THE CAMPAIGN FOR NORTH AFRICA
THE DESERT WAR 1940-43

AIR & LOGISTICS GAME RULES OF PLAY

UPDATED WITH INTEGRATED ADDENDA & ERRATA

THE AIR GAME

JULY 2021

THE AIR GAME

The following rules Sections cover the air war in ***CNA***. In essence, all planes are represented individually, and fighters have pilots. Each type of plane has differing characteristics and mission capabilities. All of these are listed in the Aircraft Characteristics Charts for each nationality. Yet, in keeping with the tone of the land game, the feel of the game is operational. While there is plane-toplane combat, it is not resolved tactically, and all strengths have been considered operationally.

Ideally, the air portion of the game requires a separate Player for each side. There is a large amount of paperwork involved, and, even though there were relatively few planes in Africa, a Player may have· to juggle operations for 500 to 1000 aircraft during a given OpStage. The rules for the Air Game are a lot simpler than those for the land game. Air Commanders should simply keep their Characteristics Charts handy and be prepared to do a lot of planning.

[33.0] SEQUENCE OF PLAY: Air Game

Note: It is possible to use the Land Game and Air Game Rules while omitting the Logistics Game rules.

LAND/ AIR GAME-TURN SEQUENCE OF PLAY

Play of the game should proceed in accordance with the following outline.

I. INITIATIVE DETERMINATION STAGE

The Players determine who will have the initiative for the coming Game-Turn (see Section 7.0). The Player going first within the Operations Stage (see below) is known as "Player A"; the other is "Player B".

II. STRATEGIC AIR PLANNING STAGE

A. Designation Phase
The Players assign their airplanes to fly Land Support or Strategic missions.

B. Axis Malta Availability Determination Phase
The Axis Player determines the amount of support he will receive from his abstracted N. African Theatre airforce for Raids on Malta.

C. Strategic Mission Assignment Phase
Planes designated as flying Strategic missions are assigned. The Axis Player assigns his planes to Raids on Malta or naval convoy protection. The Commonwealth Player assigns his planes to naval Recon missions or Bombing Reserve.

D. Malta Raid Phase
The Axis Player resolves flak suppression, antiaircraft fire and bombing missions against Maltese air facilities. (Note that Commonwealth warships stationed at Valetta may only be attacked by Land Support Missions.)

III. NAVAL CONVOY STAGE

A. Naval Convoy Schedule Phase
The Axis Player refers to the Axis Naval Convoy Level Chart and then to the Axis Convoy Capacity Table and rolls one die to determine the total tonnage available for the *next* Game-Turn. He then plans what specific cargoes the convoys will carry and their routes.

B. Convoy Resolution Phase
1. Naval Convoy Reconnaissance Segment: The Allied Player resolves Strategic Convoy Reconnaissance missions.

2. Convoy Lane Assignment Segment: Axis convoy protection aircraft are assigned CAP missions in specific Convoy Lanes. Commonwealth Bombing Reserve aircraft are assigned CAP, Flak Suppression or Convoy Bombing missions in specific convoy lanes.

3. Convoy Bombing Segment: All air-to-air combat, Flak Suppression, anti-aircraft, and convoy bombing is carried out.

IV. FIRST OPERATIONS STAGE

A. Initiative Declaration Phase
The Player who gained the initiative in Stage I now states whether he will be "Player A" or "Player B" for this particular Operations Stage.

B. Weather Determination Phase
The Player with initiative rolls for weather (see Section 29.0). All adjustments for unusual weather are made at this time, including any additional evaporation of Fuel/Water from "Hot Weather."

C. Organization Phase
(The following Segments
are undertaken in any order desired).

1. Reorganization Segment: Attachment and/or assignment of reinforcements, replacements, or any other non-assigned units including Trucks may be undertaken. Detachment of attached units may also be done.

2. Construction Segment:
a. Construction Completion Step: Any work scheduled for completion is finished, markers being removed or added as required. Units that have completed construction may freely be moved.

b. Construction Initiation/Continuation Step: Any continuing (or ensuing) work on projects is noted. Any units involved in such work may not be moved (voluntarily) during the remainder of the current Operations Stage.

3. Training Segment:
a. Training Completion Step: Units and Replacement Points completing a level of training are noted and the effects in Morale Applied.

b. Training Initiation/Continuation Step: Any units beginning or continuing training are noted. They may not be moved (voluntarily) in the remainder of the Operations Stage (exception: Reaction).

4. Supply Distribution Segment: Supplies in the same hex as land units may be redistributed at this time, subject to the maximum innate capacity of the unit(s) and the hex. Trucks may be loaded/unloaded:

5. Tactical Shipping Strength: Both Players execute the transport of cargo between African ports. **Note:** Axis coastal ships are represented in the game by counters. Allied coastal shipping is not represented by counters, and is limited only by the port capacities.

D. Naval Convoy Arrival Phase
All land and air reinforcements, Replacement Points, and Supplies scheduled for arrival (and actually arriving) appear in their designated ports of arrival or entrance hexes. Check Reinforcement Tables and Convoy Rules. The Axis Player plans for the arrival of future Replacement Points from the Axis Replacement Points Pool, if he is the phasing Player. In his first Naval Convoy Arrival Phase of each month, the Commonwealth Player consults the Commonwealth Production Table and determines how many Replacement Points he will receive one month hence and plans for their arrival.

E. Commonwealth Fleet Phase
1. Fleet Assignment Segment: The Commonwealth Player assigns his Ships to any Sea or Coastal hexes for Bombardment purposes.

2. Fleet Repair Segment: Any Repair work on ships is undertaken at this time.

F. Land Support Air Phase
(Only those planes assigned to Land Support Missions may be used in this Phase.)

1. Mission Assignment Segment: All planes that are fueled may be assigned Missions by the Player.

2. Mission Deployment Segment: Counters representing each type of plane assigned a Mission are placed in their hex of assignment.

3. Air-to-Air Combat Resolution Segment: Combat between opposing aircraft, including any caused by Scramble and Interception, is resolved. Mission aborts may take place before combat resolution.

4. Flak Resolution Segment: Aircraft in the same hex as enemy anti-aircraft units undergo Flak fire.

5. Mission Completion Segment: All missions that can be completed (e.g., bombing, strafing, etc.) are completed. Aborts may take place here, too.

6. Return to Base Segment: All surviving aircraft are returned to their base of origin (excepting those on transfer missions and some other rare occasions).

7. Tactical Maintenance Segment: Both Players may attempt to ready all planes eligible to fly land support missions for the next OpStage.

G. Reserve Designation Phase
Player "A" designates which of his units he is placing in Reserve Status, indicating that with a Reserve marker (see Section 18.0).

H. Movement and Combat Phase
The following four Segments comprise the Movement and Combat Phase. Player "A" may, if he so wishes, repeat Segments 1 through 4 as many times as he desires within the restrictions of the Continual Movement rules (8.2). Each repetition must include all four Segments.

1. Movement Segment: All units except unattached trucks and tank recovery squadrons not in reserve and eligible to be moved may be moved. Non-Phasing Player ("B") may move units in accordance with the Reaction movement rules (see Case 8.6).

2. Breakdown Determination Segment: All vehicles and Motorized units of both sides are checked for Breakdown (Section 21.0). Broken down vehicles are indicated with an appropriate marker.

3. Combat Segment:
a. Position Determination Step: Both Players determine the "position" (Front or Back) of all Gun and Armor class units.

b. Barrage Step: Players secretly plot and then execute any barrages.

c. Retreat Before Assault Step: Player "B" may retreat before assault any of his units eligible to be so moved (see Section 13.0).

d. Force Assignment Step: Both Players secretly assign TOE Strength Points to anti-armor or close assault. Player "A" determines which assaults will be probes (although he need not reveal this decision) and which TOE Strength Points will be withheld from assault.

e. Anti-Armor Step: Both of the Players simultaneously resolve any anti-armor fire, extracting any casualties. Destroyed tank markers are deployed as required.

f. Close Assault Step: Close Assaults are resolved in any order as determined by Player "A." He announces which of them are actually probes after each is resolved.

4. Reserve Release Segment: Player "A" may release any of his reserves that he wishes to.

J. Truck Convoy Movement Phase
Player "A" may move his Second and Third Line (unattached) Trucks, replacement points and any POW's and Guards.

K. Commonwealth Rail Movement Phase
If Player "A" is the Commonwealth Player, he may utilize rail movement (see Case 8.7) to move land units or supplies. Otherwise this Phase is omitted.

L. Repair Phase:
1. Towing Segment: Player "A" may tow broken down and recovered vehicles.

2. Maintenance Segment: Player "A" may attempt to repair broken down, or destroyed vehicles which were not towed in this Phase.

M. Patrol Phase
If the Phasing Player has not engaged in Assault, he may use patrols for reconnaissance purposes.

At this point, Phases G, H, J, K, L, and M are repeated, except that for "Player 'A' " read ''Player 'B' '' instead.

V. SECOND OPERATIONS STAGE

Both Players repeat all facets of the First Operations Stage.

VI. THIRD OPERATIONS STAGE

Both Players repeat all facets of the First Operations Stage.

VII. STRATEGIC AIR RECOVERY STAGE

A. Return to Base Phase
All surviving planes from missions flown in Stage II are returned to their base or origin if possible.

B. Aircraft Maintenance Phase
Both Players may attempt to ready planes that have flown missions during the Strategic Air Stage.

VIII. END OF GAME-TURN

You have now completed one full Game-Turn, replete with airplanes and sandstorms and the lot! Congratulations. You may put in for a transfer, but before doing so, keep in mind that the Russian Front is the only other active Theatre.

[34.0] THE AIRCRAFT

GENERAL RULE:

Players will be handling individual aircraft in ***CNA***, each type of plane having its own characteristics. There are, basically, seven different types of planes: fighters, fighter-bombers, bombers (also classified as to night bombing capabilities), dive-bombers, transports, pure reconnaissance (some planes with additional capabilities may also fly recon), and flying boats. These planes can perform a variety of missions, all of which fit into one of the following roles: patrol (support of other planes), combat (bombing or strafing), recon, or transport.

Each plane is assigned to a specific squadron, whose Squadrons Ground Support Unit (base) is placed on the game-map — usually in an air facility (airfield, air landing strip, flying boat basin or flying boat alighting area). The Squadron Ground Support Unit (SGSU) services the planes for that squadron. The planes themselves are rated as to range, tactical air combat, bomb load and/or transport capacity, maneuver capability, fuel consumption and mission capability. Fighters are also assigned individual Pilots. Planes are useful only if they have been fueled and refitted after a mission.

CASES:

[34.1] AIRCRAFT CAPABILITIES

[34.11] Range
A Plane's range is the maximum distance, in hexes, that it may be flown *to* a hex to perform a mission. It is also the maximum distance from which it may return to a base from a mission. There is one exception to this: planes flying a transfer mission (simply moving from one air facility to the next) may be flown a distance equal to twice that of their listed range. Example: An Me109E based on a Landing Strip in hex C3101 may fly to hex C3133 for a strafing mission — a distance of 32 hexes, within its Range of 41 — and then fly back to its squadron base at C3101. The Me109E could not be flown from the mission hex to an Axis airfield in A0915 for two reasons: it is too far away and, generally, all planes must return to their Base of origin. Planes may not *save* hexes not flown (within a plane's Range) going out and use them coming back (e.g., the Me109E flies only 10 hexes to a Mission; it still has a Range of 41 on its Return, not 41 + 31 — the hexes not used flying to the Mission hex.

[34.12] Certain aircraft have more than one listed Range, usually as a result of an increased fuel capacity or bombload. Players are free to choose whichever range load they wish.

[34.13] Tactical Air Combat (TacAir)

This is the aircraft's combat rating *vis-à-vis* other aircraft, based on the number and type of armament carried by the plane. A unit with a parenthesized TacAir Rating (3) may not initiate air-toair combat.

[34.14] Bombload Capacity

This is the number of Bomb Points, called tonnage (but not actually in tons), that a Plane can carry. If a Plane can carry torpedoes that fact is listed along with the bombload capacity.

[34.15] Transport Capacity

This is the capacity of the plane, given in TOE Strength Points (infantry) and/or tons of supplies (see Case 54.5 for tonnage equivalents).

[34.16] Maneuver

This is a somewhat abstract rating that simulates the ability of a plane to fly faster, higher, and with greater agility than other planes. Maneuver ratings are always considered in relation to other planes. Maneuver ratings are used to modify Basic TacAir Differentials.

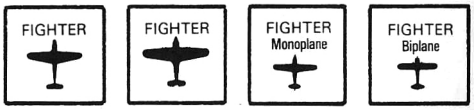
[34.17] Fuel Consumption

This is the number of Fuel Points a plane requires to perform any mission or emergency flight (see Case 37 .3). All Fuel Points are consumed during a mission, regardless of the type or distance of the mission.

[34.18] Mission Capability

These are the types of missions that the plane can undertake. Planes may only undertake missions for which they have capability. For a more complete description, consult the Section on missions, 39.0.

[34.19] All aircraft Ratings are listed on the Aircraft Characteristics Chart, 34.6. No aircraft counter contains any numbers; players keep track of all ratings on their various sheets.



[34.2] FIGHTERS

[34.21] Fighters, as a class of plane, include fighters (F) as well as fighter-bombers (FB). Fighter-bombers may fly either as a fighter *or* bomber, but not both at the same time. Thus, a fighter-bomber on a bombing mission may not break off to *initiate* air-to-air combat, although it may defend against such normally.

[34.22] Fighters and fighter-bombers usually fly Combat Air Patrol (CAP) missions; i.e., support and protection for bombers or a ground facility. Certain fighters may also *strafe* Enemy units/facilities. See the individual missions for details.

[34.23] Every fighter and fighter-bomber is assigned a pilot (see Case 40.1). Pilots affect the plane's air-to-air combat capability.

[34.24] Certain fighters/fighter-bombers may fly reconnaissance missions. Fighters and fighterbombers flying recon may not initiate air-to-air and may not bomb.

[34.3] BOMBERS

[34.31] Bombers, as a class of plane, includes bombers, dive-bombers and fighter-bombers.

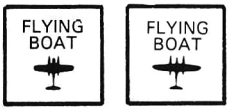
[34.32] Most Bombing Missions are concerned with dropping bombs (air bombardment) on targets in order to destroy, reduce or otherwise incapacitate them. Different bombers have varied capabilities as regards this.

[34.33] Bombers, in and of themselves, are usually considered as one or sometimes more of the following: Bombers, Night Bombers (NB), Dive Bombers (DB), Torpedo Bombers (TB).

[34.34] Dive-bombers are the same as regular bombers, with one difference: they can perform two Missions at once. Dive-bombers may both bomb and strafe the *same* target.

[34.35] Bombers may never initiate air-to-air combat; they may only defend if attacked. However, bombers may increase their TacAir Ratings if they fly in large formations (see Case 45.36).

[34.36] Certain bombers are capable of transporting (TT) personnel or supplies.



[34.4] FLYINGBOATS (SEAPLANES)

Several planes in the game are flying boats, or sea-

planes (FlyBt). These aircraft have all the normal range of capabilities that other planes have, with one exception: they may not be based in, take off from, or land in airfields or air landing strips. They must use flying boat basins or flying boat alighting areas.

[34.5] TRANSPORTS

[34.51] Both sides are given planes of minimal combat value that are used for transporting (TT) personnel and/or supplies.

[34.52] Transports are given a Transport Capacity, expressed in TOE strength points or Supply tons they can carry. Thus, a Ju52 can carry up to 2½ tons (or 20 Points) of Fuel or 1 TOE point of infantry. Transports can never transport vehicles or motorized units of any type (except motorcycle units).

[31.53] Transports may never initiate air-to-air combat. They receive no benefit from formation flying, as do bombers. Transports are relatively helpless in the air and must have heavy CAP to ensure their arrival.

[34.6] AIRCRAFT CHARACTERISTICS CHARTS

(see Charts and Tables)

[34.7] AIRCRAFT COUNTERS

[34.71] The aircraft counters do *not* represent individual planes in the game; they are used to note the location of planes and facilitate air-to-air combat.

[34.72] Planes on the ground are not represented by the Squadron Ground Support Unit counter (see Section 35.0). The actual types and numbers of plane in that squadron are kept on the Squadron Composition Sheet. No aircraft counters are needed. *(clarification)* This is literally correct, but, for Players' benefit, not exactly true. The SGSU does represent where the grounded planes are; they do not literally represent the planes themselves.

[34.73] When placing a squadron or squadrons (or part of a squadron) of planes in a target hex (the hex in which the mission will occur) the Player simply places one aircraft counter for each class of planes (fighter, bomber, transport) in the target hex to denote that planes of that class are in the hex. The counters are lettered so that the Players can note which planes/squadrons are represented by what counters.

[34.74] If any planes are eliminated, the Player simply reflects those losses by adjusting that total on his sheet, not by changing counters. The counter representing the planes remains in place.

[34.75] When resolving air-to-air combat, Players may want to use aircraft counters to represent individual fighters, bombers, etc., so that they may better visualize what is happening. Players may therefore take any aircraft counters not on the game-map and use them as they see fit in representing the individual planes.

[34.8] AIRFORCE REINFORCEMENTS AND WITHDRAWALS

The Players receive airforce reinforcements in the forms of individual pilots, individual planes and Squadron Ground Support Units (SGSU's). Low ranked pilots arrive as needed while higher ranked pilots arrive randomly. SGSU's arrive as needed. Airplane reinforcements follow a fixed schedule: in addition, the Commonwealth Player is required to remove various squadrons during the course of the game.

[34.81] The Commonwealth Player's airforce reinforcements may be placed in any air facility in Malta, Cairo, Alexandria, or off-map (except Ethiopia). The reinforcements may be divided amongst the receiving air facilities in any distribution the Commonwealth Player chooses except as follows:

A) No more than 10% of a month's airplane reinforcements may be sent to Malta.

B) No airplane reinforcements may be sent to a Malta/N African off-map air facility in excess of the facility's *current* squadron capacity.

The Axis Player's airforce reinforcements may be divided amongst the bases in the Tripoli–Tunisia boxes and Italy/Sicily/Crete as he chooses within the requirements concerning basing German bombers in the Mediterranean (see Case 43.1).

[34.82] SGSU's arrive in the Naval Convoy Arrival Phase of the Operations Stage. Axis SGSU's may arrive in any Tripoli–Tunisia box. Commonwealth SGSU's may arrive in any Alexandria/Cairo hex. SGSU reinforcements may be brought in as the Players desire subject to the following restrictions:

Both Players: An SGSU lost through enemy action may not be replaced for one complete GameTurn. This is in addition to any restrictions below.

Commonwealth Player:

A) U.S. Army Airforce SGSU's (i.e., those with "USAAF" historical designations and CPA's of 30) may not be brought in until August, 1942 (l/91 GameTurn).

B) The Commonwealth Player may never have more SGSU's in play than the total number of his planes at on-map facilities divided by twelve, plus two. E.g., if the Commonwealth Player has 438 planes at on-map facilities he may have 39 GSU's 438 + 12 = 36½ + 2 = 39 (rounded up).

C) The Commonwealth Player may, because of a counter shortage, find that he is somewhat short of SGSU's (there are enough commonwealth counters to hold approximately 1,200 planes). The Commonwealth Player may create additional SGSU counters only if he has the maximum number of planes possibly based at Commonwealth N. Africa off-map air facilities (i.e., calculate the number from the base's printed, rather than current, capacity). In such a case, he may create SGSU counters but is still bound by "B" above. These counters may not be U.S. SGSU's.

Axis Player:

A) The Axis Player may never have more German SGSU's in play than the total number of his German planes based at on-map facilities divided by ten. For example, if the Axis player has 286 planes based on-map, he may have 29 German SGSU's.

B) The restrictions on Italian SGSU's in play are the same as those for German SGSU's.

C) Captured Commonwealth planes may count as part of the on-map planes for the Axis nation to whose SGSU they are assigned.

D) The Axis Player may run short of Italian and/or German SGSU counters. He may only create more SGSU's for a nation if at least 30% of that nation's total airforce is based at off-map (N. African and/or Mediterranean) air facilities. This percentage is of total planes, not by types.

[34.83] One- to Six-Rated Pilot reinforcements arrive during the Naval Convoy Arrival Phase of the First Op Stage of each month. The Players always possess as many zero-rated pilots as needed for any situation (including emergency flight).

The Players determine the number and rating of pilot reinforcements once a month, at the instant of their arrival. The owning player consults the appropriate Pilot Arrival Table (Case 34.88 or 34.89) and if pilots are available, makes a single roll of two dice (although separate rolls for the German and Italian pilots). The Player adds the dice together and cross indexes the result under· all of the columns to determine the number of pilots of that nationality of each rating that he receives for that month (note that Hauptmann Hans-Joachim Marseille arrives automatically.)

[34.84] Airplane reinforcements arrive. in the Naval Convoy Arrival Phase. The reinforcements are listed as to the total of each type of plane arriving during that month (the beginning of the campaign has arrivals during certain specific gameturns instead of months). The planes must be divided amongst the weeks as evenly as possible and all of the planes arriving during a game-turn may arrive in the First Op Stage of that game-turn at the owning Player's choice (i.e., the Players need only divide the total by four, not twelve). The individual planes arriving are determined freely by the owning Player. E.g., in January of 1941 the Commonwealth Player receives a total of 59 planes (44 Hurricanes, 12 Blenheims, 2 Wellingtons and 1 Maryland). The Commonwealth Player could have 15 Hurricanes arrive the first game-turn; 10 Hurricanes, 2 Blenheims, the Maryland and both Wellingtons arrive the second game-turn; 15 Hurricanes arrive the third gameturn and 10 Blenheims and 4 Hurricanes arrive the fourth game-turn.

[34.85] The Commonwealth Player is required to withdraw certain squadrons during the course of the game. The dates, squadron types and plane requirements are listed in the Commonwealth Airplane Reinforcement and Squadron Withdraw! Schedule (Case 34.86). Squadron withdrawals are performed at the beginning of the month indicated. Squadrons may be withdrawn from any air facility on Malta or game map section "E". The Commonwealth Player simply removes from play all of the planes *and* pilots assigned to that squadron.

SGSU's are not removed unless they now exceed the limit determined in Case 34.82.

[34.86] Commonwealth Airplane Reinforcement and Squadron Withdrawal Schedule
(see Charts and Tables)

[34.87] Axis Airplane Reinforcement Schedule
(see Charts and Tables)

[34.88] Commonwealth Pilot Arrival Table.
(see Charts and Tables)

[34.89] Axis Pilot Arrival Tables.
(see Charts and Tables)

[35.0] SQUADRON GROUND SUPPORT UNITS

COMMENTARY:

All planes are attached to a specific squadron, and each squadron is represented by a Squadron Ground Support Unit (SGSU), which is the base for that squadron. Each squadron has its own Squadron Composition Sheet, and the planes and pilots — as well as supplies — attached and available to that squadron are listed on it. The squadron is the basic unit for the Air

Game, and finds its counterpart in the German "Staffel" and Italian "Squadriglia." Actually, the Squadron was next-to-lowest in air hierarchy (above the Flight); squadrons were part of wings, which were, in turn, part of groups (and their Axis counterparts). However, most of this was for purely administrative purposes. Therefore, the only organizational level ***CNA*** covers is the Squadron.

GENERAL RULE:

Squadrons — specifically the SGSU's — are used to maintain and supply the aircraft assigned to them. Each SGSU may contain only one class of airplane, and it is limited as to the number of planes it may handle effectively. The SGSU counters are considered vehicles (medium trucks) and have their own Capability Point Allowance printed on the counter. They have no combat values.

[35.1] SGSU CHARACTERISTICS

[35.11] An SGSU counter acts as base for all planes assigned to that squadron. Each SGSU counter is placed on the game-map to indicate where that squadron is located. They are usually placed at air facilities. SGSU counters do not include the airplanes attached to the squadron; SGSU's are the mechanics, trucks, equipment, etc., that are part of that squadron. They are not "air" units.

[35.12] SGSU's have their Capability Point Allowance printed on the counter; they are vehicles. SGSU's move in the Truck Convoy Phase. They have *no* Stacking Point Value and may stack freely with other units. (Their capability to handle the planes in their squadron is limited by the Capacity Level of the air facility they are based at.) SGSU's have no combat strength of *any* type; if an Enemy combat· unit moves adjacent to an SGSU that has no Friendly combat unit stacked with it, that SGSU may react (if possible). If it cannot react, it is eliminated.

[35.13] SGSU's arrive according to the orders of the player (See Case 34.8). Each SGSU has a unit designation (squadron ID number). These numbers are historical, but they are not used historically. If an SGSU counter is eliminated, it may be returned to play, as per 34.8, one GameTurn later.

[35.14] SGSU's require a certain amount of supplies themselves to function. Each SGSU must expend one Stores Point per Game-Turn. In addition, each SGSU requires one Fuel Point and one Water Point per Operations Stage. SGSUs without the required supplies (for themselves) may not repair their planes. (Maintaining the planes will, of course, require additional supplies of Fuel and Ammunition).

[35.15] Truck units may be attached to an SGSU as First Line Transport. They are used to carry the supplies that the SGSU needs to keep its planes fit and readied.

[35.16] SGSUs may be used to construct air landing facilities or flying boat alighting areas (see Case 24.7).

[35.17] SGSUs are necessary to refuel and refit airplanes; only SGSUs can perform such tasks. Aircraft may *refuel* at *any* SGSU: their own squadron or another squadron base. However, *refitting* must be performed at their assigned squadron base (SGSU) for maximum efficiency. If a plane attempts to refit at an SGSU other than its assigned squadron, the Player adds *one* to his die-roll for refit. In addition, Players should remember that planes may not be refueled or refitted beyond the capacity of the air facility (see Case 36.12, 36."2, 36.3 and 36.4).

[35.18] The United States Army Air Force (USAF on the counters) SGSU's may not be used prior to Aug. 1, 1942.

[35.2] SQUADRON COMPOSITION

[35.21] Each Squadron must contain the same class of aircraft: i.e., bomber, fighter or transport (recon planes may be assigned anywhere). Fighterbombers may go into either. Furthermore, it is recommended (but not a rule) that only one type of plane (e.g., Hurricane IIC or Ju87D, etc.) be assigned to a squadron. The latter is for ease in handling and supervision. The composition of each squadron is noted on the squadron's Composition Sheet.

[35.22] Planes may not change squadron assignments, with two exceptions:

a. The squadron's SGSU has been eliminated. In such case the aircraft are free to transfer to any other squadron, or they may be placed in reserve.

b. A squadron falls below 50% ready Capacity. Planes may then be transferred from other squadrons to bring that squadron back to a more than 50% capacity.

Planes reassigned to a new squadron are given a transfer mission (to fly to their new base), unless the new SGSU is in the same hex as the plane.

[35.23] The number of planes that may be assigned to a squadron is limited and dependent on the nationality of the squadron. Each squadron's limit is the maximum number of *ready* planes it can handle; a squadron can always keep ½ more in reserve (whether ready or not). Thus, a squadron with a capacity of 12 may contain 16 planes: 12 ready to fly, and 4 (½ of 12) in reserve (and incapable of performing a mission). The capacities are as follows:

Nationality	*Ready Capacity*	*Reserve Capacity*
Italian Squadriglia	9	3 (12 total)
German Staffel	12	4 (16 total)
Commonwealth Squadron (1940-June '41)	12	4 (16 total)
Commonwealth Squadron (July 41-43)	18	6 (24 total)

Players will note that starting with July 1941 Commonwealth Squadrons increase their capacity.

(corrected British initial squadron capacity numbers)

[35.24] Pilots (see Case 40.1) for fighter and fighter bombers are assigned to *squadrons*, not to specific planes. A record of pilots in a squadron is kept on the Squadron Composition Sheet, and pilots are given specific planes when they fly missions.

[35.25] Assignment and transfer of planes, where flying is unnecessary, is done in the Organization Phase. Otherwise, assignment and transfer are done in the Mission Deployment Segment (as a transfer mission).

[35.26] As noted, each squadron may keep a certain number of planes in reserve. These planes may be readied and armed (or not, as the Player sees fit), but they cannot fly if the ready capacity of that squadron is flying. Reserves are used to supplement aircraft that were not readied. Reserves may *not* scramble. They may use emergency flight (see Case 37.3).

[35.27] If an SGSU is eliminated (see Case 35.12) and there are planes on the ground with the SGSU, the planes are captured. They may be used by the opposing Player one Game-Turn later or destroyed as he sees fit.

[35.28] Italian and German planes may not coexist in the *same* squadron. They require separate maintenance. However, Italian squadrons may consist *entirely* of German planes (but not *vice versa*).

[35.29] A historical note: Although the Commonwealth and Italian SGSU's are indistinguishable as to type of aircraft handled (at least on the face of the counter), the German SGSU's are not. Each SGSU represents a specific type of plane. The Players need not follow this representation, as the SGSU's do not represent strict squadron OB. However, for those so inclined, JG Squadrons are Fighters, DG Squadrons are for Dive Bombers, KG for Bombers, ZG for Fighter-Bombers, and H and F Squadrons for Recon. (All, of course, with a few exceptions.)

[36.0] AIR FACILITIES

GENERAL RULE:

Air facilities include airfields, air landing strips, flying boat basins and flying boat alighting areas. These facilities are differentiated by the type and number of planes they can handle in terms of flight and maintenance. Air facilities are constructed (see Case 24.7), and counters are provided for that purpose for each type of air facility. Some air facilities exist at the start of each Scenario; these are noted in the instructions for that Scenario. Air facilities may be damaged and/or destroyed by Enemy bombardment. The number of SGSU's and airplanes which can use an air facility is dependent upon its current capacity level. Thus takeoff, recovery, and maintenance are limited.

CASES:

[36.1] AIRFIELDS

[36.11] Airfields are fully-equipped and engineered air facilities, with repair shops, full maintenance facilities and runway capacity for a large number of squadrons. Airfield construction is covered in Case 24.7. Each airfield is noted by an airfield counter in the hex in which the airfield has been constructed.

[36.12] Each Airfield has a *capacity level* of *six* (maximum). This means that it may handle a maximum of six squadrons (regardless of squadron size) at any one time. There may never be more than six SGSU's in a given airfield hex. However, see Case 36.5.

[36.13] If an airfield is landing six squadrons planes in a given Operations Stage, it may not receive any more airplanes, even in an emergency. Such excess planes must seek other fields or strips at which to land. Likewise, no more than six squadron's worth of planes may be readied at a given airfield (see Aircraft Maintenance Section 38.0).

[36.14] The capacity of an airfield (its levels) may be reduced by enemy bombardment (air or artillery). Players should keep track of the capacity level of an airfield. Thus, if bombing has reduced the capacity of an airfield from six to three, that airfield may handle only three squadrons at a time, until it is built back up to six. Note that, regardless of the capacity of an airfield, each airfield may still have six SGSU's with it, even though some may not be able to function because of a reduced capacity level. If an airfield is reduced to zero capacity, it is considered destroyed for all purposes.

[36.15] Airfields may also be damaged by desert raiders. However, normal land units never damage airfields (except by barrage; see Cases 36.14 and 12.5). Land combat units may capture or destroy (entirely) an airfield by occupying its hex. Airfields are, in essence, non-denominational; they may be used by anyone.

[36.16] Players should keep in mind that, while it is the airfield that has the *capacity* for maintenance, it is the SGSU that actually performs that maintenance (see Case 35.17).

[36.17] An airfield is a supply dump for supplies to be used by the SGSU's on that airfield. Fuel, ammunition, stores, etc., may be stored at an airfield as if it were a dump. Land units may *not* use airfield supply dumps unless it is an emergency. (Exactly what constitutes an emergency is left to the Player.) Any SGSU at an airfield may make use of the supplies there to maintain and ready its planes.

[36.18] Airfields have an intrinsic anti-aircraft Strength Point of one (in addition to any other anti-aircraft units present). The Strength Point may only be used against planes on strafing and/or dive-bombing combat missions.

[36.2] AIR LANDING STRIPS

Air landing strips are simply locations cleared and leveled for take-offs and landings, with only minimal maintenance facilities. They are represented by air landing strip counters, and they are treated exactly as airfields except that each air landing strip has a maximum squadron capacity of *one*. If that capacity level is destroyed, the strip is eliminated and removed from the game-map (see Case 24. 7 for construction details, and Case 36.1 for capacity details).

[36.3] FLYING BOAT BASINS

Flying boat basins are "airfields" for flying boat seaplanes. All flying boats *must* use a flying boat basin (or alighting area) for landing and maintenance. They may not use airfields or landing strips. Basins have the same features as an airfield, with the exception that their Capacity is *three* Squadrons. Construction details are in Case 24. 7. Players should note that they can bring supplies to a flying boat basin simply by bringing trucks into the hex; they need no other transport. Flying boat basins are placed in any coastal hex. As with airfields, flying boat basins have one intrinsic Strength Point of anti-air (see Case 36.18). Flying boat basins may not be used for normal aircraft.

[36.4] FLYING BOAT ALIGHTING AREAS

Alighting Areas are the same as flying boat basins, except that they have a capacity of *one* Squadron and they are immune to artillery barrage. They are still susceptible to Air Bombardment (see Cases 24. 7 and 41.36).

[36.5] OFF-MAP AIR FACILITIES

There are several off-map air facilities: e.g., the Tunisia boxes, the Commonwealth facilities such as Deversoir, on map E, et cetera. These are treated the same as other, on-map facilities with three exceptions:

a) There are unlimited supplies for airplane maintenance and repair;

b) They may exceed the SGSU limit up to the limit listed on the field;

c) They may never be destroyed by bombing (although they may be reduced to zero), and may be rebuilt using the Malta Air Facility Construction Table (one roll gives total levels for all CW air facilities each gameturn).

Axis Mediterranean bases are also different in one other way: they may not be bombed.

[37.0] FLIGHT

GENERAL RULE:

Flight is movement of aircraft. Flight is handled operationally: planes are simply assigned to fly to a given hex from a given hex. The path of flight in hexes may not exceed the plane's range. When the plane is to be moved, it is simply placed in its target hex, noting the path of flight (hexes it flies through) for purposes of CAP interception. Planes must be refueled to fly, and all planes except those flying transfer missions must be refitted to fly again (after they have flown any other mission). Flight is never affected by the presence of ground units, with the exception of flak fire.

CASES:

[37.1] THE MECHANICS OF FLIGHT

[37.11] All planes have a range (see Case 34.11). This determines how far a plane may fly in any one direction (unless the plane is flying a transfer mission, in which case it may double its range for the one-way flight).

[37.12] To move a plane, the Player notes the location of the target hex for that mission and counts the distance in hexes, using any path he wishes, from the base/air facility to the target hex. If the number of hexes falls within the range of the plane, the plane may be flown to that hex (see Cases 37.4 and 56.18).

[37.13] Having determined the path of flight, the Player takes an aircraft counter to represent each class of plane that is assigned to a mission in that hex and places that counter (or counters) in the target hex. The Player will have a record of what missions each squadron is undertaking. Flight takes place in the Mission Deployment Segment of the Land Support Air Phase, or in the Malta and Convoy Bombing Segments of the Strategic Air Stage.

[37.14] There is a form of flight called scramble, wherein planes on the ground may take off to counter-attack a nearby air threat (see Case 40.3).

[37.15] No plane may fly unless it has been fueled. Furthermore, other than units flying transfer missions, no plane may fly unless it has been refitted (see Case 37 .32).

[37 .16] If a plane that has been fueled flies any distance — it uses all its Fuel and must be refueled to fly again.

[37.17] Planes may be flown without Ammunition, although this could be a dangerous practice.

[37.2] RESTRICTIONS ON FLIGHT

[37 .21] Planes may never exceed their range in any one direction, unless they are flying transfer missions. Planes flying transfer may double their range for the one-way transfer trip.

[37.22] No plane may fly into or out of a sandstorm or rainstorm hex.

[37 .23] Planes must return to their base of origin; i.e., where the Flight started from. If, for some reason, that air facility had been so reduced that it cannot hold the returning planes then — and only then — may planes attempt to land elsewhere. If such a plane cannot land at any air facility it must crash land as close to an air facility as it can get. The Player then rolls one die. If he rolls a 1, 2, or 3 the plane — and pilot — survive the landing. The plane and the pilot are recovered during the next OpStage, and both may be ready to fly (pending refitting, etc.) in the following OpStage. If the plane does not survive (a roll of 4, 5, or 6), roll the die again. If the Player rolls a 1 or 2 the second time, the pilot survives the crash and escapes serious injury and may return to play one GameTurn following his crash.

[37.24] No planes may fly in excess of the air facility's capability level. Moreover, no planes may fly in excess of an SGSU's ready capacity (see Case 33.23). Thus, if there are five SGSU's on an airfield, but the capacity level of that airfield has been reduced to two, only two of those SGSU's may refit and ready their planes (thus enabling them to fly). The other three squadrons are forced to remain inactive because of the reduced field capacity. Likewise, an Italian squadron (for example) could send no more than nine planes on a mission, regardless of how many planes it has ready (as reserves).

[37.3] EMERGENCY FLIGHT

[37.31] If an Enemy land combat unit moves adjacent to a Friendly air facility that has readied planes on the ground, and those planes are in danger of being destroyed or captured by that Enemy unit, the readied planes may attempt an emergency flight to escape such danger. Emergency flight is a transfer mission. *(clarification/exception)* Planes in facilities located in Major Cities may always fly any mission, even if there is an Enemy unit adjacent. Facilities in Major Cities are immune to Enemy combat units moving adjacent.

[37.32] Only fueled planes — including reserves — may make an emergency flight.

[37.33] The Player assigns pilots and then rolls once for *each* plane attempting to escape. Using one die, if the plane is a fighter or fighter bomber and he rolls a 1, 2, or 3, or if the plane is a bomber, recon, or transport and the Player rolls a 1 or 2, then the plane escapes. On any other die-roll, the plane must remain on the ground.

[37.34] Emergency flight follows all normal rules of flight, except that it occurs out of sequence. Planes performing emergency flight may be flown up to double their range.

[37.35] The Player must exercise this option immediately. If an Enemy unit moves adjacent and the Friendly Player does not roll for emergency flight prior to the movement of another Enemy unit, all planes are stuck on the ground.

[37.4] DISTANCE CHARTS

(see Charts and Tables)

The Air Distance Table is provided as a handy reference to determining distances in hexes between major points. Considering the size of the game-map, counting hexes can be a chore.

[38.0] AIRCRAFT MAINTENANCE

GENERAL RULE:

In order to fly, planes must by *ready*. A *readied* plane is one that is refitted and fueled (being armed is optional, although it is a major contributor to plane survival). SGSU's have the capability of *readying* (i.e., performing maintenance on) planes. Aircraft maintenance is limited to each air facility's current squadron capacity. Planes may be refueled and rearmed by an SGSU without penalty, although refitting is performed with maximum efficiency by the squadron's own SGSU.

CASES:

[38.1] READYING AIRCRAFT

An airplane that is readied is one capable of performing a mission. Readying aircraft is performing maintenance so that the planes may be capable of flight and combat. There are three different types of maintenance. The different types of maintenance are:

a. ***Fuel***. A plane must have fuel to fly; no plane may fly without being refueled up to its capacity.

b. ***Refit.*** Refitting is repairing wear and tear from the previous mission. Desert flying proved extremely tough on planes, and keeping them flying was even tougher.

c. ***Arming.*** In order to engage in air-to-air a plane must have ammunition. In order to engage in bombing missions, a bomber must have bombs.

[38.2] REFUELING AIRCRAFT

[38.21] Planes must have fuel to fly. The amount of fuel needed to refuel a plane is its Fuel Consumption Rating, listed on the Aircraft Characteristics Chart. That is the number of Fuel Points required to enable one plane of that type to fly any one mission.

[38.22] Planes are refueled *at* air facilities by SGSU's. The SGSU does the actual refueling; the airfield or air strip simply limits the number of SGSU's that may operate there.

[38.23] An SGSU may refuel planes from any squadron. However, it may never refuel more planes than the maximum capacity of that SGSU (readied *plus* reserve). Therefore, an Italian SGSU can handle refueling chores for a total of 12 planes, regardless of squadron assignment, in a given Operations Stage or 12 planes in a given Strategic Maintenance Phase.

[38.24] To refuel a plane the necessary fuel must be in the hex containing the air facility (which usually acts as a supply dump for its planes). The fuel is subtracted from the total supply in the air facility, and the plane is marked as refueled on the Squadron Composition Sheet. This is done for each plane that a Player wishes to refuel. Refueling takes place in the Tactical Maintenance Segment or the Strategic Maintenance Phase, depending on the class of mission assigned.

[38.25] Planes do not have to be refueled (if the Player does not wish to use them), nor do refueled planes have to fly. Planes in reserve for a squadron may be refueled. Planes may sit refueled without flying for the entire game; fuel never gets stale.

[38.26] Players will note that certain aircraft have the capability of adding to their range by carrying extra fuel (or, to be exact, extra fuel tanks). This decreases their maneuverability but adds greatly to their range. Such tangs may be jettisoned if the planes become involved in air-to-air combat, in order to increase their maneuverability. In such case the Maneuver Rating reverts to its highest (normal) value, but the range of the plane also reverts to its lower range. This could cause problems in terms of getting back to base.

[38.3] REFITTING AIRCRAFT

Refitting aircraft is repairing and maintaining thein so that they can fly another mission. In order to fly any mission other than a transfer, a plane must be refitted.

[38.31] At the start of a Scenario, all planes are considered refitted, unless otherwise indicated. As soon as a plane flies any mission other than transfer, it must be refitted again. A plane that is not refitted may fly no mission other than transfer, even if it is refueled.

[38.32] Refitting takes place in the Tactical Maintenance Segment, for planes assigned tactical missions, and in the Strategic Maintenance Phase, for planes assigned strategic missions.

[38.33] Planes are refitted at air facilities by their SGSUs. It is the capacity of the SGSU that counts; the air facility only limits the number of SGSUs allowed. Each SGSU can refit up to the maximum planes the SGSU can contain (Ready plus Reserve). An SGSU can Refit planes from other squadrons; however, when doing so, the Player must add one to his refit die-roll if the plane being refitted is not assigned to the SGSU doing the work.

[38.34] Refitting is not a guaranteed process, like refueling. Players must roll for each squadron undergoing refit. If planes not belonging to that squadron undergo. a refit attempt, they are rolled for separately from the rest of the squadron. The Player simply determines the number of aircraft in the squadron undergoing refit and throws one die, making any adjustments (see Case 38.35) and consulting the Aircraft Refit Table (38.38). The table gives him the percentage of planes successfully refitted. (Round all fractions up.)

[38.35] When rolling for refit, the Player adds one to his die-roll if the planes do not belong to the squadron attempting the refit. If the planes attempting refit are Italian, the Player (be he Axis or Commonwealth) adds *two* to the die-roll. If the planes are German, add *one* to the die-roll. The affects may be cumulative.

[38.36] For every squadron undergoing an attempted refit — whether successful or not — the Player must have present and actually expend one Stores Point. A Player is not required to try to refit any plane; the choice to refit or not is up to him.

[38.37] Twenty percent (rounded up) of all refitted planes in a hex on the ground in which there is a sandstorm must be refitted again before they can be flown. Players should distribute this effect as equally as possible.

[38.38] Aircraft Refit Table
(see Charts and Tables)

[38.39] Players wishing to use a more painstaking if (slightly) more accurate, method of refitting planes may roll for each plane *individually*. The Player, in this case, rolls two dice. The Commonwealth Player refits a plane on a roll of 2 through 8; the Axis Player refits German planes on a roll of 2–7, the Italian planes on 2–6. The effects of Case 38.35 are increased to adding two to the dice-roll to account for the "wrong" squadron. *(This was, with some minor variations, the method used by the Playtesters. I can't truthfully say they loved it....)*

[38.4] ARMING AIRCRAFT

[38.41] Aircraft are armed to provide them with ammunition for combat and bombing. Arming is not necessary for flight; it is necessary to fly a bombing mission — and for safety.

[38.42] Planes are rearmed by SGSU's with the same limits and restrictions as applied to refueling. Ammunition comes from the air facility (supply dump).

[38.43] Each *squadron* requires *one* Ammunition Point to allow its planes to use their TacAir Rating. If that point is not supplied, each plane has a TacAir Rating of zero and may not fire at any Enemy planes (see Case 46.21).

[38.44] For bomb tonnage, one Ammunition Point is required for all bombs loaded onto a plane. Thus, a bomber with a tonnage capacity of 15 would need and expend only one Ammunition Point to carry its maximum bomb load (see Case 41.22).

[38.45] A plane's bomb load, whether used or not, is expended during a mission including Emergency Flight. (It was dangerous to land with bombs, so if unused after an abort they were often dropped in the sea or into the desert.)

[38.46] The armament status of a plane may be noted on the Squadron Composition Sheet.

[38.47] The cost in Ammo Points to load a bomber with mines (see Case 41.39) or torpedoes (see Case 41.7) is one Point.

[39.0] MISSIONS

GENERAL RULE:

No plane may fly without being given a specific mission. A mission is a one- or two-word description of the undertaking, the reason the plane is flying and what it is supposed to do. Generally, no plane may perform more than one mission at any one time. There are a large variety of missions, and they are all dependent on the class of plane and the target. The various missions and their descriptions are covered in a series of Cases following 39.1, which is general in nature. Missions may be aborted, or discontinued before completion.

Note: Often players may not know precisely what is in a hex, but will have to assign missions "blindly," and only find out what target are present when the planes arrive.

PROCEDURE:

Most missions involve different planes going after different types of targets. However, virtually all missions (except transfer) follow the same pattern. The sequence below should be followed for all missions, with exceptions taken as specifically noted in a mission description.

a. All Planes are placed in their mission target hex.

b. Resolve all interception and scramble.

c. Any air-to-air combat between fighters is resolved.

d. Fighters on CAP that survive air-to-air may, under certain circumstances, attack Enemy nonfighter planes.

e. Any planes remaining in hex after air-to-air undergo flak fire, if there are Enemy AA/Flak units in that hex.

f. Each mission is run in any order the Player wishes, the opposing Player noting and taking any damages inflicted.

g. All surviving planes return to base.

CASES:

[39.1] MISSIONS IN GENERAL

[39.11] Unless a plane is attempting emergency flight (see Case 37.31), no plane may fly unless it has been assigned a specific mission. Nor may any plane be flown if an Enemy land-combat unit is adjacent (see 37.3). *(correction)* See addenda for 37.31 concerning Major-Cities exception.

[39.12] Each Player may use any shorthand he wishes to note which mission is which. Each Squadron Composition Sheet has a section for listing the mission that a specific plane is undertaking in a given Operations Stage or Strategic Air Phase. The Player simply writes

the mission next to the plane, and that plane will attempt that mission.

[39.13] There are two major areas of missions: strategic air missions and Tactical Land Support. The former refers to any Commonwealth Missions flown against Axis Naval Convoys as well as any Axis Missions flown *against* Malta. Both of these Missions are flown *only* in the Strategic Air Phase of the Sequence of Play; moreover, they are flown only once per Game-Turn.

[39.14] Tactical land support missions are missions flown during an Operations Stage of the Game-Turn, affecting the movements and usage of land (or naval) units. Tactical land support missions are numerous in type and they are flown a possible three times a Game-Turn (or once an Operations Stage).

[39.15] There is no limit to the number of planes that may be assigned to a given mission to a given hex. There is a restriction to the type and class of plane that can undertake a given mission, as no plane may perform a mission for which it does not have the Capability. Plane Capabilities are listed on the Aircraft Characteristics Chart (34.6).

[39.16] Planes from different squadrons may be assigned to the same mission (or even target), and planes from the same squadron may be assigned to different missions. However, planes from the same squadron may not be divided between strategic and land support missions.

[39.17] There is no limit to the number of the type of missions that may occur in (or rather over) a given hex (limited, of course, by what is in that hex worth going after). Players should keep the planes assigned to each specific mission separate, so as to avoid confusion.

[39.18] There are basically five "types" of missions: fighter, bomber, transport recon and transfers. The later mission is the only mission that may be undertaken by *any* plane (see Case 42.1)

[39.19] Generally, a plane may fly only one mission per Operations Stage or Strategic Phase (with the exception of certain fighters and dive bombers; Case 39.2). A plane flying a mission in an Operations Stage may not fly in the Strategic Phase of that Game-Turn and *vice versa*.

[39.2] COMBINED MISSIONS

Planes can generally fly only one mission per flight. However, certain fighter aircraft had the ability to carry small bombloads, dropping them as they strafed a target. The Stukas, as dive bombers, also had this capability, although their armament placement prohibited them from performing in a fighter capacity. Thus, any plane with a capability notation of D ("dual") may strafe and bomb the same target as a combined mission.

[39.3] VOLUNTARILY ABORTED MISSIONS

[39.31] An aborted mission is one that is cancelled *before* any action is taken to complete that mission. No mission may be voluntarily aborted once some action, be it bombing, strafing, or even airto-air combat, has taken place.

[39.32] To voluntarily abort a mission a Player simply states that he wishes to abort; he then sends his planes back to base — if they qualify (see Cases 39.36 and 39.37).

[39.33] Aborted missions consume fuel, and bombers must expend their bombload, even though they do not use it.

[39.34] A Player is not required to abort *all* his planes on a given mission. He may choose to continue with some and send some back. The choice, when available, is up to him, within the restrictions below.

[39.35] Any fighter (any plane with a pilot, including fighter-bombers) may voluntarily abort if its *Maneuver Rating* is no lower than 10 Points the highest maneuver-rated Enemy Fighter on CAP in the Target hex. To determine this, subtract the "aborting" fighter's Maneuver Rating from that of the Enemy CAP fighter. If the result is -10 or better (-8, -2, + 3, etc.) the plane may abort. Of course, if there is no Enemy CAP, the fighters may always abort (exception: see Case 40.26).

[39.36] Non-fighters flying with a sufficient fighter Screen (Friendly fighters flying CAP for that hex; see Case 39.37) may abort if they wish. If there is not sufficient fighter Screen, they may *not* abort, unless the planes' Maneuver Rating is higher than the best Enemy fighter (a highly unlikely occurrence).

[39.37] A sufficient fighter screen is defined as a number of Friendly fighters (simply counting numbers of planes, not ratings) equivalent to at least 25% of the number of Enemy Fighters flying CAP in that hex. Thus, a bomber raid with 12 fighters as escort encountering 40 Enemy fighters on CAP could be aborted; if there were 50 Enemy planes flying CAP, the bomber mission could *not* be aborted. Fighters acting as such a screen may not abort if they act as a screen. Fighters cannot screen fighters.

[39.38] Aircraft may also abort *involuntarily*; e.g., as a result of AA/Flak fire (see Case 46.3 and 45.14).

[39.4] NIGHT MISSION

[39.41] Night Missions are essentially a Phase within the Land Support Air Phase. All Night Scramble, air-to-air combat, anti-aircraft fire and land support bombing are conducted separately from other Land Support Missions.

[39.42] Only certain missions may be flown at night and only planes with night-missions capability may participate in any night-mission actions (exceptions see Case 39 .43).

[39.43] Planes, with the exception of planes assigned Offensive CAP or Scramble missions, may only perform a mission at night if specifically assigned a night mission. In all other situations a plane, even if it possesses night mission capability, is considered to be performing a regular Land Support Mission.

[39.44] Planes flying at night benefit from the decrease in the ability of enemy aircraft to find them (e.g., planes on night missions may not be Intercepted), may not engage enemy aircraft in airto-air combat, and benefit from a decrease in the effectiveness of anti-aircraft fire. Conversely, non-fighters may not benefit from Formation Flying while performing a night mission.

[39.5] AIR MISSION SUMMARY

(see Charts and Tables)

[40.0] FIGHTER COMBAT

GENERAL RULE:

Fighters may fly a variety of missions. The most common fighter mission is combat air patrol (or CAP). Fighters may also fly strafing missions and flak suppression missions. Fighters are also capable of scramble, a form of interception CAP. A number of fighters are capable of carrying bombloads (especially fighter-bombers); these fighters are so noted and they may participate in bombing missions (see Section 41.0). Each fighter is flown by a pilot, whose Pilot Rating will affect the plane's air-to-air combat ability. Fighters may be assigned to only one mission in an Operations Stage (three in one Game-Turn) or Strategic Air Stage (one in one entire Game-Turn; see Case 39.2).

PROCEDURE:

Players assign each fighter/fighter-bomber or squadron a mission in a specific hex. Once the planes reach the target hex, the Player must then assign each plane or squadron to a particular *target* of the type previously selected (e.g., fighters assigned to offensive CAP would be assigned particular Enemy aircraft to attack only after they were in their target hex; fighters assigned to a strafing mission against "first-line Trucks" would be assigned trucks attached to a specific parent formation only after the planes had reached the hex (and any air-to-air combat and flak fire had been resolved).

[40.1] PILOTS

[40.11] Pilots are not represented by counters. Rather, pilots enter the game through the Reinforcement Track as "numbers," the number referring to the pilot's Rating. Each Player notes the pilots he is receiving and assigns them to his squadrons as they arrive. Consult the various Pilot Arrival Tables to see how this works.

[40.12] Pilots are assigned to squadrons. They are assigned to a particular squadron — and become available for use by that squadron — in the first Operations Stage of the turn of their Arrival. As each squadron usually contains only one type of plane, *that* is the type of plane the pilot is trained to fly. Thus, a pilot assigned to a squadron of Hurricanes is trained to fly Hurricanes.

[40.13] Pilots may be reassigned to different squadrons at any time. A pilot is reassigned simply by switching him from one Squadron's Composition List to another. A pilot that is being reassigned may not fly in the Operations Stage (or Strategic Air Phase) of his reassignment.

[40.14] If a pilot is reassigned to a squadron that contains planes of a different type than for which he was trained, the pilot must be trained to fly those new planes. It requires one full Game-Turn (or three Operations Stages) to train a pilot. Thus, a pilot switching from a squadron of Hurricanes to a squadron of Beaufighters may not fly for three Operations Stages.

[40.15] The Pilot Rating is his capability. Pilot Rating's are either 1,2,3,4, or 6. (The 6 pilot) represents the infamous Hans-Joachim Marsielles, the German Desert Ace). The Pilot Ratings are added to the plane's TacAir Rating when that plane is involved in any air-to-air combat. Thus, an ME Bf109F with Marseilles would have a TacAir Rating of 12. *(this last number corrected to 12 from original 14)*

[40.16] As Pilots are assigned to squadrons, the Player may have them fly any plane within that squadron (remember Case 40.14). Any plane that does not have a pilot assigned for a mission is considered to have a zero-rated pilot. There is an unlimited supply of zero-rated pilots.

[40.17] If a fighter is shot down, there is a chance that the pilot bailed out and can be recovered (see 45.65). If the pilot has been recovered, he may fly again three Operations Stages after his Recovery. He is returned to his squadron of assignment.

[40.18] There is an Optional Rule available for Players who are attempting a full campaign game and wish

to create their own Aces. In such a case, all pilots start the game with a zero Rating; there is no need to bring in Reinforcement Pilots (ignore any Reinforcement Pilots). However, for each five "kills" a pilot gets, he increases his Rating by one. A kill is any Enemy plane destroyed in air-to-air combat. There is no limit how high a rating a pilot may get. This should not be used for the shorter Scenarios.

[40.2] COMBAT AIR PATROL (CAP)

[40.21] Any plane that has F (fighter) capability (see the individual capabilities on the Aircraft Characteristics Charts) may fly Combat Air Patrol. Usually, fighters fly CAP. To denote that a fighter is flying a CAP mission, write CAP and the target hex in his mission column on the Squadron Composition Sheet. He should also denote whether this is offensive CAP (CAP-O) or defensive CAP (CAP-D).

[40.22] Offensive CAP concerns flying to a hex with the intention to shoot down Enemy planes. Defensive CAP is undertaken by fighters wishing to protect Friendly bombers or transport (flying as escort/screen for them) or to protect an installation or facility. The distinctions can sometimes become a bit blurred.

[40.23] If three or more fighters are assigned to *offensive* CAP in a given hex, the fighters possess the equivalent of an air Zone of Control (i.e., they are flying CAP over the hex they are in as well as all six hexes surrounding that hex). They may thus engage any Enemy planes that enter any one of those seven hexes.

[40.24] Fighters (or any plane with F capability) may fly CAP over any hex on the game-map that is within range. However, no plane based in Africa (on the game-map) may fly CAP of any type for or against Axis Naval Convoys. Commonwealth planes based on Malta may fly CAP against Axis Naval Convoys only. Axis planes based in Italy, Sicily, and Crete may fly CAP for Axis convoys. Remember, a plane flying CAP may not fly any other mission in that Stage.

[40.25] Example of CAP Missions

The Axis Player wishes to bomb Tobruk. He sends two squadrons of Ju88's to accomplish this. He also sends to the same target hex (Tobruk) as escort/screen two squadrons of ME Bf109E's and a squadron of Italian CR 42's. (They could have come from any air facility within range.) The Commonwealth Player has placed on defensive CAP above Tobruk two squadrons of Hurricanes. The Commonwealth flurricanes and Axis ME's and CR 42's engage in air-to-air to see whether the bombers can get through to complete their mission.

[40.26] Using the example in Case 40.25 we can best. illustrate the differences between offensive and defensive CAP. If the Commonwealth planes were flying defensive. CAP they would, first off, have no air Zone of Control (40.23). They would also not automatically initiate air-to-air combat. However, the Axis Squadrons would have to get through the defensive CAP to perform their Mission. If the Hurricanes were flying offensive CAP, they would have an air Zone of Control and they could initiate combat against the Axis planes. There is one additional — and important — difference. If fighters are flying offensive CAP, they would *have* to attack any Enemy planes entering their hex or any hex in their Zone of Control to perform a mission in that hex; they could not decide to not have combat. Exception: only Enemy planes in one such hex must be attacked. Defensive CAP planes may decline combat and abort; offensive CAP planes may not.

[40.27] Fighters flying Offensive CAP *may intercept* Enemy planes whose paths of flight enter the hex they are in or their air ZOC. After all plane counters have been placed to indicate their mission target hex, but before revealing the numbers of planes involved, a Player with fighters on offensive CAP may ask to see a path of flight. If that path coincides with his fighters, the Player with the offensive CAP may choose to intercept the Enemy mission right there. If so, air-to-air combat will take place, and any surviving planes may continue their mission. Fighters on offensive CAP *may* intercept only one mission per Operations Stage. *(clarification)* Note that it is possible for a mission of planes to be intercepted, have air-to-air, fly on, be attacked again with air-to-air, fly on, etc. The only requirement is that each hex be different.

[40.3] SCRAMBLE

There may, be a time when a Player wishes to either conserve fuel or, perhaps, retain some flexibility with his fighter force. *Scramble* gives him the ability to do that. Planes assigned to scramble missions are plap. es that stay on the ground until Enemy aircraft come within range. They may then, under certain circumstances, take-off and engage the Enemy in air-to-air combat.

[40.31] Only planes with scramble capability may be assigned a scramble mission. Planes assigned a scramble mission are rioted with an SC in the Mission column. No hex is assigned. Scramble mission may be assigned only in the Land Support Air Phases.

[40.32] Scramble occurs at the end of the Mission Deployment Segment. After all planes have been placed in their assigned mission hexes, any fighters assigned to scramble may take off and engage Enemy planes within scramble interception range. The farther the range, the lesser the chance of successful interception. A Player is not required to scramble his planes even if they are assigned to a scramble mission, but only planes assigned a scramble mission may scramble.

[40.33] If a Player decides to scramble his fighters so assigned, he notes the hex which he wants them to fly to and consults the Scramble Table (40.4), determining the distance in hexes from the base of the scrambling planes to the target hex. The path of flight may not include a hex (other than the target hex) containing other enemy fighters. The Player then rolls one die and checks the table to see if the scramble has succeeded. If it has, the planes have made contact with the Enemy. They are considered to be on offensive CAP now and will attack those enemy planes. If the Scramble is unsuccessful, the planes have flown and they still must refuel and refit. The choice of whether to Scramble is up to the Player, but all decisions are made in secret and revealed at the same lime (at the end of the Mission Deployment Segment).

[40.34] The Player wishing to scramble rolls for each *squadron* separately, even if more than one squadron is heading for the same target. Squadrons may not be split between different hexes for scramble purposes.

[40.4] SCRAMBLE TABLE

(see Charts and Tables)

[40.5] STRAFING

[40.51] Any plane with strafing capability (STR) may strafe ground forces and other selected targets. Mostly, fighters have strafing capabilities. Dive-bombers have the capability to both Strafe and Bomb a given target. Strafing is a mission, and precludes the undertaking of any other mission (with the exception of planes with STR/B capability).

[40.52] Planes on a strafing mission are assigned a target hex and a specific type of target (Case 40.54). This would be listed as, say, STR/Cl234/dump. Strafing missions follow the general course of all missions (39.0).

[40.53] Each individual plane may strafe only one target in a hex, regardless of how many different types or number of targets of a single type there are in that hex. Furthermore, strafing is resolved as a single attack against a target; it is not a repeated series of attacks against, say, each truck in a convoy. Note: a group of fighters assigned to strafe, for example, "infantry-type units" may attack each of two battalions attached to a Brigade in a target hex, so long as no one plane attacks more than one battalion.

[40.54] The following types of targets may be Strafed:

a. Infantry-type units

b. Trucks in Convoy

c. First Line Trucks (attached)

d. Supply Dumps

e. Grounded Aircraft

f. Tanks (only Hurricane II D's)

g. Ports

h. Water Pipeline

[40.55] Strafing may not occur in Major City hexes.

[40.6] STRAFING PROCEDURES

[40.61] ***Infantry Units.*** The strafing Player totals his TacAir Points (Remember, do *not* add Pilot Ratings in here; they apply only to Air-to-Air) and consults the Strafing Table. The Player may strafe as many infantry-type battalions or companies as he wishes, but each plane may strafe only one target (battalion) per mission. The Player then rolls two dice and checks that dice-roll under the column for the number of TacAir points applied to that battalion/ company. The result is the number of TOE Strength Points eliminated. If such infantry toe Strength Points were actually being transported by trucks, such trucks are also eliminated.

[40.62] ***Truck Convoys.*** This is treated in the same fashion as Case 40.61, with losses being in Truck Points. The Player being strafed determines which trucks are eliminated, except that the losses *must* be distributed as evenly as possible between the various types of "cargo" (i.e., water, fuel, Replacement Points, etc.) A strafing Player may choose to go after first line attached trucks in the same fashion. In such a case he would strafe the parent unit, designating its attached trucks as the target. Again, losses are distributed as evenly as possible.

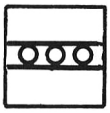
[40.63] ***Grounded Aircraft*** Treated similarly to Case 40.61, with the target being planes on the ground. The result on the Strafing Table however, is not the number of planes but rather the number of dice that the strafing Player must roll to see how many planes are shot up. Thus, if he gets a 1 on the Strafing Table, that Player then rolls one die; the result of that die-roll is the number of planes strafed and destroyed on the ground. Strafed Planes may be Recovered (45.6).

[40.64] ***Supply Dumps:*** The mechanics are the same as 40.62, the results are in the percentage of all supplies in that dump destroyed. Thus, a result of 1 equals 10%, 2 equals 20%, etc.

[40.65] ***Tanks:*** Strafing of enemy tanks by planes was done only towards the end of the campaign, and only by certain planes equipped with heavyenough cannon to pierce the tank's armour. The commonwealth Hur-

ricane Mark IID's were the only planes so equipped (with Vickers 40mm cannon). Strafing Tanks is accomplished much the same as strafing planes, with the second die or dice-roll producing the minimum number of Armour Protection Points that must be removed. Anything with an armour protection rating may be strafed. Any dummy tank counter strafed is automatically removed from play.

[40.66] ***Ports.*** Strafing of ports is combined — and is considered part of — a bombing raid on the port. The Player adds his Strafing TacAir Points then halves them, rounding down. He adds this to the total bombload delivered on the target (the port), and consults the Air Bombardment Table (See 41.5)



[40.67] ***Water Pipeline.*** Planes may strafe an Enemy pipeline in order to render it useless. The Player assigns the fighters a mission to strafe the pipeline in a given hex, uses the Strafing Table, and rolls the dice. If he obtains any result of 2 or more, the pipeline is destroyed. (This is not a "cost efficient" way of destroying a pipeline.)

[40.7] FIGHTER FLAK SUPPRESSION

[40.71] Fighters may use their TacAir Strength to "suppress" enemy anti-aircraft fire *before* it is used against Friendly planes.

[40.72] Fighter flack suppression does not produce any losses on either side. Rather the fighters divert the flak fire and cover for the other planes. However, any unsuppressed flak may fire at any planes in the hex, including any fighters on a flak suppression mission. Flak suppression is a mission.

[40.73] Fighter flak suppression is flown after airto-air is resolved but *before* any flak fire against planes is undertaken.

[40.74] For every three fighters (individual planes) that fly flak suppression, *one* point of antiaircraft/ flak fire is neutralized and may not be used that Operations Stage. Only light AA points and ship AA points may be suppressed by fighters. Heavy AA points may not be suppressed by fighters.

[40.75] Fighters flying flak suppression expend ammunition. The flak units neutralized also expend ammunition, as they are firing at the fighters!

[40.76] Anti-aircraft units may only be destroyed by bombing; see Case 41.3

[40.77] Planes may strafe ships to suppress flak, as a regular flak suppression run. They may not damage a ship by strafing. Ships may be damaged by bombing and torpedoes (41.34). Remember 39.2 (Combined missions).

[40.8] STRAFINGTABLE

(see Charts and Tables)

[40.9] NIGHTFIGHTERS

[40.91] Night fighters (so indicated on the Aircraft Characteristics Chart) have all the characteristics or regular fighters, with one exception: night fighters may scramble against a night bombing mission, but when they do, the Player rolling for scramble *adds* two to the die-roll.

[40.92] The following night fighters have their Maneuver Ratings lowered by 4 points when used during the day: Blenheim 1VF, Bf 110, and Ju88c.

[40.93] Planes on offensive CAP have no ZOC at night. *(typo corrected)*

[40.94] Any CAP must be designated as being flown at night, and such CAP/Escort has no effect on other missions. *(clarification)* There is no effect on other Day missions.

[41.0] BOMBING MISSIONS

GENERAL RULE:

Any plane with a Bombload Capacity greater than "zero" may engage in a bombing mission. There are many varieties of bombing missions, delineated by the target type. In addition, certain planes have the capability of engaging in night bombing missions, which decrease the chances of getting attacked by enemy CAP, while lessening the likelihood of damage to a target. Certain planes can engage in bombing missions while strafing. See 39.2. To determine the effect of a bombing mission the Player simply totals the Bombload Points (Tons) delivered to the target and consults the Air Bombardment CRT corresponding to the target type to see what damage, if any, has resulted.

PROCEDURE:

During the Strategic Air Planning Stage of each Game-Turn, the Players must assign any bombers that they wish to use in that Game-Turn either to land support missions, (not specifying what missions each plane or squadron will perform, but just assigning them to general land support missions for that Game-Turn), or to strategic convoy reconnaissance and/or bombing missions (Commonwealth Player only). All such assignments should be in writing. Any Malta bombing missions are resolved immediately, in the Strategic Air Planning Stage, and any bombers assigned to such a mission may not be reassigned or used again until the next Game-Turn. Any convoy missions are resolved during the appropriate Segments of the Convoy Resolution Phase of the Naval Convoy Stage of each Game-Turn; any bombers assigned a convoy mission may not be reassigned or used until the following Game-Turn. During *each* Land Support Air Phase (there are three in each GameTurn, one in each Operations Stage), both Players may assign any eligible bombers assigned to "land support missions" to specific missions and after air-to-air combat and flak fire are resolved, the missions themselves are resolved.

[41.1] RESTRICTIONS ON BOMBERS

Note: The term "bombers" generally refers to planes that do not require pilot points.

[41.11] Bombers may not scramble, nor do bombers have an air zone of control.

[41.12] Bombers may bomb only one target per mission, and that target must be selected prior to actual flight. (Sorry, you can't drop your excess bombs on Tobruk on the way back.)

[41.13] Bombers may abort before dropping their bombs on their selected target. (See Case 41.3.) However, whether the bombers abort or not, they are considered to have dropped their bombs somewhere, and thus expend their ammunition.

[41.14] In order to fly any mission (excepting Transfer), a bomber must be refueled and refitted (as well as armed).

[41.15] Players will note that bombers have parenthesized TacAir Ratings. This means that they may not be used except to fire back at Enemy fighters that attack them. See the Section on Airto-Air combat. (45.0).

[41.16] Certain planes may undertake two missions simultaneously (see Case 39.2) dive bombers may strafe and bomb the same target and fighters with bombload capacities may both strafe and bomb a target, if they have a "D" capability. *However*, fighter-bombers may *either* bomb or undertake a fighter mission; they do not have the capacity to undertake both types of missions at once. If a fighter-bomber is flying a bombing mission, it is considered to have a parenthesized TacAir Rating (unless it jettisons bombload).

[41.17] Torpedoes may be used only against ships and ports.

[41.2] LAND SUPPORT MISSION PROCEDURE

[41.21] Land support missions are concerned with bombing land installations, ports, personnel and equipment in furtherance of operations on land. Bombers assigned to land support missions for a Game-Turn are assigned a specific mission in a specific hex during the Mission Assignment Segment of a Land Support Air Phase. Thus, to assign a squadron of Wellingtons to bomb the port facilities at Tobruk, the Commonwealth Player would write "B-PF/Tobruk" (or any other reasonable representation of that intent). A counter representing all of the bombers of each type assigned to a particular mission in a hex is placed in that target hex (players will have to keep track on paper of which bombers are represented by each counter), unless they are intercepted en route by Enemy CAP (see Case 40.27). (That is why it is important for a Player to be aware of the path of flight; if it passes through an enemy offensive CAP Air ZOC, the Enemy fighters may attack the bombers). Bombers may also be intercepted by Enemy fighters assigned to scramble missions.

[41.22] Once a bomber has reached the target hex, any air-to-air combat is resolved. Then any flak fire is resolved. Then, after any losses are subtracted, any remaining bombers may drop their bombload, and the opposing Player determines the effects of same. He does this by totaling the number of bomb tons delivered against the particular target and referencing the proper portion of the Air Bombardment and Secondary Barrage Target Combat Results Table (41.5). He then rolls two dice reading sequentially and applies any results. Any surviving planes are then returned to base (subject to Enemy CAP interception on the way).

[41.3] LAND SUPPORT BOMBING MISSIONS

All Land Support bombing missions except ''mining harbors" are resolved using the Air Bombardment and Secondary Barrage Target Combat Results Table (41.5). Mining harbor attempts are resolved using the Mining Harbors by Plane Table (41.9).

[41.31] ***Bombing Personnel (B-CU):*** The effect of the anti-personnel bombing mission is to Pin a number of units (battalion-equivalent) in the target hex; see Case 41.9 for the explanation of Air bombardment pins. The Player totals his bomb total and consults the Air Bombardment CRT. He rolls two dice, reads the results sequentially, and cross-references that dice-roll with the bombload tonnage. The result is the number of battalionequivalent units Pinned. However, for this purpose, each tank or gun (artillery/anti-tank) unit is worth two units (AA/Flak units may be pinned in the way). The choice of units to be Pinned is determined the same as an artillery barrage (See 12.2). There is one exception to this section: Units in *Major Cities* may not be bombed unless and until the fortification level of the city is reduced to one (**1**) or less.

(clarification) The sentence at the end does not, of course, apply to Fortification counters. Units in Fortifications with a "2" level, other than Major Cities, may be bombed (with proper column adjustments: one left).

[41.32] ***Bombing Truck Convoys (B-TC):*** The results are given in the number of truck units destroyed. The defending Player must divide the losses as evenly as possible amongst type of trucks and types of cargo. Trucks in Major Cities may not be bombed by air until the city is reduced to zero ('0'). In addition, first line trucks (attached) may be bombed in similar fashion, except that first line trucks may be bombed only by planes with a "D" capability. The method and results are the same, however.

[41.33] ***Flak Destruction (B-FS):*** The results are in terms of the number of TOE strength points with an Anti-Air rating that are destroy0 destruction bombing takes place *after* flak fire, unlike fighter flak suppression.

[41.34] ***Bombing Ships (B-CF):*** The result is the number of Damage Points inflicted on the ships in the hex (See 30.34). Bombing of the Commonwealth Fleet may not be undertaken at night. Torpedoes may be used against ships (See 41.7). See also 41.6. Axis coastal shipping may not be bombed.

[41.35] ***Bombing Supply Dumps (B-SD):*** The result is the percentage of each type of supply in that dump that is destroyed. In addition, if there are any unattached trucks in the hex, for every 10% of supplies destroyed, one Truck Point is lost, choice of defender, dividing losses as evenly as possible. *(clarification)* Round all numbers upwards.

[41.36] ***Bombing Air Facilities (B-AF):*** The result is the number of capacity levels. That that facility is reduced. In addition, for every level destroyed, remove 10% of the planes on the ground (e.g., 2 levels, 20% planes), rounded down.

[41.37] ***Bombing Major Cities/Fortifications (B-F/C):*** Any Major City or hex with fortifications may be bombed. If the target is a Major City, the mission may be flown at night (41.4). Only one level of fortification may be destroyed in any Operations Stage. See also 22.35. Players may use this mission to neutralize a temporary repair facility that is not in a Major City hex. If the Player obtains a result that would reduce the fortification level by one, the temporary facility is neutralized (and may not be used) for one Operations Stage.

[41.38] ***Bombing Roads or Railroads (B-R or B-RR):*** This is done in the same fashion as Bombing Cities, using the same table (but a different row, according to the target). Roads may be bombed at night if the Road is in a Coastal Hex. The results are simply having the road or railroad hex destroyed. (Railroads are very easy to repair; whether they are worth the effort to **destroy is the player's problem.)**

[41.39] A. ***Mining Harbors (B-MH):*** Players use the Harbor Mining Table, with the Player rolling for each *six* bombers attempting to successfully lay the mines. Rolling one die, if the Player succeeds, place one mine counter in the port hex. The result of a mine is the same as blocking harbors: Note: The capacity column refers to the average bombload for all six planes (Not this total of six).

B. ***Bombing Ports (B-P):*** The Purpose of this mission is to reduce the efficiency level (55.1) of the port. Players total bombload and strafing delivered to the hex and consult the Air Bombardment Table. The number result is the loss in efficiency rating for that port. (See Case 41.8 for bombing Tripoli, etc.) Torpedoes may be used against ports.

[41.4] NIGHT BOMBING MISSIONS

[41.41] Certain bombers may fly night missions. Bombers capable of flying and bombing at night have a capability code of "N" or "O" in their capability column.

[41.42] In night bombing, accuracy is sacrificed for the sake of safety. Only fighters with night fighting capacity may escort bombers on night missions.

[41.43] The Player must designate that a given bombing mission is a night mission as such: B-P(N). See the Air Mission Summary (Case 39.5) for a list of which missions may be flown at night.

[41.44] All regular missions are resolved before night missions, and the "defending" Player must be informed if a given mission is a night mission prior to all resolving of missions, scramble, etc.

[41.45] Bombers flying night missions have their bombload tonnage halved, rounded down. Torpedoes may not be used at night.

[41.46] Only Night Fighters may Scramble against a Night Bombing Mission (see Case 40.9). Fighters without NF capability may be given an offensive CAP versus night raid mission, but have no ZOC, and may only search for (and thus attack) Enemy planes with a mission in the same hex (see Case 41.96). Night Fighters also go through the search procedure in 41.96.

[41.47] Fighters of CAP as well as Enemy night fighters scrambling against night bombers must go through a search procedure in order to find the bombers. The Player rolls one die for each Squadron; if he rolls a '1' the fighters have found the bombers (and any NF escort). Subtract '2' from any search die-roll involving squadrons of night fighters (at night). If the die-roll is not good, search is unsuccessful and the fighters go home. Any air-to-air combat proceeds normally.

[41.48] Flak/AA fire against night missions is adjusted one column to the left. If already in the lowest column, the flak fire is considered ineffective.

[41.49] Night bombers do *not* get any benefits from formation flying (45.36).

[41.5] AIR BOMBARDMENT TABLES

(see Charts and Tables)

(important correction) The "Barrage Points" row has been screwed up: 7, 8, 9, 10 have been placed over the same column. Each column should have only two numbers, thus place 9, 10 in the next column, move the rest of the numbers one column to the right, and the last column should read 21+ (not 1+). In addition, Flak Suppression should read Flak Destruction.

[41.51] Air Bombardment & Secondary Barrage Table

(see Charts and Tables)

[41.52] Mining Harbors by Plane Table

(see Charts and Tables)

[41.6] STRATEGIC PHASE BOMBING MISSIONS: AXIS NAVAL CONVOYS

[41.61] The Axis Player uses the convoy shipping lanes to place his arriving convoys of supplies and personnel (see 55.1). Each of these convoy shipping lanes has distances in hexes from certain key cities listed in the lane. This is the airflight distance from that city (see 56.18).

[41.62] Commonwealth bombers assigned to the Strategic Air Phase may fly bombing missions against Axis naval convoys. This includes Africabased bombers as well as those based on Malta. The only requirement is that the distance flown is within that plane's range. In tracing the range from Africa-based air facilities, the planes must fly to one of the cities listed in the lane and then fly to the lane from that point. The two distances are added to obtain the full distance.

[41.63] Axis fighters based in North Africa may not fly CAP for Axis Naval Convoys. Axis fighters based in the Mediterranean may fly CAP for any Convoy Lane within range. Commonwealth fighters may fly CAP or Flak Suppression missions to any Convoy Lane within range. The distances to the Convoy Lanes are given in the Axis Naval Convoy Air Distance Chart (Case 56.18). Note that planes flying from North Africa must be able to fly to one of the cities listed plus the additional distance from that city to the Convoy Lane.

[41.64] The Commonwealth Player may only attack Axis Convoys that he has located. Axis Convoys may only be located as a result of a Strategic Convoy Reconnaissance Mission.

[41.65] The procedure for resolving attacks against Axis Naval Convoys is as follows:

A. The Players divide their planes between those assigned to Land Support and those assigned to Strategic Missions. The Axis Player subdivides his planes to those performing Air Raids on Malta and those flying convoy protection.

B. The Commonwealth Player performs his naval recon missions. Note that Recon planes may not be attacked by air-to-air combat or anti-aircraft fire. *(clarification & typo corrected)*

C. The Axis Player assigns his convoy protection aircraft CAP missions in specific Convoy Lanes. The Commonwealth Player assigns his planes to a CAP, flak suppression, or bombing mission in any convoy lane in which a convoy has been located (remember range restrictions). If no convoys have been located, the planes never take off and therefore do not have to undergo readying.

D. Air-to-air combat is resolved in the individual convoy lanes.

E. Flak Suppression of the convoy is performed.

F. Anti-aircraft fire attacks from the convoy are resolved.

G.Commonwealth bombing of the convoy is resolved. The Axis Naval Convoy Missions are now completed. All of the surviving planes will return to base during the Strategic Air Recovery Stage. *(clarification)* Note that when the Axis Convoys are completed, all shipments are considered landed.

[41.66] Convoy bombing is resolved on the Air Bombardment and Secondary Barrage Target Results Table. The Commonwealth Player totals his attacking bomb points, modifying for torpedoes, if necessary (see Case 41.7), and rolls two dice. The cross-indexed result is in tens of percent of the cargo in that convoy lost.

[41.67] All losses are evenly divided percentagewise among the various cargo types, rounding fractions up. All truck replacement points are considered to be one cargo type. All Italian tanks are considered to be one cargo type. All German tanks are considered to be one cargo type. All Italian guns are considered to be one cargo type. All German guns are considered

to be one cargo type. *(clarification)* The percentage loss is applied to each and every type of cargo listed. Thus, if the Table says losses are 20%, each type of cargo loses 20%.

[41.68] Bombing of Axis Naval convoys never affects the arrival of listed reinforcements.

[41.7] TORPEDOES

[41.71] Certain planes have the capability of carrying torpedoes, which are effective against ships and port facilities (See Case 38.47 for arming Bombers with Torpedoes.)

[41.72] When Axis planes are carrying torpedoes against Enemy ships (this refers to Axis plane vs. Commonwealth Fleet) the Axis Player uses the torpedo line, not the normal bombload line. Thus, if he has a mixture of planes (some carrying bombs and some carrying torpedoes) he rolls twice for that mission: once for the bomb-carrying planes and once for the torpedo-carrying planes.

[41.73] When Commonwealth planes fly against Axis convoys and at least 50% of the planes are carrying torpedoes, in determining the level (Case 41.66), increase the bombing tonnage by 25%, rounding upward. Thus, if 160 tons of bombs were delivered to convoy route Nr. 3 via 30 planes, 17 of which were armed with torpedoes, the tonnage would be increased to 200 tons (effective).

[41.74] Torpedoes may be used against port facilities, but as such count as normal bombs.

[41.75] Only planes with ‘’T’’ capability can carry torpedoes.

[41.8] BOMBING TRIPOLI

[41.81] Commonwealth bombers may bomb the Tripoli–Tunisia boxes in order to reduce the port capacity level and destroy any planes on the ground. These are the only two types of missions that may be flown against Tripoli, etc.

[41.82] Distances from game-map hexes to Tripoli, etc., are printed on the Air Distance Chart Add that distance to any actually flown on the Game-Map to get the actual flight distance for the raid.

[41.83] Bombing missions against Tripoli (the port) or Bizerta (Tunis) are conducted as any other similar mission, and the results are the same as any such mission. (See Case 41.39)

[41.84] Bombing missions against grounded Axis planes in Tripoli–Tunisia air facilities are conducted as a Bombing Air Facilities Mission, although the results against the facility are ignored (see Case 4J.36).

[41.85] The AA/Flak capacity for Tripoli, et al, is constant, non-destructible, and printed in the respective boxes. CAP coverage depends on the Axis Player, but any CAP coverage is for all targets in *that* box.

[41.86] Night missions may be flown against the port of Tripoli.

[41.9] PINNED BY BOMBING

The effect of a Pinned result inflicted on a unit by Air Bombardment is different from an artillery barrage pinned. (This rules Section supersedes the somewhat incorrect definition of Pinned given in Case 3.1; in essence that case is an early erratum. *{note: clarifications made}*) The Pinned by Bombing result depends on whether the “pinned” unit belongs to the “A” Player or the “B” Player.

[41.91] Pinned Unit: “A” Player

The following results occur from a Pin to a unit belonging to the A Player for that OpStage:

1. The unit may voluntarily use only ½ (rounded-down) of its CPA; and

2. Such unit may not voluntarily enter an Enemy ZOC; and

3. If such unit is in an enemy ZOC when Pinned such unit may not leave that ZOC; and

4. Such unit may not voluntarily engage in combat; i.e., it may not Barrage or use Offensive Close Assault or Anti-Armour.

As soon as the OpStage switches to the B Player these results are no longer in effect.

[41.92] Pinned Unit: “B” Player

The following results occur from a Pin to a unit belonging to the B Player for that OpStage: such unit may not move voluntarily or engage in combat voluntarily during A OpStage. As soon as it is B’s turn, the effects of Section 41.91 apply. The unit becomes unpinned at the end of that OpStage. *(clarification)* The explanation of voluntary combat is in 41.91 — #4 directly above.

[42.0] NON-COMBAT MISSIONS

[42.1] TRANSFER MISSIONS

[42.11] A transfer mission is flying a plane from one air facility to another.

[42.12] Transfer missions should be flown before undertaking any other missions, so as not to forget them in the heat of battle. Unless they run into Enemy CAP (see 40.27) they should not run into any problems.

[42.13] Planes flying transfer missions may double their range. Transfer is a one-way flight; transfer planes do not (cannot) return to their base of origin.

[42.14] Planes flying transfer need not be refitted to fly. However, a plane completing a transfer mission *must* be refitted to fly another mission in the next Stage or Turn. Transfer missions consume fuel; whether planes conducting them are armed is a question of choice.

[42.15] To assign a plane a transfer mission, write “Transfer to” and the hex of destination in the mission box of the Squadron Control Sheet. The plane is then placed in the new hex. Transfers are flown only in Tactical Land Support Phases of the Operations Stage.

[42.2] RECONNAISSANCE MISSIONS

[42.21] Reconnaissance (Recon) missions may be flown by any plane with a *Recon Capability* (“R”).

[42.22] The object of a Recon mission is to find out what units — in general terms — the Enemy has in a given hex. Therefore, Recon missions are flown over a specific hex with an Enemy unit in it. Recon missions may be flown over any hex except for Major Cities.

[42.23] The Player assigns a number of planes to fly Recon to a specific hex. After all air-to-air and flak, the Player totals the number of planes on Recon in that hex and consults the Air Reconnaissance Table (42.27), wiling one die. The result is the number of units in hex the Player has learned information about (42.24).

[42.24] For each battalion-sized unit the player flying Recon can learn about, the opposing Player must reveal the type of unit and its TOE strength under the following conditions:

a. All tank units (including dummy tank units, which are considered to have a TOE Strength of “three” for this purpose) revealed first, then infantry, then artillery.

b. The opposing player must give the TOE strength, but may “lie” in either direction to a deviation of ‘2’. Thus, for a unit with a TOE of ‘3’ he could say it had ‘1’ or ‘5’ or any number in between.

[42.25] No Recon mission may be flown in a hex that is undergoing air bombardment.

[42.26] Land Recon missions are flown in the Tactical Land Support Air Phase of the OpStage. Planes flying Recon require refit. Recon missions against Axis Naval convoys are flown during the Strategic Air Phase.

[42.27] Air Reconnaissance of Land Units Table
(see Charts and Tables)

[42.3] TRANSPORT MISSIONS

[42.31] Certain planes with transport capability may transport personnel or supplies by air. The cargo capacity of each transport is listed on the Aircraft Characteristics Chart in terms of TOE Strength Points or tons of supplies.

[42.32] For a Transport to carry a TOE Strength Point or supplies to a given hex, that “cargo” must start the Operations Stage in the hex with the transport. The transport may then fly one type of transport mission:

a. The Transport flies to the target hex, lands the cargo, and flies back; or

b. The transport flies to the target hex and lands, remaining in that hex. In this case, the transport may use its transfer range (double its normal range).

[42.33] Transport missions must be flown to Friendly air facilities, as the planes have to land. Supplies and personnel may be *airdropped* under special circumstances (See 42.4)

[42.34] Personnel transported by air may not voluntarily move in the Operations Stage they are transported in, having used their allotted CPA. Personnel may be flown into a hex in an Enemy Zone of Control; however, such units may not be used for any attacks. That is, they may not voluntarily expend CP’s on combat. They may defend. Personnel air-transported may never voluntarily exceed their basic CPA, through reaction or retreat before assault.

[42.35] Supplies air-transported may be used as soon as they can be assigned to a dump or specific units. They cannot be used directly “off the plane.” They must be distributed in the Organization Phase first.

[42.36] Transport missions may be flown only in Operations Stages. Planes require refitting, even when flying Transport Missions.

[42.37] Only infantry (without trucks), motorcycle infantry/recce units, and airborne units may be transported by air. **Exception:** *dead* camels may be transported by air. *Live* camels may *not* be transported by air.

[42.4] AIRDROP MISSIONS (PARATROOPS)

Although there were several airborne units in the desert campaign (The Ramcke Brigade and the Folgore Division), there were no major airborne missions. The following rules are, in essence, hypothetical.

[42.41] Units capable of being airdropped are so noted on the OA Sheets. Such units may be airdropped by transport planes during a tactical land support Air Phase, under certain circumstances.

[42.42] An airborne mission is the same as a transport mission (42.32a). The only difference is that the units are *dropped* into the hex, not landed, so an air facility is not needed for the transports. However, they must start from a Friendly air facility.

[42.43] Units may be airdropped into any clear, gravel or desert hex. They may not be airdropped into Major Cities and they may not be airdropped into hexes occupied by Enemy units or hexes in an Enemy Zone of Control. Units may be airdropped into a Friendly occupied hex, within stacking restrictions, as long as such hex is not in an Enemy ZOC. In addition, the drop-zone hex may not be more than two hexes from a recognizable land feature (42.44).

[42.44] A recognizable land feature is a major city, a road (unfinished, destroyed or not) or railroad hex, a village, air facility, or oasis.

[42.45] Airdrops may not occur in sandstorms or rainstorms. However, there is no drift; units always drop in the target hex. There are no casualties in an airdrop.

[42.46] Airdropped units require and use supplies the same as any unit: they are *not* commandos. Thus, only certain types of supplies may be airdropped: ammunition and stores may be airdropped (using the precepts of 42.42 and 42.43). Supplies may be airdropped into a *Friendly-occupied* hex even if it is in an Enemy Zone of Control. In the latter case, there is no need to use the recognizable land feature provision of the airdrop rule. Airdropped supplies may be used as soon as they arrive, unlike transported supplies (42.35). *(clarification)* Fuel may not be airdropped.

[42.47] Airdropped combat units may move and fight normally, with one exception: they may not voluntarily exceed their CPA in the Operations Stage in which they are dropped. *(addition)* Units that have been airdropped are considered to have used 5 CPs already.

[42.48] There is no limit to the number of TOE Strength Points that may be dropped (within the limits of how many transport planes you can muster). However, no unit may be airdropped more than once a month (every 12 Operations Stages).

[42.5] NAVAL CONVOY RECONNAISSANCE MISSIONS

[42.51] The Commonwealth Player may fly reconnaissance missions in Convoy Lanes to determine the existence and size of the Axis Naval Convoy assigned to that Lane.

[42.52] The Commonwealth Player must assign each reconnoitering plane to a specific Convoy Lane. A plane may only be assigned to a naval recon mission if it possesses Recon capability (R). A plane may be assigned to any Lane within its range. The distances to the convoy lanes are listed in the Axis Naval Convoy Air Distance Chart (Case 56.18). A plane flying a recon mission from North Africa must possess a range at least equal to the distance from its air facility to one of the key cities listed on the chart *plus* the distance from that city to the Lane.

[42.53] Naval recon missions are resolved on the Air Reconnaissance of Axis Naval Convoys Table. If a successful reconnaissance of the convoy lane has been made the Axis Player must indicate whether or not a convoy is assigned to that. lane this game-turn; and if so, its approximate tonnage. *(clarification)* There is a chart for this case, located in the CW Chart Booklet.

[42.54] Planes flying naval recon missions may not be attacked in air-to-air combat or by antiaircraft fire.

[42.55] Naval recon missions are Strategic missions that are flown in the Naval Convoy Stage

[42.56] Naval convoy recon missions are assigned in the Strategic Mission Assignment Phase of the Strategic Air Planning Stage. An unlimited number of planes may be assigned recon missions in the same convoy lane. Naval recon missions are resolved in the Naval Convoy Reconnaissance Segment of the Convoy Resolution Phase.

[43.0] AXIS ITALIAN-AEGEAN AIR BASES

GENERAL RULE:

The Northern "shore" of the Mediterranean was almost exclusively controlled by the Axis, especially after the fall of Greece and Crete in early 1941. The Axis often used Italy, Sicily, Greece and Crete to base its bombers, so that they could be used for multipurpose duty. The German Player is, therefore, *required* to base a certain percentage of his Bombers in either Italy, Sicily or Crete. Boxes for these are provided on the game-maps, as are their flight distances. There are also certain restrictions pertaining to missions based in the Mediterranean, in terms of fighter support.

[43.1] AXIS MEDITERRANEAN

BOMBER BASE REQUIREMENTS

[43.11] At least 75% of all German He111's, Ju88D's and FW220's must be based in Mediterranean Bases.

[43.12] Until 1/35 Game-Turn 1941, 75% of all German bombers must be based in Italy/Sicily. *(clarification)* The German bombers referred to are He111's, Ju88D's, and FW220's *(as above)*.

[43.13] From June I/J5 Game-Turn 1941 to the end of the game at least 500/o of all Helli's, Ju88's, and FW220's must be based in Crete; the remaining 25% may be based in Sicily/Italy or in Crete.

[43.14] It takes one OpStage to transfer from Italy to Sicily and/or to Crete, and *vice versa*.

[43.2] MEDITERRANEAN BASE RESTRICTIONS & CAP ABILITIES

(Note:) This is a very confusing system. The most important thing to remember is that certain planes will be used that are never used or available for any other part of the game. These "new" planes are always based on a percentage of the planes actually in play that have been placed in the Italy/Sicily boxes.

[43.21] German Bombers based in Italy/Sicily and Crete do not need SGSU's. All their requirements are met by the specific "Box" they are in, including fuel and ammunition. The Axis Player does not expend fuel or ammo for these planes. However, all planes must be refitted (38.3)

[43.22] When refitting planes as per 38.37 (per Squadron), the Axis Player should divide all bombers in a given area into groups of 6 to 12, considering each such group a squadron.

[43.23] Bombers based in Crete must be used to attempt to raid the Suez Canal area (not on the game-maps) each month. This is handled abstractly in that during *four* OpStages within a given month there may be no bombing missions flown from Crete. There is no effect on the game of such missions (as they had little effect operationally on the Commonwealth, other than harassment and extended work hours). There are also no losses.

[43.24] Bombers flying from Crete may *not* receive any protective CAP from planes in Africa. They fly "naked".

[43.25] Bombers based in Italy/Sicily *may* coordinate with African-based fighters for CAP. They may also be used in raids on Malta (see 44.0).

[44.0] MALTA

COMMENTARY:

The importance of the tiny island of Malta to the campaign in North Africa cannot be understated. Lying, as it does, astride the Axis Shipping Lanes, it provided the Commonwealth with an excellent position from which to hinder the transport of Axis supplies and reinforcement.

GENERAL RULE:

The Commonwealth has several air facilities on Malta on which he may base planes for strikes at Axis convoys and bases. In retaliation, the Axis may attempt to reduce the effectiveness of Malta by bombing the island. The Axis Malta reduction effort is controlled by external policies which have been abstracted into several charts proscribing the extent of such effort. Likewise, the Axis may not invade Malta — at least not in this game. Planes performing missions over Malta must be assigned a specific hex.

[44.1] THE MALTESE AIRBASES

[44.11] The map of Malta represented on GameMap "A" is not in the same scale as the African portions of the game-maps, nor is it in scale in terms of geographic location *vis-à-vis* the African coast. The air distances to key points in Africa are listed in the Malta Box. The map of Malta itself shows different terrain and cities, mostly for historical purposes. The only items of importance on the Malta map are the air facilities and the port of Valetta.

[44.12] Maltese air facilities are printed directly on the Game-Map (unlike most others). They are permanent and may never be moved. No further air facilities may be built on Malta. Although they may not be destroyed, Maltese air facilities may be reduced (by Axis bombing) to zero effectiveness.

[44.13] The initial capacity of Maltese air bases is given in each scenario. It may be increased — up to the standard levels — by using the Maltese Air Facility Construction Table (44.5) The Commonwealth Player may use the table once each Game-Turn for each air facility on Malta, the table informing the Commonwealth Player how many "levels" he may construct for each facility. No supplies need be expended.

[44.14] The Commonwealth Player does not need — nor does he use — SGSU's on Malta. Each ''level'' of air facility can handle up to 18 planes of any type. Thus, an airfield operating at maximum capacity (6 levels) could handle 108 planes. However, for the sake of play ease, the Commonwealth Player should group his planes as if they were squadrons.

[44.15] Planes on Malta may be moved from one field to another without flying. Such a movement is not considered a mission and happens ''outside'' the play sequence. In essence, the Commonwealth Player simply moves his squadrons or planes from one field to the other at the beginning of the OpStage, noting such movement on his squadron sheets, prior to any missions being flown. The Axis Player need not be informed of such moves.

[44.16] Planes based on Malta do not need fuel or ammo; they are automatically refueled and rearmed each Stage. However, they must be refit like all other planes, using the same method as all other planes.

[44.17] Commonwealth planes may transfer to and from Malta and the African fields, provided they have the range.

[44.18] The Commonwealth Player may divert AA/Flak points (Replacements) to Malta. For each light AA Flak point he diverts to Malta he receives one AA Point on Malta; for each heavy AA point he diverts he receives four AA points on Malta. These points come from the Commonwealth Replacement Pool for AA points. No more than one AA Replacement Point (Light or Heavy) may be diverted to Malta per Month, and the maximum AA point capacity of Malta is 48 AA points.

No flak counters are placed on the Malta map; the Commonwealth Player simply notes which bases have how many Flak Points. Any losses from bombing are noted as they occur. Flak points may move between airfields/strips as planes do in 44.15 but flak/AA units may not be moved between Malta and the mainland.

[44.2] AXIS AIRRAIDS ON MALTA

[44.21] Axis bombers based in Italy/Sicily as well as any African-based Axis planes that can reach the island can raid Malta, bombing the Maltese air facilities to reduce their capability to refit planes.

[44.22] In addition, to 44.21 the Axis may draw on Italian and German aircraft based *permanently* in Italy and Sicily (and otherwise not available to the Axis Player). These planes are reflected by the Axis Malta Availability Levels. (See 44 .41.)

[44.23] There are four Axis Malta Availability Levels, representing the levels of Axis commitment to Malta. Each level gives the number of Game-Turns during the Campaign Game that that portion may be used. Each shorter scenario has separate listings. No Availability Level may ever be used more Game-Turns than it is listed as available. It is up to the Axis Player to plan his raids according to what he wants to accomplish and when he wants to do it.

[44.24] Axis Raids on Malta take place in the Strategic Air Phase of the Game-Turn, and thus occur only once per Game-Turn. (This is, admittedly, somewhat abstract — and the various Malta tables reflect this abstraction.) The Axis Player chooses the planes in the game he wishes to bomb Malta with by consulting the portion of the Malta Availability Table of his choice (44.23). He assigns each squadron to a specific airfield in Malta and conducts each bombing and/or strafing raid normally — including air-to-air and AA/flak.

[44.25] To compute how many — and what types — of planes he may use, the Axis Player uses the Axis Malta Table (44.42). In addition to the planes he receives from this Table he may then add in — up to the maximums he gets from the Table — any planes he wishes from Africa. In essence, the Table shows the Axis Player how many of his planes in the game, but in Italy/Sicily he may use plus how many planes not in the game (for normal use) but available nonetheless that may be added to this total. The two are combined to provide the number of Planes Available, to which are added any Africa-based planes. If, at any time, the Axis Player does not wish to bomb Malta he is considered to have used Level I (which is unlimited).

[44.26] In using the Axis Malta Availability Tables, the Axis Player always assigns his mapbased planes *after* determining how many planes he will get from the tables.

[44.27] In no case may the Axis Player assign more planes of any one type from map bases than are assigned from the Availability Tables. That is, if the table says 6 SM 81's may be used, the Axis Player may add in no more than 6 map-based SM 81's. Furthermore, if a plane is not assigned from the table, it may not be assigned from the map.

Example: The Axis Player decides to launch a Level III raid on Malta. He has, based in Italy and Sicily, 12 SM 79's, 6 BR 20's, 16 CR 42's, and 4 CR 32's. He consults the table and rolls a "6". As per the number to the left of the slash he may assign 50% of these available planes to the mission. He may add to this, as per the percentage to the right of the slash, a number of planes equal to (100%) what he has based in Italy/Sicily. These planes are not actually in the game but have been provided by the Axis in Europe. In essence, the Axis player now has available 150% of the total planes he has based in Italy/Sicily. He may also add to this the same number of planes (or less) — by type — as he has available from the above from bases in Africa.

[44.28] To determine what losses are absorbed by planes actually in play — as opposed to those taken by planes that are used only for Malta bombing as per 44.4 — the player must obtain a ratio between the planes he uses that come from (1) Africa, plus (2) the percentage to the left of the slash on the Table, and compare that total to the planes he uses from the percentage to the right of the slash on the table (i.e., those planes not really in the game but available for bombing Malta). This ratio is used to obtain an Actual Loss Percentage, which is then applied to any total losses (from the CRTf's), rounding *up*. The Axis Player applies this revised (and usually lower) loss number to those planes he actually has in the game. Planes not actually in play never take losses; they are an applied constant.

Example: The Axis Player has one squadron of Ju88A's from Benina and two squadrons of Ju88A's from the Malta Availability Table. All squadrons have 12 planes, for a total of 33% of the total comes from Benina. The three squadrons attempt to bomb Luqa airfield. The squadrons lose 6 planes to air-to-air and 2 to flak. In addition, 2 are forced to abort, a factor not considered — simply noted — when determining who takes losses. 33%, rounded up, of 8 means 3 bombers from Benina have been shot down. The number of bombers lost in Italy/Sicily from the Availability Table is not considered. *(clarification)* The second two squadrons of Ju88A's, from the Malta Table, are planes that are not available during the regular course of the game. Losses to these planes are not considered.

[44.29] The Axis Player may, *after* rolling on the Table, decide not to raid. The raid is cancelled, but he still has used the table he rolled for once — regardless of whether he cancels or not (see Case 44.23.) In such a case, the Axis Player may not, of course, use map-based planes.

[44.3] INVASION OF MALTA

Realizing the importance of Malta to the Axis supply effort, the German High Command contemplated invading Malta on several occasions, even going so far as to set a definite date. However, that plan was aborted when Rommel borrowed the air cover assigned to such invasion for his thrust to take Tobruk — and then never returned them. In any case, the German High Command had deep reservations about an invasion of the strongly-defended island, and given the fearsome losses taken by German paratroopers on Crete it is more than likely that the Germans never would have carried their planned invasion through to the end. They certainly would have received little valuable support from the Italians who, despite several professed "airborne" divisions (like the Folgore) had little practice in this sort of thing. It is mainly for these reasons that — at least in this game — the Axis Player may not invade Malta. Sorry.

[44.4] STRATEGIC AIR RAIDS ON MALTA
(see Charts & Tables)

[44.41] Axis Strategic Airforce Commitment Chart
(see Charts & Tables)

[44.42] Axis Malta Availability Table
(see Charts & Tables)

[44.5] MALTA AIR FACILITY CONSTRUCTION TABLE
(see Charts & Tables)

(clarification) This chart, used by the CW, is found in the Axis Booklet.

[45.0] AIR-TO-AIRCOMBAT

GENERAL RULE:

Although ***CNA*** uses individual planes, the resolution of air-to-air combat is done on an operational level, with much abstracted (in terms of plane ability, etc.). Air-to-air combat occurs before flak/AA fire and before completing any missions. Essentially, only fighters with non-parenthesized Tacair ratings my initiate air-to-air combat, and fighters on offensive CAP must *initiate* air-to-air combat. Air-to-air combat is resolved by comparing Tacair ratings, augmented by the pilot ratings, and further adjusted by any difference in maneuver ratings. Bombers' Tacair ratings may be augmented if they are formation flying. Planes resolve air-to-air in pairs, one plane against another, and all combat takes place within the hex.

PROCEDURE:

The Players first determine which planes in the hex will be engaging in air-to-air. This means all scrambles must be performed first. Each Player then declares whether or not he wishes to initiate air-to-air, with any player having planes on offensive CAP forced to initiate. Fighter vs fighter (or screen) combat takes place before fighters may attack any Enemy bombers/transports, etc. (unless they are unescorted).

Having determined the planes involved, the Players now decide who will be the Attacker (see Case 45.16). (Remember, all Missions are flown simultaneous). The defender places all his planes being attacked down on a flat surface, using available aircraft counters (see 34.75). The attacker now allocates his attacking fighters against the defending planes. Each individual air-to-air combat is now resolved, using the Air-to-Air Combat Tables. After attacking fighters have attacked escorts/screens they may, if possible, now attack the bombers/transports. After all air-to-air is resolved, players complete their missions (after, of course, undergoing flak/AA fire.)

All opposing planes involved in air-to-air combat are individually "matched up", (see Case 45.2). The Players now determine each airplane's Tacair differential. In order to do this, the Players first adjust the Tacair rating of their aircraft in one of two possible ways:

a. For each ***fighter***, the owning Player adds the rating of the pilot to that of his plane.

b. For each ***bomber*****,** add to the tacair rating any applicable formation flying bonus: if 6–17 bombers are on the mission, add one to each bomber's tacair rating; if 18 or more bombers are on the mission, add two to each plane's tacair rating. (Note: Dive bombers are not eligible for formation flying bonuses.)

Each Player now subtracts the adjusted tacair rating of the Enemy plane from his own plane's adjusted rating. This is the *tacair differential*. The tacair differential is now adjusted for each plane to account for the relative difference in maneuverability of the planes. The maneuverability rating of the less maneuverable plane (the lower rating) is subtracted from that of the higher, and the Maneuver Adjustment Chart is consulted to obtain the appropriate maneuver adjustment. This Maneuver Adjustment number is *added* to the tacair differential of the plane with the higher maneuverability rating and subtracted from the tacair rating of the plane with the lower maneuverability rating. (**Note:** If the maneuver ratings are equal, no such adjustment is possible.) Thus, if prior to the adjustment for maneuver ratings one plane had a tacair differential of -3 and the other +3, but the plane with the lower tacair differential had a maneuver rating 16 points higher than the second plane, then the tacair differentials would be adjusted, respectively, from -3 to +1 and from +3 to -1, since the Maneuver Adjustment Chart calls for an adjustment of "4" in favor of the plane with the higher maneuver rating.

In fighter vs. fighter match-ups, the fire of the plane with the "minus" tacair differential is resolved first. (For "0" differentials, the plane with the highest rated pilot is considered to fire first, or if that is a tie, the attacking Player's plane.) If there is more than one fighter attacking one Enemy Fighter, the lone fighter fires first. In fighter vs. non-fighter, the non-fighter plane's attack is always resolved first.

Using the final adjusted tacair differentials, the Players refer to the tacair Kill Table (45.5), and the Player firing first rolls two dice and combines the results sequentially to obtain a result (**e.g.,** "2", "4" equals "24"). If the result falls within the kill range given on the table corresponding to the ap propriate tac air differential, the opposing plane has been shot down. Otherwise, the opposing Player with the aircraft with the positive tacair differential gets to fire. If his dice roll result falls within the kill range as delineated on the TacAir Kill Table, the first plane is shot down; if not, then there is no result. (**Note:** Non-fighters fire individually at each Enemy fighter that is matched against them; fighters may *never* fire at more than one plane, even if attacked by more than one.)

Figure A:

PLAYER A

	Plane Nr./Type	*Pilot*	*TacAir*	*Manuever*
1	Gladiator MkII	1	2	27
2	Gladiator MkII	0	2	27
3	Tomahawk	0	2	32
4	Tomahawk	0	2	32
5	Hurricane MkI	0	4	32
6	Hurricane MkI	3	4	32
7	Hurricane MkI	1	4	32
8	Hurricane MkI	0	4	32
9	Beaufighter MkIF	0	11	30

PLAYER B

Plane	*Nr./Type*	*Pilot*	*TacAir*	*Manuever*
A	Fiat C. R. 42 Falco	1	3	28
B	Fiat C. R. 42 Falco	0	3	28
C	Messerschmitt Bf. 100	2	5	32
D	Me Bf 110	1	5	32
E	MeBf 110	0	5	32
J	Me Bf 109 E	2	6	34
K	Me Bf 109 E	1	6	34
L	Me Bf 109 F	0	6	39

Figure C:

PLAYER A'S PLANES

1	2	3	4	5	6	7	8	9
D	E	G	H	I	J	K	L	B
A	C					M		
	F							

PLAYER B'S PLANES

The preceding is an illustration of determining the plane match-ups in the following example of planes about to engage in air-to-air combat. Player A (Commonwealth) possesses nine planes while Player B (Axis) possesses thirteen planes, making the former the defender and the latter the attacker for this particular group of air-to-air combats.

Figure: The Commonwealth Player has two Gladiator MkII's, one piloted by a 1 pilot; two Tomahawks; four Hurricane MkI's, one piloted by a 3 pilot and one by a 1 pilot; and one Beau fighter Mk IF. The Commonwealth Player numbers his planes (for convenience) in ascending order by combat worth. Within the numbers assigned to each type of plane he randomly determines the rank of the pilot handling the aircraft.

Figure B: While the Commonwealth Player is listing his planes the Axis Player is performing the same actions. His job is slightly easier as he is not troubled by having to jumble his pilot ratings.

Note that if either or both Players possess identical aircraft with identically rated pilots that arrived in this particular hex from different squadrons the owning Player would have to indicate the parent squadron for each of those planes.

Figure C: The Commonwealth Player announces the type number and ID numbers for each of his planes *without* stating the pilot's rank. The Axis Player then matches up his planes in any pattern and order against the Commonwealth Player's aircraft, making sure that each Commonwealth aircraft is opposed by at least one Axis aircraft. In the case of a plane being attacked by a number of planes and only able to shoot back at a single one of the attackers (this particular type of example), he names the order in which the multiple attacks on the opposing aircraft are to be performed (as the defender may only shoot at one of the attacking planes). The Players then proceed to resolve the individual air-to-air combats.

Note that in this example the Axis Player has apparently decided to take the long view, with the worst plane (Italian C. R. 42) being sacrificed to the Beaufighter and ganging up on the two worst (pilot distribution being equal) Commonwealth planes.

(clarification to procedure): Yes, Figure B is missing some planes, but they are unnecessary to the example. Also, the references to choosing pilots randomly (in the paragraphs below the charts) is somewhat confusing; ignore them.

CASES:

[45.1] HOW AND WHEN AIR-TO-AIR COMBAT OCCURS

[45.11] Air-to-air combat takes place within a hex. Only planes in a given hex may engage in air-to-air combat with each other, regardless of air Zones of Control. (Remember, fighters with air ZOC's *may* move into an adjacent hex to engage in air-to-air; if they are on offensive CAP in a hex without opposing aircraft, they *must* move into an adjacent controlled hex to engage.)

[45.12] All planes in a given hex are subject to air-to-air combat. However, there are priorities as to who attacks whom, and when. The primary rule is that only fighters or fighter-bombers on a fighter combat mission may initiate air-to-air combat.

[45.13] Air-to-air combat occurs before flack/AA fire and before any missions in that hex may be completed. Remember, fighters may scramble or intercept into a hex, and that must be done before attempting to resolve air-to-air.

[45.14] If there are fighters in a hex on offensive CAP, those fighters must attack all Enemy planes in that hex. Thus, fighters on offensive CAP automatically initiate air-to-air combat. If there are no fighters on offensive CAP, both Players must decide (secretly; to be revealed simultaneously) whether they want to initiate combat. If *either* Player decides to initiate combat, combat is joined.

However, if *neither* Player desires air-to-air, *both* Players send their aircraft home, and all missions in that hex are cancelled. (This is sort of a free abort; planes may always try to abort even if the other Player desires combat, but this is not automatic. See 39.3.)

[45.15] Once air-to-air has been initiated, the Players determine which planes, if any, are being *screened* by Friendly fighter escort (planes flying defensive CAP for the bombers, etc.). Only planes flying a mission *other than CAP* may be screened. Furthermore, planes flying a mission other than CAP are automatically screened, unless they have no escort. Planes without Friendly defensive CAP are not screened. The Players now set the screened units aside, and engage in air-to-air with their fighters on CAP.

[45.16] The Players must now decide who is the attacker. The Player with the most fighters (pure numbers) is the Attacker in all situations. In the instance where both Players have the same number of fighters, the Player with initiative for that Game-Turn (7.0) is the attacker. At this point, Players attempt to abort any missions they desire to abort. See 39.3.

[45.17] A plane without ammo (bombs aside) may not fire in Air-to-Air combat. However, its normal ratings are still used to resolve the effects of opposing fire.

[45.18] Players now resolve the first wave of air-to-air combat (45.2). Once this is completed, the screened planes may be attacked. (See 45.3). This is resolved in the same way, with certain restrictions and changes.

[45.19] A plane assigned to a particular match-up may never be switched to another match-up, even if the plane it was matched-up against is shot down before it has a chance to fire.

[45.2] FIGHTER VS FIGHTER

[45.21] In resolving air-to-air combat between fighters (planes with non-parenthesized tacair ratings), the Player follows the general outline of the Procedure augmented as below.

[45.22] The Defender places his fighters down on a flat surface, using the aircraft counters. He then states what *type* of plane (e.g. Me109F, CR42, etc.) each fighter counter represents. He does not reveal the rating of his pilot at this time.

[45.23] The attacker must now assign at least one fighter to every fighter the defender has placed down. Once *every* defending fighter is "covered", the attacker may assign more than one fighter to a defending fighter. There is no limit to the number of attacking fighters that may engage a solitary defending fighter, as long as all the defending fighters are attacked.

[45.24] Each individual air-to-air match-up is now resolved (45. 5). A *defending fighter* may fire at only (any) one attacking fighter, while, if there is more than one fighter *attacking* a defending fighter, they all may fire at the defending plane. However, all air-to-air combat is resolved individually. No planes ever add their strengths together. The Players may resolve the individual match-ups in any order they wish.

[45.25] After fighter vs fighter has been resolved, there is a possibility that some of the fighters may fire, again, against enemy bombers and other screened planes (See 45.3).

[45.3] FIGHTER VS NON-FIGHTER (SCREENED PLANES)

[45.31] When all fighter vs fighter combat has been finished, Friendly fighters remaining may, if possible (see Case 45.32) attack any Enemy screened planes. They do not have to do so, even if they are on offensive CAP — unless *only* non-fighter planes were in the hex to start with (and so there was no fighter vs. fighter combat). In such case, offensive CAP fighters must initiate air-to-air with such unscreened planes.

[45.32] If the Player wishing to attack screened planes has *more* fighters remaining (after fighter vs. fighter combat) in the hex than does the Enemy Player, he may attack the screened planes with the excess number of fighters; e.g., the Axis Player sends a squadron of He111's escorted by 6 Me Bf 109F's to a Target. The Commonwealth Player scrambles two squadrons of Hurricane II C's. The Hurricanes attack the Messerschmitts, and, after fighter vs fighter combat, there are 19 Hurricanes remaining along with 5 Messerschmitts. The Commonwealth Player may now take any of his 14 excess Hurricanes (19 - 5 = 14) and attack the Heinkels. The 14 Hurricanes are now engaging in a second round of air-to-air.

[45.33] The Defender is automatically the Player with the screened planes. He places his planes down as in 45.22. The attacker may now assign his fighters in *any* way he sees fit; he does not have to cover all the defender's planes, as in 45.23. He may take, using the above example, all 14 Hurricanes and attack one of the Henkels, or he may divide them amongst the 12 Henkels. The choice is the attacker's.

[45.34] Air-to-air fighter vs non-fighter is resolved in the same way as fighter vs fighter (see 45.2) with one exception: defending, screening planes may shoot at *each and every* fighter attacking that plane — not just one, as in 45.24. (A dive bomber may shoot at one attacking fighter.)

[45.35] Any screened planes that survive may now proceed to the flak/AA fire portion of the mission run.

[45.36] Bombers flying in formation receive a bonus: if 6–17 bombers are on the mission, add one to each plane's tacair rating; if 18 or more bombers are on the mission add two to each plane's tacair rating.

Examples of Air-to-Air Combat Resolution:

a. A CR 42 and a Hurricane I engage in air-to-air. The CR 42 has a '3' pilot for a total tacair of '6' (3 + 3 = 6), while the Hurricane has a '2' pilot for a total of '6' (4 + 2 = 6). But the Maneuver Rating of the Hurricane is four better than that of the CR 42 (32 to 28), so this gives an adjustment of 2 tacair points in favor of the Hurricane. The final tacair differential is + 2 for the Hurricane, -2 for the CR 42. The CR 42 fires first at -2, needing an 11 or 12 for a kill. He rolls a 25 and misses. (Had he rolled a '12' the combat would have been over.) Now the Hurricane rolls, needing an 11–22 to get a kill. If both miss, there is no more rolling.

b. Three Hurricane IIB's attack a Junker Ju88D, flying in a formation of 12. Each Hurricane has a '2' pilot. The Hurricane has a tacair of '6', plus '2' for the pilot. The Ju88 has a tacair of '5', plus one more for formation flying. That gives the Hurricane a differential of + 2. However, the Hurricanes have an 11-point maneuver advantage, for a further adjustment of 3 points, making the final differential for each Hurricane + 5. The Junker 88 fires first at each Hurricane. If he rolls an 11, he scores a kill. Then each Hurricane fires at the Ju88, needing an 11–26 for a kill.

[45.4] MANUEVER ADJUSTMENT CHART

(See Charts & Tables)

[45.5] TACAIR KILL TABLE

(see Charts & Tables)

[45.6] PLANE AND PILOT RECOVERY

(see Charts and Tables)

[45.61] In certain cases fighters shot down during air-to-air, as well as planes strafed on the ground (40.63), may be recovered.

[45.62] For planes *strafed* on the ground, the Player expends 1 Stores Point and 1 Fuel Point for every plane he wishes to attempt to repair. He then throws one die; if die-roll is "1" or "2", the plane is repaired. Any other number and the plane is permanently destroyed. In this case, supplies are expended *only* if the repairs are successful. For the plane to be repaired, the supplies *must* be expended. Any strafed plane may be repaired in this fashion, and once repaired that plane may fly one full Game-Turn later.

[45.63] For fighters (only) shot down (by either Enemy planes or flak) the Player rolls only *one* die. In this case, a roll of '1' means the fighter actually was not shot down and has managed to limp back to base. (This roll is the same used for recovery of the pilot (45.66); thus, if a '1' is thrown, both the pilot and fighter return. On a 2, only the pilot makes it back.)

[45.64] Once the fighter has returned (from 45.63), the Player *must* attempt to repair it. He uses the same system as in 45.62, but in this instance no die-roll is needed to repair the plane; simply expending the supplies will do.

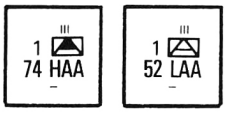
[45.65] Fighters recovered *and* repaired in this fashion are *not* "kills" for the purposes of 40.18.

[45.66] If a plane is shot down, the pilot may bail out and survive. For each fighter that is shot down, the owning Player rolls one die. If a "1" or "2" is obtained, the pilot survives and is recovered, regardless of where the plane was shot down. He is ready for action three Operations Stages later. Otherwise, the pilot is killed.

[45.7] EXTENDED RANGE

Certain aircraft have more than one maneuver rating. Such an aircraft must utilize the lower maneuverability rating if on a mission at extended range, unless the Player makes a decision to jettison the extended range fuel tank. In that case, the higher maneuverability rating may be used in airto-air combat, but the plane cannot return to any air facility that is beyond its normal range. If out of range of any Friendly air facility, the plane must be crash landed (see Case 37 .23) — if it survives the combat, that is. Fighter-bombers attacked by Enemy planes while on bombing missions may jettison their bombs to increase their Maneuver Rating for Air-to-Air. The jettisoned bombs have no effect.

[46.0] ANTI-AIRCRAFT FIRE (FLAK)



GENERAL RULE:

Planes flying missions in a given hex must undergo anti-aircraft fire, if there are Enemy units capable of such in that hex. Generally, AA fire is conducted before a mission is undertaken and any casualties taken before determining the effects of that mission. AA fire is given in points, based on capabilities of light or heavy AA (or flak) guns. The number of AA points for each unit is determined by multiplying the TOE strength by the AA rating. All AA units have Flak Points, and some other HQ, artillery and heavy weapons units also have flak/ AA capability. A unit's flak/ AA rating is listed in that unit's Characteristics Chart Table under the AA column. AA/flak fire consumes ammunition.

PROCEDURE:

Anti-aircraft Fire occurs after all Air-To-Air combat and Flak Suppression Missions have been completed. The Enemy Player divides the opposing planes into Target Groups (46.26) and indicates the number and type, but not Mission, of the planes in each Target Group. The Friendly Player may then attack the Target Groups in any order he wishes. Each attack is performed separately and all planes destroyed, aborted and Ammo expended requirements are completed before the next attack is performed. All anti-aircraft attacks are performed using the Anti-Aircraft Combat Results Table. The Friendly Player determines AA Points of Air Facilities and which TOE Strength Points of units with anti-aircraft Ratings are attacking a particular Target Group. The total Anti-Air points are then determined (do not divide by ten!)

All anti-aircraft attacks are performed using the Anti-Aircraft Combat Results Table (46.3).

All attacks on planes flying Fighter-Type Missions are performed as follows: Roll two dice, reading them sequentially. Read down the rows of results in the Planes on Fighter-Type Missions section of the CRT until one is found that contains that dice roll. Read along the row to the right to determine the number of planes in that Target Group destroyed by anti-aircraft fire. The actual planes in that Target Group that are destroyed should be determined at random. The players may use any method they wish as long as it is consistent and mutually agreeable.

Example: The players alternate picking which planes are destroyed. Example: Number the planes in the Target Group from 11 to 66 and roll the dice until enough different numbers are thrown to match the number of planes to be eliminated and then eliminate those planes whose number has come up.

All attacks on planes not flying Fighter-Type Missions (46.2.6a and 46.2.6b) are performed using the Planes on Other Missions section of the anti-aircraft CRT as follows:

Prior to determining the results of AA fire, the firing Player may have to adjust his AA Point column to account for the density of enemy planes overhead. He consults the AA Density Adjustment Chart, noting the total number of enemy planes (other than fighters) in that hex. He then adjusts the column — in his favor — if warranted. Remember, Night Missions are done separately from others.

The firing Player rolls two dice twice using the same column, once to determine the number of planes destroyed (using the rows of the same name) and once to determine the number of planes that Abort involuntarily (using the rows of the same name). Determination of which planes are destroyed and aborted should be made by the same method used for determining losses on Fighter Missions. Aborted planes are determined after all losses from destroyed planes are completed.

[46.1] FLAK/ AA UNITS

[46.11] A large number of units have AA/Flak capability; that is, they may fire at enemy planes. A unit that has an AA Rating may so fire (however, see Case 46.22). Most of these units are called AA or Flak units, and are so delineated by their unit symbol on the counter. However, many other types of units have AA Ratings. These AA Ratings are multiplied by the TOE Strength of the unit to determine the Actual AA Points that can fire. (There is *no* dividing by 10, as with other strengths.) Any unit with an AA symbol on its counter is called a Pure Flak unit (See 46.17.).

[46.12] A flak unit having a (parenthesized) defense assault rating, defends against an assault only if alone in the hex. Players should note that the German 88's and Italian 90mms have a defensive assault rating and are treated as artillery units with assault ratings when attacked.

[46.13] Unless specifically stated otherwise, flak units are treated as artillery in terms of having their own transport. There are some flak units without transport, and to "motorize" these units requires trucks. Each Point of AA may be towed by a medium truck point or a Heavy Truck Point.

[46.14] Flak/ AA units require supplies like any other unit. (They are treated as artillery.) They will, of course, use ammunition when firing.

[46.15] Certain combat units — in addition to regular flak units — have AA/Flak Points. Certain tanks and recce units have AA/Flak Points, and these are points *per* TOE Strength Point (Thus, 5 TOE points of Sherman tanks would have 5 AA/Flak Points).

[46.16] Tanks may use their AA/Flak Points only against fighters strafing units in that hex or against dive bombers. They may not use their AA Points against any other planes/missions.

[46.17] Pure AA/flak units (i.e., units that have only AA Points) may stack freely in Major Cities; they do not count against the stacking limits. In addition, one pure AA/flak unit may stack freely in an air landing strip hex, and three may stack freely in an airfield.

[46.2] RESTRICTIONS ON ANTI-AIRCRAFT FIRE

[46.21] Anti-aircraft fire may only be directed at planes flying missions in the same hex as the units and air facilities possessing an anti-aircraft ability.

[46.22] Infantry, recce, and tank units may fire AA only at planes in the fighter mission, strafing, and/or dive-bombing target group (see Case 46.26).

[46.23] Anti-aircraft fire occurs after all air-to-air combat and flak suppression missions have been performed.

[46.24] The planes fighters flying flak suppression missions and those flying naval convoy reconnaissance missions may not be attacked by antiaircraft fire.

[46.25] Opposing planes flying missions in a hex must be grouped into target groups for antiaircraft fire purposes.

[46.26] The target groups are as follows:

a) All Enemy planes not assigned to fighter-type missions and flying (normal) daytime missions by each mission.

b) All Enemy planes not assigned to fighter-type missions and flying night missions by each mission.

c) All Enemy planes assigned the fighter-type missions of combat air patrol. Scramble and interception flying daytime.

d) All Enemy planes assigned night fighter-type missions of combat air patrol, scramble and interception.

e) All planes flying fighter-type missions of strafing and/or dive bombing.

[46.27] AA may be fired at as many target groups as the owning Player wishes.

[46.28] Replacement Points may not use AA ratings until absorbed by a unit.

[46.3] ANTI-AIRCRAFT COMBAT RESULTS TABLE

(see Charts and Tables)

[46.4] FLAK ADJUSTMENT CHART

(see Charts and Tables)

(correction note:) The FLAK ADJUSTMENT CHART is wrong; the notes at the bottom of the ANTI-AIRCRAFT COMBAT RESULTS TABLE are correct (46.3 above).

[47.0] ABSTRACT LOGISTICS RULES

The Players use the Abstract Logistics and Air Rules (Section 32.0) except as modified below.

[47.1] SUPPLYUNITS AND SUPPLY

[47.11] All off-map (N. African and Mediterranean) air facilities possess unlimited supplies for aircraft maintenance.

[47.12] Cairo and Alexandria have unlimited supplies for Commonwealth aircraft maintenance for any SGSU occupying a Cairo/ Alexandria hex or within supply range (see Case 47.13).

[47.13] An SGSU may draw supplies from any friendly supply unit per Case 32.16 (or Cairo/ Alexandria) that is within 15 Capability Points.

[47.14] The Players receive regular (i.e., those described in Section 32.0) and Depot supply units. A Depot initially contains 180 Fuel and 40 Ammo Points. It retains its Depot status until it contains no more than 60 Fuel Points, at which time it is treated as a regular supply unit. Depots may never absorb fuel or ammo points. Supplies may be withdrawn from a depot only for use by SGSU's and motorization points engaged in transporting that depot (i.e., supplies may not be redistributed to other supply units nor used by combat units or motorization points not actively engaged in moving that depot).

[47.2] SUPPLY EXPENDITURES

[47.21] Only Gun-class units are required to expend ammo in order to fire at enemy aircraft. A gun-class unit must expend 1 Ammo Point in order to perform anti-aircraft fire against a *target group*.

[47.22] Fighter and fighter-bomber squadrons do not require ammo expenditures to enable their planes to use their TacAir and Bombload ratings. Non-fighter squadrons are entirely rearmed with the expenditure of one Ammo Point.

[47.23] Fighter/Fighter-bomber squadrons require the expenditure of one Fuel Point to refuel the entire squadron. Axis non-fighter squadrons require the expenditure of two Fuel Points in order to refuel the squadron. Commonwealth nonfighter squadrons require the expenditure of three Fuel Points in order to refuel the squadron.

[47.3] MOVEMENT OF SUPPLY UNITS

[47.31] Fifty motorization points are required to transport a depot.

[47.32] A depot may only be transported in the Truck Convoy Movement Phase (i.e., it may not be attached to a combat unit).

[47.33] A depot counts as two supply units if being transported by rail. The Commonwealth Player may not transport a depot by sea.

[47.34] The Axis Player may transport a depot by Axis Coastal Shipping. Each depot requires 3,000 tons of coastal shipping.

[47.35] Regular supply units may be transported by air. The Axis Player may air transport regular supply units as follows: Any thirty planes with air transport capability may transport a supply unit containing up to 8 Ammo Points and up to 20 Fuel Points, any sixty planes with transport capability may transport a regular supply unit with any level of supplies. The Commonwealth Player may air transport regular supply units as follows: Any twenty planes with transport capability may air transport a supply unit containing up to 10 Ammo and up to 25 Fuel Points. Any fifty planes with transport capability may transport a regular supply unit with any level of supplies. Either player may transport a dummy supply unit with any ten planes with transport capability. Note that the supply unit counter must be physically transferred from one location to another.

[47.4] AVAILABIUTY OF SUPPLY UNITS

[47.41] The Axis Player receives Depot supply units as an addition to the regular supply units produced by the Axis Simplified Supply Availability Table. He receives one Depot for each regular supply unit produced.

[47.42] The Commonwealth Player receives Depot supply units as an addition to the regular supply units produced by the Commonwealth Simple Supply Availability Table. During time period I, he receives one Depot per game turn. During time period II, he receives two Depots per game-turn. During time period III he receives three Depots per game-turn.

[47.5] MOTORIZATION POINTS

[47.51] Cases 32.57 and 32.59 are ignored and Case 32.56 is modified as follows: Motorization Points

may be attacked (and destroyed) as though they are trucks as per the Strafing (Cases 40.5 and 40.6) and Land Support Bombing (Cases 41.2, 41.3 and 41.5) rules in the Air Game.

[47.52] The initial motorization points available to the Players are calculated in the same manner as listed in 32.5 except that Second/Third Line trucks listed as available at air facilities are included in the calculations.

[47.53] Motorization points· may be received as though they are truck replacements. The Players' ability to bring in motorization points is equal to their ability to bring in Medium plus Heavy Truck Points (i.e., each medium/heavy truck point is equal to one motorization point) as per the Axis Truck Production Chart of the Axis Replacement Pool and the Commonwealth Truck Production Table of the Commonwealth Production System.

[47.6] SIMPLIFIED AXIS NAVAL CONVOYS

These rules replace those listed in Case 32.6.

[47.61] In the abstract Logistics game system, Axis Naval Convoys consist of all Supply Units, Motorization Points and Replacement Points for that Game-Turn. These items may be divided and assigned to any Convoy Lane available, as per rules for such assignment. There are no tonnage limitations.

[47.62] The Axis Player may never assign more than three regular and three depot supply units and twenty-five motorization points to any one Convoy Lane in any one Naval Convoy Stage. Note that the Axis Player is limited by the Replacement Pool as to the maximum number of replacement points of each type of item that may be assigned to Axis Naval Convoys (total) for arrival during a particular Game-Turn.

[47.63] If the Commonwealth Player successfully performs an Axis Naval Convoy reconnaissance mission, he is informed as to the composition of the convoy in total number of: Regular supply units, depot supply units, motorization points, tank replacement points, infantry replacement points, gun replacement points and armored recce/ armored car replacement points.

[47.64] Attacks against a convoy are carried out as per the Axis Naval Convoy Bombing rules.

[47.65] The result df an attack on an Axis Naval Convoy is modified as follows:

A/A result of 10% applies *only* to motorization points and replacement points, rounding fractions down for the former and rounding fractions up for the latter.

B/A result of 20% applies to all items except Depot supply units, rounding fractions down. However, at least one regular supply unit at one point of each class of replacement point is always eliminated.

C/A result of 30% or greater is applied as "B" above with the modification that at least one supply unit of any type must be eliminated (supply units are considered as a total for loss determination).

[47.7] BOMBARDMENT OF THE COMMONWEALTH FLEET

Ignore Case 32.7 — Bombardment of the Commonwealth Fleet is carried out as per the Air Game Rules.

[47.8] STACKING MODIFICATIONS

[47.81] The Players ignore all Road and Track (only) Stacking Point limits as listed in Section 9.0.

[47.82] The Players may stack one Depot supply unit in addition to the regular supply unit stacking limits listed in Case 32.14.

LOGISTICS GAME

The Logistics Game allows the players to realistically experience the constraints that actually applied to the armies which fought in North Africa. Basically, there are four distinct "flavors" of supply in ***CNA***: water, fuel, stores, and ammo. The Logistics Game requires that players keep track of the amount of each of these that each unit possesses and consumes. Also included are detailed naval convoy rules that cover the movement of the supply types to Africa for the Axis and rules covering the use of truck transport to move the supplies.

The Logistics Game constitutes the heart and soul of ***Campaign for North Africa***. The entire design emphasis is on recreating the difficulties of supply in desert warfare. Overall commanders will soon find out that their most important weapon is not their tanks or their 88's or their long-range bombers; it is their Trucks.

Over a year of intensive testing has proven at least one thing: no one can do well in this game if he does not have a definitive grasp of the logistical situation and, moreover, a far-sighted plan on how to handle it. This goes double for the Axis Player, who is often so far away from his base of supply that it will seem to take forever just to "feed" his troops. Players should learn to 'use the three-tiered "Line" system for their trucks, and they must set up a system whereby trucks and the shipment of supplies is handled with a maximum of efficiency and speed. Any Stage in which supplies are not constantly being moved forward is a wasted three days (game-time). The thoughtful use of Supply Dumps is an absolute must.

The general feeling that players will get throughout the game, *vis-à-vis* the logistics, is frustration (albeit more so on the part of the Axis Player than the Allied Player). The Axis Player will have countless opportunities to smash weaklyheld Allied positions, only to find he has neither the fuel the ammunition to carry out his plans; they are somewhere on trucks 200–300 miles to his rear. The player who best minimizes this problem will most often be the winner.

Much research was done on the logistics portion of the game. Statistics *are* available, but not in a form that is easily translatable to game terms. The supply needs, in terms of the points consumed and needed, are based on basic computations using weights and consumption figures (where available). These figures were then extrapolated to cover usage over the time scale in the game. This was especially important when determining ratios for fuel and ammunition for aircraft. Furthermore, complete information on fuel consumption was not available on a goodly number of the bigger planes. Another problem area was ammunition usage. But the biggest problem area, and the area that is most abstracted for game purposes, is the correlation between supplies used and weight of supplies convoyed (by the Axis). Exact figures here are rare, and much testing was spent on seeing whether the numbers we came up with were satisfactory.

All of the above is by way of giving the players a little background on the logistics game. The supply problem in ***CNA*** is extensive, and the work needed to run it — in terms of the game — is just as extensive. It is highly recommended that one player from each side be assigned to this area, and this area alone. Testing proved that rare was the player who could handle military matters, strategy, tactics, etc., and also coordinate supply for his troops.

[48.0] SEQUENCE OF PLAY (Logistics Game)

COMMENTARY:

It is possible to use the Logistics rules in concert with the Land Game and omit the Air Game rules. If that is the desire of the players, they should ignore all part of the following Sequence marked ''Air Game Only.''

GENERAL RULE:

Play of the game should proceed in accordance with the following outline.

I. INITIATIVE DETERMINATION PHASE

The Players determine who will have the initiative for the coming Game Turn. (See 7.0) The Player going first within the Operations Stage (see below) is known as "Player A" and the other is "Player B."

II. STRATEGIC AIR PLANNING STAGE

(Air Game Only)

A. Designation Phase:
The Players assign their airplanes to fly Land Support or Strategic missions.

B. Axis Malta Availability Determination Phase
The Axis Player determines the amount of support he will receive from his abstracted N. African Theatre airforce for Raids on Malta.

C. Strategic Mission Assignment Phase
Planes designated as flying Strategic missions are assigned. The Axis Player assigns his planes to Raids on Malta or naval convoy protection. The Commonwealth Player assigns his planes to naval missions or Bombing Reserve.

D. Malta Raid Phase
The Axis Player resolves flak suppression, antiaircraft fire and bombing missions against Maltese air facilities (Note that Commonwealth warships stationed at Valetta may only be attacked by Land Support Missions.)

III. NAVAL CONVOY STAGE

A. Naval Convoy Schedule Phase
The Axis Player refers to the Axis Naval Convoy Level Chart and then to the Axis Convoy Capacity Table and rolls one die to determine the total tonnage available for the next Game-Turn. He then plans what specific cargoes the convoys will carry and their routes.

B. Convoy Resolution Phase
(Segments 1 & 2: Air Game Only)

1. Naval Convoy Reconnaissance Segment: The Allied Player resolves Strategic Convoy Reconnaissance missions.

2. Convoy Lane Assignment Segment: Axis convoy protection aircraft are assigned CAP missions in specific Convoy Lanes. Commonwealth Bombing Reserve aircraft are assigned CAP, Flak Suppression or Convoy Bombing missions in specific convoy lanes.

3. Convoy Bombing Segment: All air-to-air combat, Flak Suppression, anti-aircraft, and convoy bombing is carried out.

IV. STORES EXPENDITURE STAGE

Both Players distribute and expend stores (Section 51.0) to eligible units requiring them. Units not receiving required stores are noted. Players also adjust fuel and water storage levels for any losses as a result of spillage or evaporation.

V. FIRST OPERATIONS STAGE

A. Initiative Declaration Phase
The Player who gained the initiative in Stage I now states whether he will be "Player A" or "Player B" for this particular Operations Stage.

B. Weather Determination Phase
The player with initiative rolls for weather (Section 29.0). All adjustments for unusual weather are made at this time, including any additional evaporation of fuel or water from hot weather.

C. Organization Phase
The following Segments are undertaken in any order desired.

1. Water Distribution Segment: Players distribute water to eligible units requiring such.

2. Reorganization Segment: Attachment and/or assignment of reinforcement, replacements, or any other non-assigned units including trucks may be undertaken. Detachment of attached units may also be done.

3. Attrition Segment: Reductions of any units that have not been adequately supplied with water or stores is undertaken.

4. Construction Segment:

a. *Construction Completion Step:* Any work scheduled for completion is finished, markers being removed or added as required. Units that have completed construction may be freely moved.

b. *Construction Initiation/Continuation Step:* Any continuing or ensuing work on projects is noted. Any units involved in such work may not be moved (voluntarily) during the remainder of the current Operations Stage.

5. Training Segment:

a. Training Completion Step: Units and replacement points completing a level of training are noted and the effects applied.

b. Training Initiation/Continuation Step: Any units beginning or continuing training are noted. They may not be moved (voluntarily) in the remainder of the Operations stage.

6. Supply Distribution Segment: Supplies in the same hex as land units may be redistributed at this time, subject to the maximum innate capacity of the unit(s) and the hex. Trucks may be loaded/unloaded.

7. Tactical Shipping Segment: Both players execute the transport of cargo between African ports. Note: Axis coastal ships are represented in the game by counters. Allied coastal shipping is not represented by counters, and is limited only by the port capacities.

D. Naval Convoy Arrival Phase:
All reinforcements, Replacement Points, and supplies scheduled for arrival (and actually arriving) appear in their designated ports of arrival or entrance hexes. Check Reinforcement Tables and convoy rules. The Axis Player plans for the arrival of future Replacement from the Axis Replacement. In his first Naval Convoy Arrival Phase of each month, the Commonwealth Player consults the Commonwealth Production System and determines how many Replacement Points he will receive two months hence and plans for their arrival.

E. Commonwealth Fleet Phase:
1. Fleet Assignments Segment: The Commonwealth Player assigns his ships to any sea or coastal hexes for bombardment purposes.

2. Fleet Repair Segment: Any repair work on ships is undertaken at this time.

F. Land Support Air Phase (Air Game only): Only those planes assigned to land support missions may be used in this Phase.

1. Mission Assignment Segment: All planes that are fueled may be assigned missions by the Player.

2. Mission Deployment Segment: Counters representing each type of plane assigned a mission are placed in their hex of assignment.

3. Air-to-Air Combat Resolution Segment: Combat between opposing aircraft, including any caused by scramble and interception, is resolved. Mission aborts may take place before combat resolution.

4. Flak Resolution Segment: Aircraft in the same hex as Enemy anti-aircraft units undergo flak fire.

5. Mission Completion Segment: All missions that can be completed (e.g., bombing, strafing, etc.) are completed. Aborts may take place here, too.

6. Return to Base Segment: All surviving aircraft are returned to their base of origin (excepting those on transfer missions and some other rare exceptions).

7. Tactical Maintenance Segment: Both Players may attempt to ready all planes eligible to fly land support missions.

G. Reserve Designation Phase:
Player "A" designates which of his units he is placing in reserve status, indicating that with a reserve marker. (See Section 18.0.)

H. Movement & Combat Phase
The following four Segments comprise the Movement and Combat Phase. Player "A" may, if he so wishes, repeat Segments 1 through 4 as many times as he desires within the restrictions of the continual movement rules (8.2). Each repetition must include all four segments.

1. *Movement Segment:* All units, except trucks and tank recovery squadrons not in reserve and eligible to be moved may be moved. Non-Phasing Player ("A") may move units m accordance with the reaction movement rules (Case 8.6).

2. *Breakdown Determination Segment:* All vehicles and motorized units of both sides are checked for breakdown. Broken-down vehicles are indicated with the appropriate marker.

3. *Combat Segment:*

a. Position Determination Step: Both Players determine the "position" (front or back) of all gun and armor class units.

b. Barrage Step: Both Players secretly plot and then execute any barrages.

c. Retreat Before Assault Step: Player "B" may retreat before assault any of his units eligible to be so moved.

d. Force Assignment Step: Both Players secretly assign TOE Strength Points to anti-armor or close assault. Player "A" determines which assaults will be probes (although he need not reveal this decision) and which TOE Strength Points will be withheld from assault.

e. Anti-Armor Step: Both Players simultaneously resolve any anti-armor fire, extracting any casualties. Destroyed tank markers are deployed as required.

f. Close Assault Step: Close assaults are resolved in any order determined by Player "A". He announces which of them are actually probes, after each is resolved.

4. *Reserve Release Segment:* Player "A" may release any of his reserves that he wishes to.

J. Truck Convoy Movement Phase:
Player "A" may move his Second and Third Line (unattached) Trucks, and any POW's and Guards.

K. Commonwealth Movement Phase: If Player "A" is the Commonwealth Player, he may utilize rail movement (Case 8.9) to move land units or supplies. Otherwise, this Phase is omitted.

L. Repair Phase:
1. Towing Segment: Player "A" may tow broken down and recovered vehicles.

2. Maintenance Segment: Player "A" may attempt to repair broken down or destroyed vehicles which were not towed in this Phase.

M. Patrol Phase: If there has been no combat in the current Operations Stage, the Phasing Player may use patrols for reconnaissance purpose.

VI. SECOND OPERATIONS STAGE

Both Players repeat all facets of the **First Operations Stage**.

VII. THIRD OPERATIONS STAGE:

Both players repeat all facets of the **First Operations Stage.**

VIII. STRATEGIC AIR RECOVERY STAGE
(Air Game Only)

A. Return to Base Phase: All surviving planes from missions flown in Stage II are returned to their base of origin if possible.

B. Aircraft Maintenance Phase: Both Players attempt to ready planes that have flown missions during the Strategic Air Stage.

IX. END OF GAME-TURN

You have now completed one full game-turn, replete with airplanes, fuel, sandstorms, and the lot! Congratulations. You may put in for a transfer, but before doing so, keep in mind that the Russian Front is the only other active theatre.

[49.0] FUEL

GENERAL RULE:

Almost every vehicle in the game consumes fuel when moving. Players will consider a vehicle to consume fuel unless it specifically states somewhere in the rules that it does not. Fuel is consumed at a consumption rate dependent on the vehicle and on the distance travelled. Fuel may also be consumed in certain types of construction. Players should consult the Section on Construction for the rates.

Players must keep track of the amount of fuel they have available. This may be done on the Supply Dump Sheets as well as the unit TOE Sheets. Fuel being transported by truck convoys will be noted on the Truck Convoy Sheet. As fuel is consumed (by usage or evaporation and spillage) or increased (by arriving convoys) the Player should record the changes in levels immediately.

[49.1] FUEL CONSUMPTION RATES

[49.11] All Fuel is considered in terms of Fuel Points. The Fuel Point is the basic unit of consumption. A Fuel Point is roughly equivalent to 250 pounds or 35 gallons of gasoline and auxiliary petroleum products. (This rate does not apply to the Air Game, where fuel usage has been abstracted because of the decrease in the true number of sorties flown.)

[49.12] Every vehicle in the game consumes fuel when it moves, except where specifically noted (e.g., desert raiders and patrols among others, have slightly different rules). Fuel users include HQs with non-parenthesized TOE Strength Points and all gun class units. They do not include motorcycles or the towing of tanks and trucks back to repair facilities.

[49.13] Every TOE Strength Point of vehicles has a fuel consumption rate and a fuel capability rating. The fuel consumption factor is the number of Fuel Points consumed for every *five* Capability Points (or fraction thereof) expended by the TOE Strength Point for movement (or any type). **Note:** Fuel is *not* consumed when CP's are expended for combat or any other action that does not involve actual movement from one hex to another. **Example**: One. TOE Strength Point of tanks with a fuel consumption rate of "4" that moved in such a way that expends 12 Capability Points would consume 12 Fuel Points — "4", the fuel consumption rate multiplied by "3", the number of groups of 5 CP's expended. *(addition)* The Fuel Consumption Rate for Trucks and Recce/AC units is "1". *(clarification)* The "Note" refers only to land units.

[49.14] The fuel capacity rating is the number of Fuel Points a TOE Strength Point may have, so to speak, in its gas tanks. All vehicles' fuel capacity ratings are determined according to the following formula:

Fuel Capacity Rating =
(CPA) x (1/5) x (Fuel Consumption Rate)

Players will note that a TOE Strength Point always has a fuel capacity rating exactly sufficient to allow all its CPA to be expended on movement. *(clarification)* Although units have a Fuel Capacity, they are not — strictly speaking — limited by it. They may always take fuel from a

source (dump, truck, etc.) in the same hex and may always move beyond their "fuel capacity" limits, if they have expended the fuel points necessary to that movement segment.

[49.15] For fuel to be consumed, it must be present in the same hex with the consuming unit/TOE Strength Point. Generally, movement of a unit will be "counted against" its fuel capacity rating — i.e., the fuel in the unit's gas tanks, which by definition is in the same hex at all times — and players will have to record how far each land unit has been moved since the last time its fuel supply was replenished. See also Case 49.16.

[49.16] In essence, a unit consumes fuel in the hex in which it *begins* Movement for any Movement Segment in the OpStage. It may draw fuel from any source in that hex, except for second-third line trucks. (Such fuel from convoying trucks must be off-loaded first). There is no cost in CP's to "gas up." The Player simply notes how far he is going to go in that Movement Segment and then subtracts the necessary fuel points from whatever source is available in the hex. He then moves the unit. If such unit were to move again in that OpStage, it would have to draw fuel from the new hex or from its own Fuel Capacity (49.14).

[49.17] In an emergency, Players may "siphon gas." That is, if two units are in a hex, one has fuel and the other doesn't, and there is no other fuel supply available, the Player may transfer some — or all — of the fuel from one unit to the other, up to the maximum Fuel Capacity of the receiving unit. Such transfer costs 3 CP's to both units. Siphoning may occur in any Movement segment. The definition of "emergency" is left to the Players. (Note that fuel may be siphoned from abandoned or broken-down enemy vehicles; it may not be siphoned from a destroyed vehicle. The enemy player should supply the siphoning player with the number of fuel points so available — when requested.)

[49.18] Trucks carrying fuel will also consume fuel themselves while they are moving. They may consider the fuel they are transporting as a source of fuel. It is possible for a truck to consume half of its cargo getting from a port to a forward area. *(repeated addition)* The Fuel Consumption Rate for Trucks and Recce/AC units is "1".

[49.19] Fuel is non-denominational. It can be used by either player, making a supply dump a worthwhile objective.

[49.2] TRANSPORTATION OF FUEL

Fuel may be transported from one place to another by trucks, trains and, in some cases, planes. Fuel may never be "transported" by tanks or other such vehicles. Walking infantry may never transport fuel. (How would you like to cross the desert carrying a 20-pound jerry-can filled with gasoline?) See the Truck Characteristics Chart for the amount of Fuel Points that can be carried on a truck and Aircraft Characteristics Chart for the transport tonnage capacity of planes.

[49.3] EVAPORATION AND SPILLAGE

Fuel is subject to loss through evaporation and spillage, regardless of where it is kept. During the Stores Expenditure Stage of each game-turn, each Player reduces *all* fuel levels on the game-map (*not* in convoys at sea) by six percent (6%), rounded *down*. In addition, if the weather for an operations stage is "hot weather", an additional reduction of five percent (5%) is taken as soon as the hot weather is determined. There is one exception to these rates: from September 1940 until the last Game-Turn (inclusive) in August, 1941, the Commonwealth spillage and evaporation rate is **nine** percent (9%) per Game-Turn. This is due to the poorly constructed containers used by the British; it wasn't until the British copied that German "jerry can" that their rate was reduced (This rule also applies to certain sources of water, see 52.44.)

[49.4] *(addition)* Infantry-type units in trucks (motorized) that have no fuel may not Close Assault unless they get out of the trucks. Such units may defend at normal strengths, but they are considered to have their non-motorized CPA. Mechanized units and tank/AC/recce units may not Close Assault or Armour Assault without Fuel. They defend at normal strength. However, there will be a two-column adjustment in favor of the attacker if the defending tank-type units have no fuel.

[50.0] AMMUNITION

GENERAL RULE:

Land units that use their TOE Strength Points in combat expend ammunition, as do planes that carry bombs and/or engage in air-to-air combat. Ammunition is consumed in terms of Ammunition Points at rates of consumption dependent on the weapon-type firing. A unit without ammunition is useless in terms of combat. Players must keep track of the ammo supply of each TOE Strength Point. Each TOE Strength Point may carry (i.e., transport by itself without trucks) only enough ammo to fire once. However, units may always use ammo present in the hex (either in attached trucks or in a supply dump).

CASES:

[50.1] CONSUMPTION OF AMMUNTION

[50.11] All ammunition is considered in terms of Ammunition Points. Each Ammunition Point is (very) roughly the equivalent of *four* tons. Ammunition consumption rates are given in 50.2.

[50.12] Whenever a land unit uses its barrage strength, its anti-armour strength, its AA points, or any of its assault strengths it consumes ammunition. A unit without ammunition of any type is useless in combat; it may not even defend against assault if it finds itself in an Enemy Zone of Control and/or it is fired upon by an Enemy unit; it surrenders and is captured. (Units without ammunition have *no* ZOC.) A unit without ammunition may not enter an Enemy ZOC unless stacked with (or entering a hex occupied by) a Friendly unit with ammunition or a supply dump.

(important correction) For a unit without ammunition to surrender, it *must* be Assaulted (either Anti-Armor or Close). Simply being in an Enemy ZOC or barraged does not cause the unit to surrender.

[50.13] Each combat function has an ammunition consumption rate, listed in 50.2. Units, such as tanks, that have several types of strengths (AntiArmour, as well as Assault) use the ammunition consumption rate of on the combat function chosen.

[50.14] The ammunition consumption rate is the number of Ammunition Points expended for each TOE *Strength Point* being used in combat. Ammunition is expended by guns barraging (or firing flak), anti-armour fire, or offensive *and* defensive assault. Thus, four TOE Strength Points of German 150mm guns would expend 16 Ammunition Points (4 TOE times the artillery consumption rate of 4 = 16), regardless of how many Actual Barrage Points are being applied. Thus, a Player may choose to conserve ammunition by only firing, say, 3 out of 6 available TOE Strength Points.

[50.15] Ammunition is consumed only if present in the hex. However, ammunition *on* truck convoys (2nd or 3rd line trucks) may not be used until it is off-loaded. Ammunition is expended the *instant* it is used, and the ammunition level for that hex/unit/dump must be reduced accordingly.

[50.16] Ammunition is specialized for both players. Only one-third of all captured Ammo Points (rounded up) may be used by the opposing Player. The rest are lost. If a supply dump is recaptured, only one-third of all remaining Ammo Points may be used by the recapturing Player.

[50.17] Ammunition may be transported by trucks or aircraft; it may be airdropped. It is available for use when in first line trucks or supply dumps. Ammunition with truck convoys may not be used until off-loaded. Combat units may carry enough ammo to fire once.

[50.2] AMMUNITION CONSUMPTION RATES CHART

(see Charts and Tables)

(addition) Infantry units consume one Ammo point per TOE point used.

[51.0] STORES

GENERAL RULE:

The term "stores" encompasses everything that isn't fuel, ammunition, or water. This includes food (which is what most playtesters ended up calling stores), paper, uniforms, and whatever else was used and needed to keep going. Stores are different from other types of supply in that they are distributed at the beginning of the *Game-Turn,* rather than during each Operation Stage, and that units may get along without them, albeit with limited effectiveness and with the possibility of attrition.

CASES:

[51.1] USAGE OF STORES

[51.11] Every TOE Strength *Point* in play requires four Stores Points per Game-Turn, except as noted below.

[51.12] Prisoners use stores, at a rate of one Stores Point per five Prisoner Points per Operations Stage. (See 28.15). Prisoners must be supplied with Stores before any other units. For this purpose only, if there are no Stores in the hex, Stores may be deducted from the nearest supply dump, regardless of how far away it is.

[51.13] HQ and engineer units require only *one* Stores Point per Game-Turn.

[51.14] Stores may have to be expended during construction. See 24.0.

[51.15] Each Stores Point weighs one ton. Stores may be transported by trucks or planes, and they may be airdropped. Stores must be present in the hex to be used. Stores on truck convoys cannot be used until off-loaded.

[51.16] Fifty per cent (50%) of any captured Stores Points may be used by the opposing Player; the rest are lost.

[51.17] Guard points require two Stores points per Game-Turn each. Guards may also draw from the nearest dump, as per 51.12.

[51.2] EFFECTS OF LACK OF STORES

[51.21] If any TOE Strength Point of a unit (including parent formation-size) does not receive required stores, that unit earns one Disorganization Point, per Game-Turn of lack of stores.

[51.22] For every two *consecutive* Game-Turns units in a hex are without stores, they lose 2% of their TOE Strength Points, rounded to the nearest whole number. This loss is *progressive and cumulative* (as long as it is consecutive). Thus, at the end of the fourth consecutive Game-Turn, the rate rises to 4%, and at the end of six turns, 6% and so on. TOE Strength Points may be eliminated only if they are infantry-type TOE Strength Points. Guns and tanks are not affected by this.

[51.23] A Player in desperate straits may place units on *half-rations*. He cuts his stores requirements from four to two for units, with the following effects:

1. No half-ration unit may voluntarily exceed its CPA;

2. A half-ration unit may not voluntarily enter an Enemy Zone of Control.

Players may *not* use this case to "save" Stores. This is used only if there are not enough to go around.

[52.0] WATER

GENERAL RULE:

A somewhat ironic fact of the Desert Campaign was that, although water is the single most important item in the desert, it was never really a decisive factor, *operationally*. Players should find that they rarely run out of water, but that it is a nuisance as it is *absolutely necessary*. Water comes from wells (called "birs" in North Africa). Most wells are located close to the coast, and thus most of the water supply is away from the inland areas. Wells may be "poisoned" or depleted through usage. Depleted wells are replenished by rains, and poisoned wells may be "sweetened." Players may construct water pipelines from major sources to facilitate water usage and availability.

CASES:

[52.1] WELLS

[52.11] Water is found in wells — and only wells. (It may be extended from wells through the use of water pipelines.) Wells are located in major cities, villages, and birs. Water is also found in oases (See 52.3). Each of the above automatically contains a well; no other locations or hexes have wells. (The Tripoli–Tunisia boxes each have unlimited wells.)

[52.12] The amount of water available from a given source is given in the Water Availability Table, (52.7). The Table also gives the depletion possibilities for each source.

[52.13] To obtain water, a unit moves into a hex with a well. The Player then expends *one* CP and throws a die to draw water (the die-roll is unnecessary in Major Cities and oases.). He consults the Water Availability Table under the correct column (village or bir) and cross-references the die-roll with the source. The result is the number of Water Points drawn. ~~as well as whether the source is depleted or not.~~ Players should note that wells in major cities and oases have *unlimited* water; they may not be depleted and they may *not* be poisoned.

(important correction) The case is wrong; the table is right. You must roll a "1" to deplete a well. Also note that you may draw as much water as you can carry in a major city or oasis.

[52.14] When a well becomes depleted, the Player who drew the water notes this on a piece of paper. He does not have to tell the opposing Player that the well is depleted. However, if an opposing Player's units enter a hex with a depleted well, and attempts to draw water the Player then tells him that it is depleted (after he has expended the one CP!). When a depleted well is revealed, a depleted marker is placed in that hex.

[52.15] Depleted wells remain depleted until a rainstorm occurs. All depleted wells on a gamemap section with a rainstorm are automatically replenished at the instant the rainstorm occurs.

[52.16] Wells in villages and birs (*not* in major cities or oases) may be "poisoned". Actually, poisoning is a fanciful term. No one actually dropped fifty pounds of arsenic down a well; the folks in Geneva looked askance at that sort of thing. Rather, the wells could be salted, as there was plenty of salt around. To poison a well, therefore, any unit in a hex (village/bir) with a well may expend one CP and roll one die. If the die-roll is a '1', the well is poisoned. If the die-roll is 2–6 the attempt fails (for any number of reasons) and no further attempt on that well may be made that Operations Stage. Poisoned wells may be kept secret as in 52.14.

[52.17] Poisoned wells may be sweetened (unpoisoned) by having *any* land unit expend 5 CP's and roll a die. If the result is a 1, 2, or 3: the well is OK. Any number of attempts — at 5 CP's a shot — may be undertaken, except that a unit may not exceed its CPA trying to sweeten wells.

[52.2] WATER PIPELINES

[52.21] Players may try to extend their access to fresh water by constructing water pipelines. Pipelines extend from a *specific* source of water-only wells in major cities.

[52.22] Water pipelines may extend from any well in a major city any length the Player desires. The Commonwealth Player may consider *any operating Railroad hex* to be a pipeline for water, and he may construct pipelines *from* any railroad hex. The Axis Player may not use the defunct Barce–Benghazi railroad for this purpose.

[52.23] Any water pipeline (or RR hex) is considered as a source of water similar to a Major City. It may not be poisoned or depleted, and it is unlimited. It may be destroyed.

[52.24] Pipelines are built by engineer battalions or CW HQ units in the engineering capability. It takes one Construction Phase, plus the expenditure of 10 stores, to build a hex of pipeline. Only one pipeline hex may be built in any given Operations Stage.

[52.25] Water Pipelines are susceptible to enemy attacks. Pipelines — except for railroads acting as pipelines — may be destroyed by desert raiders, the presence of an Enemy unit in the hex, or strafing. Railroad pipelines are destroyed if the railroad is destroyed. If a pipeline is destroyed, water may be drawn only from the farthest connected hex. Pipelines are repaired in the same fashion and cost as they are built. Pipeline and destroyed pipeline counters are provided.

[52.3] OASES

Oases are treated the same as the terrain of the hex they are in, with one major exception: oases are "natural" supply dumps for water and stores (in terms of food). Oases wells are never depleted and have an endless supply; they may not be poisoned. Furthermore, oases provide as many stores as needed to supply units with non-construction stores (or stores to maintain normal levels; 51.1) Units sitting in Oases have all the stores and water they need to last them the entire game. Pipelines cannot be built from Oases.

[52.4] WATER USAGE RATES

[52.41] Each infantry battalion or company regardless of its TOE Strength, requires one Water Point per Operations Stage. See also 52.6.

[52.42] *Each* TOE Strength Point of Vehicle (Tank, Reece, Artillery, etc.) or Truck Point requires *one* Water Point each Operations Stage, if it uses *any* of its CPA.

[52.43] Hot weather (29.3) requires additional water usage.

[52.44] Water — except for water in wells and pipelines — is subject to evaporation and spillage (See 49.3).

[52.45] Water may be transported by trucks at the rates given in the Truck Characteristics Chart (see 54.2) [corrected table/chart reference]

[52.5] EFFECTS OF LACK OF WATER

[52.51] Vehicles without water may not move or close assault offensively. Vehicles without water defending

against close assault halve their total raw strength before determining actual strength.

[52.52] Infantry units (all units moving without benefit of vehicles) may not voluntarily exceed their CPA for the Operations Stage they are deprived of water. Furthermore, they may not engage in offensive close assault; they defend at half strength.

[52.53] For every consecutive operations Stage after the first Operations Stage without water, each infantry unit loses one TOE Point.

[52.6] THE ITALIAN PASTA RULE

One of the biggest mistakes the Italians made during the entire Desert Campaign was to provide their troops with a diet which was composed, in large part, of spaghetti and macaroni. Aside from providing insufficient protein (this wasn't Buitoni Brand), pasta has one serious drawback in the desert: you need water to cook it! Therefore, each Italian battalion, when it receives its Stores, must receive an additional 1 Point of Water when Stores are distributed. Any battalion-sized unit that does not receive their Pasta Point (one Water point) may not voluntarily exceed their CPA that Turn. Furthermore, Italian battalions not receiving their Pasta Point that have a Cohesion Level of -10 or worse, immediately become Disorganized, as if they had reached -26. As soon as such units get their Pasta Point, they regain the original Cohesion Level (i.e., the level they had before they disintegrated).

[52.7] WATER AVAILABILITY TABLE

(see Charts and Tables)

[52.8] POISONING & SWEETENING WELLS TABLE

(see Charts and Tables)

[53.0] TRUCKS AND TRANSPORT

COMMENTARY:

Transport is the lifeline of the Player. The Player who fails to grasp the overriding importance of transport (or, as it is called throughout the rules, trucks) to his military effort will be a losing Player. Trucks are the game; without a well-organized and efficient truck convoy system your entire military effort will fall apart.

GENERAL RULE:

Trucks are used for one of two purposes: carrying supplies or transporting men (motorizing infantrytype units). Each one "point" of trucks is equivalent to ten actual trucks. *Heavy Trucks* are those of the (approximately) three ton or heavier variety, including heavy-duty lorries and partiallytracked vehicles. *Medium trucks* are the equivalent of all transport vehicles of around 30 cwt. *Light trucks* are all transport lighter than the 30-cwt limit. Trucks consume fuel and water when they move, and they suffer breakdown. *(minor correction cw to cwt —"hundredweight")*

CASES:

[53.1) FIRST, SECOND, & THIRD-LINE TRUCKS

There are three truck formations: First-, Second-, and Third-Line Trucks. These formations (or rather definitions) delineate what the Trucks in that formation are doing and where they belong. These definitions are provided not so much in the form of rigid rules but rather as a system-based on one actually used in the campaign — so that the player may better visualize what he can accomplish and what he has to do it with.

[53.11] ***First Line Trucks***

These are trucks attached directly to the parent combat unit (division, brigade, battalion, etc.). They are used to carry men and/or supplies of that parent combat unit. First line trucks are *not* represented by counters; the Player notes on his TOE Sheet for a parent combat unit the number and type of truck attached as first line and assigns men or supplies to each truck unit. First line trucks may be detached (in the Organization Phase), in which case they will be represented by a counter and are no longer considered to be first line trucks.

[53.12] ***Second Line Trucks***

These truck units essentially operate between combat units and the forward supply dumps from which they are retrieving supplies. These trucks are not limited to carrying supplies; they may, like all trucks, carry anything not specifically forbidden. Second line trucks are represented by counters. Players keep track of all second line trucks on their truck and Major End Items sheets. They move during the Truck Convoy Movement Segment of the Operations Stage, as they are not attached to a regular unit.

[53.13] ***Third Line Trucks***

These trucks operate between the major ports of entry (e.g., Alexandria, Tripoli, Cairo, Tobruk, etc.) where supplies and reinforcements originate, and the forward supply dumps. Third line trucks rarely transport directly to combat units, although there is no rule restricting such transport. Third line trucks are similar in all ways to second line trucks, with the sole exception of the name, which distinguishes them in any supply network you may devise.

[53.14] ***Three Tier Organization:***

The most efficient system for hauling supplies and reinforcements is a three-tiered effort: third line trucks pick up supplies from the port of entry and transport them to forward dump areas; second line trucks pick up supplies at those forward dump areas and drive them directly to the combat units, where the supplies are then loaded on to that unit's first line trucks. They are now available for instant use by the unit. This system is recommended by the designers and the playtesters; it is not, however, a rule.

[53.2] RESTRICTIONS ON THE USE OF TRUCKS

[53.21] Trucks acting as convoys may move only in the Truck Convoy Movement Segment (See 8.18). This applies only to trucks not *attached* to a combat unit or HQ. Thus, truck counters on the game maps are, by definition, convoys and will move only in the Truck Convoy Movement Segment.

[53.22] Trucks moving in a Convoy Movement Segment have an extended CPA: heavy and medium trucks have a CPA of *thirty* (30), and light trucks have a CPA of *forty* (40). However, Trucks moving in a Truck Convoy Movement Segment may never, under any circumstances, exceed their extended CPA. If, for some reason, they are forced to exceed their extended CPA, they are considered to have suffered Breakdown (21.0) at the instant they exceed their extended CPA. First line trucks use their basic CPA (20 or 25) and may exceed their CPA as their parent unit does (See 6.1).

[53.23] Any combat unit with a cohesion level of *minus* five (-5) or worse may not voluntarily detach its first line trucks. Conversely, second- and third-line trucks attached as first line trucks assume the cohesion level of the parent unit.

[53.24] There is a Capability Point cost to load and/or off-load supplies and men. (See 6.3). Supplies for one truck unit must have been off-loaded by that truck before another truck unit may load and carry them. This applies even if both truck units are attached to the same parent combat unit or convoy. Furthermore, supplies and/ or men carried by second- and third-line trucks that have reached their full extended CPA's may not be offloaded (and picked up by another truck) if such action will cause that truck unit to exceed its extended CPA. **Exceptions:** During the Supply Distribution Segment, trucks may freely be loaded and unloaded; during the Combat and Movement Segment, ammunition and fuel loaded in trucks that hex may be expanded with no unloading cost.

[53.25] "Leapfrogging" is ***not*** permitted. Leapfrogging is defined as having truck "A" carrying supplies to a hex, then having truck "B" pick up the same supplies in the same Movement Segment and move them on to another truck, which then picks them up, and so on. If this were allowed, a given cache of supplies could be moved from one end of the game-map to the other in one Segment! Thus, for this purpose, supplies and men being transported by trucks are considered to have and to have used the same number of CP's that the trucks carrying them expended, and they may never exceed the CPA of the first truck they started with in the Operations Stage.

[53.3] ABANDONED VEHICLES

[53.31] Trucks, or any prohibited vehicles, that are in a salt marsh hex and not on a road or track are automatically abandoned (see 8.44). If the abandoned vehicle was carrying infantry-type units or is an artillery unit and there is an Enemy combat unit within three traversable hexes (counted from Enemy unit to salt marsh hex) and there are no Friendly combat units (at the end of the Movement Stage) within those same *three* hexes, those infantry units surrender and the guns are captured. If there is no Enemy around, the infantry is now on foot and walking (starting next Movement Stage) and the guns are abandoned.

[53.32] Abandoned vehicles and guns may be recovered by any unit in an adjacent non-salt marsh hex with engineering capability (23.1). The cost to recover such vehicles (or guns) is 10 CP's to both units. (**Note:** The abandoned vehicle is considered to have its full CPA.) Recovery may not be performed if either the recovering unit or the abandoned unit is adjacent to an Enemy combat unit. Recovered vehicles become attached to the recovering unit.

[54.0] SUPPLY COORDINATION

COMMENTARY:

Many of the rules in this Section are covered elsewhere, but they are spread throughout the rules booklet. This Section is provided to consolidate an important facet of the game: coordinating your supply effort and logistics system. This involves the rules needed for setting up a supply network of dumps and trucks and maintaining the network so that whatever supplies you do have flow smoothly.

CASES:

[54.1] SUPPLY DUMPS

[54.11] Supply dumps are used to hold large amounts of supplies — ammunition, fuel, stores, and water — in places that can be easily reached and used by combat units. Any hex can be used as a supply dump, and all Major Cities are natural supply dumps.

[54.12] Dummy supply dumps hold no supplies. They are revealed only when an Enemy unit enters the hex or bombs/strafes it. The Dummy supply counter is removed upon revelation.

[54.13] Supply Dump Capacity Chart
(see Charts and Tables)

[54.14] Players may attempt to "blow" supply dumps and their supplies. Only non-gun units may attempt to blow dumps. Only one Phasing unit per hex may attempt to blow a particular dump per Player-Turn. To blow a dump, the attempting Player must expend Capability Points equal to one-third (rounded up) of the attempting unit's basic CPA. The attempting Player may never expend more than the unit's basic CPA attempting to blow a dump moreover, a unit may not exceed its CPA to blow a dump.

To blow a dump, the Player expends the necessary CP As and rolls one die and modifies the die-roll if necessary for unit size, dump ownership, location, etc. The Player may adjust the die-roll by announcing, before rolling the die, that he is expending an additional one-third or two-thirds of the attempting unit's basic CPA. Cross index the modified die-roll with the percentage of supplies row on the Supply Dump Demolition Table (54.17) to determine the percentage of each type of supply in the dump that is destroyed. In addition, a unit occupying the same hex as a supply dump may attempt to blow that dump as part of a retreat before combat. The Player may only expend one-third of the unit's basic CPA and must vacate the hex regardless of the result. Supply Dumps may be blown in any segment of an OpStage.

[in original Rulebook: many pages of various Charts & Tables, referred to throughout, inserted here.]

[54.15] Dumps may be used by any Player as supply sources. The supply dump counters have ID numbers on them so that the Player may facilitate record-keeping, including which dumps are Dummies.

[54.16] It is suggested that Players set up their dumps so that each is within a one-OpStage truck ride (including loading and unloading time) from the next. Otherwise, you are asking for trouble. Establishing a viable dump network should be top priority for logistics commanders.

[54.17] Supply Dump Demolition Table
(see Charts and Tables)

(correction)
The % under -1 should be "0", under +7, "100"%.

[54.2] TRUCK CHARACTERISTICS CHART

(see Charts and Tables)

The use and mechanics of trucks is discussed in many places. Let it suffice to repeat that it is of primary importance that the Player set up a system whereby his trucks are constantly in use, ferrying supplies forward as fast as they can. The carrying capacities of one Truck Point for each type of truck are listed on the Chart; see Charts and Tables.

*It requires two light trucks to carry one TOE Point of infantry; it is *suggested* that light trucks not be used for this task.

[54.3] THE COMMONWEALTH RAILROAD: Supplies

[54.31] As stated previously, the Commonwealth railroad may be used to move personnel in any direction. It may also be used to move supplies. It may move either supplies or personnel—it cannot move both at the same time.

[54.32] The Commonwealth supply capacity of the railroad is 1500 tons per Operations Stage in either direction. The RR may move personnel in one direction and supplies in another. Players should check the various Sections on supplies to see the equivalent weight in tons for each type of supply.

[54.33] The railroad may transport only one type of supply at a given time. It may move fuel, ammunition, or stores — not any combination of the three. (Water need not be transported by RR — the railroad hexes are pipelines in and of themselves.)

[54.34] For the duration of *one* Operations Stage per month (calendar month), the railroad may not be used for anything. It is transporting water forward for railroad use. Players must state each month which Operations Stage they are not using the railroad.

[54.35] Like personnel, supplies may be moved from any one spot and dumped in another spot. Supplies are considered unloaded when they reach a specific hex. They may not be moved that Operations Stage.

[54.4] AXIS USE OF THE COMMONWEALTH RAILROAD

Under certain conditions the Axis Player may make use of the coastal rail line extending from Egypt to Libya (the Commonwealth railroad system). In essence, he must control the rail hexes and he must import rolling stock. Remember, the Barce railroad east of Benghazi is not usable under any conditions.

[54.41] At any time the Axis player controls five or more contiguous rail hexes he may use such rail hexes to transport equipment and personnel. To control a rail hex, the Axis player must be the last player to have a land combat unit of any type pass through that hex.

[54.42] The Axis Player may never build new rail line. However, he may repair rail hexes he controls at the same rate as the Commonwealth Player.

[54.43] To make use of controlled Commonwealth Rail lines the Axis Player must convoy Rolling Stock (locomotives, tenders, stock cars, flat cars, etc.) from Europe to Africa. For each 250 Stores and 100 Fuel Points that the Axis Player imports to Africa and brings to any controlled and operative rail hex he may activate all such hexes under his control (as long as they are contiguous) to the extent of hauling 300 Tons of Supplies in any *one* direction during an Operations Stage. (Rail movement occurs in the Convoy Stage.)

[54.44] In order to transport one Stacking Point of any type of unit the Axis Player must have active enough Rolling Stock to transport the equivalent of 900 Tons of Supplies in any one direction.

[54.45] Once Stores and Fuel are applied as Rolling Stock, the points are used up; they may not be recovered. If at any time the Axis Player loses control of enough rail hexes so that he does not have the necessary five contiguous hexes, the Rolling Stock is considered to have been destroyed. The Axis may not use Commonwealth Stock, nor *vice versa*.

[54.46] All rules concerning the movement of troops/supplies and the use of the railroad that apply to the Commonwealth apply equally to the Axis.

[54.5] EQUIVALENT WEIGHTS CHART
(see Charts and Tables)

[55.0] PORTS AND SUPPLY

[55.1] PORT CAPACITY AND USE

[55.11] There are two types of ports: *major ports* and *minor ports*. *(deletion & correction:)* Follow the **Port Capacity and Efficiency Level Chart** (55.3) when it comes to what you want to ship in and out.

[55.12] Every port in the game has an Efficiency Level, which is an abstract number assigned to that port. For example, Tobruk has an Efficiency Level of 5. This Efficiency Level indicates the level of efficiency at which the port is operating. The Efficiency Level of the port may be reduced by various Enemy activities, all discussed previously.

[55.13] In addition to its Efficiency Level, each port has a specific limit (capacity) as to the number of TOE Strength Points and/or tons of supplies that may enter and leave that port; this is called the port capacity. (See the **Port Capacity and Efficiency Level Chart,** 55.3.)

[55.14] The amount of troops and supplies that can be brought into or out of a port depends on its current Efficiency Level and its capacity. A port operating at peak efficiency (its level is at maximum assigned) uses its listed capacity. A port that has been reduced by bombing or mines operates at a lower efficiency directly proportionate to its reduced Level. Thus, a port with an assigned Efficiency Level of 5 that has had its Level reduced to 3 operates at 3/5 (or 60%) or its assigned capacity. Therefore, all incoming and outgoing shipments are reduced to 60% of original level. **Example:** Benghazi has a supply tonnage capacity of 2500 tons per OpStage. It has a maximum Efficiency Level of 3. If this Level has been reduced to 1, its supply receiving capacity is reduced to 1/3 of 2500 (or 834 tons). Round all reductions upward to the nearest ton.

[55.15] In addition to any reductions brought about by Enemy action, the fact that troops are being debarked at a port — as opposed to supplies (fuel, ammo, etc.) — may reduce its Efficiency Level *vis-à-vis* supplies for the OpStage or GameTurn in which the troops arrive. The arrival of *scheduled* reinforcements (those that arrive mandatorily, via the Reinforcement Schedule), as opposed to those which the Players plan, etc., do not affect a port's capacity or Efficiency Level.

[55.16] Some ports may receive shipments only in a Strategic Phase, while others may be used each OpStage. Players should be careful to adjust all capacities and Efficiency Levels to cover *both* uses. A port's capacity applies to *all* shipments received in a Game-Turn (including OpStages), except as stated in Case 55.15.

[55.17] The port of Bizerta (Tunis Box) is an unusual case. Although nominally open to the Axis via Vichy France, on Hitler's request it was never used (for various convoluted reasons). To add to that, it is quite a long way to the front — even if it is out of range of most Commonwealth planes. In any case, Bizerta is non-operable until the start of the June 1, 1941 Game-Turn. Starting with that Game-Turn, the Axis Player throws two dice each Game-Turn. If he throws a 12, he may use Bizerta from that turn on. It remains inoperative until then.

[55.18] For every OpStage that a port does not lose any Efficiency Levels to Enemy bombs, it regains one point. **Exception:** Cases 55.26 and 55.27. It can *never* go above its maximum assigned level (see Case 55.3).

[55.2] BLOCKING HARBORS

Either Player may reduce the effectiveness of a port he actually occupies by scuttling ships in the harbor

to block other ships from entering. This was done notably at Benghazi by the Axis, thereby reducing the effectiveness of Benghazi (as a port) to almost zero during the entire war. Enemy Players may also mine opposing ports.

[55.21] A Player who controls a port may desire — for whatever reason occurs to him — to block up the harbor. Each harbor being different, the ability to do this varies with the port. The ports at Bizerta, Tripoli, Alexandria, Aboukir (E3815), and Rosetta (E4019) may not be so blocked.

[55.22] In order to block a port harbor, the Player must have an engineer battalion or CW HQ with engineer capacity present in the port hex. He then expends 25 Ammunition Points and 10 Stores Points, which must be actually present in the hex, in the Construction Phase. The Efficiency Level of the port is reduced by one (see Case [55.23] All ports are reduced at the same rate, with one exception: it requires the expenditure of 50 Ammunition Points and 25 Stores Points to reduce Tobruk port *one* Level.

[55.24] A port may be reduced one Level per Operations Stage; it may never be reduced more, regardless of the expenditure of supplies.

[55.25] Players will note that at the start of the game, the Italian cruiser *San Giorgio* is partially blocking the harbor of Tobruk. The *San Giorgio* reduces the efficiency level of Tobruk by three levels.

[55.26] The effect of blocking harbors may be undone only by Friendly engineer battalions or CW HQ with engineering capability. Engineers reverse the process of 55.22. However, for each port, it costs 50 Ammunition Points and 25 Stores Points to undo the damage, at one level capacity per Operations Stage. There are two exceptions to this: Tobruk requires only 25 Ammunition Points and 10 Stores Points to remove one level of blocking effect; Benghazi requires the expenditure of 100 Ammunition Points and 50 Stores Points *plus* the presence of *two* engineer units to remove one level of blocking effect.

[55.27] Harbors may also be blocked by Enemy bombers laying mines by air (see Case 41.3 for the mechanics). Each successfully laid mine lowers the Efficiency one level. Mines may be removed by engineer battalions. If there are mines in a harbor, and the Player controlling the harbor has an engineer unit (as in Case 55.26) in that harbor, he rolls a die for each mine in the harbor. A roll of 1–3 removes the mine; a roll of 4–6 and the mine remains. Mine removal is done in the Construction Stage, and the engineer unit may not move or voluntarily expend CPA's in that Stage. The engineers cannot be involved in any other construction or removal work.

[55.28] CW ships in an Axis port hex have no effect on Convoy arrivals. (This is somewhat of an abstraction; attempts to block the ports during the day would not have worked due to Axis air power;)

[55.3] PORT CAPACITY AND EFFICIENCY LEVEL CHART

(see Charts and Tables)

(clarification) It is feasible that, in Game Turns in which Axis Shipping Capacity is "G", their ports won't be able to handle the total tonnage arriving — even with Commonwealth bombing. If that is the case, any excess over the usual limit may come in at Tripoli.

[56.0] THE AXIS NAVAL CONVOY SYSTEM

GENERAL RULE:

Almost everything the Axis needs for its desert campaign must be shipped in from Italy and the Aegean. Supplies and personnel are sent in. convoys. Convoys are planned one Game-Turns in advance and the route of the convoy (the shipping lane it will use) is also chosen at that time. Each convoy is given in tonnage, and the Axis allowable tonnage depends on the month, year, and roll of the die. It may be further depleted by Commonwealth bombers. In addition, the capacity of each port is limited as to the tonnage it may receive, and that facet will also limit the Axis planning. The Axis Player has a limited amount of coastal shipping which he may use to transfer small amounts of supplies from one coastal port to another.

CASES:

[56.1] THE SHIPPING LANES

[56.11] There are six Shipping Lanes in ***CNA***, representing the various routes taken by Axis convoys. The Shipping Lanes are not printed on the game map but rather are identified by their ports of origin and destination (see the Axis Naval Convoy Air Distance Chart).

[56.12] An Axis convoy is defined as the total tonnage assigned to a Shipping Lane during a GameTurn. The Axis Player may have as many as six convoys or as few as one during any Game-Turn. The Axis Player is restricted to the listed ports of origin and destination combinations (i.e., he may not create additional shipping lanes).

[56.13] Axis Naval Convoys may be attacked by Commonwealth bombers (see Axis Naval Convoy Strategic Bombing, 41.6). The Axis Player must therefore balance the risks in having a convoy arrive close to the front, thereby placing it within range of a greater number of Commonwealth N. African based planes or having it arrive far in the rear, trading time and supply expenditures for safety.

[56.14] Shipping lanes 4 and 5 (the routes originating from Greece) may not be used until the second Game-Turn of May, 1941. See also Case 55.17.

[56.15] All Axis convoys are assigned to a specific shipping lane in the Axis Convoy Planning Phase. The lane assignment may not be changed, regardless of any changes in the positions of the land units, with one exception: a convoy scheduled to arrive at a port that is captured by the Commonwealth is cancelled. It never sails.

[56.16] The Axis Player notes on his Convoy Control Sheet what he is shipping and through which lane. If that shipping lane is not attacked by Commonwealth planes, all items arrive at their designated port (which is stated as part of the lane). If the lane is under bombardment, the Axis Player totals the tonnage in that lane and divides by 1000 to obtain his Flak/AA Points for that Convoy. Thus 15,000 tons of shipping would amount to 15 Flak/AA Points with which to fire at Commonwealth planes. Any losses are taken as per the strategic bombardment rules.

[56.17] There is no limit to the tonnage that can be carried by a convoy in a given lane, except as noted in Case 56.2.

[56.2] SHIPPING BY CONVOY

Many different methods of determining arrival rates and times of Axis convoys were considered in designing this game. Each one had several merits — all had drawbacks. We chose this method (using the actual tonnage figures for a given month) over the other less easy to determine methods. No one was completely satisfied with any of the methods. (The drawback with the chosen method is that the arrival rates may not coincide with Axis needs.) But both designer and developer were loath to tackle the problem of Italian shipbuilding, availability of supplies in Italy, and a whole host of other problems. Thus, the rules below reflect the arrival of Axis supplies as they actually occurred (within the parameters of the rules).

[56.21] Axis shipping of supplies by naval convoy uses several charts, under the heading of the Axis Naval Convoy Level Chart. The Axis Convoy Capacity Table refers the Axis Player, by month and year, to the Tonnage Capacity Table for that particular month. The figures given on the Tonnage Determination Table are the tonnage of supplies that the Axis may ship in that Game-Turn (for which he is planning).

Example: The Axis Player, at the beginning of Game-Turn 54 (October IV, 1941), makes his plans for his shipping and convoys for Game-Turn 55 (November I, 1941). (Remember, while Axis replacements are planned *two* turns in advance, the Axis Player always plans his convoys one Game-Turn prior to actually sending them out.) The Axis Monthly Shipping Table tells the Axis Player to use row E on the Tonnage Capacity Table for November 1941. The Player refers to that Table and column and rolls a die; he rolls a 4. That means he may ship 21,000 tons of supplies and Replacement Points (see 20.00) on GameTurn 55. The choice of shipping lane and destination is up to him.

[56.22] Having determined the allowable tonnage for a given Game-Turn, the Axis Player may now plan to ship *any* amounts (within the limits of allowable tonnage) of fuel, ammunition, and stores that he wishes. They are available (for game purposes) in unlimited quantities in Europe. For example, with those 21,000 tons available on Game-Turn 55 (November 1, 1941), the Axis Player may decide to ship out 10,000 tons of fuel, 10,000 tons of ammunition, and 1000 tons of stores.

[56.23] The tonnage equivalencies of supplies are listed on the **Equivalent Weight Chart** (54.5)

[56.24] The Axis Player may also have planned previously (see Case 20.6) to ship replacements from Italy/Greece. These take up space and weight, and their tonnage equivalencies are given in the **Equivalent Weight Chart** (54.5). Only Replacement Points *not* arriving via the Reinforcement Schedule affect shipping tonnage; reinforcements and scheduled replacements do not use convoys and do not affect shipping tonnage. Thus, if the Axis Player had planned to send 10 Infantry Points in the Game-Turn 55 convoys, this would subtract 300 tons from the available tonnage for that Game-Turn.

[56.25] After determining what tonnage he has available and what he wishes to ship, the Axis Player then, at the same time, allocates his available tonnage to the lanes — and ports — he wants them to use. He cannot change lanes and destinations once chosen (see Case 56.1). *(clarification)* The Axis Player may allocate his arriving tonnage to any OpStage within that turn, unless it has already been so designated elsewhere.

[56.26] Axis convoys — and their cargoes — may undergo Commonwealth bombardment.

[56.27] The Axis Player should remember that ports have maximum capacities; they may not receive supplies over that capacity (see Case 55 .3).

[56.28] Supplies and personnel are unloaded the instant of their arrival, (if possible) and they may be used immediately. All ports of arrival (e.g., Tripoli, Bizerta, Tobruk) are considered to have supply dumps built in, as it were.

[56.29] *(addition)* Players not wishing to be hamstrung by the mandated arrival rates on the Axis Convoy Level Chart may choose to historically reroute them. He simply totals the number of times each letter may be used (e.g., A=3x, G=2x, etc.) and choose which letter he wishes for that month. He may use a given letter only the number of times it appears. Moreover, no letter above B may be used twice in succession. (It is suggested that the Italians use all Bs until 1941.) *Experiment and try to formulate some agreeable rule so that the Axis doesn't get everything at once.*

[56.3] AXIS COASTAL SHIPPING

The Axis had a small fleet of boats that they used for coastal transfer of small amounts of supplies. These were old shipping boats and aging tramp steamers that could ill afford to venture too far from land. They have a limited capacity.

[56.31] Axis coastal shipping is represented by several ship counters. Each ship counter has its tonnage capacity printed on it. Each ship has a CPA — for movement only — of 50. Each sea hex costs one point. *(addition)* Axis Coastal Shipping moves four "Tripoli–Tunis" boxes per Stage.

[56.32] Axis coastal shipping moves in the Truck Convoy Phase, and *only* in that Phase.

[56.33] Axis coastal ships cannot be attacked from air or land. They may not enter a port that has been neutralized (Capacity Level of zero). They may also never enter an Enemy-occupied port.

[56.34] To use coastal shipping, the Axis Player loads supplies (*no* personnel) on his boats at the Beginning of the Truck Convoy Phase (at a cost of 5 CPs) and then moves the boat. Unloading supplies costs 5 CPs. Only one type of cargo may be carried at any one time by any one ship. Tanks, guns, etc., may not be shipped via coastal shipping

[56.35] Coastal ships may stop and unload in one port and then continue on to another port, etc., as long as they do not exceed their CPA. Coastal ships do not require fuel.

[56.4] AXIS NAVAL CONVOY LEVEL CHART
(see Charts and Tables)

[56.5] AXIS CONVOY CAPACITY TABLE
(see Charts and Tables)

[57.0] COMMONWEALTH SUPPLY BASE

GENERAL RULE:

The Commonwealth Player has an unlimited amount of supplies of all types — fuel, ammunition, water, and stores — in Cairo at *all* times during the game. His problem is solely to get it to where he wants it. He does not ship supplies in; if he wants something, it is in Cairo. Remember, Commonwealth ships need no supplies. For reinforcements and replacements for personnel and equipment, the Commonwealth Player should consult his Reinforcement Schedule and CW Replacement System (see Section 20.0)

[58.0] ABSTRACT AIR RULES

COMMENTARY:

This Section covers the rules required for the Players to play the Land and Logistics Games without utilizing the Air Game rules. ***CNA***'s play is relatively unaffected by the lack of an Air Game, the adjustments required being made in the Player's "trucking" ability.

CASES:

[58.1] EFFECT ON AXIS NAVAL UNITS

Attacks on Axis naval convoys are conducted using the same procedure listed in the Basic Logistics and Air Rules of the Land Game (see Section 32.0). The only difference is that the convoy being attacked is now more detailed as to what it is transporting. Note that the Axis coastal shipping and both Players' tactical shipping may not be attacked.

[58.2] COMMONWEALTH FLEET BOMBARDMENT

The Axis Player is entitled to make attacks on the Commonwealth fleet. Such attacks utilize the same procedure as that in the Basic Logistics and Air Rules described in the Land Game (see Section 32.0).

[58.3] EFFECT ON SUPPLIES

There is only one restriction — the Axis Player loses three-quarters of all fuel actually brought into a port on the instant of its unloading (considered to be used for airplanes). This loss is incurred before any loss for evaporation is calculated.

[58.4] EFFECT ON TRUCKS

[58.41] The Players' initial set-ups will be reduced by a certain number of Truck Points (those assigned or that would be assigned the task of supplying the air facilities).

[58.42] Both Players are subject to truck losses in addition to those caused by land combat. These losses represent the abstracted effects of strafing and bombing the opposing Player's trucks. The losses are determined in the same manner as those for motorization points (see Case 32.57) using the percentage loss figures in the **Abstract Motorization Point Loss Chart** (32.59) but applying them to the Players' trucks.

The owning Player may remove the lost Truck Points from any place he wishes. However, losses must be distributed in proportion by truck type and by proportion of trucks in convoy and those attached.

Example: A Player possesses 50 Light, 100 Medium, and 50 Heavy Truck Points distributed as 40 Light and 10 Medium in convoy and the remainder attached. If he is required to lose 10% of the total Truck Points, he must lose 4 Light and 1 Medium Truck Points from those in convoy and 1 Light, 9 Medium, and 5 Heavy Truck Points from those attached.

[58.43] Both Players are subject to a reduction in their total available truck force in order to account for the trucks that would be carrying supplies to their air facilities. Both Players lose 10% (rounding fractions up) of all truck points that arrive in N. Africa (the instant they arrive) via the Commonwealth Truck Production Table and the Axis Replacement Pool. Trucks listed on the reinforcement track are not affected.

[58.44] Abstract Truck Loss Chart
(see Charts and Tables)

END OF INTEGRATED
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CONCLUSION, DESIGNER'S NOTES,
& BIBLIOGRAPHY

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Air Marshal: **Eric Berend**
Strategic Air Force: **Eric Berend**
Tactical Air Force: **Gerry Roston**
Forward Forces Commander: **Robert Croker**
Corps Commanders: **Brandon Einhorn, Guy Ferraiolo, Mike Grant**
Logistics/Quartermaster: **Jacob Edwards**
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