

**Forgotten Battles**

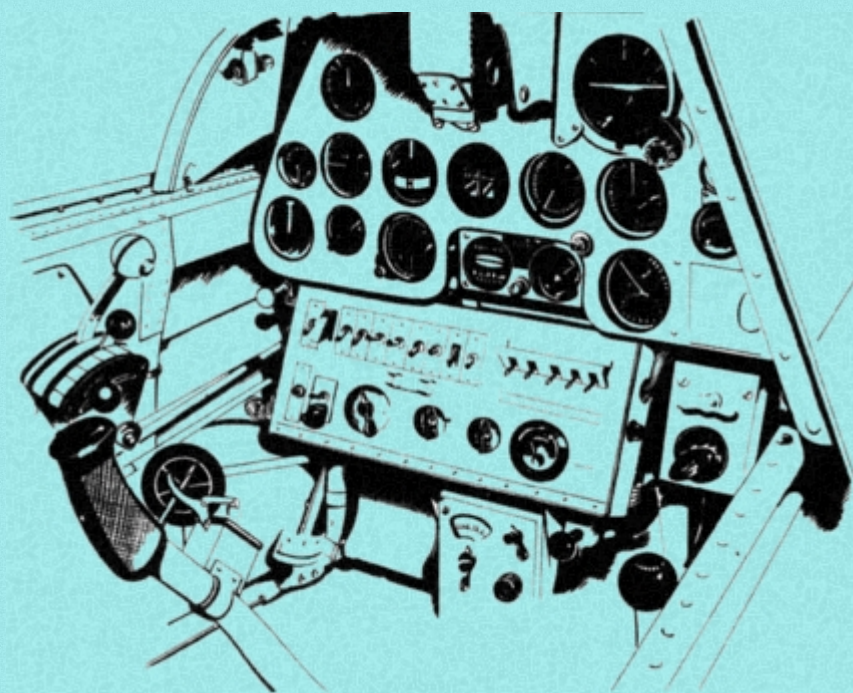
**Ace Expansion Pack**

**Pacific Fighter**

Pe-2 Peshka

Sturmoviks over Manchuria

1946



# Cockpit Arrangement Guide

Corsican Corsair

v.5.0

January 2014





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This guide is a PDF of 200 pages, which describes all the 144 'flyable' aircraft cockpits of no modded "IL-2 Sturmovik - 1946" v.4.12.2 with the '**in-game**' (not necessarily historical or real) controls and instruments.

It corrects several errors of the "Flyable Aircraft Guide" published with the original game and completes the "4.09 Guide", "User Guide v.4.10m", "User Guide v.4.11", "Engine temperature guide for patch 4.11.1" and "User Guide v.4.12". It presents numerous photos of cockpits, among which certain rare, of authentic or restored planes.

For more information, I suggest you refer to real pilot's manuals available on the web. For this purpose, a "Bibliography and Research Sources" section is provided at the end of the guide.

It can be read on any computer or smartphone using Adobe® Reader® and other high-resolution PDF readers. It can be printed on A4 paper size (native size), or on Letter paper size, in duplex mode (recto-verso) and high resolution (on heavy paper) then assembled with plastic or spiral binding.

A description of the methods of navigation in the document, particularly adapted to the full screen mode, is presented hereafter.

## **Version history**

### ***v.5.0 Update – January 20, 2014***

- Addition of the 4.11 and 4.12 new flyable aircraft:
  - ◇ Focke-Wulf Fw 190 A-4 1.42 ATA.
  - ◇ Nakajima B5N2.
  - ◇ Kawasaki Ki-45 Kai's.
  - ◇ De Havilland Mosquito XVIII "Tse-Tse".
  - ◇ Curtiss Hawk 75A-3 / A-4.
  - ◇ Ilyushin IL-4.
  - ◇ Petlyakov PE-8 and TB-7 M40.
  - ◇ Tupolev SB 2M-100A.
- Update and corrections in the List of the 'in-game' controls of aircraft, particularly in the "Engine controls" list with the introduction of the engine temperature data.
- Modifications in the aircraft pages according to the patches 4.11 to 4.12.2, particularly for engine instruments and German ammunition counters.
- Accurate fuel data on the ignition of "Low fuel warning" lights when existing.
- Numerous new screenshots and hi-res photos. Review and update website links.
- Improved layout, particularly in the list of the 'in-game' controls of aircraft.
- Update as follows: Cover page – "Introduction" section – "Units of measurement" page – "Bibliography and Research Sources" section.

### ***v.4.0 Update – May 15, 2011***

- Addition of the 4.10 new flyable aircraft:
  - ◇ Heinkel He 111 H-12 (same cockpit as H-6 variant).
  - ◇ Henschel Hs 129 B-2.
  - ◇ Henschel Hs 129 B-3/Wa.
  - ◇ Junkers Ju 88 A-4/Torp.
  - ◇ Junkers Ju 88 A-17.
  - ◇ Reggiane Re.2000.
  - ◇ New Spitfire variants (same cockpit as previous variants).
  - ◇ Curtiss-Wright CW-21.
  - ◇ Polikarpov I-15bis.



- Adds:
  - ◊ New list of the Realistic Navigation Instrumentation.
  - ◊ Navigation instruments where they are functional in Realistic Navigation mode.
- Update as follows: Cover page – "Introduction" section – "Units of measurement" page - Index pages - List of the 'in-game' controls of aircraft – "Bibliography and Research Sources" section.
- New photos.

### **v.3.1 Update – December 7, 2010**

- Modifications on the following aircraft:
  - ◊ Ar 234: engine instruments, instrument light switch.
  - ◊ Fw 190 D-9's: inversion of oil temperature and coolant temperature gages.
  - ◊ Ta 152's: inversion of oil temperature and coolant temperature gages.
  - ◊ Go 229: engine instruments.
  - ◊ He 162: exhaust temperature gage.
  - ◊ Me 262's: engine instruments.
  - ◊ N1K2: instrument light switch, normal level fuel indicator light, low fuel warning light.
  - ◊ Ki-84's: instrument light switch, landing light switch, navigation lights switch.
  - ◊ IAR's: screenshots updated.
  - ◊ Mosquito: bomb doors lever.
  - ◊ Tempest: landing light switch.
  - ◊ Seafire: arrester hook lever.
  - ◊ Buffalo's: tail wheel lock lever, version information added.
  - ◊ P-40 Warhawk: instrument light switch, navigation lights switches.
  - ◊ P-63: cockpit light switch, landing light switch, navigation lights switches.
  - ◊ YP-80: engine instruments.
  - ◊ La-5's: landing light switch, navigation lights switches.
  - ◊ La-7's: instrument light switch, landing light switch, navigation lights switches.
  - ◊ LaGG-3RD: engine instruments.
  - ◊ I-185's: instrument light switch, landing light switch, navigation lights switch.
  - ◊ Yak-15: fuel injection pressure gage.
- Update as follows: Cover page – "Units of measurement" page - Index pages - List of the 'in-game' controls of aircraft – "Bibliography and Research Sources" section – "Aircraft & operational controls" pages: Gunsight column: type added and "Toggle Gunsight" control indicated in color (blue for "yes", red for "no") – Bookmarks.
- New photos for Fw 190 D-9 (1945), Me 262 A-2, C.R.42, A6M5/a, P-40 Hawk, I-185 M-82.

### **v.3.0 Update – October 17, 2009**

- Addition of the 4.09 new flyable aircraft:
  - ◊ Avia B-534-IV.
  - ◊ Fokker D.XXI's.
  - ◊ Macchi M.C.200 VII's
  - ◊ Polikarpov I-16 type 5 & 6.
  - ◊ Savoia-Marchetti S.M.79.
- Addition of introduction section.
- Update as follows: Cover page – "Units of measurement" page - Index pages - List of the 'in-game' controls of aircraft – "Bibliography and Research Sources" section.
- New high quality photos for He 162, I-153 and I-16's.
- Minor corrections.



**v.2.0 Upgrade – September 7, 2009**

- Strongly improved navigation in the document, particularly in full screen mode.
- New index page.
- New list of the 'in-game' controls of aircraft.
- Corrections and additions for most of the aircraft.
- Numerous new photos with links.

**v.1.0 Initial release – February 8, 2008****Credits and thanks:**

- 1C:Maddox Games, Daidalos Team.
- Sidermax and Pe\_Mosor — "Cockpit reference guide" - January 2005.
- Shmulik Hen (AKA 101Hedgehog) — IL-2 Functions v.4.07.005 - January 2007.
- Great thanks to museums, to documents owners and to numerous photographers for the images.
- Tromplamort for his photos of the authentic He 162 belonging to the French Musée de l'Air et de l'Espace and restored by the Memorial Flight Association.

**Legalities:**

"IL-2 Sturmovik 1946" is a trademark developed by 1C:Maddox Games & Ilya Shevchenko and published by Ubisoft. Daidalos Team currently provides non-commercial development of this game. None of these companies or teams has neither approved nor endorsed this "Cockpit Arrangement Guide".

This "Cockpit Arrangement Guide" including cockpit screenshots, reference data, photos search and layout is made by a.k.a. Corsican Corsair.

The photos of the cockpits, from genuine or restored aircraft, were added for curiosity only. When a photo is clearly identified, its link and/or its photographer is indicated. Great thanks to museums, documents owners, restoration teams and numerous photographers for these pictures.

This "Cockpit Arrangement Guide" is available for download on Mission4Today (M4T) (<http://mission4today.com/>) only.

Permission is granted to print this document for your personal use only. Commercial use is strictly prohibited. Redistribution, even free, as a printout or file sharing and/or the modification of this document is subject to express approval by Corsican Corsair ([corsair58@wanadoo.fr](mailto:corsair58@wanadoo.fr)).

**Disclaimer:**

Any reference to Nazi regime (WWII Reichskriegsflagge) is purely and simply historical and has no political or philosophical intentions.

I hope you enjoy this guide. Any comments, suggestions, improvements, correction of this edition are welcome. Let your appreciation on M4T or contact me at [corsair58@wanadoo.fr](mailto:corsair58@wanadoo.fr). Great thanks! ☺

***Corsican Corsair***

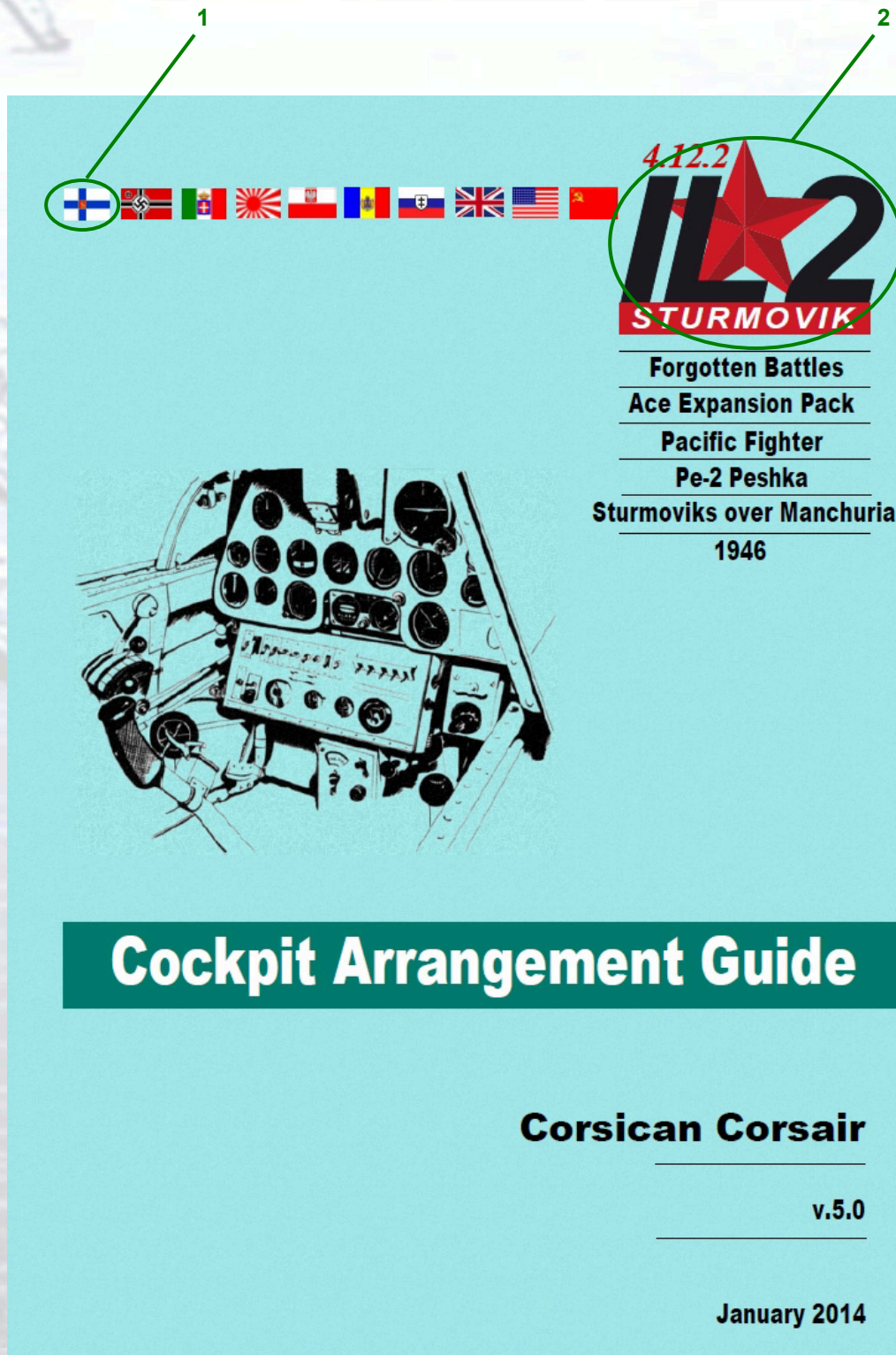
***Dedicated to my father Christian, 1933-2009***





In the cover page:

- To click on a war flag (1) brings you in the corresponding section.
- To click on the game logo (2) brings you in the index page.





In the index page, clickable items bring you in the corresponding section (1) or aircraft page (2).

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**Units of measurement**  
**List of the 'in-game' controls of aircraft**  
**Bibliography and Research Sources**

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 Fokker D.XXI Serie 3  
 Fokker D.XXI Serie 3 Late

 **GERMANY**  
 Arado Ar 234 B-2  
 Dornier Do 335 A-0  
 Dornier Do 335 V-13  
 Focke-Wulf Fw 190 A-4  
 Focke-Wulf Fw 190 A-5 / A-6  
 Focke-Wulf Fw 190 A-8 / A-9  
 Focke-Wulf Fw 190 A-8 Mistel III a  
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 Messerschmitt Me 262 A-1a / 1a/U4  
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 Fiat C.R.42  
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 Macchi M.C.200 VII  
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 Reggiane Re.2000  
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 **JAPAN**  
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 Nakajima Ki-43-II Kai Hayabusa  
 Kawasaki Ki-45 Kai Toryu  
 Kawasaki Ki-61-I Hien  
 Nakajima Ki-84-Ia Hayate  
 Nakajima Ki-84-Ib / Ic Hayate  
 Kawasaki Ki-100-I-Ko Hien  
 Kawanishi N1K2-JA Shiden Kai

 **POLAND**  
 Panstwowe Zaklady Lotnicze PZL P.11c

 **ROMANIA**  
 Industria Aeronautica Romana I.A.R. 80  
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 **SLOVAKIA**  
 Avia B-534-IV

Click on an item to go in the corresponding page. In this one:  
 - to click on the war flag brings back for you in this index page,  
 - to click on the nose section or the tail section of the aircraft picture brings you in the list of the 'in-game' controls of aircraft.

1/2



In an aircraft page:

- To click on the aircraft picture brings you in the list of the 'in-game' controls of aircraft. This list, split into "ENGINE CONTROLS" list and into "AIRCRAFT & OPERATIONAL CONTROLS" list, shows you what are, by aircraft, the controls - active or not - and their settings. The nose section (1) selects the "ENGINE CONTROLS" corresponding page and the tail section (2) selects the "AIRCRAFT & OPERATIONAL CONTROLS" corresponding page.

**Note:** In the Hurricane page, for the "Mk. I" controls, click on "Mk" in place of the nose section and on "I" in place of the tail section.

Engine temperature instruments (6) are shown in red & bluish. The temperature data are in the "ENGINE CONTROLS" lists.

- To click on the wind rose (3) brings you in the 'in-game' "REALISTIC NAVIGATION INSTRUMENTATION" list. Navigation instruments (7) having both operating modes, Realistic or NO Realistic, are shown in white & blue. In the Soviet aircraft, the instruments only present in NO Realistic Navigation mode are indicated with blue number in white spot.
- To click on the link (4) beside a photograph, when existing, brings you in the website or the webpage lodging this one (possible broken links are not of my fact).
- To click on the war flag (5) brings back for you in the index page.

The screenshot displays the cockpit controls for the Heinkel He 111, with various instruments and controls numbered 1 through 43. The page is titled "Heinkel He 111" and "H-2 / H-6 / H-12".

**Annotations:**

- 1:** Points to the nose section of the aircraft picture at the top right.
- 2:** Points to the tail section of the aircraft picture at the top right.
- 3:** Points to the wind rose instrument on the right side of the main instrument panel.
- 4:** Points to a link (URL) next to a photograph of a cockpit instrument at the bottom right.
- 5:** Points to the German war flag (Swastika) at the bottom right.

**Instrument List (Numbered 1-43):**

- Artificial horizon
- Course pointer
- Homing indicator
- Airspeed indicator
- Repeater compass
- Turn and bank indicator
- Altimeter
- Autopilot course & bank indicator (gyro heading only)
- Left engine tachometer
- Right engine tachometer
- Left engine oil temperature gage
- Right engine oil temperature gage
- Left engine fuel (left) and oil (right) pressure gage
- Left engine manifold pressure gage
- Right engine manifold pressure gage
- Left engine coolant temperature gage
- Right engine coolant temperature gage
- Right engine fuel (left) and oil (right) pressure gage
- Clock
- Radio bearing indicator (with white needle as homing indicator)
- Left propeller pitch indicator
- Right propeller pitch indicator
- Flaps position indicator
- Landing gear position indicator: green - down / red - up
- Left engine throttle
- Right engine throttle
- Flaps lever
- Left engine supercharger lever
- Right engine supercharger lever
- Left side propeller pitch lever
- Right side propeller pitch lever
- Left engine mixture lever
- Right engine mixture lever
- Left engine oil radiator lever
- Right engine oil radiator lever
- Low fuel warning light for left wing tank (total fuel < 25% for H-2 / < 20% for H-6 & H-12)
- Left wing tank fuel gage
- Right wing tank fuel gage
- Low fuel warning light for right wing tank (as LH tank)
- Left engine fuel (left) and oil (right) pressure gage
- Free air temperature gage
- Right engine fuel (left) and oil (right) pressure gage



In an 'in-game' controls of aircraft page, clickable items bring you in:

- the previously shown page (1) (Acrobat® Reader® & Foxit® Reader feature),
- the index page (2),
- the corresponding section (3).

**Note:** These lists are based partially on the IL-2 Functions tables, written by Shmulik Hen (AKA 101Hedgehog) in January 2007 that I adapted, and on the Engine temperature guide for patch 4.11.1 from Team Daidalos.

### ENGINE CONTROLS

| Aircraft                     | Power | Boost        | Propeller Pitch | Feather | Mixture  | Mixture Setting Alt. | Supercharger | Altitude S2-S3 | Max. Engine Temperature |           | Cowl Flaps Radiator Shutters | Fire Ext. | Drop Tanks |
|------------------------------|-------|--------------|-----------------|---------|----------|----------------------|--------------|----------------|-------------------------|-----------|------------------------------|-----------|------------|
| Axis                         |       |              |                 |         |          |                      |              |                | Coolant CHT             | Oil Inlet |                              |           |            |
|                              |       |              |                 |         |          |                      |              |                | EST                     | Outlet    |                              |           |            |
| Hawk 75A-3, 1940             | 0-110 | Auto (≥ 100) | 0-100           | No      | 0-120    | 3500                 | No           |                | 240                     | 95        | C, 2, 4, 6, 8, O             | No        | No         |
| Hawk 75A-4, 1940             | 0-100 | No           | 0-100           | No      | 0-120    | 4700                 | 2 Stages     | 3000           | 240                     | 95        | C, 2, 4, 6, 8, O             | No        | No         |
| He 111 H-2, 1939             | 0-110 | No           | 0-100           | Yes     | 0-120    | 4500                 | 2 Stages     | 2800           | 100                     | 80        | C, 2, 4, 6, 8, O             | No        | No         |
| He 111 H-6, 1941             | 0-110 | No           | 0-100           | Yes     | 0-120    | 4500                 | 2 Stages     | 2800           | 100                     | 80        | C, 2, 4, 6, 8, O             | No        | No         |
| He 111 H-12, 1942            | 0-110 | No           | 0-100           | Yes     | 0-120    | 4500                 | 2 Stages     | 2800           | 100                     | 80        | C, 2, 4, 6, 8, O             | No        | No         |
| He 162A-2, 1945              | 0-100 | No           | No              | No      | No       |                      | No           |                | 640                     | -         | No                           | No        | No         |
| He 162C, 1946                | 0-110 | No           | No              | No      | No       |                      | No           |                | 640                     | -         | No                           | No        | No         |
| He 162D, 1946                | 0-110 | No           | No              | No      | No       |                      | No           |                | 640                     | -         | No                           | No        | No         |
| Heinkel Lerche III B-2, 1946 | 0-110 | No           | 0-100           | Yes     | No       |                      | No           |                | 120                     | -         | No                           | No        | No         |
| Hurricane Mk I, 1938         | 0-100 | No           | 0-100           | No      | 100, 120 |                      | No           |                | 120                     | 93        | C, 2, 4, 6, 8, O             | No        | No         |
| Hs 129 B-2, 1942             | 0-110 | No           | -/+, Auto       | Yes     | 0-120    | 4550                 | No           |                | -                       | 125       | C, 2, 4, 6, 8, O             | 1 X       | No         |
| Hs 129 B-3/Wa, 1944          | 0-110 | No           | -/+, Auto       | Yes     | 0-120    | 4550                 | No           |                | -                       | 125       | C, 2, 4, 6, 8, O             | 1 X       | No         |
| I.A.R. 80, 1940              | 0-110 | No           | 0-100           | No      | 0-120    | 4200                 | No           |                | -                       | 120       | C, 2, 4, 6, 8, O             | 5 X       | No         |
| I.A.R. 81a, 1940             | 0-110 | No           | 0-100           | No      | 0-120    | 4200                 | No           |                | -                       | 120       | C, 2, 4, 6, 8, O             | 5 X       | No         |
| I.A.R. 81c, 1940             | 0-110 | No           | 0-100           | No      | 0-120    | 4200                 | No           |                | -                       | 120       | C, 2, 4, 6, 8, O             | 5 X       | No         |
| J2M3, 1944                   | 0-110 | Yes          | 0-100           | No      | 0-120    | 6000                 | 2 Stages     | 3000           | 250                     | 100       | C, 2, 4, 6, 8, O             | No        | No         |
| J2M5, 1944                   | 0-110 | Yes          | 0-100           | No      | 0-120    | 6150                 | 3 Stages     | 3000 - 5500    | 250                     | 100       | C, 2, 4, 6, 8, O             | No        | No         |
| J8A, 1937                    | 0-110 | No           | No              | No      | 0-120    | 4800                 | No           |                | -                       | 70        | No                           | No        | No         |
| Ju 87 B-2, 1940              | 0-110 | No           | 0-100           | Yes     | No       |                      | 2 Stages     | 2800           | 95                      | 75        | C, 2, 4, 6, 8, O             | No        | No         |
| Ju 87 D-3, 1942              | 0-110 | No           | 0-100           | Yes     | No       |                      | 2 Stages     | 2800           | 120                     | 100       | C, 2, 4, 6, 8, O             | No        | No         |
| Ju 87 D-5, 1943              | 0-110 | No           | 0-100           | Yes     | No       |                      | 2 Stages     | 2800           | 120                     | 100       | C, 2, 4, 6, 8, O             | No        | No         |
| Ju 87 G-1, 1943              | 0-110 | No           | 0-100           | Yes     | No       |                      | 2 Stages     | 2800           | 120                     | 100       | C, 2, 4, 6, 8, O             | No        | No         |
| Ju 88 A-4, 1941              | 0-110 | No           | 0-100           | Yes     | No       |                      | No           |                | 120                     | 140       | C, 2, 4, 6, 8, O             | No        | No         |
| Ju 88 A-4/Torp, 1942         | 0-110 | No           | 0-100           | Yes     | No       |                      | No           |                | 120                     | 140       | C, 2, 4, 6, 8, O             | No        | No         |
| Ju 88 A-17, 1943             | 0-110 | No           | 0-100           | Yes     | No       |                      | No           |                | 120                     | 140       | C, 2, 4, 6, 8, O             | No        | No         |
| KI-27 Ko, 1938               | 0-100 | Yes          | No              | No      | 0-120    | 5900                 | No           |                | 230                     | 120       | C, 2, 4, 6, 8, O             | No        | No         |
| KI-27 Otsu, 1938             | 0-100 | Yes          | No              | No      | 0-120    | 5900                 | No           |                | 230                     | 120       | C, 2, 4, 6, 8, O             | No        | No         |
| KI-43-Ia, 1941               | 0-110 | No           | 0-100           | No      | 0-120    | 6150                 | No           |                | 230                     | 120       | C, 2, 4, 6, 8, O             | No        | No         |
| KI-43-Ib, 1941               | 0-110 | No           | 0-100           | No      | 0-120    | 6150                 | No           |                | 230                     | 120       | C, 2, 4, 6, 8, O             | No        | No         |
| KI-43-Ic, 1941               | 0-110 | No           | 0-100           | No      | 0-120    | 6150                 | No           |                | 230                     | 120       | C, 2, 4, 6, 8, O             | No        | No         |
| KI-43-II, 1942               | 0-110 | No           | 0-100           | No      | 0-120    | 6150                 | 2 Stages     | 3300           | 230                     | 120       | C, 2, 4, 6, 8, O             | No        | No         |
| KI-43-II Kai, 1943           | 0-110 | No           | 0-100           | No      | 0-120    | 6150                 | 2 Stages     | 3300           | 230                     | 120       | C, 2, 4, 6, 8, O             | No        | No         |
| KI-45 Kai Ko, 1942           | 0-100 | Yes          | 0-100           | No      | 0-120    | 6100                 | 2 Stages     | 2600           | 240                     | 95        | C, 2, 4, 6, 8, O             | No        | No         |
| KI-45 Kai Otsu, 1943         | 0-100 | Yes          | 0-100           | No      | 0-120    | 6100                 | 2 Stages     | 2600           | 240                     | 95        | C, 2, 4, 6, 8, O             | No        | No         |
| KI-45 Kai Hei, 1943          | 0-100 | Yes          | 0-100           | No      | 0-120    | 6100                 | 2 Stages     | 2600           | 240                     | 95        | C, 2, 4, 6, 8, O             | No        | No         |
| KI-45 Kai Tei, 1944          | 0-100 | Yes          | 0-100           | No      | 0-120    | 6100                 | 2 Stages     | 2600           | 240                     | 95        | C, 2, 4, 6, 8, O             | No        | No         |
| KI-61-I Ko, 1942             | 0-110 | No           | 0-100           | No      | No       |                      | No           |                | 105                     | 105       | C, 2, 4, 6, 8, O             | No        | Yes        |
| KI-61-I Hei, 1944            | 0-110 | No           | 0-100           | No      | No       |                      | No           |                | 105                     | 105       | C, 2, 4, 6, 8, O             | 4 X       | Yes        |
| KI-61-I Otsu, 1943           | 0-110 | No           | 0-100           | No      | No       |                      | No           |                | 105                     | 105       | C, 2, 4, 6, 8, O             | No        | Yes        |
| KI-84-Ia, 1944               | 0-110 | Yes          | 0-100           | No      | 100, 120 |                      | 2 Stages     | 2500           | 230                     | 125       | C, 2, 4, 6, 8, O             | No        | Yes        |
| KI-84-Ib, 1944               | 0-110 | Yes          | 0-100           | No      | 100, 120 |                      | 2 Stages     | 2500           | 230                     | 125       | C, 2, 4, 6, 8, O             | No        | Yes        |
| KI-84-Ic, 1945               | 0-110 | Yes          | 0-100           | No      | 100, 120 |                      | 2 Stages     | 2500           | 230                     | 125       | C, 2, 4, 6, 8, O             | No        | Yes        |
| KI-100-I Ko, 1945            | 0-110 | Yes          | 0-100           | No      | 0-120    | 6100                 | 2 Stages     | 3500           | 220                     | 125       | C, 2, 4, 6, 8, O             | No        | No         |
| MC 200 Serie 3, 1940         | 0-110 | No           | 0-100           | No      | 0-120    | 4450                 | No           |                | 250                     | 130       | C, 2, 4, 6, 8, O             | 5 X       | No         |
| MC 200 Serie 7, 1941         | 0-110 | No           | 0-100           | No      | 0-120    | 4450                 | No           |                | 250                     | 130       | C, 2, 4, 6, 8, O             | 5 X       | No         |
| MC 200 Serie 7 FB, 1941      | 0-110 | No           | 0-100           | No      | 0-120    | 4450                 | No           |                | 250                     | 130       | C, 2, 4, 6, 8, O             | 5 X       | No         |
| MC 202 Serie III, 1941       | 0-110 | No           | 0-100           | No      | No       |                      | No           |                | 100                     | 110       | C, 2, 4, 6, 8, O             | No        | No         |
| MC 202 Serie VII, 1942       | 0-110 | No           | 0-100           | No      | No       |                      | No           |                | 100                     | 110       | C, 2, 4, 6, 8, O             | No        | No         |
| MC 202 Serie XII, 1943       | 0-110 | No           | 0-100           | No      | No       |                      | No           |                | 100                     | 110       | C, 2, 4, 6, 8, O             | No        | No         |
| MC 205 V Serie I, 1943       | 0-110 | No           | 0-100           | Yes     | No       |                      | No           |                | 105                     | 110       | C, 2, 4, 6, 8, O             | No        | No         |

Altitude in meters - Temperature in degrees Celsius

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**Nakajima B5N2 «Kate»**



- Engine ignition switch
- Manifold pressure gage
- Airspeed indicator
- Turn and bank indicator
- Varimeter
- Homing indicator
- Oil (left) and fuel (right) pressure gage
- Tachometer
- Altimeter
- Magnetic compass
- Directional gyre
- Artificial horizon
- Pitch inclinometer
- Oil temperature gage
- Cylinder head temperature gage
- Exhaust temperature gage
- Fuel gage (inboard tanks)
- Fuel gage (outboard tanks)
- Landing gear position indicator
- Arresting hook indicator light: no light - up / green - down
- Flaps position indicator
- Hydraulic pressure gages
- Throttle
- Propeller pitch lever
- Mixture lever: front position - rich / rear position - lean
- Bomb release levers
- Arrestor hook lever
- Radiator lever
- Elevator trim lever
- Rudder trim lever
- Aileron trim lever
- Flaps lever
- Landing gear lever







## Units of measurement

### German aircraft:

- manifold pressure (absolute) - atmosphere (ata)
- altitude - meter (m)
- speed - kilometer per hour (km/h)
- vertical speed - meter per second (m/s)

### Italian aircraft:

- manifold pressure (absolute) - milimeter of mercury (mm Hg)
  - atmosphere (ata) for M.C.202's
  - kilogram per square centimeter (kg/cm<sup>2</sup>) for S.M.79
- altitude - meter (m)
- speed - kilometer per hour (km/h)
- vertical speed - meter per second (m/s)

### Japan aircraft:

- manifold pressure (relative -/+ ) - kilogram per square decimeter (kg/dm<sup>2</sup>)
- altitude - meter (m)
- speed - *Army* - kilometer per hour (km/h)
  - *Navy* - knot (kt)
- vertical speed - meter per second (m/s)

### Polish aircraft:

- manifold pressure (relative -/+ ) - kilogram per square centimeter (kg/cm<sup>2</sup>)
- altitude - meter (m)
- speed - kilometer per hour (km/h)
- vertical speed - meter per second (m/s)

### British aircraft:

- manifold pressure (relative -/+ ) - pound per square inch (lb./sq. in. or PSI)
- altitude - foot (ft)
- speed - mile per hour (mph)
  - knot (kt) for Hurricane's
- vertical speed - foot per minute (fpm)

### American aircraft:

- manifold pressure (absolute) - inch of mercury (in. Hg)
- altitude - foot (ft)
- speed - *Air Force* - mile per hour (mph)
  - *Navy* - knot (kt)
- vertical speed - foot per minute (fpm)

### Dutch, Finnish, Romanian, Slovakian and Soviet aircraft:

- manifold pressure (absolute) - milimeter or centimeter of mercury (mm Hg - cm Hg)
  - (relative -/+ ) - milimeter of mercury (mm Hg) for J8A
- altitude - meter (m)
- speed - kilometer per hour (km/h)
- vertical speed - meter per second (m/s)

|                         |                            |                      |
|-------------------------|----------------------------|----------------------|
| 1 ata                   | = 760 mm Hg                | = 29.92 in. Hg       |
| ± 10 kg/dm <sup>2</sup> | = ± 0.1 kg/cm <sup>2</sup> | = ± 1.42 lb./sq. in. |
| 100 m                   | = 328 ft                   |                      |
| 1000 ft                 | = 305 m                    |                      |
| 200 km/h                | = 124 mph                  | = 108 kt             |
| 200 mph                 | = 322 km/h                 | = 174 kt             |
| 200 kt                  | = 230 mph                  | = 370 km/h           |
| 10 m/s                  | = 1970 fpm                 |                      |
| 2000 fpm                | = 10.2 m/s                 |                      |

4.12.2



**Forgotten Battles**

**Ace Expansion Pack**

**Pacific Fighter**

Pe-2 Peshka

Sturmoviks over Manchuria

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Fokker D.XXI Serie 3 Late



## GERMANY

Arado Ar 234 B-2

Dornier Do 335 A-0

Dornier Do 335 V-13

Focke-Wulf Fw 190 A-4

Focke-Wulf Fw 190 A-5 / A-6

Focke-Wulf Fw 190 A-8 / A-9

Focke-Wulf Fw 190 A-8 Mistel III a

Focke-Wulf Fw 190 D-9 (1944)

Focke-Wulf Fw 190 D-9 (1945)

Focke-Wulf Fw 190 F-8

Focke-Wulf Ta 152 C

Focke-Wulf Ta 152 H-1

Focke-Wulf Ta 183

Gotha Go 229 A-1

Heinkel He 111

Heinkel He 162

Heinkel He III B-2

Henschel Hs 129 B-2

Henschel Hs 129 B-3/Wa

Junkers Ju 87 B-2

Junkers Ju 87 D / G

Junkers Ju 88 A-4

Junkers Ju 88 A-4/Torp

Junkers Ju 88 A-17

Messerschmitt Bf 109 E

Messerschmitt Bf 109 F

Messerschmitt Bf 109 G-2

Messerschmitt Bf 109 G-6

Messerschmitt Bf 109 G-10

Messerschmitt Bf 109 G-14

Messerschmitt Bf 109 K-4

Messerschmitt Bf 109 Z

Messerschmitt Bf 110 G-2

Messerschmitt Me 163 B-1a

Messerschmitt Me 262 A-1a / 1a/U4

Messerschmitt Me 262 A-2a

Messerschmitt Me 262 HG II



## ITALY

Fiat C.R.42

Fiat G.50

Macchi M.C.200 III

Macchi M.C.200 VII

Macchi M.C.202

Macchi M.C.205

Reggiane Re.2000

Savoia-Marchetti S.M.79



## JAPAN

Mitsubishi A6M2 / 3 Reisen

Mitsubishi A6M5 / 5a Reisen

Mitsubishi A6M5b / 7-63 Reisen

Mitsubishi A6M5c / 7-62 Reisen

Nakajima B5N2

Aichi D3A1

Mitsubishi G4M1-11

Mitsubishi J2M3 Raiden

Mitsubishi J2M5 Raiden

Nakajima Ki-27

Nakajima Ki-43 Hayabusa

Nakajima Ki-43-II Hayabusa

Nakajima Ki-43-II Kai Hayabusa

Kawasaki Ki-45 Kai Toryu

Kawasaki Ki-61-I Hien

Nakajima Ki-84-Ia Hayate

Nakajima Ki-84-Ib / Ic Hayate

Kawasaki Ki-100-I-Ko Hien

Kawanishi N1K2-JA Shiden Kai



## POLAND

Panstwowe Zaklady Lotnicze PZL P.11c



## ROMANIA

Industria Aeronautica Romana I.A.R. 80

Industria Aeronautica Romana I.A.R. 81-A / C



## SLOVAKIA

Avia B-534-IV

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## UNITED KINGDOM

Bristol Beaufighter Mk. 21  
De Havilland Mosquito FB. Mk. VI / Mk. XVIII  
Gloster Gladiator J8A  
Hawker Hurricane  
Hawker Tempest Mk.V  
Supermarine Seafire Mk. III  
Supermarine Spitfire Mk. Vb / c  
Supermarine Spitfire Mk. VIII  
Supermarine Spitfire Mk. IX



## UNITED STATES OF AMERICA

Douglas A-20C Havoc  
Douglas A-20G Havoc  
Brewster B239 Buffalo  
Brewster F2A-2 Buffalo  
Brewster Mk. I Buffalo  
Curtiss-Wright CW-21B  
North American B-25J-1-NA Mitchell  
Grumman F4F Wildcat  
Chance Vought Corsair Mk. I  
Chance Vought F4U Corsair 1A / 1C / 1D - Mk. II / Mk. IV  
Grumman F6F Hellcat  
Lockheed P-38 Lightning  
Bell P-39 Airacobra  
Curtiss Hawk 75A-3 / A-4  
Curtiss P-40 Hawk / Tomahawk  
Curtiss P-40 Warhawk  
Republic P-47D-10 / D-22 Thunderbolt  
Republic P-47D / D-27 Thunderbolt  
North American P-51 Mustang B-NA / C-NT / Mustang Mk. III  
North American P-51D-5-NT Mustang  
North American P-51D-20-NA Mustang  
Bell P-63C-5 Kingcobra  
Douglas SBD Dauntless  
Lockheed YP-80 Shooting Star



## UNION OF SOVIET SOCIALIST REPUBLICS

Bereznyak-Isayev BI-1  
Bereznyak-Isayev BI-6  
Ilyushin IL-2 Sturmovik (1st / 2nd / 3rd Series / field mod.)  
Ilyushin IL-2 Sturmovik (M first-later Series / 3 / 3M / I / T)  
Ilyushin IL-4  
Ilyushin IL-10 Beast  
Lavochkin La-5  
Lavochkin La-5F / FN  
Lavochkin La-7  
Lavochkin La-7 3xB20  
Lavochkin La-7R  
Lavochkin/Gorbunov/Gudkov LaGG-3 (4 / 29 / 35 Series)  
Lavochkin/Gorbunov/Gudkov LaGG-3 (66 Series / IT)  
Lavochkin/Gorbunov/Gudkov LaGG-3RD  
Mikoyan-Gurevich MiG-3  
Mikoyan-Gurevich MiG-9 F2 (I-300) / FS  
Mikoyan-Gurevich I-250 (MiG-13)  
Petlyakov Pe-2 (1 Series)  
Petlyakov Pe-2 (84 Series)  
Petlyakov Pe-2 (110 Series)  
Petlyakov Pe-2 (359 Series)  
Petlyakov Pe-3  
Petlyakov Pe-3bis  
Petlyakov Pe-8 (TB-7)  
Polikarpov I-15bis  
Polikarpov I-153  
Polikarpov I-16 Type 5 & 6  
Polikarpov I-16 Type 18 & 24  
Polikarpov I-185 M-71  
Polikarpov I-185 M-82  
Tupolev SB 2M-100A  
Tupolev TB-3  
Yakovlev Yak-1 / B  
Yakovlev Yak-3  
Yakovlev Yak-3R  
Yakovlev Yak-7A / B  
Yakovlev Yak-9  
Yakovlev Yak-9B / D  
Yakovlev Yak-9K / M / T  
Yakovlev Yak-9U / UT  
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These lists are based partially on the IL-2 Functions tables written by [Shmulik Hen \(AKA 101Hedgehog\)](#) and adapted by Corsican Corsair.





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# ENGINE CONTROLS

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Aircraft & Operational Controls (Allied)

| Aircraft                   | Power | Boost        | Propeller Pitch | Feather | Mixture  | Mixture Setting Alt. | Supercharger | Altitude S2-S3 | Max. Engine Temperature |                  | Cowl Flaps Radiator Shutters | Fire Ext. | Drop Tanks |
|----------------------------|-------|--------------|-----------------|---------|----------|----------------------|--------------|----------------|-------------------------|------------------|------------------------------|-----------|------------|
| Allied                     |       |              |                 |         |          |                      |              |                | Coolant CHT EGT         | Oil Inlet Outlet |                              |           |            |
| A-20C, 1941                | 0-110 | No           | 0-100           | Yes     | No       |                      | 2 Stages     | 2200           | 220                     | 100              | C, 2, 4, 6, 8, O             | 3 X       | No         |
| A-20G, 1943                | 0-110 | No           | 0-100           | Yes     | No       |                      | 2 Stages     | 2200           | 220                     | 100              | C, 2, 4, 6, 8, O             | 3 X       | No         |
| B-25J-1NA, 1944            | 0-110 | No           | 0-100           | Yes     | No       |                      | 2 Stages     | 2700           | 220                     | 100              | C, 2, 4, 6, 8, O             | 3 X       | No         |
| Beaufighter Mk.21, 1944    | 0-110 | No           | 0-100           | Yes     | 0-120    | 5000                 | No           |                | 230                     | 100              | C, 2, 4, 6, 8, O             | No        | No         |
| BI-1, 1942                 | 0-100 | No           | No              | No      | No       |                      | No           |                | -                       | -                | No                           | No        | No         |
| Bi-6, 1942                 | 0-100 | No           | No              | No      | No       |                      | No           |                | -                       | -                | No                           | No        | No         |
| Buffalo Mk.I, 1941         | 0-110 | No           | 0-100           | No      | 0-120    | 9000                 | 2 Stages     | 3000           | 250                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| CW-21B, 1940               | 0-110 | No           | 0-100           | No      | 0-120    | 9000                 | 2 Stages     | 2200           | 250                     | 90               | C, 2, 4, 6, 8, O             | No        | No         |
| F2A-2, 1941                | 0-110 | No           | 0-100           | No      | 0-120    | 9000                 | 2 Stages     | 3000           | 250                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| F4F-3, 1941                | 0-110 | No           | 0-100           | No      | 100, 120 |                      | 3 Stages     | 2500 - 4800    | 250                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| F4F-4, 1942                | 0-110 | No           | 0-100           | No      | 100, 120 |                      | 3 Stages     | 2500 - 4800    | 250                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| FM-2, 1943                 | 0-110 | Auto (≥ 100) | 0-100           | No      | 100, 120 |                      | 2 Stages     | 2500           | 250                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| F4U-1A, 1943               | 0-110 | Auto (≥ 100) | 0-100           | No      | 100, 120 |                      | 3 Stages     | 2600 - 8200    | 230                     | 100              | C, 2, 4, 6, 8, O             | No        | Yes        |
| F4U-1C, 1945               | 0-110 | Auto (≥ 100) | 0-100           | No      | 100, 120 |                      | 3 Stages     | 2600 - 8200    | 230                     | 100              | C, 2, 4, 6, 8, O             | No        | Yes        |
| F4U-1D, 1944               | 0-110 | Auto (≥ 100) | 0-100           | No      | 100, 120 |                      | 3 Stages     | 2600 - 8200    | 230                     | 100              | C, 2, 4, 6, 8, O             | No        | Yes        |
| Corsair Mk.I, 1943         | 0-110 | No           | 0-100           | No      | 100, 120 |                      | 3 Stages     | 2600 - 8200    | 230                     | 100              | C, 2, 4, 6, 8, O             | No        | Yes        |
| Corsair Mk.II, 1943        | 0-110 | Auto (≥ 100) | 0-100           | No      | 100, 120 |                      | 3 Stages     | 2600 - 8200    | 230                     | 100              | C, 2, 4, 6, 8, O             | No        | Yes        |
| Corsair Mk.IV, 1944        | 0-110 | Auto (≥ 100) | 0-100           | No      | 100, 120 |                      | 3 Stages     | 2600 - 8200    | 230                     | 100              | C, 2, 4, 6, 8, O             | No        | Yes        |
| F6F-3 Late, 1943           | 0-110 | No           | 0-100           | No      | 100, 120 |                      | 3 Stages     | 2500 - 8100    | 240                     | 100              | C, 2, 4, 6, 8, O             | No        | Yes        |
| F6F-5, 1944                | 0-110 | Auto (≥ 100) | 0-100           | No      | 100, 120 |                      | 3 Stages     | 2500 - 8100    | 240                     | 100              | C, 2, 4, 6, 8, O             | No        | Yes        |
| Hurricane Mk.IIb, 1940     | 0-100 | Yes          | 0-100           | No      | No       |                      | 2 Stages     | 2800           | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| Hurricane Mk.IIc, 1941     | 0-100 | Yes          | 0-100           | No      | No       |                      | 2 Stages     | 2800           | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| Hurricane Mk.II field mod. | 0-100 | Yes          | 0-100           | No      | No       |                      | 2 Stages     | 2800           | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| I-15bis, 1937              | 0-110 | No           | No              | No      | 0-120    | 4700                 | No           |                | 260                     | 120              | C, 2, 4, 6, 8, O             | No        | No         |
| I-15bis (skis), 1937       | 0-110 | No           | No              | No      | 0-120    | 4700                 | No           |                | 260                     | 120              | C, 2, 4, 6, 8, O             | No        | No         |
| I-153 M-62, 1939           | 0-110 | No           | 0-100           | No      | 0-120    | 4500                 | 2 Stages     | 2200           | 240                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| I-153P, 1939               | 0-110 | No           | 0-100           | No      | 0-120    | 4600                 | 2 Stages     | 2200           | 240                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| I-16 Type 5, 1935          | 0-100 | No           | No              | No      | 0-120    | 4800                 | No           |                | 260                     | 120              | C, 2, 4, 6, 8, O             | No        | No         |
| I-16 Type 5 (SPB), 1938    | 0-100 | No           | No              | No      | 0-120    | 4800                 | No           |                | 260                     | 120              | C, 2, 4, 6, 8, O             | No        | No         |
| I-16 Type 5 (skis), 1935   | 0-100 | No           | No              | No      | 0-120    | 4800                 | No           |                | 260                     | 120              | C, 2, 4, 6, 8, O             | No        | No         |
| I-16 Type 6, 1937          | 0-100 | No           | No              | No      | 0-120    | 4700                 | No           |                | 260                     | 120              | C, 2, 4, 6, 8, O             | No        | No         |
| I-16 Type 6 (skis), 1937   | 0-100 | No           | No              | No      | 0-120    | 4700                 | No           |                | 260                     | 120              | C, 2, 4, 6, 8, O             | No        | No         |
| I-16 Type 18, 1939         | 0-110 | No           | 0-100           | No      | 0-120    | 4600                 | 2 Stages     | 2200           | 260                     | 125              | C, 2, 4, 6, 8, O             | No        | Yes        |
| I-16 Type 24, 1939         | 0-110 | No           | 0-100           | No      | 0-120    | 4700                 | 2 Stages     | 2200           | 260                     | 125              | C, 2, 4, 6, 8, O             | No        | Yes        |
| I-16 Type 24 (SPB), 1939   | 0-110 | No           | 0-100           | No      | 0-120    | 4700                 | 2 Stages     | 2200           | 260                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| I-185 M-71, 1942           | 0-100 | Yes          | 0-100           | No      | 0-120    | 5000                 | 3 Stages     | 2000 - 4200    | 255                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| I-185 M-82A, 1942          | 0-100 | Yes          | 0-100           | No      | 0-120    | 5100                 | 3 Stages     | 2000 - 4200    | 230                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| I-250, 1946                | 0-100 | No           | 0-100           | No      | 0-120    | 5100                 | 2 Stages     | 2000           | 110/700                 | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| IL-2, 1941 (1 series)      | 0-110 | No           | 0-100           | No      | 0-120    | 6650                 | No           |                | 125                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| IL-2, 1941 (2 series)      | 0-110 | No           | 0-100           | No      | 0-120    | 6650                 | No           |                | 125                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| IL-2, 1941 (3 series)      | 0-110 | No           | 0-100           | No      | 0-120    | 6650                 | No           |                | 125                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| IL-2, 1941 field mod.      | 0-110 | No           | 0-100           | No      | 0-120    | 6650                 | No           |                | 125                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| IL-2I, 1943                | 0-110 | No           | 0-100           | No      | 0-120    | 6650                 | No           |                | 125                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| IL-2M, 1942 (first series) | 0-110 | No           | 0-100           | No      | 0-120    | 6650                 | No           |                | 125                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| IL-2M, 1942 (later series) | 0-110 | No           | 0-100           | No      | 0-120    | 6650                 | No           |                | 125                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| IL-2T, 1943                | 0-110 | No           | 0-100           | No      | 0-120    | 6650                 | No           |                | 125                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| IL-2 Type 3, 1943          | 0-110 | No           | 0-100           | No      | 0-120    | 6650                 | No           |                | 125                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| IL-2 Type 3M, 1943         | 0-110 | No           | 0-100           | No      | 0-120    | 6650                 | No           |                | 125                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| IL-4, 1942                 | 0-110 | Auto (≥ 100) | 0-100           | No      | 0-120    | 4750                 | 2 Stages     | 4000           | 240                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| IL-10, 1945                | 0-110 | No           | 0-100           | No      | 0-120    | 6800                 | No           |                | 115                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |

List based partially on the IL-2 Functions tables, by [Shmulik Hen \(AKA 101Hedgehog\)](#), and on the Engine temperature guide, by Team Daidalos, and adapted by Corsican Corsair.

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|----------------------------|-------|--------------|-----------------|---------|----------|----------------------|--------------------|----------------|-------------------------|------------------|------------------------------|-----------|------------|
| Allied                     |       |              |                 |         |          |                      |                    |                | Coolant CHT EGT         | Oil Inlet Outlet |                              |           |            |
| LaGG-3, 1941 (4 series)    | 0-110 | No           | 0-100           | No      | 0-120    | 4850                 | 2 Stages           | 2200           | 110                     | 115              | C, 2, 4, 6, 8, O             | No        | Yes        |
| LaGG-3, 1942 (29 series)   | 0-110 | No           | 0-100           | No      | 0-120    | 3250                 | 2 Stages           | 2200           | 110                     | 115              | C, 2, 4, 6, 8, O             | No        | Yes        |
| LaGG-3, 1942 (35 series)   | 0-110 | No           | 0-100           | No      | 0-120    | 3250                 | 2 Stages           | 2200           | 110                     | 115              | C, 2, 4, 6, 8, O             | No        | Yes        |
| LaGG-3 IT, 1943            | 0-110 | No           | 0-100           | No      | 0-120    | 3250                 | 2 Stages           | 2200           | 110                     | 115              | C, 2, 4, 6, 8, O             | No        | No         |
| LaGG-3, 1943 (66 series)   | 0-110 | No           | 0-100           | No      | 0-120    | 3250                 | 2 Stages           | 2200           | 110                     | 115              | C, 2, 4, 6, 8, O             | No        | Yes        |
| LaGG-3 RD, 1944            | 0-100 | No           | No              | No      | No       |                      | No                 |                | 1000                    | -                | No                           | No        | No         |
| La-5, 1942                 | 0-100 | Yes          | 0-100           | No      | 0-120    | 5000                 | 2 Stages           | 3500           | 235                     | 125              | C, 2, 4, 6, 8, O             | No        | Yes        |
| La-5F, 1943                | 0-100 | Auto (+100)  | 0-100           | No      | 0-120    | 5000                 | 2 Stages           | 3500           | 235                     | 125              | C, 2, 4, 6, 8, O             | No        | Yes        |
| La-5FN, 1943               | 0-110 | Auto (≥ 100) | 0-100           | No      | 0-120    | 5000                 | 2 Stages           | 3500           | 235                     | 125              | C, 2, 4, 6, 8, O             | No        | Yes        |
| La-7, 1944                 | 0-110 | Auto (≥ 100) | 0-100           | No      | 0-120    | 5300                 | 2 Stages           | 3500           | 235                     | 125              | C, 2, 4, 6, 8, O             | No        | Yes        |
| La-7 3xB-20, 1944          | 0-110 | Auto (≥ 100) | 0-100           | No      | 0-120    | 5300                 | 2 Stages           | 3500           | 235                     | 125              | C, 2, 4, 6, 8, O             | No        | Yes        |
| La-7R, 1945                | 0-110 | Auto (≥ 100) | 0-100           | No      | 0-120    | 5300                 | 2 Stages           | 4500           | 235/650                 | 125              | C, 2, 4, 6, 8, O             | No        | Yes        |
| MiG-3, 1940                | 0-110 | No           | 0-100           | No      | 0-120    | 7000                 | No                 |                | 115                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| MiG-3ud, 1941              | 0-110 | No           | 0-100           | No      | 0-120    | 7000                 | No                 |                | 115                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| MiG-3 2xUB, 1941           | 0-110 | No           | 0-100           | No      | 0-120    | 7000                 | No                 |                | 115                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| MiG-3 2xShVAK, 1941        | 0-110 | No           | 0-100           | No      | 0-120    | 7000                 | No                 |                | 115                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| MiG-3 AM-38, 1941          | 0-110 | No           | 0-100           | No      | 0-120    | 6900                 | No                 |                | 115                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| MiG-3U, 1942               | 0-110 | No           | 0-100           | No      | 0-120    | 7000                 | No                 |                | 115                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| MiG-9 (I-300), 1946        | 0-100 | No           | No              | No      | No       |                      | No                 |                | 850                     | -                | No                           | No        | No         |
| MiG-9FS, 1946              | 0-100 | No           | No              | No      | No       |                      | No                 |                | 850                     | -                | No                           | No        | No         |
| Mosquito FB.Mk.VI, 1943    | 0-110 | Yes          | 0-100           | Yes     | No       |                      | No                 |                | 125                     | 90               | C, O                         | 5 X       | No         |
| Mosquito FB.Mk.XVIII, 1943 | 0-110 | Yes          | 0-100           | Yes     | No       |                      | No                 |                | 125                     | 90               | C, O                         | 5 X       | Yes        |
| P.11c, 1939                | 0-100 | No           | No              | No      | 0-120    | 5100                 | No                 |                | 110                     | 85               | No                           | No        | No         |
| P-38J, 1943                | 0-110 | No           | 0-100           | Yes     | No       |                      | No                 |                | 130                     | 95               | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| P-38L, 1944                | 0-110 | No           | 0-100           | Yes     | No       |                      | No                 |                | 130                     | 95               | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| P-38L Late, 1944           | 0-110 | Auto (≥ 100) | 0-100           | Yes     | No       |                      | No                 |                | 130                     | 95               | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| P-400, 1941                | 0-100 | No           | 0-100           | No      | No       |                      | No                 |                | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| P-39D-1, 1941              | 0-100 | No           | 0-100           | No      | No       |                      | No                 |                | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| P-39D-2, 1941              | 0-110 | No           | 0-100           | No      | No       |                      | No                 |                | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| P-39N-1, 1942              | 0-110 | No           | 0-100           | No      | No       |                      | No                 |                | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| P-39Q-1, 1944              | 0-110 | No           | 0-100           | No      | No       |                      | No                 |                | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| P-39Q-10, 1944             | 0-110 | No           | 0-100           | No      | No       |                      | No                 |                | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| Hawk 81A-2, 1941           | 0-110 | Auto (≥ 100) | 0-100           | No      | 100, 120 |                      | No                 |                | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| P-40B, 1941                | 0-110 | Auto (≥ 100) | 0-100           | No      | 100, 120 |                      | No                 |                | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| P-40C, 1941                | 0-110 | Auto (≥ 100) | 0-100           | No      | 100, 120 |                      | No                 |                | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| Tomahawk Mk.IIa, 1941      | 0-110 | Auto (≥ 100) | 0-100           | No      | 100, 120 |                      | No                 |                | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| Tomahawk Mk.IIb, 1941      | 0-110 | Auto (≥ 100) | 0-100           | No      | 100, 120 |                      | No                 |                | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| P-40E, 1941                | 0-110 | Auto (≥ 100) | 0-100           | No      | 100, 120 |                      | No                 |                | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| P-40E M-105 field mod.     | 0-110 | No           | 0-100           | No      | 0-120    | 4800                 | 2 Stages           | 2000           | 110                     | 90               | C, 2, 4, 6, 8, O             | No        | No         |
| P-40M, 1942                | 0-110 | Auto (≥ 100) | 0-100           | No      | 100, 120 |                      | No                 |                | 125                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| P-47D-10, 1943             | 0-110 | Auto (≥ 100) | 0-100           | No      | No       |                      | No                 |                | 250                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| P-47D-22, 1943             | 0-110 | Auto (≥ 100) | 0-100           | No      | No       |                      | No                 |                | 250                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| P-47D-27, 1944             | 0-110 | Auto (≥ 100) | 0-100           | No      | No       |                      | No                 |                | 250                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| P-47D, 1944                | 0-110 | Auto (≥ 100) | 0-100           | No      | No       |                      | No                 |                | 250                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| P-51B-NA, 1943             | 0-110 | Auto (≥ 100) | 0-100           | No      | No       |                      | Auto (Warn. Light) |                | 125                     | 95               | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| P-51C-NT, 1943             | 0-110 | Auto (≥ 100) | 0-100           | No      | No       |                      | Auto (Warn. Light) |                | 125                     | 95               | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| P-51D-5NT, 1944            | 0-110 | Auto (≥ 100) | 0-100           | No      | No       |                      | Auto (Warn. Light) |                | 125                     | 95               | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| P-51D-20NA, 1944           | 0-110 | Auto (≥ 100) | 0-100           | No      | No       |                      | Auto (Warn. Light) |                | 125                     | 95               | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| Mustang Mk.III, 1944       | 0-110 | Auto (≥ 100) | 0-100           | No      | No       |                      | Auto (Warn. Light) |                | 125                     | 95               | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| P-63C-5, 1944              | 0-110 | Auto (≥ 100) | 0-100           | No      | No       |                      | No                 |                | 125                     | 95               | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |

Altitude in meters - Temperature in degrees Celsius



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Aircraft & Operational Controls (Allied)

| Aircraft                          | Power | Boost        | Propeller Pitch | Feather | Mixture | Mixture Setting Alt. | Supercharger       | Altitude S2-S3 | Max. Engine Temperature |                  | Cowl Flaps Radiator Shutters | Fire Ext. | Drop Tanks |
|-----------------------------------|-------|--------------|-----------------|---------|---------|----------------------|--------------------|----------------|-------------------------|------------------|------------------------------|-----------|------------|
| Allied                            |       |              |                 |         |         |                      |                    |                | Coolant CHT EGT         | Oil Inlet Outlet |                              |           |            |
| Pe-2, 1940 (1 series)             | 0-110 | No           | 0-100           | No      | 0-120   | 4700                 | 2 Stages           | 3100           | 110                     | 90               | C, 2, 4, 6, 8, O             | No        | No         |
| Pe-2, 1942 (84 series)            | 0-110 | No           | 0-100           | No      | 0-120   | 4700                 | 2 Stages           | 3100           | 110                     | 90               | C, 2, 4, 6, 8, O             | No        | No         |
| Pe-2, 1942 (110 series)           | 0-110 | No           | 0-100           | No      | 0-120   | 4700                 | 2 Stages           | 3100           | 110                     | 90               | C, 2, 4, 6, 8, O             | No        | No         |
| Pe-2, 1944 (359 series)           | 0-110 | No           | 0-100           | No      | 0-120   | 4700                 | 2 Stages           | 2800           | 110                     | 90               | C, 2, 4, 6, 8, O             | No        | No         |
| Pe-3, 1941                        | 0-110 | No           | 0-100           | No      | 0-120   | 4700                 | 2 Stages           | 3100           | 110                     | 90               | C, 2, 4, 6, 8, O             | No        | No         |
| Pe-3 bis, 1941                    | 0-110 | No           | 0-100           | No      | 0-120   | 4700                 | 2 Stages           | 3100           | 110                     | 90               | C, 2, 4, 6, 8, O             | No        | No         |
| Pe-8, 1940                        | 0-100 | Yes          | 0-100           | No      | 0-120   | 6500                 | No                 |                | 115                     | 130              | C, 2, 4, 6, 8, O             | 1 X       | No         |
| SB 2M-100A, 1937                  | 0-110 | Auto (≥ 100) | 0-100           | No      | 0-120   | 4750                 | No                 |                | 115                     | 103              | C, 2, 4, 6, 8, O             | No        | No         |
| SBD-3, 1942                       | 0-110 | No           | 0-100           | No      | 0-120   | 8900                 | 2 Stages           | 3200           | 250                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| SBD-5, 1943                       | 0-110 | No           | 0-100           | No      | 0-120   | 8900                 | 2 Stages           | 3200           | 250                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| Seafire L III, 1943               | 0-110 | Auto (≥ 100) | 0-100           | No      | No      |                      | No                 |                | 125                     | 93               | C, 2, 4, 6, 8, O             | No        | Yes        |
| Seafire F III, 1943               | 0-100 | Yes          | 0-100           | No      | No      |                      | No                 |                | 125                     | 93               | C, 2, 4, 6, 8, O             | No        | Yes        |
| Spitfire F Vb early, 1941         | 0-100 | Yes          | 0-100           | No      | No      |                      | No                 |                | 125                     | 90-95            | C, 2, 4, 6, 8, O             | No        | No         |
| Spitfire F Vb, 1941               | 0-100 | Yes          | 0-100           | No      | No      |                      | No                 |                | 125                     | 90-95            | C, 2, 4, 6, 8, O             | No        | No         |
| Spitfire F Vb, 1942               | 0-100 | Yes          | 0-100           | No      | No      |                      | No                 |                | 125                     | 90-95            | C, 2, 4, 6, 8, O             | No        | No         |
| Spitfire F Vb CW, 1943            | 0-100 | Yes          | 0-100           | No      | No      |                      | No                 |                | 125                     | 90-95            | C, 2, 4, 6, 8, O             | No        | No         |
| Spitfire LF Vb, 1942              | 0-110 | Auto (≥ 100) | 0-100           | No      | No      |                      | No                 |                | 125                     | 90-95            | C, 2, 4, 6, 8, O             | No        | No         |
| Spitfire LF Vb CW, 1943           | 0-110 | Auto (≥ 100) | 0-100           | No      | No      |                      | No                 |                | 125                     | 90-95            | C, 2, 4, 6, 8, O             | No        | No         |
| Spitfire F Vb Merlin46, 1942      | 0-100 | Yes          | 0-100           | No      | No      |                      | No                 |                | 125                     | 90-95            | C, 2, 4, 6, 8, O             | No        | No         |
| Spitfire F Vc(2) trop, early 1942 | 0-100 | Yes          | 0-100           | No      | No      |                      | No                 |                | 125                     | 90-95            | C, 2, 4, 6, 8, O             | No        | No         |
| Spitfire F Vc(2) trop 1942        | 0-100 | Yes          | 0-100           | No      | No      |                      | No                 |                | 125                     | 90-95            | C, 2, 4, 6, 8, O             | No        | No         |
| Spitfire F Vc(4) trop, early 1942 | 0-100 | Yes          | 0-100           | No      | No      |                      | No                 |                | 125                     | 90-95            | C, 2, 4, 6, 8, O             | No        | No         |
| Spitfire LF VIII, 1943            | 0-110 | Auto (≥ 100) | 0-100, Auto     | No      | No      |                      | Auto (Warn. Light) |                | 125                     | 90-95            | No                           | No        | Yes        |
| Spitfire LF VIII CW, 1943         | 0-110 | Auto (≥ 100) | 0-100, Auto     | No      | No      |                      | Auto (Warn. Light) |                | 125                     | 90-95            | No                           | No        | Yes        |
| Spitfire F IXc, 1942              | 0-110 | Auto (≥ 100) | 0-100           | No      | No      |                      | Auto (Warn. Light) |                | 125                     | 90-95            | No                           | No        | Yes        |
| Spitfire F IXc, 1943              | 0-110 | Auto (≥ 100) | 0-100           | No      | No      |                      | Auto (Warn. Light) |                | 125                     | 90-95            | No                           | No        | Yes        |
| Spitfire LF IXc, 1943             | 0-110 | Auto (≥ 100) | 0-100           | No      | No      |                      | Auto (Warn. Light) |                | 125                     | 90-95            | No                           | No        | Yes        |
| Spitfire LF IXc CW, 1943          | 0-110 | Auto (≥ 100) | 0-100           | No      | No      |                      | Auto (Warn. Light) |                | 125                     | 90-95            | No                           | No        | Yes        |
| Spitfire HF IXc, 1944             | 0-110 | Auto (≥ 100) | 0-100           | No      | No      |                      | Auto (Warn. Light) |                | 125                     | 90-95            | No                           | No        | Yes        |
| Spitfire LF IXe, 1944             | 0-110 | Auto (≥ 100) | 0-100, Auto     | No      | No      |                      | Auto (Warn. Light) |                | 125                     | 90-95            | No                           | No        | Yes        |
| Spitfire LF IXe CW, 1944          | 0-110 | Auto (≥ 100) | 0-100, Auto     | No      | No      |                      | Auto (Warn. Light) |                | 125                     | 90-95            | No                           | No        | Yes        |
| Spitfire HF IXe, 1944             | 0-110 | Auto (≥ 100) | 0-100, Auto     | No      | No      |                      | Auto (Warn. Light) |                | 125                     | 90-95            | No                           | No        | Yes        |
| Spitfire LF IXc 25lbs, 1944       | 0-110 | Auto (≥ 100) | 0-100           | No      | No      |                      | Auto (Warn. Light) |                | 125                     | 90-95            | No                           | No        | Yes        |
| Spitfire LF IXe CW 25lbs, 1944    | 0-110 | Auto (≥ 100) | 0-100, Auto     | No      | No      |                      | Auto (Warn. Light) |                | 125                     | 90-95            | No                           | No        | Yes        |
| Tempest Mk.V, 1944                | 0-110 | Yes          | 0-100           | No      | No      |                      | 2 Stages           | 3000           | 130                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| TB-3 4M-17, 1933                  | 0-100 | No           | No              | No      | No      |                      | No                 |                | -                       | -                | C, 2, 4, 6, 8, O             | 5 X       | No         |
| TB-3 4M-34R, 1933                 | 0-110 | No           | No              | No      | No      |                      | No                 |                | -                       | -                | C, 2, 4, 6, 8, O             | 5 X       | No         |
| TB-3 4M-34R (SPB)                 | 0-110 | No           | No              | No      | No      |                      | No                 |                | -                       | -                | C, 2, 4, 6, 8, O             | 5 X       | No         |
| TB-7 M-40F, 1940                  | 0-100 | Yes          | 0-100           | No      | 0-120   | 6750                 | No                 |                | 115                     | 130              | C, 2, 4, 6, 8, O             | 1 X       | No         |
| Yak-1, 1941                       | 0-110 | No           | 0-100           | No      | 0-120   | 4800                 | 2 Stages           | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| Yak-1B, 1942                      | 0-110 | No           | 0-100           | No      | 0-120   | 3400                 | 2 Stages           | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| Yak-3, 1944                       | 0-110 | No           | 0-100           | No      | 0-120   | 4400                 | 2 Stages           | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O, Auto       | No        | No         |
| Yak-3P, 1945                      | 0-110 | No           | 0-100           | No      | 0-120   | 4400                 | 2 Stages           | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O, Auto       | No        | No         |
| Yak-3 VK-107, 1945                | 0-110 | No           | 0-100           | No      | 0-120   | 4850                 | 2 Stages           | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| Yak-3R, 1944                      | 0-110 | No           | 0-100           | No      | 0-120   | 4400                 | 2 Stages           | 2000           | 110/650                 | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| Yak-7A, 1941                      | 0-110 | No           | 0-100           | No      | 0-120   | 4800                 | 2 Stages           | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| Yak-7B, 1941                      | 0-110 | No           | 0-100           | No      | 0-120   | 4800                 | 2 Stages           | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| Yak-7B, 1942                      | 0-110 | No           | 0-100           | No      | 0-120   | 3250                 | 2 Stages           | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| Yak-9, 1942                       | 0-110 | No           | 0-100           | No      | 0-120   | 3350                 | 2 Stages           | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| Yak-9B, 1944                      | 0-110 | No           | 0-100           | No      | 0-120   | 3350                 | 2 Stages           | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |

Altitude in meters - Temperature in degrees Celsius



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# ENGINE CONTROLS

| Aircraft      | Power | Boost | Propeller Pitch | Feather | Mixture | Mixture Setting Alt. | Supercharger | Altitude S2-S3 | Max. Engine Temperature |                  | Cowl Flaps Radiator Shutters | Fire Ext. | Drop Tanks |
|---------------|-------|-------|-----------------|---------|---------|----------------------|--------------|----------------|-------------------------|------------------|------------------------------|-----------|------------|
| Allied        |       |       |                 |         |         |                      |              |                | Coolant CHT EGT         | Oil Inlet Outlet |                              |           |            |
| Yak-9D, 1943  | 0-110 | No    | 0-100           | No      | 0-120   | 3350                 | 2 Stages     | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| Yak-9M, 1944  | 0-110 | No    | 0-100           | No      | 0-120   | 4200                 | 2 Stages     | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O, Auto       | No        | No         |
| Yak-9K, 1944  | 0-110 | No    | 0-100           | No      | 0-120   | 3450                 | 2 Stages     | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| Yak-9T, 1943  | 0-110 | No    | 0-100           | No      | 0-120   | 3350                 | 2 Stages     | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| Yak-9U, 1944  | 0-110 | No    | 0-100           | No      | 0-120   | 4800                 | 2 Stages     | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O, Auto       | No        | No         |
| Yak-9UT, 1945 | 0-110 | No    | 0-100           | No      | 0-120   | 4800                 | 2 Stages     | 2000           | 110                     | 110              | C, 2, 4, 6, 8, O, Auto       | No        | No         |
| Yak-15, 1946  | 0-100 | No    | No              | No      | No      |                      | No           |                | 650                     | -                | No                           | No        | No         |
| YP-80, 1944   | 0-100 | No    | No              | No      | No      |                      | No           |                | 800                     | -                | No                           | No        | No         |

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Aircraft & Operational Controls (Allied)



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Aircraft & Operational Controls (Axis)

| Aircraft                  | Power | Boost | Propeller Pitch | Feather | Mixture  | Mixture Setting Alt. | Supercharger | Altitude S2-S3 | Max. Engine Temperature |                  | Cowl Flaps Radiator Shutters | Fire Ext. | Drop Tanks |
|---------------------------|-------|-------|-----------------|---------|----------|----------------------|--------------|----------------|-------------------------|------------------|------------------------------|-----------|------------|
| Axis                      |       |       |                 |         |          |                      |              |                | Coolant CHT EGT         | Oil Inlet Outlet |                              |           |            |
| A6M2, 1940                | 0-110 | No    | 0-100           | No      | 0-120    | 6200                 | No           |                | 250                     | 87               | C, 2, 4, 6, 8, O             | No        | Yes        |
| A6M2-21, 1941             | 0-110 | No    | 0-100           | No      | 0-120    | 6200                 | No           |                | 250                     | 87               | C, 2, 4, 6, 8, O             | No        | Yes        |
| A6M2-N, 1942              | 0-110 | No    | 0-100           | No      | 0-120    | 6200                 | No           |                | 250                     | 87               | C, 2, 4, 6, 8, O             | No        | No         |
| A6M3, 1942                | 0-110 | Yes   | 0-100           | No      | 100, 120 |                      | 2 Stages     | 3300           | 230                     | 90               | C, 2, 4, 6, 8, O             | No        | Yes        |
| A6M5, 1943                | 0-110 | Yes   | 0-100           | No      | 100, 120 |                      | 2 Stages     | 3300           | 230                     | 90               | C, 2, 4, 6, 8, O             | No        | Yes        |
| A6M5a, 1944               | 0-110 | Yes   | 0-100           | No      | 100, 120 |                      | 2 Stages     | 3300           | 230                     | 90               | C, 2, 4, 6, 8, O             | No        | Yes        |
| A6M5b, 1944               | 0-110 | Yes   | 0-100           | No      | 100, 120 |                      | 2 Stages     | 3300           | 230                     | 90               | C, 2, 4, 6, 8, O             | No        | Yes        |
| A6M5c, 1944               | 0-110 | Yes   | 0-100           | No      | 100, 120 |                      | 2 Stages     | 3300           | 230                     | 90               | C, 2, 4, 6, 8, O             | No        | Yes        |
| A6M7-62, 1945             | 0-110 | Yes   | 0-100           | No      | 100, 120 |                      | 2 Stages     | 3300           | 230                     | 90               | C, 2, 4, 6, 8, O             | No        | Yes        |
| A6M7-63, 1945             | 0-110 | Yes   | 0-100           | No      | 100, 120 |                      | 2 Stages     | 3300           | 230                     | 90               | C, 2, 4, 6, 8, O             | No        | Yes        |
| Ar-234B-2/lpr, 1944       | 0-100 | No    | No              | No      | No       |                      | No           |                | 640                     | -                | No                           | No        | Yes        |
| B5N2, 1939                | 0-100 | Yes   | 0-100           | No      | 0-120    | 6100                 | No           |                | 220                     | 87               | C, 2, 4, 6, 8, O             | No        | No         |
| B-239, 1940               | 0-110 | No    | 0-100           | No      | 0-120    | 9000                 | 2 Stages     | 3000           | 250                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| B-534-IV, 1937            | 0-100 | No    | No              | No      | 0-120    | 6100                 | No           |                | 115                     | 105              | C, 2, 4, 6, 8, O             | 1 X       | No         |
| Bf 109 E-4, 1940          | 0-110 | No    | 0-100, Auto     | No      | No       |                      | No           |                | 100                     | 80               | C, 2, 4, 6, 8, O, Auto       | No        | No         |
| Bf 109 E-4/B, 1940        | 0-110 | No    | 0-100, Auto     | No      | No       |                      | No           |                | 100                     | 80               | C, 2, 4, 6, 8, O, Auto       | No        | No         |
| Bf 109 E-7/B, 1941        | 0-110 | No    | 0-100, Auto     | No      | No       |                      | No           |                | 100                     | 80               | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| Bf 109 E-7/Z, 1941        | 0-110 | Yes   | 0-100, Auto     | No      | No       |                      | No           |                | 100                     | 80               | C, 2, 4, 6, 8, O, Auto       | No        | No         |
| Bf 109 F-2, 1941          | 0-110 | No    | 0-100, Auto     | No      | No       |                      | No           |                | 80                      | -                | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| Bf 109 F-4, 1941          | 0-110 | No    | 0-100, Auto     | No      | No       |                      | No           |                | 80                      | -                | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| Bf 109 G-2, 1942          | 0-110 | No    | 0-100, Auto     | No      | No       |                      | No           |                | 80                      | -                | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| Bf 109 G-6, 1943          | 0-110 | No    | 0-100, Auto     | No      | No       |                      | No           |                | 80                      | -                | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| Bf 109 G-6 Late, 1943     | 0-110 | No    | 0-100, Auto     | No      | No       |                      | No           |                | 80                      | -                | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| Bf 109 G-6/AS, 1944       | 0-110 | Yes   | 0-100, Auto     | No      | No       |                      | No           |                | 80                      | -                | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| Bf 109 G-10, 1944         | 0-110 | Yes   | 0-100, Auto     | No      | No       |                      | No           |                | 80                      | -                | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| Bf 109 G-14, 1944         | 0-110 | Yes   | 0-100, Auto     | No      | No       |                      | No           |                | 80                      | -                | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| Bf 109 K-4, 1944          | 0-110 | Yes   | 0-100, Auto     | No      | No       |                      | No           |                | 115                     | 80               | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| Bf 109 K-4 C3, 1945       | 0-110 | Yes   | 0-100, Auto     | No      | No       |                      | No           |                | 115                     | 80               | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| Bf 109 Z, 1944            | 0-110 | No    | 0-100, Auto     | No      | No       |                      | No           |                | 80                      | -                | C, 2, 4, 6, 8, O, Auto       | No        | No         |
| Bf 110 G-2, 1942          | 0-110 | No    | 0-100, Auto     | Yes     | No       |                      | No           |                | 115                     | 105              | C, 2, 4, 6, 8, O, Auto       | No        | Yes        |
| CR.42, 1939               | 0-110 | No    | 0-100           | No      | 0-120    | 4400                 | No           |                | -                       | 130              | C, 2, 4, 6, 8, O             | No        | No         |
| D.XXI sarja 3 Early, 1939 | 0-110 | No    | No              | No      | 0-120    | 5000                 | No           |                | 240                     | 90               | No                           | 3 X       | No         |
| D.XXI sarja 3 Late, 1941  | 0-110 | No    | No              | No      | 0-120    | 5000                 | No           |                | 240                     | 90               | No                           | 3 X       | No         |
| D3A1, 1940                | 0-110 | No    | 0-100           | No      | 0-120    | 6050                 | No           |                | 250                     | 97               | C, 2, 4, 6, 8, O             | No        | No         |
| Do 335 A-0, 1944          | 0-110 | No    | 0-100, Auto     | Yes     | No       |                      | No           |                | 115                     | 120              | C, 2, 4, 6, 8, O, Auto       | 5 X       | No         |
| Do 335 V-13, 1946         | 0-110 | No    | 0-100, Auto     | Yes     | No       |                      | No           |                | 115                     | 120              | C, 2, 4, 6, 8, O, Auto       | 5 X       | No         |
| Fw 190 A-4, 1942          | 0-88  | No    | 0-100, Auto     | No      | No       |                      | No           |                | -                       | 80               | C, 2, 4, 6, 8, O             | No        | Yes        |
| Fw 190 A-4 1.42 Ata, 1942 | 0-100 | No    | 0-100, Auto     | No      | No       |                      | No           |                | -                       | 80               | C, 2, 4, 6, 8, O             | No        | Yes        |
| Fw 190 A-5, 1943          | 0-100 | No    | 0-100, Auto     | No      | No       |                      | No           |                | -                       | 80               | C, 2, 4, 6, 8, O             | No        | Yes        |
| Fw 190 A-5 1.65 Ata, 1943 | 0-100 | Yes   | 0-100, Auto     | No      | No       |                      | No           |                | -                       | 80               | C, 2, 4, 6, 8, O             | No        | Yes        |
| Fw 190 A-6, 1943          | 0-100 | No    | 0-100, Auto     | No      | No       |                      | No           |                | -                       | 80               | C, 2, 4, 6, 8, O             | No        | Yes        |
| Fw 190 A-8, 1944          | 0-100 | Yes   | 0-100, Auto     | No      | No       |                      | No           |                | -                       | 80               | C, 2, 4, 6, 8, O             | No        | Yes        |
| Fw 190 A-9, 1944          | 0-100 | No    | 0-100, Auto     | No      | No       |                      | No           |                | -                       | 80               | C, 2, 4, 6, 8, O             | No        | Yes        |
| Fw 190 D-9, 1944          | 0-100 | Yes   | 0-100, Auto     | No      | No       |                      | No           |                | 100                     | 80               | C, 2, 4, 6, 8, O, Auto       | No        | No         |
| Fw 190 D-9, 1945          | 0-110 | Yes   | 0-100, Auto     | No      | No       |                      | No           |                | 100                     | 80               | C, 2, 4, 6, 8, O, Auto       | No        | No         |
| Fw 190 F-8, 1944          | 0-100 | Yes   | 0-100, Auto     | No      | No       |                      | No           |                | -                       | 80               | C, 2, 4, 6, 8, O             | No        | No         |
| Fw 190 A-8 (Mistel), 1944 | 0-100 | Yes   | 0-100, Auto     | No      | No       |                      | No           |                | -                       | 80               | C, 2, 4, 6, 8, O             | No        | No         |
| G.50, 1938                | 0-110 | No    | 0-100           | No      | 0-120    | 4450                 | No           |                | 250                     | 130              | C, 2, 4, 6, 8, O             | 5 X       | No         |
| G4M1-11, 1941             | 0-110 | No    | 0-100           | Yes     | 0-120    | 6050                 | 2 Stages     | 3000           | 230                     | 87               | C, 2, 4, 6, 8, O             | No        | No         |
| Go 229 A-1, 1945          | 0-100 | No    | No              | No      | No       |                      | No           |                | 640                     | -                | No                           | No        | No         |

List based partially on the IL-2 Functions tables, by [Shmulik Hen \(AKA 101Hedgehog\)](#), and on the Engine temperature guide, by Team Daidalos, and adapted by Corsican Corsair.

Altitude in meters - Temperature in degrees Celsius

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# ENGINE CONTROLS

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Aircraft & Operational Controls (Axis)

| Aircraft                     | Power | Boost        | Propeller Pitch | Feather | Mixture  | Mixture Setting Alt. | Supercharger | Altitude S2-S3 | Max. Engine Temperature |                  | Cowl Flaps Radiator Shutters | Fire Ext. | Drop Tanks |
|------------------------------|-------|--------------|-----------------|---------|----------|----------------------|--------------|----------------|-------------------------|------------------|------------------------------|-----------|------------|
| Axis                         |       |              |                 |         |          |                      |              |                | Coolant CHT EGT         | Oil Inlet Outlet |                              |           |            |
| Hawk 75A-3, 1940             | 0-110 | Auto (≥ 100) | 0-100           | No      | 0-120    | 3500                 | No           |                | 240                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| Hawk 75A-4, 1940             | 0-100 | No           | 0-100           | No      | 0-120    | 4700                 | 2 Stages     | 3000           | 240                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| He 111 H-2, 1939             | 0-110 | No           | 0-100           | Yes     | 0-120    | 4500                 | 2 Stages     | 2800           | 100                     | 80               | C, 2, 4, 6, 8, O             | No        | No         |
| He 111 H-6, 1941             | 0-110 | No           | 0-100           | Yes     | 0-120    | 4500                 | 2 Stages     | 2800           | 100                     | 80               | C, 2, 4, 6, 8, O             | No        | No         |
| He 111 H-12, 1942            | 0-110 | No           | 0-100           | Yes     | 0-120    | 4500                 | 2 Stages     | 2800           | 100                     | 80               | C, 2, 4, 6, 8, O             | No        | No         |
| He 162A-2, 1945              | 0-100 | No           | No              | No      | No       |                      | No           |                | 640                     | -                | No                           | No        | No         |
| He 162C, 1946                | 0-110 | No           | No              | No      | No       |                      | No           |                | 640                     | -                | No                           | No        | No         |
| He 162D, 1946                | 0-110 | No           | No              | No      | No       |                      | No           |                | 640                     | -                | No                           | No        | No         |
| Heinkel Lerche III B-2, 1946 | 0-110 | No           | 0-100           | Yes     | No       |                      | No           |                | 120                     | -                | No                           | No        | No         |
| Hurricane Mk.I, 1938         | 0-100 | No           | 0-100           | No      | 100, 120 |                      | No           |                | 120                     | 93               | C, 2, 4, 6, 8, O             | No        | No         |
| Hs 129 B-2, 1942             | 0-110 | No           | -/+, Auto       | Yes     | 0-120    | 4550                 | No           |                | -                       | 125              | C, 2, 4, 6, 8, O             | 1 X       | No         |
| Hs 129 B-3/Wa, 1944          | 0-110 | No           | -/+, Auto       | Yes     | 0-120    | 4550                 | No           |                | -                       | 125              | C, 2, 4, 6, 8, O             | 1 X       | No         |
| I.A.R 80, 1940               | 0-110 | No           | 0-100           | No      | 0-120    | 4200                 | No           |                | -                       | 120              | C, 2, 4, 6, 8, O             | 5 X       | No         |
| I.A.R 81a, 1940              | 0-110 | No           | 0-100           | No      | 0-120    | 4200                 | No           |                | -                       | 120              | C, 2, 4, 6, 8, O             | 5 X       | No         |
| I.A.R 81c, 1940              | 0-110 | No           | 0-100           | No      | 0-120    | 4200                 | No           |                | -                       | 120              | C, 2, 4, 6, 8, O             | 5 X       | No         |
| J2M3, 1944                   | 0-110 | Yes          | 0-100           | No      | 0-120    | 6000                 | 2 Stages     | 3000           | 250                     | 100              | C, 2, 4, 6, 8, O             | No        | No         |
| J2M5, 1944                   | 0-110 | Yes          | 0-100           | No      | 0-120    | 6150                 | 3 Stages     | 3000 - 5500    | 250                     | 100              | C, 2, 4, 6, 8, O             | No        | No         |
| J8A, 1937                    | 0-110 | No           | No              | No      | 0-120    | 4800                 | No           |                | -                       | 70               | No                           | No        | No         |
| Ju 87 B-2, 1940              | 0-110 | No           | 0-100           | Yes     | No       |                      | 2 Stages     | 2800           | 95                      | 75               | C, 2, 4, 6, 8, O             | No        | No         |
| Ju 87 D-3, 1942              | 0-110 | No           | 0-100           | Yes     | No       |                      | 2 Stages     | 2800           | 120                     | 100              | C, 2, 4, 6, 8, O             | No        | No         |
| Ju 87 D-5, 1943              | 0-110 | No           | 0-100           | Yes     | No       |                      | 2 Stages     | 2800           | 120                     | 100              | C, 2, 4, 6, 8, O             | No        | No         |
| Ju 87 G-1, 1943              | 0-110 | No           | 0-100           | Yes     | No       |                      | 2 Stages     | 2800           | 120                     | 100              | C, 2, 4, 6, 8, O             | No        | No         |
| Ju 88 A-4, 1941              | 0-110 | No           | 0-100           | Yes     | No       |                      | No           |                | 120                     | 140              | C, 2, 4, 6, 8, O             | No        | No         |
| Ju 88 A-4/Torp, 1942         | 0-110 | No           | 0-100           | Yes     | No       |                      | No           |                | 120                     | 140              | C, 2, 4, 6, 8, O             | No        | No         |
| Ju 88 A-17, 1943             | 0-110 | No           | 0-100           | Yes     | No       |                      | No           |                | 120                     | 140              | C, 2, 4, 6, 8, O             | No        | No         |
| Ki-27 Ko, 1938               | 0-100 | Yes          | No              | No      | 0-120    | 5900                 | No           |                | 230                     | 120              | C, 2, 4, 6, 8, O             | No        | No         |
| Ki-27 Otsu, 1938             | 0-100 | Yes          | No              | No      | 0-120    | 5900                 | No           |                | 230                     | 120              | C, 2, 4, 6, 8, O             | No        | No         |
| Ki-43-Ia, 1941               | 0-110 | No           | 0-100           | No      | 0-120    | 6150                 | No           |                | 230                     | 120              | C, 2, 4, 6, 8, O             | No        | No         |
| Ki-43-Ib, 1941               | 0-110 | No           | 0-100           | No      | 0-120    | 6150                 | No           |                | 230                     | 120              | C, 2, 4, 6, 8, O             | No        | No         |
| Ki-43-Ic, 1941               | 0-110 | No           | 0-100           | No      | 0-120    | 6150                 | No           |                | 230                     | 120              | C, 2, 4, 6, 8, O             | No        | No         |
| Ki-43-II, 1942               | 0-110 | No           | 0-100           | No      | 0-120    | 6150                 | 2 Stages     | 3300           | 230                     | 120              | C, 2, 4, 6, 8, O             | No        | No         |
| Ki-43-II Kai, 1943           | 0-110 | No           | 0-100           | No      | 0-120    | 6150                 | 2 Stages     | 3300           | 230                     | 120              | C, 2, 4, 6, 8, O             | No        | No         |
| Ki-45 Kai Ko, 1942           | 0-100 | Yes          | 0-100           | No      | 0-120    | 6100                 | 2 Stages     | 2600           | 240                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| Ki-45 Kai Otsu, 1943         | 0-100 | Yes          | 0-100           | No      | 0-120    | 6100                 | 2 Stages     | 2600           | 240                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| Ki-45 Kai Hei, 1943          | 0-100 | Yes          | 0-100           | No      | 0-120    | 6100                 | 2 Stages     | 2600           | 240                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| Ki-45 Kai Tei, 1944          | 0-100 | Yes          | 0-100           | No      | 0-120    | 6100                 | 2 Stages     | 2600           | 240                     | 95               | C, 2, 4, 6, 8, O             | No        | No         |
| Ki-61-I Ko, 1942             | 0-110 | No           | 0-100           | No      | No       |                      | No           |                | 105                     | 105              | C, 2, 4, 6, 8, O             | No        | Yes        |
| Ki-61-I Hei, 1944            | 0-110 | No           | 0-100           | No      | No       |                      | No           |                | 105                     | 105              | C, 2, 4, 6, 8, O             | 4 X       | Yes        |
| Ki-61-I Otsu, 1943           | 0-110 | No           | 0-100           | No      | No       |                      | No           |                | 105                     | 105              | C, 2, 4, 6, 8, O             | No        | Yes        |
| Ki-84-Ia, 1944               | 0-110 | Yes          | 0-100           | No      | 100, 120 |                      | 2 Stages     | 2500           | 230                     | 125              | C, 2, 4, 6, 8, O             | No        | Yes        |
| Ki-84-Ib, 1944               | 0-110 | Yes          | 0-100           | No      | 100, 120 |                      | 2 Stages     | 2500           | 230                     | 125              | C, 2, 4, 6, 8, O             | No        | Yes        |
| Ki-84-Ic, 1945               | 0-110 | Yes          | 0-100           | No      | 100, 120 |                      | 2 Stages     | 2500           | 230                     | 125              | C, 2, 4, 6, 8, O             | No        | Yes        |
| Ki-100-I Ko, 1945            | 0-110 | Yes          | 0-100           | No      | 0-120    | 6100                 | 2 Stages     | 3500           | 220                     | 125              | C, 2, 4, 6, 8, O             | No        | No         |
| MC.200 Serie 3, 1940         | 0-110 | No           | 0-100           | No      | 0-120    | 4450                 | No           |                | 250                     | 130              | C, 2, 4, 6, 8, O             | 5 X       | No         |
| MC.200 Serie 7, 1941         | 0-110 | No           | 0-100           | No      | 0-120    | 4450                 | No           |                | 250                     | 130              | C, 2, 4, 6, 8, O             | 5 X       | No         |
| MC.200 Serie 7 FB, 1941      | 0-110 | No           | 0-100           | No      | 0-120    | 4450                 | No           |                | 250                     | 130              | C, 2, 4, 6, 8, O             | 5 X       | No         |
| MC.202 Serie III, 1941       | 0-110 | No           | 0-100           | No      | No       |                      | No           |                | 100                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| MC.202 Serie VII, 1942       | 0-110 | No           | 0-100           | No      | No       |                      | No           |                | 100                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| MC.202 Serie XII, 1943       | 0-110 | No           | 0-100           | No      | No       |                      | No           |                | 100                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| MC.205 V Serie I, 1943       | 0-110 | No           | 0-100           | Yes     | No       |                      | No           |                | 105                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |

Altitude in meters - Temperature in degrees Celsius



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Aircraft & Operational Controls (Axis)

| Aircraft                                 | Power | Boost        | Propeller Pitch | Feather | Mixture | Mixture Setting Alt. | Supercharger | Altitude S2-S3 | Max. Engine Temperature |                  | Cowl Flaps Radiator Shutters | Fire Ext. | Drop Tanks |
|------------------------------------------|-------|--------------|-----------------|---------|---------|----------------------|--------------|----------------|-------------------------|------------------|------------------------------|-----------|------------|
| Axis                                     |       |              |                 |         |         |                      |              |                | Coolant CHT EGT         | Oil Inlet Outlet |                              |           |            |
| <a href="#">MC.205 V Serie III, 1943</a> | 0-110 | No           | 0-100           | Yes     | No      |                      | No           |                | 105                     | 110              | C, 2, 4, 6, 8, O             | No        | No         |
| <a href="#">Me 163 B-1a, 1944</a>        | 0-110 | No           | No              | No      | No      |                      | No           |                | 950                     | -                | No                           | No        | No         |
| <a href="#">Me 262 A-1a, 1944</a>        | 0-100 | No           | No              | No      | No      |                      | No           |                | 640                     | -                | No                           | No        | No         |
| <a href="#">Me 262 A-1a/U4, 1945</a>     | 0-100 | No           | No              | No      | No      |                      | No           |                | 640                     | -                | No                           | No        | No         |
| <a href="#">Me 262 A-2a, 1944</a>        | 0-100 | No           | No              | No      | No      |                      | No           |                | 640                     | -                | No                           | No        | No         |
| <a href="#">Me 262 HG-II, 1946</a>       | 0-110 | No           | No              | No      | No      |                      | No           |                | 640                     | -                | No                           | No        | No         |
| <a href="#">N1K2-Ja, 1944</a>            | 0-110 | Yes          | 0-100           | No      | 0-120   | 6100                 | 2 Stages     | 4000           | 215                     | 95               | C, 2, 4, 6, 8, O             | No        | Yes        |
| <a href="#">Re.2000, 1940</a>            | 0-110 | Auto (> 100) | 0-100           | Yes     | 0-120   | 4100                 | No           |                | 220                     | 120              | C, 2, 4, 6, 8, O             | 5 X       | No         |
| <a href="#">SM.79, 1936</a>              | 0-110 | No           | 0-49/50-100     | No      | 0-120   | 4900                 | No           |                | -                       | 110              | C, 2, 4, 6, 8, O             | 3 X       | No         |
| <a href="#">Ta 152 C, 1945</a>           | 0-110 | Yes          | 0-100, Auto     | No      | No      |                      | No           |                | 115                     | 120              | C, 2, 4, 6, 8, O, Auto       | No        | No         |
| <a href="#">Ta 152 H-1, 1945</a>         | 0-110 | Yes          | 0-100, Auto     | No      | No      |                      | No           |                | 100                     | 90               | C, 2, 4, 6, 8, O, Auto       | No        | No         |
| <a href="#">Ta 183, 1946</a>             | 0-110 | No           | No              | No      | No      |                      | No           |                | 640                     | -                | No                           | No        | No         |



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# AIRCRAFT & OPERATIONAL CONTROLS

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Engine Controls  
(Allied)



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| Aircraft                   | E Trim | A Trim | R Trim | Flaps          | Airbrake | Gear   | Wheel Brakes | Lock Tail | Wing Fold | Hook | Bombsight | Bombsight Auto | Level Stab | Bomb Doors | Gunsight<br>- Toggle -<br>Yes / No | Reticle Dim | Cockpit Lights | Nav Lights | Land Lights | O/C Canopy | Seat Posit. | Mirror |
|----------------------------|--------|--------|--------|----------------|----------|--------|--------------|-----------|-----------|------|-----------|----------------|------------|------------|------------------------------------|-------------|----------------|------------|-------------|------------|-------------|--------|
| <b>Allied</b>              |        |        |        |                |          |        |              |           |           |      |           |                |            |            |                                    |             |                |            |             |            |             |        |
| A-20C, 1941                | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | No        | No        | No   | Yes       | Yes            | Yes        | Yes        | Ring                               | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| A-20G, 1943                | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | No        | No        | No   | No        | No             | No         | Yes        | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | No     |
| B-25J-1NA, 1944            | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | Yes       | Yes            | Yes        | Yes        | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | No     |
| Beaufighter Mk.21, 1944    | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| BI-1, 1942                 | No     | No     | No     | R-L            | No       | Auto   | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | No         | No          | No         | No          | No     |
| Bi-6, 1942                 | No     | No     | No     | R-L            | No       | Auto   | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | No         | No          | No         | No          | No     |
| Buffalo Mk.I, 1941         | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | No     |
| CW-21B, 1940               | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | No        | No        | No   | No        | No             | No         | No         | Ring                               | No          | Yes            | Yes        | Yes         | Yes        | No          | No     |
| F2A-2, 1941                | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | Yes  | No        | No             | No         | No         | Telescope                          | No          | Yes            | Yes        | No          | Yes        | No          | No     |
| F4F-3, 1941                | Yes    | Yes    | Yes    | R-C-T/O-L-Auto | No       | Manual | Yes          | Yes       | No        | Yes  | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | Yes        | Yes         | Yes    |
| F4F-4, 1942                | Yes    | Yes    | Yes    | R-C-T/O-L-Auto | No       | Manual | Yes          | Yes       | Yes       | Yes  | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | Yes        | Yes         | Yes    |
| FM-2, 1943                 | Yes    | Yes    | Yes    | R-C-T/O-L-Auto | No       | Manual | Yes          | Yes       | Yes       | Yes  | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | Yes        | Yes         | Yes    |
| F4U-1A, 1943               | Yes    | Yes    | Yes    | R-C-T/O-L-Auto | Yes      | Auto   | Yes          | Yes       | Yes       | Yes  | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | Yes         | Yes    |
| F4U-1C, 1945               | Yes    | Yes    | Yes    | R-C-T/O-L-Auto | Yes      | Auto   | Yes          | Yes       | Yes       | Yes  | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | Yes         | Yes    |
| F4U-1D, 1944               | Yes    | Yes    | Yes    | R-C-T/O-L-Auto | Yes      | Auto   | Yes          | Yes       | Yes       | Yes  | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | Yes         | Yes    |
| Corsair Mk.I, 1943         | Yes    | Yes    | Yes    | R-C-T/O-L-Auto | Yes      | Auto   | Yes          | Yes       | Yes       | Yes  | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | Yes         | Yes    |
| Corsair Mk.II, 1943        | Yes    | Yes    | Yes    | R-C-T/O-L-Auto | Yes      | Auto   | Yes          | Yes       | Yes       | Yes  | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | Yes         | Yes    |
| Corsair Mk.IV, 1944        | Yes    | Yes    | Yes    | R-C-T/O-L-Auto | Yes      | Auto   | Yes          | Yes       | Yes       | Yes  | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | Yes         | Yes    |
| F6F-3 Late, 1943           | Yes    | Yes    | Yes    | R-C-T/O-L-Auto | No       | Auto   | Yes          | Yes       | Yes       | Yes  | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | No          | No     |
| F6F-5, 1944                | Yes    | Yes    | Yes    | R-C-T/O-L-Auto | No       | Auto   | Yes          | Yes       | Yes       | Yes  | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | No          | No     |
| Hurricane Mk.IIb, 1940     | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |
| Hurricane Mk.IIc, 1941     | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |
| Hurricane Mk.II field mod. | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |
| I-15bis, 1937              | No     | No     | No     | No             | No       | No     | No           | Yes       | No        | No   | No        | No             | No         | No         | Telescope                          | Yes         | Yes            | Yes        | No          | Yes        | No          | No     |
| I-15bis (skis), 1937       | No     | No     | No     | No             | No       | No     | No           | No        | No        | No   | No        | No             | No         | No         | Telescope                          | Yes         | Yes            | Yes        | No          | Yes        | No          | No     |
| I-153 M-62, 1939           | No     | No     | No     | No             | No       | Auto   | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | No     |
| I-153P, 1939               | No     | No     | No     | No             | No       | Auto   | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | No     |
| I-16 Type 5, 1935          | No     | No     | No     | R-L            | No       | Manual | Yes          | No        | No        | No   | No        | No             | No         | No         | Telescope                          | Yes         | Yes            | Yes        | No          | Yes        | Yes         | No     |
| I-16 Type 5 (SPB), 1938    | No     | No     | No     | R-L            | No       | Manual | Yes          | No        | No        | No   | No        | No             | No         | No         | Telescope                          | Yes         | Yes            | Yes        | No          | Yes        | Yes         | No     |
| I-16 Type 5 (skis), 1935   | No     | No     | No     | R-L            | No       | No     | No           | No        | No        | No   | No        | No             | No         | No         | Telescope                          | Yes         | Yes            | Yes        | No          | Yes        | Yes         | No     |
| I-16 Type 6, 1937          | No     | No     | No     | R-L            | No       | Manual | Yes          | No        | No        | No   | No        | No             | No         | No         | Tel. or Ref.                       | Yes         | Yes            | Yes        | No          | No         | No          | No     |
| I-16 Type 6 (skis), 1937   | No     | No     | No     | R-L            | No       | No     | No           | No        | No        | No   | No        | No             | No         | No         | Tel. or Ref.                       | Yes         | Yes            | Yes        | No          | No         | No          | No     |
| I-16 Type 18, 1939         | No     | No     | No     | R-L            | No       | Manual | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | No         | No          | No         | No          | No     |
| I-16 Type 24, 1939         | No     | No     | No     | R-L            | No       | Manual | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | No         | No          | No         | No          | No     |
| I-16 Type 24 (SPB), 1939   | No     | No     | No     | R-L            | No       | Manual | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | No         | No          | No         | No          | No     |
| I-185 M-71, 1942           | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| I-185 M-82A, 1942          | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| I-250, 1946                | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | No          | No     |
| IL-2, 1941 (1 series)      | Yes    | No     | No     | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | Auto       | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| IL-2, 1941 (2 series)      | Yes    | No     | No     | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | Auto       | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| IL-2, 1941 (3 series)      | Yes    | No     | No     | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | Auto       | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| IL-2, 1941 field mod.      | Yes    | No     | No     | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | Auto       | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| IL-2I, 1943                | Yes    | No     | No     | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Engraved                           | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| IL-2M, 1942 (first series) | Yes    | No     | No     | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | Auto       | Engraved                           | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| IL-2M, 1942 (later series) | Yes    | No     | No     | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | Auto       | Engraved                           | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| IL-2T, 1943                | Yes    | No     | No     | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | Auto       | Engraved                           | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| IL-2 Type 3, 1943          | Yes    | No     | No     | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | Auto       | Engraved                           | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| IL-2 Type 3M, 1943         | Yes    | No     | No     | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | Auto       | Engraved                           | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| IL-4, 1942                 | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | Yes       | No             | Yes        | Yes        | None                               | No          | Yes            | Yes        | Yes         | Yes        | No          | No     |
| IL-10, 1945                | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | Auto       | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| LaGG-3, 1941 (4 series)    | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| LaGG-3, 1942 (29 series)   | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| LaGG-3, 1942 (35 series)   | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| LaGG-3 IT, 1943            | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| LaGG-3, 1943 (66 series)   | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| LaGG-3 RD, 1944            | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | No     |
| La-5, 1942                 | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| La-5F, 1943                | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| La-5FN, 1943               | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| La-7, 1944                 | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |
| La-7 3xB-20, 1944          | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |
| La-7R, 1945                | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |

List based partially on the IL-2 Functions tables, by [Shmulik Hen \(AKA 101Hedgehog\)](#), and adapted by Corsican Corsair.



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| Aircraft                          | E Trim | A Trim | R Trim | Flaps     | Airbrake | Gear | Wheel Brakes | Lock Tail | Wing Fold | Hook | Bombsight | Bombsight Auto | Level Stab | Bomb Doors | Gunsight<br>- Toggle -<br>Yes / No | Reticle Dim | Cockpit Lights | Nav Lights | Land Lights | O/C Canopy | Seat Posit. | Mirror |
|-----------------------------------|--------|--------|--------|-----------|----------|------|--------------|-----------|-----------|------|-----------|----------------|------------|------------|------------------------------------|-------------|----------------|------------|-------------|------------|-------------|--------|
| MiG-3, 1940                       | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| MiG-3ud, 1941                     | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| MiG-3 2xUB, 1941                  | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| MiG-3 2xShVAK, 1941               | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| MiG-3 AM-38, 1941                 | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| MiG-3U, 1942                      | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | No     |
| MiG-9 (I-300), 1946               | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | No          | No     |
| MiG-9FS, 1946                     | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | No          | No     |
| Mosquito FB.Mk.VI, 1943           | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | Auto       | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | No     |
| Mosquito FB.Mk.XVIII, 1943        | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | No     |
| P.11c, 1939                       | Yes    | Yes    | Yes    | No        | No       | No   | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Ring                               | No          | No             | No         | No          | No         | No          | No     |
| P-38J, 1943                       | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |
| P-38L, 1944                       | Yes    | Yes    | Yes    | R-C-T/O-L | Yes      | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |
| P-38L Late, 1944                  | Yes    | Yes    | Yes    | R-C-T/O-L | Yes      | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |
| P-400, 1941                       | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| P-39D-1, 1941                     | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| P-39D-2, 1941                     | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| P-39N-1, 1942                     | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| P-39Q-1, 1944                     | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| P-39Q-10, 1944                    | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Hawk 81A-2, 1941                  | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | No          | Yes    |
| P-40B, 1941                       | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | No          | No     |
| P-40C, 1941                       | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | No          | Yes    |
| Tomahawk Mk.IIa, 1941             | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | No          | No     |
| Tomahawk Mk.IIb, 1941             | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | No          | Yes    |
| P-40E, 1941                       | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| P-40E M-105 field mod.            | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| P-40M, 1942                       | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| P-47D-10, 1943                    | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |
| P-47D-22, 1943                    | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |
| P-47D-27, 1944                    | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |
| P-47D, 1944                       | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |
| P-51B-NA, 1943                    | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| P-51C-NT, 1943                    | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |
| P-51D-5NT, 1944                   | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| P-51D-20NA, 1944                  | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Gyro                               | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Mustang Mk.III, 1944              | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | Yes    |
| P-63C-5, 1944                     | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Pe-2, 1940 (1 series)             | Yes    | Yes    | Yes    | R-C-T/O-L | Yes      | Auto | Yes          | Yes       | No        | No   | Yes       | No             | Yes        | Yes        | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | No     |
| Pe-2, 1942 (84 series)            | Yes    | Yes    | Yes    | R-C-T/O-L | Yes      | Auto | Yes          | Yes       | No        | No   | Yes       | No             | Yes        | Yes        | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | No     |
| Pe-2, 1942 (110 series)           | Yes    | Yes    | Yes    | R-C-T/O-L | Yes      | Auto | Yes          | Yes       | No        | No   | Yes       | No             | Yes        | Yes        | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | No     |
| Pe-2, 1944 (359 series)           | Yes    | Yes    | Yes    | R-C-T/O-L | Yes      | Auto | Yes          | Yes       | No        | No   | Yes       | No             | Yes        | Yes        | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | No     |
| Pe-3, 1941                        | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | Yes        | Reflector                          | No          | No             | Yes        | No          | No         | No          | No     |
| Pe-3 bis, 1941                    | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | Yes        | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | No     |
| Pe-8, 1940                        | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | Yes       | No             | Yes        | Yes        | None                               | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| SB 2M-100A, 1937                  | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | Yes       | No             | Yes        | Yes        | None                               | No          | Yes            | Yes        | Yes         | Yes        | No          | No     |
| SBD-3, 1942                       | Yes    | Yes    | Yes    | R-C-T/O-L | Yes      | Auto | Yes          | Yes       | No        | Yes  | No        | No             | No         | No         | Telescope                          | No          | Yes            | Yes        | No          | Yes        | No          | No     |
| SBD-5, 1943                       | Yes    | Yes    | Yes    | R-C-T/O-L | Yes      | Auto | Yes          | Yes       | No        | Yes  | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | No          | No     |
| Seafire I III, 1943               | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | Yes       | Yes  | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | No          | Yes    |
| Seafire F III, 1943               | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | Yes       | Yes  | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | Yes        | No          | Yes    |
| Spitfire F Vb early, 1941         | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire F Vb, 1941               | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire F Vb, 1942               | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire F Vb CW, 1943            | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire LF Vb, 1942              | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire LF Vb CW, 1943           | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire F Vb Merlin46, 1942      | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire F Vc(2) trop. early 1942 | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire F Vc(2) trop 1942        | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire F Vc(4) trop. early 1942 | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire LF VIII, 1943            | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire LF VIII CW, 1943         | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire F IXc, 1942              | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |



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|--------------------------------|--------|--------|--------|-----------|----------|------|--------------|-----------|-----------|------|-----------|----------------|------------|------------|------------------------------------|-------------|----------------|------------|-------------|------------|-------------|--------|
| Spitfire F IXc, 1943           | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire LF IXc, 1943          | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire LF IXc CW, 1943       | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire HF IXc, 1944          | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire LF IXe, 1944          | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire LF IXe CW, 1944       | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire HF IXe, 1944          | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire LF IXc 25lbs, 1944    | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Spitfire LF IXe CW 25lbs, 1944 | Yes    | No     | Yes    | R-L       | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | No          | No         | No          | Yes    |
| Tempest Mk.V, 1944             | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| TB-3 4M-17, 1933               | Yes    | No     | No     | No        | No       | No   | Yes          | No        | No        | No   | Yes       | No             | Yes        | Yes        | None                               | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| TB-3 4M-34R, 1933              | Yes    | No     | No     | No        | No       | No   | Yes          | No        | No        | No   | Yes       | No             | Yes        | Yes        | None                               | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| TB-3 4M-34R (SPB)              | Yes    | No     | No     | No        | No       | No   | Yes          | No        | No        | No   | Yes       | No             | Yes        | Yes        | None                               | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| TB-7 M-40F, 1940               | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | Yes       | No             | Yes        | Yes        | None                               | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-1, 1941                    | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-1B, 1942                   | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-3, 1944                    | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-3P, 1945                   | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-3 VK-107, 1945             | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-3R, 1944                   | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-7A, 1941                   | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-7B, 1941                   | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-7B, 1942                   | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-9, 1942                    | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-9B, 1944                   | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-9D, 1943                   | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-9M, 1944                   | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-9K, 1944                   | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-9T, 1943                   | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-9U, 1944                   | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-9UT, 1945                  | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| Yak-15, 1946                   | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No        | No             | No         | No         | Reflector                          | No          | Yes            | Yes        | Yes         | No         | No          | No     |
| YP-80, 1944                    | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No        | No             | No         | No         | Gyro                               | No          | Yes            | Yes        | No          | No         | No          | No     |



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| A6M2, 1940                   | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | Yes        | Yes         | No     |
| A6M2-21, 1941                | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | Yes       | Yes  | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | Yes        | Yes         | No     |
| A6M2-N, 1942                 | Yes    | No     | No     | R-C-T/O-L | No       | No   | No           | No        | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | Yes        | Yes         | No     |
| A6M3, 1942                   | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | Yes        | Yes         | No     |
| A6M5, 1943                   | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | Yes  | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | Yes        | Yes         | No     |
| A6M5a, 1944                  | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | Yes  | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | Yes        | Yes         | No     |
| A6M5b, 1944                  | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | Yes  | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | Yes        | Yes         | No     |
| A6M5c, 1944                  | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | Yes        | Yes         | No     |
| A6M7-62, 1945                | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | Yes        | Yes         | No     |
| A6M7-63, 1945                | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | Yes        | Yes         | No     |
| Ar-234B-2/lpr, 1944          | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | Yes          | Yes            | Yes        | No         | Periscope                          | No          | Yes            | Yes         | No           | No         | No          | No     |
| B5N2, 1939                   | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | Yes       | Yes  | Bomb / Torp. | No             | Yes        | No         | None                               | No          | Yes            | Yes         | No           | Yes        | No          | No     |
| B-239, 1940                  | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | No         | No          | No     |
| B-534-IV, 1937               | Yes    | No     | No     | No        | No       | No   | Yes          | No        | No        | No   | No           | No             | No         | No         | Ring                               | No          | Yes            | Yes         | No           | Yes        | Yes         | No     |
| Bf 109 E-4, 1940             | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 109 E-4/B, 1940           | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 109 E-7/B, 1941           | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 109 E-7/Z, 1941           | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 109 F-2, 1941             | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 109 F-4, 1941             | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 109 G-2, 1942             | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 109 G-6, 1943             | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 109 G-6 Late, 1943        | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 109 G-6/AS, 1944          | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 109 G-10, 1944            | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 109 G-14, 1944            | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 109 K-4, 1944             | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 109 K-4 C3, 1945          | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 109 Z, 1944               | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Bf 110 G-2, 1942             | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | No         | No          | No     |
| CR.42, 1939                  | Yes    | Yes    | Yes    | No        | No       | No   | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | No         | No          | No     |
| D.XXI sarja 3 Early, 1939    | Yes    | No     | No     | R-C-T/O-L | No       | No   | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Tel. or Ref.                       | Yes         | Yes            | Yes         | Yes          | Yes        | Yes         | No     |
| D.XXI sarja 3 Late, 1941     | Yes    | No     | No     | R-C-T/O-L | No       | No   | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Tel. or Ref.                       | Yes         | Yes            | Yes         | Yes          | Yes        | Yes         | No     |
| D3A1, 1940                   | Yes    | Yes    | Yes    | R-C-T/O-L | Yes      | No   | Yes          | Yes       | Yes       | Yes  | Yes          | No             | Yes        | No         | Telescope                          | Yes         | Yes            | Yes         | Yes          | Yes        | No          | No     |
| Do 335 A-0, 1944             | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No           | No             | Yes        | Auto       | Reflector                          | Yes         | Yes            | Yes         | Yes          | No         | No          | No     |
| Do 335 V-13, 1946            | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No           | No             | Yes        | Auto       | Reflector                          | Yes         | Yes            | Yes         | Yes          | No         | No          | No     |
| Fw 190 A-4, 1942             | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Fw 190 A-4 1.42 Ata, 1942    | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Fw 190 A-5, 1943             | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Fw 190 A-5 1.65 Ata, 1943    | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Fw 190 A-6, 1943             | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Fw 190 A-8, 1944             | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Fw 190 A-9, 1944             | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Fw 190 D-9, 1944             | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Fw 190 D-9, 1945             | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Fw 190 F-8, 1944             | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Fw 190 A-8 (Mistel), 1944    | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| G.50, 1938                   | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | No         | No          | No     |
| G4M1-11, 1941                | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | Yes          | Yes            | Yes        | Yes        | None                               | No          | Yes            | Yes         | No           | No         | No          | No     |
| Go 229 A-1, 1945             | Yes    | Yes    | No     | R-C-T/O-L | Yes      | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Hawk 75A-3, 1940             | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | Yes        | No          | No     |
| Hawk 75A-4, 1940             | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | Yes        | No          | No     |
| He 111 H-2, 1939             | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | Yes          | Yes            | Yes        | Yes        | None                               | No          | Yes            | Yes         | Yes          | No         | No          | No     |
| He 111 H-6, 1941             | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | Yes/Binoc.   | Yes            | Yes        | No         | None                               | No          | Yes            | Yes         | Yes          | No         | No          | No     |
| He 111 H-12, 1942            | Yes    | Yes    | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | Yes          | Yes            | Yes        | No         | None                               | No          | Yes            | Yes         | Yes          | No         | No          | No     |
| He 162A-2, 1945              | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | No          | No           | No         | No          | No     |
| He 162C, 1946                | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | No          | No           | No         | No          | No     |
| He 162D, 1946                | Yes    | No     | No     | R-C-T/O-L | No       | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | No          | No           | No         | No          | No     |
| Heinkel Lerche III B-2, 1946 | No     | No     | No     | No        | Yes      | No   | No           | No        | No        | No   | No           | No             | No         | No         | Reflector                          | No          | No             | No          | Yes          | No         | No          | No     |
| Hurricane Mk.I, 1938         | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | Yes          | No         | No          | Yes    |
| Hs 129 B-2, 1942             | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | Yes        | No          | Yes    |
| Hs 129 B-3/Wa, 1944          | Yes    | No     | Yes    | R-C-T/O-L | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | Yes        | No          | Yes    |

# AIRCRAFT & OPERATIONAL CONTROLS

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| Aircraft                 | E Trim | A Trim | R Trim | Flaps          | Airbrake | Gear | Wheel Brakes | Lock Tail | Wing Fold | Hook | Bombsight    | Bombsight Auto | Level Stab | Bomb Doors | Gunsight<br>- Toggle -<br>Yes / No | Reticle Dim | Cockpit Lights | Nav. Lights | Land. Lights | O/C Canopy | Seat Posit. | Mirror |
|--------------------------|--------|--------|--------|----------------|----------|------|--------------|-----------|-----------|------|--------------|----------------|------------|------------|------------------------------------|-------------|----------------|-------------|--------------|------------|-------------|--------|
| I.A.R 80, 1940           | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Ring                               | No          | Yes            | Yes         | No           | No         | No          | Yes    |
| I.A.R 81a, 1940          | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | Yes    |
| I.A.R 81c, 1940          | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | Yes    |
| J2M3, 1944               | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | No         | No          | No     |
| J2M5, 1944               | Yes    | No     | Yes    | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | No             | Yes         | No           | No         | No          | No     |
| J8A, 1937                | Yes    | Yes    | Yes    | R-L            | No       | No   | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | Yes        | No          | No     |
| Ju 87 B-2, 1940          | Yes    | Yes    | Yes    | R-C-T/O-L      | Yes      | No   | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | No         | No          | No     |
| Ju 87 D-3, 1942          | Yes    | Yes    | Yes    | R-C-T/O-L      | Yes      | No   | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | No         | No          | No     |
| Ju 87 D-5, 1943          | Yes    | Yes    | Yes    | R-C-T/O-L      | Yes      | No   | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | No         | No          | No     |
| Ju 87 G-1, 1943          | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | No   | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | No         | No          | No     |
| Ju 88 A-4, 1941          | Yes    | Yes    | Yes    | R-C-T/O-L      | Yes      | Auto | Yes          | Yes       | No        | No   | Yes          | Yes            | Yes        | Yes        | Reflector                          | Yes         | Yes            | Yes         | Yes          | No         | No          | No     |
| Ju 88 A-4/Torp, 1942     | Yes    | Yes    | Yes    | R-C-T/O-L-Auto | No       | Auto | Yes          | Yes       | No        | No   | Binoculars   | No             | Yes        | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | No         | No          | No     |
| Ju 88 A-17, 1943         | Yes    | Yes    | Yes    | R-C-T/O-L-Auto | No       | Auto | Yes          | Yes       | No        | No   | Binoculars   | No             | Yes        | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | No         | No          | No     |
| Ki-27 Ko, 1938           | Yes    | No     | No     | R-C-T/O-L      | No       | No   | Yes          | No        | No        | No   | No           | No             | No         | No         | Telescope                          | Yes         | Yes            | Yes         | No           | Yes        | No          | No     |
| Ki-27 Otsu, 1938         | Yes    | No     | No     | R-C-T/O-L      | No       | No   | Yes          | No        | No        | No   | No           | No             | No         | No         | Telescope                          | Yes         | Yes            | Yes         | No           | Yes        | No          | Yes    |
| Ki-43-Ia, 1941           | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Telescope                          | Yes         | Yes            | Yes         | No           | Yes        | No          | No     |
| Ki-43-Ib, 1941           | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Telescope                          | Yes         | Yes            | Yes         | No           | Yes        | No          | No     |
| Ki-43-Ic, 1941           | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Telescope                          | Yes         | Yes            | Yes         | No           | Yes        | No          | No     |
| Ki-43-II, 1942           | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | No             | Yes         | No           | Yes        | No          | No     |
| Ki-43-II Kai, 1943       | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | No             | Yes         | No           | Yes        | No          | No     |
| Ki-45 Kai Ko, 1942       | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | Yes        | No          | No     |
| Ki-45 Kai Otsu, 1943     | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | Yes        | No          | No     |
| Ki-45 Kai Hei, 1943      | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | Yes        | No          | No     |
| Ki-45 Kai Tei, 1944      | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | Yes        | No          | No     |
| Ki-61-I Ko, 1942         | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | Yes          | Yes        | No          | No     |
| Ki-61-I Hei, 1944        | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | Yes          | Yes        | No          | No     |
| Ki-61-I Otsu, 1943       | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | Yes          | Yes        | No          | No     |
| Ki-84-Ia, 1944           | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | No         | No          | No     |
| Ki-84-Ib, 1944           | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | No         | No          | No     |
| Ki-84-Ic, 1945           | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | No         | No          | No     |
| Ki-100-I Ko, 1945        | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | Yes          | Yes        | No          | No     |
| MC.200 Serie 3, 1940     | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | No         | No          | No     |
| MC.200 Serie 7, 1941     | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | No         | No          | No     |
| MC.200 Serie 7 FB, 1941  | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | No         | No          | No     |
| MC.202 Serie III, 1941   | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | No         | No          | Yes    |
| MC.202 Serie VII, 1942   | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | No         | No          | Yes    |
| MC.202 Serie XII, 1943   | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | No         | No          | Yes    |
| MC.205 V Serie I, 1943   | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | Yes    |
| MC.205 V Serie III, 1943 | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | Yes    |
| Me 163 B-1a, 1944        | Yes    | No     | No     | R-L            | No       | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | No          | No           | No         | No          | No     |
| Me 262 A-1a, 1944        | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Me 262 A-1a/U4, 1945     | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Me 262 A-2a, 1944        | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| Me 262 HG-II, 1946       | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |
| N1K2-Ja, 1944            | Yes    | Yes    | Yes    | R-C-T/O-L      | No       | Auto | Yes          | No        | Yes       | No   | No           | No             | No         | No         | Reflector                          | No          | No             | Yes         | No           | Yes        | No          | No     |
| Re.2000, 1940            | Yes    | Yes    | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | Yes        | No          | No     |
| SM.79, 1936              | Yes    | No     | Yes    | Auto           | No       | Auto | Yes          | Yes       | No        | No   | Bomb / Torp. | No             | Yes        | Yes        | Ring                               | Yes         | Yes            | Yes         | Yes          | Gunners    | No          | No     |
| Ta 152 C, 1945           | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | No         | No          | No     |
| Ta 152 H-1, 1945         | Yes    | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | Yes       | No        | No   | No           | No             | No         | No         | Reflector                          | No          | Yes            | Yes         | No           | No         | No          | No     |
| Ta 183, 1946             | No     | No     | No     | R-C-T/O-L      | No       | Auto | Yes          | No        | No        | No   | No           | No             | No         | No         | Reflector                          | Yes         | Yes            | Yes         | No           | No         | No          | No     |



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| Aircraft                   | Adjustable<br>compass | Course & gyro<br>indicator | Course<br>pointer | Homing<br>indicator | ILS<br>capacity | Radio<br>compass | Voice radio com.<br>availability |
|----------------------------|-----------------------|----------------------------|-------------------|---------------------|-----------------|------------------|----------------------------------|
| <b>Allied</b>              |                       |                            |                   |                     |                 |                  |                                  |
| A-20C, 1941                | No                    | No                         | No                | Yes                 | No              | No               | Yes                              |
| A-20G, 1943                | No                    | No                         | No                | Yes                 | No              | No               | Yes                              |
| B-25J-1NA, 1944            | Yes                   | No                         | No                | Yes (ILS)           | Yes             | Yes              | Yes                              |
| Beaufighter Mk.21, 1944    | No                    | No                         | No                | Yes                 | No              | Yes              | Yes                              |
| F4F-3, 1941                | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| F4F-4, 1942                | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| FM-2, 1943                 | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| F4U-1A, 1943               | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| F4U-1C, 1945               | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| F4U-1D, 1944               | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| Corsair Mk.I, 1943         | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| Corsair Mk.II, 1943        | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| Corsair Mk.IV, 1944        | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| F6F-3 Late, 1943           | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| F6F-5, 1944                | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| IL-4, 1942                 | No                    | No                         | No                | Yes                 | No              | No               | Yes                              |
| IL-10, 1945                | Yes                   | No                         | No                | Yes                 | No              | No               | No                               |
| La-7 3xB-20, 1944          | No                    | No                         | No                | Yes                 | No              | No               | No                               |
| MiG-9 (I-300), 1946        | Yes                   | No                         | No                | Yes                 | No              | No               | No                               |
| MiG-9FS, 1946              | Yes                   | No                         | No                | Yes                 | No              | No               | No                               |
| Mosquito FB.Mk.VI, 1943    | Yes                   | No                         | No                | No                  | Yes             | No               | Yes                              |
| Mosquito FB.Mk.XVIII, 1943 | Yes                   | No                         | No                | No                  | Yes             | No               | Yes                              |
| P-38J, 1943                | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| P-38L, 1944                | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| P-38L Late, 1944           | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| P-400, 1941                | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| P-39D-1, 1941              | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| P-39D-2, 1941              | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| P-39N-1, 1942              | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| P-39Q-1, 1944              | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| P-39Q-10, 1944             | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| P-51B-NA, 1943             | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| P-51C-NT, 1943             | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| P-51D-5NT, 1944            | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| P-51D-20NA, 1944           | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| Mustang Mk.III, 1944       | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| P-63C-5, 1944              | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| Pe-2, 1940 (1 series)      | No                    | No                         | No                | Yes                 | No              | No               | Yes                              |
| Pe-2, 1942 (84 series)     | No                    | No                         | No                | Yes                 | No              | No               | Yes                              |
| Pe-2, 1942 (110 series)    | No                    | No                         | No                | Yes                 | No              | No               | Yes                              |
| Pe-2, 1944 (359 series)    | No                    | No                         | No                | Yes                 | No              | No               | Yes                              |
| Pe-8, 1940                 | No                    | No                         | No                | Yes                 | Yes             | No               | Yes                              |
| TB-3 4M-17, 1933           | No                    | No                         | No                | Yes                 | No              | No               | Yes                              |
| TB-3 4M-34R, 1933          | No                    | No                         | No                | Yes                 | No              | No               | Yes                              |
| TB-3 4M-34R (SPB)          | No                    | No                         | No                | Yes                 | No              | No               | Yes                              |
| TB-7 M-40F, 1940           | No                    | No                         | No                | Yes                 | Yes             | No               | Yes                              |
| YP-80, 1944                | Yes                   | No                         | No                | No                  | No              | No               | No                               |



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| Aircraft                  | Adjustable<br>compass | Course & gyro<br>indicator | Course<br>pointer | Homing<br>indicator | ILS<br>capacity | Radio<br>compass | Voice radio com.<br>availability |
|---------------------------|-----------------------|----------------------------|-------------------|---------------------|-----------------|------------------|----------------------------------|
| <b>Axis</b>               |                       |                            |                   |                     |                 |                  |                                  |
| A6M2, 1940                | Yes                   | No                         | No                | Yes                 | No              | No               | No                               |
| A6M2-21, 1941             | Yes                   | No                         | No                | Yes                 | No              | No               | No                               |
| A6M2-N, 1942              | Yes                   | No                         | No                | Yes                 | No              | No               | No                               |
| A6M3, 1942                | Yes                   | No                         | No                | Yes                 | No              | No               | No                               |
| A6M5, 1943                | Yes                   | No                         | No                | Yes                 | No              | No               | No                               |
| A6M5a, 1944               | Yes                   | No                         | No                | Yes                 | No              | No               | No                               |
| A6M5b, 1944               | Yes                   | No                         | No                | Yes                 | No              | No               | No                               |
| A6M5c, 1944               | Yes                   | No                         | No                | Yes                 | No              | No               | No                               |
| A6M7-62, 1945             | Yes                   | No                         | No                | Yes                 | No              | No               | No                               |
| A6M7-63, 1945             | Yes                   | No                         | No                | Yes                 | No              | No               | No                               |
| Ar-234B-2/lpr, 1944       | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| B5N2, 1939                | No                    | No                         | No                | Yes                 | No              | No               | No                               |
| B-239, 1940               | No                    | No                         | No                | Yes                 | No              | No               | No                               |
| Bf 109 E-4, 1940          | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| Bf 109 E-4/B, 1940        | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| Bf 109 E-7/B, 1941        | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| Bf 109 E-7/Z, 1941        | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| Bf 109 F-2, 1941          | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| Bf 109 F-4, 1941          | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| Bf 109 G-2, 1942          | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| Bf 109 G-6, 1943          | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Bf 109 G-6 Late, 1943     | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Bf 109 G-6/AS, 1944       | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Bf 109 G-10, 1944         | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Bf 109 G-14, 1944         | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Bf 109 K-4, 1944          | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Bf 109 K-4 C3, 1945       | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Bf 109 Z, 1944            | Yes                   | No                         | No                | Not active          | No              | No               | No                               |
| Bf 110 G-2, 1942          | Yes                   | Yes                        | No                | Yes                 | Yes             | Yes (rear)       | Yes                              |
| D.XXI sarja 3 Early, 1939 | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| D.XXI sarja 3 Late, 1941  | Yes                   | No                         | No                | No                  | No              | No               | No                               |
| D3A1, 1940                | Yes                   | No                         | No                | Yes                 | No              | No               | No                               |
| Do 335 A-0, 1944          | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Do 335 V-13, 1946         | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Fw 190 A-4, 1942          | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Fw 190 A-4 1.42 Ata, 1942 | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Fw 190 A-5, 1943          | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Fw 190 A-5 1.65 Ata, 1943 | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Fw 190 A-6, 1943          | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Fw 190 A-8, 1944          | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Fw 190 A-9, 1944          | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Fw 190 D-9, 1944          | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Fw 190 D-9, 1945          | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Fw 190 F-8, 1944          | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| Fw 190 A-8 (Mistel), 1944 | Yes                   | No                         | No                | Yes                 | Yes             | No               | No                               |
| G4M1-11, 1941             | Yes                   | No                         | No                | Yes                 | Yes             | No               | Yes                              |



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# REALISTIC NAVIGATION INSTRUMENTATION

| Aircraft             | Adjustable compass | Course & gyro indicator | Course pointer | Homing indicator | ILS capacity | Radio compass | Voice radio com. availability |
|----------------------|--------------------|-------------------------|----------------|------------------|--------------|---------------|-------------------------------|
| Go 229 A-1, 1945     | Yes                | No                      | No             | Not active       | No           | No            | No                            |
| He 111 H-2, 1939     | Yes                | No                      | Yes            | Yes              | Yes          | Yes           | Yes                           |
| He 111 H-6, 1941     | Yes                | No                      | Yes            | Yes              | Yes          | Yes           | Yes                           |
| He 111 H-12, 1942    | Yes                | No                      | Yes            | Yes              | Yes          | Yes           | Yes                           |
| He 162A-2, 1945      | No                 | No                      | No             | Yes              | Yes          | No            | No                            |
| He 162C, 1946        | No                 | No                      | No             | Yes              | Yes          | No            | No                            |
| He 162D, 1946        | No                 | No                      | No             | Yes              | Yes          | No            | No                            |
| Hs 129 B-2, 1942     | Yes                | No                      | No             | Yes              | Yes          | No            | No                            |
| Hs 129 B-3/Wa, 1944  | Yes                | No                      | No             | Yes              | Yes          | No            | No                            |
| I.A.R 80, 1940       | Yes                | No                      | No             | No               | No           | No            | No                            |
| I.A.R 81a, 1940      | Yes                | No                      | No             | No               | No           | No            | No                            |
| I.A.R 81c, 1940      | Yes                | No                      | No             | No               | No           | No            | No                            |
| Ju 87 B-2, 1940      | Yes                | No                      | No             | No               | No           | No            | No                            |
| Ju 87 D-3, 1942      | Yes                | No                      | No             | Yes              | Yes          | No            | No                            |
| Ju 87 D-5, 1943      | Yes                | No                      | No             | Yes              | Yes          | No            | No                            |
| Ju 87 G-1, 1943      | Yes                | No                      | No             | Yes              | Yes          | No            | No                            |
| Ju 88 A-4, 1941      | Yes                | Yes                     | No             | Yes              | Yes          | Yes           | Yes                           |
| Ju 88 A-4/Torp, 1942 | Yes                | Yes                     | No             | Yes              | Yes          | Yes           | Yes                           |
| Ju 88 A-17, 1943     | Yes                | Yes                     | No             | Yes              | Yes          | Yes           | Yes                           |
| Me 262 A-1a, 1944    | Yes                | No                      | No             | Yes              | Yes          | No            | No                            |
| Me 262 A-1a/U4, 1945 | Yes                | No                      | No             | Yes              | Yes          | No            | No                            |
| Me 262 A-2a, 1944    | Yes                | No                      | No             | Yes              | Yes          | No            | No                            |
| Me 262 HG-II, 1946   | Yes                | No                      | No             | Yes              | Yes          | No            | No                            |
| N1K2-Ja, 1944        | No                 | No                      | No             | Yes              | No           | No            | No                            |
| SM.79, 1936          | No                 | No                      | No             | Yes              | No           | No            | Yes                           |
| Ta 152 C, 1945       | Yes                | No                      | No             | Yes              | Yes          | No            | No                            |
| Ta 152 H-1, 1945     | Yes                | No                      | No             | Yes              | Yes          | No            | No                            |
| Ta 183, 1946         | Yes                | No                      | No             | Yes              | Yes          | No            | No                            |

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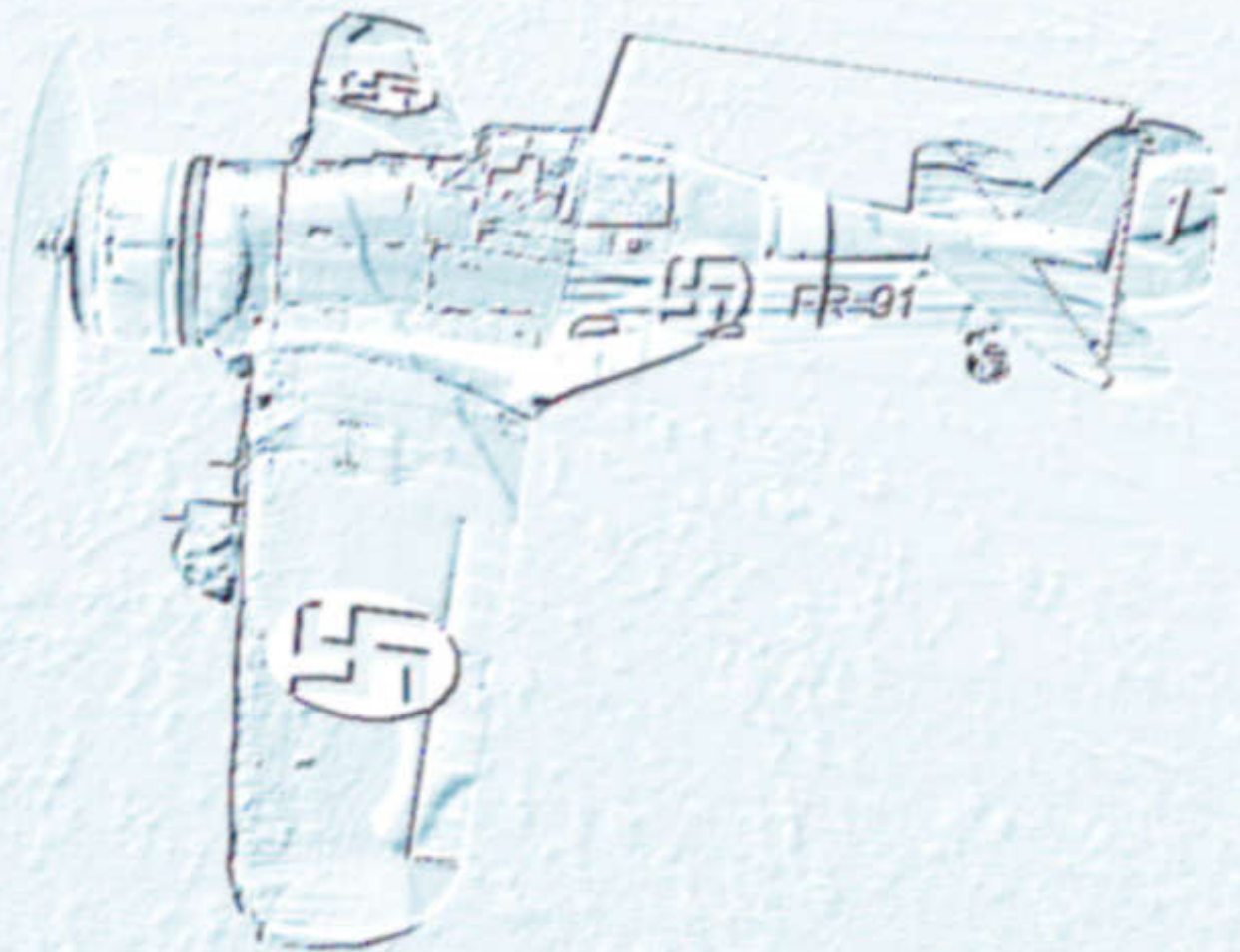
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FINLAND



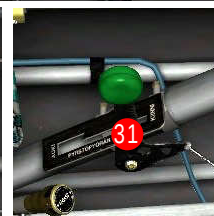
NETHERLANDS







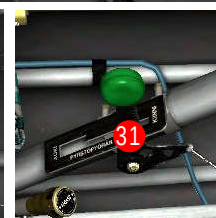
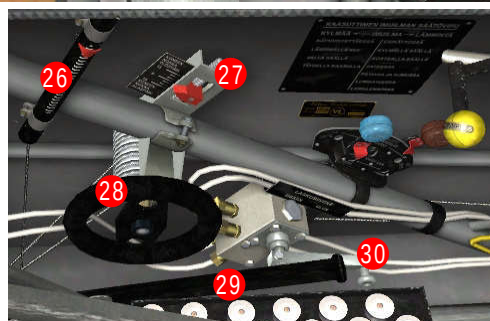
1. Goertz gunsight
2. Airspeed indicator
3. Turn and bank indicator
4. Variometer
5. Fuel pressure gage
6. Oil pressure gage
7. Oil temperature gage
8. Altimeter
9. Pitch inclinometer
10. Cylinder head temperature gage
11. Brakes triple pressure gage: left & right brakes (top)  
(not active with skis) storage cylinder (bottom)
12. Manifold pressure gage
13. Tachometer
14. Fuel gage
15. Magnetic compass (course setting on upper half)
16. Mixture lever
17. Throttle
18. Engine ignition switch
19. Oxygen pressure gage
20. Oxygen quantity gage
21. Clock
22. Position lights switch
23. Cockpit light switch
24. Landing light switch
25. Gear brakes lever
26. Flaps position indicator
27. Elevator trim indicator
28. Elevator trim wheel
29. Flaps handpump
30. Flaps up-down lever
31. Tail wheel lock lever

D.XXI - Dutch (<http://www.nederlandseluchtvaart.nl/fotoboek/>)D.XXI - Finnish (<http://www.preservedaxisaircraft.com/>)Copyright Mikael Olofsson  
www.axisaircraft.com





1. Revi 3a gunsight
2. Airspeed indicator
3. Turn and bank indicator
4. Variometer
5. Fuel pressure gage
6. Oil pressure gage
7. Oil temperature gage
8. Altimeter
9. Pitch inclinometer
10. Cylinder head temperature gage
11. Brakes triple pressure gage: left & right brakes (top)  
(not active with skis) storage cylinder (bottom)
12. Manifold pressure gage
13. Tachometer
14. Fuel gage
15. Magnetic compass (course setting on upper half)
16. Mixture lever
17. Throttle
18. Engine ignition switch
19. Oxygen pressure gage
20. Oxygen quantity gage
21. Clock
22. Position lights switch
23. Cockpit light switch
24. Landing light switch
25. Gear brakes lever
26. Flaps position indicator
27. Elevator trim indicator
28. Elevator trim wheel
29. Flaps handpump
30. Flaps up-down lever
31. Tail wheel lock lever



D.XXI - Finnish (<http://www.sci.fi/~fai/fm-2.htm>)







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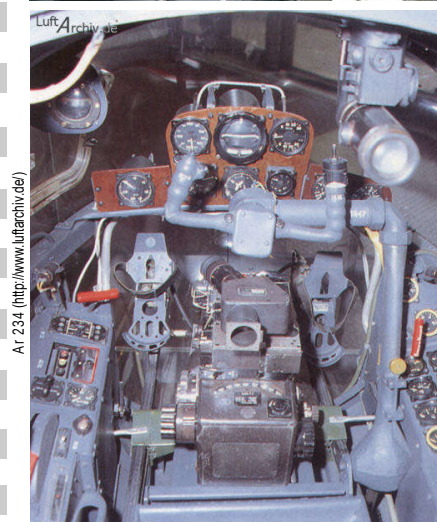


# GERMANY





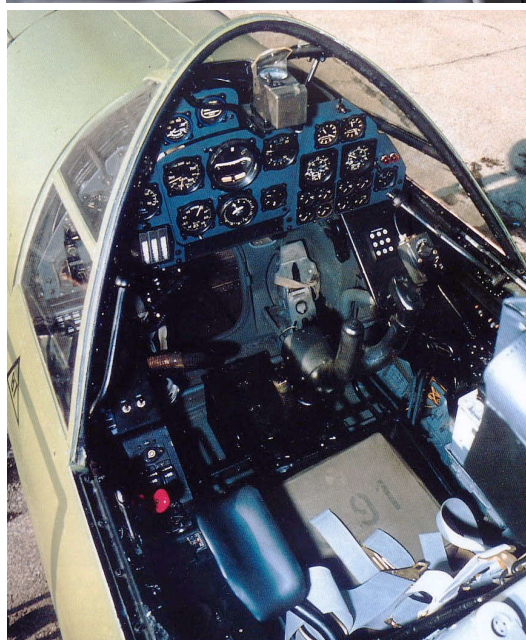
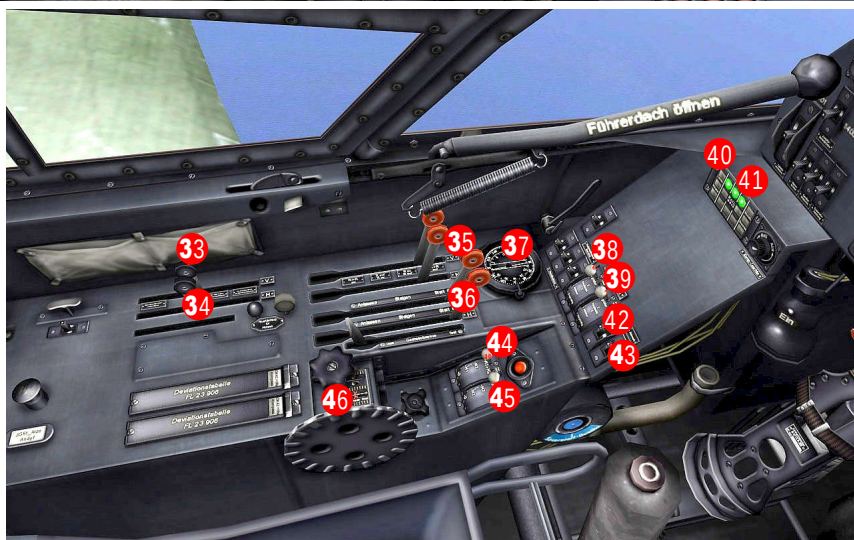
1. Magnetic compass
2. Airspeed indicator
3. Artificial horizon / turn and bank indicator
4. Variometer
5. Exhaust pitot pressure gage (left & right engine)
6. Stall warning light
7. Altimeter
8. Repeater compass
9. Homing indicator
10. Left engine tachometer
11. Right engine tachometer
12. Landing gear & flaps actuators and indicators
13. Instrument light switch
14. Clock
15. Left engine gas pressure gage
16. Right engine gas pressure gage
17. Left engine oil pressure gage
18. Right engine oil pressure gage
19. Left engine fuel injection pressure gage
20. Right engine fuel injection pressure gage
21. Left engine gas temperature gage
22. Right engine gas temperature gage
23. Front tank fuel gage
24. Rear tank fuel gage
25. Low fuel warning light (total fuel < 20%)
26. Low fuel warning light (total fuel < 9%)
27. Left engine throttle
28. Right engine throttle
29. Hydraulic pressure gage
30. Bombsight controls
31. Elevator trim lever & indicator
32. Rudder trim wheel & indicator
33. Outside temperature gage







1. Clock
2. Outside temperature gage
3. Radio altimeter
4. Airspeed indicator
5. Stall warning light
6. Artificial horizon / turn and bank indicator
7. Variometer
8. Front propeller pitch indicator
9. Rear propeller pitch indicator
10. Front engine manifold pressure gage & tachometer
11. Rear engine manifold pressure gage & tachometer
12. Low fuel warning light  
(total fuel < 22% -- 20 min at 2000 RPM)
13. Left nose cannon warning light
14. Propeller cannon warning light
15. Right nose cannon warning light
16. Ammunition counter - left nose cannon
17. Ammunition counter - propeller cannon
18. Ammunition counter - right nose cannon
19. Altimeter
20. Repeater compass
21. Homeing indicator
22. Front engine coolant temperature gage
23. Front engine oil temperature gage
24. Rear engine coolant temperature gage
25. Rear engine oil temperature gage
26. Front engine fuel pressure gage
27. Front engine oil pressure gage
28. Rear engine fuel pressure gage
29. Rear engine oil pressure gage
30. Fuel gage
31. Bomb doors lever (automatic)
33. Engines fire warning lights
33. Front engine radiator lever
34. Rear engine radiator lever
35. Front engine throttle
36. Rear engine throttle
37. Magnetic compass
38. Front propeller pitch lever
39. Rear propeller pitch lever
40. Flaps position indicator
41. Landing gear position indicator
42. Flaps switch



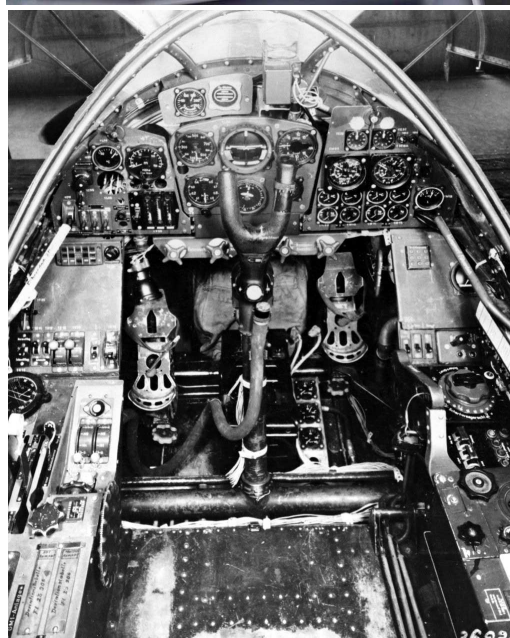
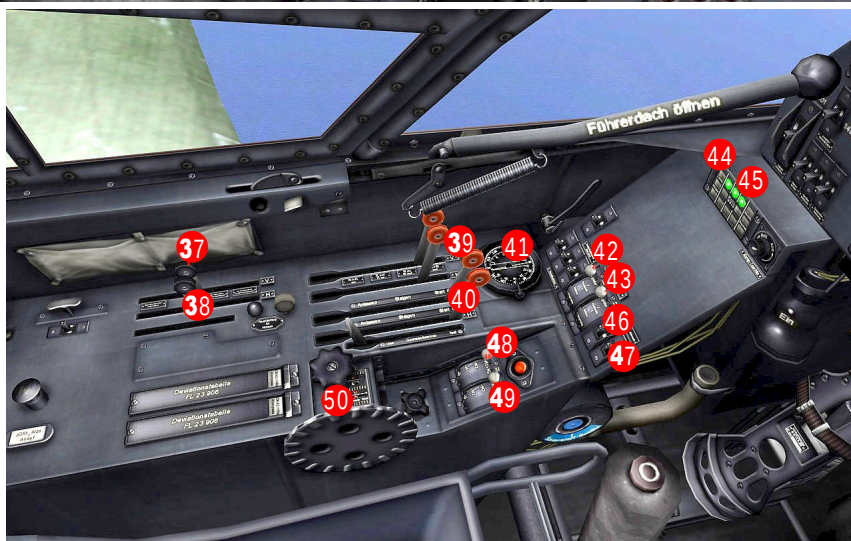
43. Landing gear switch
44. Front engine ignition switch
45. Rear engine ignition switch
46. Elevator trim wheel







1. Clock
2. Outside temperature gage
3. Radio altimeter
4. Airspeed indicator
5. Stall warning light
6. Artificial horizon / turn and bank indicator
7. Variometer
8. Front propeller pitch indicator
9. Rear propeller pitch indicator
10. Front engine manifold pressure gage & tachometer
11. Rear engine manifold pressure gage & tachometer
12. Low fuel warning light  
(total fuel < 22% -- 20 min at 2000 RPM)
13. Left wing cannon warning light
14. Left nose cannon warning light
15. Propeller cannon warning light
16. Right nose cannon warning light
17. Right wing cannon warning light
18. Ammunition counter - left wing cannon
19. Ammunition counter - left nose cannon
20. Ammunition counter - propeller cannon
21. Ammunition counter - right nose cannon
22. Ammunition counter - right wing cannon
23. Altimeter
24. Repeater compass
25. Homing indicator
26. Front engine coolant temperature gage
27. Front engine oil temperature gage
28. Rear engine coolant temperature gage
29. Rear engine oil temperature gage
30. Front engine fuel pressure gage
31. Front engine oil pressure gage
32. Rear engine fuel pressure gage
33. Rear engine oil pressure gage
34. Fuel gage
35. Bomb doors lever (automatic)
36. Engine fire warning lights
37. Front engine radiator lever
38. Rear engine radiator lever
39. Front engine throttle
40. Rear engine throttle
41. Magnetic compass
42. Front propeller pitch lever



43. Rear propeller pitch lever
44. Flaps position indicator
45. Landing gear position indicator
46. Flaps switch
47. Landing gear switch
48. Front engine ignition switch
49. Rear engine ignition switch
50. Elevator trim wheel

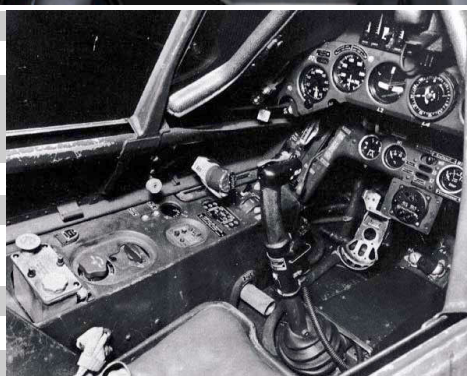
Do 335 (<http://www.cockpitinstrumente.de>)







1. Left nose MG status light (switched on when weapon armed)
2. Right nose MG status light (as before)
3. Ammunition counter - outboard left wing cannon (cannon removed when carrying external loads on A-4 1.42 ATA) (as before except when carrying 1 D Droptank or 2 Wfr.Gr. 21 on A4)
4. Ammunition counter - inboard left wing cannon
5. Ammunition counter - inboard right wing cannon
6. Ammunition counter - outboard right wing cannon (as left wing cannon)
7. Homing indicator
8. Airspeed indicator
9. Artificial horizon / turn and bank indicator
10. Variometer
11. Repeater compass
12. Manifold pressure gage
13. Altimeter
14. Fuel (left) and oil (right) pressure gage
15. Oil temperature gage
16. Fuel gage
17. Propeller pitch indicator
18. Low fuel warning light (total fuel < 11% -- 20 min at 2100 RPM)
19. Rear tank switchover light (switched off when total fuel < 36%)
20. Tachometer
21. Throttle
22. Engine ignition switch
23. Landing gear position indicator: green - down  
no light - transition  
red - up
24. Flaps pos. indicator: red - up  
green - landing position  
red (middle) - combat and take-off pos.
25. Elevator trim indicator
26. Clock



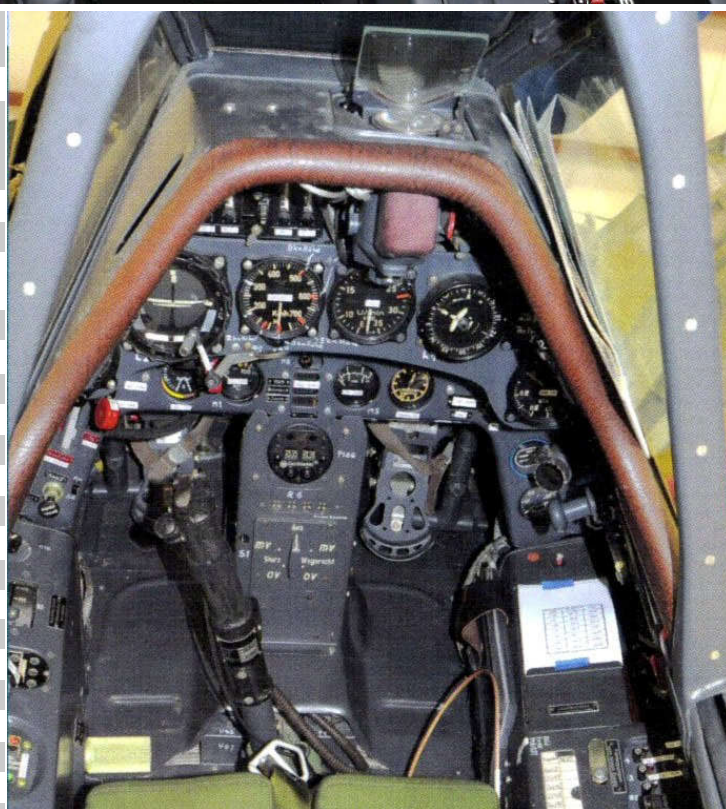
Fw 190 A-3 (<http://www.cockpitinstrumente.de/index.htm>)







1. Left nose MG status light (switched on when weapon armed)  
(MG removed when carrying 2 D droptanks)
2. Right nose MG status light (as before)
3. Ammunition counter - outboard left wing cannon  
(cannon removed when carrying external loads except with 1 D Droptank or 2 Wfr.Gr. 21)
4. Ammunition counter - inboard left wing cannon
5. Ammunition counter - inboard right wing cannon
6. Ammunition counter - outboard right wing cannon  
(as left wing cannon)
7. Homing indicator
8. Airspeed indicator
9. Artificial horizon / turn and bank indicator
10. Variometer
11. Repeater compass
12. Manifold pressure gage
13. Altimeter
14. Fuel (left) and oil (right) pressure gage
15. Oil temperature gage
16. Fuel gage
17. Propeller pitch indicator
18. Low fuel warning light (total fuel < 11% -- 20 min at 2100 RPM)
19. Rear tank switchover light (switched off when total fuel < 36%)
20. Tachometer
21. Throttle
22. Engine ignition switch
23. Landing gear position indicator: green - down  
no light - transition  
red - up
24. Flaps pos. indicator: red - up  
red (middle) - combat and take-off position  
green - landing position
25. Elevator trim indicator



Fw 190 A-5 (<http://www.flyingheritage.com/>)

26. External ordnance status lights:  
two inner - belly bombs/tanks  
two outer - wing bombs/tanks
27. Clock







1. Ammunition counter - outboard left wing cannon
2. Ammunition counter - inboard left wing cannon
3. Ammunition counter - inboard right wing cannon
4. Ammunition counter - outboard right wing cannon
5. Homing indicator
6. Airspeed indicator
7. Artificial horizon / turn and bank indicator
8. Variometer
9. Repeater compass
10. Manifold pressure gage
11. Altimeter
12. Fuel (left) and oil (right) pressure gage
13. Oil temperature gage
14. Fuel gage
15. Propeller pitch indicator
16. Low fuel warning light (total fuel < 9% -- 20 min at 2100 RPM)
17. Rear tank switchover light (switched off when total fuel < 29%)
18. Tachometer
19. Throttle
20. Engine ignition switch
21. Landing gear position indicator: green - down  
no light - transition  
red - up
22. Elevator trim indicator
23. External ordnance status lights
24. Clock



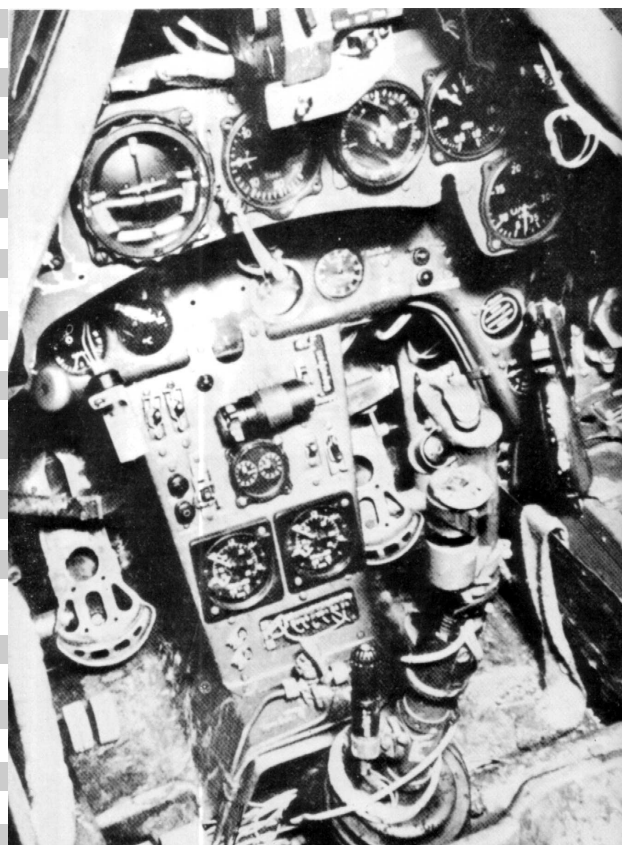
Fw 190 A-8 (<http://www.360cities.net/image/luftfahrtmuseum-39>)







1. Ammunition counter - inboard left wing cannon
2. Ammunition counter - left nose **MG**
3. Ammunition counter - **right** nose **MG**
4. Ammunition counter - **inboard** right wing **cannon**
5. **Homing indicator**
6. **Airspeed indicator**
7. **Artificial horizon / turn and bank indicator**
8. **Variometer**
9. **Repeater compass**
10. **Manifold pressure gage**
11. **Altimeter**
12. Fuel (left) and oil (right) pressure gage
13. **Oil temperature gage**
14. **Fuel gage**
15. **Propeller pitch indicator**
16. **Low fuel warning light** (total fuel < 9% -- 20 min at 2100 RPM)
17. Rear tank switchover light (switched off when total fuel < 29%)
18. **Tachometer**
19. Engine ignition switch
20. Landing gear position indicator: green - down / red - up  
in composite mode for Ju 88 Mistel, once separated for Fw 190 A8
21. Throttle
22. Throttle - Ju 88 Mistel left engine
23. Throttle - Ju 88 Mistel right engine
24. Elevator trim indicator
25. Ju 88 Mistel status light (switched off when released)
26. Ju 88 Mistel pitch control (synchronized with the control stick)
27. Propeller pitch indicator for left and right engine - Ju 88 Mistel
28. Left engine manifold pressure gage (big needle) and tachometer (small needle) - Ju 88 Mistel
29. Right engine manifold pressure gage (big needle) and tachometer (small needle) - Ju 88 Mistel
30. Clock



Fw 190 A-8 Mistel





# Focke-Wulf Fw 190 D-9 «Dora» (1944)



1. Ammunition counter - left wing cannon
2. Ammunition counter - left nose MG
3. Ammunition counter - right nose MG
4. Ammunition counter - right wing cannon
5. Homing indicator
6. Airspeed indicator
7. Artificial horizon / turn and bank indicator
8. Variometer
9. Repeater compass
10. Manifold pressure gage
11. Altimeter
12. Fuel (left) and oil (right) pressure gage
13. Coolant temperature gage
14. Oil temperature gage
15. Fuel gage
16. Low fuel warning light (total fuel < 9% -- 15 min at 2300 RPM)
17. Rear tank switchover light (switched off when total fuel < 29%)
18. Tachometer
19. Throttle
20. Engine ignition switch
21. Elevator trim indicator
22. Landing gear position indicator: green - down  
no light - transition  
red - up
23. Clock

Fw 190 D-9 (<http://war-by-airforce.com/articles/Cockpits.html>)





# Focke-Wulf Fw 190 D-9 «Dora» (1945)



1. Ammunition counter - left wing cannon
2. Ammunition counter - left nose MG
3. Ammunition counter - right nose MG
4. Ammunition counter - right wing cannon
5. Homing indicator
6. Airspeed indicator
7. Artificial horizon / turn and bank indicator
8. Variometer
9. Repeater compass
10. Manifold pressure gage
11. Altimeter
12. Fuel (left) and oil (right) pressure gage
13. Coolant temperature gage
14. Oil temperature gage
15. MW-50 pressure gage
16. Fuel gage
17. Low fuel warning light (total fuel < 11% -- 15 min at 2400 RPM)
18. Rear tank switchover light (switched off when total fuel < 36%)
19. Tachometer
20. Throttle
21. Engine ignition switch
22. Elevator trim indicator
23. Landing gear position indicator: green - down  
no light - transition  
red - up
24. Clock



Fw 190 D-9 (<http://untoldvalor.blogspot.com/2007/08/wwii-aircraft-view-from-cockpit.html>)





# Focke-Wulf Fw 190 F-8 «Würger»



1. Ammunition counter - left wing cannon
2. Ammunition counter - left nose MG
3. Ammunition counter - right nose MG
4. Ammunition counter - right wing cannon
5. Homing indicator
6. Airspeed indicator
7. Artificial horizon / turn and bank indicator
8. Variometer
9. Repeater compass
10. Manifold pressure gage
11. Altimeter
12. Fuel (left) and oil (right) pressure gage
13. Oil temperature gage
14. Fuel gage
15. Propeller pitch indicator
16. Low fuel warning light (total fuel < 9% -- 20 min at 2100 RPM)
17. Rear tank switchover light (switched off when total fuel < 29%)
18. Tachometer
19. Throttle
20. Engine ignition switch
21. Landing gear position indicator: green - down  
no light - transition  
red - up
22. Elevator trim indicator
23. External ordnance status lights: upper row - wing bombs  
lower row - fuselage bomb
24. Clock

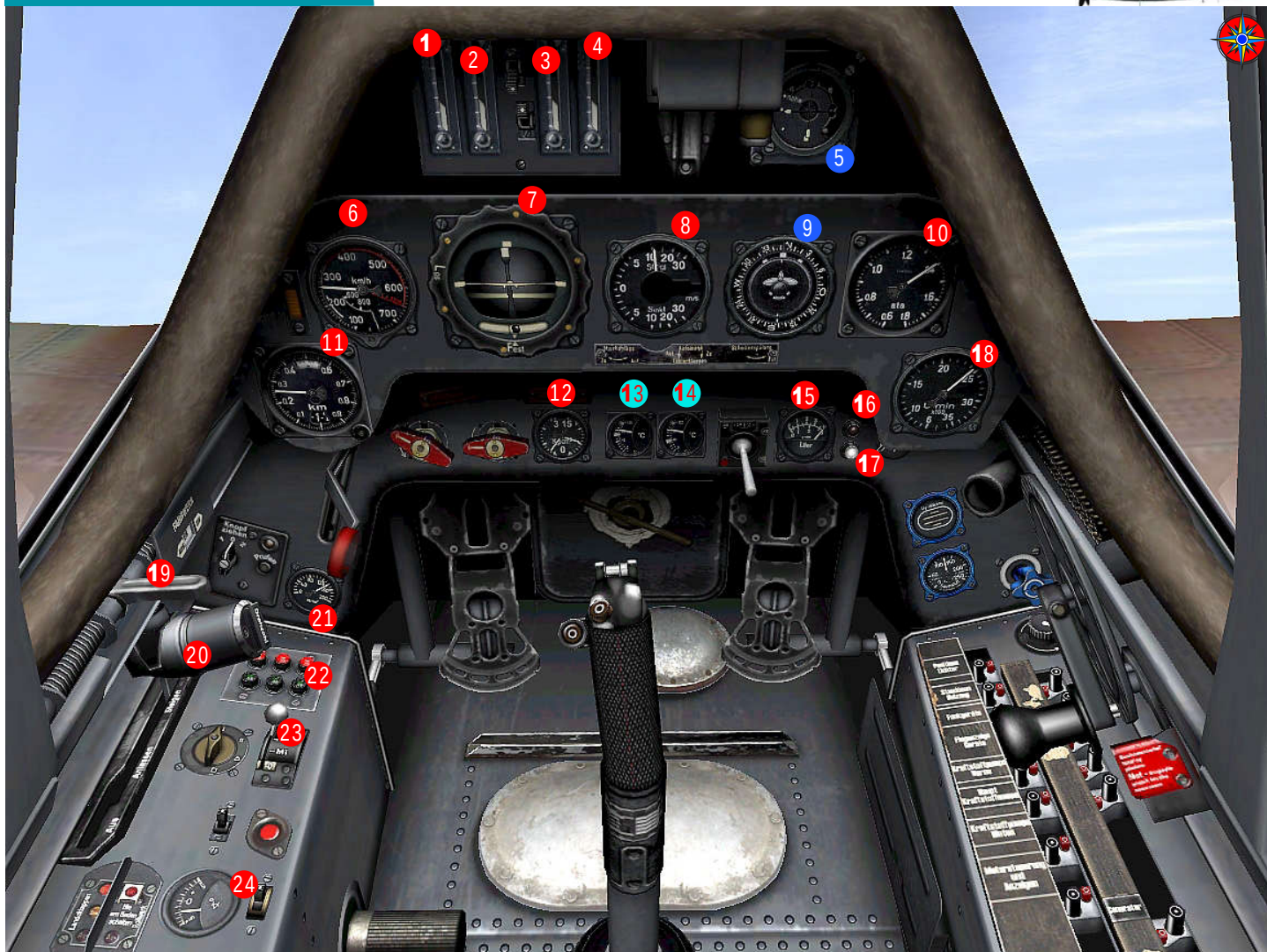


Fw 190 F-8/R1 (©Don Randle, www.preservedaxisaircraft.com/)

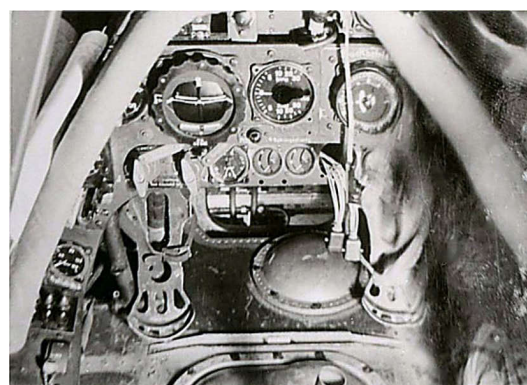
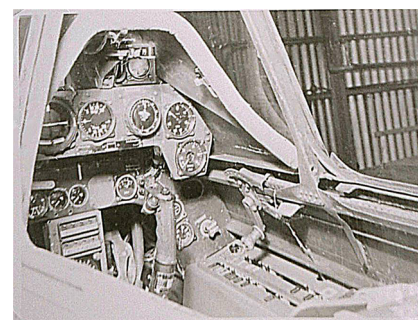
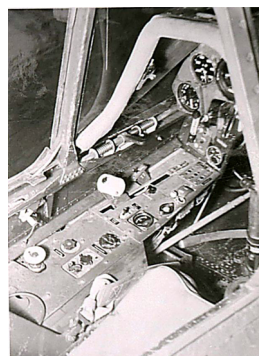




# Focke-Wulf Ta 152 C



1. Ammunition counter - left wing cannon
2. Ammunition counter - left nose cannon
3. Ammunition counter - right nose cannon
4. Ammunition counter - right wing cannon
5. Homing indicator
6. Airspeed indicator
7. Artificial horizon / turn and bank indicator
8. Variometer
9. Repeater compass
10. Manifold pressure gage
11. Altimeter
12. Fuel (left) and oil (right) pressure gage
13. Coolant temperature gage
14. Oil temperature gage
15. Fuel gage
16. Low fuel warning light (total fuel < 6% -- 15 min at 2300 RPM)
17. Rear tank switchover light (switched off when total fuel < 17%)
18. Tachometer
19. Landing gear lever
20. Throttle
21. Hydraulic pressure gage
22. Landing gear position indicator: green - down  
no light - transition  
red - up
23. Engine ignition switch
24. Elevator trim indicator



Ta 152 (<http://www.cockpitinstrumente.de>)





# Focke-Wulf Ta 152 H-1

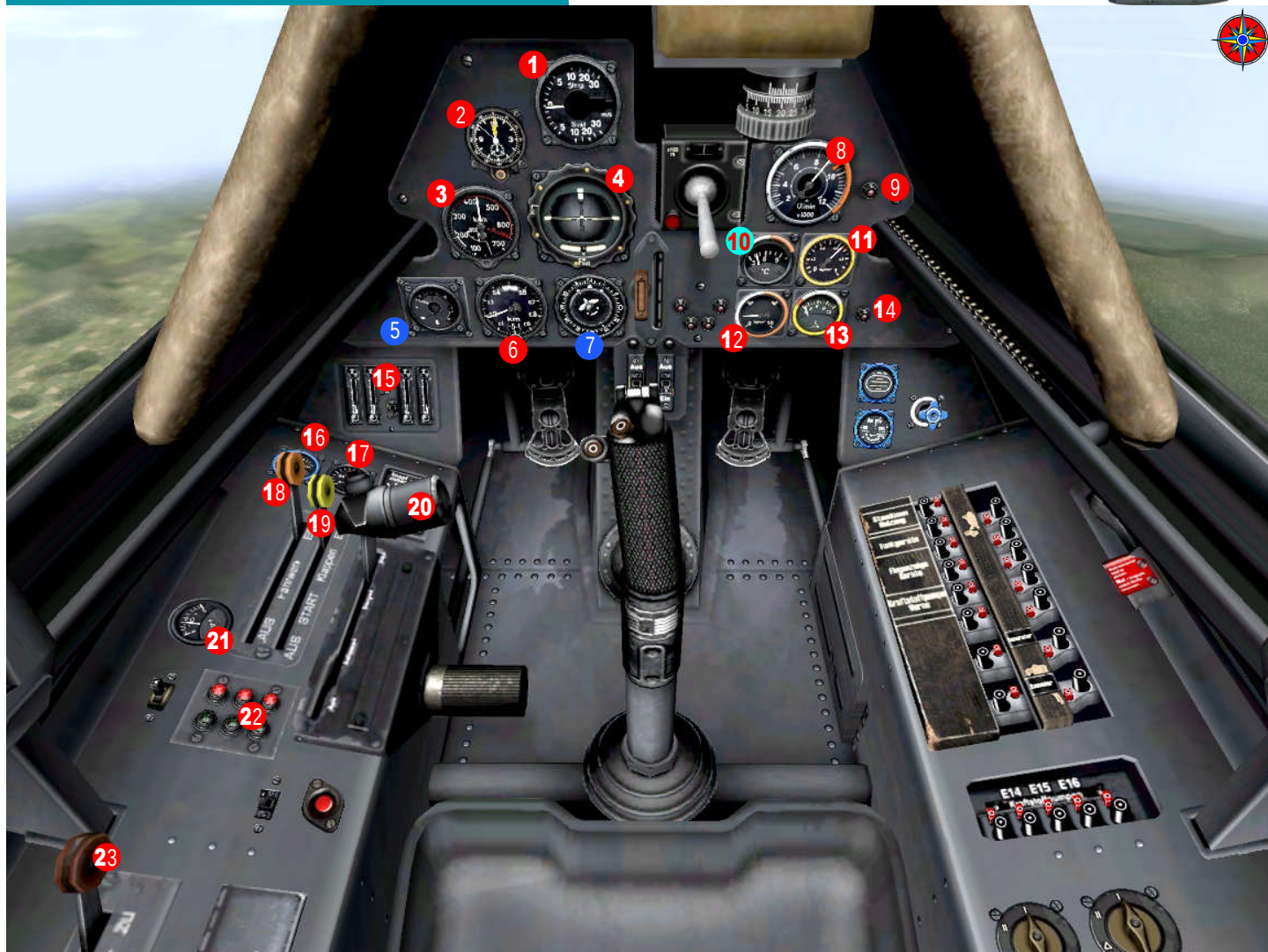


1. Ammunition counter - left wing cannon
2. Ammunition counter - right wing cannon
3. Homing indicator
4. Airspeed indicator
5. Artificial horizon / turn and bank indicator
6. Variometer
7. Repeater compass
8. Manifold pressure gage
9. Altimeter
10. Fuel (left) and oil (right) pressure gage
11. Coolant temperature gage
12. Oil temperature gage
13. MW-50 pressure gage
14. Fuel gage
15. Low fuel warning light (total fuel < 6% -- 15 min at 2400 RPM)
16. Rear tank switchover light (switched off when total fuel < 19%)
17. Tachometer
18. Landing gear lever
19. Hydraulic pressure gage
20. Throttle
21. Landing gear position indicator: green - down  
no light - transition  
red - up
22. Engine ignition switch
23. Elevator trim indicator



Ta 152 (<http://www.cockpitinstrumente.de>)





1. Variometer
2. Clock
3. Airspeed indicator
4. Artificial horizon / turn and bank indicator
5. **Homing indicator**
6. Altimeter
7. **Repeater compass**
8. **Tachometer**
9. **Stall warning light**
10. **Exhaust gas temperature gage**
11. Exhaust pressure gage
12. Oil pressure gage
13. Fuel gage
14. Low fuel warning light (total fuel < 4%)
15. Cannons ammunition counters
16. Free air temperature gage
17. Compressed air pressure gage
18. Landing gear lever
19. Flaps lever
20. Throttle
21. Elevator trim indicator
22. Landing gear position indicator
23. Exhaust nozzle control lever (front position at power > 100%)







1. Landing gear position indicator: green - down  
no light - transition  
red - up

2. Engines ignition warning light

3. Variometer

4. Artificial horizon / turn and bank indicator

5. Airspeed indicator

White needle - IAS up to 400 km/h, yellow needle - TAS with dual 400 km/h mark

6. Flaps position indicator:

upper red (Ein) - up and combat  
middle red (Start) - take-off  
lower green (Aus) - landing  
no light - transition

7. Altimeter

8. Repeater compass

9. Left tank fuel gage

10. Left tank low fuel warning light (total fuel < 13%)

11. Right tank fuel gage

12. Right tank low fuel warning light (as LH tank)

13. Left engine fuel injection pressure gage

14. Left engine gas temperature gage

15. Left engine tachometer

16. Right engine tachometer

17. Right engine gas temperature gage

18. Right engine fuel injection pressure gage

19. Outside temperature gage

20. Exhaust pressure gage (left engine only)

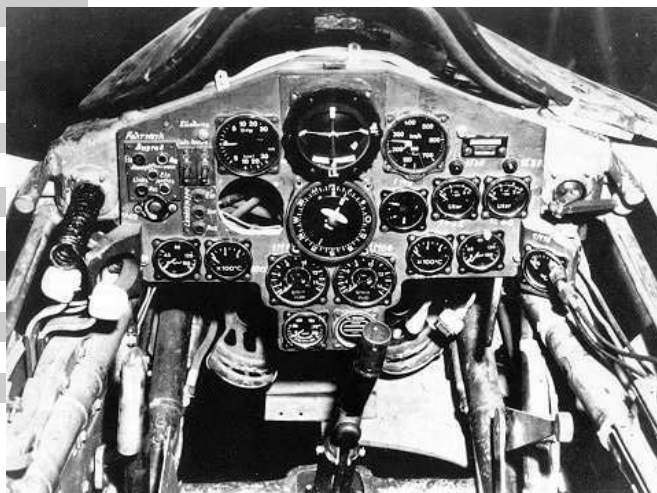
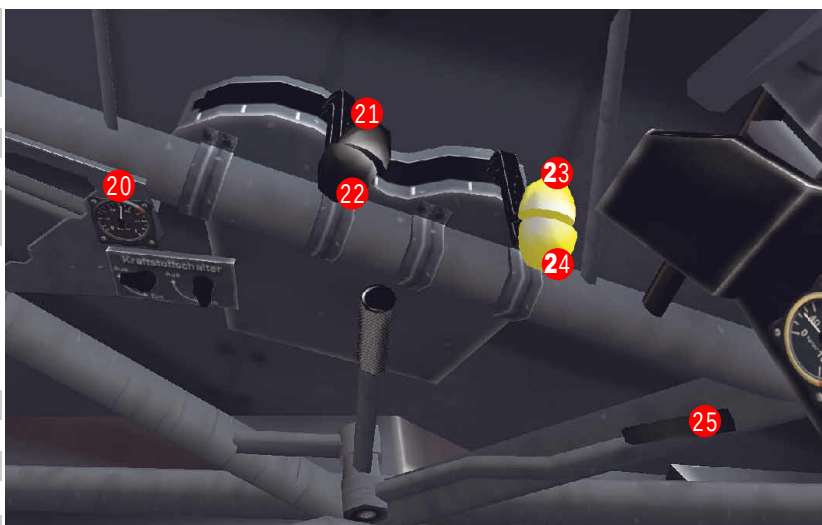
21. Landing gear lever

22. Flaps lever

23. Left engine throttle

24. Right engine throttle

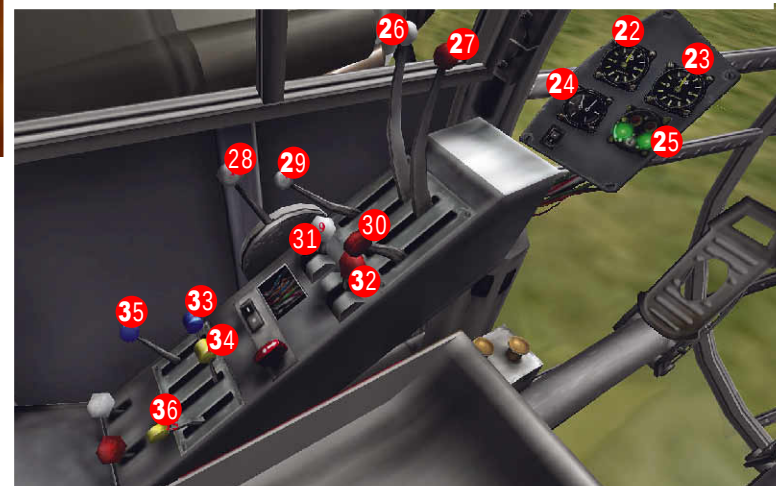
25. Air brake lever



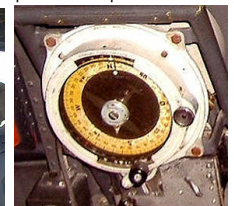




1. Artificial horizon
2. Course pointer
3. Homing indicator
4. Airspeed indicator
5. Repeater compass
6. Turn and bank indicator
7. Variometer
8. Altimeter
9. Autopilot course & bank indicator (gyro heading only)
10. Left engine tachometer
11. Right engine tachometer
12. Left engine oil temperature gage
13. Right engine oil temperature gage
14. Left engine fuel (left) and oil (right) pressure gage
15. Left engine manifold pressure gage
16. Right engine manifold pressure gage
17. Left engine coolant temperature gage
18. Right engine coolant temperature gage
19. Right engine fuel (left) and oil (right) pressure gage
20. Clock
21. Radio bearing indicator (with white needle as homing indicator)
22. Left propeller pitch indicator
23. Right propeller pitch indicator
24. Flaps position indicator
25. Landing gear position indicator: green - down / red - up
26. Left engine throttle
27. Right engine throttle
28. Flaps lever
29. Left engine supercharger lever
30. Right engine supercharger lever
31. Left side propeller pitch lever
32. Right side propeller pitch lever
33. Left engine mixture lever
34. Right engine mixture lever
35. Left engine oil radiator lever
36. Right engine oil radiator lever
37. Low fuel warning light for left wing tank (total fuel < 25% for H-2 / < 20% for H-6 & H-12)
38. Left wing tank fuel gage
39. Right wing tank fuel gage
40. Low fuel warning light for right wing tank (as LH tank)
41. Left engine fuel (left) and oil (right) pressure gage
42. Free air temperature gage
43. Right engine fuel (left) and oil (right) pressure gage



He 111 (<http://www.cockpitinstrumente.de>)







1. Turn and bank indicator
2. Airspeed indicator (white needle - IAS, yellow needle - TAS)  
Max IAS speed marks: 400 km/h-11000 m, 500 km/h-9000 m, 600 km/h-7000 m, 700 km/h-5000 m)
3. Variometer
4. Exhaust gas **temperature** gage
5. Tachometer
6. Homing indicator
7. Altimeter
8. Magnetic compass
9. Oil **pressure** gage
10. Fuel injection **pressure** gage
11. Clock
12. Fuel gage
13. Ammunition counter - left cannon
14. Ammunition counter - right cannon
15. Nosewheel well window
16. Elevator trim lever
17. Landing gear **lever** (indicator is located in front of the windshield)
18. Throttle



He 162 © Tromplamort – MAE Dugny 2009

He 162 © Tromplamort



He 162 (<http://memorial.flight.free.fr>)



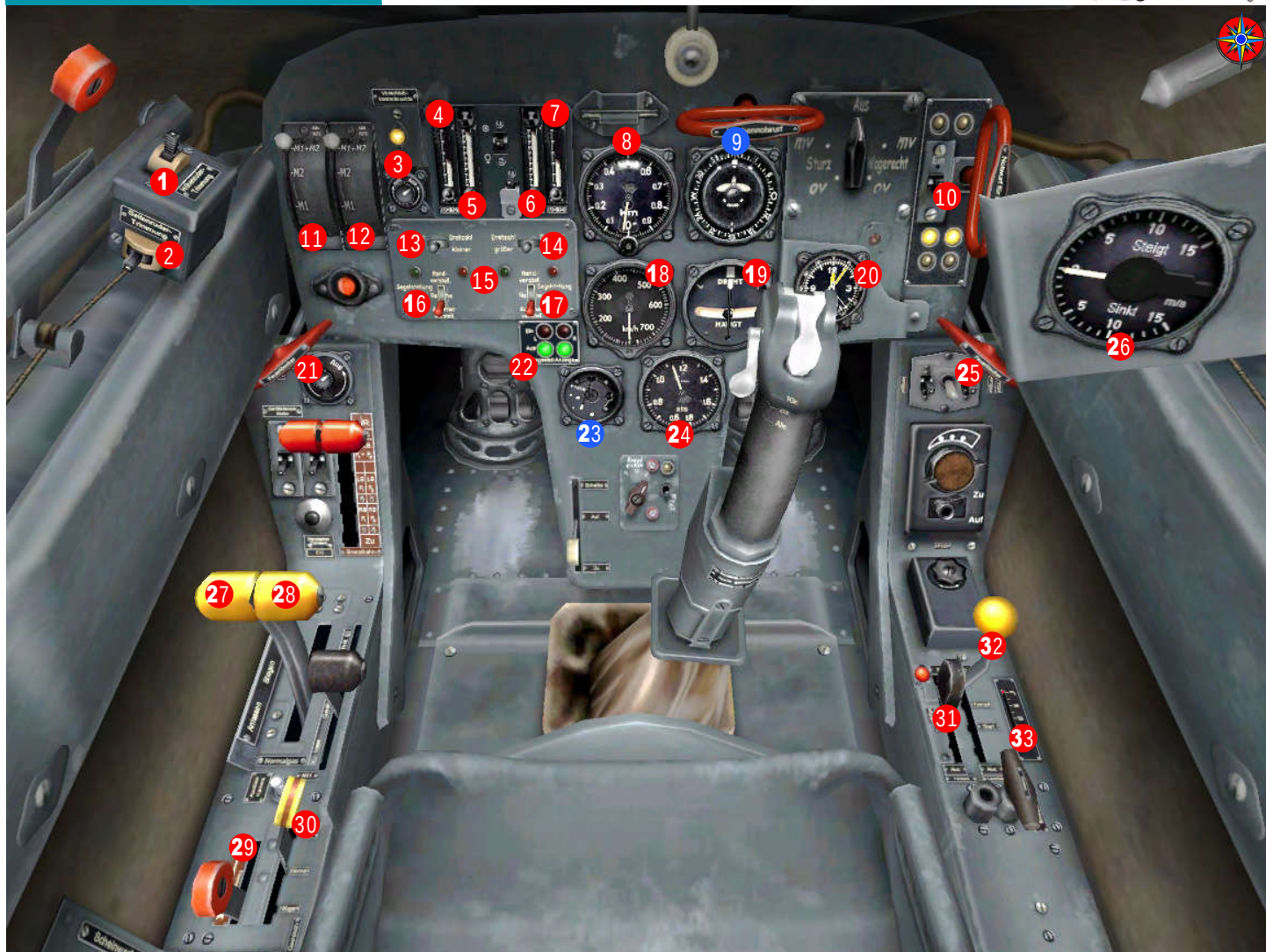




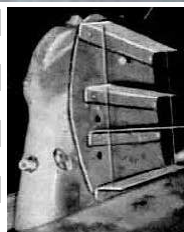
1. Artificial horizon / turn and bank indicator
2. Airspeed indicator
3. Altimeter
4. X-4 missile guidance lever
5. **Front engine coolant temperature gage**
6. Front engine oil pressure gage
7. **Rear engine coolant temperature gage**
8. Rear engine oil pressure gage
9. Front engine manifold pressure gage & tachometer
10. Rear engine manifold pressure gage & tachometer
11. Electric generator indicator light
12. Stabilization autopilot: engines power effectiveness indicator light
13. Fuel gage
14. Front engine throttle
15. Rear engine throttle
16. Low fuel warning light (total fuel < 26%)
17. Stabilization autopilot: "Switched on" indicator light (control surfaces deployed)
18. Stabilization autopilot: "Engaged" indicator light (control surfaces active)
19. Landing sensing probe indicator lights: green - wheels on ground  
**no light - in flight**
20. Ultra-sound landing altimeter (0-300 m)
21. Variometer





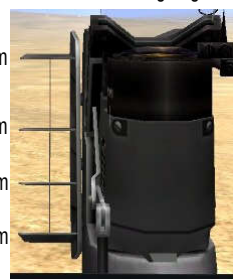


1. Elevator trim switch
2. Rudder trim switch
3. External weapon status light (switched on when weapon charged)
4. Ammunition counter - left cannon
5. Ammunition counter - left MG (removed when carrying 3,7 cm BK cannon)
6. Ammunition counter - right MG (as before)
7. Ammunition counter - right cannon
8. Altimeter
9. Repeater compass
10. External ordnance status lights: upper - single bomb fuselage rack (switched off - no bomb)  
middle - wing racks  
lower - 4 bombs fuselage rack



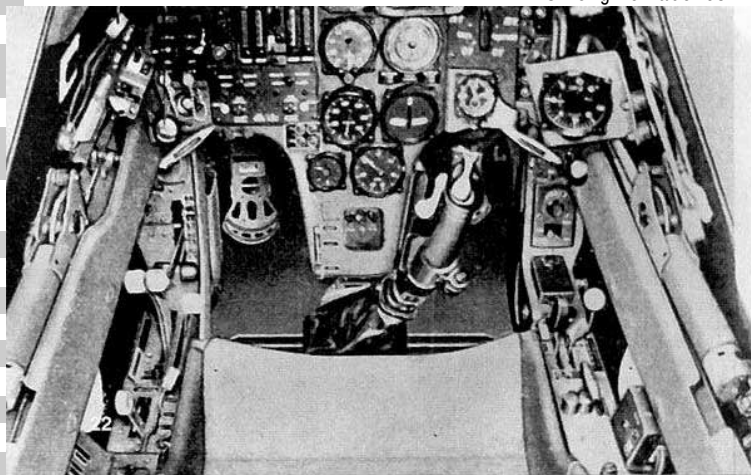
Level bombing sight

10 m  
50 m  
100 m  
200 m  
Alt AGL



On engine nacelles

11. Left engine ignition switch
12. Right engine ignition switch
13. LHS propeller RPM (Drehzahl) switch: left - higher RPM (pitch down) (manual mode / override in automatic mode) right - lower RPM (pitch up)
14. RHS propeller RPM switch (as before)
15. Left & right side propeller pitch indicator lights: green - pitch down  
red - pitch up
16. Left side propeller pitch control mode switch: up - manual  
down - automatic
17. Right side propeller control mode switch (as before)
18. Airspeed indicator
19. Turn and bank indicator
20. Clock
21. Left engine fire extinguisher lever
22. Landing gear position indicator
23. Homing indicator
24. Left & right engine manifold pressure gage (dual needle)
25. Right engine fire extinguisher lever
26. Variometer
27. Left engine throttle
28. Right engine throttle
29. Left & right engine boost lever (front position at power > 100%)
30. Left & right engine mixture lever
31. Landing gear lever
32. Flaps lever



33. Flaps position indicator
34. Engine tachometer
35. Fuel gage
36. Low fuel warning light (total fuel < 8%)
37. Oil temperature gage
38. Fuel (left) and oil (right) pressure gage
39. Hydraulic oil pressure gage (left side only)

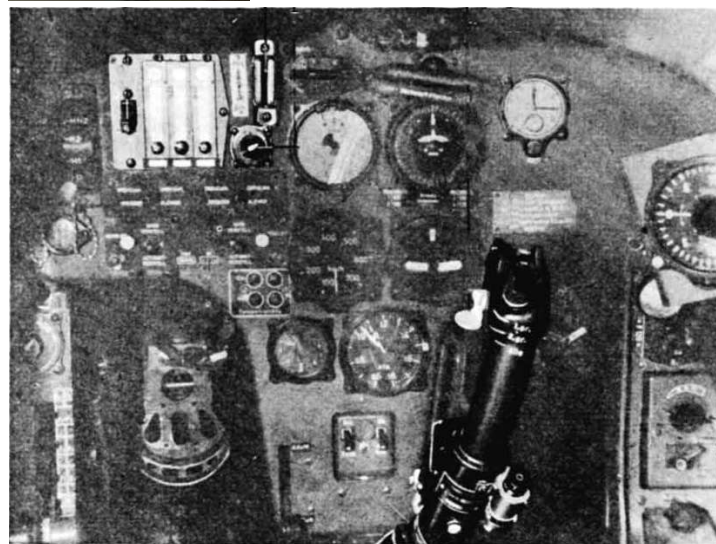
Hs 129 B-2







On engine nacelles



Hs 129 B-3/Wa

- 34. Oil temperature gage
- 35. Fuel (left) and oil (right) pressure gage
- 36. Hydraulic oil pressure gage (left side only)



- 1. Elevator trim switch
- 2. Rudder trim switch
- 3. Ammunition counter - left MG
- 4. Ammunition counter - 7,5 cm BK cannon
- 5. Ammunition counter - right MG
- 6. Altimeter
- 7. Repeater compass
- 8. Clock
- 9. Left engine ignition switch
- 10. Right engine ignition switch
- 11. LHS propeller pitch (Steigung) switch: left - higher RPM (pitch down) (manual mode / override in automatic mode) right - lower RPM (pitch up)
- 12. RHS propeller pitch switch (as before)
- 13. Left & right side propeller pitch indicator lights: green - pitch down red - pitch up
- 14. Left side propeller pitch control mode switch: up - manual down - automatic
- 15. Right side propeller pitch control mode switch (as before)
- 16. Airspeed indicator
- 17. Turn and bank indicator
- 18. Left engine fire extinguisher lever
- 19. Landing gear indicator
- 20. Homing indicator
- 21. Left & right engine manifold pressure gage (dual needle)
- 22. Right engine fire extinguisher lever
- 23. Variometer
- 24. Left engine throttle
- 25. Right engine throttle
- 26. Left & right engine boost lever (front position at power > 100%)
- 27. Left & right engine mixture lever
- 28. Landing gear lever
- 29. Flaps lever
- 30. Flaps position indicator
- 31. Engine tachometer
- 32. Fuel gage
- 33. Low fuel warning light (total fuel < 8%)



# Junkers Ju 87 B-2 Stuka



1. Supercharger lever: rear position - stage 1  
front position - stage 2
2. Contact altimeter  
(with adjustable altitude needle for automatic bomb drop & pull-up)
3. Repeater compass
4. Airspeed indicator
5. Tachometer
6. Clock
7. Altimeter
8. Turn and bank indicator
9. Variometer
10. Manifold pressure gage
11. Magnetic compass
12. Fuel gage
13. Fuel (left) and oil (right) pressure gage
14. Oil temperature gage
15. Coolant temperature gage
16. Propeller pitch lever
17. Throttle
18. Dive brakes lever: rear position - deployed  
front position - stowed
19. Flaps lever



Ju 87B1 (<http://www.cockpitinstrumente.de>)

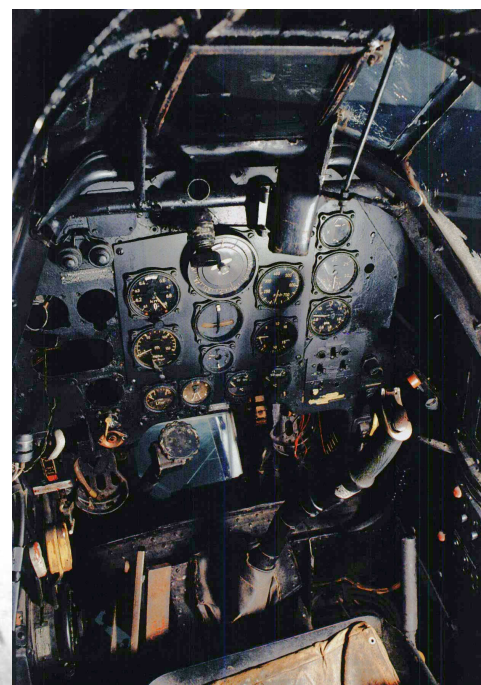






1. Clock
2. Supercharger lever: rear position - stage 1  
front position - stage 2
3. Altimeter
4. Repeater compass
5. Airspeed indicator
6. Tachometer
7. Left and right ammunition counters (MG in D-3, cannons in D-5 & G-1)
8. Magnetic compass
9. Contact altimeter  
(with adjustable altitude needle for bomb drop (automatic in D-3 only) & pull-up)
10. Turn and bank indicator
11. Variometer
12. Manifold pressure gage
13. Homing indicator
14. Fuel gage
15. Fuel (left) and oil (right) pressure gage
16. Oil temperature gage
17. Coolant temperature gage
18. Propeller pitch lever
19. Throttle
20. Dive brakes lever: rear position - deployed  
(except in G-1) front position - stowed
21. Flaps lever

Ju 87 G-2 (<http://war.by.airforce.com/articles/Cockpits.html>)



Ju 87 D-5 (<http://www.cockpitinstrumente.de>)

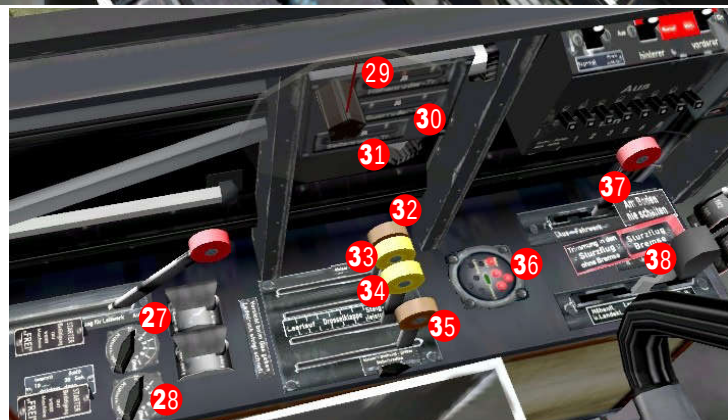




# Junkers Ju 88 A-4



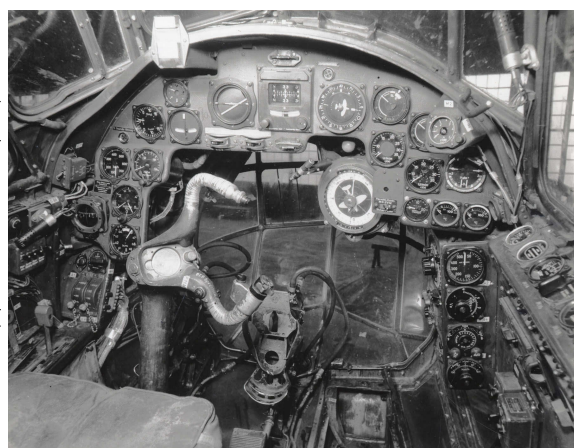
1. Variometer
2. Turn and bank indicator
3. Artificial horizon
4. Airspeed indicator
5. Altimeter
6. **Homing indicator**
7. Contact altimeter  
(with adjustable altitude needle for bomb drop & pull-up)
8. **Course & gyro indicator** (top: selected course - bottom: gyro heading)
9. **Radio bearing indicator** (with white needle as homing indicator)
10. Repeater compass
11. Left engine manifold pressure gage
12. Right engine manifold pressure gage
13. Left engine tachometer
14. Right engine tachometer
15. Left & right engine fuel (bottom) and oil (top) pressure gage
16. **Left engine coolant temperature gage**
17. **Right engine coolant temperature gage**
18. Fuel gage
19. Fuel gage
20. Free air temperature gage
21. Fuel consumption gage
22. Left engine ignition switch
23. Right engine ignition switch
24. Clock
25. True airspeed selector switch
26. True airspeed indicator
27. Left engine oil radiator selector switch
28. Right engine oil radiator selector switch
29. Elevator trim wheel and indicator
30. Aileron trim indicator
31. Rudder trim indicator
32. Left side propeller pitch lever
33. Left engine throttle
34. Right engine throttle
35. Right side propeller pitch lever
36. Landing gear & flaps position indicator



On engine nacelles



Ju 88 (<http://www.nationalmuseum.af.mil/photos/>)

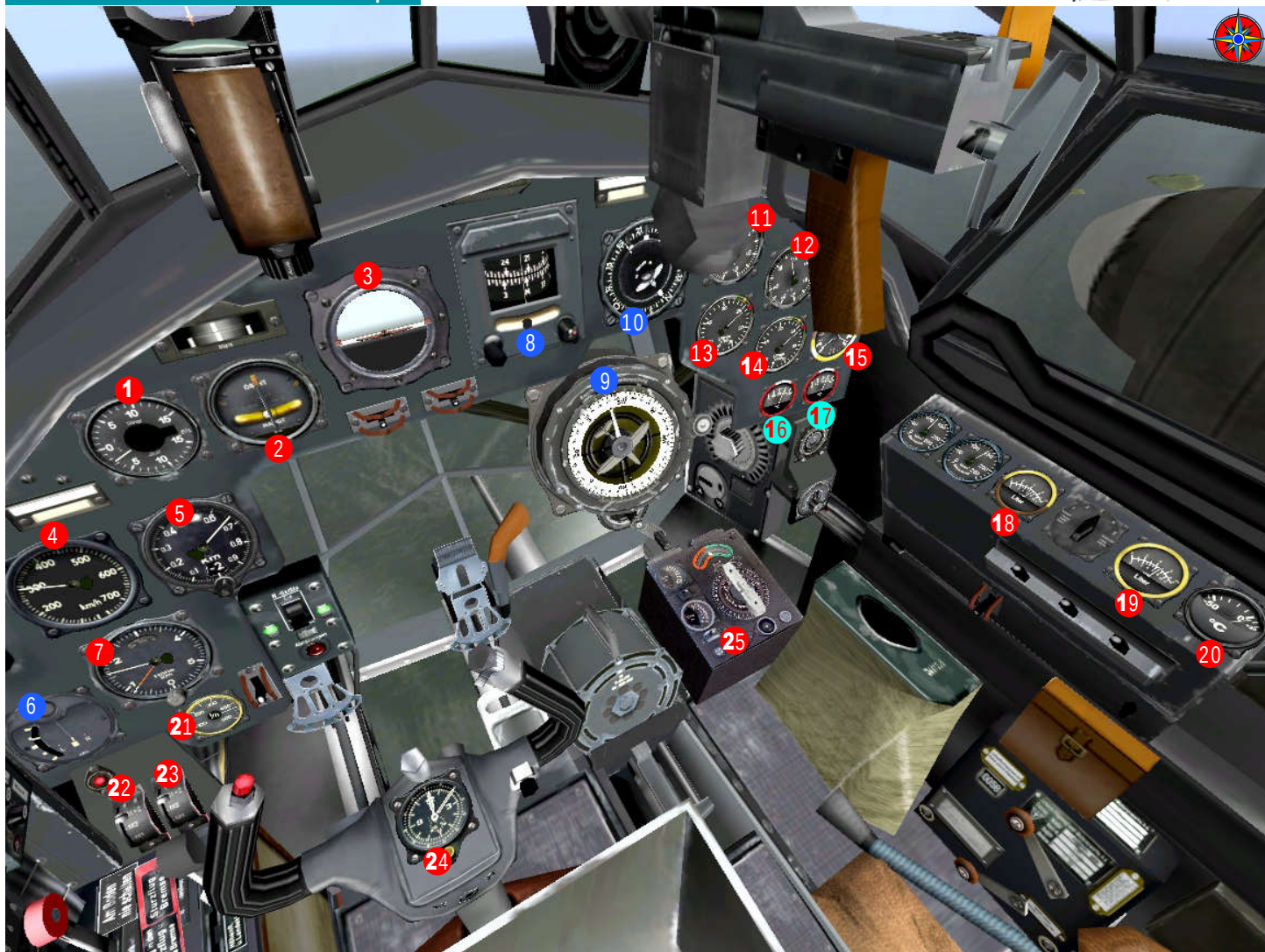


37. Landing gear lever
38. Flaps lever
39. **Oil temperature gage**
40. Hydraulic oil pressure gage

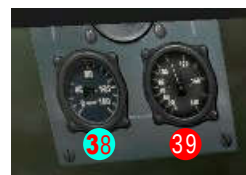
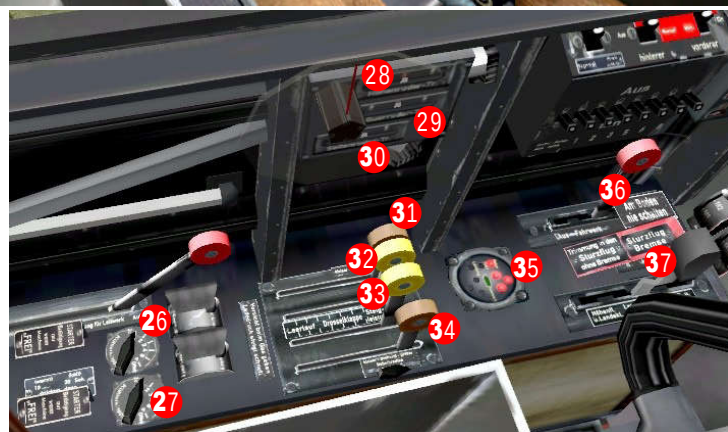




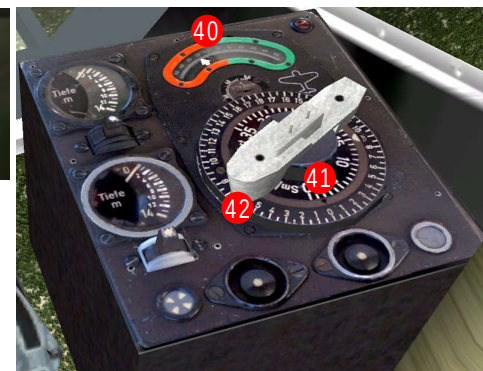
# Junkers Ju 88 A-4/Torp



1. Variometer
2. Turn and bank indicator
3. Artificial horizon
4. Airspeed indicator
5. Altimeter
6. Homing indicator
7. Contact altimeter
8. Course & gyro indicator (top: selected course - bottom: gyro heading)
9. Radio bearing indicator (with white needle as homing indicator)
10. Repeater compass
11. Left engine manifold pressure gage
12. Right engine manifold pressure gage
13. Left engine tachometer
14. Right engine tachometer
15. Left & right engine fuel (bottom) and oil (top) pressure gage
16. Left engine coolant temperature gage
17. Right engine coolant temperature gage
18. Fuel gage
19. Fuel gage
20. Free air temperature gage
21. Fuel consumption gage
22. Left engine ignition switch
23. Right engine ignition switch
24. Clock
25. Torpedo data computer (Torpedo-Kommandogerät (ToKG))
26. Left engine oil radiator selector switch
27. Right engine oil radiator selector switch
28. Elevator trim wheel and indicator
29. Aileron trim indicator
30. Rudder trim indicator
31. Left side propeller pitch lever
32. Left engine throttle
33. Right engine throttle
34. Right side propeller pitch lever
35. Landing gear & flaps position indicator
36. Landing gear lever
37. Flaps lever



On engine nacelles



ToKG front panel

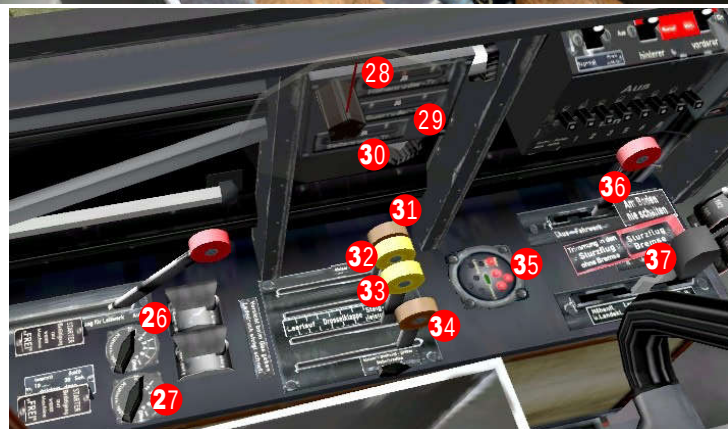
38. Oil temperature gage
39. Hydraulic oil pressure gage
40. Firing angle display (torpedo gyro angle)
41. Target ship's speed scale
42. Ship's Angle-on-Bow (AoB) button & scale



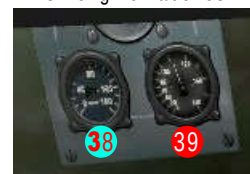




1. Variometer
2. Turn and bank indicator
3. Artificial horizon
4. Airspeed indicator
5. Altimeter
6. Homing indicator
7. Contact altimeter
8. Course & gyro indicator (top: selected course - bottom: gyro heading)
9. Radio bearing indicator (with white needle as homing indicator)
10. Repeater compass
11. Left engine manifold pressure gage
12. Right engine manifold pressure gage
13. Left engine tachometer
14. Right engine tachometer
15. Left & right engine fuel (bottom) and oil (top) pressure gage
16. Left engine coolant temperature gage
17. Right engine coolant temperature gage
18. Fuel gage
19. Fuel gage
20. Free air temperature gage
21. Fuel consumption gage
22. Left engine ignition switch
23. Right engine ignition switch
24. Clock
25. Torpedo data computer (Torpedo-Kommandogerät (ToKG))
26. Left engine oil radiator selector switch
27. Right engine oil radiator selector switch
28. Elevator trim wheel and indicator
29. Aileron trim indicator
30. Rudder trim indicator
31. Left side propeller pitch lever
32. Left engine throttle
33. Right engine throttle
34. Right side propeller pitch lever
35. Landing gear & flaps position indicator
36. Landing gear lever
37. Flaps lever



On engine nacelles



- ToKG 1B front panel (See controls on Ju 88 A-4/Torp)
38. Oil temperature gage
  39. Hydraulic oil pressure gage







1. Clock
2. Engine ignition switch
3. Altimeter
4. Repeater compass
5. Manifold pressure gage
6. Airspeed indicator
7. Turn and bank indicator
8. Tachometer
9. Propeller pitch indicator
10. Low fuel warning light (total fuel < 13% -- 10 min at 2200 RPM)
11. Fuel (left) and oil (right) pressure gage
12. Landing gear position indicator: green - down  
no light - transition  
red - up
13. Fuel gage
14. Oil temperature gage
15. Coolant temperature gage
16. Landing gear lever
17. Throttle



Bf 109E-4 (©Rod Derno, <http://www.airliners.net>)







1. Ammunition counter - left nose MG
2. Ammunition counter - propeller cannon
3. Ammunition counter - right nose MG
4. Clock
5. Engine ignition switch
6. Altimeter
7. Repeater compass
8. Manifold pressure gage
9. Landing gear position indicator: green - down  
no light - transition  
red - up
10. Landing gear actuators
11. Airspeed indicator
12. Turn and bank indicator
13. Tachometer
14. Propeller pitch indicator
15. Coolant temperature gage
16. Low fuel warning light  
(total fuel < 12% -- 10 min at 2200 RPM)
17. Fuel gage
18. Fuel (left) and oil (right)  
pressure gage
19. Throttle



Bf 109F4





# Messerschmitt Bf 109 G-2 «Gustav»



1. Ammunition counter - left nose MG
2. Ammunition counter - propeller cannon
3. Ammunition counter - right nose MG
4. Clock
5. Engine ignition switch
6. Repeater compass
7. Artificial horizon / turn and bank indicator
8. Manifold pressure gage
9. Landing gear position indicator: green - down  
no light - transition  
red - up
10. Landing gear actuators
11. Altimeter
12. Airspeed indicator
13. Tachometer
14. Propeller pitch indicator
15. Coolant temperature gage
16. Low fuel warning light  
(total fuel < 12% – 20 min at 2100 RPM)
17. Fuel gage
18. Fuel (left) and oil (right) pressure gage
19. Throttle



Bf 109 G-2 (<http://www.360cities.net/image/luftfahrtmuseum-40>)







1. Ammunition counter - left nose MG
2. Ammunition counter - propeller cannon
3. Ammunition counter - right nose MG
4. Clock
5. Engine ignition switch
6. Repeater compass
7. Artificial horizon / turn and bank indicator
8. Manifold pressure gage
9. Homing indicator
10. Landing gear position indicator: green - down  
no light - transition  
red - up
11. Landing gear actuators
12. Altimeter
13. Airspeed indicator
14. Tachometer
15. Propeller pitch indicator
16. Coolant temperature gage
17. Low fuel warning light  
(total fuel < 12% -- 20 min at 2100 RPM)
18. Fuel gage
19. Fuel (left) and oil (right) pressure gage
20. Throttle



Bf 109 G-6 ©Mikael Olrog, <http://109lair.hobbyvista.com/index1024.htm>





# Messerschmitt Bf 109 G-10 «Gustav»



1. Ammunition counter - left nose MG
2. Ammunition counter - propeller cannon
3. Ammunition counter - right nose MG
4. Clock
5. Engine ignition switch
6. Repeater compass
7. Artificial horizon / turn and bank indicator
8. Manifold pressure gage
9. Homing indicator
10. Landing gear position indicator: green - down  
no light - transition  
red - up
11. Landing gear actuators
12. Altimeter
13. Airspeed indicator
14. Tachometer
15. Propeller pitch indicator
16. Coolant temperature gage
17. Low fuel warning light  
(total fuel < 12% -- 20 min at 2100 RPM)
18. Fuel gage
19. Fuel (left) and oil (right) pressure gage
20. Throttle

Bf 109 G-10 (<http://www.arcair.com/ava01/001100/ava037-Me-109-G-1000.htm>)







1. Ammunition counter - left nose MG
2. Ammunition counter - propeller cannon
3. Ammunition counter - right nose MG
4. Clock
5. Engine ignition switch
6. Repeater compass
7. Artificial horizon / turn and bank indicator
8. Manifold pressure gage
9. Homing indicator
10. Landing gear position indicator: green - down  
no light - transition  
red - up
11. Landing gear actuators
12. Altimeter
13. Airspeed indicator
14. Tachometer
15. Propeller pitch indicator
16. Coolant temperature gage
17. Low fuel warning light  
(total fuel < 12% -- 20 min at 2100 RPM)
18. Fuel gage
19. Fuel (left) and oil (right) pressure gage
20. Throttle
21. MW-50 indicator

Bf 109 G-14 (<http://www.preservedaxisaircraft.com/>)







1. Ammunition counter - left nose MG
2. Ammunition counter - right nose MG
3. MW-50 pressure gage
4. Clock
5. Airspeed indicator
6. Artificial horizon / turn and bank indicator
7. Variometer
8. Fuel (left) and oil (right) pressure gage
9. **Coolant temperature gage**
10. **Oil temperature gage**
11. Altimeter
12. **Repeater compass**
13. **Homing indicator**
14. Tachometer
15. **Propeller pitch indicator**
18. Landing gear actuators & **position indicator: green - down  
no light transition  
red - up**
17. Engine ignition switch
18. **Manifold pressure gage**
19. **Fuel gage**
20. **Low fuel warning light** (total fuel < 12% -- 10 min at 2300 RPM)
21. **Throttle**
22. MW-50 indicator



Bf 109 G-14AS / K4



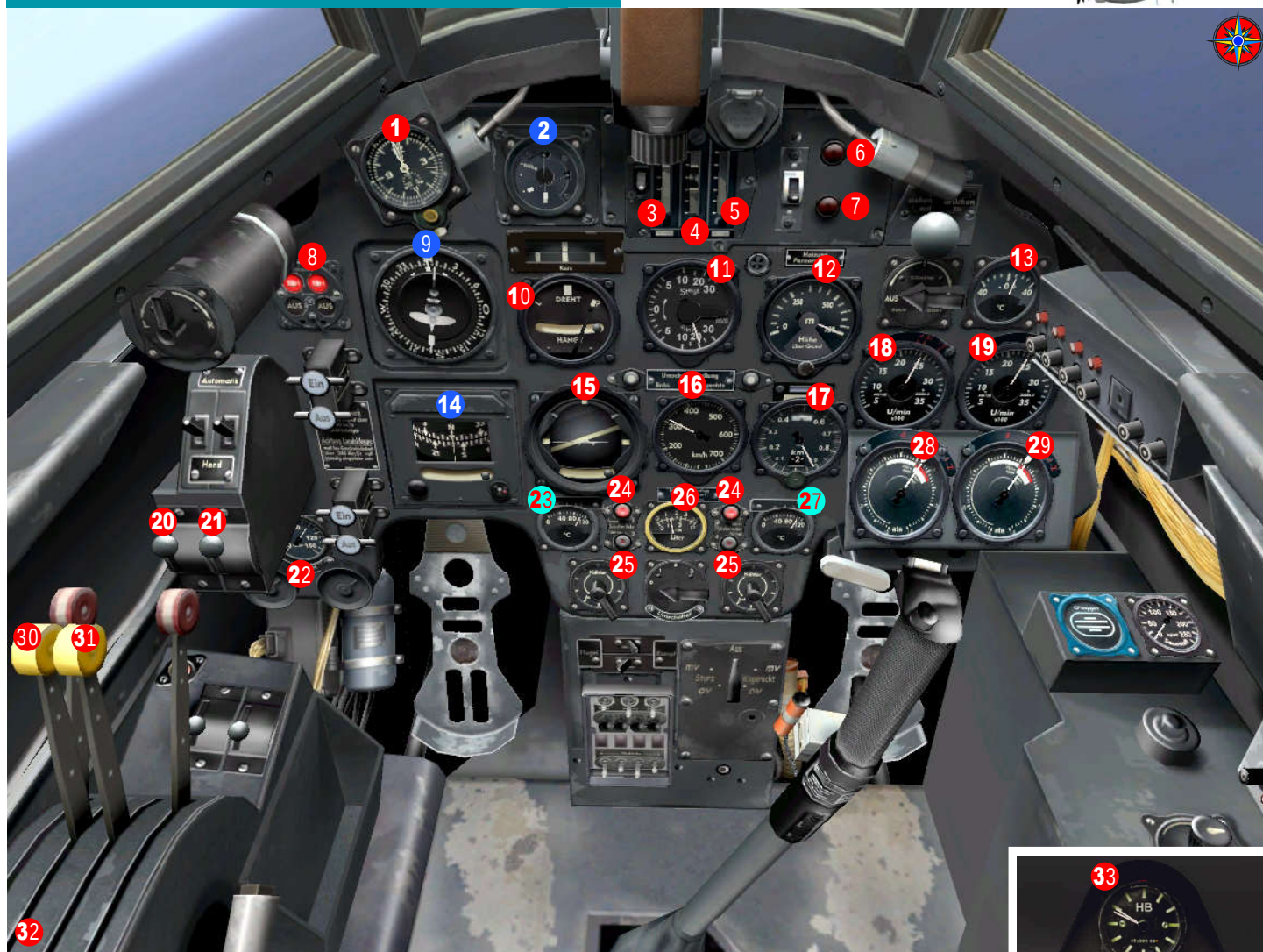




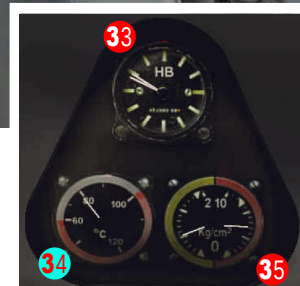
1. Ammunition counter - left propeller cannon
2. Ammunition counter - optional MK103 gunpod
3. Ammunition counter - right propeller cannon
4. Clock
5. Left engine ignition switch
6. Right engine ignition switch
7. Repeater compass
8. Artificial horizon / turn and bank indicator
9. Left engine manifold pressure gage (white needle) and tachometer (yellow needle)
10. Right engine manifold pressure gage (white needle) and tachometer (yellow needle)
11. Landing gear position indicator: green - down  
no light - transition  
red - up
12. Altimeter
13. Airspeed indicator
14. Left engine coolant temperature gage
15. Right engine coolant temperature gage
16. Left engine fuel (left) and oil (right) pressure gage
17. Right engine fuel (left) and oil (right) pressure gage
18. Low fuel warning light (total fuel < 5%)
19. Propeller pitch indicator for left and right engine
20. Fuel gage
21. Landing gear actuators
22. Left engine throttle
23. Right engine throttle



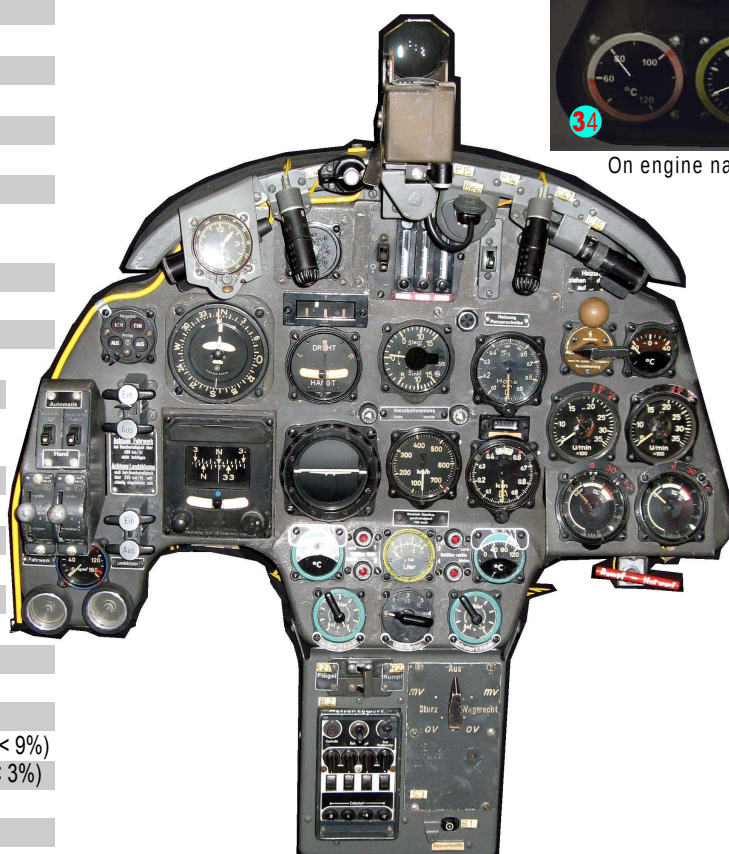




1. Clock
2. **Homing indicator**
3. Ammunition counter - left fuselage cannon
4. Ammunition counter - optional MK108 nose cannons
5. Ammunition counter - right fuselage cannon
6. Right fuselage cannon warning light
7. Left fuselage cannon warning light
8. Landing gear **position indicator: green - down**  
**red - up**
9. **Repeater compass**
10. Turn and bank indicator
11. Variometer
12. Radio altimeter
13. Outside temperature gage
14. **Course & gyro indicator: top: selected course**  
**bottom: gyro heading**
15. Artificial horizon
16. Airspeed indicator
17. Altimeter
18. Left engine tachometer
19. Right engine tachometer
20. Left engine propeller pitch lever
21. Right engine propeller pitch lever
22. Compressed air pressure gage
23. **Left engine coolant temperature gage**
24. Low fuel warning light for L/R front fuel tank (total fuel < 9%)
25. Low fuel warning light for L/R rear fuel tank (total fuel < 3%)
26. Fuel gage
27. **Right engine coolant temperature gage**
28. Left engine manifold pressure gage
29. Right engine manifold pressure gage
30. Left engine throttle
31. Right engine throttle
32. Left & right engine oil radiator levers (not visible)



On engine nacelles



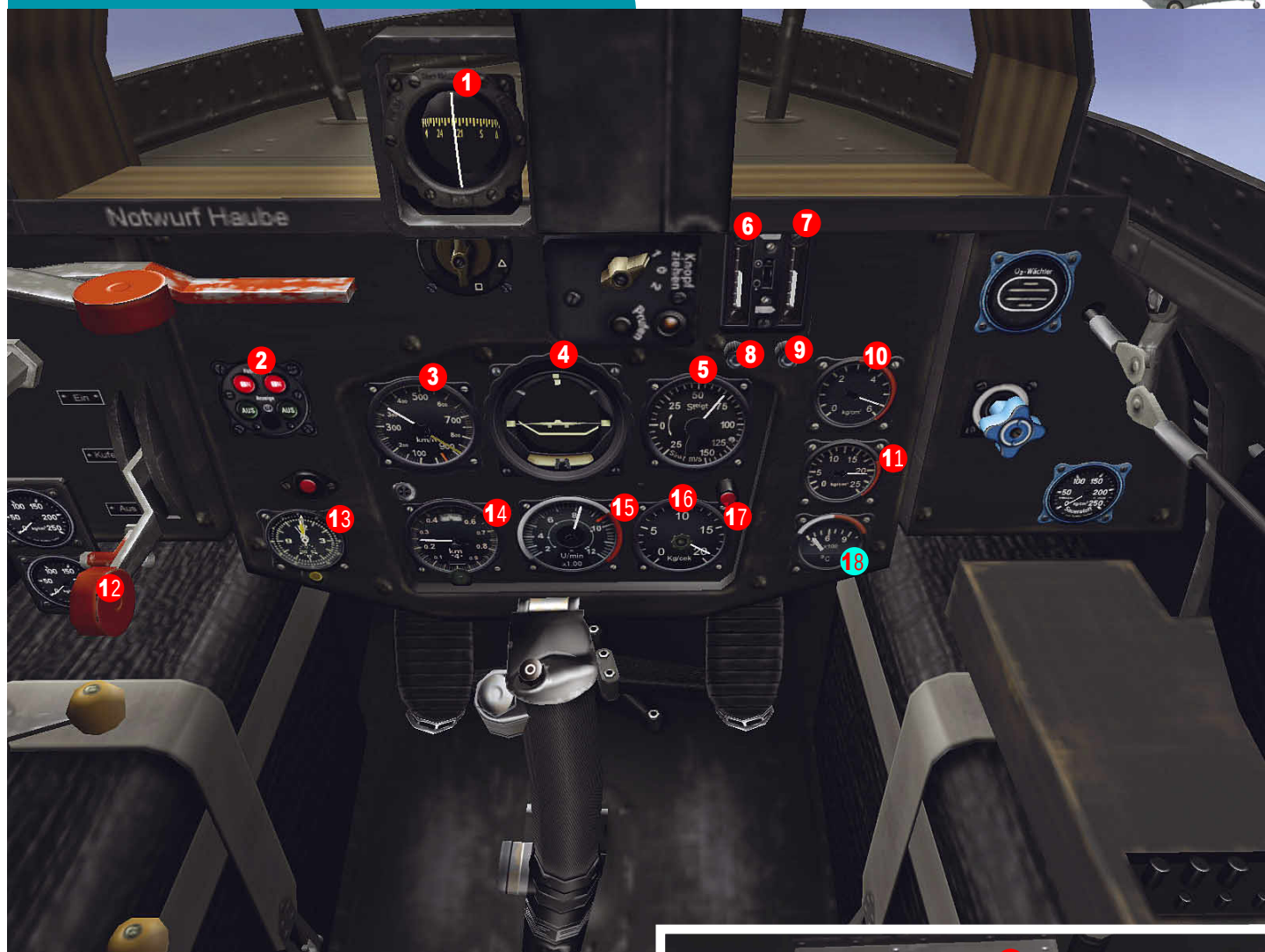
Bf110 G-4 (<http://www.cockpitinstrumente.de>)

33. Propeller pitch indicator
34. **Oil temperature gage**
35. Fuel (left) and oil (right) pressure gage

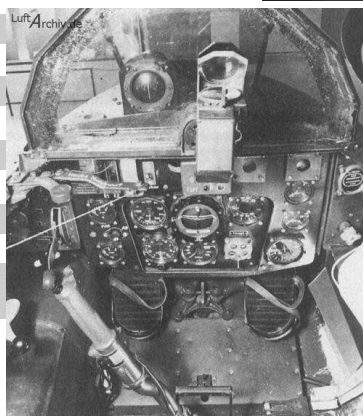




# Messerschmitt Me 163 B-1a «Komet»

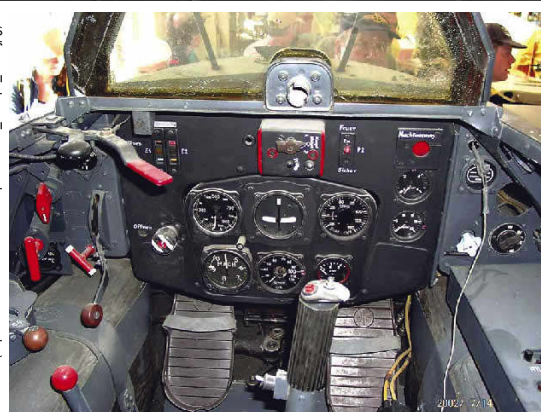


1. Magnetic **compass**
2. Landing gear **position indicator**: green - down  
no light - transition  
red - up
3. Airspeed indicator  
White needle - IAS up to 400 km/h, yellow needle - TAS with dual 400 km/h mark
4. Artificial horizon / turn and bank indicator
5. Variometer
6. Ammunition **counter** - left cannon
7. Ammunition **counter** - right cannon
8. Left cannon warning light
9. Right cannon warning light
10. Thrust gage (low power)
11. Thrust gage (high power)
12. Landing gear lever
13. Clock
14. Altimeter
15. Tachometer (in %)
16. Fuel **consumption** gage
17. Low fuel warning light (total fuel < 25%)
18. **Exhaust temperature gage**
19. Elevator trim indicator
20. Elevator trim wheel
21. Throttle - 4 settings:  
0% - 35% - 65% - 100%
22. Flaps lever

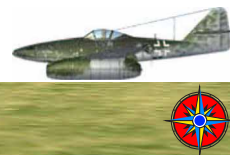


Me 163 (<http://www.luftarchiv.de/>)

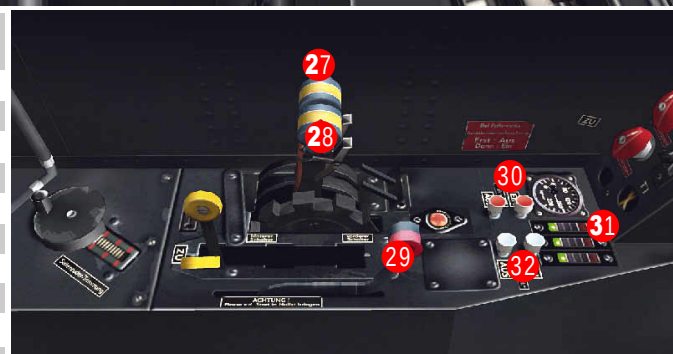
Me163 ([http://www.aventure.de/dux02psr/Me163\\_Cockpit\\_0440.jpg](http://www.aventure.de/dux02psr/Me163_Cockpit_0440.jpg))





**1. Airspeed indicator**

White needle - IAS up to 400 km/h, yellow needle - TAS with dual 400 km/h mark

**2. Artificial horizon****3. Variometer****4. Overspeed warning light****5. Altimeter****6. Repeater compass****7. Homing indicator****8. Clock****9. Cabin pressure warning light****10. Ammunition counter - left upper cannon** (5 cm BK cannon on a1/U4)**11. Ammunition counter - right upper cannon** (not active on a1/U4)**12. Cannon warning lights** (lighted on a1/U4)**13. Left engine tachometer****14. Right engine tachometer****15. Left engine gas pressure gage****16. Left engine gas temperature gage****17. Right engine gas temperature gage****18. Right engine gas pressure gage****19. Left engine oil pressure gage****20. Left engine fuel injection pressure gage****21. Right engine fuel injection pressure gage****22. Right engine oil pressure gage****23. Low fuel warning light** (front tank) (total fuel < 22%)**24. Fuel gage** (front)**25. Fuel gage** (rear)**26. Low fuel warning light** (rear tank) (total fuel < 22%)**27. Left engine throttle****28. Right engine throttle****29. Elevator trim lever****30. Flaps actuators****31. Landing gear position: green - down / red - up****32. Landing gear actuators**

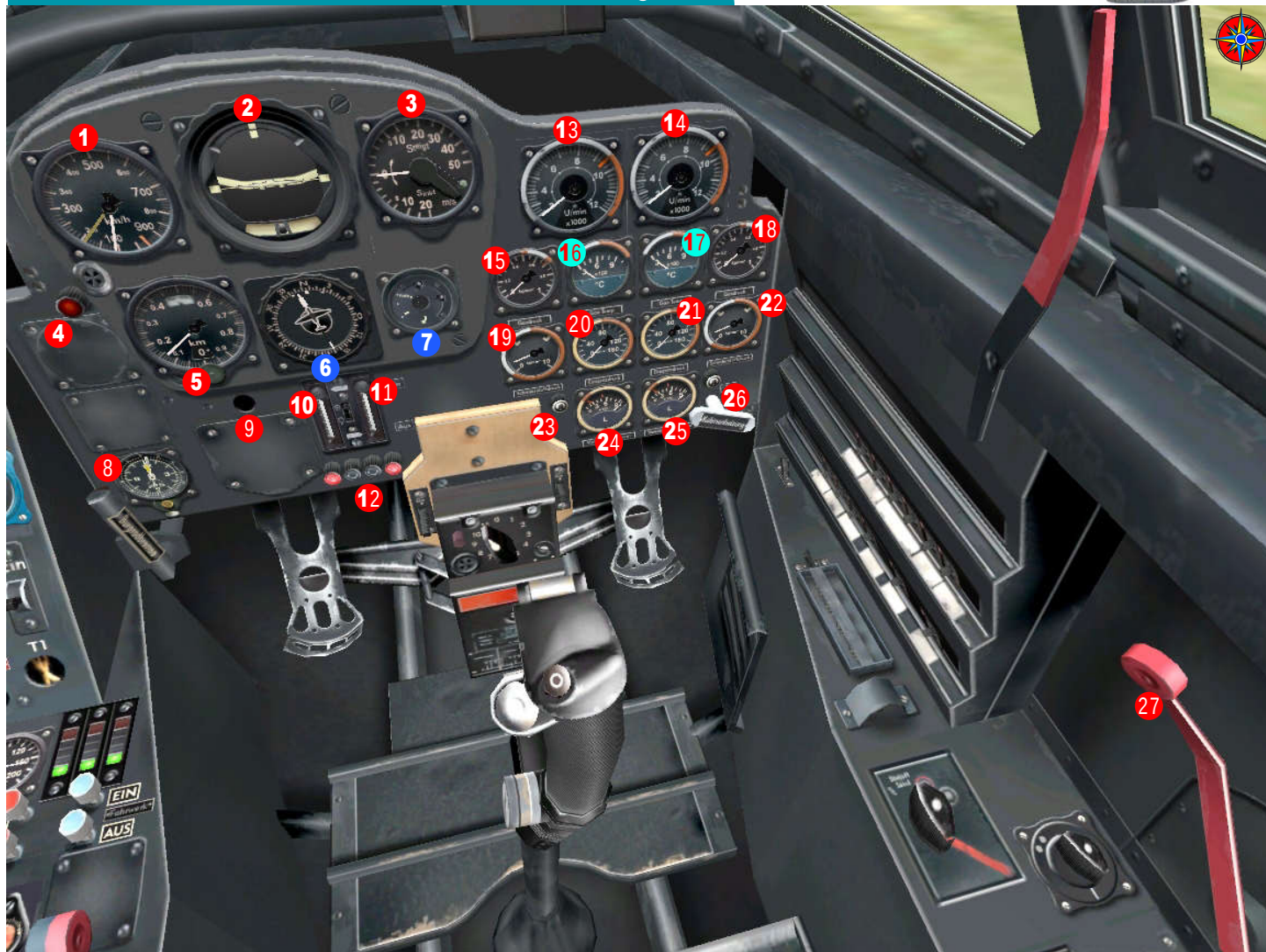
Aufgenommen im  
"Deutsches Museum"  
in München

Me 262 [http://www.broschewe.de/2008/Hilfsarchiv\\_Flugzeug/Messerschmitt\\_Me262Me-262\\_Cockpitme-262\\_cockpit.html](http://www.broschewe.de/2008/Hilfsarchiv_Flugzeug/Messerschmitt_Me262Me-262_Cockpitme-262_cockpit.html)





# Messerschmitt Me 262 A-2a «Sturmvogel»



## 1. Airspeed indicator

White needle - IAS up to 400 km/h, yellow needle - TAS with dual 400 km/h mark

## 2. Artificial horizon

## 3. Variometer

## 4. Overspeed warning light

## 5. Altimeter

## 6. Repeater compass

## 7. Homing indicator

## 8. Clock

## 9. Cabin pressure warning light

## 10. Ammunition counter - left upper cannon

## 11. Ammunition counter - right upper cannon

## 12. Cannon warning lights (outer always lighted)

## 13. Left engine tachometer

## 14. Right engine tachometer

## 15. Left engine gas pressure gage

## 16. Left engine gas temperature gage

## 17. Right engine gas temperature gage

## 18. Right engine gas pressure gage

## 19. Left engine oil pressure gage

## 20. Left engine fuel injection pressure gage

## 21. Right engine fuel injection pressure gage

## 22. Right engine oil pressure gage

## 23. Low fuel warning light (front tank) (total fuel < 22%)

## 24. Fuel gage (front)

## 25. Fuel gage (rear)

## 26. Low fuel warning light (rear tank) (total fuel < 22%)

## 27. Bomb release lever

## 28. Left engine throttle

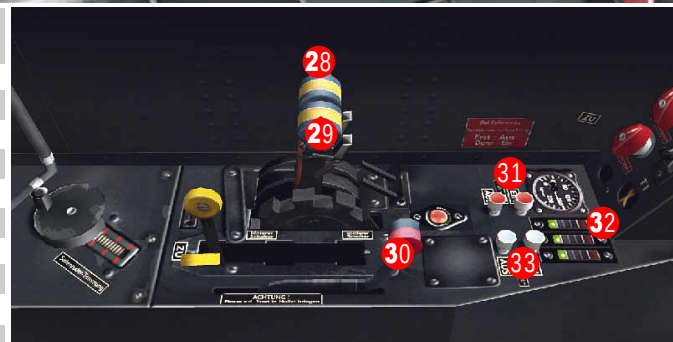
## 29. Right engine throttle

## 30. Elevator trim lever

## 31. Flaps actuators

## 32. Landing gear position: green - down / red - up

## 33. Landing gear actuators



Me 262 (<http://www.nasm.si.edu/exhibitions/gaz211/atthecontrols.cfm>)





# Messerschmitt Me 262 HG II



## 1. Airspeed indicator

White needle - IAS up to 400 km/h, yellow needle - TAS with dual 400 km/h mark

## 2. Artificial horizon

## 3. Variometer

## 4. Overspeed warning light

## 5. Altimeter

## 6. Repeater compass

## 7. Homing indicator

## 8. Clock

## 9. Cabin pressure warning light

## 10. Ammunition counter - left upper cannon

## 11. Ammunition counter - right upper cannon

## 12. Cannon warning lights

## 13. Left engine tachometer

## 14. Right engine tachometer

## 15. Left engine gas pressure gage

## 16. Left engine gas temperature gage

## 17. Right engine gas temperature gage

## 18. Right engine gas pressure gage

## 19. Left engine oil pressure gage

## 20. Left engine fuel injection pressure gage

## 21. Right engine fuel injection pressure gage

## 22. Right engine oil pressure gage

## 23. Low fuel warning light (front tank) (total fuel < 22%)

## 24. Fuel gage (front)

## 25. Fuel gage (rear)

## 26. Low fuel warning light (rear tank) (total fuel < 22%)

## 27. Left engine throttle

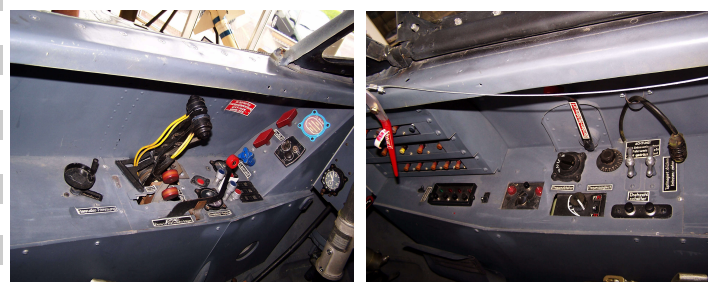
## 28. Right engine throttle

## 29. Flaps actuators

## 30. Landing gear actuators

## 31. Landing gear position: green - down / red - up

## 32. Elevator trim lever



Me 262 B-1a



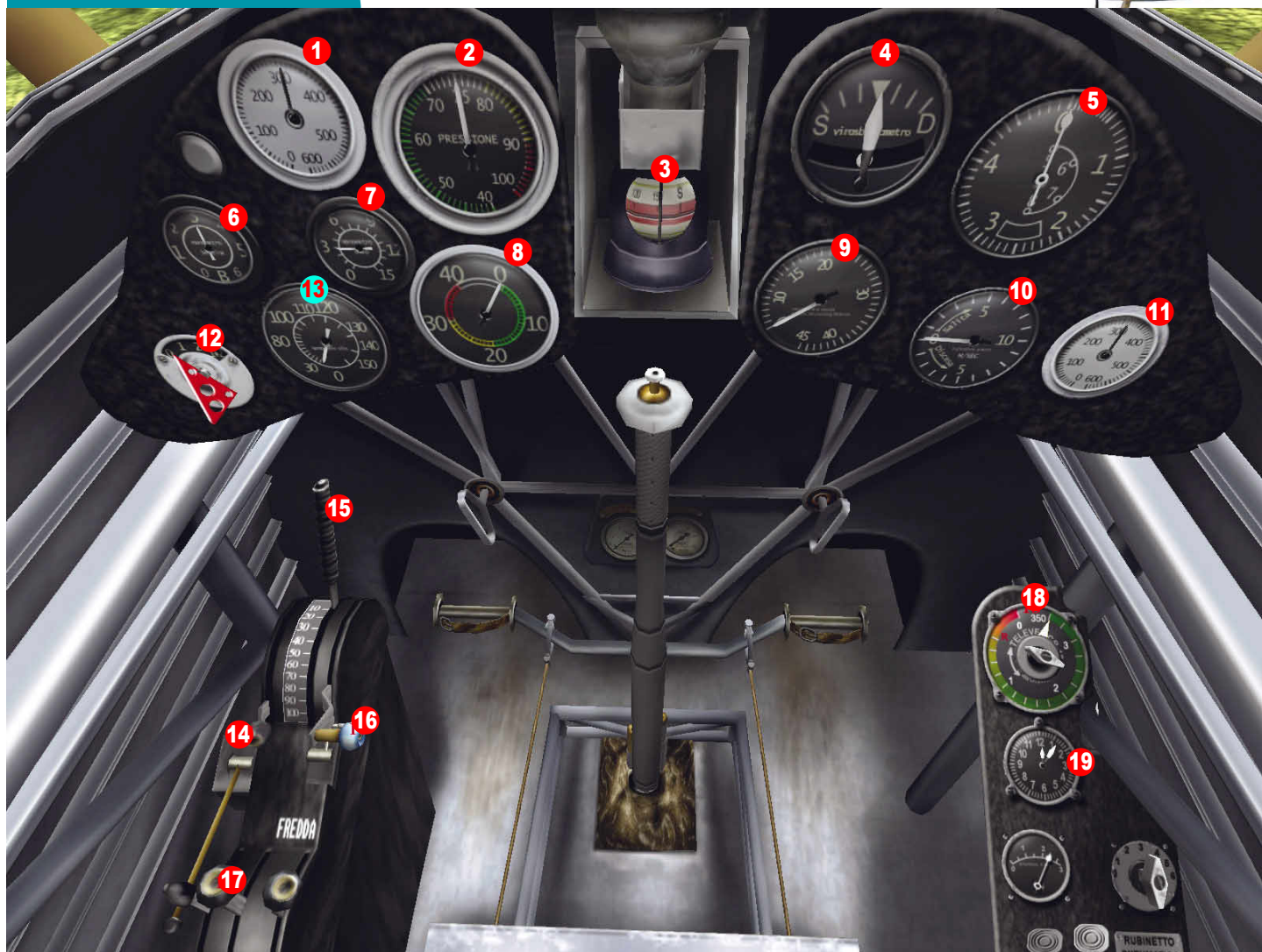


ITALY





# Fiat C.R. 42 «Falco»



1. Ammunition counter - left MG
2. Manifold pressure gage
3. Magnetic compass
4. Turn and bank indicator
5. Altimeter
6. Fuel pressure gage
7. Oil pressure gage
8. Tachometer
9. Airspeed indicator
10. Variometer
11. Ammunition counter - right MG
12. Engine ignition switch
13. Oil temperature gage
14. Mixture lever: rear position - richer mixture  
front position - leaner mixture
15. Throttle (100% in rear position)
16. Propeller pitch lever (100% in rear position)
17. Radiator levers
18. Fuel gage
19. Clock



C.R. 42 ([http://surfcity.kund.dalnet.se/falco\\_sweden.htm](http://surfcity.kund.dalnet.se/falco_sweden.htm))



C.R. 42 (<http://www.w2aircraft.net/forum/>)

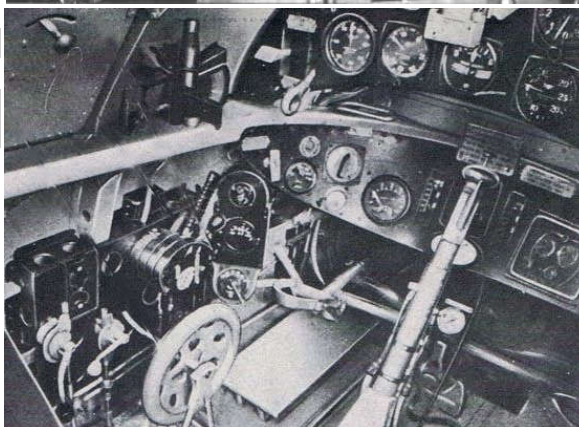




# Fiat G.50 «Freccia»



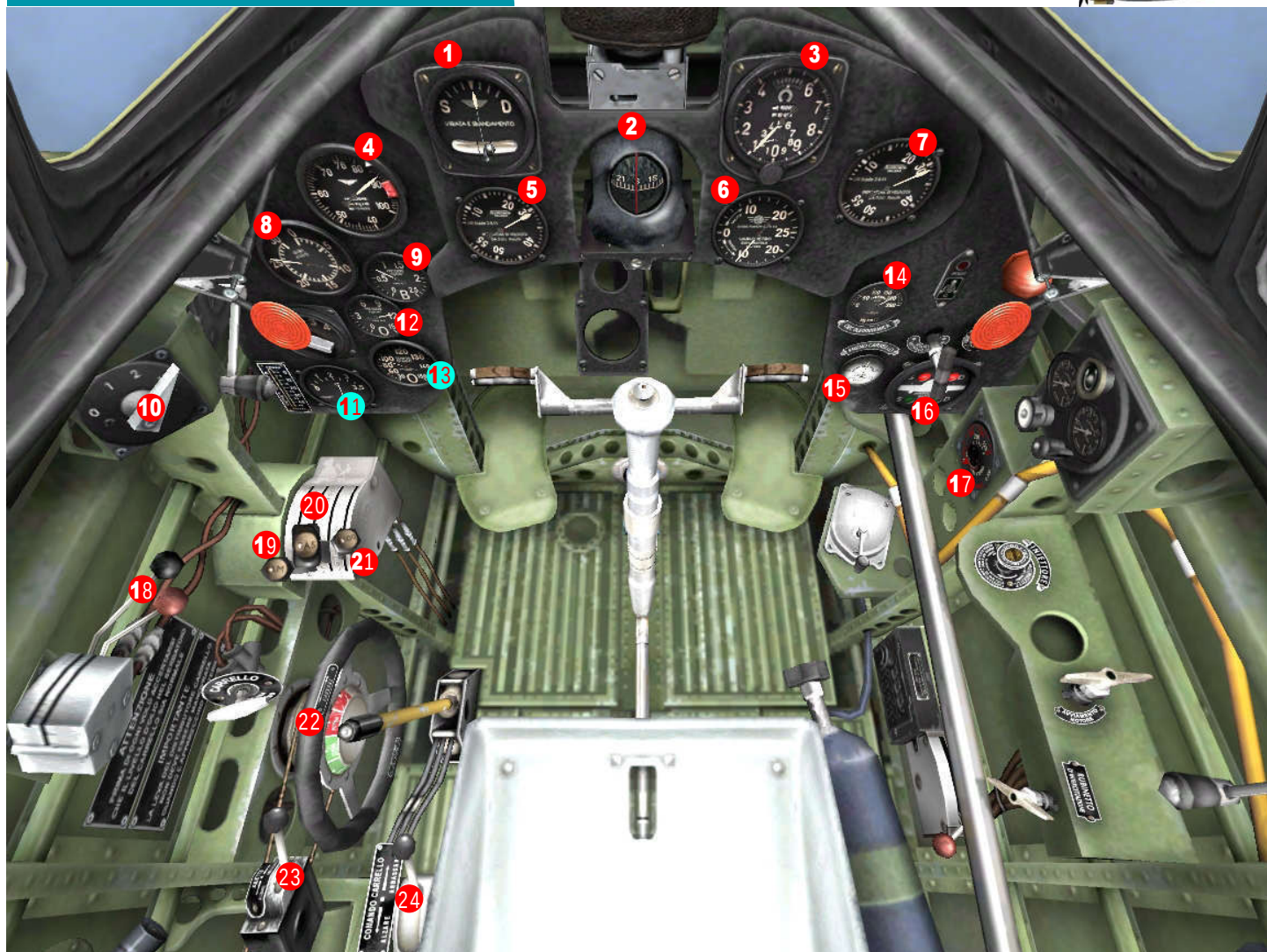
1. Fuel pressure gage
2. Oil pressure gage
3. Tachometer
4. Altimeter
5. Airspeed indicator
6. Flaps lever
7. Landing gear lever
8. Manifold pressure gage
9. Airspeed indicator
10. Turn and bank indicator
11. Variometer
12. Oil temperature gage
13. Cylinder head temperature gage
14. Ammunition counter - left MG
15. Magnetic compass
16. Ammunition counter - right MG
17. Landing gear position indicator: green - down  
no light transition  
red - up
18. Clock
19. Propeller pitch lever
20. Throttle
21. Mixture lever: rear position - leaner mixture  
front position - richer mixture



G.50 (<http://www.airwar.ru/aww2.html>)





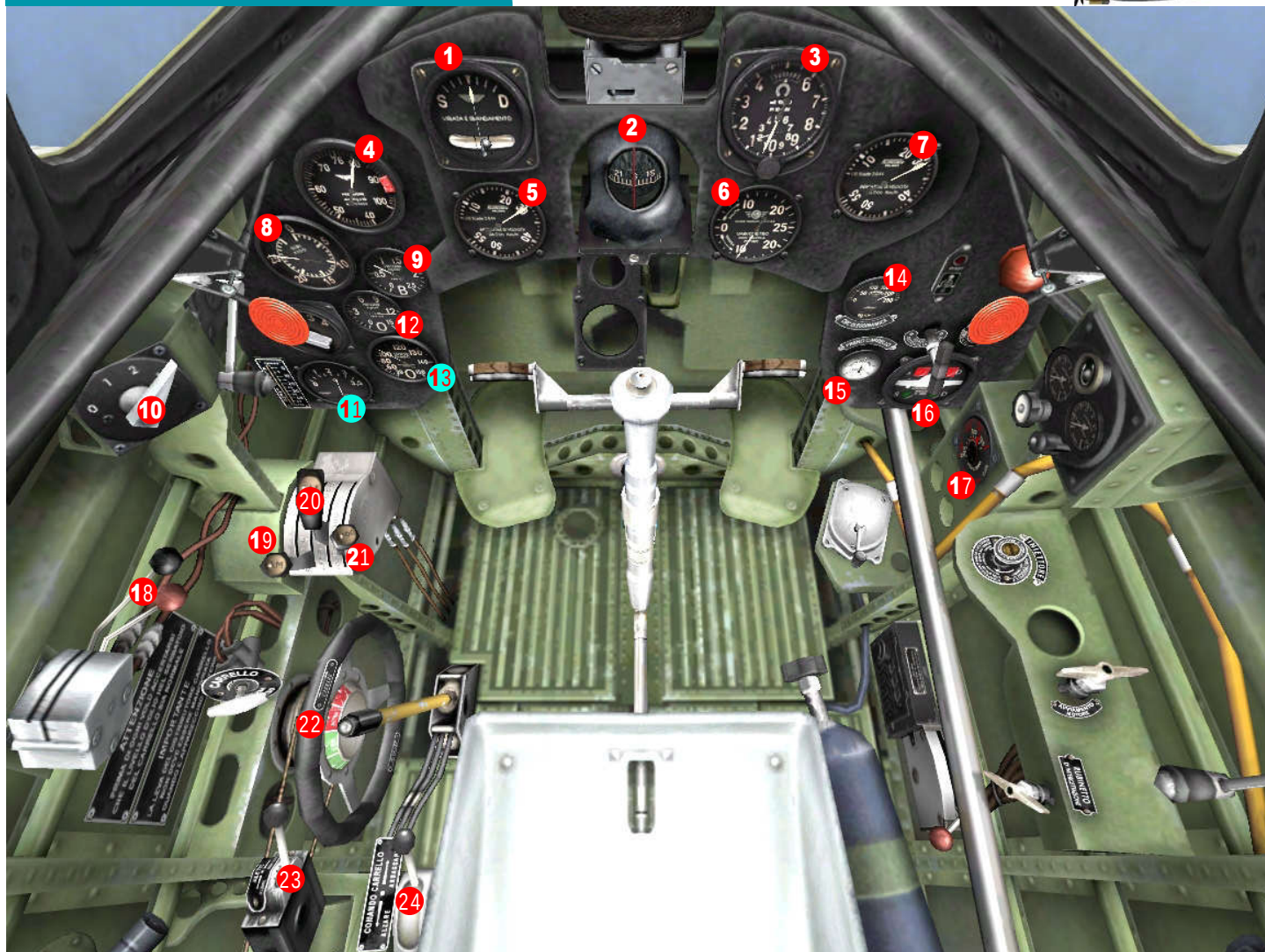


1. Turn and bank indicator
2. Magnetic compass
3. Altimeter
4. Manifold pressure gage
5. Airspeed indicator
6. Variometer
7. Airspeed indicator
8. Tachometer
9. Fuel pressure gage
10. Engine ignition switch
11. Cylinder head temperature gage
12. Oil pressure gage
13. Oil temperature gage
14. Landing gear control oil pressure gage
15. Brake pressure gage
16. Landing gear position indicator: green - down  
no light - transition  
red - up
17. Fuel gage
18. Radiator levers
19. Propeller pitch lever (100% in rear position)
20. Throttle (100% in rear position)
21. Mixture lever: rear position - richer mixture  
front position - leaner mixture
22. Elevator trim wheel
23. Flaps lever
24. Landing gear lever



M.C.200 (http://www.stormmagazine.com/ReferencePics/MC200/igna/valle.html)





1. Turn and bank indicator
2. Magnetic compass
3. Altimeter
4. Manifold pressure gage
5. Airspeed indicator
6. Variometer
7. Airspeed indicator
8. Tachometer
9. Fuel pressure gage
10. Engine ignition switch
11. Cylinder head temperature gage
12. Oil pressure gage
13. Oil temperature gage
14. Landing gear control oil pressure gage
15. Brake pressure gage
16. Landing gear position indicator: green - down  
no light - transition  
red - up
17. Fuel gage
18. Radiator levers
19. Propeller pitch lever (100% in rear position)
20. Throttle (100% in rear position)
21. Mixture lever: rear position - richer mixture  
front position - leaner mixture
22. Elevator trim wheel
23. Flaps lever
24. Landing gear lever



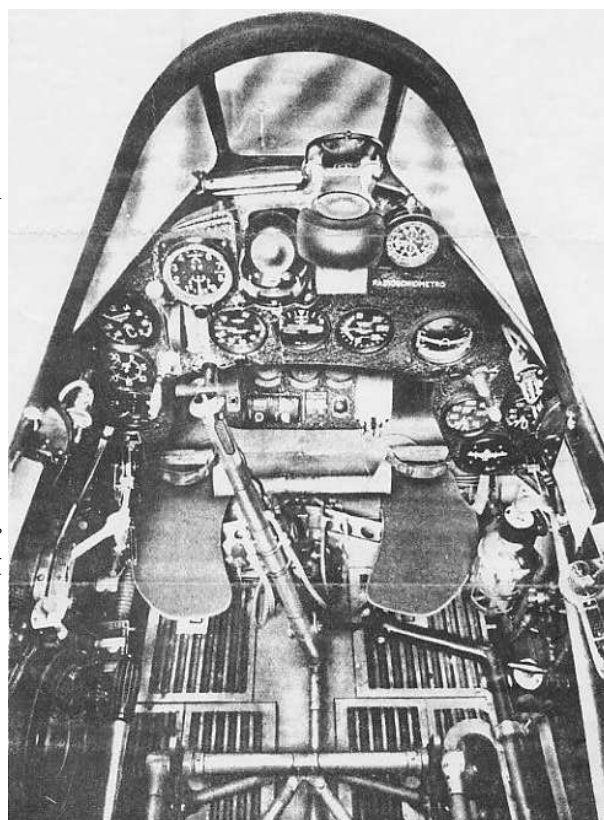
M.C.200 ([http://www.57thfightergroup.org/reunions/2008\\_italy/index.html](http://www.57thfightergroup.org/reunions/2008_italy/index.html))







1. Altimeter
2. Magnetic compass
3. Clock
4. Manifold pressure gage
5. Airspeed indicator
6. Turn and bank indicator
7. Variometer
8. Artificial horizon
9. Tachometer
10. Oil pressure gage
11. Fuel pressure gage
12. Fuel gage
13. Brake pressure gage
14. Landing gear oil pressure gage
15. MG air pressure gage
16. Coolant temperature gage
17. Oil temperature gage
18. Throttle (100% in rear position)
19. Propeller pitch lever (100% in rear position)
20. Engine ignition switch
21. Landing gear lever
22. Nose MG ammunition counter & warning light
23. Wings MG ammunition counter
24. Landing gear position indicator: green - down  
no light - transition  
red - up
25. Flaps position indicator
26. Flaps lever
27. Radiator lever
28. Elevator trim wheel



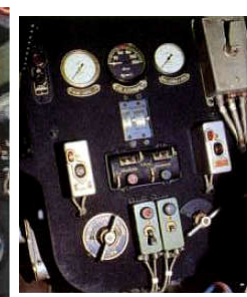
M.C.202 (<http://digilander.libero.it/emidraranol/Taranto/velC202Photo.htm>)







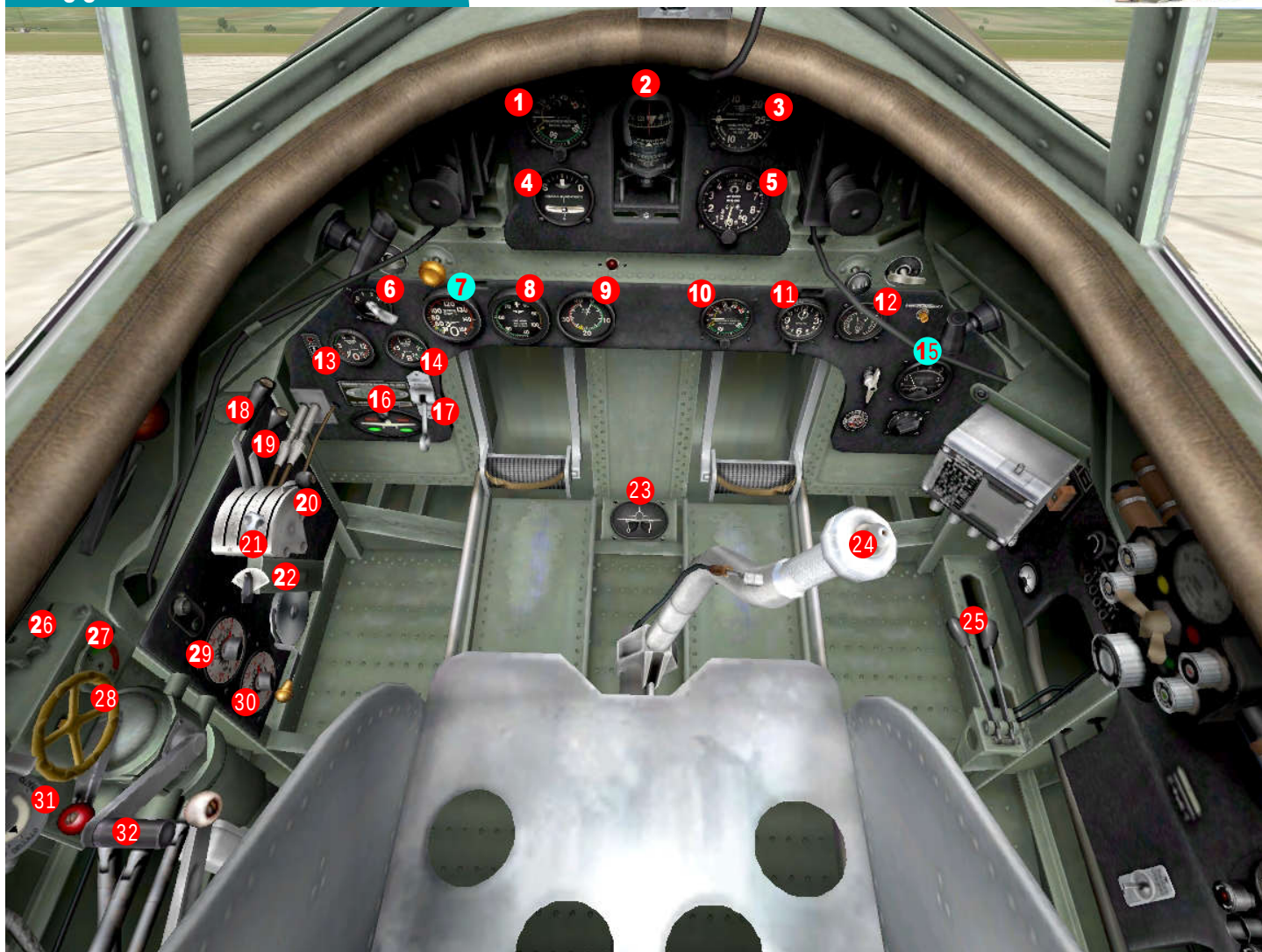
1. Altimeter
2. Magnetic compass
3. Clock
4. Manifold pressure gage
5. Airspeed indicator
6. Turn and bank indicator
7. Variometer
8. Artificial horizon
9. Tachometer
10. Oil pressure gage
11. Fuel pressure gage
12. Brake pressure gage
13. Landing gear oil pressure gage
14. MG air pressure gage
15. Electric generator warning light (lighted at power < 20%)
16. Coolant temperature gage
17. Oil temperature gage
18. Throttle (100% in rear position)
19. Propeller pitch lever (100% in rear position)
20. Engine ignition switch
21. Landing gear lever
22. Wings weapon ammunition counter & warning light
23. Nose MG ammunition counter & warning light
24. Landing gear position indicator: green - down  
no light - transition  
red - up
25. Flaps position indicator
26. Flaps lever
27. Fuel gage
28. Radiator lever
29. Elevator trim wheel



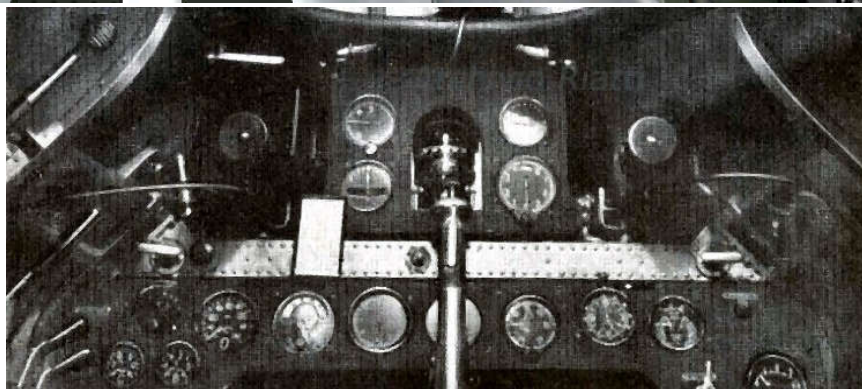
M.C.205



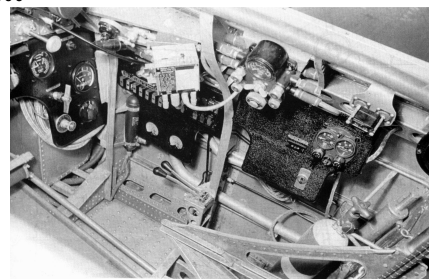




1. Airspeed indicator
2. Magnetic compass
3. Variometer
4. Turn and bank indicator
5. Altimeter
6. Engine ignition switch
7. Oil temperature gage: U needle - Oil-out  
E needle - Oil-in
8. Manifold pressure gage
9. Tachometer
10. Airspeed indicator
11. Clock
12. Brakes triple pressure gage: storage cylinder (top)  
left & right brakes (bottom)
13. Oil pressure gage
14. Fuel pressure gage
15. Cylinder head temperature gage
16. Landing gear position indicator: green - down  
no light - transition  
red - up
17. Landing gear lever
18. Throttle (100% in rear position)
19. Mixture lever: rear position - richer mixture  
front position - leaner mixture
20. Boost lever (automatic at 100% < Power > 110% [rear posit.])
21. Propeller pitch lever (100% in rear position)
22. Propeller feathering switch (ON in right position)
23. Landing gear position mechanical indicator
24. Gear brakes button
25. Radiator levers
26. Rudder trim wheel
27. Elevator trim indicator
28. Elevator trim wheel
29. Fuel gage (front wing tank)
30. Fuel gage (rear wing tank)
31. Flaps position indicator
32. Flaps handle



Re.2000

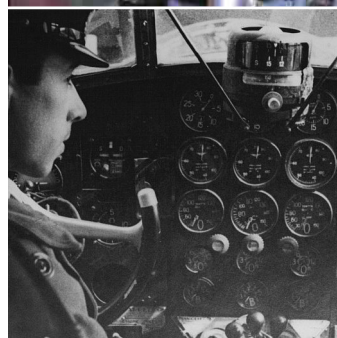
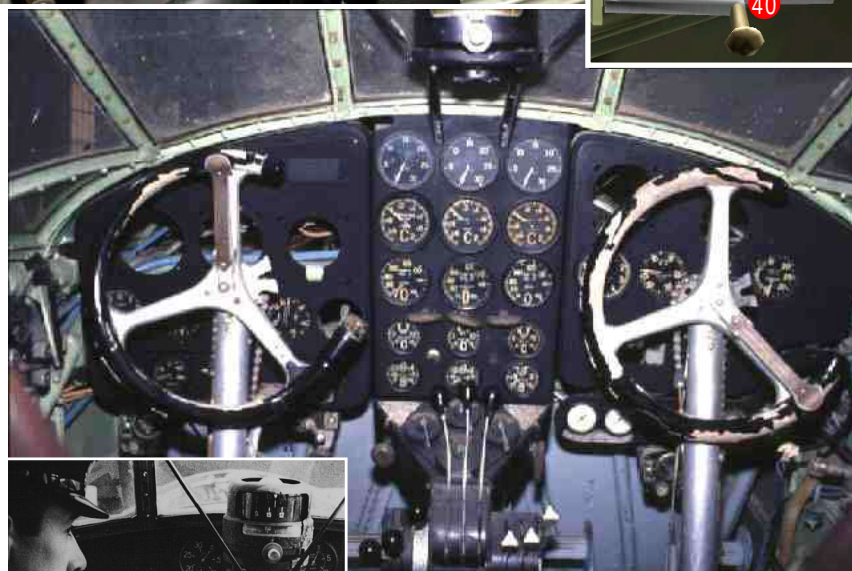




# Savoia-Marchetti S.M.79 «Sparviero»



1. Magnetic compass
2. Torpedo sight (only in torpedo configuration)
3. Homing indicator
4. Directional gyro
5. Artificial horizon
6. Fuel gage
7. Altimeter
8. Variometer
9. Turn and bank indicator
10. Airspeed indicator
11. Clock
12. Left **engine tachometer**
13. Central engine tachometer
14. Right engine tachometer
15. Left engine manifold pressure gage
16. Central engine manifold pressure gage
17. Right engine manifold pressure gage
18. Left engine oil temperature gage: U needle - Oil-out  
E needle - Oil-in
19. Central engine oil temperature gage (as before)
20. Right engine oil temperature gage (as before)
21. Left engine oil pressure gage
22. Central engine oil pressure gage
23. Right engine oil pressure gage
24. Left engine fuel pressure gage
25. Central engine fuel pressure gage
26. Right engine fuel pressure gage
27. Outside air temperature gage
28. Compressed air bottle pressure gage (brakes system)
29. Brakes pressure gage
30. Landing gear position indicator:  
green - down and throttle  $\leq$  15%  
red - up and throttle  $\leq$  15%
31. Propellers hydraulic drive pressure gage
32. Landing gear lever
33. Left engine ignition switch
34. Central engine ignition switch



S.M.79 (http://www.eaf51.org/Photo\_22\_S.79.htm)

S.M.79 (http://www.dodecaneso.org/Sm79cockpit.jpg)

35. Right engine ignition switch
36. Gear brakes lever
37. Mixture levers for left, central & right engines
38. Throttles for left, central & right engines
39. **Propeller two-pitch levers** for left, central & right engines  
front position - fine pitch (100 to 50%)  
rear position - coarse pitch (0 to 50%)
40. Elevator trim handle & position indicator (located in the ceiling)

Torpedo sight



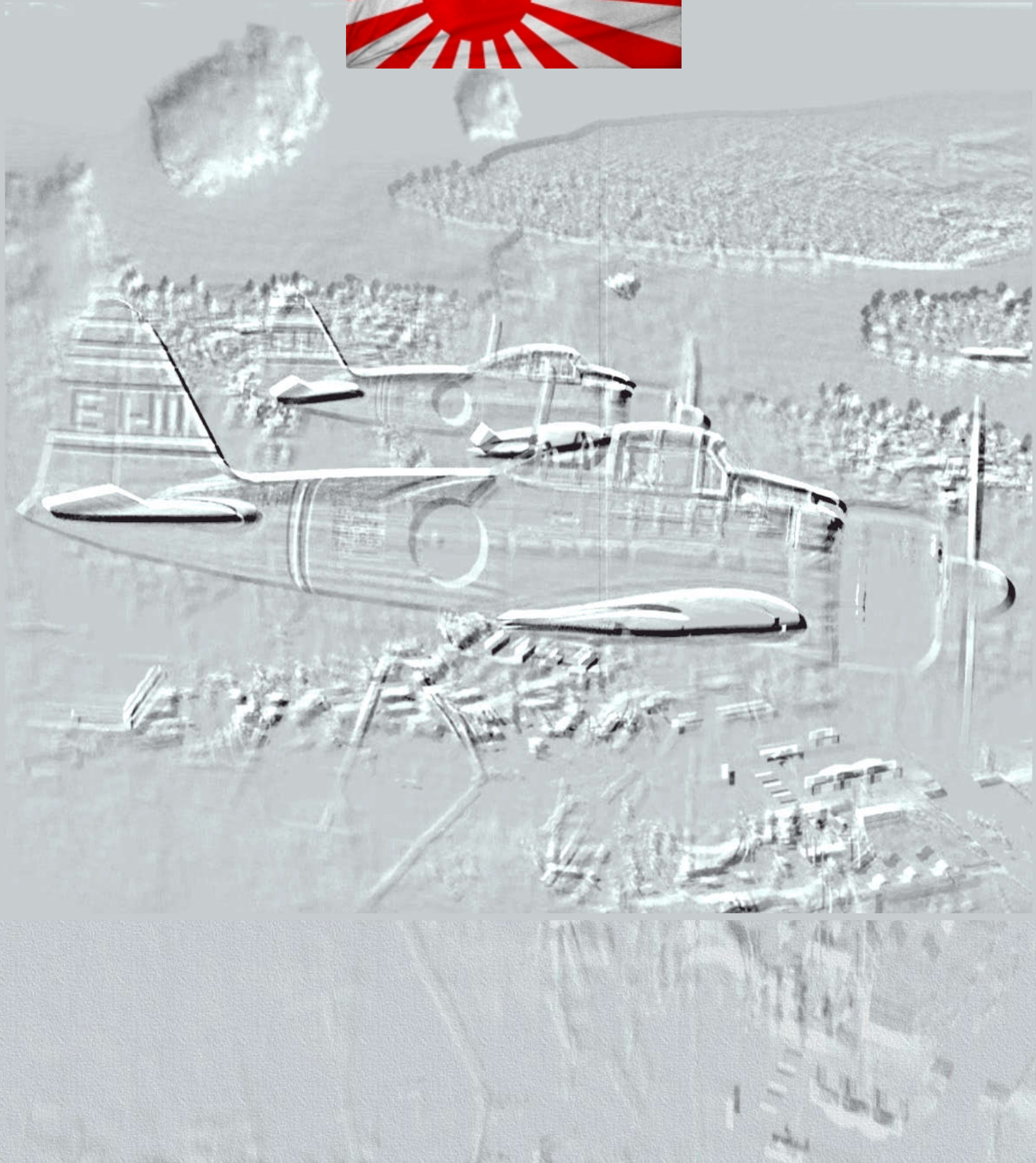




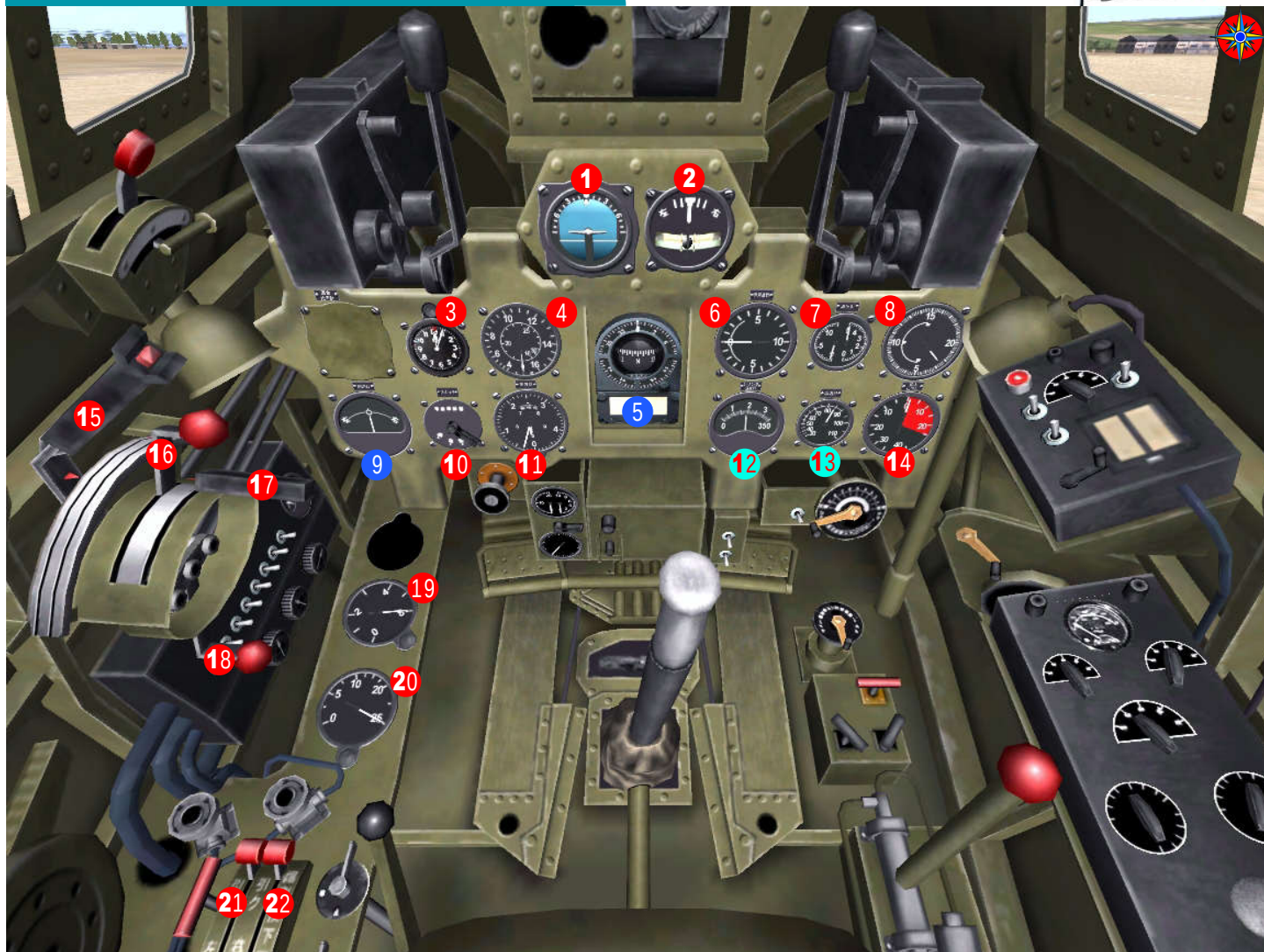
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# JAPAN

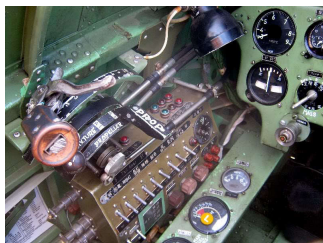




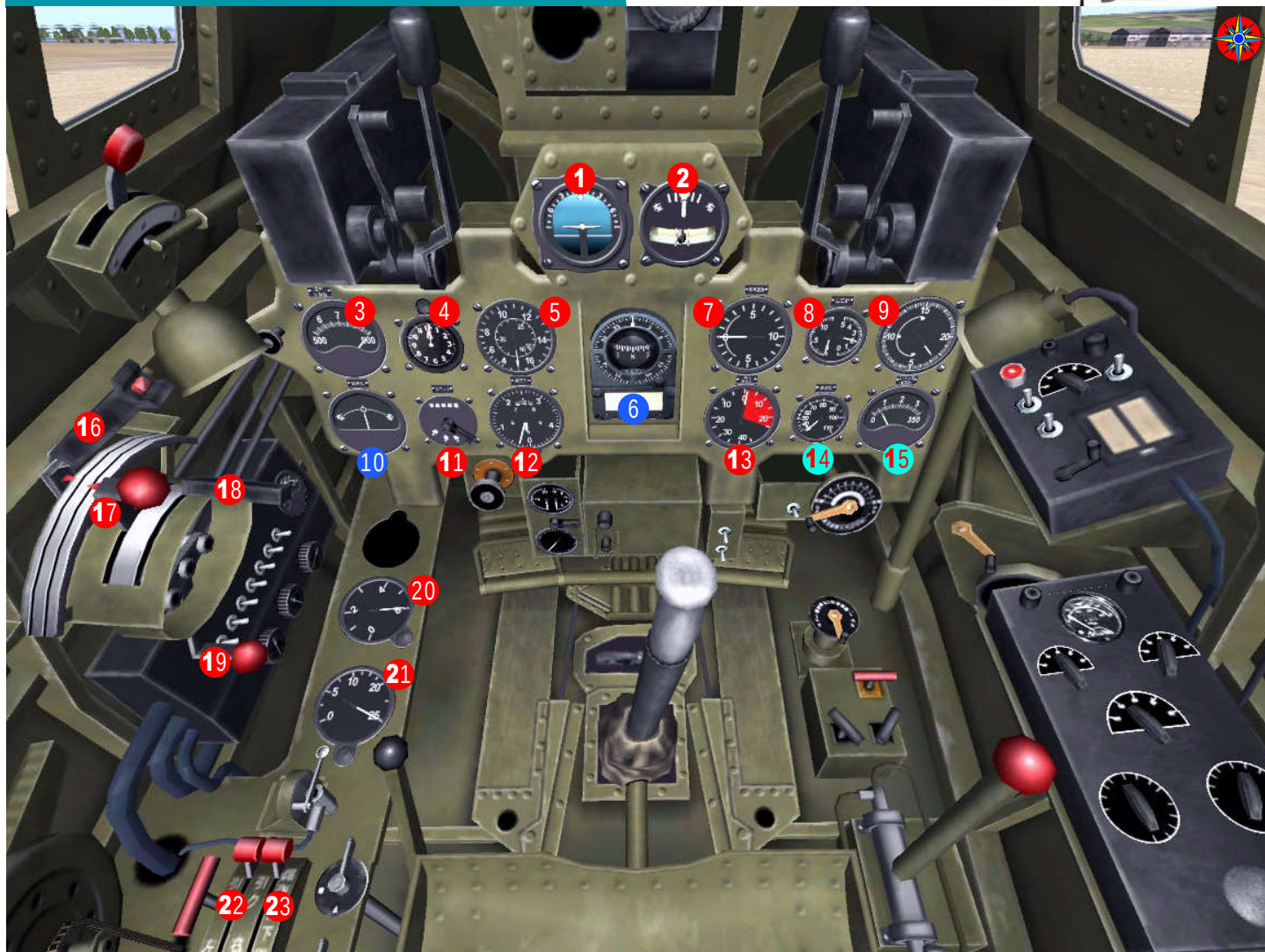
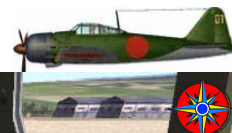


1. Artificial horizon
2. Turn and bank indicator
3. Clock
4. Airspeed indicator
5. Magnetic compass
6. Variometer
7. Oil (left) and fuel (right) pressure gage
8. Tachometer
9. Homing indicator
10. Engine ignition switch
11. Altimeter
12. Cylinder head temperature gage
13. Oil temperature gage
14. Manifold pressure gage
15. Throttle
16. Mixture lever: rear position - leaner mixture  
front position - richer mixture
17. Propeller pitch lever
18. Supercharger lever: (A6M3 only)  
rear position - stage 1  
front position - stage 2
19. Fuel gage (fuselage tank)
20. Fuel gage (wing tanks)
21. Bomb release lever
22. Tail wheel lock lever

A6M2 (http://www.warbirdphotographs.com/AUZero/AU-19s.jpg)



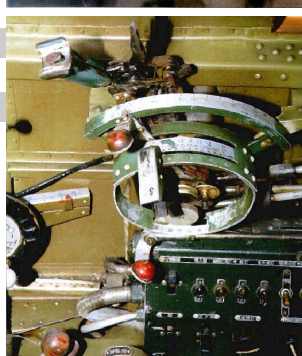




1. Artificial horizon
2. Turn and bank indicator
3. Exhaust temperature gage
4. Clock
5. Airspeed indicator
6. **Magnetic compass**
7. Variometer
8. Oil (left) and fuel (right) pressure gage
9. Tachometer
10. **Homing indicator**
11. **Engine ignition switch**
12. **Altimeter**
13. **Manifold pressure gage**
14. **Oil temperature gage**
15. **Cylinder head temperature gage**
16. **Throttle**
17. **Mixture lever: rear position - leaner mixture  
front position - richer mixture**
18. **Propeller pitch lever**
19. **Supercharger lever: rear position - stage 1  
front position - stage 2**
20. **Fuel gage (fuselage tank)**
21. **Fuel gage (wing tanks)**
22. **Bomb release lever**
23. **Tail wheel lock lever**



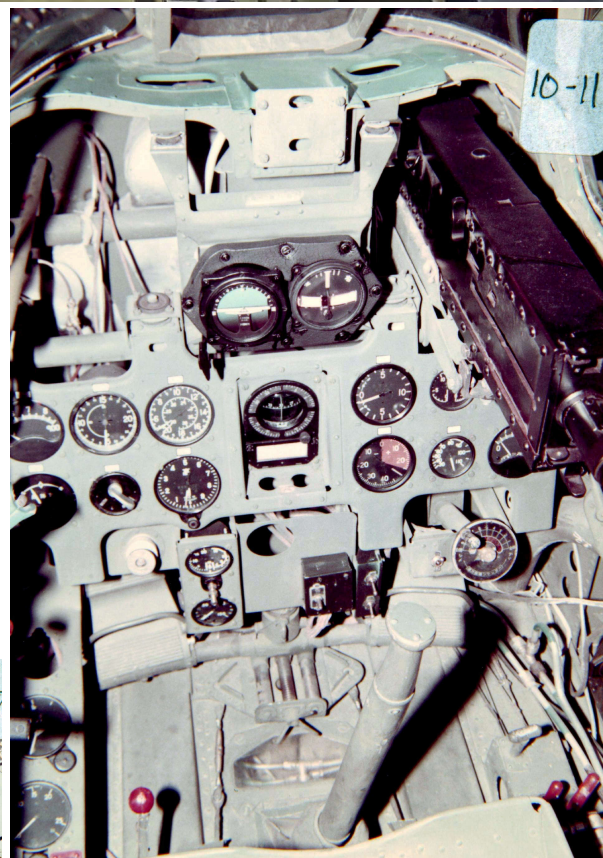
A6M5a



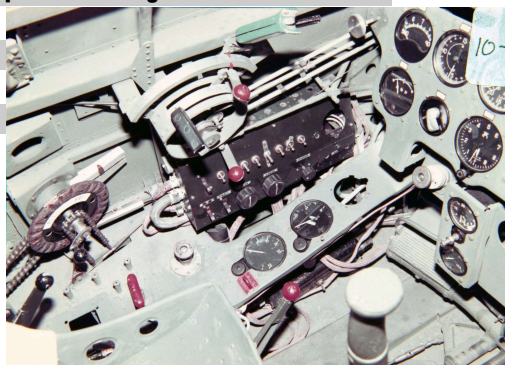




1. Artificial horizon
2. Turn and bank indicator
3. Exhaust temperature gage
4. Clock
5. Airspeed indicator
6. Magnetic compass
7. Variometer
8. Oil (left) and fuel (right) pressure gage
9. Tachometer
10. Homing indicator
11. Engine ignition switch
12. Altimeter
13. Manifold pressure gage
14. Oil temperature gage
15. Cylinder head temperature gage
16. Throttle
17. Mixture lever: rear position - leaner mixture  
front position - richer mixture
18. Propeller pitch lever
19. Supercharger lever: rear position - stage 1  
front position - stage 2
20. Fuel gage (fuselage tank)
21. Fuel gage (wing tanks)
22. Bomb release lever
23. Tail wheel lock lever



A 6M5 (<http://www.flickr.com/photos/sdsamarchives/with/7585940374/>)







1. Water-methanol (ADI) tank gage
2. Artificial horizon
3. Turn and bank indicator
4. Exhaust temperature gage
5. Clock
6. Airspeed indicator
7. **Magnetic compass**
8. Variometer
9. Oil (left) and fuel (right) pressure gage
10. **Tachometer**
11. **Homing indicator**
12. Engine ignition switch
13. Altimeter
14. Manifold pressure gage
15. **Oil temperature gage**
16. **Cylinder head temperature gage**
17. Throttle
18. Mixture lever: rear position - leaner mixture  
front position - richer mixture
19. Propeller pitch lever
20. Supercharger lever: rear position - stage 1  
front position - stage 2
21. Fuel gage (fuselage tank)
22. Fuel gage (wing tanks)
23. Bomb release lever
24. Tail wheel lock lever

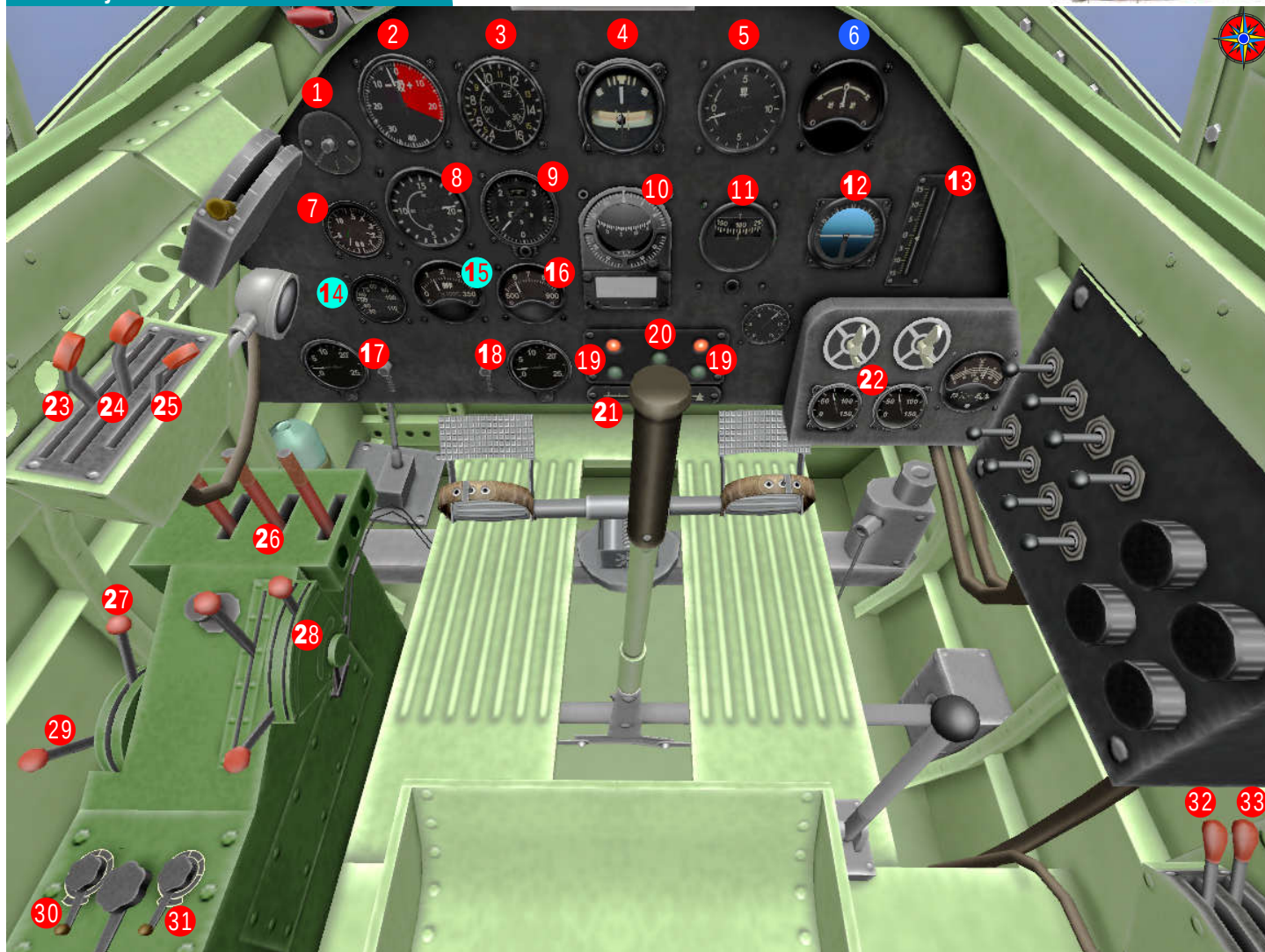


A6M7-62 (<http://www10.ocn.ne.jp/~a6m232/CCP.html>)





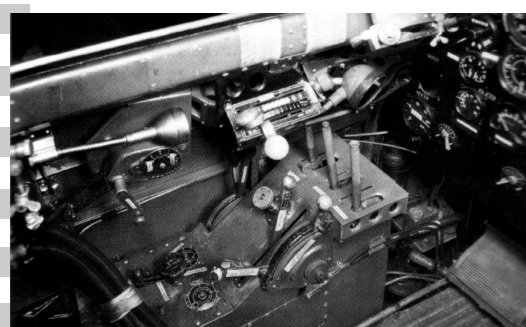
# Nakajima B5N2 «Kate»



1. Engine ignition switch
2. Manifold pressure gage
3. Airspeed indicator
4. Turn and bank indicator
5. Variometer
6. Homing indicator
7. Oil (left) and fuel (right) pressure gage
8. Tachometer
9. Altimeter
10. Magnetic compass
11. Directional gyro
12. Artificial horizon
13. Pitch inclinometer
14. Oil temperature gage
15. Cylinder head temperature gage
16. Exhaust temperature gage
17. Fuel gage (inboard tanks)
18. Fuel gage (outboard tanks)
19. Landing gear position indicator
20. Arresting hook indicator light: no light - up / green - down
21. Flaps position indicator
22. Hydraulic pressure gages
23. Throttle
24. Propeller pitch lever
25. Mixture lever: front position - rich / rear position - lean
26. Bomb release levers
27. Arrester hook lever
28. Radiator lever
29. Elevator trim lever
30. Rudder trim lever
31. Aileron trim lever
32. Flaps lever
33. Landing gear lever



B5N2





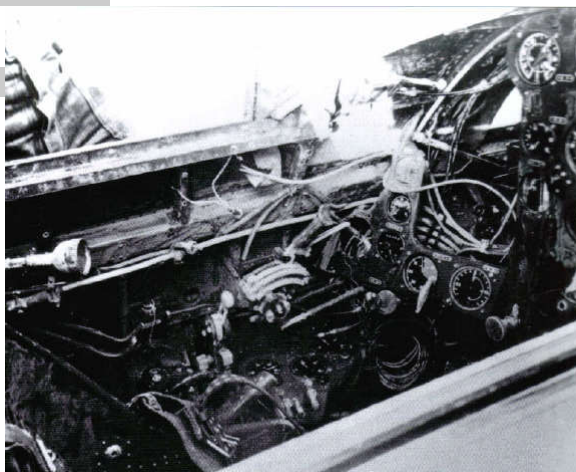
# Aichi D3A1 «Val»



1. Airspeed indicator
2. Turn and bank indicator
3. Altimeter
4. Artificial horizon
5. Variometer
6. Clock
7. Directional gyro (lower half only active)
8. **Magnetic compass**
9. Oil (left) and fuel (right) pressure gage
10. **Oil temperature gage**
11. **Homing indicator**
12. **Manifold pressure gage**
13. **Tachometer**
14. Exhaust temperature gage
15. **Cylinder head temperature gage**
16. Throttle
17. Propeller pitch lever
18. Mixture lever: rear position - leaner mixture  
front position - richer mixture
19. Fuel gage (wing tanks)
20. Fuel gage (fuselage tank)



D3A1 (<http://gunsight.jp/b/index.htm>)

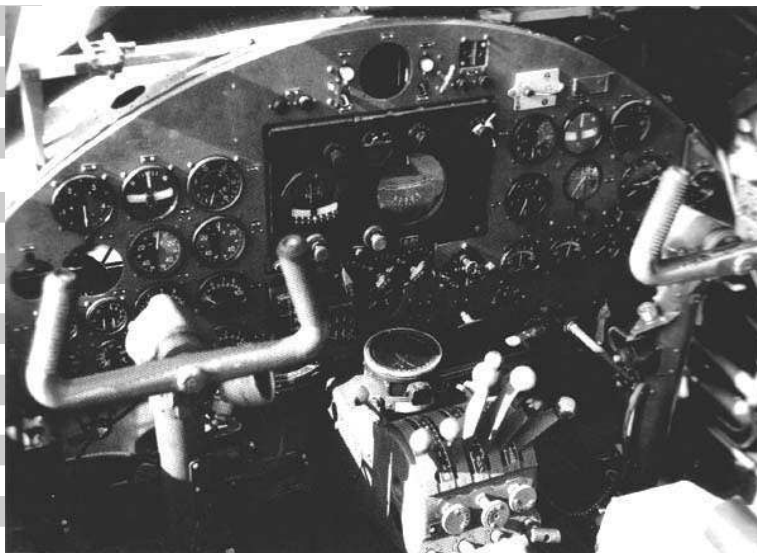




# Mitsubishi G4M1-11 «Betty»



1. Clock
2. Altimeter
3. Turn and bank indicator
4. Airspeed indicator
5. Tachometers for left/right engine
6. Manifold pressure gages for left/right engine
7. Oil (left) & fuel (right) pressure gages for left/right engine
8. Exhaust temperature gages for left/right engine
9. Oil temperature gages for left/right engine
10. Cylinder head temperature gages for left/right engine
11. Magnetic induction compass
12. Magnetic compass
13. Homing indicator
14. Autopilot directional gyro & bank indicator
15. Autopilot artificial horizon
16. Mixture levers for left/right engine
17. Throttles for left/right engine
18. Propeller pitch levers for left/right engine
19. Landing gear & flaps position indicator: green - down  
no light - transition  
red - up
20. Airspeed indicator
21. Turn and bank indicator
22. Variometer
23. Altimeter
24. Magnetic compass
25. Artificial horizon
26. Free air temperature gages for left/right engine
27. Flaps position indicator
28. Variometer
29. Fuel gage (left wing outboard & inboard tank, fuselage tank,  
right wing outboard & inboard tank)



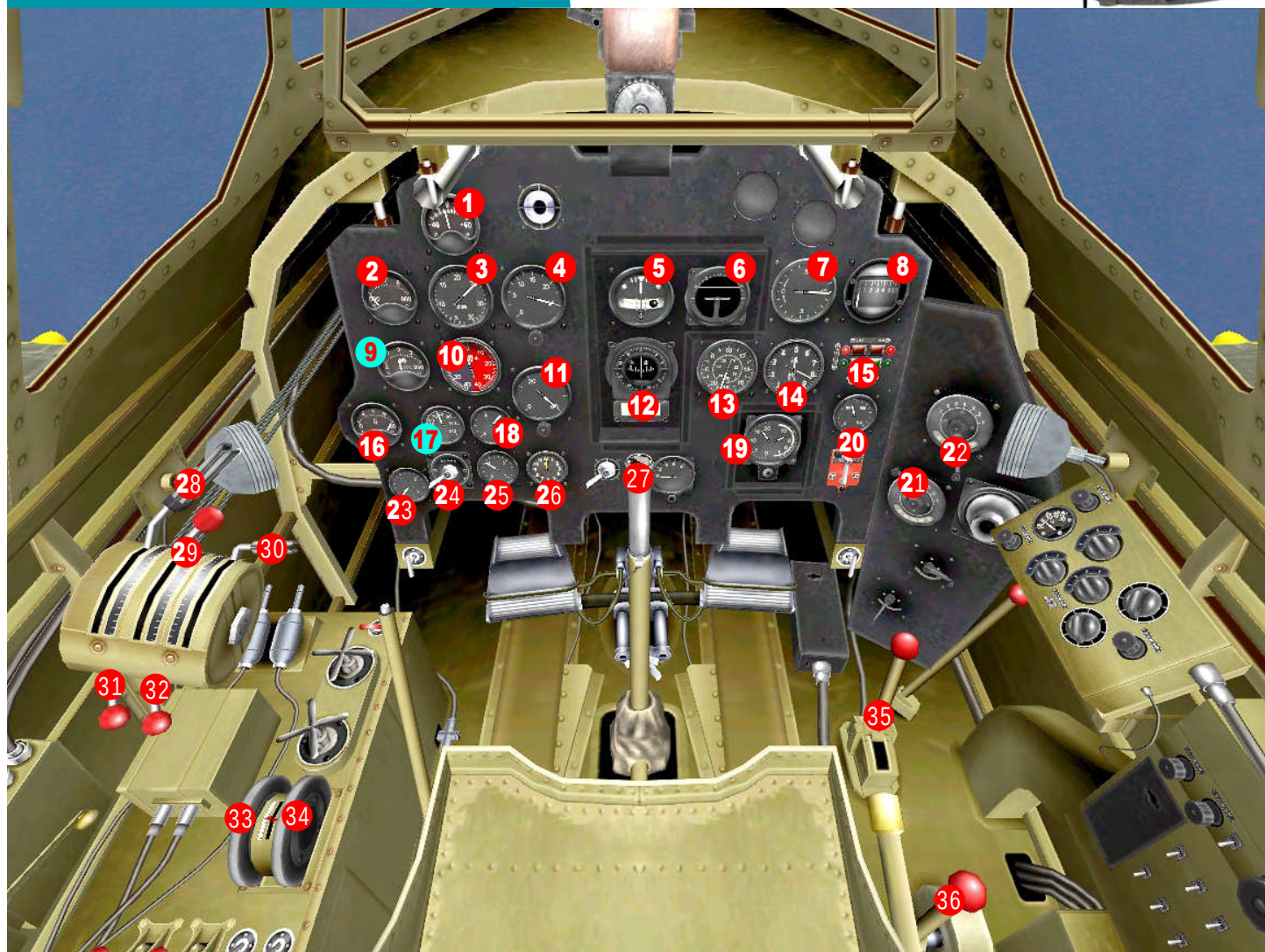
G4M1 (<http://www.airwar.ru/aww2.html>)



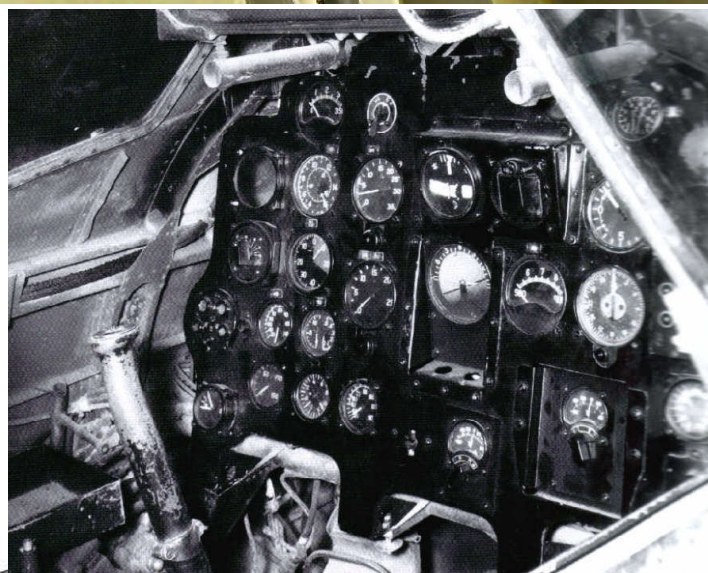
G4M1 (<http://gunsight.jp/b/index.htm>)







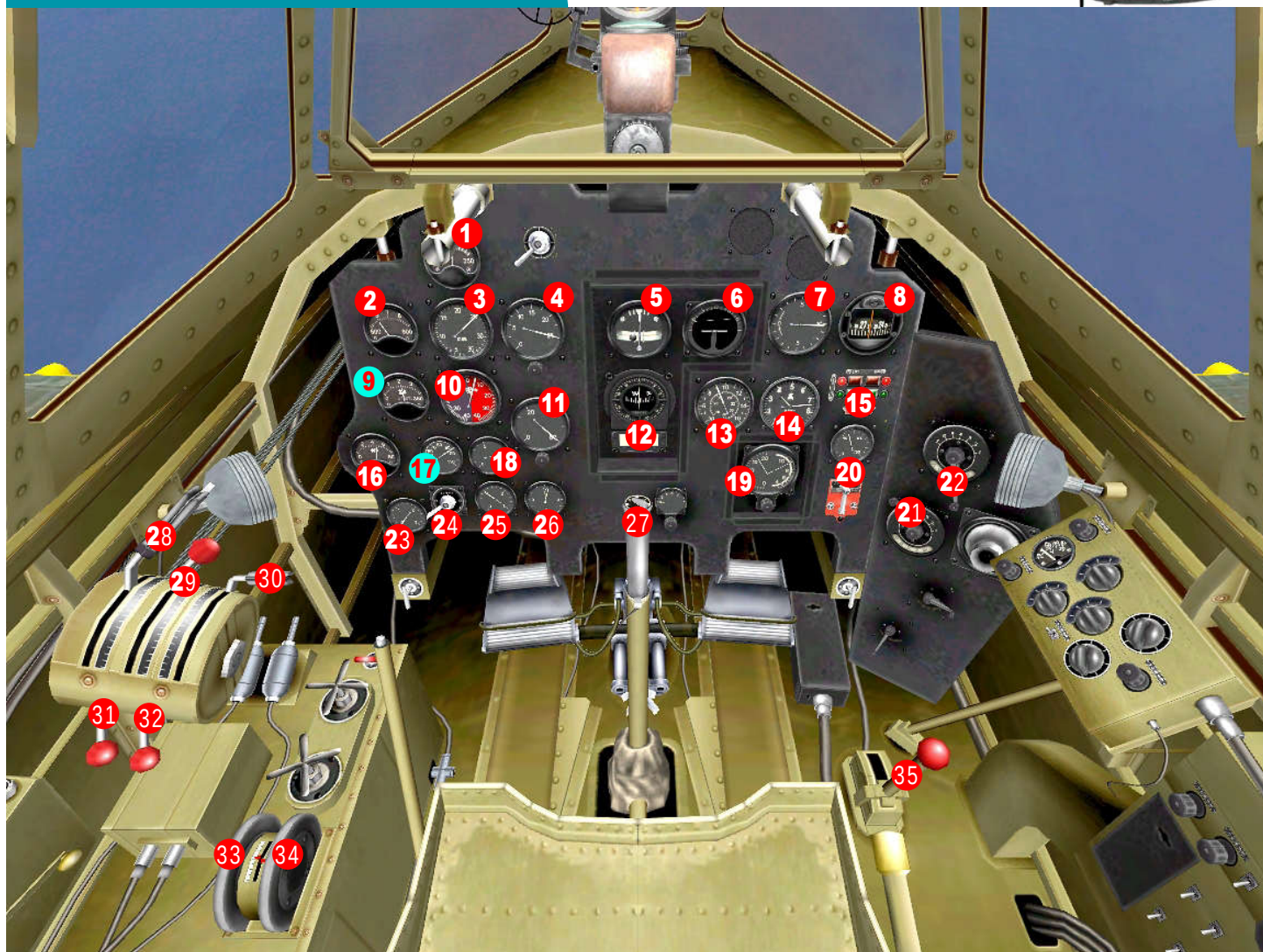
1. Free air temperature gage
2. Exhaust temperature gage
3. Tachometer
4. Fuel gage (wing tanks)
5. Turn and bank indicator
6. Artificial horizon
7. Variometer
8. Flaps position indicator
9. Cylinder head temperature gage
10. Manifold pressure gage
11. Fuel gage (fuselage tank)
12. Magnetic compass
13. Airspeed indicator
14. Altimeter
15. Landing gear position indicator: green - down  
no light - transition  
red - up
16. Water (ADI) quantity gage
17. Oil temperature gage
18. Oil pressure gage
19. Oxygen system gage
20. Hydraulic pressure gage
- 21 & 22. Radiator handles
23. Water (ADI) pressure gage
24. Engine ignition switch
25. Fuel pressure gage
26. Clock
27. Flaps switch
28. Throttle
29. Mixture lever
30. Propeller pitch lever
31. Supercharger lever
32. Boost lever
33. Elevator trim wheel & indicator
34. Rudder trim wheel & indicator
- 35 & 36. Landing gear levers



J2M3 (<http://gunsight.jp/b/index.htm>)





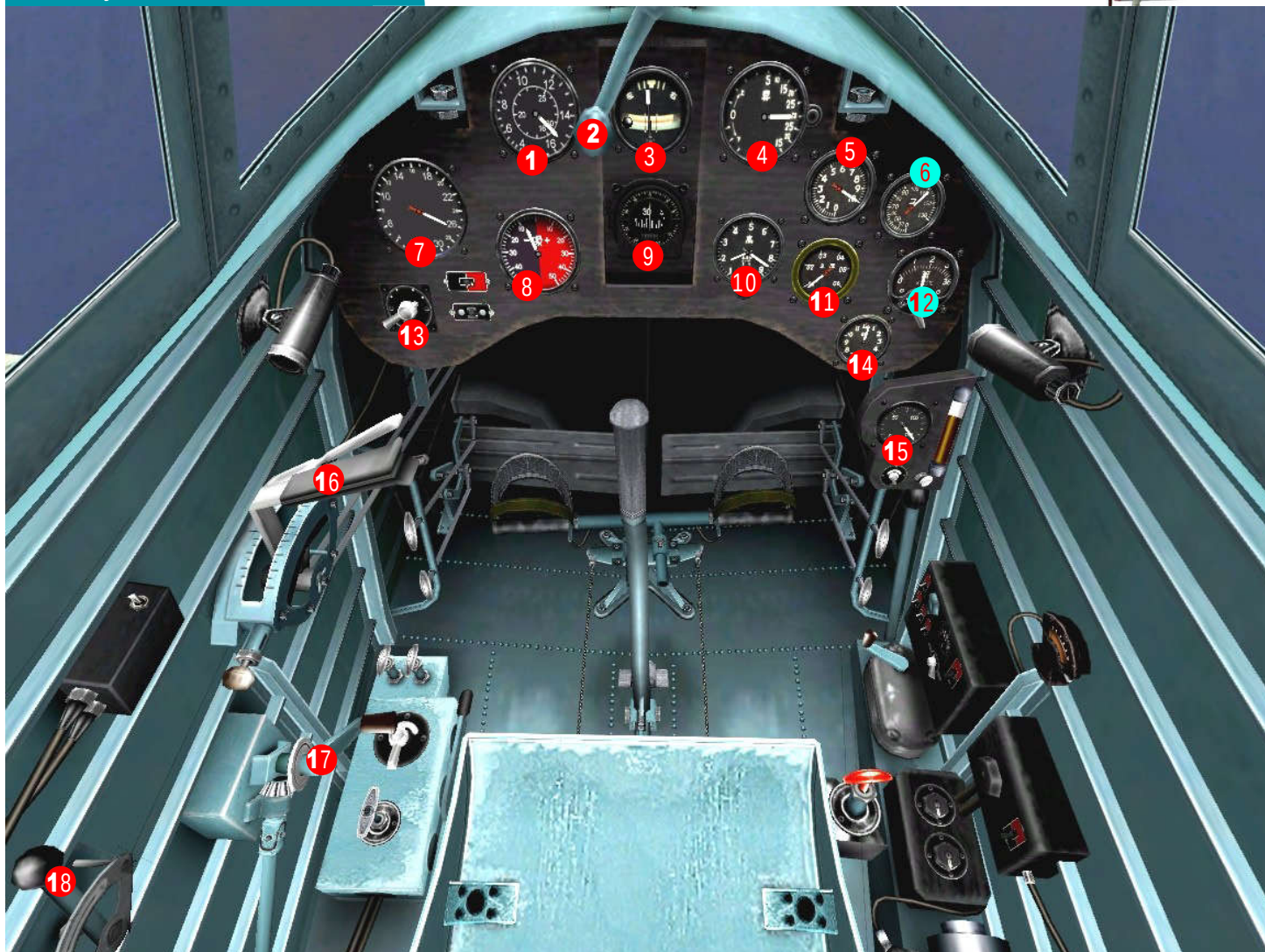
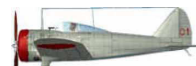


1. Free air temperature gage
2. Exhaust temperature gage
3. Tachometer
4. Fuel gage (wing tanks)
5. Turn and bank indicator
6. Artificial horizon
7. Variometer
8. Magnetic compass
9. Cylinder head temperature gage
10. Manifold pressure gage
11. Fuel gage (fuselage tank)
12. Magnetic compass
13. Airspeed indicator
14. Altimeter
15. Landing gear position indicator: green - down  
no light - transition  
red - up
16. Water (ADI) quantity gage
17. Oil temperature gage
18. Oil pressure gage
19. Oxygen system gage
20. Hydraulic pressure gage
- 21 & 22. Radiator handles
23. Water (ADI) pressure gage
24. Engine ignition switch
25. Fuel pressure gage
26. Clock
27. Flaps switch
28. Throttle
29. Mixture lever
30. Propeller pitch lever
31. Supercharger lever
32. Boost lever
33. Elevator trim wheel & indicator
34. Rudder trim wheel & indicator
35. Landing gear lever

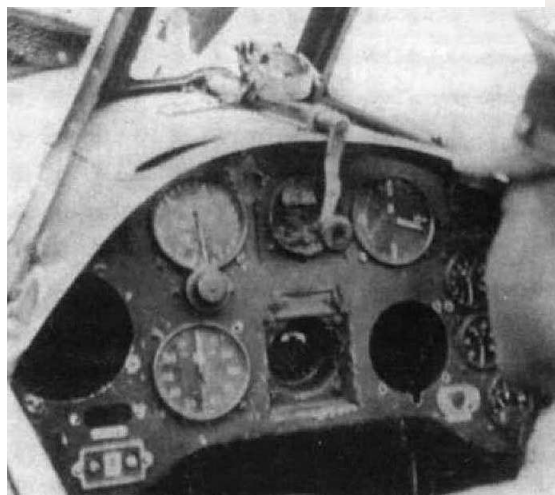
J2M5 (http://www.warbirdphotographs.com/NavylB&W2/J2M-34.jpg)







1. Airspeed indicator
2. Radiator handle
3. Turn and bank indicator
4. Variometer
5. Oil pressure gage
6. Oil temperature gage
7. Tachometer
8. Manifold pressure gage
9. Magnetic compass
10. Altimeter
11. Fuel pressure gage
12. Cylinder head temperature gage
13. Engine ignition switch
14. Clock
15. Fuel gage
16. Throttle
17. Flaps handle
18. Elevator trim lever



Ki-27 (<http://gunsight.jp/b/index.htm>)



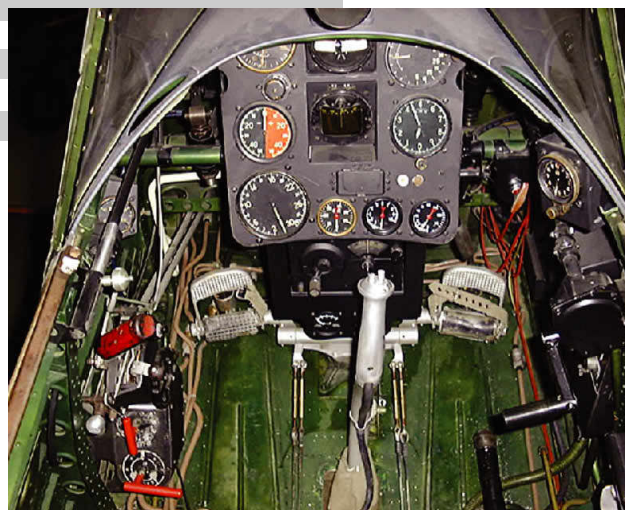




1. Airspeed indicator
2. Turn and bank indicator
3. Variometer
4. Manifold pressure gage
5. Magnetic compass
6. Altimeter
7. Landing gear position indicator: green - up  
no light - in transition  
red - down
8. Tachometer
9. Fuel pressure gage
10. Oil pressure gage
11. Oil temperature gage
12. Cylinder head temperature gage
13. Exhaust temperature gage
14. Throttle
15. Propeller pitch lever
16. Mixture lever
17. Radiator handle
18. Fuel gage (front tank)
19. Fuel gage (rear tank)



Ki-43 (<http://gunsight.jp/b/index.htm>)

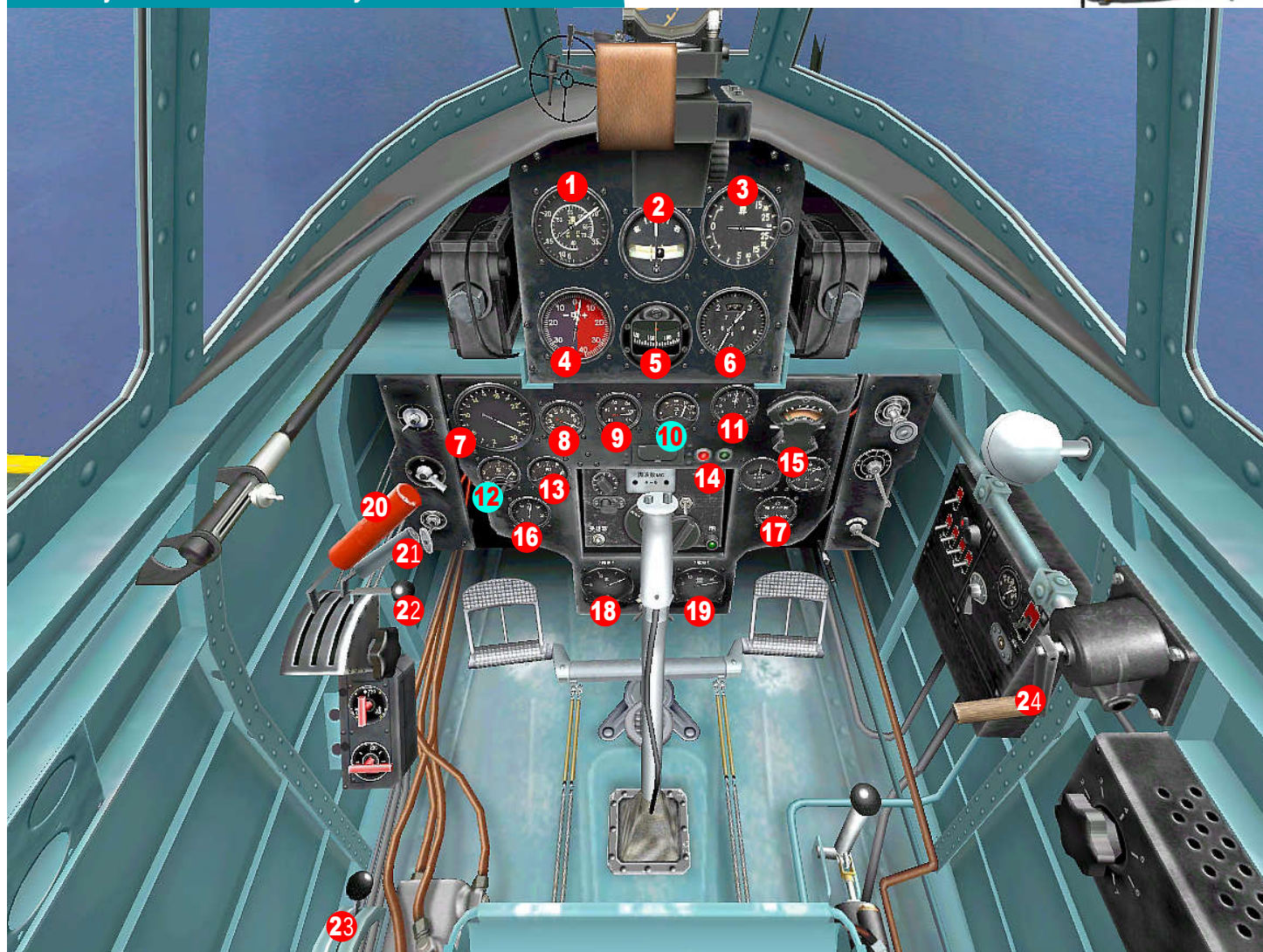


Ki-43 (<http://war-by-airforce.com/articles/Cockpits.htm>)

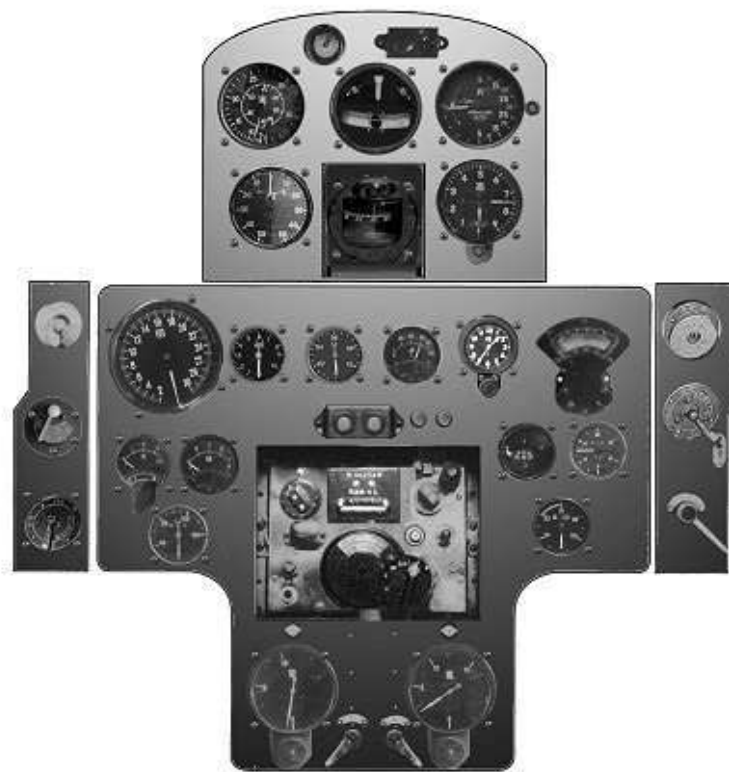




# Nakajima Ki-43-II Hayabusa «Oscar»



1. Airspeed indicator
2. Turn and bank indicator
3. Variometer
4. Manifold pressure gage
5. Magnetic compass
6. Altimeter
7. Tachometer
8. Oil pressure gage
9. Fuel pressure gage
10. Oil temperature gage
11. Clock
12. Cylinder head temperature gage
13. Exhaust temperature gage
14. Landing gear position indicator: green - down  
no light - transition  
red - up
15. Oxygen system gages (3)
16. Gun pressure gage
17. Hydraulic pressure gage
18. Fuel gage (front tank)
19. Fuel gage (rear tank)
20. Throttle
21. Propeller pitch lever
22. Mixture lever
23. Flaps lever
24. Radiator handle

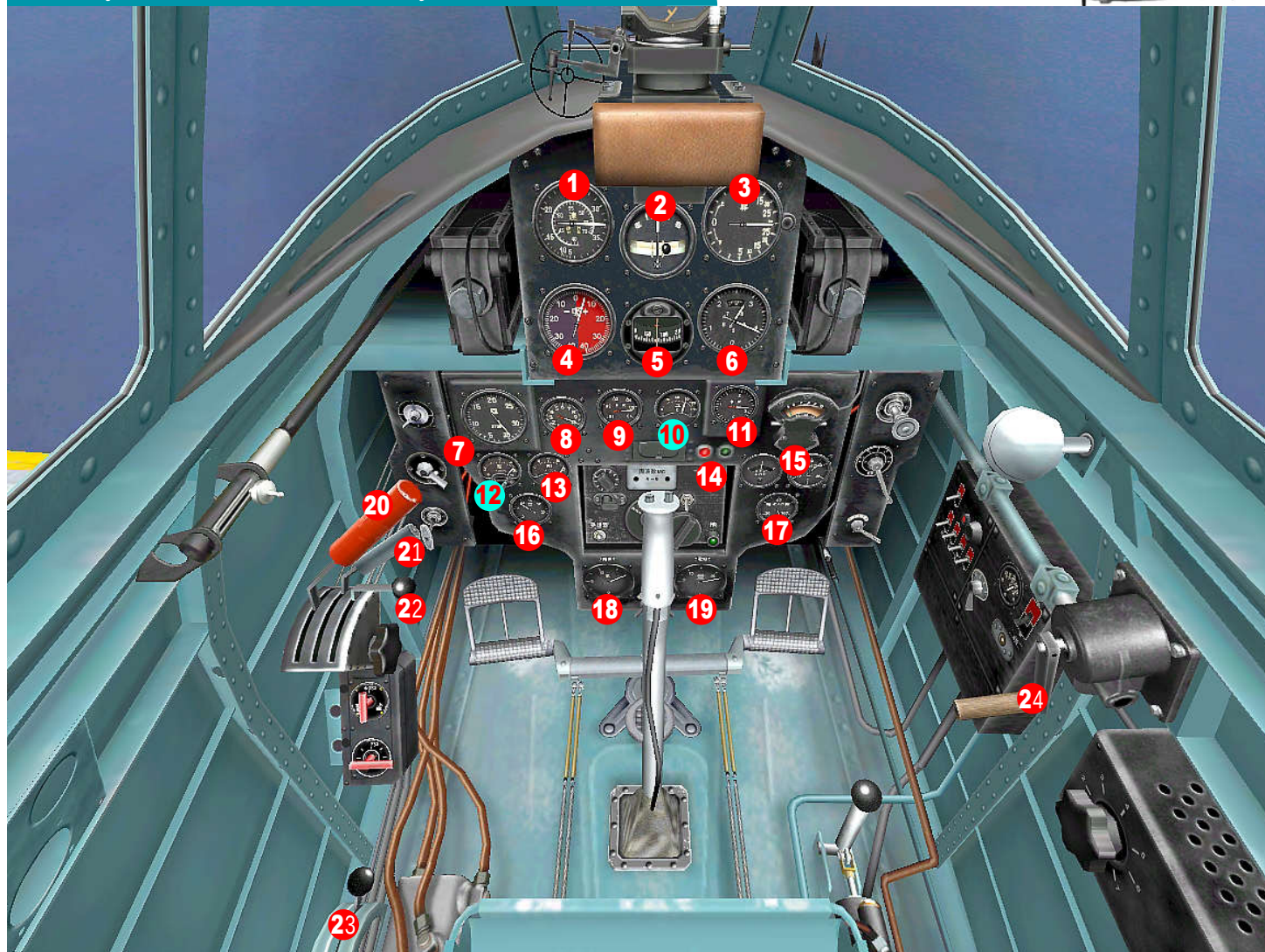


Ki-43-II (<http://gunsight.jp/b/index.htm>)

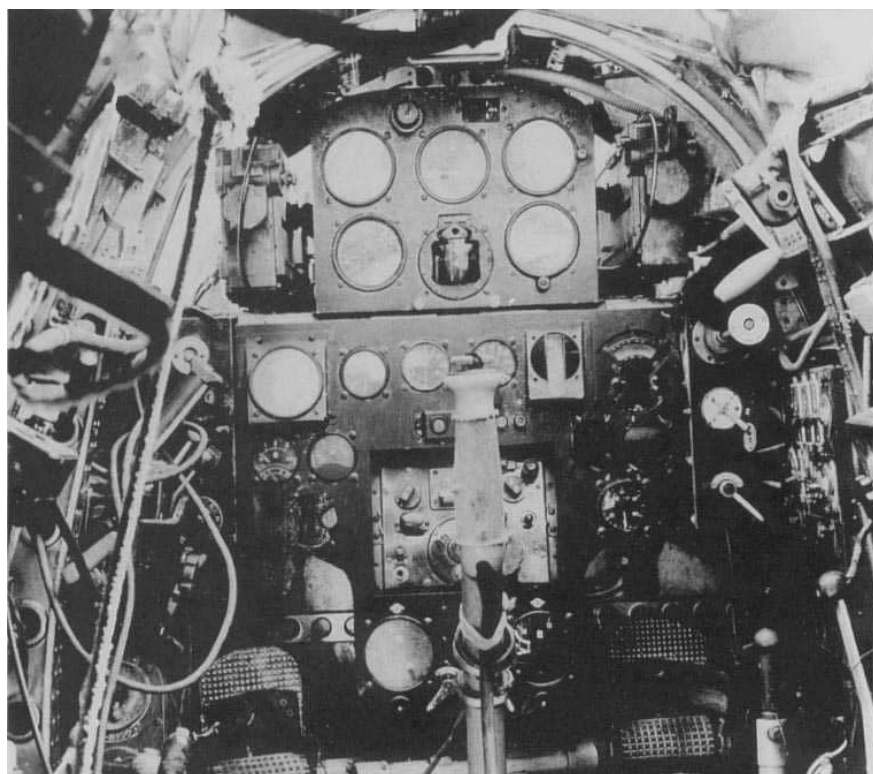




# Nakajima Ki-43-II Kai Hayabusa «Oscar»



1. Airspeed indicator
2. Turn and bank indicator
3. Variometer
4. Manifold pressure gage
5. Magnetic compass
6. Altimeter
7. Tachometer
8. Oil pressure gage
9. Fuel pressure gage
10. Oil temperature gage
11. Clock
12. Cylinder head temperature gage
13. Exhaust temperature gage
14. Landing gear position indicator: green - down  
no light - transition  
red - up
15. Oxygen system gages (3)
16. Gun pressure gage
17. Hydraulic pressure gage
18. Fuel gage (front tank)
19. Fuel gage (rear tank)
20. Throttle
21. Propeller pitch lever
22. Mixture lever
23. Flaps lever
24. Radiator lever



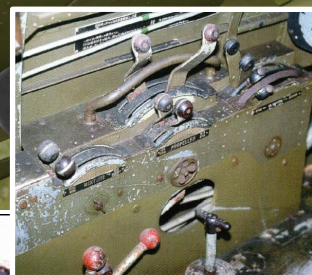
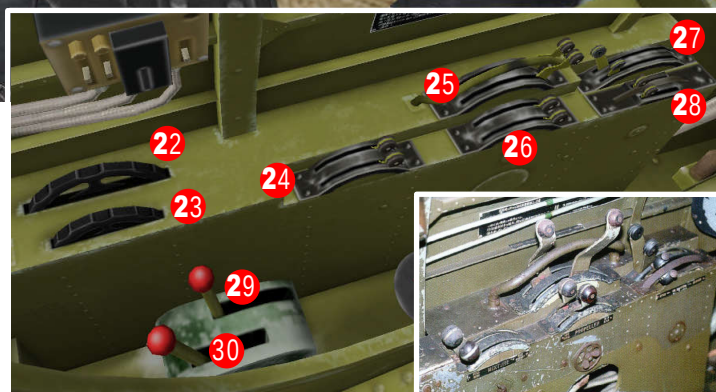
Ki-43 II Kai (<http://www.warbirdphotographs.com/ArmyJB&W3/Ki-43-Cockpit-112.jpg>)







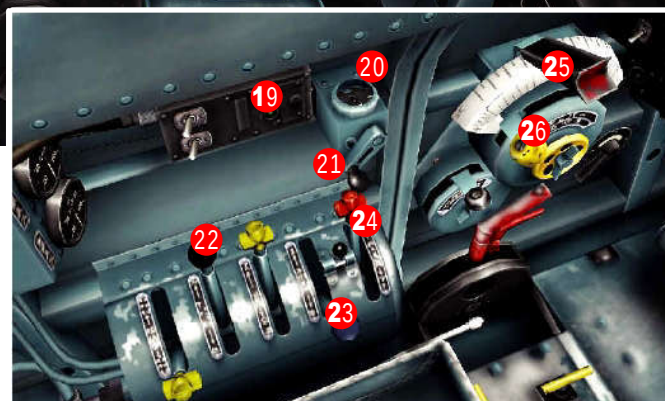
1. Airspeed indicator
2. Turn and bank indicator
3. Variometer
4. Left & right engine fuel pressure gage
5. Left & right engine tachometer
6. Left engine manifold pressure gage
7. Right engine manifold pressure gage
8. Magnetic compass
9. Altimeter
10. Left & right engine oil pressure gage
11. Artificial horizon
12. Clock
13. Left engine oil temperature gage
14. Right engine oil temperature gage
15. Dual cylinder head temperature gage
16. Left & right engine exhaust gas analyser gage
17. Left & right engine ignition switches
18. Left & right engine cowl flaps levers
19. Landing gear position indicator
20. Flaps position indicator
21. Fuel gage
22. Rudder trim wheel
23. Elevator trim wheel
24. Left & right engine mixture levers
25. Left & right engine throttles
26. Left & right engine propeller pitch levers
27. Left & right engine oil radiator levers
28. Left & right engine supercharger levers
29. Landing gear lever
30. Flaps lever



Ki-45 Kai



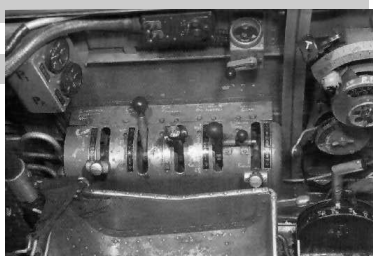




Ki-61

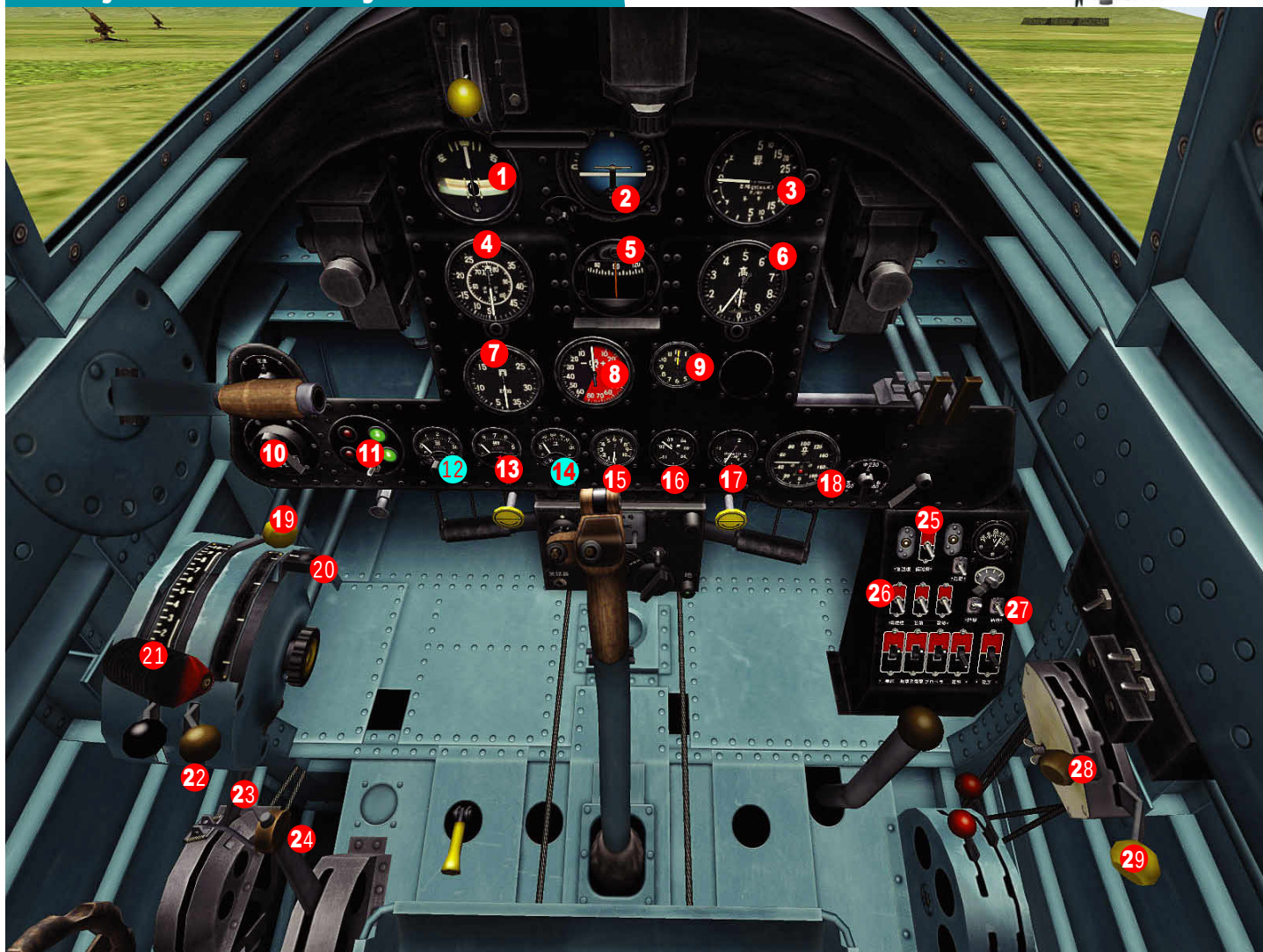


1. Turn and bank indicator
2. Variometer
3. Airspeed indicator
4. Magnetic compass
5. Altimeter
6. Clock
7. Free air temperature gage
8. Manifold pressure gage
9. Exhaust temperature gage
10. Tachometer
11. **Coolant temperature gage** (Radiator inlet [LH] / outlet [RH])
12. **Oil temperature gage** (Radiator inlet [LH] / outlet [RH])
13. Oil pressure gage
14. Fuel pressure gage
15. Flaps position indicator
16. Radiator position indicator
17. Landing gear position indicator: green - up  
no light - in transition  
red - down
18. Fuel gage
19. **External ordnance indicator lights**
20. Elevator trim indicator
21. Elevator trim lever
22. **Flaps lever**
23. **Radiator lever**
24. **Landing gear lever**
25. **Throttle**
26. **Propeller pitch lever**

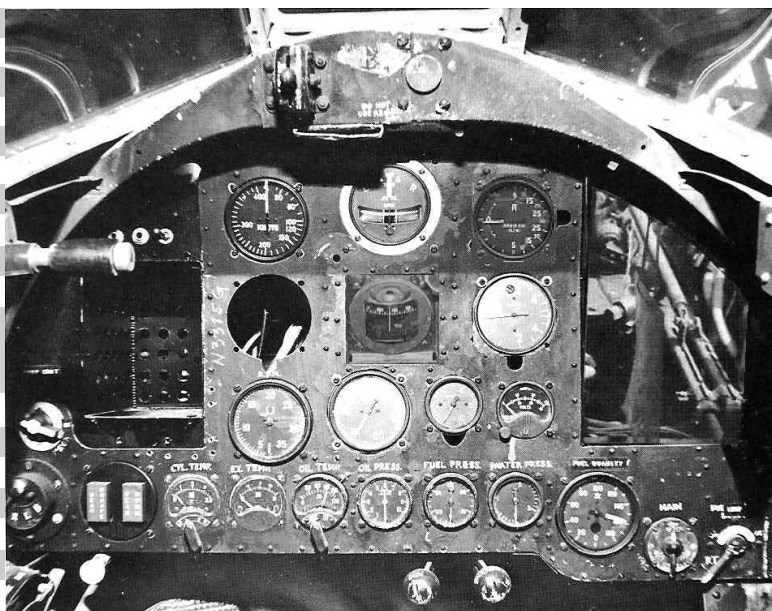




# Nakajima Ki-84-Ia Hayate «Frank»



1. Turn and bank indicator
2. Artificial horizon
3. Variometer
4. Airspeed indicator
5. Magnetic compass
6. Altimeter
7. Tachometer
8. Manifold pressure gage
9. Clock
10. Engine ignition switch
11. Landing gear position indicator: green - down  
no light - transition  
red - up
12. Cylinder head temperature gage
13. Exhaust temperature gage
14. Oil temperature gage
15. Oil pressure gage
16. Fuel pressure gage
17. Water-methanol (ADI) pressure gage
18. Fuel gage with low fuel warning light (total fuel < 11%)
19. Propeller pitch lever
20. Mixture lever: rear position - leaner mixture  
front position - richer mixture
21. Throttle
22. Supercharger lever
23. Landing gear lever
24. Flaps lever
25. Position lights switch
26. Landing light switch
27. Instrument light switch
- 28 & 29. Radiators levers





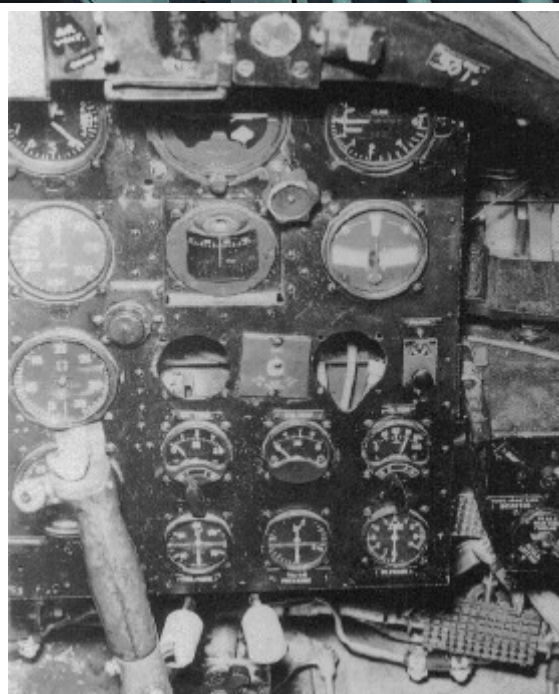
# Nakajima Ki-84-Ib / Ic Hayate «Frank»



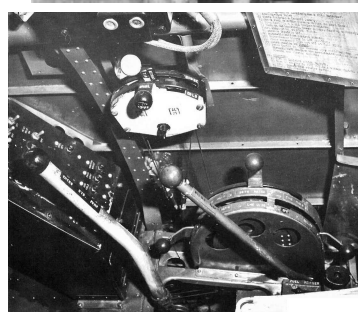
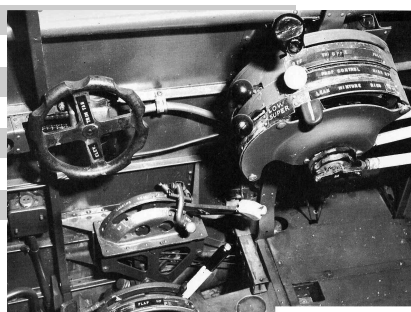
1. Airspeed indicator
2. Artificial horizon
3. Variometer
4. Altimeter
5. Magnetic compass
6. Turn and bank indicator
7. Tachometer
8. Clock
9. Engine ignition switch
10. Landing gear position indicator: green - down  
no light - transition  
red - up

11. Manifold pressure gage
12. Cylinder head temperature gage
13. Exhaust temperature gage
14. Oil temperature gage
15. Fuel pressure gage
16. Water-methanol (ADI) pressure gage
17. Oil pressure gage
18. Fuel gage with low fuel warning light (total fuel < 11%)
19. Propeller pitch lever
20. Mixture lever: rear position - leaner mixture  
front position - richer mixture

21. Throttle
22. Supercharger lever
23. Landing gear lever
24. Flaps lever
25. Position lights switch
26. Landing light switch
27. Instrument light switch
- 27 & 28. Radiators levers

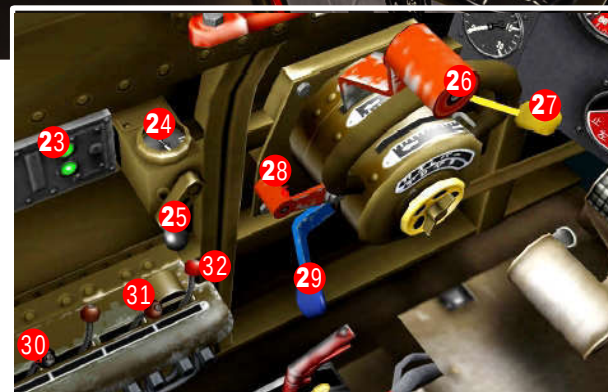


Ki-84-Ib





# Kawasaki Ki-100-I-Ko Hien Type 5 «Tony»



1. Variometer
2. Magnetic compass
3. Airspeed indicator
4. Artificial horizon
5. Altimeter
6. Manifold pressure gage
7. Tachometer
8. Water-methanol (ADI) pressure gage
9. Turn and bank indicator
10. Fuel pressure gage
11. Flaps position indicator
12. Radiator position indicator
13. Fuel gage with low fuel warning light (total fuel < 1%)
14. Gun pressure gage
15. Engine ignition switch
16. Oil pressure gage
17. Oil temperature gage
18. Cylinder head temperature gage
19. Exhaust temperature gage
20. Landing gear position indicator: green - up  
no light - in transition  
red - down
21. Clock
22. Magnetic compass
23. External ordnance indicator lights
24. Elevator trim indicator
25. Elevator trim lever
26. Throttle
27. Propeller pitch lever
28. Mixture lever
29. Boost lever
30. Flaps lever
31. Radiator lever
32. Landing gear lever



Ki-100 (<http://gunsight.jp/b/index.htm>)

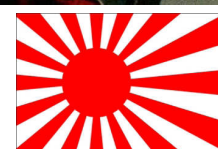
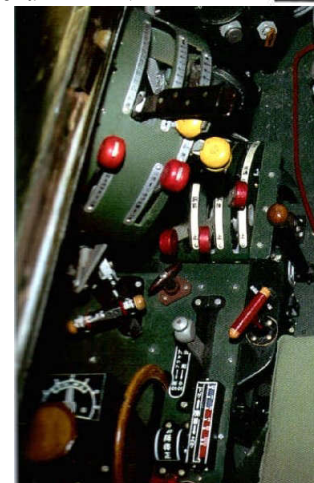
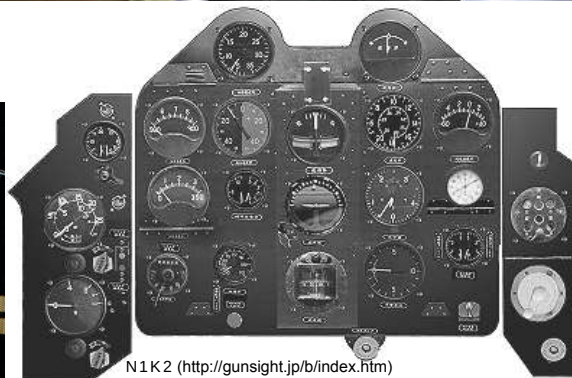




# Kawanishi N1K2-JA Shiden Kai «George»



1. Tachometer
2. **Homing indicator**
3. Oxygen system gage
4. Exhaust temperature gage
5. Manifold pressure gage
6. Turn and bank indicator
7. Airspeed indicator
8. Free air temperature gage
9. Instrument light switch
10. **Cylinder head temperature gage**
11. Oil (left) and fuel (right) pressure gage
12. Artificial horizon
13. Altimeter
14. Clock
15. Landing gear position: green - down  
indicator no light - transition  
red - up
16. Fuel gage (fuselage tank)
17. Operational fuel level indicator light (> 7%)
18. Low fuel warning light (total fuel < 8%)
19. Engine ignition switch
20. **Oil temperature gage**
21. Magnetic compass
22. Variometer
23. Water-methanol (ADI) pressure gage
- 24 & 25. Radiator handles
26. Throttle
27. Propeller pitch lever
28. Fuel gage (wing tanks)
29. Mixture lever
- 30 & 31. Supercharger levers
32. Flaps lever
33. Rudder trim wheel
34. Rudder trim indicator
35. Elevator trim wheel
36. Elevator trim indicator
37. Landing gear lever





**POLAND**







1. Magnetic compass
2. Manifold pressure gage
3. Airspeed indicator
4. Pitch inclinometer
5. Tachometer
6. Oil temperature gage
7. Cylinder head temperature gage
8. Oil pressure gage
9. Fuel pressure gage
10. Turn and bank indicator
11. Altimeter
12. Clock
13. Throttle



P11 (<http://img379.imageshack.us/my.php?image=1000085th9.jpg>)



P11 (<http://img57.imageshack.us/my.php?image=1010118mi3.jpg>)

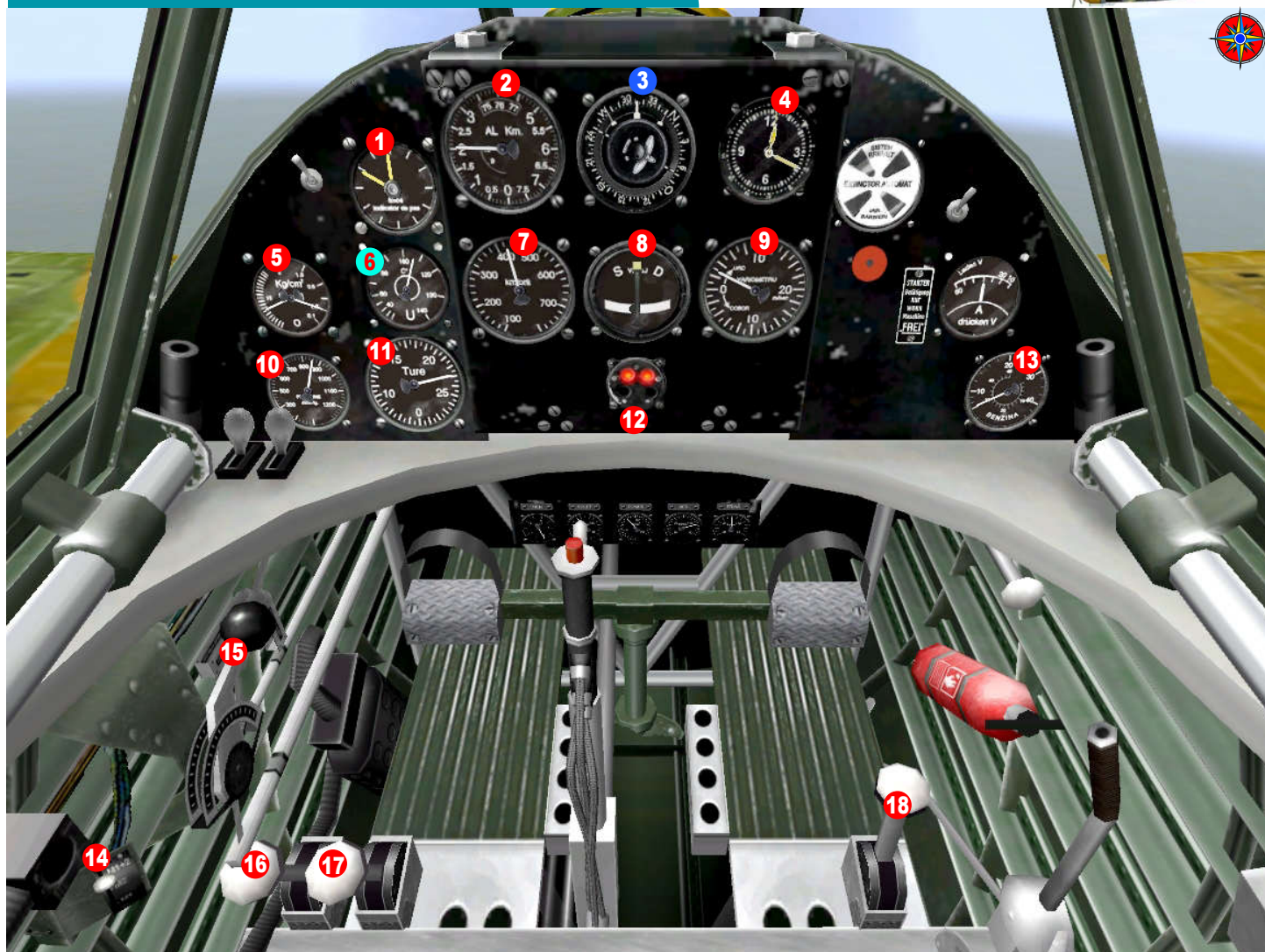




# ROMANIA







1. Propeller pitch indicator
2. Altimeter
3. Repeater compass
4. Clock
5. Oil (left) and fuel (right) pressure gage
6. Oil temperature gage
7. Airspeed indicator
8. Turn and bank indicator
9. Variometer
10. Manifold pressure gage
11. Tachometer
12. Landing gear position indicator: green - down  
no light - transition  
red - up
13. Fuel gage
14. Engine ignition switch
15. Throttle
16. Flaps lever
17. Landing gear lever
18. Radiator lever



IAR 80 (<http://www.rcgroups.com/forums/showthread.php?t=446637&page=11>)



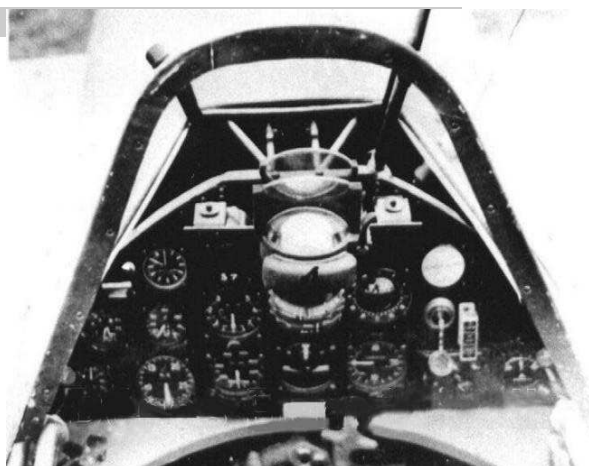




1. Propeller pitch indicator
2. Landing gear position indicator: green - down  
no light - transition  
red - up
3. Clock
4. Oil (left) and fuel (right) pressure gage
5. Oil temperature gage
6. Altimeter
7. Repeater compass
8. Manifold pressure gage
9. Tachometer
10. Airspeed indicator
11. Turn and bank indicator
12. Variometer
13. Fuel gage
14. Engine ignition switch
15. Throttle
16. Flaps lever
17. Landing gear lever
18. Radiator lever



IAR 81 (<http://www.rcgroups.com/forums/showthread.php?t=446637&page=11>)



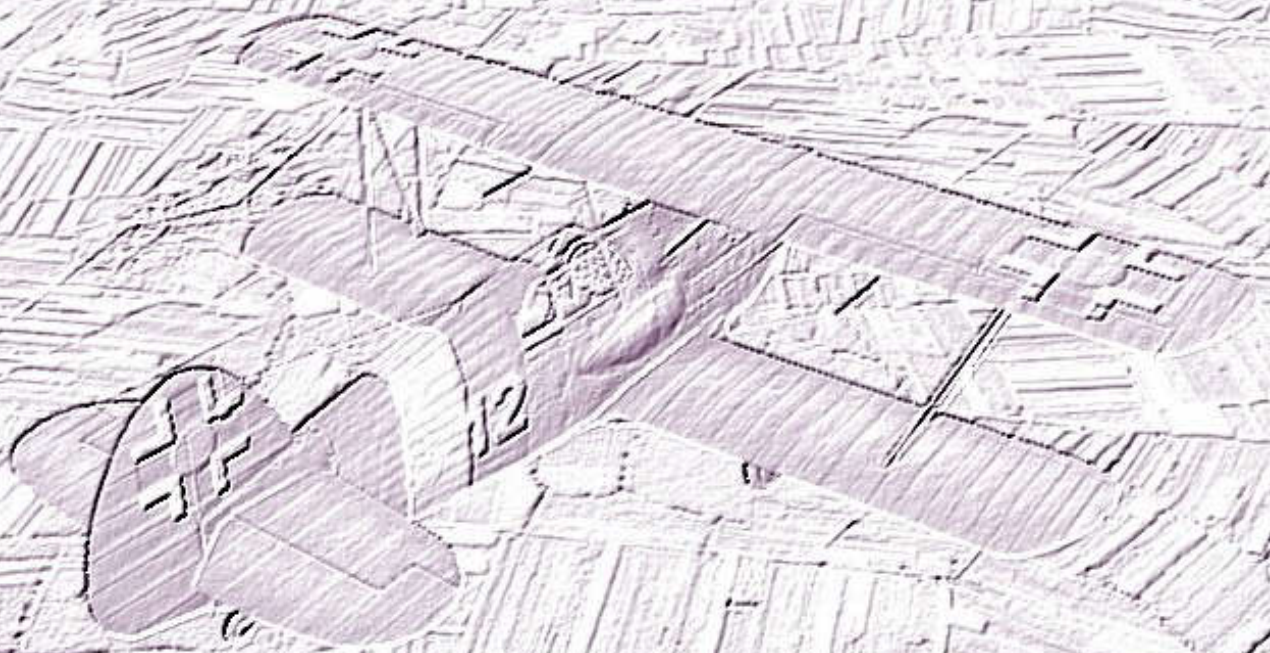




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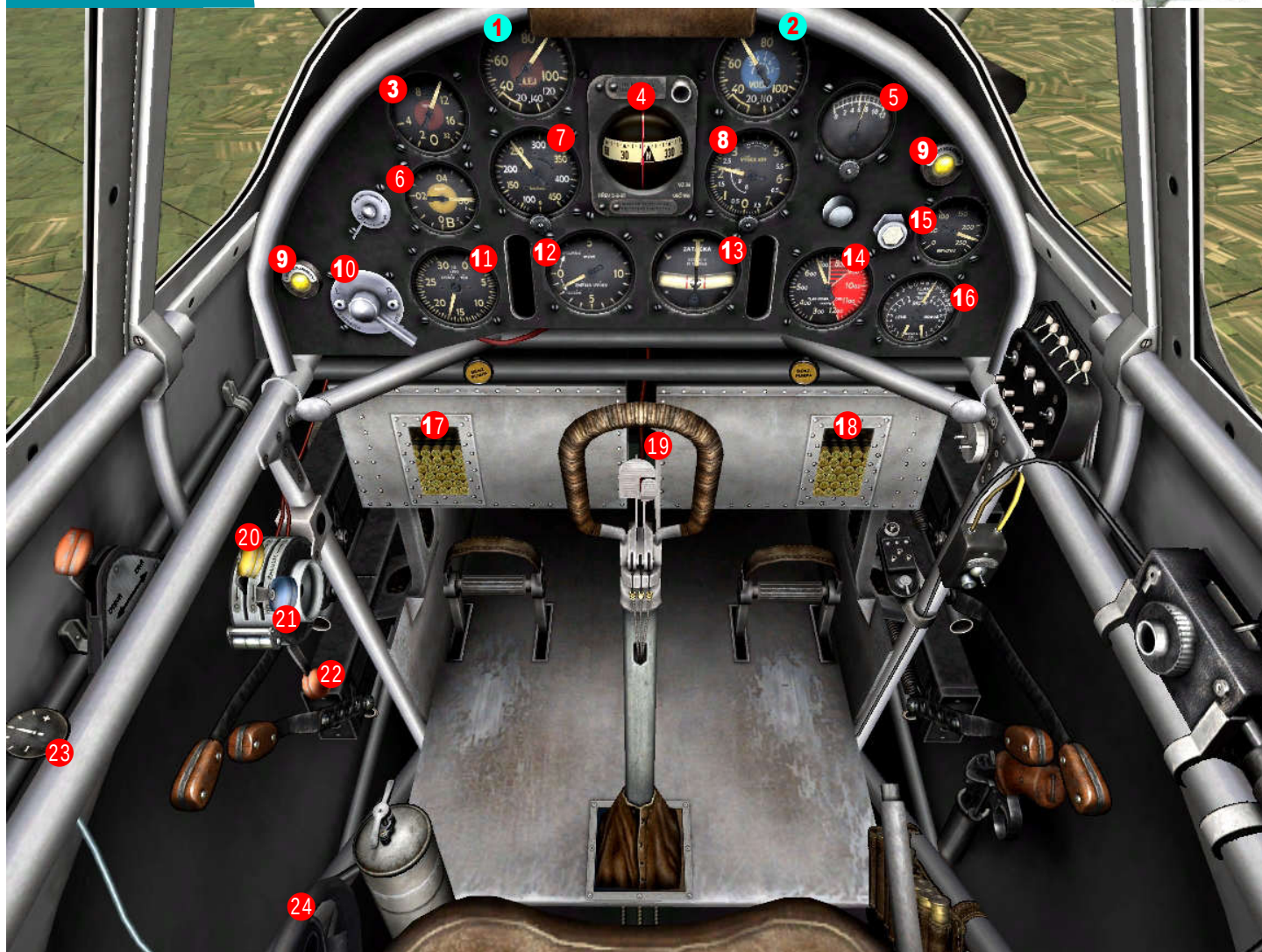
# SLOVAKIA



# CZECHOSLOVAKIA







1. Oil temperature gage
2. Coolant temperature gage
3. Oil pressure gage
4. Magnetic compass
5. Oxygen pressure gage
6. Fuel pressure gage
7. Airspeed indicator
8. Altimeter
9. MG charged indicator lights
10. Engine ignition switch
11. Tachometer
12. Variometer
13. Turn and bank indicator
14. Manifold pressure gage
15. Fuel gage
16. Brakes triple pressure gage:  
storage cylinder (top)  
left & right brakes (bottom)
17. Left lower MG ammunition box
18. Right lower MG ammunition box
19. Gear brakes lever
20. Throttle (100% in rear position)
21. Mixture lever: rear pos. - richer  
front pos. - leaner
22. Radiator lever
23. Elevator trim indicator
24. Elevator trim wheel



Avia B-534-IV



# UNITED KINGDOM

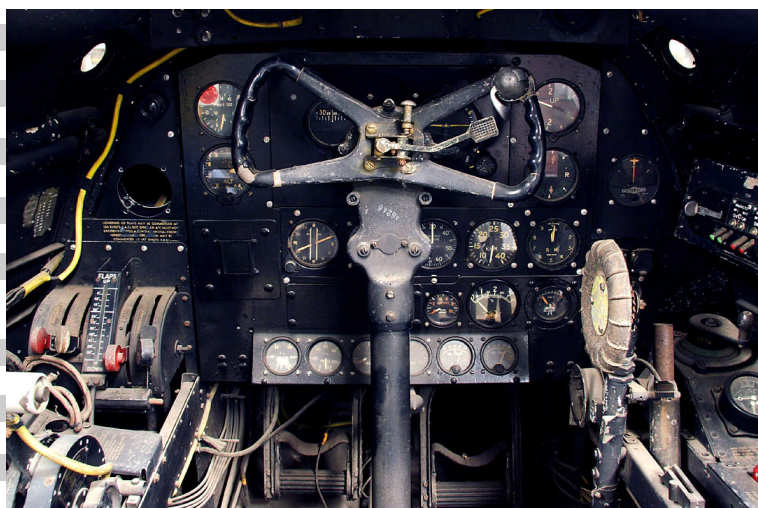
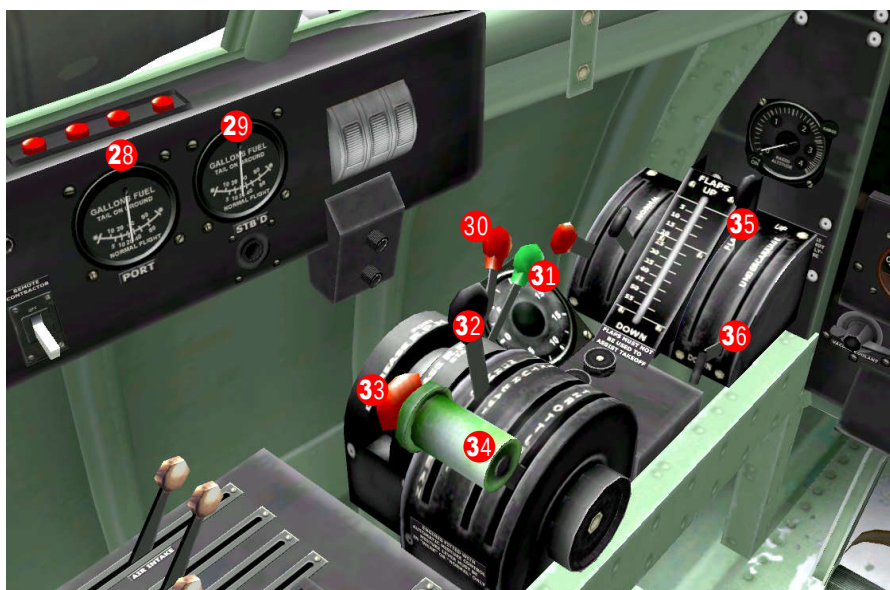




# Bristol Beaufighter Mk. 21



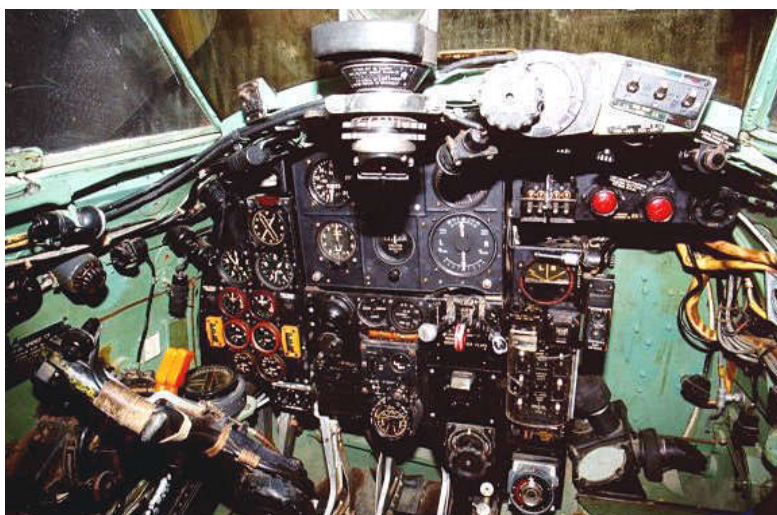
1. Clock
2. Airspeed indicator
3. Artificial horizon
4. Directional gyro
5. Rate-of-climb indicator
6. Radio altimeter
7. Altimeter
8. Turn and bank indicator
9. Homing indicator
10. Free air temperature gage
11. Radio compass
12. Left engine manifold pressure gage
13. Right engine manifold pressure gage
14. Gear brakes lever
15. Left engine tachometer
16. Right engine tachometer
17. Left engine fuel pressure gage
18. Right engine fuel pressure gage
19. Suction gage
20. Left engine cylinder head temperature gage
21. Right engine cylinder head temperature gage
22. Left engine oil pressure gage
23. Right engine oil pressure gage
24. Left engine oil temperature gage
25. Right engine oil temperature gage
26. Elevator trim wheel
27. Rudder trim wheel
28. Left tank fuel gage
29. Right tank fuel gage
30. Left propeller pitch lever
31. Right propeller pitch lever
32. Mixture lever: rear - leaner mixture  
front - richer mixture
33. Left engine throttle
34. Right engine throttle
35. Flaps lever
36. Landing gear lever
37. Aileron trim wheel







1. Airspeed indicator
2. Artificial horizon
3. Rate-of-climb indicator
4. Rudder trim wheel & indicator
5. Remote indicating compass
6. Altimeter
7. Directional gyro
8. Turn and bank indicator
9. Beam approach visual indicator
10. Left engine tachometer
11. Right engine tachometer
12. Left engine low fuel press warning light
13. Left engine manifold gage
14. Right engine manifold gage
15. Right engine low fuel press warning light
16. Landing gear position indicator
17. Flaps position indicator
18. Bomb doors lever (automatic - Mk. VI only)
19. Landing gear lever
20. Flaps lever
21. Left engine oil pressure gage
22. Left engine oil temperature gage
23. Right engine oil temperature gage
24. Right engine oil pressure gage
25. Left engine coolant temperature gage
26. Right engine coolant temperature gage
27. Gear brakes lever
28. Magnetic compass
29. Aileron trim indicator
30. Aileron trim wheel
31. Elevator trim indicator
32. Left engine throttle
33. Right engine throttle
34. Left propeller pitch lever
35. Right propeller pitch lever
36. Elevator trim wheel
37. Fuel gage (inner tanks)
38. Fuel gage (center tanks)
39. Fuel gage (outer tanks)
40. Outside temperature gage



Mosquito FB Mk. 6







1. Rate-of-climb indicator
2. **Oil temperature gage**
3. **Oil pressure gage**
4. **Tachometer**
5. Pitch inclinometer
6. **Airspeed indicator**
7. **Turn and bank indicator**
8. **Altimeter**
9. **Manifold pressure gage**
10. Mixture lever: rear position - leaner mixture  
front position - richer mixture
11. Throttle
12. Fuel gage
13. Brakes triple pressure gage: storage cylinder (top)  
(not active with skis) left & right brakes (bottom)
14. Clock
15. Magnetic compass



J8A ([http://surfcity.kund.dalnet.se/gladiator\\_sweden.htm](http://surfcity.kund.dalnet.se/gladiator_sweden.htm))







1. Landing gear **position: green - down**  
**indicator no light - transition**  
**red - up**

2. Tachometer

3. Airspeed indicator

4. Artificial horizon

5. Rate-of-climb indicator

6. Manifold pressure gage

7. Altimeter

8. Directional gyro

9. Turn and bank indicator

10. Oil pressure gage

11. Fuel pressure gage

12. Fuel gage

13. Oil temperature gage

14. Coolant temperature gage

15. Magnetic compass

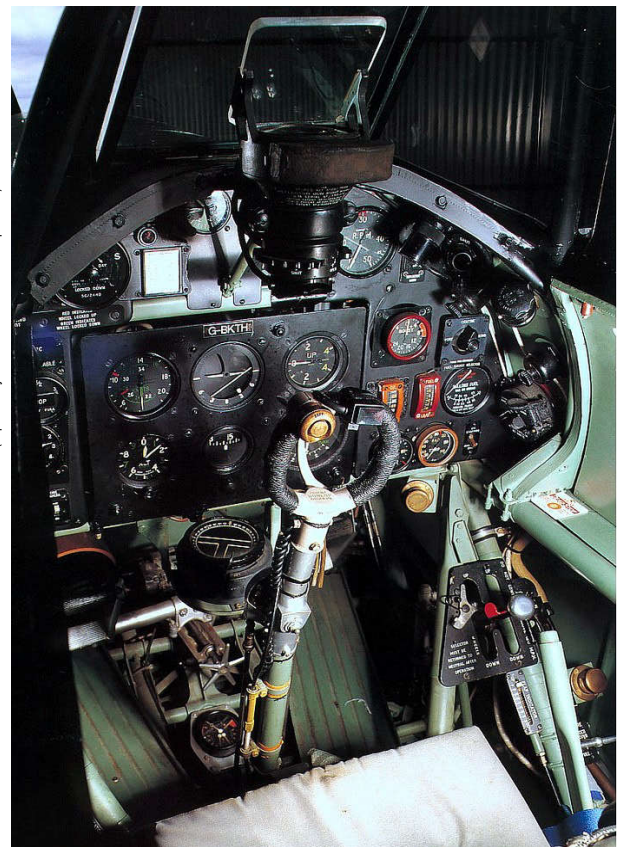
16. Propeller pitch lever

17. Throttle

18. Radiator flap position indicator

19. Landing gear / flaps lever

Sea Hurricane Mk.1B (<http://war.by.airforce.com/articles/Cockpits.html>)



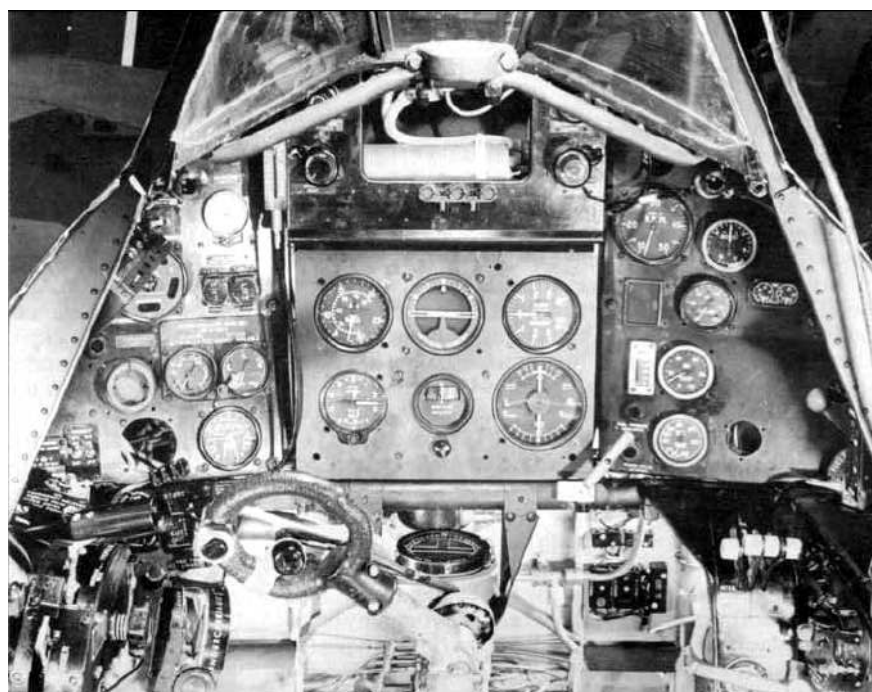
Hurricane IIC (<http://www.rat.mod.uk/>)







1. Landing gear position indicator: green - down  
no light - transition  
red - up
2. Airspeed indicator
3. Artificial horizon
4. Rate-of-climb indicator
5. Tachometer
6. Manifold pressure gage
7. Fuel gage (main tank)
8. Fuel gage (nose tank)
9. Fuel gage (wing tanks)
10. Clock
11. Altimeter
12. Directional gyro
13. Turn and bank indicator
14. Oil pressure gage
15. Oil temperature gage
16. Coolant temperature gage
17. Landing light switch
18. Magnetic compass
19. Propeller pitch lever
20. Landing gear lever
21. Throttle
22. Supercharger lever - up: stage 1  
down: stage 2
23. Flaps lever
24. Elevator trim wheel



Tempest V (<http://www.ww2aircraft.net/>)







1. Flaps lever
2. Airspeed indicator
3. Artificial horizon
4. Rate-of-climb indicator
5. Tachometer
6. Clock
7. Landing gear position indicator: down - down  
no light - transition  
up - up
8. Arresting hook indicator light: no light - up  
green - down
9. Elevator trim indicator
10. Altimeter
11. Directional gyro
12. Turn and bank indicator
13. Low fuel warning light (total fuel < 25%)
14. Manifold pressure gage
15. Oil pressure gage
16. Oil temperature gage
17. Coolant temperature gage
18. Fuel gage
19. Throttle
20. Propeller pitch lever
21. Magnetic compass
22. Gear brakes lever
23. Landing gear lever
24. Elevator trim wheel
25. Rudder trim wheel
26. Arrester hook lever



Seafire Mk. III (<http://www.fleetairarmarchive.net/Aircraft/Seafire.htm>)



Seafire Mk. XV (<http://www.thescaleinfo/news/publish/Seafire-XV-cockpit-detail.shtml>)





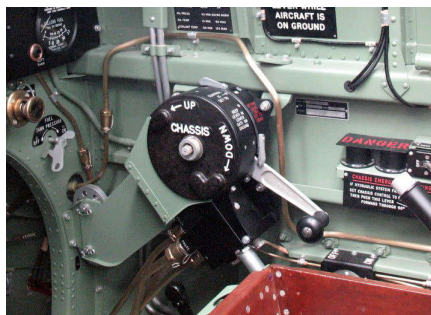
# Supermarine Spitfire Mk. Vb / c All variants



1. Flaps lever
2. Airspeed indicator
3. Artificial horizon
4. Rate-of-climb indicator
5. Tachometer
6. Clock
7. Landing gear position indicator: down - down  
no light - transition  
up - up
8. Elevator trim indicator
9. Altimeter
10. Directional gyro
11. Turn and bank indicator
12. Low fuel warning light (total fuel < 25%)
13. Manifold pressure gage
14. Oil pressure gage
15. Oil temperature gage
16. Coolant temperature gage
17. Fuel gage
18. Throttle
19. Propeller pitch lever
20. Gear brakes lever
21. Magnetic compass
22. Landing gear lever
23. Elevator trim wheel
24. Rudder trim wheel



Spitfire Mk. Vb (<http://spitfiresite.com/2010/07/anatomy-of-spitfire-cockpit.html>)







1. Flaps lever
2. Airspeed indicator
3. Artificial horizon
4. Rate-of-climb indicator
5. Tachometer
6. Landing gear position indicator: down - down  
no light - transition  
up - up
7. Elevator trim indicator
8. Altimeter
9. Directional gyro
10. Turn and bank indicator
11. Supercharger warning light
12. Manifold pressure gage
13. Oil pressure gage
14. Oil temperature gage
15. Coolant temperature gage
16. Fuel gage
17. Throttle
18. Propeller pitch lever
19. Magnetic compass
20. Gear brakes lever
21. Landing gear lever
22. Elevator trim wheel
23. Rudder trim wheel

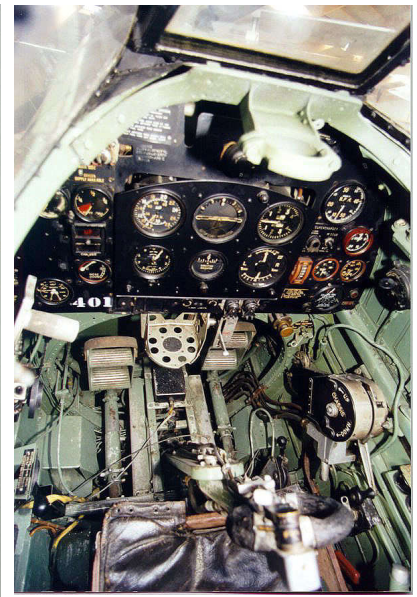
Spitfire HF VIIIc (<http://www.fabcommunity.de/fotos-bilder/Staerker%25FCopial.html>)







1. Flaps lever
2. Airspeed indicator
3. Artificial horizon
4. Rate-of-climb indicator
5. Tachometer
6. Clock
7. Landing gear position indicator: down - down  
no light - transition  
up - up
8. Elevator trim indicator
9. Altimeter
10. Directional gyro
11. Turn and bank indicator
12. Supercharger warning light
13. Manifold pressure gage
14. Oil pressure gage
15. Oil temperature gage
16. Coolant temperature gage
17. Low fuel warning light (total fuel < 25%)
18. Fuel gage
19. Propeller pitch lever
20. Throttle
21. Magnetic compass
22. Gear brakes lever
23. Landing gear lever
24. Elevator trim wheel
25. Rudder trim wheel

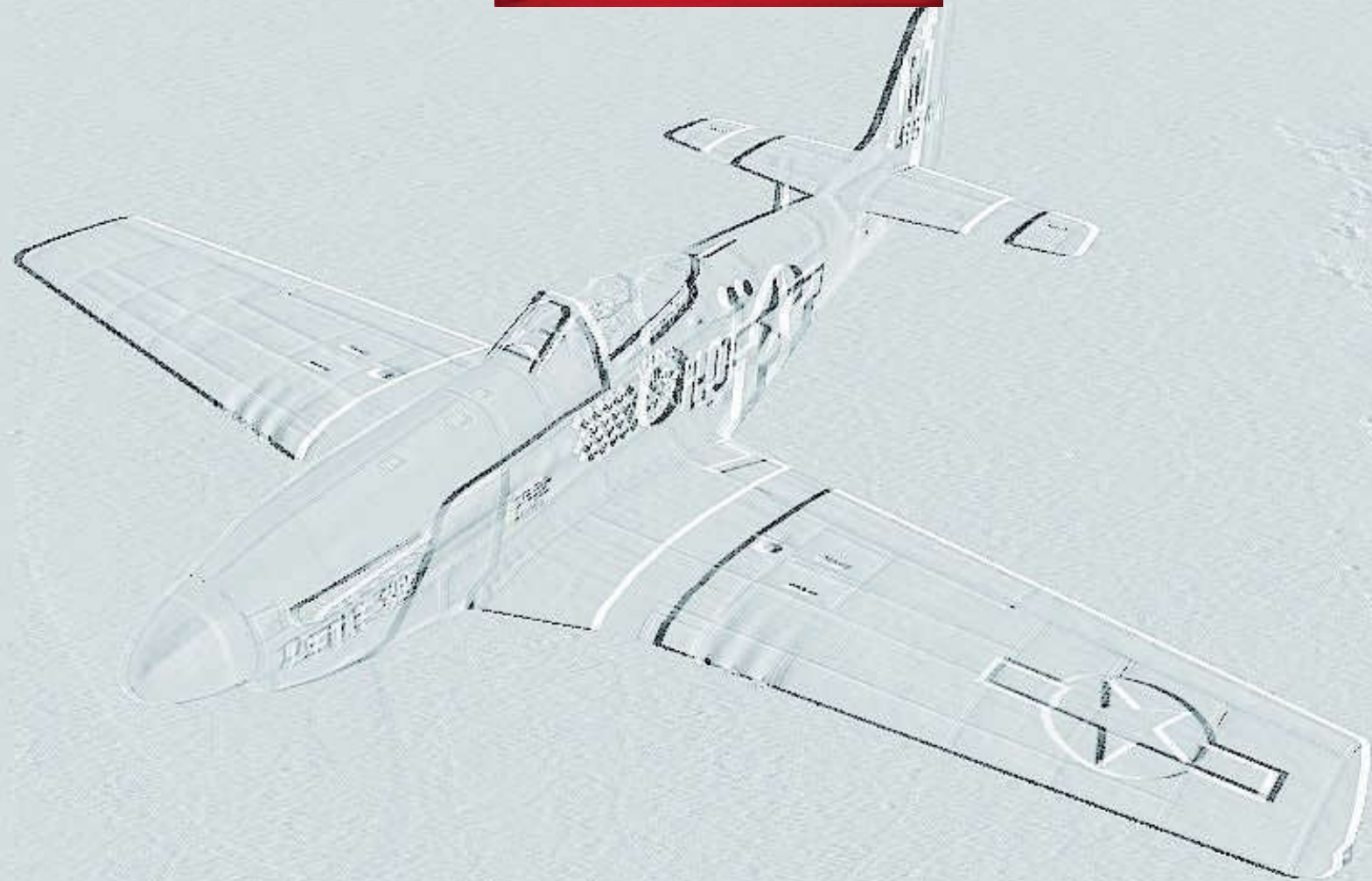


Spitfire Mk IX (<http://aircraftwalkaround.hobbyvista.com/spitfire/spitfire.htm>)

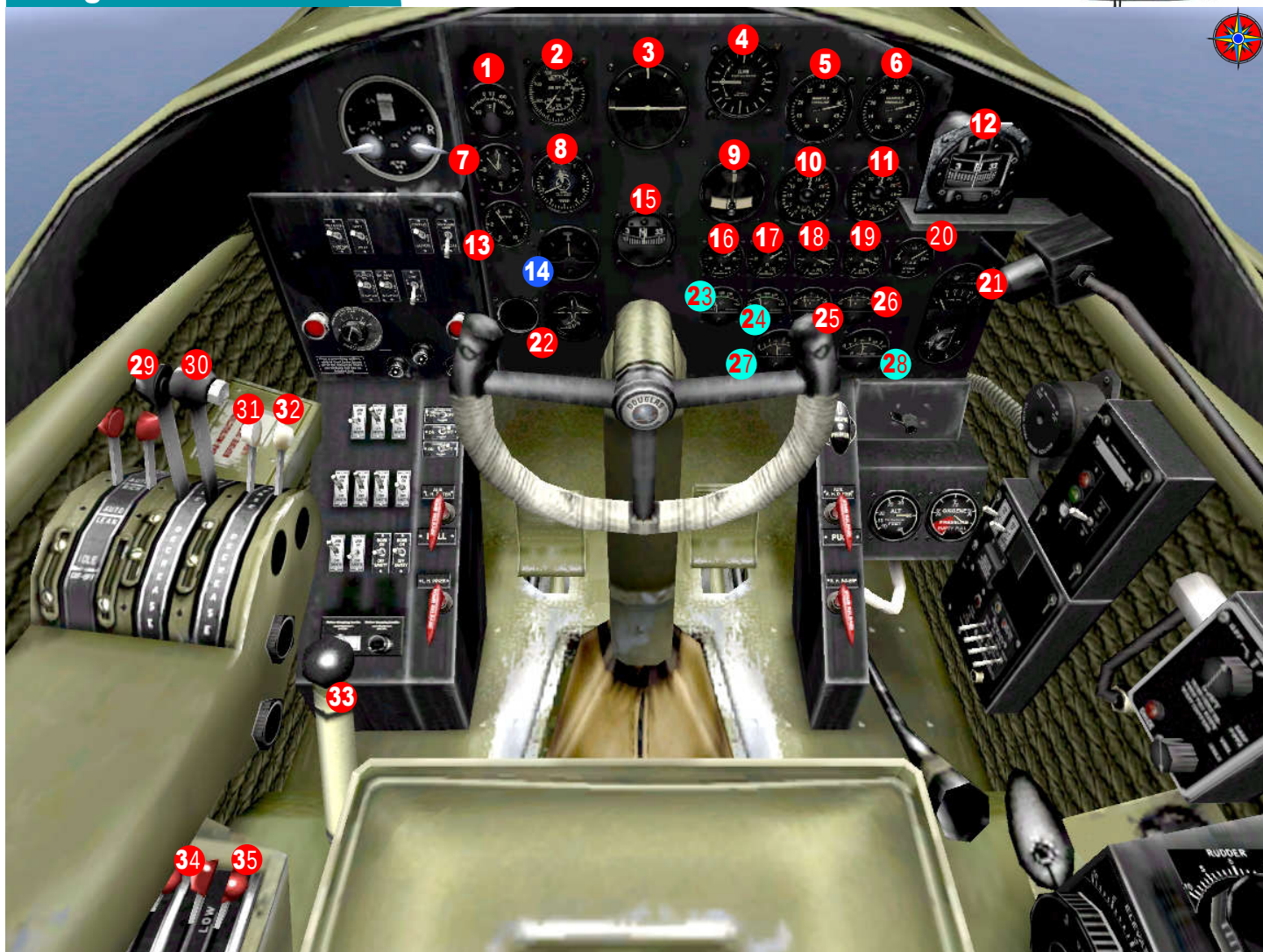




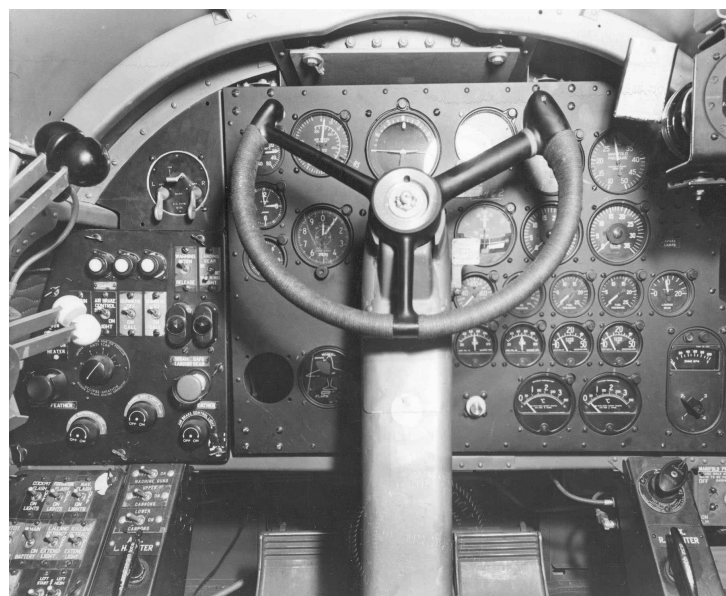
# UNITED STATES OF AMERICA



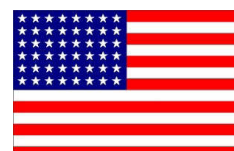




1. Free air temperature gage
2. Airspeed indicator
3. Artificial horizon
4. Rate-of-climb indicator
5. Left engine manifold pressure gage
6. Right engine manifold pressure gage
7. Clock
8. Altimeter
9. Turn and bank indicator
10. Left engine tachometer
11. Right engine tachometer
12. Magnetic compass
13. Suction gage
14. Homing indicator
15. Directional gyro
16. Left engine oil pressure gage
17. Right engine oil pressure gage
18. Left engine fuel pressure gage
19. Right engine fuel pressure gage
20. Hydraulic pressure gage
21. Fuel gage
22. Flaps and gear position indicator
23. Left engine oil temperature gage
24. Right engine oil temperature gage
25. Left engine carburetor air temperature gage
26. Right engine carburetor air temperature gage
27. Left engine cylinder head temperature gage
28. Right engine cylinder head temperature gage
29. Left engine throttle
30. Right engine throttle
31. Left engine propeller pitch lever
32. Right engine propeller pitch lever
33. Bomb doors lever
34. Left engine supercharger lever
35. Right engine supercharger lever

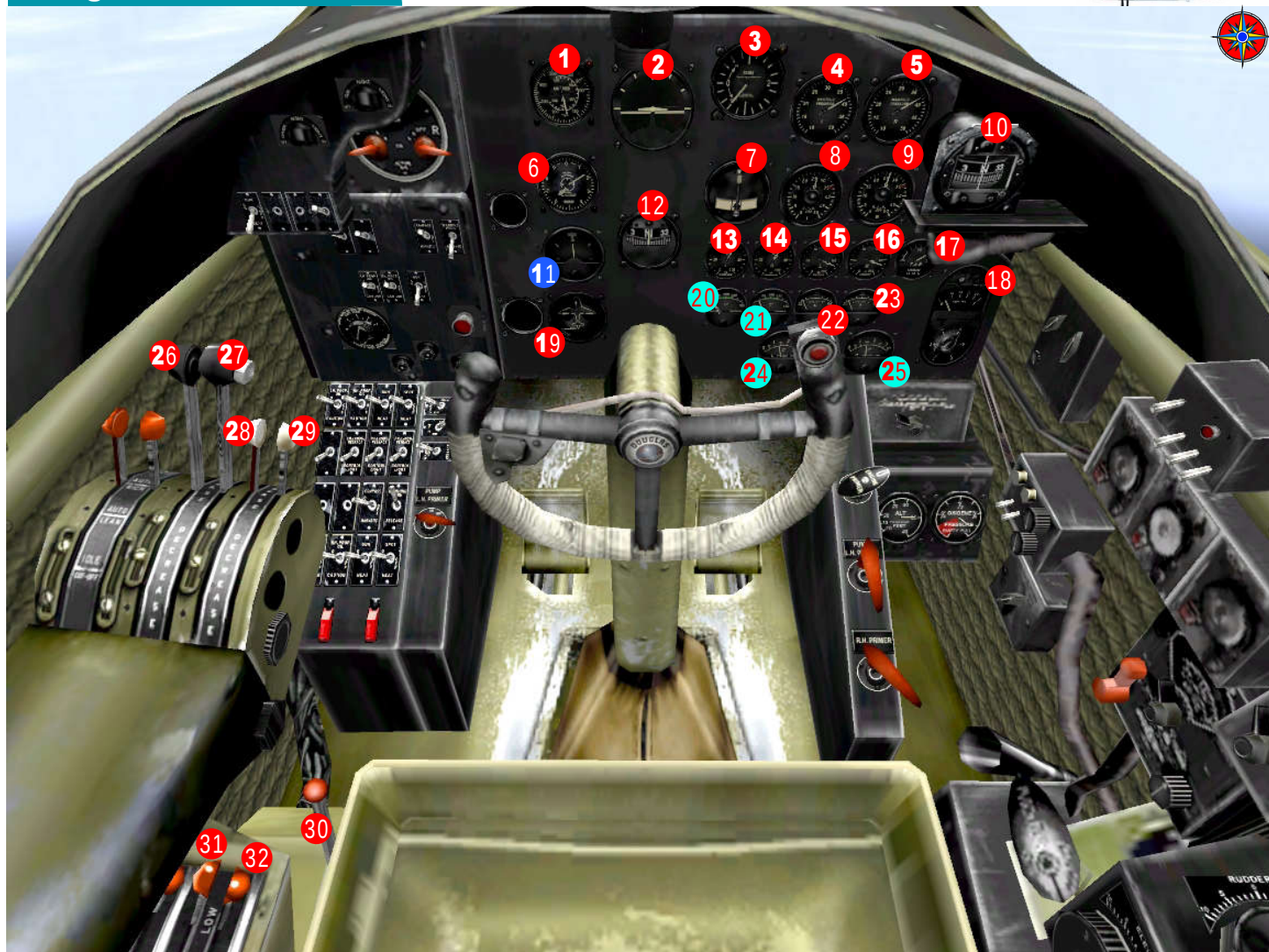
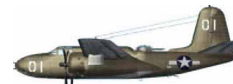


A-20C (<http://www.nationalmuseum.af.mil/factsheets/factsheet.asp?id=2969>)





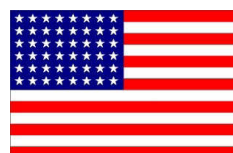
# Douglas A-20G Havoc



1. **Airspeed indicator**
2. **Artificial horizon**
3. Rate-of-climb indicator
4. **Left engine manifold pressure gage**
5. **Right engine manifold pressure gage**
6. Altimeter
7. Turn and bank indicator
8. Left engine tachometer
9. Right engine tachometer
10. Magnetic compass
11. **Homing indicator**
12. Directional gyro
13. **Left engine oil pressure gage**
14. **Right engine oil pressure gage**
15. **Left engine fuel pressure gage**
16. **Right engine fuel pressure gage**
17. Hydraulic pressure gage
18. Fuel gage
19. Flaps and gear position indicator
20. **Left engine oil temperature gage**
21. **Right engine oil temperature gage**
22. Left engine carburetor air temperature gage
23. Right engine carburetor air temperature gage
24. **Left engine cylinder head temperature gage**
25. **Right engine cylinder head temperature gage**
26. Left engine throttle
27. Right engine throttle
28. Left engine propeller pitch lever
29. **Right engine propeller pitch lever**
30. Bomb doors lever
31. Left engine supercharger lever
32. Right engine supercharger lever



A-20G (<http://www.nationalmuseum.af.mil/factsheets/factsheet.asp?id=521>)



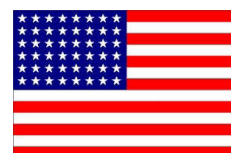




1. Airspeed indicator
2. Turn and bank indicator
3. Magnetic compass
4. Altimeter
5. Directional gyro
6. Artificial horizon
7. Rate-of-climb indicator
8. Manifold pressure gage
9. Clock
10. Landing gear warning light
11. Landing gear position indicator
12. Left fuselage MG ammunition counter
13. Cylinder head temperature gage
14. Homing indicator
15. Right fuselage MG ammunition counter
16. Flaps position indicator
17. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
18. Tachometer
19. Engine ignition & starter switch
20. Throttle
21. Propeller pitch lever
22. Mixture lever: rear position - leaner mixture  
front position - richer mixture
23. Tail wheel lock lever (not visible)
24. Elevator trim lever
25. Rudder trim lever
26. Fuel gage (left tank)
27. Fuel gage (right tank)
28. Landing gear lever
29. Flaps lever

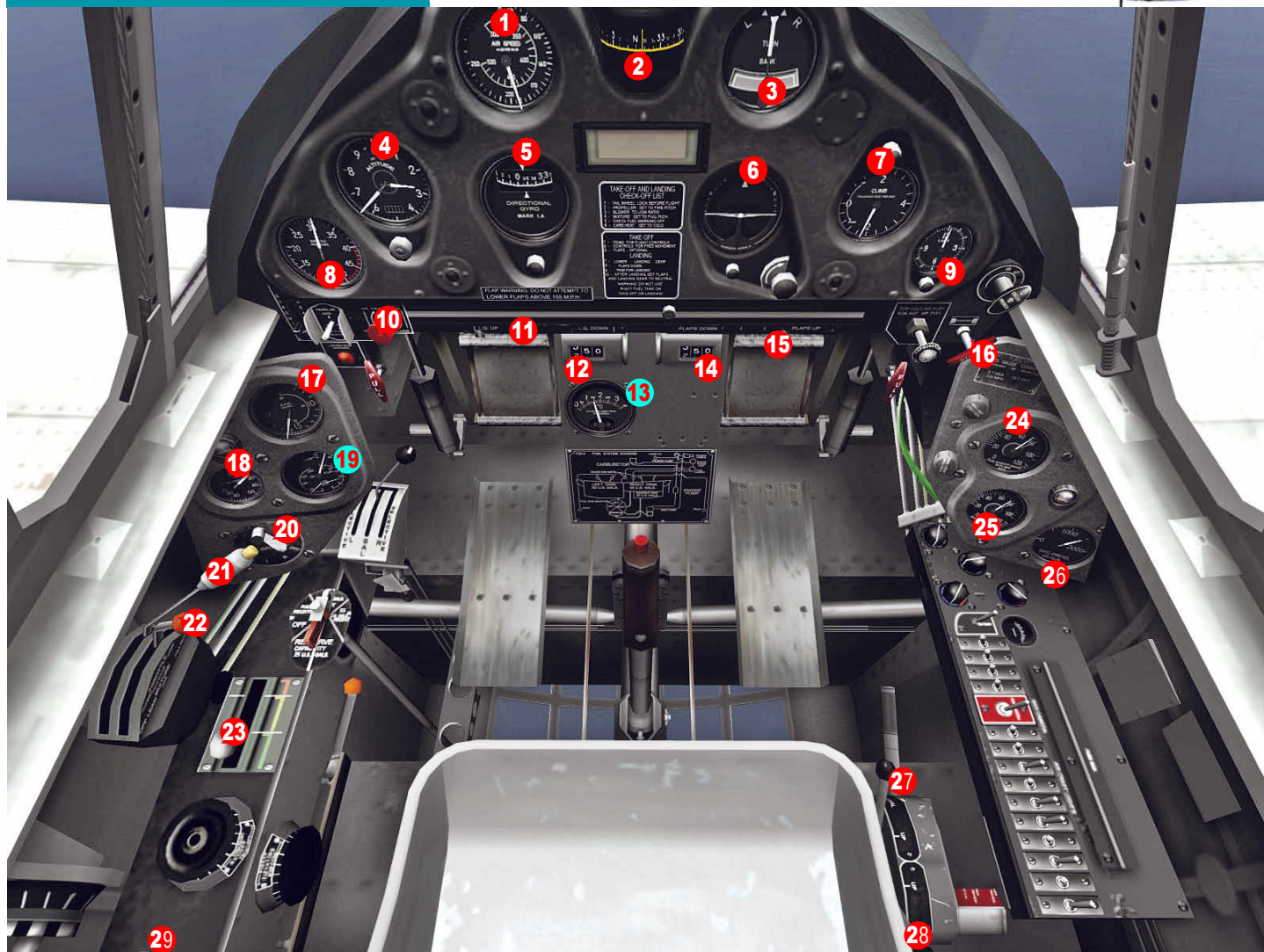


B239 (<http://www.sci.fi/~fta/BWtoFAF3.htm>)

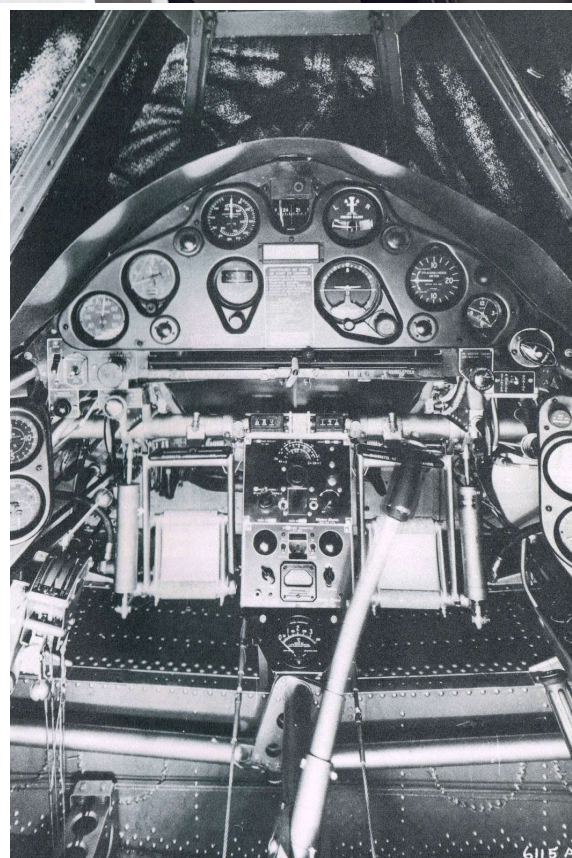




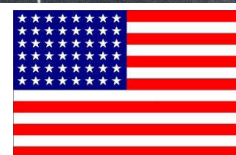
# Brewster F2A-2 Buffalo



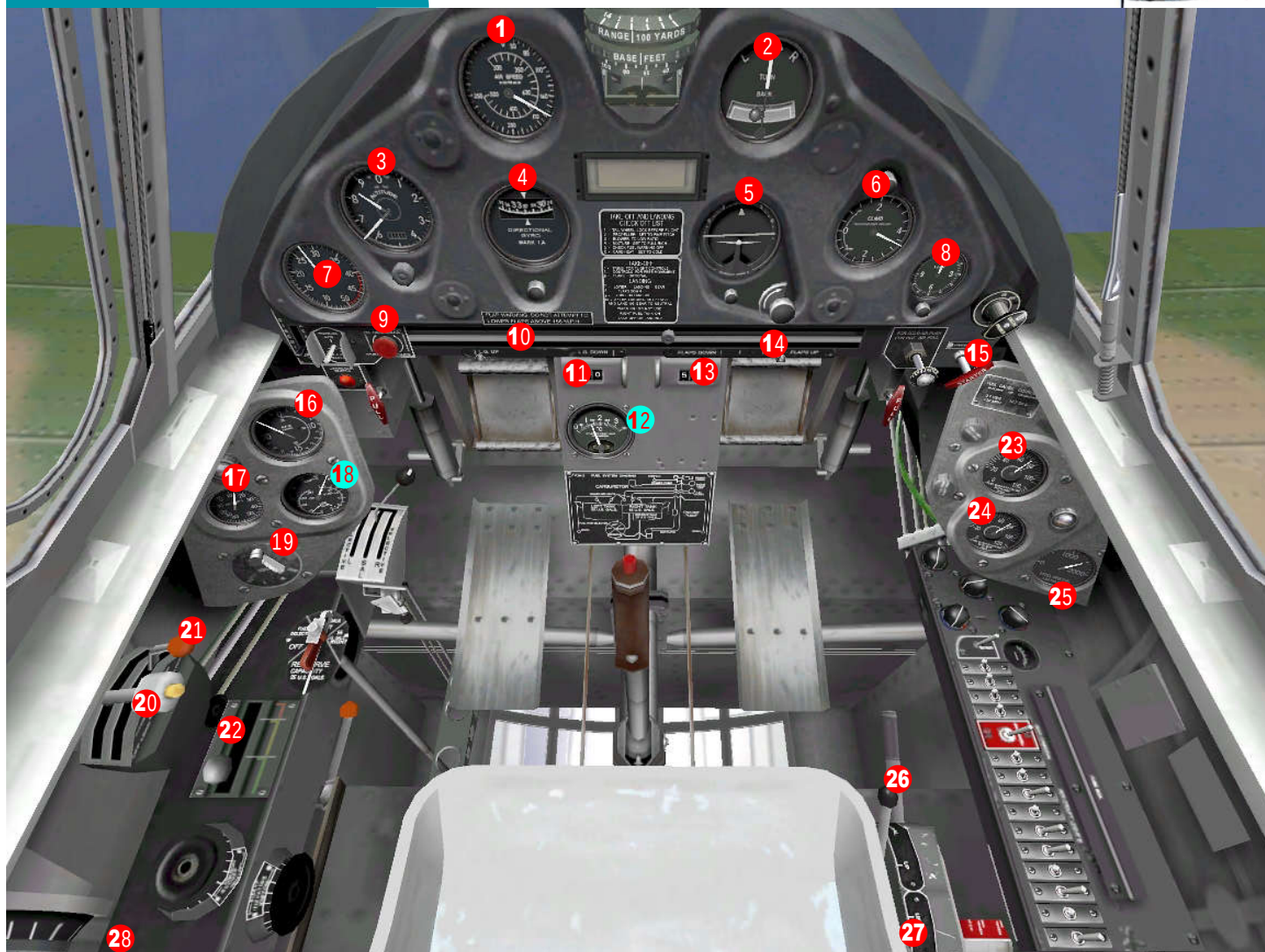
1. Airspeed indicator
2. Magnetic compass
3. Turn and bank indicator
4. Altimeter
5. Directional gyro
6. Artificial horizon
7. Rate-of-climb indicator
8. Manifold pressure gage
9. Clock
10. Propeller pitch lever
11. Landing gear position indicator
12. Left fuselage MG ammunition counter
13. Cylinder head temperature gage
14. Right fuselage MG ammunition counter
15. Flaps position indicator
16. Engine starter
17. Tachometer
18. Free air temperature gage
19. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
20. Engine ignition switch
21. Throttle
22. Mixture lever: rear position - leaner mixture  
front position - richer mixture
23. Supercharger lever: rear position - stage 1  
front position - stage 2
24. Fuel gage (left tank)
25. Fuel gage (right tank)
26. Hydraulic pressure gage
27. Landing gear lever
28. Flaps lever
29. Tail wheel lock lever (not visible)



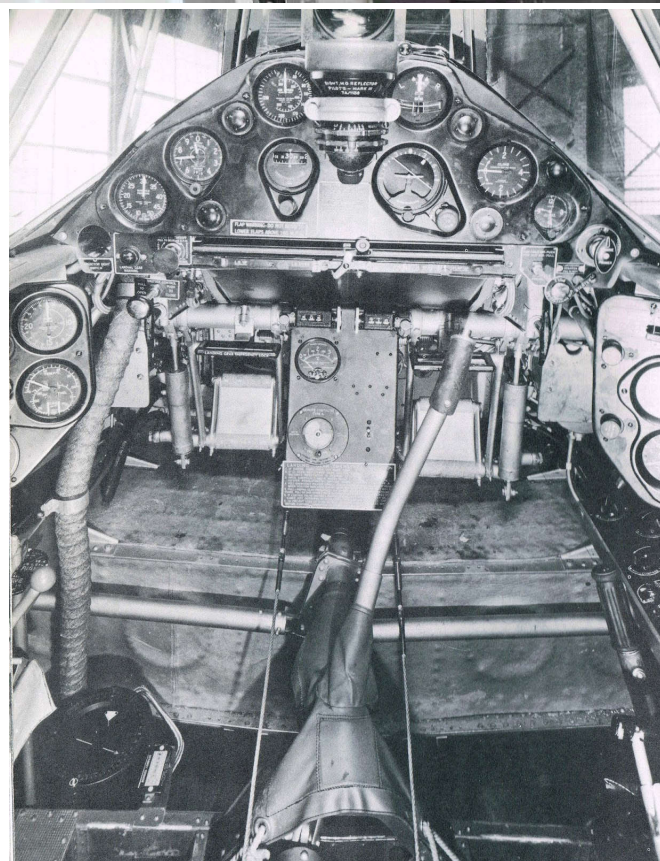
F2A-2 ([http://low45p.blogspot.fr/2013/02/brewster-buffalo\\_3.htm](http://low45p.blogspot.fr/2013/02/brewster-buffalo_3.htm))



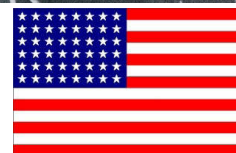




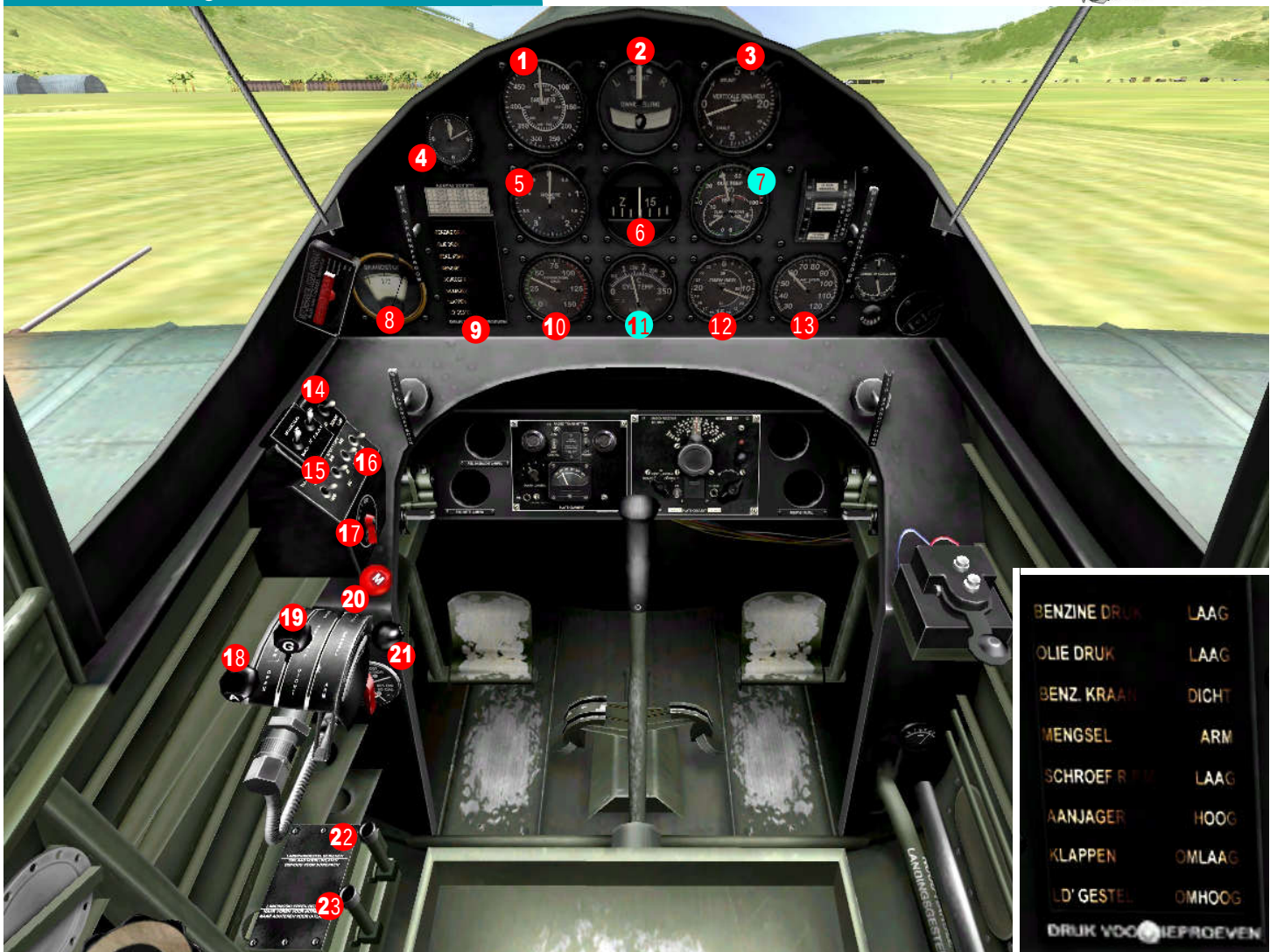
1. Airspeed indicator
2. Turn and bank indicator
3. Altimeter
4. Directional gyro
5. Artificial horizon
6. Rate-of-climb indicator
7. Manifold pressure gage
8. Clock
9. Propeller pitch lever
10. Landing gear position indicator
11. Left fuselage MG ammunition counter
12. Cylinder head temperature gage
13. Right fuselage MG ammunition counter
14. Flaps position indicator
15. Engine starter
16. Tachometer
17. Free air temperature gage
18. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
19. Engine ignition switch
20. Throttle
21. Mixture lever: rear position - leaner mixture  
front position - richer mixture
22. Supercharger lever: rear position - stage 1  
front position - stage 2
23. Fuel gage (left tank)
24. Fuel gage (right tank)
25. Hydraulic pressure gage
26. Landing gear lever
27. Flaps lever
28. Tail wheel lock lever (not visible)



Buffalo Mk. 1 ([http://cw45p.blogspot.fr/2013/02/brewster-buffalo\\_3.html](http://cw45p.blogspot.fr/2013/02/brewster-buffalo_3.html))



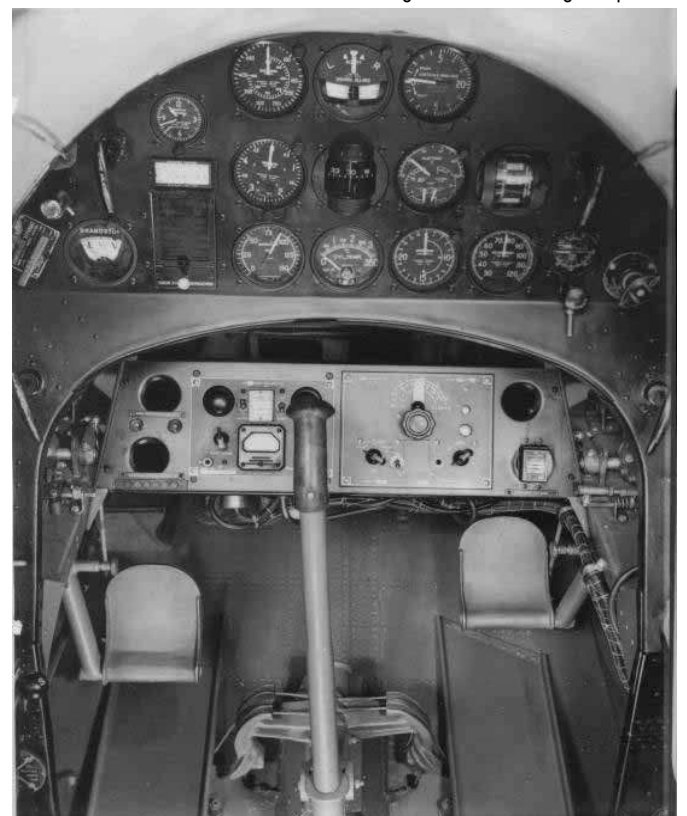




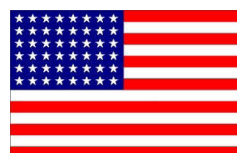
|                      |        |
|----------------------|--------|
| BENZINE DRUK         | LAAG   |
| OLIE DRUK            | LAAG   |
| BENZ. KRAAN          | DICHT  |
| MENGSEL              | ARM    |
| SCHROEF RPM          | LAAG   |
| AANJAGER             | HOOG   |
| KLAPPEN              | OMLAAG |
| LD' GESTEL           | OMHOOG |
| DRUK VOOR OEFENINGEN |        |

Warning & indicator lights panel

1. Airspeed indicator
2. Turn and bank indicator
3. Rate-of-climb indicator
4. Clock
5. Altimeter
6. Magnetic compass
7. Engine gage: oil temperature (top)  
oil pressure (left) - fuel pressure (right)
8. Fuel gage
9. Warning & indicator lights panel:  
Fuel pressure "BENZINE DRUK" low "LAAG" (power  $\pm 20\%$ )  
Oil pressure "OLIE DRUK" low "LAAG" (power  $\pm 20\%$ )  
Fuel valve "BENZ. KRAAN" closed "DICHT" (fuel ran out)  
Mixture "MENGSEL" poor "ARM" (lean)  
Propeller RPM "SCHROEF RPM" low "LAAG" (pitch  $< 10\%$ )  
Supercharger "AANJAGER" high "HOOG" (stage 2)  
Flaps "KLAPPEN" down "OMLAAG" (from combat position)  
Landing gear "LD' GESTEL" up "OMHOOG"
10. Hydraulic pressure gage
11. Cylinder head temperature gage
12. Tachometer
13. Manifold pressure gage
14. Instrument light switch
15. Position lights switch
16. Landing light switch
17. Engine ignition switch
18. Supercharger lever: rear position - stage 1  
front position - stage 2
19. Throttle
20. Mixture lever: rear position - leaner mixture  
front position - richer mixture
21. Propeller pitch lever
22. Landing gear lever
23. Flaps lever



CW-21B (<http://www.pprune.org/>)





# North American B-25J-1-NA Mitchell

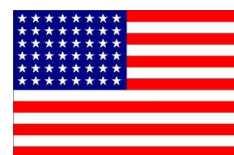


1. Airspeed indicator
2. Altimeter
3. Directional gyro
4. Turn and bank indicator
5. Artificial horizon
6. Rate-of-climb indicator
7. Radio compass
8. Suction gage
9. Clock
10. ILS indicator
11. Remote indicating compass
12. Left & right engine manifold pressure gage
13. Left & right engine fuel pressure gage
14. Left & right engine carburetor air temperature gage
15. Left & right engine cylinder head temperature gage
16. Left & right engine tachometer
17. Left & right engine oil pressure gage
18. Left & right engine oil temperature gage
19. Free air temperature gage
20. Fuel gage (auxiliary tank)
21. Fuel gage (front tanks)
22. Fuel gage (rear tanks)
23. Landing gear position indicator: green-down  
red-in transition  
no light-up
24. Flaps and landing gear position indicator
25. Left engine throttle
26. Right engine throttle
27. Left side propeller pitch lever
28. Right side propeller pitch lever
29. Left engine supercharger lever: down position - stage 1  
up position - stage 2
30. Right engine supercharger lever: down position - stage 1  
up position - stage 2
31. Flaps lever

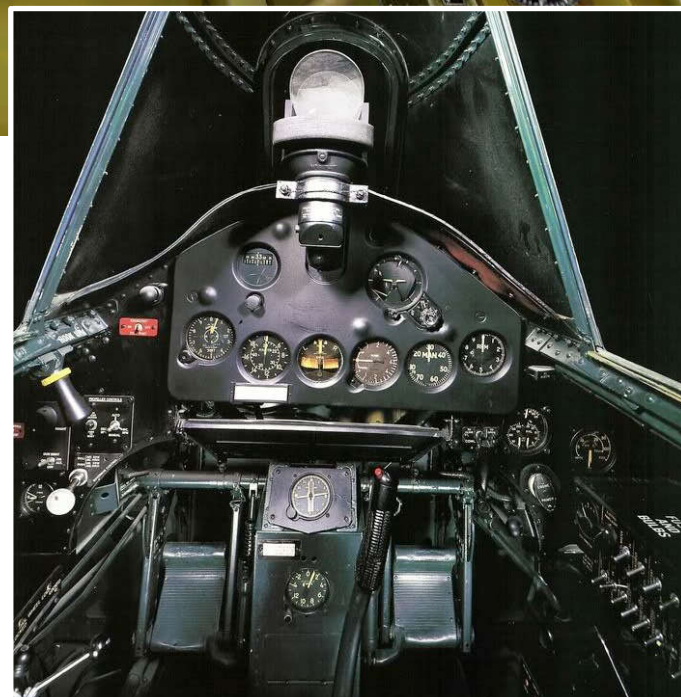


B-25 J (<http://imageshack.us/photo/my-images/135/cockpits2t.jpg/>)

32. Right engine radiator lever: rear position - closed  
front position - open
33. Left engine radiator lever: rear position - closed  
front position - open
34. Landing gear lever



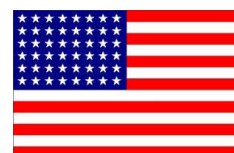




1. Directional gyro
2. Artificial horizon
3. Cylinder head **temperature** gage
4. Altimeter
5. Airspeed indicator
6. Turn and bank indicator
7. Rate-of-climb indicator
8. Manifold pressure gage
9. Tachometer
10. Outside temperature gage
11. Arrestor hook lever
12. Clock
13. Propeller pitch lever
14. Remote indicating compass
15. Radiator handle
16. Engine gage: **oil temperature** (top)  
oil pressure (left)  
fuel pressure (right)
17. Fuel gage
18. Aileron trim wheel
19. Throttle
20. Mixture lever
21. Tail wheel lock lever: front position - locked  
rear position - unlocked
22. Landing gear handcrank
23. Landing gear position indicator
24. Rudder trim wheel
25. Elevator trim lever
26. LG handcrank ratchet release lever
27. Flaps lever
28. Supercharger lever: front position - stage 1  
rear position - stage 3  
middle position - stage 2



F4F ([http://pacificstorm.net/en/articles/us\\_fighters1.php](http://pacificstorm.net/en/articles/us_fighters1.php))





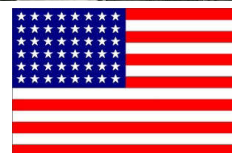
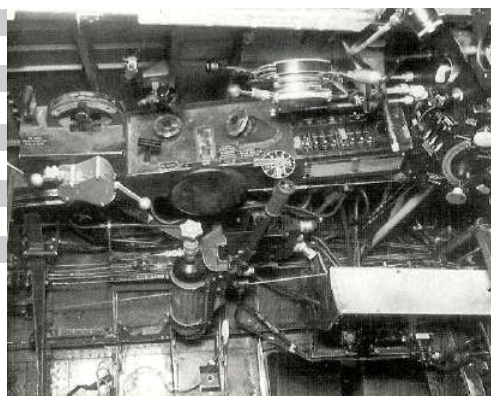
# Chance Vought Corsair Mk. I



1. Stall warning light
2. Altimeter
3. Directional gyro
4. Remote indicating compass
5. Artificial horizon
6. Clock
7. Oil temperature gage
8. Tachometer
9. Manifold pressure gage
10. Airspeed indicator
11. Turn and bank indicator
12. Rate-of-climb indicator
13. Cylinder head temperature gage
14. Oil pressure gage
15. Fuel pressure gage
16. Flaps lever
17. Landing gear / Dive brake position indicator
18. Fuel gage
19. Hydraulic pressure gage
20. Voltmeter
21. Fuel tank pressure gage
22. Throttle
23. Mixture lever
24. Supercharger lever
25. Landing gear / Dive brake lever
26. Propeller pitch lever
27. Aileron trim wheel
28. Elevator trim wheel
29. Rudder trim wheel
30. Wing fold lever
31. Arrestor hook lever



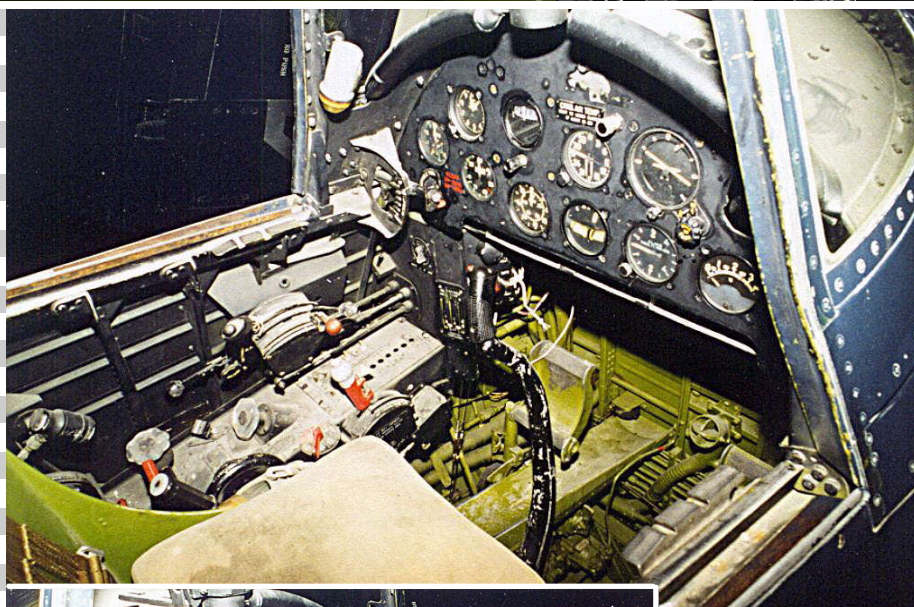
F4U-1Early



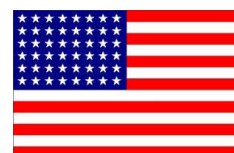




1. Water injection (ADI) warning light
2. Stall warning light
3. Altimeter
4. Directional gyro
5. Remote indicating compass
6. Artificial horizon
7. Clock
8. Oil temperature gage
9. Tachometer
10. Manifold pressure gage
11. Airspeed indicator
12. Turn and bank indicator
13. Rate-of-climb indicator
14. Cylinder head temperature gage
15. Oil pressure gage
16. Fuel pressure gage
17. Flaps lever
18. Landing gear / Dive brake position indicator
19. Fuel gage
20. Hydraulic pressure gage
21. Voltmeter
22. Fuel tank pressure gage
23. Throttle
24. Mixture lever
25. Supercharger lever
26. Landing gear / Dive brake lever
27. Propeller pitch lever
28. Aileron trim wheel
29. Elevator trim wheel
30. Rudder trim wheel
31. Wing fold lever
32. Arrestor hook lever



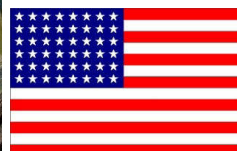
F4U ([http://club9xx.free.fr/F4u\\_cockpit/page\\_01.htm](http://club9xx.free.fr/F4u_cockpit/page_01.htm))





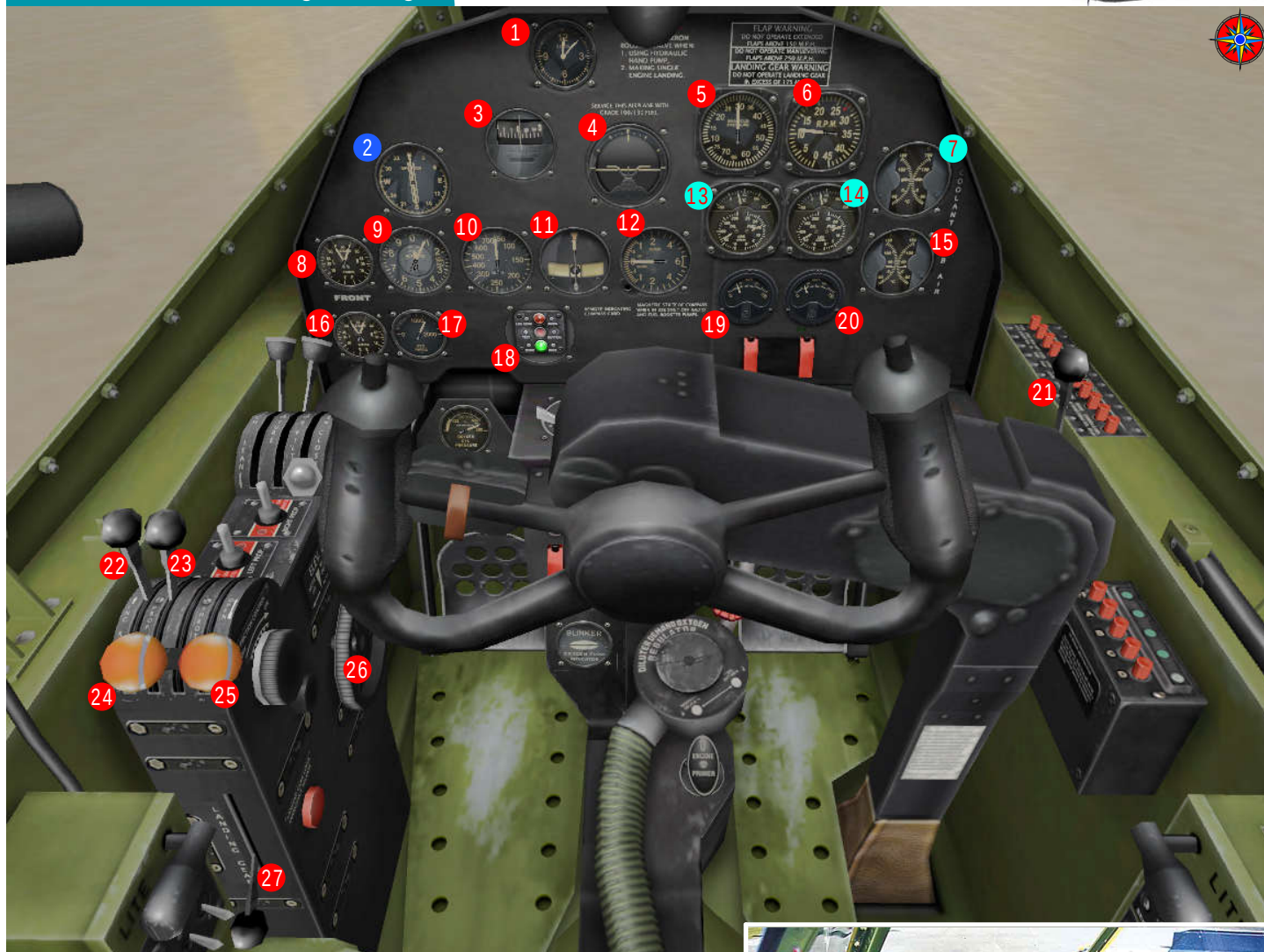


F6F3 (<http://www.thescaleinfo/news/publish/Hellcat-Cockpit-photos.shtml>)



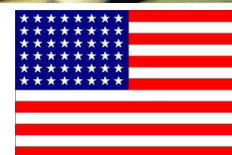
1. Clock
2. Directional gyro
3. Remote indicating compass
4. Artificial horizon
5. Altimeter
6. Airspeed indicator
7. Turn and bank indicator
8. Rate-of-climb indicator
9. Tachometer
10. Manifold pressure gage
11. Flaps and landing gear position indicator
12. Landing gear lever
13. Ammunition counter
14. Cylinder head temperature gage
15. Oil-in temperature gage
16. Oil pressure gage
17. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
18. Flaps switch
19. Throttle
20. Supercharger lever: front position - stage 1  
middle position - stage 2  
rear position - stage 3
21. Mixture lever: rear position - 100%  
front position - 120%
22. Propeller pitch lever
23. Radiator levers
24. Rudder trim wheel
25. Elevator trim wheel



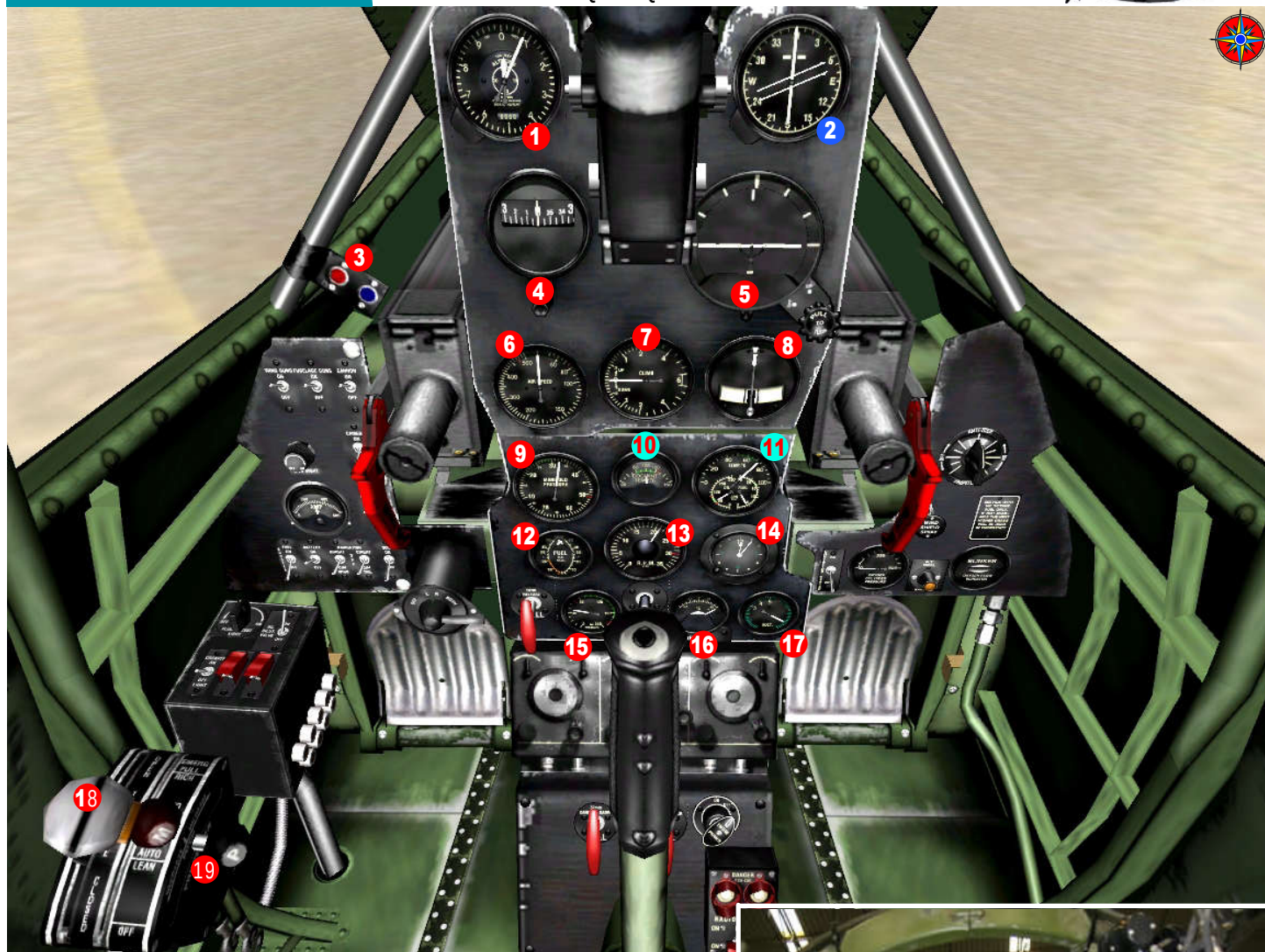


P-38 ([http://www.flickr.com/photos/jamf\\_photos/3412045730/](http://www.flickr.com/photos/jamf_photos/3412045730/))

1. Clock
2. Remote indicating compass
3. Directional gyro
4. Artificial horizon
5. Left & right engine manifold pressure gage
6. Left & right engine tachometer
7. Left & right engine coolant temperature gage
8. Fuel gage (reserve front tank)
9. Altimeter
10. Airspeed indicator
11. Turn and bank indicator
12. Rate-of-climb indicator
13. Left engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
14. Right engine gage (as before)
15. Left & right engine carburetor air temperature gage
16. Fuel gage (main rear tank)
17. Hydraulic pressure gage
18. Landing gear position indicator: green - down  
no light - in transition  
red - up
19. Left engine ammeter
20. Right engine ammeter
21. Flaps lever
22. Left engine propeller pitch lever
23. Right engine propeller pitch lever
24. Left engine throttle
25. Right engine throttle
26. Elevator trim wheel
27. Landing gear lever





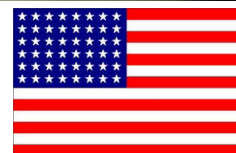
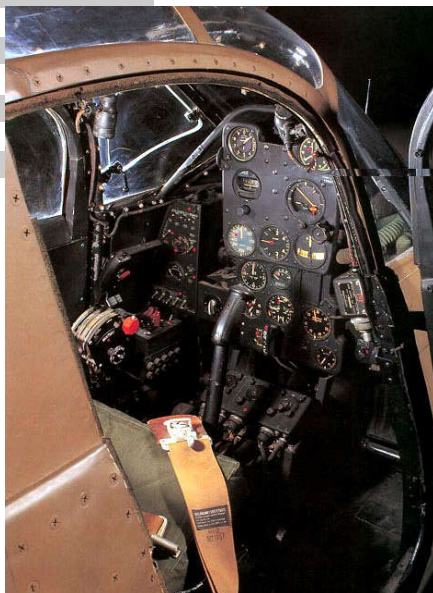


1. Altimeter
2. Remote indicating compass
3. Landing gear warning light (throttle  $\leq$  30%)
4. Directional gyro
5. Artificial horizon
6. Airspeed indicator
7. Rate-of-climb indicator
8. Turn and bank indicator
9. Manifold pressure gage
10. Coolant temperature gage
11. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
12. Fuel gage
13. Tachometer
14. Clock
15. Gear box oil pressure gage
16. Carburetor air temperature gage
17. Suction gage
18. Throttle
19. Propeller pitch lever

P-39Q (<http://imageshack.us/photo/my-images/63/177813421.jpg>)



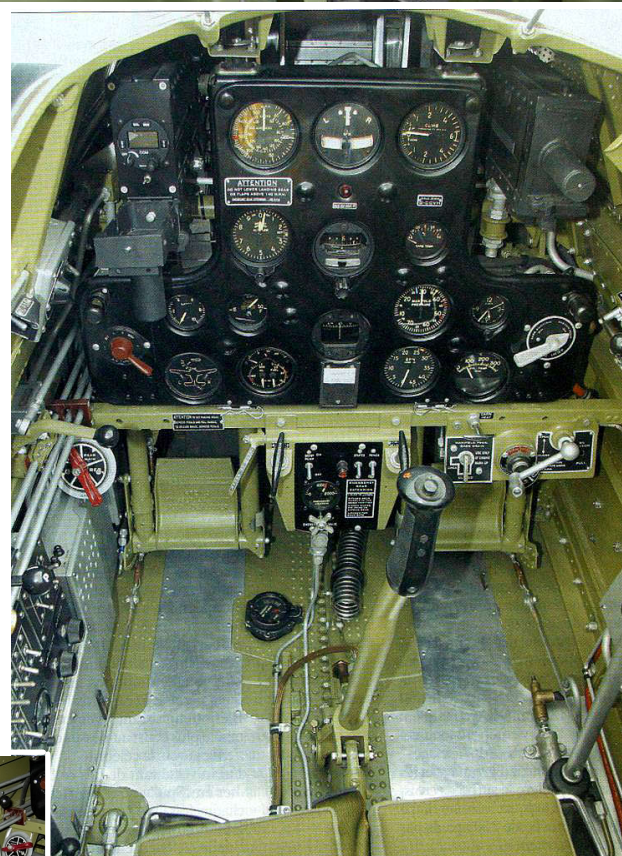
P-39Q (<http://war-by-airforce.com/articles/Cockpits.htm>)



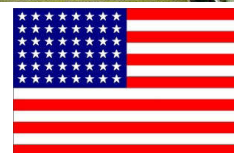




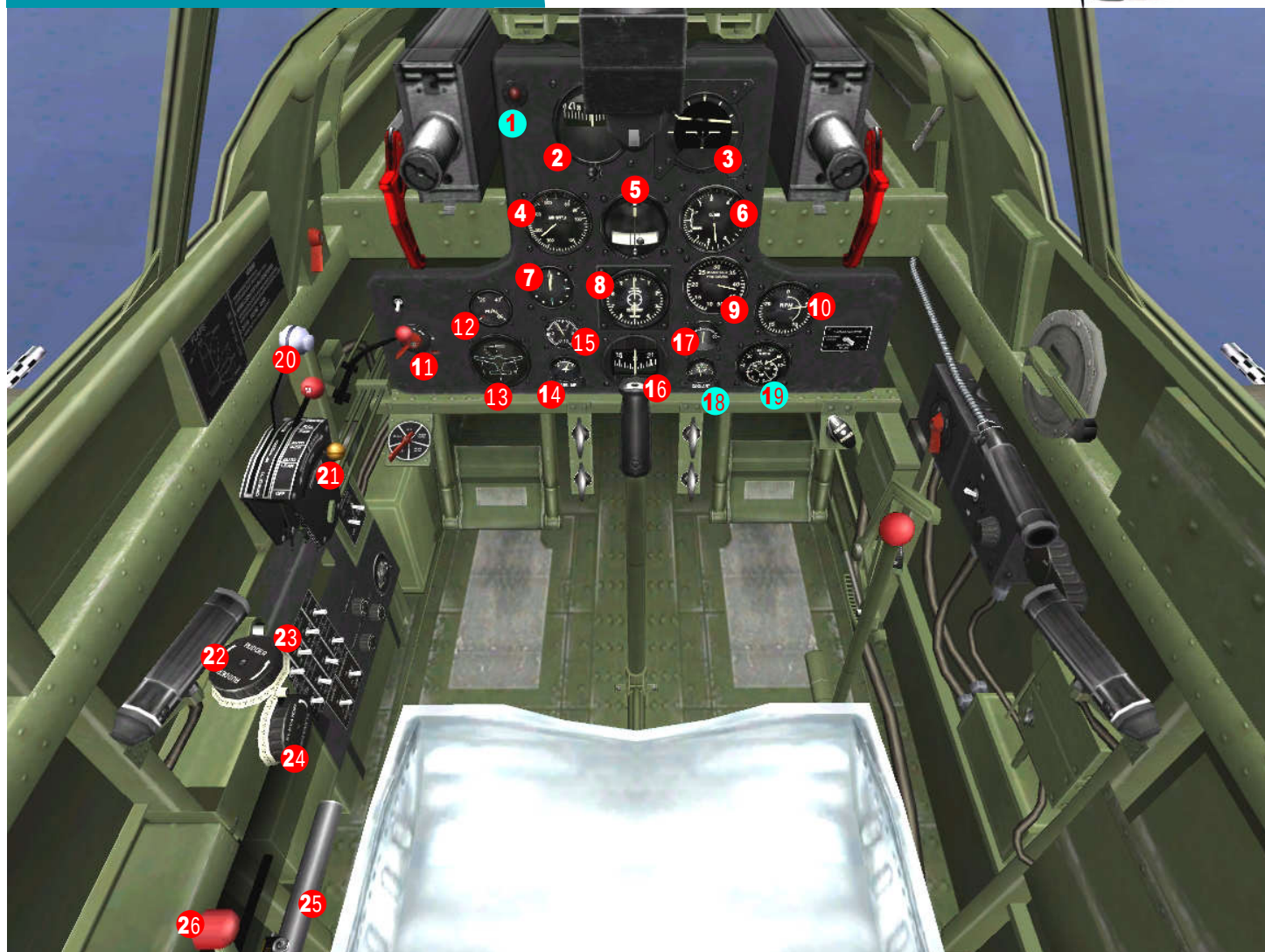
1. Ammunition counter (left & right nose MG)
2. Airspeed indicator
3. Turn and bank indicator
4. Fuel press warning light: lit at total fuel < 77% - off at 75% (Front Wing)  
(Lit when fuel press < 12 PSI) lit at total fuel < 37% - off at 35% (Rear Wing)  
lit at total fuel < 13% (Fus. Res.)
5. Variometer
6. Altimeter
7. Directional gyro
8. Carburetor air temperature gage
9. Engine ignition switch
10. Fuel pressure gage
11. Fuel gage (fuselage tank - 35 < total fuel < 0%)
12. Magnetic compass
13. Manifold pressure gage
14. Clock
15. Fuel selector valve: Front Wing (top right - 100 < total fuel < 76%)  
(Automatic switching) Rear Wing (bottom right - 75 < total fuel < 36%)  
Fus. Res. (bottom left - 35 < total fuel < 0%)
16. Flaps and landing gear position indicator
17. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
18. Tachometer
19. Cylinder head temperature gage
20. Radiator handle
21. Canopy handle
22. Throttle (inverted in French version)
23. Mixture lever: front position - rich / rear position - lean
24. Propeller pitch lever
25. Fuel gage (front & rear wing tanks - 100 < total fuel < 36%)
26. Position lights switch
27. Instrument light switch
28. Rudder trim wheel
29. Elevator trim wheel
30. Landing gear lever
31. Flaps lever



H 75-A (<http://www.aircraftwalkarounds.be/>)



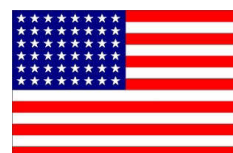




1. **Coolant temperature warning light**
2. Directional gyro
3. **Artificial horizon**
4. **Airspeed indicator**
5. **Turn and bank indicator**
6. **Rate-of-climb indicator**
7. **Clock**
8. **Altimeter**
9. **Manifold pressure gage**
10. **Tachometer**
11. **Engine ignition switch**
12. **Fuel gage**
13. **Flaps and landing gear position indicator**
14. **Carburetor air temperature gage**
15. **Suction gage**
16. **Magnetic compass**
17. **Free air temperature gage**
18. **Coolant temperature gage**
19. **Engine gage: oil temperature (top)**  
**oil pressure (left)**  
**fuel pressure (right)**
20. **Throttle**
21. **Propeller pitch lever**
22. **Rudder trim wheel**
23. **Aileron trim neutral electrical switch**
24. **Elevator trim wheel**
25. **Landing gear lever**
26. **Flaps lever**



P-40B (<http://lend-lease.airforce.ru/english/index.htm>)

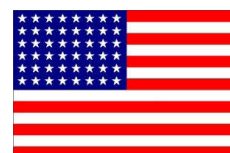




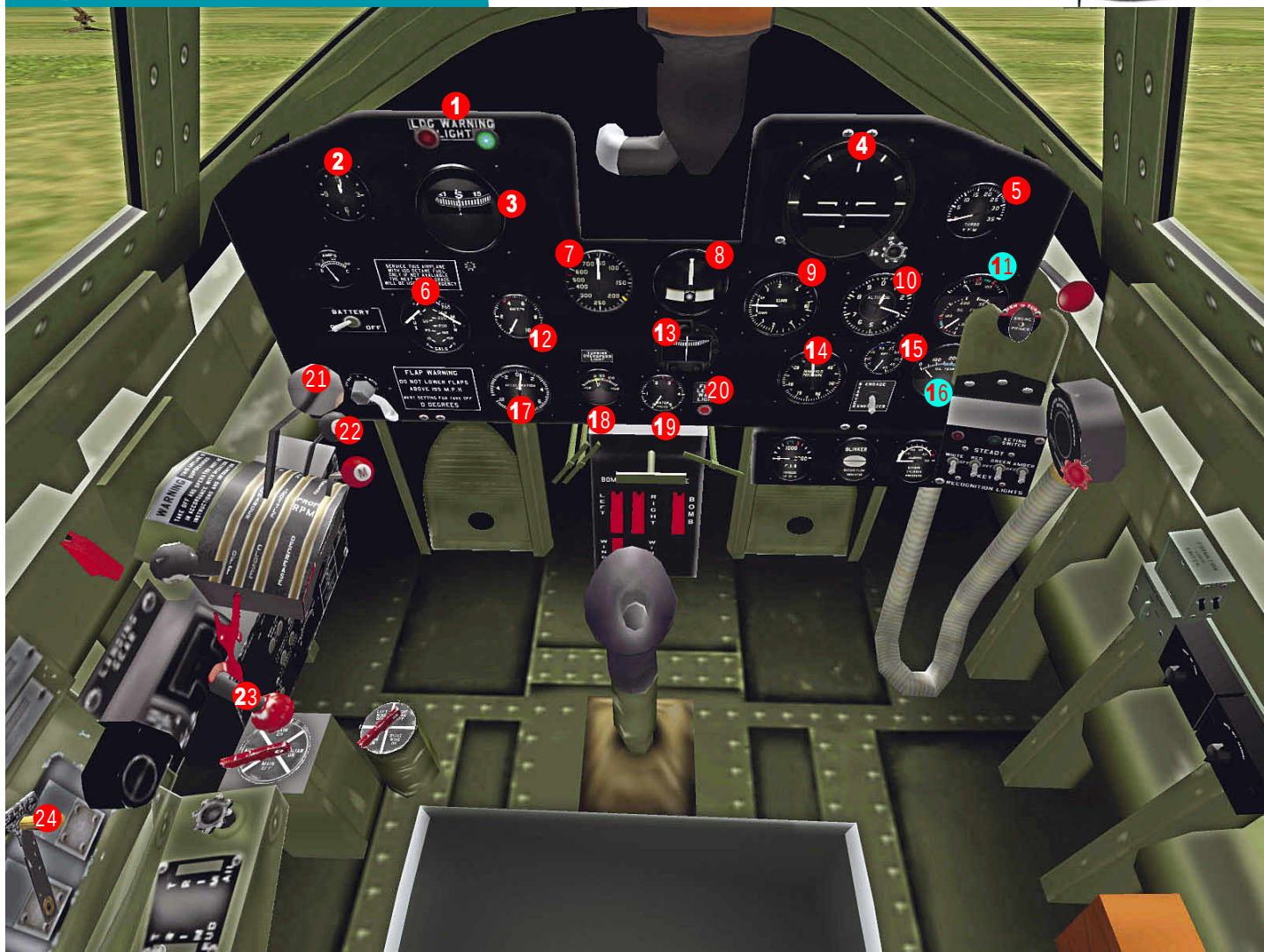


1. Low fuel warning light (total fuel < 10%)
2. Directional gyro
3. Artificial horizon
4. Coolant temperature warning light
5. Landing gear failure warning light
6. Turn and bank indicator
7. Airspeed indicator
8. Altimeter
9. Rate-of-climb indicator
10. Manifold pressure gage
11. Carburetor air temperature gage
12. Coolant temperature gage
13. Flaps and landing gear position indicator
14. Clock
15. Tachometer
16. Magnetic compass
17. Oil pressure gage
18. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
19. Position lights switch
20. Instrument light switch
21. Throttle
22. Mixture lever  
(on M-105 field mod. only)
23. Propeller pitch lever

P-40E (<http://war-by-airforce.com/articles/Cockpits.html>)







1. Landing gear **position indicator**: green - down  
no light - in transition  
red - up

2. Clock

3. Directional gyro

4. **Artificial horizon**

5. Turbo-supercharger tachometer

6. **Fuel gage**

7. **Airspeed indicator**

8. **Turn and bank indicator**

9. Rate-of-climb indicator

10. **Altimeter**

11. **Engine gage**: **oil temperature** (top)  
**oil pressure** (left)  
**fuel pressure** (right)

12. Suction gage

13. **Magnetic compass**

14. **Manifold pressure gage**

15. **Engine tachometer**

16. **Cylinder head temperature gage**

17. **Accelerometer**

18. Carburetor air temperature gage

19. Water (ADI) pressure gage

20. **Low fuel warning light** (total fuel < 16%)

21. **Throttle**

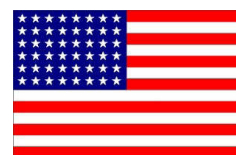
22. **Propeller pitch lever**

23. Landing gear lever

24. Flaps lever



P-47D (<http://lo.gensso.perso.neuf.fr/cockpit.htm>)







1. Landing gear **position indicator**: green - down  
no light - in transition  
red - up

2. Clock

3. Directional gyro

4. Artificial horizon

5. Carburetor air temperature gage

6. Airspeed indicator

7. Altimeter

8. Turn and bank indicator

9. Rate-of-climb indicator

10. Magnetic compass

11. Manifold pressure gage

12. Engine tachometer

13. Engine gage: oil **temperature** (top)  
oil pressure (left)  
fuel pressure (right)

14. Turbo-supercharger tachometer

15. Accelerometer

16. Suction gage

17. Water (ADI) pressure gage

18. Low fuel warning light (total fuel < 16%)

19. Fuel gage

20. Cylinder head **temperature** gage

21. Propeller pitch lever

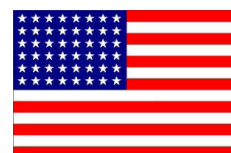
22. Throttle

23. Landing gear lever

24. Flaps lever



P-47D (<http://www.w2aircraft.net/>)



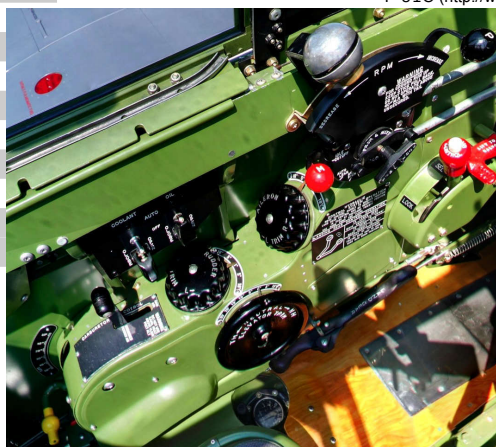




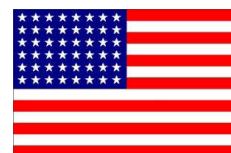
1. Remote indicating compass
2. Clock
3. Suction gage
4. Manifold pressure gage
5. Altimeter
6. Directional gyro
7. Artificial horizon
8. Tachometer
9. Landing gear position indicator: green - down  
no light - in transition  
red - up
10. Airspeed indicator
11. Turn and bank indicator
12. Rate-of-climb indicator
13. Coolant temperature gage
14. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
15. Supercharger warning light
16. Propeller pitch lever
17. Throttle
18. Rudder trim wheel
19. Aileron trim wheel
20. Elevator trim wheel
21. Landing gear lever
22. Flaps lever
- 23 & 24. Left / Right fuel gage  
(3rd fuel gage at left hand side of headrest)



P-51C (<http://www.506thfightergroup.org/p51.asp>)



P-51C (<http://www.redtail.org>)





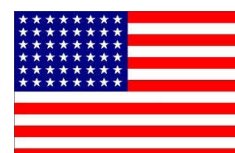
# North American P-51D-5-NT Mustang



1. Remote indicating compass
2. Clock
3. Suction gage
4. Manifold pressure gage
5. Airspeed indicator
6. Directional gyro
7. Artificial horizon
8. Coolant temperature gage
9. Tachometer
10. Altimeter
11. Turn and bank indicator
12. Rate-of-climb indicator
13. Carburetor air temperature gage
14. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
15. Landing gear position indicator: green - down  
no light - in transition  
red - up
16. Supercharger warning light
17. Propeller pitch lever
18. Throttle
19. Rudder trim wheel
20. Aileron trim wheel
21. Elevator trim wheel
22. Landing gear lever
23. Flaps lever
24. Fuel gage (3rd fuel gage at left hand side of headrest)



P-51D-5-NT



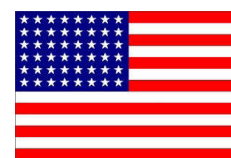


# North American P-51D-20-NA Mustang



1. K-14 mode selector knob
2. K-14 gunsight wingspan selector
3. Remote indicating compass
4. Clock
5. Suction gage
6. Manifold pressure gage
7. Airspeed indicator
8. Directional gyro
9. Artificial horizon
10. Coolant temperature gage
11. Tachometer
12. Altimeter
13. Turn and bank indicator
14. Rate-of-climb indicator
15. Carburetor air temperature gage
16. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
17. Landing gear position indicator: green - down  
no light - in transition  
red - up
18. Supercharger warning light
19. Propeller pitch lever
20. Throttle
21. Rudder trim wheel
22. Aileron trim wheel
23. Elevator trim wheel
24. Landing gear lever
25. Flaps lever
26. Fuel gage (3rd fuel gage at left hand side of headrest)

P-51D-20NA (<http://undivided.blogspot.com/2007/08/www-aircraft-view-from-cockpit.html>)



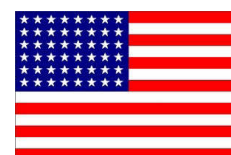


# Bell P-63C-5 Kingcobra

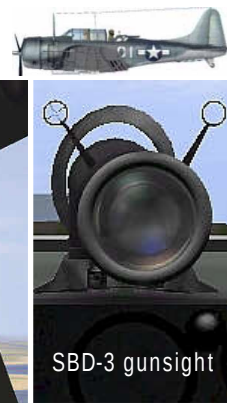


1. Altimeter
2. Bank indicator
3. Remote indicating compass
4. Directional gyro
5. Artificial horizon
6. Suction gage
7. Landing gear position indicator: green - down  
no light - in transition  
red - up
8. Landing gear switch
9. Airspeed indicator
10. Rate-of-climb indicator
11. Turn and bank indicator
12. Carburetor air temperature gage
13. Manifold pressure gage
14. Tachometer
15. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
16. Starter switch
17. Oil system pressure gage
18. Position lights switches
19. Fuel gage
20. Clock
21. Gear box oil pressure gage
22. Coolant temperature gage
23. Landing light switch
24. Cockpit light switch
25. Engine ignition switch
26. Throttle

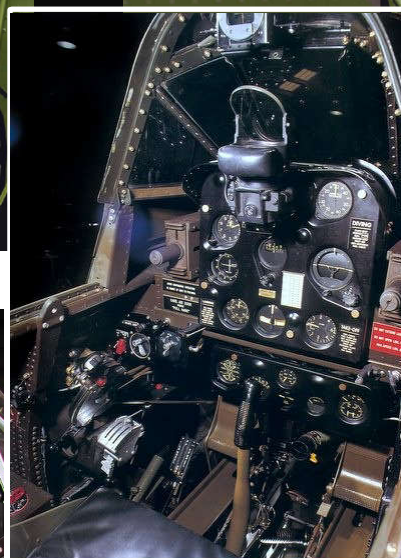
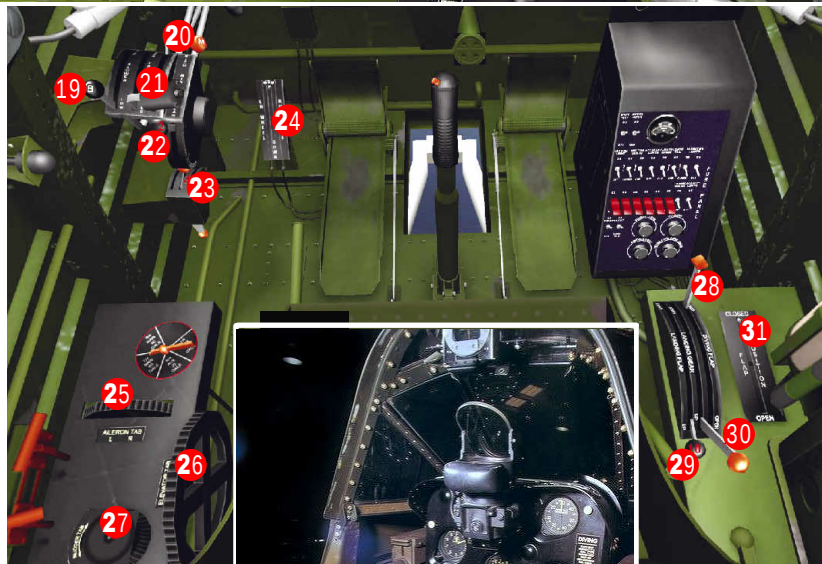
P-63 ([http://www.aventure.de/reno2002/reno02\\_p63cockpit.jpg](http://www.aventure.de/reno2002/reno02_p63cockpit.jpg))





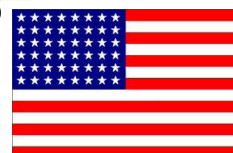


1. Magnetic compass
2. Tachometer
3. Manifold pressure gage
4. Altimeter
5. Directional gyro
6. Artificial horizon
7. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
8. Airspeed indicator
9. Turn and bank indicator
10. Rate-of-climb indicator
11. Engine ignition switch
12. Radiator lever
13. Clock
14. Cylinder head temperature gage
15. Suction gage
16. Gear box oil pressure gage
17. Fuel gage
18. Engine starter
19. Supercharger lever: rear position - stage 1  
front position - stage 2
20. Mixture lever
21. Throttle
22. Propeller pitch lever
23. Bomb release lever
24. Landing gear position indicator
25. Aileron trim wheel
26. Elevator trim wheel
27. Rudder trim wheel
28. Diving flaps lever
29. Flaps lever
30. Landing gear lever
31. Flaps position indicator



SBD-5 (<http://www.wwiivehicles.com/usa/default.asp>)

SBD-3 (<http://www.aircraftresourcecenter.com/>)





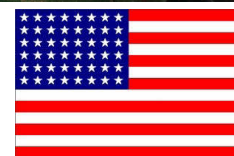
# Lockheed YP-80 Shooting Star



1. K-14 gunsight wingspan selector
2. Landing gear position indicator: green - down  
no light - transition  
red - up
3. Airspeed indicator
4. Directional gyro
5. Artificial horizon
6. Tachometer
7. Altimeter
8. Turn and bank indicator
9. Rate-of-climb indicator
10. Remote indicating compass
11. Burner ring fuel pressure gage
12. Jet temperature gage
13. Emergency fuel pump indicator lights (total fuel < 50%)
14. Elevator trim neutral indicator light
15. Clock
16. Fuselage (main) tank fuel gage
17. Fuselage tank low fuel warning light (total fuel < 13%)
18. Engine fire warning light
19. Rear bearing temperature gage
20. Engine oil pressure gage
21. Accelometer
22. Instrument pressure gage
23. Throttle
24. Engine shut-off lever
25. Landing gear lever



P-80A





# UNION OF SOVIET SOCIALIST REPUBLICS







1. Airspeed indicator

2. Ammeter

3. Altimeter

4. Turn and bank indicator

5. Oil & air pressure gage

6. Engine status 1

7. Engine status 2

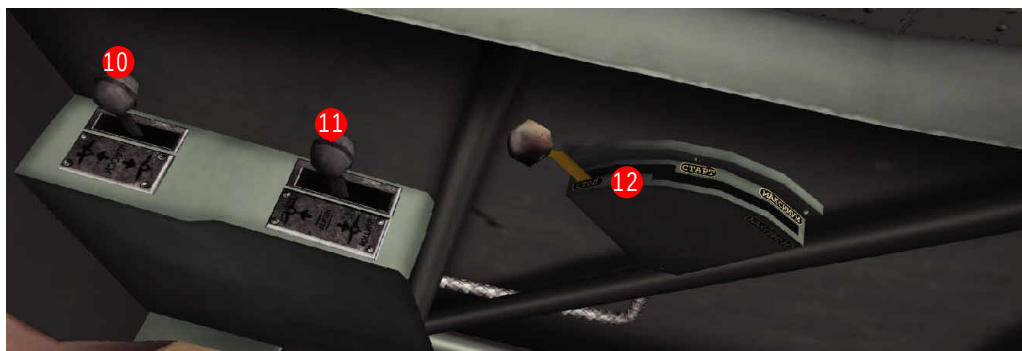
8. Landing gear **position indicator: green - down**  
no light - transition  
red - up

9. Fuel gage

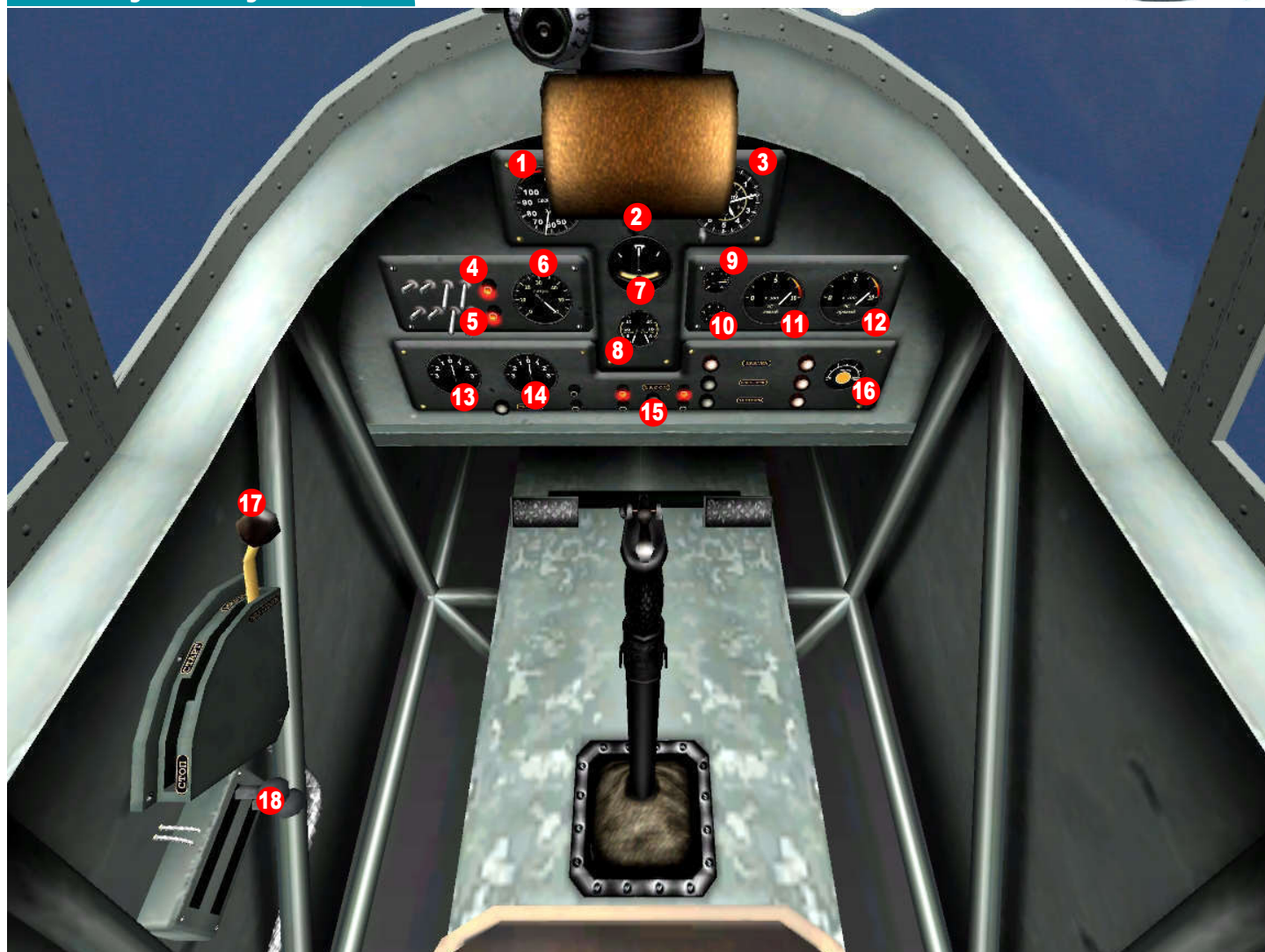
10. Landing gear lever

11. Flaps lever

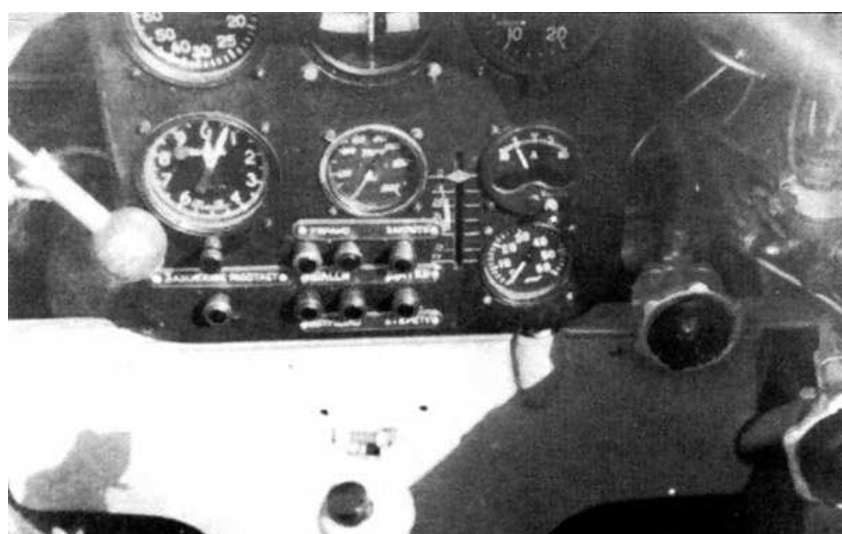
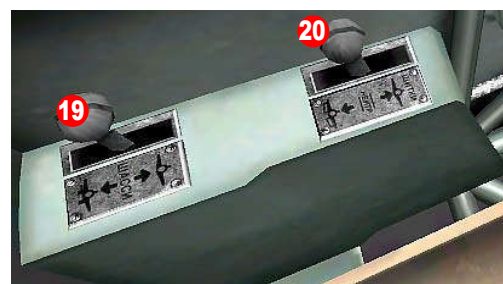
12. Throttle







1. Airspeed indicator
2. Ammeter
3. Altimeter
4. Engine-on light (left wingtip rocket)
5. Engine-on light (right wingtip rocket)
6. Fuel gage (wingtip rockets)
7. Turn and bank indicator
8. Oil & air pressure gage
9. Fuel pressure gage (left wingtip rocket)
10. Fuel pressure gage (right wingtip rocket)
11. Exhaust temperature gage (left wingtip rocket)
12. Exhaust temperature gage (right wingtip rocket)
13. Engine status 1
14. Engine status 2
15. Landing gear position indicator
16. Fuel gage
17. Throttle
18. Wingtip rockets throttle
19. Landing gear lever
20. Flaps lever



BI-6 (<http://www.airwar.ru/aww2.html>)







1. Landing gear position indicator: up - gear down  
down - gear up
2. Airspeed indicator
3. Magnetic compass
4. Variometer
5. Clock
6. Manifold pressure gage
7. Altimeter
8. Turn and bank indicator
9. Artificial horizon
10. Landing gear position indicator: green - down  
no light - transition  
red - up
11. Coolant temperature gage
12. Tachometer
13. Engine oil-in temperature gage
14. Engine gage: oil-out temperature (top)  
oil pressure (left)  
fuel pressure (right)
15. Fuel gage
16. Gear brakes lever
17. Throttle
18. Flaps lever
19. Landing gear lever



IL-2



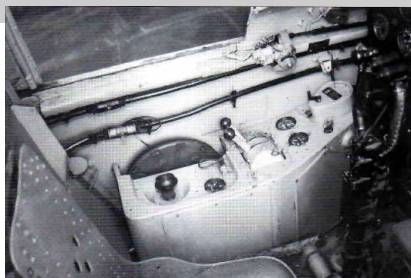




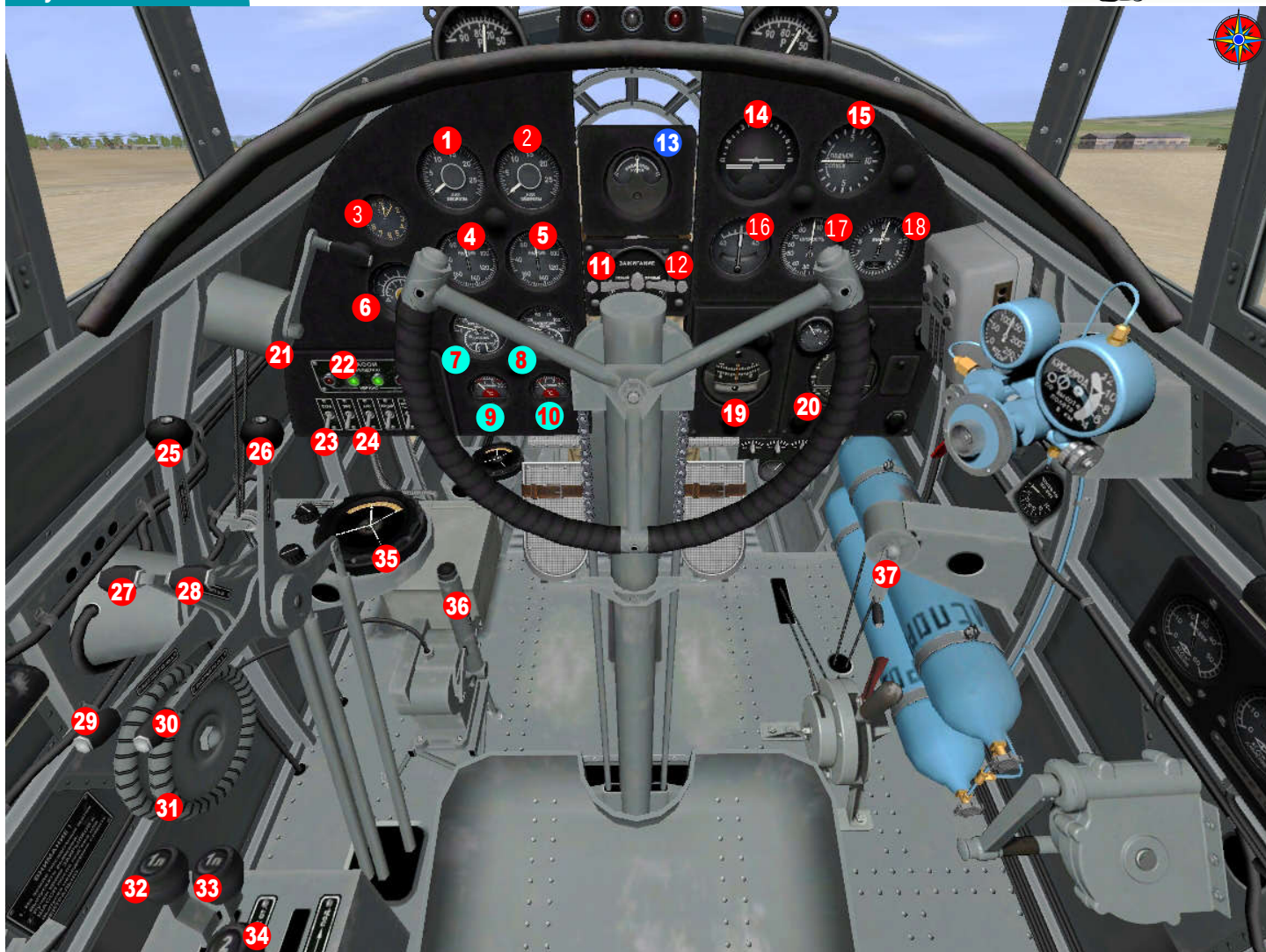
1. Landing gear position indicator: up - gear down  
down - gear up
2. Airspeed indicator
3. Magnetic compass
4. Variometer
5. Clock
6. Manifold pressure gage
7. Altimeter
8. Turn and bank indicator
9. Artificial horizon
10. Landing gear position indicator: green - down  
no light - transition  
red - up
11. Coolant temperature gage
12. Tachometer
13. Engine oil-in temperature gage
14. Engine gage: oil-out temperature (top)  
oil pressure (left)  
fuel pressure (right)
15. Fuel gage
16. Gear brakes lever
17. Throttle
18. Flaps lever
19. Landing gear lever



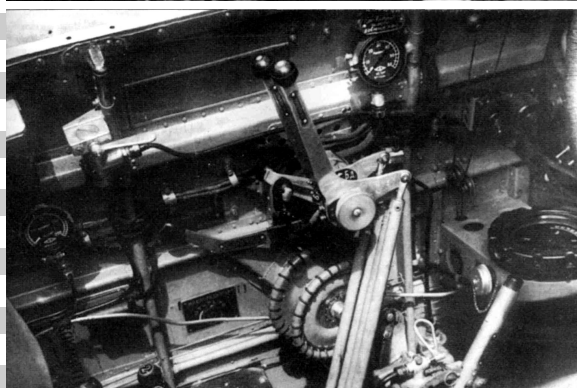
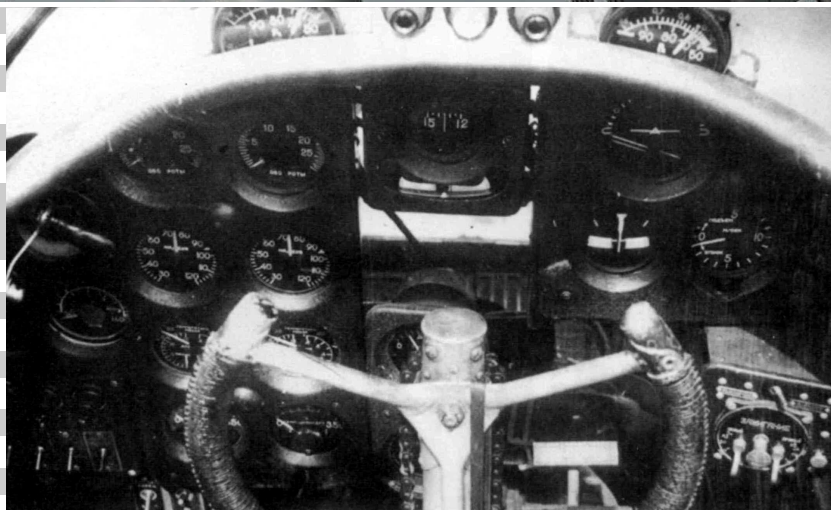
IL-2 3M







1. Left engine tachometer
2. Right engine tachometer
3. Clock
4. Left engine manifold pressure gage
5. Right engine manifold pressure gage
6. Fuel gage
7. Left engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
8. Right engine gage (as before)
9. Left engine cylinder head temperature
10. Right engine cylinder head temperature
11. Left engine ignition switch
12. Right engine ignition switch
13. Homing indicator
14. Artificial horizon
15. Variometer
16. Turn and bank indicator
17. Airspeed indicator
18. Altimeter
19. Directional gyro & bank indicator
20. Artificial horizon
21. Aileron trim handle
22. Landing gear position indicator
23. Landing light switch
24. Position lights switch
25. Left engine throttle
26. Right engine throttle
27. Left engine propeller pitch lever
28. Right engine propeller pitch lever
29. Left engine mixture lever
30. Right engine mixture lever
31. Elevator trim wheel
32. Left engine supercharger lever: front position - stage 2
33. Right engine supercharger lever (as before)



34. Flaps lever
35. Repeater compass
36. Landing gear lever
37. Rudder trim handle





# Ilyushin IL-10 Beast



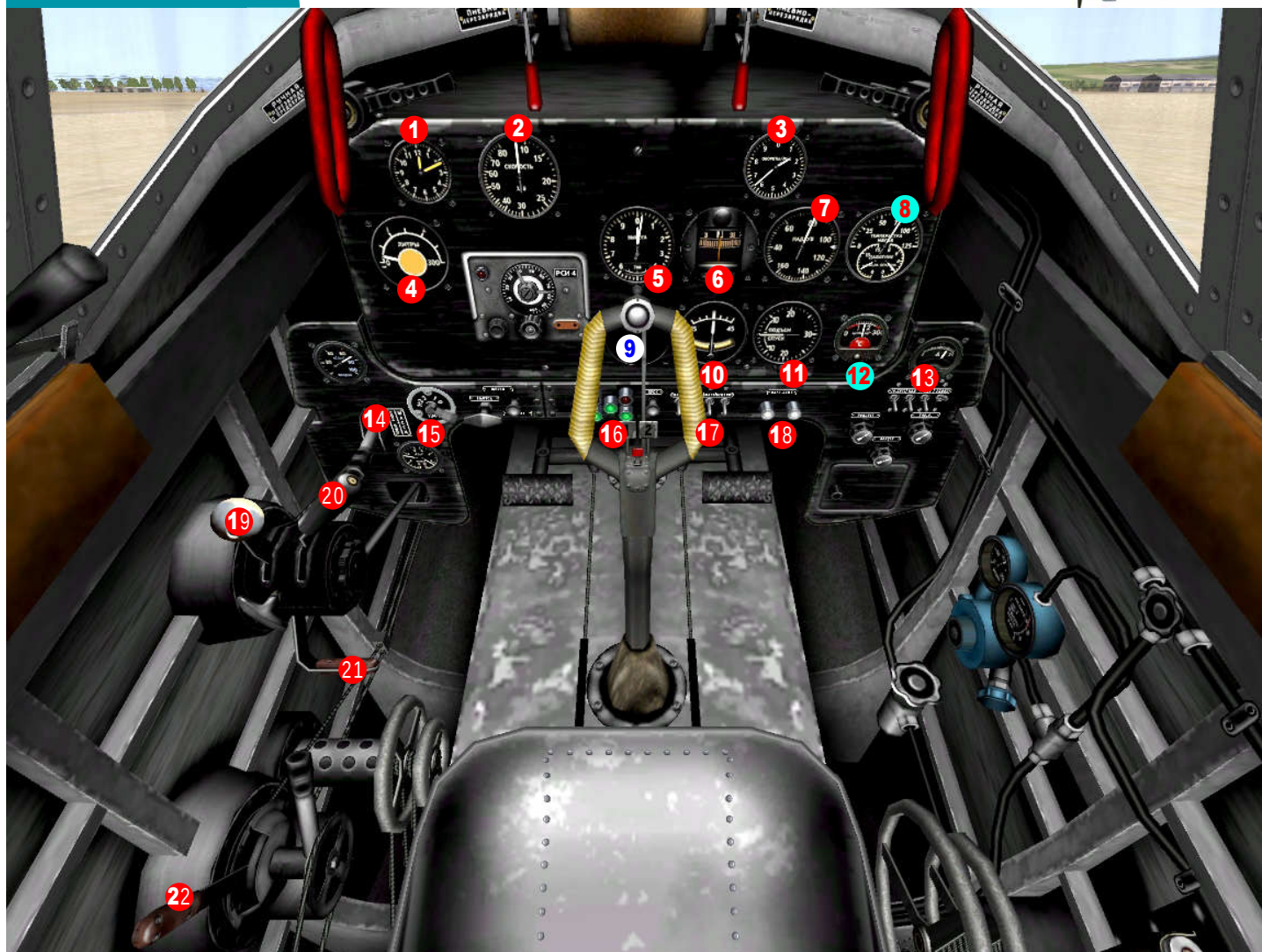
1. Airspeed indicator
2. Repeater compass
3. Ammeter
4. Guns charged indicator light
5. Homing indicator
6. Altimeter
7. Variometer
8. Artificial horizon / turn and bank indicator
9. Left MG & cannon ammunition counters & warning lights
10. Right MG & cannon ammunition counters & warning lights
11. Landing gear position indicator
12. Clock
13. Tachometer
14. Manifold pressure gage
15. Engine oil-in temperature gage
16. Coolant temperature gage
17. Engine gage: oil-out temperature (top)  
oil pressure (left)  
fuel pressure (right)
18. Oil radiator position indicator
19. Water radiator position indicator
20. Fuel gage
21. Engine ignition switch
22. External ordnance status lights: upper row - belly bombs  
(switched on - no bomb) lower row - wing bombs
23. Bomb bay opening door warning light
24. Throttle
25. Mixture lever
26. Propeller pitch lever
27. Brakes pressure gage
28. Compressed air pressure gage
29. Flaps lever
30. Landing gear lever
31. Flaps full open indicator light
32. Landing gear lever down indicator light



IL-10 (<http://imageshack.us/photo/my-images/685/26380129.jpg/>)



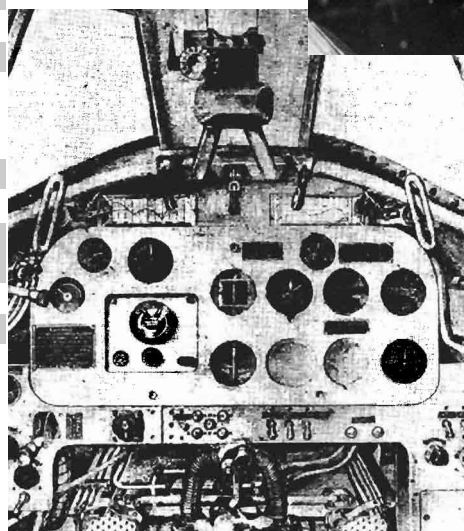




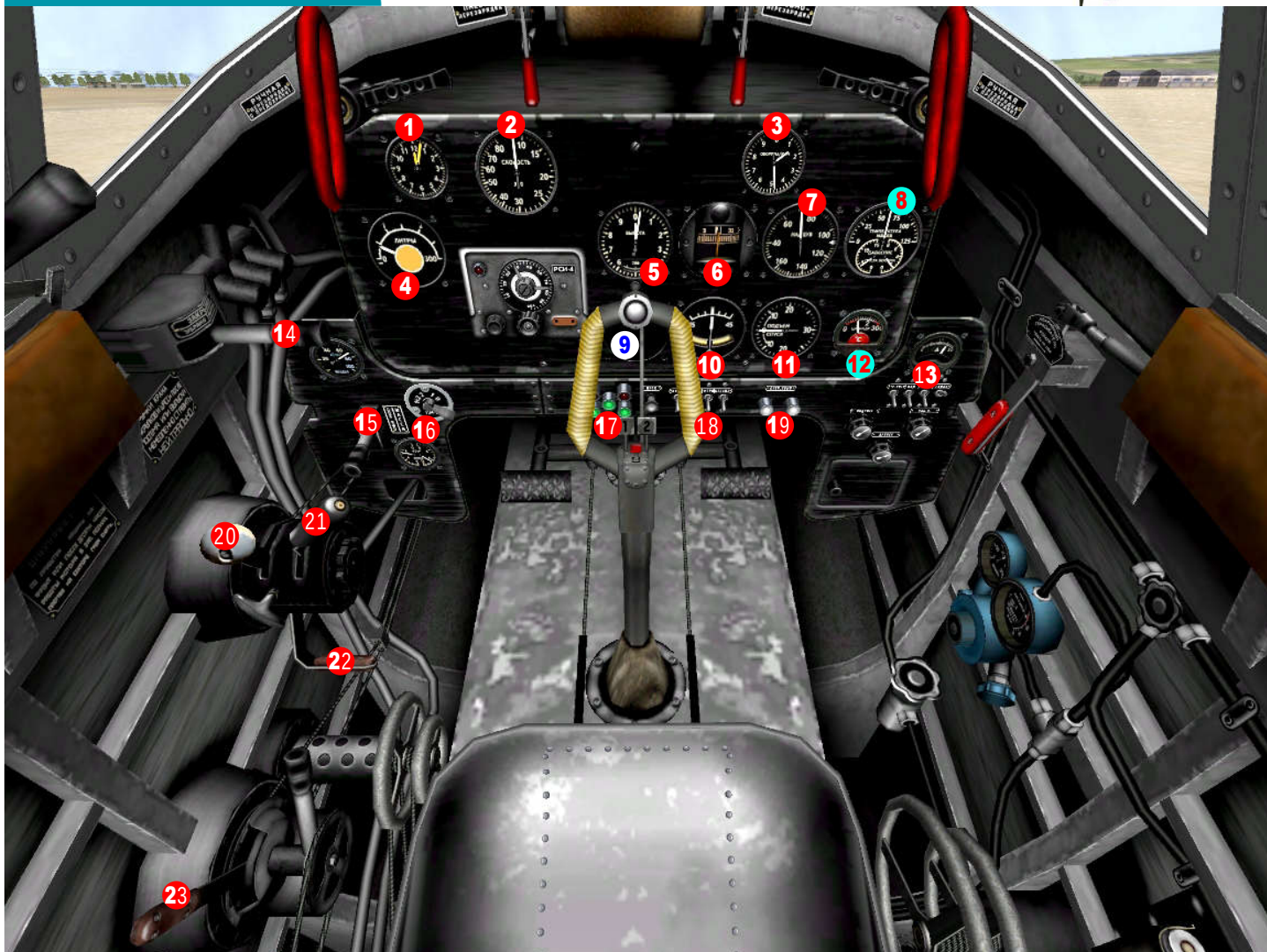
1. Clock
2. Airspeed indicator
3. Tachometer
4. Fuel gage
5. Altimeter
6. Magnetic compass
7. Manifold pressure gage
8. Engine gage: oil **temperature** (top)  
oil pressure (left)  
fuel pressure (right)
9. Pilot's Direction Indicator (in No Realistic Navigation mode only)
10. Turn and bank indicator
11. Variometer
12. Cylinder head **temperature gage**
13. Position lights switch
14. Landing gear lever
15. Engine ignition switch
16. Landing gear **position indicator**: green - down  
no light - in transition  
red - up
17. Landing light switch
18. External ordnance status lights
19. Mixture lever: rear position - leaner mixture  
front position - richer mixture
20. Throttle
21. Propeller pitch lever
22. Supercharger lever: rear position - stage 1  
front position - stage 2



La-5







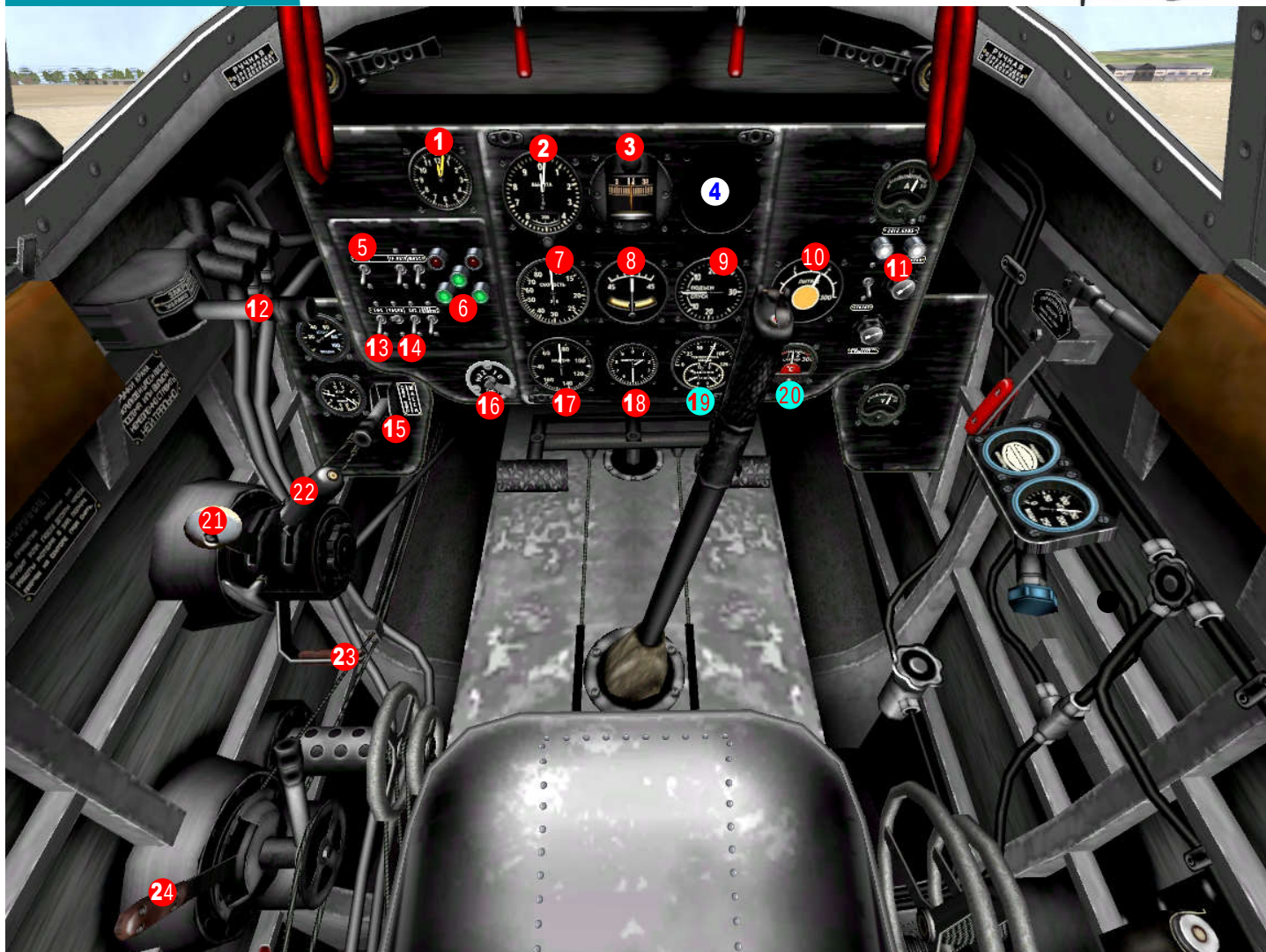
1. Clock
2. Airspeed indicator
3. Tachometer
4. Fuel gage
5. Altimeter
6. Magnetic compass
7. Manifold pressure gage
8. Engine gage: oil **temperature** (top)  
oil pressure (left)  
fuel pressure (right)
9. Pilot's Direction Indicator (in No Realistic Navigation mode only)
10. Turn and bank indicator
11. Variometer
12. Cylinder head **temperature gage**
13. Position lights switch
14. Flaps lever
15. Landing gear lever
16. Engine ignition switch
17. Landing gear **position indicator**: green - down  
no light - in transition  
red - up
18. Landing light switch
19. External ordnance status lights
20. Mixture lever: rear position - leaner mixture  
front position - richer mixture
21. Throttle
22. Propeller pitch lever
23. Supercharger lever: rear position - stage 1  
front position - stage 2



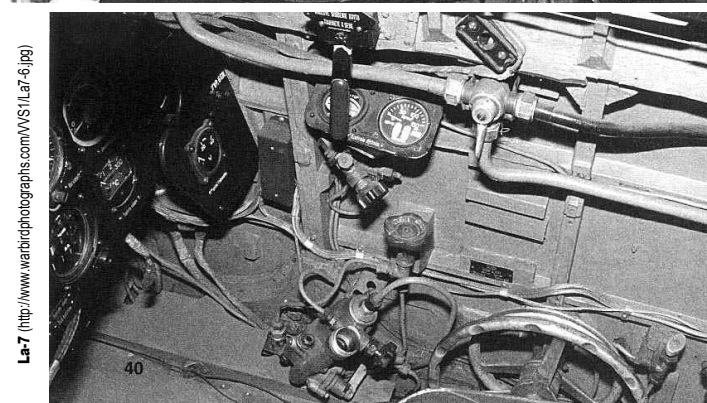
La-5F



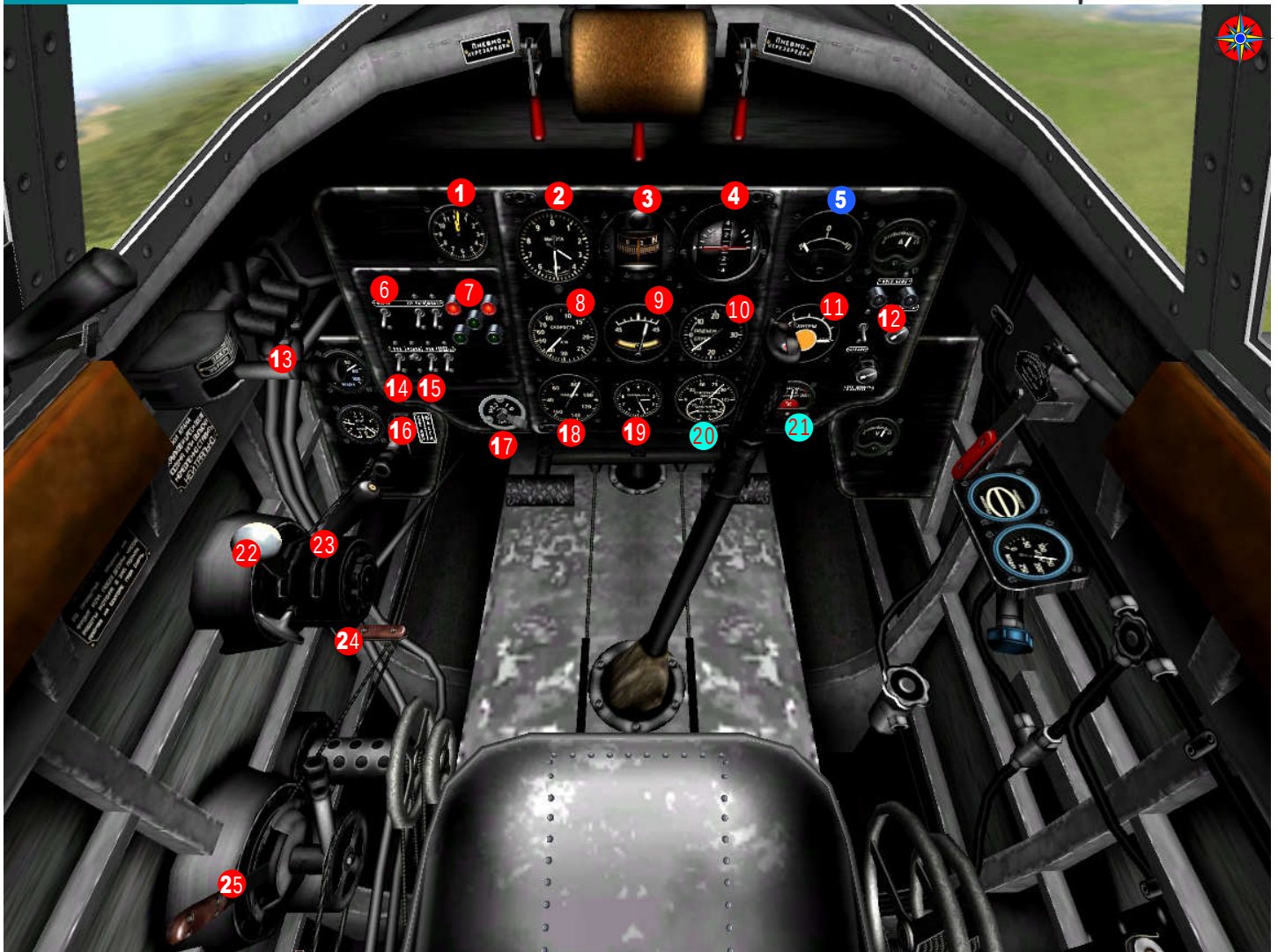




1. Clock
2. Altimeter
3. Magnetic compass
4. Pilot's Direction Indicator (in No Realistic Navigation mode only)
5. Landing light switch
6. Landing gear position indicator: green - down  
red - up
7. Airspeed indicator
8. Turn and bank indicator
9. Variometer
10. Fuel gage
11. External ordnance status lights
12. Flaps lever
13. Instrument light switch
14. Position lights switch
15. Landing gear lever
16. Engine ignition switch
17. Manifold pressure gage
18. Tachometer
19. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
20. Cylinder head temperature gage
21. Mixture lever: rear position - leaner mixture  
front position - richer mixture
22. Throttle
23. Propeller pitch lever
24. Supercharger lever: rear position - stage 1  
front position - stage 2



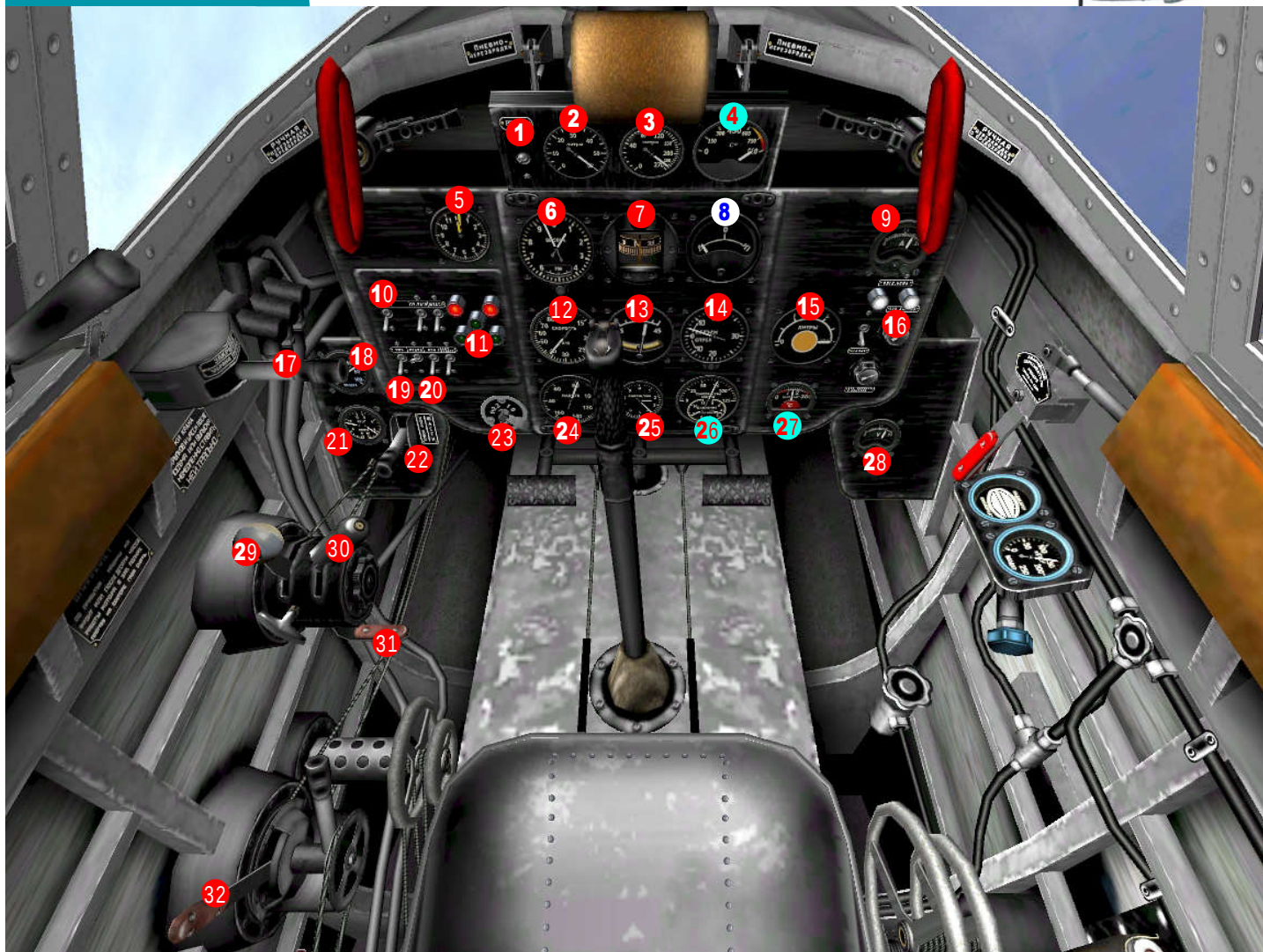




1. Clock
2. Altimeter
3. Magnetic compass
4. Artificial horizon
5. Homing indicator
6. Landing light switch
7. Landing gear position indicator: green - down  
red - up
8. Airspeed indicator
9. Turn and bank indicator
10. Variometer
11. Fuel gage
12. External ordnance status lights
13. Flaps lever
14. Instrument light switch
15. Position lights switch
16. Landing gear lever
17. Engine ignition switch
18. Manifold pressure gage
19. Tachometer
20. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
21. Cylinder head temperature gage
22. Mixture lever: rear position - leaner mixture  
front position - richer mixture
23. Throttle
24. Propeller pitch lever
25. Supercharger lever: rear position - stage 1  
front position - stage 2







1. Rocket engine switch
2. Rocket engine fuel gage
3. Rocket engine fuel gage
4. Rocket engine exhaust temperature gage
5. Clock
6. Altimeter
7. Magnetic compass
8. Pilot's Direction Indicator (in No Realistic Navigation mode only)
9. Ammeter
10. Landing light switch
11. Landing gear position indicator: green - down  
red - up
12. Airspeed indicator
13. Turn and bank indicator
14. Variometer
15. Fuel gage
16. External ordnance status lights
17. Flaps lever
18. Compressed air pressure gage
19. Instrument light switch
20. Position lights switch
21. Brakes pressure gage
22. Landing gear lever
23. Engine ignition switch
24. Manifold pressure gage
25. Tachometer
26. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
27. Cylinder head temperature gage
28. Voltmeter
29. Mixture lever
30. Throttle
31. Propeller pitch lever
32. Supercharger lever: rear position - stage 1  
front position - stage 2





**1. Clock****2. Low fuel warning light**

(total fuel &lt; 12% for 4 Series / &lt; 14% for 29 &amp; 35 Series)

**3. Altimeter****4. Magnetic compass****5. Manifold pressure gage****6. Engine gage: oil temperature (top)**

oil pressure (left)

fuel pressure (right)

**7. Oil temperature warning light****8. Airspeed indicator****9. Turn and bank indicator****10. Variometer****11. Pilot's Direction Indicator (in No Realistic Navigation mode only)****12. Coolant temperature gage****13. Tachometer****14. Fuel gage****15. Landing gear position indicator: green - down**

no light - transition

red - up

**16. Throttle****17. Propeller pitch lever****18. Compressed air pressure gage****19. Brakes pressure gage**





1. Clock

2. Airspeed indicator

3. Low fuel warning light (total fuel < 12% for IT Series / < 14% for 66 Serie)

4. Tachometer

5. Fuel gage

6. Altimeter

7. Magnetic compass

8. Manifold pressure gage

9. Engine gage: oil **temperature** (top)  
oil pressure (left)  
fuel pressure (right)

10. Pilot's Direction Indicator (in No Realistic Navigation mode only)

11. Turn and bank indicator

12. Oil temperature warning light

13. Variometer

14. Coolant **temperature** gage

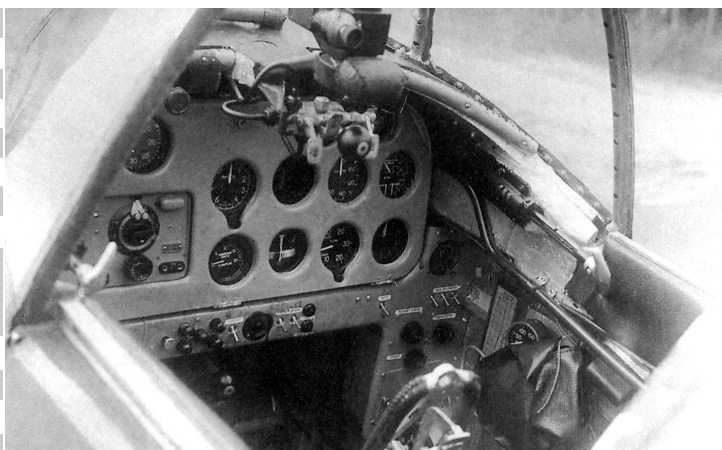
15. Landing gear position indicator: green - down  
no light - transition  
red - up

16. Throttle

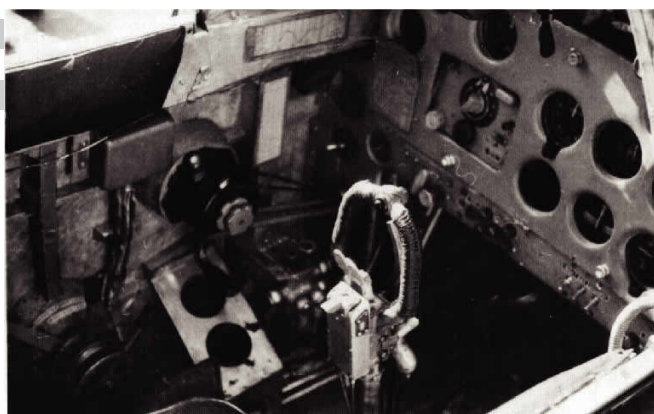
17. Propeller pitch lever

18. Compressed air pressure gage

19. Brakes pressure gage



LaGG-3 (http://www.warbirdphotographs.com/VIS/LAGG3-14.jpg)







1. Clock
2. Airspeed indicator
3. Low fuel warning light (total fuel < 8%)
4. Fuel injection pressure gage
5. Oil pressure gage
6. Fuel gage
7. Altimeter
8. Magnetic compass
9. Exhaust gas pressure gage
10. Tachometer
11. Voltmeter
12. Pilot's Direction Indicator (in No Realistic Navigation mode only)
13. Turn and bank indicator
14. Exhaust gas temperature warning light
15. Variometer
16. Exhaust gas temperature gage
17. Ammeter
18. Internal system indicator
19. Landing gear position indicator: green - down  
no light - transition  
red - up
20. Throttle
21. Compressed air pressure gage
22. Brakes pressure gage

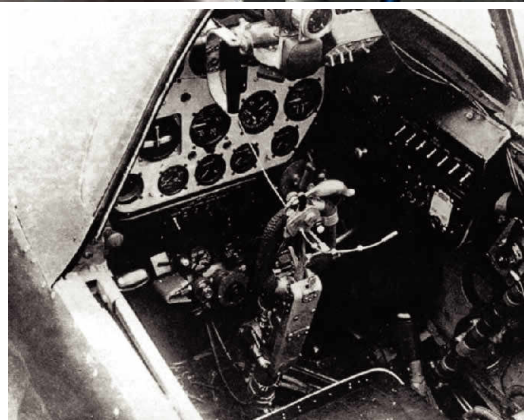






1. Altimeter
2. Magnetic compass
3. Artificial horizon
4. Manifold pressure gage
5. Fuel gage
6. Low fuel warning light (total fuel < 8% but < 12% for U)
7. Airspeed indicator
8. Turn and bank indicator
9. Variometer
10. Tachometer
11. **Engine gage: oil-out temperature (top)**  
oil pressure (left)  
fuel pressure (right)
12. Clock
13. Gear break lever
14. Compressed air pressure gage
15. Brakes pressure gage
16. **Coolant temperature gage**
17. **Coolant temperature warning light**
18. Engine oil-in temperature gage
19. Propeller pitch lever
20. Throttle
21. Landing gear lever
22. Landing gear position indicator
23. Flaps position indicator

MG 3 (<http://img3.sovietwarplanes.com/mg3cockpit.html>)

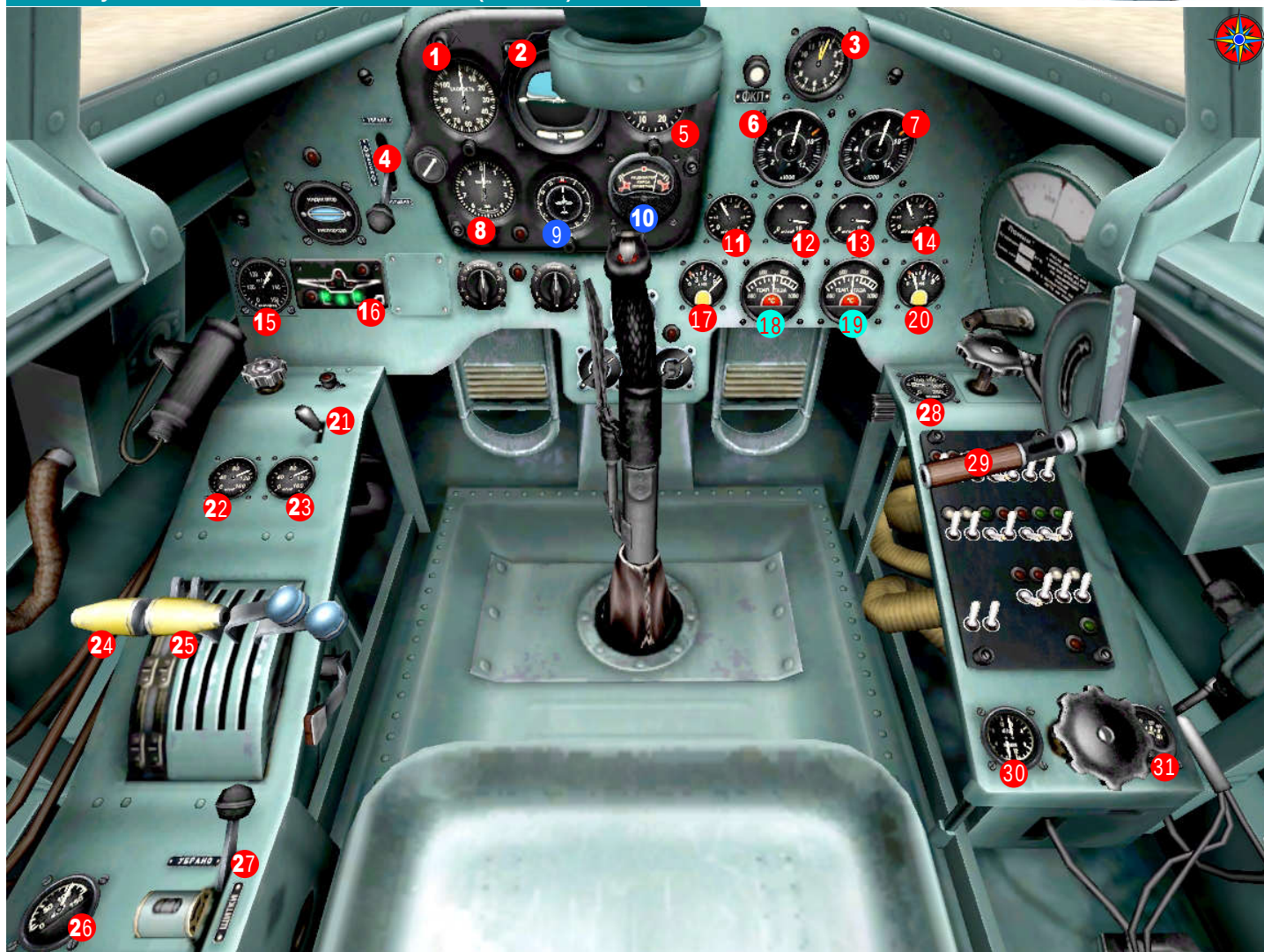


MG 3 (<http://img3.sovietwarplanes.com/mg3yur-rusavia3.htm>)

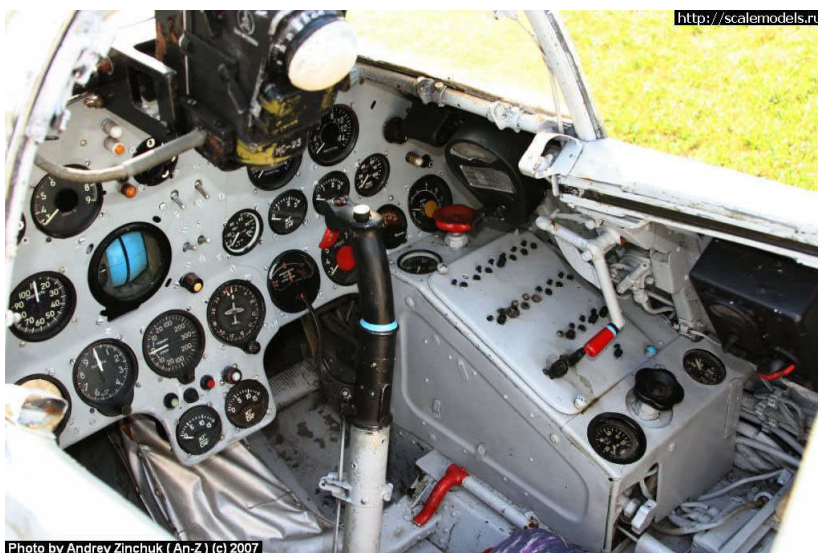




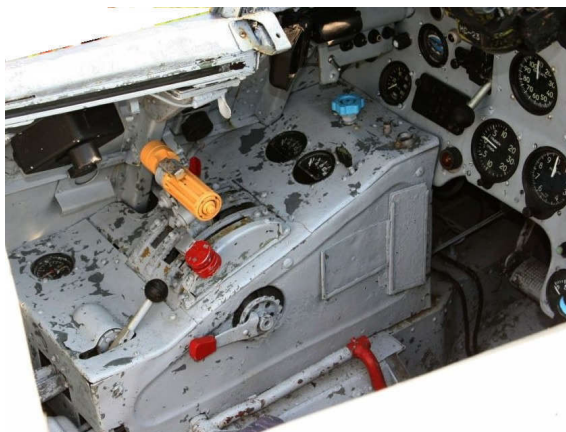
# Mikoyan-Gurevich MiG-9 F2 (I-300) / FS



1. Airspeed indicator
2. Artificial horizon / turn and bank indicator
3. Clock
4. Landing gear lever
5. Variometer
6. Left engine tachometer
7. Right engine tachometer
8. Altimeter
9. Repeater compass
10. Homing indicator
11. Left engine exhaust pressure gage
12. Left engine oil pressure gage
13. Right engine oil pressure gage
14. Right engine exhaust pressure gage
15. Oxygen quantity gage
16. Landing gear position indicator
17. Fuel gage (tank 1)
18. Left engine exhaust gas temperature gage
19. Right engine exhaust gas temperature gage
20. Fuel gage (tank 2)
21. Elevator trim lever
22. Left engine fuel pressure gage
23. Right engine fuel pressure gage
24. Left engine throttle
25. Right engine throttle
26. Brakes pressure gage
27. Flaps lever
28. Compressed air pressure gage
29. Canopy handle
30. Hydraulic pressure gage
31. Ammeter



MiG 9 (http://scalemodels.ru/modules/photo/viewcat\_catid\_270.html)







1. Altimeter
2. Magnetic compass
3. Clock
4. Ammeter
5. Voltmeter
6. Low fuel warning light (total fuel < 14%)
7. Engine oil-in temperature gage
8. Coolant temperature gage
9. Engine ignition switch
10. Airspeed indicator
11. Artificial horizon / turn and bank indicator
12. Variometer
13. Fuel gage
14. Motorjet engine exhaust temperature gage
15. Motorjet engine pressurization gage
16. Landing gear lever & position indicator: green - down  
no light - transition  
red - up
17. Motorjet engine exhaust pressure gage
18. Motorjet engine fuel pressure gage
19. Manifold pressure gage
20. Tachometer
21. Engine gage: oil-out temperature (top)  
oil pressure (left)  
fuel pressure (right)
22. Throttle
23. Flaps lever
24. Propeller pitch lever
25. Mixture lever
26. Motorjet engine throttle
27. Motorjet engine ignition lever
28. Elevator trim wheel
29. Rudder trim wheel

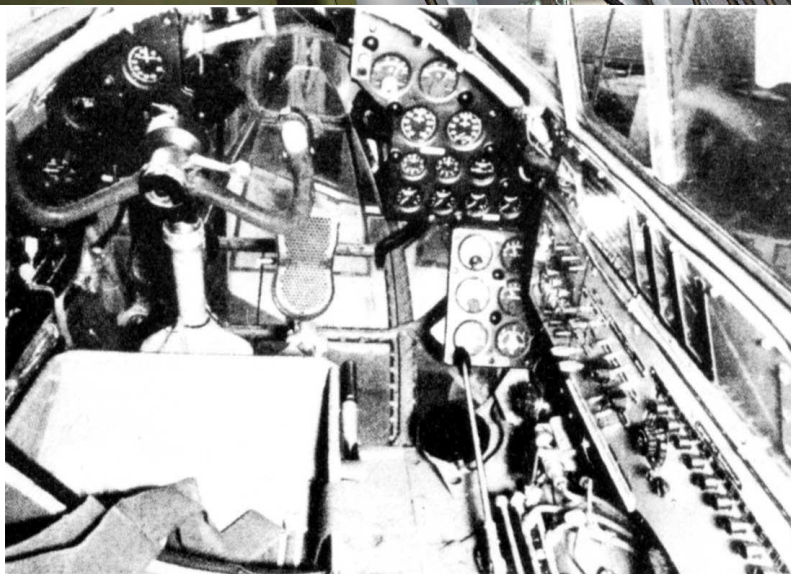




# Petlyakov Pe-2 (1 Series)



1. Homing indicator
2. Flaps full open indicator light
3. Flaps position indicator
4. Airspeed indicator
5. Magnetic compass
6. Artificial horizon
7. Elevator trim neutral indicator light
8. Elevator trim switch
9. Variometer
10. Turn and bank indicator
11. Altimeter
12. Landing gear position indicator
13. Aileron trim switch with neutral indicator light
14. Rudder trim switch with neutral indicator light
15. Left engine throttle
16. Right engine throttle
17. Dive brakes switch
18. Flaps switch
19. Engines ignition switches
20. Left engine mixture lever
21. Right engine mixture lever
22. Left engine supercharger lever
23. Right engine supercharger lever
24. Left side propeller pitch wheel
25. Right side propeller pitch wheel
26. Gear brakes lever
27. Positive G-Load warning indicator light (+3 G)
28. Negative G-Load warning indicator light (-1 G)
29. Fuel gage
30. Left engine manifold pressure gage
31. Right engine manifold pressure gage
32. Left engine tachometer
33. Right engine tachometer
34. Fuel tank nitrogen pressure gage
35. Left engine fuel pressure gage
36. Right engine fuel pressure gage

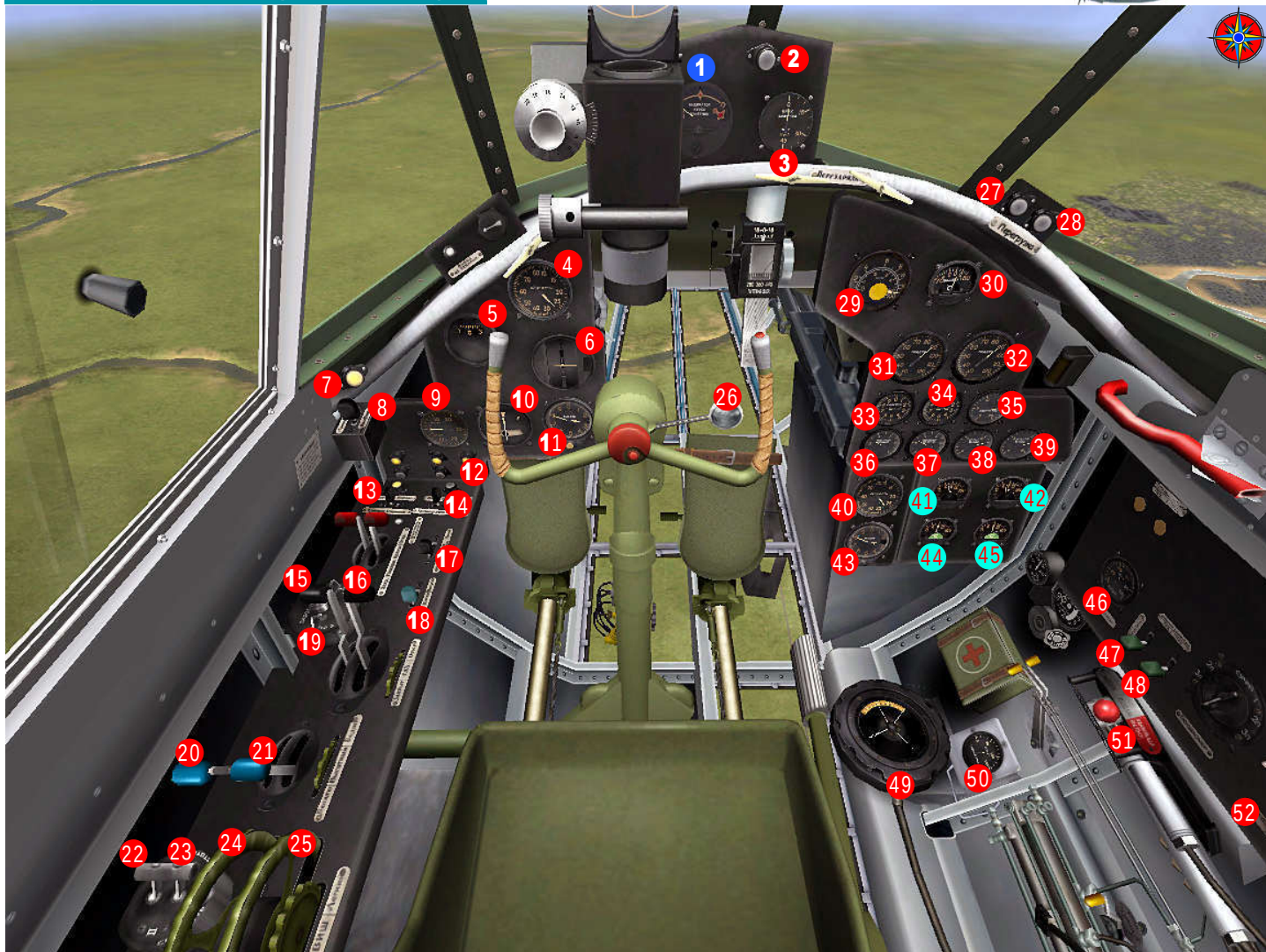


37. Left engine oil pressure gage
38. Right engine oil pressure gage
39. Left engine oil temperature gage
40. Right engine oil temperature gage
41. Left engine coolant temperature gage
42. Right engine coolant temperature gage
43. Airspeed indicator
44. Altimeter
45. Free air temperature gage
46. Compressed air pressure gage
47. Repeater compass
48. Hydraulic pressure gage
49. Landing gear lever
50. Left engine radiator switch
51. Right engine radiator switch
52. External ordnance indicator lights (on rear part)

Pe-2







1. Homing indicator
2. Flaps full open indicator light
3. Flaps position indicator
4. Airspeed indicator
5. Magnetic compass
6. Artificial horizon
7. Elevator trim neutral indicator light
8. Elevator trim switch
9. Variometer
10. Turn and bank indicator
11. Altimeter
12. Landing gear position indicator
13. Aileron trim switch with neutral indicator light
14. Rudder trim switch with neutral indicator light
15. Left engine throttle
16. Right engine throttle
17. Dive brakes switch
18. Flaps switch
19. Engines ignition switches
20. Left engine mixture lever
21. Right engine mixture lever
22. Left engine supercharger lever
23. Right engine supercharger lever
24. Left side propeller pitch wheel
25. Right side propeller pitch wheel
26. Gear brakes lever
27. Positive G-Load warning indicator light (+3 G)
28. Negative G-Load warning indicator light (-1 G)
29. Fuel gage
30. Free air temperature gage
31. Left engine manifold pressure gage
32. Right engine manifold pressure gage
33. Left engine tachometer
34. Right engine tachometer
35. Fuel tank nitrogen pressure gage
36. Left engine fuel pressure gage

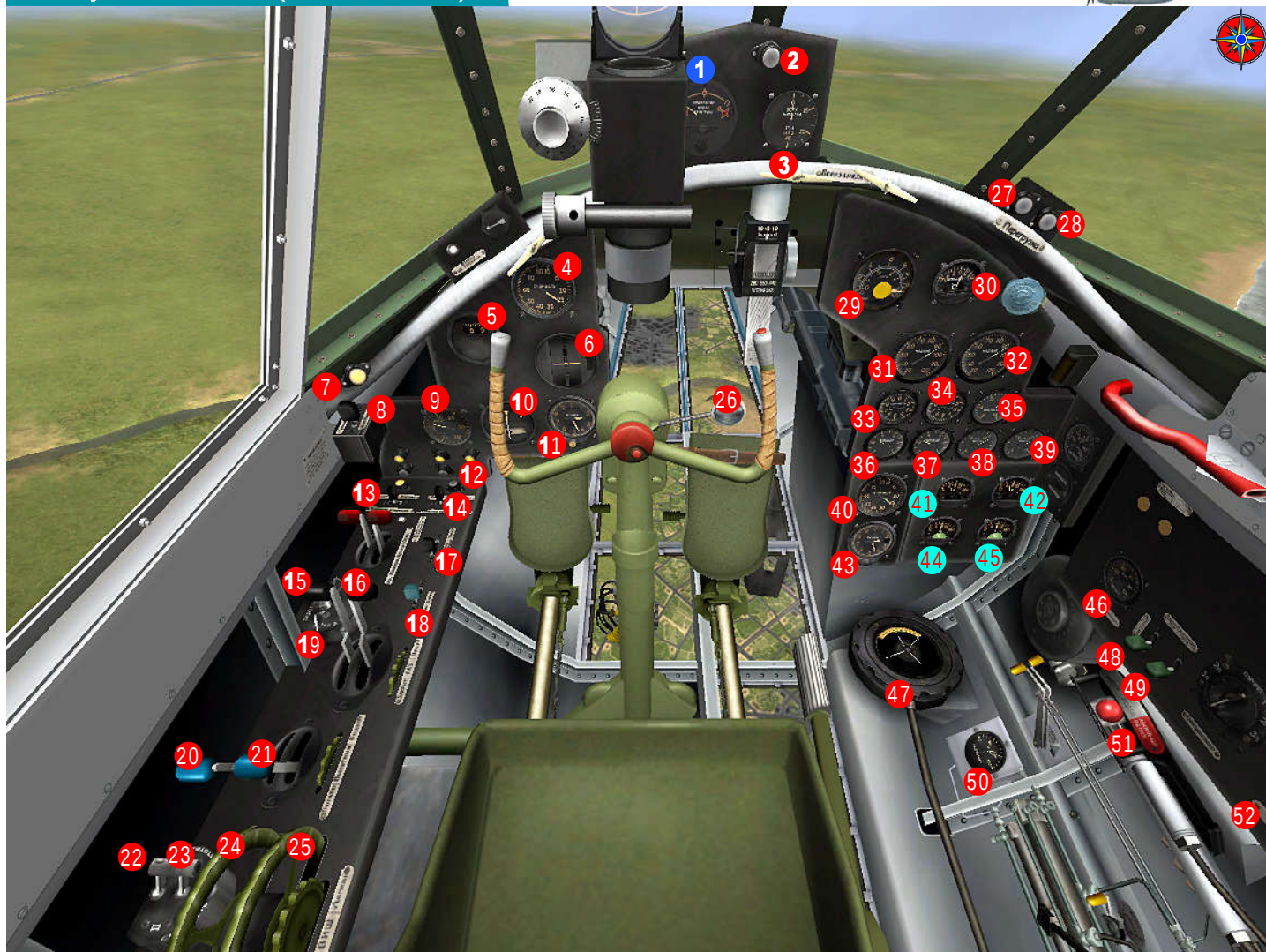


37. Right engine fuel pressure gage
38. Left engine oil pressure gage
39. Right engine oil pressure gage
40. Airspeed indicator
41. Left engine oil temperature gage
42. Right engine oil temperature gage
43. Altimeter
44. Left engine coolant temperature gage
45. Right engine coolant temperature gage
46. Compressed air pressure gage
47. Left engine radiator switch
48. Right engine radiator switch
49. Repeater compass
50. Hydraulic pressure gage
51. Landing gear lever
52. External ordnance indicator lights (on rear part)

Pe-2







- |                                                      |                                                       |
|------------------------------------------------------|-------------------------------------------------------|
| 1. Homing indicator                                  | 37. Right engine fuel pressure gage                   |
| 2. Flaps full open indicator light                   | 38. Left engine oil pressure gage                     |
| 3. Flaps position indicator                          | 39. Right engine oil pressure gage                    |
| 4. Airspeed indicator                                | 40. Airspeed indicator                                |
| 5. Magnetic compass                                  | 41. Left engine oil temperature gage                  |
| 6. Artificial horizon                                | 42. Right engine oil temperature gage                 |
| 7. Elevator trim neutral indicator light             | 43. Altimeter                                         |
| 8. Elevator trim switch                              | 44. Left engine coolant temperature gage              |
| 9. Variometer                                        | 45. Right engine coolant temperature gage             |
| 10. Turn and bank indicator                          | 46. Compressed air pressure gage                      |
| 11. Altimeter                                        | 47. Repeater compass                                  |
| 12. Landing gear position indicator                  | 48. Left engine radiator switch                       |
| 13. Aileron trim switch with neutral indicator light | 49. Right engine radiator switch                      |
| 14. Rudder trim switch with neutral indicator light  | 50. Hydraulic pressure gage                           |
| 15. Left engine throttle                             | 51. Landing gear lever                                |
| 16. Right engine throttle                            | 52. External ordnance indicator lights (on rear part) |
| 17. Dive brakes switch                               |                                                       |
| 18. Flaps switch                                     |                                                       |
| 19. Engines ignition switches                        |                                                       |
| 20. Left engine mixture lever                        |                                                       |
| 21. Right engine mixture lever                       |                                                       |
| 22. Left engine supercharger lever                   |                                                       |
| 23. Right engine supercharger lever                  |                                                       |
| 24. Left side propeller pitch wheel                  |                                                       |
| 25. Right side propeller pitch wheel                 |                                                       |
| 26. Gear brakes lever                                |                                                       |
| 27. Positive G-Load warning indicator light (+3 G)   |                                                       |
| 28. Negative G-Load warning indicator light (-1 G)   |                                                       |
| 29. Fuel gage                                        |                                                       |
| 30. Free air temperature gage                        |                                                       |
| 31. Left engine manifold pressure gage               |                                                       |
| 32. Right engine manifold pressure gage              |                                                       |
| 33. Left engine tachometer                           |                                                       |
| 34. Right engine tachometer                          |                                                       |
| 35. Fuel tank nitrogen pressure gage                 |                                                       |
| 36. Left engine fuel pressure gage                   |                                                       |







1. Homing indicator
2. Flaps full open indicator light
3. Flaps position indicator
4. Airspeed indicator
5. Magnetic compass
6. Artificial horizon
7. Elevator trim neutral indicator light
8. Elevator trim switch
9. Variometer
10. Turn and bank indicator
11. Altimeter
12. Landing gear position indicator
13. Aileron trim switch with neutral indicator light
14. Rudder trim switch with neutral indicator light
15. Left engine throttle
16. Right engine throttle
17. Dive brakes switch
18. Flaps switch
19. Engines ignition switches
20. Left engine mixture lever
21. Right engine mixture lever
22. Left engine supercharger lever
23. Right engine supercharger lever
24. Left side propeller pitch wheel
25. Right side propeller pitch wheel
26. Gear brakes lever
27. Positive G-Load warning indicator light (+3 G)
28. Negative G-Load warning indicator light (-1 G)
29. Fuel gage
30. Free air temperature gage
31. Left engine manifold pressure gage
32. Right engine manifold pressure gage
33. Left engine tachometer
34. Right engine tachometer
35. Fuel tank nitrogen pressure gage
36. Left engine fuel pressure gage



37. Right engine fuel pressure gage
38. Left engine oil pressure gage
39. Right engine oil pressure gage
40. Airspeed indicator
41. Left engine oil temperature gage
42. Right engine oil temperature gage
43. Altimeter
44. Left engine coolant temperature gage
45. Right engine coolant temperature gage
46. Compressed air pressure gage
47. Repeater compass
48. Left engine radiator switch
49. Right engine radiator switch
50. Hydraulic pressure gage
51. Landing gear lever
52. External ordnance indicator lights (on rear part)

Pe-2







1. Flaps full open indicator light
2. Flaps position indicator
3. Airspeed indicator
4. Elevator trim neutral indicator light
5. Magnetic compass
6. Artificial horizon
7. Variometer
8. Turn and bank indicator
9. Altimeter
10. Landing gear position indicator
11. Aileron trim switch with neutral indicator light
12. Rudder trim switch with neutral indicator light
13. Left engine throttle
14. Right engine throttle
15. Elevator trim switch
16. Flaps switch
17. Engines ignition switches
18. Left engine mixture lever
19. Right engine mixture lever
20. Left engine supercharger lever
21. Right engine supercharger lever
22. Left side propeller pitch wheel
23. Right side propeller pitch wheel
24. Gear brakes lever
25. Fuel gage
26. Positive G-Load warning indicator light (+3 G)
27. Negative G-Load warning indicator light (-1 G)
28. Left engine manifold pressure gage
29. Right engine manifold pressure gage
30. Left engine tachometer
31. Right engine tachometer
32. Fuel tank nitrogen pressure gage
33. Left engine fuel pressure gage
34. Right engine fuel pressure gage
35. Left engine oil pressure gage
36. Right engine oil pressure gage

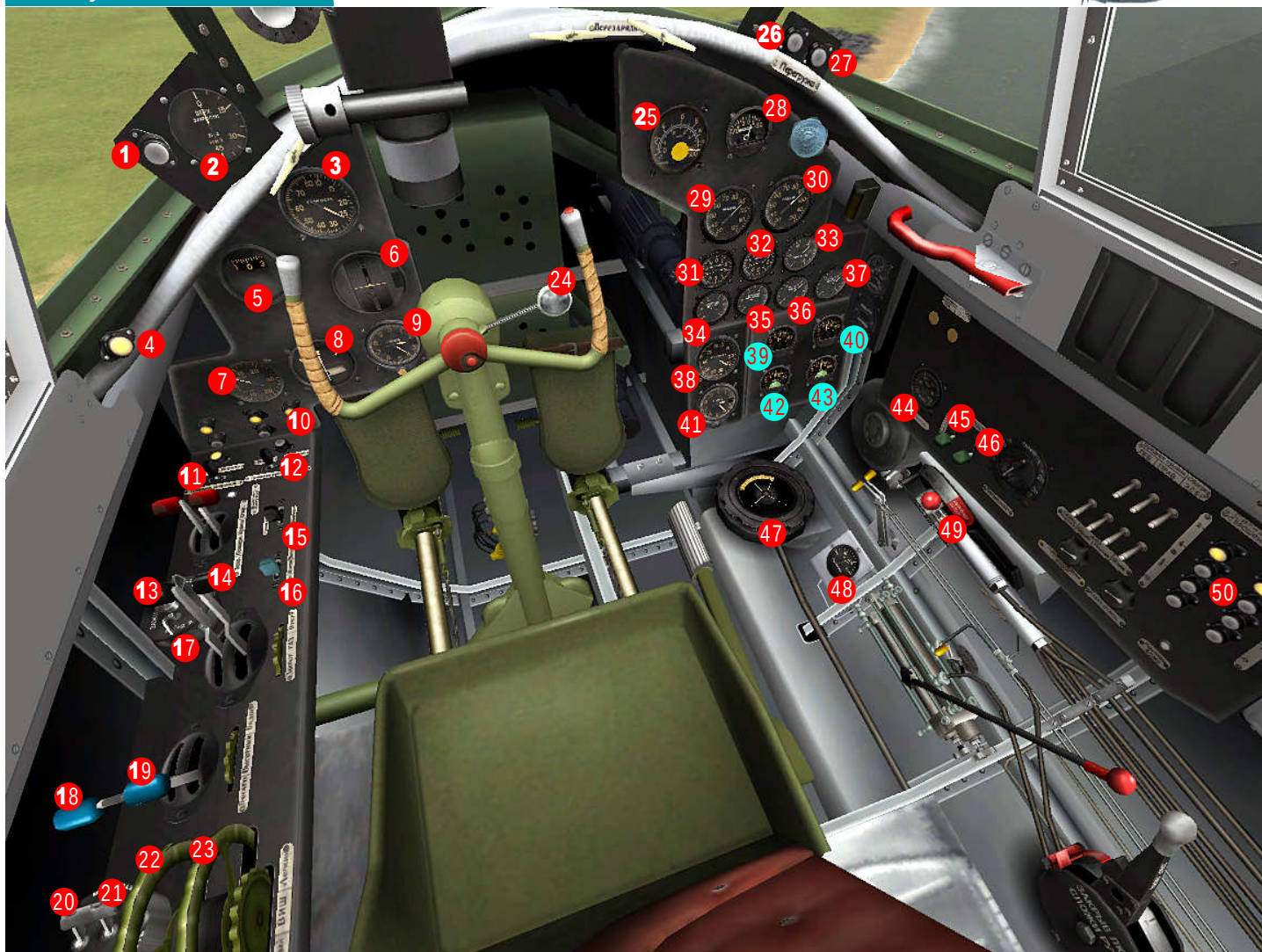


37. Left engine oil temperature gage
38. Right engine oil temperature gage
39. Left engine coolant temperature gage
40. Right engine coolant temperature gage
41. Airspeed indicator
42. Altimeter
43. Free air temperature gage
44. Compressed air pressure gage
45. Repeater compass
46. Hydraulic pressure gage
47. Landing gear lever
48. Left engine radiator switch
49. Right engine radiator switch
50. External ordnance indicator lights

Pe-3







- |                                                      |                                           |
|------------------------------------------------------|-------------------------------------------|
| 1. Flaps full open indicator light                   | 37. Right engine oil pressure gage        |
| 2. Flaps position indicator                          | 38. Airspeed indicator                    |
| 3. Airspeed indicator                                | 39. Left engine oil temperature gage      |
| 4. Elevator trim neutral indicator light             | 40. Right engine oil temperature gage     |
| 5. Magnetic compass                                  | 41. Altimeter                             |
| 6. Artificial horizon                                | 42. Left engine coolant temperature gage  |
| 7. Variometer                                        | 43. Right engine coolant temperature gage |
| 8. Turn and bank indicator                           | 44. Compressed air pressure gage          |
| 9. Altimeter                                         | 45. Left engine radiator switch           |
| 10. Landing gear position indicator                  | 46. Right engine radiator switch          |
| 11. Aileron trim switch with neutral indicator light | 47. Repeater compass                      |
| 12. Rudder trim switch with neutral indicator light  | 48. Hydraulic pressure gage               |
| 13. Left engine throttle                             | 49. Landing gear lever                    |
| 14. Right engine throttle                            | 50. External ordnance indicator lights    |
| 15. Elevator trim switch                             |                                           |
| 16. Flaps switch                                     |                                           |
| 17. Engines ignition switches                        |                                           |
| 18. Left engine mixture lever                        |                                           |
| 19. Right engine mixture lever                       |                                           |
| 20. Left engine supercharger lever                   |                                           |
| 21. Right engine supercharger lever                  |                                           |
| 22. Left side propeller pitch wheel                  |                                           |
| 23. Right side propeller pitch wheel                 |                                           |
| 24. Gear brakes lever                                |                                           |
| 25. Fuel gage                                        |                                           |
| 26. Positive G-Load warning indicator light (+3 G)   |                                           |
| 27. Negative G-Load warning indicator light (-1 G)   |                                           |
| 28. Free air temperature gage                        |                                           |
| 29. Left engine manifold pressure gage               |                                           |
| 30. Right engine manifold pressure gage              |                                           |
| 31. Left engine tachometer                           |                                           |
| 32. Right engine tachometer                          |                                           |
| 33. Fuel tank nitrogen pressure gage                 |                                           |
| 34. Left engine fuel pressure gage                   |                                           |
| 35. Right engine fuel pressure gage                  |                                           |
| 36. Left engine oil pressure gage                    |                                           |



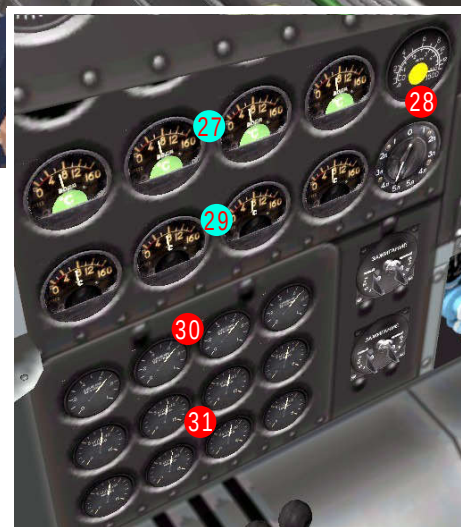




1. Homing indicator
2. Artificial horizon
3. Airspeed indicator
4. Turn and bank indicator
5. Variometer
6. Altimeter
7. Clock
8. Blind landing indicator
9. Directional gyro & bank indicator
10. Artificial horizon
11. Left & right brakes pressure gage
12. Brakes storage cylinder pressure gage
13. Aileron trim wheel
14. Repeater compass
15. Landing gear position indicator
16. Landing gear lever
17. Manifold pressure gages
18. Tachometers
19. Throttles
20. Flight Engineer's (FE) Instrument Panel
21. Mixture levers (FE)
22. Throttles (FE)
23. Propeller pitch levers
24. Rudder trim wheel
25. Elevator trim wheel
26. Flaps lever
27. Engine coolant temperature gages (FE)
28. Fuel gage (FE)
29. Engine oil temperature gages (FE)
30. Fuel pressure gages (FE)
31. Engine oil pressure gages (FE)



Pe-8



Flight Engineer's Instrument Panel

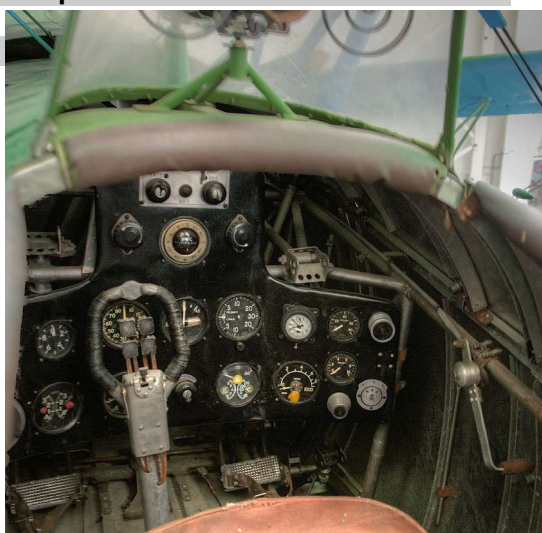






1. Magnetic compass
2. Manifold pressure gage
3. Tachometer
4. Altimeter
5. Turn and bank indicator
6. Variometer
7. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
8. Engine ignition switch
9. Cylinder head temperature gage
10. Airspeed indicator
11. Clock
12. Fuel gage
13. Mixture lever: rear position - leaner mixture  
front position - richer mixture
14. Throttle
15. Radiator lever
16. Bomb lever

I-15bis (http://igor13.livejournal.com/)







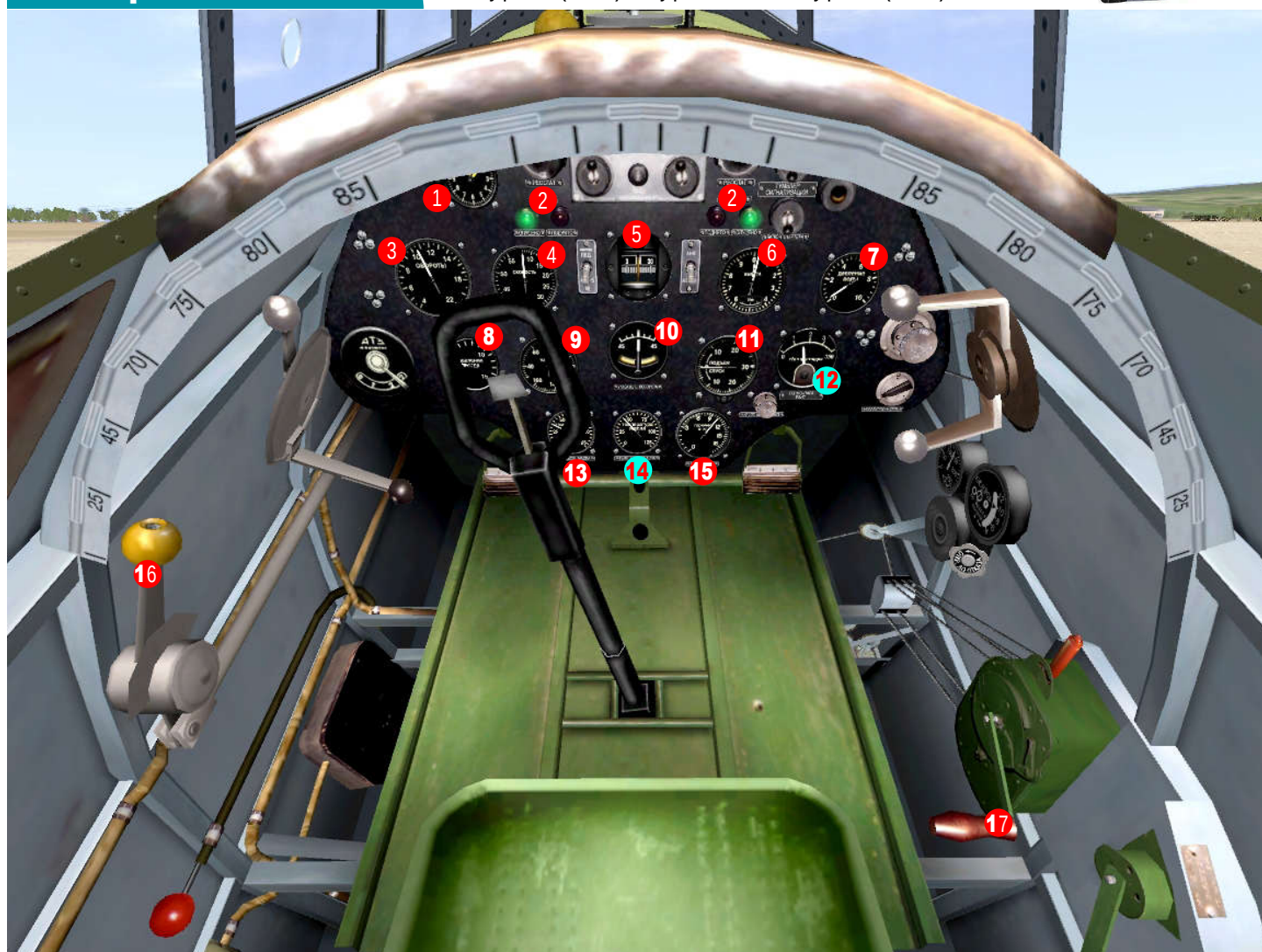
1. Airspeed indicator
2. Magnetic compass
3. Tachometer
4. Altimeter
5. Turn and bank indicator
6. Variometer
7. Engine ignition switch
8. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
9. Clock
10. Cylinder head temperature gage
11. Manifold pressure gage
12. Supercharger lever: rear position - stage 1  
front position - stage 2
13. Mixture lever: rear position - leaner mixture  
front position - richer mixture
14. Throttle
15. Propeller pitch knob



I-153 (<http://www.ww2aircraft.net/>)







1. Clock
2. Landing gear position indicator:  
green - down / no light - transition / red - up
3. Tachometer
4. Airspeed indicator
5. Magnetic compass
6. **Altimeter**
7. Compressed air pressure gage
8. **Oil pressure gage**
9. **Manifold pressure gage**
10. **Turn and bank indicator**
11. **Variometer**
12. **Cylinder head temperature gage**
13. Engine oil-in **temperature gage**
14. Engine oil-out **temperature gage**
15. **Fuel gage**
16. **Throttle**
17. Landing gear handle (not active with skis)



I-16 early (<http://www.ww2aircraft.net/>)



I-16 T.10 (<http://www.ww2aircraft.net/>)







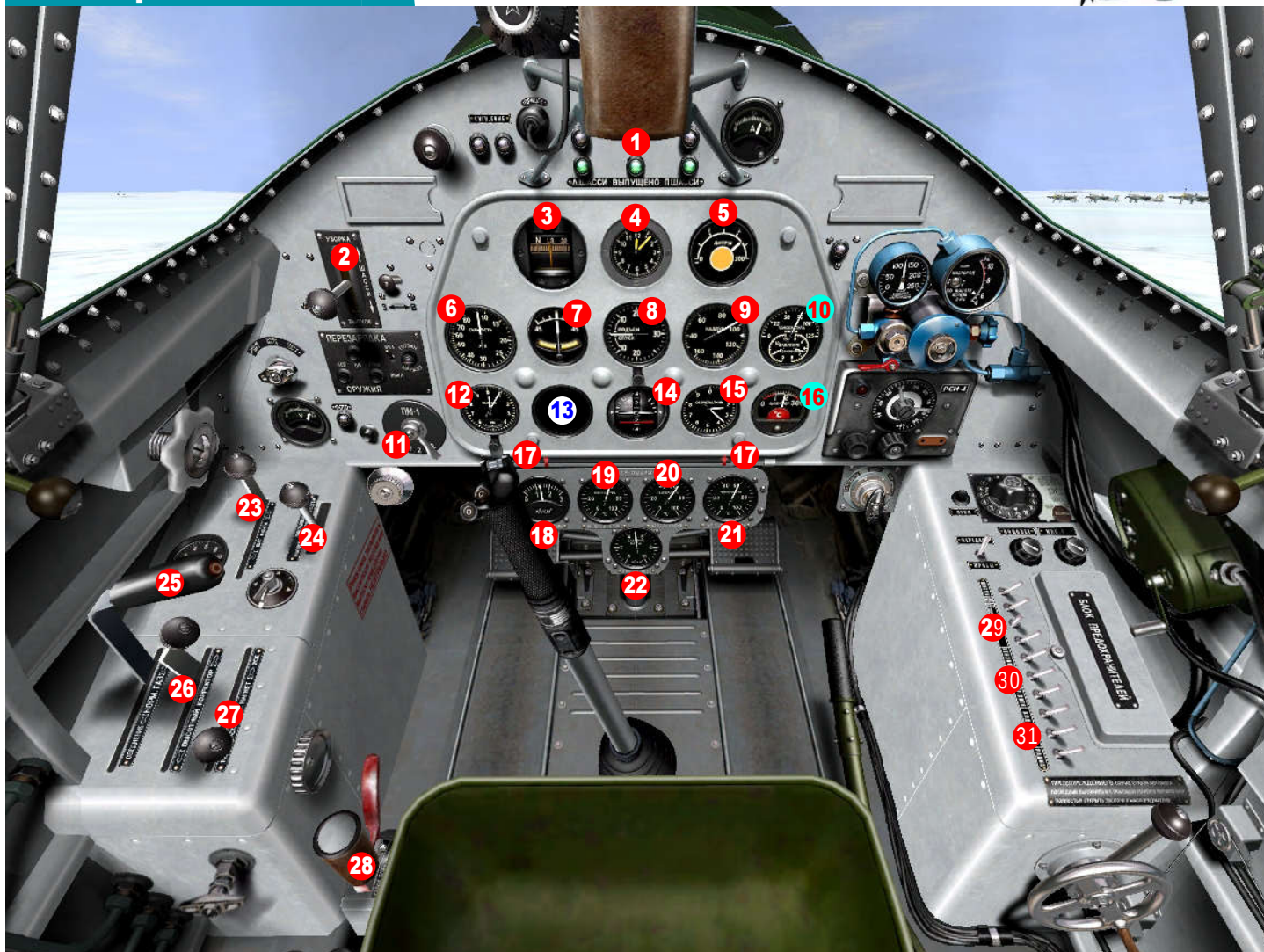
1. Clock
2. Landing gear **position indicator**: green - down  
no light - transition  
red - up
3. Tachometer
4. Airspeed indicator
5. Magnetic compass
6. **Altimeter**
7. Compressed air pressure gage
8. **Oil pressure gage**
9. **Manifold pressure gage**
10. **Turn and bank indicator**
11. **Variometer**
12. **Cylinder head temperature gage**
13. **Engine oil-in temperature gage**
14. **Engine oil-out temperature gage**
15. **Fuel gage**
16. **Throttle**
17. **Propeller pitch lever**
18. **Landing gear handle**



I-16 T24 (<http://war.by-airforce.com/articles/Cockpits.html>)







1. Landing gear **position indicator**: green - down  
red- up
2. Landing gear **lever**
3. **Magnetic compass**
4. **Clock**
5. **Fuel gage**
6. **Airspeed indicator**
7. **Turn and bank indicator**
8. **Variometer**
9. **Manifold pressure gage**
10. **Engine gage**: oil-out **temperature** (top)  
oil **pressure** (left)  
fuel **pressure** (right)
11. **Engine ignition switch**
12. **Altimeter**
13. Pilot's **Direction Indicator** (in No Realistic Navigation mode only)
14. **Artificial horizon**
15. **Tachometer**
16. **Cylinder head temperature gage**
17. Landing gear **position indicator**
18. **Carburetor pressure gage**
19. **Oil-out temperature gage** (front engine block)
20. **Oil-out temperature gage** (rear engine block)
21. **Oil-in temperature gage**
22. **Oil main pressure gage**
23. **Propeller pitch lever**
24. **Flaps lever**
25. **Throttle**
26. **Mixture lever**
27. **Supercharger lever**
28. **Bomb release lever** (no bomb available)
29. **Landing light switch**
30. **Instrument light switch**
31. **Position lights switch**



I-185 (<http://www.airwar.ru/aww2.html>)

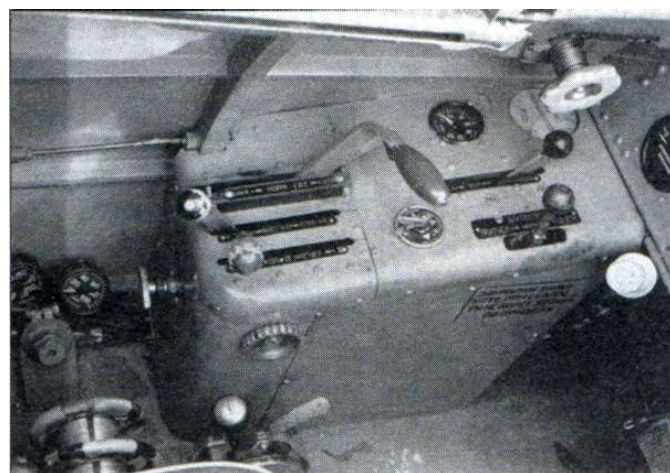




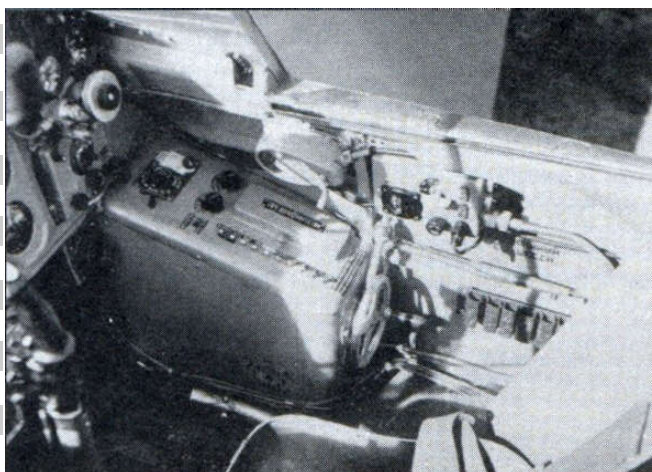


1. Bombs status lights (inboard pylons)
2. Landing gear **position indicator**: green - down  
red- up
3. Landing gear **lever**
4. **Magnetic compass**
5. **Clock**
6. **Fuel gage**
7. **Airspeed indicator**
8. **Turn and bank indicator**
9. **Variometer**
10. **Manifold pressure gage**
11. **Oil temperature gage**
12. **Engine ignition switch**
13. **Altimeter**
14. Pilot's Direction Indicator (in No Realistic Navigation mode only)
15. **Artificial horizon**
16. **Tachometer**
17. **Cylinder head temperature gage**
18. **Carburetor pressure gage**
19. **Oil pressure gage**
20. Landing gear **position indicator**
21. **Propeller pitch lever**
22. **Flaps lever**
23. **Throttle**
24. **Mixture lever**
25. **Supercharger lever**
26. **Bomb release lever**
27. Landing light switch
28. Instrument light switch
29. Position lights switch

I-185 M-71 & M-82

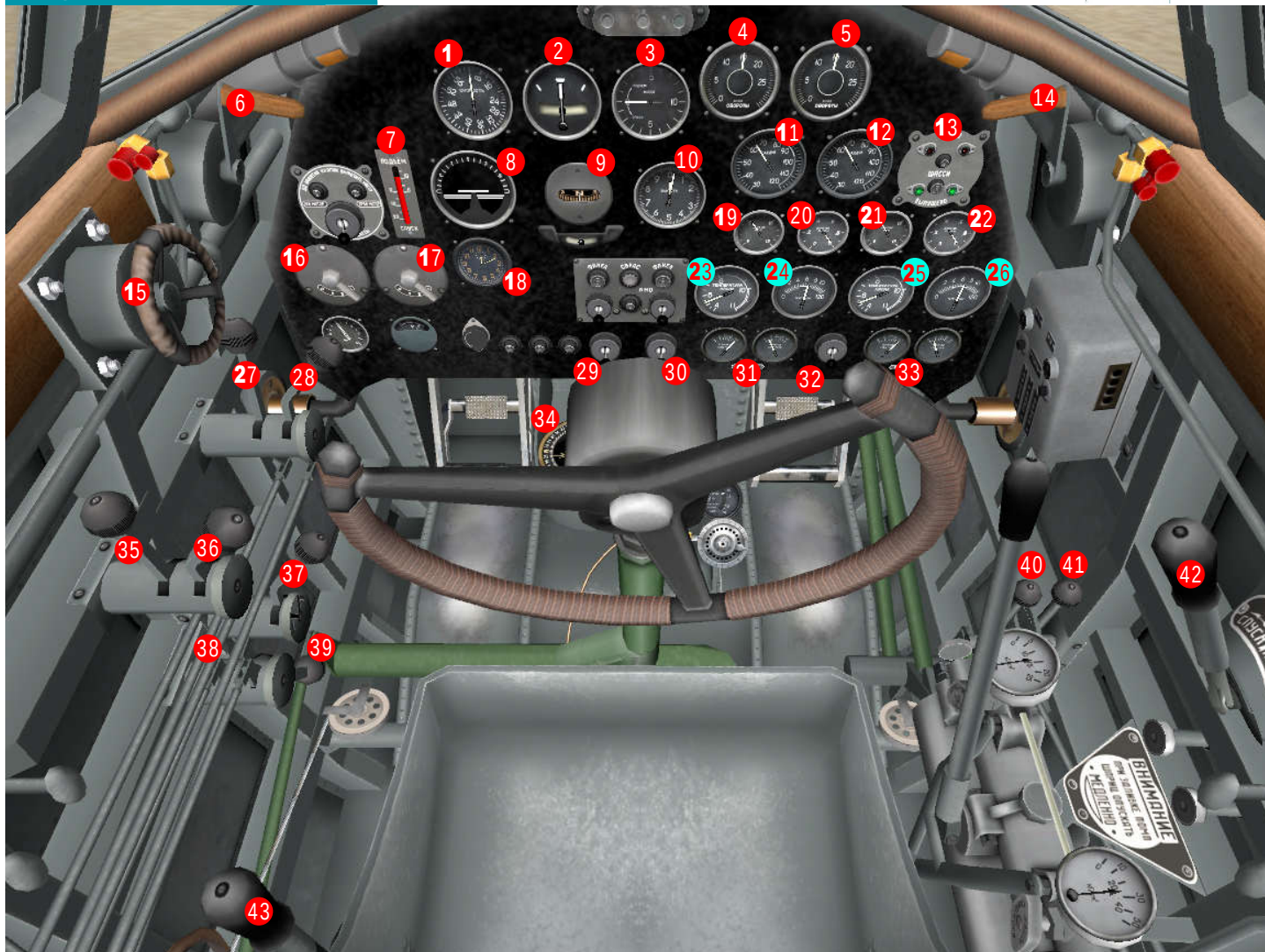


I-185 M-71 & M-82





# Tupolev SB 2M-100A



1. Airspeed indicator
2. Turn and bank indicator
3. Variometer
4. Left engine tachometer
5. Right engine tachometer
6. Elevator trim lever
7. Pitch inclinometer
8. Artificial horizon
9. Directional gyro & bank indicator
10. Altimeter
11. Left engine manifold pressure gage
12. Right engine manifold pressure gage
13. Landing gear position indicator
14. Rudder trim lever
15. Aileron trim wheel
16. Left engine ignition switch
17. Right engine ignition switch
18. Clock
19. Left engine oil pressure gage
20. Left engine fuel pressure gage
21. Right engine oil pressure gage
22. Right engine fuel pressure gage
23. Left engine oil temperature gage
24. Left engine coolant temperature gage
25. Right engine oil temperature gage
26. Right engine coolant temperature gage
27. Left engine mixture lever
28. Right engine mixture lever
29. Instrument light switch
30. Position lights switch
31. Left engine fuel gages
32. Landing light switch
33. Right engine fuel gages
34. Magnetic compass
35. Left engine throttle
36. Right engine throttle



SB 2M-100A (<http://igor113.livejournal.com/391312.html>)

37. Propellers pitch lever
38. Left engine fuel shutoff lever (Automatic switching when fuel = 0%)
39. Right engine fuel shutoff lever (As before)
40. Left engine radiator lever
41. Right engine radiator lever
42. Landing gear lever
43. Flaps lever







1. Homing indicator
2. Artificial horizon
3. Airspeed indicator
4. Turn and bank indicator
5. Variometer
6. Altimeter
7. Clock
8. Magnetic compass
9. Engine 1 (left side ouboard) tachometer
10. Engine 2 (left side inboard) tachometer
11. Engine 3 (right side inboard) tachometer
12. Engine 4 (right side ouboard) tachometer
13. Co-pilot artificial horizon
14. Co-pilot homing indicator
15. Co-pilot altimeter
16. Co-pilot turn and bank indicator
17. Co-pilot airspeed indicator
18. Co-pilot magnetic compass
19. Throttle levers for all 4 engines



TB-3







1. Altimeter
2. Magnetic compass
3. Manifold pressure gage
4. Airspeed indicator
5. Turn and bank indicator
6. Tachometer
7. Landing gear lever
8. Clock
9. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
10. Coolant temperature gage
11. Landing gear position indicator: green - down  
no light - transition  
red - up
12. Propeller pitch lever
13. Supercharger lever: rear position - stage 1  
front position - stage 2
14. Throttle
15. Flaps lever



Yak-1 (<http://www.airwar.ru/aww2.html>)







1. Altimeter
2. Magnetic compass
3. Clock
4. Fuel gage
5. Low fuel warning light (total fuel < 14%)
6. Airspeed indicator
7. Turn and bank indicator
8. Variometer
9. Landing gear position indicator: green - down  
no light - transition  
red - up

10. Landing gear lever

11. Manifold pressure gage

12. Tachometer

13. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)

14. Coolant temperature gage

15. Electric generator warning light

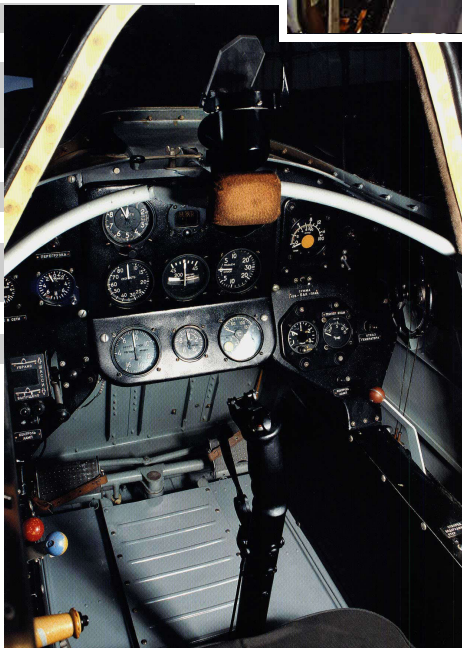
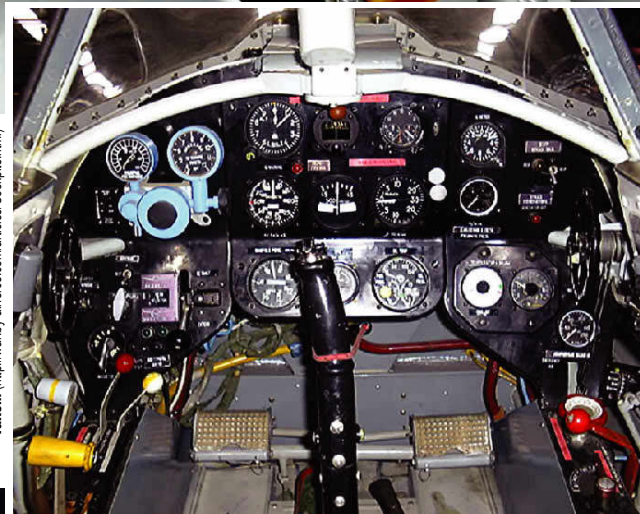
16. Propeller pitch lever

17. Supercharger lever: rear position - stage 1  
front position - stage 2

18. Throttle

19. Flaps lever

Yak3M (<http://war.by-airforce.com/articles/Cockpits.html>)



Yak3 (<http://war.by-airforce.com/articles/Cockpits.html>)







1. Altimeter
2. Magnetic compass
3. Clock
4. Fuel gage
5. Low fuel warning light (total fuel < 19%)
6. Airspeed indicator
7. Turn and bank indicator
8. Variometer
9. Landing gear position indicator: green - down  
no light - transition  
red - up
10. Landing gear lever
11. Manifold pressure gage
12. Tachometer
13. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
14. Coolant temperature gage
15. Electric generator warning light
16. Rocket engine switch
17. Rocket engine fuel gage
18. Rocket engine fuel gage
19. Rocket engine exhaust temperature gage
20. Propeller pitch lever
21. Throttle
22. Supercharger lever: rear position - stage 1  
front position - stage 2
23. Flaps lever





1. Altimeter
2. Magnetic compass
3. Manifold pressure gage
4. Airspeed indicator
5. Turn and bank indicator
6. Tachometer
7. Landing gear lever
8. Clock
9. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
10. Coolant temperature gage
11. Landing gear position indicator: green - down  
no light - transition  
red - up
12. Propeller pitch lever
13. Supercharger lever: rear position - stage 1  
front position - stage 2
14. Throttle
15. Flaps lever



Yak-7B







1. Altimeter
2. Magnetic compass
3. Clock
4. Coolant temperature gage
5. Airspeed indicator
6. Turn and bank indicator
7. Variometer
8. Low fuel warning light (total fuel < 12%)
9. Electric generator warning light
10. Landing gear lever
11. Manifold pressure gage
12. Tachometer
13. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
14. Propeller pitch lever
15. Throttle
16. Supercharger lever: rear position - stage 1  
front position - stage 2
17. Flaps lever



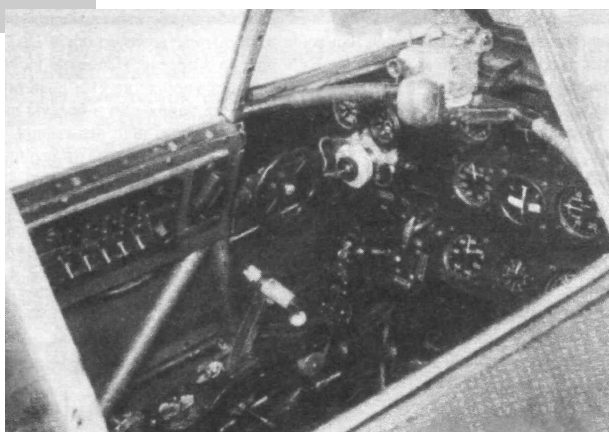
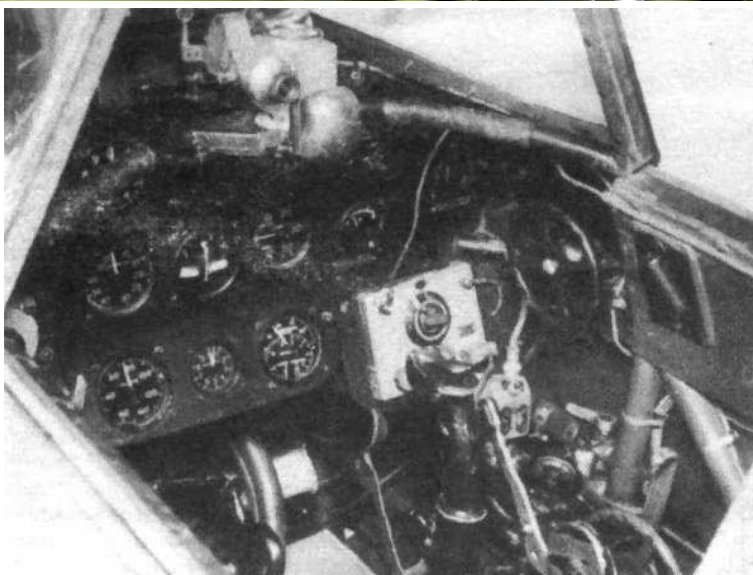
Yak-9 (<http://walkarounds.airforce.ru/avia/rus/yak/yak-9/index.htm>)







1. Altimeter
2. Magnetic compass
3. Clock
4. Coolant temperature gage
5. Airspeed indicator
6. Turn and bank indicator
7. Variometer
8. Pilot's Direction Indicator (in No Realistic Navigation mode only)
9. Low fuel **warning light** (total fuel < 8%)
10. **Electric generator warning light**
11. Landing gear **lever**
12. Manifold pressure gage
13. Tachometer
14. Engine gage: **oil temperature** (top)  
oil pressure (left)  
fuel pressure (right)
15. Propeller pitch lever
16. Throttle
17. Supercharger lever: rear position - stage 1  
front position - stage 2
18. Flaps lever



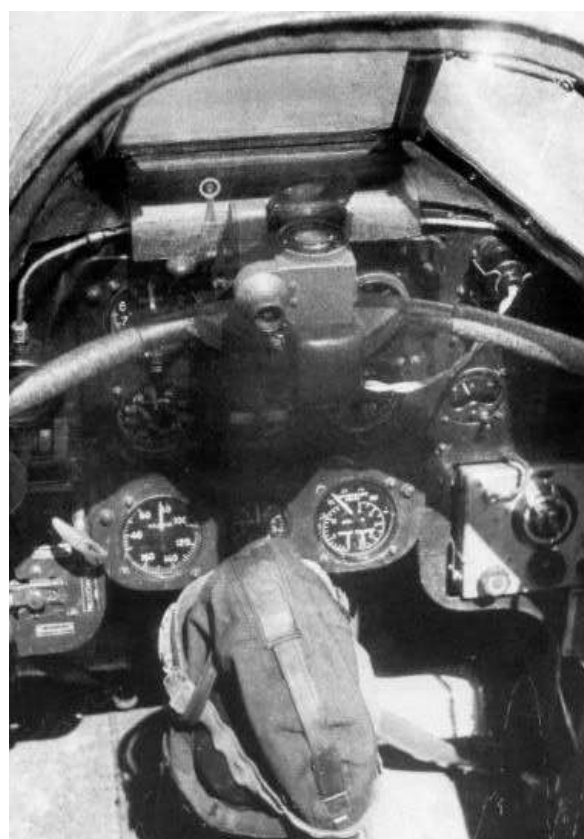
Yak-9B







1. Altimeter
2. Magnetic compass
3. Clock
4. Coolant temperature gage
5. Airspeed indicator
6. Turn and bank indicator
7. Variometer
8. Low fuel warning light (total fuel < 8% for M / < 12% for K / < 11% for T)
9. Electric generator warning light
10. Landing gear lever
11. Manifold pressure gage
12. Tachometer
13. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
14. Propeller pitch lever
15. Throttle
16. Supercharger lever: rear position - stage 1  
front position - stage 2
17. Flaps lever



Yak-9K







1. Altimeter
2. Magnetic compass
3. Clock
4. Fuel gage
5. Low fuel warning light (total fuel < 11%)
6. Airspeed indicator
7. Turn and bank indicator
8. Variometer
9. Landing gear position indicator: green - down  
no light - transition  
red - up
10. Landing gear lever
11. Manifold pressure gage
12. Tachometer
13. Engine gage: oil temperature (top)  
oil pressure (left)  
fuel pressure (right)
14. Coolant temperature gage
15. Electric generator warning light
16. Propeller pitch lever
17. Throttle
18. Supercharger lever: rear position - stage 1  
front position - stage 2
19. Flaps lever



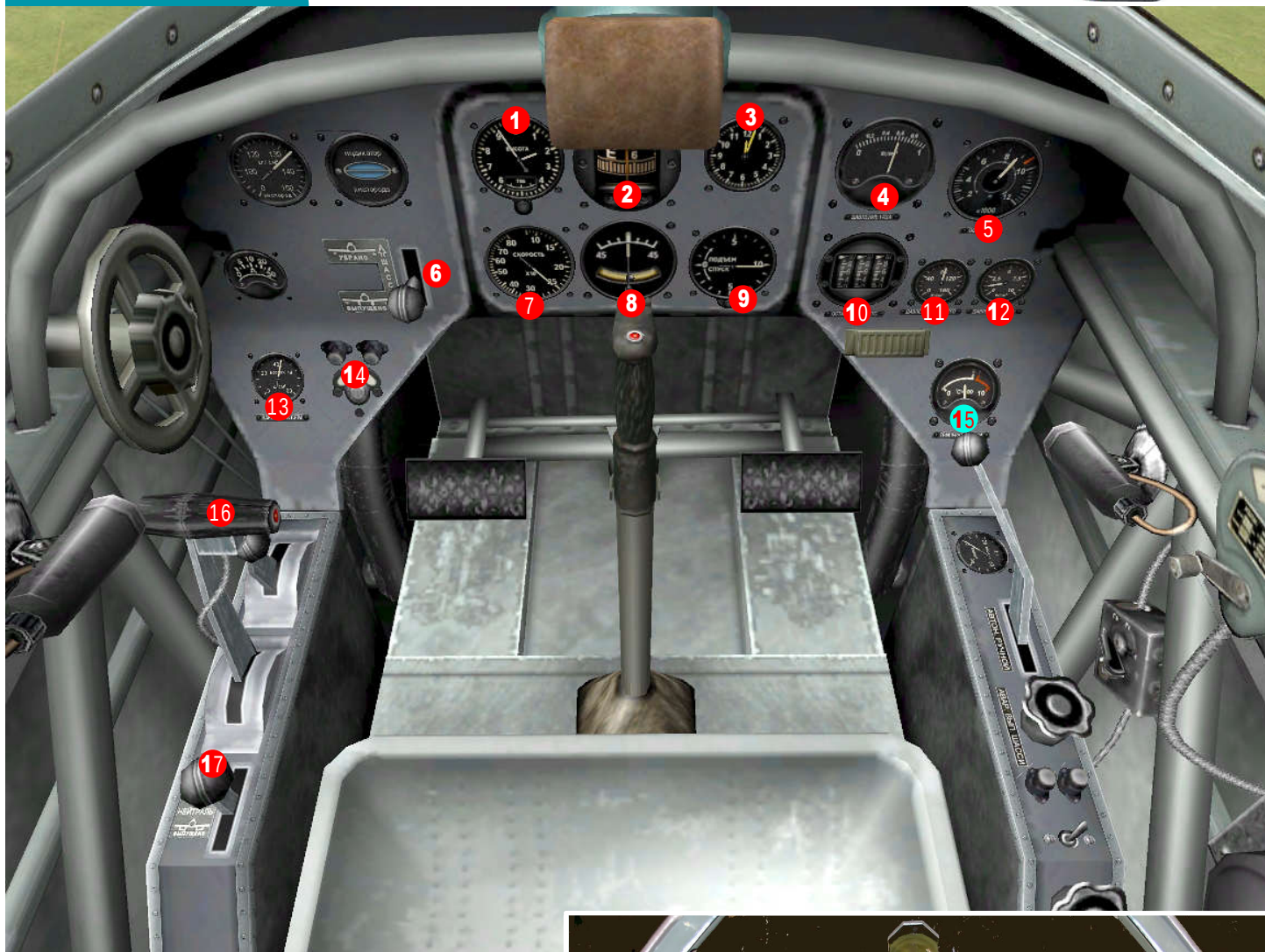
Yak-9U



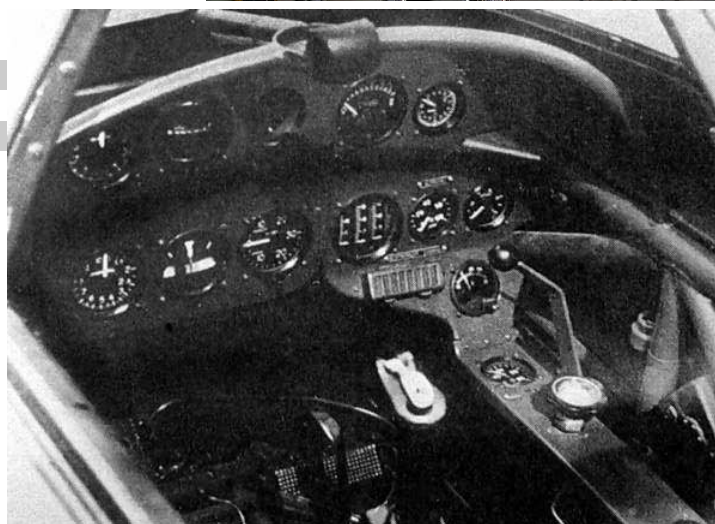
Yak-9UM (<http://igor113.livejournal.com/214103.html>)







1. Altimeter
2. Magnetic compass
3. Clock
4. Exhaust gas pressure gage
5. Tachometer
6. Landing gear lever
7. Airspeed indicator
8. Turn and bank indicator
9. Variometer
10. Fuel gage
11. Fuel injection pressure gage
12. Oil pressure gage
13. Compressed air pressure gage
14. Landing gear position indicator:  
green - down  
no light - transition  
red - up
15. Exhaust gas temperature gage
16. Throttle
17. Flaps lever



Yak-15 (<http://www.airwar.ru/aww2.html>)







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