



# BMAA TECHNICAL INFORMATION LEAFLET (TIL)

## TIL 077 ISSUE 1

### APPROVING IGNITECH IGNITION MODULES

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## 1. Introduction

This TIL is a guide for any BMAA aircraft owner or operator who wishes to gain approval to install Ignitech Ignition Modules to a Rotax 912 UL/ULS engine on their aircraft. This guide focuses on the processes and steps the applicant must follow to achieve BMAA approval for the fitment of the modules and whilst some generic installation advice will be present, other sources would be more appropriate to gain specific advice if you are unsure how to install the modules. If you are ever uncertain about any aspect of the installation and aren't sure where to go for help, always feel free to contact BMAA Technical Office for support and we will endeavour to assist or put you in touch with someone who can.

### 1.1. About the modules

The Ignitech ignition modules are replacements for the Rotax ignition modules. After the first set of Ignitech modules were approved for use on G-UACA, many applicants since then have obtained BMAA modification approval to install a set of the modules on their own aircraft. This guide explains in detail the approval process.

Currently, the only UK supplier of the Ignitech modules that the BMAA recognise is Andy Buchan of Light Flight. Light Flight also provide instructions and fitting solutions for the modules, and is a good port of call if you run into difficulty when it comes to installation.

### 1.2 Applicability

It is important to clarify that this guide covers the approval process for the fitment of Ignitech SMD modules to BMAA aircraft with a Rotax 912 UL or ULS engine **ONLY**. For other engine types, please contact the Technical Office directly to discuss the procedure.

## 2. Approval Process

In order to fit the modules legally, they must be installed as a modification approved by BMAA Technical Office and the fitment should be in accordance.

### 2.1. Prerequisites

Before starting the application process, it is important that you have the following details ready to support your application:

1. **Certificate of Conformity or Proof of Purchase** - Light Flight will provide a Certificate of Conformity (C of C) unique to your aircraft to confirm that your Ignition modules are genuine.
2. **Installation Location and Method** - You must have a good idea of where on the aircraft you are proposing to install the modules, how you plan to fit them and the routing of any wiring.
3. **BMAA Membership** - As with all BMAA modifications, please ensure all registered owners of the Aircraft are BMAA members.

**Note: As with any modification, you should apply for approval BEFORE making any changes to the aircraft.**

### 2.2. Application contents

Please email the entire application to [technical.office@bmaa.org](mailto:technical.office@bmaa.org). Your entire application should contain the following:

1. **Modification Application form BMAA/AW/002a** - A blank copy of this form can be obtained from the BMAA website at the following link: <https://www.bmaa.org/information-library/aircraft-technical-information/aircraft-technical-information---forms>. Please complete this form as you would for any other modification application, and if you get stuck at all then get in touch.  
**Note:** For section 5 of the form, under the box 'Does this modification exist on another aircraft?', tick 'Yes' and state the registration 'G-UACA' and the modification number 'MAAN 2796' for dual module installations, and state 'Minmod 1936' for single module installations.
2. **Copy of Certificate of Conformity or Proof of Purchase** - A copy of the document described in the previous section. The original document is not required by the BMAA.
3. **Modification Description and Technical Justification** - This doesn't have to be long, just enough information to make it clear what you to intend modify and why, and importantly, include some information about where you propose to install the modules and how.
4. **Photographs (Optional at this stage)** - In order to support your application, you are welcome and encouraged to submit good quality digital photographs to make your proposed installation location clear.

### 2.3. Inspection and Approval

Provided everything is in order with the application, the BMAA technical office will then issue an inspection schedule for the modification. This inspection schedule is somewhat standardised; however, it may be subject to change depending on each individual proposal. Once you have received the inspection schedule and you have installed the modules as intended, you must then arrange an inspection of your modification with your BMAA inspector. Provided your inspector is satisfied with the installation, they will sign the inspection schedule and aircraft logbook to confirm the modification has been incorporated satisfactorily. A copy of the signed form should then be returned to the BMAA Technical Office for processing, at which point the Technical Office will then issue the full approval for the modification.

**Note:** Most Ignitech modifications allow for the aircraft to be flown for 1 month after the inspection schedule has been signed by the inspector whilst the form is processed by the BMAA. Whether one is allowed to fly the aircraft awaiting full approval will be clearly stated at the bottom of the inspection schedule on a case-by-case basis.

### 3. General Installation Guidance

Theoretically, there are many permutations in which the modules can be installed. This is partly the reason why the modification is not considered a Standard Minor Modification. With that said, there are some rules that you should follow when choosing an installation location and method for the modules.

An important detail to remember is that the Ignitech modules do not tolerate heat well, so be sure to install them in a place far from the engine or with adequate heat shielding. Consequently, a popular location on 3-axis aircraft is in the cockpit behind the firewall. Ensure the modules have some free cool air flowing around them, and the modules should not be wrapped or enclosed in their entirety.

The modules are only to be powered by 12V DC supply at start up. If the Rotax rectifier/regulator goes over voltage the modules are programmed to shut down to prevent damage and this would stop the engine.

The modules should remain completely dry so locate them such that the risk of moisture ingress is minimised. With this in mind, it is recommended that the modules are **not** orientated plug-side up, although this may not always be appropriate so do consult the Technical Office if you are unsure.

If you need to drill any holes for mounting purposes, ensure you are **not** going through any primary structure, and make use of fireproof grommets for any holes in the firewall that have been made for the wiring.

The modules' location should **not** interfere with the normal or emergency operation of the aircraft, and should **not** impede entry and exit of the occupants.

For specific guidance or troubleshooting, Light Flight are an excellent source, and Light Flight may also be able to provide bespoke mounting solutions such as brackets for the modules.

Link to Light Flight's Ignitech Page: <https://www.lightflight.co.uk/contact> for further information.

#### 3.1 Testing

As a part of the inspection process overseen by your BMAA inspector, thorough ground testing will be conducted which will include magneto RPM drop checks. A few older engines have been found to have reduced AC generator output and consequently have had a misfire at high RPM when electrical demand is greatest. This must be checked for before the aircraft is flown.

It is possible that the in-flight RPM may be higher than on the ground so initial flights should be made with caution and in the event of a misfire the RPM should be reduced slightly until the engine runs correctly.

A revised firmware update is available to lower the spark intensity and solve this problem - please contact Light Flight for further details.

## 4. Miscellaneous

### 4.1. Fee

There is a BMAA fee to pay for the processing of the modification application. The fee is usually **1 hour** of Technical Office time but it is subject to change if the scope of the proposal demands it. The fee will be confirmed by the Technical Office and payment requested when the initial application has been reviewed.

Please see the BMAA's list of current airworthiness fees.