



**The de Havilland Moth Club**

**28th International  
Moth Rally  
at Woburn Abbey**

**Saturday 17th & Sunday 18th  
August 2013**

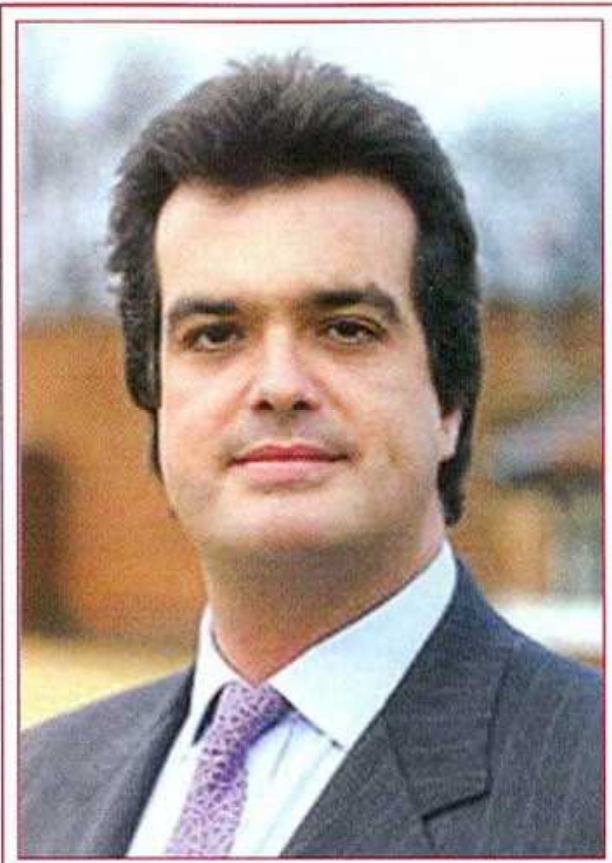
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# Welcome



August 2013

On behalf of all the Family, in particular my Mother, the Dowager Duchess of Bedford who has been Club President since 2002, I am delighted to welcome back the de Havilland Moth Club for this most exciting event. We are thrilled to welcome the pilots, their aircraft and, of course, all the spectators to Woburn.

Woburn's association with flying started in 1926 with Mary, the wife of the 11th Duke, enjoying her first flight in an aeroplane with the landing being made here in the park. She became known as the Flying Duchess and was a brave and passionate pilot who set many world records during her lifetime. The aircraft we see here this weekend are a reminder of that era and help us to understand just how great a thrill it would have been to have flown such a craft all those years ago. A thrill that still exists for any pilot but especially for those we see here today.



*Andrew Bedford*

Andrew, 15th Duke of Bedford

*Make the discovery*



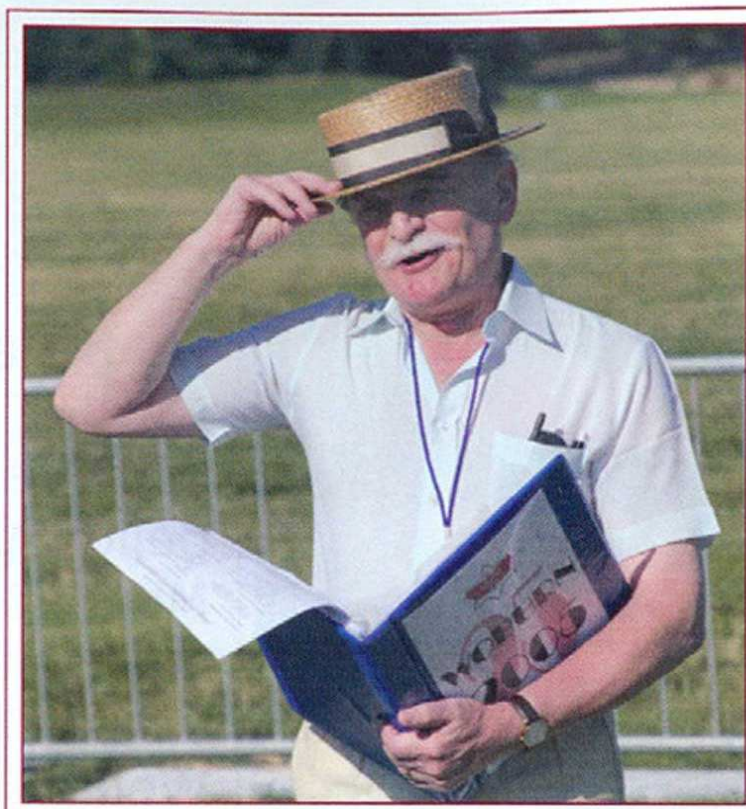
# Foreword

When Captain Geoffrey de Havilland designed his first Moth aeroplane I wonder whether he ever thought that almost 90 years later there would be a gathering such as the one we are anticipating this weekend?

That first Moth, which made her maiden flight from the muddy confines of Stag Lane Aerodrome in North London on a grey Sunday afternoon in February 1925, was the distillation of ideas not only from 'The Captain' but, on his own admission, many members of the staff of the de Havilland Aircraft Company who were encouraged to view the outline plans and specification and add the weight of their experience here and there.

The result was an economical and practical two-seat light aeroplane of the right size and performance that was of immediate appeal not only to the prospective private owner, the main target, but also the embryonic flying clubs whose development was being encouraged by a government anxious to establish a cheap civil 'Reserve' six years after the Armistice.

The rest, of course, is history. The little wooden biplane of 1925 was quickly developed and as the de Havilland Company explored and exploited the opportunities for light aeroplanes operating all around the world their portfolio of Moth designs proliferated, all powered by the legendary Gipsy engine. And then came the Second World War.



The Tiger Moth played a massive part in the Commonwealth's aircrew training programmes, the legacy of which was the post-war sale of hundreds of 'affordable' aeroplanes and the spares with which to maintain them.

Each of the 100 aeroplanes booked into this 28th International Moth Rally to have been held at Woburn Abbey since 1980 is, just like the members of the supporting cast of vintage and classic vehicles, much cherished and maintained with loving care. I wish you a very splendid weekend in their company.

Stuart McKay MBE, (Hon) MSc.  
de Havilland Moth Club Founder and Secretary

[www.dhmothclub.co.uk](http://www.dhmothclub.co.uk)

To take advantage of this very kind offer from DE HAVILLAND WATCHES please quote "INTERNATIONAL MOTH RALLY AT WOBURN ABBEY" when ordering...



## The Moth Service Register

The Club publishes a web-based *Moth Service Register* which includes details of recommended sources able to supply goods and services relevant to the Moth owner/operator/pilot. *The Moth Service Register* is updated regularly every month.



[www.dhmothclub.co.uk](http://www.dhmothclub.co.uk)

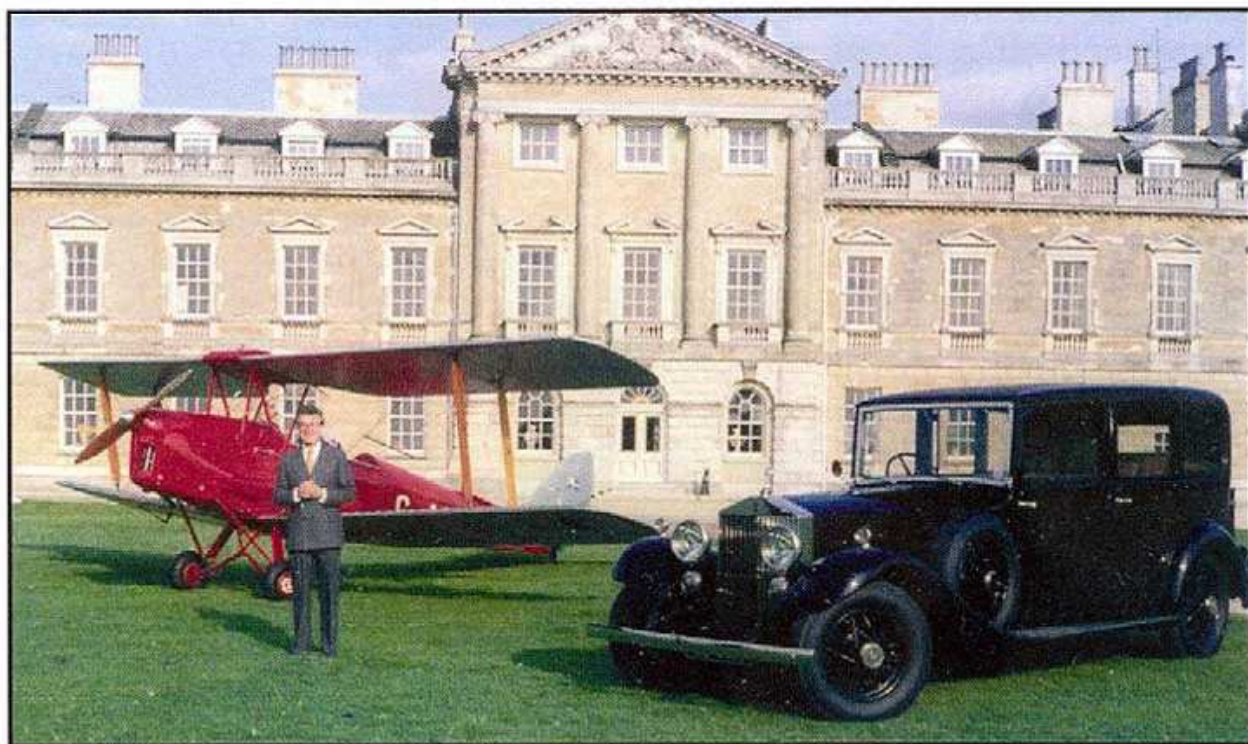
## The Stockbox

The Club maintains a supply of Moth related hardware, and arranges bulk manufacture of out-of-production essentials. Books, manuals, magazines, insignia and a range of miscellaneous items are carried. The Stockbox listing is published on the Club website.

# The Significance of a Moth Rally at Woburn Abbey

The great grandson of the Flying Duchess, Robin, 14th Duke of Bedford, invited the Club to organise a gathering of Moths in the Deer Park of Woburn Abbey in 1980, an event known in vintage aviation circles around the world simply as "Woburn".

Apart from the year 2001 when the Deer Park was closed due to the Foot and Mouth Disease outbreak, an International Moth Rally was held annually at Woburn until 2007, attended by visitors from around the world. In addition to Moths flown into the Rally from Europe, members have shipped aircraft from the USA and Australia to take part.



*Robin, 14th Duke of Bedford, at Woburn Abbey with a Tiger Moth and the Flying Duchess' Rolls-Royce.*

## The Flying Duchess



*Mary, Duchess of Bedford, from a drawing by Wolf Letsch*

Mary Russell, Duchess of of Lahore.

Bedford, is best known to the world as The Flying Duchess. Most famous for her aviation achievements she was involved for decades with nursing the sick, and establishing cottage hospitals around her home at Woburn Abbey.

Mary du Caurroy Tribe was born at Stockbridge, Hampshire, on 26 September 1865. Having spent her childhood in England living with an aunt, and educated alongside her elder sister at Cheltenham Ladies College, Mary left school at 16 to join her parents in India, where her father became the Archdeacon

It was while in India that she met Lord Herbrand Russell, younger son of the 10th Duke of Bedford, to whom she was married on 31 January 1888 in Barrackpore. Herbrand unexpectedly inherited his family titles in 1893 after the sudden deaths of his father and elder brother who had no heirs of their own. The couple had one child themselves, a son, Hastings, born on 21 December 1888.

Given little chance to develop a proper relationship with her son, a typical situation for many of the aristocratic families of the time, Mary focused on a variety of activities all undertaken with





*The Flying Duchess preparing for a flight in DH.60 Moth G-EBRI.*

such vigour that she excelled at all of them.

Spending a lot of her time and effort on founding four hospitals in Woburn and the grounds of the Abbey, the Duchess worked as a nurse and radiographer until the 1930s. As a member of the Women's Social and Political Union during the British women's suffrage movement, Mary was not one to shy away from a cause in which she believed.

She was an accomplished shot, becoming the finest woman shot in England with only a handful of men ahead of her. An internationally recognised ornithologist and collector of birds, her specialist studies in bird migration is thought to have sparked her interest in flying.

A skilled ice skater, mountaineer, and yachtswoman, Mary was also able to take spectacular photographs and paint beautiful water colours. She became a skilled car mechanic who made her own radios and even managed to find the time to found a bird watching club and to train animals.

It was in the 1920s that the Duchess, now in her early sixties, became interested in flying. As a sufferer of the condition tinnitus, that eventually developed into complete deafness, Mary found that she experienced relief from the constant ringing in her ears while flying.

Not content with just local sorties, the Duchess decided

to challenge herself further and with the aid of her personal pilot, Captain C. D. Barnard, who had been employed as a flying instructor by the de Havilland School of Flying at Stag Lane between 1922 and 1928, and was a veteran of many air races.

Charles Barnard was keen to break records in the air and had little difficulty in persuading the Duchess to accompany him. On 2 August 1929 they set off together accompanied by mechanic Robert "Bob" Little on a record-breaking flight of 10,000 miles from Lympne in Kent to Karachi (then in India) in the Duchess' single-engined Fokker F.VII, G-EBTS, returning to Croydon in just eight days.

On 10 April 1930 Mary embarked on another record-breaking flight with Barnard from Lympne to Cape Town. Flying her Fokker F.VII nicknamed "The Spider" 9,000 miles in 100 flying hours spread over just ten days, was recognised as an amazing feat at the time.

It was on 8 April 1930 that Mary completed her first solo flight, in her DH.60G Moth, G-AAAO. By March 1937, aged 71, and now completely deaf, she was worried that the authorities would not renew her flying licence. With 200 solo flying hours set as her own personal target, she was now just 56 minutes short.

Following Charles Barnard the Duchess employed Flight Lieutenant Raphael (Ralph) Chevallier Preston and it was

he who plotted the course for her last flight.

On 22 March 1937, Mary set out in her DH.60GIII Moth Major G-ACUR on a darkening winter afternoon, and in weather conditions which were rapidly deteriorating, anxious to achieve her 200 hours' solo flying time.

As the weather worsened the Duchess headed towards Cambridgeshire. When she had not returned within an hour and a half, the Duke became concerned and contacted the local chief of police who in turn alerted all neighbouring constabularies.

The belief was that Mary had become lost and flown out over the coast by mistake, running out of fuel and crashing into the freezing North Sea off the Norfolk coast at Great Yarmouth. There was speculation that she may have committed suicide due to her failing health but experienced aviators have suggested that with the bad weather, limited fuel range and navigational systems of the time, there were plenty of circumstances which combined to contribute to her disappearance.

The aircraft was never found, although some wreckage identified as coming from G-ACUR was washed up on the Norfolk coast and is currently housed in the Flying Duchess Room at Woburn.



*The Flying Duchess with instructor Squadron Leader Bob Reeve at Stag Lane in 1928.*



# Happy 80th Birthday to the DH.85 Leopard Moth

2013 marks the 80th anniversary of the first flight of the prototype DH.85 Leopard Moth. She certainly is not showing her age.

Reportedly Sir Geoffrey de Havilland's favourite aircraft from the Moth series, one can certainly see why.



*G-ACMN based at Duxford is a regular attendee of Moth Club events.*

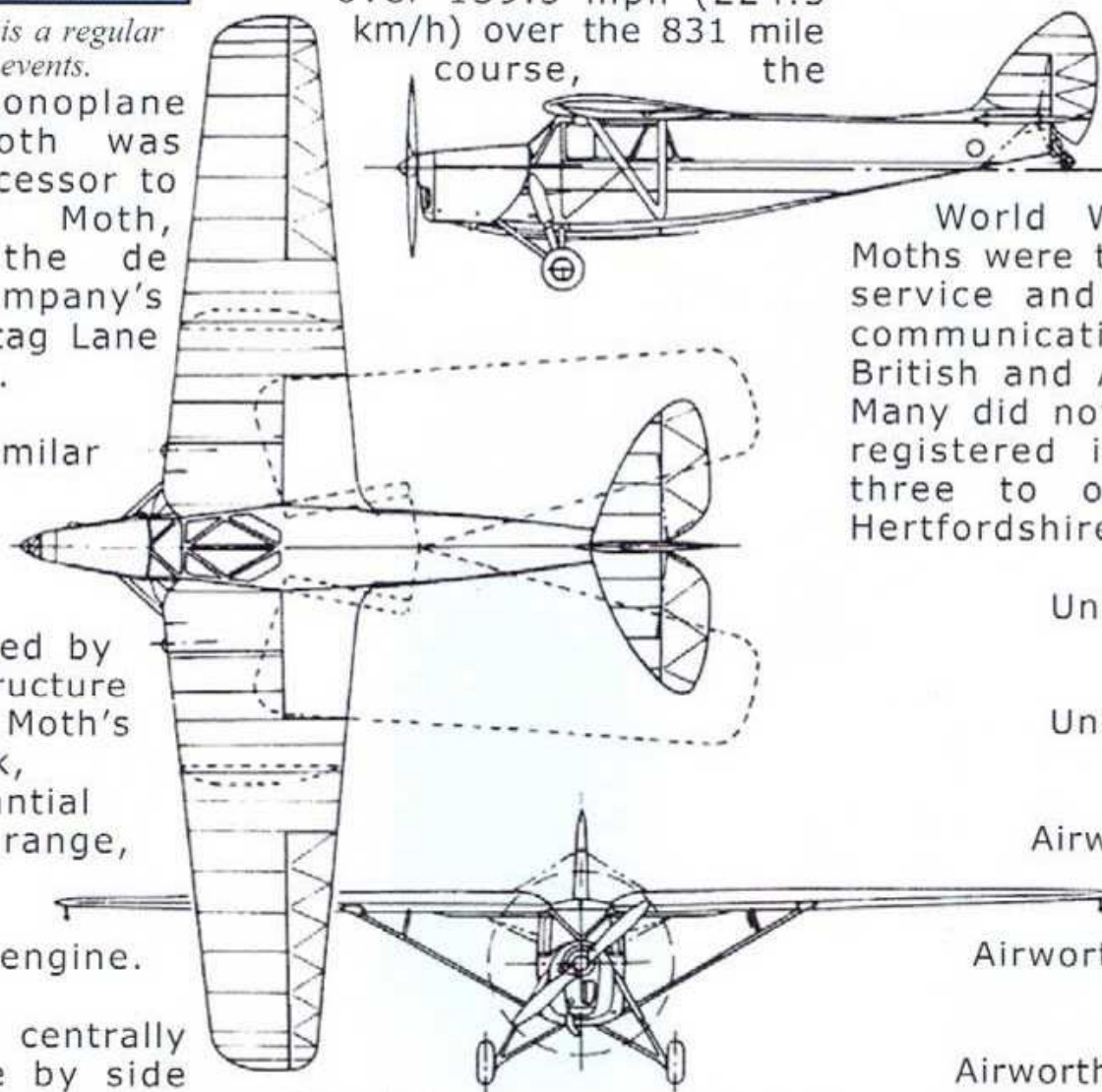
The high wing monoplane DH.85 Leopard Moth was designed as the successor to the DH.80 Puss Moth, replacing it on the de Havilland Aircraft Company's production lines at Stag Lane and later at Hatfield.

Designed to be of similar configuration to the earlier folding wing Puss Moth, the Leopard Moth's fuselage was lightened by using an all wood structure in place of the Puss Moth's steel tube framework, allowing for a substantial improvement in the range, performance and capacity with the same type of Gipsy engine.

With the pilot placed centrally in front of two side by side seated passengers, the Leopard Moth is both roomy enough to accommodate baggage for a long weekend away but compact enough to

allow the aircraft to be put down with ease on a small grass strip and with folded wings placed in a garage or hangar without further concern.

Having successfully flown for the first time on 27 May 1933, Leopard Moth G-ACHD was entered into the King's Cup Air Race at Hatfield in July by Captain Geoffrey de Havilland. With an average speed of just over 139.5 mph (224.5 km/h) over the 831 mile course, the



combination was victorious finishing first in a field of 42 starters.

This victory marked the sixth win for a de Havilland aircraft in the twelve runnings of the race, while producing the fastest average speed over any of the previous distances. Displaying such obvious efficiency it may surprise some that only 133 aircraft were built. 71 sold to customers in Great Britain and ten for use in Australia.



*Elegant wheel spats fitted to G-AIYS also help to reduce drag.*

Facing increasing competition from other manufacturers, production of the DH.85 ceased in 1936. During the Second World War, 44 Leopard Moths were taken into military service and used mainly as communications aircraft by British and Australian forces. Many did not survive. Six are registered in Great Britain, three to owners living in Hertfordshire.

## **G-ACLL**

Under restoration in Hampshire

## **G-ACMA**

Under restoration in Oxfordshire

## **G-ACMN**

Airworthy at Duxford, Cambridgeshire

## **G-ACQJ**

Airworthy at Rendcomb, Gloucestershire

## **G-ACUS**

Airworthy at RAF Henlow, Bedfordshire

## **G-AIYS**

Airworthy at RAF Henlow, Bedfordshire



*G-AIYS sits with folded wings after night stopping in the Deer Park at Woburn.*



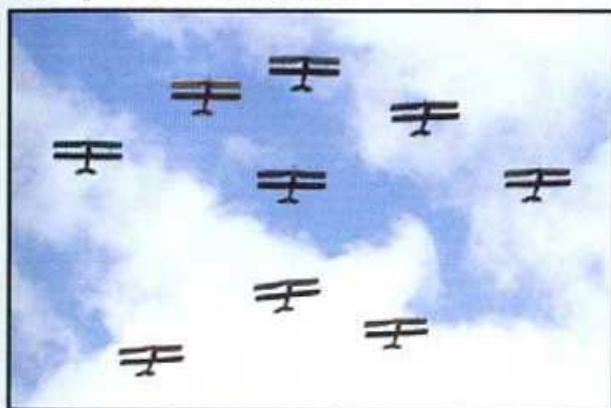
*G-ACUS based just over the hedge at RAF Henlow taxis in at Woburn*



# Those Magnificent Men in their Flying Machines

Following the disbandment of the Club's Diamond Nine Display Team in 2000, the Tiger 9 have picked up the baton. We asked formation leader Jeff Milsom to tell us how the new team started:

I recall contentedly sitting in the sunshine on a bench at Old Warden early in summer 2005 bathing in the classic English scene of old aeroplanes in their natural environment. Earlier a passing comment had surreptitiously lodged itself in the depths of my mind, and here it was again coming from another pilot with whom I was sharing the scene. 'Wouldn't it be nice if there was a formation of nine Tiger Moths for the 25th International Moth Rally at Woburn?'



The Tiger 9 perform at the 2011 Moth Rally at Belvoir Castle.

The third time I'd heard that sentiment expressed. After some consideration in a very small voice and purely speculatively I replied, 'If I were to lead it do you think we could find another eight pilots and aircraft?'

The following weeks saw a rounding up of pilots with past experience and the training of a few more to achieve the stated aim of 'safely getting nine Tiger Moths airborne and into close formation for a couple of passes, followed by a safe dismantling and recovery to Woburn.'

It takes about a week to turn a large formation of Tiger Moths through 180 degrees for the next pass, during which time the spectators have finished their ice-creams and gone home. We had to make the display more entertaining,



After a pre-dinner display at Sywell, the Tiger 9 reveal what every fashionable pilot wears under his flying overalls.



Pre-display briefings at Belvoir Castle in 2011.



Showing off the Tiger Moth's manoeuvrability with some close up skills at Belvoir Castle in 2011.

whilst maintaining the nine-ship core. This meant 'upping the anti' as one member insisted.

Moving up a gear we introduced 3 x 3 aircraft in Vic, to fill one gap, a synchro pair to fill another, and a multi

aircraft cross for the thrill seekers. Aircraft were now being deliberately flown towards one another, flight leaders were being asked to break out of close formation and orientate themselves with the display line to lead their flights directly towards the other half of the formation. Corrections for wind had to be developed to keep to crowd centre and pilots became specialists in their positions. Ex Concorde and other airline pilots who have spent their



The Tiger 9 perform their trademark Diamond formation at Woburn in 2007.

flying careers avoiding other aircraft were now being asked to fly towards each other with an agreed plan to miss by one wingspan.

Twelve pilots and ten Tiger Moths make up the current team, only just enough to display regularly with nine. The team makes every effort to welcome like-minded pilots who are keen to rise to the challenge of formation display flying. Prospective joiners start formation practice as soon as the spring weather allows, initially flying in small formations before being exposed to the complications of operating with eight others.

Made up of a group of enthusiasts flying for fun rather than for profit, the Tiger 9's professional approach leads one to ask who they are.



**Jeff Milsom****(Green and silver G-AHOO.)**

Leader of the Tiger 9, Jeff is a former RAF F4 Phantom pilot who operated from RAF Leuchars in Scotland. Currently a British Airways Airbus captain.

**Peter Benest****(Yellow and silver G-ANEM.)**

Peter has been flying Tiger Moths since 1967. Now retired from British Airways where he served as a Boeing 747 captain, he can be hired as a Tiger Moth instructor and examiner.

**Michael Vaisey****(Red and cream G-APLU.)**

Michael originally trained as a quantity surveyor but now runs the internationally recognized engine overhaul business Vintage Engine Technology Limited. Michael was a founder member of the Diamond Nine Display Team, and is a Trustee of the de Havilland Educational Trust.

**David Wildridge****(Red and silver G-ANEN.)**

David was Jeff Milsom's RAF flying instructor on BAe Hawks in 1982, and later his First Officer on the Airbus A320. He flew Tiger Moths for recreation when a cadet at RAF Cranwell and currently is a captain with the Spanish airline Vueling.

**Jonathan Turnbull****(Maroon and silver G-ACDA.)**

Jonathan joined the Tiger 9 in 2011 following retirement from Britannia Airways. Having been a group owner of Tiger Moth G-EMSY based at Old Sarum he purchased his own aeroplane, G-ACDA, in March 2013.

**Duncan Green****(Maroon and silver G-AIXJ.)**

Duncan is known by the team as "The Teenager" despite being a Senior First Officer with British Airways flying the long haul Boeing 777s. Thirty-something Duncan flies his father David's Tiger Moth G-AIXJ. He joined the Tiger 9 in 2009.

**Jeremy Radcliffe****(Brown and white G-AHAN.)**

Jeremy is an anaesthetist at Queen Square in London. Flying since 1982, he has almost 200 hours in Tiger Moths and enjoys the team aspect of Tiger 9 life when not flying a single seat Pitts Special.

**Len Mitton****(Yellow and silver with polished silver cowlings G-ANFM.)**

Len is a retired airline captain who was a founder member of the Diamond Nine Team. Co-owning G-ANFM for over 40 years he can also boast having been included in a 13 aircraft 'stealth formation' for the Diamond Nine's final display, and a 16 Tiger Moth formation at the International Moth Rally at Woburn in 1989.

**Robin Russell****(Silver military scheme DE470/G-ANMY.)**

Robin is an ex RAF Phantom pilot who currently works as a ferry pilot and instructor having retired as a captain with Easy Jet. After some years as a member of a group owning G-ANMY, Robin has recently purchased his own Tiger Moth, G-AXXV, and has become an accomplished solo aerobatic display pilot.

**Jerry Rendall****(Yellow and silver G-AOBX.)**

Jerry is a retired British Airways Concorde captain who joined the Tiger 9 in 2009. As part of the G-AOBX syndicate, Jerry has a share of the only Tiger Moth in the world operated by ex-Concorde pilots and engineers.

**Steve Bohill-Smith****(Yellow and silver G-AOBX.)**

Steve is a retired British Airways captain having served on Concorde as a First Officer for six years and has been flying commercially since 1972. With the unusual claim to fame of holding a Boeing 747 Display Authority, Steve captained the Oasis 747 which flew in a number of UK air displays.

**Nigel Lemon****(Yellow and silver with polished silver cowlings G-ANFM.)**

Nigel works for a company that sources and maintains helicopters for emergency services. He is a Trustee of the de Havilland Educational Trust and Technical Officer to the Reading Flying Group, owners of G-ANFM.

**Colin Dodds****(Silver military scheme T5879/G-AXBW.)**

Colin is an ex RAF Vulcan and later Nimrod captain and is the Tiger 9's Display Authorisation Evaluator. Give him a wave at the end of the display as he provides a great deal of support and enthusiasm for the de Havilland Moth Club.

**Bravo!**



# The 2013 Rallyists

The following de Havilland aircraft are expected during the weekend

## DH.60G Moth

G-AAHI	Charlie Huke
G-AAJT	Malcolm Paul
G-AANL	Bob Gibson
G-AAWO	Nigel Reid
G-ABDA	Bob Gibson

## DH.60GM Moth

G-AADR	Bunty Moffatt
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## DH.80A Puss Moth

G-AAZP	Tim Williams
G-ABLS	Richard Seeley

## DH.82A Tiger Moth

G-ACDA	Jonathan Turnbull
G-ACMD	Mike Bonnick
G-ADGV	Mikel van der Straaten
G-ADJJ	Mark Preston
G-AFWI	Paul Harvey
G-AGHY	Paul Groves
G-AHAN	Jeremy Radcliffe
G-AHIZ	Ian Oliver
G-AHOO	Jeff Milsom
G-AHPZ	Chris Adams
G-AIDS	Terry Dann
G-AIXJ	Duncan Green
G-AJHS	Jan Voeten
G-ALIW	Frank Curry
G-ALWW	David Findon
G-AMTV	Edward Scurr
G-ANEH	Graham Wells
G-ANEL	Jaap Niestadt
G-ANEM	Peter Benest
G-ANEN	David Wildridge
G-ANFI	Geoff Graham
G-ANFM	Len Mitton
G-ANHK	Joe Iliffe
G-ANJD	David Lewis
G-ANKZ	Tim le Mesurier
G-ANLD	Ken Peters
G-ANMY	Alistair Wilson
G-ANNI	Clive Ponsford
G-ANOM	William Pitts
G-ANTE	Ian Cheese
G-AOBX	Steve Bohill-Smith
G-AOEI	Ian Oliver
G-AOGR	Rupert Clark
G-AOZH	Mark Blois-Brooke
G-APAL	Philip Shotbolt
G-APLU	Michael Vaisey
G-ARAZ	David Porter
G-AXBW	Colin Dodds
G-AXBZ	Bill Clyndert
G-AZGZ	Dick Bishop
	Scott Butler
	Steve Carrington-Porter
G-AZZZ	Desmond Penrose
G-BEWN	James Milne
G-BHUM	Graham Towers

G-BPHR	John Baxter
	John Hall
G-BWVT	Leon Whelchel
G-BYLB	Paul Layzell
G-EMSY	Malcolm Rogan
G-MOTH	Paul Szluha
G-TIGA	Derek Leatherland
N8233	Pim Van Dam
PH-CSL	Cees Huijers

## DH.82 Queen Bee

G-BLUZ	Peter Finch
	John Flynn

## DH.82A (Mod) Jackaroo

G-ANZT	Tricia Neville
G-AOIR	Ken Broomfield

## DH.83 Fox Moth

G-ACEJ	Stuart Beaty
G-AOJH	Kenneth Fraser

## DH.84 Dragon

G-ECAN	Henry Labouchere
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## DH.85 Leopard Moth

G-ACUS	Ron Gammons
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## DH.87B Hornet Moth

G-ADKC	Chris Winch
G-ADKK	Bob Lee
G-ADKL	Peter Johnson
G-ADMT	David Reid
G-ADND	David Weston
G-ADNE	Dick Felix
G-AELO	Mark Miller
G-AHBM	Paul Gliddon

## DH.89A Dragon Rapide

G-AGJG	Mark Miller
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## DH.90 Dragonfly

G-AEDU	Jerry Chisum
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## DHC-1 Chipmunk

G-ALWB	Dennis Neville
G-AMUF	Ian Mills
G-APPM	Steve Wilch
G-APYG	Paul Doyle
G-ATHD	Rod Brown
G-BBMZ	Bruce Hutton
G-BBMZ	Nigel Gibson
G-BBND	Carol de Solla Atkin
G-BBSS	Tim Treadaway
G-BCEY	Neil Rendall
G-BCGC	Jonathan Pollard
G-BCXN	Michael Turner
G-BVTX	Marc Roots
G-BWMX	Ken Kelso
G-BWUT	Andrew Herbert
G-BXGO	Tim Orchard
G-BXHA	Steve Roberts

Correct at the time of going to press.





DH.60G Moth



DH.82A Tiger Moth

## DH.60G Moth

**Date of first flight:**  
July 1928

**Number built:**  
1,400

**Seating:**  
One pilot  
and one passenger.  
Flown solo from the rear cockpit, the passenger sits in the front cockpit.

**Engine:**  
One de Havilland Gipsy I or Gipsy II  
**Power:**  
100hp or 120hp  
**Top Speed:**  
120mph 164km/h  
**Cruising Speed:**  
85mph 137km/h

**Height:**  
8ft 9½in 2.68m  
**Wingspan:**  
30ft 0in 9.14m  
**Length:**  
23ft 11in 7.29m  
**Weight:**  
920lb 417kg

The DH.60G was the first major upgrade of the design since the prototype first flew on 22 February 1925. The Cirrus engine was replaced with a Gipsy I

## DH.80 Puss Moth

**Date of first flight:**  
9 September 1929

**Number built:**  
284

**Seating:**  
One pilot  
and two passengers.  
Flown with the pilot in the front, with up to two passengers behind on a bench seat.

**Engine:**  
One de Havilland Gipsy III or Gipsy Major  
**Power:**  
120hp  
**Top Speed:**  
128mph 196km/h  
**Cruising Speed:**  
108mph 119km/h

**Height:**  
7ft 0in 2.10m  
**Wingspan:**  
36ft 9in 11.20m  
**Length:**  
25ft 0in 7.60m  
**Weight:**  
1,265lb 575kg

C.J. Melrose flew VH-UQO, named 'My Hildegard' in the 1934 MacRobertson Air Race. They finished overall seventh and second on handicap in a time of 10 days 16 hours.

## DH.82A Tiger Moth

**Date of first flight:**  
26 October 1931

**Number built:**  
8,868

**Seating:**  
One pilot  
and one passenger.  
Flown solo from the rear cockpit, the passenger or instructor sits in the front cockpit.

**Engine:**  
One de Havilland Gipsy Major  
**Power:**  
130hp  
**Top Speed:**  
109mph 175km/h  
**Cruising Speed:**  
94mph 151km/h

**Height:**  
8ft 9in 2.68m  
**Wingspan:**  
29ft 4in 8.94m  
**Length:**  
23ft 11in 7.34m  
**Weight:**  
1,115lb 506kg

Often modified to replicate rarer aircraft for film work. Tiger Moths were used in the crash scenes in *The Great Waldo Pepper* film, standing in for the Curtiss JN-4 Jenny.

## DH.82 Queen Bee

**Date of first flight:**  
Unknown

**Number built:**  
405

**Number still flying:**  
One  
**Seating:**  
One pilot for ferrying.  
Flown from the front cockpit.

**Engine:**  
One de Havilland Gipsy Major I  
**Power:**  
130hp  
**Top Speed:**  
150mph 240km/h  
**Cruising Speed:**  
80mph 129km/h

**Height:**  
8ft 9in 2.68m  
**Wingspan:**  
29ft 4in 8.94m  
**Length:**  
23ft 11in 7.34m  
**Weight:**  
1,194lb 542kg

The Queen Bee was designed as an unmanned radio-controlled target drone that used Tiger Moth wings and a wooden fuselage based on the DH.60GIII.



DH.80A Puss Moth



DH.82 Queen Bee



# Statistics:



*DH.82A (Mod) Jackaroo*



*DH.84 Dragon*

## DH.82A (Mod) Jackaroo

**Date of first flight:**  
2 March 1957

**Number built:**  
19

**Seating:**  
One pilot and three passengers. The pilot sits in the front left hand seat, with a single passenger sat behind. A further two passengers can sit in tandem on the right hand side of the aircraft.

**Engine:**  
One de Havilland Gipsy Major  
**Power:**  
130hp

**Top Speed:**  
102mph 164km/h  
**Cruising Speed:**  
90mph 145km/h

**Height:**  
9ft 6in 2.90m  
**Wingspan:**  
30ft 4 1/4in 9.25m  
**Length:**  
25ft 0in 7.62m  
**Weight:**  
1,360lb 618kg

Four-seat cabin biplane, modified from existing DH.82A airframes by widening the gap between the front fuselage frames.

## DH.83 Fox Moth

**Date of first flight:**  
29 January 1932

**Number built:**  
153

**Seating:**  
One pilot and four passengers. The pilot sits in a raised cockpit behind an enclosed passenger cabin.

**Engine:**  
One de Havilland Gipsy III or Gipsy Major

**Power:**  
120hp or 130hp  
**Top Speed:**  
106 mph 171 km/h  
**Cruising Speed:**  
91 mph 147 km/h

**Height:**  
8ft 9 1/2in 2.68m  
**Wingspan:**  
30ft 10 5/8in 9.42m  
**Length:**  
25ft 9in 7.85m  
**Weight:**  
1,071lb 487kg

Designed as a low cost and economical light passenger aircraft. Many components including the engine, tail plane, fin, rudder and wings were identical to those on the DH.82A then being built in increasing quantities as a military trainer.

## DH.84 Dragon

**Date of first flight:**  
24 November 1932

**Number built:**  
202

**Number still flying:**  
Three

**Seating:**  
One pilot and six passengers.

**Engines:**  
Two de Havilland Gipsy Major I  
**Power:**  
130hp each  
**Top Speed:**  
128mph 206km/h  
**Cruising Speed:**  
109mph 167km/h

**Height:**  
10ft 1in 3.07m  
**Wingspan:**  
47ft 4in 14.43m  
**Length:**  
34ft 6in 10.52m  
**Weight:**  
2,300lb 1,045kg

The DH.84 was the first aircraft successfully to fly non-stop between the Canadian mainland and Britain, taking just 30 hours and 55 minutes to complete the trip on 8th August 1934.

## DH.85 Leopard Moth

**Date of first flight:**  
27 May 1933

**Number built:**  
133

**Seating:**  
One pilot and two passengers. Flown from the front, the passengers sit side by side behind the pilot.

**Engine:**  
One de Havilland Gipsy Major  
**Power:**  
130 hp  
**Top Speed:**  
137mph 221km/h  
**Cruising Speed:**  
119mph 192km/h

**Height:**  
8ft 9in 2.67m  
**Wingspan:**  
37ft 6in 11.43m  
**Length:**  
24ft 6in 7.47m  
**Weight:**  
1,290lb 586kg

Reportedly Sir Geoffrey de Havilland's favourite aircraft from the Moth series. 2013 marks the 80th anniversary of the first flight of the prototype DH.85 Leopard Moth.



*DH.83 Fox Moth*



*DH.85 Leopard Moth*



# Vital Statistics:



*DH.87B Hornet Moth*



*DH.90 Dragonfly*

## DH.87 Hornet Moth

**Date of first flight:**  
9 May 1934

**Number built:**  
164

**Seating:**  
One pilot and one passenger. Flown from the left hand seat, the pilot and passenger sit side by side in the cabin.

**Engine:**  
One de Havilland Gipsy Major I

**Power:**  
130hp

**Top Speed:**  
124mph 200km/h  
**Cruising Speed:**  
105mph 169km/h

**Height**  
6ft 7 in 2.10m  
**Wingspan:**  
31ft 11 in 9.73m  
**Length:**  
24ft 11½ in 7.61m  
**Weight:**  
1,241lb 564kg

The rectangular wings of the DH.87B were developed after the tapered wings of the DH.87A were found to cause problems for low time pilots when landing when there was a tendency for the tips to stall.

## DH.89 Dragon Rapide

**Date of first flight:**  
17 April 1934

**Number built:**  
731

**Seating:**  
One pilot and eight passengers.

**Engines:**  
Two de Havilland Gipsy Six or Gipsy Queen

**Power:**  
200hp each  
**Top Speed:**  
157mph 253km/h  
**Cruising Speed:**  
132mph 145km/h

**Height**  
10ft 3 in 3.10m  
**Wingspan:**  
48ft 0 in 14.60m  
**Length:**  
34ft 6 in 10.50m  
**Weight:**  
3,230lb 1,460kg

The Dragon Rapide was one of the most successful British-built short-haul commercial passenger aircraft of the early Twentieth Century and has lost none of its appeal as shown through a number of joy-riding ventures operating the type.

## DH.90 Dragonfly

**Date of first flight:**  
12 August 1935

**Number built:**  
67

**Number still flying:**  
Two

**Seating:**  
One pilot and four passengers.

**Engines:**  
Two de Havilland Gipsy Major

**Power:**  
135hp each  
**Top Speed:**  
144mph 232km/h  
**Cruising Speed:**  
125mph 201km/h

**Height**  
9ft 2 in 2.79m  
**Wingspan:**  
43ft 0 in 13.11m  
**Length:**  
31ft 8 in 9.65m  
**Weight:**  
2,500lb 1,134kg

The DH.90 was able to achieve maximum performance on low power by using new construction methods developed for the DH.88 Comet. This made it expensive to buy costing around £2,650.

## DH.94 Moth Minor

**Date of first flight:**  
22 June 1937

**Number built:**  
140

**Seating:**  
One pilot and one passenger. Flown from the front cockpit, the passenger sits in the rear seat.

**Engine:**  
One de Havilland Gipsy Minor

**Power:**  
90hp  
**Top Speed:**  
118mph 190km/h  
**Cruising Speed:**  
100mph 161km/h

**Height**  
6ft 4 in 1.93m  
**Wingspan:**  
36ft 7 in 11.15m  
**Length:**  
24ft 5 in 7.44m  
**Weight:**  
983lb 446kg

Nearly 100 DH.94 Moth Minors had been built by the outbreak of World War II. With a selling price of only £575 the Moth Minor was popular with flying clubs keen to acquire modern monoplanes.



*DH.89 Dragon Rapide*



*DH.94 Moth Minor*





*DHC-1 Chipmunk*

### **DHC-1 Chipmunk**

#### **Date of first flight:**

22 May 1946

#### **Number built:**

1283

#### **Seating:**

One pilot and one passenger. Flown from the front seat with the passenger sat in the rear.

#### **Engine:**

One de Havilland Gipsy Major 10 Mk II

#### **Power:**

145hp

#### **Top Speed:**

140mph 222km/h

#### **Cruising Speed:**

104mph 167km/h

#### **Height**

7ft 0in 2.10m

#### **Wingspan:**

34ft 4in 10.47m

#### **Length:**

25ft 5in 7.75m

#### **Weight:**

1,517lb 646kg

The DHC-1 is an all-metal, low wing, tandem two seat, single-engine aeroplane with a conventional tail wheel undercarriage. Designed as a primary trainer to replace the DH.82A, the Chipmunk was a project from de Havilland Canada.