

NOTES ON THE 1936 AIR CORPS WINTER MANEUVERS

More than 300 officers and enlisted men from Barksdale, Langley, Mitchell and Selfridge Fields were engaged in conducting cold weather tests of clothing and equipment in the New England area, under the command of the Commanding Officer of the 8th Pursuit Group, GHQ Air Force.

Concentration of all units at Mitchell Field, New York, began on January 26th (1936), when the Group Commander and members of his staff arrived in Pursuit type airplanes, followed by 12 members of Group Headquarters Detachment in a Ford C-4A transport.

Langley Field furnished ten Martin B-10B bombers for the Maneuvers; Selfridge Field, Boeing P-26A's; and the Transport planes comprised 2 C-4A's, 3 C-11's, 2 C-24's and 1 C-27. A B-6A was also used as a transport. On the return trip it was necessary to substitute a C-4A for the C-27, due to the inability of the latter plane to take off from Olmstead Field at Middletown, Pa., because of snow on the runways. In addition to the transportation of personnel, supplies and equipment were ferried by transports. The proper routing of the limited number of transports made available constituted a major problem.

By February 1st, all units had moved into the tactical position assigned them for the first phase of the Maneuvers - the Bombardment Squadron at Concord, N.H., and the Attack and Pursuit Squadrons at Mitchell Field. The bombardment Squadron then made attacks on the Mitchell Field area, defended by Attack and Pursuit, with the use of the method of interception developed during the GHQ Air Force Concentration AF Plan B, which provided that a ground radio warning net be thrown around an area to warn the defending forces of arrival of enemy aircraft.

Completing the first phase on February 7th, the Command Post moved to Concord, followed by the Attack Squadron and members of Group Headquarters. The Pursuit Squadron, based at Burlington, Vermont, defended that area against attack by the Bombardment and Attack squadrons.

Although the tactical situation was made secondary to the testing of clothing and equipment, the report, showing a total of 437 tactical missions accomplished in 1100 hours of flying over approximately 150,000 miles, gives evidence of the success of the tests. These 1100 hours, added to 1500 hours of non-tactical flying (including transport movement, movement of units getting into position for tactical operations and staff movements) total 2600 hours flown over approximately 300,000 miles. The absence of engine failure reports during the exercises is highly complimentary to the type of equipment now in use, especially considering that tests were being conducted on grades of oil and other engine accessories.

In the 100 transport flights no accidents of any description were encountered, despite that landings and take-offs were made from ice and snow-covered runways by pilots unfamiliar with cold weather operation. This no-accident record hung up by the pilots and their crew chiefs is deserving of the highest praise.

In the 2600 hours of flying there were three accidents, two in Pursuit planes being previously mentioned. (Editor's note: This refers to an earlier report on the Maneuvers which is not currently available.) The crash of a B-10 was due to the

landing gear failing to lower while in flight. Pilots at Concord had been previously instructed that, in case of failure of landing gears to operate, to proceed to Mitchel Field and there attempt a landing. Upon coming in to make a landing at Concord, Lieut. T. J. Cunningham, pilot of the B-10, attempted to lower the wheels and, not being able to do so, radioed his difficulty to the ground station and then proceeded to Mitchel Field, where he accomplished a safe landing on one wheel which he succeeded in lowering. Very little damage was done, due to the sturdy construction of that type plane.

Among the 130 items of clothing and equipment tested were skis for P-26A and A-12 planes; special oil for machine guns; tents, with sleeping bags and pneumatic mattresses; flying clothing, including shoes, gloves, vests, jackets, helmets and trousers; engine heaters, covers and fire pots of varying designs; heaters for cabins of transport planes; repair tents for making adjustments and inspections; improved priming systems; engine starting accessories; portable night lighting equipment; special grades of engine oils and lubricants, and Snogo plow for clearing snow from runways.

Bomb release mechanism, it was determined, do not function as efficiently as now constructed. On the other hand, machine gun operation was found to be satisfactory when using a specially prepared oil, but it was definitely determined that more personnel is necessary to care for the guns under cold weather operation than in warmer climates.

Conclusions were reached that heated cockpits are desirable for winter operations due to the restrictions imposed on the pilot when wearing heavy clothing. Three methods of heating airplane engines that had been standing in the open and exposed to the weather appeared feasible. One involved the use of steam heat; the second, the utilization of the gases from the engine exhaust; and, third, the use of electrical equipment. If steam heating is used there must be available hangars in which to store planes while not in use, in order to prevent freezing in the system. Utilization of the exhaust gases is considered impractical in planes of the Pursuit type. The use of electrical equipment would require another generator or battery, thus adding weight, reducing speed, maneuverability and a further reduction in carrying capacity for military loads.

Primarily, the New England Tests involved weather. The maneuvers further established the value of a reliable weather service. The central station, located at Concord, was able not only to make predictions of the next day's conditions and assist in mapping out tactical flight missions in advance, but was also able to give and receive reports of changing conditions by radio at all times when planes were in the air.

It was found that when operating from bases such as those at Concord and Burlington, where snow removal equipment was available, the use of skis and chains on airplanes was unnecessary, although several planes were equipped with them. Steel-studded non-skid tires tested in the maneuvers were delivered on seven days' notice. This was regarded as a remarkable feat, considering that five days is the normal time allowed for the manufacture of a regular tire.

Representatives and observers from the aircraft industry, as well as a representative from the U. S. Navy Bureau of Aeronautics, took an active part in the maneuvers. Enough has been learned to convince officers that these have probably been the most productive winter maneuvers so far held.

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