Light
multipurpose aircraft
Antonov An-3T

for P3D v4.5.

Russian Classic Aircraft

Quick Start Guide

2021

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The model is distributed free of charge and without restrictions.

drstalker80 created the An-3T for FS2004, we used it as a basis

model (with his permission), was completely rebuilt and created

an updated model of An-3TBK for P3D v4+v5 & FSX.

This model was created based on data from the flight manual for the An-3 aircraft.

Installation: Place the Antonov An-3 folder from the archive into the Airplanes folder of the simulator.

Introduction:

The An-3 is a variant of the An-2 cargo-passenger aircraft with a TVD-20 turboprop engine.

--- Antonov An-3T for P3D v4.5 ---

TECHNICAL CHARACTERISTICS

Modification	An-3T
Wingspan, m	
top	18.18
lower	14.24
Aircraft length, m Aircraft	13.97
height, m Wing area, m2	4.93
Weight, kg	43.55
empty plane	3615
maximum takeoff	5800
Engine type Power,	1 TVD TVD-20-01 1 x 1375
hp Maximum speed,	289(true)
km/h Cruising speed,	255 (true)
km/h Ferry range, km	
Practical range, km	1230
with a commercial load of 1000 kg	900
with a commercial load of 1500 kg	770
Maximum rate of climb, m/min	300
Practical ceiling, m	3900
Crew:	2
Payload:	18 passengers or 1800 kg of cargo

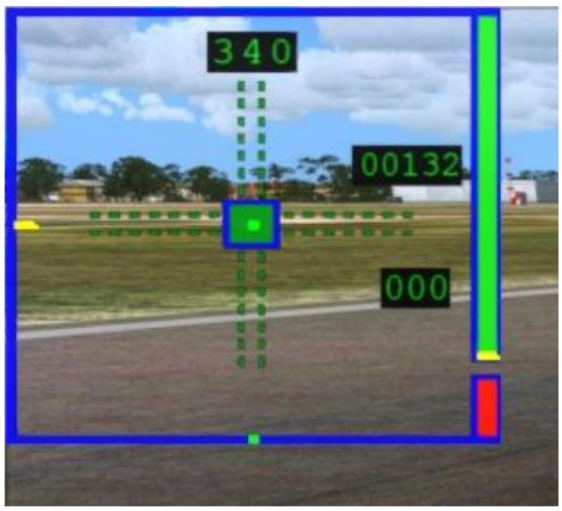
GENERAL DESCRIPTION OF PANELS.

This model features both 2D panels and a fully functional virtual cockpit.

Main 2D instrument panel.

Other 2D panels

There is also a device for controlling an airplane without a joystick using a mouse by **Yury Kuchura**

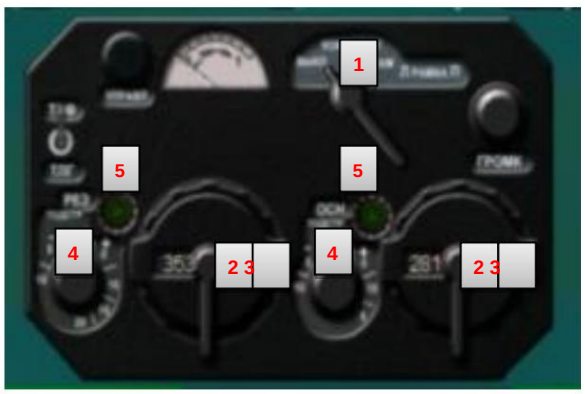


To enable mouse control, open the device panel and right-click in its center (green square).
To disable mouse control, left-click.

Aircraft intercom SPU-7

In this model the switch positions involved are

YKP - Listening to COM1
CP - Listening to COM2
PK1 - Listening to the call signs of the 1st channel of the radio compass
PK2 - Listening to the call signs of the 2nd channel of the radio compass



ARK-9 radio compass

1. Radio compass switch
2. Hundredths setting zone
3. Zone of Installation of Tenths
4. Unit installation area
5. Lamp of the selected channel. Switching channels primary/backup is carried out by the toggle switch on the left (2D panel) or on the 2nd panel pilot (VK)

Listening to ARC signals is carried out in position PK1 and PK2 on the SPU-7 control panel

Commander's instrument panel.

1. Block of signal boards: **“Engine fire”, “Engine vibration”, “Speed limit”, “Min. oil pressure”, “Propeller control failure”**
2. Inactive panels
3. Central signal light (CSL)
4. CSL reset button
5. “Marker”signal lamp
6. Instrument airspeed indicator
7. “High bank” panel
8. Fire extinguishing system toggle switch
9. Fire extinguishing system panel (inactive)
10. Artificial horizon
11. Variometer
12. Radio altimeter
13. Radio compass indicator
14. Barometric altimeter
15. Flap position indicator
16. Voltage control rotary switch (inactive)
17. Ammeter
18. Voltmeters 27, 36, 115V
19. Switches for batteries, generator, converters, regulator voltage (not used)
20. Rotary switch for phase control (not used)
21. Buttons and signal lamps for controlling the heating of the high pressure heater

The middle part of the dashboard.

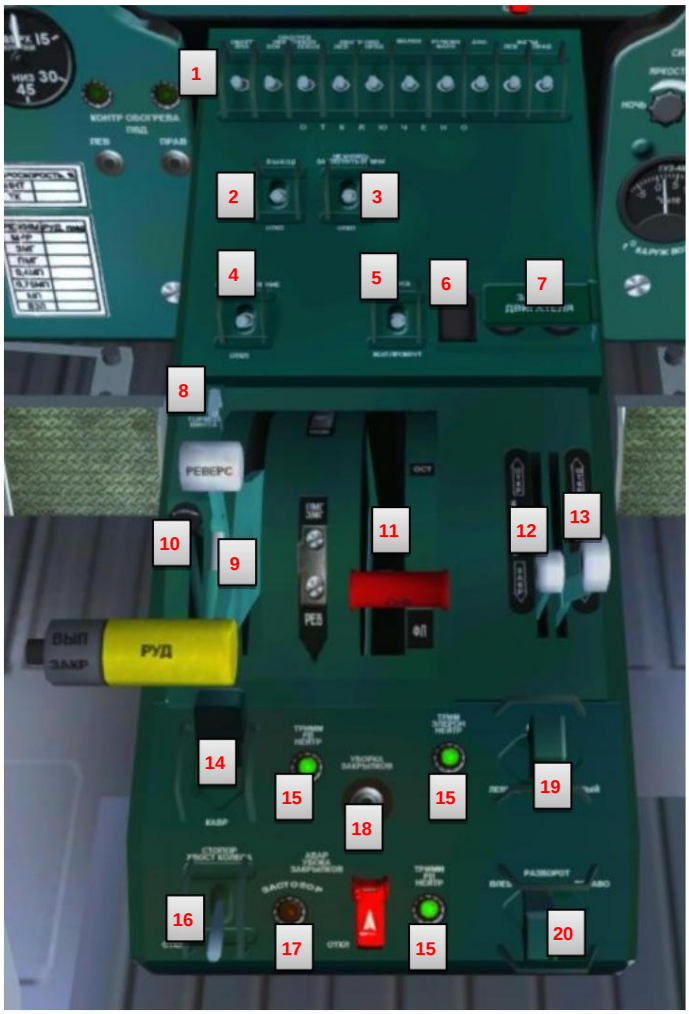
1. GPS navigator
2. Communication console of the Baklan radio station, 1st set.
3. Communication console of the Baklan radio station, 2nd set.
4. Signal boards: "Reverse", "Heating", "VNA", "Dust separation"
5. Fuel unit position indicator (FUPI)
6. Gas generator turbine and propeller turbine speed indicator.
7. Exhaust gas thermometer
8. Signal boards: "KPV open", "idle board", "Electric starter"
9. Fuel pressure indicator
10. Fuel pump switch
11. Fuel gauge
12. Fuel gauge reading switch for tank groups “Left” “Sum”, "Rights"
13. Oil pressure and temperature indicator, screw and turbine vibration speed indicator for the BIP-38 compressor.
14. Clock.

Co-pilot's instrument panel.

1. Block of signal boards: **“Engine fire”, “Engine vibration”, “Speed limit”, “Min. oil pressure”, “Propeller control failure”**
2. Unused displays
3. Central signal light (CSL)
4. Instrument air speed indicator
5. Artificial horizon
6. Variometer
7. "Marker" signal lamp
8. Light signaling control button
9. Outside air temperature indicator
10. Gyrocompass correction mechanism
11. Radio compass indicator
12. Barometric altimeter
13. Cabin air temperature indicator (simulation)
14. Cabin air temperature indicator (simulation)
15. "Near-Far" radio compass switch
16. ARK-9 automatic radio compass

Commander's side control panel.

1. Pneumatic system valve.
2. Air pressure gauge in the pneumatic system
3. Instrument lighting switch.
4. Brake system pressure gauge
5. SPU control panel
6. Fuel tank selector: **“Off”, “Left”, “Both”, “Right”**
7. Fan switch
8. BIP-38 control button (Electronic pressure, temperature indicator oils, vibration speeds)



Central control panel

1. Heating and lighting equipment toggle switches.
2. "Exit" display switch.
3. "No smoking" display switch.
4. Dust separation switch.
5. "Start-Scroll" switch.
6. "Ready" signal board
7. "Start" and "Start Stop" buttons under the cap.
8. Propeller brake handle.
9. Fuel unit lever (THR)
10. THR locking lever (In this model, it does not provide the ability to switch engines to the idle mode (less than 36% of the throttle position).
11. Engine stop valve and propeller feathering lever
12. Oil cooler opening lever
13. Air bleed lever (imitation)
14. Elevator trim control switch
15. Neutral position signal lamps for the rudder, rudder, and aileron trimmers.
16. Tail wheel lock toggle switch.
17. Tail wheel lock signal lamp

18. Flap retraction button
19. Aileron trim control switch
20. Rudder trim control switch

Top panel

It contains fuel stations for all aircraft systems.
All of them must be included

Upper panel of signal boards.

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AIRCRAFT CENTERING

Operating range of center of gravity:
Maximum forward center of gravity 17% CAX
Maximum rear center of gravity 33% empty 30% MAC

The aircraft's balance and weight are displayed on the control chart panel.

The control chart consists of 4 sheets.
Turning the sheets over is done by mouse at Zone 1

PRE-FLIGHT PREPARATION

Attention!

To ensure correct operation of all instruments, it is necessary to: Initialize all 2D panels by opening them. If the simulator is not configured for a "cold and dark" startup

When you open the 2D throttle panel, the engines will stop if they were running when the model was loaded. Disable all active fuel stations.

Press shift+E to open doors.

The cold and dark An-3T is ready.

Features of the model.

The propeller pitch adjustment on the An-3 is performed automatically depending on RUD positions.

Flaps and trimmers **only work after switching on corresponding gas stations** on the overhead control panel.

Flaps can be extended and retracted using the standard simulator command F6-F7

Starting the engine **using Ctrl+E is not possible.**

Differential braking steering is now implemented.

To turn, simply depress the pedal to the side and apply the brakes.

The fan in VK is animated. It works with the corresponding switch on side control panel.

The engine has been configured to prevent oil from overheating at temperatures above 95 degrees. **The oil coolers must be opened immediately after starting engines**, Otherwise, **the engines may fail due to overheating.**

The operating modes of the power plant have been implemented.

Mode	Indications of the UPRT	GG revolutions%	TC revolutions%
Takeoff	111	93	75
Maximum duration	92	90.9	70.8
0.75 nominal 0.4 nominal	74	86	65
0.15 nominal ZMG –	54	80	57
Earth small gas. Reverse	36	69	52
	13	61	52
	0	-	-

The minimum permissible engine operating mode in flight is 0.15

To prevent the throttle levers from engaging the MG mode in flight, use the lever (item 10, see central control panel) to engage the throttle levers. The throttle levers can be released from the MG mode lock before the aircraft touches down.

The pneumatic braking system is operational.
Until the pneumatic system valve is opened, the plane has no brakes!

This model has the following powertrain limitations:

The maximum engine operating time in takeoff mode is no more than 5 minutes. Engine failure will occur shortly after this time.

After operation in take-off mode, the engine must cool down for at least less than 3 minutes.

Wheel brake failure is also provided at speeds over 155 km/h. within 3 seconds.

Before launching, set the aircraft's parking brake. Make sure the levers are engaged. **Throttle and thruster** in the rear position. Close the access hatches.

LAUNCH.

1. **Commander's side panel** Open the pneumatic system valve.
   Make sure that the arrows on the two-pointer pressure gauge show at least 8.
2. Turn the fuel selector switch to the "Both" position .
   Commander's instrument panel.
3. Set the barometric altimeter needles to 0.
   Set the value safe altitude on the radio altimeter.
4. Turn on the batteries.
5. Turn on the converters. Ceiling control panel.
6. Turn on all gas stations on the overhead control panel.
7. Check the operation of the light signaling system.
8. Check the amount of fuel on the fuel gauge in the left and right groups. (tanks.)
9. Set the engine ignition switch to the “Ready” position.
   Commander's side console
   Press the "BEEP Control" button. 8888 should light up on the Beep Indicator on the middle panel.

Central control panel

11. Turn on the fuel pump
12. Disengage the propeller brake
13. Start/crank switch to the "Start" position
14. OF lever to the forward position
15. Oil cooler flap lever to the forward position
16. Move the throttle to the 45% position according to the control lever
17. Make sure that the "READY" indicator lights up
18. Fold back the cap and press the "start" button for a few seconds.

19. **Commander's instrument panel.**

20. After the engine starts, turn on the generator
21. Set up the navigation and communication equipment. Make sure that the doors are closed
22. Make sure that all red and yellow lights on the board except for the “Wheel” light have gone out.
23. Make sure that the central heating system is not lit.

PREPARING FOR TAKEOFF.

Smoothly increase the throttle until the aircraft starts to move.

After the aircraft starts to move, check the brakes.

Taxiing speed is no more than 20 km/h in a straight line.

At the preliminary takeoff, release the flaps to an angle of 30 degrees, if
Takeoff is performed with flaps down. Turn on the wing heater.

Taxi to the runway and align the aircraft with the runway centerline.

Lock the tail wheel and, after taxiing 5-10 m, apply the brakes.

Turn on landing lights.

Read the "On the Executive" card

Request takeoff clearance

TAKEOFF AND CLIMB

Takeoff with flaps 30 Takeoff mode.

- While holding the aircraft on the brakes, smoothly increase the speed to 74: according to the control lever.
- Release the brakes and after 1 second, increase the revs to 2-3 seconds.
  takeoff mode.
- Maintain the direction during takeoff by deflecting the rudder and ailerons.
  Takeoff perform on 3 supports.

To avoid liftoff at low speed in a headwind of more than 10 m/sec, takeoff should be performed with the tail wheel lifted off at a speed of 60-65 km/h.

Takeoff speeds and safe takeoff speeds in takeoff mode with flaps 30.

Вес, кгс	Скорость отрыва, км/ч	Безопасная скорость, км/ч
4000	60	90
4500	65	95
5000	70	100
5500	73	107
5800	75	110

After takeoff at an altitude of 5-7 m, reduce the trajectory angle to ensure the aircraft accelerates to a speed of V2 ÿ90-100 km/h at an altitude of up to 15 m.

Climb the aircraft to V2 speed.

At an altitude of 50 m, turn off the landing lights.

At an altitude of 120 m and a speed of 105-120 km/h, start retracting the flaps (F6 key) in 2-3 techniques with a simultaneous increase in speed, with the expectation that by the time the flaps are retracted the speed will be 150 km/h.

The forces arising on the steering wheel are removed using the rudder trimmers.

Takeoff with flaps set to 30 and with flaps retracted. Nominal mode

Take-off piloting technique as described above.

Takeoff speeds and safe takeoff speeds at nominal conditions.

Вес, кгс	Закрылки убраны		Закрылки 30°	
	Скорость отрыва, км/ч	Безопасная скорость, км/ч	Скорость отрыва, км/ч	Безопасная скорость, км/ч
4000	90	105	65	90
4500	95	110	70	95
5000	100	115	75	100
5500	108	122	78	107
5800	110	125	80	110

If the crosswind is more than 4 m/s, takeoff should be performed with the flaps retracted and the takeoff speed should be 100-120 km/h.

Climb to altitude at a speed of 155 km/h at the maximum continuous mode - 92% UPRT

Cruising flight

Upon reaching the required flight level, transfer the aircraft to horizontal flight.

When cruising speed is reached, set the throttle to the required mode.

The cruising speed must not be less than the rate of climb.

Balance the plane with the trimmer.

The An-3 doesn't have an autopilot. However, the model does include a "copilot," which, when activated, maintains the current course and altitude.

Press the "Co-Pilot" icon ONLY in stable, level flight! Do not activate it on the ground!

When the “second pilot” is active, do not touch the control stick or control pedals!

If you need to make adjustments to altitude and course, turn off the “Co-Pilot”, make adjustments and turn it on again.

DESCENT AND LANDING

1. Perform the descent at a speed greater than 250 km/h.
2. At the transition level, set the pressure on the barometric altimeter of the airfield.
3. Perform landing approach according to the pattern established for the given airfield.
4. At the altitude of the circle, set the speed to 160 km/h.
5. Read the chart “Before the landing approach”.
6. After completing the 4th turn, set the speed to 140 km/h.
7. At an altitude of at least 150 m, turn on the landing lights.
8. At an altitude of at least 100 m in level flight, release the flaps 30 degrees in 2-3 doses.
9. Maintain a glide path speed of 100-120 km/h.
10. Descent speed on glide path no more than 3.5 m/s.
11. Start leveling from a height of 7-6 m.
12. At the end of the alignment before landing, set the throttle to the ZMG mode (36 UPRT)
13. Perform a 3-point landing.
14. Landing speed with flaps extended to 30 degrees is 75-90 km/h.
15. After landing, apply reverse and pulse braking of the wheels.
16. At the end of the run, turn off the high pressure heater.
17. Release the tail wheel, taxi to the parking area.

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Clear skies!

Many thanks to **drstalker80** for the opportunity to use his model for MFS2004 as a basis.

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