

WHEN BRITAIN WAS WORKSHOP TO THE WORLD

NEWS FEATURES ARCHIVE

# OLD GLORY

STEAM & VINTAGE PRESERVATION

December 2012

No 274

## GARRETT WAGON RETURNS TO UK

- Engine sale results
- Falklands Marshall
- Christmas gift ideas
- First rally collision



UNIQUE FOSTER WAGON'S TRUE IDENTITY REVEALED!

£3.95

12

oldglory.co.uk



9 770956 592119

THE AMAZING WORLD OF SIR DAVID LIONEL SALOMONS





# Northern General: a stop-start project

**Alan Barnes** takes a look at the culmination of a 30-year project to rebuild a 1928 Northern General SOS QL bus at Beamish.

A welcome spell of spring sunshine in March provided the ideal opportunity to complete the final test running for the latest addition to the heritage bus fleet at Beamish Museum. Following a restoration which has taken over 30 years to complete the 1928 Northern General SOS QL bus took to the roads at the museum and what a splendid sight it made against the background of period locations.

The rebuild is just one of the many projects which have involved the Friends of Beamish Museum – a band of volunteers who have turned their hands to some very diverse restorations as well as assisting with general refurbishment of various items. However, the crowning glory of all the group's painstaking work must surely be the SOS QL especially when one considers the condition of the few surviving original parts.

The restoration has been something of a 'stop start' project – probably quite appropriate for a bus – but which has been frustrating at times. The reasons are probably two-fold, firstly the friends' involvement in other short term projects

which were given priority and secondly the need to carefully research the details of the bus before moving to the next stage. This approach was vital if its historic integrity was to be preserved.

## NEW BUS

The bus is one of 65 of a type supplied to Northern General Transport by the Birmingham and Midland Motor Omnibus Co Ltd. The company operated services under the Midland Red banner and had established its own production factory at the Carlyle Works in Birmingham. In the years prior to the First World War it used chassis supplied by Tilling Steevens, adapted to meet specific requirements. Chief engineer Wyndham Shire developed these adaptations and his work in the 1920s resulted in the design of a completely new bus. The vehicle was to be lightweight, which could seat as many passengers as possible in a vehicle of 25ft length.

Shire's design work led to the introduction of the SOS series – the first being originally termed the 'Standard S' introduced in 1923 and which later became simply the SOS 'S'.

This was a single deck 32 seater bus powered by a 4 cylinder petrol engine and fitted with either Brush, Carlyle, Ransomes or Davidson bodies. In 1925 the SOS 'FS' appeared and it is thought that the 'FS' probably stood for forward steering, although there are also references to the term 'future standard'.

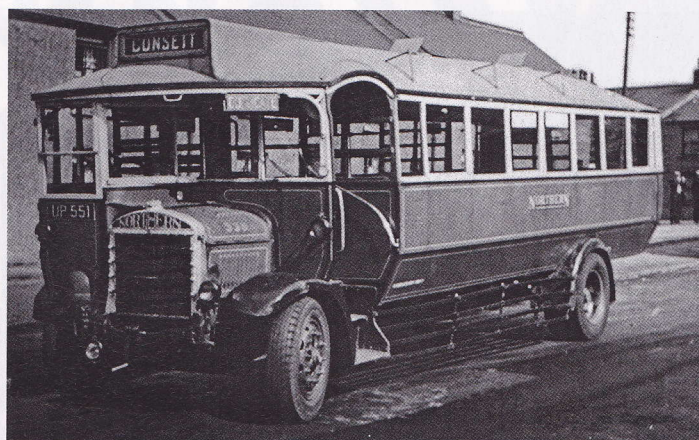
In 1927 the SOS 'Q' was introduced and again there is some debate over the significance of the 'Q'. It may have originally stood for 'Queen' but two of the demonstration vehicles were named 'Quantity' and 'Quality'. However, the single deck 37 seater bus with a 4 cylinder petrol engine became known simply as the SOS Q.

The QL was a lowered version of the original Q design which was basically achieved by the use of smaller disc wheels rather than the spoked wheels on the standard model. This was the first Midland Red bus to be built on a low chassis. As well as the vehicle designation there is also debate as to what SOS stood for. It may well be a reference to the chief engineer himself and stand for 'Shire's Own Specification'





A 1928 Midland Red SOS QL with Brush body in Swadlincote, Derbyshire. This bus was withdrawn in 1938. DEREK WILKINSON COLLECTION



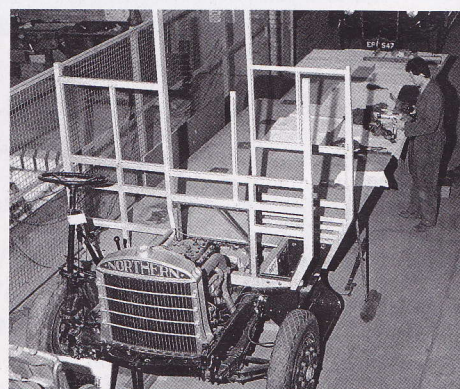
The Beamish bus UP 551 in Consett in the late 1940s. FRIENDS OF BEAMISH



What the crew started with: the remains of UP 551. COLIN SLATER



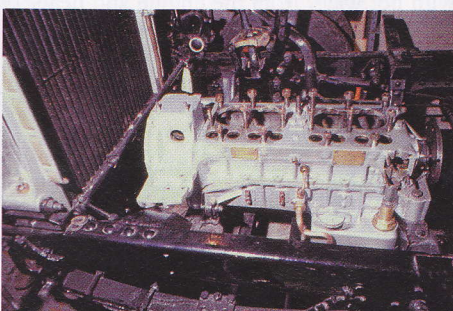
Work being undertaken on the chassis. FRIENDS OF BEAMISH



Bus body framework being fitted. FRIENDS OF BEAMISH



The interior, showing the roof hoop framing. FRIENDS OF BEAMISH



Engine detail. FRIENDS OF BEAMISH



Outside the workshop, with the framework completed. FRIENDS OF BEAMISH

although an alternative could be 'Superior Omnibus Specification' perhaps documentation will eventually come to light which will finally resolve this issue.

What is thought to be the sole survivor of the Northern General fleet remained in service until 1949 and had ended its working days at the company's Consett depot. In later years it was used as a caravan at Bardon Mill and gradually fell into disrepair until rescued in 1965 by Robert Atkinson and initially considered only to be of use as a source of spares. However it was later decided that the recovered parts should be the basis for a total reconstruction.

The volunteers visited the Birmingham & Midland Motor Omnibus Trust to gather information about the QL which it has in its collection. While work on the engine and chassis has been fairly straightforward mechanical engineering exercise it is the detailing and construction of the bodywork which has taken many years. Sometimes armed with only a few pieces of original rotten wood, drawings and photos have been used to establish how such items as

the seats are constructed and how they fitted into the body. The recovered pieces of headlights were used to make patterns to enable replicas to be cast. Once these were finished the volunteers were then presented with the problem of having to find or fabricate the reflectors and to source suitable bulbs. As the project progressed solving one problem invariably created a whole host of others.

### POOLING OF KNOWLEDGE

Measurements taken in Birmingham allowed the construction of the cab area which was initially built up using softwood and once the team was satisfied that the dimensions were correct the whole unit was rebuilt using seasoned ash. The pooling of knowledge with the trust in Birmingham has been immensely important and enabled work to begin on the many hundreds of parts needed. As the volunteers recalled: "We borrowed several items from Birmingham to copy, some in house by our own volunteers and others like the electrical switchbox we had cast locally. We also borrowed a route indicator box and

had two sets of route indicating stencil plates cast, one for ourselves and one for Birmingham. We also worked on interior lamps, interior lamp glasses and window pull leather straps. One of our team copied a full set of interior lamp bases in aluminium as well as an ignition cut out switch. This switch fits into another beaten aluminium part which we copied. The driver's cab is so closely tailored about the driver that there is not enough room for his hand to move the gear through its full travel. The beaten aluminium part forms a blister out into the engine compartment to give room for that action."

That attention to detail is the hallmark of this project and again explains why it has taken so many years to complete.

Although the cab frame had been completed it could not be fitted until further work on the body had been carried out. This involved fitting the standard roof hoops and the cant rail which went over the engine compartment and only when that work was finished could the cab be fitted. Even then it took time for the correct match boarding to be sourced. >





The fitting out of the interior. BEAMISH MUSEUM



The QL on test run in September 2011. TERRY PINNEGAR

In the early years the engine and chassis had received attention and many of the parts overhauled and refurbished. At the end of 2004 and with work on the body making steady progress, attention again turned to the chassis. It was painted and the whole braking system was stripped, cleaned and refilled with fresh hydraulic oil. The hydraulic brakes are a remarkable feature of the SOS which was probably the first full sized bus to have such an innovation and the brakes work on all four wheels. The driver's cab bears a plate "This vehicle has four wheel brakes. Use them with due care."

#### THE ENGINE

The engine is a 4-cylinder side valve 4½ litre engine built to Midland Red's own design and originally fitted with aluminium cylinder heads. These were subsequently replaced as apparently they furred up on to the holding studs and became too difficult to remove. Rather surprisingly an unused pair of these original heads turned up many years ago and are now in the collection. The sump and crankcase are separate aluminium castings which are bolted together and there are two cast iron blocks of two cylinders, each bolted on to the crankcase and each block has a detachable cast iron cylinder head.

Although the friends have found that the engine has its own quirks it is a fairly

straightforward design, as you would expect from a power unit from 1928. "At that time there was not much complication about the internals and the SOS is no exception. Oil pressure is fed to the main bearings and everything else is taken care of by splash. There is a trough under each big end which is fed with oil and the big ends have a scoop on them which picks up some oil at each revolution and throws the rest about the crankcase and lubricates anything else that seems to get in its way. The inlet manifold has a muff cast into it which fills with hot water from the engine and heats the incoming charge to aid vapourisation of the fuel. The mixture is provided by a cast bronze Claudel-Hobson carburettor, without a choke mechanism. Sparks are provided by a Scintilla magneto, a real quality instrument. A brass lever bolted on to the steering column below the steering wheel advances or retards the spark to get the best performance from the engine in changing running conditions. It also aids safe starting of the engine."

"Starting is an art form. The petrol is first switched on at the tank and the magneto switch set so as to stop the low tension current from running to earth. The carburettor is flooded and choked and the ignition set to retard to prevent the engine kicking back when pulled over on the starting handle. To turn the engine the

starting handle is engaged by one person and a second person pulls the rope attached to the handle. When the rope sets the handle moving the person on the handle pulls up and carries the engine over compression. If everything is set right a plug will fire and the engine runs off the handle which is then returned to the bottom of its swing. Mind you it doesn't always go that easily!"

Last year many hours were spent putting the final touches to the bus which has been outshopped in c1930 condition. The exterior signwriting was completed by Phil Anderson while the internal advertising panels were painted by the group's own signwriting volunteer. It had been hoped that the vehicle would be ready to appear at the museum's Power of The Past event but some outstanding mechanical works prevented a running debut. However, once the work on the engine was completed the SOS took to the roads in September 2011 for its first serious test runs. Further work was carried out over the winter and in March 2012 further test runs were completed satisfactorily and the SOS QL made her public debut at the Great North Steam Fair held at Beamish last April.

My thanks to the Friends of Beamish and the Beamish Museum for information and photos used. ♦



Down at the museum colliery in March 2012 on its public debut. BEAMISH MUSEUM