IN CLOUDS OF GLORY
EXPANDED RULE BOOK

ICOG

VERSION 1.0

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Version 1.0
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CONTENTS

WELCOME TO THE EXPANDED RULES

This rule book is an expansion to the ICOG core rule book. The aim of this book is not to provide "advanced" rules to the base rules, but rather to provide a number of separate and situation specific rules to cover in-game situations such as bombing a ground target or how to handle anti-air weapons within an ICOG game. In that regard we suggest that you provide yourself with an overview of these rules and then read up on the rules when you need it before playing a mission.

This rule book covers the following areas:

 - Pilot experience and special pilot abilities. The pilot experience part is only useful when playing a series of linked missions with the same pilots, such as a campaign. They work well alongside the campaign rules found in the Campaign and Mission compendium. The special pilot abilities is considered an optional rule that can have a more "gamey" feel, but one that provide some more flavour and personality to the pilots both in single missions and in campaigns.

-Wounded pilots, pilots who are downed behind enemy lines and parachutes. These rules all deal with pilot survival and are primarily used in campaign games where the players have an interest beyond the current mission being played.

-Ground-to-air: Anti-aircraft fire from small arms, AA-Cannon and AA guns. This is obviously useful in many different types of missions and an important part of the air war.

-Air-to-ground attacks: This part covers different modes of air attack on troops, vehicles and structures, from strafing troops with machine guns to level and dive bombing. This part also covers attacking balloons with machine guns or rockets.
The last part of this compendium covers the work of observers in two-seaters including rules for spotting troops, radio and air dropped messages, photo work as well as artillery spotting.

1.3 Pilot experience

what doesn't kill you only makes you stronger..

Rule 1.3.1 **Experience Points are earned on missions. The experience points are used to raise the main skills of the pilot: Awareness, Flying skills and Gunnery skill. The criteria for earning experience points can be seen on the "Earning experience points" table.**
The price in experience points to raise a skill increases with the value of the skill to be raised. The price in experience points needed to raise a skill can be deducted from the "The cost of raising skills" table.

Every time a pilot participates in a mission he will learn something new if he comes home alive. In this game he earns a number of experience points. Experience points can be earned in several ways.

The Earning experience table shows, which actions will earn the pilot experience points. When a pilot has earned experience points in battle, he can subsequently use to enhance his skills.

The player determines which main skills he will raise. The main skills are, Awareness, Flying skills and Gunnery ability. In this section only pilots are mentioned, but Air gunners use experience points in the same way as pilots.

The higher the initial value of a skill, the higher the price in experience points will be to raise a skill 1 point. See the "The cost of raising skills" table.

A player can decide whether he will use his pilots experience points immediately after a mission or whether he will save them up over several missions in order to raise some high level skills that cost a lot of experience points to raise.
Experience points are recorded on the Pilot record and are erased as they are used.

Example: A pilot has returned home from a successful mission. He has shot down a plane and his side has won the battle. On the "Earning experience points" table the player sees that the pilot has earned 4 victory points in all. First he chooses to raise his Gunnery skill, which is currently at a mediocre "12". On the table "The cost of raising skills" the player sees that it costs 1 experience point to raise his Gunnery skill by 1 point. Now the pilot has a value of 13 in Gunnery skill, but the player would like to increase his pilots skills some more.
On the table he can see it now costs 2 experience points to raise his Gunnery skill from 13 to 14.
He does so, and deletes 2 more experience points on his pilot record. The last point he chooses to save for another time.

Earning experience points	
After the conclusion of a mission, All pilots and aircrew partaking, is awarded experience point for the following achievements :	
Partaking in a mission, regardless the result.	**1**
Partaking in a mission on the winning side.	**1**
Achieving an air victory. If the downed plane was "Forced home" already this only earns the pilot 1 point extra	**2**
Achieving a "Forced home" result on a enemy airplane.	**1**
Fulfilling an important mission objective. This objective will be described in the mission brief.	**1**

The cost of raising skills	
Existing value of skill to be raised	Price in experience points to raise skill 1 point
03-12	1
13-15	2
16-17	4
18-19	6
20+	8
Remember to roll 1D10 each time a skill is raised. At a result of 10, the pilot receives an Special ability to be rolled on the special ability table.	

1.4 Special abilities.   *"I put my bullets into the target as if I placed them there by hand." - René Fonck "*

Rule 1.4.1   **When a skill is raised using experience point (See 1.3) the Pilot or Air gunner rolls 1d10, on a result of 10 he will receive a special skill. The skill is found on the Special abilities table with 1d20. Air gunners roll 1d8 on the Air gunner Special abilities table for their special abilities. If the pilot or air gunner already has that skill, he must roll again.**

Rule 1.4.2   **A Pilot with 5 Victories is described as an ace. This triggers a roll on the "Ace special ability" table with 1d6. For every 5 victories the pilot gets a roll on this table. If the ace already has that skill, he must roll again.**

The Special abilities rules are optional, but will add an extra dimension and flavour to pilots and air gunners. The Special abilities rules will demand a bit of awareness during play, as the players need to remember to use them and in the case of an ability with a limited use (one use per mission), note that the ability has been used in the mission.

Every time a pilot skill is raised using experience points, the player rolls a 1d10. A result of 10 triggers a Special ability to the pilot. The Special ability is then found by rolling 1d20 on the "Special ability" table.
Air Gunners have their own Special ability table used in exactly the same way as pilots. Only difference is that they will use a 1d8 on their table.

Ace pilots will receive their own special abilities.
If a pilot gets 5 victories he is called an ace. The great honour and the medals that come along motivate the pilot. In this case roll 1d10 on the "Ace special ability" table. If the pilot shoots down another 5 planes he gets another Ace special ability. That is, at 5, 10, 15 victories and so on. A pilot cannot acquire the same ace special ability twice. If you rolled an Ace ability the pilot already has, then roll again.

Example: After the pilot has raised his Gunnery skill 1 more point he can roll again to see if he gets a special ability. He rolls 1d10 again with the result of a "10", and will gain a special ability roll on the "Special abilities" table.

Ace special abilities 1d6	
1	**Confident.** I am the greatest! The ever growing confidence of the pilot grants him an extra +4 in his Fortitude score and +2 to his Luck score
2	**Slippery as an eel.** The pilot is not easy to distract. If the pilot is being threatened by another airplane, the pilot ignores 2 points of the negative modifiers towards his own initiative roll.
3	**Test expert**. The reputation of the pilot grants him respect with the high command and he is selected to combat test new types. The pilot automatically receives all new airplane types 2 months before they are introduced officially . The pilot however can choose to discard a new plane type. This airplane is personal. (See timeline tables)
4	**Promotion**. The pilot rises in ranks. He now has an amount of influence on which missions he wants to fly. Before a mission roll 1d6. On a roll 4-6 he can freely choose whether to take part in the mission. The Ace will replace a randomly selected pilot.
5	**Mentor.** The pilot shares his knowledge of air fighting before each mission. The player can chose any other pilot from his Squadron who will get good advice. The pilot must be a rookie without any victories. This pilot receives an extra Re-roll to be used in this combat. The extra re-roll is noted on the pilot record and the initiative sheet.
6	**Master marksman** When hitting an enemy plane, the pilot can AFTER the result on the hit table is known, voluntarily choose to add OR subtract 1d4 from the hit table result.

Air gunner special abilities 1d8	
1	**Balloon expert.** +3 on all to-hits on balloons and airships. The Gunner is an expert at setting balloons on fire.
2	**Strafing expert.** +3 on all Machine gun hit rolls on ground targets . The Gunner is an expert at strafing ground targets.
3	**Old duck hunter.** The Gunner gets +2 on all parallel shots and "other situation" shots. The Gunner is a natural talent when it comes to deflection shooting..
4	**Hawk-eyed.** The Gunner gets a +1d4 on the damage effects table, and +4 on the bombing table. Gunner knows how to aim.
5	**Ammo conservation** The Gunner knows how to utilise his ammunition effectively. Every time he fires a salvo and misses he only uses a short burst.
6	**Cool headed.** The Observer can re-roll his initiative roll once per game session.
7	**Doing his job.** The observer gets a +3 modifier whenever using his Reaction skill on work related to artillery spotting, taking photos, observing ground objects or personnel.
8	**Hard as nails.** The Observer do not get negative modifiers on his Reaction and Gunnery test roll whenever he is wounded. Pain is just a imagination.

Special pilot abilities 1d20			
1	**Balloon expert.** +3 on all to-hits on balloons and airships. Including firing of Le Prieur rockets. The pilot is an expert at hitting balloons.	11	**Tactician.** The pilot is a great tactician and can to a degree choose his own altitude and position at game start. Set up to 15 Move units from any friendly airplane.
2	**Strafing expert.** +3 on all Machine gun to hit rolls on ground targets .The pilot is an expert at strafing ground targets.	12	**Cool aim.** The pilot has an uncanny ability to only open fire when he has a good bead on the target. Every time he misses a target he will not have any ammo expenditure.
3	**Emergency survivor.** The pilot gets a +5 on any Emergency landing test. A skill he learned the hard way at flying school.	13	**Hard as nails** The pilot don't get negative modifiers on his Flying and Gunnery test roll whenever he is wounded. Pain is just a imagination.
4	**Sticky.** The pilot is hard to shake off. When the pilot threaten another airplane with a threat zone he adds another -2 to the opponents initiative..	14	**Old duck hunter.** The pilot gets +2 on all side angle shots. The pilot is a natural talent when it comes to deflection shooting..
5	**Daredevil.** The pilot gets a +5 on any luck test or Flying skill test against a collision. Low or close to the ground don't scare this pilot.	15	**Pilot hands.** The pilot has a delicate feel for his airplane. -Narrow turns demanding the use of the piloting skill cost one less energy unit than noted on the cockpit panel and the piloting skill roll for these tests is at a +2 modifier - The roll value of the airplane is reduced by one. Note the new energy loss and roll values on the Cockpit panel with a non-permanent marker for each game.
6	**Weapon expert.** The pilot gets a +2 on the die roll on the Machine Gun Malfunction table. This pilot know his gun and hand picks every single cartridge that goes into it.		
7	**Friends at high places.** The pilot have a free choice of airplanes on the Time line table, and he can get any model he wants 1 month before it is introduced. This aircraft is personal and can be exchanged every time a new models is one month from getting introduced. German pilots with this ability gets parachutes automatically when they are introduced. Entente pilots can freely chose between weapon layouts, if their airplanes have that option.	16	**Hawk-eyed.** The pilot gets a +1d4 on the damage effects table, and +3 on the bombing table. The pilot knows how to aim.
		17	**Cool headed.** The pilot can re-roll his initiative roll once per game session.
8	**Best rigger.** The pilot gets a +1 on any rolls on the Structural failure table. The pilot have the best rigger in the Squadron.	18	**Cheating Death.** The pilot will always have a chance of surviving any otherwise deadly situation. He must make a successful luck test with -4 modification to survive any certain death situation. The pilots Fortitude score after a near dead experience is 1d4.
9	**Good Luck Charm.** The pilot has a Good Luck Charm. The side of the pilot has one extra re-roll to be used by any of the pilots once during the combat		
10	**Leadership.** The pilot can exchange his initiative roll with another pilot during the initiative phase. This can be used once in each combat	19-20	**Free choice of of one special pilot ability from this table.**

The Pilot
Special abilities

Special abilities and ace abilities can also be used to make "character" pilots such as historical aces for use in historically inspired missions. For exsample the fight between Werner Voss and the 56 squadron with James T. B. McCudden.

Examples of historical aces:

René Fonck

Top scoring pilot for the Entente, ending the war with 75 aerial victories confirmed after the very rigorous French scoring system.
Fonck was known for his professionalism and his clinical approach to flying. When fighting he took very few chances, and carefully stalked and attacked his victim from a higher altitude. He was known too be among the best marksmen in the air, often he spent less than 5 rounds to bring down a enemy.
His preferred method was not to engage in dogfights, but only to attack when he was sure of the outcome.
Unlike most other aces, who survived the war, Fonck never got wounded; actually it is told that his aircraft only got hit by one single bullet throughout the whole war. Instead of drinking or socializing with the other pilots, he planned his flying missions and tactics, ironed his uniforms, and stayed physically fit.
The pilot record on this page shows Fonck at his most effective period during the summer of 1918.

Pilot Record
Aéronautique Militaire

Name René Fonck

Airplane Spad XIII   SPA. 103

Air Victories	Experience	Missions
53	₩₩ ₩₩ ₩₩ II	july 1918

Special abilities
Friends in high places
tactican
Cool Headed
Old Duck hunter

Ace abilities:
Cool Aim
master Marksman
Promotion

Notes

Skills	
Awareness	24
Flying	16
Gunnery	23

Attributes	
Fortitude	12
Luck	14
Re-rolls	1

Pilot Record
Deutsche Luftstreitkräfte

Pilot name Werner Voss

Airplane Fokker Dr.I (prototype)   Jasta 10

Air Victories	Experience	Missions
47	₩₩ ₩₩ II	Sep 1917

Special abilities
Friends in high places
Pilot's hands
Cool Headed
Daredevil
Sticky
Slippery as an eel

Ace abilities:
Promotion

Notes

Skills	
Awareness	24
Flying	22
Gunnery	17

Attributes	
Fortitude	11
Luck	17
Re-rolls	11

Werner Voss

Until his death at the age of 20, Werner Voss was competing with Manfred von Richthofen to be the highest scoring German ace.
Voss was a brilliant pilot known for his exceptional flying skills and daring. An aggressive fighter more than a leader, he often preferred to fly alone along his duties as squadron commander. It was during one of these lone wolf sorties he met his death in one of the most discussed and famous dogfights of the war. Flying a prototype Fokker Dr.I he attacked a lone SE5a Voss was attacked himself by 8 SE5a's (most of them piloted by aces) from the elite 56 Squadron led by the British number two ace James McCudden. During the long dogfight Voss managed to damage all the British planes but, eventually the numbers began to count and Voss was killed by Arthur Rhys-Davids. The pilot record on this page shows Voss at the time of his last combat in September 1917.

James T.B McCudden

McCudden had like René Fonck a professional, almost scientific approach to combat flying. A mechanic by former profession he took great care that every aspect of the guns and engine of the airplane was in perfect working order and even resorted to tune the engine in order to gain a better performance at altitudes.

An apt pilot, a very good patrol leader, brilliant tactician and keen marksman he was the perfect squadron leader.

Ironically McCudden died in a crash as his engine cut out at take-off and he tried to turn back to the aerodrome – A rookie mistake he in his former role as flight instructor should never have made.

At the time of his death McCuddens victory score stood at 57.

The pilot record on this page shows McCudden at the time of the combat that led to the death of Werner Voss.

Pilot Record
Royal Flying Corps

Name: James T.B. McCudden

Airplane: Se5.a — 56 Squadron

Air Victories: 13

Experience: ||||| |||||

Missions: Sep 1917

Special abilities:
Tactician
Weapon Expert
Leadership
Slippery as an eel
Cool headed

Ace Abilities:
Mentor
Promotion

Notes:

Skills / Attributes	Value
Awareness	21
Flying	17
Gunnery	18
Fortitude	12
Luck	15
Re-rolls	11

1.5 Wounded pilots

..a fancy scar or yet another casualty of the bloody war

Rule 1.5.1 A wounded pilot or air crew member must roll 1d6 after the mission, the result is added to the pilots Fortitude score. The fortitude score can not exceed its original score. If the pilots fortitude score is back to normal, he is not wounded anymore, and all minus modifications to Gunnery and Awareness score is removed. If the pilot is still wounded he have to roll a Fortitude test against remaining Fortitude, and look the result up on the Wounded pilot table. Any permanent damage is written down on the Pilot Record.

Rule 1.5.2 This is a optional rule for campaign use. see Campaign and missions, chapter "After combat" In the right column of the Wounded pilot table the period of time a pilot is grounded is found. Until the pilot is back to the campaign, a replacement pilot is made following the rules in 1.2. When the wounded pilot returns to his squadron, The controlling player must choose anyone of his pilots and take him out of the Squadron rooster.

During a single mission there is no need to check what happens to a wounded pilot after the game. What ever the result is, it will have no effect on the game just played.

In a mission that is part of a campaign game there is on the other hand a need to know if the pilot is able to fly again.
Whenever a pilot returns from a mission and is wounded 1d6 is rolled and added to the pilots Fortitude score. This represent the first aid provided back at the home base.

If the wounded pilot after the 1d6 first aid is applied, still has a Fortitude score less than its normal score, the pilot is still wounded and a Fortitude test is made and the result is looked up in the Wounded pilot table (See next page).
A bad result can mean a permanent damage to the pilot. Such damages is written down on the pilot sheet.

Notice that the wounded pilot table is divided into two columns. The left column, gives the permanent effect of the wounds the pilot have sustained, and is used every time a pilot returns wounded from a mission. After the result is noted on the Pilot record, if he is still alive, the pilot is ready to fly again .

The right column is used to determine how long pilot is out of action. This part of the table is optional. Before starting a campaign it should be decided if tracking of wounded pilots is something that the players want.

This bookkeeping is not time consuming work, but the campaign system is build in a way so nothing have to be tracked between missions.

On the other hand, no player likes to see his good pilots die in bed. And the return of a renowned pilot to the campaign after a serious wound will add to the flavour and storytelling aspect of the game.

If the optional part of the table is in use Rule 1.5.2 applies to the game. If a pilot is on sick leave, a replacement pilot is made, following the normal rules in section 1.2. When the wounded pilot

returns to his squadron, the player can freely choose which pilot to dismiss from the squadron, so that its numbers don't exceed eight pilots and four two seater crews. Notice that it can also be the now returning wounded pilot that gets dismissed. This is up to the player controlling the Pilots.

WOUNDED PILOT TABLE   1D20

After each mission: Roll 1d6 and add the result to the wounded pilots Fortitude score. Then roll a Fortitude Test (1d20) against remaining Fortitude for the pilot that has been wounded, and write down the result on the Pilot record.
Any Re-rolls that has not been used in the mission can be used for this die roll.

The three columns on the right is used as a optionel rule in campaign play.
If this is in use, write down how long the wounded pilot is out of action.

		OPTIONEL RULE. See 1.5 Expanded rules		
	Effect and permanent damage	**Days**	**Weeks**	**Months**
Unmodified 1/20†	1 = "**What Doesn't Kill You...**" Roll once on the "Pilot special abilities" table. 20= The pilot dies from wound complications † This result only applies on a nature roll of either 1 or 20.	**Cleared to fly**	**Cleared to fly**	**Cleared to fly**
> -4	**A couple of stitches**, a stiff drink and the pilot is ready for action in the next mission.	**Cleared to fly.**	**Cleared to fly**	**Cleared to fly**
-5 to -6	The pilot has complications and permanently loose one point from his Fortitude score.	**Grounded**	**Cleared to fly**	**Cleared to fly**
-7	**Psychological trauma.** Every time the pilot has to roll a Fortitude test to stay in combat a -4 modifier is added to the die roll.	**Grounded**	**Cleared to fly**	**Cleared to fly**
-8	**The pilot is seriously injured** and permanently looses 2 points from his Fortitude score.	**Grounded**	**Cleared to fly**	**Cleared to fly**
-9	**I am immortal!** The pilot wrongly senses that he is protected by higher powers. He will get a +4 modifier to any Fortitude test in order to stay in the combat. He also permanently looses 2d4 from his Luck score (to a minimum of 1)	**Grounded**	**Cleared to fly**	**Cleared to fly**
-10	**Permanent complications**. The pilot permanently loose 1d6 from his Fortitude score.	**Grounded**	**Grounded**	**Cleared to fly**
-11	**Black outs!** Every time the pilot rolls a natural "1" on a piloting ability test he will faint. From the time of the die roll the plane will continue straight on its existing course as long as the pilot has blacked out. At the start of the following rounds the pilot will have to make a Fortitude test in order to regain consciousness.	**Grounded**	**Grounded**	**Cleared to fly**
-12	**One eyed.** The pilot looses one eye. Permanently subtract 3 from the Gunnery score.	**Grounded**	**Grounded**	**Cleared to fly**
-13	**Head trauma.** Permanently subtract one from Awareness, Piloting and Gunnery score.	**Grounded**	**Grounded**	**Cleared to fly**
-14+	**Paralysed.** The pilot is removed from the campaign.	**Grounded**	**Grounded**	**Grounded**

1.6 Down behind enemy lines

Rule 1.6.1 **A pilot that land behind own lines goes back to his squadron at once, A pilot landing behind enemy lines automatically becomes a POW. If a pilot land in no mans land, he must roll a Luck test to resolve what happens. The roll is modified with +5 if he has landed within 5 move units from friendly units. If the pilot is wounded the test is modified with the amount of damage he has lost in his Fortitude score. Any positive result on the test means that the pilot gets home, any negative result will mean that he will end up as prisoner of war.**

When a pilot or any air crew is forced to land in no mans land, he must roll a Luck test to find out what happens. Normally no mans land is defined by the area between the trench lines. But some missions can use another definition. One example could be missions during the german spring offensive in 1918, where the battle, at times, moved out of the trenches and the battle-field was in the open area behind the allied lines.

5.5.21 Parachutes

.. the last half inch hurts the most.

Rule 5.5.21.1 A bailout from a airplane cost two pilot actions, and is announced in the start of the moving phase. An air gunner that bails out cannot shoot or bomb in the movement phase he leaves the airplane. Crew members bailing from a airplane leave the airplane in the end of the movement phase, after the airplane has been moved.

Rule 5.5.21.2 The bailing crew member makes a Fortitude test against current fortitude to successfully bail out from the airplane. The result and modifiers to the roll is found on the Parachute table.

Rule 5.5.21.3 If the bailout was successful, The crew member will fall freely 2d6+4 move units before the parachute is deployed. If that distance is less than the distance to the ground the pilot will successfully land on the terrain directly below. If not, he will die on impact with the ground.

Rule 5.5.21.4 A pilotless aircraft where the pilot has bailed out is considered a victory by the opposing side. It is not possible to shoot at a crew member when he is descending in a parachute.

From April 1918 the German Luftstreitkräfte slowly began to issue its pilots with parachutes. The RFC and the French airforce never used Parachutes. These rules describe the use of parachutes in the game. The acquisition of parachutes in campaign games is described in the Campaign rules section. See Campaign and Missions compendium.

"It is the opinion of the board that the presence of such an apparatus might impair the fighting spirit of pilots and cause them to abandon machines which might otherwise be capable of returning to base for repair."
RFC Air board, Headquarters 1917

Example:
Reinhard Von Raben decides to use his parachute after an enemy has set his Albatros D.Va on fire. The Albatros is flying at High speed and at low altitude. Reinhard knows that if he succeed to get out of the airplane the Parachute will need 2d6+4 Move units, before it deploys, so he decides to take a chance and stay in the airplane until he gains more altitude, and a lower speed.
In the first game turn after he is set on fire, Reinhard first roll a 1d6 to see if the fire goes out, or blows his airplane up (see note " " on the airplane damage tables). He is lucky, The airplane is still on fire, but at least it didn't blow up. He now decide to use 1 pilot action to turn the airplane into a steep climb, and climb the plane as high as he can without stalling out. Then he rolls a Flying ability test to see if he can use 3 pilot actions this game turn, He succeed and therefor have the 2 pilot actions left, he need in order to perform the bailout. He now looks up the modifications for bailout. Unfortunately he can not get the first +2 bonus, because his airplane is still on fire, but since the speed of the airplane has now dropped to low speed, he gets a +2 for being at low speed. He adds the +2 to his Fortitude score and makes the Fortitude test with a 1d20. He succeeds and have now bailed out of his airplane.
He then rolls 2d6 +4 to establish how many Move units he will fall towards the ground before the parachute deploys. Lucky for him the number he rolls is less than the altitude from where he bailed out. Next game turn he will land unharmed on the ground.

Parachute	
Modifications to Fortitude test.	
If the airplane is NOT on fire or in a spin or has broken up due to a failed structural strength test or the loss of all structural strength points.	-2
The airplane is flying at Stall or slow speed.	+2
The airplane is flying at High speed or faster.	-2

Bailout result	
Fortitude test 1d20	
Successes	**Result**
0 >	The bailout is a success, move or track the "parachute" 2d6+4 move units vertical down.
-1 to-5	The pilot has trouble getting out of the aircraft. He is unable to leave the aircraft this turn. He may try again next turn.
<-6	The parachute is malfunctioned, entangled in the tailplane or is caught by fire. The crew member will fall to his death.

After movement, a Fortitude test is made,with the modifications in the Parachute table.

Descent of parachute. 2d6+4
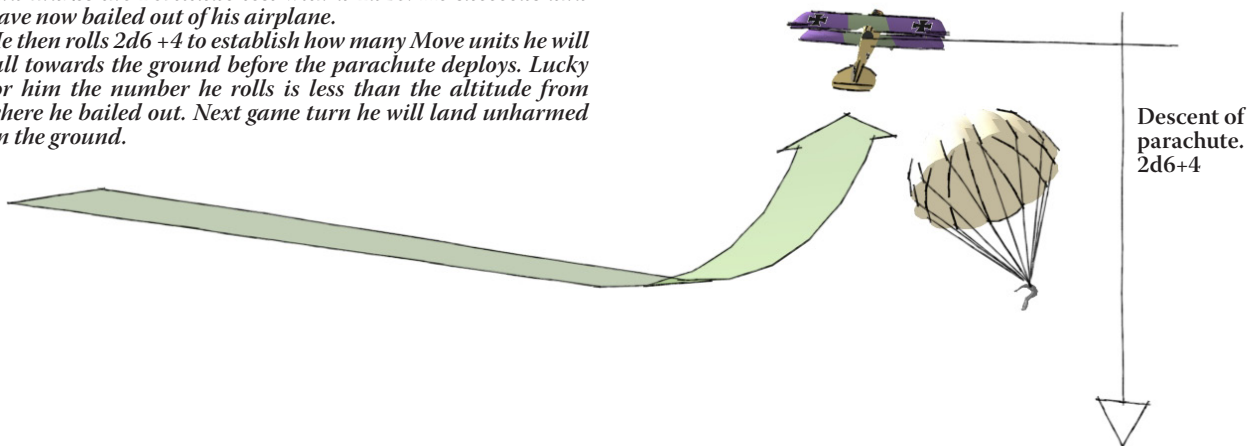
6.4 Ground to air

..meet Mr Archie and Heer Flak.

In ICOG there is two kinds of ground fire: Direct fire and barrage fire.
Direct fire is ground fire from all units armed with small arms such as rifles and machine guns. Common to all of these is that they have to take direct aim and follow their target.
Anti aircraft machine gun fire and 37mm rapid fire cannon ("Pom-Pom" and "Flaming Onions") also take direct aim before they fire.
(see 6.4.4)

AA guns on the other hand have a much longer range and operate in batteries. They fire explosive shells with time fuses set to detonate at the estimated distance to the target. As the shells travel for a longer period of time towards the targeted airplanes they don't take direct aim when firing. Instead they fire in barrages and will try to cover an airspace where the target will be. AA guns is handled different in ICOG than the direct firing weapons and units. (see. 6.4.4)

## 6.4.1 Direct fire from ground units

..They are shooting back!

Rule 6.4.1.1 **The Ground fire template define if the target airplane is within range. The different range of each kind of Ground unit is marked on the template. The Ground fire template defines the range modification. If any object besides airplanes obstruct the line of fire to the target, the shot is not valid.**

Rule 6.4.1.2 **Each Ground unit have a base to-hit equal to its Combat strength. This number is modified by range and the targets speed. A 1d20 Gunnery test is made against the units Combat strength with the relevant modifications. If the test is successful the target is hit. See damage from ground unit 6.4.2. A roll of "1" is always regarded as a hit.**

Rule 6.4.1.3 **The Modifier for the targets speed is found on "Ground units table". The modifier table is also to be found on the Ground fire template.**
(*Shown at the illustration to the right*)

Example:
A Machine gun unit fires a shot on a Sopwith Camel.
The Ground fire template is used to measure distance from the Machine gun unit to the airplane. Measurement is made from ground unit to the pilot of the target. In this case the target is in the -5 part of the template.
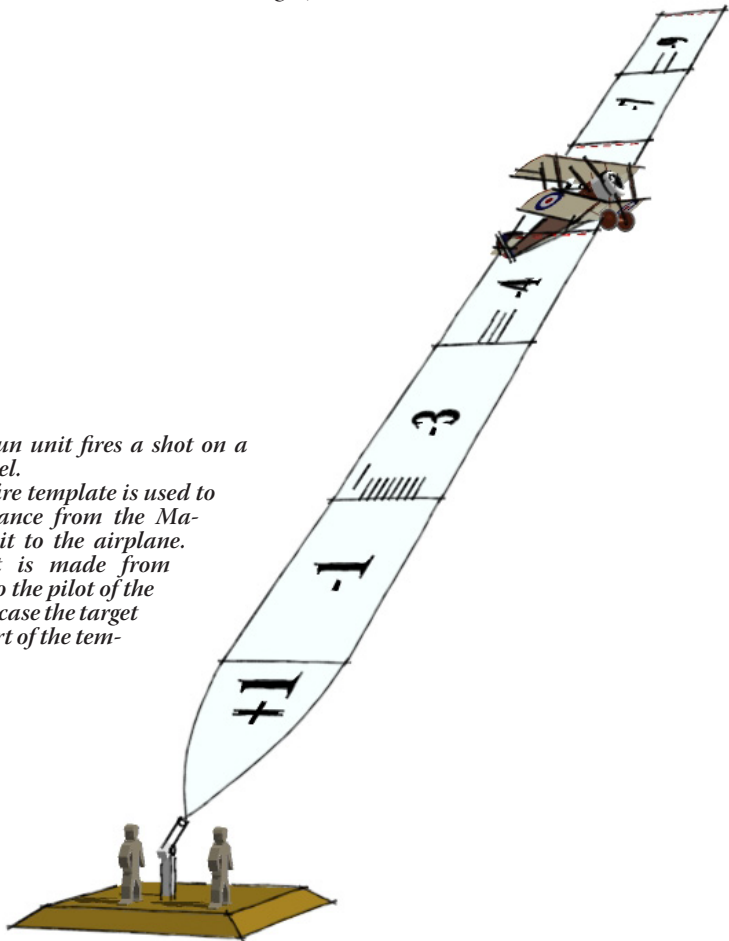
Ground fire template – not to scale.

Maximum range
37mm AA gun

-9

37 mm AA gun
Gunnery 14
Crit dice 2d8

-7

Maximum range
AA Machine gun

-5

AA Machine gun
Gunnery 14
Crit dice 1d10

Maximum range
Infantry fire

-4

Infantry unit
Gunnery 10
Crit dice 1d8

-3

Target speed:	Modifier:
Stall speed	+4
Slow speed	0
Medium speed	-2
High speed	-4
Dive speed	-6

-1

+1

Ground units.

First part is the different Combat strength, range and damage die of the ground unit. Combat strength is used both as a measure of how well the unit will shoot, and which condition it is in, meaning how much it is damaged. Damage die is the die the unit use on the damage table if it hits a target airplane.

Ground units modifier to-hit air targets.

When a ground unit is shooting on an airplane, the only modification the shot besides range, is the speed of the target. The modifier is found in this part of the table, but is also printed on the Ground fire template.

Modifiers to hit a ground unit

When an airplane is trying to hit a ground unit, the shot is modified by the airplanes own speed. If the airplane is shooting with only one machine gun, or if the gun is flexible the shot will also be modified.

Damage reduction level.

When a ground unit is being hit the damage dealt to it is always done with one or more 1d6. If the unit is behind cover or hiding it can reduce the damage it get. The damage reduction is found in this part of the table.

Ground units	Combat strength	Range	Damage die
Infantry	10	17 FE	1d8
AA Machine gun	14	22 FE	1d10
AA 37mm gun	14	30 FE	2d8
AA gun / Artillery gun	16	-	-

Ground units modifier to-hit air targets	
Target speed:	
Stall speed	+4
Slow speed	0
Medium speed	-2
High speed	-4
Dive speed	-6

Modifiers to hit a ground unit	
Attack speed:	
Stall speed	-6
Slow speed	-2
Medium speed	-4
High speed	-6
Dive speed	-10
Gun modifiers	
Only one machine gun	-1
Flexible gun mount / Air gunner	-3

Damage reduction levels	
Ground unit cover:	
In rough terrain, with some cover. Hiding in hedge row.	-1 pr 1d6
Cover on one side No mans land Sandbagged gun position.	-2 pr 1d6
Unit in Trench	-3 pr 1d6
Unit in forrest or city	-4 pr 1d6
Any unit that is covering for air attack. (No active or fighting units can get it)	-1 more pr 1d6

6.4.2 Damage from ground units
..ouch!, now they are hitting

Rule 6.4.2.1 **Each ground unit have a damage die. (see Ground unit table in 6.4.1) This damage die is rolled and added to the successes achieved in the Gunnery test roll. The damage result is found on the normal damage table for airplanes. Note that the damage die replaces the normal 1D20 roll used in air to air combat.**

Damage from ground units is done in the same way as if it was a airplane shooting on another airplane.
The only difference is that each ground unit have its own damage die, used instead of the normal 1d20 used in air to air combat. This have the effect that ground units mostly will do structural damage. But too much of that will bring any airplane down. Each ground units Damage die is found on the Ground unit ta-ble. (See illustration above)

Example:
A machine gun units shoot at a Sopwith Camel. The base shot is 9 to-hit and the unit rolls a 7. That is 2 successes. Then the unit rolls the damage on the normal damage table for airplanes with a 1d10 adding the 2 successes.

6.4.3 Anti aircraft guns

..meet Mr Archie and Heer Flak.

Rule 6.4.3.1 The AA template can be moved 10 move units in any direction, but not closer than 20 move units from its own position or 10 move units from the ground. AA template is moved as the first action in the movement phase. The AA template can be removed in the movement phase, and repositioned freely on the game board, in the next coming movement phase. The AA can not shoot while it is removed from the table.

Rule 6.4.3.2 If any airplanes is within 10 move units from the center of the AA template, it is in danger of being hit by the AA barrage. Roll 1d20 for each AA gun in the battery on the AA gun result table. If a hit is scored, randomly select what airplane within the barrage gets hit.

AA guns are artillery guns modified for shooting at air targets. One or more guns forms a AA battery. Each battery have a team of officers that calculate altitude, distance, wind velocity etc. The calculations is passed on to the crew of the gun that adjust the position of the guns and to the ammunition handlers that adjust the time fuses on the shells. The guns in a battery will try to make a barrage in a confined airspace that they predict the target will have to pass. Filling that airspace with shells will hopeful bring down one or more enemy airplanes.

In ICOG the AA gun battery can fire a barrage each game turn. This always takes place as the first action in the Gunnery phase.

The center of the barrage is marked by a Flight stand, with a AA template mounted.
Each game turn, in the movement phase the AA template can be moved up to 10 move unit in any direction, including up and down by the players controlling the AA. Use a straight move template for the move. This represent the AA gun crew adjusting the guns. This move is done as the first thing in the movement phase.

The AA template can also be removed all together from the game board in the movement phase, This will allow the controlling players to freely re-position the AA template anywhere on the game board the following round. But naturally they will not be able too shoot the game turn where it is removed from the board. This represents the gun being re-aimed and re-ranged.

The AA template marks the center of the area of barrage. The area extend in all direction from the center of the marker in a sphere with a radius of 10 move units. Any airplane, enemy and friendless, caught inside this sphere after the moving phase is in danger of being hit by the barrage.
For each gun in the battery a 1d20 is rolled on the AA gun result table.
If a hit is scored an appropriate die is used to determinate which airplane gets hit if more than one airplane is within the target sphere.

Minimum range: AA batteries can not place the center of the barrage closer than 20 move units to its own position, or closer than 10 move units from the ground

Illustration:

AA Template, not shown to scale. The graphic can be found in the ICOG Handout set, and downloaded from the ICOG home page. www.icog.dk
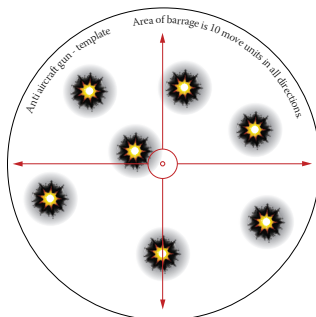
AA gun result 1d20	
1	The Gunnery sergeant got the cordinates all wrong.. The barrage is moved 10 Move units in a random direction. Use a 1d12 to find the new position. A new roll on this table is rolled for the result. Next game turn starts from the new position of the barrage.
2-18	Miss ! No targets hit
19	A shell explode close to the airplane. Shrapnel and blast wave hits the airplane. Roll a damage result with 2d10 on the Damage result table.
20	Almost a perfect hit! Roll a damage result with 1d20 + 15 on the Damage result table.

Example:
Two Sopwith camel is flying through an area with AA.
But only one of them is whit in 10 move units from the center of the barrage. The player controlling the AA gun gets one 1d20 roll on the AA gun result table vs. the Sopwith Camel.

Anti aircraft gun - template   Area of barrage is 10 move units in all directions
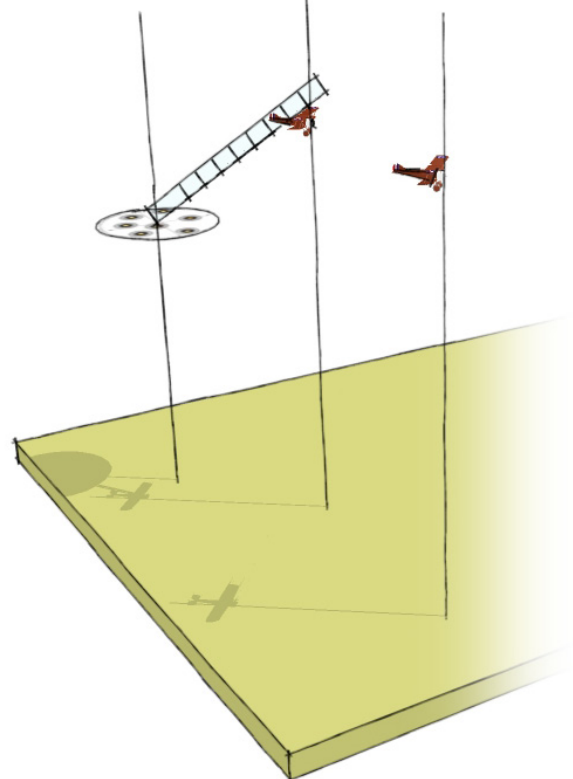
6.5 Airplanes vs Ground Units

Besides bombing ground units, all planes with machine guns can attack ground targets. This is called strafing. Most targets can be damaged by strafing, and the basic rules used are the same, whether you are attacking a locomotive hurtling along at 90 km/h or shooting up a squad of frightened troops in the trenches.

6.5.1 Strafing

Rule 6.5.1.1 **In order to strafe a ground target, the target, or part of it must be within the Air Gunnery Template. The distance modifier on the Template is always ignored for strafing purposes.**

Rule 6.5.1.2 **Modifiers to the Gunnery Skill test are found on the Ground Unit table, Modifiers for the plane's speed are also found here. Damage to a Ground unit hit by machine gun fire is always 1d6.**

Rule 6.5.1.3 **If a target is hit by strafing, it is possible to hit another target inside the Air Gunnery Template (if such a target exists). The subsequent targets are attacked at a -4 modifier to the Gunnery Skill test for each extra target. When attacking more than one target inside the Air Gunnery Template, use the rules for Sustained Firing, regarding ammunition use and chances of malfunctions. (see 6.3.6)**

Rule 6.5.1.4 **The Strafing rules are also used when attacking stationary balloons (e.g Observation balloons). When firing at balloons, it is not possible to attack more than one target in a game turn. This means that rule 6.5.1.3 (above) does not apply for attacking balloons.**

When strafing the Gunnery template is applied from the gunner or the nose of the plane towards the intended target as usual. If the target is inside the template, it is a valid target. The distance modifier is not used, as the attacker has been flying towards the target for a good part of the game turn, and the attack could be abstracted to take place along the flight path all the way from -5 down to +4 on the template.

All normal modifications for to hit apply, e.g.: the stability of the plane, use of ammunition, etc.

The to-hit roll is also modified according to the speed of the attacking airplane. The modifiers is listed in the Ground unit table (As per modifiers to the to-hit roll in 6.3.1).

After the modifiers have been subtracted from the pilot's or Air Gunner's Gunnery Skill, a normal Gunnery Skill test is rolled. If this succeeds the target is hit. When shooting at ground targets the successes is not counted, only if the shot hit or not. For damage on Ground units see 6.5.5

When strafing a ground target, sometimes more than one target is placed inside the area under the template. If the pilot or Air Gunner hits his first target, he may choose to engage an extra target using the rules for Sustained Fire. Only targets inside the template when measuring for the original target may be attacked this way. The ammunition use and chances of malfunctions are the same as for Sustained fire (see 6.3.6).
For each extra target, roll a separate Gunnery Skill Test, with an extra -4 to the Base Shot for each extra target (2nd target at -4, 3rd target at -8, 4th target at -12, etc. Ammunition use is as one sustained fire attack for all shots.
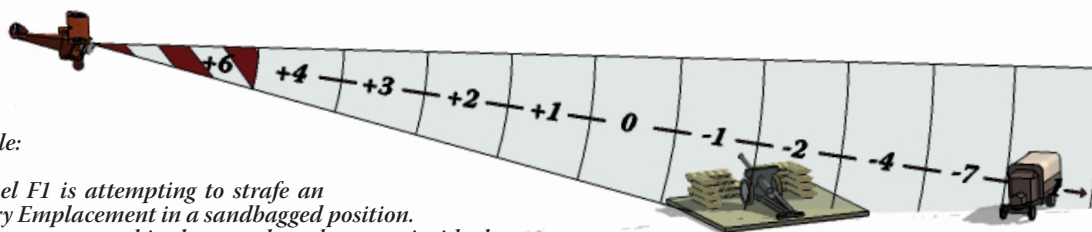
Example:

A Camel F1 is attempting to strafe an Artillery Emplacement in a sandbagged position. The pilot maneuvers his plane to place the target inside the Air Gunnery Template, and the Camel is going 185 km/h = Medium speed. The pilot looks up "sandbagged gun position" on the Ground Target Criticals Table. This gives him a -4 modifier for his own speed (Medium). In the firing phase, at the pilot's turn in the Initiative Order, the pilot rolls his Gunnery Skill Test. The pilot has a Gunnery Skill of 14, plus the aiplanes modifiere of -1, and the modifiere for the speed, -4., giving a needed roll of 9 or less to hit. The Pilot rolls a '7' Giving him a hit.

Note that no successes is transferred to the damage results. An airplane using machine guns to strafe a ground target rolls 1d6 in damage. The gun position is in a sandbagged position giving a -2 to this damage roll. The player rolls a 5, giving a total damage to the unit of 3.

As he hit his initial target, he is allowed to attack other targets under the template. Next to the gun, somebody has parked a truck. On the Criticals table, the player sees that there are no other modifiers, as the truck is stationary. The player decides to take the shot. Since this is an extra target for the pilot, there is a -4 modifier for the first subsequent target, the pilot rolls a 12, and misses the truck. If the truck had been hit, he could have chosen to attack yet another target, if any were present (this target would have had a whopping -8 modifier to hit, however). Finally the pilot crosses out one and a half box of ammunition for using sustained fire. The Ground unit, an Artillery gun rolls a save with 1d20 vs. its remaining combat strength, now down to 13.

6.5.2 Strafing balloons.

..burning kits and dragons

Rule 6.5.2.1   In order to attack a balloon with Machine guns, the balloon, or part of it, must be within the Air Gunnery template. Distance modifier on the Gunnery Template is ignored for balloon attacks. See the relevant modifiers on the Balloon shooting table.

Rule 6.5.2.2   If the Gunnery test is successful, the successes is added to a 1d20 roll, and the damage to the balloon is read of the Balloon damage table. Take note of the damage done, as it might effect the result if the balloon is hit again.

Shooting at a Balloon is quite easy, its a big target hanging still in the air. If the Balloon, or part of it, is within the Gunnery template, a attack is allowed. The Distance modifiers on the Gunnery template is not used, much in the same way as when strafing ground units. Instead the Balloon-shooting table gives the relevant modifiers in use.

Even though a balloon is an easy target, damaging the balloon is not easy. First the bullets have to rip holes in the balloon canvas and let hydrogen out to be mixed with the oxygen in the outside air. Then a tracer bullet has to hit so it ignite the explosive mix of hydrogen and oxygen.
This is why a balloon often needs to be hit multiply times to go down in flames.

To enhance the chances of setting the balloon on fire, special ammunition was developed for the job.
The English used Buckingham ammunition, the Germans Spitzgeschoss mit phosphor, and the french Devignes incendiarie ammunition. All are phosphorous incendiarie machine gun ammunition that burns white hot and Increases the chance of igniting the balloon. All of these types give a +5 on the balloon damage roll. All types of airplane can use Phosphorus ammunition. Generally incendiary ammunition was introduced in the first quarter of 1917 and gradually replacing other types of anti-balloon ammunition such as the Le Prieur rockets.

Example:
A Se5a is trying to hit a balloon, the pilot checks that the balloon is within the fire cone with the Gunnery template. Distance doesn't matter as long as the target is within the template. The pilot then find his attack speed in the table, going at 190 Km/h it is just inside "High speed" and therefore a -2 on the table. The Se5a is out of ammunition for its lewis gun on the top wing, so it is down too one machine gun, that gives a negative modifier of -1. The pilot now makes his Gunnery test with a total of -3. He succeeds with 8 successes. Now he roll the damage, 1d20 + his 8 successes, A roll of 11 makes it a 19. The damage table shows that the balloon is not dead, but it will get +10 damage, next time it gets hit.

Balloon shooting	
Modifications to Gunnery skill test.	
Stall speed	-2
Slow speed	+1
Medium speed	0
High speed	-2
Dive speed	-4
Gun modifiers	
Only one machine gun	-1
Flexible gun mount / Air gunner	-3

Balloon damage 1d20	
Damage modifiers	
Le Prieur rockets	+10
Incendiary ammunition	+5

Successes	Result
1-13	The balloon envelope takes light damage. Gas leaks mixes outside air with hydrogen: +2 on following damage rolls
14-18	The balloon envelope is hit. Gas leaks mixes outside air with hydrogen: +4 on following damage rolls
19-20	Massive gas leaks. +10 to following damage roll.
21+	The balloon envelope catches fire. The balloon is destroyed.
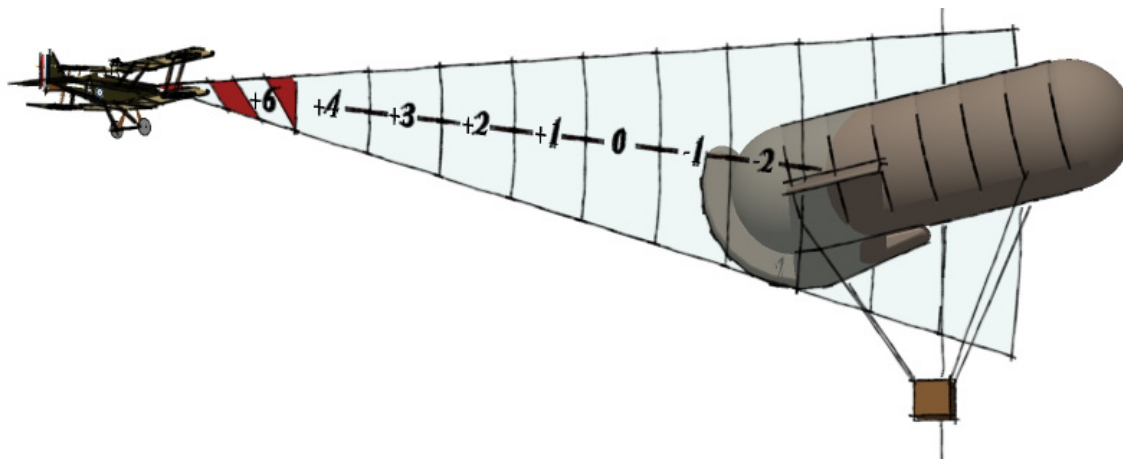
6.5.3 Le Prieur rockets.

..Swoshhh.

Rule 6.5.3.1   In order to attack a balloon with Le Prieur rockets, the balloon, or part of it, must be within the Air Gunnery Template. The distance modifier on the Gunnery Template is ignored for balloon attacks. Le Prieur rockets can not be used against airplanes.

Rule 6.5.3.2   Number of rockets hits. A Flying skill test is rolled with the modifiers in the "Rocket aim table" If the Flying skill test is successful, there is a chance that one Le Prieur rocket pr. success, achieved on the Flying skill test, will hit the Ballon. To establish if the rockets actually hit the ballon, roll a Luck test for each rocket. Make a damage roll on the Balloon damage table for each rocket hit on the balloon with a +10 modifier to the damage roll.

Rule 6.5.3.3   All rockets on a rocket carrying airplane is fired in one salvo.

Rule 6.5.3.4   Wind direction is decided at game start. Roll 4d4-4, the result is the direction the wind is coming from. Use the result as a clock direction, 12 being straight towards the allied side. Turn the balloons to face the wind direction.

Until August 1917 some allied airplane types can be equipped with Le Prieur rockets if the mission description allows it. The rockets were simple rod-stabilised rockets, in the same manner as a bottle rocket, and were fitted with razor sharp edges designed to rip a hole in the balloon envelope. After a hole was made in the balloon, the rocket exhaust would ignite the hydrogen in the balloon. The rockets were very erratic and imprecise and were fired in salvoes in order to maximise the probability of a hit.

When firing Le Prieur rockets in ICOG, the attacking pilot must do his best to manoeuvre his airplane to a optimal firing position. With the attack angle established the pilots can press the firing button, while he holds his airplane steady on the course towards the Ballon. The Le Prieur rockets will not launch immediately, and the pilot must hold his attack dive steady until the last rocket has left its mount.
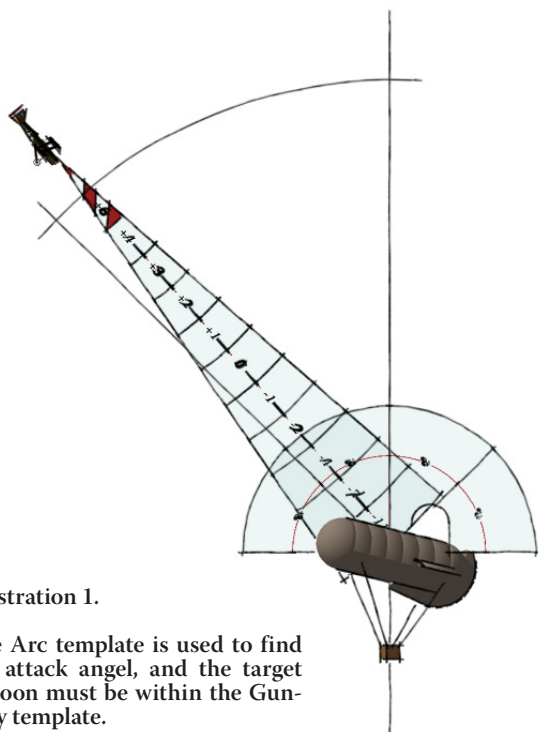
Rocket aim table	
Flying skill test - with following modifications:	
Base modification. Always apply. Le Prieur Rockets are very difficult to hit with.	-10
Speed:	
Stall speed	-2
Slow speed	+1
Medium speed	0
High Speed	-2
Dive speed	-4
Attacking from above within a 45° Degree arc	+3
Attacking from within a 45° Degree against the wind	+3
Minimum 1/2 the movement used in a straight line directly towards the balloon	+3

Illustration 1.

The Arc template is used to find the attack angel, and the target balloon must be within the Gunnery template.

All this is shown in the Flying skill test, modified by the Rocket aim table, the pilot have to roll when attacking a balloon.
The base modification always apply when firing rockets. The speed of the attacking airplane is read from the speed band on the cockpit panel.

To be a valid shot, the target balloon must be within the gunnery template after the movement of the attacking airplane. Distance modifiers on the Gunnery template is not in effect when using Le Prieur rockets. (See Illustration 1)

The attack angle modifier of +3 is earned if the attacking airplane is attacking the balloon from above, and the attack angle is within a 45° arc from vertical. Use the Arc template to check the attack angel. The centre of the Arc template is placed at the centre of the balloon, the base of the Arc template is kept level with the horizontal plane. (See Illustration 1)

If the last half of the movement of the attacking airplane is done in a straight line towards the balloon, another +3 modification is gained on the Rocket aim table. (See Illustration 2 next side)
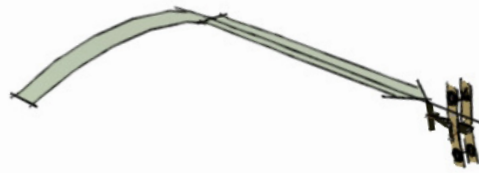
Illustration 2.

If the attacking airplane spend the last half of its move going straight towards the balloon, it gains another +3 on the Flying skill test.

Attacking against the wind will earn another +3 modifier to the Flying skill test. Use the Arc template to check the direction. The attacking airplane have to attack inside one of two 45° arcs opposite the wind direction.
See Illustration 2.

Illustration 3.

If the attacking airplane attacks within one of two 45° arcs opposite the wind direction, , it gains another +3 on the Flying skill test.

The wind direction is found at the start of the game by rolling 4d4-4. the result is the direction the wind is coming from. Use the result as a clock direction, 12 being straight towards the allied side. Turn the balloons to face the wind direction. After the modifications is found on the Rocket aim table, a Flying skill test is made. If the test is successful, count the successes. Each success is representing a rocket well aimed. If for example 4 successes is made, it means that 4 Le Prieur rockets is launched in the right direction, and will have a chance too strike the balloon. All other rockets is so badly aimed, that they will miss the balloon entirely.
This is all the pilot can do. The Le Prieur rockets is not a precision weapon, and once they are launched all the pilot can hope for is that they will fly reasonable straight and follow its original aim.
Therefore, after the numbers of well aimed rockets is found, the pilot must roll a Luck test for each rocket.
Each successful luck test, means that a rocket have hit the balloon. Roll damage for the ballon on the Ballon damage table, for each rocket that have hit the balloon, adding +10 to the roll.
See Balloon damage table in 6.5.2
Roll damage for the ballon on the Ballon damage table, for each rocket that have hit the balloon, adding +10 to the roll.
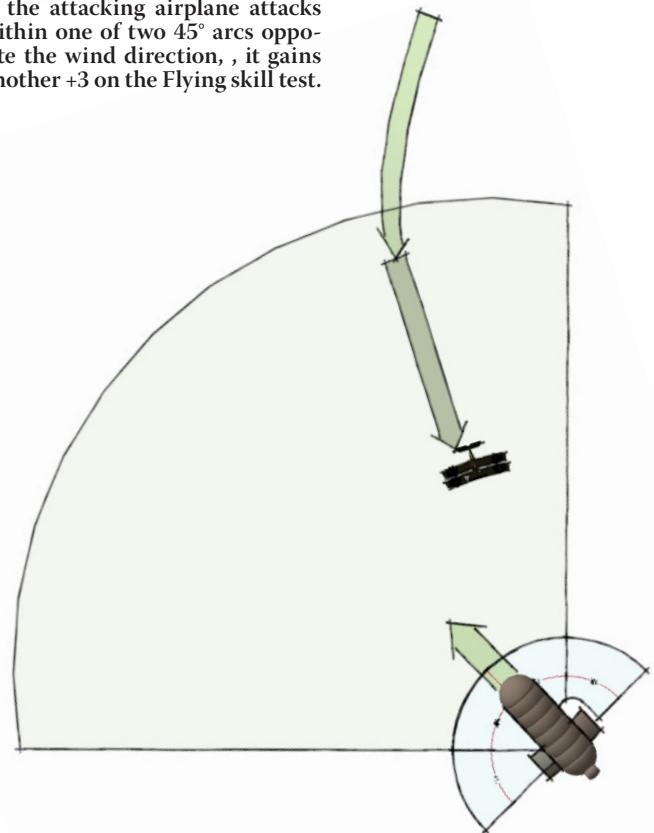See Balloon damage table in 6.5.2

"I set off for a balloon with the SPAD VII armed with Le Prieurs. When I loosed the rockets, they fired off in all directions in an impressive smoky display. When it cleared, I found myself heading for an intact balloon, the rockets had gone in every direction except at the target !"

Pierre de Cazenove de Pradines
French Pilot, August 1917.

6.5 Bombing

..bang! ..boom! .. babooom.

This section contains all rules concerning the dropping of explosive ordnance from planes. It stretches from the big German Gotha G.V bombers hurling 100 kg bombs, to fighter planes armed with a bag of hand grenades in the cockpit. There are two methods of bombing: Horizontal, where the target is overflown in level flight, releasing the bombs at the right time, and dive-bombing, where the bombs are released in a dive towards the target, and the plane hopefully pulls out of the dive in time to avoid the ground or blast effects.

6.5.4 Horizontal Bombing

..Steady... steady... Bombs Away!

Rule 6.5.4.1 In horizontal bombing the plane must overfly the target in the same game turn as the bombs are released.

Rule 6.5.4.2 Horizontal bombing can only be performed while the wings and fuselage are within 45º of horizontal at any time during the game turn where the bombs are dropped.

Rule 6.5.4.3 If nothing else is mentioned on the Cockpit Panel, the pilot's Gunnery skill is used to drop bombs from fighters and the Air Gunner/Observer's Gunnery Skill for twin-seaters.

Rule 6.5.4.4 It takes a maneuver to drop bombs. The maneuver is counted against the number of available maneuvers needed to fly the plane.

Rule 6.5.4.5 If a bomb drop results in -6 successes or worse, the bombing run is aborted. The plane doesn't drop any bombs this turn. This rule also affects dive bombing.

Rule 6.5.4.6 In Horizontal Bombing, the bombs must be released singly, one by one in a string. The pilot or Air Gunner decides how many bombs he wishes to drop before performing the Bombing test.

Rule 6.5.4.7 Altitude and speed for the Bombing Test are measured at the end of movement for the airplane in the firing step.

In Horizontal Bombing the airplane is moved normally, but the pilot must ensure that the airplane's flight path overflies the target. The airplane must be kept relatively close to horizontal during the entire game turn. This means that the airplane cannot bank or pitch more than 45º from horizontal, both left and right, up and down, at any point during the movement in the game turn.

After the pilot has completed his move, he marks a number of impact points for the bombs on the ground (use chits or pins) along his path of flight during the turn.
The first impact point along this line is selected by the controlling player and the distance between this and the subsequent impacts can be found in the Bombing Table and is based on the speed of the airplane.
This distance is the "**Bomb spacing**" in the table.

In the firing phase the crew member doing the bombing performs a Bombing test against his Gunnery Skill, using 1D20. In the bombing table the airplane's altitude is looked up first, then the speed of the airplane. The row found holds the following information:

Bomb spacing: The distance between impact points along the flight path. See illustration 1.

Deviation: The number of Movement units the bombs will deviate from the marked impact points . The direction of deviation is found by using either a scatter die (arrow indication) or 1D12, to find a clock facing relative to the direction of flight.

Successes: cross-reference with the number of successes rolled in the Bombing Test, to find the number of Movement units to subtract from the deviation distance. This cannot become less than '0' (a direct hit).
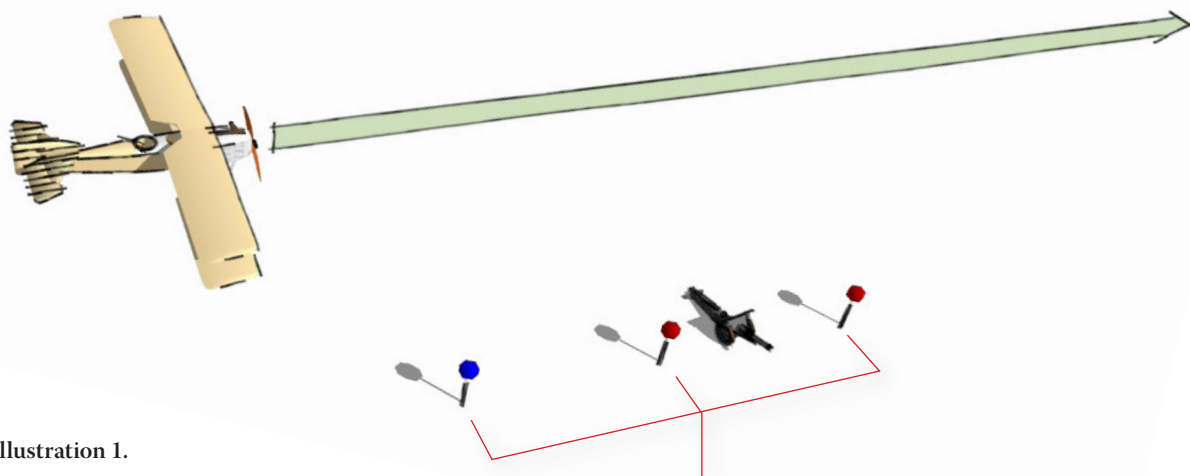

Illustration 1.

The Breguet XIV is trying to bomb a gun placement with three bombs. The pilot passes over the target in his moving phase, and place one needle along the flight path (the blue one). This needle marks the first Impact point.

The next two impact point are placed along the flight path with the distance from each other found in the Bombing table under Bomb spacing.

19

Bombing table

ALTITUDE	SPEED	Bomb spacing	Deviation from impact	-6/-5	-4/-3	-2/-1	0/1	2/3	4/5	6/7	8/9	10/11	12/13	14/15
0-5 Move units	Stall	1	1d4 Move units	0	0	0	0	0	0	1	2	3	3	4
	Slow	2		0	0	0	0	0	1	2	3	3	4	4
	Medium	3		0	0	0	0	0	0	1	2	3	3	4
	High	4		0	0	0	0	0	0	0	1	2	3	3
	Dive	5		0	0	0	0	0	0	0	0	0	1	2
6-13 Move units	Stall	1	1d6 Move units	0	0	0	0	1	1	2	3	4	5	6
	Slow	2		0	0	1	1	2	2	3	4	5	6	6
	Medium	3		0	0	0	1	1	2	2	3	4	5	6
	High	4		0	0	0	0	1	1	2	3	4	5	6
	Dive	5		0	0	0	0	0	0	1	1	2	3	4
14-23 Move units	Stall	1	1d8 Move units	0	0	0	1	1	2	2	3	4	5	6
	Slow	2		0	0	1	1	2	2	3	4	5	6	7
	Medium	3		0	0	0	1	1	2	2	3	4	5	6
	High	4		0	0	0	0	1	1	2	2	3	4	5
	Dive	5		0	0	0	0	0	0	1	2	2	3	3
24 + Move units	Stall	1	1d12 Move units	0	0	0	1	1	1	2	2	2	3	3
	Slow	2		0	0	1	1	1	2	2	2	3	3	4
	Medium	3		0	0	0	1	1	1	2	2	2	3	3
	High	4		0	0	0	0	0	0	1	1	1	2	3
	Dive	5		0	0	0	0	0	0	0	0	1	1	2

Successes - Result is deduced from deviation rolls. (success columns span -6 to 15)

Horizontal bombing Example marked in red   *Dive bombing Example marked in blue*

If the bombing test resulted in -6 successes or worse, the bombing run was so bad that the crew member dropping the bombs can decide that no hits could be achieved, and that it would be better to come around again for another attempt. No bombs are then dropped. Working from the impact points found in the movement phase, it is now possible to determine where every single bomb will actually impact. For each bomb the die indicated in the Bombing Table under Deviation is rolled, and the success modifier is subtracted. The result cannot be less than '0' (a direct hit). The direction of the deviation is found by using a scatter die or 1D12 to find a clock facing (12 is straight ahead in the direction of flight, 3 is to the right, 6 is back in the direction of flight, etc.).

Example:

A Breguet XIVb2 is attempting to hit an artillery emplacement. Before rolling the Bombing Test, the player announces his intention to drop 3 bombs on his bombing run.
At the end of the movement 3 impact points are marked on the game board along the flight path. The player places the first impact point some distance before the target, to have a chance of both the first and second bombs hitting the target. The remaining 2 impact points are placed in a row on the ground, along the flight path for the bomber.
The distance between the impact points is found in the Bombing Table, by looking up the Bomber's altitude of 15 movement units and speed of 175 km/h equal to "Medium" speed. The "Bomb spacing" is for medium speed 3 movement units.
In the firing phase the bombing test is rolled at the Air Gunner's place in the Initiative Order. The Gunner has a Gunnery Skill of 14, and the roll is '4'. this gives a result of 10 successes (quite a good drop!).
On the Bombing Table, indexing an altitude of 15 and Medium speed gives a success modifier of 4. this means that 4 will be subtracted from the deviation distance roll for each bomb.
In the Bombing table the player finds that the die used to roll for deviation distance from impact is 1D8.

1. Bomb   2. Bomb   3. Bomb
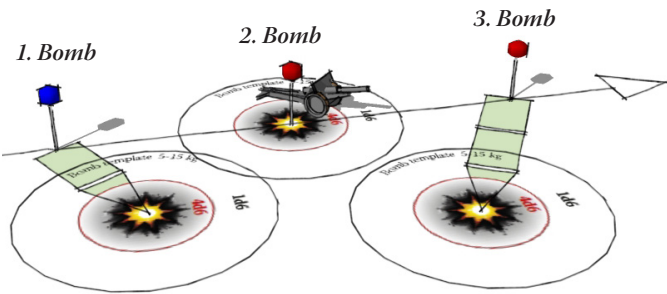
For the first bomb the deviation rolled is 6, minus the success modifier this becomes a deviation of 2 movement unit, the direction of deviation from the marked impact point is found with the 1d12, and result in 2 o'clock.

For the second bomb the deviation rolled is 4, minus the success modifier of 4 this becomes 0, and as the bomb hits directly on the marked impact point, no direction roll is needed. - a direct hit on the artillery emplacement!

For the third bomb the deviation rolled is 7, minus the success modifier of 4 this becomes a deviation of 3 movement units, the direction of deviation is 4 o'clock.

6.5.4.2 Dive Bombing

Small trees, Push stick forward. Big trees, pull stick back

Rule 6.5.4.1   **When Dive Bombing the plane must point directly at the target, and be inside the Gunnery Template.**

Rule 6.4.2.2   **A maximum of 4 bombs can be released in a single dive bombing run.**

Rule 6.4.2.4   **When dive bombing the pilot's Gunnery Skill is always used.**

When Dive Bombing, the pilot moves his plane as normally, but must end his movement pointing directly at the target, inside the distance of the Air Gunnery Template.
Dive Bombing consists of the pilot using the entire airplane to aim, and releasing all his bombs at once. However no more than 4 bombs may be dropped in one game turn.
This method is primarily used by fighters, the twin seaters that are able to use this method will have this noted on their Cockpit Panels.
The Dive Bombing Table is used just like the Bombing Table. However only one impact point is placed. All dropped bombs will deviate from this point, so the Bomb Spacing Interval is ignored.

Example:
A Camel F1 is attempting to hit an Artillery emplacement by Dive Bombing. The pilot maneuvers his plane so that it points at target, just inside the Air Gunnery Template. Before rolling his Bombing Test, the player announces that he will drop 3 bombs in this pass. The camel is traveling at 185 km/h equal to "High" speed. at an altitude of 7 movement units at the end of its movement. At the end of its movement an impact point is marked on the ground, inside the Air Gunnery Template. In the firing phase, at the pilot's place in the Initiative Order, the bombing Test is rolled:
The pilot has a Gunnery Skill of 15 and he rolls a 12, giving him 3 successes.
On the Bombing Table for an altitude of 7 and "High speed" 3 successes gives a success modifier of 1, to be subtracted from the deviation distance of each bomb. The deviation distance is determined by rolling 1D6.
For the first bomb, the distance rolled is 5, minus the success modifier this gives 4. The direction of deviation of the impact point is found with the 1d12, and result in 2 o'clock.
For the second bomb, the distance rolled is 3, minus the success modifier this gives 2. The direction of deviation is 11 O'Clock.
For the third and final bomb, the distance rolled is 1, minus the success modifier this gives 0. A direct hit. No direction of deviation is rolled for a direct hit.
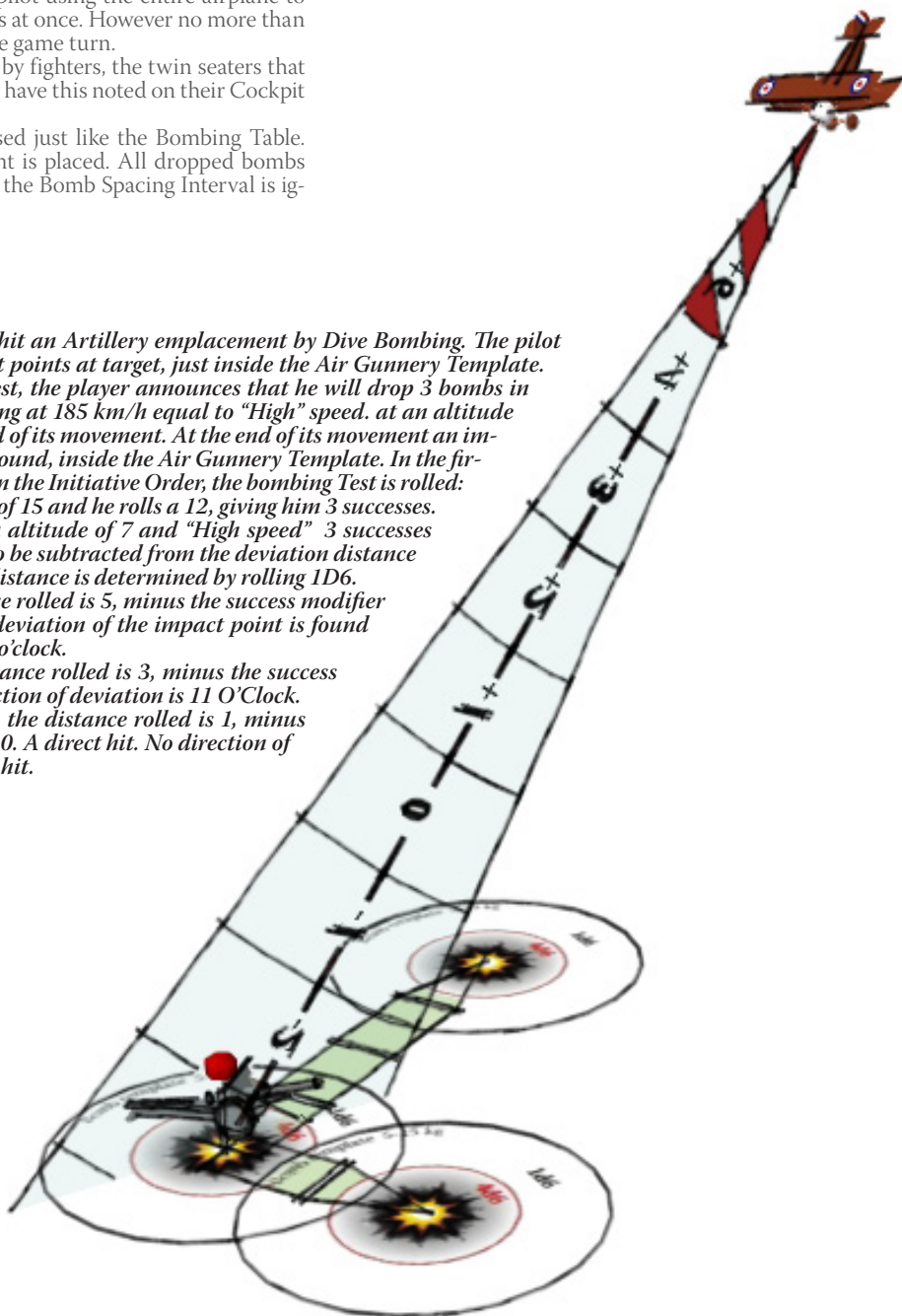
6.5.5 Damage on ground units

We are out of bombs!, well then throw the darts!..

Rule 6.5.5.1   If a Ground unit is hit by machine gun fire or bombs a number of 1d6 damage dice is rolled and subtracted from the Ground Units Combat strength score. The ground unit most roll a successful Combat strength test against remaining Combat strength to survive with 1d20.
A ground unit whose Combat strength is reduced to zero or less is likewise considered eliminated.

Rule 6.5.5.2   Bomb damage can be read on the Bomb Templates. The part of the target closest to the center of the template determines the level of damage. Machine gun fire is always 1d6.

Rule 6.5.5.3   Units that is in cover or has amour protection can reduce the damage of a hit dice, this is called the "damage reduction level". The damage die result for each die rolled is reduced by the damage reduction level. If this reduces the die roll on that individual die to zero or less the die is removed from the damage result.

When a ground target is hit by Machine gun fire, one 1d6 is rolled for damage, if bombs hit a ground target a number of 1d6 damage dice is rolled. The result is subtracted from the Ground units Combat strength. The Ground unit roll a save test against the remaining Combat strength. If the test is successful the Ground unit survives the attack. 1 or 2 six sided dies is placed next to the Ground unit to track the damage to the unit. The damage will affect the units Combat strength for the rest of the game.
If the units fails its save test or its Combat Strength reaches 0 (or lower) it is considered to be eliminated for the purposes of this game and is removed from the game-board and victory points is scored as dictated by the Mission brief.
Ground units can be protected by different kinds of cover, amour or maybe they are just crouching low in a shell hole. On the Ground unit table a list of these modifiers is found. This number is a reduction from each 1d6 die a ground unit is hit by, possibly negating the damage die by reducing it 0 zero. If a ground unit that has taken a hit, reduces more damage points than the amount rolled, so it ends up not taking any damage, it is not considered as a hit and will not have to roll a save test against the remaining Combat strength.
Bomb damage
The level of damage is printed directly on the Bomb Templates. Each template is divided into 2 or more damage area, see the illustration, but note that the templates are bigger in real life.
The further from the center of the template the less damage is taken from the blast. A target does not have to be completely covered by a damage area to take damage. It is always the highest level of damage that will be applied to the target.

Example :
Bombs weighting 10 kilos have impacted close to a small Artillery Battery in a sandbagged position. The first bomb did not hit anything. The gun touches the center of the second bomb template, for the full 4D6 points of damage on the Ground Target. As the gun is in a sandbagged position, two points is negated from each damage die. The die roll end up at: 5 (3) , 3 (1) 2 (0) and 5 (3) for a total of 7 points of damage on the Gun position. This damage value is subtracted from the Combat value of the gun which starts at 16. The owning player then has to roll a save test against the remaining 9 points of combat strength. If the test fails the gun is considered eliminated.

The other gun touches the outer damage area on the template from the third bomb, for 1D6 points of damage on the table.
This die ends up on a 3, minus the Damage reduction level of 2, a total of one point of damage subtracted from the original 16 and the owning player has to make a save test against 15.
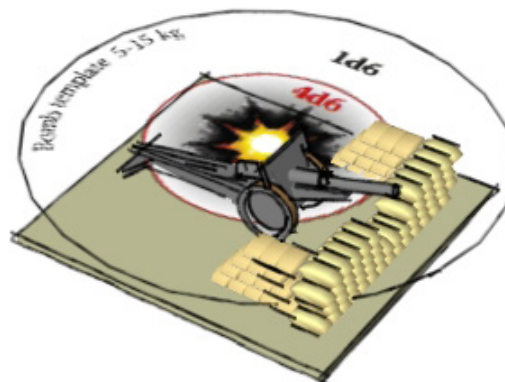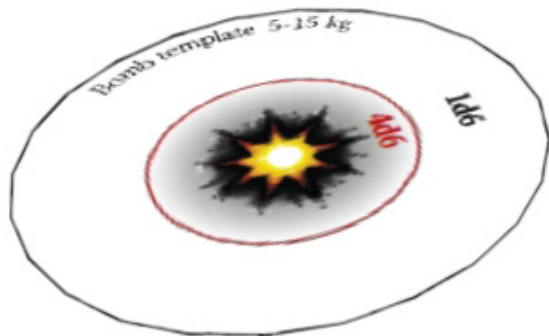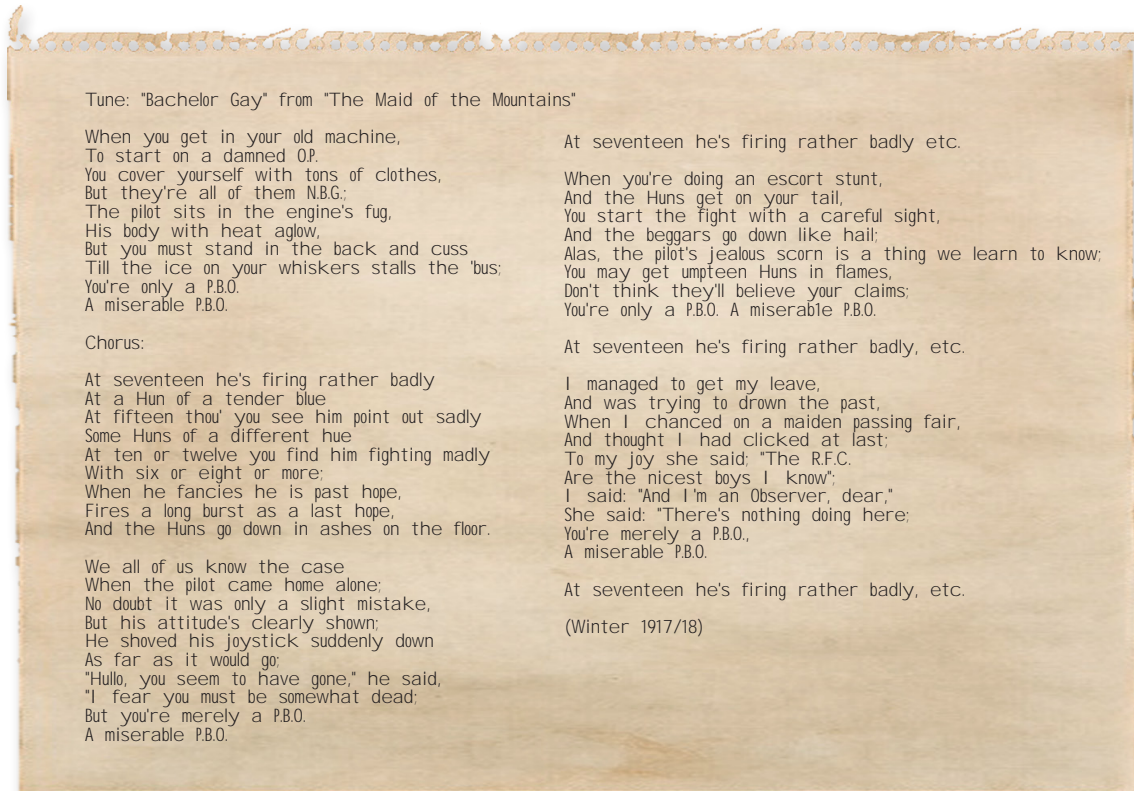
6.6 Observer tasks
The very reason airplanes became part of warfare..

This section deals with the mundane, but very valuable tasks of the observers on the two-seater planes. Often, these tasks will take place outside of gameplay and usually a mission will deal with a two-seater trying to get to or from a mission area safely. This section addresses this situation during a game

where an observer has to perform tasks other than defending the airplane.
Generally, the observers Awareness attribute is used as the base "Observer skill" used for various tasks. This could be a spotting test or an artillery direction test.

Tune: "Bachelor Gay" from "The Maid of the Mountains"

When you get in your old machine,
To start on a damned O.P.
You cover yourself with tons of clothes,
But they're all of them N.B.G.;
The pilot sits in the engine's fug,
His body with heat aglow,
But you must stand in the back and cuss
Till the ice on your whiskers stalls the 'bus;
You're only a P.B.O.
A miserable P.B.O.

Chorus:

At seventeen he's firing rather badly
At a Hun of a tender blue
At fifteen thou' you see him point out sadly
Some Huns of a different hue
At ten or twelve you find him fighting madly
With six or eight or more;
When he fancies he is past hope,
Fires a long burst as a last hope,
And the Huns go down in ashes on the floor.

We all of us know the case
When the pilot came home alone;
No doubt it was only a slight mistake,
But his attitude's clearly shown;
He shoved his joystick suddenly down
As far as it would go;
"Hullo, you seem to have gone," he said,
"I fear you must be somewhat dead;
But you're merely a P.B.O.
A miserable P.B.O.

At seventeen he's firing rather badly etc.

When you're doing an escort stunt,
And the Huns get on your tail,
You start the fight with a careful sight,
And the beggars go down like hail;
Alas, the pilot's jealous scorn is a thing we learn to know;
You may get umpteen Huns in flames,
Don't think they'll believe your claims;
You're only a P.B.O. A miserable P.B.O.

At seventeen he's firing rather badly, etc.

I managed to get my leave,
And was trying to drown the past,
When I chanced on a maiden passing fair,
And thought I had clicked at last;
To my joy she said; "The R.F.C.
Are the nicest boys I know";
I said: "And I'm an Observer, dear,"
She said: "There's nothing doing here;
You're merely a P.B.O.,
A miserable P.B.O.

At seventeen he's firing rather badly, etc.

(Winter 1917/18)

6.6.1 Observation
What is the color of their uniform ?, ..ehmm.. mud colored?

Rule 6.6.1.1   **To make a positive identification of a ground unit the observer must make an Awareness test. The test is modified by the range from the airplane to the ground unit to be observed. The modifications are found on the Ground fire template using the range and modifications for the 37mm AA gun. If the test is successful, the observer has noted the identity and position of the infantry units.**

Rule 6.6.1.2   **The observer may try to observe up to 3 different ground units every turn. The Awareness test for each additional ground unit that the observer attempts to identify in the same round is subjected to a cumulative -2 modifier for each additional ground unit. The observer cannot perform any other task while observing.**

In contact patrol and command plane missions, the task of the observer is to spot and identify ground units on the ground and radio their positions to HQ. The observer can observe more than

The mission played can state other modifiers that may apply, making the test harder in cases where the units to be spotted are scattered or concealed or easier in cases with large or concentrated units or easily spotted units such as tanks in the open or artillery units that are firing.

Example: An observer is trying to identify 2 infantry units in the same round. In addition to distance modification, he gets a -2 modifier for each Awareness test. Had the observer tried to observe 3 infantry units in the same round, he would have had a -4 modifier to the Awareness test.
Range modification is added individually to each test. Successfully observed ground units are marked with a pin board pin or other marker on the game board.

6.6.2 Photo reconnaissance

Hold it steady !, I'm trying to take a picture!..

Rule 6.6.2.1 In order to take a picture (or series of pictures), the plane has to move its full move allowance in a straight line and maintain altitude while it passes over the target area defined by the mission.

Rule 6.6.2.2 The observer cannot perform any other actions while operating the camera. The photo run is announced when the plane is moved, and the Observer may not operate the machine gun during the photo run, as his attention is focused on operating the camera and not on attacking enemy airplanes.

These rules cover the use of cameras during a mission. These rules only provide a framework, as the mission description will often describe special conditions regarding taking recon pictures during a mission.

Normally, the observer operates the camera, and he guides the pilot on a course over the area to be photographed. A notable

exception was the British BE2 airplane, where the pilot operated the camera while at the same time piloting the plane.

The mission description will typically describe a target or number of targets to be overflown and photographed, as well as an altitude range the plane needs to be within in order to meet the mission criteria.

6.6.3 Radio and air drops

This is radio Harry Tate, direct from the western front..

Rule 6.6.3.1 Radio transmissions. Sending a radio message takes a full game turn, and the observer cannot perform any other tasks while sending a message. If the observer´s airplane is attacked while sending a message, the message is aborted, and the observer will have to try again next game turn.

Rule 6.6.3.2 Message and supply drops. Message drops are executed using the Horizontal bombing rules in section 6.5.4.1. The mission will state a minimum proximity in Move units for the drop to be successful. Supply drops must be performed at an altitude of 8 or less Move units.

Several mission types will call for a Recon plane to send back messages in order to report on troop positions or to direct artillery onto a target. Generally speaking, from mid-1916 onwards, one-way radios using Morse code were used onboard spotter airplanes for this task. When collaborating with artillery, the receiving command post or battery replied with coloured panels visible from the airplane. In cases where the radios were used on a command or contact plane observing troop movement and positions during battle, the plane had no way of knowing if the receiver station had received the message. The observers used a standardised code system in order to convey information in a short message that could be sent wearing thick gloves while on a moving plane.

As the radios at the time were unreliable, you can, when designing a mission, balance the scenario if needed by adding a transmission roll where, for example, a roll of 1-2 on 1d6 means

that the signal is not received.
A mission should also state an acceptable proximity; for example, a radius of 5 Move units to the recipient unit in order for the drop to be successful.

On several occasions during the more fluid land war in 1918, both German and RAF two-seater aircraft were used to drop ammunition and supplies to isolated troop units.

Supply drops that are dropped from more than 8 Move units are considered damaged on impact.

Another earlier method was to drop the message in a small container fitted with a coloured streamer. A message container usually does not have a maximum altitude from which it can be dropped .

6.6.4 Artillery spotting

..two clicks to the left, yes that´s right, what?, no not right i said left.

Rule 6.6.4.1   The Radio message Correct aim can only be sent in the shooting phase, and Rule 6.6.3.1 Radio transmissions is applied. An Awareness test is rolled, and the result, affecting the Deviation roll, is found on the Artillery spotting table. The change to the Deviation roll is in effect from the next artillery ranging shot in the next Game turn's shooting phase.

Rule 6.6.4.2   The Radio message Fire for effect can only be sent in the shooting phase, and Rule 6.6.3.1 Radio transmissions is applied. No test is rolled, and no change to the Deviation roll is made. The artillery will fire all guns at the target using the last known amount of dice in the Deviation roll, starting from the next Game turn's shooting phase and continuing for the rest of the game.

Rule 6.6.4.3   One Deviation roll is rolled every time the artillery fires. The result is the deviation in move units from the Aim point to the Deviation point. The direction from the Aim point to the Deviation point is random. All artillery shots will also scatter 1d10 from the Deviation point. Artillery fires one ranging grenade each game turn from the start of the game until a Fire for effect radio message is received. After that, they will fire all guns in the battery at the target using the last known Deviation roll starting from the next game turn's shooting phase and continuing for the rest of the game. If the mission description does not state otherwise, the 15-30kg bomb template is used for Damage effect, and battery size is four guns; when shooting all guns, use rule 6.5.5 Damage on ground units.

A major role for the two-seater was to direct artillery onto planned targets and later in the war when radios were carried, also to identify targets of opportunity and direct artillery onto these targets.

These rules provide an abstracted perspective of artillery direction in the sense that the time used for directing an artillery fire mission was much longer than could be represented within a normal ICOG game. The rules, however, still provide an opportunity for some fun missions. These rules only cover artillery direction via radio, as the early method was based on repeatedly flying back and forth between the target and the artillery battery and dropping correction information to the battery via a dropped message and then returning to the target to watch the fall of the shells.

In ICOG, an observation airplane flying as a spotter for the artillery can send two kinds of radio messages; one is the message called Correct aim, and the other is Fire for effect.

To decide where the artillery rounds are hitting, the following definitions are used:

Aim point   The point at which the artillery is aiming

Deviation point :   The point at which the guns are actually trained . This point is decided by rolling the deviation roll.

Deviation roll :   A pool of ten sided dice that decides how large the deviation from the Aim point is and where the Deviation point each turn will be. The Deviation roll is 6d10 at the start of the game but can be lowered during the game if the Spotter does a good job.

Scatter: The random imprecision from the Deviation point where the round or rounds actually hit. This point is found by using 1d10; the result is distance in Move units, and direction is shown by the pointed end of the dice face.

The artillery will fire ranging shots to make sure they are on target before they let the whole battery fire. The spotter airplane's job is to observe where the shots are hitting, and if off target, they can radio a Correct aim message to attempt to correct the aim of the artillery. When the observer is satisfied with the aim of the artillery, he can radio a message named Fire for effect, and the artillery will let all the guns in the battery fire using the last known coordinates.

In the game, the coordinates at which the artillery is aiming are represented by an Aim point marker, usually a needle, placed by the player controlling the observer airplane. The Aim point marker is placed at the start of the game. All artillery ranging shots are measured from this Aim point. The shot will initially deviate from the Aim point marker by 6d10 in a random direction. These six dice represent the base inaccuracy in the artillery's aim and is called the Deviation roll. The spotter airplane's mission is to correct the artillery's aim and thereby reduce the amount of dice in the Deviation roll. The fewer dice in the Deviation roll, the closer the artillery will hit to the target. This is done by sending a Correct aim message.

Message: *Correct aim*
A Correct aim message is sent over the radio in the shooting phase. When sending the message, the observer has to roll an Awareness test on the Artillery spotter table. The test can be modified
by circumstances that make the observer's job difficult. These modifiers are found at the top of the table. A good test result will mean that the number of dice in the Deviation roll is reduced, and the next shot from the artillery will have a greater chance of hitting the target. A really bad result will, on the other hand, add dice to the Deviation roll. The Correct aim message is sent in the shooting phase, and the result will affect the next artillery shot, coming next game turn in the shooting phase.

Message: *Fire for effect*
When the observer is satisfied with where the artillery is landing, or when the Deviation roll is reduced to a level that satisfies the player, then he can send the message Fire for effect. The artillery will now not only fire one shot but let the whole battery fire; usually that will mean 4 guns, but the mission description can dictate another number of guns or size of battery. The shots will be resolved using the Deviation roll. The spotter airplane's job is now done, and it can no longer change the Deviation roll. Each game turn during the rest of the game, the battery will fire a full barrage against the target.

Shooting phase
Artillery spotting

How to resolve artillery fire.
The artillery will fire in the first part of the shooting phase before the spotting plane can send its Correct aim message. The Aim point marker represents the spot at which the artillery is aiming . For the initial turn, roll 6d10 for the initial Deviation roll. For subsequent turns use the number of Deviation roll dice determined by the Artillery Spotting Table. The result is the distance in Move units the shot will land away from the Aim point marker. The direction from the Aim point will be random each turn, and the easiest way is to designate one of the dice to mark the direction by using the pointed end of that dice, Roll the dice directly on the game board near the target in order to better transfer the die results to the board. This new position is the Deviation point; from this point, the grenade will scatter with 1d10 move unit in a random direction. When the actual location where the grenade is hitting is now found, a 15-30kg bomb template is used to see if any damage is done. See 6.5.5 Damage on ground units.

When the Fire for effect message is sent, the Artillery will fire with all guns. This is resolved in the same way as before, but notice that each grenade will deviate 1d10.

Using artillery spotting in a mission.
These points are worth considering if the artillery spotting rules are used in a mission:
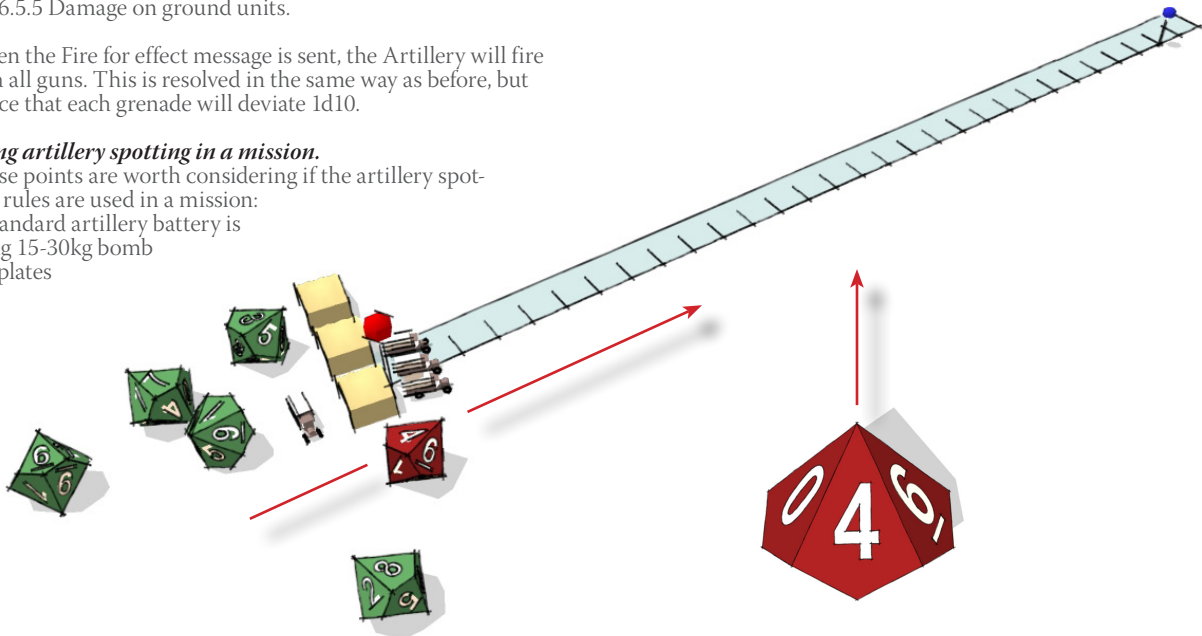A standard artillery battery is
using 15-30kg bomb
templates

and has 4 guns in each battery.
Heavy guns will use 31-50kg bomb templates. The size of grenades and number of guns in a battery have to be balanced with the size and number of targets. Also consider how many targets have to be taken out before the mission is considered a success.

Example: A RE8 spotter plane is trying to call artillery down on a supply depot. The artillery is already firing ranging shots when the game begins. The Deviation roll at the start of the game is 6d10, so the ranging shots are falling far from the target. The player that controls the RE8 is rolling the dice for the artillery fire. Since the Deviation roll is at 6d10, the player takes six ten sided dice, five green and one red. The player decides to use the red die to define what direction the artillery will deviate. The player rolls the dice directly on the game board near the target in order to better transfer the die results to the board.

Illustration. 1 The player has rolled a deviation roll totalling 29, The red die shows the direction of the deviation. The red pin is the Aim point, and the Blue pin is the Deviation point.

Illustration 2
Here it is shown how the pointed end of the die is used as an "arrow" to dictate the direction of the Deviation.
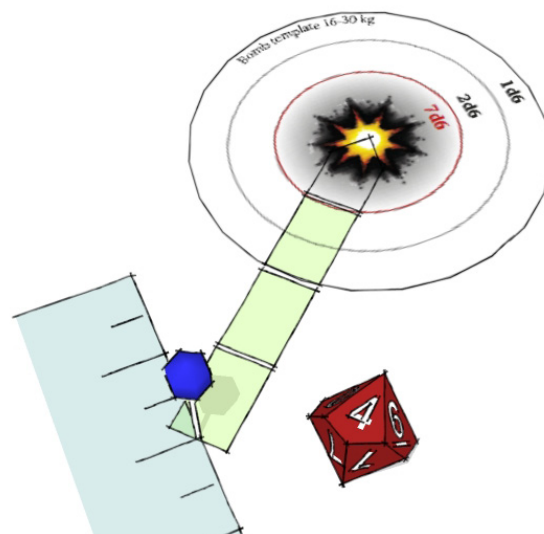
The total sum of the six dice is 29,so the Deviation is 29 Move units in the direction the red die showed. The player now places a blue pin at that point; this is now the Deviation point, where the grenade will scatter (see Illustration 1). Another 1d10 is now rolled for the single grenade and its scatter from the Deviation point. The player uses a 15-30kg bomb template to see if anything is hit. See Illustration 3.

ARTILLERY SPOTTING TABLE

The artillery have an Aim point they aim for. From this Aim point the shot will deviate 6d10 each game turn they fire, called the Deviation roll. For each game turn the observer can deliver a *Correct aim* radio transmit, he get one roll on this table. A good result will deduce dies from the original 6d10 Deviation roll.
And thereby enhance the chance of the artillery shot to hit.

Awareness test modified by :	
If the observers airplane is under enemy fire (not counting ground units)	Automatically -10 to -6 result.
If the observers airplane is during any maneuverers	-2
If an enemy airplane is inducing stress zones on the observers airplane, the modifiers apply to the Awareness test as well.	-2 to -6
Distance to Aim point. (measured in a straight line)	-1 for each 10 Move units

|	
-16 +	The artillery fully misunderstood the radio transmit. Add 2d10 dies to the Deviation roll
-15 to -11	The artillery is unsure of the transmit they receive, but instead of giving up they just make a wild guess. Add 1d10 die to the Deviation roll
-10 to -6	Either the transmitter is malfunctioned or the artillery unit didn't get the message.. But the artillery shot is fired using last turns coordinates. No dies is removed or added to the Deviation roll.
-5 to 10	Very well, the aim is moving in the right direction. Remove 1d10 die from the Deviation roll.
11 +	Perfect fire control. The artillery unit reacts fast, and adjust their aim. Remove 2d10 from the Deviation roll.

After a couple of game turns, where the artillery have not hit anything, the RE8 is now closer to the target. The observer decides to start sending radio corrections back to the artillery. He announces what he is doing in the movement phase, and in the shooting phase, the Observer makes his Artillery spotting test using 1d20 against his Awareness score of 14. He adds the modification in the top of the table, and since noone is shooting at him, it's only his distance from the Aim point that counts. He is 26 move units away from the Aim point, so that is -3 to the test. He scores a result of 5 successes.

Cross-referencing to the Artillery spotting table, he sees that 5 successes allow him to remove 1d10 from the starting pool of 6d10 in the Deviation roll. The next Deviation roll will now be rolled using 5d10.

Next game turn, he does the same and scores 12 successes!, The Deviation roll is now down to 3d10, and the ranging shots from the artillery are getting closer and closer to the target. Two game turns later, the Observer has managed to get the Deviation roll down to 2d10, but the enemy fighters are getting closer, so it's time to go home. He now sends his last radio transmit, the Fire for effect message. Starting from the next game turn's shooting phase, the artillery will now fire with all four guns in the battery and continue for the rest of the game. The observer crosses his fingers and hopes that with a little luck, they will hit the target, although he didn't remove all the dice in the Deviation roll.

When the observer rolls for the four guns, the procedure is the same as with only one shot.
First a Deviation roll; now it's down to 2d10. He rolls a total of 5. The red die shows the direction of the deviation.
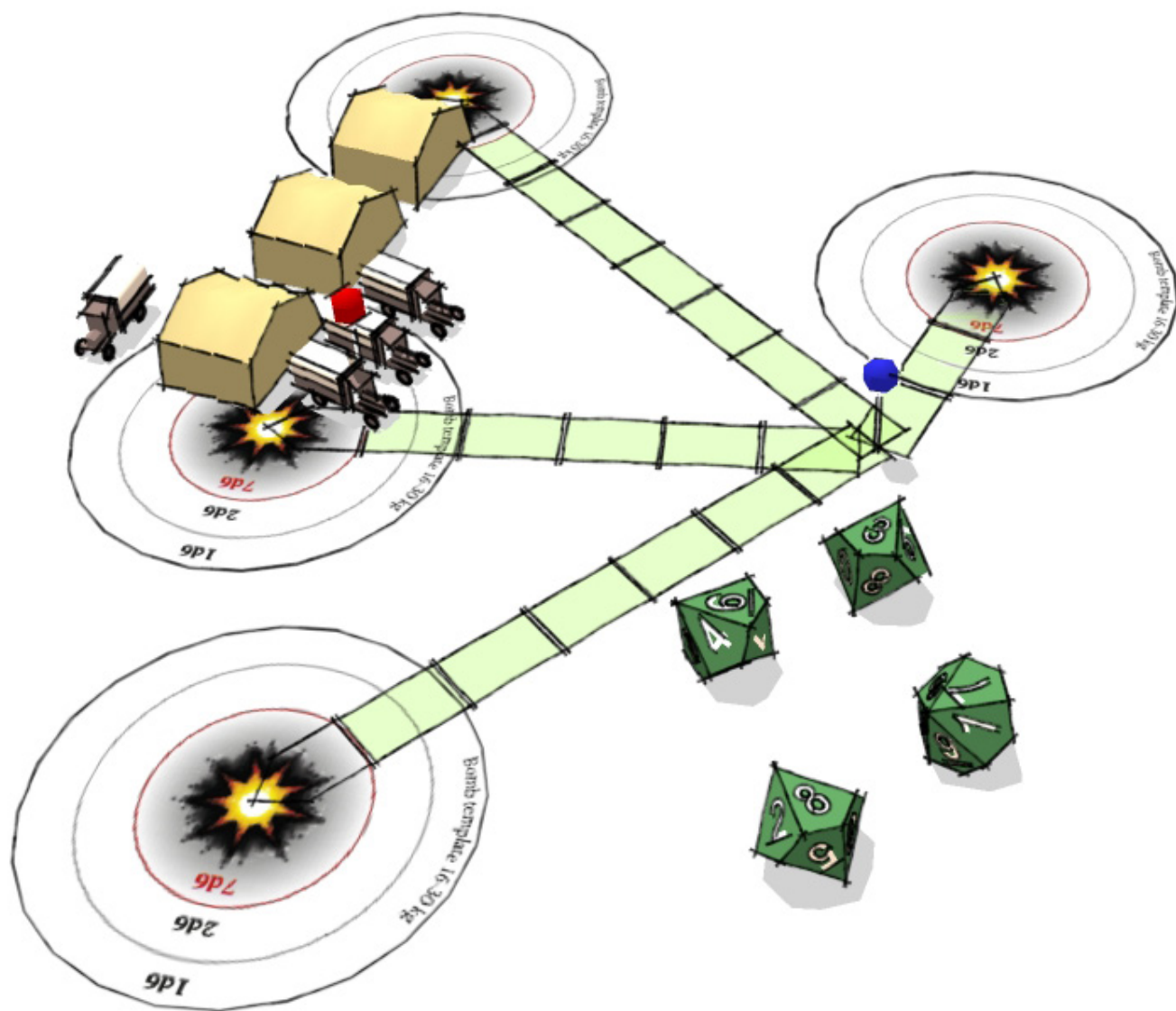*See illustration 4.*

Illustration 4
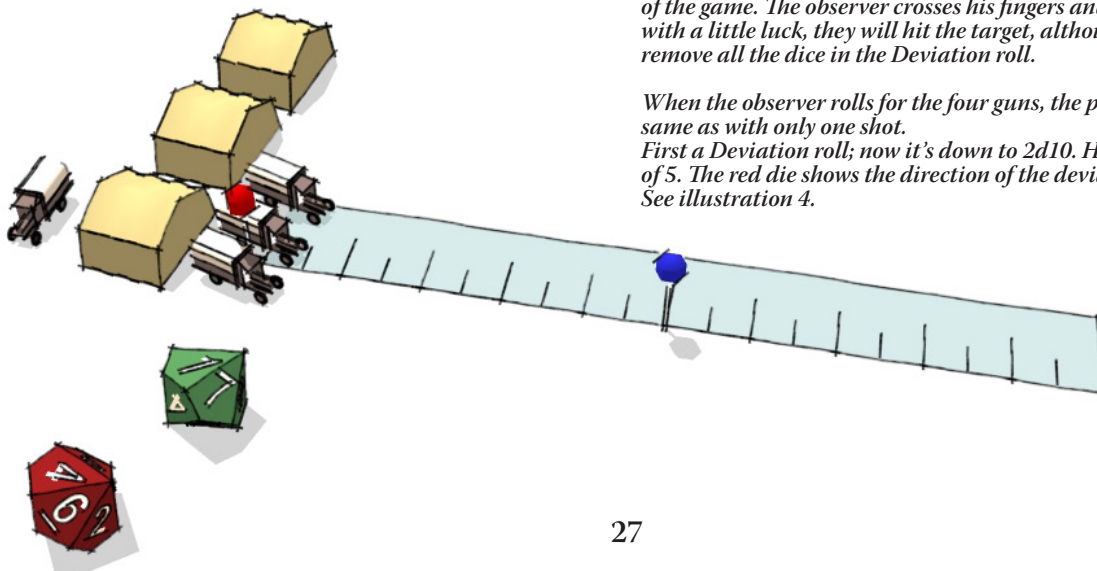
He then rolls 1d10 for each grenade, letting each die show the deviation and direction for that grenade by using the pointed end of the die.

At least one truck, maybe two is down, and two tents are hit, as well! See 6.5.5 for damage on ground units.

In Clouds of Glory is a miniature air wargame that can be played by 2 to 8 players at a time.
It is a game that puts the player in control of one or more Pilots,
fighting out the air war of the first world war.
It differs from most other games in the same genre in that it is truly 3 dimensional.
A small model airplane mounted on a flight stand, depict the airplanes actually position and attitude.
Each airplane then has its own "Cockpit", represented with the Cockpit panel, showing an
air speed indicator and various limits for the airplanes capability. The Cockpit panel is also
holding the individual Pilot records, that shows the skills of the Pilot.