

Nord 3202



Model for X-Plane 12

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THE NORD 3202

- History:

The Nord 3202 is a single-engine monoplane aircraft, intended for pilot instruction. Built by Nord-Aviation (a french manufacturer), the prototype made its first flight on 1957 april 17. At the beginning equipped with 240 HP Potez 4D32 engine and a two-blades Ratier propeller, it was modified with a 260 HP turbocharged Potez 34B and a three-blades Hartzell propeller. Its fuel and lubrication systems allows to operate inverted flight positions. Some aircrafts were modified to a single-seat version with a lighten landing gear to give the Nord 3202 a competitive aerobatics aptitude.

Specially designed to meet the ALAT (french Army) needs, 102 units of the Nord 3202 were produced.

Assigned to the ALAT aeronautical schools of Sidi Bel Abbas (North Africa), Le Luc en Provence then Dax (South of France), the Nord 3202 have trained during more than 100000 flight hours numerous student pilots, french and abroad.



Dax aeronautical school of ALAT during the sixties
(photo issued by the internet site Les Vieilles Tiges ALAT
<http://lesvieillestigesalat.blogspot.com/>)

- General characteristics :

Wing span	9,50 m
Length	8,14 m
Height	2,84 m
Wing area	16,26 m ²
Airframe	metal and cloth lined
Wing profil	NACA 23017 evolving to NACA 23012
Flaps	slotted flaps
Gear	fix with hydropneumatic suspension and tail wheel
Fineness ratio	5,5
Empty weight	875 kg (radio compass version)
Maximum weight	1220 kg
Motorization	Potez 4D34B 260 HP and three-blades propeller
Maximum speed	350 km/h
Cruise speed	190 km/h
Ceiling	3000 m
Endurance	4h 30

The Nord 3202 model is made for X-plane 12. It largely incorporates the elements of the model made by Restauravia in 2020 for Prepar 3D.

<i>Modélisation Gmax</i>	<i>André Chancel</i>
<i>with the contribution of Gilles Faulmeyer (engine and propeller)</i>	

<i>Converted to X-plane by</i>	<i>Bernard Juniot</i>
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<i>sounds</i>	<i>Jean-Michel Renaux</i>
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<i>Flight dynamics</i>	<i>Jean-Pierre Bourgeois</i>
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<i>Textures</i>	<i>Gilles Faulmeyer (N° 64) and B.Juniot</i>
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<i>Ground settings and flying tests</i>	<i>Benoit Dubé (*)</i>
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*(*) We have a very special thought for our friend Benoit Dubé who left us in 2015 for a "no return flight". He had heavily invested in modeling the Nord 3202 for FSX. His contribution was largely taken up in this Prepar 3D version*

FRONT SEAT COCKPIT (Student pilot)



- | | | |
|------------------------------|--|---------------------------|
| 1 - Attitude indicator | 6 - Gyrocompass | 11 - Engine tachometer |
| 2 - Airspeed indicator | 7 - Compass | 12 - Clock |
| 3 - Altimeter | 8 - Fuel tank and pressure indicator | 13 - ADF or g-meter |
| 4 - Vertical speed indicator | 9 - Oil temperature and pressure indicator | 14 - External temperature |
| 5 - Turn indicator | 10 - Manifold pressure | |



- | | | |
|--------------------|-----------------------------|----------------------------------|
| 16 - Fuel shut-off | 20 - Radio VHF control unit | 24 - air conditioning levers (*) |
| 17 - Starter | 21 - ADF control unit | 25 - Fire warning light (*) |
| 18 - Magnetos | 22 - Pressure distributor | 26 - Electrical panel |
| 19 - Cutoff | 23 - Fire extinguisher | |

REAR SEAT COCKPIT (Instructor)



- 1 - Airspeed indicator
- 2 - Altimeter
- 3 - Attitude indicator
- 4 - Gyrocompass
- 5 - Vertical speed indicator

- 6 - Turn indicator
- 7 - ADF or g-meter
- 8 - Compass
- 9 - Clock
- 10 - Fuel and oil warning lights

- 11 - Manifold pressure
- 12 - Engine tachometer
- 13 - Pressure distributor



15 - Starter

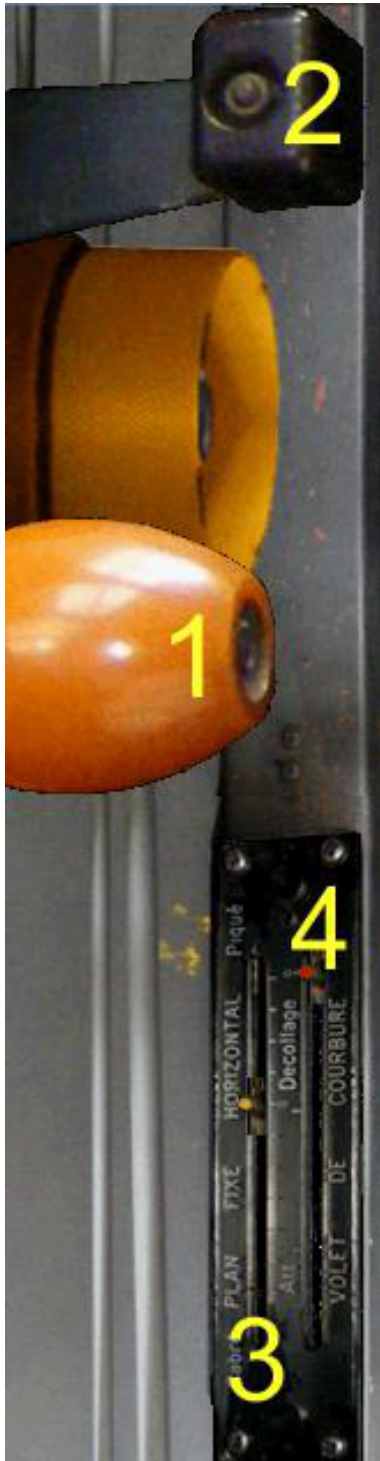
16 - Magnetos

17 - Panel lights

18 - Radio VHF control unit

see instrument's details pages 10 - 11 - 12

LATERAL CONSOLES AND PARKING BRAKE



- 1 - Throttle lever
- 2 - Propeller pitch lever
- 3 - Elevator trim indicator
- 4 - Flaps position indicator

- 5 - Rudder trim command
- 6 - Audio control panel

- 7 - Parking brake lever
(front seat only)

(The control surfaces blocking arch is not functional)



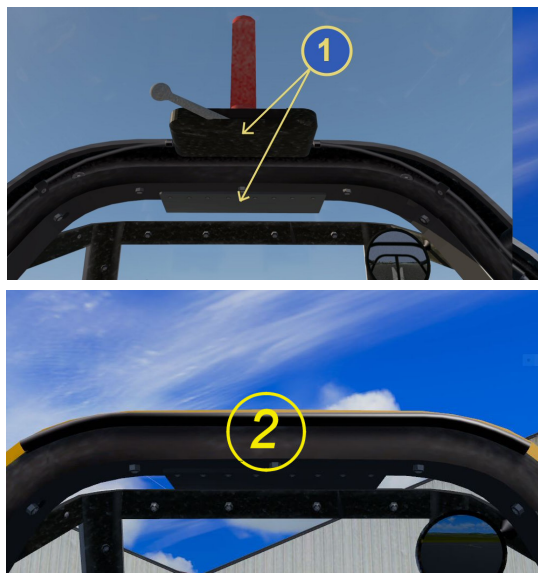
OTHER COMMANDS

Canopies :

The canopies are activated by a single command :

- Left click on 1 to open / close*

Both canopy parts move together.



For better forward visibility, taxiing is done with the canopy open and the front seat in the highest position

On aerobatic models, it was usual to pilot from the aft cockpit seat.

Opening / closing of the engine covers:

The engine cowls are automatically opened when parked with bus voltage off.

Cowls closing is automatic if battery is on.



FLIGHT INSTRUMENTS



Airspeed indicator :

Green arc: normal flight conditions

Yellow arc: forbidden speeds during turbulences

White arc: flaps allowed

Red arc: speed not to exceed (VNE)



Altimeter :

Calibrated in the metric system

The needle shows the hundreds of meters; the crown on the left side shows the thousands of meters.

The knob adjusts the altimeter to the desired pressure



Attitude indicator :

The knob adjusts the miniature aircraft index

A red flag shows when the gauge is not active (see pressure distributor)



Turn indicator :

A red flag is displayed when the gauge is not active (see pressure distributor)



Gyro-compass :

The bottom right knob is used to display the course on the crown

The bottom button is used to sync the instrument with the magnetic compass.

A red flag (X) appears when the instrument is not turned on (see pressure distributor)



Engine tachometer

The four white markers show the values to display during the following flight phases:

- 1 - long range cruise (2000 RPM)
- 2 - fast cruise (2200 RPM)
- 3 - maximum continuous power (2400 RPM)
- 4 - take off (2550 RPM)



Manifold pressure (Piezes)

The four pink markers show the values to display during the following flight phases:

- 1 - long range cruise (105 Pz)
- 2 - fast cruise (123 Pz)
- 3 - maximum continuous power (141 Pz)
- 4 - take off (169 Pz)



Fuel tank and pressure indicator

The left needle shows the fuel pressure and the right needle the fuel quantity available in both tanks (in liters)

The whole capacity of the two tanks is 200 liters



Oil temperature and pressure indicator

The left needle shows the oil temperature and the left one the oil pressure



Fuel and oil warning lights

The light PRESSION D'HUILE (oil pressure) illuminates when the pressure is under 1 Hpz

The light RESERVOIR D'ESSENCE (fuel tank) illuminates when the safety fuel level is reached(about 30 liters)



ADF indicator :

The ADF indicator is visible when the Radio-compas (R.C) power switch is ON.

If the switch is in off position, the G-meter will be displayed instead.



g-meter

The central needle gives the instant acceleration. The two others needles show maximum and minimum values, recording during maneuvers.

The knob resets the instrument



Pressure distributor and indicator (Piezes)

The three valve-knobs activate the following instruments :

- Left knob : gyrocompass
- Middle knob : attitude indicator
- Right knob : turn indicator

The normal pressure is between 12 and 15 piezes



Compass (front seat)

The ring indicates the course. It is set manually by clicking on the left or right zones.



Compass (rear seat)

ELECTRICAL PANEL (front cockpit)



- | | |
|---------------------------------------|-----------------------------|
| 1 - Fuel pump | 9 - Red lighting |
| 2 - Primer | 10 - Lateral consoles light |
| 3 - Starter | 11 - Ultraviolet light |
| 4 - Warning light pitot reheat | 12 - Battery switch |
| 5 - Pitot reheat | 13 - Voltmeter |
| 6 - Landing light | 14 - Generator switch |
| 7 - Non operating | 15 - Generator light |
| 8 - NAV lights toggle with two modes: | |
| - Top (C) : strobe lights | |
| - Bottom (F) : fixed lights | |

VHF CONTROL UNIT



Radio-communications are managed by the VHF control unit accessible from each of the cockpits

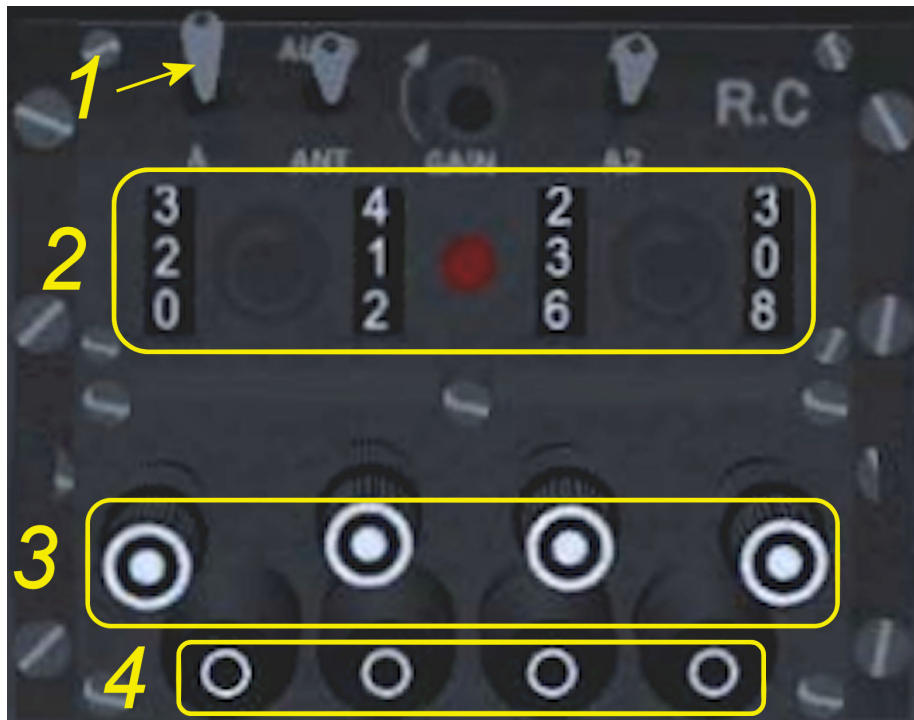
16 - ON / OFF switch

17 - Frequency adjustment knob (right click / left click + mouse wheel)

- The selected frequency is displayed above for commodity.
- externa knob :MHz coarse setting
- center of the knob: KHz fine setting.

18 - Green light on if VHF active

ADF CONTROL UNIT



The ADF has 4 channels.

The control box allows you to preset 4 radio-compass stations

1 - ON / OFF switch, allows the ADF indicator display.

*2 - frequencies display (kHz) for each channel
(decimals are not used)*

*3 - knobs for adjusting the frequency of each channel
(left click or mouse wheel)*

4 - push buttons for activating one of the channels
- one single channel is active at a time
- The indicator gives the direction of the activated channel station

To find out more information about the Nord3202

- Site created by UNA-ALAT - Languedoc-Roussillon <http://www.alat.fr/>
- Amicale Jean-Baptiste Salis
<http://www.airbil.com/ajbs/musee/museepagehtml/Nord3202Html/Nord-3202-Historique.htm>
- Detail pictures
<http://aviapassionmaquette.free.fr/Aviapassion%20Maquette%20photoscope%20NORD3202.html>
- Various photos
<http://tagazous.free.fr/affichage.php?appareil=Nord%203202>
- 3D images of a Nord3202 (external and internal) by Affendy AWALLUDIN
<https://www.fnd-fnd.com/media/nord3202/>

LEGAL MENTIONS

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Any distribution of this model, or part of the model, modified or not, by any means is prohibited.

However, the distribution of textures on any site is allowed, provided it's done for free as a supplement to the basic model.

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 Nord 3202 and you can find help.

Or an English language forum (for instance SOH <http://www.sim-outhouse.com/sohforums/forum.php>)

Last solution: contact us at webmestre@restauravia.fr

Restauravia January 2023