Ingenieurbüro für Luftfahrttechnik
Dipl. Ing. Alexander Schulz
Gottfr.-Menken Straße 23
28201 Bremen

1. General

This STC allows the installation of a not ETSO approved “LXNAV ADI²” Instrument to substitute Airspeed Indicator and/or Altimeter and/or OAT Indicator mandated by the Flight- and/or Maintenance manual of the Airplane.
Additional, it allows the Installation of a Compass module to substitude the Compass / Magnetic heading indicator mandated by the Flight- and/or Maintenance manual of the Airplane.

2. Limitations

All airplane limitations apply
Aircraft operation is limited to VFR / Day operation
The Operation of the Aircraft is not permitted, if either the LXNAV ADI2 or the Backup instrument is not operative

3. Emergency procedures

In case of loss of LXNAV ADI² function **and** Backup instrument function, operate the Aircraft by assessing horizon and Airspeed noises to control the Airspeed. In case of operating with engine, changes in RPM can be used in addition. Height above ground needs to be estimated.
In this case, land as soon as possible and maintain Airspeed with proper margins to stallspeed and any speed limitation applying to the configuration (e.g. never exceed speed, manuvering speed, speed for flap setting, speed for engine or gear operation).
Nota Bene: This case could as well occur without any malfunction of the instruments, but by clogging or disconnecting Pitot and/or Static ports or hoses.

a. Abnormal Procedures

- Loss of electrical power: The LXNAV ADI² contains an internal battery that will allow the operation for 3 hours. Plan the flight in a manner that the landing will be with a proper margin to this timeframe
- Failure of LXNAV ADI² (e.g. frozen screen, abnormal indication): Configure the Backup instrument in the way that indicated Airspeed and Altitude are displayed simultaneously on the same page. As these values are displayed numerical and without colour markings for limitations, the workload for the pilot is higher. Therefore, land as soon as practicable.
- Failure of OAT-Indication: Plan the flight with proper marging to freezing temperature in order to make sure, water balast tanks are not harmed and water dumping is possible without risk of valves beeing frozen or dumped water creates ice at aircraft structur
- Failure of Compass funktion: Navigate using other navigation aids (such as GPS or Smartphone).

4. Normal Procedures

Preflight Check:
In addition to the check mandated by the AFM, the following points need to be checked:

- LXNAV ADI² is working and showing the airplane speed limitations with the applicable coloured arcs
- Backup instrument is working and configured to be able to show IAS and altitude simultaneously
- Altimeter is set on both instruments
- Check Compass in ADI² is working. A plausibility check of indicated magnetic heading shall be performed eg. by comparison with direction of Runway.

5. Performance

No change to approved AFM

6. Weight and Balance

Aircraft empty weight and -moment need to be determined after installation of the instrument

7. Description of the System

The LXNAV ADI2 is an Instrument capable of measuring the Pitot- and Static pressure digitally using calibrated sensors. (Airspeed sensor: Airspeed sensor: 12 bit, 0 to 75 hPa, 370 km/h with resolution less than 0.1 km/h (optional) - Barometric sensor: 24 bit, 10 hPA - 1200 hPa, 10 cm resolution. The values are displayed on a sunlight readable display, the display can be configured using a password protected installation menu. It shall be configured with the applicable coloured Arcs as per AFM. OAT ist measured by electronic pickup of a (wired) temperature sensor. The Compass module uses 3 axis magnetic sensor and complete inertial platform (3axis accelerometer and 3 axis gyroscopes).
On ground, a pilot can change the layout of the device, e.g. to change the additional figures displayed (OAT, TAS, Flight Level) as required for the anticipated flight.

When flight condition is detected by the device (by Airspeed), this menu will no longer be available, the only setting possible in flight is QHN setting, in order to make sure that Airspeed indicator and altimeter are allways available and visible to the pilot.
The Airspeed indicator with the Arcs, the Altitude and the QHN setting will always be displayed and remain fixed.

8. Handling, Servicing and Maintenance

Turn on the device every 6 months and keep it on for at least one hour to keep battery in best conditions.

Instructions for continuous airworthiness (ICA):
On every Airworthiness review:

- Check that Airspeed Markings / Arc are in line with basic AFM and TCDS.
- Check that measuring range is at least 1,05 times Vne
- Check Backup instrument is in working condition and configured to be able to display IAS and Altitude simultaneously
- Check that OAT probe is installed correctly on the measuring spot foreseen by the Airframe manufacturer

It is recommended to perform a Pitot-/Static test in accordance with FAR 43 App E every 12 month for LXNAV ADI2 and backup instrument. Airspeed indicator readings during this test shall be within the limits of ETSO-C46a Date, 24.10.03, as shown in the table below.

Speed (IAS)			Impact/Pitot pressure		Tolerance		
Knots	mph	Km/h	InchHG	hpa	Knots	mph	Km/h
50	58	93	0,1198	4,06	4	4,6	7,4
60	69	111	0,1727	5,85	2	2,3	3,7
80	92	148	0,3075	10,41	2	2,3	3,7
100	115	185	0,4814	16,30	2	2,3	3,7
120	138	222	0,695	23,54	2	2,3	3,7
150	173	278	1,091	36,95	2,5	2,9	4,6

It is recommended to periodically send the unit to the Manufacturer or authorized representative for an inspection every 5 years to perform pressure calibration if needed Installation: Please refer to the Supplemental Type Certificte (STC) Installation instruction, latest revision

- Check AFM is updated containing the Airplane flight manual supplement (AFMS):

“Airplane Flight Manual supplement: Electronic Airspeed indicator + Altimeter LXNAV ADI2”, Issue 2, 14.06.2026 (This Document)

Occurrence reporting: In case of issue with the LXNAV ADI2 Device, please contact:

LXNAV d.o.o., Kidričeva ulica 24, SI- 3000 Celje via telephone +386 592 33 40 or with an email info@lxnav.com

9. Supplements

None

10. Safety and Operational Tips

Note to Flight instructors: If this STC is incorporated on an Aircraft used for Solo flights of student pilots, on the briefing for the new type, the specificity of this installation shall be emphasized, as well as the emergency and abnormal procedures