
OPERATION MARKET GARDEN 2004
AIR PLANNING BRIEF
SUPPLEMENTAL INFORMATION

OPERATIONAL READINESS

IX Troop Carrier Command and Nos. 38 and 46 Groups RAF are experienced and well proven forces. Each has taken part in several previous airborne operations, including the invasion of Normandy. IX Troop Carrier Command has recently returned from operations in Southern France and along with the RAF the combined transport forces have been involved in airlifting much needed supplies to the Armies in northern France. All freight transport missions to the continent have been suspended so as to achieve maximum operational readiness for the coming operation and subsequent resupply.

TROOPS

Paratroops

The minimum DZ for a single serial of paratroops is 1km x 1km (a Serial is normally a Battalion or the equivalent).

Each DZ may be reused by up to a maximum of 4 successive serials of paratroops in a single lift.

This enables a British brigade (3 bns + HQ etc) or US regimental combat team to be landed in a single 1km square in one lift.

The same DZ may be reused by paratroops or gliders (if the terrain is suitable) on the following day if it is not still occupied.

Once a DZ has been used by gliders it becomes hazardous to further paratroop drops.

Paratroops may not drop on rivers, towns, cities, or woods. If part of unit is dropped on unsuitable terrain they will take losses.

Glider Troops

The minimum size for an LZ for a single serial of gliders is also 1km x 1km. The LZ may accommodate up to a maximum of 3 serials. These may be in the same lift or separated in separate lifts.

Once used by 3 serials the LZ is full of wrecked gliders and unsuitable for further landings by either gliders or paratroops.

Gliders may not be landed on rivers, towns, cities or woods. If part of serial lands on one of these it will take losses.

Polder may be landed on, but terrain intelligence suggests that losses to the troops will be in the region of 50%.

LZ may be intersected by streams or canals but this may result in increased losses on landing. The exact level of losses will vary according to circumstances, but a working average of 5% losses per major linear obstacle can be used. Roads and highways offer no obstacle unless, of course, they are raised on an embankment!

Air Transportable Troops

An air transported force requires an operable airfield in friendly hands. See later for details of the ways in which airfields can be repaired and brought into use.

Supplies

Supplies may be dropped by parachute, landed by glider or flown into an airfield by transport aircraft. The normal restrictions (above) apply to glider or air transported supplies.

Parachuted supplies require a minimum 500m x 500m DZ and the same DZ may be used for as many serials of supplies as required. If bomber aircraft are used for dropping supplies, increase the minimum DZ size requirement to 1km x 1km (they are not as accurate in their drops).

Parachuted supplies can be dropped anywhere. The important factor is the ease of recovery by the ground troops. Dropping in a city, forest or river would be a little counter-productive! The number of supplies recovered from any drop will depend on local circumstances.

ENEMY FLAK DEFENCES

The latest intelligence on flak positions in the target area is shown on the Flak Intelligence Trace

Flak can have a devastating effect on slow-moving transport aircraft since they are unable to evade during the final approach to a drop. Estimated losses from the overflight of a single flak unit would be around 5% destroyed and 10% badly damaged.

Flak can be suppressed by ground attack aircraft escorting the transport formations. It is not necessary (or practicable) to actually destroy all the defending flak positions, but the anti-flak missions will reduce their effect.

Flak positions cannot be effectively suppressed during an actual drop/landing because the supporting aircraft cannot effectively operate in the same area at the same time (the risk of collision etc is far too high).

ACCESS ROUTES

During the final 10km approach to the DZ/LZ (i.e. from Target Rendezvous to target) no course changes are permitted since this would disrupt the formation and prevent the airborne troops from making their final preparations for drop/release.

No two flight paths in the target area may cross. A clear airspace of 5km beyond the DZ/LZ must be allowed for the transport aircraft to climb and turn for the return journey. It is important to consider this when planning LZ/DZ near flak concentrations.

Returning aircraft may use the approach route for the return flight as they will be at a higher and safer altitude.

AIRLIFT CAPACITY

The airlift capability is organised into tactical units known as 'serials' made up of a single British troop transport squadron (approx 30 aircraft) or pairs of US troop transport squadrons (total approx 45 aircraft).

A serial is the appropriate number of aircraft to tow or airdrop a battalion-equivalent unit.

Because of the differing size of British and American serials the respective British and US organise their airborne troops differently. This means that British paratroops can use US serials, but US paratroops cannot use British serials.

This organisational arrangement cannot be changed in the time available.

The total paratroop airlift capacity available is 44 serials as detailed in the Allied Briefing.

Whilst two lifts per day is theoretically possible for the transport forces, the absence of a moon and the distances involved means that there would be unacceptable losses on the transport force (one landing and one take-off per day would have to be in the dark). General Brereton (your boss) has therefore instructed that only one lift per day should be assumed.

ROUTE PLANNING

You must select a route or routes for your air transport aircraft to follow to and from the target area. The selection of the optimum route is critical for many reasons and therefore the exercise of some care in planning is recommended.

The plan should weigh up the advantages and disadvantages of single as compared to multiple routes:

SINGLE ROUTE ADVANTAGES

- * Concentration of escorting air resources.
- * Easier navigation and rescue in channel.
- * Enables use of shortest possible distance route.

MULTIPLE ROUTE ADVANTAGES

- * Enemy defences confused and split.
- * Length of each aircraft stream shortened (and hence smaller target)
- * More simultaneous drops made in different locations.
- * Risk of whole operation adversely affected by weather reduced.

The longer the distance flown to the target the greater the risk to the transport aircraft and gliders from enemy fighter action and breakdowns.

Flak. The danger zones of the known enemy flak concentrations are shown on the route planning trace provided. At normal transit the losses that can be expected by the overflight of such concentrations would be between 1-2% destroyed and 5-10% damaged.

Dog-leg turns over water are risky and should be avoided.

Dog-leg turns for glider-towing units should be avoided because it is a difficult manoeuvre and usually results in additional aborts.

RESUPPLY FROM THE AIR

For the purposes of MARKET GARDEN the only elements of supply for both airborne and ground forces are Ammunition and Fuel. All other forms of resupply (food, medical stores etc) are ignored and factored into the above. The airborne forces, being non-mechanised, need little or no fuel. Supplies are represented by AMMO or FUEL supply points.

The number of points carried by a serial depends on the aircraft type, as follows:

Aircraft	Supply pts Per Serial
Douglas C47 "Skytrain" (Dakota)	5 (RAF) 8 (US)
B24 Bomber	5
Armstrong Whitworth Albermarle	2
Handley Page Halifax	3
Short Stirling	6
Waco CG4A Glider	6 (RAF) 9 (US)
Horsa Glider	8 (RAF) 11 (US)
Hamilcar Glider	19 (RAF only)

Obviously, some supplies para-dropped do get lost, so a planning margin of around 10% should be allowed when assessing numbers of supply points to be delivered.

Airborne divisions drop with a minimal load of ready-use supplies in unit hands, but additional supplies will be required by unit commanders.

AIR ESCORT AND ANTI-FLAK ALLOCATION

These two types of mission are quite distinct. Aircraft allocated to a particular role cannot be switched easily (or at all once the mission is launched). All escort aircraft are based in Britain, and the detailed list of escort forces is in the Allied Briefing.

Air Escorts. These are equipped for air-to-air dogfighting and are there to protect against defending fighters. The normal minimum number of escort fighters is assumed to be on a ratio of one fighter squadron to every 3 serials to be protected.

Anti-flak aircraft are equipped for an air-to-ground role. They fly low and ahead of the air transport columns and try to spot flak positions and suppress them. These aircraft are not equipped to be effective in air-to-air combat and so are vulnerable to enemy fighters. Anti-flak operations cannot take place under air transports or when they are conducting a drop.

FORWARD AIRFIELDS

New airfields must be opened up at every opportunity to provide options for airtransporting troops and to give the tactical air forces additional forward bases from which to fly ground attack and air cover missions.

The known enemy airfields are marked on the game map. These must all be assumed damaged and in need of repair before they can be used. There may be other, as yet unlocated, airfields. To survey the state of existing airfields Airfield Survey Detachments have been attached to XXX Corps and they will closely follow the advance.

PREPARING AIRFIELDS FOR USE

Airfield construction and repair is carried out by 12 Army Group Royal Engineers, consisting of:

- 13 Airfield Construction Group
- 16 Airfield Construction Group
- 5357 Airfield Construction Wing (RAF)

At present 13 ACG is attached to XII Corps and 12 ACG and 5357 ACW are attached to XXX Corps.

Each airfield construction unit is composed of 2 sub-units, each of which can work on a separate airfield if required. Tasking of these units is by the Corps HQ that controls them at your request.

Although airborne and airtransportable troops can use a new airfield almost as soon as it is repaired, use for prolonged periods requires more work and preparation. There are two units that do this:

- Airborne Forward Delivery Airfield Group (AFDAG). The AFDAG is a battalion-strength unit organised and equipped to manage as a forward airfield for the purposes of an airborne operation. They require air transport resources of 5 RAF serials or 4 US serials to airlift them, but do not require ground personnel at the airfield to unload their equipment.
- 878 Aviation Engineer Battalion. This is an American Unit equipped to prepare (from scratch if necessary), repair and/or expand an airfield as required. This unit will require 4 US glider serials of airlift and can unload their own equipment.