

City of Oxford Squadron (a recap of Pilot article)

A bold, imaginative new scheme is seeking Spitfire enthusiasts

By Paul Fowler

I don't know of anyone who doesn't look skyward when they hear a Spitfire overhead and most pilots would give anything to own one. Sadly unless you inherit a vast fortune or win a Lottery Rollover it will remain a dream for most of us... until now.

When I first came across the MK26 Spitfire six years ago I wanted one. Actually I had this idea to build three. But a change in my personal circumstances put the idea on hold. In the meantime I became MD at Enstone Flying Club. During a meeting with Paul Avins, my business coach, we were working on how we could get more people to Enstone. Somehow the conversation got round to how it was possible to have a Spitfire built for about £1.5million but also possible to build a scale replica that flies and handles like the real thing at a fraction of that cost. I told Paul of my idea to have three in a formation display team.

He said, "That's a fantastic idea. I want in. Tell me what we need to do to make it happen". We got into some serious discussion and by the end of the session we had the outline of a plan.

The plan was greatly facilitated by the recent changes in aviation regulations to allow training from unlicensed airfields and payment of instructors for group-owned LAA Permit aircraft.

So here's the idea. We're going to put together teams of builders to complete twelve ninety per cent scale 2 seat Supermarine MK26B Spitfires. They could be flying by the end of 2011 if we can get this off the ground quickly enough. Builder-pilots who want to can go on to be trained to fly in formation, becoming an amateur operational squadron based at Enstone, in Oxfordshire. This squadron, which I'm calling 'City of Oxford' will include ground crews, military vehicle enthusiasts and living history players, making this a truly unique club, with a regular calendar of events as a focal point for every member.

All twelve aircraft will be the MK26B (two seat) with V6 engines and all the extras, all of them identical for easy maintenance, servicing and parts.

We all know the reasons why most private pilots let their licences lapse and home builders fail to complete their aircraft: too much operating unsupported without any infrastructure or encouragement. This project's vision is to give pilots an opportunity to use their licence to become part of a display team. There will be training for pilots in formation flying and upon gaining their CAA Display authorisation, a calendar of events to take part in.

Groups of up to twelve owner-builders will work together to complete each aircraft, so with twelve aircraft, we have a potential 'builders' cooperative' at Enstone of 144 people, although in practice the

numbers will be much lower. It may be, for instance, more practical to build in batches of three.

By building similar parts together, the builders will become experts together, the least experienced learning from those who are already skilled. No lonely nights or weekends locked away in the garage! With twelve Spitfires available and up to twelve builder-members per airframe, there will be no shortage of opportunities for builders to get involved at the fraction of the cost of taking on a whole aircraft alone. There will be options for investing in any fraction from one-twentieth, through a twelfth or up to a whole aircraft.

The Supermarine MK26B kit planes have been designed for novice builders. There will be plenty of space and support from Enstone engineers and local LAA inspectors, so each section of the airframe will be completed expertly. All paperwork will be handled by Enstone experts so all your team has to do is build.

For the builders' workshops the plan is to hire a temporary building during the build, there will also be dedicated units for specialist tools and power generation.

At a later stage we plan to construct a dedicated squadron hangar to house all twelve aircraft at Enstone. Squadron members will also benefit from our comfortable clubhouse.

NOT A PILOT?

Enstone has been training pilots for 23 years and has a dedicated team of six career instructors. Squadron members will be able to start on our basic trainer Cessna 152s and Piper Warriors then convert to tailwheel in our Super Cub and finally onto their Spitfire (the MK26B is a two-seater with dual controls).

The squadron is going to need a whole host of skills to make the whole thing into a grand performance. Butchers, bakers, painters, electricians, carpenters, PR and marketers - all of life can get stuck in. At the humblest level, anyone can become a Squadron Friend by paying £30 a year and signing up on the website www.spitfireclub.co.uk

I love the Spitfire, but my other inspiration for this project is the Sealed Knot in which I was a member for several years. Members recreate the battles of the English Civil War. They do it with great passion and authenticity and the public love it and turn up to the Knot's musters and major battles in their thousands. Our regiment loved getting the public in armour and learning musket drill and kids tasting 17th Century soldiers' food, marching around in helmets too big for them. I see the Squadron performing a similar role, doing something that the general public can interact with. I want to see an eight year old in the pilot's seat, surrounded by Squadron members in period costume, saying, "Yes you could be a pilot one day and yes, you can build your own aeroplane". How brilliant would that be!

Because the wings can be removed, the aircraft can be transported by road to smaller events, recreating a squadron on the move. The

military vehicle enthusiasts' will provide transport vehicles, tea wagons, fuel bowzers, everything you would expect to see at a dispersed squadron. Re-enactors will provide personnel in period dress to make the ground event come alive whilst the flying part takes place overhead, allowing the general public to get really get in close and perhaps 'stroke an airframe' for hands-on experience.

Who do we need?

As you will have gathered from the above this is going to be a working squadron. We will need all the trades for the construction and operational phases , admin plus the PR and marketing expertise, I will be coordinating much of the project but the great beauty of this squadron is that you can get involved wherever you live and with whatever skill or expertise you have or would like to gain! What I need from you is to know how you want to be involved what would you like to do?. The whole idea is to get as many people involved as possible, please tell your friends, colleagues, anyone who you think might be interested click www.spitfireclub.co.uk If you could please complete the questionnaire at the end of this document and email This will help me make up the teams for the whole project as it progresses.

Here is the specification for the aircraft you are going to help build..enjoy and don't dribble too much!

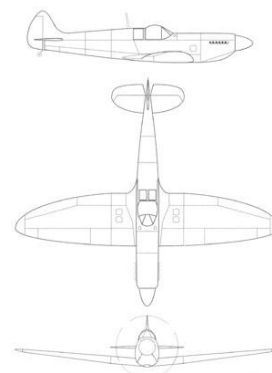


MK26B V6	
VNE	193Knots
Max Cruise	170Knots
Economy Cruse	150Knots
Stall Clean	45Knots
Stall Dirty	42Knots
Range	650 N/M hour reserve
Climb (fpm)	2800fpm
Take Off Distance	207m/226 yds
Landing Distance	445m/487 yds
Ceiling Services (ft)	18000ft
Power H/P	250 hp

Supermarine Aircraft Kits

Supermarine Aircraft has been in business for the last 17 years selling our Spitfire kits and in the last seven years engines. We have sold our aircraft and engines all over the world (Australia, New Zealand, United Kingdom, Germany, Russia, South Africa, United States of America, and Canada). Throughout the last 17 years over five million dollars have been spent on research and development to come up with a product that is safe and is a world leader in quality and innovation, but most of all a joy to fly. Supermarine Aircraft Kits come with colour manuals.

**All components are prefabricated.
Main Spar fabricated and assembled.
Wing Spars fabricated and assembled.
All control surfaces fabricated and assembled.
All hardware is of aircraft grade (nuts bolts rivets).
All completed components are corrosion protected.
Fuselage shell is completely ready for fix out.
Wings are complete and disassembled for packing
Hydraulic undercarriage legs include wheels and brakes.**



Gross take off Weight up to	1785lbs (810KG)
Height	7'1 at spinner
Length	8.15m
Wing Span	27'8/8.43m
Wing Area	122Sq Ft
Fuel Capacity	150L
No Seats	2
Construction	Monocoque
Material	Alum2024T3
Build Time	1100 hours
No Build	60
Plans	N/A
Rating	Limited Aerobatics +6/-4

Supermarine 6 Cylinder Engine

What is included with the engine Package?

- 1. Brand new Isuzu 3.5L V6 crate Motor modified by Supermarine**
- 2. Supermarine PSRU assembly and Hub (SAE6)**
- 3. Complete wiring with all switches and circuit breakers**
- 4. Pre-programmed Motec ECU**
- 5. All St/St Fuel lines with fire sleeve**
- 6. All aircraft grade Fuel lines fittings**
- 7. All fuel pumps, regulator and filters**
- 8. All radiator hoses in silicon long life**
- 9. Water header tank and over flow bottle**
- 10. Starter motor and alternator**
- 11. Oil cooler and lines**
- 12. St/St 12 Pod Exhausts**
- 13. Engine mount and hardware**

What do we do Different?

Supermarine Aircraft has spent the last five years developing the V6 and now the V8, both have been test flown by our CEO Mike O'Sullivan. We have done thousands of hours in the air and on dyno rigs for fine tuning and testing The Motec ECU works in Real Time this means that it is reading sensor on the engine to work out timing and air fuel ratio to give peak performance and maximum engine life. This eliminates the pilots need to lean or enrich the fuel mixture as it is always at its optimal mixture. The ECU also has pre-programmed map as a redundancy system or limp home mode. All engines are run in the factory before shipping and data logged this also means that we can carry out diagnostics on engines with a laptop computer.

Supermarine 6 Cylinder Engine

- *V6 Isuzu**
- *Quad Cam**
- *Water cooled**
- *Wet sump lubrication**
- *Dual ignition**
- *Fuel injected**
- *Electric start**

- *Dual electric fuel pumps
- *Motec ECU pre programmed
- *Mill spec wirings
- *Mill spec plugs

Displacement	3.5L
Width	610mm
Length	630mm
Height	800mm
Weight	160KG Dry
Horse power	260 H/P 320H/P (S/C)
Torque	317FPT(S/C)
Bore	93.4mm
Stroke	85mm
Compression Ratio	9.1:1
Directional Rotation of prop Shaft	Clockwise-Pilot's view
Oil	Castrol 0W-40
Oil Capacity	5.3L
Oil Pressure	70 psi
Fuel	100LL / 98 Oct Mogas
Fuel Consumption	28L/PH 65% throttle
Displacement	3.5L

Supermarine 6 Cylinder PSRU

- *To fit V6 Isuzu
- *Included with Engine package
- *Cast Aluminium
- *Billet aluminium
- *Gears case harden

Weight	30KG Dry
Horse power Rated	350 H/P
Torque	582 FPT
Reduction Ratio	1.82to 1 (Other available)
Hub STD	SAE6 (SAE2 also available at extra cost)
Oil	H-36161
Oil Capacity	500mL

Sports Dash Logger



Displays

- *RPM
- *Oil Pressure and warning
- *Fuel Pressure and warning
- *Engine Temp and warning
- *Throttle position

***Battery volts**

***Air Temp**

The Sport Dash Logger (SDL) is a standalone, fully configurable display unit. Replacing traditional analogue gauges with an SDL adds all the benefits of a digital display such as warning alarms, while the SDL can be used standalone it can also receive information from an ECU such as RPM and engine temperature.

Under Wing Radiator Kits



***Colour Manuals**

***Aluminium Radiator**

***Silicon Hose long life**

***Increase Cruise**

***Electric cowl flaps**

***Can be retro fitted**

Supermarine Aircraft under wing radiators are designed to produce thrust, increase cruise speed and look like the original plane.

The cowls can also be use as dummies for air cooled engine.

Cowls are made of fibreglass construction. Comes as complete firewall back kit including all hardware and hoses.

Rear Vision Mirrors

The rear vision mirrors are designed to look original to give your spitfire the final touch. The overall size of the mirror is 82mm in diameter and the glass is of a contort shape to maximise vision without increased drag on the airframe



Membership Options

The funds raised from friends and supporters will help towards the admin of this project which will be a considerable task.

Join the City of Oxford Squadron

Friend £30 per year.

Friends will receive regular e-newsletters and by special invitation join the squadron at Enstone Events.

Supporter for (under a tenner a month) £100 per year

Supporter members will receive the regular e-news letters, priority invitation to Enstone and display events, plus you can visit the construction site at specific times and use the Enstone crew room any time.

Aircraft Share Holder (2 seat aircraft)

As an aircraft share holder you will have access to all the facilities at any time, plus all of the above plus you own part of a Spitfire!

This is a guide for builder/pilots with multiple entry options. Prices are for the airframe kits plus complete V8 engine pack and at this stage includes, propeller, delivery (to UK port not to Enstone) and VAT payable upon delivery to UK, excluded are specialist tools, avionics, paintwork, insurance.

All prices should be viewed as a guide, due to currency conversions and rounding.

All airframes are two seat

Share Scheme	Per share £	VAT 20% £	Total per share £
1/20	8595.00	1719.00	10314.00
1/19	9029.00	1805.00	10834.00
1/18	9511.00	1902.00	11413.00
1/17	10050.00	2010.00	12060.00
1/16	10656.00	2131.00	12787.00
1/15	11343.00	2268.00	13611.00
1/14	12128.00	2425.00	14553.00
1/13	13034.00	2606.00	15640.00
1/12	14091.00	2818.00	16909.00

If you are considering wanting a share of greater than a 1/12 please let me know.

Producing these prices has taken very much longer than I had hoped, I wanted to get you an accurate idea of the possible costs out to you as soon as possible, but due to the various options this will have to wait until firm orders are placed and the options are finalised.

To place your order on the factory a 10% deposit will be required to reserve an airframe, to a total of 50% on commencement of the kit build, 50% balance prior to crating and shipping. (full terms and conditions will be provided prior to order placement)

We do have some estimates on painting this will be based on 12 aircraft being painted over time. £5600.00 ea no VAT However we have a potential member who paints military airframes and has volunteered to help paint and train other team members to paint them.

Avionics are in the process of being sourced, we hope to have these customised for the squadron!

There will be monthly fees for the temporary building and engineering facilities, these are also being quoted for at this moment.

Projected fixed monthly costs per flying aircraft (divided equally across share holders)

£600per month (per aircraft) Includes flying Insurance, hangarage and landing fees at Enstone all based on current fees as of 6/1/11

As more information becomes available I will let you have it, in the mean time could you complete the questionnaire to help me build the teams.

Regards

Paul
Skipper City of Oxford Squadron
01608 678204.

Spitfire Club Questionnaire

First Name	
Family Name	
e-mail	
Tel	
mobile	
Date of Birth	

Please let me know how you would like to be involved in the project?

Friend £30 pa	
Supporter/volunteer £100pa	
Aircraft Share holder and fraction of ownership you would like i.e. 1/12, 1/16 or 1/20 etc.	

You do not need to be an owner to work on the aircraft and you will get to fly in the aircraft you help build.

Skills or expertise you possess, you would be surprised at what we will need!

What would you like to do?

[Click here](#) to e-mail me with questions that you need answering