

RESTAURAVIA

MAX-HOLSTE BROUSSARD FOR X-PLANE 12



English language

THE MH1521 BROUSSARD

Designed during the 1950s and 1960s by the french engineer Max Holste, the Broussard was a rugged aircraft suitable for use on rough terrain for observation, reconnaissance, liaison, and medical evacuation missions.

It was a high-wing monoplane powered by a Pratt & Whitney R 985 9-cylinder radial engine, recognizable by its H-shaped twin-tail.

The first flight took place in 1952, and series production continued until 1961. The main users were the French military (Air Force, Army Light Aviation, and Naval Aviation) and, outside mainland France, various African countries, as well as Portugal.



For more information about the Broussard, numerous documents are available on the internet, for example:

- * Max Holste MH1521 Broussard (*)
https://fr.wikipedia.org/wiki/Max-Holste_MH-1521_Broussard*
- * Le Broussard (*)
<http://www.mh-1521.fr/>*
- * Les aéronefs de l'ALAT - le Broussard par Christian Malcros (*)
<https://www.skyshelf.eu/fr-ie/products/malcros-christian-max-holste-mh-1521-broussard-en-service-dans-lalat-ebook>*

*(*) french language*

MODELING BY RESTAURAVIA

This Broussard model, originally created for FS24 (MSFS), is now converted for use in X-Plane12.

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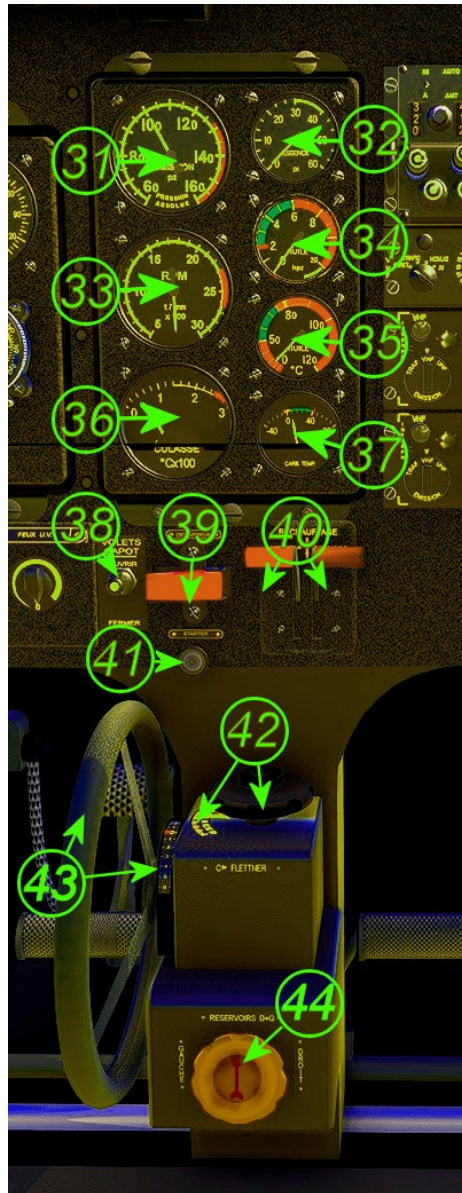
LEFT PANEL



- 1 - Emergency compass with integrated lighting
- 2 - Panel lighting lamps
- 3 - Flap control switch and indicator
- 4 - Low level fuel alarm lights (lit if less than 20 liters remaining)
- 5 - Fuel and oil levers (tied)
- 6 - Airspeed indicator
- 7 - Attitude indicator (*)
- 8 - Variometer
- 9 - Radio compass indicator (ADF)
- 10 - Fuel injector and elec pump
- 11 - Magnetos selector
- 12 - Altimeter
- 13 - Gyro-compass (*)
- 14 - Bank and turn indicator (*)
- 15 - Clock
- 16 - Taxi light control switch
- 17 - Depressed air supply with selectors and pressure gauge
- 18 - Fire alarm and extinguisher
- 19 - Bomb launcher (used for front door opening)
- 20 - Cabin lighting SW
- 21 - Nav lights
- 22 - UV and red lighting knobs
- 23 - Propeller pitch control
- 24 - Static pressure mode switch
- 25 - Pitot heater
- 26 - Top/bottom beacon inverter
- 27 - Beacon switch ON/OFF
- 28 - Mixture control
- 29 - Throttle control
- 30 - Parking brake lever

(*) active if relative air supply selector #17 open

CENTRAL PANEL



- 31 - Manifold pressure
- 32 - Fuel pressure
- 33 - Engine tachometer
- 34 - Oil Pressure
- 35 - Oil Temperature
- 36 - Cylinder Head Temperature
- 37 - Carburetor Temperature
- 38 - Engine Cowl Flap Control Switch
- 39 - Starter Button (Under Cover)
- 40 - Carburetor and Oil Heater Control Levers (tied)
- 41 - Primer
- 42 - Rudder Trim Knob and Indicator
- 43 - Elevator Trim Wheel and Indicator
- 44 - Tank Selection Knob (*)

(*) The fuel gauges are located outboard, under the wings.
They indicate the fuel level available in each wing tank.

RIGHT PANEL



45 - Radio control units

(refer to page 7 for using the radios)

46 - Battery switch

47 - Voltmeter

48 - Generator switch under cover and indicator light

49 - Cabin heating selector

50 - Propeller pitch lever

51 - Red lighting knob for right dashboard

52 - Mixture lever

53 - Throttle lever

54 - Medical seats configuration selector with stretchers

Click on the red cross to change seats configuration

USE OFF RADIOS



RADIO COMPASS (ADF) (4 channels)

- 1 - On/Off switch
- 2 - Frequency display of the 4 channels
- 3 - Frequency adjustment knobs
- 4 - Active channel selection (pushed button > active channel)

RADIO COM (VHF)

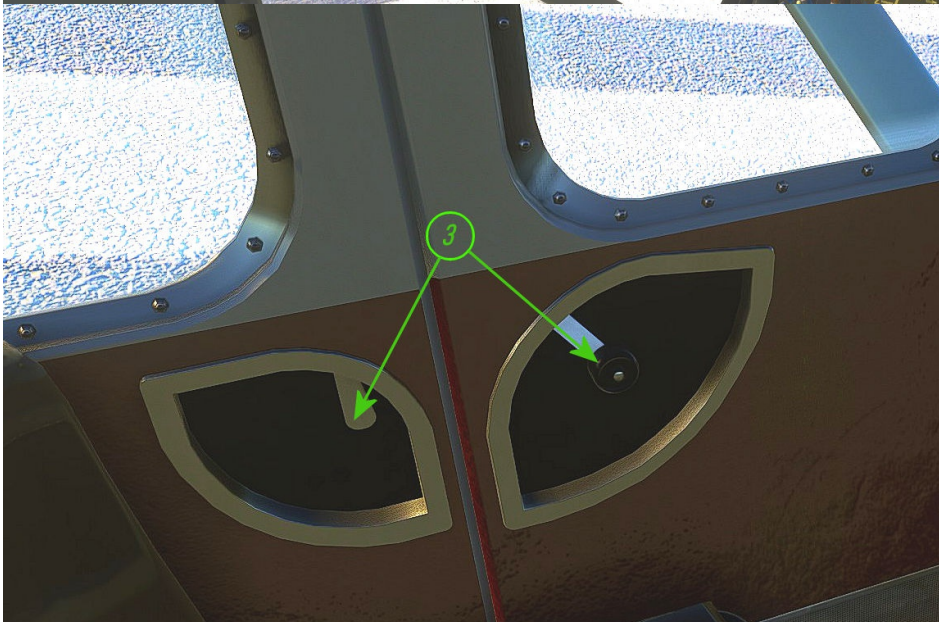
- 5 - On/off switch knob
- 6 - Frequency adjustment dial
- 7 - Frequency display in XP12

- 8 - Switch interphone boxes - pilot and co-pilot radios (inop)
- 9 - GPS GNS-530 popup: by click on either knob



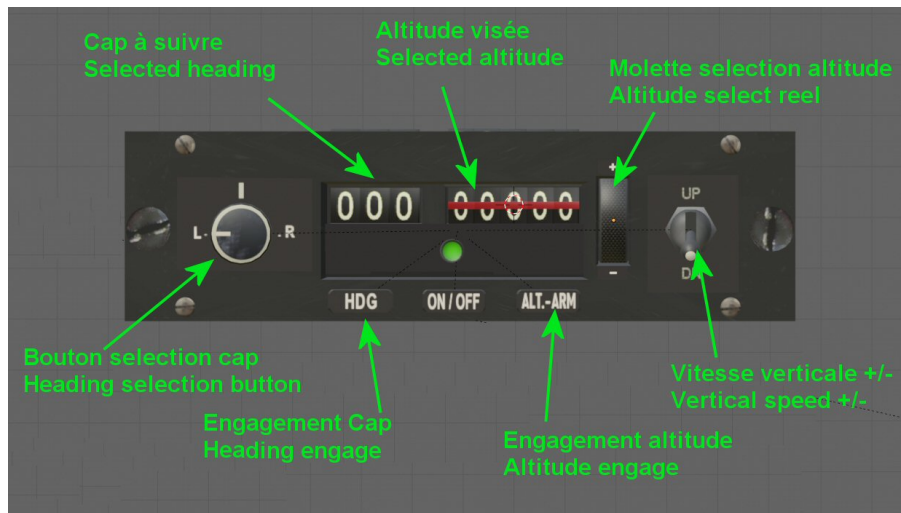
1 - Click on inferior bar to move the sunvisor

2 - Left an right sliding windows opening: click on each handle.



3 - Lateral doors opening: click on the handle zone.

SIMPLIFIED AUTO-PILOT



Although the real aircraft is not equipped with an autopilot (AP), to make flying the Broussard in X-Plane more user-friendly, a simplified AP has been added to the instrument panel at the top of the radio column.

The AP's functions are limited to selecting and maintaining heading and altitude.

Utilisation:

- set the selected heading with the left button,
- push the HDG button to engage the heading capture.
- select the aimed altitude with the altitude reel.
- push the ALT-ARM button to engage the altitude capture,
- use the right switch VS UP.DN for joining the selected altitude.

STARTUP

(Refer to pages 4-5 and 6 to locate the listed controls)

- * Parking brake on (30) - lever to the left*
- * Battery (46) and generator (48) ON*
- * Fuel and oil levers (12) open - levers up*
- * Mixture on rich (23) - lever forward*
- * Throttle (29) - lever 4 to 5 centimeters forward*
- * Propeller (23) on high pitch - lever back (*)*
- * Fuel tank selector (44) on "all" - wheel centered*
- *Magnetos selector on M1-M2*
- * Activate the electric pump (10 right) - pressure gauge (34) in white zone*
- * Perform manual injections (10 left) - 1 or 2 engine warm - 2 to 4 if engine cold*
- * Starter (39) - Click to open the cover then press the button until the engine is running*
- * Propeller lever (23) forward in low pitch*
- * Display 1200 rpm and monitor the oil temperature rise (35)*

() Unlike most aircraft, the flight manual recommends starting with the propeller in high pitch.*

REFERENCES

Before alignment:

- Flaps 15°
- Fuel pump On
- Cowl flaps set for cylinder head temperature < 230°
- Oil temperature > 50°C

Takeoff:

- Takeoff at 56 to 64 knots depending on weight
- Level off until 80 knots

Climb:

- Reduce throttle to 117 rpm - 2200 rpm
- Cylinder head temperature between 160° and 260°
- Oil temperature green zone
- Carburetor temperature 32°

Normal cruise:

- 88 pz - 1900 rpm
- Fuel pump off
- 100 knots

Descent:

- 60 pz - 1700 rpm
- 100 knots

Downwind:

- Full rich mixture
- Full low pitch propeller
- Flaps 20°
- 86 pz for 80 knots

Final:

- Flaps on demand
- 65 knots
- 70 to 80 ft

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However the distribution of textures is authorized on any site provided if it is free of charge and in the form of a complement (addon) to be integrated into the base model previously installed.

If you have any problems in using this model :

- Look at this documentation: the answer is probably here.*
- Visit the "Pilote Virtuel" forum <http://www.pilotevirtuel.com> (french language).
It probably speaks of the Broussard and you could find help.*
- Or in english language forum (Xplane.org)*

Last solution: contact us at support@restauravia.fr

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