



Manufacturing and Recruiting



MANUFACTURING AND RECRUITING HANDBOOK

This manual is designed to create mathematical guidelines to balance combat ability and cost of any unit you may want to introduce into your game. Like any sufficiently obsessed gamer you probably collect WWII miniatures and so this book will provide equations to help you define a multitude of units, all within the realm of technology available in WWII.


READ THIS!!!!!!: Generic terms are deliberately used when describing units (like “Enlisted Soldier”, “Heavy Armor” or “Super Fighter”) so that you can assign specific names to match the miniatures you have available. If the German player is using the “Maus” piece, they’d call it that and regard it as a “Super Armor” when applying the Attack/Defense values of 10/6, as defined herein.



Before using this manual, you should already be using, the first four modules (Module I: Railroads, Module II: Strategic Bombing, Module III: Rommel’s Rules, and Module IV: Air Supremacy). As far as game balance, if you had every unit mathematically available in this manual actually available by every nation, the game would remain largely balanced. This is mainly because economics tend to level everything out. For example, though China might be legally able to purchase a heavy battleship, coming up with the money and having a major factory to do that would mean that the Allies are already dominating the Axis and the game is over. So, now we move into the realm of strategic artistry when collecting a set of units that represent the romantic mechanical incarnations of WWII as well as enough partisans, volkstrum and other citizen militia that each nation might sanely enlist. Let’s build a war machine!

When creating a new unit you must first decide under which of the following categories it falls:

Unit	Description	Page
Infantry	Any foot soldiers	2
Artillery	Land based guns and air defense	4
Armor	Any mechanized land unit	6
Fighter	Small aircraft	8
Bomber	Large, primarily attack aircraft	10
Battleship	Medium-large warship	13
Destroyer	Small-medium warship	15
Aircraft Carrier	Sea craft used primarily for aircraft launch	16
Submarine	Any submersible sea craft	18
Transport	Any sea craft used primarily for land unit transport	19
Factory	For building specific units	21
Modified Combat Rules	Working out the bonuses and penalties in combat	22

Recruiting Specifications				Cost Modifier							
INFANTRY Cost = A+ D + Modifiers (A + D = 4, 5 or 6) (A - D <= 2)	Attack (Min.-Max.)	Defense (Min.-Max.)	Move	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
				-1	0	-1	0	0	0	0	-1
	1-4	1-5	1								

This category covers all types of foot soldiers. Although limited in their attack, defense, and movement, their low cost and sheer numbers are essential for conquering the world.

There are realities when recruiting infantry which translate into numeric requirements, which are:

- The sum of the Attack and Defense must be at least 4 and no more than 6. (A+D = 4, 5 or 6)
- The Attack may not exceed the Defense by more than 2. (A - D <= 2)
- An infantry's Attack must be at least 1 and no more than 4. (Attack = 1, 2, 3 or 4)
- An infantry's Defense must be at least 1 and no more than 5 and may never exceed 6 with bonuses or penalties. (Defense = 1, 2, 3, 4 or 5)
- In combat, bonuses will never make an infantry's Attack or Defense roll above 6.

Citizen Militia (A+D=4)

When the sum of an infantry's attack and defense are equal to four (1/3, 3/1 or 2/2), it is considered a citizen militia and has restrictions due to a lack of sufficient training or equipment. Citizen militia may only move on land or by rail. They may never be transported by sea or air, so citizen militia recruited on an island might as well pour a cocktail, find a spot on the beach, and wait for invasion. They do not receive a bonus in combat from generals, nor may they receive attack bonuses or provide defense bonuses for being combined with armored units (Module III: Rommel's Rules).

Regular Army (A+D=5)

When the sum of an infantry's attack and defense are equal to five (1/4, 2/3 or 3/2), it is considered a regular army unit, and as such, better trained and equipped than citizen militia, but still only having undergone basic training. These infantry cannot be used in amphibious attacks or make airborne drops (paratroopers), but they may be moved during the non-combat phase by bombers or transports. Regular army infantry have the required training to combine with armor units and receive and/or provide appropriate combat bonuses (Module III: Rommel's Rules).



Highly Trained Units (A+D=6)

When the sum of an infantry's attack and defense are equal to six (1/5, 2/4, 3/3 or 4/2), it is considered a highly trained unit, and as such, has the best possible training and equipment to perform any form of combat they're ordered to do. These infantry are capable of every combat or non-combat situation from paratrooper training and amphibious assaults to mechanized warfare and scaring the crud out of partisans, or your average volkstrum (okay, maybe that's a bit exaggerated).

Retraining

During the Build/Recruit Phase, an infantry that is located at a factory that was not used or moved during an entire player's turn, may be re-trained/re-equipped for the cost of the difference. Like Paratrooper training, retraining an infantry incurs a cost to the factory's production as if it was another unit being produced. Downgrading an infantry does not produce a refund. Example: A 4-Attack 2-Defense (4/2) infantry can be converted to a 1-Attack/5-Defense (1/5) at no additional monetary cost, however a 1/3 converted to a 2/4 would cost \$2, but either choice means the factory doing the retraining/upgrading would be able to produce one less unit for each infantry changed that turn. **Note:** Money spent on retraining must come from funds available for infantry recruitment, not monies designated for production of armaments (non-infantry lend/lease or bonus money).

Infantry Load for Amphibious Assaults, Airborne Drops (Paratroopers), and Transportation

Infantry eligible to be moved on a transport or bomber may only do so if the carrying unit has the capacity. When determining how much space is required by an infantry (called "Infantry Load") when being carried, dropped or transported, use the following equation:


$$\text{Infantry Load (Space Required)} = \text{Attack} + \text{Defense}.$$

For example, if a transport has a capacity of 15, it could carry two 2/4 infantry ($[2 + 4] \times 2 = 12$) or three 3/2 infantry ($[3 + 2] \times 3 = 15$), or one of each ($[2 + 4] + [3 + 2] = 11$)

Calculating Cost of Infantry

Cost = Attack Roll + Defense Roll + Modifiers (See Unit Chart on previous page)

Typical Infantry Chart:

INFANTRY 	Attack	Defense	Move	Mechanized War (Rommel's Rules)	Sea /Air Move	Amphibious or Airborne	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
Partisan	1	3	1	N	N	N	3	4	3	4	4	4	4	3
Volkstrum	2	2	1	N	N	N	3	4	3	4	4	4	4	3
Citizen Militia	3	1	1	N	N	N	3	4	3	4	4	4	4	3
Enlisted Soldier	1	4	1	Y	Y	N	4	5	4	5	5	5	5	4
Strike Force	3	2	1	Y	Y	N	4	5	4	5	5	5	5	4
Regular Infantry	2	4	1	Y	Y	Y	5	6	5	6	6	6	6	5
Home Guard	1	5	1	Y	Y	Y	5	6	5	6	6	6	6	5
Elite Force	4	2	1	Y	Y	Y	5	6	5	6	6	6	6	5

Manufacturing Specifications				Modifiers							
ARTILLERY Cost = A + D + Modifiers (A - D <= 2) (D - A <= 4)	Attack (Min.-Max.)	Defense (Min.-Max.)	Move	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
				-1	+1	0	0	+1	+1	-1	+2

This covers the guns of war of every size from those too big to throw over your shoulder, to ones so big they can only be moved by rail. Artillery guns may be produced from any factory. The attack roll must not exceed the defense roll by more than two ($A - D \leq 2$), and the defense roll must not exceed the attack roll by more than four ($D - A \leq 4$). An artillery unit is regarded as primarily one type, but for simplicity, it will actually be played as a battery of various types, potentially adaptable to defend the sky (Anti-Aircraft) or to lob shells at surface ships making amphibious landings, in addition to exchange of fire in battles. In other words, a battery of Nebelwerfers earn its 5 attack from being mostly a barrage weapon, but it would also have a few anti-aircraft weapons assumed to be in the battery to hit low-flying planes. It's a history-bending rule to dramatically simplify things.

Battlefield Guns (Attack + Defense = 6-9)

These are often nothing more than machine guns or mortar weapons that are too heavy to move without a pair of wheels. They may be turned to the sky against fighter aircraft directly engaging in the battle (cannot hit bombers nor fighters not attacking land units, explained more later), but they don't have the long range required to launch support shots into adjacent territories or to be used as port defenses (See Module V: Defenses). Basically, their anti-aircraft defense is useless against bombers, fighters attacking other aircraft only (escort fighters), or other higher altitude aircraft.

Field Artillery (Attack + Defense = 10-13)

These represent the more common assortment, and have the range that allows them to hit any aircraft and be capable of support shots into adjacent territories or provide port defenses (See Module V: Defenses).

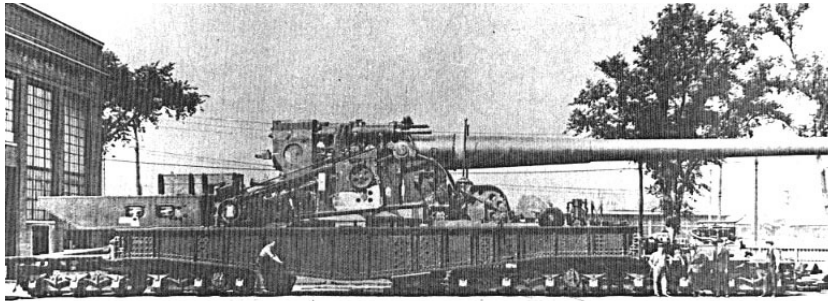
Heavy Artillery (Attack + Defense = 14-17)

These have all the abilities of smaller artillery, but these bad boys are big enough to direct their defensive fire against surface ships attacking amphibiously. As such, a Heavy Artillery unit must choose whether to direct its fire against land units attacking the territory it's defending or to sink amphibious landing craft or shore bombarding destroyers or battleships. They do not need to be assigned as a port defense to hit an amphibious invading navy (See Module V: Defenses). Defending against amphibiously attacking ships may only be performed in the first round of combat, and Heavy Artillery units cannot choose specific sea units to return fire upon, nor fire upon ships that are not part of an amphibious landing. So, you can't take a submarine as a casualty when taking hits from artillery defending against an amphibious attack. Shots by heavy artillery are not preemptive. The attacker gets to land their amphibious units and/or fire their shore shots, even if they are sunk on that round.



Rail Guns (A + D = 18-20)

Watch out for these monsters. Though they may only move by rail or transport during non-combat movement, they have many unique strengths. Due to their gigantic shells, the Rail Gun cannot fire



upon aircraft, however they may do anything else lesser artillery can do, plus the added bonus of firing preemptively in the first round of combat, destroying an enemy unit before it has a chance to fire. Therefore, when conducting combat, players first roll for their Rail Guns (and any

other units that have a preemptive shot), then remove any casualties before rolling for the remaining units from each side. So, an amphibiously attacking transport hit in the first round by a defending rail gun would be hit preemptively and it's transported units would sink before landing. Beyond that, the Rail Gun can fire over fortifications directly onto defending land units (See Module V: Defenses). Note: Because it moves by rail, a Rail Gun may only move during non-combat into territories controlled since the beginning of that player's turn.

Transporting Artillery

Any transport may carry an artillery unit, as long as the transport has the capacity to do so. When determining how much space the artillery requires when being transported, use the following equation (remember, Rail Guns may only be transported during non-combat movement):

$$\text{Artillery Load (Space Required)} = \text{Attack} + \text{Defense}.$$


Air Transport (A + D <= 10)

If the sum of the attack and defense of an artillery unit is 10 or less, then it may be transported by bombers with sufficient capacity to hold them, but only during non-combat movement.


Calculating Cost of Artillery

Cost = Attack Roll + Defense Roll + Modifiers (See Unit Chart on previous page)

Typical Artillery Chart:

ARTILLERY 	Attack	Defense	Move	Anti-Aircraft	Support / Port	Amphib. Def	P reemptive / Fort	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
Light Artillery	3	3	1	Y*	N	N	N	5	7	6	6	7	7	5	8
Field Artillery	5	3	1	Y*	N	N	N	7	9	8	8	9	9	7	10
Artillery-A/A	5	5	1	Y	Y	N	N	9	11	10	10	11	11	9	12
Heavy A/A	5	9	1	Y	Y	Y	N	13	15	14	14	15	15	13	16
Rail Gun	8	10	Rail	N	Y	Y	Y	17	19	18	18	19	19	17	20
Heavy Rail Gun	10	10	Rail	N	Y	Y	Y	19	21	20	20	21	21	19	22

* - Anti-Aircraft only usable against fighters directly attacking land units. No bombers, escort fighters, or other higher altitude aircraft may be hit.

Manufacturing Specifications				Modifiers							
ARMOR Cost = A+D+Modifiers (A - D <= 4) (D - A <=1)	Attack (Min.-Max.)	Defense (Min.-Max.)	Move	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
					3-10	3-10	2	-1	+1	0	0

This category of unit will cover all self-propelled, mechanized land units such as tanks, half-tracks, armored vehicles, motorcycles, or anything that can be reasonably imagined within that general description. There are historically-based requirements that must be followed when designing armor units which translate into numeric requirements, and are:

- An armor's attack may not exceed its defense by more than four (A - D <= 4).
- An armor's defense may not exceed its attack by more than one (D - A <=1).

Other than that, if you can afford it, you can build it.

Light Vehicles (Attack = 3 - 4)

These include jeeps, armored cars, motorcycles, and other small, quick vehicles that will get you around the battlefield. We're talking about stuff on wheels and tires; metal tracks may be added, but they don't give it "blitzing" capability (i.e., conquering an unoccupied territory, then moving to a second in one move). However, these vehicles may be transported by air (see "Transporting Armor", below).



Armor with Metal Tracks (Attack >= 5)

All Armor units with an attack of five or greater are equipped with metal tracks. Yep, if yer fixin' to buy a bigger gun, or slappin' on some heavier armor, then we gotta throw some of them chains on them wheels or yer gonna get stuck in the first puddle you cross. Metal tracks create the ability to "Blitz" through an unoccupied enemy territory and into a second enemy territory for combat, conquering the first territory and potentially both.

Infantry / Armor Mechanized Warfare Bonuses

See Module III: Rommel's Rules, for details, however, the chart of typical armor units below includes the raw bonuses received by each.

Armor and Fortifications

An armor unit with an attack of eight or more can fire over fortifications and hit units in an attacked territory, directly (See Module V: Defenses).

Transporting Armor

Any transport may carry an armor unit into battle or during non-combat, as long as it has the capacity to do so. When determining how much space the armor requires when being transported, use the following equation:

$$\text{Armor Load (Space Required)} = \text{Attack} + \text{Defense.}$$


Air Transport

Armor units that do not have metal tracks (an Attack < 5) may be transported by aircraft with sufficient capacity to hold them. However, armor units with metal tracks may never be moved through the air, 'cause they're too heavy, cadet.


Calculating Cost of Armor

Cost = Attack Roll + Defense Roll + Modifiers (See Unit Chart on previous page)

Typical Armor Chart:

ARMOR 	Attack	Defense	Move	1st Infantry	2nd Infantry	Armor / Inf. Def.	Metal Tracks	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
Motorcycle	3	3	2	-	-	-	N	5	7	6	6	7	7	5	8
Jeep/Kubelwagen	4	3	2	+1	-	-	N	6	8	7	7	8	8	6	9
Half-Track	5	3	2	+1	-	-	Y	7	9	8	8	9	9	7	10
Armored Car	6	3	2	+1	+1	-	Y	8	10	9	9	10	10	8	11
Light Armor	7	3	2	+1	+1	-	Y	9	11	10	10	11	11	9	12
Armor	8	4	2	+1	+1	+1	Y	11	13	12	12	13	13	11	14
Heavy Armor	9	5	2	+2	+1	+1	Y	13	15	14	14	15	15	13	16
Super Armor	10	6	2	+2	+2	+1	Y	15	17	16	16	17	17	15	18



Manufacturing Specifications				Modifiers							
FIGHTER Cost = Land/Sea + Air + Movement + Modifiers	Land/Sea (Min.-Max.)	Air (Min.-Max.)	Move	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
	3-10	3-10	2-6	-2	0	-1	-1	0	-2	-3	+2

This category of unit will cover small aircraft designed for attack and defense both on land and sea; the key to air supremacy. Instead of an attack and a defense roll, Fighters have a roll for land and sea combat (using a bomb, torpedo and/or machine guns), and a roll for air combat (dog-fighting). Each round of combat, plane-by-plane, players choose whether each fighter is engaging in the air or on land or sea targets. (See Module IV: Air Supremacy). As in any battle, the sequence of which units a player rolls is their choice, but as you will see, it is muy importante with fighters. If you are hoping to remove your opponent's aircraft, it would be wise to roll your fighters with the best Air rolls one at a time until you've knocked out enough of the enemy planes. The same is true when choosing your fighters with a high Land/Sea roll. If your opponent is down to one battleship, you could roll to hit that, first, starting with your highest rolling fighters in the Land/Sea category. What I'm saying is, roll your fighters wisely. You dig?

A fighter's Land/Sea combat roll must not differ from its Air combat roll by more than 4 (Land/Sea - Air <= 4, and >= -4).

WWI-Era Fighters (Land/Sea = 3-4, Air = 3-4, Movement = 2)

These are the Bi-Planes and Tri-Planes left over from the war to end all wars. These fighters are limited to a movement of two and may not be dispatched to defend adjacent combats (See Module IV: Air Supremacy). Furthermore, because they are slower and have soft sides, they suffer a - 2 tech penalty, applied to opponent's roles. This means that when rolls are made for each of an opponent's units in combat, any rolls that are misses, but are still only 1 or 2 greater than the roll normally required for a hit by that unit, are applied as a hit on a WWI-Era fighter. In other words, a 3/3 infantry could roll a 5 or less and still hit a WWI-Era fighter. (For further explanation, see Modified Combat on page 22)

Air Support and Escort Fighters (Land/Sea = 4-6, Air = 4-6, Movement = 3-4)

These light combat planes are smaller and slower than most fighters, but they can still dispatch to defend adjacent territories, fly to and from aircraft carriers, and escort bombers.

Interceptors or "Dog Fighters" (Land/Sea = 4-6, Air = 7-8, Movement = 3-4)

These represent those workhorses in the air, slicing up the skies. These are fast and light, making them able to react quickly and change targets. Interceptors are great for gaining air supremacy while still being a respectable force on the land or sea.

Dive Bombers (Land/Sea = 7-8, Air = 4-6, Movement = 3-4)

These babies rolled off the assembly line possessing aerodynamic genius, horsepower, firepower,

and probably some dumb luck back on the drawing board (Say that again in your best documentary narrator voice.) Whether it straps on a bomb or torpedo, or fires on a column, they earn danger pay when they face the battlefield artillery that can take them on when strafing. Of course, any fighter that targets their roll toward land must face low-altitude A/A defenses, as well as larger A/A guns.

Super Fighters (Land/Sea = 7-8, Air =7-8, Movement = 3-4)

These are the fastest, most powerful fighters available with 1940’s technology. They are expensive but powerful on every battlefield in the air, land or sea. Most importantly, they get a +2 defense bonus so that opponents need two better than their normal roll to hit these planes. For example, a 6/6 fighter would need to roll a 4 or less to have its hit applicable to a Super Fighter. (For further explanation, see Modified Combat on page 22)


Jet Fighters (Land/Sea = 9-10, Air = 9-10, Movement = 3-4)

Oh boy, here we go. This technology has to be earned and then tested before it is mass-produced (This will be in Module VII: Technology, but until then, an abbreviated version is on page 28). They receive a +2 defense bonus (like Super Fighters), but can also choose the specific unit to which they apply their hits. However, the targeted unit must be declared at the beginning of each round of combat and eligible hits from that targeted unit are first applied to the targeting Jet Fighter. In other words, your Jet Fighter can target that one battleship, bomber or armor among your enemy’s forces, but that unit’s rolls can be applied specifically to the Jet Fighter as your opponent chooses. Of course, any other units in an enemy force that can legally hit the Jet Fighter could hit it, whether or not the Jet Fighter targets a specific unit. In other words, the Jet Fighter’s targeting does not make a sub-battle between those two units. Of course, this is all moot if the Jet Fighter simply targets Land/Sea or Air rolls as any other fighter would. (For further explanation, see Modified Combat on page 22).

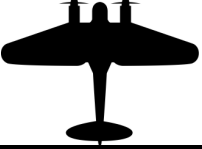
Calculating Fighter Cost

Cost = Land/Sea + Air + Movement + Modifiers (See Unit Chart on previous page)

Typical Fighter Chart:

FIGHTER 	Land/Sea	Air	Movement	Tech Penalty / Bonus	Target	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
Bi-Plane	3	3	2	- 2	N	6	8	7	7	8	6	5	10
Recon Plane	4	4	4	-	N	10	12	11	11	12	10	9	14
Escort Fighter	4	6	4	-	N	12	14	13	13	14	12	11	16
Fighter	6	6	4	-	N	14	16	15	15	16	14	13	18
Dive Bomber	8	4	4	-	N	14	16	15	15	16	14	13	18
Interceptor	4	8	4	-	N	14	16	15	15	16	14	13	18
Super Fighter	8	8	4	+ 2	N	18	20	19	19	20	18	17	22
Jet Fighter*	9	9	4	+ 2	Y	20	22	21	21	22	20	19	24

* Cannot manufacture without meeting requirements in Module VII: Technology

BOMBER	Bombs (Min.-Max.)	Air (Min.-Max.)	Move	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
Cost = Bomb Rolls + Air + Modifiers 	5-10	1-4	4-6	+2	+3	+4	+1	+5	+3	0	+6

This category of unit covers aircraft designed for dropping destruction from the skies on enemy armies, navies, and industrial production facilities. The bombing (Land/Sea rolls) can only be performed as an attack, and the air roll is for use when defending or in an attack against other aircraft. The two Land/Sea rolls may only differ by one, but mostly they're the same.

Strategic Bombing

Any bomber has the ability to bomb factories or land territories with the intent to halt or slow military production. This is detailed in Module II: Strategic Bombing.

Jet Fighters Targeting Attacking Bombers

If your bomber is the declared target by a defending Jet Fighter, if you don't want to leave it to your escort fighters to shoot him for you (assuming you have some company in the sky), your bomber will have to skip its two land/sea attack rolls and use its defense roll to hit directly on the Jet Fighter. Again, roll sequence will affect your decision significantly. Choose wisely.



Altitude/Tech Bonus or Penalty

As the technology of bombers improves, their ability to fly higher and faster, while still increasing accuracy, also improves. With this comes a greater ability to prevent being shot down by an enemy. We're calling this an altitude bonus or penalty. The bomber from the basic rules is a zero, smaller bombers have a penalty, and larger ones have a bonus as listed in the **Typical Bomber Chart**, below. The number is what is added to the enemy's rolls to determine a hit. A negative number (altitude/tech penalty) would lower the opponent's dice result, increasing the chance to hit, while an altitude/tech bonus (positive number) would raise the opponent's dice results to decrease the chance of a hit (For further explanation, see Modified Combat on page 22).

Altitude/Tech Penalty (-) or Bonus (+):

Either bomb roll of 5 (5/5, 6/5)	-1
Movement of 4-5	-1
Movement of 4-5 <u>and</u> either bomb roll of 5	-2
Both bomb rolls 9 or greater (9/9 or 10/9)	+1
Both bomb rolls of 10 (10/10)	+2

Light Bombers (Land/Sea rolls total = 10-13)

Because these are small combat bombers they don't have a fuselage large enough to carry infantry or other units for transport or airborne missions; they just fight and only the 6/6 version may make a strategic bombing raid. Bombers with 5/5 or 6/5 attacks are not eligible to strategic bomb.

Bomber (Land/Sea rolls total = 14-17)

These bombers are much larger and therefore have the benefit of versatility beyond just dropping bombs or defending in the air. They may drop paratroopers, make strategic bombing raids (See Module II: Strategic Bombing) or transport infantry, light artillery ($A + D \leq 10$) or light vehicles like jeeps (armor, where $A + D \leq 8$). Of course, the bomber has to be big enough to move such units by air (See "Payload", below). As in the basic rules, these bombers must choose only one of these operations in a turn, and the air roll represents the bomber's mounted guns.

Heavy Bomber (Land/Sea rolls total = 18-20)

These are not only huge, but have combat advantages. In addition to dropping paratroopers and



conducting strategic bombing raids, they have the option of rolling only one of their two bomb rolls and then using the air roll in an attack against defending enemy aircraft. The Heavy Bomber can also carry only one paratrooper in an airborne attack, or roll one less dice in a strategic bombing raid and then be allowed to roll its air roll in an attack where there's defending aircraft. This is especially valuable if the bomber is going into an enemy combat with a Jet Fighter that may target it. By carrying less "stuff" to drop, the bomber gains a defense roll in the air. The paratrooper version of this

is simple, and only affects the first round of combat where the infantry are dropped, but the bombing forms of this combat option can be decided and rolled round-by-round.

Paratrooper Drops and Bombers as Transports

All normal rules for airborne drops apply with the exact number and type of paratrooper(s) carried dictated by the bomber's payload. If a bomber has the capacity, it can transport up to three infantry, or one artillery, or one armor unit as long as each unit has no metal tracks and an attack plus defense of 10 or less. The bomber's payload is dependent upon the size of the bomber, as described by the attack and defense rolls, minus the fuel required for flying it, as described by the movement capability. When transporting airborne infantry in an airborne attack, the maximum number of infantry carried is two, regardless of payload. The payload equation is as follows:

Payload = Bomb Rolls + Air Roll - Movement Traveled in Attack and Landing

The equation to determine the amount or type of unit the bomber can carry is as follows:

(Attack + Defense of 1st Unit) + (Attack + Defense of 2nd Infantry) \leq Payload

Example: A 7/7/2 bomber leaves the Isle of Great Britain and lands two paratroopers on Germany, then plans to return to the Isle (Movement of 2 there and 2 back = 4). Therefore, the bomber has a payload of 12 (7+7+2-4=12). It would be able to carry paratroopers with combined attacks and defenses of up to 12. For instance, one paratrooper that has an attack of 4 and defense of 2, and another with a 1 and 5, respectively, would fit: $(4 + 2) + (1 + 5) \leq 12$.

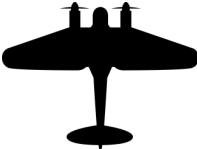
NOTE: The altitude tech penalty of -1 is applied to the bomber in this combat since the payload equation lowers the bomber's legal movement to 4 or less. Only able to move 4 or less? Penalty.

The minimum possibility for a bomber to transport three infantry (non-combat only), is with an 8/7/2 bomber moving in non-combat only two spaces (Payload = $8+7+2-2 = 15$) carrying three regular army infantry units (Load = $A+D=5$). But that's pitiful. Get the 10/10/4 bomber (Payload = 18) so you have full range to transport three fully-trained infantry ($A+D=6$) the full movement (6).


Calculating Cost of Bomber

Cost = Bomb Rolls + Movement + Air Roll + Modifiers (See Unit Chart on previous page)

Typical Bomber Chart:

BOMBER 	Bombs	Air	Move	Base Payload	Altitude	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
Small Short-range	5/5	1	4	-	- 2	17	18	19	16	20	18	15	23
Short-range bomber	6/6	2	4	-	- 1	20	21	22	19	23	21	18	26
Light Bomber	6/6	2	6	-	0	22	23	24	21	25	23	20	28
Medium Bomber	7/7	2	6	10	0	24	25	26	23	27	25	22	30
Bomber	8/8	2	6	12	0	26	27	28	25	29	27	24	32
Heavy Bomber	9/9	4	6	16	+ 1	30	31	32	29	33	31	28	36
Super Bomber	10/10	4	6	18	+ 2	32	33	34	31	35	33	30	38

“Base Payload” is the value when using full 6 movement. Less movement could increase payload.

BATTLESHIP Cost = All Attack Guns+All Defense Guns+Modifiers 	Attack (Min.-Max.)	Defense (Min.-Max.)	Move	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
First Guns	6-10	6-10	3	+2	+1	+4	0	+3	0	-1	+9
Second Guns	Max. Attack: 1 st Attack Gun - 2 Max. Defense: 1 st Defense Gun - 2						Min. Attack: 4 Min. Defense: 4				
Third Guns	Max. Attack: 2 nd Attack Gun - 3 Max. Defense: 2 nd Defense Gun - 3						Min. Attack: 0/3* Min. Defense: 0/3*				
* The third guns need not be built, however, if they are, the minimum attack/defense must be 3.											

A battleship is like no other unit in that it strikes more than once each round and requires more than one hit to destroy. The type and amount of hits it may strike and receive are determined by its “guns” which follow conditions as indicated in the above chart. The rolls for the different guns



don't represent different types of guns, but rather the different ranges of its entire battery of guns. In other words, any given unit a battleship is targeting is in direct line of fire of some of its weaponry and at an obstructed or bad angle for other guns on the ship. Every gun on the battleship can't get a perfect bead on every target, you know? When attacking, a battleship attacks with all of its attack guns and when defending, it defends with all of its defense guns, each round of combat. After a battleship sustains a hit, its lowest operational attack and defense guns are considered damaged. Damaged guns may no longer fire until repaired. A battleship will remain afloat as long

as at least the first guns remain undamaged. Once those last guns are damaged, the ship sinks and the unit is destroyed.

Long Range Guns (“Beefed-Up Battleships” Expanded)

To represent the ability of a battleship's long range and anti-aircraft capability, guns with rolls of 8 or more are preemptive on the first round of combat, when attacking or defending. Of course, other units with preemptive attacks (submarines, other battleships, etc.), would still get their preemptive shots. This rule overzealously romanticizes the battleship, but it gives them a mystique of formidability that's more fun to play.

Repairing Guns

Essentially, the Basic Rules apply. For each damaged gun, a d12 is rolled to determine the cost and then consult the repair chart in the basic rules to determine legal locations to fix it. For three-gun battleships that have two damaged guns, they must be repaired from largest to smallest. You cannot fix the lowest rolling gun and not repair the second. If both guns are being fixed simultaneously,

the gun with the most damage of the two dictates the required repair location. For example, if the damage to the second and third guns on a British battleship is 5 and 9, then the second gun could be repaired at a friendly territory with a value of 4 or higher, and the third gun could be repaired in a later turn when the battleship is adjacent to a factory. Or pay 14 and repair them both at a factory.



Shore Bombardment and Fortifications

All normal rules for shore bombardments apply, with one restriction: Only guns with a minimum attack of 5 are entitled to make shore shots. Guns with an attack of 8 or more may shore bombard over fortifications (Module V: Defenses).

Increased Armor


Larger 3-gun battleships are constructed with thicker steel hulls and decks for increased resistance to attack. This results in decreasing the hit rolls of all enemy units. The bonus is based on the size of the battleship as determined by the sum of the attacks and defense rolls of all the guns. The bigger the battleship, the bigger the bonus (See Modified Combat on page 22). The resistance bonus versus size of the battleship is as follows:


Battleship Size (sum of all guns)	Resistance Bonus
38-41	- 1
42-44	- 2
45-46	- 3

Calculating Battleship Cost:

Cost = Sum of the Attacks and Defenses of all Guns + Modifiers (See Unit Chart, previous page)

Typical Battleship Chart:

BATTLESHIP 	Attack	Defense	Resistance	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
Armored Cruiser	6/4	6/4	-	22	21	24	20	23	20	19	29
Heavy Cruiser	7/5	7/5	-	26	25	28	24	27	24	23	33
Battleship	8/6	8/6	-	30	29	32	28	31	28	27	37
Battleship Variation	9/5	10/4	-	30	29	32	28	31	28	27	37
Three-Gun	8/6/3	8/6/3	-	36	35	38	34	37	34	33	43
Heavy Three-Gun	10/6/3	10/6/3	-1	40	39	42	38	41	38	37	47
Heavy Warship	9/7/4	9/7/4	-1	42	41	44	40	43	40	39	49
Super Battleship	10/8/5	10/6/3	-2	44	43	46	42	45	42	41	51
Ultimate Battleship	10/8/5	10/8/5	-3	48	47	50	46	49	46	45	55

DESTROYER	Attack (Min.-Max.)	Defense (Min.-Max.)	Move	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
Cost = A+D+Modifiers 	3-8	3-8	3	+3	+2	+3	+1	+2	0	0	+4

The destroyer category covers all small to medium combat sea craft. Unlike battleships, destroyers are not allowed additional guns and require only one hit to be destroyed.

Small Patrol Boats

Destroyers with an attack and defense sum of 9 or less ($A + D = 6-9$).

Destroyers

If a destroyer has an attack and defense sum of 10 or more ($A + D \geq 10$), they nullify the preemptive shot of an attacking submarine and always return fire when hit. If you're playing Module VI: Naval Engagement, you must have Sonar (see page 28 for abbreviated rules for Sonar).

Sub Hunters

Destroyers with an attack and defense sum of 14 or greater ($A + D \geq 14$), not only return fire on preemptive attacking submarines, they have a preemptive roll when they are attacking subs. In other words, a defending submarine hit by a destroyer in the first round of combat does not return fire.



Shore Bombardment


All normal rules apply where any destroyer with a minimum attack of 5 is entitled to a first round shore bombardment.

Calculating Destroyer Cost:

Cost = Attack + Defense + Modifiers (See Unit Chart above)

Typical Destroyer Chart:

DESTROYER	Attack	Defense	Returns Fire on Sub Attack	Attacks Subs Preemptively	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
Patrol Craft	3	3	N	N	9	8	9	7	8	6	6	10
Light Destroyer	5	3	N	N	11	10	11	9	10	8	8	12
Fleet Escort	3	7	Y	N	13	12	13	11	12	10	10	14
Destroyer	5	5	Y	N	13	12	13	11	12	10	10	14
Attack Destroyer	7	3	Y	N	13	12	13	11	12	10	10	14
Sub Hunter	6	8	Y	Y	17	16	17	15	16	14	14	18
Heavy Destroyer	8	8	Y	Y	19	18	19	17	18	16	16	20

AIRCRAFT CARRIER Cost = A+D+Capacity +Modifiers 	Attack (Min.-Max.)	Defense (Min.-Max.)	Move	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
	1-2	2-4	3	-2	-2	0	-3	-1	-4	-5	+2

The aircraft carrier was an important part of sea warfare. Although, the aircraft carrier is the transporter of one of the best combatants, the fighter plane, the carrier itself does not have powerful weaponry, as there is only so much room to put guns on a ship that's mostly runway. Fortunately, it defends a little better, but this is still limited.

Aircraft Carrier Capacity

Similar to a transport or a bomber, the size of a carrier dictates its ability to launch and land aircraft. Its capacity can range from 16 to 36 with the following modifiers to the cost, as a result:

<u>Capacity</u>	<u>Cost Modifier</u>
16-19	0
20-23	- 1
24-27	- 2
28-31	- 3
30-33	- 4
34-36	- 5



A carrier can accommodate as many fighters for which it has the space. However, it may never carry bombers of any kind (Doolittle's Raid will be covered in a special combat module). The load required for a fighter, on a carrier, is equal to the fighter's Land/Sea roll added to its Air roll.

Fighter Load (Space Required) = Land/Sea Roll + Air Roll

Once the load for each fighter has been determined, the carrier may accommodate more than one of these fighters, as long as the accumulated loads of each fighter does not exceed the carrier's capacity.

Example:


Fighter one has the following statistics	Land/Sea Roll = 6	
	Air Roll = 6	Load (L/S+A)=12
Fighter two has the following statistics:	Land/Sea Roll = 4	
	Air Roll = 4	Load (L/S+A)=8

A carrier must have a capacity of 20 (12 + 8) in order to have the capacity for both of these fighters.


Calculating Cost of Aircraft Carrier

Cost = Attack Roll + Defense Roll + Capacity + Modifiers (See Unit Chart on previous page)

Typical Aircraft Carrier Chart:

AIRCRAFT CARRIER 	Attack	Defense	Capacity	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
Biplane Carrier	1	2	16	17	17	19	16	18	15	14	21
Light Carrier	1	2	20	20	20	22	19	21	18	17	24
Aircraft Carrier	2	4	24	26	26	28	25	27	24	23	30
Heavy Carrier	2	4	28	29	29	31	28	30	27	26	33
Fast Carrier	2	4	32	32	32	34	31	33	30	29	36
Super Carrier	2	4	36	35	35	37	34	36	33	32	39



SUBMARINE Cost = A + D + Modifiers (A - D <= 2)	Attack (Min.-Max.)	Defense (Min.-Max.)	Move	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
	3-8	3-8	3	-1	+2	+2	0	+2	+1	-1	+4

All submersible sea craft are covered in this category.

Low Tech Submarine (Attack + Defense = 6-7)

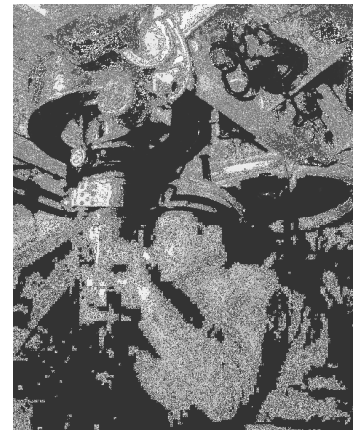
These small subs are cheap, but have no preemptive shot against anything but transports, and lone aircraft are not penalized at half their hit roll versus these low-tech submarines – they hit at full roll.

Submarine (Attack + Defense = 8-11)

These are the common variety of submarine and follow the basic rules.

Attack U-Boats (Attack + Defense = 12-14)

These submarines have an added feature of a deck-mounted anti-aircraft gun that fires only at aircraft that strike it, directly. The roll is a 2 or less, unless it is submerging or retreating, and does not exclude the normal torpedo defense roll. Both may fire in defense, when legal and when there are eligible targets. (see Modified Combat on page 22).




Super Submarines (Attack + Defense = 15-16)


These underwater monsters are like the Attack U-Boats, except the A/A gun is improved, too, firing at a 4 or less.

Calculating Cost of Submarine

Cost = Attack + Defense + Modifiers (See Unit Chart above)

Typical Submarine Chart:

SUBMARINE 	Attack	Defense	Anti-Aircraft	Preemptive Attack	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
Low Tech Sub	3	3	-	N	5	8	8	6	8	7	5	10
Submarine	4	4	-	Y	7	10	10	8	10	9	7	12
Transport Killer	5	3	-	Y	7	10	10	8	10	9	7	12
Long-Range Sub	6	4	-	Y	9	12	12	10	12	11	9	14
Attack U-Boat	7	5	2	Y	11	14	14	12	14	13	11	16
Super Submarine	8	7	4	Y	14	17	17	15	17	16	14	19

TRANSPORT	Attack (Min.-Max.)	Defense (Min.-Max.)	Move	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
Cost = Capacity + Modifiers 	0	0-3	3	+1	0	+2	-2	+1	-1	-2	+3

These are sea craft used to move land units of their own nation only, across the high seas.

Transport Capacity

As with an aircraft carrier, a transport's usefulness and cost are dependent upon its capacity to carry units. Provided it has the capacity, a transport may carry up to four of any land units.

Maximum Capacity = 24 Minimum Capacity = 8

The space required by a unit carried on a transport is equal to the unit's attack roll plus its defense roll.

Transport Load (space required) = Attack Roll + Defense Roll

Once the load of each unit to be carried has been determined, in order for the units to be carried on the transport, the sum of the loads must be equal to or less than the capacity of the transport.

Transport Loads of all units \leq Capacity

Example:

An infantry has the following statistics: Attack = 2
 Defense = 4 Load (A + D) = 6

An armor has the following statistics: Attack Roll = 8
 Defense = 4 Load (A + D) = 12

A transport must have a capacity of 18 (6 + 12) in order to have the space for the infantry and armor.

Non-Combat Transports

These transports are basically cargo ships or converted ocean liners. Since they weren't designed for naval combat, they suffer a -3 penalty whether in attack or defense (For further explanation, see Modified Combat on page 22). There is, however, a -3 modifier to the cost.

Transport Defense Roll

The defense roll of a combat transport is based on its capacity and is as follows:

<u>Capacity</u>	<u>Defense Roll</u>
8 – 11	1
12 – 17	2
18 +	3

Transport Cost


Cost = Capacity + Modifiers (see below, and unit chart on previous page)



Modifiers

Non-Combat	- 3
Capacity of 12-15	- 1
Capacity of 16-17	- 2
Capacity of 18-19	- 3
Capacity of 20-21	- 4
Capacity of 22-23	- 5
Capacity of 24	- 6





Typical Transport Chart:

TRANSPORT 	Attack	Defense	Capacity	Combat Penalty	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
Ocean Liner (non-combat)	-	-	12	-3	9	8	10	6	9	7	6	11
Cargo Ship (non-combat)	-	-	18	-3	13	12	14	10	13	11	10	15
Light Transport	-	1	8	-	9	8	10	6	9	7	6	11
Artillery Transport	-	1	10	-	11	10	12	8	11	9	8	13
Transport	-	2	12	-	12	11	13	9	12	10	9	14
Large Transport	-	2	16	-	15	14	16	12	15	13	12	17
Heavy Transport	-	3	18	-	16	15	17	13	16	14	13	18
Super Transport	-	3	24	-	19	18	20	16	19	17	16	21

FACTORY													
	Cost = Base Cost + Modifiers	Basic	Land	Sea	Air	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
		30	10	11	9	-2	0	0	-2	+1	-1	-3	+3
	15	6	7	6	-1	0	0	-1	+1	-1	-2	+1	

In addition to the standard types of major and minor factories, a player may construct a factory for the production of specific unit types. Needless to say, a port (sea) factory must be built on a land territory with an adjacent sea zone, however, it need not be on specific sea zone. It may produce into all sea zones adjacent to the territory where it's constructed. Factories may be upgraded from minor to major or to add another unit type by paying the difference. However, they may not be converted to produce a completely different unit type. For instance, a minor port may be upgraded to a major port, a minor factory, or a major factory, but not into a minor or major air factory. Downgrading a factory during a player's turn would also require eliminating without adding. In other words, a major port could not be downgraded to a minor land factory. When under attack, factory downgrades by a defending player must follow these same guidelines. In theory, if a player survived enough rounds of combat, they could downgrade a major factory to a major port, to a minor port, to total destruction. Or just major to minor to destruction, as normal. Paratrooper training or infantry retraining or upgrading must be done in basic "all unit type" factories or land factories, but not sea or air factories. As always, one factory per territory, only.

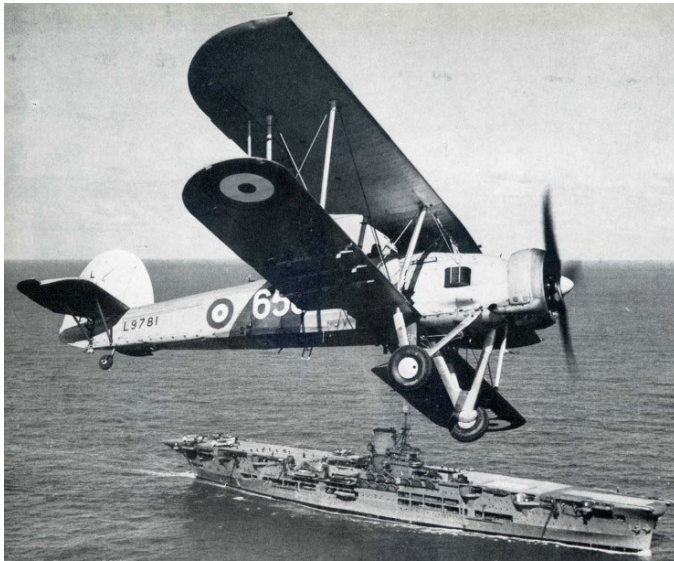
FACTORY													
 	Infantry, Armor, Artillery	Fighter	Bomber	Battleship, Aircraft Carrier	Destroyer, Submarine, Transport	Germany	Italy	U.S.S.R.	U.K.	France	Japan	U.S.A.	China
						Major	Y	Y	Y	Y	Y	28	30
Major Land	Y	N	N	N	N	8	10	10	8	11	9	7	13
Major Sea	N	N	N	Y	Y	9	11	11	9	12	10	8	14
Major Air	N	Y	Y	N	N	7	9	9	7	10	8	6	12
Minor	Y	Y	N	N	Y	14	15	15	14	16	14	13	16
Minor Land	Y	N	N	N	N	5	6	6	5	7	5	4	7
Minor Sea	N	N	N	N	Y	6	7	7	6	8	6	5	8
Minor Air	N	Y	N	N	N	5	6	6	5	7	5	4	7

MODIFIED COMBAT

With the additions of combat “to hit” bonuses and penalties, specific unit targeting, and added cases of preemptive hits, you’ll have to use the Combat Priority List, below, when rolling the outcomes of combats. In short, tech penalties or bonuses are added to the opponent’s roll when attempting to hit that unit. It NEVER affects the attack or defense roll of the unit itself. A bonus or penalty only affects the odds of the opponent hitting you, not your odds of hitting them. There are other combat modifiers like generals or Rommel’s Rules bonuses that can affect defense rolls.

Tech Penalties (Low Technology, Altitude, etc.)

If there are any units in a combat that suffer penalties, which increase the roll or less required by opponents and thereby raise the chances the penalized unit will be hit, you must keep ongoing track of any rolls that are normally misses, but that would still apply to those units with combat penalties. In other words, if a non-combat transport (ocean liner, for instance) is in a battle (-3 combat penalty), any misses that are off by 3 or less must be recorder as a hit on the ocean liner (removed if



the shot was preemptive). In typical application, you will find that when a penalized unit is in a combat, it is hit multiple times by enemy units who otherwise miss. Point being, penalized units rarely make it to a second round of combat.

Substituting Other Casualties for Units with Penalties

It should be noted that even though a miss might become a hit against a unit with a combat penalty, the player may choose to take another unit as a casualty instead, to spare the penalized unit. However, if an opponent has multiple units whose misses would become hits when the penalty is

added, a player would have to take that many un-penalized units to preserve the penalized unit. For instance, if a biplane (3/3/-3 penalty) and two infantry (4/2) are attacked by three armor units (8/4), an 11 or less by any armor would be a hit on the biplane. Therefore if the three armor units rolled a 12, 9, and a 4, both defending infantry would have to be taken as casualties to preserve the biplane. However, if the defender makes no attempt to preserve the biplane and takes it as a casualty by the armor’s “9”, then the “4” would be applied to one of the infantry, leaving the other alive. Of course, you could NOT apply the “4” to the biplane and the “9 “ to one of the infantry.

Tech Bonuses (High Technology, Altitude, etc.)

A bonus makes it more difficult for an enemy to roll a hit. In battles, the unit with a bonus will get to choose from the enemy hits scored, once there are enough enemy hits to apply to every other unit. The unit with the bonus would then choose a die roll that would be a miss to apply to it. For example, if two Armor (8/4) were attacking a 4/4 Fighter and a Super Bomber (+2 Bonus), the first hit from the armor would have to be counted toward the defending fighter, and then the second hit to the Super Bomber. However, because of the bonus, the Super Bomber could choose from the

armor hits to make it a miss, if possible. So, if both of the 8/4 armor rolled a 6 or less, then both the fighter and the Super Bomber would be hit. However, if the armor rolled a 6 and a 7, then the defender would apply the 6 to the fighter and the 7 to the Super Bomber, keeping the Super Bomber unscathed. Remember, once hits are applied to all units in a force, then units with a bonus may choose from those hits to find a miss among them and apply it to itself. Therefore, a player can't keep assigning every die that an enemy rolls to the unit with the bonus to make them all misses.

Tech Bonus or Penalty in Retreat

In the same way that a retreating ship can still be hit by an attacking submarine when it is the only target the sub can hit, retreat may not be used to protect a unit with a penalty, or to favor a unit with a bonus. In other words, if there's one unit in a combat that has a bonus, and the other units retreat, the hits may still apply to the retreating units. Likewise, if a unit with a penalty retreats, if any of the misses could apply to the retreating penalty unit, it is hit. There will be examples, later.

There Is Always a Chance And There Are No Sure Things

Any unit that is reduced to zero or less by negative penalties is still given a slim chance of hitting. This does not include units that have no roll at all (non-combat units, attacking transports, etc.). Every "zero" chance unit that rolls a "1" may roll another die (d12, of course), and a 7 or less would be a hit. This "lucky 7" roll only occurs when a penalized unit is directly rolling against a unit with a bonus. For example, if two 2/4 infantry were attacking a fighter and a Super Bomber (+2 bonus), only if BOTH infantry rolled a "1" would a "lucky 7" roll be made by one of the infantry and, if successful, applied as a hit to the Super Bomber. If the infantry rolled a "1" and "2", the defender would apply the "1" to the Fighter and the "2" to the Super Bomber, making it a miss.

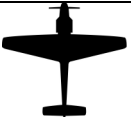
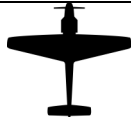

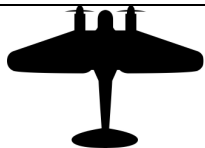
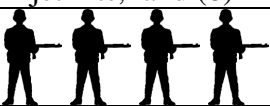

Conversely, if combat bonuses to a unit (Generals, etc.), bring its hit roll to 12 or higher, it still has a chance of missing. Anytime a 12 is rolled by a unit with a "sure hit", the player must roll another die (d12) and a 7 or less means the unit still scored a hit. A 12, followed by an 8 or more is a miss.

Combat Priority List

When rolling combats, follow this list to minimize conflicts. Remember to take note of any misses that might be hits on units whose tech penalty makes them an easier target:

1. **Attacker declares** attacks and retreats (on combat round 2 or after).
2. **Defender declares** any retreats, aircraft grounding or dispatching.
3. **Targets declared:** For any units capable of targeting, first the attacker, then the defender choose specific units targeted (Jet Fighters) or target area preferences (Rail Gun choosing amphibiously attacking ships or invading land units).
4. **Preemptive rolls:** First the attacker, then the defender, make their preemptive rolls. Casualties are taken. Units that cannot defend against preemptive attacks are removed or damaged, accordingly.
5. **Attacker rolls:** Strategically choosing which units to roll first, second, etc., to maximize advantages of units with different attack types (Land/Sea rolls versus Air rolls).
6. **Defender chooses casualties.**
7. **Defender rolls:** Strategically choosing which units to roll first, second, etc., to maximize advantages of units with different defense types (Land/Sea rolls versus Air rolls).
8. **Attacker chooses casualties** and both sides remove their casualties from play.

Modified Combat Example 1: Tech Bonus, Penalty and Retreat.


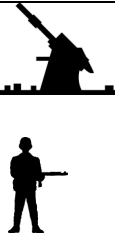
Attacker		Defender	
	9/9 Jet Fighter (+2 Tech Bonus)		3/3 Biplane (-2 Penalty)
Targets bomber			
	8/4 Dive bomber		10/10/4 Super Bomber (+2 Tech/Altitude Bonus)
If jet misses, choose air roll (4). If jet hits, land (8)		Retreats first round.	
	2/4 Infantry		5/5 Artillery 2/4 Infantry
Rolls of 4 or less are noted to be applied to the biplane		Shoots anti-aircraft roll.	

Following the Combat Priority List, steps 1-8:





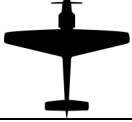

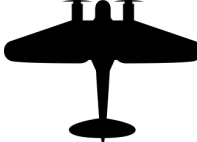
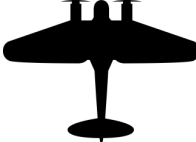
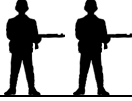
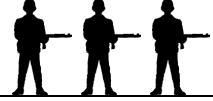
1. N/A (Attacker declares...)
2. The defender would likely declare that the bomber will retreat. Firstly, its counterattack directly against the jet is a 2 or less with the jet's tech bonus applied. Secondly, grounding the bomber would probably not save it on subsequent rounds of combat, based on the odds.
3. The attacker declares the bomber as the Jet's target, getting the added benefit of no direct return of fire from the retreating bomber, even if it would only have been a 2 or less.
4. N/A (Preemptive rolls)
5. The attacker would first roll for the jet targeting the bomber. If the jet shoots down the bomber (7 or less because of the bomber's tech bonus), the dive bomber would then choose to roll for land units to get the most benefit (8 or less). If the jet missed, the dive bomber might roll for an air unit to possibly take the bomber (2 or less with bomber's tech bonus). The attacker would then roll for the infantry (2 or less), with any rolls eligible to hit the biplane (4 or less) applied. This is especially important if the attacking jet missed and the dive bomber applied toward air and rolled a 2 or less, making it able to hit the bomber. In this way, since the biplane is so easily hit by the attacking infantry, the dive bomber's air hit of 2 or less would be applied to the retreating bomber. UNLESS, the defender is able to take another casualty (Artillery or Infantry) for EVERY hit by attacking infantry on the biplane. In other words, if the land units take a hit for every attacking infantry that roll 4 or less, then the bomber could retreat (assuming, once again, it wasn't hit by the targeting jet).
6. The defender would have some tough casualty choices, obviously.
7. The defender would roll the biplane (3 or less) and the anti-aircraft (5 or less), hoping to first apply hits to aircraft, then to land. If both planes score hits low enough to hit the jet with its tech bonus (biplane rolls a 1, anti-aircraft rolls a 3 or less), then the defender would apply both hits to aircraft, scoring an annoying miracle. If the Biplane and A/A both rolled a 3, they would apply the anti-aircraft toward air units (taking the dive bomber), then send the biplane to the land units so it would actually hit something (an infantry in this case).
8. Attacker chooses casualties, both remove and the attacker decides whether to go round two.

Hypothetical Combat Round 2:

In the example, below, the attacker could play it safe and not have their jet choose a specific target, hoping they would score both hits on the two defending units from among their four attacking units. However, depending upon how the attacking player is feeling about their dice rolling, they could have the Jet target the defending Anti-Aircraft, even though it opens the attacking Jet to being hit directly by that flak. In this case, the defender would likely direct his return fire to “any air” rather than directly returning fire upon the Jet that is targeting it, mainly because the Jet’s tech bonus (+2) brings the defending Anti-Aircraft down to needing a 3 or less to hit it, with a 4 or 5 NOT spilling over to the Dive Bomber. Again, by choosing to return fire on the targeting Jet, the defending Anti-Aircraft would be forced to fire at a 3 or less. So, it’s probably better for the defending A/A to grab the “any air” 5 or less and have a much better chance of shooting a plane down.

Attacker		Defender	
	9/9 Jet Fighter (+2 Tech Bonus)		5/5 Artillery
	8/4 Dive bomber		2/4 Infantry
Jet targets anti-aircraft, dive bomber goes For land units			


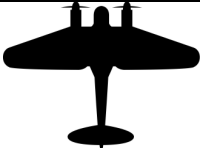

Modified Combat Example 2: Tech Bonus, Penalty and Grounding

Attacker		Defender	
	9/9 Jet Fighter (+2 Tech Bonus)		9/9 Jet Fighter (+2 Tech Bonus)
Targets defending jet fighter		Targets 6/6/2 bomber	
	6/6 Fighter		3/3 Biplane (-2 Penalty)
Likely rolls against air		Certainly rolls against air	
	8/4 Dive bomber		5/5 Artillery
Roll 8 versus land if other two planes hit.		Rolls anti-aircraft	
	6/6/2 Short Range Bomber (-1 Altitude Penalty)		10/10/4 Super Bomber (+2 Altitude Bonus)
Rolls bombs		Remains grounded	
	2/4 Infantry		2/4 Infantry
Rolls of 4 or less noted for hit on biplane		Rolls of 1 or less noted for hit on bomber	






1. N/A (attacker declares)
2. The defender would likely leave the Bomber grounded to avoid being targeted by the attacking Jet, even with the Bomber's tech penalty decreasing the Jet's roll to 7 or less.
3. First the attacker would likely declare their Jet to be targeting the defending Jet, and the defending Jet would probably target the attacking Bomber.
4. N/A (Preemptive rolls)
5. The attacker would first roll the Jet Fighter. If the Jet misses, the attacker might roll the 6/6 Fighter against air to make sure and hit the defender's Jet (4 or less, 5-8 applied to Biplane). If the 6/6 fails to get the Jet, but takes the Biplane, the attacker might roll the 8/4 against air to take one more shot at the Jet at a 2 or less. BTW, if the 6/6/2 Bomber used its 2 as an air attack (forfeiting bomb rolls), it would have to hit a 1 followed by a 7 or less to hit the Jet.
6. Defender chooses casualties, applying any hits that are within 2 of their required roll, to the Biplane. An eligible substitute casualty may be taken for each hit on the Biplane to save it.
7. The defender would roll the Jet Fighter at a 10 or less with the attacking Bomber's tech/altitude penalty. Then the Biplane and Anti-Aircraft would roll against air, followed by the three Infantry. Remember, if the Jet failed to get the 10 or less, rolls by the other units must be watched for misses by 1 that would still result in the tech penalized Bomber. For instance, if the Jet missed, the Biplane rolled a 3 and the Anti-Aircraft rolled a 6, the flak gun would still hit the Bomber, so...
8. The attacker chooses casualties, applying any hits that are within 1 of their required roll, to the tech penalized Bomber. In this example, an otherwise un-hit Fighter could be taken as a substitute casualty for the "6" roll against the Bomber to save it.

Hypothetical Combat Round 2:

Let's say the second round of combat leaves two attacking Fighters (below) going against the one Bomber. Of course the Bomber would now take to the sky to defend itself, but the attacking Jet Fighter would not target the Bomber so that the counterattack could be applied to the 6/6 fighter, instead. Likewise, if the defending Bomber was targeted by the Jet the Bomber would still likely roll "any air" and make to roll 4 or less instead of 2 or less. Depends how lucky the defender feels.

Attacker:		Defender:	
	9/9 Jet Fighter (+2 Tech Bonus) Targets		10/10 / 4 Super Bomber (+2 Altitude Bonus)
Would need to roll 7 or less to hit the Super Bomber			
	6/6 Fighter		
Would need to roll 4 or less to hit			

Modified Combat Example 3: Preemptive Rolls in Amphibious Combat

Attacker:		Defender:	
	8/6 Battleship		10/10 Rail Gun
8 is rolled preemptively		10's rolled preemptively	
	12 capacity Transports		2/4 Infantry
	2/4 Infantry		

In this amphibious attack, the attacker would roll his Battleship's 8 or less, and then the defender chooses whether to roll their preemptive Rail Guns against the four landing Infantry, or the amphibious navy (battleship and/or transport). If the first defending rail gun fires out to the ocean and hits, the attacking battleship would likely take a hit and lose the 6 roll, rather than take a transport and only land with two attacking infantry. So, for the second rail gun, the defender might take another shot at the navy and force the attacker to either sink a loaded transport or sink the battleship. Also, the defender might fire both preemptive rail guns against the invading units, in the hopes that the attacker won't hit more than two, making the second round have two weak attacking infantry (2 or less) facing a huge rail gun (10 or less). Where do you feel lucky? As we like to say.

F.E.R. (FREQUENTLY EXPLOITED RULES)

Redirecting Artillery - Defending artillery that target amphibiously attacking sea units on round one of combat may then defend against land or air units on subsequent rounds.

Rail Guns and Amphibious Sea Units - A Rail Gun that preemptively sinks a transport in the first round of combat sends any units the transport carried to the bottom of the ocean, removing them from combat before their attack roll.

Low Altitude Anti-aircraft – Each round of combat that it’s relevant, low-altitude anti-aircraft guns that are targeting aircraft first, with additional “spill over” shots going to land, would only be able to hit fighters that ended up hitting land units. In other words, if attacking fighters only managed to muster enough hits to shoot down defending aircraft and there were no additional hits to spill over to land units, then defending hits from artillery with only low altitude anti-aircraft ability would not hit any attacking fighters, and would instead spill over to land units. Likewise, if the attacking fighters declared that they would only target defending aircraft, then low altitude anti-aircraft guns would not be able to hit those attacking fighters. World War I aircraft (biplanes, triplanes, etc.) are always considered low altitude aircraft.

Targeting Retreating Units – Yes, a jet fighter may target a retreating unit on the round of combat it retreats, with the added advantage of not having that retreating unit able to counterattack.

Jet Target Spill Over – Targeting jets do not spill over to easier to hit units, they may only hit the unit they targeted that round of combat.

Declaring Preemptive Rail Gun – The decision of whether to preemptively hit ships in an amphibious attack, or the land units, instead, is declared when the preemptive roll is made.

Sahara, Siberia, Outback and the Himalayas – The destruction of a unit attacking across these terrains prevents the unit from hitting on the round it is destroyed, even if combat bonuses make the unit able to hit on a roll that also means “death in the desert.” So even if a 10/6 armor crossing the Himalayas to attack a biplane has a guaranteed hit (12 or less), the armor must still roll with an 11 or 12 killing the tank and sparing the biplane.

Jets and Preemptive Battleships - When a jet fighter targets a preemptive battleship, the shot is still preemptive, regardless of the targeting, so you might want to wait until round two to target it.

Abbreviated Technology Rolls for Jet Fighters and Sonar

Technology rolls follow the progression used in the Diplomat’s Guide of 1, 2, 4, 8, 11 or less. Each nation may attempt each tech roll in their Collect Income Phase until successful. Tech is not shared. There is an upcoming Naval Engagement Module for details, but, for now, here are the rolls needed:

Technology	Turn 3	Turn 4	Turn 5	Turn 6 <small>(1942)</small>	Turn 7	8 or after
Sonar	1	2 or less	4 or less	8 or less	11 or less	11 or less
Jet Fighters		1	2 or less	4 or less	8 or less	11 or less