RESTRICTED SECURITY INFORMATION

# HANDBOOK fr AIR INTELLIGENCE OFFICERS

DEPARTMENT OF THE AIR FORCE

AIR FORCE MANUAL NUMBER 200-3

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#### FOREWORD

L PURPORE AND SCOPE. This Manual is intended for the information and guidance of six intelligence officers, and other personale conterned. It is recommended for selftrudy and as a reference for Air Pocer meetingence personale.

2 Contrastri. The text provides basic coverage of all aspects of air intelligence in brief form, and is designed to enable air initializence officers and other periodicel concrete to check themselves in the performance of them dates.

 RECOMMENDATIONS. Recommendations for the improvement of this Manual are invited. Such recommendations absold by forwarded to Darector of Training, Heidgostress USAR, Washington 73, D.C.

BY ORDER OF THE SECRETARY OF THE AIR PORCE.



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chapter 9

# Air Technical Intelligence

Musion of an technical intelligence - application of an technical intelligence - continuing air intelligence - collection and evaluation - the unfinished test

Air rechnical intelligence may be defined as the knowledge of scientific and technological developments of foreign powers as these developments affect the enemy's ability to conduct both offensive and defensive ait warfare.

Ever since aircraft and air weapons were first introduced as implements of war, there has been an inherent need for such knowledge to nuive our national security. As minitary availion has developed, the need for air technical intelligence has grown in direct proportion.

If this requirement was not recognized widely before World War II, it was demonstrated most clearly in that conflict when the enemy began to use new air weapons against the United States and our allies with the cappling impact of technological surpose.

As the end of World Wni II, the United States Strategic Bombing Survey recoided some of the leasons thus had been leaned with bitter experience since 1941, and reseated, as follows, the mandatory requirement for mit technark intrelligence:

"The ait war in Europe was marked by continuour development and evolution Thus process did not stop with VE Day, great strides have been made since in mechanes, weapons, and techniques. No greater or more dangerous missike could be made than to assume that the same policies and practices that won the war in Europe will be sufficient to win due near on e" AF4 200-1 MAY 1913

## MISSION OF AIR TECHNICAL INTELLIGENCE

The Seruegic Bombing Survey also recommended "continuous and survey securitic research and rechnical development on a national scale," accompanied by "a more adequase and megrated system for the collection and evaluation of intelligence to formalion" in this way the United States could keep pace with the evaluation of military transmittic three world.

Today the inalligence organisation in the Unred Starte AI Force and Navy substeed on a recognout of the needs: steed by has auvey. The over-all inaligence mission of back forces, user forth in An Force Regulation 2005, includes the prevention of strategic, encircle, or technological supuse from any source. "In other words, the mission of an steednical intelligence is to guade this mation against soft supprises 35 those encounteed in Wold Wai II

The reponsibility for prevention of referhological supprise that been assigned to the Au Technical Intelligence Center, within the Discourse of Intelligence, Heidquarters, USA's and USA and to into Office of Naral Intelligence, US Navy Other components the for security against strategic and detection supprise, which all of the above components working together in an attempt to fulfil the over-sil anisoto.

Success in this airempt depends in large measure on our discovery of reliable infoimation concerning the technical capabilities of air weapons of weapons systems which have been produced or are under development in foreign countries. We need all the recharcal information that we can obtain on all the equipment that any potential enemy may be able to use against us or against our owo air power in the event of war.

For example, consider this hyperhetical bomhary mission in warme one of our bombary is ordered to attack a target in eventy tentory. The bomber flues across the border unro the terntory of the eventy, tackts the invalual point, turns there and beads smaight for the target, reaches the warmeg point, drops the bombs, and then trens to get back to the safety of futurdly terntory again

From the moment it approaches the border on the way over to the time it crosses the same border on the way back, the bombet is a target for every all weapon of weapons ayseem that the enemy can use against it Such weapon include:

 early-warning radai by which the enemy is informed of the approach of our hombers

(2) radar countermeasures by which the enemy attempts to neutralize the radat equipment that out bomber carries

- (3) interceptor airctafi
- (4) gnided missiles
- (5) antiarcraft antillery
- (6) interception conttol radar

Therefore, if this matsion has been planned without knowledge of the energy's equipment, the crew of out bomber is pmbably in for a sensous technological surprise — a surprise which is likely to bring them down in energy remoty before they arrive at theu arget [k], on the other hand, our planning has been done in the laght of reliable infor-

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mation concerning the technical capabilities and limitations of enemy equipment, and if out bomber that been designed and constructed to cope with this enemy equipment, then the chances for the successful completton of the mission are materially increased.

### APPLICATIONS OF AIR TECHNICAL INTELLIGENCE IN WARTIME OPERATIONS AND JN RESEARCH AND DEVELOPMENT

Because interception by the enemy will hut out chances of accomplishing out mission, we need accurate information on the equipment that a potential enemy has in operation of under development. We need montauon on how this equipment a mide, how effective it is, what its strength it, and whit its watchness are

We need this information for two different yet closely telated efforts: 1) the planning of wattime operations similar to the hypothetical hombine mission just descubed, and 2) the destan and construction of USAF and USN equipment which can be used effectively against enemy equipment in combat. It is the responsibility of the U.S research and development program to give to the USAF and USN the equipment which can be so used To meet this tesponsibility the people who are engaged in one research and development piogram stust know what the requirements are - the requirements emposed by a potential enemy's continuing development of new aucraft and new weapons. Before oni research and development people can design a bomber which the USAF or USN will be able to use effectively in such an operation as, for example, our hypothesical bombing mission, they must have the answers to such questions as these:

What is the relative effectiveness of the potential enemy's early-warning radar at different altitudes?

What is the flying ceiling of maneuvesability of his interceptors?

What is the effectiveness of hts annaitcraft antillery at varying altitudes?

What is the altitude and range of his guided missiles?

What are the altraude limitations of his ground-control intercept radar?

How does the effectiveness of his countermeasures vary with alpitudet

How are all these equipments integrated and used to provide an effective ast-defense weapons system?

These queencos and many others regulting the technical quebhoes and humanons of foreing sequences more be answerd blow case research and development personnel one begin to detaga the except and an weapoon systems of an entry. Fonding the asserse and making those answers available for nis, both in the reserch and development poquim and in the planming of warmen operations, is the job of air reflocant and medicate

# CONTINUING AIR INTELLIGENCE

The job of ait rechnical intelligence does not end, however, with the discovery and reporting of faces about the technical capabilities and limitations of specific pieces of foreign equipment. Ait technical intelligence must discover and report facts about continuing developments in foreign theory and practice in all scientific and industrial fields which are related to the foreign potential for waging air warfare. Air technical intelligence most gather these facts together and use them to fall to, bit by bit, the whole picture of foreign capabilities in thir field. The tob can be described at follows:

"Oreasing concruming as intelligence appraising the effect of foreign manufacturing methods, and of technical advancement, particularly in nicotafi, as weapons, counterais weapons, guided mistiles, and availon medicine, upon the offentive and defensive capabilities of foreign powers."

#### COLLECTION AND EVALUATION OF AIR TECHNICAL INTELLIGENCE INFORMATION

The bits of information used in peering together it whole percore of foreign as walter potential, see collected by ait techneral lation officient (ATLO3), sho work in the officer of As and Housi Anteker In the officer of As and Housi Anteker Indianation (at the other and the anteker indianation (at the other and the attern indianation are minimuly observer, agents, own in ad coverts sources is aforger counting, own and coverts sources is aforger counting, own and coverts sources in a forger counting.

To assist in the collection of the required medical intelligence, flight surgeous have been placed in the field as assistant au araches (medical) as arrespicably important point. The number of flight surgeous serving in this capacity is small, but the backgound and training of these officers. have made them keenly aware of the information and intelligence that is required to preserve our national safety.

ATI operations date back to the days of World War II, when the Unued States, lacking detailed informanon about the enemy's accraft and air weapons, sent collection teams out into the battlefields to pick ne crathed aircraft and other nurces of abandoned enemy equipment From a study of these samples, air technical intelligence analysts discovered valuable facts about the equipment, how it was made, and how it worked. In some cases they even found out where it was made. This information on enemy surcraft and equipment, incidentally, furnished new strategic bombing migers for the allied an forces and thus contributed materially to the neutralization of the sources of the weapons that were being used amuntr ut.

ATI reams of World War II made a subtrantal contribution to the winning of the war, and there is no intention to permit in the future die lott of the lessons that have been learned from the experience of ATI collectors on the fields of battle

Aur rechnical hairon officien ratidy comtorning pescentra developments in the scence and technology of foreign any power These officient, runnel or goot agaittation of the state of the state of the relationship of the state of the state relationship of the state of the state relation of the state of the state state back of the state of the state state relation of the findings of specific its consideration of the findings of specific its consideration of the findings of specific its consideration of the findings of specific the state state state state state state state state its consideration of the findings of specific from this find of evaluated dats, the state APN 246 3 NAY 1633

lysts produce the over all picture of foreign capabilities to wage all warfate.

#### THE UNFINISHED TASK.

There is no pretense that the picture of these current capabilities -- not to mention the future capabilities of any potential army - is now complete. There is no pierense that an technical intelligence now has all the information that is required for the prevention of technological surprise, today or tomotrow. Much of the information that is required for this purpose is closely guarded by foleign powers, just as military information about out own developments is closely exarded by our own military establishment Much of the information that is needed for the completion of the picture of foreign capabilaties must be deduced from the scattered buts of data that are obtained from various sources, i.e., from the analysis of specific pieces of foreign equipment and from the au technical liaison officers' continuing exploration of source materials which they can discover and develop

Becuse of the difficulties of collection and because of the difficulties which are obvious by morelyed in this required process of dedactora, there are, admittedly, gaps in the round picture of fereign capabilities: These gaps must be filled in as quickly and as carefully as possible to provide tadequire sufeguerable for this nation against sudden.

The job of ait technical intelligence is far from completion, sud it will rematus au unfnashed, task as long as a three see new developments in military aviation and in related fields. The point is recognized in the official statement of the mission of the Att Technical Intelligence organization: "Creating contourney an intelligence."