

Ken Browns Garage, 42-44 Potter Street, Harlow, Essex.
Description and analysis of the timber-frame contained within the
Maintenance Workshop. Surveyed 06 10 2011.



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Location of the Ken Browns Garage in Potter Street, Harlow.



The Maintenance Workshop is in the centre of the site. Google Earth 2006.

Location

Ken Brown Motors is a medium sized Kia car dealership situated on the western side of Potter Street, south of Harlow, Essex. NGR TL 4716 0898.



The Maintenance Garage dominates the centre of the plot.

The site has a large recent glass and steel showroom to the SW corner of the plot and the Maintenance Garage sits in the middle of the plot. The site, once a farm in open countryside is now completely enveloped by C20th developments.



The barn in the EC20th. The electric lights, pumps and motorcycles suggest the 1920's - 30's.

The Maintenance Garage was previously a thatched aisled barn and is clearly shown in a photograph kindly provided by Mick Taylor, a Senior Technician who has worked at the garage for over 40 years. The photograph, although undated can be attributed to the 1920's or 30's by the style of the fuel pumps, the typography of the signs and the presence of electric lights. At that time the garage was run by E.P. Larter.

Description - External



Southern elevation is built of reinforced concrete beams and blockwork.

Southern Elevation

The southern elevation is the main facade and houses the front entrance door sealed by a modern roller shutter. The doorway is off-centre and represents the midstrey of the original timber-framed barn. Either side there are large 12 pane rolled steel casements of which the second from the west has an opening light. In the SE corner is a LC20th half glazed door to an inserted WC cubicle.

The facade is built of reinforced concrete beams, visible inside and blockwork rendered with cement or concrete and painted over. This style of fabrication became popular in the 1920's with some of the earliest examples in the country in Braintree and more notably Silver End but really took off in the 1930's with the expansion of aviation inspired buildings.

The roof has three pitches and is a 2x4in softwood construction clad in corrugated asbestos and drained with painted metal rainwater goods. There is a C21st illuminated KIA MOTORS sign, an MOT sign and various health and safety notices.



The western elevation retains the original pitch of the barn roof to the rear.

Western Elevation

The western elevation is to the back of the plot and shows that the concrete facade has been returned to give it stability. The return section represents the width of the original aisle of the barn within. The remaining structure is clad with LC20th bandsawn weather boards fixed with galvanised nails. The roof is sealed with asbestos barge boards and a corrugated asbestos skirt.

There are 3 rolled steel framed windows. The 6 pane window to the south is of the same pattern as those on the front facade, while the central window is a fixed casement with smaller panes. There is also a domestically styled opening casement which is barred inside. These are all typical in style of the Crittall window company who were producing in vast quantities from the mid 1920's onwards from their Silver End factory.



Square headed threaded bolt of the EC19th. Inside they secure a full height post.

Of note is a pair of square headed bolts which represent a Georgian period repair.



The rear of the building looking E. The rear bays were added in the LC20th.

To the rear of the building can be seen the flank of an extended bay also clad in the same weather boards with a high level plain glass 3 light casement. There is also a metal clad solid timber C20th security door into the bay. The roof is of two pitches dropping down from the main roof to a large asphalt covered flat roof. The rainwater goods are grey plastic.

The rear of the main barn retains the steep pitch of the former roof although there are no original rafters inside.



Oblique view of the rear of the building.

There are three extended bays to the rear of the building. It is known the central one was built first and the other two added later (Mick Taylor - pers comm.). They are all LC20th however and constructed from Celcon blocks.



The rear of the building has three maintenance bays.

Northern Elevation

The northern elevation has the three extended bays. The central one has a small secured outshut with a L20th light weight hollow door in parlous condition on the western side. This bay is accessed from inside the building.



Manufacturer's plate. Phone number denotes before 1995.

The other two have steel roller shutters similar to that on the front. The roller shutter to the west has a manufacturer's plate for BIS Door Systems with a phone number 0288 - 767966. The places it before PhONE Day on the 16th April 1995. Notwithstanding local knowledge the bays are divided by a two vertical end stops in the weather-boarding and the barge board above the central bay has been painted twice indicating the order of build.



All the bays contain hydraulic lifts. Easternmost bay looking S.



The eastern flank is a reflection of the western minus the large windows.

Eastern Elevation

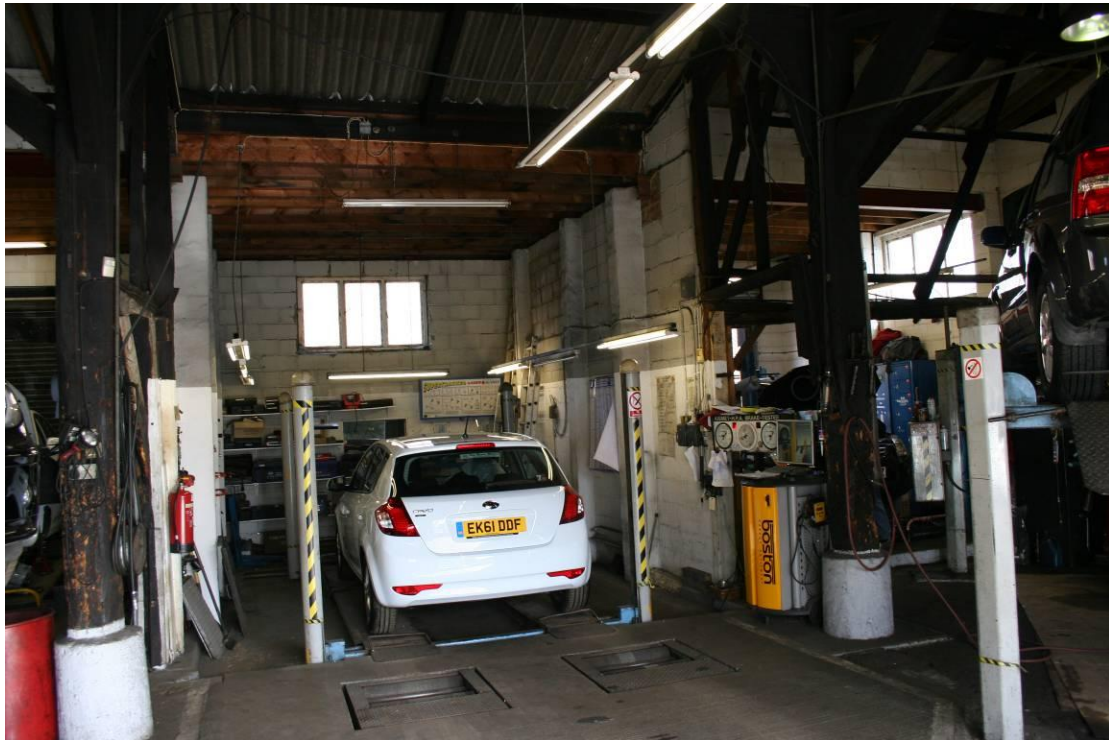
The eastern elevation faces the road and its bland appearance has been exploited for temporary signage. Like the western end the flank is weather-boarded with a concrete return from the main facade. There are no low level windows but the high level lights and door into the rear bay reflect the other side of the building.



The Maintenance Workshop as it appears from the road. Compare with the historic photograph on page 2.

There is a C20th workshop door hidden beneath the modern cladding which was used up until the LC20th. Originally it linked the workshop with a roadside building.

Description - Internal



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The interior is divided into six areas with hydraulic lifts.



The arcade posts of an aisled barn. Truss 2 from the west.

The trusses are largely complete but only two aisle ties remain. All the timbers have been painted black except where they were evidently boarded over at the time.

The main building is of four bays between the arcade posts of a timber-framed aisled barn. The walls have been removed except at the ends where they have been remodelled for the current roof structure and the studwork clad in hardboard. There are three open aisled trusses with heavy, curving spandrels from the arcade posts to the tie-beams. There are also straight braces up to the arcade plates. The roof structure has been removed including all the rafters but the form is indicated by two pairs of pegs in each tie-beam showing where queen posts would have been.

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It becomes apparent that originally the barn was of only three bays of 14ft, 16ft and 14ft long and that the westernmost bay of only 10ft was added later on probably reusing the original timbers from the western end wall. The evidence for this is in Truss 1. The tie-beam is fully morticed for a stud wall. There are no mortices for braces on the western side of the arcade posts to indicate a continuation of the frame and the faces are perfectly flat and unweathered. There are, however, mortices with sawn off tenons on the interior faces to show where the mid-rail would have been fixed.



The eastern wall.

The eastern wall is of interest because it contrasts with the features of the western wall. The corner posts both have heavy wide jowls sharply cut in at their bases. Large, very slightly curved primary braces fall to the mid-rails and have double pegs. The braces have no peg holes so it is likely they are trenched across the original studs being nailed with pairs of wrought iron nails.



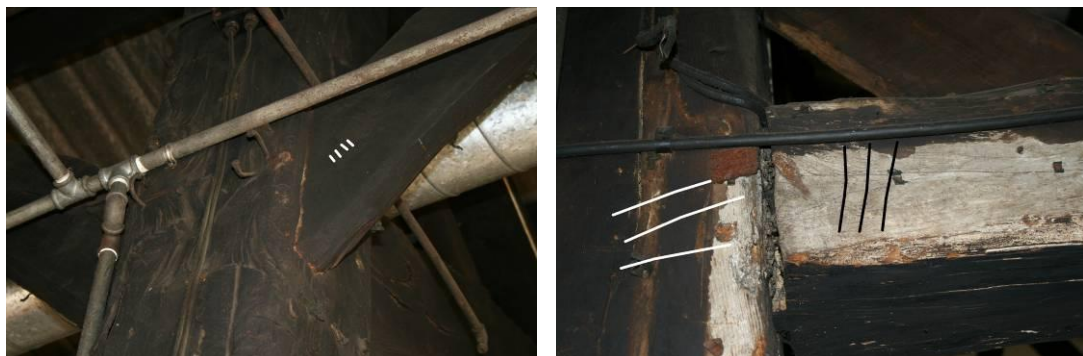
The western wall is made from reused timber some probably from the original wall.

The western wall

The western wall mimics the eastern wall (which is fully framed) but the corner posts have no jowls and one of the primary braces has been removed to insert a (now blocked) window containing a rolled steel casement.

The mid-rails are morticed for a hayloft floor and the arcade plates are morticed for stud walls to create a room within the added bay. Sawn off tenons in the arcade posts show where the plates to create the side wall were once installed. The northern arcade tie is cut from a much larger beam with has the diamond mortices for a mullioned window in the underside.

The addition of the western bay has meant the partial disassembly of the frame was necessary in order that new, longer arcade plates could be inserted. Unusually these are scarfed over the arcade post heads in Truss 2 with halved and bladed scarfs which makes for a weakened and complicated joint. The frame was renumbered to aid re-assembly.



The different styles of carpenter's marks indicate reassembly. Enhanced.

The south faces of the arcade braces on the south post have been numbered IIII and VI with a chisel point and form a continuous sequence from east to west. This is a renumbering indicating again an episode of disassembling. The original timbers are marked with a race knife although the only number actually visible is on the northern aisle tie.

It is likely the frame is numbered throughout but the thick black paint and the many attached fixtures obscure where they should be.

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Truss 2, north post head. Looking upwards to the NW.

Truss 2

Truss 2 is the most complete and it is from this that the rest of the trusses can be reconstructed. The arcade post is 11in square at the base which is now encased in a concrete cylinder. It tapers from quite high up, above the spandrel, to a wide solid jowl tenoned into the tie-beam. The posts are chamfered with run-out stops.

There are straight braces to the tie-beam and arcade plates but that to the east has been replaced with a hanging knee that is clout nailed in place. The knees (in general) do not have iron bolts visible but there are large, deeply drilled holes where they should be.

The knees have been inserted to open up the midstrey to allow tall hay wagons to pass through and represent the Georgianisation of the building when the midstrey porch would have been added. Although it is no longer in place there is a single full height post to indicate its dimensions.

The heavy curving spandrels have short single struts from the jowls which appear fully pegged and original. These are normally associated with quite early buildings and are not common. It would also be expected for them to be lapped and not tenoned.

The total width is 23ft while the distance between the aisle posts is exactly 18ft centre to centre. The height to the underside of the tie-beam was originally 15ft. The tie-beam is 10in deep and 11in wide and almost flat.



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The north side of Truss 2 retains the arcade posts and braces.

Truss 2 retains the arcade structure on its northern side. The aisle tie is jowled where it meets the arcade post and connected to the wall post with a teasel tenon and dovetailed onto the wall plate.

A deep bladed, slightly curving brace connects the two and there is another short brace from the tie-beam up to the arcade post. Its form is awkward as it does not follow the curve or have the depth of the lower brace. Where the wall plate passes through the post head it has been sawn off on the midstreyside.

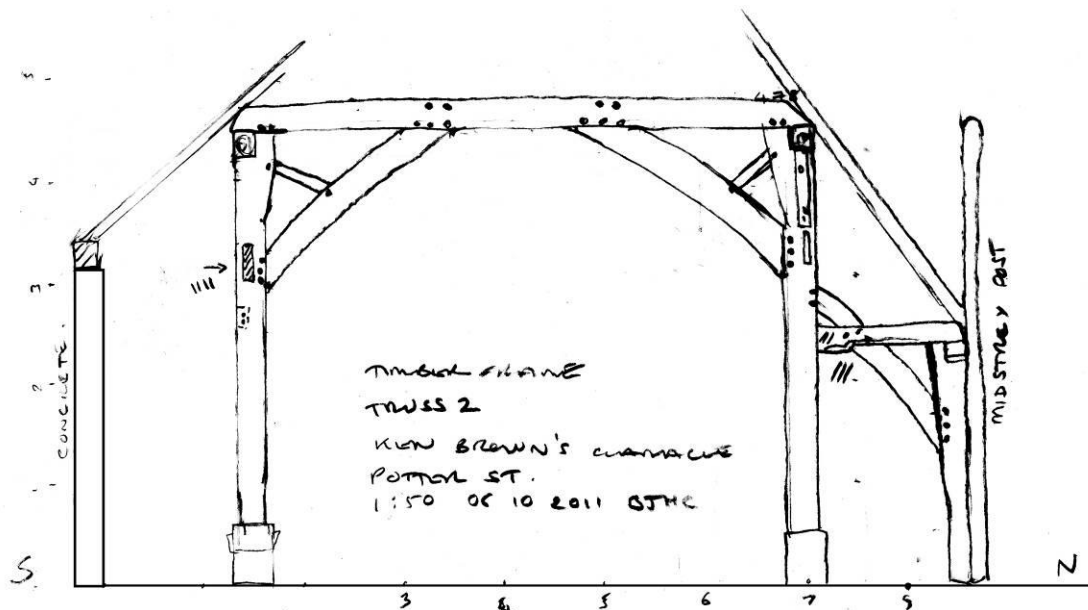
The wall post (which has a long tapering jowl) and the arcade tie are only 6in deep in comparison to the 11in of the arcade post. The tie has a deep chamfer and a run-out stop. The other remaining aisle tie is in Truss 1 where it has been reinforced with modern timbers to keep it in place and the jowled wall post has been replaced with a badly eroded square post.



Truss 3. Looking up to the NE. Note waney, ill-fitting brace.

Truss 3

Truss 3 is nearly identical to Truss 2 but it has lost the aisle constructions on both sides and is difficult to photograph due the proximity of an hydraulic lift beneath it. The arcade braces in the fourth bay are very waney and do not fit the mortices correctly and must be later replacements.



Measured site drawing excluding the modern roof structure.

Roof Structure



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Roof structure above Truss 3 on the northern side. Looking E.

The roof is composed of 2x4in rafters and battens skinned with corrugated asbestos sheets. The rear rafters are doubled up and indicate the steep pitch of the original roof as well as the remodelled asbestos roof before the rear extensions were patched in. There are various short struts and cleats to support the EC20th structure all French nailed in place.

The roof associated with the frame, which photographs show was thatched has been completely removed. There are pairs of double pegs in the tie-beams to indicate queen struts but it was not possible to examine the mortices to ascertain if they were raking or vertical.

Carpentry and Timber Marks, Apotropaic Marks and Grafitti.

Apart from the carpenter's marks already mentioned which are of two distinct types made separately with a race knife and a chisel point there was also a set of levelling marks. These were positioned on the backs of all the arcade posts and were also visible on the NW corner post in the west wall.

The levelling marks, which take the form of an arrowhead made with three lines all run through at the same height, at eye level. These are commonly found on later buildings where some reassembly is present. Photo follows.

On the west face of the arcade of Truss 1, also at eye level (1.7m) is a perfectly scribed daisy wheel about 2in across. It is effectively just under the wall plate for the inserted floor in Bay 1 on the outside of the older frame. This is an apotropaic mark to ward off witches. Photo follows.



Levelling mark on the back of Truss 1.

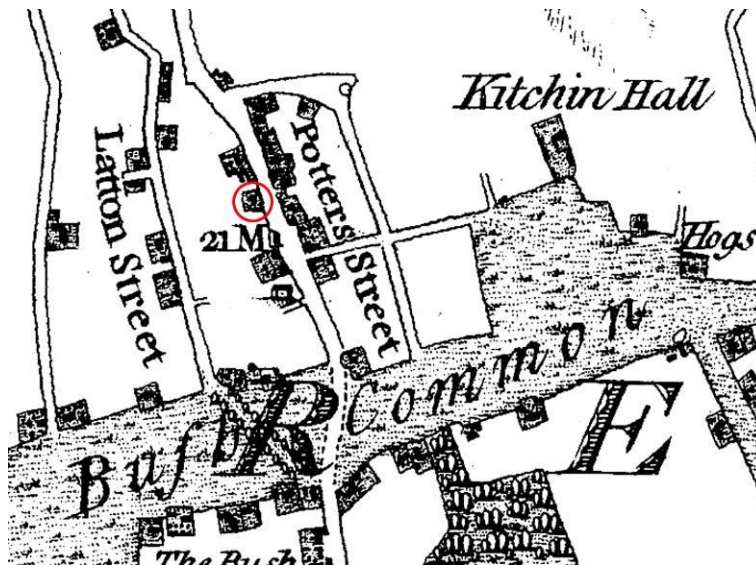


Apotropaic daisy wheel on Truss 1. Sawn off tenon to the left is for the inserted hay floor.

Ironwork Repairs and Fixtures.

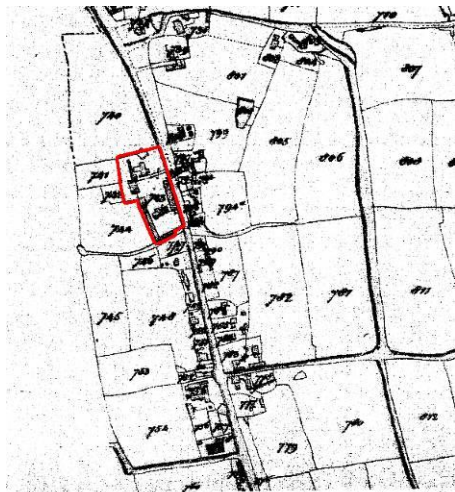
Other than the square headed bolts retaining the storey post in the west wall there are no ironwork repairs. There are no historic fixtures.

Topographical Survey from Maps



1777 Chapman and Andre's Map of Essex. Sheet 11.

In 1777 Chapman and Andre produced a detailed map of the whole of Essex with some parts of major neighbouring towns. The map of Potter Street shows a plot coinciding with that of the position of Ken Brown's Garage with a large building in the middle of it. There is also a plot to the north which is probably the White House mentioned in later maps.



1849 Tithe Award Map. ERO D/CT 164.

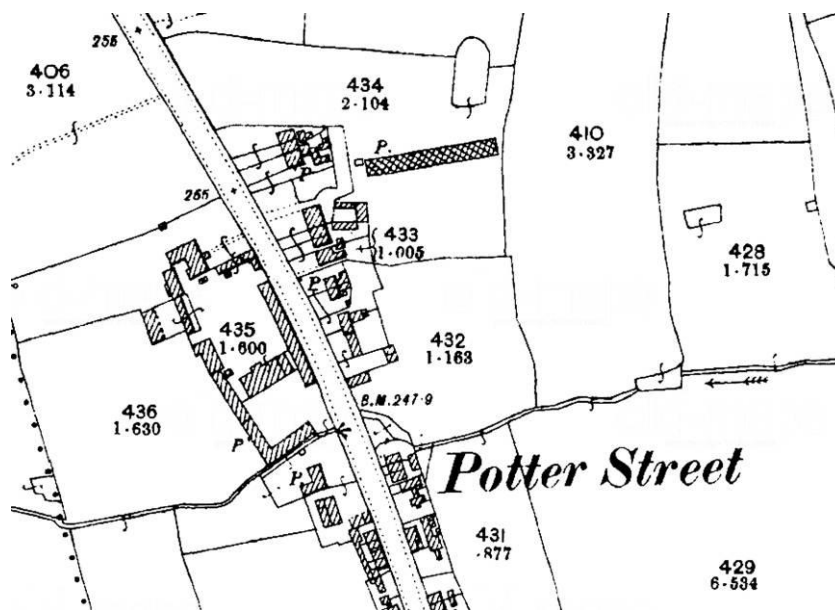


By 1849 the two plots are amalgamated and the White House is shown to the north while the barn is clearly shown with a midstrete off-centre to the west. Long buildings line the boundaries in a formation which would have been recognised by the High Farmers. Plot 743 is recorded as 'White house premises and garden' owned and occupied by the Revd Jos. Arkwright.



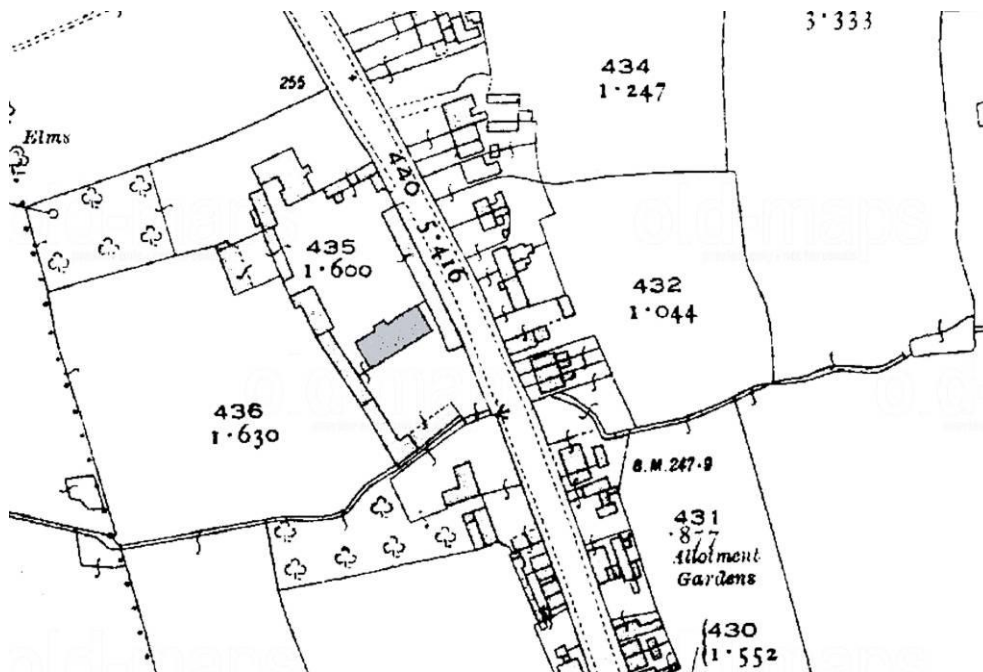
1881 First Edition Ordnance Survey Map

The First Edition Ordnance Survey for 1881 is only available at the less detailed 1:10560 scale. It depicts the site much as it was in 1848 and names the Whitehouse.



1896 Ordnance Survey Map

The 1:2500 2nd edition OS is much clearer and shows the barn has an extension to the east and has a near central midstretey.



1922 Ordnance Survey

In 1922 the site is still a farm with all the buildings shown on the 1848 Tithe Award. The barn is depicted again as a single building with an offset midstretey.



1947 Ordnance Survey

The significant change in detail in 1947 is the appearance of the forecourt and the removal of some of the boundary buildings. The former farmyard has been fenced off from the Whitehouse.

Historic Photography. Kindly supplied by Mick Taylor.

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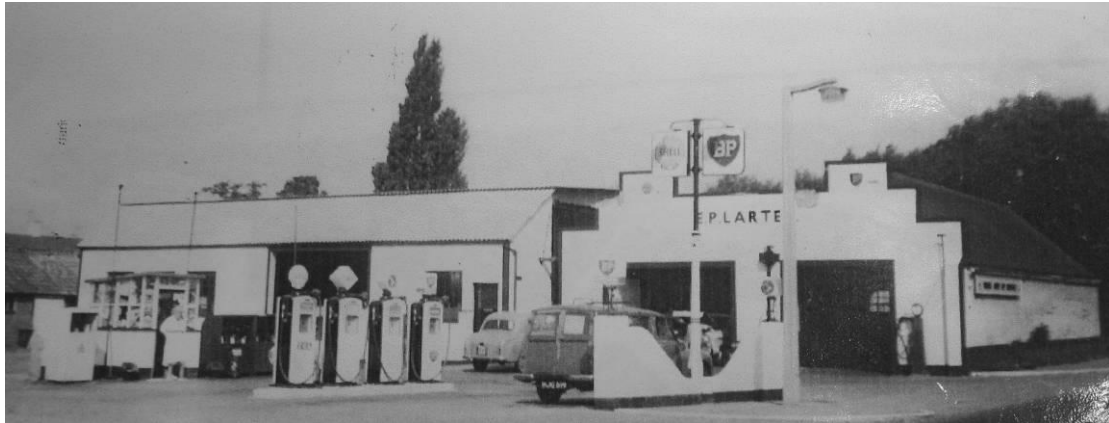
Larter's garage in the later 1920's or 1930's.



The SW corner of the barn (rhs) and the range of buildings on the west boundary. All thatched. The little girls have grown up a bit in this photograph.

In the later 1920's the site became Larter's garage. Two historic photographs clearly show the barn and the range of buildings behind it. The photos are a few years apart as the two little girls have grown up to wear school uniforms in the second picture. Of interest are the scrapped Model T Ford commercial vehicles.

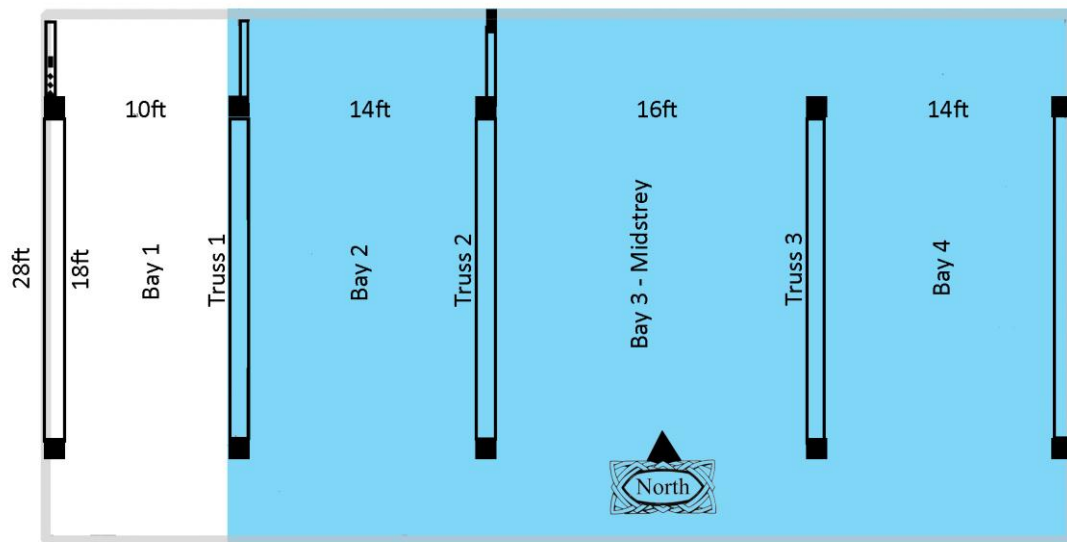
Model T's were assembled in England at Trafford from 1911 and by 1924, Trafford Park built Model Ts were made from 94% British parts. They sold for around £135. Model T car sales in Britain were hit by the restrictive horsepower tax in the early 20s but commercial versions continued to sell well and became Britain's best selling light commercial vehicle of the period. <http://www.modeltregister.co.uk/the-model-t-ford.html>



1930's facade of Larter's garage.

A MC20th photograph shows the barn much as it is today. It was connected to another roadside workshop that has a flat white facade with crow-step gables in the style of the 1930's. The garage is franchised to sell Shell and BP fuels. The Morris Traveller on the forecourt was first brought out in 1952 and the other car has the unmistakable profile of a 1950's small car. The range of buildings visible in the background now has tiled roofs.

Phasing the Development of the Building.



40ft long - all measurements centre to centre of posts.

Plan of the historic frame ignoring the C20th additions.

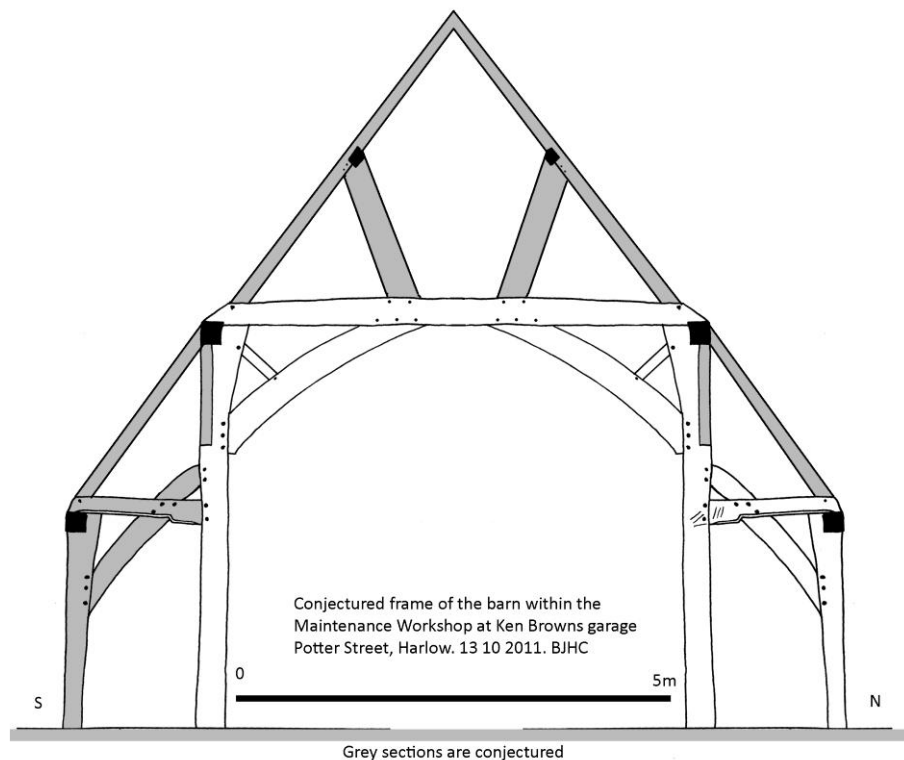
Phase 1 - The original aisled barn. LC15th.

The original barn was framed with three bays designed harmoniously in feet and inches. The width (centre to centre) between the wall posts is 28ft and the two end bays are 14ft across. The midstrey is wider at 16ft and it is probable that the height of the tie-beams was also 16ft. The floor has been brought up since the frame was erected. There is no evidence for an original midstrey porch and the sawn through top-plate indicates a pair of low doors before the tall, Georgian style doors were inserted (visible in the historic photographs).

Truss 1 represents the original west wall of the barn. The arcade posts are not morticed for arcade braces to show the building was longer at that end. They are however morticed for mid-rails across the barn as well as along. The tie-beam is fully morticed for a stud wall. As early barns are often symmetrical there is no reason to suppose the frame continued to the east either. This could be checked when the frame is stripped.

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Originally the trusses would have been symmetrical with matching curving braces to the tie-beams and short braces into the backs of the arcade posts (often called 'shores'). The aisles were strengthened with heavy bladed braces into the narrow but deeply jowled wall posts.



Conjectured section through Truss 2.

Dating the frame.

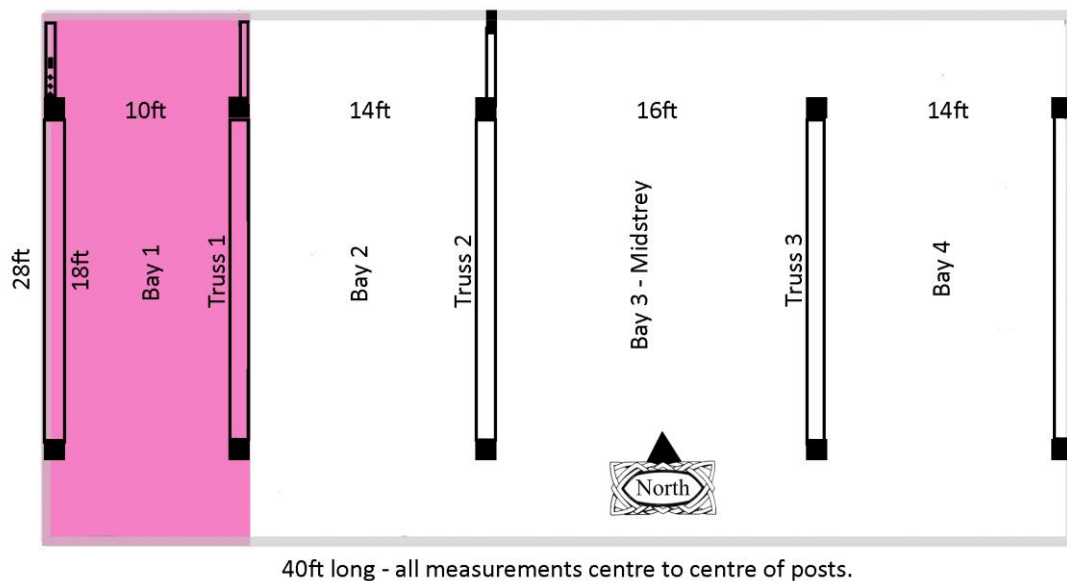
One of the problems with dating the frame is that the entire roof structure has been removed and while the remaining mortices indicate a queen post roof there is no other detail. Unfortunately there were no internal photographs of the barn before it was changed. Also the arcade plates have been replaced with longer ones scarfed over the principal posts with a halved and bladed scarf - a common joint used right into the C20th.

The barn contains deep curved spandrels and shores but it also has straight arcade braces. This would suggest a transition from the mediaeval archaic carpentry using square straight timbers to the more artistic forms using rectangular section curved timbers halved by sawing of the C16th. For this reason the barn can be considered as LC15th.



Barn at Glovers Farm, Hastingwood. The principal timbers are very similar to Ken Browns barn.

Coincidentally, at Glovers Farm, Hastingwood about two miles away is a very similar barn in complete condition. This barn is currently under research. While this is not an aisled barn the form of the truss is strikingly similar and may be considered as a model for that in Potter Street.



Phase 2 - Georgian.

The barn was partially dismantled and a new bay added to the western end only 10ft wide. The new bay accommodated a hayloft floor fully boarded on all sides above the mid-rails.

The evidence remains as redundant mortices in the mid-rails and arcade plates. The arcade plates are replacements and the frame has been dismantled and renumbered with chisel points for reassembly. The main storey post was doubled up with a full height timber bolted with square-headed wrought iron bolts. The NW corner arcade plate is the remains of a top-plate morticed for a diamond mullion window.

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Because so much timber has since been removed it could be conjectured that the bay was added earlier but haylofts are more a feature of Georgian barns. The engineering required is considerable and the style of renumbering is also late.

There is the problem of the apotropaic mark on the arcade post of Truss 1. Its position implies it was put in after the barn was extended. These types of marks are always inside protecting the occupants or produce. The daisy wheel emblem is common in the C16th and C17th but it was also revived in the MC19th. This one is perfectly scribed with a small compass so it is more like c.AD1850 than earlier.



The barn in the 1920's or 30's. With additional bay and full height doors.

The extension should be dated to the turn of the C19th - a time when there was a revolution in farming driven by the grain embargoes of the Napoleonic Wars. There is also a trend for asymmetrical barns at this time. There remains a post for a full height rear porch and photographs show a raised roof section for a full height door on the southern side. The doors are typically C19th.



The garage after its 1930's revamp.

Phase 3 - The 1930's

The barn was remodelled into a flat fronted asymmetrically asbestos roofed forecourt building typical of the aviation age. The style of the International Modern Movement was actually pioneered in Essex with the first examples in Clockhouse Way in Braintree and then a development in Silver End.

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Typically built of reinforced concrete with flat roofs and large Crittall windows these buildings ignited an explosion in the style which was adopted principally for commercial buildings such as aerodromes, bus stations, race tracks and garages.

There are many examples of garages styled this way permeated throughout Essex - many of which are older buildings given a concrete facade.



LC20th extensions to house the maintenance bays.

Phase 4 - LC20th.

The rear bays housing the hydraulic lifts are all LC20th. The central one was built first, believed in about 1978 and the others added a few years later. Built of Celcon blocks and flat machined timber roofs these are utilitarian annexes of no architectural merit. The building was also re-clad with modern weather-boards which at one end blocked a large window and at the other end sealed off the side exit door. The toilet cubicle was added when the roadside building was torn down.

Significance

The aisled barn frame is of interest and indicates a history of farming in Potter Street back to the C15th. Unfortunately only parts of it remain and the entire roof has been removed. The 30's facade is redolent of the motoring age in its infancy but now is outmoded and not suitable for modern retail. The barn is scheduled for demolition but the dealership hopes to donate the frame so it can live on perhaps as a luxury house.



Acknowledgements

I am indebted to the Graham Peskett who engaged me on behalf of Ken Browns garage. Thanks are due to Mick Taylor for his interest, memories and photographs. I also acknowledge the help of Adam Garwood of the ECC HEM team for his help with the application.

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Bibliography

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ESSEX HISTORIC ENVIRONMENT RECORD/ESSEX ARCHAEOLOGY AND HISTORY

SUMMARY SHEET

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| Site name/Address: Ken Browns Garage, . | |
| Parish: Harlow | District: Harlow |
| NGR: TL 4716 0898.. | Site Code: HAKB11 |
| Type of Work: Historic Building Recording | Site Director/Team: Barry Hillman-Crouch |
| Date of Work: 06 10 2011 | Size of Area Investigated: 10x30m |
| Location of Finds/Curating Museum: N/A | Funding source: Owner |
| Further Seasons Anticipated?: No | Related EHER Nos: |
| Final Report: Ken Browns Garage, 42-44 Potter Street, Harlow, Essex. Description and analysis of the timber-frame contained within the Maintenance Workshop. Surveyed. 06 10 2011. Barry J Hillman-Crouch MStPA DipFA BSc HND. | |
| Periods Represented: C15th - C20th | |
| SUMMARY OF FIELDWORK RESULTS: Maintenance workshop built around the frame of a LC15th aisled barn. Originally thatched the roof was removed in the 1930's and the building converted to the International Modern style with a concrete facade and asbestos roof. An additional bay was added to the western end containing a hayloft floor boarded on all sides in the Georgian period, most likely c.1800. Three modern rear bays were added, one in 1978, the others a few years later. The building will be demolished but it is hoped to save the frame. | |
| Previous Summaries/Reports: | |
| Author of Summary: Barry J Hillman-Crouch MStPA DipFA BSc HND. | Date of Summary: 13 10 2011. |

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