

# **T-6A Installation and Setup Guide**



## 1. Installation

# 1.1 Installing The Aircraft

To install, extract the T-6 folder from the T-6 zip file into any one of the sub-folders in the X-Plane/Aircraft folder. You could use this structure as an example:

• X-Plane 11\Aircraft\Military\Trainers\T-6A Texan II

# 1.2 Installing and Updating the GPS Navigation Data

The GPS uses data supplied by Navigraph. Open the zip file "KLN900Navdata.zip" and extract the "KLN900 Navdata" folder into the main X-Plane folder so that you have this resulting folder structure:

• X-Plane 11\KLN900 Navdata

See this thread for detailed information on updating the GPS Navigation Database.

You will need to purchase the latest dataset from <u>Navigraph</u> for this to work. Go to the <u>Navigraph</u> <u>web site</u> and click the <u>Navigraph FMS Data link</u>.

When using the GPS, there are a couple of things to note that are different from the real GPS. The first has to do with simulation settings. See section 6.3 in the KLN90B X-Plane Manual. Set the GPS to FAST if you don't want to wait several minutes for it to acquire satellites. Also set the HSI to <--> so that it works correctly with the T-6.

#### **Known GPS Discrepancies with real GPS**

• None at this time.

# 2. Registration

The first time you open the T-6 in X-Plane, a window will pop-up asking you to register. Select the Internet Registration option and type in the key sent to you to activate the T-6. You will have to re-open the aircraft after registration is complete.

# 3. Setup

There are several T-6-specific commands which must be mapped to keys or throttle/joystick commands as desired. See section 3.1 on mapping the commands to keyboard keys and see section 3.2 for mapping commands to your controls.

#### **Required Commands**

The ones of interest are:

- Toggle Gear Up or Down use this instead of the X-Plane gear toggle command. The landing gear will not function correctly if this command is not used. You may also click the landing gear handle in the cockpit if you prefer.
- Key Command Menu to set T-6 preferences, to configure the custom throttle, and to show the electrical bus status values.
- Engine Cutoff to Start to Idle Advance (if not using the T-6 custom throttle)
- Engine Cutoff to Start to Idle Back (if not using the T-6 custom throttle)
- Flaps Land If using the T-6 custom throttle, map this to the flap lever in landing position.
- Flaps Takeoff If using the T-6 custom throttle, map this to the flap lever in takeoff position.
- Flaps Up If using the T-6 custom throttle, map this to the flap lever in up position.
- Trim Interrupt recommend mapping this to a joystick button as outlined in section 3.2.
- NAS Range Select recommend mapping this to a joystick button as outlined in section 3.2.
- NAS Proximity recommend mapping this to a joystick button as outlined in section 3.2.

#### **Optional Commands**

Other commands are optional such as "Toggle Emergency Gear Lever". You can assign a key or joystick button to this command if you wish or you may simply click the control in the cockpit. The list of optional commands follows:

- Cycle through Bearing Sys1 Mode
- Cycle through Bearing Sys2 Mode
- Toggle Emergency Gear Lever
- Master Caution Accept
- Master Warning Accept
- Toggle Between Nav and GPS mode
- Silence Gear Horn
- Reset Failures Useful key instead of having to reset them from the Key Command Menu.
- Move to Rear Seat

#### **Plugin Commands**

Note that all other commands are used by the plugin and will be noted as such (Plugin Control) and should not be used by the user.

## 3.1 Mapping T-6 Commands to Keys

Go the X-Plane settings menu. From there, click the Keyboard tab on the top. Several menu items get displayed below as shown below:

General Sound Graphics Netwo	ork Data Output Joystick <b>Keyboard</b> GPS Hardware	
✓ All	+ ATC	
Essentials	+ Annunciators	
Currently Assigned	+ Checklist	
rigintionica	+ Engines	
	+ Flight Controls	
	+ Navigation & Radios	
	+ Operation	
	+ Replay	
	+ Time	
	+ Views	
	+ bgood	
	— cjs	
	+ t6b	
	— texanii	
	— commands	
	Cycle through Bearing Sys1 Mode	
	Plugin Control - do not assign key	
	Plugin Control - do not assign key	
Activo Profilo User Deefilo	Nanana Darfilan - Darat Kasharat Diadiana ta Dafarili Cari - V Diana 11 - V	Derre
Active Profile User Profile V	Manage Profiles Reset Reyboard Bindings to Default For: X-Plane 11	Done

Click on the "+" sign next to the "cjs" option. Then click on the "+" next to the "texanii" option and then click on the "+" next to the "commands" option. This displays a list of all the T-6 commands.

## 3.2 Mapping T-6 Commands to Throttle and Joystick Buttons

Go the X-Plane settings menu. From there, click the Joystick tab on the top. On the left side of the menu is a drop-down box which has control devices plugged into your computer. Select the device that you want to assign buttons to. Several menu items get displayed on the right side of the menu as shown below:

General Sound Graphics Network Data Output Joystick				
Device HOTAS Cougar 🗸 Calibrate	AXES		BUTTONS	
	1 <×>	Axis 0 Roll V Reverse Axis	Hat Switch 0         Pitch trim down.         Do nothing.	
	2	Axis 1 Pitch Reverse Axis	Roll trim right.        Do nothing.        Pitch trim up.	
	3 <≻>	Axis 2 Throttle Reverse Axis Throttles are CH Products Throttle Quadrant	L     Do nothing.     ✓       ✓     Roll trim left.     ✓       □     Do nothing.     ✓	
No image available	4	Axis 3 None Reverse Axis	2     Btn 0: Do nothing.     Edit       3     Btn 1: Landing gear emergency override down.     Edit	
	5	Axis 4 None Reverse Axis	4     Btn 2: Toggle Gear Up or Down     Edit       5     Btn 3: Nosewheel steer toggle.     Edit	
			6     Btn 4: Toggle Emergency Gear lever     Edit       7     Btn 5: Do nothing.     Edit	
Reset to Defaults for HOTAS Cougar			Btn 6: Engine Cutoff to Start to Idle - Advance     Fdit	
Create Default Configuration File				
Active Profile User Profile	Sensitivity	PFC Hardware	Done	

On the bottom right side of the menu you will see a list of buttons available for your control. Pushing a button will cause the button to light up on this menu so you can identify the button you are pressing. Select a button that you wish to map a T-6 command to and click the "Edit" button next to it. A list of all available X-Plane and T-6 commands will be displayed. Scroll down through the list until you see the "cjs – texanii – commands" and select the desired one to map to your button.

Some default X-Plane commands that you might want to map to your joystick/throttle buttons are as follows:

#### Joystick

- elevator/pitch trim map the pitch and roll trim to the joystick hat if available
- trim interrupt "cjs texanii commands Trim Interrupt"
- nose wheel steering "Flight Controls Basics Nosewheel steer toggle"
- TAS/NACWS range select "cjs texanii commands TAS Range Cycle"
- TAS/NACWS proximity "cjs texanii commands TAS Proximity"

#### Throttle

- speed-brakes extend "Flight Controls Basics Speed Brakes extend full"
- speed-brakes retract "Flight Controls Basics Speed Brakes retract full"
- rudder trim "Flight Controls Trim Yaw Trim Left & Right".
- flaps down "Flight Controls Basics Flaps down a notch"
- flaps up "Flight Controls Basics Flaps up a notch"
- UHF/VHF Key (UHF) "Navigation & Radios Audio Panel Transmit audio: COM2"
- UHF/VHF Key (VHF)- "Navigation & Radios Audio Panel Transmit audio: COM1"

The T-6 controls are shown below and it is suggested to map the buttons to the appropriate X-Plane commands.



## 3.3 Control Sensitivity

From the Joystick menu shown above, click the "Control Sensitivity" tab on the bottom of the menu. This screen will appear:



From here, set your controls sensitivity as desired. We recommend higher values for all pitch and roll settings (up to 100%) as consumer control sticks are extremely sensitive.

### 3.4 The Key Command Menu

Once you define a key for the key command menu as outlined in the previous section, press that key to activate that menu which appears in the top right corner of the screen. You will see a display pop-up as follows:



Pressing the key again exits the menu. Use the backspace key to go back to the previous menus once navigating down into the various sub-menus. Four main options are displayed as follows:

- 1. Show Electrical System Status shows the status of all the electrical buses in the aircraft
- 2. Reset Failures select this option to reset custom T-6 failures such as hot starts, use of the emergency gear lever, clear engine fires, etc. You may also associate a key to the "Reset Failures" command.
- 3. Throttle Setup
  - Throttle setup when using the custom throttle: Set the Mode (select option 1) to "Use Throttle Position for Fuel Cutoff and Start". Next set the Idle and Start Positions by selecting options 2 and 3. Move the throttle to the start position and then adjust the Idle Throttle Position value up or down using the +/- keys until it matches the desired throttle position. Do the same for the start position. Note that the X-Plane FADEC doesn't work when using this option so it's possible to overs-peed the engine when advancing the throttle too quickly. The FADEC will be modelled in the next update.
  - Throttle setup for **using a generic throttle**: Set the Mode (select option 2) to "Use Commands for Fuel Cutoff and Start"
- 4. Preferences you can configure the aircraft so that it can be flown from the back seat or turn on/off ambient sounds from here.

### 3.5 External Walk-around

The first of many checklists to be implemented is the external walk-around.



With the aircraft parked on the ramp, select the "X-Plane – Plugins – T-6A- External Walkaround" option. You will be moved around the aircraft and various checklist items are displayed corresponding to those described in the aircraft manual. You can also view the walkaround in this <u>video</u>.

### 3.6 System Failure Configuration

Select the "X-Plane – Plugins- T6A – System Failure Configuration" menu option to display the Failure Configuration menu.

		System Failure Configuration - Engin	e and Prop Failures - Page 1		~
					Next Page
Engine Failure		Uncommanded Prop Feather		Partial Loss of Power	
🗹 Don't Fail		🗹 Don't Fail		🗹 Don't Fail	
🗖 Random Failure	180 min	🗖 Random Failure	180 min	🗄 Random Failure	180 min
🗧 Fail at Specific Time 💷	20 min	🗧 Fail at Specific Time 💷	20 min	🗧 Fail at Specific Time 💷	20 min
Fail at Altitude	20000 feet	Fail at Altitude	20000 feet	Fail at Altitude	20000 feet
Fail at Speed	350 KIAS	Fail at Speed	350 KIAS	Fail at Speed	350 KIAS
Compressor Stall		Engine Fire		Electrical Fire	
Don't Fail		🗹 Don't Fail		Don't Fail	
Random Failure	180 min	🗖 Random Failure	180 min	🗖 Random Failure	180 min
🗧 Fail at Specific Time 🗖	20 min	🔲 Fail at Specific Time 🖃	20 min	Fail at Specific Time	20 min
Fail at Altitude	20000 feet	Fail at Altitude	20000 feet	Fail at Altitude	20000 feet
Fail at Speed	350 KIAS	Fail at Speed	350 KIAS	Fail at Speed	350 KIAS
PMO Failure				Chip Detector warning	
Don't Fail		Don't Fail		Don't Fail	
Random Failure	180 min	🗖 Random Failure	180 min	🗖 Random Failure	180 min
Fail at Specific Time	20 min	Fail at Specific Time	20 min	🗧 Fail at Specific Time 💷	20 min
Fail at Altitude	20000 feet	Fail at Altitude	20000 feet	Fail at Altitude	20000 feet
Fail at Speed	350 KIAS	Fail at Speed	350 KIAS	Fail at Speed	350 KIAS
Oil System Malfunction					
Danik Fail					
Random Failure	180 min				
Fail at Specific Time	20 min				
Fail at Altitude	20000 feet				
Fail at Speed	350 KIAS				

The next update will include most of the failure scenarios as outlined in the Emergency Procedures section in the NATOPS and Dash-1 manuals. For now 3 pages of failure options are available for engine/prop failures, electrical system failures, and avionics failures. You may select one or several and the procedures outlined in the aircraft manual can be followed to rectify the situations where applicable. Failures may be configured as follows:

- Don't Fail Check this box to disallow this failure.
- Random Failure Check this box and set the slider as desired. A failure will occur for this system at any time between now and the time set by the slider.
- Set as Specified Time Check this box and set the slider as desired. A failure will occur at the specified elapsed time from when this box was checked or the slider value adjusted.
- Fail at Altitude Check this box and set the altitude slider as desired. A failure will occur as the aircraft climbs through this altitude.
- Fail at Speed Check this box and set the speed slider as desired. A failure will occur as the aircraft exceeds this airspeed.

To clear any of the failures, un-check the appropriate boxes and select the "Clear Failures" options

from the key command menu as outlined in section 3.4

### 3.7 The About Menu

Select the "X-Plane – Plugins- T6A – About" menu option to display the "about" information. This will display the current version of the software in use and will also let you know if your product is registered or not.

## 4. Running the T-6

To start the T-6 in X-Plane, you can now follow the startup procedures as outline in the NATOPS.

### 4.1 Starting the Aircraft

First turn on the battery switch on the right side console. When the aircraft is off, the current throttle position is displayed in orange text in the center-left of the screen. Move the throttle to the start position. Use the commands you mapped above for "Engine Cutoff to Start to Idle - Forward" if you're using a generic throttle, and you will see the "ST\_READY" annunciator light up when the throttle is in the start position. The throttle in the 3D cockpit will move so you can verify visually what the position is. Pressing the starter button forward will engage auto-start and once the engine is running you can move the throttle to the idle position and turn on the generator, avionics and GPS.

### 4.2 Shutting Down the Aircraft

Move the throttle from to cutoff position. Use the command you mapped above for "Engine Cutoff to Start to Idle - Back" if you're using a generic throttle, to move the throttle to the cutoff position. Turn of the battery, generator and lights as required.

### 4.3 General Operation

It is assumed that the users of this application will have access to the appropriate NATOPS or Dash-1 manuals. The procedures outlined in these manuals can be followed for the T-6. All primary systems are completely functional. The aircraft electrical system is fully modelled along with the circuit breakers. All start modes work so you can perform automatic, user-monitored, or air starts. Hot starts can occur if the throttle is advanced beyond the start position with the boost pump on and the engine off before a start is performed. If doing an automatic start, the start will be aborted if the ITT high limit is exceeded.

# 5. Contact Us

Please contact us for support or if you find any issues that need to be fixed or improved with the aircraft. Thanks for trying our T-6!

Our web site is: <u>https://www.fliteadvantage.com/</u>

Use the "Contact" tab there to contact us and stay tuned for the support forum.