



## **ADL180 ADS-B Antenna Choices**

### **How to modify the ADL180 for the folding ADS-B antenna**

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## 1 Introduction

This manual gives you an overview of the ADS-B antenna choices available for the ADL180. Just to avoid any confusion the ADS-B antenna is the only external antenna of the ADL180. The other antennas (Iridium, GPS, WiFi) are inside the device.

## 2 Antenna Options

The perfect antenna would obviously be an external antenna on the hull of the aircraft. But as the ADL180 is all about being a portable device this is no practical solution.

There are three main choices of more or less portable antennas:



The suction cup antenna



The glue on antenna



The Garmin folding antenna

### 3 Which antenna to choose?

Most ADL180 got delivered with the suction cup antenna. On special request the glue on antenna was supplied but as it is glued to the window it is no longer portable.

Both antennas can be connected directly to the ADL180 and will deliver similar performance. For maximum detection range both antennas can be enhanced with the optional ADS-B amplifier wired in as shown in the following figure.



ADL180 with suction cup antenna, optional amplifier and wiring

Beware that the amplifier will draw power so battery life will be reduced and the silver box can get quite hot in the sun. This will be the configuration for the greatest detection range but the extra wiring makes it a bit clumsy.

As a new option is the folding ADS-B antenna. This will most probably become the standard on new ADL180 deliveries from December 2020. This antenna will screw directly on the ADL180 ADS-B connector. Its detection range will sit between the suction cup antenna performance without amplifier and the configuration with amplifier.

So the folding ADS-B antenna will not bring the absolute maximum detection range but its performance is still very good and it makes a very nice package with the ADL180.

**So currently the folding ADS-B antenna seems to be the best overall choice.**



ADL180 with folding antenna installed

#### 4 Modifying an existing ADL180 for the folding ADS-B antenna

You will need the following tools and materials:

- ADL180 device
- 8mm socket
- Garmin antenna part number 010-11825-00 (sometimes called GDL39 antenna)  
Available from many online pilot shops for around 30 USD each.
- Black ADL180 antenna spacer ring  
Available free of charge for ADL180 customers. Just write an email with your mail address to [adl@ing-golze.de](mailto:adl@ing-golze.de)



Required materials for the folding antenna installation

Once you have all the materials please proceed as follows:

A) Gently unscrew the ADS-B connector nut with the 8mm socket. A nut and a washer will come off.

B) Push the black spacer ring over the ADS-B connector. The recessed side should face outwards as shown in the pictures below.

C) Reinstall the washer and nut. Tighten by hand with the 8mm socket. **USE GENTLE HAND FORCE ONLY. DO NOT USE TOOLS AS THIS MIGHT BREAK THE ADL180 INTERNALS.**

D) Screw on the folding antenna gently by hand and test the device. The antenna can also be swung around for easier storage of the ADL180.



Gently unscrew the ADS-B connector nut with the 8mm socket



A nut and a washer will come off



Push the black spacer ring over the ADS-B connector. Reinstall the washer and nut



Tighten by hand only with the 8mm socket



Screw on the folding antenna gently by hand

## **5 Contact**

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