12 April 1957; M & O Division, Tentative Manpower Status Report, 30 June 1956 and 31 January 1957. See also Appendix J.
61. Ltr., Gen. Power to Gen. Davis, subj.: [Current HADC Activities].
62. Cf. 1st ind., Col. Wallace R. Jordan, Chief, Test Operations Division, ARDC, 17 October 1956, to basic ltr., Col. Gibson to Cmdr., ARDC, subj.: "F-100C Aircraft Support for Pogo-Lo Target Development," 3 October 1956.
63. Ltr., Gen. Davis to Cmdr., ARDC, subj.: "Contractual Services for Aircraft Maintenance," 1 November 1956. The contract maintenance possibility was also mentioned in the general letter from General Power to General Davis cited in footnote 50 and elsewhere, above.
64. As General Davis observed in his letter of 1 November, some had a "stable of pilots flying one project only."
65. Interview, Lt. Col. Hess by Dr. Bushnell, 23 April 1957; interview, Capt. Arthur G. Miller, Staff Maintenance Officer, by Dr. Bushnell, 8 April 1957.
66. DF, Capt. Orin V. Pardun, Chief, Alamogordo Air Procurement Office, to Col. Gregorio P. Martinez, Jr., DCS/M, subj.:

- "Information Relative to Contractor Bailed Aircraft, HADC," 25 March 1957. It is interesting to note that, according to Captain Pardun, some contractors were rather secretive about the exact amount they paid over and above normal wages.
67. Interview, Col. Martinez by Dr. Bushnell, 8 April 1957; memo, Maj. Anderson to L. Col. Kenneth D. Vandayburg, Asst. DCS/O, subj.: [Contract Maintenance], n.d. but about 1 March 1957; other interviews, cited above, dealing with maintenance problems.
 68. Notes taken by Dr. Bushnell, at HADC Staff Meeting, 13 June 1956.
 69. Cf. memo, Col. W. E. McCullough, Chief, Maintenance Division, Directorate of Materiel, and Col. W. O. Jackson, Jr., Director of Operations, ARDC, to Brig. Gen. K. M. Landon, Deputy Cmdr. for Resources, ARDC, subj.: "Staff Visit Report HADC," n.d. but referring to week of 19 November 1956; interview, Capt. Miller by Dr. Bushnell, 8 April 1957; interview, Lt. Col. William F. Haizlip, Inspector General, HADC, 11 March 1957. Capt. Miller, as a relatively new arrival at Holloman, spoke primarily of conditions existing at the time of interviewing; but the weaknesses he mentioned can usually be projected back, in aggravated form, to the pre-reorganization period.
 70. M & O Division, Organization and Functions, 1 June 1956 and subsequent revisions; interview, Lt. Col. Haizlip by Dr. Bushnell, 11 March 1957; memo, Col. McCullough and Col. Jackson to Gen. Landon, subj.: "Staff Visit Report HADC," 6580th Field Maintenance Sq., "Historical Data ... 1 October 1956 - 31 December 1956."
 71. See Appendix K, "Citation to Accompany the Award of the Commendation Ribbon to William F. Haizlip."
 72. 6580th Field Maintenance Sq., "Historical Data ... 1 January 1957 - 31 March 1957;" draft of citation honoring Maj. Freddy L. Steadman, prepared in Inspector General's office, HADC, May 1957; interviews, Maj. Hubert S. Williams, Cmdr., 6580th Field Maintenance Sq., by Dr. Bushnell, 13 March and 14 June 1957; interview, Capt. Miller by Dr. Bushnell, 8 April 1957; interview, Mr. Gerald Hanson, Administrative Officer, DCS/M, by Dr.

Bushnell, 18 June 1957.

73. ARDC Reference Book, passim; interview, Lt. Col. Haizlip by Dr. Bushnell, 11 March 1957; interview, Capt. Kenneth E. Harmon, Flying Safety Officer, by Dr. Bushnell, 4 June 1957.
74. Interview, Mr. William A. Stevens, Chief, Aircraft Allocations Branch, Operations Division, DCS/O, by Dr. Bushnell, 25 March 1957; DF, Lt. Col. Frank D. Sharpe, Vice Cmdr., HADC, to Col. Don R. Ostrander, Cmdr., HADC, subj.: "Aircraft Accident Prevention Program," 25 March 1953. On Army Aviation see Chapter 2, above.
75. History of Holloman Air Development Center, 1 June 1953 - 31 December 1953, pp. 33-34.
76. Flight Test Division, "Historical Data... 1 July 1956 - 30 September 1956."
77. Flight Operations Branch, "Historical Data ... 1 July 1955 thru 31 October 1955."
78. Flight Test Division, "Historical Data ... 1 October 1956 - 31 December 1956."
79. Flying Safety Division, "Historical Data ... 1 September 1954 thru 31 October 1954."
80. History of Holloman Air Development Center, 1 January 1954 - 30 June 1954, p. 41; Flying Safety Branch, "Historical Data, 1 April 1956 - 30 June 1956."
81. Interview, Lt. Col. Baron by Dr. Bushnell, 22 April 1957.
82. Messageform, Gen. Davis to Cmdr., ARDC, subj.: [Maintenance Problems], n.d.; Maj. Raymond C. Latham, Chief, Flying Safety Branch, ARDC, "Staff Visit Report," referring to period 8-16 May 1956; interview, Capt. Harley L. Grimm, Chief, F-101 Branch, by Dr. Bushnell, 10 May 1957. The major portion of Maj. Latham's report is reproduced as Appendix L.
83. Interview, Captain Jack H. Patterson, Flying Safety Officer, 19 April 1957.
84. Flying Safety Branch, "Historical Data ... 1 July 1956 - 30 September 1956."

85. Flying Safety Office files.
86. Interviews, Capt. Patterson by Dr. Bushnell, 19 April and 11 June 1957; DF, Maj. May to DCS/Comptroller, subj.: "Organizational Reassignment of Flying Safety Function," 19 December 1956.
87. Cf. Maj. Latham, "Staff Visit Report."
88. Interview, Capt. Patterson by Dr. Bushnell, 19 April 1957.
89. Interview, Capt. Patterson by Dr. Bushnell, 19 April 1957; Flight Test Division, "Historical Data ... 1 October 1956 - 31 December 1956," and "Historical Data ... 1 January 1957 - 31 March 1957;" draft of citation honoring Maj. Steadman.
90. Operations Division, "Historical Data ... 1 April 1956 thru 30 September 1956."
91. Interview, Lt. Col. Baron by Dr. Bushnell, 22 April 1957.
92. Operations Division, "Historical Data ... 1 January 1957 thru 31 March 1957."
93. Operations Division, "Historical Data ... 1 January 1957 thru 31 March 1957;" Flight Safety Council, HADC, minutes of meeting, 14 February 1957; telephone interview, Mr. Stephen Milos, Link trainer operator, by Dr. Bushnell, 5 July 1957.
94. "Pilot Training Requirements as a Result of F-100C Assignments," Appendix E to ltr., Col. Haney, DCS/O, to Cmdr., ARDC, subj.: "Request for F-100 Type Aircraft," 29 December 1955.
95. Operations Division, "Historical Data ... 1 January 1957 thru 31 March 1957;" wall chart in Aircraft Allocations Branch, Operations Division.
96. Memo, Col. McCullough and Col. Jackson to Gen. Landon, subj.: "Staff Visit Report HADC."
97. Interview, Cmdr. T. C. Buell, Executive Officer, NOMTF, WSPG, by Dr. Bushnell, 29 April 1957.
98. Interview, Mr. F. D. Moore, Chief, Range Facilities Control Office, WSPG, by Dr. Bushnell, 21 March 1957.

99. DF, Lt. Col. Baron to Maj. Anderson, subj.: "Mission Support," 28 May 1956.
100. DF, Lt. Col. Baron to Col. Leonidas Baker, Director of Aircraft Missile Test, subj.: "Delayed Take-offs," 30 August 1956.
101. Comment 2, by Col. Baker, 10 September 1956, to DF cited in previous footnote; Comment 5 [to a different document], Maj. Anderson to Gen. Davis, subj.: "Recommendation for Definition of Mission Responsibility," 5 September 1956.
102. DF Comment 4, Col. Richard C. Gibson, to Col. Baker and Col. Kelly, subj.: "Mission Briefing," 31 January 1957. Cf. Maj. Anderson's comment cited above and DF, Lt. Col. Baron to Cmdr., HAFB, and Chief of Staff, HADC, subj.: "Flight Test Direction," 17 August 1956.
103. Interview, Mr. Stine by Dr. Bushnell, 26 March 1957; interview, Lt. Col. Baron by Dr. Bushnell, 22 April 1957.
104. Interview, Maj. Kinny by Dr. Bushnell, 19 March 1957; interview, Mr. Moore by Dr. Bushnell, 21 March 1957.
105. Memo, Col. Gibson to Gen. Davis, subj.: "HADC Reorganization," n.d.; Comment 5, Maj. Anderson to Gen. Davis, subj.: "Recommendation for Definition of Mission Responsibility," 5 September 1956; interview, Maj. Kinny by Dr. Bushnell, 24 June 1957.
106. DF, Col. Baker to Gen. Davis, subj.: "Increased Range Effectiveness," 30 August 1956; Operations Division, "Historical Data ... 1 October 1956 thru 31 December 1956" and "Historical Data ... 1 January 1957 thru 31 March 1957."
107. Interview, Mr. Samuel R. Cooper, Chief, Scheduling Section, Systems Test Division, WSPG, by Dr. Bushnell, 29 April 1957; telephone interview, Mr. Stine by Dr. Bushnell, 19 March 1957; Operations and Plans Division, "Historical Data ... 1 January - 31 March 1957."
108. Ltr., Col. Gibson to Cmdr., ARDC, subj.: "Request for F-104B Type Aircraft," 31 January 1957; telephone interview, Mr. John E. Tillotson, Asst. Maintenance Control Officer, by Dr. Bushnell, 8 July 1957.
109. Operations Division, "Historical Data ... 1 October 1956

thru 31 December 1956" and "Historical Data ... 1 January 1957 thru 31 March 1957."

110. Operations Division, "Historical Data ... 1 April 1956 thru 30 September 1956" and Preliminary Staff Study, subj.: [Uprange Operations], 1956.
111. Capt. Jacob J. Quintis, "Study on Light and Civil Aircraft Operation at HADC," March 1957, and interview, by Dr. Bushnell, 2 May 1957.

GLOSSARY

-A-

AACS	Airways and Air Communications Service
AAAF	Alamogordo Army Air Field
AF	Air Force
AFAC	Air Force Armament Center
AFB	Air Force Base
AFTTC	Air Force Flight Test Center
AFMTC	Air Force Missile Test Center
AMC	Air Materiel Command
ANFE/IS	Aircraft not fully equipped/initial shortage
AOCP	Aircraft out of commission for parts
APGC	Air Proving Ground Command
ARDC	Air Research and Development Command
Asst.	Assistant

-C-

CG	Commanding General
Cmdr.	Commander
CO	Commanding Officer

-D-

DCS/C	Deputy Chief of Staff, Comptroller
DCS/M	Deputy Chief of Staff, Materiel
DCS/O	Deputy Chief of Staff, Operations

DCS/P	Deputy Chief of Staff, Personnel
Dep.	Deputy
DF	Disposition Form
Dir.	Director; Directorate
	-G-
GAM	Guided Air Missile
GAR	Guided Air Rocket
	-H-
HADC	Holloman Air Development Center, Holloman Air Force Base, New Mexico
HAFB	Holloman Air Force Base, New Mexico
Hq.	Headquarters
	-I-
Incl.	Inclosure
Ind.	Indorsement
IRM	Integrated Range Mission
	-K-
KAFB	Kirtland Air Force Base, N. Mex.
	-L-
Ltr.	Letter
	-M-
M & O	Manpower and Organization
MTW	Missile Test Wing
	-N-
n.d.	No date

GAZETTEER

Aberdeen Proving Ground

An Army Ordnance Department test installation, about twenty-five miles east of Baltimore, Maryland.

Air Force Armament Center

One of the Centers of the Air Research and Development Command. Located at Eglin Air Force Base, Florida, it is engaged in testing of armament, including fire control systems.

Air Force Flight Test Center

One of the Centers that make up Air Research and Development Command. It is physically located at Edwards Air Force Base, California, and is primarily concerned with the testing of new aircraft types.

Air Force Special Weapons Center

One of the Centers that make up Air Research and Development Command. It is located at Kirtland Air Force Base, Albuquerque, New Mexico, and is the primary Air Force agency for development of atomic weapon systems.

Alamogordo, New Mexico

The closest settlement to Holloman Air Force Base, Alamogordo is located at the edge of the Tularosa Basin, about ten miles to the east of the military installation and ninety miles north of El Paso, Texas. Founded in 1898 as a railroad water-point, it grew slowly until after the establishment of the Alamogordo Army Air Field (later renamed Holloman) in 1942. It is the county seat of Otero County and has a current population of about 18,000.

Alamogordo Army Air Field

A military installation ten miles from Alamogordo, which was founded in 1942 as a training station for bomber crews but in 1947 began a new program of guided missile development. At the start of 1948 it was renamed Holloman Air Force Base.

Albrook Air Force Base, Canal Zone

An installation along the Panama Canal which serves as headquarters for the Caribbean Air Command.

Biggs Air Force Base

A Strategic Air Command installation at El Paso, Texas.

China Lake Naval Ordnance Test Station

Naval installation, near Inyokern, California, engaged in missile-testing and other military development projects. Holloman projects have sometimes made use of China Lake test facilities, and China Lake projects have also used the Holloman-White Sands Integrated Range.

Condron Field

Small airfield, under the jurisdiction of Holloman Air Force Base but located in the vicinity of Headquarters, White Sands Proving Ground and principally serving activities at the Proving Ground.

Edwards Air Force Base

Air Research and Development Command installation, approximately seventy-five miles northeast of Los Angeles, California. It is the site of Air Force Flight Test Center.

Eglin Air Force Base

An installation at Valparaiso, Florida, where Headquarters, Air Proving Ground Command is located. The Air Force Armament Center is a tenant unit at the base.

Fort Bliss

An Army installation outside El Paso, Texas, which has direct control over military range land extending into southern New Mexico and joining the land included in the Holloman-White Sands Integrated Range.

Holloman Air Development Center

A major unit of the Air Research and Development Command, formally established in 1952 and located at Holloman Air Force Base, New Mexico. Its mission is chiefly related to guided missiles, upper atmospheric investigations, space biology, and biodynamics.

Holloman Air Force Base

Known until 1948 as Alamogordo Army Air Field, Holloman Air Force Base is located in the Tularosa Basin ten miles southwest of Alamogordo, New Mexico. It is now the location of Holloman Air Development Center.

Holloman-White Sands Integrated Range

A military testing range that occupies a major part of the Tularosa Basin. It was formed in 1952 by combining the range of Holloman Air Force Base with that of White Sands Proving Ground and part of the ranges belonging to Fort Bliss, Texas.

Kelly Air Force Base

A major installation at San Antonio, Texas. It is the site of Headquarters, San Antonio Air Materiel Area.

Langley Field

An installation whose full name is Langley Air Force Base, Hampton, Virginia. It is the site of Headquarters, Tactical Air Command.

Middletown Air Materiel Area

An air materiel area that takes in all the northeastern section

Norton Air Force Base

of the United States. Its headquarters is at Olmsted Air Force Base, Middletown, Pennsylvania.

Ogden, Utah

An installation at San Bernardino, California, which is the location of Headquarters, San Bernardino Air Materiel Area and Office, Inspector General, United States Air Force. The latter office includes the Air Force's Directorate of Flight Safety Research.

Oklahoma City Air Materiel Area

Utah's second largest city, and site of Hill Air Force Base, an Air Materiel Command installation.

Sacramento Mountains

An air materiel area that takes in, basically, the west-central states. Its headquarters is at Tinker Air Force Base, Oklahoma City.

San Antonio Air Material Area

Range of mountains constituting the eastern border of the Tularosa Basin. Their highest peak, Sierra Blanca, rises over 12,000 feet.

Tinker Air Force Base

An air materiel area that takes in the states of New Mexico, Texas, and part of Louisiana. Its headquarters is at Kelly Air Force Base, San Antonio, Texas.

Tularosa Basin

Installation at Oklahoma City, which contains the headquarters of Oklahoma City Air Materiel Area.

The northern extension of the Chihuahua Desert, this broad, flat basin was formed when the entire region sank some eight or more thousand feet along parallel geological faults running along the present San Andres and Sacramento mountain chains. Within

this basin are the Fort Bliss, Holloman Air Force Base and White Sands Proving Ground ranges. The flatness of the basin floor, the many convenient instrumentation sites on surrounding peaks, the ideal testing climate and the sparseness of population make the basin unusually valuable for military research and development programs.

West Area

One of the three principal, non-contiguous areas into which Holloman Air Force Base is divided. This three-area arrangement was adopted from the outset, according to specifications of the Royal Air Force, which was originally expected to use the base, in World War II, as a British overseas training installation. The West Area at present is the site of the three mission Directorates of Aircraft Missile Test, Ballistic Missile Test, and Research and Development.

White Sands National Monument

A recreation area, famous for its dunes of pure gypsum, in the middle of the Tularosa Basin. Operated by the National Park Service, it is wholly surrounded by the Holloman-White Sands Integrated Range.

White Sands Proving Ground

A military testing installation in the western part of the Tularosa Basin. Established by the Army in 1945, its facilities are now shared with both Navy and Air Force.

Williams Air Force Base

An Air Training Command installation outside Chandler, Arizona.

Wright Air Development Center

The largest of all the Centers in Air Research and Development

Command, located at Wright-Patterson Air Force Base, Ohio. Its research and monitoring functions touch upon virtually all aspects of the development of weapon systems.

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APPENDIX A

White Sands Proving Ground Technical Order Number 6, 7 October 1952.

APPENDIX A

White Sands Proving Ground Technical Order Number 6, 7 October 1952.

HEADQUARTERS
WHITE SANDS PROVING GROUND
LAS CRUCES, NEW MEXICO

TECHNICAL OPERATIONS ORDERS
NUMBER 6

7 October 1952

AIR SUPPORT SERVICES

1. Under the provisions of General Order No. 30, Headquarters, White Sands Proving Ground, 22 Sep 52, the Commanding Officer, Holloman Air Force Base, will assume responsibility for the operation of all air fields, aircraft and weather stations required for the integrated operation of the White Sands Proving Ground range; and, further, will assume the responsibility for the provision of such other Air Force services as may be required for guided missiles and aircraft supporting activities for the range.

2. In order for the Commanding Officer, Holloman Air Force Base, to properly assume the above responsibilities, the Commanding General, White Sands Proving Ground, will:

a. Attach all Army pilots, aircraft and aircraft maintenance personnel presently assigned to White Sands Proving Ground to Holloman Air Force Base for duty under the operational control of Commanding Officer, Holloman Air Force Base.

b. Requisition through Army channels, pilot and maintenance personnel required to operate and provide organizational maintenance for army aircraft for integrated operation of the range,

c. Provide (insofar as available through army channels), equip, train and maintain adequate crash fire-fighting and crash rescue equipment at Condon Field as determined by the Commanding Officer, Holloman Air Force Base.

d. Determine requirements and provide justification for aircraft required in support of the integrated range and/or Army and Navy project support.

e. Assist in the maintenance of Condon Field and up-range landing strips on a cross-funding basis,

3. The Commanding Officer, Holloman Air Force Base, will:

a. Operate, maintain and control all aircraft assigned to Holloman Air Force Base for the support of the Holloman Air Force Base mission.

b. Operate, maintain and control all Air Force and Army aircraft assigned for the support of the integrated range and/or Army and Navy project support.

7 October 1952

c. Provide base support as required for aircraft and supporting activities of other services for the integrated range.

d. Provide personnel and technical Air Force equipment, except as noted in paragraph 2c above, required to operate Condon Field as an auxiliary air field of Holloman Air Force Base.

e. Determine and provide support facilities requirements for Condon Field and up-range landing strips.

f. Prescribe air traffic control procedures for Holloman Air Force Base, Condon Field and the integrated range.

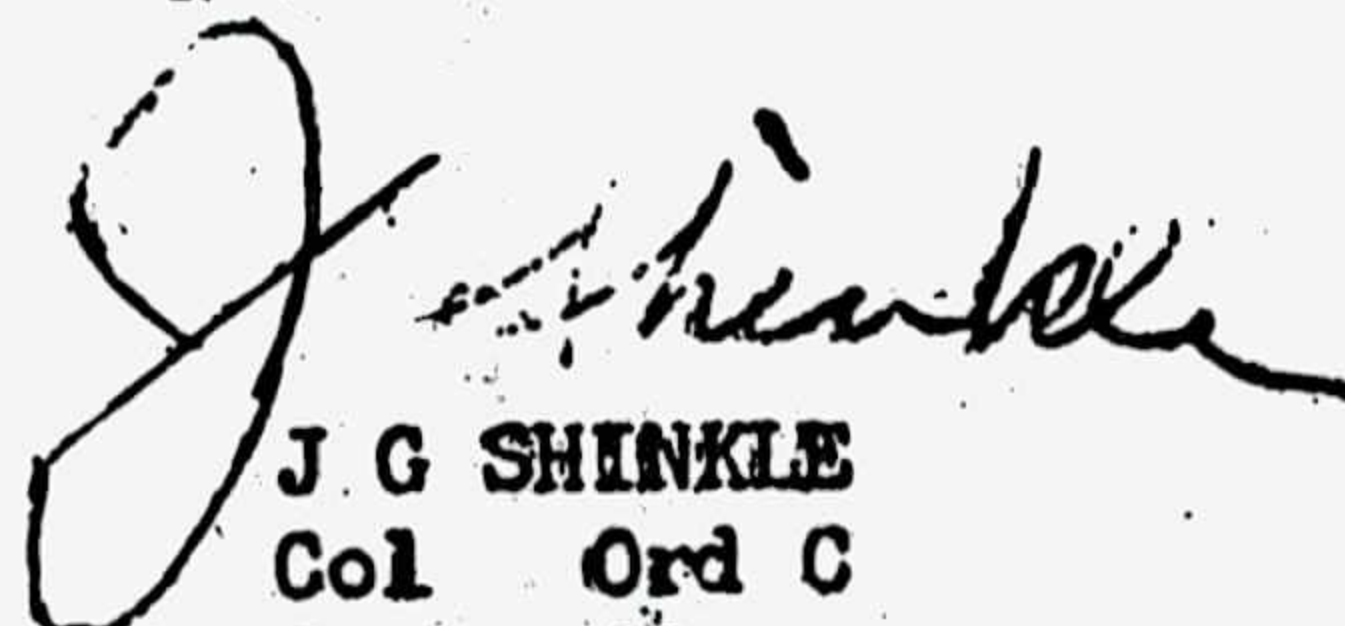
g. Accomplish the recovery of all crashed aircraft.

h. Provide for the unified handling of weather services as required for the integrated range.

4. Pending completed action to consolidate the White Sands Proving Ground - Holloman Air Force Base weather detachments, the Commanding General, White Sands Proving Ground will attach Detachment 25, Fourth Weather Group, to Holloman Air Force Base for administration and operational control.

5. Army personnel and equipment, both civilian and military, presently assigned to the operation of Condon Field, will be attached for duty and operational control to Holloman Air Force Base until they can be replaced in kind by Air Force personnel and equipment.

DISTRIBUTION: T


J. G. SHINKLE
Col Ord C
Commanding

APPENDIX B

**Joint Use Agreement, Holloman Air Development Center and
Detachment III, 9393rd Technical Service Unit, 1 September 1953.**

HEADQUARTERS
HOLLOMAN AIR DEVELOPMENT CENTER
Holloman Air Force Base, New Mexico

JOINT USE AGREEMENT*

I

GENERAL INFORMATION

1. Purpose. The purpose of this agreement is to define the responsibilities and delineate the support to be provided by Holloman Air Development Center to Detachment III, 9393rd Technical Service Unit (Ordnance) during the tenancy of Detachment III, 9393rd Technical Service Unit (Ordnance) upon Holloman Air Force Base.

2. Authority. General Order No. 37, Headquarters, White Sands Proving Ground, 16 October 1952, Subject: Organization of Detachment III, 9393rd Technical Service Unit (Ordnance) and Technical Operations Order No. 6, as amended Headquarters, White Sands Proving Ground, 7 October 1952, Subject: Air Support Services.

II

TERMS OF AGREEMENT

1. General Provisions.

a. Holloman Air Development Center will provide base support and facilities to Detachment III, 9393rd Technical Service Unit (Ordnance) as delineated in the following paragraphs. All facilities so provided will remain the property of the United States Air Force. Any fixed facilities or improvements to fixed facilities which may be provided by Detachment III, 9393rd Technical Service Unit (Ordnance) will become the property of the United States Air Force.

b. No demand will be made upon base personnel beyond that normally required during an eight (8) hour day or forty (40) hour week, except for normal operation of flying facilities, or as may be required for range support.

c. Detachment III, 9393rd Technical Service Unit (Ordnance) will comply with such Holloman Air Force Base Regulations, Policies and Standard Operating Procedures as may be directed by the Commander, Holloman Air Development Center.

* This Agreement supersedes Joint Use Agreement dated November 1952.

2. Administration and Services.

a. Holloman Air Development Center will provide normal administrative and personal services to include such services as Post Exchange, Service Club, Officers' Club, NCO Club, Housing, Communications, Medical, Postal, R & U, Ground Safety, Commissary, etc. Housing will be provided for enlisted men assigned to Detachment III, 9393rd Technical Service Unit (Ordnance). Space as deemed necessary and adequate by the Commander, Holloman Air Development Center, will be initially provided in Hangar No. 3, Building No. 291, for operations and technical services. The Commander, Holloman Air Development Center, reserves the right to transfer the living facilities of personnel assigned to Detachment III, Technical Service Unit (Ordnance) from one building to another and to change the assignment of original space provided for operations and technical services at any time, providing the transfer does not interfere with or alter the assigned mission of Detachment III, Technical Service Unit (Ordnance).

b. Holloman Air Development Center will provide messing facilities on a reimbursable basis under the provisions of AFR 172-8.

c. Detachment III, 9393rd Technical Unit (Ordnance) will be responsible for its own administration, but will be attached to the 6580th Air Base Group for strength accounting purposes.

d. Courts-Martial jurisdiction of personnel assigned to Detachment III, 9393rd Technical Service Unit (Ordnance) will remain with the Commanding General, White Sands Proving Ground.

e. Assignment to "family-quarters" will be made in accordance with Air Force Regulations and HADC Policy.

3. Supply.

a. Non-Expendable Common Supplies and Equipment: Accountability for Air Force equipment will be maintained by Holloman Base Supply Officer, Detachment III, 9393rd Technical Service Unit (Ordnance) will appoint a responsible officer to requisition and be responsible for all Memorandum Receipt Property Issued to Detachment III, 9393rd Technical Service Unit (Ordnance), by Holloman Base Supply Officer.

b. Expendable Supplies. Expendable supplies will be issued on Air Force Form 446 on a reimbursable basis under the provisions of Air Force Manual 67-1.

c. Transportation. Detachment III, 9393rd Technical Service Unit (Ordnance) will provide its own motor transportation.

d. Aircraft Parts. All aircraft parts for Army aircraft will be supplied through Army channels.

e. Automotive Gasoline and Lubricants. Gasoline and lubricants for motor vehicles in the custody of Detachment III, 9393rd Technical Service Unit (Ordnance) will be issued on Air Force Form 446 and/or DA AGO Form 10-113 on a reimbursable basis in accordance with Air Force Manual 67-1.

f. Aviation Lubricants. Lubricants for aircraft of Detachment III, 9393rd Technical Service Unit (Ordnance) will be issued on Air Force Form 446 on a reimbursable basis in accordance with Air Force Manual 67-4.

g. Aviation Fuel. Fuel for aircraft of Detachment III, 9393rd Technical Service Unit (Ordnance), will be provided through Army channels.

4. Maintenance:

a. Vehicle Maintenance. Organizational and field maintenance of assigned motor vehicles will be accomplished by Holloman Air Development Center on a cross-servicing basis.

b. Aircraft Maintenance:

(1) Organizational and field maintenance of assigned aircraft will be accomplished by Detachment III, 9393rd Technical Service Unit (Ordnance), in accordance with provisions of FM 20-100, Chapter 8, Section 11, Par 192a(1), and (2). Organizational aircraft maintenance shall include: "That maintenance authorized for, performed by, and the responsibility of a using organization on its own equipment. This maintenance consists normally of inspecting, cleaning, servicing, preserving, lubricating, and adjusting as required and also may consist of minor parts replacement not requiring highly technical skills."

(2) Such assistance as may be required for field maintenance of aircraft assigned Detachment III, 9393rd Technical Service Unit (Ordnance) will be

provided by Holloman Air Development Center on a reimbursable basis. In accordance with the provisions of FM 20-100, Chapter 8, Section 11, par 192a(2), field maintenance shall include: "that maintenance activities in direct support of (a) using organization(s). This category normally will be limited to maintenance consisting of replacement of unserviceable parts, sub-assemblies, or assemblies."

5. Flight Control.

a. The Commander, Holloman Air Development Center, will be the clearance authority for all aircraft (local or cross-country) operating from Holloman Air Force Base and/or Condon Field.

b. The Commander, Holloman Air Development Center, will prescribe the local flying areas for Holloman Air Force Base and Condon Field.

c. The Commander, Holloman Air Development Center will provide all normal Base Operations functions. Detachment III, 9393rd Technical Service Unit (Ordnance) will comply with all Air Force Regulations, Standard Operating Procedures and HADC Regulations pertaining to Flight Operations within the designated traffic control areas of Holloman Air Force Base and Condon Field.

d. Traffic Control Areas.

(1) Holloman Traffic Control Area shall consist of that area within a five (5) mile radius of the center of Holloman Air Force Base.

(2) Condon Traffic Control Area shall consist of that area within a three (3) mile radius of the center of Condon Field.

(3) When operating aircraft outside the designated control areas, Detachment III, 9393rd Technical Service Unit (Ordnance) shall conduct aircraft operations in accordance with Army Flight Regulations and applicable CAA flight rules and regulations.

e. Army Aviation support will be furnished to White Sands Proving Ground and Holloman Air Development Center on the following priority basis:

(1) WSPG Integrated Range missile search and recovery.

(2) WSPG Integrated Range tracking missions.

- (3) One-day search and recovery of balloons, parachutes, and other missions which are deemed necessary by the Commander, Holloman Air Development Center. No extended missions lasting more than one day will be flown without prior approval of Commanding General, White Sands Proving Ground.
- (4) WSSCA Missions.
- (5) Transportation of personnel and/or supplies within the Integrated Range.
- (6) Such administrative and training flights as deemed necessary by the Commanding Officer, Detachment III, 9393rd Technical Service Unit.

f. Army aviators, provided they assume full responsibility, may land on Condron Field or boundary roads when personnel are not available for operation of Condron Field, and when such landing is necessitated by circumstances.

g. Detachment III, 9393rd Technical Service Unit (Ordnance) will be responsible for maintaining assigned individual pilot's flight and aircraft maintenance records.

h. Responsibility for aircraft accident investigation and reporting will remain with the Commanding General, White Sands Proving Ground. Commander, Holloman Air Development Center, will provide assistance upon request.

i. Training missions and cross-country flights will be conducted in accordance with Army Regulations, and under authority of the Unit Commander, Detachment III, 9393rd Technical Service Unit.

j. Flying and ground crew personnel assigned to Detachment III, 9393rd Technical Service Unit, will participate in a Unit Flying Safety Program under staff supervision of Holloman Air Force Base Flying Safety Officer.

k. Army pilots assigned Detachment III, 9393rd Technical Service Unit, who possess a valid Army Aviator Rating, may become qualified to pilot Air Force aircraft of equivalent type and horsepower through normal check-out procedures established by Holloman Air Development Center Flight Operations. Pending clarification of pertinent Air Force Regulations pertaining to qualified Army personnel piloting Air Force aircraft of heavier class and higher horsepower, qualified personnel assigned Detachment III, 9393rd Technical Service Unit may be assigned co-pilot duties in Air Force aircraft of heavier class and

higher horsepower than those assigned Army aviation activities. Air Force personnel who possess an aeronautical rating of Pilot, Senior Pilot or Command Pilot may become qualified to perform pilot duties in aircraft assigned Detachment III, 9393rd Technical Service Unit.

1. The Link Trainer located in Building No. 316 will be made available for pilots of Detachment III, 9393rd Technical Service Unit, on a time available basis.

FOR HOLLOWAY AIR DEVELOPMENT CENTER:

Frank D. Sharp
FRANK D. SHARP
Colonel, USAF
Deputy Commander

1 Sept 53
(Date)

FOR 9393RD TECHNICAL SERVICE UNIT:

Richard H. Clark
RICHARD H. CLARK
1st Lt., TC

31 Aug 53
(Date)

NOTE: Following distribution made on this Agreement:

Original to HDO for filing
2 copies to Lt Clark, 9393rd TSU
1 copy to Col Sharp's files (HDGV)
1 copy sent to all staff officers, Air Support Sq,
and Air Base Group for coordination
and return to HDG.

APPENDIX C

**Joint Use Agreement, Holloman Air Development Center and
Detachment, Utility Squadron 3, 1 December 1952.**

HEADQUARTERS
HOLLOMAN AIR DEVELOPMENT CENTER
Holloman Air Force Base, New Mexico

JOINT USE AGREEMENT

1 December 1952

I

GENERAL INFORMATION

1. Purpose: The purpose of this agreement is to define the responsibilities and delineate the support to be provided by Holloman Air Development Center to the Detachment, Utility Squadron 3 (Det VU-3) during the tenancy of Detachment VU-3 at Holloman Air Development Center.

2. Authority: Third Indorsement, HQ AFMTC, 4 Aug 52, to ltr, Dept of the Army, Office of Asst C/S, G-4, Logistics, 27 May 52, subj: Support of Army Guided Missile Tests at WSPG with Navy F6F-5K Target Drones and General Order #30, HQ, WSPG, 22 Sep 52.

3. Effective Date: This agreement shall become effective on or about 1 Jan 53, and shall remain in effect until terminated in writing by the Commanding Officer, Holloman Air Development Center or the Commanding Officer, Naval Ordnance Missile Test Facility. (NOMTF).

II

TERMS OF AGREEMENT

1. General Provisions.

a. HADC will provide base support and facilities to Detachment, Utility Squadron 3 (Det VU-3) as delineated in the following paragraphs. All facilities so provided will remain the property of the USAF. Any facilities or improvements that may be provided by the Navy which are permanently attached to or integrated with Real Property in such a manner that it cannot be removed without causing substantial physical damage or changing the designed standard or mission of the facility, will become the property of the USAF.

b. No demand will be made upon Center personnel beyond that normally required during an 8-hour day or 40-hour week, except for normal operation of flying facilities or other operational requirements of WSPG.

c. Detachment VU-3 will comply with such HADC regulations and policies as may be directed by the Commanding Officer, Holloman Air Development Center.

2. Administration and Services.

a. Holloman Air Development Center will provide normal base administrative and personnel services, to include such services as finance, Post Exchange, Service Club, Officers' Club, housing (except family housing), communications, medical, postal, R & U, ground safety, commissary, Air Police, etc. Housing for enlisted men will be provided in Building T-512, and such other buildings as necessary. Building T-1080 will be provided for operations and technical services.

b. HADC will provide messing facilities on a reimbursable basis as outlined in existing regulations.

c. Detachment VU-3 will be responsible for its own administration.

d. Courts martial jurisdiction of personnel assigned to Detachment VU-3 will remain with the Commanding Officer, HMTF.

e. Laundry service will be provided by HADC.

f. Assignment to family quarters will be made in accordance with Air Force Regulations and HADC policy.

3. Supply.

a. Non-expendable common supplies and equipment:

Accountability will be maintained by HADC Supply Officer. Detachment VU-3 will appoint a responsible property officer to requisition and be responsible for all memorandum receipt property issued to the detachment.

b. Expendable supplies:

Will be issued on Air Force Form 466 on a reimbursable basis under the provisions of Air Force Manual 67-1.

c. **Transportation:**

Detachment VU-3 will provide its own motor transportation.

d. **Automotive gasoline and lubricants:**

Gasoline and lubricants for motor vehicles of Detachment VU-3 will be issued on Air Force Form 466 and/or DA AGO Form 10-118 on a reimbursable basis in accordance with Air Force Manual 67-1.

e. **Aviation gasoline and lubricants:**

Will be issued on Air Force Form 446 on a reimbursable basis in accordance with AFM 67-4.

4. **Maintenance.**

a. **Vehicle Maintenance:**

Organizational maintenance of motor vehicles will be accomplished by the ~~COMPT~~. Holloman Air Development Center will provide field maintenance assistance, as required, on a reimbursable basis in accordance with AFM 77-1.

b. **Aircraft Maintenance:**

Organizational maintenance of assigned aircraft will be accomplished by Detachment VU-3. Such assistance as may be required for field maintenance or aircraft will be provided by Holloman Air Development Center on a reimbursable basis.

5. **Flight Control.**

a. The Commanding Officer, Holloman Air Development Center, will be the clearing authority for all aircraft, local or cross-country, operating from Holloman Air Development Center and will provide all normal Center operations services. Detachment VU-3 will comply with all AFR's and HADC Regulations and SOP's pertaining to flight operations at HADC.

b. Detachment VU-3 will maintain its own flight records section.

c. Responsibility for aircraft accident investigation and reporting will be conducted in accordance with Naval Air Regulations. This does not preclude Commanding Officer HADC from conducting his own

accident investigation. The Commanding Officer, **WOMTF** will provide an officer member for the HADC Aircraft Accident Investigating Board if requested.

d. Detachment VU-3 will participate in the HADC Flying Safety Program.

FOR HOLLOMAN AIR DEVELOPMENT CENTER:


DON R. OSTRANDER
Colonel, USAF
Commanding

FOR THE NAVAL ORDNANCE MISSILE TEST FACILITY:


P. D. QUIRK
Captain, USN
Commanding

APPENDIX D

DCS/Operations Policy Guidance Number 3, 4 April 1956.

**HEADQUARTERS
HOLLOMAN AIR DEVELOPMENT CENTER
Holloman Air Force Base
New Mexico**

**DCS/Operations Policy Guidance
Number 3**

4 April 1956

SUBJECT: Armed Fighter Safety for Flights of Operational Drone Type Aircraft

PURPOSE:

1. This guidance is to confirm agreements between White Sands Proving Ground and Holloman Air Development Center. The Commander, HADC assumes responsibility for safety in the operation of all drones used for operational purposes. Those drones in an R&D or experimental stage are not considered under this regulation. Q2A's are specifically exempt from this regulation since no armed chase is required.

GUIDANCE:

1. Normal method of operation (ie. when sufficient armed safety aircraft are available).

a. Airborne armed safety escort is not required for any Nullo operated in the Holloman Air Force Base control zone. The HAFB control zone is that air space below 5500 MSL and within a radius of 3 miles of the center of the flying field.

b. Airborne armed safety escort is not required during QB-17 drone climb to or descent from altitude, as long as the drone directors control is functioning normally. An armed safety escort is required on stand-by status on the ground during normal QB-17 drone climb to and descent from altitude. The fighter will be capable of taking off within two (2) minutes after a scramble notification from the Air Force Mission Controller.

c. Airborne armed safety escort is required for all QF-80 flights outside the HAFB control zone. Normally the fighter will be positioned close to the director aircraft.

d. Airborne armed safety escort is required for all hot runs. Vectoring the fighter to the drone director is the responsibility of the drone radar controller. Positioning the fighter for safety purposes or for attack position will be the responsibility of the drone radar controller. A drone crippled by a hit or partially unmanageable will require the fighter in an attack position.

DCS/Operations Policy Guidance
Number 3

e. In the event the director loses complete control of the drone, the Drone Squadron electronic post Commander "Hot Point" will advise the Air Force Mission Controller. At that time safety responsibility for the Nullo flight passes to the Air Force Mission Controller. The Air Force Mission Controller will direct the drone radar controller to vector the fighter into visual contact with the drone and will be responsible for authorizing an attack when the optimum conditions exist for safety to ground personnel.

f. When drone operations are conducted at King I the Air Force Mission Controller will monitor the mission progress on the radar plotting boards at that station. If at any time the radar plot on the Nullo is lost or is about to be lost, the drone radar controller will immediately vector the fighter to the Nullo, using the last known position of the two aircraft. All missile launch operations are immediately ceased and the Air Force Mission Controller will then decide whether to continue with the mission, call a hold or cancel.

2. Operational procedure when limited armed escort fighters are available.

a. When only one armed escort fighter is in commission ready to go, it will be "spotted" ready for immediate scramble as near as possible to the end of the active runway which from the take off is to be initiated, during the period the Nullo drone is airborne. It will take off when cleared to scramble by the Air Force Mission Controller. It will normally remain on the ground as long as radio control of the drone is effective.

b. If there are more than one escort fighter in commission ready to go normal SOP will be followed regarding the use of armed escort for test missions, with the exception that care will be exercised in scheduling of fighters to retain at all times the capability for compliance with Paragraph 2a above.

3. Operational procedure when no armed escort are in commission.

a. When no armed escort fighters are in commission the decision to continue to conduct the test will be made at the discretion of the Air Force Mission Controller. If time permits this action will be clarified to HDT and DCS/Operations prior to the test.

4. Armed safety escort will be made available at the specific request of the Drone Squadron Commander when he feels it is required for safety.

5. Immediately prior to a hot missile launch the Air Force Mission Controller will decide whether or not the drone flight path meets safety and instrumentation criteria.

DCS/Operations Policy Guidance
Number 3

This decision will be based on advice from the drone radar controller, Flight Determination Laboratory (Operational Controller) and the Missile Flight Surveillance Office. A hold will be called by the Air Force Mission Controller if any of the three offices above advise that the tests cannot be satisfactorily run.

FOR THE COMMANDER:


OTTO R. HANEY
Colonel, USAF
DCS/Operations

APPENDIX E

Tenant and Bailed Aircraft at HADC. List prepared about 15 April 1957.

Note 1: Includes aircraft that are not technically bailed but "conditionally accepted" by the Air Force and in all ways treated as bailed.

Note 2: All F-101B aircraft listed under McDonnell Aircraft Corporation are among those "To come in FY 1958."

C O P Y

TENANT AND BAILED AIRCRAFT AT HADC

TENANT	TYPE	SN		TENANT	TYPE	SN	
AFAC	F-102A	53-1807		DOUGLAS	F-89D	53-2560	BT
	F-102A	53-1818			F-86	51-8282	BT
AFFTC	F-102A	-408		NORTHROP	JF-89J	53-2670	BT
	F-102A	-409			JB-57E	55-4245	BT
CONVAIR	YF-102A	53-1788	BT	RADIO-PLANE	B-47B	51-2328	BT
	F-102A	53-1793	BT		JB-47B	51-2350	BT
	F-102C	53-1797	BT		T-33	48-360	BT
	YF-102C	53-1806	BT	GOOD-YEAR	T-33	52-9374	BT
HUGHES	B-25	43-86888	BT		T-33	52-9375	BT
	B-25	43-30648	BT		T-33	48-919	BT
	B-25	43-30711	BT	BELL	B-47	53-2345	BT
	F-89D	51-408	BT		EYDB-47E	51-5219	BT
	F-89D	51-409	BT		EYDB-47E	51-5220	BT
	F-100D		BT		EDB-36H	51-5710	BT
	F-102A	53-1799	BT		**EDB-36H	51-5706	BT
	* F-102A	56-995	BT		F-80	45-8485	BT
	B-57	53-1425	BT		F-89	51-5814	BT
LOCKHEED	JB-29J	44-86402	BT				
	JB-29B	44-84073	BT				
	JTB-50	44-290	BT				
	JB-50D	44-068	BT				

* To come in later
** To lose one B-36 soon

C O P Y

C O P Y

TENANT AND
BAILED AIRCRAFT AT HADC

TENANT	TYPE	SN
ARMY AVIATION BR	L-19	51-4624
		-4810
		-12143
		-12184
		-12220
		-12272
		-12275
		-12278
		-2160
	L-20	53-2785
		-2801
		54-1675
		-1695
	H-34	55-4495
		55-4496
	H-13	55-4624
		-4627
	H-19	53-3823

C O P Y

C O P Y

TENANT AND
BAILED AIRCRAFT AT HADC

<u>TENANT</u>	<u>TYPE</u>	<u>SN</u>	
MC DONNELL	F-101A	54-2436	BT
	F-101A	54-2427	BT
MC DONNELL	F-101B	56-233	BT
		56-234	BT
		56-236	BT
		56-241	BT
		56-243	BT

To come in FY 1958

56-251	KAFB	
56-252	Phase VI	AFFTC
56-253	Phase VI	AFFTC
56-254	Phase VI	AFFTC

C O P Y

APPENDIX F

**A/C and Manpower Requirements by Project. List prepared about
1 March 1957.**

3. 205C

F-94C	45	22	20	1.50	0.73	.66	7.50	3.66	3.80
F-100C	10	8	6	.30	0.27	.20	2.00	1.60	1.20
H-21B	25	12	10	.33	.17	.17	1.11	0.53	.80
C-47	12	12	12	.06	0.60	.06	.60	0.60	.60
SUB TOT.	92	54	48	2.19	1.23	1.09	11.21	6.39	5.57

4. 217A

F-104A	16	10	16	.53	.33	.53	3.2	2.00	3.2
H-21B	9	8	5	.15	.11	.08	.4	0.34	.22
C-47	12	12	12	.06	.06	.06	.6	0.60	.6
B-26	5	5	5	.08	.08	.08	.33	0.33	.33
SUB TOT.	42	35	38	.79	.68	.75	4.53	3.27	4.35

5. NIKE HER.
8 A.M.

F-94C	20	15	5	.66	.50	.16	3.33	2.50	.83
F-100A	30	30	30	1.67	1.00	1.00	10.00	6.00	6.00
F-100C	10	5	0	.30	.17	0	2.00	1.00	0.00
F-104A	11	10	0	.37	.33	0	2.20	2.00	0.00
B-26	42	42	42	.70	.70	.70	2.80	2.80	2.80
B-47	43	40	0	.72	.67	0	7.16	6.66	0.00
SUB TOT.	176	142	77	4.42	3.37	1.86	27.49	20.96	9.63

6. 2142-1001

F-100A	22	20	20	.73	.66	.66	4.40	4.00	4.00
SUB TOT.	22	20	20	.73	.66	.66	4.40	4.00	4.00

7. 122A

F-100C	20	10	6	.66	.33	.20	4.00	2.00	1.20
H-21B	10	5	2	.16	.07	.03	.44	.22	.08
C-47	12	10	10	.06	.05	.05	.60	.50	.50
C-131B	8	0	0	.04	0	0	.22	0	0.00
R-47	10	0	0	.16	0	0	1.66	0	0.00
B-57	10	0	0	.16	0	0	1.00	0	0.00
Sub Tot.	70	25	18	1.24	0.45	.28	7.92	2.72	1.78

8. 221A

F-100A	54	5	5	1.80	.17	.16	10.80	1.00	1.00
F-100C	40	45	15	1.33	1.50	.50	3.00	9.00	3.00
F-100D	60	54	54	2.00	1.80	1.80	12.00	10.80	10.80
F-104A	30	30	0	1.00	1.00	0	6.00	6.00	0.00
L-20A	8	8	0	.11	.13	0	.10	.10	0.00
C-47	12	12	12	.07	.06	.07	.60	.60	.60
Sub Tot.	204	154	86	6.34	4.66	2.53	37.50	27.50	15.40

9. 309A

F-21C	30	13	13	1.00	0.43	.43	5.00	2.16	2.16
F-100C	60	30	20	2.00	1.00	.33	12.00	6.00	4.00
H-21B	12	0	4	.20	.11	.07	.53	.34	.17
C-47	8	3	3	.04	.04	.04	.40	.20	.10
B-26	4	4	4	.07	.07	.07	.26	.26	.26
Sub Tot.	114	63	49	3.31	1.65	.91	18.19	9.16	6.69

10. L29L

F-94C	40	20	17	1.33	.66	.57	6.67	3.33	2.33
F-100A	8	6	6	.26	.20	.20	1.60	1.20	1.20
F-100C	12	12	6	.40	.40	.20	2.66	1.40	1.23
H-21B	25	15	5	.42	.21	.08	1.11	.66	.22
C-47	12	12	12	.07	.06	.07	.60	.61	.60
B-26	60	60	60	1.00	1.00	1.00	4.00	4.00	4.00
SUB Tot.	157	125	106	3.43	2.53	2.12	16.64	12.20	10.03

11. 218A

F-100C	74	37	28	2.47	1.23	.93	14.80	7.40	5.60
B-47	168	65	45	2.70	1.08	.75	28.00	10.83	7.50
SUB Tot.	242	102	73	5.17	2.31	1.68	42.80	18.23	13.10

12. ARMY VULN.

T-29B	156	156	156	.87	.37	.87	4.33	4.33	4.33
B-500	20	0	15	.38	0	.25	4.44	0	3.33
SUB Tot.	176	156	171	1.20	.37	1.12	8.77	4.33	7.66

13. AF VULN.

C-131B	275	270	180	1.53	1.50	1.00	7.63	7.50	5.00
SUB Tot.	275	270	180	1.53	1.50	1.00	7.63	7.50	5.00

14. 2000

F-94C	6	0	0	.10	.0	0	1.00	0	0.00
F-100C	12	12	8	.40	.40	.27	2.66	2.40	1.60
B-26	32	32	32	.53	.53	.53	2.13	2.13	2.13
SUB Tot.	50	44	40	1.03	.93	.60	5.79	4.53	3.73

15. WSSCA

C-131B	270	270	180	1.50	1.50	1.00	7.50	7.50	5.00
B-47	240	60	15	4.00	1.00	.08	40.00	10.00	2.50
Sub Tot.	510	330	195	5.50	2.50	1.08	47.50	17.50	7.50

16. RSD

F-94C	20	0	0	.66	0	0	3.33	0	0
F-100C	20	20	10	.66	.66	.33	4.00	4.00	2.00
L-20A	10	8	0	.13	.13	0	.13	.10	0
H-21B	10	10	3	.17	.10	.05	.44	.44	.13
C-47	12	12	12	.07	.06	.07	.60	.60	.60
B-26	40	40	40	.66	.67	.66	2.67	2.67	2.67
Sub Tot.	112	90	65	2.35	1.62	1.11	11.17	7.81	5.40

17. HAWK

F-94C	30	6	8	1.00	.27	.27	5.00	1.33	1.33
F-100C	30	20	5	1.00	.33	.17	6.00	4.00	1.00
Sub Tot.	60	26	13	2.00	.60	.44	11.00	5.33	2.33

18. 7651

F-94C	15	18	15	.60	.60	.50	3.00	3.00	2.50
Sub Tot.	15	15	15	.60	.60	.50	3.00	3.00	2.50

19. ALRCBEE-HI

L-20A	4	1	0	.05	.06	0	.05	.05	0
H-21B	1	1	0	.07	.05	0	.17	.17	0
Sub Tot.	5	2	0	.12	.11	0	.22	.22	0

20. 426L

P-940	7	5	4	.23	.17	.13	1.15	.83	.66
F-104A	6	10	3	.20	.33	.10	1.20	2.00	.60
H-21B	10	7	4	.17	.10	.07	.44	.31	.17
C-47	7	7	7	.04	.04	.04	.33	.33	.33
B-500	30	30	30	.50	.67	.50	6.66	6.66	6.66
SUB TOT.	60	59	48	1.14	1.31	.84	9.80	10.15	8.44

21. AERO-MED

H-21B	10	10	10	.17	.10	.17	.44	.44	.44
C-47	30	100	30	.17	.55	.17	1.50	5.00	1.50
B-26	20	20	20	.33	.33	.33	1.33	1.33	1.33
SUB TOT.	60	130	60	.67	.98	.67	3.27	6.77	3.27

22. BALLOON

L-20A	204	120	68	3.52	2.0	.91	3.52	1.60	.90
H-21B	71	42	42	1.18	.60	.70	3.15	1.73	1.86
C-47	326	256	326	1.81	1.42	1.81	16.30	12.83	16.30
B-26	45	45	45	.75	.75	.75	3.00	3.00	3.00
SUB TOT.	706	463	481	7.26	4.77	4.17	25.97	19.18	22.06

23. 427L

F-94C	20	12	12	.66	.40	.40	3.33	1.60	1.60
T-33A	26	30	0	.19	.22	0	1.73	2.00	0
H-21B	40	25	20	.66	.36	.33	1.70	1.11	.88
C-47	7	7	7	.04	.04	.04	.33	.33	.33
B-57	26	0	0	.43	0	0	2.60	0	0
SUB TOT.	119	74	59	1.98	1.02	.77	9.71	5.06	2.81

24. DRONE CHASE

F-100A	30	50	20	1.00	1.66	.66	6.00	10.	4.00
F-100C	30	0	0	1.00	0	0	6.00	3	6
SUB TOT.	60	50	20	2.00	1.66	.66	12.00	13.	4.00

25. 6875

F-100C	15	7	3	.50	.23	.10	3.00	1.40	.60
SUB TOT.	15	7	3	.50	.23	.10	3.00	1.40	.60

26. 7659

C-47	18	18	18	.10	.09	.10	.90	.90	.90
SUB TOT.	18	18	18	.10	.09	.10	.90	.90	.90

27. 121A

F-94C	15	10	5	0.50	0.33	0.17	2.50	1.67	0.83
F-100C	10	8	5	0.33	0.27	0.17	2.00	1.60	1.00
H-21B	12	6	0	0.17	0.08	.08	0.53	0.27	0.00
C-47	10	6	6	0.05	0.03	0.03	0.50	0.30	0.30
B-26	5	5	5	0.08	0.08	0.08	0.33	0.33	0.33
SUB TOT.	52	35	21	1.13	0.79	0.53	5.86	4.17	2.46

28. 112A

F-94C	22	16	8	.73	.53	.27	3.65	2.67	1.33
C-47	7	5	5	.04	.02	.03	.35	0.25	.25
C-121B	40	0	0	.22	0	0	1.11	0	0
SUB TOT.	69	21	13	.99	0.55	.30	5.11	2.92	1.58

10. 107A

C-47	12	10	10	.07	.05	.05	.60	.50	.50
Sub Tot.	12	10	10	.07	.05	.05	.60	.50	.50

10. 2710

F-94C	16	0	8	.53	0	.27	2.66	0	1.33
F-100A	10	0	8	.33	0	.27	2.00	0	1.60
Sub Tot.	26	0	16	.86	0	.54	4.66	0	2.93

31. PROP. MAINT.

F-94C	39	20	15	1.30	.66	.50	6.50	3.33	2.50
F-100A	20	20	15	.66	.66	.50	4.00	4.00	3.00
F-100C	48	38	18	1.60	1.27	.60	9.60	7.60	3.60
F-100D	6	6	6	.20	.20	.20	1.20	1.20	1.20
F-104A	3	10	0	.10	.33	0	.60	2.00	0
T-33A	27	27	27	.20	.20	.20	1.80	1.80	1.80
L-20A	20	20	7	.27	.33	.09	.26	.25	.09
H-21B	15	15	13	.25	.21	.22	.66	.66	.57
C-47	63	63	63	.35	.35	.35	3.15	3.15	3.15
VC-47	30	30	30	.20	.17	.20	.50	0.50	.50
T-29B	24	24	24	.13	.13	.13	.67	0.67	.67
B-26	67	67	67	1.12	1.12	1.12	4.46	4.46	4.46
B-47	0	20	0	0	.33	0	0	3.33	0
B-50	0	3	0	0	.06	0	0	.66	0
Sub Tot.	362	363	283	6.38	6.02	4.11	33.40	33.61	21.54

32. CRT & ADM

T-33A	243	243	243	1.80	1.80	1.80	16.20	16.20	16.20
H-21B	7	7	7	.12	0.10	.12	.31	.31	.31
C-47	170	170	170	.95	.94	.95	8.50	8.50	8.50
VC-47	150	150	150	1.00	.83	1.00	2.50	2.50	2.50
T-37	405	405	0	3.00	3.00	0	9.00	9.00	0
Sub Tot.	975	975	570	6.87	6.67	3.87	36.51	36.51	27.51

GRAND TOTAL

5287

2895 80.78

37.09 461.6

217.02

APPENDIX G

Ltr., Col. Richard C. Gibson, DCS/O, HADC, to Cmdr.,
ARDC, subj.: "Support Problems for B-57 Aircraft," 22
October 1956.

C O P Y

SECRET

HDOO

22 Oct 1956

SUBJECT: Support Problems for B-57 Aircraft

TO: Commander
Air Research and Development Command
Post Office Box 1395
Baltimore 3, Maryland

1. Although this Center has a valid requirement for a B-57B, C or E, this letter is submitted in explanation of why we declined the offer by your Headquarters (RDSTAP) of a RB-57A, and to reiterate the requirement for spaces, people and the airplane.

2. On 12 September 1956 this Center received a phone call from Mr. D. D. Morgan, (RDSTAP), offering HADC one RB-57A for test support. A prompt reply was requested. A negative reply was submitted in HADC TWX HDOO-9-14-E dated 12 September 1956 (See Inclosure Number 1). This refusal stated lack of maintenance people, and the requirements for a B-57B, C or E were reiterated.

3. In November of 1954 HADC requested a B-57B aircraft to support test projects at Holloman. On 4 October 1955 HADC's Projected Aircraft Inventory, Reports Control Symbol 2-ARDC, reflected the requirements for B-57 aircraft. In a letter to HQ ARDC, Subject: Manpower Authorization Request for Change, dated 14 November 1955, HADC requested manpower to maintain the B-57 aircraft reflected in the projected aircraft inventory (See Inclosure Number 2). Since that time no spaces have been authorized for B-57 aircraft nor have any people been assigned. On 10 April 1956 the HADC Two and One-Half Year Aircraft Requirements Forecast again requested B-57 aircraft. The manpower requirements for these new aircraft which are needed to meet HADC requirements were not the only planning attempted by HADC to attain a position whereby a B-57B could be maintained. In August 1956 HADC submitted to your Headquarters a TWX, HDOO-8-25-E (See Inclosure Number 3), requesting the serial numbers of any B-57B aircraft to be provided Holloman in order that logistic support people could requisition Table Two equipment for the aircraft. We assumed that this was a valid request since we had for eighteen (18) months requested a B-57B, and this B-57B was reflected in the HQ ARDC PF-57-2 as programmed for HADC in first

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SECRET

HQ HADC HDOO SUBJ: Support Problems for B-57 Aircraft

quarter Fiscal Year 1957. In reply to this TWX we received from your Headquarters a TWX RDSTAP-8-149-3 (See Inclosure Number 4) which stated that although a B-57B was in the PF-57-2, this did not necessarily mean that a B-57 would be assigned to Holloman.

4. Latest documents available to this Center indicate that only sixty RB-57A's are in the USAF inventory. Forty of these are overseas and only four are in the ARDC Command. In view of our present personnel deficiencies in the maintenance area, and in anticipation of difficulty in the logistics area, it is believed that an RB-57A would be most unsatisfactory for this Center.

5. Again we would like to reiterate a valid requirement for a B-57B, C or E for use on high altitude recovery system tests, high altitude parachute target drops, tracking missions for the Army, Navy and missile systems, and for carrying engineer observers on safety chase. Following are some of the projects which require the B-57B, C or E aircraft:

HADC Recovery Systems Branch	Hrs/Qtr
HADC Recovery Systems Branch	30
1795 - High Altitude Para Drops	10
201A (F-102) High Altitude Para Drops	10
208A (Falcon) High Altitude Para Drops	20
2129 (F-101B) High Altitude Para Drops	10
Talos (NOMTF WSPG) High Altitude Para Drops	15
Nike - Tracking	15
Total	<u>110</u>

A total of 95 hours per quarter is indicated for high altitude para drop missions alone. An additional requirement for B-57B, C or E (tandem seat configuration) for photo and safety chase and tracking missions will add approximately 15 hours to the above figure for a grand total of 110 hours per quarter. This indicates a requirement for a minimum of three (3) B-57B, C or E aircraft for this Center by the third quarter of Fiscal Year 1957.

6. An example of the dire need for such an aircraft is attested by the fact that since 15 July 1956, the Navy Talos project has requested 34 missions, 26 of which were turned down by HADC Range Scheduling Office for non-availability of an aircraft capable of dropping a target parachute at the required altitude. Of the eight (8) missions scheduled, seven (7) were cancelled because of scheduled support aircraft being AOCF. One mission of the thirty-four (34) went as requested. Further

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HQ HADC HDOO SUBJ: Support Problems for B-57 Aircraft

lack of suitable drop aircraft could cause a costly delay to the Talos program.

7. Although the requirement for B-57 aircraft is urgently needed, we cannot accept these aircraft without additional authorizations for spaces and personnel to man these spaces. Space requests, based on the Two and One-Half Year Aircraft Requirements Forecast, have been submitted.

FOR THE COMMANDER:

4 Incls

1. TWX HDOO-9-14-E
2. Manpower Auth Req
for Change
3. TWX HDOO-8-25-E
4. TWX RDSTAP-8-149-3

RICHARD C. GIBSON
Colonel, USAF
DCS/Operations

SECRET

C O P Y

ADJ 56-6489

APPENDIX H

**Flight Test Division Standard Operating Procedure Number
25, versions as of 19 December 1956 and 17 May 1957.**

C O P Y

STANDARD OPERATING PROCEDURE
NUMBER 25

} FLIGHT TEST DIVISION, 6580TH AIR
BASE GROUP, Holloman Air Force
Base, New Mexico 19 December 1956

IFR Mission Flights

Purpose and Scope1
Requirements2

1. Purpose and Scope. The purpose of this Standard Operating Procedure is to outline the requirements and define weather conditions which will permit mission support aircraft to fly when instrument conditions prevail and the mission requires flying over an overcast. This Standard Operating Procedure pertains to all pilots who are cleared to fly test support missions. Section Chiefs will be responsible to monitor compliance with the requirements outlined in this Directive.

2. Requirements:

- a. Test support missions will not be flown above an overcast when a VFR climbout and letdown is not possible.
- b. Test support missions will not be flown if the overcast condition is below 10,000 feet MSL.
- c. Test support missions will not be flown when the overcast is in excess of 3,000 feet thick.
- d. Test support missions will not be conducted closer than 1,000 feet to the cloud formation.
- e. Test support missions flown over an overcast require the accomplishment of AF Form 175.
- f. During test support missions conducted over an overcast, the ARN-6 radio will be on and tuned to the Holloman homer (221 kc) and the selector placed in the COMPASS position.

OAKLEY W. BARON
Lt Colonel, USAF
Director, Flight Test Division

C O P Y

DIRECTORATE OF AIRCRAFT MISSILE TEST
AND FLIGHT TEST DIVISION
HOLLOMAN AIR DEVELOPMENT CENTER
United States Air Force
Holloman Air Force Base, New Mexico

17 May 1957

DIRECTORATE SOP

NUMBER ----- 36

FLIGHT TEST SOP

NUMBER ----- 25

IFR MISSION FLIGHTS

1. Purpose: The purpose of this Standard Operating Procedure is to outline the requirements and define weather conditions which will permit mission support aircraft to fly when instrument conditions prevail and the mission requires flying over an overcast.

2. Scope: This Standard Operating Procedure pertains to all pilots who are cleared to fly test support missions. Section Chiefs will be responsible to monitor compliance with the requirements outlined in this Directive.

3. Requirements:

a. Test support missions will not be conducted in an overcast.

b. Test support missions will not be flown when the overcast is below 7000 feet MSL, and visibility is less than 2 miles.

c. Test support missions will not be conducted closer than 1000 feet to the cloud formation.

d. Drones or other remote-controlled vehicles will not be chased by test support aircraft through cloud formations.

e. Test support missions flown over an overcast require the accomplishment of AF Form 175 and the remark included, "Will avoid all control zones and airways."

f. IFR climb-outs will be made from the Holloman radio beacon (221 KCS) on a heading of 350 degrees. Aircraft will remain on tower frequency during climb-out and advise when in the clear. IFR descents will be on approval by Holloman Tower and in accordance with the published let-down chart.

g. No test will be conducted under IFR conditions when any other test is still in progress. No test will be started when another test is being run under IFR conditions. Control of these factors will be exercised by Mission Control, so that no possible collision conditions can exist on-range between test operations and IFR climb-outs and let-downs.

HDT Subject: Directorate SOP #36, Flight Test SOP #25.

h. During test support mission conducted over an overcast the ARN-6 radio will be tuned to the Holloman radio beacon and the selector placed in the Compass position.

i. Fuel minimums for jet aircraft for IFR mission completion will be 2000 pounds.

4. Exceptions:

a. WSSCA, ECM, and other missions involving the use of C-131 or T-29 type aircraft may be conducted in or above an overcast. Minimum flight altitude for such missions will be 14,000 feet MSL and weather minimums will be 5000 feet MSL and 2 miles visibility.

b. Tracking missions may be conducted in or above an overcast. Minimum flight altitude for such missions will be 14,000 feet MSL and weather minimums will be:

(1) Conventional - 5000 feet MSL, visibility 2 miles.

(2) Jet - 6000 feet MSL, visibility 2 miles.

for *AWK*
L. BAKER
Colonel, USAF
Director of Aircraft Missile Test

OWB
OAKLEY W. BARON
Lt Colonel, USAF
Director, Flight Test Division

APPENDIX I

**DCS/Operations Policy Statement Number 4, 13 September
1955.**

DCS/OPERATIONS
HOLLOMAN AIR DEVELOPMENT CENTER
Holloman Air Force Base
New Mexico

DCS/OPERATIONS POLICY
STATEMENT NUMBER 4

13 SEPTEMBER 1955

RESTRICTION ON USE OF C-131B'S

1. Until further notice the C-131B aircraft are not to be flown to bases other than ARDC Centers. Exceptions to this policy will be made only when transporting VIP's or when approved by DCS/Operations.

2. This policy statement is a result of ARDC message RDTO-8-6-E dated 24 August 1955 concerning criticism received at ARDC for the indiscriminate use of test bed C-131B's.

Clarence L. Elder
CLARENCE L. ELDER
Colonel, USAF
DCS/Operations

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HDT 12 Copies
HDL 8 Copies

APPENDIX J

**Manpower Requirements for Aircraft Maintenance. Memo
from Manpower & Organization Division, September 1956.**

C O P Y

MANPOWER REQUIREMENTS FOR AIRCRAFT MAINTENANCE

1. Following are examples of requests from HADC for additional manpower for the aircraft maintenance function which were submitted to Headquarters ARDC during CY1955 and 56:

<u>Date Requested</u>	<u>No. and Type Requested</u>	<u>Action by ARDC</u>
1 Apr 1955	18 Airman Spaces	None
1 May 1955	8 Airman Spaces	None
12 Jul 1955	12 Airman Spaces	None
14 Nov 1955	23 Airman Spaces 26 Civilian Spaces	None
30 Nov 1955	27 Military or Civilian	None (Sidewinder)
2 Feb 1956	16 Airman Spaces	None
26 Jul 1956	7 Airman Spaces 106 Civilian Spaces	Received 90 Spaces on 1 Oct 1956

2. In September 1955, the ARDC Manpower Management Review Team recommended an increase of 13 spaces for the aircraft maintenance function. To date, ARDC has been unable to provide any of these additional spaces for HADC. At this time, military AFSC's were removed from the manning document and civilians were substituted under project "Home Front". Sufficient civilians qualified in aircraft maintenance work could not be hired in this area and Headquarters USAF would not allow us to reprogram military spaces back in to project "Home Front" AFSC's.

3. In July 1956, we re-evaluated our total manning requirements for the aircraft maintenance function based on ARDC manning criteria by type and number of aircraft assigned. As of 1 September 1956 we require a total of 586 spaces; as of this date, we are authorized a total of 487 spaces. A deficit of 99 spaces still exists after the addition of the 90 spaces received on 1 October 1956.

4. In our FY 57 Manpower Program we included a total of 86 spaces for the aircraft maintenance function. In FY 58 Budget Estimate we indicated that we needed 109 additional spaces in the first quarter of FY 57.

5. The aircraft inventory has increased from 35 HADC assigned aircraft in January 1955 to a projected inventory of 62 assigned aircraft in July 1957.

C O P Y

APPENDIX K

**Citation to Accompany the Award of the Commendation
Ribbon to William F. Haizlip.**

Citation to Accompany the Award
of the
Commendation Ribbon
to
William F. Haizlip

Lieutenant Colonel William F. Haizlip whose primary duty was and still is the Inspector General for Holloman Air Development Center was assigned the additional duty as Commander of the 6580th Field Maintenance Squadron on 1 September 1956. Assignment was necessitated by the fact that the deplorable condition of aircraft maintenance was adversely affecting the overall mission of Holloman Air Development Center. Colonel Haizlip distinguished himself by meritorious service as Commander of the 6580th Field Maintenance Squadron 1 September 1956 to 2 January 1957.

"In commission-time" is the criteria used in evaluating the performance of an aircraft maintenance squadron. The average standard percentage of "in-commission-time" is 50%. By managerial improvements the "in-commission-time" for aircraft assigned to HADC went from 34.8% in August 1956 to 62.1% in December 1956.

Managerial improvements initiated by Colonel Haizlip were:

- a. Eliminated duplication and overlap of authority in the Maintenance Control Unit, Production Control Unit and Quality Control Unit by organizing a single Production Control Section under the direct supervision of the Maintenance Control Officer.
- b. Improved employee relations by establishing a "line-of-command" whereby all employees are responsible to one individual.
- c. Reduced aircraft inspection time from an average of 10 to 12 working days to an average of 5 to 6 working days.
- d. Effected savings of 50 to 75 manhours per day by having a PBX switchboard, necessary additional telephones and an intercommunication system installed. This communications system linked Base Supply, Base Operations, various aircraft maintenance shops and Maintenance Control into one efficient operation whose primary effort was to improve "in-commission-time".

Lieutenant Colonel William F. Haizlip's extreme conscientiousness and devotion to duty reflects great credit to himself and to the Air Force.



APPENDIX L

General Comments on the [Holloman] Flying Safety Program,
by Maj. Raymond C. Latham, Chief, Flying Safety Branch, Hq.,
ARDC, May 1956.

General Comments on the Flying Safety Program

1. The Flying Safety Officer is located organizationally under the Commander of the Air Base Group. He is physically located in Base Operations and is under the operational control of the Chief of the Flight Test Division. As such, he does not have direct access to either the Base or Center Commander.

2. A Flying Safety Council, as required by ARDCR 62-10, has not been established. It is believed such a council would be a definite asset to the center program. This would permit the F/S officer to present the problem directly to the action agency. These councils have been valuable to other centers.

3. From talking to various pilots, the emphasis on the Flying Safety Program seems to be in the wrong direction. An attitude of general fear of retribution seems to prevail. This creates a very unhealthy situation. Personnel assigned in the operations are all sincere and are doing an excellent job with the equipment available, yet, in the past this quality performance seems to have gone unnoticed and the unfortunate happenings exploited.

4. The training program is adequate, although it is hampered by lack of equipment and personnel and must be sandwiched in whenever the mission permits. A jet upgrading program is being pursued but satisfactory results will take time. With the increasing number of 100 series aircraft due to arrive, this program will have to be stepped up. The time requirements for upgrading are in line with others in the command.

5. Recently a rash of blown tire and parachute failures have been experienced. As a combative measure, a policy has been established that all landings by jet aircraft (except in an emergency) are made on the 12,000 foot runway. In addition, a more thorough investigation should have been made to determine the cause. This will be done by the Flying Safety Officer.

6. In line with the above, it appears that maintenance standards are below par. This is probably due to a critical shortage of qualified personnel and supervisors (no maintenance officer since Jan.). Examples - the generator and the F-86 fuel gauge.

7. The airfield itself shows a lack of preventative maintenance. Numerous holes and cracks are evident in the shoulders. It is difficult to tell what is runway and what is overrun on 21L. Ramp area was cluttered with all types of equipment. The holes made by the F-102 undershoot in Jan. still not filled.

8. Tower has little or no control of vehicles operating on the airfield. Alert jeeps are not radio equipped and communications with crash

and rescue equipment is through the fire station. Equipment is on order. Due to the large number of vehicles on the airdrome, this equipment should get priority.

9. The Personal Equipment setup is still not adequate, however personnel concerned are well aware of the fact and making every effort to correct the situation. It was also noted that of five authorized positions in this section, two were filled by Category 4 airmen.

10. No evidence could be found that recommendations made as a result of accident investigations were followed. Notably the recommendation following the F-89 accident in June of 1955 as to the wearing of clothing during flying operations. No procedures or policies could be found in writing and spot check of pilots did not indicate compliance in another recommendation as a result of the F-94 in December are not being followed.

Recommendations

1. That the Flight Safety Officer be placed organizationally and operationally under the Deputy for Operations.

2. That a Flight Safety Council be appointed and the importance of this Council emphasized.

3. That the existing attitude toward Flying Safety be aligned with the command policy i.e., the mission will not be compromised for the sake of Flying Safety, but our task is to perform the mission in the safest possible manner. Our pilots are professionals and above average pilots. They should be impressed with this and recognized for a job well done. This should also be emphasized to all personnel connected with aircraft operation. Play up the positive contribution to Flight Safety and play down the negative side.

4. A more thorough investigation made and remedial action taken regarding the tire situation. This also applies to any other accident potential. Records seem to indicate this particular problem arose in August of 1955 and has been allowed to continue without too much action.

5. Assign a maintenance officer as soon as possible and increase the supervision of this activity.

6. Increase the preventative maintenance on the airdrome.

7. Continue action to improve the Personal Equipment setup.

8. Insure that recommendation regarding safety of flight items are not ignored or allowed to die.

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9. Publicize the well done type flying here.

Suggestions - A column and pictures in the local paper. Submit order well done award system. Tell the story at Flying Safety Meetings. Give an award for well done (cigarette lighter, key case, etc.).

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