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# The London Aircraft Production Group

By Brian A L Jones

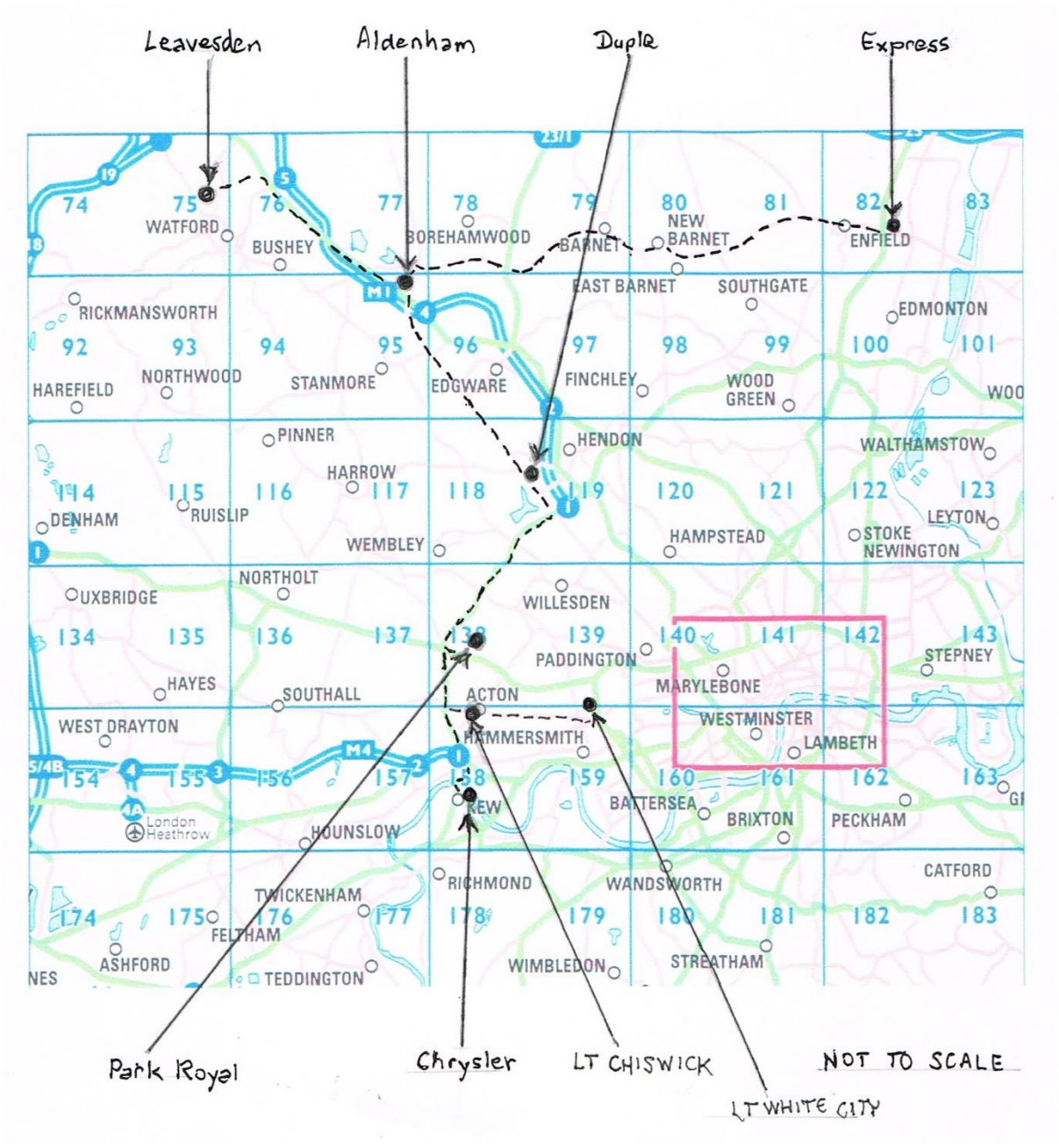
When looking at Britain's industrial output during WWII one can only marvel at what was achieved in a non-digital age. The management, coordination and logistics required to bring sophisticated programmes to timely completion, I believe, would be difficult to emulate in today's computerised world.

*Handley Page Halifax III*

The subject of that observation is London Aircraft Production Group (LAP) which was led and coordinated by the London Passenger Transport Board (LT) between 1940 and 1945 to produce Handley Page Halifax heavy bomber aircraft.

The other members of the Group were: Chrysler Motors Ltd., Duple, Express Motor and Body Works and Park Royal Coachworks

As can be seen on the following sketch map, it is notable that all of the selected companies were situated on or close to main roads in the North and North West areas of London, with the exception of Chrysler whose factory was just south of the River Thames at Kew. This was no doubt an important consideration as all the components, some sizable, would need to be moved by road to Leavesden Aerodrome for assembly. Until the latter part of the War, when V-1 and V-2 weapons became a menace, those areas were less liable to enemy attack, than East and South London.




*Locations of Group Members works and Leavesden Airfield, set out on a modern road map (probable roads used to transport components are shown as dashed lines).*

Under the Chairmanship of (LT's) Lord Ashfield [(1)], LAP would eventually provide an organisation capable of completing one aircraft per hour, delivering 710 Halifaxes before construction terminated in April 1945, out of a total of 6,176 built overall. Beyond the companies in LAP, there were 600 sub-contractors and, in total, 51,000 employees (more than 50% female) were engaged in the construction processes.

The Halifax was initially designed and built by Handley Page and the prototype made its first flight from RAF Bicester on 25 October 1939, with the first operational aircraft handed over to 35 Squadron at RAF Leeming

on 23 November 1940. Although it had been preceded into squadron service by the Short Stirling, which was the RAF's first four engine heavy bomber, the Halifax was the first to bomb Germany, on 12-13 March 1941 when Hamburg was raided. Production was ramped up quickly, with, in addition to LAP, English Electric at Preston, Fairey at Stockport and Rootes at Speke all mass producing the Halifax.

I have selected a range of photographs from the large number available to try and illustrate each company's contribution to the scheme. While most photos are obviously carefully posed, they illustrate some interesting working practices that would almost certainly raise health and safety issues today!

The views also confirm the major participation of female workers and that most workshops were artificially illuminated at all times, due to the need to maintain blackout conditions.

While **London Transport** had no previous experience of aircraft construction, they were able to provide strong engineering leadership. LT were able to utilise a new factory like building that had been constructed to stable and maintain tube trains for the planned Northern Line extension from Edgware which had been deferred with the outbreak of war. Located at **Aldenham**(2), near Elstree, it had the added advantage of being alongside the Watford by-pass directly connecting it to **Leavesden airfield** a short distance away where final assembly of the Halifaxes was to be undertaken.(3)

Detail parts were also produced by LT at their **Chiswick Works** and **White City**.


*A wartime view of the main entrance to LT's Chiswick Works*

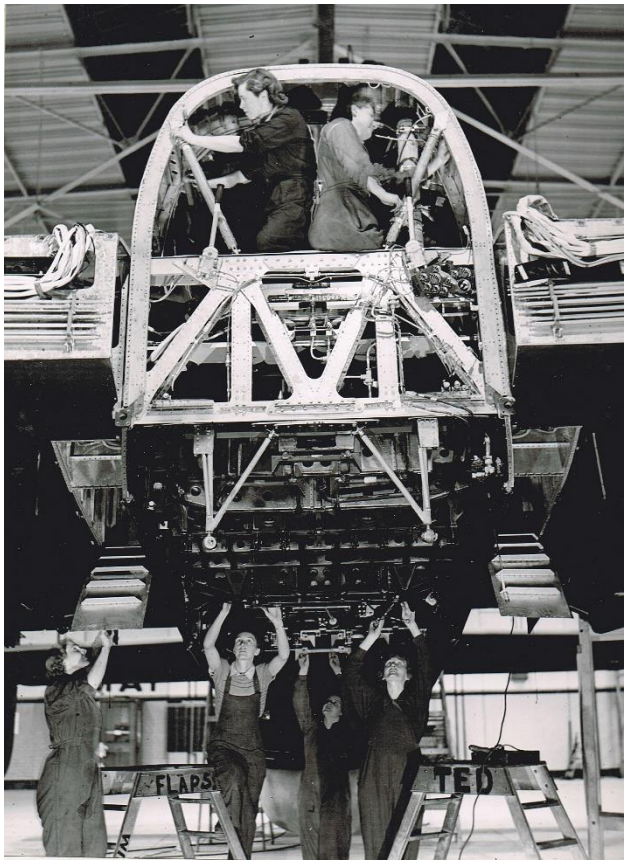
**Chiswick**, which was largely given over to army tank design and

production under the direction of LT's Chief Mechanical Engineer A A M "Bill" Durrant, contributed details parts for the assembly of centre sections and front fuselages for Halifaxes at the Aldenham Works.

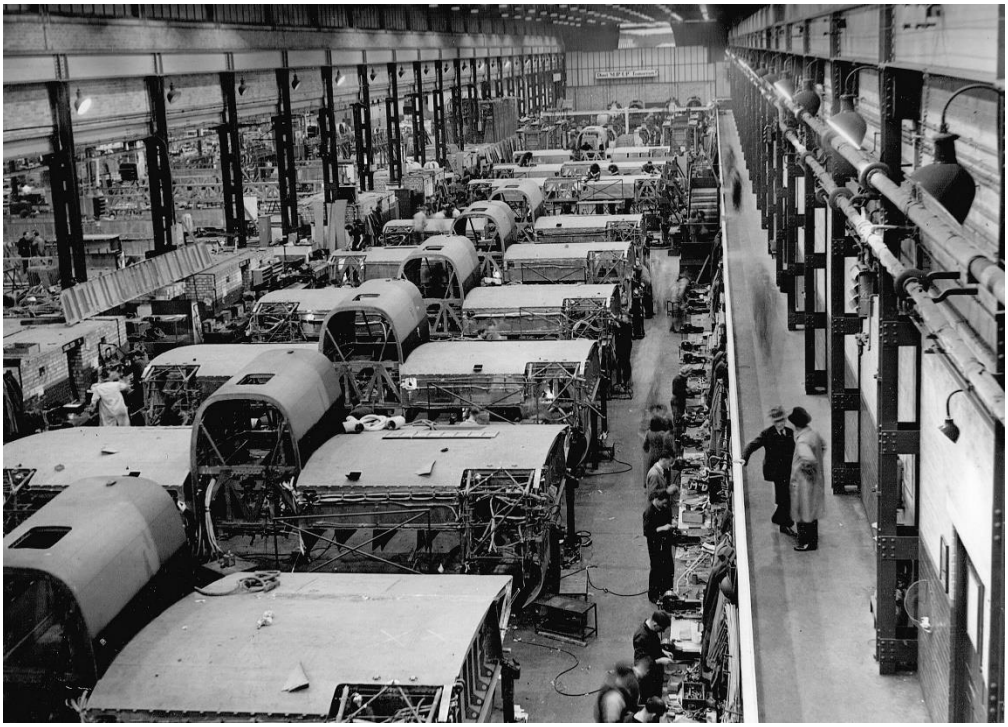
*White City buildings were ranged around railway sidings.*

LT used buildings at **White City** for the construction of Halifax engine cowlings and storage of components and spare parts. Other component parts were assembled in the subway that joined **Earl's Court Station** to the Exhibition Hall on the other side of the road.

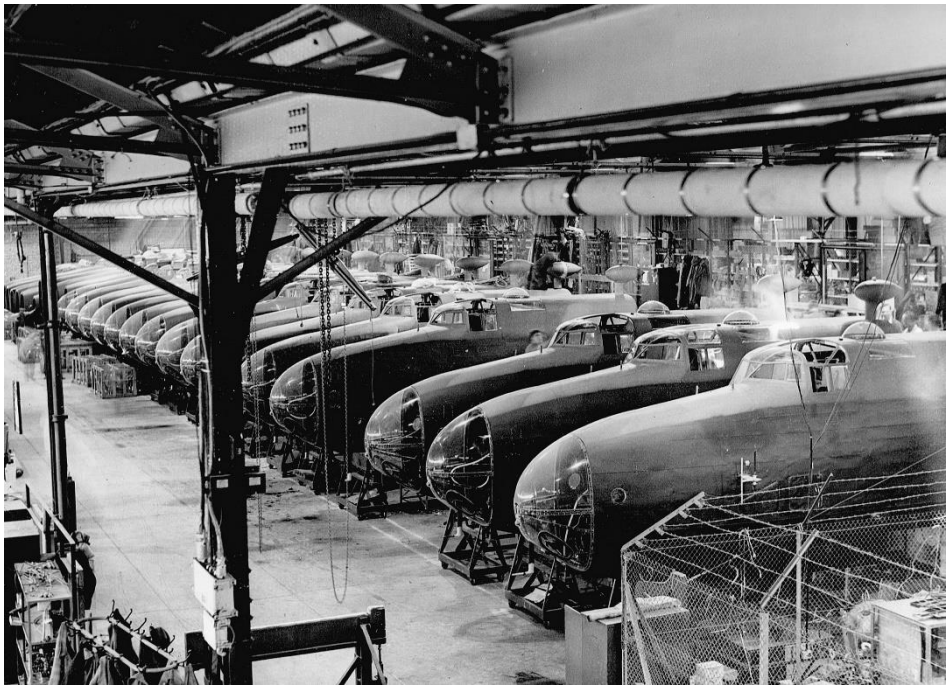
*A general view of Aldenham Works*




*Women to the fore assembling the Hailfax centre section structure which provided the link between the fuselage and inner wings.*



*Aldenham – the assembly line for centre sections, with the outer skins being applied*



*Aldenham – nineteen Halifax nose assemblies are receiving internal fittings.*

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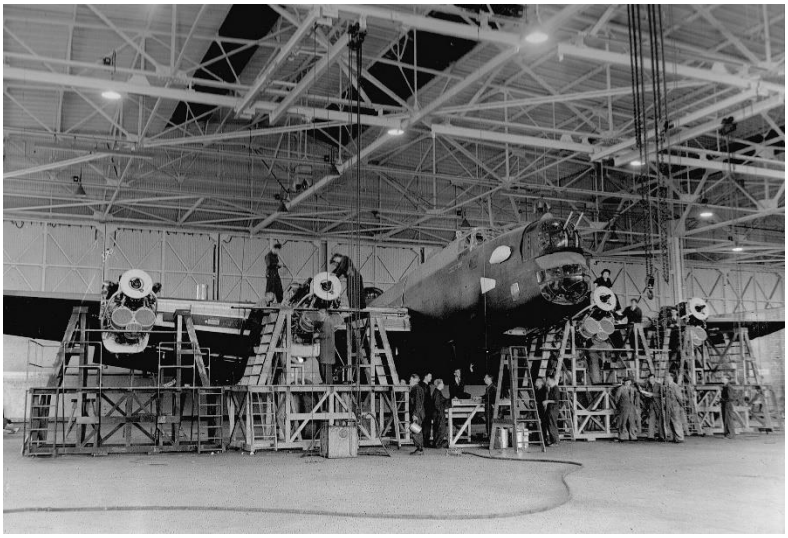
*Leavesden Aerodrome - final assembly hangar and flight shed – a Halifax nose can just be seen through the open doors. The site has now been transformed to Warner Brother's Harry Potter.*

*Leavesden – a rather dark photograph, possibly taken from the hangar roof, showing the separate components for a complete Halifax arriving in convoy.*



*Leavesden - the fruits of the Group's labour are brought together in final assembly.*

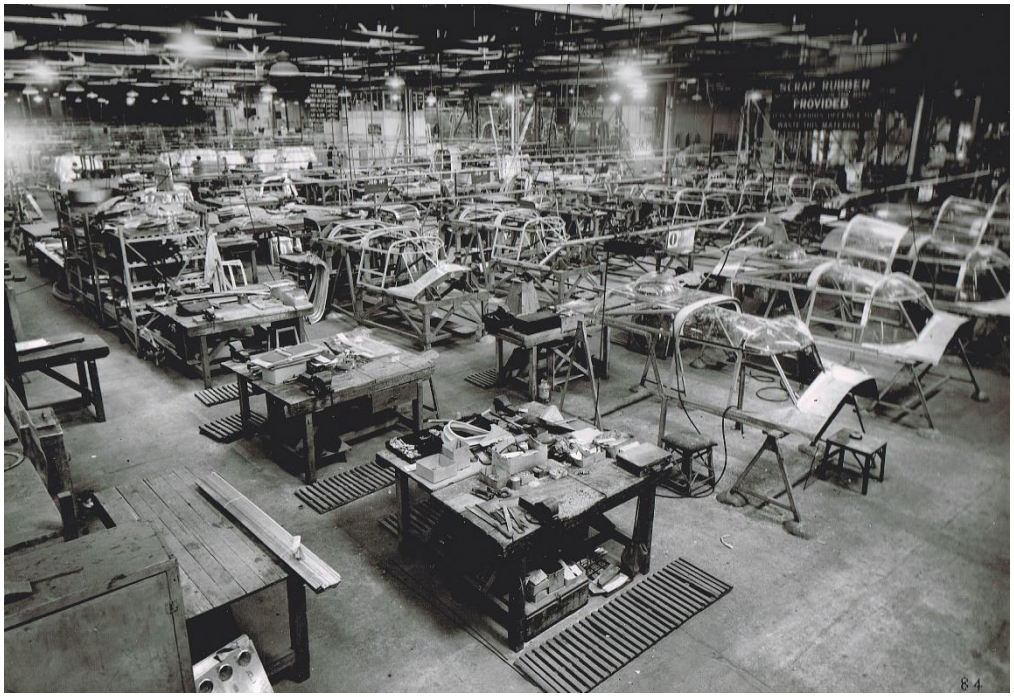
## Chrysler Motors Limited - Kew

*Chrysler's Kew factory at Kew had been employed pre-WWII to assemble the company's passenger car ranges from completely knockdown kits imported from North America and Dodge trucks.*

*Chrysler – painting a completed rear fuselage*

**Duple** produced 750 front fuselage sections (including all of those fitted to the LAP's 710 Halifaxes) in their works at Edgware Road, Hendon.


*Duple's Works situated at the Hyde, Hendon on the Edgware Road.*




*The available Duple workshop photos are all shown devoid of staff – perhaps they have moved next door to produce the buses that Duple were construction at the same time to wartime utility standards.*

**Express Motor and Body Works** was located at the junction of the great Cambridge Road and Southbury Road in Enfield [4]. Their modern premises had only been opened in October 1938 and provided 110,000 of floor space and, significantly, included a state of the art wood working complex. Their specialist peace time activity was the construction of cab units for commercial vehicles.

*The Express Motor and Body Works in Enfield*

The company was selected to produce tailplanes and intermediate wing sections for the Group.

*A very busy scene in the Express Motor workshop*

**Park Royal Coachworks**, Abbey Road, Park Royal was selected to produce outer wings and engine cowlings. The company also produced around 16,000 military vehicles and utility buses during the wartime period.

*The Park Royal factory at Acton, the Grand Union Canal passed alongside.*

*Two young ladies assemble a Halifax wingtip, using pneumatic and hand drills. Surely the workpiece would normally be supported in a jig?*

## Celebration – The Handover Ceremony for the Final LAP Halifax

On 16 April 1945 Lord Ashfield presided over the handover to the RAF at Leavesden of Halifax Mk.III serial PN460, which was named *London Pride*.

*Lord Ashfield, as Chairman of LAP, prepares to reveal the name London Pride, applied to the final Halifax to be constructed by the LAP Group*

*Halifax PN460 "London Pride" banks over Leavesden aerodrome before leaving for active service with the RAF.*

The demonstration flight was flown by T.W. (Sammy) Morton, Chief test Pilot for LAP, who founded Morton Air Services Ltd. at Croydon Airport in May 1945 which operated its first service on 21 January 1946.


*A scene at Leavesden aerodrome as workers board their buses and cars to return home after a shift on the Halifax assembly line. The buses are all LT vehicles, those with open staircases ST class AEC Regents and the others are from the STL class, also AEC Regents. Note the large white circles painted on the back of the buses to improve visibility during blackout conditions.*

The experience gained from exposure of aircraft manufacturing is believed to have influenced London Transport's post-war development and operation. The light structures involved and use of aluminium probably lead to the adoption of that metal for Routemaster bus bodies. Similar assembly line processes were introduced when large scale bus overhaul arrangements were made at Aldenham Works.

**Notes**

1. Born Albert Henry Knattkies in New Normanton, Derbyshire. He subsequently emigrated to the United States, where his father worked for the Pullman Company and changed their family surname to Stanley. Albert made his name when involved in tramway developments in Detroit and New Jersey. On returning to the UK, he joined Underground Electric Railways of London, becoming their Chairman in 1919. Before that he had been elected and served as an MP for Ashton-Under-Lyne 1916-1920 plus President of the Board of Trade 1916-1919. His Underground Chairmanship led to him being appointed as Chairman of the London Passenger Transport Board in 1933, a post he held until 1947. He was

appointed to the British Transport Commission in 1948, but died late that year. He was awarded the title of first Baron Ashfield (the Nottinghamshire village where his father was born).

2. Post WWII, as the creation of the Green Belt around London prevented housing development that would have justified continuing with the Northern Line extension, London Transport initially, in 1945 used the buildings to carry out bus maintenance and intake new vehicles. In 1956 the substantially rebuilt building was transformed into the main body overhaul works for its bus fleet and that use continued until the 1990s. The buildings were eventually demolished and the site cleared during June / July 1996. Slough Estates have subsequently developed the Centennial Business Park there.

3. It may be worthwhile noting that, in the immediate post war period, Elstree Aerodrome, which lies adjacent to the Aldenham site, provided maintenance facilities for the civil Halifax operations of London Aero Motor Services, one of the numerous companies that sought to provide freight services as demand grew for the import and export of goods.

4. Post WWII the aerodrome was used by de Havilland for aircraft maintenance and aircraft engine manufacturing, the latter passing to Rolls Royce. Flying ceased in March 1994 and the aerodrome buildings were adopted for film production - the Bond film *Golden Eye* was produced there in 1995 and all of the *Harry Potter* films have largely been made in the studios. Subsequently Warner Brothers introduced the *Warner Bros. Studio Tour* attraction in 2012. Part of the aerodrome site has also been adopted for housing development.

5. The area formerly occupied by the factory is now given over to a B & Q Store, a Morrisons Supermarket and a Cineworld complex.

6. The operational life of PN460 was disappointingly short. Delivered to 517 Squadron at Chivenor, Devon, which undertook meteorological flights until it was disbanded on 21 June 1946. The Halifax was struck off charge on 1 November 1946.

**References**

*Exploring 20th Century London* website

*Royal Air Force* – Owen Thetford – Putnam (1988 edition)

*A presentation loose-leaf album of photographs,* believed to have been produced in 1945 by LT. (The London Bus Museum copy has "Durrant A A

M" embossed on the front cover and is from the Colin Curtis collection). A A M "Bill" Durrant CBE was LT's Chief Mechanical Engineer, serving in the post from 1933-1940 and 1945-1965. He was largely responsible for the mechanical development of the Routemaster bus and overseeing the wartime design of the Centurion tank)

*Duple* - Alan Townsin – Venture Publications (1998)

*London Underground at War* – Nick Cooper – Amberley (2014)

*British Independent Airlines 1946-1976* – A C Merton Jones - the aviation hobby shop (2000)

*The Halifax File* – Nick Roberts – Air Britain

**Thanks to**

Alan Dowsett – Handley Page Association - who contributed information and comments on the draft of this article.

London Bus Museum at Brooklands, Surrey, is an entirely voluntary organisation, which operates an Accredited Museum open year round and attracting about 100,000 visitors. New volunteer staff members are always welcomed into a friendly social atmosphere, with the intention of finding them projects which are suited to their interests or skills. At present, persons interested in IT development, conservation, data recording or reviewing and developing existing collections of tickets, transport advertising and media are particularly being sought.

If you think you may be interested, please contact the writer of this article – phone 01628 522649 – email brianalanljones@gmail.com – who will be pleased to discuss possibilities with you.

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