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| Total Gun Factors | Range in Hexes | | | | | |
|-------------------|----------------|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 1-2 | 1 | 0 | -1 | -2 | -3 | -3 |
| 3-4 | 2 | 1 | 0 | -1 | -2 | -3 |
| 5-6 | 4 | 3 | 2 | 1 | -1 | -3 |
| 7-8 | 5 | 4 | 3 | 2 | 0 | -2 |
| 9-10 | 8 | 6 | 5 | 3 | 1 | -1 |
| 11-12 | 10 | 8 | 6 | 4 | 2 | 0 |
| 13-15 | 11 | 9 | 7 | 6 | 3 | 1 |
| 16-18 | 15 | 12 | 9 | 7 | 4 | 2 |
| 19-23 | 16 | 13 | 10 | 7 | 5 | 2 |
| 24-28 | 18 | 16 | 12 | 8 | 5 | 3 |
| 29+ | 19 | 17 | 14 | 9 | 7 | 4 |

All rolls are with a single six-sided die.

Find the Total Gun Factors value, determine the range in hexes and cross-reference the resulting number on the table below as the number of the column in which fire is resolved.

In each column, a number refers only to the type of hit that is the first to follow.

| ROLL | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------|-----|------|------|------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| 1 | 2F | 2F | 2F | 2F | 3F | 3F | 3F | 4F | 4F | 4F | 4F | 4FW | 4FW |
| 2 | FWL | 2FWL | 2FWL | 2FWL | 2FW2L | 2FW2L | 2FW2L | 3FW2L | 3FW2L | 3FW2L | 3FW2L | 3F2W2L | 3F2W2L |
| 3 | FWL | F2WL | F2WL | F2WL | F2W2L | F2W2L | F2W2L | F3W2L | F3W2L | F3W2L | F3W2L | 2F3W2L | 2F3W2L |
| 4 | FWG | FWG | FWG | F2WG | F2WG | F2WG | F3WG | F3WG | F3WG | F3WG | F4WG | F4WG | F4WG |
| 5 | FE | FE | FE | FE | F2E | F2E | F2E | 2F2E | 2F2E | 2F2E | 2F2E | 3F2E | 3F2E |
| 6 | WCE | WCEL | WCEL | WCEL | 2WCEL | 2WCEL | 2WCEL | 3WCEL | 3WCEL | 3WCEL | 3WCEL | 3W2CEL | 3W2CEL |

1. For the range determination of all types of gunfire, it is always the Resulting Game-Turn Altitude of both the firing aircraft and the target that will be used. The Resulting Game-Turn follows the Current Game-Turn, which is the last Game-Turn to have an effect on the aircraft positions of a Fire Resolution or Advantage Determination process that is incomplete. (Meaning that firing or Advantage possibilities are not exhausted.)

2. Firing on the First Advantage may only occur if the target is directly ahead in a straight path of hexes, unless the target's Silhouette Modifier is four or more, in which case the 12 o'clock position is sufficient to fire, as it is for all targets on the Second Consecutive Advantage. To repeat the Advantage the pursuer is required to use Power and Brake Factors only on the Current Game-Turn Airspeed, even if it initially doubles Brake/Power potential. This requirement exists and is possible only if a Second Consecutive Advantage is to be obtained. (This is known in advance to the Advantaged players since all the Disadvantaged players will move Disadvantaged aircrafts first, after all the unaffected aircrafts have their movements secretly written for the Current Game-Turn, but before the same has been done for Advantaged aircrafts.) Using Power Factors to add Dive Speed Points to the Current Game-Turn Airspeed is allowed with Advantage only if the Speed Point cost of the currently plotted maneuvers and/or climb reduces the Resulting Game-Turn Airspeed below Dive Speed. Declaring the Advantage forbids Disadvantaging and/or firing at other Disadvantaged fighter targets. Non-fighters may not be Advantaged without Fixed guns.

3. Advantage altitude limits; 1200 ft. above or below the Resulting Game-Turn Altitude of both aircrafts.

4. For the gunfire range determination of the altitude differential; 300 ft. equals one hex. (Ignore fractions.)

5. Maximum altitude difference for firing "FF" guns; 600 ft. from below, 1200 ft. from above.

6. Facing a target's 12 o'clock does not cancel a previous Advantage, but it does impose First Advantage requirements on firing fixed ("FF", "FH" or "FL") guns, which firing is not allowed from any inverted 12 o'clock attitude on the Resulting Game-Turn.

7. A Disadvantaged aircraft does not have any possibility of holding an Advantage, but it may still fire within First Advantage requirements.

8. When attacking a Disadvantaged aircraft or a straight-course bomber, a "Snapshot" Fire Resolution may be taken by the attacker if it crosses the target's Resulting hex position with a Resulting position no more than 2 horizontal hexes beyond the opposite side from which it entered. Attacking from a Current Altitude different from the target's Resulting Altitude requires the attacker to reach a mandatory Resulting Altitude relative to the target's own; 300 ft., this OPPOSITE to the attacker's Current Altitude. If the attacker's Current Altitude or Resulting hex position is identical to the target's Resulting Altitude/position, both Resulting Altitudes must match. Treat fixed "Snapshot" fire as 1 hex range K-14 High Deflection. If target hex is entered from the front hemisphere, treat all "Snapshot" fire as 1 hex single roll "F" Gunnery Play. Use entry side "F" Gunnery Play, 1 hex, always.

9. The available Climb Rate is reduced by 50% (ignore 50 ft. fractions) if any non-level or inverted flying is done during the Current Game-Turn, unless the inverted attitude is the result of a climbing Half-Loop, with no other maneuvers performed in the same Game-Turn. Climbing from any inverted attitude requires the use of red-numbered climbing Speed Point loss. Available Climb Rates: Maneuver/Level Sp.: green. Dive Sp.: red. "Available" includes black and red-numbered values. (See rule # 30.)

10. Reduce aircraft Stall Speed by one when no maneuvers are performed in a Level Bank Current Game-Turn. (Does not apply to Me-262A or Me-163B.) Displace aircraft 1 hex per 2 Game-Turns if an Airspeed of 0 is reached.

11. Interlocking front hemispheres: Treat any fire at a Resulting Sp. of 10+ combined Sp. Points as single roll "F" Gunnery Play.

12. Firing from the target's 2, 4, 8 or 10 o'clock (High Deflection); Special High Deflection Roll result must be above four to hit and thus allow entry into the Fire Resolution process. This restriction applies to all types of gunfire, including Flexible ("F") gunfire. If a target's Silhouette Modifier is above three; same restriction but Roll must be above 3. Note that in the case of a miss, ammunition is considered expended. With K-14 gyro sight roll above two to hit all High Deflection targets.

13. Any inverted attitude at the Resulting Game-Turn Altitude reduces the maximum Gun Range to two hexes. Add High Deflection restriction when High Deflection is combined with any inverted attitude.

14. An aircraft may be fired at only once per Game-Turn by Fixed ("FF", "FH" or "FL") guns and one additional time by Flexible ("F") guns, for a maximum total of two times per Game-Turn. Do not add Silhouette Modifier to non-"FH" guns.

15. Flexible ("F") guns must roll six to enter the Fire Resolution process, which each aircraft can only do once per Game-Turn. Aircrafts with four or more gun stations have a text immediately under the Target Characteristic Chart indicating how many times each aircraft may roll per Game-Turn to get its sole chance to fire its "F" guns. No indication means one roll only.

| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|--------|--------|--------|--------|--------|---------|----------|----------|----------|----------|
| 4FW | 4FW | 4FWE | 5FWE | 5F2WE | 5F2W2E | 6F2W2E | 6F3W2E | 6F3W3E | 7F3W3E |
| 3F2W2L | 3F2W2L | 3F2W3L | 3F2W4L | 4F2W4L | 4F3W4L | 4F3WE4L | 4F3W2E4L | 5F3W2E4L | 5F3W3E4L |
| 2F3W2L | 2F3W2L | 3F3W2L | 4F3W2L | 5F3W2L | 5F3W3L | 5F4W3L | 5F4W4L | 6F4W4L | 6F5W4L |
| F4WG | 2F4WG | 2F4WG | 2F4WGL | 2F5WGL | 3F5WGL | 3F5WG2L | 3F6WG2L | 3F7WG2L | 3F8WG2L |
| 3F2E | 4F2E | 4F3E | 5F3E | 6F3E | 6F4E | 7F4E | 8F4E | 9F4E | 9F5E |
| 3W2CEL | 3W2CEL | 4W2CEL | 4W2CEL | 5W2CEL | 5W2CE2L | 5W2C2E2L | 5W2C2E3L | 5W2C2E4L | 6W2C2E4L |

Maximum number of rolls per target per Game-Turn; three, regardless of the number of available firing aircrafts. If the target is in the 6 o'clock straight path of hexes of firing aircraft, "F" guns need only to roll above 4 to enter the Fire Resolution process.

16. A Slip must be followed by at least one (-1) Turn. No Slip in any inverted attitude. Slip Airspeed cost: -2 (-0 in Dive Speed).

17. An aircraft must dive at least enough to gain one Speed Point to go into its Dive Speed Increment. Power Factors may not add any Dive Speed Points on the Resulting Game-Turn and cannot be used while the aircraft is in its Dive Speed in the Current Game-Turn. (This does not apply to the exception stated in rule # 2.)

18. An aircraft in its Dive Speed at the Current Game-Turn must use one Brake Factor to simulate aerodynamic drag.

19. When the Current Game-Turn Dive Acceler. adds Sp. Points beyond the aircraft's Maximum Dive Sp., those extra Sp. Points are voided. Diving H-Loop mandatory Max. Dive additions = 0 acceler. : Use Max. Dive. Acceler. only (-H-Loop cost).

20. No climbing Half-Loop in any Current inverted attitude. No outside loop above a Current Game-Turn Airspeed of 4. A H-Loop can only be performed from a Level (L) or Inverted (I) Bank, and must use full Special H-Loop Max. Dive Rate or full Max. Dive Sp. Climb always. (Black Dive Sp. Climb value at Maneuver Sp., red above, but both using black climb loss value.)

21. No Power Factors allowed in the Current Game-Turn with H-Loop (if Advantaged, then Power Factor loss applies only in the Resulting Game-Turn). H-Loop Airspeed cost: -1 in dive, -0 in climb from below 29.9, -1 in climb from above 29.9 (+ climb loss).

22. For Flexible ("F") gunfire, Gun Factors of seven or less multiply each "C" hit by two, and those of eight or above multiply each "C" hit by three. "F" Gun Factors do not use the Silhouette Modifier, and may not fire while in a Turn or Slip hex.

23. When a multi-engine bomber is fired on from its 12 o'clock in a straight path of hexes, each "C" hit is multiplied by two.

24. Single engine: -1 to Max. Level Sp. for the first "E" hit, -1 Power Factor for each additional "E" hit. Twin engine: -1 Power Factor on the first "E" hit, -1 to Max. Level Sp. for each additional "E" hit. Single and twin engine Max. available climb: -.1 per "E" hit. II-2: -1 Power Factor and -1 to Max. Level Sp. from 3rd "E" hit only. P-47, FW-190F, G and A-8/R2, F4U and F6F: -1 to Max. Level Sp. from 2nd "E" hit, -1 Power Factor from 3rd "E" hit. For "E" hits only: A removed Max. Level Sp. Point remains identical except that you apply Dive Speed Power and Brake Factor restrictions. (See rules # 17-18.)

25. The first "C" hit removes Half-Loop maneuvers, the second "C" hit removes Half-Roll maneuvers.

26. Minus four Gun Factors on the front or on the rear hemisphere per "G" hit on Flexible ("F") guns.

27. Max. Dive Speed is reduced by one Sp. Point per two "W" hits. Max. Dive Rate and Dive Sp. Climb are reduced by .1 per "W" hit up to a maximum of -.4 (-.5 if 7+ "W" intact), at which point -1 to Max. Level Sp. and no Slip/H-Loop/H-Roll maneuvers allowed. For "W" hits: A removed Max. Level Sp. Point becomes "true" Dive Sp.. None of this is applicable to Heavy Bombers.

28. "Medium" arcs altitude limits; 100 ft. above and below the Resulting Game-Turn Altitude.

29. Half-Roll maneuvers may be the equivalent of two Bank maneuvers. (Airspeed cost: 0. "Full" H-Roll Airspeed cost: -1.)

30. Altitude Change chart red-numbered values apply to Max. Dive/Dive Sp. Climb/Max. Climb. Those red-numbered values that are a higher number than the highest same altitude black-numbered value cannot be used in two consecutive Game-Turns in the same Altitude Change direction (climb/climb or dive/dive), and must use red Current Sp. Point loss (in case of climb only) as well as some opposite Altitude Change direction on the Resulting Game-Turn (.1 minimum).

Vertical Dive Rules;

1. A Vertical Dive (V. Dive) maneuver can only be initiated from a Current Airspeed of 7 or less and voids all subsequent Movement Points for this Game-Turn.

A Vertical Dive can only be performed by an aircraft with V. Dive Maneuver Requirements.

These Maneuver Requirements as displayed on Data Card apply to Level (L), Right Bank (RB) or Left Bank (LB) attitudes at the start of the maneuver. The Maneuver Requirement for V. Dive when inv. (non-L,R/LB) is always one Movement Point.

2. The Vertical Dive can be initiated from any attitude. The aircraft must stay in the same hex which can be exited on the subsequent Game-Turn in any direction and in a mandatory Level (L) Current Game-Turn Bank. Note that a single Game-Turn V. Dive must be declared and exited in the same Current Game-Turn.

When the V. Dive is declared exited, which can be done only at the end of the Current Game-Turn, the Resulting Airspeed on exit is always 2 Sp. Points below full Max. Dive Sp. after the 1st Game-Turn V. Dive, and 1 Sp. Point below after the 2nd Consecutive V. Dive Game-Turn. (Completely disregard Dive Acceleration, Brake or Power Factor characteristics.)

Note that a Second Consecutive Game-Turn V. Dive is not allowed to aircrafts with 4 remaining "W" hits or less.

3. Full use of the Max. V. Dive Rate is mandatory in a V. Dive. The Max. V. Dive Rate modifies the black Max. Dive values of the Data Card in the following amounts:

1st Game-Turn V. Dive: + 500%, 400% from Maneuver Sp. (Exit mandatory if Resulting Alt. below 500% black Max. Dive.)

This 1st Game-Turn V. Dive value is to be reduced by 500 ft. for each Movement Point expended in the Current Game-Turn to reach the V. Dive hex.

2nd Consecutive Game-Turn V. Dive: + 400% (ends with 3 Level (L) Bank Movement Points, 2 if Advantaged opt.).

Note: Full use of "regular" Data Card red Max. Dive is mandatory on exited 1st Game-Turn V. Dive's Resulting Game-Turn.

On exit of Second Consecutive Game-Turn V. Dive, the Resulting Game-Turn's survival is a single die roll that must be at least 2 below remaining # of "W" hits if under 50% black Max. Dive used, otherwise roll result must not be above.

4. An Advantaged aircraft may maintain its Advantage over an aircraft in a Vertical Dive if it can reach the Vertical Dive hex of the Disadvantaged aircraft or a hex within 2 hexes of it inclusively. It may then perform a Vertical Dive in this hex, reducing its Max. Vertical Dive Rate value by 500 ft. for each Movement Point it had to expend to reach its own V. Dive. (Subsequent Movement Points are, as usual, cancelled.) An Advantaged aircraft cannot gain Advantage over any other non-V. Diving aircraft while in V. Dive, but may fire on these with inverted restrictions (rule # 13) within V. Dive hex only. All this applies to the 1st Game-Turn V. Dive only, 2nd Consecutive Game-Turn V. Dive is the same but transfers these rules to 1 hex in front.
5. When a V. Dive is initiated, the maximum downward vertical Gun Range of all "FF" guns becomes identical at 1800 ft., and the gunfire range is still determined as 300 ft. = 1 hex. This means that all guns have a maximum vertical range of 6 hexes when in a V. Dive, and may fire downward in Vertical Dive hex exclusively. Applies 1 hex forward on 2nd, see #4 last phrase.
6. As soon as a V. Dive is initiated the vertical range of the Advantage is increased to 2400 ft. directly below, and is limited to the V. Dive hex and hexes within two hexes of it inclusively. Advantage may be gained or maintained only on an aircraft .1 or more directly below in this area that is itself in a V. Dive. There can be gunfire but no Advantage gain between V. Divers and non-V. Divers.

Gunfire from a non-V. Diving aircraft can only be "F" Gunnery Play and is treated as High Deflection while in a Current Game-Turn V. Dive.

Gunfire at a non-V. Diving aircraft is allowed within V. Dive hex only and inverted fire restrictions apply. (Rule # 13: 2X 300 ft. hexes = 600 ft. range maximum.)

Vertical Climb Rules;

The smallest (L/R) Slip Maneuver Requirement may be used to declare a Vertical Climb from any Current Airspeed, voiding all subsequent Movement Points in the Current G-Turn, but only if started from Level (L) Bank. V. Climb always, from any Current Airspeed, adds +.1 above black Max. Dive Sp. Climb value for each Current Sp. Point that is above Stall Sp., and, in addition, +.1 for each voided Current Movement Point. Firing guns in a Current G-Turn V. Climb makes a Resulting Stall mandatory.

Full use of the Max. V. Climb Rate is mandatory in a V. Climb. A V. Climb allows two consecutive Turn maneuvers within V. Climb hex, in either direction, with no Sp. Point cost but in a Resulting Bank (Inverted R/L opt.) matching direction of Turn.

V. Climb Sp. Point cost is -2 if from a Current Airspeed 2 Sp. Point or less above Stall Sp., making a Resulting Stall mandatory, otherwise Resulting G-Turn Airspeed is always 1 Sp. Point above Stall Sp.. (Disregard all Power Factor characteristics.)

The Resulting G-Turn from V. Climb must be a dive equal to V. Climb with no Power Factor in a Bank matching Turn direction.

Special Data Card Note; Under the Speed Increments Chart color code box, the altitude limitation of Loaded condition indicated in the last line of the box applies only to Stall Speed and not to Level Speed, unless the line begins with "Both".